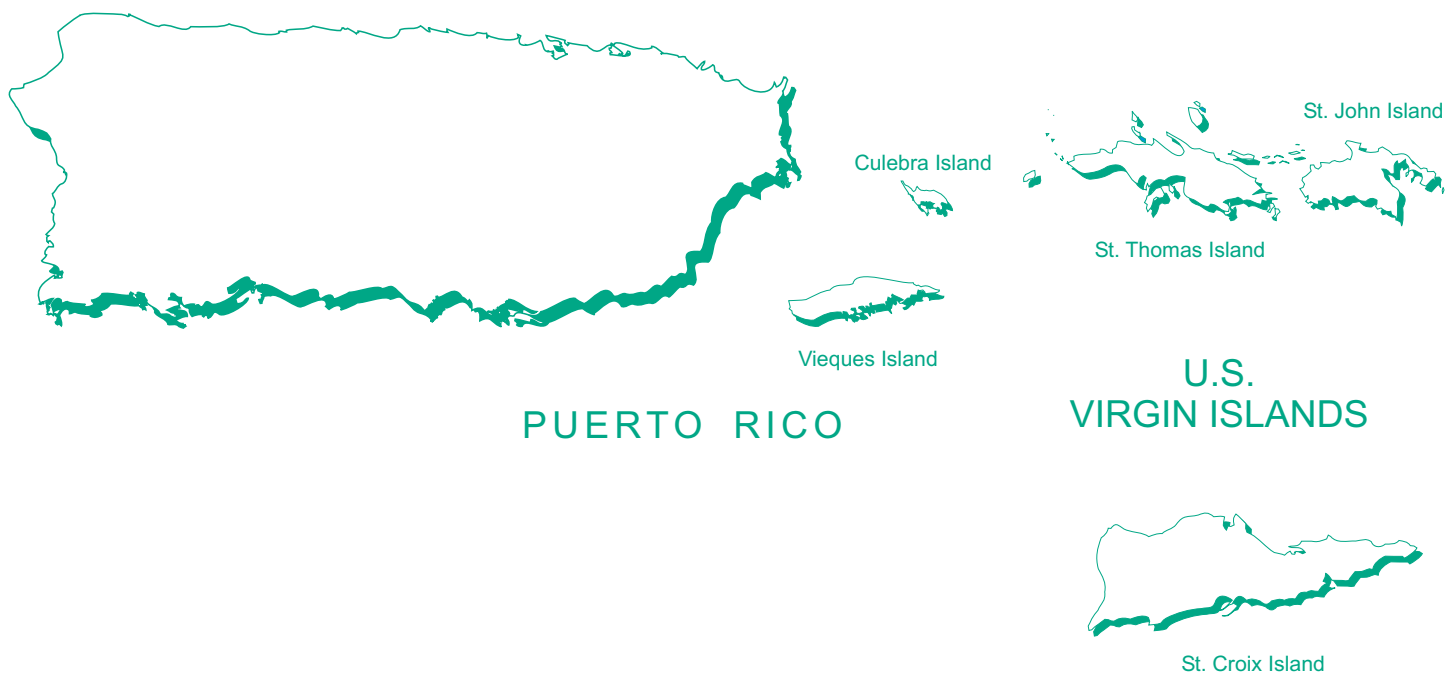
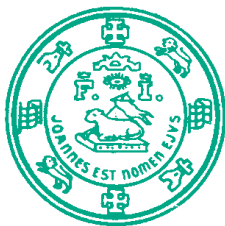


Water Resources Data Puerto Rico and the U.S. Virgin Islands Water Year 2000



U.S. Department of the Interior
U.S. Geological Survey



Prepared in cooperation with the
Commonwealth of Puerto Rico, the
Government of the U.S. Virgin Islands,
and with other agencies

CALENDAR FOR WATER YEAR 2000

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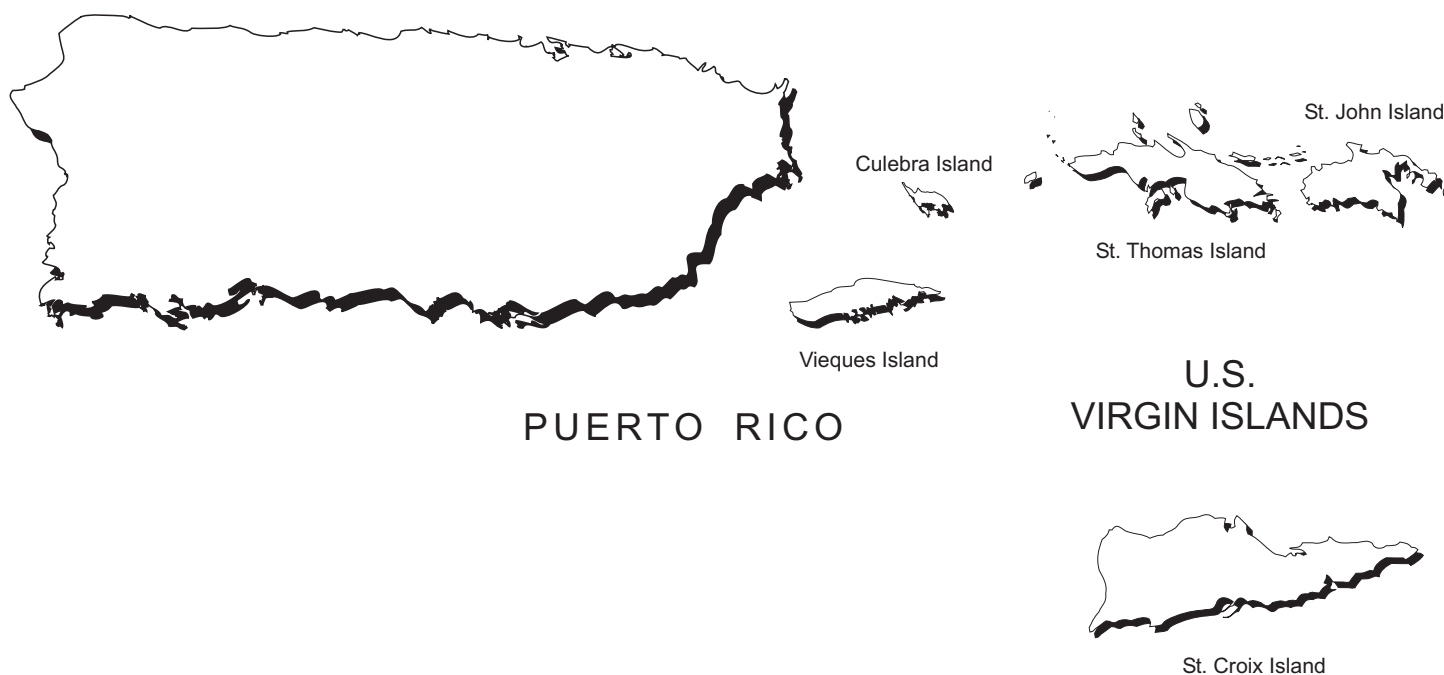
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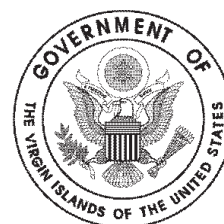
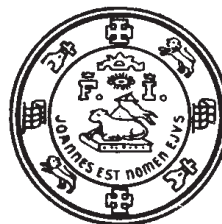
Water Resources Data Puerto Rico and the U.S. Virgin Islands Water Year 2000

By Pedro L. Díaz, Zaida Aquino, Carlos Figueroa-Alamo, Ricardo J. Vachier, and Ana V. Sánchez

Water-Data Report PR-00-1



Prepared in cooperation with the Commonwealth of Puerto Rico, the Government of the U.S. Virgin Islands, and with other agencies



U.S. DEPARTMENT OF THE INTERIOR
GALE A. NORTON, Secretary

U.S. GEOLOGICAL SURVEY
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2001

PREFACE

This annual hydrologic data report of Puerto Rico and the U.S. Virgin Islands is one of a series of annual reports that document hydrologic data gathered from the U.S. Geological Survey's surface- and ground-water data-collection networks in each state, Puerto Rico, the U.S. Virgin Islands, and the other Trust Territories. These records of streamflow, ground-water levels, and quality of water provide the hydrologic information needed by state, local, and Federal agencies, and the private sector for developing and managing our Nation's land and water resources.

The report is the culmination of a concerted effort by dedicated personnel of the U.S. Geological Survey, Water Resources Division, who collected, compiled, analyzed, verified, and organized the data, and who typed, edited, and assembled the report. In addition to the authors, who had primary responsibility for assuring that the information contained herein is accurate, complete, and adheres to the U.S. Geological Survey policy and established guidelines, the following personnel contributed significantly to the collection, processing and tabulations of the data:

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This report was prepared in cooperation with agencies of the Commonwealth of Puerto Rico, the Government of the U.S. Virgin Islands, and with other federal agencies under the general supervision of Mathew C. Larsen, District Chief, Caribbean District, San Juan, Puerto Rico.

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SURFACE-WATER AND WATER-QUALITY STATIONS, IN DOWNSTREAM ORDER,
FOR WHICH RECORDS ARE PUBLISHED IN THIS VOLUME

(Letter after station name designates type of data:
(d) discharge, (c) chemical, (b) biological, (s) sediment, (p) pesticide, (e) elevation, gage heights)

	Station number	Page
RIO GUAJATACA BASIN		
Río Guajataca at Lares (d,c,b)	50010500	50
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Well 182544066341500 Local number 205	545
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Well 182548066164401 Local number 1128	560
Well 182620066163400 Local number 1129	561
Well 182620066163403 Local number 1130	563
Well 182657066162700 Local number 1131	564
Well 182657066162701 Local number 1132	565
Well 182654066150600 Local number 1133	566
Well 182530066135400 Local number 216	567

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Well 182655066142400 Local number 217	568
Well 180649066095500 Local number 1134	569

RIO HONDO TO RIO PUERTO NUEVO BASINS

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Well 182531066075900 Local number 652	571
Well 182511066045401 Local number 1152	572
Well 182435066052700 Local number 1153	573
Well 182445066043401 Local number 1154	574
Well 182443066041502 Local number 1155	575
Well 182417066042700 Local number 1156	576
Well 182349066032600 Local number 1157	577
Well 182406066034700 Local number 1158	578
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RIO GRANDE DE LOIZA BASIN

Well 181352066025300 Local number 1176	580
Well 181311066022500 Local number 1177	581
Well 181446066013400 Local number 1178	582
Well 181539066014500 Local number 1179	583
Well 181550065593200 Local number 50	584
Well 182515065594100 Local number 222	585
Well 181540065580300 Local number 1180	587
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RIO HERRERA TO RIO ANTON RUIZ BASINS

Well 182344065490801 Local number 1201	589
Well 182223065455900 Local number 1202	590
Well 181230065444900 Local number 1203	591
Well 182138065431800 Local number 1204	592
Well 182131065421100 Local number 1205	593
Well 181917065382701 Local number 1207	594
Well 182234065440000 Local number 1208	595

RIO HUMACAO TO QUEBRADA AGUAS VERDES BASINS

Well 180358065503600 Local number 1226	597
Well 180415065513900 Local number 96	598
Well 175855066023100 Local number 1227	599
Well 175855066050500 Local number 1228	600
Well 175728066072200 Local number 1229	601
Well 175719066085500 Local number 1230	602
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Well 180027065541700 Local number 1235	612
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Well 175903066024100 local number 1237	614
Well 175841066104500 Local number 1238	615
Well 175814066102200 Local number 1239	616

RIO SALINAS TO RIO JACAGUAS BASINS

Well 175809066133100 Local number 1251	617
Well 180206066135500 Local number 1252	618
Well 180104066152300 Local number 1253	619
Well 175910066155500 Local number 1254	620
Well 175903066165000 Local number 1256	621
Well 175943066224800 Local number 1257	623
Well 175829066232200 Local number 87	624
Well 180020066261500 Local number 1258	625
Well 180602066133100 Local number 1260	626
Well 175833066145800 Local number 1261	627
Well 175735066151800 Local number 1262	635

RIO INABON TO RIO LOCO BASINS

Well 175950066354200 Local number 141	645
Well 175934066364800 Local number 1276	646
Well 180045066381600 Local number 1277	647
Well 180156066434000 Local number 1278	648
Well 180133066503300 Local number 132	649
Well 175840066494400 Local number 1279	650

RIO GUANAJIBO BASIN

Well 180132067033800 Local number 143	651
Well 180542067084000 Local number 1301	652
Well 180628067084300 Local number 1302	653
Well 180628067084301 Local number 1303	654
Well 180802067073300 Local number 1304	655

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Well 181232067083700 Local number 1326	656
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RIO CULEBRINAS BASIN

Well 182017067143300 Local number 1352	657
Well 182442067091700 Local number 200	658

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Well 174225064472000 Local number 2	670
Well 174243064475100 Local number 3	671
Well 174316064480800 Local number 13	672

ST. THOMAS, U.S. VIRGIN ISLANDS

Well 182038064550300 Local number 6	673
Well 182038064580000 Local number 8	674

ST. JOHN, U.S. VIRGIN ISLANDS

Well 181956064464500 Local number 11	675
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WATER RESOURCES DATA FOR PUERTO RICO AND THE U.S. VIRGIN ISLANDS, 2000 DISCONTINUED
STREAMFLOW STATIONS

The following continuous-record streamflow stations in Puerto Rico and the U.S. Virgin Islands have been discontinued or converted to partial-record stations. Daily streamflow or stage records were collected for the period of record shown for each station.

Station number	Station name	Drainage area (mi ²)	Period of record
50007000	Quebrada de los Cedros near Isabela	6.91	1970
50010600	Río Guajataca above Lago de Guajataca	--	1984-89
50011000	Canal Diversion Lago Guajataca	--	1970
50011200	Río Guajataca below Lago Guajataca	--	1969-70,1984-87
50011400	Río Guajataca above mouth near Quebradillas	--	1969-70,1984-89
50013000	Río Camuy near Lares	7.62	1969-71
50014000	Río Criminales near Lares	4.68	1969-70
50014600	Río Camuy at Tres Pueblos Sinkhole	--	1990-96
50015700	Río Camuy near Hatillo	--	1984-96
50016000	Río Camuy near Camuy	--	1969-73
50021050	Río Pellejas below Central Pellejas	7.89	1972-75
50021500	Río Pellejas near Utuado	9.55	1969-71
50023000	Río Viví near Central Pellejas	5.66	1969-75
50027200	Río Grande de Arecibo blw. Lago dos Bocas	169	1970-71
50031500	Río Sana Muerto near Orocovis	3.68	1965-70
50035200	Río Grande de Manatí at Hwy 145 at Ciales	132	1972
50035950	Río Cialitos at Hwy 649 at Ciales	17	1970-82
50038360	Río Mavilla near Corozal	9.51	1969-70
50038600	Río Unibén near Morovis	5.29	1969-70
50038700	Río Morovis at Morovis	1.26	1968
50038900	Río Indio at Vega Baja	--	1963,66,71
50039600	Río Cibuco at Central San Vicente	--	1969-72
50043200	Río Usabon near Barranquitas	9.15	1968-69,71
50043400	Río Aibonito Tributary near Aibonito	1.13	1968-71
50044600	Río Guadiana near Naranjito	1.73	1971
50044650	Quebrada del Toro near Naranjito	0.54	1971
50044800	Quebrada Anones near Naranjito	2.32	1971
50045700	Río Lajas at Toa Alta	8.65	1966-75
50047820	Río de Bayamón at Hwy 174 near Bayamón	31.90	1966
50048000	Río de Bayamón at Bayamón	71.90	1963-67
50049000	Río Piedras at Río Piedras	12.5	1971-82, 1987-93
50049310	Quebrada Josefina at Piñero Avenue	3.84	1988-91
50053050	Río Turabo at Borinquen	7.89	1984-90
50054000	Quebrada de las Quebradillas near Caguas	6.25	1969-71,73
50055170	Río Caguas near Caguas	8.27	1992-97
50055650	Quebrada Caimito near Juncos	0.82	1984-87
50056000	Río Valenciano near Las Piedras	6.85	1971
50056900	Quebrada Mamey near Gurabo	2.30	1984-92
50058300	Quebrada Arena near Caguas	--	1971
50061300	Río Canovanillas near Loíza	14.40	1968-73

WATER RESOURCES DATA FOR PUERTO RICO AND THE U.S. VIRGIN ISLANDS, 2000
DISCONTINUED STREAMFLOW STATIONS--Continued

Station number	Station name	Drainage area (mi ²)	Period of record
50062500	Río Herrera near Colonia Dolores	2.75	1968-72
50063300	Río Espíritu Santo near El Verde	2.23	1968-73
50063500	Quebrada Toronja at El Verde	0.064	1983-96
50065700	Río Mameyes at Hwy 191 at Mameyes	11.80	1967-85
50072000	Río Fajardo at Fajardo	21.60	1960-63
50073200	Río Dagua at Dagua	2.26	1966-82
50073400	Quebrada Palma at Dagua	4.84	1972-77
50074000	Río Santiago at Naguabo	4.99	1966-82
50075500	Río Blanco at Florida	11.00	1966-82
50076000	Río Blanco near Florida	12.30	1983-85
50077000	Río Blanco at Río Blanco	17.60	1973-77
50077400	Río Blanco at Colonia La Fe	18.80	1967-70
50078500	Río Anton Ruiz at Central Pasto Viejo	4.33	1968
50081500	Río Humacao near Humacao	9.23	1973
50082000	Río Humacao at Hwy 3 at Humacao	17.30	1983-85
50082200	Río Humacao near La Suiza	19.90	1965-66, 1969-71
50082800	Río Guayanés near Colonia Laura	4.69	1969-82
50083500	Río Guayanés near Yabucoa	17.20	1969-71
50084000	Río Limones near Yabucoa	7.89	1969-71
50085100	Río Guayanés at Central Roig	26.60	1965-66, 1968, 70
50086100	Río del Ingenio at Comunas	5.50	1965-66, 1968-69
50086500	Río Guayanés at Playa Guayanés	34.00	1965-66, 1968-71
50087200	Cañal Santiago near Central Roig	6.04	1965-71
50091000	Río Maunabo at Maunabo	12.40	1965, 67, 1969-82
50091200	Río Maunabo near Maunabo	12.70	1971-72
50091400	Río Jacabo near Lamboglia	4.13	1965-73
50091700	Río Chico at Patillas	6.82	1965, 1969-72
50091800	Río Chico at Providencia	4.90	1965, 1967-69, 1971
50094200	Río Grande de Patillas at Patillas	27.90	1967, 1969, 1971
50094300	Río Grande de Patillas at Providencia	29.00	1971
50094400	Río Nigua at Pitahaya	5.86	1965, 1969, 1970-71, 1973
50095200	Río Guamaní at Guayama	8.22	1969-71
50095500	Río Guamaní near Guayama	12.30	1969-70
50099000	Quebrada Aguas Verdes near Salinas	0.39	1989
50106500	Río Coamo near Coamo	46.00	1967-68, 1984-85, 1986
50106900	Río Coamo below Lago Coamo near Coamo	65.40	1967-68
50107200	Río Coamo at mouth near Santa Isabel	69.30	1967-68
50108200	Río Descalabrado at Las Ollas	13.90	1965, 1967-71
50108500	Río Descalabrado near Santa Isabel	18.10	1966-67
50111200	Río Toa Vaca near Villalba	21.40	1966-70

WATER RESOURCES DATA FOR PUERTO RICO AND THE U.S. VIRGIN ISLANDS, 2000 DISCONTINUED
STREAMFLOW STATIONS--Continued

Station number	Station name	Drainage area (mi ²)	Period of record
50111700	Río Jacaguas near Juana Díaz	53.20	1966-68
50111750	Río Jacaguas below Quebrada Guanabana	56.30	1989
50112100	Río Jacaguas near Arroyos	59.60	1966-67
50112600	Río Inabón at Coto Laurel	--	1967-71
50113100	Río Guayo near Coto Laurel	11.80	1965, 1968-71
50113500	Río Inabón near Arroyos	30.20	1964-65
50114400	Río Bucaná near Ponce	25.60	1965-81
50114700	Río Bucaná near Playa de Ponce	28.40	1964-67
50115000	Río Portugués near Ponce	8.82	1964-97
50116500	Río Portugués at Highway 2 Bypass at Ponce	20.50	1964-65
50119000	Río Matilde at Ponce	19.40	1965-66
50121000	Río Tallaboa at Peñuelas	24.20	1959-82
50122000	Río Tallaboa at Tallaboa	31.50	1959-63
50124000	Río Guayanilla nr Guayanilla	18.50	1961-69
50124500	Río Guayanilla at Guayanilla	20.80	1971-82
50125900	Río Duey above Diversion near Yauco	8.93	1977-80
50126150	Río Yauco above Diversion Monserrate near Yauco	27.20	1978-85
50128000	Río Yauco near Yauco	45.50	1962-64, 1977-85
50129000	Río Loco near Yauco	8.50	1963-67
50129500	Río Loco near Guánica	21.00	1963-69
50129900	Laguna Cartagena near Boquerón	--	1984-86
50130320	Quebrada Mamey at Joyuda	0.38	1986-88
50136000	Río Rosario at Rosario	16.40	1975-86
50141000	Río Yahuecas near Adjuntas	15.40	1980-85
50145000	Río Grande de Añasco at El Espino	108.00	1959-66, 1961-63
50147000	Río Culebrinas at San Sebastian	16.70	1960-82
50214500	Quebrada Resaca near Monte Resaca, Culebra	0.23	1991-93
50215000	Drainage Canal at Culebra Airport, Culebra	0.08	1991-93
50231000	Quebrada Confresillo Tributary near Isabel II, Vieques	0.28	1991-93
50232000	Quebrada La Mina near Esperanza, Vieques	0.68	1991-96
50233000	Quebrada Pilón at Colonia Puerto Real, Vieques	0.67	1991-96
50276000	Turpentine Run at Mariendal, St. Thomas	2.97	1963-69, 1978-86
50292600	Lameshur Bay Gut at Lameshur, St. John	0.38	1992-94
50294000	Fish Bay Gut at Fish Bay, St. John	1.48	1992-94
50295500	Cruz Bay Gut at Cruz Bay, St. John, VI	0.09	1992-93
50332000	River Gut at River	1.42	1991-93
50333500	River Gut near Golden Grove	5.40	1990-93
50333700	River Gut at Hwy 66 at Fairplanes	5.89	1990-96
50334500	Bethlehem Gut at Hwy 66 at Fairplanes	4.11	1990-96
50337500	Gut 4.5 at Cane Valley	0.2	1991-93
50348000	Salt River at Canaan	0.36	1991-93
50349000	Gut 10 near Altona	0.13	1991-93

WATER RESOURCES DATA FOR PUERTO RICO AND THE U.S. VIRGIN ISLANDS, 2000

INTRODUCTION

The Water Resources Division of the U.S. Geological Survey, in cooperation with local and federal agencies obtains a large amount of data pertaining to the water resources of the Commonwealth of Puerto Rico and the Territory of the U.S. Virgin Islands each water year. These data, accumulated during many water years, constitute a valuable data base for developing an improved understanding of the water resources of the area. To make these data readily available to interested parties outside the U.S. Geological Survey, the data are published annually in this report series entitled "Water Resources Data for Puerto Rico and the U.S. Virgin Islands, 2000."

This report includes records on both surface and ground water. Specifically, it contains: (1) discharge records for 85 streamflow gaging stations, daily sediment records for 26 streamflow stations, 21 partial-record or miscellaneous streamflow stations, stage records for 18 reservoirs, and (2) water-quality records for 16 streamflow-gaging stations, and for 42 ungaged stream sites, 11 lake sites, 2 lagoons, and 1 bay, and (3) water-level records for 108 observation wells.

Water-resources data for Puerto Rico for calendar years 1958-67 were released in a series of reports entitled "Water Records of Puerto Rico." Water-resources data for the U.S. Virgin Islands for the calendar years 1962-69 were released in a report entitled "Water Records of U.S. Virgin Islands." Included were records of streamflow, ground-water levels, and water-quality data for both surface and ground water.

Beginning with the 1968 calendar year, surface-water records for Puerto Rico were released separately on an annual basis. Ground-water level records and water-quality data for surface and ground water were released in companion reports covering periods of several years. Data for the 1973-74 reports were published under separate covers. Water-resources data reports for 1975 to 1999 water years consist of one volume each and contain data for streamflow, water quality, and ground water.

Publications similar to this report are published annually by the U.S. Geological Survey for all States. These official Survey reports have an identification number consisting of the two-letter State abbreviation, the last two digits of the water year, and the volume number. For example, this volume is identified as "U.S. Geological Survey Water-Data Report PR-00-1." These water-data reports are for sale in paper copy or in microfiche by the National Technical Information Service, U.S. Department of Commerce, Springfield, Virginia, 22161.

Additional information, including current prices, for ordering specific reports may be obtained from the District Chief at the address given on back of the title page or by telephone (787) 749-4346.

WATER RESOURCES DATA FOR PUERTO RICO AND THE U.S. VIRGIN ISLANDS, 2000

COOPERATION

The U.S. Geological Survey has had cooperative agreements with organizations of the Commonwealth of Puerto Rico and the Territory of the U.S. Virgin Islands for the systematic collections of water resources data since 1958. Organizations that supplied data are acknowledged in the station descriptions. Organizations that assisted in collecting data through cooperative agreements with the U.S. Geological Survey are:

- Puerto Rico Environmental Quality Board
- Puerto Rico Aqueduct and Sewer Authority
- Puerto Rico Department of Agriculture
- Puerto Rico Industrial Development Company
- Puerto Rico Highway Authority
- Puerto Rico Department of Natural and Environmental Resources
- Puerto Rico Department of Health
- Puerto Rico Electric Power Authority
- Puerto Rico Solid Waste Management Authority
- Puerto Rico Legislature
- Puerto Rico Emergency Management Agency
- U.S. Virgin Islands Department of Planning and Natural Resources
- Puerto Rico Infrastructure Financing Authority

Funds were also provided by the U.S. Army, Corps of Engineers, for the collection of records at six gaging stations published in this report.

WATER RESOURCES DATA FOR PUERTO RICO AND THE U.S. VIRGIN ISLANDS, 2000
Summary of Hydrologic Conditions

Rainfall

Rainfall throughout Puerto Rico during the water year 2000 (October 1999 to September 2000) averaged about 105 percent of normal. During the months of October, November, December, January, May, August, and September, rainfall was above normal with averages that ranged from 2 to 83 percent above normal (table 1). During the month of February, March, April, June, and July, rainfall was deficient with averages that ranged from 13 to 66 percent below normal. Rainfall during the water year averaged 92 percent of normal in northern Puerto Rico, 112 percent of normal in southern Puerto Rico, and 111 percent of normal in eastern and western Puerto Rico. Normal rainfall is defined as the mean monthly rainfall for the period 1961-1990 (Table 1).

Table 1. Islandwide monthly rainfall for the water year 2000 and annual averages for the 30-year reference period, 1961-1990.

Data from the National Oceanographic and Atmospheric Administration

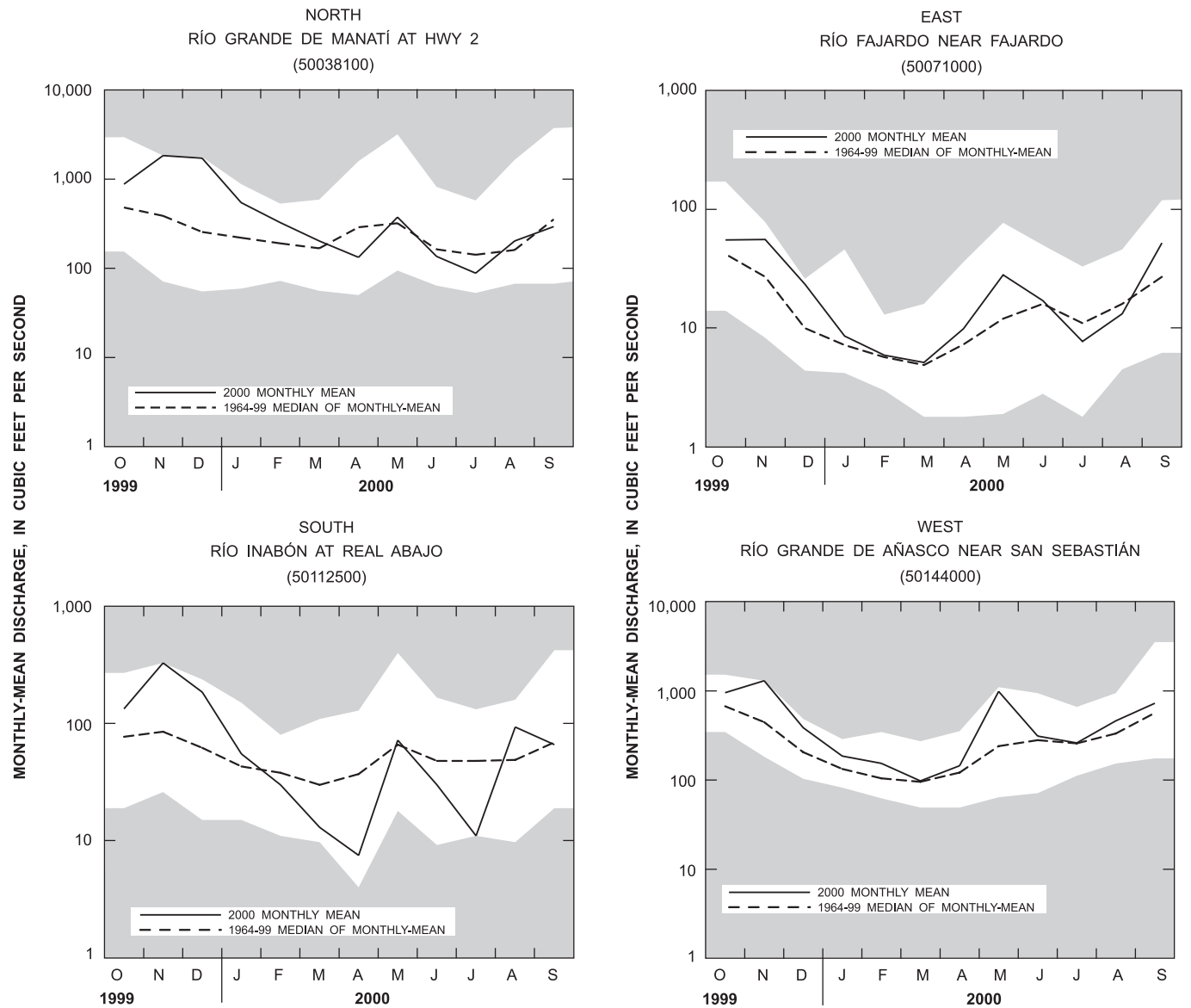
Month	2000 Water Year (inches)	30-year normal (inches)
October	8.49	8.29
November	11.98	6.55
December	5.64	4.38
January	3.28	2.87
February	2.21	2.53
March	1.33	3.02
April	2.74	4.44
May	7.71	6.96
June	3.03	5.00
July	2.99	5.09
August	7.93	6.89
September	<u>9.12</u>	<u>7.14</u>
TOTAL	66.45	63.16

Surface Water

Streamflow in Puerto Rico was in general, above normal in water year 2000, based on the index stations. Monthly mean discharges were greater than the long-term median of monthly mean flow during most of the water year. A comparison of the monthly mean flows during the 2000 water year, the long-term median of the monthly mean flows, and the minimum and maximum monthly mean flows for the periods of record at the index stations on the Río Grande de Manatí, the Río Fajardo, the Río Inabón, and the Río Grande de Añasco are shown in figure 1. Historical maximums for the month of November were recorded at three of the four index stations.

Hydrologic conditions were similar islandwide from October to January, with monthly-mean flows above the long-term median of the monthly-mean flows, at the four index stations. During this year there were no extraordinary streamflow events, but there was abundant runoff during the entire period. During the months of February to the end of the water year, streamflows were below the long-term median of the monthly-mean flows in some areas, as recorded by the index stations. An overview of the four areas represented by the index stations follows to describe those conditions in more detail.

In the northern area, represented by the Río Grande de Manatí index station, the monthly mean flows were well above the long-term median of the monthly-mean flows during the months of October to March, May, and August. Those flows ranged between 17 to 573 percent above normal, with December being the highest. A historical maximum monthly mean flow was recorded during November at this index station. During April, June, July and September, monthly mean flows were below normal, ranging from 16 to 54 percent below the long-term median of the monthly-mean flows.



Unshaded area indicates range between highest and lowest monthly-mean discharges for the period of record to water year 2000.

Figure 1. Monthly-mean discharge of selected streams in Puerto Rico.

WATER RESOURCES DATA FOR PUERTO RICO AND THE U.S. VIRGIN ISLANDS, 2000

The eastern area, represented by the index station at the Río Fajardo, recorded monthly mean flows above the long-term median during six of the twelve months of the 2000 water year. At this station, monthly mean flows ranging from 9 to 286 percent above normal were recorded from October to January, May, and August. A historical maximum monthly mean was recorded during the month of November at this index station. During February to April, June, July, and September, the monthly mean flows recorded ranged from 4 to 80 percent below normal.

In the southern area, the Río Inabón index station recorded monthly mean flows of the long-term median during ten of the twelve months of the 2000 water year. At this station, only the monthly mean flows for July and August were below the long-term median. The flows were 70 and 82 percent of normal respectively. The rest of the year, monthly mean flows ranged from 105 to 234 percent of the long-term median.

In the western area, the index station on the Río Grande de Añasco recorded monthly mean flows above the long-term median during the entire 2000 water year. Monthly mean flows ranged between 1 to 311 percent above the long-term median of the monthly mean flows. The highest was recorded during the month of May with a monthly-mean flow of 411 percent of the long term median. A historical maximum monthly mean flow was recorded during the month of November at this index station.

In the U.S. Virgin Islands, rainfall was deficient with only 91 percent of normal reported by the National Oceanic and Atmospheric Administration. Streamflow conditions were similarly below normal.

Ground Water

Water level trends and fluctuations during the 2000 water year followed a similar pattern as in previous years resulting from above normal rainfall accumulations combined with continuous ground-water withdrawals (figure 2). In water year 2000, only 5 tapedowns were obtained at the Sabana Hoyos well, ground-water station 182647066201700 so the well record is not shown. In this same period, equipment problems were corrected and the station has been converted to a satellite telemetry site. The well record shown in place of the Sabana Hoyos well is that of Tortuguero 3 well, ground-water station 182712066251700 (figure 2). In 30 ground-water monitoring sites, the highest water level recorded approached or was slightly above the historic high (table 2). In areas where the ground-water withdrawals are an important resource for drinking water purposes (table 3) water levels were below the historic low (18 ground-water monitoring sites).

The period of record of more than half of the ground-water monitoring wells dates to 1997, when the ground-water monitoring network was established. Fluctuations observed at these monitoring stations during water year 2000 were comparable to historic ground-water levels at index stations established since the 1960's. Figure 7 and 9 show the locations of the ground-water stations maintained by the USGS in Puerto Rico and the U.S. Virgin Islands, in cooperation with the Commonwealth of Puerto Rico, the Government of the U.S. Virgin Islands, and other agencies.

WATER RESOURCES DATA FOR PUERTO RICO AND THE U.S. VIRGIN ISLANDS, 2000

Table 2. Highest ground-water levels recorded during 2000 water year and previous high ground-water levels at selected wells in Puerto Rico

[PR, Puerto Rico; mm-dd-yy, month-day-year; ft-blsd, feet below land-surface datum; mm-yy, month-year]

Well name	Local number	Location	2000 Highest water level (ft-blsd)	Date (mm-dd-yy)	Previous highest water level (ft-blsd)	Date (mm-dd-yy)	Period of record (mm-yy)
Santana 1	1056	PR	101.29	01-07-00	101.60	08-20-97	08-95 to 09-00
PRASA 166 USGS Obs. Manati	166	PR	21.38	11-21-99	22.11	01-25-97	01-82 to 09-00
Piezometer Tortuguero 3	1102	PR	23.13	12-07-99 12-08-99	23.39	12-06-98	05-96 to 09-00
Ponderosa 1	212	PR	62.21	01-03-00	63.05	07-15-87	10-85 to 09-00
Pampano 2	213	PR	26.27	01-25-00	24.40	12-06-85	10-85 to 09-00
Piezometer Santa Rosa USGS 2	1128	PR	57.63	12-11-99 to 12-14-99	60.40	09-20-95	02-95 to 09-00
Piezometer Higuillar 4	1130	PR	29.58	12-08-99 12-09-99	31.10	12-11-98 12-12-98	01-95 to 09-00
Piezometer San Antonio USGS 1	1131	PR	12.83	12-07-99 12-08-99	13.97	09-11-96	10-94 to 09-00
Piezometer San Antonio USGS 3	1132	PR	12.93	12-08-99	13.95	09-11-96	10-94 to 09-00
Piezometer USGS Bldg. 652	652	PR	4.59	05-28-00	5.42	12-05-98	05-97 to 09-00
Piezometer Salud Mental	1153	PR	21.97	12-08-99 12-09-99	24.90	02-17-99 02-18-99	04-89 to 09-00
Piezometer Alsacia 2	1154	PR	2.60	11-24-99	3.11	09-18-89	07-89 to 09-00
Piezometer CJ 19A	1176	PR	20.75	11-20-99 11-21-99	21.06	12-07-98	06-92 to 09-00
Piezometer Caguas-Juncos 18	1180	PR	10.71	01-21-00	12.08	10-16-97	06-97 to 09-00
Piezometer Carlos Arroyo 1	1203	PR	1.66	11-13-99	2.01	10-22-98	10-97 to 09-00
Piezometer RF-12	1207	PR	0.58	12-03-99	1.90	12-30-98	08-97 to 09-00
Piezometer Yabucoa USGS Brackish	1226	PR	+0.29	11-17-99	+0.05	12-09-98	09-97 to 09-00
Barranca Dug	1229	PR	13.66	11-25-99 11-26-99 11-27-99	18.07	11-05-98 11-06-98	04-97 to 09-00
Piezometer Aguirre HW 1	1231	PR	16.09	11-27-00 11-28-00	19.01	02-17-98 02-18-98 02-19-98	04-88 ot 09-00
Piezometer Aguirre HW 5B	1233	PR	5.55	11-13-00	5.93	09-03-98	04-88 ot 09-00
Maunabo 3	1235	PR	3.01	12-09-99	5.17	09-02-99	02-98 to 09-00
Cacao Bajo	1236	PR	14.32	12-09-99	16.22	09-30-99	04-98 to 09-00
Colón Moret	1237	PR	26.22	11-22-99	31.24	06-22-99	06-99 to 09-00
PRASA Villodas	1238	PR	16.68	12-31-99	16.95	03-09-99	03-98 to 09-00
Coqui Battery 1	1251	PR	1.04	11-10-99	3.30	09-22-98 09-23-98	03-97 to 09-00
Cabrera 1	1258	PR	31.93	12-01-99	33.19	12-27-98	03-97 to 09-00
Constancia 3	1276	PR	9.13	09-28-00 09-29-00	10.63	10-23-98	05-96 to 09-00
Albergue de Niños 1	1277	PR	24.62	12-13-99	27.67	10-23-98	03-92 to 09-00
Hormigueros	1304	PR	4.99	10-15-99	6.08	09-07-99	02-98 to 09-00
Cervecería India 4	1326	PR	4.65	11-24-99	4.69	09-13-99	08-97 to 09-00

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Table 3. Lowest ground-water levels recorded during 2000 water year and previous high ground-water levels at selected wells in Puerto Rico

[PR, Puerto Rico; mm/dd/yy, month/day/year; ft-blsd, feet below land-surface datum; mm/yy, month/year]

Well name	Local number	Location	2000 Highest water level (ft-blsd)	Date (mm-dd-yy)	Previous highest water level (ft-blsd)	Date (mm-dd-yy)	Period of record (mm-yy)
Zanja 4	1026	PR	338.56	07-07-00	331.20	03-11-98	02-97 to 09-00
Santana Park	1055	PR	52.40	01-26-00	52.09	09-03-99	09-95 to 09-00
NC-5 Cruce Dávila	205	PR	90.24	10-08-99	89.97	09-28-99	12-86 to 09-00
Piezometer Monserrate 2	217	PR	4.24	08-29-00	4.11	06-20-99	11-85 to 09-00
Piezometer Ft. Buchanan 1	1159	PR	44.38	07-28-00 07-29-00	37.18	12-22-98	12-97 to 09-00
Piezometer Caguas-Juncos 15	1179	PR	11.11	11-18-99 11-19-99	9.58	05-11-98 05-12-98	05-97 to 09-00
Piezometer Caguas-Juncos 18	1180	PR	16.27	03-15-00	15.83	05-11-99	06-97 to 09-00
Piezometer Río Mameyes 2	1202	PR	14.52	08-22-00 08-23-00	14.22	05-06-99 05-07-99 05-08-99	09-97 to 09-00
Piezometer Carlos Arroyo 1	1203	PR	12.20	08-21-00 08-22-00	11.68	07-08-99 07-09-99	10-97 to 09-00
Piezometer Quebrada Mata de Platanos	1208	PR	5.96	08-22-00	5.34	07-30-99	09-97 to 09-00
Piezometer Aguirre HW 13	1234	PR	50.72	07-24-00	48.12	09-03-98	04-88 to 09-00
Cacao Bajo	1236	PR	20.54	05-25-00	20.42	03-23-99	04-98 to 09-00
Colón Moret	1237	PR	39.92	10-21-99	38.91	09-30-99	06-99 to 09-00
PRASA 1 Cabo Rojo	1301	PR	35.91	05-03-00 05-04-00	28.52	05-19-99	05-96 to 09-00
CR-TW-9A	1302	PR	21.76	05-09-00 05-10-00	13.39	06-02-99	07-92 to 09-00
CR-TW-9B	1303	PR	28.61	05-03-00 05-04-00	23.38	05-18-98 05-19-98 05-20-00	07-92 to 09-00
Rincón 4	1352	PR	35.62	06-12-00 to 06-15-00	34.38	08-19-99	05-96 to 09-00

WATER RESOURCES DATA FOR PUERTO RICO AND THE U.S. VIRGIN ISLANDS, 2000

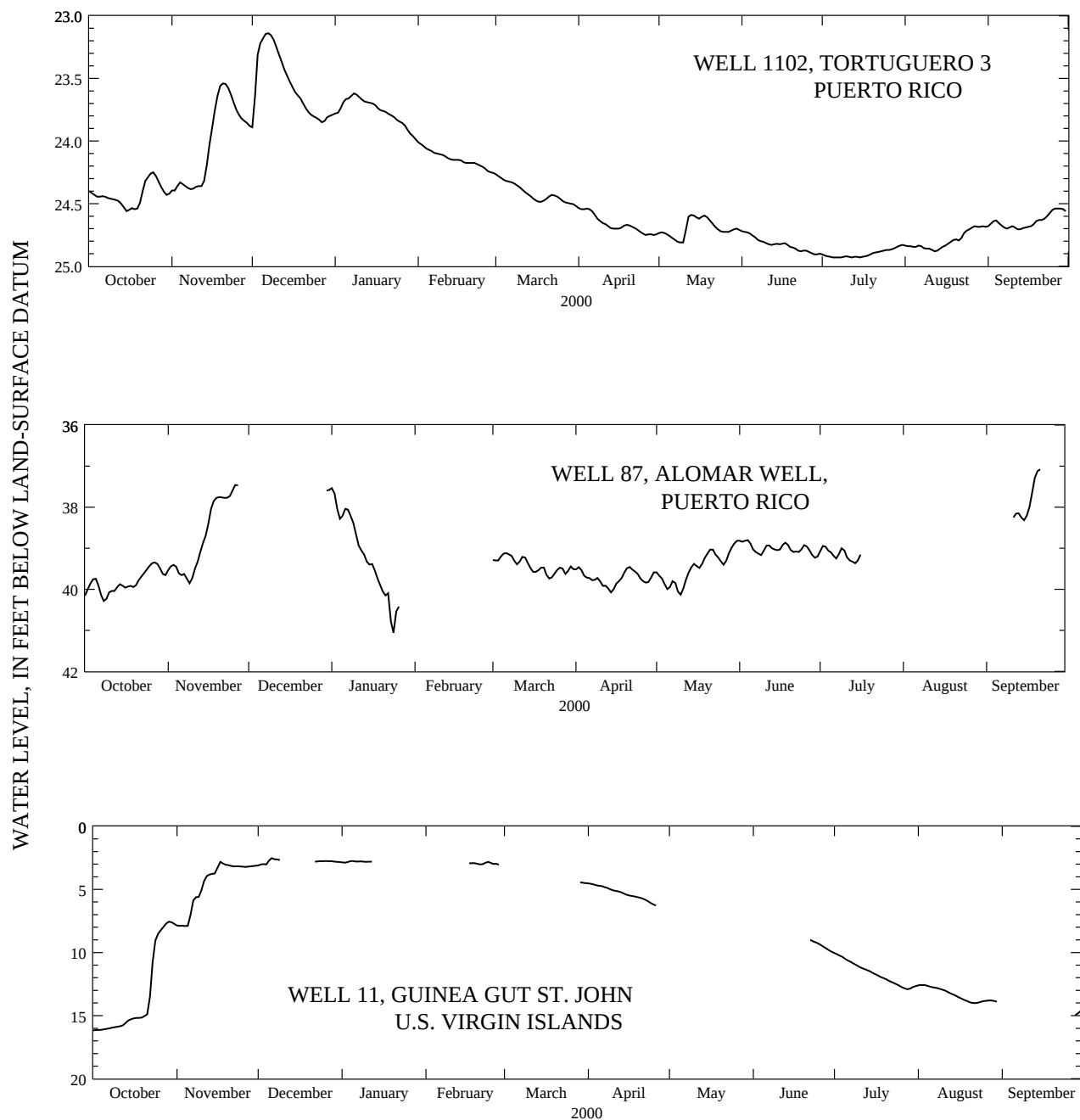


Figure 2. Ground-water levels at selected wells in Puerto Rico and the U.S. Virgin Islands.

WATER RESOURCES DATA FOR PUERTO RICO AND THE U.S. VIRGIN ISLANDS, 2000

Water Quality

The U.S. Geological Survey, in cooperation with several local government agencies, collected water-quality data at 73 surface-water stations in Puerto Rico during water year 2000. The water-quality data collected at these stations included the major chemical constituents and several others that are listed in table 4. The highest concentration of each of these constituents detected during water year 2000 and the station where it was detected are summarized in table 4.

Table 4. Surface-water quality stations in Puerto Rico with highest concentration of selected constituents during water year 2000

[All constituent concentrations are in milligrams per liter; MBAS, Methylene blue active substance]

Station number	Station name	Constituent	Concentration
50029000	Río Grande de Arecibo at Central Cambalache	Sulfide	1.6
50047530	Río Hondo at Flood Channel	Boron	0.44
50143000	Río Grande de Añasco near Lares	Manganese	2.3
50143000	Río Grande de Añasco near Lares	Iron	33
50055250	Río Cagüitas at hwy 30 near Caguas	Zinc	0.21
50055250	Río Cagüitas at hwy 30 near Caguas	Cyanide	0.03
50057025	Río Cagüitas at hwy 30 near Caguas	Phenols	0.02
50055250	Río Cagüitas at hwy 30 near Caguas	MBAS	1.46

The presence of high concentrations of fecal coliform (fig. 3) and fecal streptococcal (fig. 4) bacteria continued to be the principal surface-water quality problem in Puerto Rico during water year 2000. The highest concentration observed during this year occurred in stations located in the San Juan Metropolitan area which has the highest population concentration in Puerto Rico. In addition to the effluent from the San Juan metropolitan area the streams are also receiving effluents from the upper basin sewage treatment plants. The highest concentration of fecal coliform and fecal streptococcal bacteria in surface waters in Puerto Rico generally occurred in streams draining from densely populated and industrialized areas of the Island. Suspended-sediment concentrations were monitored at 26 stations in Puerto Rico during the 2000 water year as part of the cooperative program between the U.S. Geological Survey and various Commonwealth and Federal agencies. High suspended sediment concentrations are a common problem in many streams in Puerto Rico. Most of the streams with high suspended sediment concentration were related to land use, especially urban development, agriculture and activities where soil movement was involved. The high suspended-sediment concentrations affect the quality of drinking water and the storage capacities of reservoirs.

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SPECIAL NETWORKS AND PROGRAMS

Hydrologic Bench-Mark Network is a network of 57 sites in small drainage basins around the country whose purpose is to provide consistent data on the hydrology, including water quality, and related factors in representative undeveloped watersheds nationwide, and to provide analyses on a continuing basis to compare and contrast conditions observed in basins more obviously affected by the activities of man.

National Stream Quality Accounting Network (NASQAN) is a nationwide data-collection network designed by the U.S. Geological Survey to meet many of the information needs of government agencies and other groups involved in natural or regional water-quality planning and management. The 500 or so sites on NASQAN are generally located at the downstream ends of hydrologic accounting units designated by the U.S. Geological Survey Office of Water Data Coordination in consultation with the Water Resources Council. The objectives of NASQAN are (1) to obtain information on the quality and quantity of water moving within and from the United States through a systematic and uniform process of data collection, summarization, analysis, and reporting such that the data may be used for, (2) description of the areal variability of water quality in the Nation's rivers through analysis of data from this and other programs, (3) detection of changes or trends with time in the pattern of occurrence of water-quality characteristics, and (4) providing a nationally consistent data base useful for water-quality assessment and hydrologic research.

The National Trends Network (NTN) is a 150-station network for sampling atmospheric deposition in the United States. The purpose of the network is to determine the variability, both in location and in time, of the composition of atmospheric deposition, which includes snow, rain, dust particles, aerosols, and gases. The core from which the NTN was built was the already-existing deposition-monitoring network of the National Atmospheric Deposition Program (NADP).

The National Water-Quality Assessment (NAWQA) Program of the U.S. Geological Survey is a long-term program with goals to describe the status and trends of water-quality conditions for a large, diverse, and geographically distributed part of the Nation's ground- and surface-water resources, and to identify, describe, and explain the major natural and human factors that affect these observed conditions and trends.

Assessment activities have begun in more than one-third of the study units and ultimately will be conducted in 60 study units (major watersheds and aquifer systems) that represent a wide range of environmental settings nationwide and that account for a large percentage of the Nation's water use. A wide array of chemical constituents will be measured in ground water, surface water, streambed sediments, and fish tissues. The coordinated application of comparative hydrologic studies at a wide range of spatial and temporal scales will provide information for decision making by water-resources managers and a foundation for aggregation and comparison of findings to address water-quality issues of regional and national interest.

Radiochemical Programs is a network of regularly sampled water-quality stations where samples are collected to be analyzed for radioisotopes. The streams that are sampled represent major drainage basins in the conterminous United States.

Tritium Network is a network of stations which has been established to provide baseline information on the occurrence of tritium in the Nation's surface waters. In addition to the surface-water stations in the network, tritium data are also obtained at a number of precipitation stations. The purpose of the precipitation stations is to provide an estimate sufficient for hydrologic studies of the tritium input to the United States.

EXPLANATION OF RECORDS

The surface- and ground-water records published in this report are for the 2000 water year that began October 1, 1999 and ended September 30, 2000. A calendar of the water year is provided on the inside of the front cover. The records contain streamflow data, water-quality data for surface and ground water, and ground-water-level data. The locations of the stations and wells where the data were collected are shown in figures 3 to 9. The following sections of the introductory text are presented to provide users with a more detailed explanation of how the hydrologic data published in this report were collected, analyzed, computed, and arranged for presentation.

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Station Identification Numbers

Each data station, whether stream site or well, in this report is assigned a unique identification number. This number is unique in that it applies specifically to a given station and to no other. The number usually is assigned when a station is first established and is retained for that station indefinitely. The systems used by the U.S. Geological Survey to assign identification numbers for surface-water stations and for ground-water well sites differ, but both are based on geographic location. The "downstream order" system is used for regular surface-water stations and the "latitude-longitude" system is used for wells.

Downstream Order System

Since October 1, 1950, the order of listing hydrologic-station records in Survey reports is in a downstream direction along the main stream. All stations on a tributary entering upstream from a main-stream station are listed before that station. A station on a tributary that enters between two main-stream stations is listed between them. A similar order is followed in listing stations in first rank, second rank, and other ranks of tributaries.

As an added means of identification, each hydrologic station and partial-record station has been assigned a station number. These are in the same downstream order used in this report. In assigning station numbers, no distinction is made between partial-record stations and other stations; therefore, the station number for a partial-record station indicates downstream order position in a list made up of both types of stations that may be established; hence, the numbers are not consecutive. The complete 8-digit number for each station such as 50028000, which appears just to the left of the station name, includes the 2-digit part number "50" plus the 6-digit downstream order number "028000."

Latitude-Longitude System

The 8-digit downstream order station numbers are not assigned to wells and miscellaneous sites where only random water-quality samples or discharge measurements are taken.

The well and miscellaneous site numbering system of the U.S. Geological Survey is based on the grid system of latitude and longitude. The system provides the geographic location of the well or miscellaneous site and a unique number for each site. The number consists of 15 digits. The first 6 digits denote the degrees, minutes, and seconds of latitude, the next 7 digits denote degrees, minutes, and seconds of longitude, and the last 2 digits (assigned sequentially) identify the wells or other sites within a 1-second grid. The numbers shown in the grid correspond to the local numbers assigned to each well as visited in the field. An example is well 16 (fig. 10).

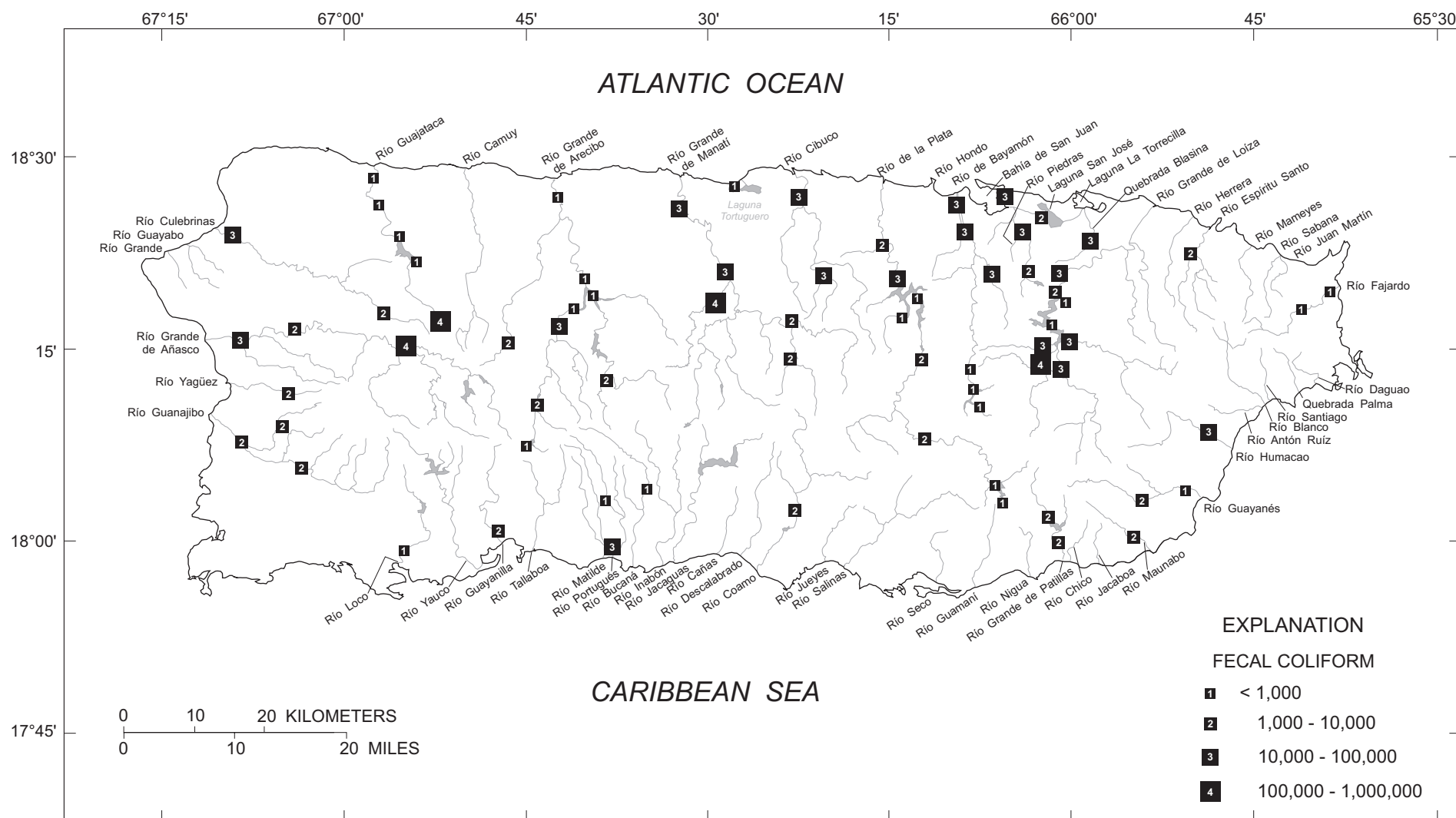


Figure 3. Location of maximum concentration of fecal coliform bacteria at the water-quality sampling sites in Puerto Rico.

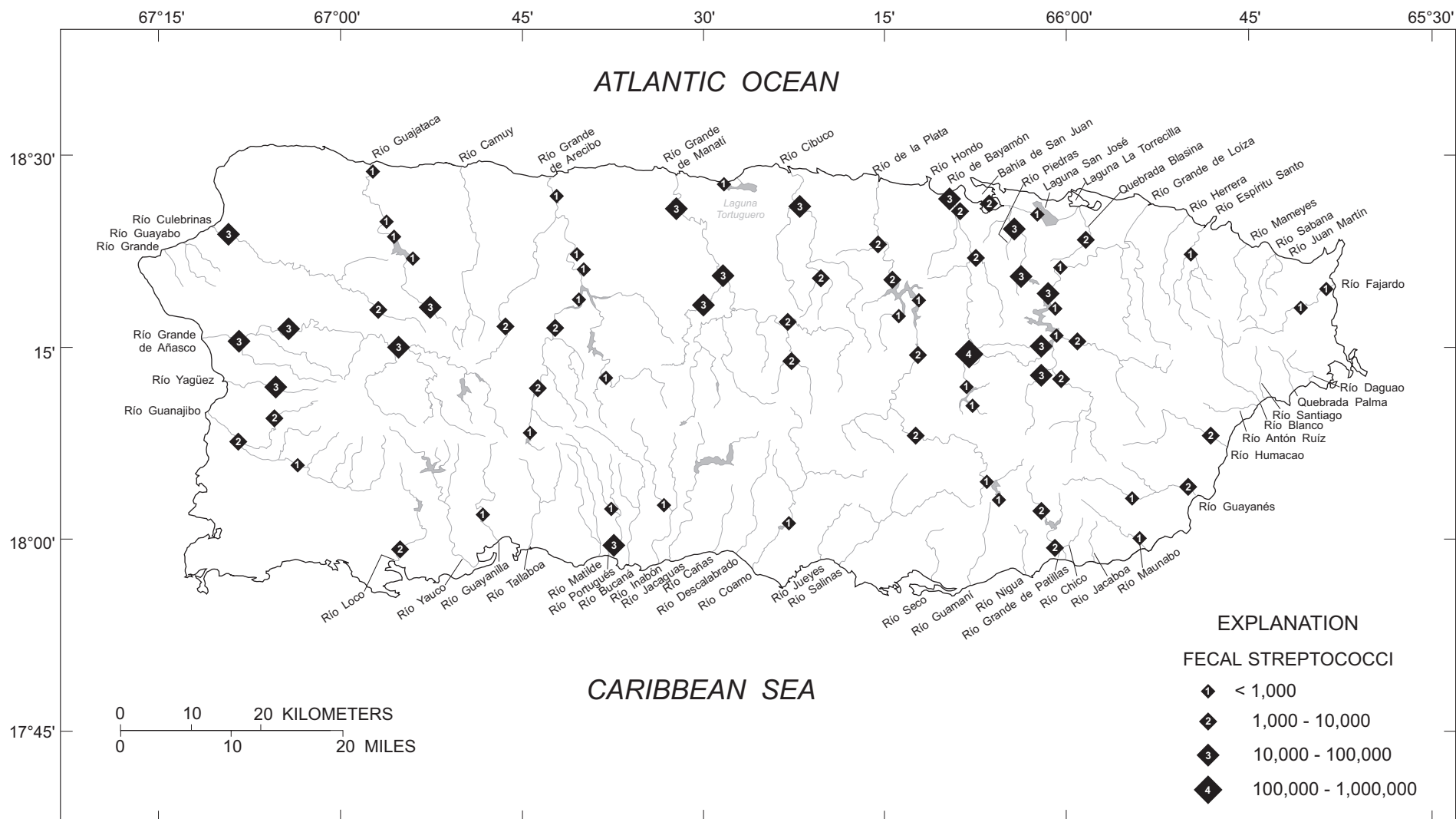


Figure 4. Location of maximum concentration of fecal streptococci bacteria at the water-quality sampling sites in Puerto Rico.

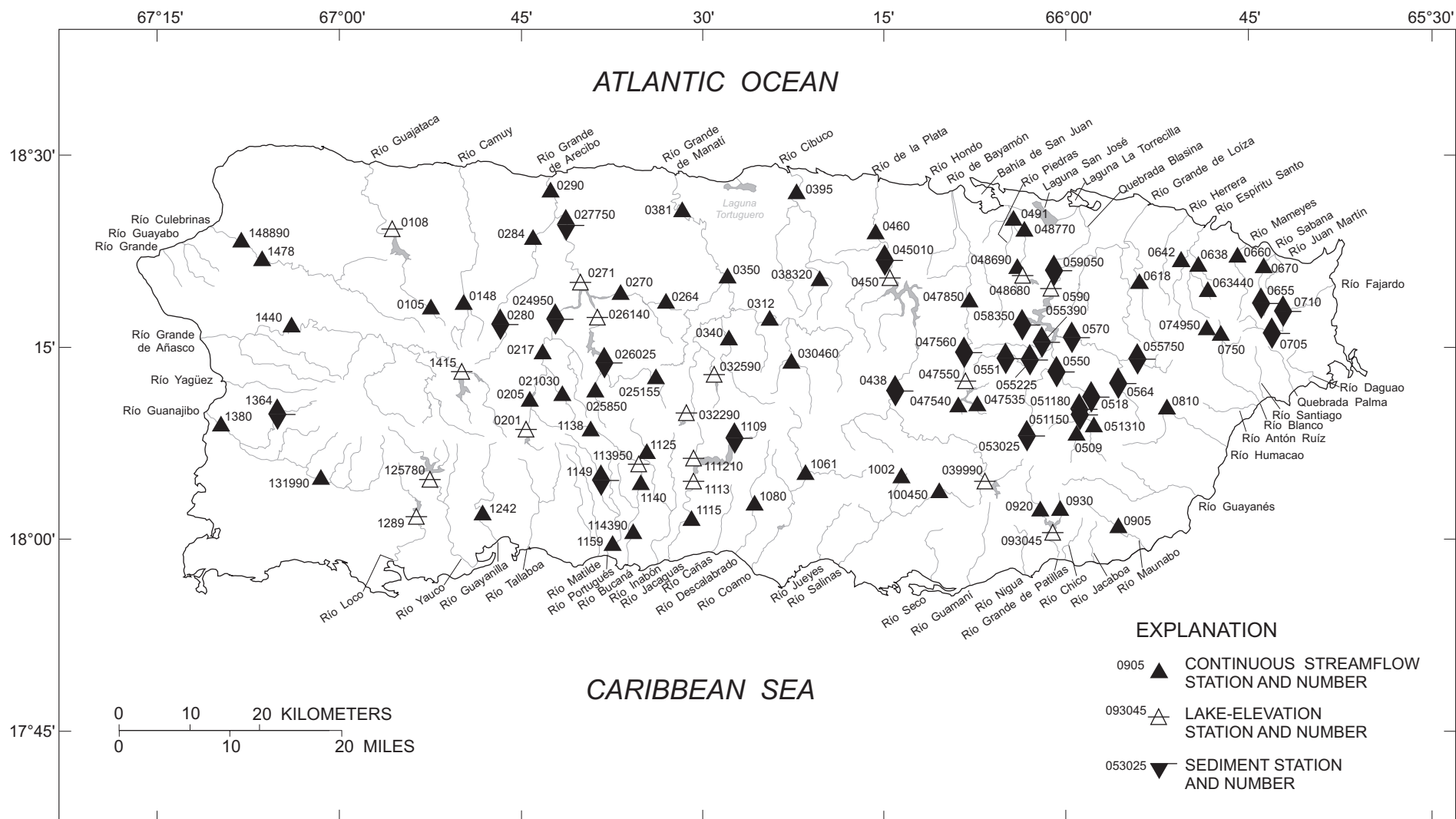


Figure 5. Location of surface-water stations in Puerto Rico.

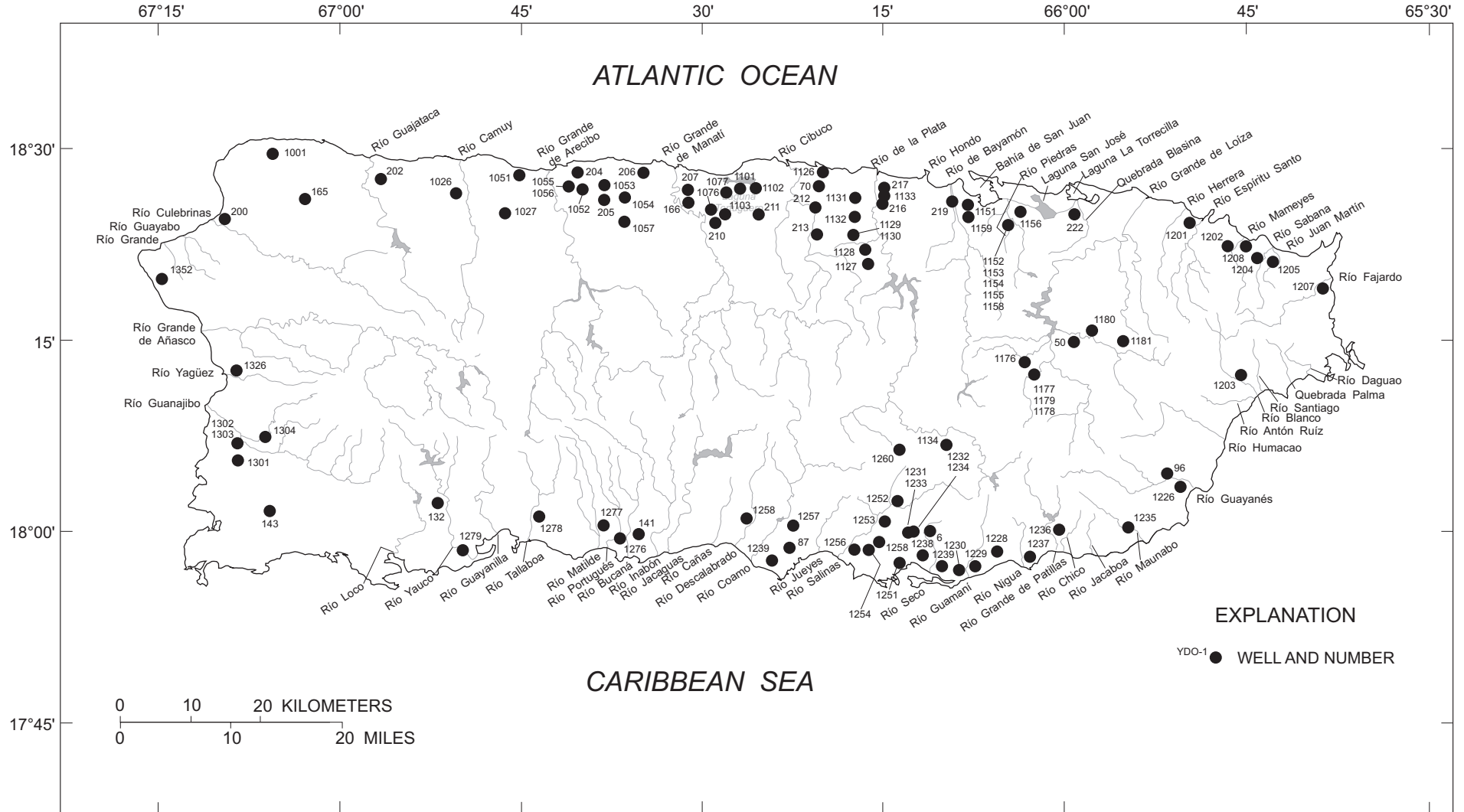


Figure 7. Location of ground-water stations in Puerto Rico.

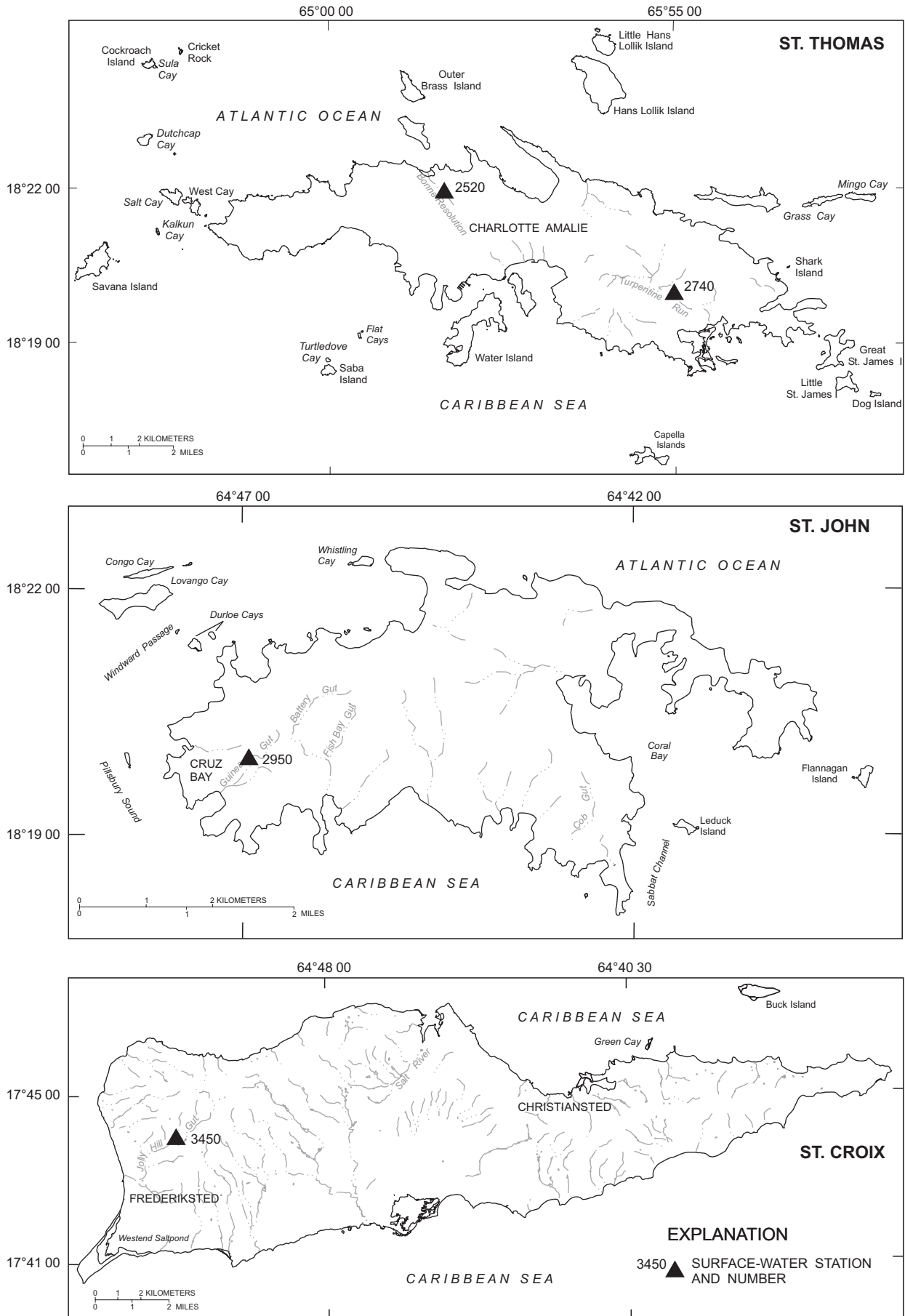


Figure 8. Location of surface-water stations in the U.S. Virgin Islands.

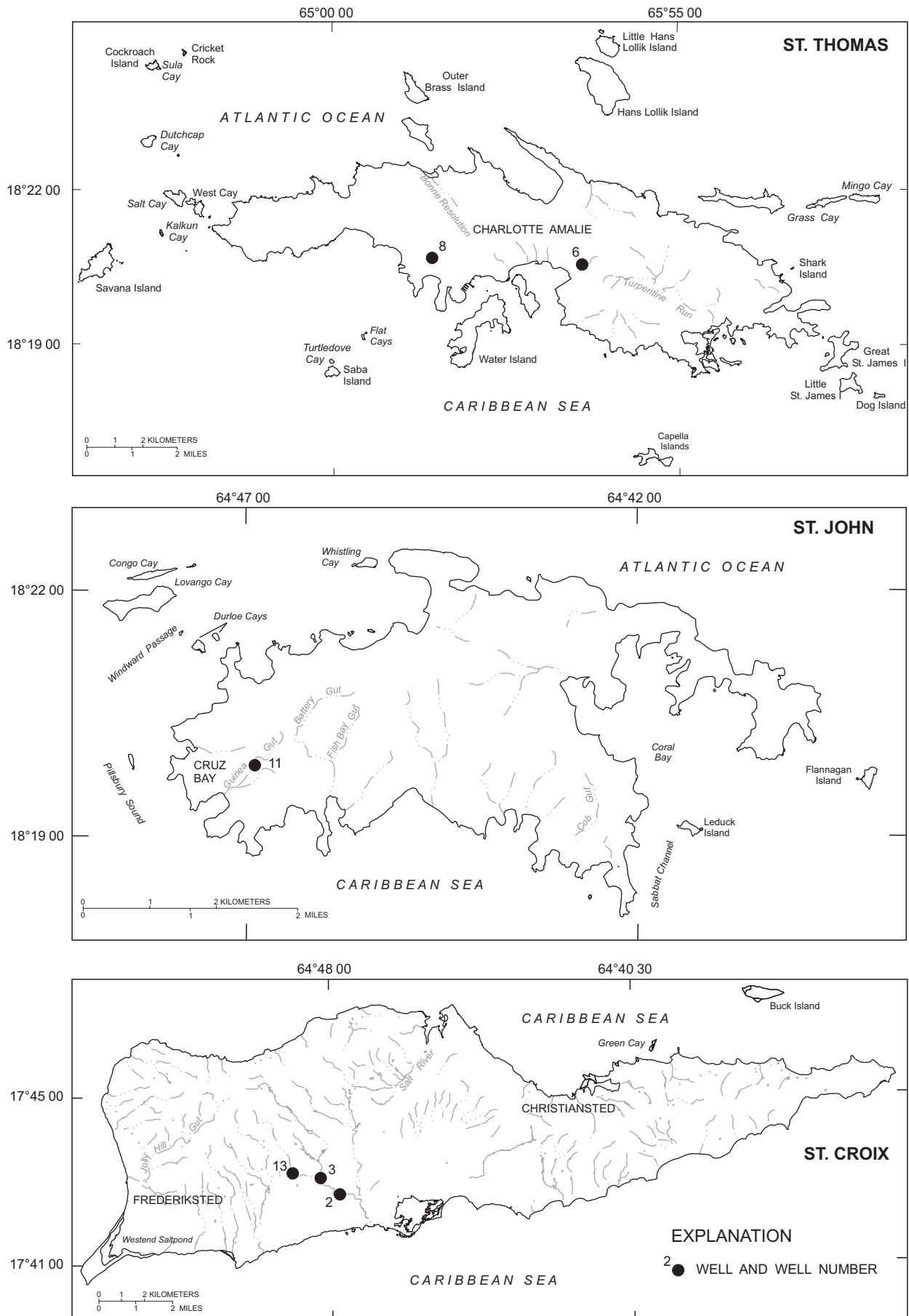


Figure 9. Location of ground-water stations in the U.S. Virgin Islands.

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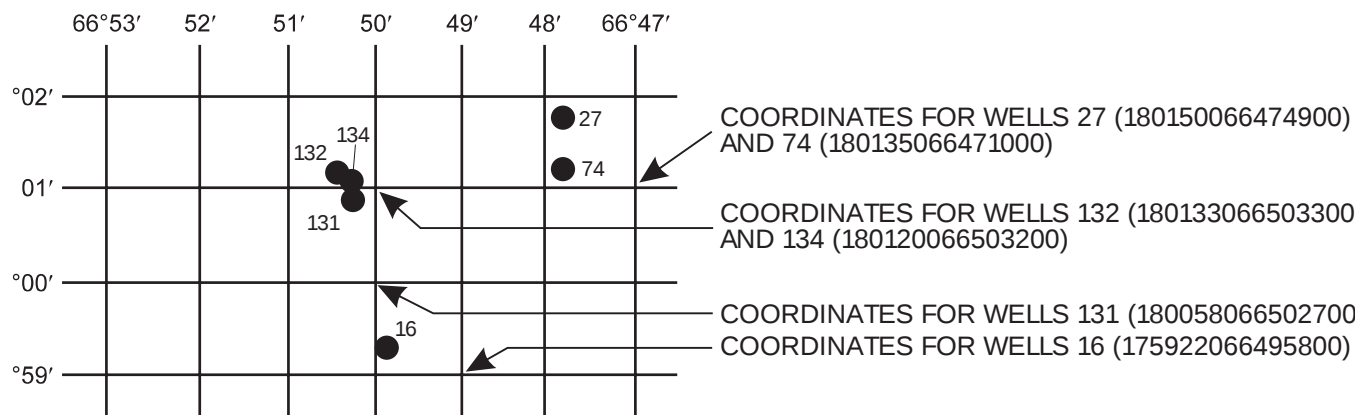


Figure 10. Grid showing system for numbering wells and miscellaneous sites (latitude and longitude).

Records of Stage and Water Discharge

Records of stage and water discharge may be complete or partial. Complete records of discharge are those obtained using a continuous stage-recording device through which either instantaneous or mean daily discharges may be computed for any time, or any period of time, during the period of record. Complete records of lake or reservoir content, similarly, are those for which stage or content may be computed or estimated with reasonable accuracy for any time, or period of time. They may be obtained using a continuous stage-recording device, but need not be. Because daily mean discharges and end-of-day contents commonly are published for such stations, they are referred to as "daily stations."

By contrast, partial records are obtained through discrete measurements without using a continuous stage-recording device and pertain only to a few flow characteristics, or perhaps only one. The nature of the partial record is indicated by table titles such as "Low-flow partial records." Records of miscellaneous discharge measurements or of measurements from special studies, such as low-flow seepage studies, may be considered as partial records, but they are presented separately in this type of report. Location of all complete-record stations for which data are given in this report are shown in figures 5 and 8.

Data Collection and Computation

The data obtained at a complete-record gaging station on a stream or canal consists of a continuous record of stage, individual measurements of discharge throughout a range of stages, and notations regarding factors that may affect the relationships between stage and discharge. These data, together with supplemental information, such as weather records, are used to compute daily discharges. The data obtained at a complete-record gaging station on a lake or reservoir consist of a record of stage and of notations regarding factors that may affect the relationship between stage and lake content. These data are used with stage-area and stage-capacity curves or tables to compute water-surface areas and lake storage.

Continuous records of stage are obtained with analog recorders that trace continuous graphs of stage or with digital recorders that punch stage values on paper tapes at selected time intervals or electronic satellite data collector platforms that receive stage values at selected time intervals. Measurements of discharge are made with current meters using methods adapted by the Geological Survey as a result of experience accumulated since 1880. These methods are described in standard textbooks, in Water-Supply Paper 2175, and in U.S. Geological Survey Techniques of Water-Resources Investigations, Book 3, Chapter A6.

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In computing discharge records, results of individual measurements are plotted against the corresponding stages, and stage-discharge relation curves are then constructed. From these curves, rating tables indicating the approximate discharge for any stage within the range of the measurements are prepared. If it is necessary to define extremes of discharge outside the range of the current-meter measurements, the curves are extended using: (1) logarithmic plotting; (2) velocity-area studies; (3) results of indirect measurements of peak discharge, such as slope-area or contracted-opening measurements, and computations of flow-over-dams or weirs; or (4) step-backwater techniques.

Daily mean discharges are computed by applying the daily mean stages (gage heights) to the stage-discharge curves or tables. If the stage-discharge relation is subject to change because of frequent or continual change in the physical features that form the control, the daily mean discharge is determined by the shifting-control method, in which correction factors based on the individual discharge measurements and notes of the personnel making the measurements are applied to the gage heights before the discharges are determined from the curves or tables. This shifting-control method also is used if the stage-discharge relation is changed temporarily because of aquatic growth or debris on the control. At some stations the stage-discharge relation is affected by changing stage; at these stations the rate of change in stage is used as a factor in computing discharge.

In computing records of lake or reservoir contents, it is necessary to have available from surveys, curves or tables defining the relationship of stage and contents. The application of stage to the stage-content curves or tables gives the contents from which daily, monthly or yearly changes then are determined. If the stage-content relationship changes because of deposition of sediment in a lake or reservoir, periodic surveys may be necessary to redefine it. Even when this is done, as time between the last survey increases, the contents computed may increase in error. Discharges over lake or reservoir spillways are computed from stage-discharge relationships much as other stream discharges are computed.

For some gaging stations there are periods when no gage-height record is obtained, or the recorded gage height is so faulty that it cannot be used to compute daily discharge or contents. This happens when the recorder stops or otherwise fails to operate properly, intakes are plugged, the float is loose in the well, or for various other reasons. For such periods, the daily discharges are estimated from the recorded range in stage, previous or following record, discharge measurements, weather records, and comparison with other station records from the same or nearby basins. Likewise, daily contents may be estimated from operator's logs, previous or following record, inflow-outflow studies, and other information. Information explaining how estimated daily-discharge values are identified in station records is included in the next two sections, "Data Presentation" (REMARKS paragraph) and "Identifying Estimated Daily Discharge."

Data Presentation

Steamflow data in this report are presented in a new format that is considerably different from the format in data reports prior to the 1992 water year. The major changes are that statistical characteristics of discharge now appear in tabular summaries following the water-year data table and less information is provided in the text or station manuscript above the table. These changes represent the results of a pilot program to reformat the annual water-data report to meet current user needs and data preferences.

The records published for each continuous-record surface-water discharge station (gaging station) now consist of four parts, the manuscript or station description; the data table of daily mean values of discharge for the current water year with summary data; a tabular statistical summary of monthly mean flow data for a designated period, by water year; and a summary statistics table that includes statistical data of annual, daily, and instantaneous flows as well as data pertaining to annual runoff, 7-day low-flow minimum, and flow duration.

Station manuscript

The manuscript provides, under various headings, descriptive information, such as station location; period of record; historical extremes outside the period of record; record accuracy; and other remarks pertinent to station operation and regulation. The following information, as appropriate, is provided with each continuous record of discharge or lake content. Comments to follow clarify information presented under the various headings of the stations descriptions.

LOCATION.--Information on locations is obtained from the most accurate maps available. The location of the gage with respect to the cultural and physical features in the vicinity and with respect to the reference place mentioned in the station name is given.

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DRAINAGE AREA.--Drainage areas are measured using the most accurate maps available. Drainage areas are updated as better maps become available.

PERIOD OF RECORD.--This indicates the period for which there are published records for the station or for an equivalent station. An equivalent station is one that was in operation at a time that the present station was not, and whose location was such that records from it can reasonable be considered equivalent with records from the present station.

REVISED RECORDS.--Because of new information, published records occasionally are found to be incorrect, and revisions are printed in later reports. Listed under this heading are all the reports in which revisions have been published for the station and the water years to which the revisions apply. If a revision did not include daily, monthly, or annual figures of discharge, that fact is noted after the year dates as follows: "(M)" means that only the instantaneous maximum discharge was revised; "(m)" that only the instantaneous minimum was revised; and "(P)" that only peak discharges were revised. If the drainage area has been revised, the report in which the most recently revised figure was first published is given.

GAGE.--The type of gage in current use, the datum of the current gage, and a condensed history of the types, locations, and datums of previous gages are given under this heading.

REMARKS.--All periods of estimated daily-discharge record will either be identified by date in this paragraph of the station description for water-discharge stations or flagged in the daily-discharge table. (See next section, "Identifying Estimated Daily Discharge.") If a remarks statement is used to identify estimated record, the paragraph will begin with this information presented as the first entry. The paragraph is also used to present information relative to the accuracy of the records, to special methods of computations, to conditions that affect natural flow at the station and, possibly, to other pertinent items. For reservoir stations, information is given on the dam forming the reservoir, the capacity, outlet works and spillway, and purpose and use of the reservoir.

COOPERATION.--Records provided by a cooperating organization or obtained for the Geological Survey by a cooperating organization are identified here.

EXTREMES OUTSIDE PERIOD OF RECORD.--Included here is information concerning major floods or unusually low flows that occurred outside the stated period of record. The information may or may not have been obtained by the U.S. Geological Survey.

REVISIONS.--If a critical error in published records is discovered, a revision is included in the first report published following discovery of the error.

Although rare, occasionally the records of a discontinued gaging station may need revision. Because, for these stations, there would be no current or, possibly, future station manuscript published to document the revision in a "Revised Records" entry, users of data for these stations who obtained the record from previously published data reports may wish to contact the District office to determine if the published records were ever revised after the station was discontinued. Of course, if the data were obtained by computer retrieval, the data would be current and there would be no need to check because any published revision of data is always accompanied by revision of the corresponding data in computer storage.

Manuscript information for lake or reservoir stations differs from that for stream stations in the nature of the "Remarks" and in the inclusion of a skeleton stage-capacity table when daily contents are given.

Data table of daily mean value

The daily table of discharge records for stream gaging stations gives mean discharge for each day of the water year. In the monthly summary for the table, the line headed "TOTAL" gives the sum of the daily figures for each month; the line headed "MEAN" gives the average flow in cubic feet per second for the month; and the lines headed "MAX" and "MIN" give the maximum and minimum daily mean discharges, respectively, for each month. Discharge for the month also is usually expressed in cubic feet per second per square mile (line headed "CFSM"); or in inches (line headed "IN"); or in acre-feet (line headed "AC-FT"). Figures for cubic feet per second per square mile and runoff in inches or in acre-feet may be omitted if there is extensive regulations or diversion or if the drainage area includes large noncontributing areas.

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Statistics of monthly mean data

A tabular summary of the mean (line headed "MEAN"), maximum (line headed "MAX"), and minimum (line headed "MIN") of monthly mean flows for each month for a designated period is provided below the mean values table. The water years of the first occurrence of the maximum and minimum monthly flow are provided immediately below those figures. The designated period will be expressed as "FOR WATER YEARS ____ - ____, BY WATER YEAR (WY)," and will list the first and last water years of the range of years selected from the PERIOD OF RECORD paragraph in the station manuscript. It will consist of all of the station records within the specified water years, including complete months of record for partial water years, if any, and may coincide with the period of record for the station. The water years for which the statistics are computed will be consecutive, unless a break in the station record is indicated in the manuscript.

Summary statistics

A table titled "SUMMARY STATISTICS" follows the statistics of monthly mean data tabulation. This table consists of four columns, with the first column containing the line headings of the statistics being reported. The table provides a statistical summary of yearly, daily, and instantaneous flows, not only for the current water year but also for the previous calendar year and for a designated period, as appropriate. The designated period selected, "WATER YEARS ____ - ____," will consist of all of the station records within the specified water years, inclusive, including complete months of record for partial water years, if any, and may coincide with the period of record for the station. The water years for which the statistics are computed will be consecutive, unless a break in the station record is indicated in the manuscript. All of the calculations for the statistical characteristics designated ANNUAL (see line headings below), except for the "ANNUAL 7-DAY MINIMUM" statistic, are calculated for the designated period using complete water years. The other statistical characteristics may be calculated using partial water years.

The date or water year, as appropriate, of the first occurrence of each statistic reporting extreme values of discharge is provided adjacent to the statistic. Repeated occurrences may be noted in the REMARKS paragraph of the manuscript or in footnotes. Because the designated period may not be the same as the station period of record published in the manuscript, occasionally the dates of occurrence listed for the daily and instantaneous extremes in the designated-period column may not be within the selected water years listed in the heading. When this occurs, it will be noted in the REMARKS paragraph or in footnotes. Selected streamflow duration curve statistics and runoff data are also given. Runoff data may be omitted if there is extensive regulation or diversion of flow in the drainage basin.

The following summary statistics data, as appropriate, are provided with each continuous record of discharge. Comments to follow clarify information presented under the various line headings of the summary statistics table.

ANNUAL TOTAL.--The sum of the daily mean values of discharge for the year. At some stations the annual total discharge is adjusted for reservoir storage or diversion. The adjusted figures are identified by a symbol and corresponding footnotes.

ANNUAL MEAN.--The arithmetic mean of the individual daily mean discharges for the year noted or for the designated period. At some stations the yearly mean discharge is adjusted for reservoir storage or diversion. The adjusted figures are identified by a symbol and corresponding footnotes.

HIGHEST ANNUAL MEAN.--The maximum annual mean discharge occurring for the designated period.

LOWEST ANNUAL MEAN.--The minimum annual mean discharge occurring for the designated period.

HIGHEST DAILY MEAN.--The maximum daily mean discharge for the year or for the designated period.

LOWEST DAILY MEAN.--The minimum daily mean discharge for the year or for the designated period.

ANNUAL 7-DAY MINIMUM.--The lowest mean discharge for 7 consecutive days for a calendar year or a water year. Note that most low-flow frequency analyses of annual 7-day minimum flows use a climatic year (April 1 - March 31). The date shown in the summary statistics table is the initial date of the 7-day period. (This value should not be confused with the 7-day 10-year low-flow statistics).

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INSTANTANEOUS PEAK FLOW.--The maximum instantaneous discharge occurring for the water year or for the designated period. Note that secondary instantaneous peak discharges above a selected base discharge are stored in District computer files for stations meeting certain criteria. Those discharge values may be obtained by writing to the District Office. (See address on back of the title page of this report.)

INSTANTANEOUS PEAK STAGE.--The maximum instantaneous stage occurring for the water year or for the designated period. If the dates of occurrence for the instantaneous peak flow and instantaneous peak stage differ, the REMARKS paragraph in the manuscript or a footnote may be used to provide further information.

INSTANTANEOUS LOW FLOW.--The minimum instantaneous discharge occurring for the water year or for the designated period.

ANNUAL RUNOFF.--Indicates the total quantity of water in runoff for a drainage area for the year. Data reports may use any of the following units of measurements in presenting annual runoff data:

Acre-foot (AC-FT) is the quantity of water required to cover 1 acre to a depth of 1 foot and is equivalent to 43,560 cubic feet or about 326,000 gallons or 1,233 cubic meters.

Cubic feet per second per square mile (CFSM) is the average number of cubic feet of water flowing per second from each square mile of area drained, assuming the runoff is distributed uniformly in time and area.

Inches (INCHES) indicates the depth to which the drainage area would be covered if all of the runoff for given time period were uniformly distributed on it.

10 PERCENT EXCEEDS.--The discharge that is exceeded 10 percent of the time for the designated period.

50 PERCENT EXCEEDS.--The discharge that is exceeded 50 percent of the time for the designated period.

90 PERCENT EXCEEDS.--The discharge that is exceeded 90 percent of the time for the designated period.

Data collected at partial-record stations follow the information for continuous-record sites. Data for partial-record discharge stations are presented in a table of discharge measurements at low-flow partial-record stations. These measurements are generally made in times of drought to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

Identifying Estimated Daily Discharge

Estimated daily-discharge values published in the water-discharge tables are identified by flagging individual daily values with the letter symbol "e" and printing a table footnote, "e Estimated."

Accuracy of the Records

The accuracy of streamflow records depends primarily on: (1) The stability of the stage-discharge relation or, if the control is unstable, the frequency of discharge measurements; and (2) the accuracy of measurements of stage, measurements of discharge, and interpretation of records.

The accuracy attributed to the records is indicated under "REMARKS." "Excellent" means that about 95 percent of the daily discharges are within 5 percent of the true; "good," within 10 percent; and "fair," within 15 percent. Records that do not meet the criteria mentioned, are rated "poor." Different accuracies may be attributed to different parts of a given record.

Daily mean discharges in this report are given to the nearest hundredth of a cubic foot per second for values less than 1 ft³/s; to the nearest tenth between 1.0 and 10 ft³/s; to whole numbers between 10 and 1,000 ft³/s; and to 3 significant figures for more than 1,000 ft³/s. The number of significant figures used is based solely on the magnitude of the discharge value. The same rounding rules apply to discharges listed for partial-record stations and miscellaneous sites.

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Information used in the preparation of the records in this publication, such as discharge-measurement notes, gage-height records, temperature measurements, and rating tables are on file in the Caribbean District office. Also, most of the daily mean discharges are in computer-readable form and have been analyzed statistically. Information on the availability of the unpublished information or on the results of statistical analyses of the published records may be obtained from the District office.

Records of Surface-Water Quality

Records of surface-water quality ordinarily are obtained at or near stream gaging stations because interpretation of records of surface-water quality nearly always requires corresponding discharge data. Records of surface-water quality in this report may involve a variety of types of data and measurement frequencies.

Classification of Records

Water-quality data for surface-water sites are grouped into one of three classifications. A continuing-record station is a site where data are collected on a regularly scheduled basis. Frequency may be once or more times daily, weekly, monthly, or quarterly. A partial-record station is a site where limited water-quality data are collected systematically over a period of years. Frequency of sampling is usually less than quarterly. A miscellaneous sampling site is a location other than a continuing or partial-record station, where random samples are collected to give better areal coverage to define water-quality conditions in the river basin.

A careful distinction needs to be made between "continuing records" as used in this report and "continuous recordings," which refers to a continuous graph or a series of discrete values punched at short intervals on a paper tape. Some records of water quality, such as temperature and specific conductance, may be obtained through continuous recordings; however, because of costs, most data are obtained only monthly or less frequently. Locations of stations for which records on the quality of surface water appear in this report are shown in figure 6.

Arrangement of Records

Water-quality records collected at a surface-water daily record station are published immediately following that record, regardless of the frequency of sample collection. Station number and name are the same for both records. Where a surface-water daily record station is not available or where the water quality differs significantly from that at the nearby surface-water station, the continuing water-quality record is published with its own station number and name in the regular downstream-order sequence. Water-quality data for partial-record stations and for miscellaneous sampling sites appear in separate tables following the table of discharge measurement at miscellaneous sites.

On-site Measurements and Sample Collection

In obtaining water-quality data, a major concern needs to be assuring that the data obtained represent the in situ quality of the water. To assure this, certain measurements, such as water temperature, pH, and dissolved oxygen, need to be made onsite when the samples are taken. To assure that measurements made in the laboratory also represent the in situ water, carefully prescribed procedures need to be followed in collecting the samples, in treating the samples to prevent changes in quality pending analysis, and in shipping the samples to the laboratory. Procedures for onsite measurements and for collecting, treating, and shipping samples are given in publications on "Techniques of Water-Resources Investigations," Book 1, Chap. D2; Book 3, Chap. C2; Book 5, Chap. A1, A3, and A4. Detailed information on collecting, treating, and shipping samples may be obtained from the Geological Survey District office.

One sample can define adequately the water quality at a given time if the mixture of solutes throughout the stream cross section is homogeneous. However, the concentration of solutes at different locations in the cross section may vary widely with different rates of water discharge, depending on the source of material and the turbulence and mixing of the stream. Some streams must be sampled through several vertical sections to obtain a representative sample needed for an accurate mean concentration and for use in calculating load. All samples obtained for the National Stream Quality Accounting Network (see definitions) are obtained from at least several verticals. Whether samples are obtained from the centroid of flow or from several verticals, depends on flow conditions and other factors which must be evaluated by the collector.

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Chemical-quality data published in this report are considered to be the most representative values available for the stations listed. The values reported represent water-quality conditions at the time of sampling as much as possible, consistent with available sampling techniques and methods of analysis. In the rare case where an apparent inconsistency exists between a reported pH value and the relative abundance of carbon dioxide species (carbonate and bicarbonate), the inconsistency is the result of a slight uptake of carbon dioxide from the air by the sample between measurement of pH in the field and determination of carbonate and bicarbonate in the laboratory.

For chemical-quality stations equipped with digital monitors, the records consist of daily maximum, minimum, and mean values for each constituent measured and are based upon hourly punches beginning at 0100 hours and ending at 2400 hours for the day of record. More detailed records, when available, (hourly values) may be obtained from the U.S.G.S. District office whose address is given on the back of the title page of this report.

Water Temperature

Water temperatures are measured at most of the water-quality stations. In addition, water temperatures are taken at time of discharge measurements for water-discharge stations. For stations where water temperatures are taken manually once or twice daily, the water temperatures are taken at about the same time each day. Large streams have a small diurnal temperature change; shallow streams may have a daily range of several degrees and may follow closely the changes in air temperature. Some streams may be affected by waste-heat discharges.

At stations where recording instruments are used, either mean temperatures or maximum and minimum temperatures for each day are published. Water temperatures measured at the time of water-discharge measurements are on file in the District office.

Sediment

Suspended-sediment concentrations are determined from samples collected by using depth-integrating and pumping sediment samplers. Samples usually are obtained at several verticals in the cross section, or a single sample may be obtained at a fixed point and a coefficient applied to determine the mean concentration in the cross sections.

During periods of rapidly changing flow or rapidly changing concentration, samples may have been collected more frequently (twice daily or hourly). The published sediment discharges for days of rapidly changing flow or concentration were computed by the subdivided-day method (time-discharge weighted average). Therefore, for those days when the published sediment discharge value differs from the value computed as the product of discharge times mean concentration times 0.0027, the reader can assume that the sediment discharge for that day was computed by the subdivided-day method. For periods when no samples were collected, daily discharges of suspended sediment were estimated on the basis of water discharge, sediment concentrations observed immediately before and after the periods, suspended-sediment loads for other periods of similar discharge, and computed by the subdivided-day method using the transport curves.

At other stations, suspended-sediment samples were collected periodically at many verticals in the stream cross section. Although data collected periodically may represent conditions only at the time of observations, such data are useful in establishing seasonal relations between quality and streamflow and in predicting long-term sediment-discharge characteristics of the stream.

In addition to the records of suspended-sediment discharge, records of the periodic measurements of the particle-size distribution of the suspended sediment are included for some stations.

Laboratory Measurements

Sediment samples, samples for biochemical-oxygen demand (BOD), samples for indicator bacteria, and daily samples for specific conductance are analyzed locally. All other samples are analyzed in the Geological Survey laboratories in Denver, Co. or Ocala, Fla. Methods used in analyzing sediment samples and computing sediment records are given in TWRI, Book 5, Chap. C1. Methods used by the Geological Survey laboratories are given in TWRI, Book 1, Chap. D2; Book 3, Chap. C2; Book 5, Chap. A1, A3, and A4.

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Data Presentation

For continuing-record stations, information pertinent to the history of station operation is provided in descriptive headings preceding the tabular data. These descriptive headings give details regarding location, drainage area, period of record, type of data available, instrumentation, general remarks, cooperation, and extremes for parameters currently measured daily. Tables of chemical, physical, biological, radiochemical data, and so forth, obtained at a frequency less than daily are presented first, and tables of "daily values" of specific conductance, pH, water temperature, dissolved oxygen, and suspended sediment then follow in sequence, when these parameters are studied.

In the descriptive headings, if the location is identical to that of the discharge gaging station, neither the LOCATION nor the DRAINAGE AREA statements are repeated. The following information, as appropriate, is provided with each continuous-record station. Comments that follow clarify information presented under the various headings of the station description.

LOCATION.--See Data Presentation under "Records of Stage and Water Discharge;" same comments apply.

DRAINAGE AREA.--See Data Presentation under "Records of Stage and Water Discharge;" same comments apply.

PERIOD OF RECORD.--This indicates the periods for which there are published water-quality records for the station. The periods are shown separately for records of parameters measured daily or continuously and those measured less than daily. For those measured daily or continuously, periods of record are given for the parameters individually.

INSTRUMENTATION.--Information on instrumentation is given only if a water-quality monitor temperature record, sediment pumping sampler, or other sampling device is in operation at a station.

REMARKS.--Remarks provide added information pertinent to the collection, analysis, or computation of the records.

COOPERATION.--Records provided by a cooperating organization or obtained for the Geological Survey by a cooperating organization are identified here.

EXTREMES.--Maximums and minimums are given only for parameters measured daily or more frequently. None are given for parameters measured weekly or less frequently, because the true maximums or minimums may not have been sampled. Extremes, when given, are provided for both the period of record and for the current water year.

REVISIONS.--If errors in published water-quality records are discovered after publication, appropriate updates are made to the Water-Quality File in the U.S. Geological Survey's computerized data system, WATSTORE, and subsequently by monthly transfer of update transactions to the U.S. Environmental Protection Agency's STORET system. Because the usual volume of updates makes it impractical to document individual changes in the State data-report series or elsewhere, potential users of U.S. Geological Survey water-quality data are encouraged to obtain all required data from the appropriate computer file to insure the most recent updates.

The surface-water-quality records for partial-record stations and miscellaneous sampling sites are published in separate tables following the table of discharge measurements at miscellaneous sites. No descriptive statements are given for these records. Each station is published with its own station number and name in the regular downstream-order sequence.

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Remark Codes

The following remark codes may appear with the water-quality data in this report:

PRINTED OUTPUT	REMARK
E	Estimated value
>	Actual value is known to be greater than the value shown
<	Actual value is known to be less than the value shown
K	Results based on colony count outside the acceptance range (non-ideal colony count)
L	Biological organism count less than 0.5 percent (organism may be observed rather than counted)
D	Biological organism count equal to or greater than 15 percent (dominant)
&	Biological organism estimated as dominant

Records of Ground-Water Levels

Only ground-water level data from a basic network of observation wells are published herein. This basic network contains observation wells so located that the most significant data are obtained from the fewest wells in the most important aquifers.

Data Collection and Computation

Measurements of water levels are made in many types of wells under varying conditions, but the methods of measurement are standardized to the extent possible. The equipment and measuring techniques used at each observation well ensure that measurements at each well are of consistent accuracy and reliability.

Each well is identified by means of (1) a 15-digit number that is based on latitude and longitude and (2) a local number that is provided for easy reference. See figure 10.

Water-level records are obtained from direct measurements with a steel tape or from the graph or punched tape of a water-stage recorder. The water-level measurements in this report are given in feet with reference to land-surface datum (lsd). Land-surface datum is a datum plane that is approximately at land surface at each well. If known, the elevation of the land-surface datum is given in the well description. The height of the measuring point (MP) above or below land-surface datum is given in each well description. Water levels in wells equipped with recording gages are reported for every day and as an instantaneous observation at noon.

Water levels are reported to as many significant figures as can be justified by the local conditions. For example, in a measurement of a depth to water of several hundred feet, the error of determining the absolute value of the total depth to water may be a few tenths of a foot, whereas the error in determining the net change of water level between successive measurements may be only a hundredth of a few hundredths of a foot. For lesser depths to water, the accuracy is greater. Accordingly, most measurements reported to a hundredth of a foot, but some are given to a tenth of a foot or a larger unit.

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Data Presentation

Each well record consists of three parts, the station description, the data table of water levels observed during the water year and a graph of the water levels for the current water year and other selected period. The description of the well is presented first through use of descriptive headings preceding the tabular data. The comments to follow clarify information presented under the various headings of the well description.

LOCATION.--This paragraph follows the well-identification number and reports the latitude and longitude (given in degrees, minutes, and seconds); a landline location designation; the hydrologic-unit number; the distance and direction from a geographic point of reference; and the owner's name.

AQUIFER.--This entry designates by name (if a name exists) and geological age the aquifer(s) open to the well.

WELL CHARACTERISTICS.--This entry describes the well in terms of depth, diameter, casing depth and/or screened interval, method of construction, use, and additional information such as casing breaks, collapsed screen, and other changes since construction.

INSTRUMENTATION.--This paragraph provides information on both the frequency of measurement and the collection method used, allowing the user to better evaluate the reported water-level extremes by knowing whether they are based on weekly, monthly, or some other frequency of measurement.

DATUM.--This entry describes both the measuring point and the land-surface elevation at the well. The measuring point is described physically (such as top of collar, notch in top of casing, plug in pump base and so on), and in relation to land surface (such as 1.3 ft above land-surface datum). The elevation of the land-surface datum is described in feet above (or below) sea level; it is reported with a precision depending on the method of determination.

REMARKS.--This entry describes factors that may influence the water level in a well or the measurement of the water level. It should identify wells that also are water-quality observation wells, and may be used to acknowledge the assistance of local (non-Survey) observers.

PERIOD OF RECORD.--This entry indicates the period for which there are published records for the well. It reports the month and year of the start of publication of water-level records by the U.S. Geological Survey and the words "to current year" if the records are to be continued into the following year. Periods for which water-level records are available, but are not published by the Geological Survey, may be noted.

EXTREMES FOR PERIOD OF RECORD.--This entry contains the highest and lowest water levels of the period of published record, with respect to land-surface datum, and the dates of their occurrence.

A table of water levels follows the station description for each well. Water levels are reported in feet below land-surface datum and all taped measurements of water level are listed. For wells equipped with recorders, daily values tables are published for the instantaneous water-level observation at noon. The highest and lowest water levels of the water year and their dates of occurrence are shown on a line below the table. Because all values are not published for wells with recorders, the extremes may be values that are not listed in the table. Missing records are indicated by dashes in place of the water level. A hydrograph for a selected period of record follows each water-level table.

Records of Ground-Water Quality

Records of ground-water quality in this type of report differ from other types of records in that for most sampling sites they consist of only one set of measurements for the water year. The quality of ground water ordinarily changes only slowly; therefore, for most general purposes one annual sampling, or only a few samples taken at infrequent intervals during the year, is sufficient. Frequent measurement of the same constituents is not necessary unless one is concerned with a particular problem, such as monitoring for trends in nitrate concentration. In the special cases where the quality of ground water may change more rapidly, more frequent measurements are made to identify the nature of the changes.

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Data Collection and Computation

The records of ground-water quality in this report were obtained mostly as a part of special studies in specific areas. Consequently, a number of chemical analyses are presented for some counties but none are presented for others. As a result, the records for this year, by themselves, do not provide a balanced view of ground-water quality Statewide. Such a view can be attained only by considering records for this year in context with similar records obtained for these and other counties in earlier years.

Most methods for collecting and analyzing water samples are described in the "U.S. Geological Survey Techniques of Water-Resources Investigations" manuals listed on a following page. The values reported in this type of report represent water-quality conditions at the time of sampling as much as possible, consistent with available sampling techniques and methods of analysis. All samples are obtained by trained personnel. The wells sampled are pumped long enough to assure that the water collected comes directly from the aquifer and has not stood for a long time in the well casing where it would have been exposed to the atmosphere and to the material, possibly metal, comprising the casings.

Data Presentation

The records of ground-water quality, when available, are published in a section titled QUALITY OF GROUND WATER immediately following the ground-water level records. Data for quality of ground water are listed alphabetically by County, and are identified by well number. The prime identification number for wells sampled is the 15-digit number derived from the latitude-longitude locations. No descriptive statements are given for ground-water-quality records; however, the well number, depth of well, date of sampling, and other pertinent data are given in the table containing the chemical analyses of the ground water. The REMARK codes listed for surface-water-quality records are also applicable to ground-water-quality records.

ACCESS TO U.S. GEOLOGICAL SURVEY WATER DATA

The U.S. Geological Survey provides near real-time stage and discharge data for many of the gaging stations equipped with the necessary telemetry and historic daily-mean and peak-flow discharge data for most current or discontinued gaging stations through the world wide web (WWW). These data may be accessed at

<http://water.usgs.gov>

Some water-quality and ground-water data also are available through the WWW. In addition, data can be provided in various machine-readable formats on magnetic tape or 3-1/2 inch floppy disk. Information about the availability of specific types of data or products, and user charges, can be obtained locally from each of the Water Resources Division District Offices (see address on the back of the title page).

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DEFINITION OF TERMS

Terms related to streamflow, water-quality, and other hydrologic data, as used in this report, are defined below. See also table for converting English units to International System (SI) Units on the inside of the back cover.

Acid neutralizing capacity (ANC) is the equivalent sum of all bases or base-producing materials, solutes plus particulates, in an aqueous system that can be titrated with acid to an equivalence point. This term designates titration of an “unfiltered” sample (formerly reported as alkalinity).

Acre-foot (AC-FT, acre-ft) is the quantity of water required to cover 1 acre to a depth of 1 foot and is equivalent to 43,560 cubic feet, 325,851 gallons, or 1,233 cubic meters.

Adenosine triphosphate (ATP) is an organic, phosphate-rich, compound important in the transfer of energy in organisms. Its central role in living cells makes it an excellent indicator of the presence of living material in water. A measurement of ATP therefore provides a sensitive and rapid estimate of biomass. ATP is reported in micrograms per liter.

Algae are mostly aquatic single-celled, colonial, or multicelled plants containing chlorophyll and lacking roots, stems, and leaves.

Algal growth potential (AGP) is the maximum algal dry weight biomass that can be produced in a natural water sample under standardized laboratory conditions. The growth potential is the algal biomass present at stationary phase and is expressed as milligrams dry weight of algae produced per liter of sample.

Alkalinity is the capacity of solutes in an aqueous system to neutralize acid. This term designates titration of a “filtered” sample.

Annual runoff is the total quantity of water in runoff for a drainage area for the year. Data reports may use any of the following units of measurement in presenting annual runoff data:

Acre-foot (AC-FT, acre-ft) is the quantity of water required to cover 1 acre to a depth of 1 foot and is equal to 43,560 cubic feet, 325,851 gallons, or 1,233 cubic meters

Cubic foot per second per square mile [CFSM, (ft³/s)/mi²] is the average number of cubic feet of water flowing per second from each square mile of area drained, assuming the runoff is distributed uniformly in time and area.

Inch (IN., in.) as used in this report, refers to the depth to which the drainage area would be covered with water if all of the runoff for a given time period were uniformly distributed on it.

Aroclor is the registered trademark for a group of polychlorinated biphenyls that were manufactured by the Monsanto Company prior to 1976. Aroclors are assigned specific 4-digit reference numbers dependent upon molecular type and degree of substitution of the biphenyl ring hydrogen atoms by chlorine atoms. The first two digits of a numbered aroclor represent the molecular type and the last two digits represent the weight percent of the hydrogen substituted chlorine.

Bacteria are microscopic unicellular organisms, typically spherical, rodlike, or spiral and threadlike in shape, often clumped into colonies. Some bacteria cause disease, while others perform an essential role in nature in the recycling of materials; for example, by decomposing organic matter into a form available for reuse by plants.

Total coliform bacteria are a particular group of bacteria that are used as indicators of possible sewage pollution. This group includes coliforms that inhabit the intestine of warm-blooded animals and those that inhabit soils. They are characterized as aerobic or facultative anaerobic, gram-negative, nonspore-forming, rod-shaped bacteria that ferment lactose with gas formation within 48 hours at 35 °C. In the laboratory, these bacteria are defined as all the organisms that produce colonies with a golden-green metallic sheen within 24 hours when incubated at 35 °C plus or minus 1.0 °C on M-Endo medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Fecal coliform bacteria are bacteria that are present in the intestine or feces of warm-blooded animals. They are often used as indicators of the sanitary quality of the water. In the laboratory, they are defined as all organisms that produce blue colonies within 24 hours when incubated at 44.5 °C plus or minus 0.2 °C on M-FC medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Fecal streptococcal bacteria are bacteria found in the intestine of warm-blooded animals. Their presence in water is considered to verify fecal pollution. They are characterized as gram-positive, cocci bacteria that are capable of growth in brain-heart infusion broth. In the laboratory, they are defined as all the organisms that produce red or pink colonies within 48 hours at 35 °C plus or minus 1.0 °C on KF-streptococcus medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

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Enterococcus bacteria are commonly found in the feces of humans and other warm-blooded animals. Although some strains are ubiquitous and not related to fecal pollution, the presence of enterococci in water is an indication of fecal pollution and the possible presence of enteric pathogens. Enterococcus bacteria are those bacteria that produce pink to red colonies with black or reddish-brown precipitate after incubation at 41 °C on mE agar and subsequent transfer to EIA medium. Enterococci include *Streptococcus faecalis*, *Streptococcus faecium*, *Streptococcus avium*, and their variants.

Escherichia coli (E. coli) are bacteria present in the intestine and feces of warm-blooded animals. E. coli are a member species of the fecal coliform group of indicator bacteria. In the laboratory, they are defined as those bacteria that produce yellow or yellow-brown colonies on a filter pad saturated with urea substrate broth after primary culturing for 22 to 24 hours at 44.5 °C on mTEC medium. Their concentrations are expressed as number of colonies per 100 mL of sample.

Base flow is flow in a channel sustained by ground-water discharge in the absence of direct runoff.

Bed material is the sediment mixture of which a streambed, lake, pond, reservoir, or estuary bottom is composed.

Benthic organisms (invertebrates) are the group of animals inhabiting the bottom of an aquatic environment. They include a number of types of organisms, such as bacteria, fungi, insect larvae and nymphs, snails, clams, and crayfish. They are useful as indicators of water quality.

Biochemical oxygen demand (BOD) is a measure of the quantity of dissolved oxygen, in milligrams per liter, necessary for the decomposition of organic matter by microorganisms, such as bacteria.

Biomass is the amount of living matter present at any given time, expressed as mass per unit area or volume of habitat.

Ash mass is the mass or amount of residue present after the residue from the dry mass determination has been ashed in a muffle furnace at a temperature of 500 °C for 1 hour. Ash mass of zooplankton and phytoplankton is expressed in grams per cubic meter (g/m³), and periphyton and benthic organisms in grams per square meter (g/m²).

Dry mass refers to the mass of residue present after drying in an oven at 105 °C for zooplankton and periphyton, until the mass remains unchanged. This mass represents the total organic matter, ash, and sediment in the sample. Dry mass is expressed in the same units as ash mass.

Organic mass or volatile mass of the living substance is the difference between the dry mass and ash mass and represents the actual mass of the living matter. Organic mass is expressed in the same units as for ash mass and dry mass.

Wet mass is the mass of living matter plus contained water.

Biomass pigment ratio is an indicator of the total proportion of periphyton which are autotrophic (plants). This is also called the Autotrophic Index.

Bottom material: See "Bed material."

Cells/volume refers to the number of plankton cells or natural units counted using a microscope and grid or counting cell. Results are generally reported as cells or units per milliliter.

Cells volume (biovolume) determination is one of several common methods used to estimate biomass of algae in aquatic systems. Cell members of algae are frequently used in aquatic surveys as an indicator of algal production. However, cell numbers alone cannot represent true biomass because of considerable cell-size variation among the algal species. Cell volume (μm³) is determined by obtaining critical cell measurements on cell dimensions (for example, length, width, height, or radius) for 20 to 50 cells of each important species to obtain an average biovolume per cell. Cells are categorized according to the correspondence of their cellular shape to the nearest geometric solid or combinations of simple solids (for example, spheres, cones, or cylinders). Representative formulae used to compute biovolume are as follows:

sphere $\frac{4}{3} \pi r^3$ cone $\frac{1}{3} \pi r^2 h$ cylinder $\pi r^2 h$.

From cell volume, total algal biomass expressed as biovolume (μm³/mL) is thus determined by multiplying the number of cells of a given species by its average cell volume and then summing these volumes over all species.

Chemical oxygen demand (COD) is a measure of the chemically oxidizable material in the water and furnishes an approximation of the amount of organic and reducing material present. The determined value may correlate with BOD or with carbonaceous organic pollution from sewage or industrial wastes.

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Chlorophyll refers to the green pigments of plants. Chlorophyll a and b are the two most common green pigments in plants.

Colloid is any substance with particles in such a fine state of subdivision dispersed in a medium (for example, water) that they do not settle out; but not in so fine a state of subdivision that they can be said to be truly dissolved.

Color unit is produced by 1 milligram per liter of platinum in the form of the chloroplatinate ion. Color is expressed in units of the platinum-cobalt scale.

Confined aquifer is a term used to describe an aquifer containing water between two relatively impermeable boundaries. The water level in a well tapping a confined aquifer stands above the top of the confined aquifer and can be higher or lower than the water table that may be present in the material above it. In some cases the water level can rise above the ground surface, yielding a flowing well.

Contents is the volume of water in a reservoir or lake. Unless otherwise indicated, volume is computed on the basis of a level pool and does not include bank storage.

Continuous-record station is a site that meets either of the following conditions:

1. Stage or streamflow are recorded at some interval on a continuous basis. The recording interval is usually 15 minutes, but may be less or more frequent.
2. Water-quality, sediment, or other hydrologic measurements are recorded at least daily.

Control designates a feature in the channel downstream from a gaging station that physically influences the water-surface elevation and thereby determines the stage-discharge relation at the station. This feature may be a constriction of the channel, a bedrock outcrop, a gravel bar, an artificial structure, or a uniform cross section over a long reach of the channel.

Control structure as used in this report is a structure on a stream or canal that is used to regulate the flow or stage of the stream or to prevent the intrusion of saltwater.

Cubic foot per second (CFS, ft³/s) is the rate of discharge representing a volume of 1 cubic foot passing a given point in 1 second. It is equivalent to approximately 7.48 gallons per second, 448.8 gallons per minute, or 0.02832 cubic meters per second.

Cubic foot per second-day (CFS-DAY, Cfs-day, [(ft³/s)/d]) is the volume of water represented by a flow of 1 cubic foot per second for 24 hours. It is equivalent to 86,400 cubic feet, 1.9835 acre-feet, 646,317 gallons, or 2,447 cubic meters.

Daily record is a summary of streamflow, sediment, or water-quality values computed from data collected with sufficient frequency to obtain reliable estimates of daily mean values.

Daily record station is a site for which daily records of streamflow, sediment, or water-quality values are computed.

Datum, as used in this report, is an elevation above mean sea level to which all gage height readings are referenced.

Diel is of or pertaining to a 24-hour period of time; a regular daily cycle.

Discharge, or flow, is the volume of water (or more broadly, volume of fluid including solid- and dissolved-phase material), that passes a given point in a given period of time.

Annual 7-day minimum is the lowest mean discharge for 7 consecutive days in a year. Note that most low-flow frequency analyses of annual 7-day minimum flows use a climatic year (April 1-March 31). The date shown in the summary statistics table is the initial date of the 7-day period. (This value should not be confused with the 7-day 10-year low-flow statistic.)

Instantaneous discharge is the discharge at a particular instant of time.

Mean discharge (MEAN) is the arithmetic mean of individual daily mean discharges during a specific period.

Dissolved refers to that material in a representative water sample that passes through a 0.45-micrometer membrane filter. This is a convenient operational definition used by Federal agencies that collect water data. Determinations of "dissolved" constituents are made on subsamples of the filtrate.

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Dissolved oxygen (DO) content of water in equilibrium with air is a function of atmospheric pressure, temperature, and dissolved-solids concentration of the water. The ability of water to retain oxygen decreases with increasing temperature or dissolved solids, with small temperature changes having the more significant offset. Photosynthesis and respiration may cause diurnal variations in dissolved-oxygen concentration in water from some streams.

Dissolved-solids concentration of water is determined either analytically by the “residue-on-evaporation” method, or mathematically by totaling the concentrations of individual constituents reported in a comprehensive chemical analysis. During that analytical determination of dissolved solids, the bicarbonate (generally a major dissolved component of water) is converted to carbonate. Therefore, in the mathematical calculation of dissolved-solids concentration, the bicarbonate value, in milligrams per liter, is multiplied by 0.4926 to reflect the change. Alternatively, alkalinity concentration (as mg/L CaCO₃) can be converted to carbonate concentration by multiplying by 0.60.

Diversity index is a numerical expression of evenness of distribution of aquatic organisms. The formula for diversity index is:

$$\bar{d} = - \sum_{i=1}^s \frac{n_i}{n} \log_2 \frac{n_i}{n}$$

where n_i is the number of individuals per taxon, n is the total number of individuals, and s is the total number of taxa in the sample of the community. Diversity index values range from zero, when all the organisms in the sample are the same, to some positive number, when some or all of the organisms in the sample are different.

Drainage area of a site on a stream is that area, measured in a horizontal plane, that has a common outlet at the site for its surface runoff. Figures of drainage area given herein include all closed basins, or noncontributing areas, within the area unless otherwise specified.

Drainage basin is a part of the Earth’s surface that is occupied by a drainage system with a common outlet for its surface runoff (see “Drainage area”).

Dry weight refers to the weight of animal tissue after it has been dried in an oven at 65 °C until a constant weight is achieved. Dry weight represents total organic and inorganic matter in the tissue.

Flow-duration percentiles are values on a scale of 100 that indicate the percentage of time for which a flow is not exceeded. For example, the 90th percentile of river flow is greater than or equal to 90 percent of all recorded flow rates.

Gage datum is the elevation of the zero point of the reference gage from which gage height is determined as compared to sea level (see “Datum”). This elevation is established by a system of levels from known benchmarks, by approximation from topographic maps, or by geographical positioning system.

Gage height (G.H.) is the water-surface elevation referenced to the gage datum. Gage height is often used interchangeably with the more general term “stage,” although gage height is more appropriate when used with a reading on a gage.

Gaging station is a site on a stream, canal, lake, or reservoir where systematic observations of stage, discharge, or other hydrologic data are obtained. When used in connection with a discharge record, the term is applied only to those gaging stations where a continuous record of discharge is computed.

Gas chromatography/flame ionization detector (GC/FID) is a laboratory analytical method used as a screening technique for semivolatile organic compounds that are extractable from water in methylene chloride

Ground-water level is the elevation of the water table or another potentiometric surface at a particular location.

Hardness of water is a physical-chemical characteristic that is commonly recognized by the increased quantity of soap required to produce lather. It is attributable to the presence of alkaline earths (principally calcium and magnesium) and is expressed as the equivalent concentration of calcium carbonate (CaCO₃).

High tide is the maximum height reached by each rising tide. The high-high and low-high tides are the higher and lower of the two high tides, respectively, of each tidal day. See NOAA web site:
<http://www.co-ops.nos.noaa.gov/tideglos.html>

Hydrologic benchmark station is one that provides hydrologic data for a basin in which the hydrologic regimen will likely be governed solely by natural conditions. Data collected at a benchmark station may be used to separate effects of natural from human-induced changes in other basins that have been developed and in which the physiography, climate, and geology are similar to those in the undeveloped benchmark basin.

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Hydrologic unit is a geographic area representing part or all of a surface drainage basin or distinct hydrologic feature as defined by the former Office of Water Data Coordination and delineated on the State Hydrologic Unit Maps by the U.S. Geological Survey. Each hydrologic unit is identified by an 8-digit number.

Land-surface datum (lsd) is a datum plane that is approximately at land surface at each ground-water observation well

Light-attenuation coefficient, also known as the extinction coefficient, is a measure of water clarity. Light is attenuated according to the Lambert-Beer equation

$$I = I_o e^{-\lambda L}$$

where I_o is the source light intensity, I is the light intensity at length L (in meters) from the source, λ is the light-attenuation coefficient, and e is the base of the natural logarithm. The light attenuation coefficient is defined as

$$\lambda = -\frac{1}{L} \log_e \frac{I}{I_o}$$

Lipid is any one of a family of compounds that are insoluble in water and that make up one of the principal components of living cells. Lipids include fats, oils, waxes, and steroids. Many environmental contaminants such as organochlorine pesticides are lipophilic.

Low tide is the minimum height reached by each falling tide. The high-low and low-low tides are the higher and lower of the two low tides, respectively, of each tidal day. See NOAA web site:

<http://www.co-ops.nos.noaa.gov/tideglos.html>

Macrophytes are the macroscopic plants in the aquatic environment. The most common macrophytes are the rooted vascular plants that are usually arranged in zones in aquatic ecosystems and restricted in the area by the extent of illumination through the water and sediment deposition along the shoreline.

Measuring point (MP) is an arbitrary permanent reference point from which the distance to water surface in a well is measured to obtain water level.

Membrane filter is a thin microporous material of specific pore size used to filter bacteria, algae, and other very small particles from water.

Metamorphic stage refers to the stage of development that an organism exhibits during its transformation from an immature form to an adult form. This developmental process exists for most insects, and the degree of difference from the immature stage to the adult form varies from relatively slight to pronounced, with many intermediates. Examples of metamorphic stages of insects are egg-larva-adult or egg-nymph-adult.

Methylene blue active substances (MBAS) are apparent detergents. The determination depends on the formation of a blue color when methylene blue dye reacts with synthetic anionic detergent compounds.

Micrograms per gram (UG/G, $\mu\text{g/g}$) is a unit expressing the concentration of a chemical constituent as the mass (micrograms) of the element per unit mass (gram) of material analyzed.

Micrograms per kilogram (UG/KG, $\mu\text{g/kg}$) is a unit expressing the concentration of a chemical constituent as the mass (micrograms) of the constituent per unit mass (kilogram) of the material analyzed. One microgram per kilogram is equivalent to 1 part per billion.

Micrograms per liter (UG/L, $\mu\text{g/L}$) is a unit expressing the concentration of chemical constituents in water as mass (micrograms) of constituent per unit volume (liter) of water. One thousand micrograms per liter is equivalent to 1 milligram per liter.

Microsiemens per centimeter (US/CM, $\mu\text{S/cm}$) is a unit expressing the amount of electrical conductivity of a solution as measured between opposite faces of a centimeter cube of solution at a specified temperature. Siemens is the International System of Units nomenclature. It is synonymous with mhos and is the reciprocal of resistance in ohms.

Milligrams per liter (MG/L, mg/L) is a unit for expressing the concentration of chemical constituents in water as the mass (milligrams) of constituent per unit volume (liter) of water. Concentration of suspended sediment also is expressed in mg/L and is based on the mass of dry sediment per liter of water-sediment mixture.

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Miscellaneous site, or miscellaneous station, is a site where streamflow, sediment, and/or water-quality data are collected once, or more often on a random or discontinuous basis.

Most probable number (MPN) is an index of the number of coliform bacteria that, more probably than any other number, would give the results shown by the laboratory examination; it is not an actual enumeration. MPN is determined from the distribution of gas-positive cultures among multiple inoculated tubes.

Multiple-plate samplers are artificial substrates of known surface area used for obtaining benthic invertebrate samples. They consist of a series of spaced, hardboard plates on an eyebolt.

Nanograms per liter (NG/L, ng/L) is a unit expressing the concentration of chemical constituents in solution as mass (nanograms) of solute per unit volume (liter) of water. One million nanograms per liter is equivalent to 1 milligram per liter.

National Geodetic Vertical Datum of 1929 (NGVD of 1929) is a geodetic datum derived from a general adjustment of the first order level nets of the United States and Canada. It was formerly called "Sea Level Datum of 1929" or "mean sea level" in this series of reports. Although the datum was derived from the average sea level over a period of many years at 26 tide stations along the Atlantic, Gulf of Mexico, and Pacific Coasts, it does not necessarily represent local mean sea level at any particular place. See NOAA web site: <http://www.ngs.noaa.gov/faq.shtml#WhatVD29VD88>

Nekton are the consumers in the aquatic environment and consist of large free-swimming organisms that are capable of sustained, directed mobility.

Nephelometric turbidity unit (NTU) is the measurement for reporting turbidity that is based on use of a standard suspension of Formazin. Turbidity measured in NTU uses nephelometric methods that depend on passing specific light of a specific wavelength through the sample.

Open or screened interval is the length of unscreened opening or of well screen through which water enters a well, in feet below land surface.

Organic carbon (OC) is a measure of organic matter present in aqueous solution, suspension, or bottom sediments. May be reported as dissolved organic carbon (DOC), suspended organic carbon (SOC), or total organic carbon (TOC).

Organism is any living entity.

Organism count/area refers to the number of organisms collected and enumerated in a sample and adjusted to the number per area habitat, usually square meter (m²), acre, or hectare. Periphyton, benthic organisms, and macrophytes are expressed in these terms.

Organism count/volume refers to the number of organisms collected and enumerated in a sample and adjusted to the number per sample volume, usually milliliter (mL) or liter (L). Numbers of planktonic organisms can be expressed in these terms.

Total organism count is the total number of organisms collected and enumerated in any particular sample.

Organochlorine compounds are any chemicals that contain carbon and chlorine. Organochlorine compounds that are important in investigations of water, sediment, and biological quality include certain pesticides and industrial compounds.

Parameter Code is a 5-digit number used in the U.S. Geological Survey computerized data system, National Water Information System (NWIS), to uniquely identify a specific constituent or property.

Partial-record station is a site where discrete measurements of one or more hydrologic parameters are obtained over a period of time without continuous data being recorded or computed. A common example is a crest-stage gage partial-record station at which only peak stages and flows are recorded.

Particle size is the diameter, in millimeters (mm), of a particle determined by sieve or sedimentation methods. The sedimentation method utilizes the principle of Stokes Law to calculate sediment particle sizes. Sedimentation methods (pipet, bottom-withdrawal tube, visual-accumulation tube, Sedigraph) determine fall diameter of particles in either distilled water (chemically dispersed) or in native water (the river water at the time and point of sampling).

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Particle-size classification used in this report agrees with the recommendation made by the American Geophysical Union Subcommittee on Sediment Terminology. The classification is as follows:

The particle-size distributions given in this report are not necessarily representative of all particles in transport in the stream. Most of the organic matter is removed, and the sample is subjected to mechanical and chemical dispersion before analysis in distilled water. Chemical dispersion is not used for native water analysis.

Classification	Size (mm)	Method of analysis
Clay	0.00024 - 0.004	Sedimentation
Silt	0.004 - 0.062	Sedimentation
Sand	0.062 - 2.0	Sedimentation/sieve
Gravel	2.0 - 64.0	Sieve

Percent composition or percent of total is a unit for expressing the ratio of a particular part of a sample or population to the total sample or population, in terms of types, numbers, weight, or volume.

Periodic station is a site where stage, discharge, sediment, chemical, or other hydrologic measurements are made one or more times during a year, but at a frequency insufficient to develop a daily record.

Periphyton is the assemblage of microorganisms attached to and living upon submerged solid surfaces. While primarily consisting of algae, they also include bacteria, fungi, protozoa, rotifers, and other small organisms. Periphyton are useful indicators of water quality.

Pesticides are chemical compounds used to control undesirable organisms. Major categories of pesticides include insecticides, miticides, fungicides, herbicides, and rodenticides.

pH of water is the negative logarithm of the hydrogen-ion activity. Solutions with pH less than 7 are termed "acidic," and solutions with a pH greater than 7 are termed "basic." Solutions with a pH of 7 are neutral. The presence and concentration of many dissolved chemical constituents found in water are, in part, influenced by the hydrogen-ion activity of water. Biological processes including growth, distribution of organisms, and toxicity of the water to organisms are also influenced, in part, by the hydrogen-ion activity of water.

Picocurie (PC, pCi) is one trillionth (1×10^{-12}) of the amount of radioactivity represented by a curie (Ci). A curie is the amount of radioactivity that yields 3.7×10^{10} radioactive disintegrations per second. A picocurie yields 2.22 dpm (disintegrations per minute).

Plankton is the community of suspended, floating, or weakly swimming organisms that live in the open water of lakes and rivers. Concentrations are expressed as a number of cells per milliliter (cells/mL of sample).

Phytoplankton is the plant part of the plankton. They are usually microscopic, and their movement is subject to the water currents. Phytoplankton growth is dependent upon solar radiation and nutrient substances. Because they are able to incorporate as well as release materials to the surrounding water, the phytoplankton have a profound effect upon the quality of the water. They are the primary food producers in the aquatic environment and are commonly known as algae.

Blue-green algae (Cyanophyta) are a group of phytoplankton organisms having a blue pigment, in addition to the green pigment called chlorophyll. Blue-green algae often cause nuisance conditions in water.

Diatoms are the unicellular or colonial algae having a siliceous shell. Their concentrations are expressed as number of cells per milliliter (cells/mL) of sample.

Euglenoids (Euglenophyta) are a group of algae that are usually free-swimming and rarely creeping. They have the ability to grow either photosynthetically in the light or heterotrophically in the dark.

Fire algae (Pyrrhophyta) are a group of algae that are free-swimming unicells characterized by a red pigment spot.

Green algae have chlorophyll pigments similar in color to those of higher green plants. Some forms produce algae mats or floating "moss" in lakes. Their concentrations are expressed as number of cells per milliliter (cells/mL) of sample.

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Zooplankton is the animal part of the plankton. Zooplankton are capable of extensive movements within the water column and are often large enough to be seen with the unaided eye. Zooplankton are secondary consumers feeding upon bacteria, phytoplankton, and detritus. Because they are the grazers in the aquatic environment, the zooplankton are a vital part of the aquatic food web. The zooplankton community is dominated by small crustaceans and rotifers.

Polychlorinated biphenyls (PCB's) are industrial chemicals that are mixtures of chlorinated biphenyl compounds having various percentages of chlorine. They are similar in structure to organochlorine insecticides.

Polychlorinated naphthalenes (PCN's) are industrial chemicals that are mixtures of chlorinated naphthalene compounds. They have properties and applications similar to polychlorinated biphenyls (PCB's) and have been identified in commercial PCB preparations.

Primary productivity is a measure of the rate at which new organic matter is formed and accumulated through photosynthetic and chemosynthetic activity of producer organisms (chiefly, green plants). The rate of primary production is estimated by measuring the amount of oxygen released (oxygen method) or the amount of carbon assimilated (carbon method) by the plants.

Primary productivity (carbon method) is expressed as milligrams of carbon per area per unit time [$\text{mg C}/(\text{m}^2/\text{time})$] for periphyton and macrophytes or per volume [$\text{mg C}/(\text{m}^3/\text{time})$] for phytoplankton. Carbon method defines the amount of carbon dioxide consumed as measured by radioactive carbon (carbon-14). The carbon-14 method is of greater sensitivity than the oxygen light and dark bottle method and is preferred for use in unenriched waters. Unit time may be either the hour or day, depending on the incubation period.

Primary productivity (oxygen method) is expressed as milligrams of oxygen per area per unit time [$\text{mg O}/(\text{m}^2/\text{time})$] for periphyton and macrophytes or per volume [$\text{mg O}/(\text{m}^3/\text{time})$] for phytoplankton. Oxygen method defines production and respiration rates as estimated from changes in the measured dissolved-oxygen concentration. The oxygen light and dark bottle method is preferred if the rate of primary production is sufficient for accurate measurements to be made within 24 hours. Unit time may be either the hour or day, depending on the incubation period.

Radioisotopes are isotopic forms of an element that exhibit radioactivity. Isotopes are varieties of a chemical element that differ in atomic weight, but are very nearly alike in chemical properties. The difference arises because the atoms of the isotopic forms of an element differ in the number of neutrons in the nucleus; for example, ordinary chlorine is a mixture of isotopes having atomic weights of 35 and 37, and the natural mixture has an atomic weight of about 35.453. Many of the elements similarly exist as mixtures of isotopes, and a great many new isotopes have been produced in the operation of nuclear devices such as the cyclotron. There are 275 isotopes of the 81 stable elements, in addition to more than 800 radioactive isotopes.

Recoverable from bottom material is the amount of a given constituent that is in solution after a representative sample of bottom material has been digested by a method (usually using an acid or mixture of acids) that results in dissolution of readily soluble substances. Complete dissolution of all bottom material is not achieved by the digestion treatment and thus the determination represents less than the total amount (that is, less than 95 percent) of the constituent in the sample. To achieve comparability of analytical data, equivalent digestion procedures would be required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

Recurrence interval, also referred to as return period, is the average time, usually expressed in years, between occurrences of hydrologic events of a specified type (such as exceedances of a specified high flow or non-exceedance of a specified low flow). The terms "return period" and "recurrence interval" do not imply regular cyclic occurrence. The actual times between occurrences vary randomly, with most of the times being less than the average and a few being substantially greater than the average. For example, the 100-year flood is the flow rate that is exceeded by the annual maximum peak flow at intervals whose average length is 100 years (that is, once in 100 years, on average); almost two-thirds of all exceedances of the 100-year flood occur less than 100 years after the previous exceedance, half occur less than 70 years after the previous exceedance, and about one-eighth occur more than 200 years after the previous exceedance. Similarly, the 7-day 10-year low flow (7Q10) is the flow rate below which the annual minimum 7-day-mean flow dips at intervals whose average length is 10 years (that is, once in 10 years, on average); almost two-thirds of the non-exceedances of the 7Q10 occur less than 10 years after the previous non-exceedance, half occur less than 7 years after, and about one-eighth occur more than 20 years after the previous non-exceedance. The recurrence interval for annual events is the reciprocal of the annual probability of occurrence. Thus, the 100-year flood has a 1-percent chance of being exceeded by the maximum peak flow in any year, and there is a 10-percent chance in any year that the annual minimum 7-day-mean flow will be less than the 7Q10.

Replicate samples are a group of samples collected in a manner such that the samples are thought to be essentially identical in composition.

River mile is the distance of a point on a river measured in miles from the river's mouth along the low-water channel.

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River mileage is the linear distance along the meandering path of a stream channel determined in accordance with Bulletin No. 14 (October 1968) of the Water Resources Council.

Runoff in inches (IN., in.) is the depth, in inches, to which the drainage area would be covered if all the runoff for a given time period were uniformly distributed on it.

Sea level refers to the National Geodetic Vertical Datum of 1929 (NGVD of 1929)—a geodetic datum derived from a general adjustment of the first-order level nets of the United States and Canada, formerly called Sea Level Datum of 1929. See: http://www.co-ops.nos.noaa.gov/glossary/gloss_n.html#NGVD

Sediment is solid material that is transported by, suspended in, or deposited from water. It originates mostly from disintegrated rocks; it also includes chemical and biochemical precipitates and decomposed organic material, such as humus. The quantity, characteristics, and cause of the occurrence of sediment in streams are influenced by environmental factors. Some major factors are degree of slope, length of slope, soil characteristics, land usage, and quantity and intensity of precipitation.

Bed load is the sediment that is transported in a stream by rolling, sliding, or skipping along or very close to the bed. In this report, bed load is considered to consist of particles in transit from the bed to an elevation equal to the top of the bed-load sampler nozzle (usually within 0.25 ft of the streambed).

Bed-load discharge (tons per day) is the quantity of sediment moving as bed load, reported as dry weight, that passes a cross section in a given time.

Suspended sediment is the sediment that is maintained in suspension by the upward components of turbulent currents or that exists in suspension as a colloid.

Suspended-sediment concentration is the velocity-weighted concentration of suspended sediment in the sampled zone (from the water surface to a point approximately 0.3 ft above the bed) expressed as milligrams of dry sediment per liter of water-sediment mixture (mg/L). The entire sample is used for the analysis.

Mean concentration of suspended sediment is the time-weighted concentration of suspended sediment passing a stream section during a 24-hour day.

Suspended-sediment discharge (tons/day) is the quantity of sediment moving in suspension, reported as dry weight, that passes a cross section in a given time. It is calculated in units of tons per day as follows: concentration (mg/L) $\times$ discharge (ft³/s) $\times$ 0.0027.

Suspended-sediment load is a term that refers to material in suspension. The term needs to be qualified, such as “annual suspended-sediment load” or “sand-size suspended-sediment load,” and so on. It is not synonymous with either suspended-sediment discharge or concentration.

Total sediment discharge (tons/day) is the sum of the suspended-sediment discharge and the bed-load discharge. It is the total quantity of sediment, reported as dry weight, that passes a cross section in a given time.

Total sediment load or total load is a term that refers to the total sediment (bed load plus suspended-sediment load) that is in transport. The term needs to be qualified, such as “annual suspended-sediment load” or “sand-size suspended-sediment load,” and so on. It is not synonymous with total sediment discharge.

Seven-day 10-year low flow (7Q10, 7Q10) is the minimum flow averaged over 7 consecutive days that is expected to occur on average, once in any 10-year period. The 7Q10 has a 10-percent chance of occurring in any given year.

Sodium adsorption ratio (SAR) is the expression of relative activity of sodium ions in exchange reactions within soil and is an index of sodium or alkali hazard to the soil. Waters range in respect to sodium hazard from those which can be used for irrigation on almost all soils to those which are generally unsatisfactory for irrigation.

Solute is any substance that is dissolved in water.

Specific conductance is a measure of the ability of a water to conduct an electrical current. It is expressed in microsiemens per centimeter at 25 °C. Specific conductance is related to the type and concentration of ions in solution and can be used for approximating the dissolved-solids content of the water. Commonly, the concentration of dissolved solids (in milligrams per liter) is from 55 to 75 percent of the specific conductance (in microsiemens). This relation is not constant from stream to stream, and it may vary in the same source with changes in the composition of the water.

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Stable isotope ratio (per MILL/MIL) is a unit expressing the ratio of the abundance of two radioactive isotopes. Isotope ratios are used in hydrologic studies to determine the age or source of specific waters, to evaluate mixing of different waters, as an aid in determining reaction rates, and other chemical or hydrologic processes.

Stage: See “Gage height.”

Stage-discharge relation is the relation between the water-surface elevation, termed stage (gage height), and the volume of water flowing in a channel per unit time.

Streamflow is the discharge that occurs in a natural channel. Although the term “discharge” can be applied to the flow of a canal, the word “streamflow” uniquely describes the discharge in a surface stream course. The term “streamflow” is more general than “runoff” as streamflow may be applied to discharge whether or not it is affected by diversion or regulation.

Substrate is the physical surface upon which an organism lives.

Artificial substrate is a device which is purposely placed in a stream or lake for colonization of organisms. The artificial substrate simplifies the community structure by standardizing the substrate from which each sample is taken. Examples of artificial substrates are basket samplers (made of wire cages filled with clean streamside rocks) and multiplate samplers (made of hardboard) for benthic organism collection, and plexiglass strips for periphyton collection.

Natural substrate refers to any naturally occurring immersed or submersed solid surface, such as a rock or tree, upon which an organism lives.

Surface area of a lake or impoundment is that area encompassed by the boundary of the lake or impoundment as shown on USGS topographic maps, or on other available maps or photographs. The computed surface areas reflect the water levels of the lakes or impoundments at the times when the information for the maps or photographs was obtained.

Surficial bed material is the top 0.1 to 0.2 ft of the bed material that is sampled using U.S. Series Bed-Material Samplers.

Suspended (as used in tables of chemical analyses) refers to the amount (concentration) of undissolved material in a water-sediment mixture. It is associated with the material retained on a 0.45-micrometer filter.

Suspended, recoverable is the amount of a given constituent that is in solution after the part of a representative suspended-sediment sample that is retained on a 0.45-micrometer membrane filter has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all the particulate matter is not achieved by the digestion treatment and thus the determination represents something less than the “total” amount (that is, less than 95 percent) of the constituent present in the sample. To achieve comparability of analytical data, equivalent digestion procedures are required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

Determinations of “suspended, recoverable” constituents are made either by analyzing portions of the material collected on the filter or, more commonly, by difference, based on determinations of (1) dissolved and (2) total recoverable concentrations of the constituent.

Suspended, total is the total amount of a given constituent in the part of a representative suspended-sediment sample that is retained on a 0.45-micrometer membrane filter. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined. Knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to determine when the results should be reported as “suspended, total.”

Determinations of “suspended, total” constituents are made either by analyzing portions of the material collected on the filter or, more commonly, by difference, based on determinations of (1) dissolved and (2) total concentrations of the constituent.

Synoptic Studies are short-term investigations of specific water-quality conditions during selected seasonal or hydrologic periods to provide improved spatial resolution for critical water-quality conditions. For the period and conditions sampled, they assess the spatial distribution of selected water-quality conditions in relation to causative factors, such as land use and contaminant sources.

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Taxonomy is the division of biology concerned with the classification and naming of organisms. The classification of organisms is based upon a hierarchical scheme beginning with Kingdom and ending with Species at the base. The higher the classification level, the fewer features the organisms have in common. For example, the taxonomy of a particular mayfly, *Hexagenia limbata*, is the following:

Kingdom	Animal
Phylum	Arthropoda
Class	insecta
Order	Ephemeroptera
Family	Ephemeridae
Genus	Hexagenia
Species	Hexagenia limbata

Time-weighted average is computed by multiplying the number of days in the sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the total number of days. A time-weighted average represents the composition of water that would be contained in a vessel or reservoir that had received equal quantities of water from the stream each day for the year.

Tons per acre-foot is the dry mass of dissolved solids in 1 acre-foot of water. It is computed by multiplying the concentration of the constituent, in milligrams per liter, by 0.00136.

Tons per day (T/DAY, tons/d) is the rate representing a mass of 1 ton of a constituent in streamflow passing a cross section in 1 day. It is equivalent to 2,000 pounds per day, or 0.9072 metric tons per day.

Total is the total amount of a given constituent in a representative suspended-sediment sample, regardless of the constituent's physical or chemical form. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent present in both the dissolved and suspended phases of the sample. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to judge when the results should be reported as "total." (Note that the word "total" does double duty here, indicating both that the sample consists of a suspended-sediment mixture and that the analytical method determined all of the constituent in the sample.)

Total discharge is the quantity of a given constituent, measured as dry mass or volume, that passes a stream cross section per unit of time. When referring to constituents other than water, this term needs to be qualified, such as "total sediment discharge," "total chloride discharge," and so on.

Total in bottom material is the total amount of a given constituent in a representative sample of bottom material. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to judge when the results should be reported as "total in bottom material."

Total length (fish) is the straight-line distance from the anterior point of a fish specimen's snout, with the mouth closed, to the posterior end of the caudal (tail) fin, with the lobes of the caudal fin squeezed together.

Total load refers to all of a constituent in transport. When referring to sediment, it includes suspended load plus bed load.

Total recoverable is the amount of a given constituent that is in solution after a representative suspended-sediment sample has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all particulate matter is not achieved by the digestion treatment, and thus the determination represents something less than the "total" amount (that is, less than 95 percent) of the constituent present in the dissolved and suspended phases of the sample. To achieve comparability of analytical data, equivalent digestion procedures are required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

Turbidity is a measurement of the collective optical properties of a water sample that cause light to be scattered and absorbed rather than transmitted in straight lines; the higher the intensity of scattered light, the higher the turbidity. Turbidity is expressed in nephelometric turbidity units (NTU) or Formazin turbidity units (FTU) depending on the method and equipment used.

Ultraviolet (UV) absorbance (absorption) at 254 or 280 nanometers is a measure of the aggregate concentration of the mixture of UV absorbing organic materials dissolved in the analyzed water, such as lignin, tanin, humic substances, and various aromatic compounds. UV absorbance (absorption) at 254 or 280 nanometers is measured in UV absorption units per centimeter of pathlength of UV light through a sample.

WATER RESOURCES DATA FOR PUERTO RICO AND THE U.S. VIRGIN ISLANDS, 2000

Volatile organic compounds (VOC's) are organic compounds that can be isolated from the water phase of a sample by purging the water sample with inert gas, such as helium, and subsequently analyzed by gas chromatography. Many VOC's are manmade chemicals that are used and produced in the manufacture of paints, adhesives, petroleum products, pharmaceuticals, and refrigerants. They are often components of fuels, solvents, hydraulic fluids, paint thinners, and dry cleaning agents commonly used in urban settings. VOC contamination of drinking-water supplies is a human health concern because many are toxic and are known or suspected human carcinogens (U.S. Environmental Protection Agency, 1996).

Water level is the water-surface elevation or stage of the free surface of a body of water above or below any datum (see "Gage height"), or the surface of water standing in a well, usually indicative of the position of the water table or other potentiometric surface.

Water table is the surface of a ground-water body at which the water is at atmospheric pressure.

Water-table aquifer is an unconfined aquifer within which is found the water table.

Water year in U.S. Geological Survey reports dealing with surface-water supply is the 12-month period October 1 through September 30. The water year is designated by the calendar year in which it ends and which includes 9 of the 12 months. Thus, the year ending September 30, 1999, is called the "1999 water year."

WDR is used as an abbreviation for "Water-Data Report" in the REVISED RECORDS paragraph to refer to State annual hydrologic-data reports. (WRD was used as an abbreviation for "Water-Resources Data" in reports published prior to 1976.)

Weighted average is used in this report to indicate discharge-weighted average. It is computed by multiplying the discharge for a sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the sum of the discharges. A discharge-weighted average approximates the composition of water that would be found in a reservoir containing all the water passing a given location during the water year after thorough mixing in the reservoir.

Well is an excavation (pit, hole, tunnel), generally cylindrical in form and often walled in, drilled, dug, driven, bored, or jetted into the ground to such a depth as to penetrate water-yielding geologic material and allow the water to flow or to be pumped to the surface.

Wet weight refers to the weight of animal tissue or other substance including its contained water.

WSP is used as an abbreviation for "Water-Supply Paper" in reference to previously published report

TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS OF THE U.S. GEOLOGICAL SURVEY

The U.S.G.S. publishes a series of manuals describing procedures for planning and conducting specialized work in water-resources investigations. The material is grouped under major subject headings called books and is further divided into sections and chapters. For example, section A of book 3 (Applications of Hydraulics) pertains to surface water. The chapter, the unit of publication, is limited to a narrow field of subject matter. This format permits flexibility in revision and publication as the need arises.

The reports listed below are for sale by the U.S.G.S., Information Services, Box 25286, Federal Center, Denver, Colorado 80225 (authorized agent of the Superintendent of Documents, Government Printing Office). Prepayment is required. Remittance should be made in the form of a check or money order payable to the "U.S. Geological Survey." Prices are not included because they are subject to change. Current prices can be obtained by writing to the above address. When ordering or inquiring about prices for any of these publications, please give the title, book number, chapter number, and mention the "U.S. Geological Survey Techniques of Water-Resources Investigations."

Book 1. Collection of Water Data by Direct Measurement

Section D. Water Quality

- 1-D1. Water temperature—influential factors, field measurement, and data presentation, by H. H. Stevens, Jr., J.F. Ficke, and G. F. Smoot: USGS–TWRI book 1, chap. D1. 1975. 65 p.
- 1-D2. Guidelines for collection and field analysis of ground-water samples for selected unstable constituents, by W.W. Wood: USGS–TWRI book 1, chap. D2. 1976. 24 p.

Book 2. Collection of Environmental Data

Section D. Surface Geophysical Methods

- 2-D1. Application of surface geophysics to ground-water investigations, by A.A. R. Zohdy, G.P. Eaton, and D.R. Mabey: USGS–TWRI book 2, chap. D1. 1974. 116 p.
- 2-D2. Application of seismic-refraction techniques to hydrologic studies, by F.P. Haeni: USGS–TWRI book 2, chap. D2. 1988. 86 p.

Section E. Subsurface Geophysical Methods

- 2-E1. Application of borehole geophysics to water-resources investigations, by W.S. Keys and L.M. MacCary: USGS–TWRI book 2, chap. E1. 1971. 126 p.
- 2-E2. Borehole geophysics applied to ground-water investigations, by W.S. Keys: USGS–TWRI book 2, chap. E2. 1990. 150 p.

Section F. Drilling and Sampling Methods

- 2-F1. Application of drilling, coring, and sampling techniques to test holes and wells, by Eugene Shuter and W.E. Teasdale: USGS–TWRI book 2, chap. F1. 1989. 97 p.

Book 3. Applications of Hydraulics

Section A. Surface-Water Techniques

- 3-A1. General field and office procedures for indirect discharge measurements, by M.A. Benson and Tate Dalrymple: USGS–TWRI book 3, chap. A1. 1967. 30 p.
- 3-A2. Measurement of peak discharge by the slope-area method, by Tate Dalrymple and M.A. Benson: USGS–TWRI book 3, chap. A2. 1967. 12 p.
- 3-A3. Measurement of peak discharge at culverts by indirect methods, by G.L. Bodhaine: USGS–TWRI book 3, chap. A3. 1968. 60 p.
- 3-A4. Measurement of peak discharge at width contractions by indirect methods, by H.F. Matthai: USGS–TWRI book 3, chap. A4. 1967. 44 p.
- 3-A5. Measurement of peak discharge at dams by indirect methods, by Harry Hulsing: USGS–TWRI book 3, chap. A5. 1967. 29 p.
- 3-A6. General procedure for gaging streams, by R.W. Carter and Jacob Davidian: USGS–TWRI book 3, chap. A6. 1968. 13 p.

TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS OF THE U.S. GEOLOGICAL SURVEY

- 3-A7. Stage measurement at gaging stations, by T.J. Buchanan and W.P. Somers: USGS–TWRI book 3, chap. A7. 1968. 28 p.
- 3-A8. Discharge measurements at gaging stations, by T.J. Buchanan and W.P. Somers: USGS–TWRI book 3, chap. A8. 1969. 65 p.
- 3-A9. Measurement of time of travel in streams by dye tracing, by F.A. Kilpatrick and J.F. Wilson, Jr.: USGS–TWRI book 3, chap. A9. 1989. 27 p.
- 3-A10. Discharge ratings at gaging stations, by E.J. Kennedy: USGS–TWRI book 3, chap. A10. 1984. 59 p.
- 3-A11. Measurement of discharge by the moving-boat method, by G.F. Smoot and C.E. Novak: USGS–TWRI book 3, chap. A11. 1969. 22 p.
- 3-A12. Fluorometric procedures for dye tracing, Revised, by J.F. Wilson, Jr., E.D. Cobb, and F.A. Kilpatrick: USGS–TWRI book 3, chap. A12. 1986. 34 p.
- 3-A13. Computation of continuous records of streamflow, by E.J. Kennedy: USGS–TWRI book 3, chap. A13. 1983. 53 p.
- 3-A14. Use of flumes in measuring discharge, by F.A. Kilpatrick and V.R. Schneider: USGS–TWRI book 3, chap. A14. 1983. 46 p.
- 3-A15. Computation of water-surface profiles in open channels, by Jacob Davidian: USGS–TWRI book 3, chap. A15. 1984. 48 p.
- 3-A16. Measurement of discharge using tracers, by F.A. Kilpatrick and E.D. Cobb: USGS–TWRI book 3, chap. A16. 1985. 52 p.
- 3-A17. Acoustic velocity meter systems, by Antonius Laenen: USGS–TWRI book 3, chap. A17. 1985. 38 p.
- 3-A18. Determination of stream reaeration coefficients by use of tracers, by F.A. Kilpatrick, R.E. Rathbun, Nobuhiro Yotsukura, G.W. Parker, and L.L. DeLong: USGS–TWRI book 3, chap. A18. 1989. 52 p.
- 3-A19. Levels at streamflow gaging stations, by E.J. Kennedy: USGS–TWRI book 3, chap. A19. 1990. 31 p.
- 3-A20. Simulation of soluble waste transport and buildup in surface waters using tracers, by F.A. Kilpatrick: USGS–TWRI book 3, chap. A20. 1993. 38 p.
- 3-A21. Stream-gaging cableways, by C. Russell Wagner: USGS–TWRI book 3, chap. A21. 1995. 56 p.

Section B. Ground-Water Techniques

- 3-B1. Aquifer-test design, observation, and data analysis, by R.W. Stallman: USGS–TWRI book 3, chap. B1. 1971. 26 p.
- 3-B2. Introduction to ground-water hydraulics, a programed text for self-instruction, by G.D. Bennett: USGS–TWRI book 3, chap. B2. 1976. 172 p.
- 3-B3. Type curves for selected problems of flow to wells in confined aquifers, by J.E. Reed: USGS–TWRI book 3, chap. B3. 1980. 106 p.
- 3-B4. Regression modeling of ground-water flow, by R.L. Cooley and R.L. Naff: USGS–TWRI book 3, chap. B4. 1990. 232 p.
- 3-B4. Supplement 1. Regression modeling of ground-water flow --Modifications to the computer code for nonlinear regression solution of steady-state ground-water flow problems, by R.L. Cooley: USGS–TWRI book 3, chap. B4. 1993. 8 p.
- 3-B5. Definition of boundary and initial conditions in the analysis of saturated ground-water flow systems—An introduction, by O.L. Franke, T.E. Reilly, and G.D. Bennett: USGS–TWRI book 3, chap. B5. 1987. 15 p.
- 3-B6. The principle of superposition and its application in ground-water hydraulics, by T.E. Reilly, O.L. Franke, and G.D. Bennett: USGS–TWRI book 3, chap. B6. 1987. 28 p.
- 3-B7. Analytical solutions for one-, two-, and three-dimensional solute transport in ground-water systems with uniform flow, by E.J. Wexler: USGS–TWRI book 3, chap. B7. 1992. 190 p.
- 3-B8. System and boundary conceptualization in ground-water flow simulation, by T.E. Reilly: USGS–TWRI book 3, chap. B8. 2001. 29 p.

TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS OF THE U.S. GEOLOGICAL SURVEY

Section C. Sedimentation and Erosion Techniques

- 3-C1. Fluvial sediment concepts, by H.P. Guy: USGS–TWRI book 3, chap. C1. 1970. 55 p.
- 3-C2. Field methods for measurement of fluvial sediment, by T.K. Edwards and G.D. Glysson: USGS–TWRI book 3, chap. C2. 1999. 89 p.
- 3-C3. Computation of fluvial-sediment discharge, by George Porterfield: USGS–TWRI book 3, chap. C3. 1972. 66 p.

Book 4. Hydrologic Analysis and Interpretation

Section A. Statistical Analysis

- 4-A1. Some statistical tools in hydrology, by H.C. Riggs: USGS–TWRI book 4, chap. A1. 1968. 39 p.
- 4-A2. Frequency curves, by H.C. Riggs: USGS–TWRI book 4, chap. A2. 1968. 15 p.

Section B. Surface Water

- 4-B1. Low-flow investigations, by H.C. Riggs: USGS–TWRI book 4, chap. B1. 1972. 18 p.
- 4-B2. Storage analyses for water supply, by H.C. Riggs and C.H. Hardison: USGS–TWRI book 4, chap. B2. 1973. 20 p.
- 4-B3. Regional analyses of streamflow characteristics, by H.C. Riggs: USGS–TWRI book 4, chap. B3. 1973. 15 p.

Section D. Interrelated Phases of the Hydrologic Cycle

- 4-D1. Computation of rate and volume of stream depletion by wells, by C.T. Jenkins: USGS–TWRI book 4, chap. D1. 1970. 17 p.

Book 5. Laboratory Analysis

Section A. Water Analysis

- 5-A1. Methods for determination of inorganic substances in water and fluvial sediments, by M.J. Fishman and L.C. Friedman, editors: USGS–TWRI book 5, chap. A1. 1989. 545 p.
- 5-A2. Determination of minor elements in water by emission spectroscopy, by P.R. Barnett and E.C. Mallory, Jr.: USGS–TWRI book 5, chap. A2. 1971. 31 p.
- 5-A3. Methods for the determination of organic substances in water and fluvial sediments, edited by R.L. Wershaw, M.J. Fishman, R.R. Grabbe, and L.E. Lowe: USGS–TWRI book 5, chap. A3. 1987. 80 p.
- 5-A4. Methods for collection and analysis of aquatic biological and microbiological samples, by L.J. Britton and P.E. Greenson, editors: USGS–TWRI book 5, chap. A4. 1989. 363 p.
- 5-A5. Methods for determination of radioactive substances in water and fluvial sediments, by L.L. Thatcher, V.J. Janzer, and K.W. Edwards: USGS–TWRI book 5, chap. A5. 1977. 95 p.
- 5-A6. Quality assurance practices for the chemical and biological analyses of water and fluvial sediments, by L.C. Friedman and D.E. Erdmann: USGS–TWRI book 5, chap. A6. 1982. 181 p.

Section C. Sediment Analysis

- 5-C1. Laboratory theory and methods for sediment analysis, by H.P. Guy: USGS–TWRI book 5, chap. C1. 1969. 58 p.

Book 6. Modeling Techniques

Section A. Ground Water

- 6-A1. A modular three-dimensional finite-difference ground-water flow model, by M.G. McDonald and A.W. Harbaugh: USGS–TWRI book 6, chap. A1. 1988. 586 p.
- 6-A2. Documentation of a computer program to simulate aquifer-system compaction using the modular finite-difference ground-water flow model, by S.A. Leake and D.E. Prudic: USGS–TWRI book 6, chap. A2. 1991. 68 p.
- 6-A3. A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 1: Model Description and User's Manual, by L.J. Torak: USGS–TWRI book 6, chap. A3. 1993. 136 p.
- 6-A4. A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 2: Derivation of finite-element equations and comparisons with analytical solutions, by R.L. Cooley: USGS–TWRI book 6, chap. A4. 1992. 108 p.

TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS OF THE U.S. GEOLOGICAL SURVEY

6-A5. A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 3: Design philosophy and programming details, by L.J. Torak: USGS–TWRI book 6, chap. A5, 1993. 243 p.

6-A6. A coupled surface-water and ground-water flow model (MODBRANCH) for simulation of stream-aquifer interaction, by Eric D. Swain and Eliezer J. Wexler: USGS–TWRI book 6, chap. A5, 1996. 125 p.

Book 7. Automated Data Processing and Computations

Section C. Computer Programs

7-C1. Finite difference model for aquifer simulation in two dimensions with results of numerical experiments, by P.C. Trescott, G.F. Pinder, and S.P. Larson: USGS–TWRI book 7, chap. C1. 1976. 116 p.

7-C2. Computer model of two-dimensional solute transport and dispersion in ground water, by L.F. Konikow and J.D. Bredehoeft: USGS–TWRI book 7, chap. C2. 1978. 90 p.

7-C3. A model for simulation of flow in singular and interconnected channels, by R.W. Schaffranek, R.A. Baltzer, and D.E. Goldberg: USGS–TWRI book 7, chap. C3. 1981. 110 p.

Book 8. Instrumentation

Section A. Instruments for Measurement of Water Level

8-A1. Methods of measuring water levels in deep wells, by M.S. Garber and F.C. Koopman: USGS–TWRI book 8, chap. A1. 1968. 23 p.

8-A2. Installation and service manual for U.S. Geological Survey manometers, by J.D. Craig: USGS–TWRI book 8, chap. A2. 1983. 57 p.

Section B. Instruments for Measurement of Discharge

8-B2. Calibration and maintenance of vertical-axis type current meters, by G.F. Smoot and C.E. Novak: USGS–TWRI book 8, chap. B2. 1968. 15 p.

Book 9. Handbooks for Water-Resources Investigations

Section A. National Field Manual for the Collection of Water-Quality Data

9-A1. National Field Manual for the Collection of Water-Quality Data: Preparations for Water Sampling, by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS–TWRI book 9, chap. A1. 1998. 47 p.

9-A2. National Field Manual for the Collection of Water-Quality Data: Selection of Equipment for Water Sampling, edited by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS–TWRI book 9, chap. A2. 1998. 94 p.

9-A3. National Field Manual for the Collection of Water-Quality Data: Cleaning of Equipment for Water Sampling, edited by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS–TWRI book 9, chap. A3. 1998. 75 p.

9-A4. National Field Manual for the Collection of Water-Quality Data: Collection of Water Samples, edited by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS–TWRI book 9, chap. A4. 1999. 156 p.

9-A5. National Field Manual for the Collection of Water-Quality Data: Processing of Water Samples, edited by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS–TWRI book 9, chap. A5. 1999. 149 p.

9-A6. National Field Manual for the Collection of Water-Quality Data: Field Measurements, edited by F.D. Wilde and D.B. Radtke: USGS–TWRI book 9, chap. A6. 1998. Variously paginated.

9-A7. National Field Manual for the Collection of Water-Quality Data: Biological Indicators, edited by D.N. Myers and F.D. Wilde: USGS–TWRI book 9, chap. A7. 1997 and 1999. Variously paginated.

9-A8. National Field Manual for the Collection of Water-Quality Data: Bottom-material samples, by D.B. Radtke: USGS–TWRI book 9, chap. A8. 1998. 48 p.

9-A9. National Field Manual for the Collection of Water-Quality Data: Safety in Field Activities, by S.L. Lane and R.G. Fay: USGS–TWRI book 9, chap. A9. 1998. 60 p.

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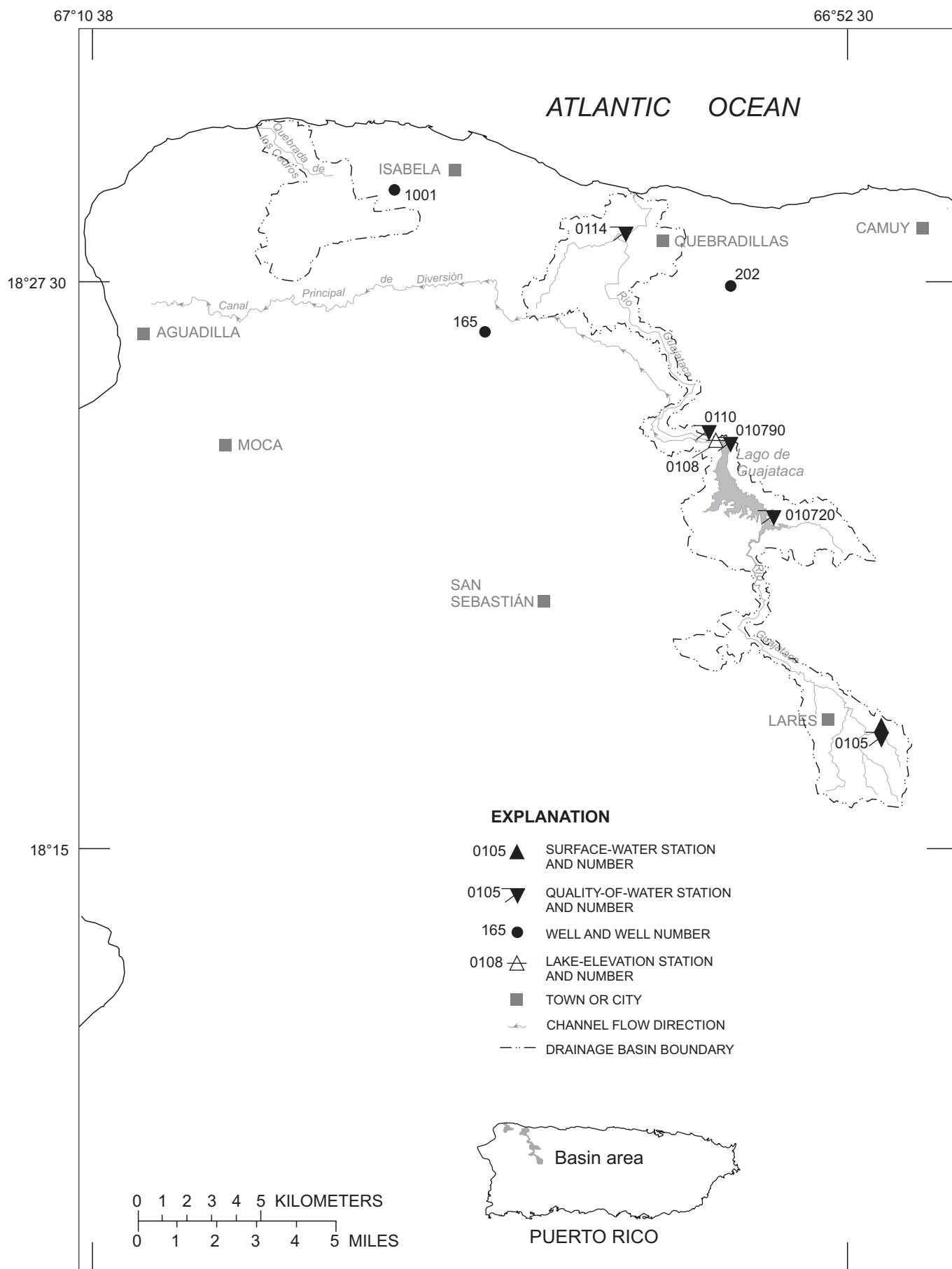


Figure 11. Río Guajataca basin.

RIO GUAJATACA BASIN

50010500 RIO GUAJATACA AT LARES, PR

LOCATION.--Lat 18°18'01", long 66°52'24", Hydrologic Unit 21010001 at bridge on Highway 111, 0.1 mi (0.2 km) upstream from Quebrada Anón, and 0.4 mi (0.6 km) east of Lares.

DRAINAGE AREA.--3.16 mi² (8.18 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1959 to February 1962 (annual low-flow measurements only), January 1963 to April 1969 (monthly measurements only), May 1969 to December 1970, (February to May 1971 and March 1974 to November 1989, monthly measurements only), December 1989 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 935 ft (285 m), from topographic map.

REMARKS.--Records poor. Gage-height and precipitation satellite telemetry at station. Small diversion above station for sewage treatment plant; effluent re-enters stream below station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	e29	12	2.8	2.9	3.7	2.4	3.7	4.1	1.1	4.3	3.7
2	9.2	e44	49	2.8	2.9	2.8	1.7	4.7	3.7	4.6	3.0	3.1
3	8.4	e31	13	3.2	3.4	2.9	2.7	23	3.3	2.4	2.4	2.5
4	8.5	e61	10	4.4	3.5	2.9	2.1	17	3.2	1.8	3.9	47
5	8.6	e31	13	3.4	4.5	2.8	1.4	4.5	3.0	.94	2.6	23
6	10	e19	10	2.7	3.0	2.7	2.4	2.4	3.0	2.1	2.3	9.7
7	47	e19	10	2.2	3.0	2.5	2.7	2.1	3.0	2.9	2.5	5.9
8	16	e15	9.5	2.9	3.0	2.0	2.3	29	2.7	1.6	2.1	7.0
9	10	e14	8.9	2.1	2.9	2.8	1.5	68	11	28	1.9	5.9
10	8.2	e13	9.3	1.9	2.5	2.5	1.4	45	3.7	6.9	2.9	5.6
11	12	e12	8.0	1.7	2.5	2.4	1.4	183	3.1	19	1.8	5.5
12	11	e11	7.9	1.6	2.8	2.3	1.8	44	3.4	10	1.7	4.7
13	24	e11	7.6	1.7	2.8	2.2	2.2	19	12	15	1.6	4.3
14	12	e12	7.3	1.7	2.8	3.3	1.5	13	7.2	8.0	1.5	3.4
15	112	e37	7.3	10	3.1	2.1	1.6	9.4	4.1	4.6	1.9	3.3
16	95	23	6.2	5.7	3.8	2.2	1.7	8.4	15	3.8	7.2	29
17	53	58	6.3	4.0	3.6	2.1	1.6	51	4.9	3.6	2.9	7.0
18	43	71	6.0	2.3	3.6	1.9	1.5	14	3.5	4.4	2.0	6.1
19	27	78	5.7	2.0	3.8	1.8	1.7	7.9	3.3	3.6	1.8	6.4
20	17	35	5.3	2.6	4.2	1.8	5.4	7.1	12	18	2.3	9.5
21	21	25	5.0	4.2	3.5	2.0	1.8	5.6	15	4.9	3.2	6.0
22	e23	22	4.8	3.1	19	1.9	23	5.0	5.5	3.5	3.8	27
23	e27	17	4.2	3.1	39	2.8	6.3	4.6	4.6	3.2	43	9.2
24	e15	15	4.4	3.4	6.5	2.5	3.7	19	4.3	3.1	3.7	6.8
25	e53	13	4.5	4.0	3.1	1.6	2.7	7.0	4.4	3.1	7.4	5.9
26	e21	13	3.8	2.9	4.0	2.0	4.4	5.7	29	2.7	4.9	14
27	e16	12	3.7	2.8	4.5	2.4	2.1	4.6	5.6	3.7	35	8.3
28	e43	11	3.4	2.8	4.3	1.7	1.8	17	3.1	3.0	9.5	5.8
29	e26	11	5.1	3.1	5.1	2.0	1.8	6.6	2.8	3.1	4.3	5.1
30	e33	11	3.4	2.8	---	3.5	1.6	4.5	2.4	4.5	5.6	4.4
31	e67	---	3.4	3.0	---	3.6	---	4.0	---	3.3	3.6	---
TOTAL	888.9	774	258.0	96.9	153.6	75.7	90.2	639.8	185.9	180.44	176.6	285.1
MEAN	28.7	25.8	8.32	3.13	5.30	2.44	3.01	20.6	6.20	5.82	5.70	9.50
MAX	112	78	49	10	39	3.7	23	183	29	28	43	47
MIN	8.2	11	3.4	1.6	2.5	1.6	1.4	2.1	2.4	.94	1.5	2.5
AC-FT	1760	1540	512	192	305	150	179	1270	369	358	350	565
CFSM	9.07	8.16	2.63	.99	1.68	.77	.95	6.53	1.96	1.84	1.80	3.01
IN.	10.46	9.11	3.04	1.14	1.81	.89	1.06	7.53	2.19	2.12	2.08	3.36

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1969 - 2000, BY WATER YEAR (WY)

	MEAN	17.8	9.93	4.18	3.37	2.98	2.81	3.55	11.2	8.42	4.67	6.57	14.7
MAX	33.7	25.8	8.32	8.91	7.21	10.6	8.16	25.4	23.4	9.85	11.1	45.2	
(WY)	1991	2000	2000	1997	1996	1999	1999	1999	1999	1999	1996	1998	
MIN	8.52	2.42	1.35	.66	.93	.92	1.09	2.37	1.70	1.73	3.34	5.95	
(WY)	1995	1998	1991	1991	1992	1994	1994	1997	1997	1997	1970	1993	

SUMMARY STATISTICS

FOR 1999 CALENDAR YEAR

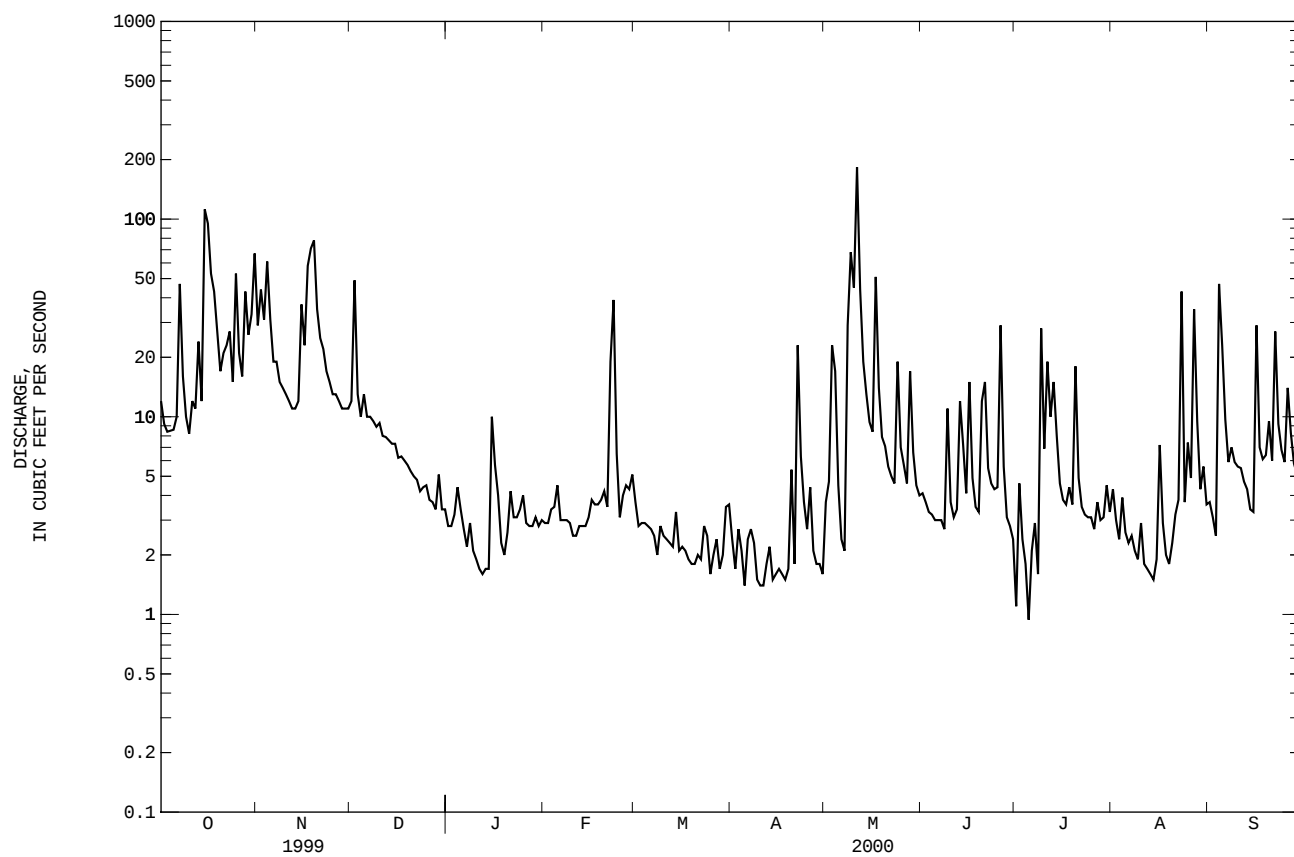
FOR 2000 WATER YEAR

WATER YEARS 1969 - 2000

ANNUAL TOTAL	5337.7	3805.14	
ANNUAL MEAN	14.6	10.4	7.48
HIGHEST ANNUAL MEAN			12.6
LOWEST ANNUAL MEAN			4.13
HIGHEST DAILY MEAN	121	183	505
LOWEST DAILY MEAN	1.8	.94	.47
ANNUAL SEVEN-DAY MINIMUM	2.2	1.6	.51
INSTANTANEOUS PEAK FLOW		2550	5300
INSTANTANEOUS PEAK STAGE		16.65	21.30
ANNUAL RUNOFF (AC-FT)	10590	7550	5420
ANNUAL RUNOFF (CFSM)	4.63	3.29	2.37
ANNUAL RUNOFF (INCHES)	62.84	44.79	32.15
10 PERCENT EXCEEDS	35	26	17
50 PERCENT EXCEEDS	8.9	4.3	3.7
90 PERCENT EXCEEDS	2.5	1.9	1.0

e Estimated

RIO GUAJATACA BASIN
50010500 RIO GUAJATACA AT LARES, PR--Continued



RIO GUAJATACA BASIN

50010500 RIO GUAJATACA AT LARES, PR--Continued

WATER-QUALITY RECORDS

LOCATION.--Lat 18°18'01", long 66°52'24", at bridge on Highway 111 (km 32.9), 0.1 mi (0.2 km) upstream from Quebrada Anón, and 0.4 mi (0.6 km) northeast of Lares plaza.

DRAINAGE AREA.--3.16 mi² (8.18 km²).

PERIOD OF RECORD.--Water years 1958-71, 1974 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	STREP-TOCOCCI, KF AGAR (COLS. PER 100 ML) (31673)
OCT 28...	1730	67	111	7.4	23.1	500	7.5	91	28	>600000	86000
FEB 16...	1630	4.4	210	7.9	22.5	27	7.0	81	<10	K860	360
APR 24...	1550	3.3	224	7.5	24.5	25	7.2	90	<10	5700	2900
AUG 21...	1430	2.9	238	8.0	28.1	6.5	7.9	105	<10	3200	990

DATE	HARD-NESS TOTAL (MG/L AS CAC03) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CAC03) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)
OCT 28...	39	11.3	2.56	4.6	.3	2.7	38	<1.0	4.8	5.7
FEB 16...	--	--	--	--	--	--	75	--	--	--
APR 24...	83	23.8	5.63	10.3	.5	2.6	77	<1.0	13.8	13.2
AUG 21...	84	24.0	5.75	11.4	.5	2.1	82	--	6.7	11.3

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SI02) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)
OCT 28...	<.1	21.8	76	13.8	705	1.14	.06	1.2	.11	2.2
FEB 16...	--	--	--	--	37	--	<.01	1.3	.03	.26
APR 24...	<.1	25.6	141	1.27	28	1.19	.01	1.2	.02	--
AUG 21...	<.1	30.0	140	1.10	<10	1.19	.01	1.2	.02	--

DATE	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, TOTAL (MG/L AS NO3) (71887)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)
OCT 28...	2.3	3.5	15.5	.480	<3	108	E18	.2	5	E15
FEB 16...	.29	1.6	7.0	.110	--	--	--	--	--	--
APR 24...	<.20	--	--	.050	<3	26.5	E14	<.1	<1	<20
AUG 21...	<.20	--	--	.050	--	--	--	--	--	--

RIO GUAJATACA BASIN

50010800 LAGO GUAJATACA AT DAMSITE NEAR QUEBRADILLAS, PR

LOCATION.--Lat 18°24'02", long 66°55'25", Hydrologic Unit 21010002, on right bank, in a concrete intake tower at Damsite, 5.2 mi (8.4 km) southeast from Quebradillas plaza, 0.5 mi (0.8 km) northeast from Iglesia San Antonio de Padua and 2.8 mi (4.5 km) from Escuela Segunda Unidad Baldorioty de Castro.

DRAINAGE AREA.--24.6 mi² (63.71 km²)

ELEVATION RECORDS

PERIOD OF RECORD.--April 1995 to current year.

GAGE.--Water stage recorder. Datum of gage is mean sea level.

REMARKS.--Lago Guajataka was completed in 1928. The dam is a semihydraulic earthfill structure about 123 ft (37 m) high, a top width of 31 ft (9.5 m) at crest elevation of 664 ft (202.5 m), a base width of 623 ft (190 m), a crest length of 1,036 ft (316 m) and has a maximum storage capacity of 49,200 acre-feet (60.6 hm³). The Guajataka Dam is owned by the Puerto Rico Electric Power Authority (P.R.E.P.A) and provides water for the municipalities of Aguadilla, Isabela, Moca, Aguada and Quebradillas although its primary purpose is for agricultural irrigation for the flatlands of the area. Gage-height and precipitation satellite telemetry at station. New capacity table based on U.S. Geological Survey Water-Resources Investigations Report 00-4044, January 1999.

EXTREMES OBSERVED FOR PERIOD OF RECORD.--Maximum elevation 648.3 ft (197.60 m), Sept. 23, 1998; minimum elevation, 608.07 ft (185.34 m) May 17, 1998.

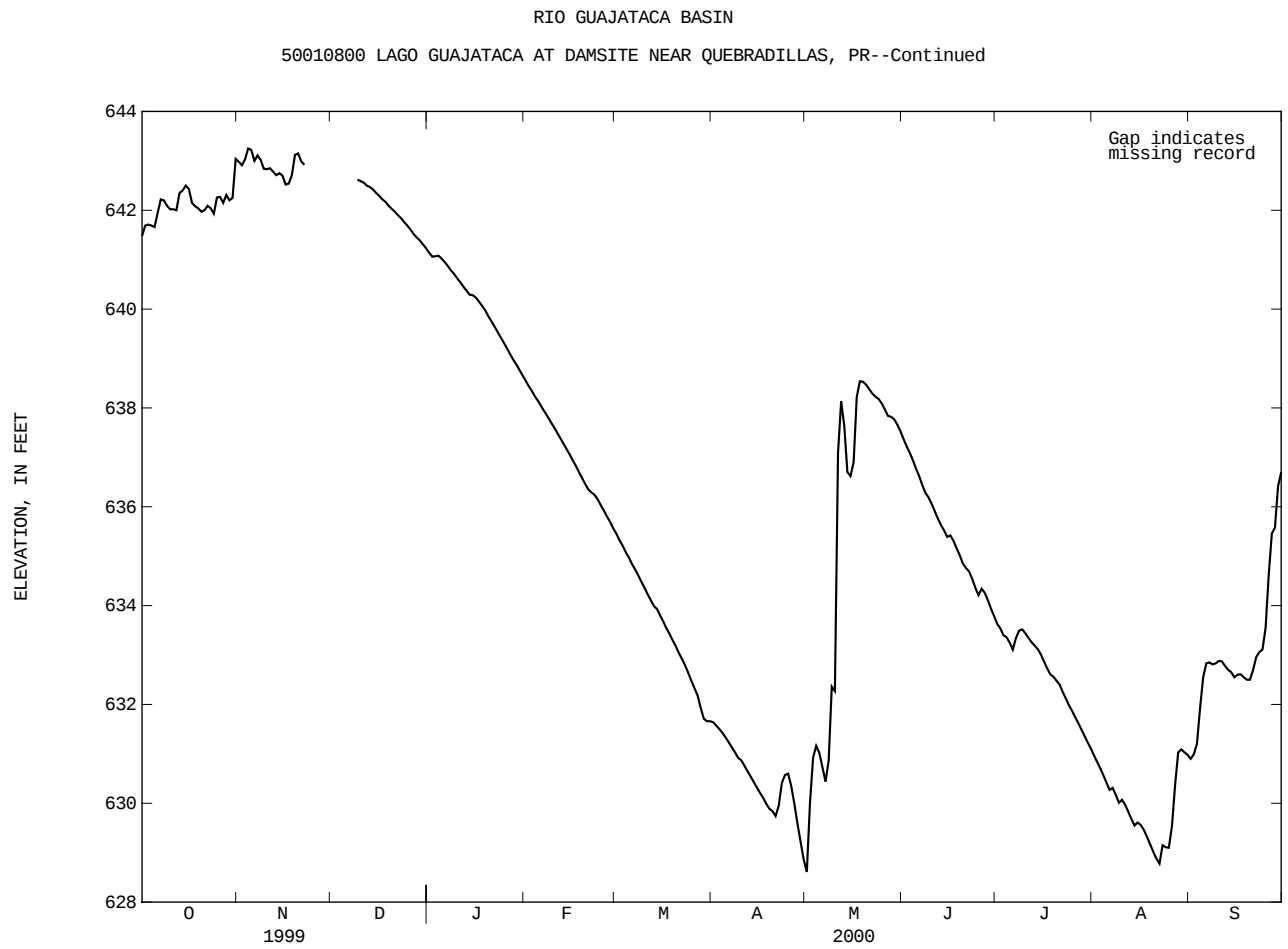
EXTREMES OBSERVED FOR CURRENT YEAR.--Maximum elevation, 643.28 ft (196.07 m), Nov. 5; minimum elevation, 628.51 ft (191.57 m), May 2.

Capacity Table
(based on data from U.S. Geological Survey Water-Resources Investigations Report 00-4044, Puerto Rico-1999)

Elevation, in feet		Contents, in acre-feet		Elevation, in feet		Contents, in acre-feet	
557		0		616		13,393	
577		916		636		26,332	
597		5,253		646		34,277	

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000												
DAILY OBSERVATION AT 2400 HOURS												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	641.48	642.98	A	641.14	638.54	635.45	631.64	628.61	637.37	633.63	630.97	630.90
2	641.69	642.91	A	641.06	638.43	635.32	631.57	629.99	637.22	633.54	630.84	630.99
3	641.71	643.03	A	641.07	638.33	635.21	631.50	630.92	637.09	633.40	630.71	631.20
4	641.69	643.25	A	641.08	638.22	635.08	631.42	631.16	636.94	633.36	630.57	631.92
5	641.66	643.22	A	641.02	638.13	634.97	631.33	631.02	636.77	633.25	630.42	632.55
6	641.95	643.00	A	640.95	638.02	634.84	631.23	630.73	636.62	633.11	630.27	632.83
7	642.22	643.11	A	640.87	637.92	634.73	631.13	630.44	636.44	633.34	630.31	632.85
8	642.20	643.02	A	640.78	637.82	634.61	631.03	630.86	636.28	633.49	630.17	632.81
9	642.09	642.84	642.62	640.71	637.71	634.48	630.92	632.36	636.19	633.52	630.01	632.83
10	642.02	642.83	642.59	640.62	637.61	634.36	630.87	632.27	636.06	633.44	630.07	632.88
11	642.02	642.85	642.56	640.54	637.50	634.23	630.76	637.09	635.91	633.35	629.97	632.87
12	642.00	642.78	642.50	640.45	637.39	634.11	630.65	638.13	635.76	633.26	629.83	632.78
13	642.35	642.71	642.47	640.37	637.28	633.99	630.54	637.64	635.63	633.19	629.68	632.70
14	642.40	642.75	642.42	640.29	637.17	633.93	630.43	636.70	635.52	633.12	629.55	632.65
15	642.50	642.70	642.35	640.28	637.06	633.80	630.32	636.62	635.39	633.01	629.61	632.55
16	642.43	642.52	642.29	640.23	636.94	633.68	630.21	636.90	635.42	632.87	629.56	632.60
17	642.15	642.54	642.22	640.15	636.83	633.54	630.11	638.22	635.31	632.73	629.46	632.61
18	642.08	642.71	642.17	640.06	636.70	633.43	629.99	638.54	635.16	632.61	629.32	632.55
19	642.04	643.12	642.09	639.97	636.58	633.30	629.89	638.53	635.02	632.56	629.17	632.50
20	641.97	643.15	642.03	639.85	636.46	633.18	629.84	638.47	634.85	632.48	629.02	632.50
21	642.00	642.99	641.97	639.75	636.35	633.04	629.74	638.38	634.76	632.40	628.88	632.70
22	642.09	642.92	641.90	639.64	636.29	632.92	629.95	638.29	634.69	632.25	628.78	632.96
23	642.04	A	641.84	639.53	636.24	632.79	630.41	638.23	634.54	632.12	629.15	633.06
24	641.93	A	641.76	639.42	636.15	632.64	630.57	638.18	634.36	631.98	629.11	633.11
25	642.26	A	641.69	639.31	636.03	632.48	630.60	638.09	634.21	631.87	629.10	633.55
26	642.27	A	641.61	639.20	635.92	632.33	630.35	637.97	634.34	631.74	629.54	634.62
27	642.15	A	641.52	639.08	635.80	632.18	629.99	637.84	634.26	631.62	630.37	635.46
28	642.31	A	641.45	638.97	635.69	631.93	629.59	637.82	634.11	631.49	631.03	635.58
29	642.20	A	641.39	638.87	635.56	631.71	629.22	637.77	633.94	631.36	631.09	636.42
30	642.25	A	641.31	638.76	---	631.66	628.86	637.66	633.79	631.23	631.03	636.70
31	643.04	---	641.23	638.65	---	631.66	---	637.53	---	631.11	630.98	---
MAX	643.04	643.25	642.62	641.14	638.54	635.45	631.64	638.54	637.37	633.63	631.09	636.70
MIN	641.48	642.52	641.23	638.65	635.56	631.66	628.86	628.61	633.79	631.11	628.78	630.90

A No gage-height record



RIO GUAJATACA BASIN

50011000 CANAL PRINCIPAL DE DIVERSIONES AT LAGO DE GUAJATACA, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 18°24'02", long 66°55'27", off Highway 476 at Lago Guajataca outlet, 3.0 mi (4.8 km) southwest of Segunda Unidad Baldorioty de Castro, and 5.3 mi (8.5 km) south of Quebradillas Plaza.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--Water years 1958-64, 1974 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	STREP-TOCOCCI, KF AGAR (COLS. PER 100 ML) (31673)
OCT 29...	1245	40	306	7.7	25.7	1.8	.7	8	12	K53	K29
FEB 22...	1345	--	316	7.8	24.2	.8	2.3	28	<10	44	56
MAY 11...	0630	65	317	7.3	25.5	6.3	2.4	30	<10	37	41
AUG 21...	1530	70	296	7.3	27.6	6.3	1.8	24	<10	35	K12

DATE	HARD-NESS TOTAL (MG/L AS CAC03) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CAC03) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)
OCT 29...	140	49.9	3.30	4.9	.2	2.4	136	<1.0	6.6	6.9
FEB 22...	--	--	--	--	--	--	162	--	--	--
MAY 11...	130	46.2	3.67	5.4	.2	2.1	136	<1.0	7.5	8.2
AUG 21...	--	--	--	--	--	--	125	--	--	--

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SI02) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)
OCT 29...	<.1	21.5	177	19.1	6	.05	.01	.1	.14	.08
FEB 22...	--	--	--	--	<1	--	<.01	.1	.08	.16
MAY 11...	.2	5.0	160	28.1	<10	--	<.01	.02	.43	.10
AUG 21...	--	--	--	--	<10	--	<.01	<.1	.29	.27

DATE	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, TOTAL (MG/L AS NO3) (71887)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)
OCT 29...	.22	.28	1.2	.020	E2	17.6	E10	<.1	<1	<20
FEB 22...	.24	.30	1.3	<.020	--	--	--	--	--	--
MAY 11...	.53	.55	2.4	<.020	E1	10.2	23	<.1	<1	<20
AUG 21...	.56	--	--	<.020	--	--	--	--	--	--

RIO GUAJATACA BASIN

50011000 CANAL PRINCIPAL DE DIVERSIONES AT LAGO DE GUAJATACA, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

[illegible]

RIO GUAJATACA BASIN

50011400 RIO GUAJATACA ABOVE MOUTH NEAR QUEBRADILLAS, PR.

WATER-QUALITY RECORDS

LOCATION.--Lat 18°28'31", long 66°57'46", Hydrologic Unit 21010002, on left bank at ford 1.7 mi (2.7 km) upstream from bridge on highway 2, 1.6 mi (2.6 km) west of Quebradillas plaza, 2.1 mi (3.4 km) upstream from Atlantic Ocean, and 6.6 mi (10.6 km) downstream from Lago Guajataca.

DRAINAGE AREA.--Indeterminate

PERIOD OF RECORD.--Water years 1969 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	TURBIDITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATURATION) (00301)	OXYGEN DEMAND, CHEMICAL (HIGH LEVEL) (MG/L) (00340)	COLIFORM, FECA, 0.7 UM-MF (COLS./100 ML) (31625)	STREPTOCOCCI, FECA, KF AGAR (COLS. PER 100 ML) (31673)
OCT 29...	1055	--	312	8.2	25.2	8.9	7.4	90	<10	K780	570
FEB 24...	0850	16	549	8.0	23.3	1.3	5.3	62	<10	K22	210
APR 26...	1015	19	454	7.9	24.3	2.3	6.8	81	<10	560	460
SEP 07...	1215	15	468	7.8	25.9	.3	8.1	100	<10	120	160

DATE	HARDNESS TOTAL (MG/L AS CAC03) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNESIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM ADSORPTION RATIO (00931)	POTASSIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CAC03) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS S04) (00945)	CHLORIDE, DIS-SOLVED (MG/L AS CL) (00940)
OCT 29...	150	54.0	3.22	5.0	.2	1.9	146	<1.0	6.2	7.7
FEB 24...	--	--	--	--	--	--	217	--	--	--
APR 26...	190	67.4	6.00	13.5	.4	1.8	185	<1.0	13.1	25.5
SEP 07...	210	73.4	6.51	14.4	.4	1.3	190	--	9.1	24.5

DATE	FLUORIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SI02) (00955)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE AT 105 DEG. C, SUSPENDED (MG/L) (00530)	NITROGEN, NITRATE TOTAL (MG/L AS N) (00620)	NITROGEN, NITRITE TOTAL (MG/L AS N) (00615)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITROGEN, ORGANIC TOTAL (MG/L AS N) (00605)
OCT 29...	<.1	6.9	172	--	10	.35	.02	.4	.02	.23
FEB 24...	--	--	--	--	1	2.69	.01	2.7	.02	--
APR 26...	<.1	6.1	245	12.6	2	--	<.01	1.9	.01	--
SEP 07...	<.1	6.2	250	10.3	<10	--	<.01	1.5	.01	--

DATE	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITROGEN, TOTAL (MG/L AS N) (00600)	NITROGEN, TOTAL (MG/L AS NO3) (71887)	PHOSPHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOVERABLE (UG/L AS B) (01022)	CADMIUM, TOTAL UNFLTRD (UG/L AS CD) (01027)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOVERABLE (UG/L AS CU) (01042)
OCT 29...	.25	.62	2.7	.040	<3	14.7	E13	<.1	E1	<20
FEB 24...	<.20	--	--	<.020	--	--	--	--	--	--
APR 26...	<.20	--	--	<.020	<3	12.0	23	<.1	1	<20
SEP 07...	<.20	--	--	.090	--	--	--	--	--	--

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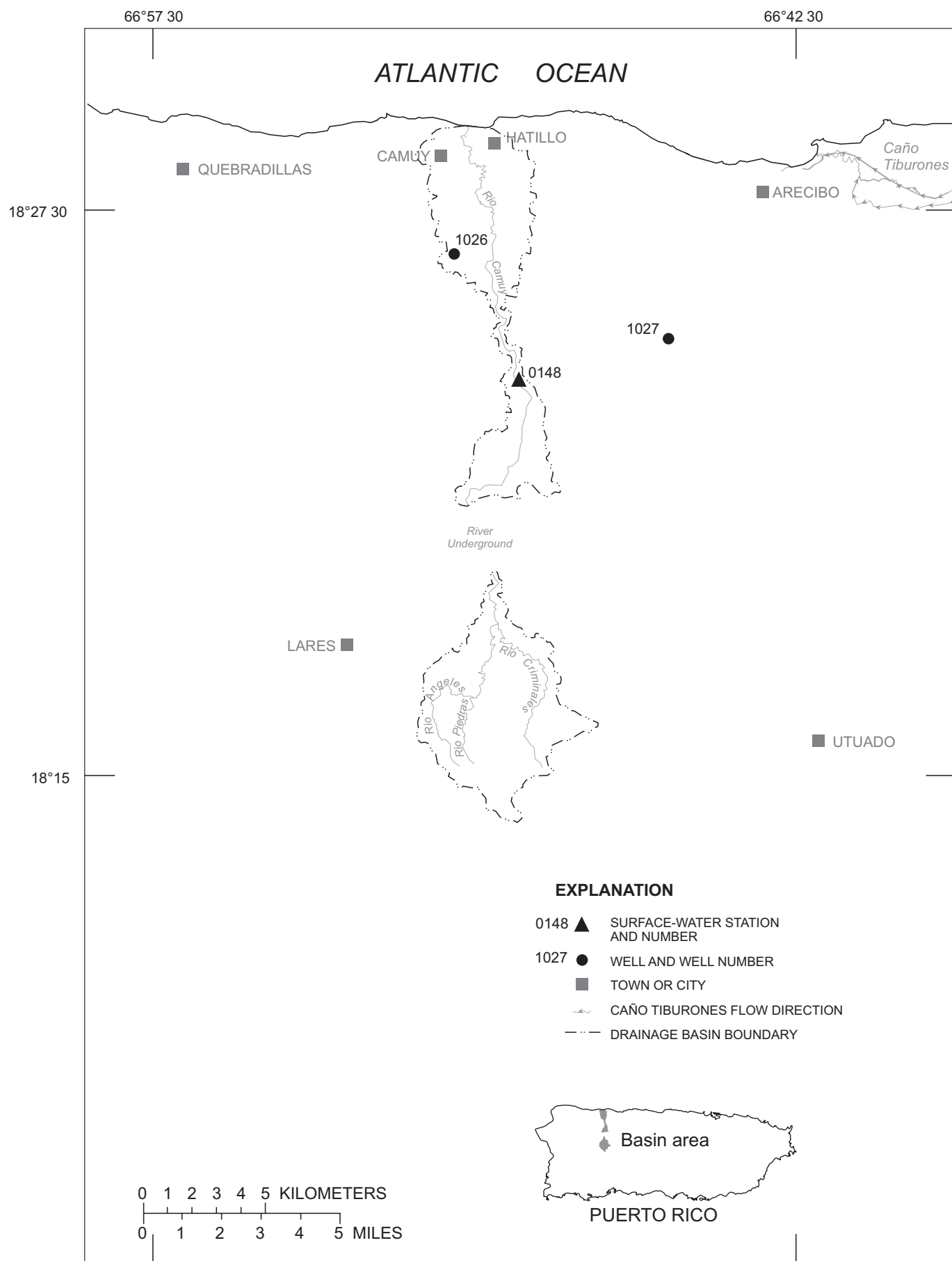


Figure 12. Río Camuy basin.

RIO CAMUY BASIN

50014800 RIO CAMUY NEAR BAYANEY, PR

LOCATION.--Lat 18°23'48", long 66°49'04", Hydrologic Unit 21010002, on left bank at Highway 488, 1.4 mi (2.2 km) southeast of school at Santiago, 0.9 mi (1.4 km) northwest from Escuela Manuel A. Rivera at Bayaney and 9.1 mi (14.6 km) upstream from mouth.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--May 1984 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 341 ft (104 m), from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	128	316	173	83	61	52	39	e66	e55	47	48	85
2	107	281	1160	82	60	51	38	e93	e53	45	51	99
3	61	428	536	171	67	50	38	e112	e50	47	47	127
4	52	347	252	199	62	49	38	e201	e49	42	48	173
5	49	309	286	127	59	49	38	e85	e47	54	48	329
6	51	245	260	106	60	49	36	e62	e47	43	45	221
7	143	353	205	101	58	48	36	e55	e49	133	46	132
8	84	317	185	97	58	48	e44	e245	e49	134	44	100
9	58	207	159	99	58	47	e37	e619	e100	132	43	161
10	50	248	149	89	57	46	e36	e464	e46	120	46	147
11	72	198	138	85	56	45	e36	e663	e42	74	55	107
12	70	168	130	84	55	45	e35	e269	e47	76	42	90
13	224	153	123	81	54	45	e35	e173	e114	e68	41	83
14	172	186	118	83	55	44	e34	e124	e77	79	40	78
15	235	233	113	114	55	44	e34	e106	e51	62	42	75
16	368	221	110	148	52	43	e33	e97	e115	58	48	172
17	359	355	109	92	51	44	e34	e223	e62	52	66	114
18	226	478	105	81	51	43	e34	e116	e45	50	e46	107
19	144	720	102	76	51	43	e34	e90	e42	62	40	114
20	115	451	100	e73	50	42	e61	e83	e95	72	39	134
21	152	318	100	69	50	42	e47	e76	e138	78	36	117
22	234	280	104	69	104	43	e111	e71	e69	60	e37	230
23	147	247	99	69	190	41	e84	e65	e58	52	468	e189
24	119	214	95	68	147	45	e66	e122	50	51	146	135
25	856	195	98	67	82	43	e58	e83	48	79	134	e115
26	416	179	90	66	68	40	e67	e72	90	72	257	127
27	337	165	88	65	62	45	e50	e64	73	58	203	225
28	273	155	86	63	56	40	e47	e97	59	55	249	137
29	215	148	105	64	54	e40	e46	e82	50	52	161	131
30	197	170	91	65	---	39	e45	e61	47	50	111	130
31	420	---	86	62	---	42	---	e57	---	54	92	---
TOTAL	6134	8285	5555	2798	1943	1387	1371	4796	1917	2111	2819	4184
MEAN	198	276	179	90.3	67.0	44.7	45.7	155	63.9	68.1	90.9	139
MAX	856	720	1160	199	190	52	111	663	138	134	468	329
MIN	49	148	86	62	50	39	33	55	42	42	36	75

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 2000, BY WATER YEAR (WY)

MEAN	203	132	75.9	60.2	51.6	49.6	83.5	167	120	75.8	98.1	193
MAX	427	276	179	163	96.4	93.7	202	624	322	109	187	726
(WY)	1986	2000	2000	1997	1996	1999	1986	1986	1999	1989	1998	1998
MIN	81.6	53.4	36.5	33.1	29.1	23.7	28.0	43.2	42.7	38.8	47.9	61.8
(WY)	1988	1998	1998	1991	1998	1994	1994	1989	1997	1994	1993	1997

SUMMARY STATISTICS

FOR 1999 CALENDAR YEAR

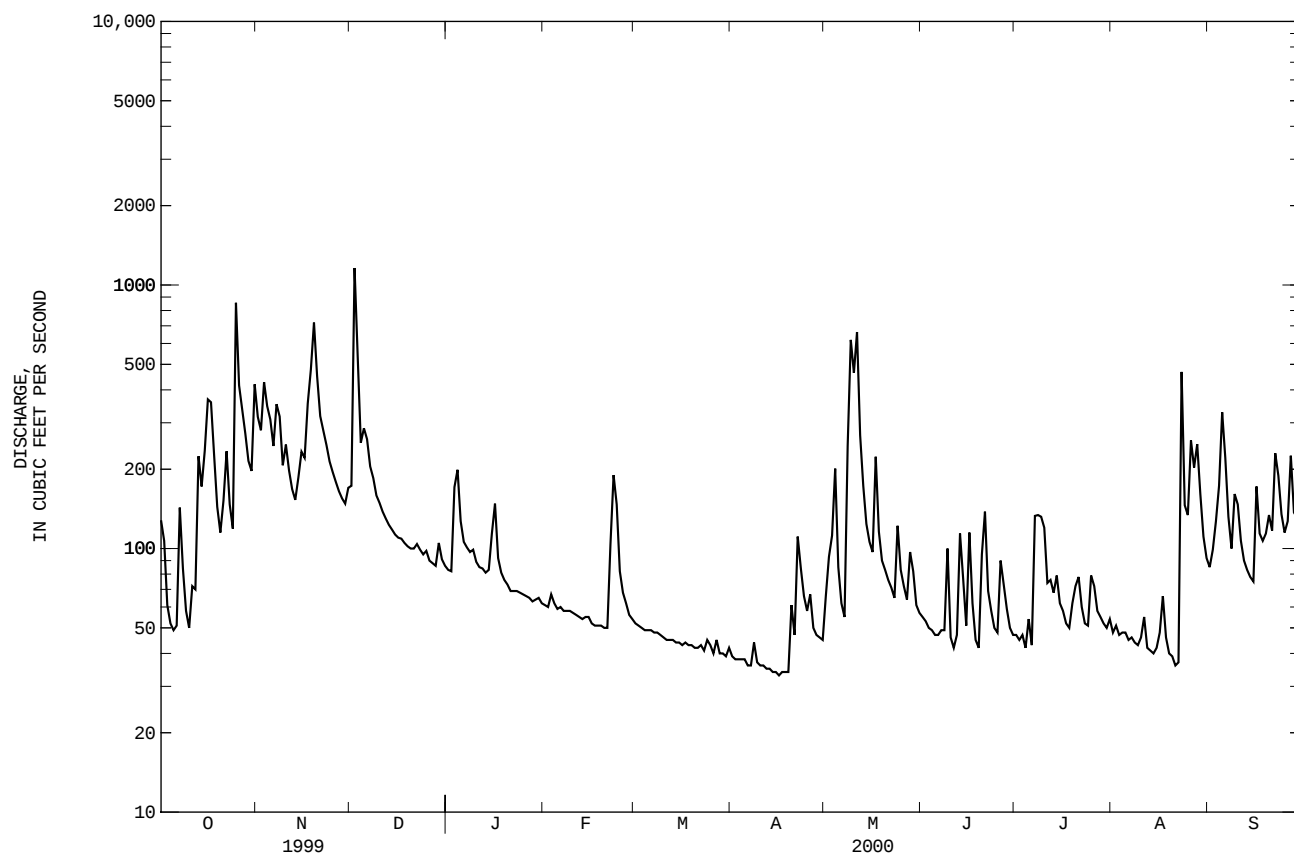
FOR 2000 WATER YEAR

WATER YEARS 1984 - 2000

ANNUAL TOTAL	54804	43300	
ANNUAL MEAN	150	118	
HIGHEST ANNUAL MEAN			109
LOWEST ANNUAL MEAN			179
HIGHEST DAILY MEAN			61.5
LOWEST DAILY MEAN			17
ANNUAL SEVEN-DAY MINIMUM	43	34	17
INSTANTANEOUS PEAK FLOW		3970	11600
INSTANTANEOUS PEAK STAGE		15.07	21.69
INSTANTANEOUS LOW FLOW		33	15
10 PERCENT EXCEEDS	337	245	215
50 PERCENT EXCEEDS	99	76	68
90 PERCENT EXCEEDS	51	42	34

e Estimated

RIO CAMUY BASIN
50014800 RIO CAMUY NEAR BAYANEY, PR--Continued



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RIO GRANDE DE ARECIBO BASIN

50020100 LAGO GARZAS NEAR ADJUNTAS, PR

LOCATION.--Lat 18°08'20", long 66°44'29",Hydrologic Unit 21010002, in power gate tower of Garzas Dam on Río Vacas, 1.7 mi (2.7 km) upstream from Río Garzas, and 2.2 mi (3.5 km) southwest of Adjuntas.

DRAINAGE AREA.--15.6 mi² (40.4 km²).

ELEVATION RECORDS

PERIOD OF RECORD.--January 1988 to May 1989, March 1993 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,400.00 ft (731.520 m) above mean sea level. Prior to May 25, 1988 at datum 2,376.80 ft (724.449 m), May 25 to July 13, 1988 at datum 2,338.08 ft (712.647 m), July 14, 1988 to May 25, 1989 at datum 2,337.82 ft (712.560 m), above mean sea level.

REMARKS.--Lake is formed by earthfill dam completed in 1943. Outflow from lake controlled by vertical-lift sluice gate and fixed-crest concrete spillway. Spillway elevation, 2,415.00 ft (736.09 m). Lake is used for irrigation and power production. Operated by P.R. Electric Power Authority. Gage-height and precipitation satellite telemetry at station. New capacity table based on U.S. Geological Survey Water-Resources Investigations Report 99-4143,September 1996.

EXTREMES OBSERVED FOR PERIOD OF RECORD.--Maximum elevation 2,418.28 ft (737.092 m),Sept. 22, 1998;minimum elevation,2,364.79 A ft (720.788 m), Aug. 23, 1988.

EXTREMES OBSERVED FOR CURRENT YEAR.--Maximum elevation,2,416.80 ft (736.64 m), Aug.23;minimum elevation,2,395.87 ft (730.26 m), May 4.

Capacity Table

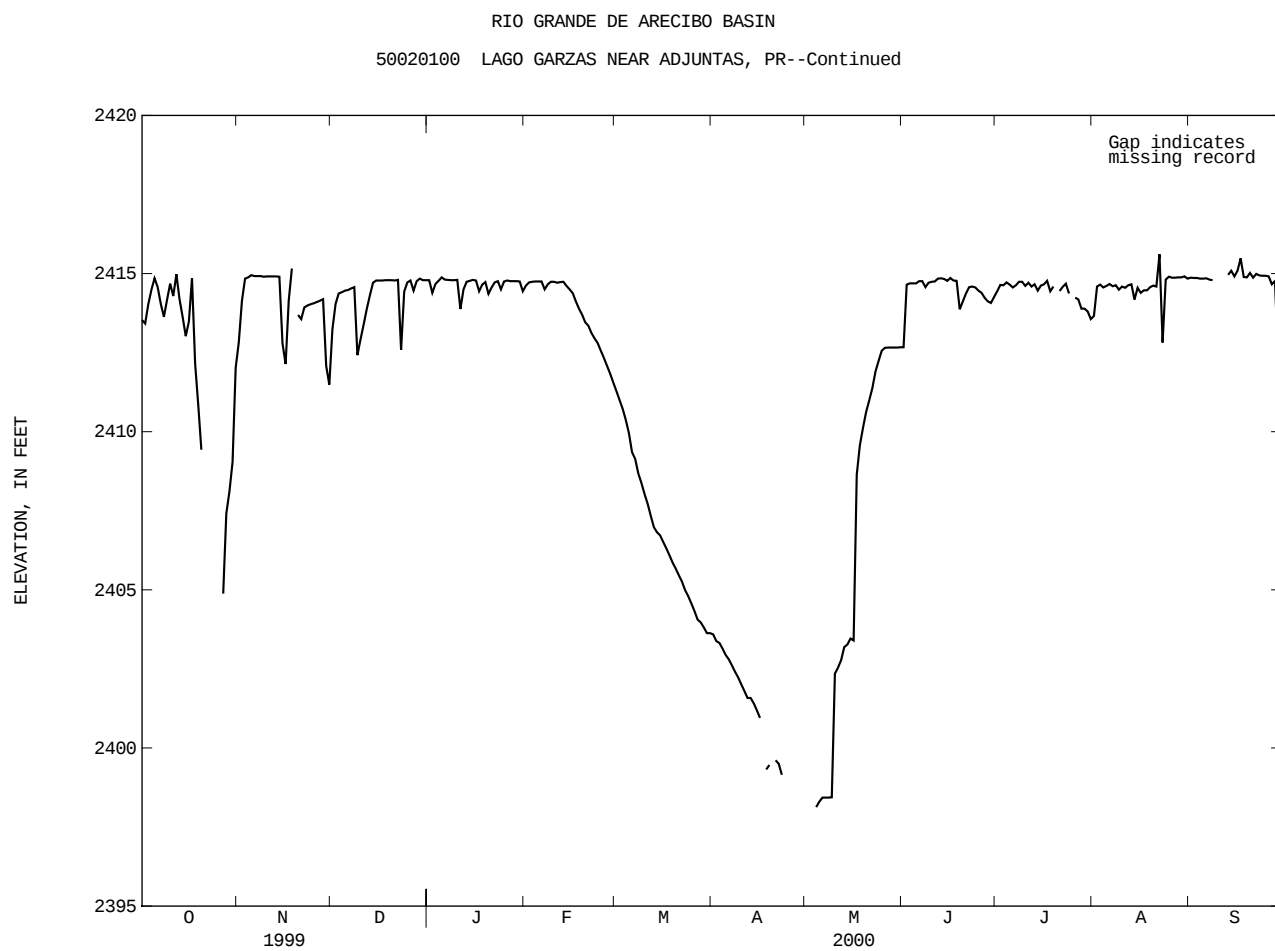
(based on data from U.S. Geological Survey Water-Resources Investigations Report 99-4143,1996)

Elevation, in feet	Contents, in acre-feet	Elevation, in feet	Contents, in acre-feet
2,317	0	2,376	1,419
2,336	243	2,399	2,700
2,359	794	2,415	4,143

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2413.53	2412.83	2413.24	2414.79	2414.62	2411.28	2403.59	A	2412.67	2414.44	2413.66	2414.87
2	2413.42	2414.14	2414.04	2414.39	2414.72	2411.00	2403.38	A	2414.65	2414.64	2414.59	2414.86
3	2414.03	2414.84	2414.37	2414.67	2414.74	2410.72	2403.32	A	2414.69	2414.63	2414.65	2414.86
4	2414.49	2414.88	2414.41	2414.77	2414.75	2410.37	2403.14	2398.13	2414.69	2414.72	2414.56	2414.84
5	2414.85	2414.95	2414.46	2414.88	2414.75	2409.95	2402.94	2398.30	2414.69	2414.65	2414.61	2414.84
6	2414.57	2414.92	2414.48	2414.81	2414.75	2409.35	2402.80	2398.43	2414.76	2414.56	2414.67	2414.85
7	2414.04	2414.92	2414.53	2414.80	2414.50	2409.14	2402.61	2398.43	2414.76	2414.63	2414.60	2414.81
8	2413.63	2414.92	2414.57	2414.79	2414.66	2408.68	2402.41	2398.43	2414.57	2414.74	2414.63	2414.79
9	2414.17	2414.90	2412.42	2414.79	2414.74	2408.38	2402.23	2398.44	2414.71	2414.74	2414.49	A
10	2414.68	2414.91	2412.92	2414.80	2414.74	2408.03	2402.01	2402.35	2414.74	2414.61	2414.59	A
11	2414.29	2414.91	2413.39	2413.88	2414.71	2407.72	2401.80	2402.54	2414.75	2414.71	2414.55	A
12	2414.98	2414.91	2413.88	2414.50	2414.73	2407.34	2401.58	2402.78	2414.84	2414.59	2414.63	A
13	2414.19	2414.91	2414.31	2414.74	2414.74	2406.98	2401.58	2403.19	2414.85	2414.66	2414.66	2414.96
14	2413.63	2414.90	2414.71	2414.77	2414.61	2406.82	2401.41	2403.27	2414.83	2414.46	2414.18	2415.09
15	2413.02	2412.79	2414.78	2414.80	2414.50	2406.72	2401.19	2403.46	2414.77	2414.62	2414.55	2414.91
16	2413.48	2412.14	2414.78	2414.78	2414.38	2406.51	2400.95	2403.40	2414.86	2414.66	2414.39	2415.09
17	2414.85	2414.15	2414.78	2414.44	2414.12	2406.31	A	2408.64	2414.78	2414.77	2414.47	2415.48
18	2412.16	2415.16	2414.79	2414.65	2413.89	2406.09	2399.32	2409.57	2414.77	2414.44	2414.47	2414.89
19	2410.85	A	2414.79	2414.73	2413.70	2405.86	2399.46	2410.12	2413.87	2414.59	2414.57	2414.88
20	2409.43	2413.69	2414.79	2414.36	2413.46	2405.67	A	2410.62	2414.12	A	2414.62	2415.02
21	A	2413.56	2414.78	2414.56	2413.35	2405.46	2399.61	2410.99	2414.37	2414.45	2414.59	2414.87
22	A	2413.93	2414.80	2414.72	2413.12	2405.26	2399.50	2411.38	2414.57	2414.58	2415.61	2414.99
23	A	2413.99	2412.59	2414.76	2412.95	2404.99	2399.15	2411.90	2414.59	2414.68	2412.82	2414.94
24	A	2414.03	2414.43	2414.50	2412.80	2404.80	A	2412.24	2414.56	2414.37	2414.81	2414.93
25	A	2414.06	2414.72	2414.75	2412.56	2404.57	A	2412.56	2414.46	A	2414.90	2414.93
26	A	2414.10	2414.78	2414.78	2412.33	2404.33	A	2412.65	2414.39	2414.24	2414.87	2414.91
27	2404.88	2414.14	2414.46	2414.76	2412.08	2404.06	A	2412.66	2414.23	2414.18	2414.87	2414.66
28	2407.41	2414.19	2414.76	2414.76	2411.83	2403.97	A	2412.66	2414.12	2413.89	2414.88	2414.76
29	2408.11	2412.08	2414.84	2414.76	2411.55	2403.81	A	2412.66	2414.07	2413.89	2414.88	2412.33
30	2409.04	2411.49	2414.79	2414.75	---	2403.63	A	2412.66	2414.26	2413.80	2414.91	2411.24
31	2412.02	---	2414.79	2414.44	---	2403.63	---	2412.67	---	2413.56	2414.84	---
MAX	2414.98	2415.16	2414.84	2414.88	2414.75	2411.28	2403.59	2412.67	2414.86	2414.77	2415.61	2415.48
MIN	2404.88	2411.49	2412.42	2413.88	2411.55	2403.63	2399.15	2398.13	2412.67	2413.56	2412.82	2411.24

A No gage-height record



RIO GRANDE DE ARECIBO BASIN

50020500 RIO GRANDE DE ARECIBO NEAR ADJUNTAS, PR

LOCATION.--Lat 18°10'54", long 66°44'12", Hydrologic Unit 21010002, at Highway 135 bridge junction with Hwy.10, 1.4 mi (2.25 km) south from Lago Adjuntas, and 1.5 mi (2.4 km) northwest of Adjuntas plaza.

DRAINAGE AREA.--12.7 mi² (32.9 km²), this does not include 6.0 mi² (15.6 km²) above Lago Garzas.

PERIOD OF RECORD.--November 1946 to April 1950 (operated by Puerto Rico Water Resources Authority), March to September 2000.

GAGE.--Water-stage recorder. Elevation of gage is 1,443 ft (440 m), from topographic map.

REMARKS.--Records poor. Flow affected by Lago Garzas, 2.63 mi (4.23 km) and sewage treatment plant 1.1 mi (1.77 km) upstream from gage. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1							14	9.4	19	20	e30	e110
2							13	10	19	25	e26	e76
3							13	30	26	23	e20	e67
4							11	84	27	23	e18	e58
5							10	36	26	e24	e14	e59
6							10	218	26	e22	e15	e59
7							15	111	25	e18	e16	e55
8							10	152	23	e22	e14	e51
9							12	76	18	e25	e14	e48
10							10	43	23	e23	e13	e46
11							10	60	25	e20	e14	e48
12							9.7	40	e38	e21	e12	e45
13							18	31	e149	e18	e14	e42
14							11	27	86	e20	e15	e61
15							9.8	25	50	e16	e24	e44
16							9.8	22	95	e18	e15	e98
17							10	129	53	e23	e13	e169
18							14	44	37	e23	e12	e683
19							20	30	29	e15	e12	e271
20							41	26	63	e15	e13	e291
21							27	26	29	e15	e14	e190
22							14	38	23	e15	e334	e217
23							11	26	23	e16	e1510	e202
24							11	24	22	e18	e92	e157
25							10	24	20	e16	e107	e125
26							10	22	20	e15	e149	e108
27							9.7	22	19	e15	e82	e166
28							9.5	21	19	e15	e65	e156
29						13	9.6	20	18	e16	e63	e80
30						12	9.7	22	29	e16	e119	e80
31						33	---	19	---	e18	e72	---
TOTAL						58	392.8	1467.4	1079	589	2931	3862
MEAN						19.3	13.1	47.3	36.0	19.0	94.5	129
MAX						33	41	218	149	25	1510	683
MIN						12	9.5	9.4	18	15	12	42
AC-FT						115	779	2910	2140	1170	5810	7660
CFSM						1.03	.70	2.53	1.92	1.02	5.06	6.88
IN.						.12	.78	2.92	2.15	1.17	5.83	7.68

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1947 - 2000, BY WATER YEAR (WY)

	MEAN	73.1	46.3	35.8	22.4	28.6	17.0	16.7	29.5	29.3	31.6	57.7	94.0
MAX		89.5	63.4	40.6	29.6	56.9	21.6	30.6	47.3	36.0	49.3	94.5	129
(WY)		1948	1949	1948	1949	1950	1949	1950	2000	1949	2000	2000	2000
MIN		50.3	27.3	30.8	19.7	16.4	11.2	10.4	12.2	19.4	18.0	26.9	55.8
(WY)		1950	1950	1947	1948	1949	1948	1948	1948	1948	1947	1947	1947

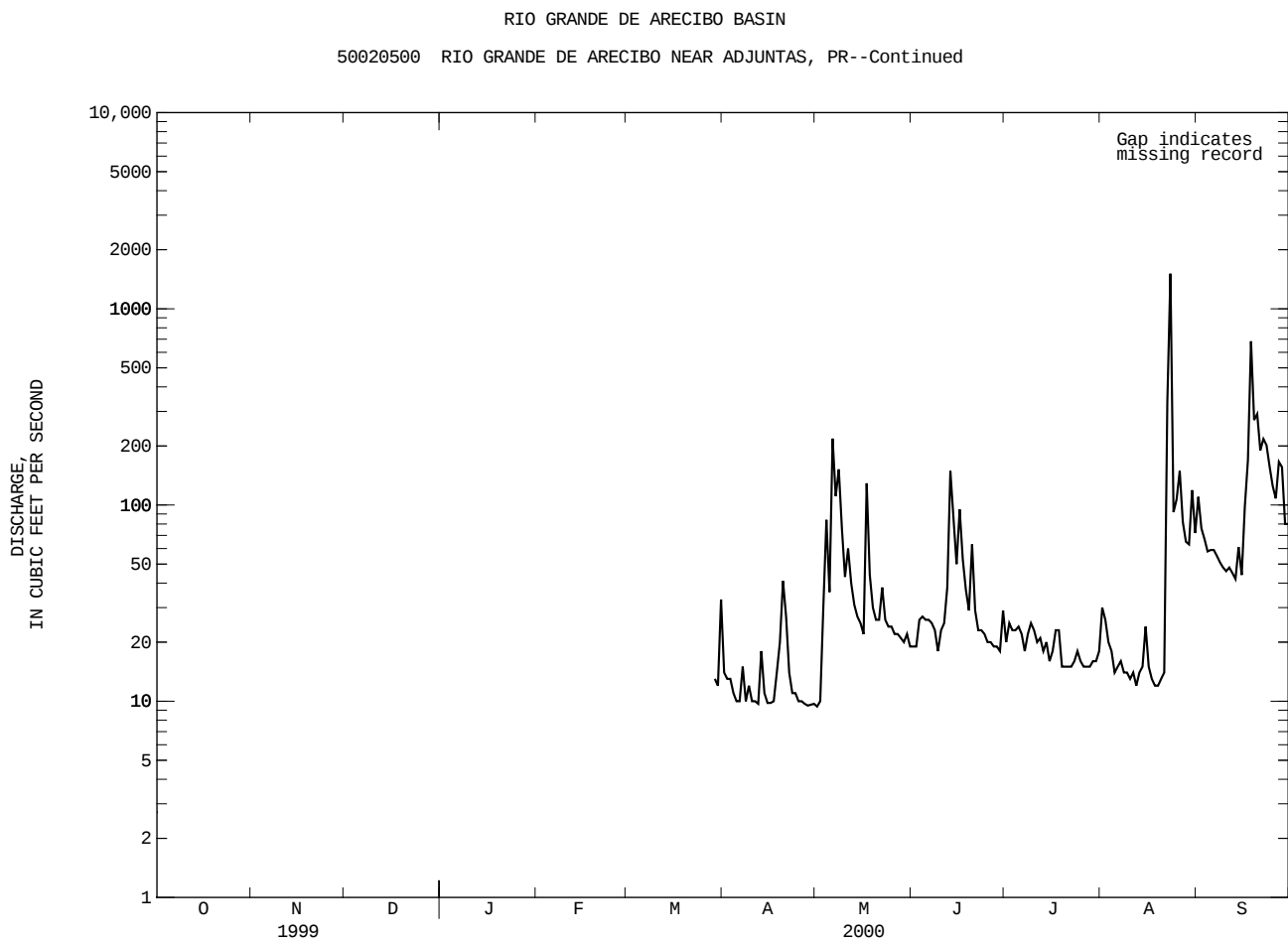
SUMMARY STATISTICS

FOR 2000 WATER YEAR

WATER YEARS 1947 - 2000

ANNUAL MEAN										41.2		
HIGHEST ANNUAL MEAN										41.4		1948
LOWEST ANNUAL MEAN										41.0		1949
HIGHEST DAILY MEAN						1510	Aug 23			1510	Aug 23	2000
LOWEST DAILY MEAN						9.4	May 1			7.6	May 10	1948
ANNUAL SEVEN-DAY MINIMUM						9.7	Apr 25			8.6	May 6	1948
ANNUAL RUNOFF (AC-FT)										29850		
ANNUAL RUNOFF (CFSM)										2.20		
ANNUAL RUNOFF (INCHES)										29.93		
10 PERCENT EXCEEDS						121				75		
50 PERCENT EXCEEDS						23				23		
90 PERCENT EXCEEDS						11				12		

e Estimated



RIO GRANDE DE ARECIBO BASIN

50020500 RIO GRANDE DE ARECIBO NEAR ADJUNTAS, PR

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1969-74, 1979 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	TURBIDITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATURATION) (00301)	OXYGEN DEMAND, CHEMICAL (HIGH LEVEL) (MG/L) (00340)	COLIFORM, 0.7 UM-MF (COLS./100 ML) (31625)	STREPTOCOCCI KF AGAR (COLS. PER 100 ML) (31673)
NOV 09...	1125	84	221	8.0	23.7	1.5	7.8	99	<10	500	680
MAR 06...	1500	14	387	9.0	28.0	2.0	9.4	127	<10	K140	K140
28...	1400	13	343	8.4	25.7	3.0	8.5	111	10	K910	2000
MAY 03...	0830	10	376	7.7	21.2	.5	7.9	94	<10	3900	680
SEP 08...	1100	52	234	8.2	25.5	.6	9.1	118	<10	410	220

DATE	HARDNESS TOTAL (MG/L AS CAC03) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNESIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM ADSORPTION RATIO (00931)	POTASSIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CAC03) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS S04) (00945)	CHLORIDE, DIS-SOLVED (MG/L AS CL) (00940)
NOV 09...	84	22.0	6.98	10.2	.5	1.5	85	<1.0	6.0	11.7
MAR 06...	--	--	--	--	--	--	114	--	--	--
28...	91	23.2	8.17	9.0	.4	1.3	--	<1.0	4.2	8.6
MAY 03...	120	32.8	10.2	28.3	1	2.1	118	<1.0	9.8	41.0
SEP 08...	89	23.5	7.36	12.4	.6	1.5	87	--	7.1	13.6

DATE	FLUORIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SI02) (00955)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUSPENDED (MG/L) (00530)	NITROGEN, NITRATE TOTAL (MG/L AS N) (00620)	NITROGEN, NITRITE TOTAL (MG/L AS N) (00615)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITROGEN, ORGANIC TOTAL (MG/L AS N) (00605)
NOV 09...	<.1	29.0	138	31.3	5	--	<.01	.9	.04	--
MAR 06...	--	--	--	--	2	.87	.02	.9	.03	--
28...	<.1	28.8	--	--	17	1.26	.04	1.3	.10	.36
MAY 03...	<.1	34.0	229	6.48	1	.99	.01	1.0	.04	--
SEP 08...	<.1	26.6	144	20.2	<10	--	<.01	.7	.02	--

DATE	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITROGEN, TOTAL (MG/L AS N) (00600)	NITROGEN, TOTAL (MG/L AS N03) (71887)	PHOSPHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOVERABLE (UG/L AS B) (01022)	CADMIUM, TOTAL UNFLTRD (UG/L AS CD) (01027)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOVERABLE (UG/L AS CU) (01042)
NOV 09...	<.20	--	--	.040	<3	14.8	E17	<.1	<1	<20
MAR 06...	<.20	--	--	.090	--	--	--	--	--	--
28...	.46	1.8	7.8	.210	<3	12.4	<18	<.1	<1	<20
MAY 03...	<.20	--	--	.100	<3	17.4	19	<.1	<1	<20
SEP 08...	<.20	--	--	.030	--	--	--	--	--	--

RIO GRANDE DE ARECIBO BASIN

50021030 RIO PELLEJAS ABOVE CENTRAL PELLEJAS, PR

LOCATION.--Lat 18°12'17", long 66°42'13", Hydrologic Unit 21010002, 0.20 mi (0.32 km) southeast from Escuela Lucas Valdivieso, 2.95 mi (4.75 km) north from Adjuntas Hospital and 2.0 mi (3.22 km) west from Lago Adjuntas.

DRAINAGE AREA.--6.83 mi² (17.7 km²).

PERIOD OF RECORD.--May to September 2000.

GAGE.--Water-stage recorder. Elevation of gage is 1,148 ft (350 m), from topographic map.

REMARKS.--Records fair. Flow regulated by Lago Adjuntas 2.0 mi (3.2 km) west. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1									e39	49	28	39
2									38	46	33	35
3									40	47	33	31
4									44	46	e32	30
5									46	45	e29	33
6									47	44	26	32
7									49	43	25	e32
8									47	41	24	31
9									38	42	23	31
10									38	43	22	32
11									43	42	22	e33
12									e45	41	22	e33
13									e76	39	22	e35
14									106	38	23	36
15									59	e35	25	e34
16									90	34	28	e36
17									80	e35	27	e47
18								e63	75	e37	26	e102
19								e56	e73	37	24	e79
20								e52	125	35	24	72
21								e51	67	32	24	e45
22								e56	58	30	55	e57
23								e49	56	30	131	e106
24								e48	55	31	29	e75
25								e47	51	32	41	e58
26								e46	50	e28	71	e52
27								e45	48	28	34	e76
28								e43	e45	e27	28	e66
29								e42	42	e27	36	e51
30								e43	46	e27	45	52
31								e40	---	e27	34	---
TOTAL								681	1716	1138	1046	1471
MEAN								48.6	57.2	36.7	33.7	49.0
MAX								63	125	49	131	106
MIN								40	38	27	22	30
AC-FT								1350	3400	2260	2070	2920
CFSM								7.12	8.37	5.37	4.94	7.18
IN.								3.71	9.35	6.20	5.70	8.01

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2000 - 2000, BY WATER YEAR (WY)

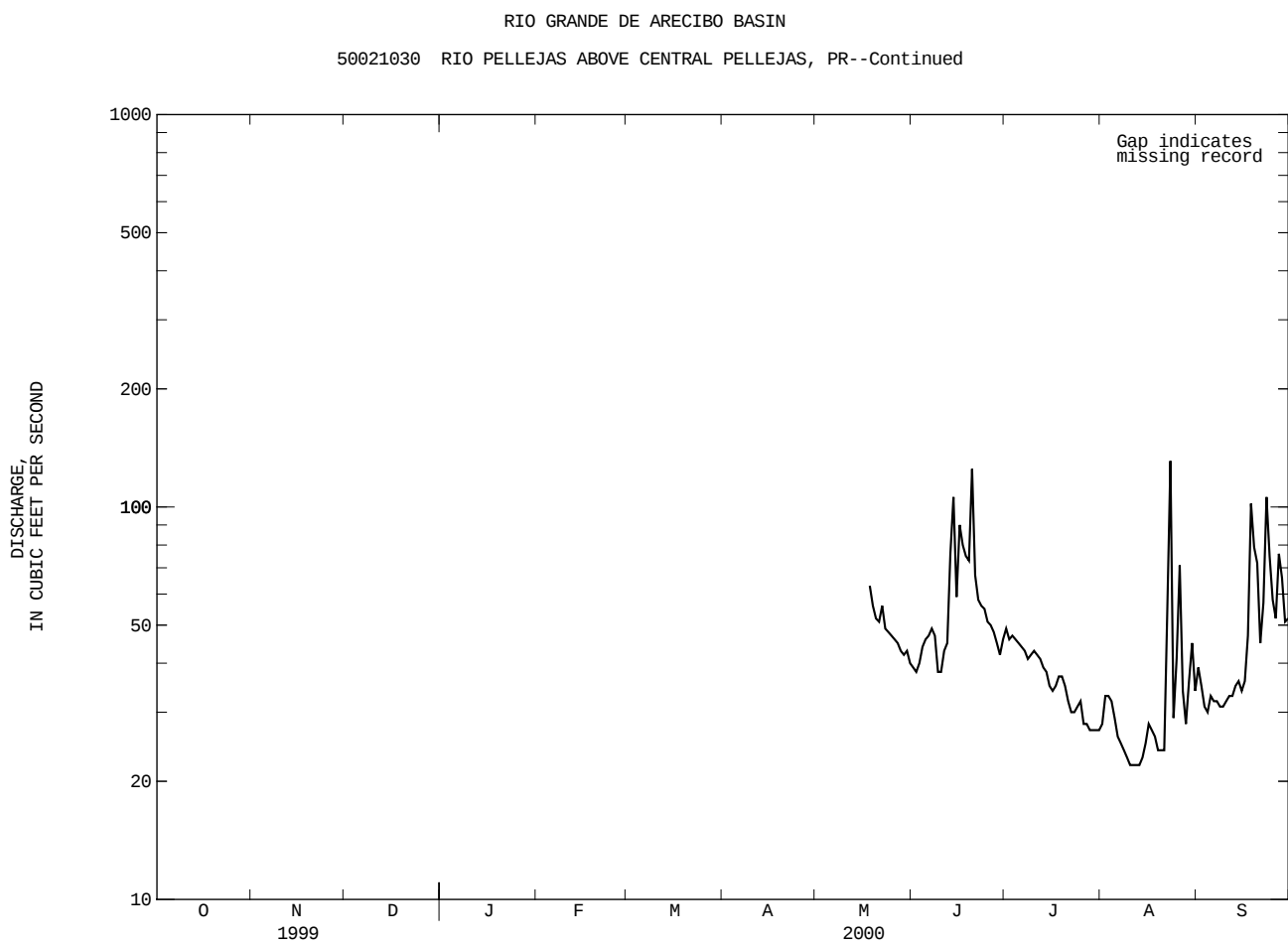
MEAN	---	57.2	36.7	33.7	49.0
MAX	---	57.2	36.7	33.7	49.0
(WY)	---	2000	2000	2000	2000
MIN	---	57.2	36.7	33.7	49.0
(WY)	---	2000	2000	2000	2000

SUMMARY STATISTICS

FOR 2000 WATER YEAR

HIGHEST DAILY MEAN	131	Aug 23
LOWEST DAILY MEAN	22	Aug 10
ANNUAL SEVEN-DAY MINIMUM	23	Aug 8
INSTANTANEOUS PEAK FLOW	1300	Sep 23
INSTANTANEOUS PEAK STAGE	8.09	Sep 23
10 PERCENT EXCEEDS	72	
50 PERCENT EXCEEDS	41	
90 PERCENT EXCEEDS	26	

e Estimated



RIO GRANDE DE ARECIBO BASIN

50021700 RIO GRANDE DE ARECIBO ABOVE UTUADO, PR

LOCATION.--Lat 18°14'39", long 66°43'20", Hydrologic Unit 21010001, .40 mi (.64 km) southwest from Escuela Segunda Unidad Salto Arriba, 2.17 mi (3.492 km) southwest from Utuado Plaza, 1.10 mi (1.770 km) west from Escuela Arenas Abajo and 1.04 mi (1.673 km) northwest from Escuela Puente Blanco.

DRAINAGE AREA.--36.0 mi² (93.24 km²).

PERIOD OF RECORD.--August 1989 to May 1999, monthly measurements and peak flow above 5,000 ft³/s (142 m³/s), June 1999 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 508 ft (155 m), from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1									12	15	112	131
2									35	17	60	e295
3									12	12	45	168
4									5.6	11	39	108
5									4.5	10	186	118
6									3.9	9.5	e57	96
7									3.8	8.9	e37	131
8									23	26	e30	135
9									104	13	e33	197
10									167	9.8	23	129
11									64	8.9	202	114
12									9.4	8.5	85	122
13									6.4	8.0	36	935
14									5.7	8.3	32	416
15									243	12	119	266
16									337	24	228	360
17									201	18	92	232
18									92	12	52	150
19									108	8.5	225	352
20									85	91	192	265
21									34	54	190	193
22									70	14	228	157
23									50	56	153	184
24									29	e26	97	363
25									21	e31	77	216
26									17	e14	71	198
27									15	e13	68	168
28									13	e13	119	245
29									13	131	286	147
30									20	57	191	116
31										26	137	---
TOTAL									1804.3	766.4	3502	6707
MEAN									60.1	24.7	113	224
MAX									337	131	286	935
MIN									3.8	8.0	23	96
AC-FT									3580	1520	6950	13300
CFSM									1.67	.69	3.14	6.21
IN.									1.86	.79	3.62	6.93

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1999 - 1999, BY WATER YEAR (WY)

MEAN	---	---	---	---	---	---	---	---	60.1	24.7	113	224
MAX	---	---	---	---	---	---	---	---	60.1	24.7	113	224
(WY)	---	---	---	---	---	---	---	---	1999	1999	1999	1999
MIN	---	---	---	---	---	---	---	---	60.1	24.7	113	224
(WY)	---	---	---	---	---	---	---	---	1999	1999	1999	1999

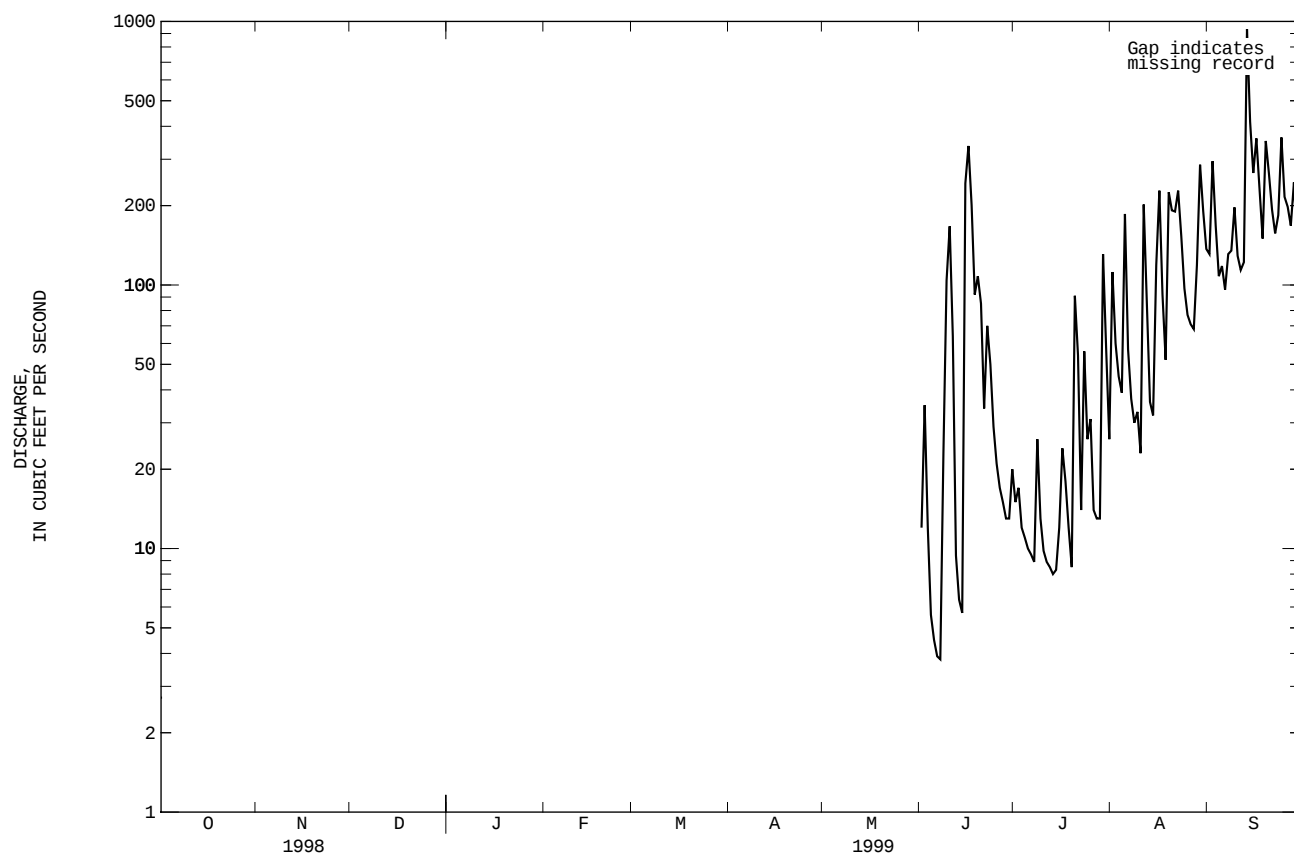
SUMMARY STATISTICS

FOR 1999 WATER YEAR

HIGHEST DAILY MEAN	935	Sep 13
LOWEST DAILY MEAN	3.8	Jun 7
ANNUAL SEVEN-DAY MINIMUM	9.8	Jul 9
INSTANTANEOUS PEAK FLOW	5330	Sep 13
INSTANTANEOUS PEAK STAGE	8.54	Sep 13
10 PERCENT EXCEEDS	240	
50 PERCENT EXCEEDS	66	
90 PERCENT EXCEEDS	9.0	

e Estimated

RIO GRANDE DE ARECIBO BASIN
50021700 RIO GRANDE DE ARECIBO ABOVE UTUADO, PR--Continued



RIO GRANDE DE ARECIBO BASIN

50021700 RIO GRANDE DE ARECIBO ABOVE UTUADO, PR--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	111	245	e113	e25	13	6.9	14	8.4	e36	59	e5.7	195
2	109	367	e194	e23	10	6.7	6.2	6.8	e36	54	e4.2	158
3	103	352	e165	e24	9.9	6.6	6.8	14	e33	56	e4.4	109
4	99	252	e129	e24	14	6.5	6.2	129	e32	56	e4.2	91
5	e101	258	e125	e62	15	6.5	5.7	48	e32	53	e4.2	90
6	e125	e195	e110	e50	16	6.4	5.7	413	e31	51	e4.2	89
7	e100	148	e98	e26	17	6.4	5.6	245	e31	50	e4.3	82
8	e188	135	e106	e23	12	6.3	5.8	430	e31	47	e4.2	74
9	e114	145	e78	e20	9.6	6.3	20	283	e30	54	e4.3	67
10	e110	119	e76	e18	9.1	6.2	23	127	e30	51	e4.7	66
11	e395	116	e58	e17	8.6	6.1	13	126	e46	54	4.7	63
12	e277	108	e50	e19	9.1	6.1	7.6	84	e90	e48	4.4	61
13	e276	102	e43	e14	10	6.1	6.7	50	e239	e41	4.1	53
14	e160	98	e38	e14	9.7	5.9	6.3	45	329	e38	4.1	75
15	e136	e96	e39	e17	9.1	5.7	6.0	38	156	e31	4.2	79
16	e149	e178	e38	e36	8.3	5.7	6.0	29	245	e26	5.2	142
17	e304	393	e40	e19	8.0	5.7	6.1	e188	152	e26	5.3	135
18	e347	711	e38	e15	7.9	5.7	6.0	e121	101	e29	4.4	840
19	e180	705	e38	e13	8.0	5.6	5.8	e74	86	e25	4.6	396
20	e175	396	e36	e14	8.0	5.5	7.3	e62	225	e24	4.3	397
21	e140	238	e33	e14	8.0	6.1	49	e59	141	e16	4.2	264
22	e123	177	e34	12	7.9	6.1	19	e54	83	e14	338	307
23	e106	165	e29	14	32	5.8	8.3	e60	73	e12	2210	339
24	e83	146	e30	19	12	6.3	6.9	e68	73	e12	239	258
25	e139	134	e26	14	10	6.0	6.2	e56	70	e11	265	194
26	89	124	e24	34	8.0	7.2	5.7	e52	69	e8.8	354	160
27	62	115	e25	28	7.5	7.4	5.6	e49	59	e7.4	168	244
28	131	108	e24	19	7.2	5.8	5.5	e50	51	e6.3	95	229
29	91	e102	e105	18	7.1	12	5.7	e41	46	e5.7	110	142
30	124	e169	e34	19	---	9.8	5.7	e37	50	e5.1	185	130
31	706	---	e27	17	---	9.7	---	e38	---	e4.5	132	---
TOTAL	5353	6597	2003	681	312.0	205.1	287.4	3085.2	2706	975.8	4189.9	5529
MEAN	173	220	64.6	22.0	10.8	6.62	9.58	99.5	90.2	31.5	135	184
MAX	706	711	194	62	32	12	49	430	329	59	2210	840
MIN	62	96	24	12	7.1	5.5	5.5	6.8	30	4.5	4.1	53
AC-FT	10620	13090	3970	1350	619	407	570	6120	5370	1940	8310	10970
CFSM	4.80	6.11	1.79	.61	.30	.18	.27	2.76	2.51	.87	3.75	5.12
IN.	5.53	6.82	2.07	.70	.32	.21	.30	3.19	2.80	1.01	4.33	5.71

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1999 - 2000, BY WATER YEAR (WY)

MEAN	173	220	64.6	22.0	10.8	6.62	9.58	99.5	75.2	28.1	124	204
MAX	173	220	64.6	22.0	10.8	6.62	9.58	99.5	90.2	31.5	135	224
(WY)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	1999
MIN	173	220	64.6	22.0	10.8	6.62	9.58	99.5	60.1	24.7	113	184
(WY)	2000	2000	2000	2000	2000	2000	2000	2000	1999	1999	1999	2000

SUMMARY STATISTICS

FOR 1999 CALENDAR YEAR

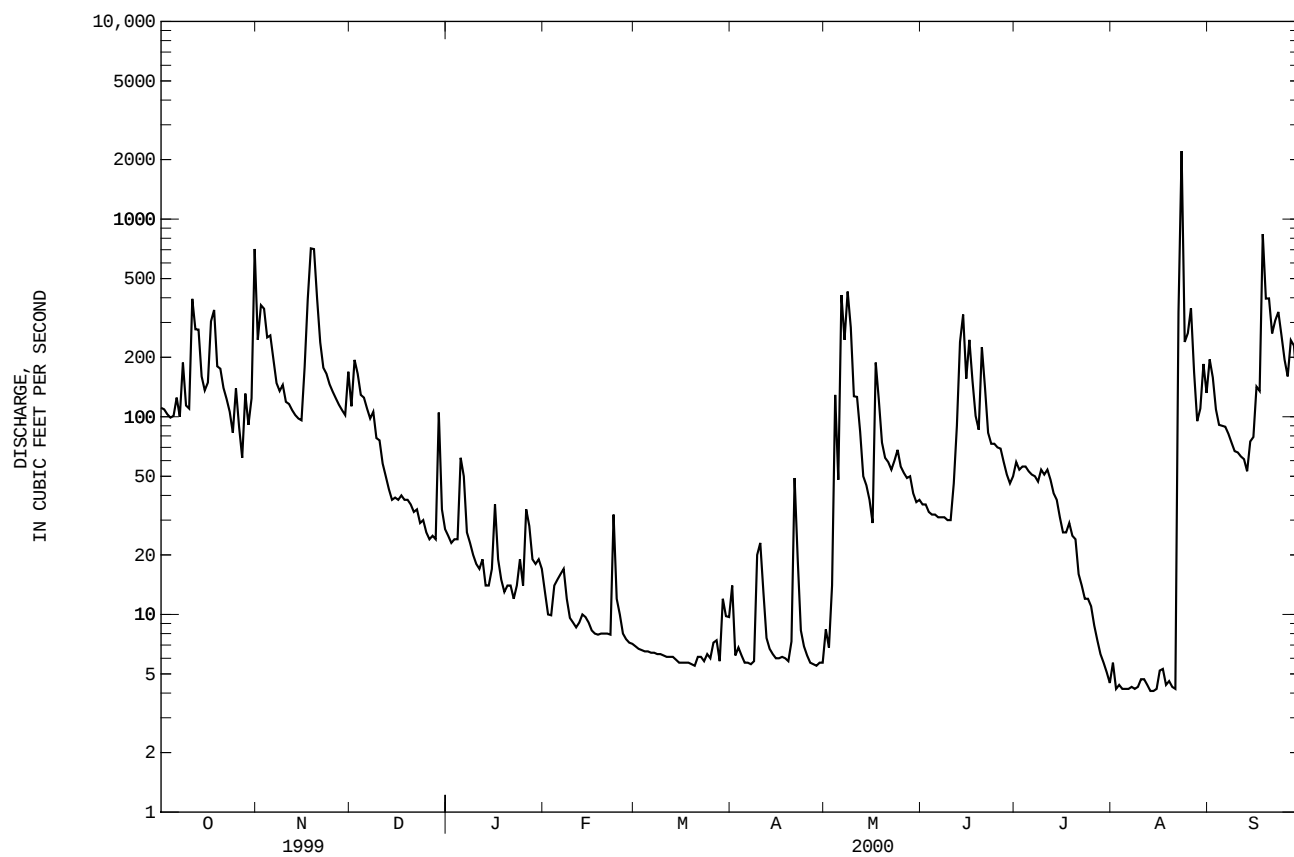
FOR 2000 WATER YEAR

WATER YEARS 1999 - 2000

ANNUAL TOTAL	31924.4											
ANNUAL MEAN	87.2											
HIGHEST ANNUAL MEAN	87.2											
LOWEST ANNUAL MEAN	87.2											
HIGHEST DAILY MEAN	2210											
LOWEST DAILY MEAN	4.1											
ANNUAL SEVEN-DAY MINIMUM	4.2											
INSTANTANEOUS PEAK FLOW	8860											
INSTANTANEOUS PEAK STAGE	10.41											
ANNUAL RUNOFF (AC-FT)	63320											
ANNUAL RUNOFF (CFSM)	2.42											
ANNUAL RUNOFF (INCHES)	32.99											
10 PERCENT EXCEEDS	266											
50 PERCENT EXCEEDS	104											
90 PERCENT EXCEEDS	12											

e Estimated

RIO GRANDE DE ARECIBO BASIN
50021700 RIO GRANDE DE ARECIBO ABOVE UTUADO, PR--Continued



RIO GRANDE DE ARECIBO BASIN

50024950 RIO GRANDE DE ARECIBO BELOW UTUADO, PR

LOCATION.--Lat 18°18'07", long 66°42'15", Hydrologic Unit 21010001, 2.4 mi (3.9 km) north of Utuado Plaza, 3.4 mi (5.5 km) southwest from Dos Bocas Dam, 3.5 mi (5.6 km) northwest from Caonillas Dam.

DRAINAGE AREA.--65.62 mi² (170 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1996 to September 1998, June 1999 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 295.28 ft (90 m), from topographic map.

REMARKS.--Records poor. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1										95	196	252
2										100	192	615
3										99	165	864
4										81	161	331
5										77	392	294
6										72	189	368
7										80	148	382
8										154	144	479
9										138	135	521
10									e301	117	120	333
11									408	112	317	314
12									153	114	240	237
13									113	110	185	1280
14									84	107	248	697
15									414	116	241	618
16									589	175	425	674
17									493	128	255	531
18									520	134	174	317
19									444	116	471	928
20									549	165	289	595
21									334	296	325	583
22									358	190	509	449
23									294	263	428	447
24									210	229	276	775
25									153	171	284	514
26									128	164	171	446
27									109	149	142	309
28									97	135	188	465
29									103	191	465	302
30									106	193	327	289
31										138	241	---
TOTAL									5960	4409	8043	15209
MEAN									284	142	259	507
MAX									589	296	509	1280
MIN									84	72	120	237
AC-FT									11820	8750	15950	30170
CFSM									4.33	2.17	3.95	7.73
IN.									3.38	2.50	4.56	8.62

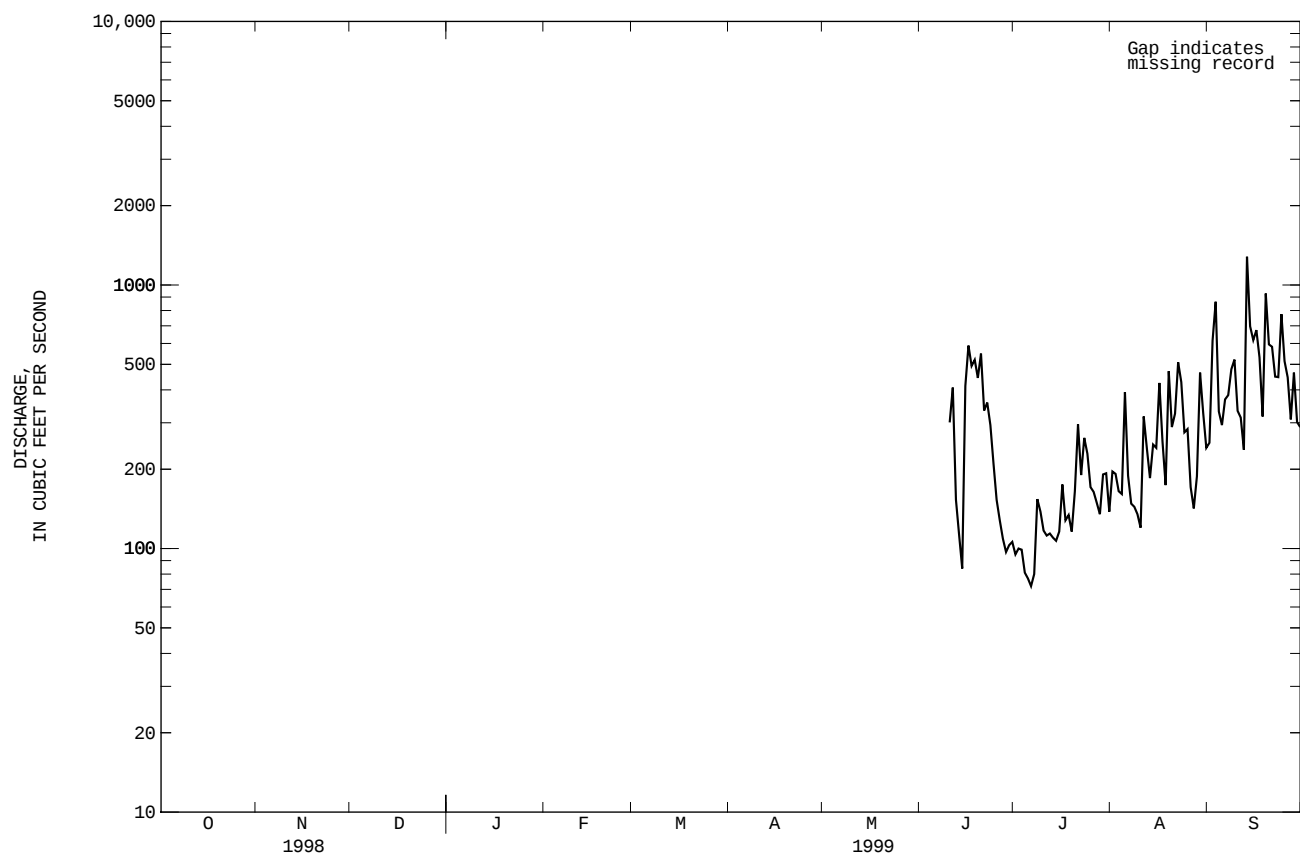
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 1999, BY WATER YEAR (WY)

MEAN	198	163	85.6	79.6	65.0	50.9	56.9	105	83.1	112	206	555
MAX	224	242	118	120	83.5	68.0	67.7	153	120	184	393	1100
(WY)	1997	1997	1997	1997	1997	1997	1998	1998	1996	1998	1998	1998
MIN	172	84.8	53.0	39.5	46.6	33.8	46.2	50.8	40.8	36.6	77.0	87.3
(WY)	1998	1998	1998	1998	1998	1998	1997	1997	1997	1997	1997	1997

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1996 - 1999	
ANNUAL MEAN					150	
HIGHEST ANNUAL MEAN					201	1998
LOWEST ANNUAL MEAN					99.6	1997
HIGHEST DAILY MEAN	17900	Sep 22	1280	Sep 13	17900	Sep 22 1998
LOWEST DAILY MEAN	22	Mar 20	72	Jul 6	22	Mar 20 1998
ANNUAL SEVEN-DAY MINIMUM	23	Mar 19	86	Jul 1	23	Mar 19 1998
INSTANTANEOUS PEAK FLOW			5260	Sep 13	76400	Sep 22 1998
INSTANTANEOUS PEAK STAGE			11.17	Sep 13	32.92	Sep 22 1998
INSTANTANEOUS LOW FLOW					20	Mar 24 1998
ANNUAL RUNOFF (AC-FT)					108900	
ANNUAL RUNOFF (CFSM)					2.29	
ANNUAL RUNOFF (INCHES)					31.14	
10 PERCENT EXCEEDS	450		569		336	
50 PERCENT EXCEEDS	69		241		79	
90 PERCENT EXCEEDS	30		106		37	

e Estimated

RIO GRANDE DE ARECIBO BASIN
50024950 RIO GRANDE DE ARECIBO BELOW UTUADO, PR--Continued



RIO GRANDE DE ARECIBO BASIN

50024950 RIO GRANDE DE ARECIBO BELOW UTUADO, PR--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	229	1050	244	192	109	85	169	69	66	94	74	192
2	216	1450	617	186	107	82	99	57	65	100	75	178
3	187	1530	452	225	108	79	93	187	64	90	65	120
4	171	1390	308	198	108	77	79	531	66	87	68	126
5	170	1280	398	232	109	79	68	303	67	87	62	159
6	229	1040	319	273	109	78	59	545	67	86	57	138
7	277	892	314	205	111	78	57	453	68	144	54	118
8	359	719	304	203	102	75	61	957	67	89	53	131
9	229	637	273	192	100	74	74	845	64	97	50	131
10	225	438	237	184	99	72	192	297	68	86	53	143
11	583	376	207	179	98	72	117	667	84	83	51	125
12	386	e333	193	168	94	74	83	368	101	82	49	122
13	563	e316	181	155	95	74	77	181	288	76	47	117
14	444	e351	174	166	97	69	88	121	413	71	48	118
15	535	432	181	217	92	62	68	102	209	68	52	131
16	562	467	190	259	83	61	67	87	348	62	57	182
17	935	946	196	156	78	60	68	461	212	66	59	168
18	829	1780	181	131	74	61	69	231	122	74	52	807
19	602	1790	179	120	69	63	76	136	102	70	54	375
20	615	1470	189	125	79	60	100	118	245	121	49	358
21	667	966	180	122	77	60	400	106	230	72	48	298
22	640	792	191	119	e78	65	172	93	126	63	192	618
23	532	508	179	117	e208	56	92	102	110	62	2080	580
24	448	385	167	126	e178	60	66	122	103	64	233	401
25	605	297	156	124	e127	54	56	97	99	68	290	285
26	458	274	162	158	e93	70	53	87	108	64	424	224
27	371	264	177	139	91	68	51	82	95	61	199	344
28	459	255	170	117	88	54	49	89	87	60	109	268
29	386	257	355	118	85	86	49	80	84	59	122	180
30	594	299	239	115	---	247	48	77	84	59	150	166
31	1670	---	199	111	---	124	---	71	---	57	133	---
TOTAL	15176	22984	7512	5132	2946	2379	2800	7722	3912	2422	5109	7303
MEAN	490	766	242	166	102	76.7	93.3	249	130	78.1	165	243
MAX	1670	1790	617	273	208	247	400	957	413	144	2080	807
MIN	170	255	156	111	69	54	48	57	64	57	47	117
AC-FT	30100	45590	14900	10180	5840	4720	5550	15320	7760	4800	10130	14490
CFSM	7.46	11.7	3.69	2.52	1.55	1.17	1.42	3.80	1.99	1.19	2.51	3.71
IN.	8.60	13.03	4.26	2.91	1.67	1.35	1.59	4.38	2.22	1.37	2.90	4.14

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 2000, BY WATER YEAR (WY)

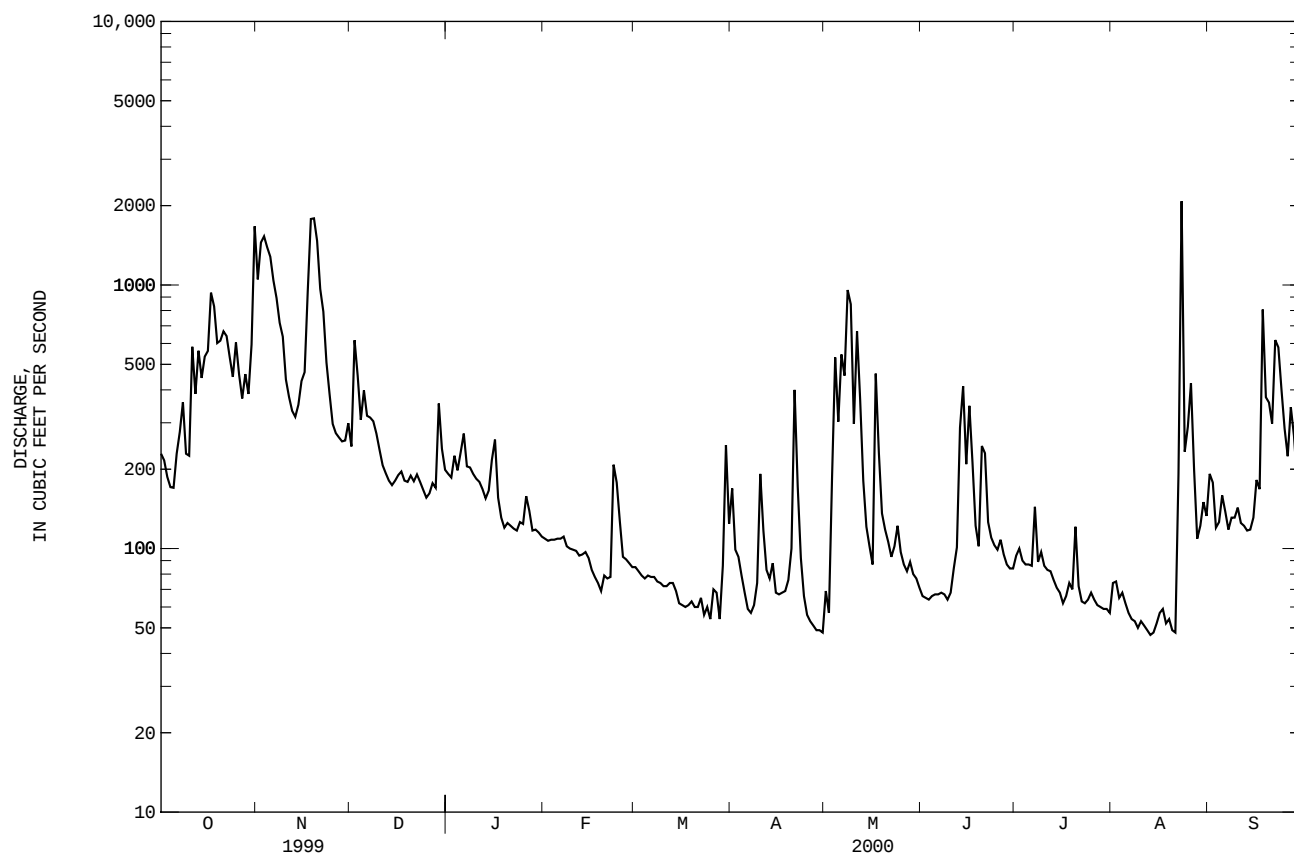
MEAN	295	364	138	108	77.5	59.5	69.1	141	94.9	105	197	493
MAX	490	766	242	166	102	76.7	93.3	249	130	184	393	1100
(WY)	2000	2000	2000	2000	2000	2000	2000	2000	2000	1998	1998	1998
MIN	172	84.8	53.0	39.5	46.6	33.8	46.2	50.8	40.8	36.6	77.0	87.3
(WY)	1998	1998	1998	1998	1998	1998	1997	1997	1997	1997	1997	1997

SUMMARY STATISTICS FOR 1999 CALENDAR YEAR FOR 2000 WATER YEAR WATER YEARS 1996 - 2000

ANNUAL TOTAL	85397											
ANNUAL MEAN	233											
HIGHEST ANNUAL MEAN	178											
LOWEST ANNUAL MEAN	233											
HIGHEST DAILY MEAN	99.6											
LOWEST DAILY MEAN	17900											
ANNUAL SEVEN-DAY MINIMUM	22											
INSTANTANEOUS PEAK FLOW	23											
INSTANTANEOUS PEAK STAGE	76400											
INSTANTANEOUS LOW FLOW	12.65											
ANNUAL RUNOFF (AC-FT)	169400											
ANNUAL RUNOFF (CFSM)	3.56											
ANNUAL RUNOFF (INCHES)	48.41											
10 PERCENT EXCEEDS	741											
50 PERCENT EXCEEDS	294											
90 PERCENT EXCEEDS	119											

e Estimated

RIO GRANDE DE ARECIBO BASIN
50024950 RIO GRANDE DE ARECIBO BELOW UTUADO, PR--Continued



RIO GRANDE DE ARECIBO BASIN

50024950 RIO GRANDE DE ARECIBO BELOW UTUADO, PR--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORDS.-- April, 1996 to current water year.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: April, 1996 to current water year.

INSTRUMENTATION.-- USDH-48 sediment sampler and automatic sediment sampler since 1996.

REMARKS.-- Sediment samples were collected by a local observer on a weekly basis. During high flow events sediments samples were collected by hydrologic technician and automatic sediment sampler.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATION: Maximum daily mean, 10,600 mg/L September 10, 1996; Minimum daily mean, 3 mg/L August 6, 1996.

SEDIMENT LOADS: Maximum daily mean, 768,000 tons (e698,000 tonnes) September 22, 1998; Minimum daily mean, 0.50 ton (0.45 tonne) August 6, 1996.

EXTREMES FOR CURRENT YEAR 2000.--

SEDIMENT CONCENTRATION: Maximum daily mean, 7,930 mg/L August 23, 2000; Minimum daily mean, 14 mg/L September 13, 2000.

SEDIMENT LOADS: Maximum daily mean, 76,500 tons (69,401 tonnes) October 31, 1999; Minimum daily mean, 2.1 tons (1.9 tonnes) April 30, 2000.

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
OCTOBER			NOVEMBER			DECEMBER			
1	229	229	142	1050	793	2240	244	251	183
2	216	182	106	1450	2880	21700	617	1720	5040
3	187	111	56	1530	2440	11800	452	377	564
4	171	77	35	1390	1620	6140	308	126	106
5	170	91	42	1280	430	1460	398	83	88
6	229	318	227	1040	249	707	319	57	50
7	277	772	936	892	139	336	314	46	39
8	359	819	1560	719	93	181	304	41	34
9	229	168	110	637	128	220	273	50	37
10	225	116	71	438	156	184	237	61	39
11	583	1870	10000	376	114	116	207	69	38
12	386	1120	1430	e333	e81	e73	193	76	39
13	563	1070	1750	e316	e74	e63	181	83	41
14	444	895	1200	e351	e75	e71	174	89	42
15	535	1080	2330	432	687	1040	181	86	42
16	562	1280	2610	467	866	1660	190	63	32
17	935	3060	16900	946	2530	7950	196	48	25
18	829	2130	6660	1780	3950	22900	181	47	23
19	602	707	1230	1790	890	4810	179	48	23
20	615	793	1760	1470	210	830	189	46	24
21	667	1040	2040	966	186	485	180	39	19
22	640	290	541	792	153	330	191	33	17
23	532	107	154	508	93	129	179	28	14
24	448	81	98	385	61	64	167	26	12
25	605	1000	2710	297	61	49	156	24	10
26	458	500	692	274	62	46	162	23	10
27	371	85	86	264	63	45	177	22	10
28	459	615	1260	255	65	45	170	21	9.5
29	386	943	1010	257	65	45	355	639	797
30	594	1280	3490	299	348	535	239	88	62
31	1670	7120	76500	---	---	---	199	18	9.8
TOTAL	15176	---	137736	22984	---	86254	7512	---	7479.3

RIO GRANDE DE ARECIBO BASIN

50024950 RIO GRANDE DE ARECIBO BELOW UTUADO, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JANUARY			FEBRUARY			MARCH			
1	192	15	7.9	109	51	15	85	96	22
2	186	15	7.3	107	51	15	82	68	15
3	225	218	166	108	52	15	79	49	10
4	198	190	102	108	50	15	77	39	8.0
5	232	312	311	109	48	14	79	49	10
6	273	355	297	109	46	13	78	63	13
7	205	94	54	111	44	13	78	75	16
8	203	42	23	102	42	12	75	65	13
9	192	40	21	100	39	11	74	55	11
10	184	38	19	99	31	8.4	72	51	9.8
11	179	33	16	98	25	6.5	72	67	13
12	168	28	13	94	26	6.6	74	91	18
13	155	24	10	95	70	18	74	121	24
14	166	22	9.9	97	198	52	69	151	28
15	217	152	178	92	470	116	62	186	31
16	259	175	147	83	555	125	61	197	33
17	156	40	17	78	597	125	60	105	17
18	131	24	8.4	74	634	126	61	51	8.4
19	120	17	5.5	69	525	98	63	36	6.1
20	125	23	7.9	79	397	85	60	89	14
21	122	34	11	77	300	62	60	240	39
22	119	44	14	e78	e226	e48	65	614	106
23	117	40	13	e208	e502	e596	56	784	119
24	126	34	12	e178	e600	e320	60	803	130
25	124	30	10	e127	e475	e173	54	789	115
26	158	180	105	e93	e409	e103	70	411	75
27	139	306	118	91	269	66	68	339	63
28	117	107	34	88	190	45	54	313	46
29	118	78	25	85	135	31	86	311	74
30	115	62	19	---	---	---	247	1420	1810
31	111	51	15	---	---	---	124	1530	532
TOTAL	5132	---	1796.9	2946	---	2333.5	2379	---	3429.3
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
APRIL			MAY			JUNE			
1	169	725	337	69	81	23	66	47	8.4
2	99	337	91	57	85	13	65	24	4.2
3	93	243	61	187	462	503	64	21	3.7
4	79	220	47	531	2060	6550	66	20	3.6
5	68	198	36	303	1440	1460	67	21	3.7
6	59	179	29	545	2000	12200	67	31	5.5
7	57	161	25	453	1650	4070	68	47	8.7
8	61	146	24	957	3870	21800	67	71	13
9	74	192	51	845	1780	5540	64	90	15
10	192	653	463	297	326	270	68	112	21
11	117	756	240	667	2270	10500	84	132	30
12	83	623	140	368	326	401	101	177	62
13	77	515	107	181	210	101	288	760	1070
14	88	434	103	121	280	91	413	1390	3070
15	68	366	68	102	220	63	209	563	355
16	67	317	57	87	111	26	348	946	1590
17	68	334	62	461	1720	4620	212	291	195
18	69	368	69	231	602	443	122	158	52
19	76	392	80	136	169	63	102	128	35
20	100	351	94	118	120	39	245	626	1500
21	400	2400	9410	106	94	27	230	356	289
22	172	956	457	93	102	26	126	141	48
23	92	654	164	102	114	31	110	119	35
24	66	465	84	122	226	107	103	139	39
25	56	383	58	97	182	48	99	115	31
26	53	320	46	87	150	35	108	98	29
27	51	235	32	82	132	29	95	105	27
28	49	98	13	89	156	38	87	115	27
29	49	38	4.9	80	193	42	84	122	28
30	48	16	2.0	77	200	42	84	116	26
31	---	---	---	71	101	19	---	---	---
TOTAL	2800	---	12454.9	7722	---	69220	3912	---	8624.8

RIO GRANDE DE ARECIBO BASIN

50024950 RIO GRANDE DE ARECIBO BELOW UTUADO, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JULY			AUGUST			SEPTEMBER			
1	94	108	27	74	174	39	192	457	470
2	100	220	72	75	182	38	178	360	202
3	90	77	19	65	127	22	120	192	62
4	87	52	12	68	151	28	126	302	131
5	87	36	8.5	62	259	43	159	379	204
6	86	32	7.4	57	340	52	138	330	125
7	144	202	167	54	467	68	118	98	32
8	89	60	15	53	580	84	131	132	68
9	97	110	36	50	510	69	131	332	124
10	86	44	10	53	435	62	143	235	89
11	83	61	14	51	407	56	125	115	39
12	82	139	31	49	510	67	122	48	16
13	76	101	21	47	655	83	117	14	4.5
14	71	67	13	48	799	105	118	24	7.6
15	68	46	8.4	52	656	92	131	34	12
16	62	51	8.6	57	491	75	182	403	366
17	66	63	11	59	401	64	168	251	127
18	74	76	15	52	446	62	807	671	3070
19	70	77	14	54	509	74	375	659	1520
20	121	274	160	49	555	74	358	953	1200
21	72	143	28	48	339	44	298	718	756
22	63	139	24	192	875	6730	618	2600	10200
23	62	152	25	2080	7930	72400	580	1390	2760
24	64	166	29	233	110	69	401	538	650
25	68	182	33	290	522	641	285	161	125
26	64	199	35	424	1260	2400	224	136	82
27	61	208	34	199	626	356	344	969	1200
28	60	187	30	109	275	82	268	387	387
29	59	166	26	122	312	136	180	56	28
30	59	148	23	150	365	193	166	34	15
31	57	136	21	133	391	148	---	---	---
TOTAL	2422	---	977.9	5109	---	84456	7303	---	24072.1
YEAR	85397		438834.7						

e Estimated

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

SILT AND CLAY PERCENT OF SUSPENDED SEDIMENT

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT					
13...	0910	443	258	309	75
DEC					
29...	0825	278	557	418	67
JAN					
04...	1020	202	150	82	94
FEB					
15...	1115	100	514	139	99
MAR					
25...	1710	51	827	114	97
MAY					
15...	0915	108	358	104	94
SEP					
22...	1509	2950	8370	66800	82

RIO GRANDE DE ARECIBO BASIN
 50024950 RIO GRANDE DE ARECIBO BELOW UTUADO, PR--Continued
 WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
 PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM (70326)	SED. SUSP. FALL DIAM. % FINER THAN .004 MM (70327)	SED. SUSP. FALL DIAM. % FINER THAN .008 MM (70328)	
NOV 17...	0825	971	888	2330	37	47	63	
APR 21...	1752	1980	26000	139000	19	26	38	
MAY 04...	1814	1690	19200	87700	15	20	28	
SEP 19...	1855	1650	4200	18700	23	31	44	
DATE		SED. SUSP. FALL DIAM. % FINER THAN .016 MM (70329)	SED. SUSP. FALL DIAM. % FINER THAN .031 MM (70330)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM (70332)	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM (70333)	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM (70334)	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM (70335)
NOV 17...	73	83	86	93	98	100	100	
APR 21...	50	68	80	96	99	100	100	
MAY 04...	40	60	73	95	99	100	100	
SEP 19...	59	74	83	94	98	100	100	

RIO GRANDE DE ARECIBO BASIN

50025000 RIO GRANDE DE ARECIBO NEAR UTUADO, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 18°18'11", long 66°41'59", at bridge near Highway 10 at km 56.4, 0.5 mi (0.8 km) downstream from Río de Caguana, and 2.5 mi (4.0 km) north of Utuado plaza.

DRAINAGE AREA.--66.0 mi² (170.9 km²) this excludes 6.0 mi² (15.5 km²) upstream from Lago Garzas to Río Guayanes in the Río Tallaboa basin.

PERIOD OF RECORD.--Water years 1959-74, 1979 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	TURBIDITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATURATION) (00301)	OXYGEN DEMAND, CHEMICAL (HIGH LEVEL) (MG/L) (00340)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	STREPTOCOCCI, FECAL, KF AGAR (COLS. PER 100 ML) (31673)
NOV 04...	1400	494	205	7.7	26.5	77	7.7	97	<10	K16000	2200
FEB 29...	1140	85	289	7.8	22.5	35	8.1	95	<10	K8800	K1300
MAR 29...	1030	86	296	7.0	26.2	140	8.3	104	<10	K15000	7700
MAY 03...	1130	60	298	7.9	27.3	55	8.2	105	<10	2000	370
AUG 16...	1500	59	298	7.7	32.0	150	6.8	95	<10	3800	2400

DATE	HARDNESS TOTAL (MG/L AS CAC03) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNESIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM ADSORPTION RATIO (00931)	POTASSIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CAC03) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLORIDE, DIS-SOLVED (MG/L AS CL) (00940)
NOV 04...	74	19.7	5.98	9.2	.5	2.4	63	<1.0	18.1	8.2
FEB 29...	--	--	--	--	--	--	93	--	--	--
MAR 29...	110	28.5	8.68	13.8	.6	1.9	--	<1.0	31.0	14.0
MAY 03...	110	30.2	8.90	15.0	.6	1.9	98	<1.0	29.9	15.4
AUG 16...	100	27.8	8.25	13.9	.6	1.8	92	--	27.7	15.4

DATE	FLUORIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SI02) (00955)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUSPENDED (MG/L) (00530)	NITROGEN, NITRATE TOTAL (MG/L AS N) (00620)	NITROGEN, NITRITE TOTAL (MG/L AS N) (00615)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITROGEN, ORGANIC TOTAL (MG/L AS N) (00605)
NOV 04...	.1	25.4	127	169	110	1.19	.01	1.2	.05	.26
FEB 29...	--	--	--	--	36	1.26	.04	1.3	.16	.30
MAR 29...	<.1	30.4	--	--	316	.98	.02	1.0	.09	.39
MAY 03...	<.1	30.8	191	30.7	105	.78	.03	.8	.09	.13
AUG 16...	.1	29.0	179	28.6	369	.71	.08	.8	.20	.39

DATE	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITROGEN, TOTAL (MG/L AS N) (00600)	NITROGEN, TOTAL (MG/L AS NO3) (71887)	PHOSPHORUS, TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOVERABLE (UG/L AS B) (01022)	CADMIUM, WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOVERABLE (UG/L AS CU) (01042)
NOV 04...	.31	1.5	6.7	.170	<3	59.0	E10	E.1	3	24
FEB 29...	.46	1.8	7.8	.170	--	--	--	--	--	--
MAR 29...	.48	1.5	6.6	.420	<3	134	E15	.2	4	87
MAY 03...	.22	1.0	4.6	.150	<3	74.4	E17	<.1	2	52
AUG 16...	.59	1.4	6.1	.360	--	--	--	--	--	--

50025155 RIO SALIENTE AT COABEY NEAR JAYUYA, PR

LOCATION.--Lat 18°12'48", long 66°33'49", Hydrologic Unit 21010002, 2.0 mi (3.2 km) southeast of Jayuya, 1.4 mi (2.2 km) northeast of Hacienda Gripiñas.

DRAINAGE AREA.--9.25 mi² (23.96 km²).

PERIOD OF RECORD.--October 1989 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 1,706 ft (520 m), from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e62	79	55	19	18	11	e7.6	e14	e45	e15	e25	e40
2	e56	85	90	18	20	11	e9.4	e11	e84	e24	e17	e56
3	e48	80	77	18	14	10	e41	e10	e58	e17	e10	e45
4	e42	66	56	16	13	9.7	e27	e9.5	e34	e14	e11	e29
5	e37	61	48	16	12	9.5	e12	e14	e51	e13	e50	e58
6	e32	57	44	16	12	9.4	e9.7	e12	e32	e12	e25	e84
7	e35	59	40	15	12	9.3	e10	e10	e22	e11	e16	e110
8	e58	52	37	15	11	10	e15	e13	e57	e20	e11	e84
9	e56	50	35	14	11	9.9	e17	e14	e76	e16	e8.2	e140
10	e40	52	33	15	11	10	e20	e11	e84	e12	e7.0	e80
11	e37	49	32	15	11	9.3	e11	e39	e68	e11	e6.0	e60
12	e33	87	31	13	11	11	e10	e13	e58	e10	e6.2	e45
13	e28	76	30	13	11	10	e9.2	e12	e41	e10	e12	e110
14	e32	69	29	12	15	8.6	e8.6	e14	e31	e10	e27	e120
15	e35	69	28	21	16	8.3	e8.0	e10	e40	e9.8	e16	e80
16	e52	60	27	21	15	8.1	e7.4	e9.0	e58	e9.0	e18	e60
17	e40	49	26	16	13	8.0	e7.2	e8.4	e58	e11	e17	e48
18	e30	43	25	13	12	7.9	e7.2	e8.2	e52	e8.0	e7.0	e42
19	e25	40	25	13	11	e24	e7.0	e7.6	e40	e7.0	e13	e160
20	e21	38	27	12	11	e15	e6.8	e7.2	e34	e7.4	e17	e120
21	e25	36	25	12	11	e22	e7.0	e7.0	e28	e14	e22	e70
22	54	34	23	12	11	e12	e10	e10	e25	e7.6	e50	e48
23	33	35	23	12	11	e7.5	e17	e13	e23	e11	e34	e42
24	27	35	22	11	11	e7.1	e29	e9.1	e20	e16	e19	e43
25	29	31	21	11	11	e9.3	e35	e8.7	e18	e6.0	e11	e40
26	102	29	20	11	12	e8.9	e87	e9.5	e17	e5.4	e9.6	e39
27	223	46	19	12	12	e6.8	e25	e12	e16	e5.6	e14	e35
28	142	50	22	18	11	e6.7	e16	e14	e15	e6.0	e11	e50
29	96	42	27	12	---	e6.6	e39	e17	e38	e7.4	e180	e40
30	95	39	21	11	---	e7.3	e23	e31	e21	e7.0	e110	e35
31	101	---	20	11	---	e7.8	---	e44	---	e6.0	e70	---
TOTAL	1726	1598	1038	444	350	312.0	539.1	422.2	1244	339.2	850.0	2013
MEAN	55.7	53.3	33.5	14.3	12.5	10.1	18.0	13.6	41.5	10.9	27.4	67.1
MAX	223	87	90	21	20	24	87	44	84	24	180	160
MIN	21	29	19	11	11	6.6	6.8	7.0	15	5.4	6.0	29
AC-FT	3420	3170	2060	881	694	619	1070	837	2470	673	1690	3990
CFSM	6.02	5.76	3.62	1.55	1.35	1.09	1.94	1.47	4.48	1.18	2.96	7.25
IN.	6.94	6.43	4.17	1.79	1.41	1.25	2.17	1.70	5.00	1.36	3.42	8.10

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1999, BY WATER YEAR (WY)

MEAN	42.2	26.3	14.4	17.8	16.6	11.4	22.8	37.9	25.1	16.4	28.6	101
MAX	72.0	53.3	33.5	48.1	44.4	17.8	46.8	98.6	41.5	50.9	74.5	365
(WY)	1996	1999	1999	1992	1996	1998	1998	1995	1999	1996	1998	1996
MIN	11.6	10.0	5.41	4.13	4.67	4.79	5.95	5.35	5.30	2.83	9.82	10.8
(WY)	1992	1994	1998	1995	1994	1994	1994	1990	1997	1994	1994	1994

SUMMARY STATISTICS

FOR 1998 CALENDAR YEAR

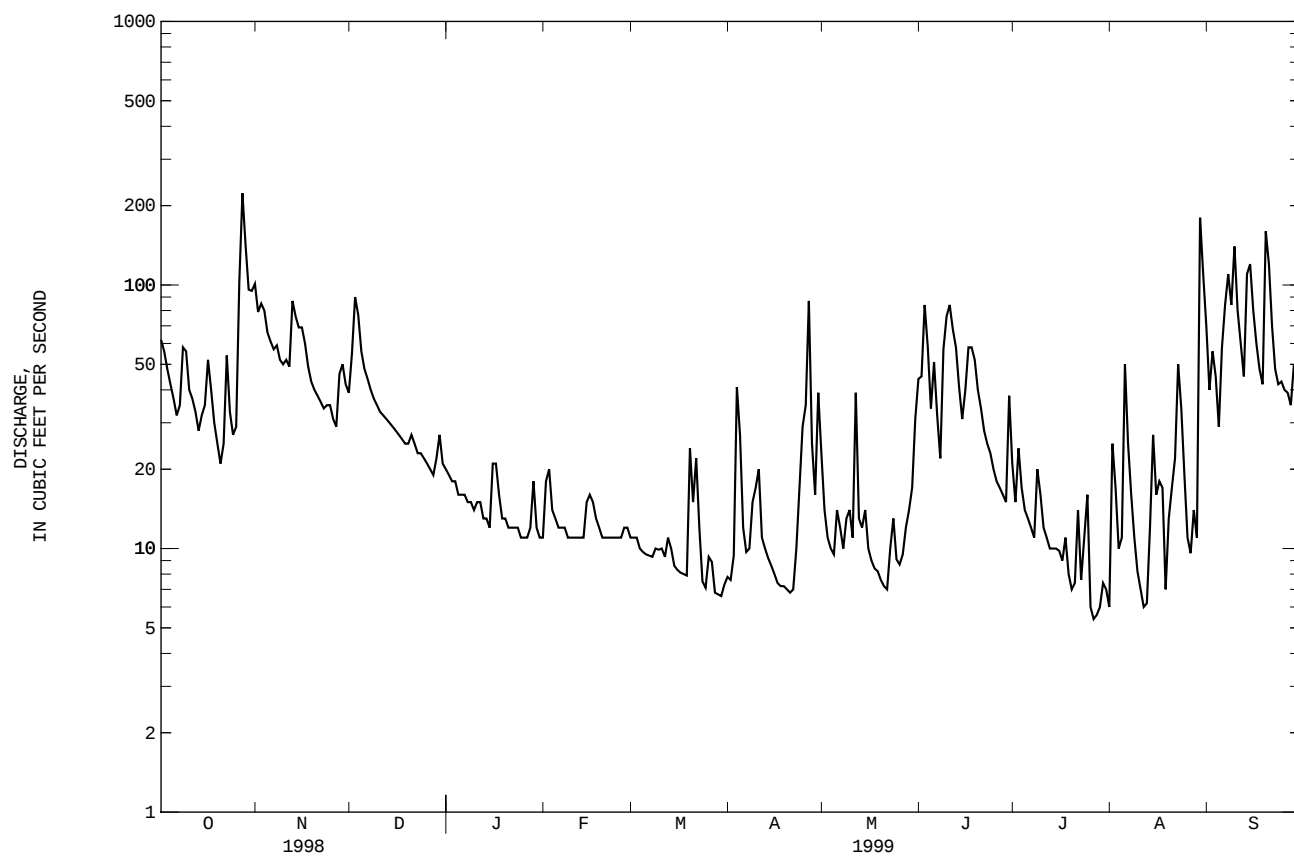
FOR 1999 WATER YEAR

WATER YEARS 1989 - 1999

ANNUAL TOTAL	20285.5	10875.5	
ANNUAL MEAN	55.6	29.8	30.0
HIGHEST ANNUAL MEAN			64.0
LOWEST ANNUAL MEAN			10.9
HIGHEST DAILY MEAN	2460	Sep 21	4700
LOWEST DAILY MEAN	3.6	Jan 4	2.3
ANNUAL SEVEN-DAY MINIMUM	3.9	Jan 3	6.2
INSTANTANEOUS PEAK FLOW			2260
INSTANTANEOUS PEAK STAGE			11.49
INSTANTANEOUS LOW FLOW			20.00
ANNUAL RUNOFF (AC-FT)	40240	21570	21750
ANNUAL RUNOFF (CFSM)	6.01	3.22	3.25
ANNUAL RUNOFF (INCHES)	81.58	43.74	44.10
10 PERCENT EXCEEDS	97	61	55
50 PERCENT EXCEEDS	28	18	13
90 PERCENT EXCEEDS	7.3	8.2	4.7

e Estimated

RIO GRANDE DE ARECIBO BASIN
50025155 RIO SALIENTE AT COABEY NEAR JAYUYA, PR--Continued



RIO GRANDE DE ARECIBO BASIN

50025155 RIO SALIENTE AT COABEY NEAR JAYUYA--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e46	67	44	24	13	13	9.1	6.1	12	7.4	7.3	60
2	e42	64	69	24	13	12	8.8	6.1	12	8.5	7.0	51
3	e38	59	93	28	13	12	8.9	104	11	8.1	5.9	42
4	e36	51	49	38	13	12	8.4	95	11	7.3	5.8	51
5	e36	54	67	33	13	12	8.0	53	11	6.8	5.8	74
6	e37	47	78	30	12	12	7.9	29	10	8.3	5.1	69
7	e41	41	59	29	12	12	7.8	60	9.8	7.4	5.8	e50
8	e47	37	58	26	12	12	7.7	80	9.5	6.8	6.4	e38
9	e37	35	48	24	11	11	7.4	170	9.3	6.6	5.3	e47
10	e34	35	42	23	11	11	13	72	9.3	6.2	5.9	e72
11	e70	33	37	22	11	11	11	75	9.2	6.2	5.7	e41
12	e47	31	34	21	11	11	7.8	58	14	6.0	5.3	e30
13	e48	33	32	22	10	10	7.3	38	35	5.9	5.0	e26
14	e36	32	30	22	10	10	7.0	28	29	5.8	11	e26
15	e40	61	28	32	9.9	10	6.8	23	17	5.7	9.3	e29
16	e47	87	27	51	9.8	9.8	6.7	20	41	5.5	8.6	e50
17	e76	264	28	24	9.4	9.7	7.2	32	22	6.1	6.3	e63
18	e63	402	26	21	9.4	9.6	13	25	15	6.1	5.3	e436
19	e41	388	27	19	9.7	9.5	15	19	12	5.5	5.3	e235
20	65	240	27	18	9.6	9.2	14	17	14	25	5.1	e152
21	68	149	27	18	9.2	9.2	12	16	13	12	4.7	e100
22	67	109	31	17	9.3	9.5	8.3	15	11	7.2	101	e185
23	55	86	29	17	77	9.1	7.2	35	9.7	6.5	293	e210
24	48	70	28	16	26	10	6.6	19	11	7.1	68	e126
25	69	59	27	16	30	9.4	6.4	17	10	7.0	64	e71
26	51	52	25	19	18	9.1	6.4	16	9.2	6.1	49	e80
27	43	45	24	16	17	9.1	6.2	14	8.6	5.7	39	e187
28	60	40	25	15	14	10	6.2	15	8.1	5.6	35	e78
29	46	37	47	15	13	19	6.1	17	7.8	6.0	32	58
30	82	37	28	15	---	10	6.1	15	7.6	6.3	44	51
31	117	---	25	14	---	9.4	---	13	---	5.6	38	---
TOTAL	1633	2745	1219	709	436.3	332.6	254.3	1202.2	409.1	226.3	894.9	2788
MEAN	52.7	91.5	39.3	22.9	15.0	10.7	8.48	38.8	13.6	7.30	28.9	92.9
MAX	117	402	93	51	77	19	15	170	41	25	293	436
MIN	34	31	24	14	9.2	9.1	6.1	6.1	7.6	5.5	4.7	26
AC-FT	3240	5440	2420	1410	865	660	504	2380	811	449	1780	5530
CFSM	5.69	9.89	4.25	2.47	1.63	1.16	.92	4.19	1.47	.79	3.12	10.0
IN.	6.57	11.04	4.90	2.85	1.75	1.34	1.02	4.83	1.65	.91	3.60	11.21

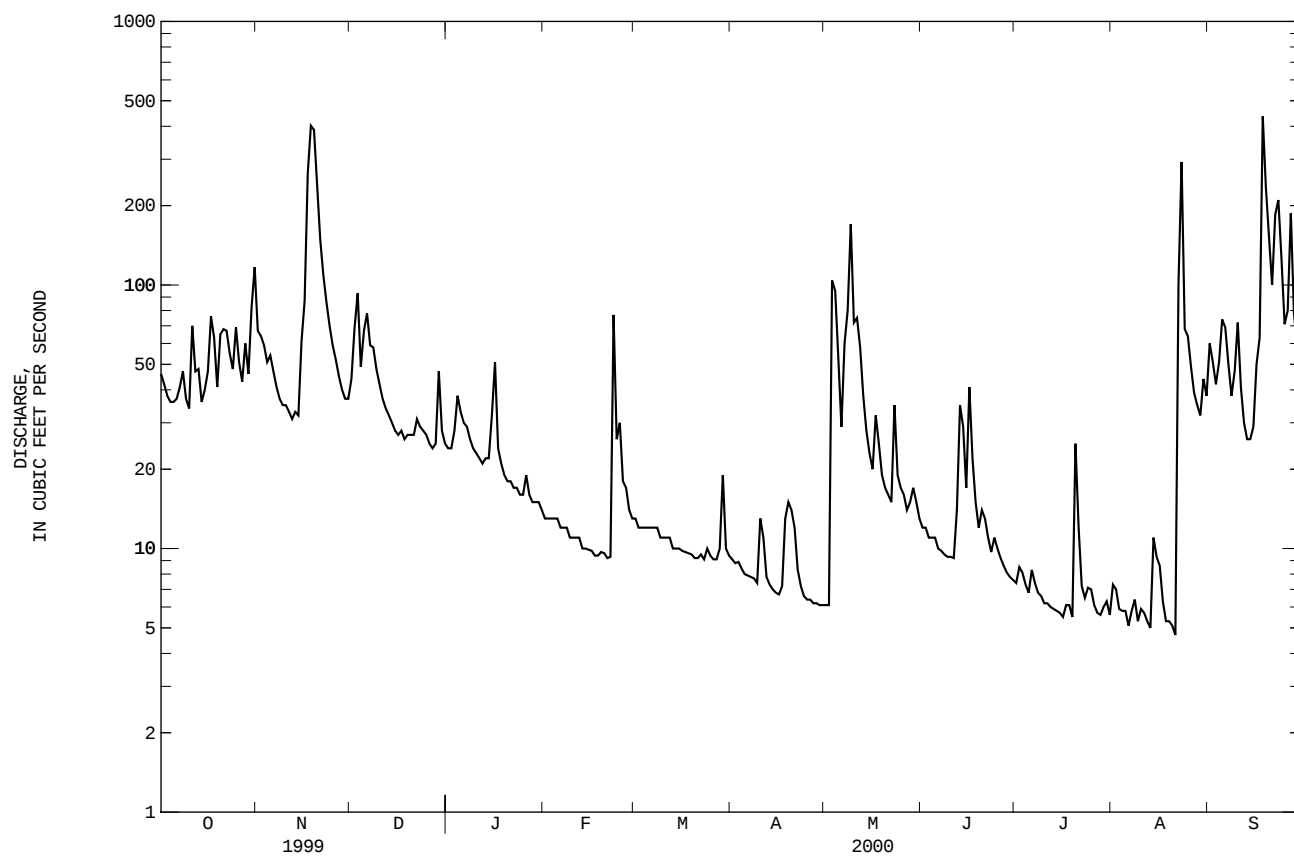
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 2000, BY WATER YEAR (WY)

MEAN	43.2	32.2	16.7	18.2	16.5	11.3	21.5	38.0	24.1	15.6	28.6	101
MAX	72.0	91.5	39.3	48.1	44.4	17.8	46.8	98.6	41.5	50.9	74.5	365
(WY)	1996	2000	2000	1992	1996	1998	1998	1995	1999	1996	1998	1996
MIN	11.6	10.0	5.41	4.13	4.67	4.79	5.95	5.35	5.30	2.83	9.82	10.8
(WY)	1992	1994	1998	1995	1994	1994	1994	1990	1997	1994	1994	1994

SUMMARY STATISTICS	FOR 1999 CALENDAR YEAR			FOR 2000 WATER YEAR			WATER YEARS 1989 - 2000		
ANNUAL TOTAL	12110.5			12849.7					
ANNUAL MEAN	33.2			35.1			30.5		
HIGHEST ANNUAL MEAN							64.0		
LOWEST ANNUAL MEAN							10.9		
HIGHEST DAILY MEAN	402			436			4700		
LOWEST DAILY MEAN	5.4			4.7			2.3		
ANNUAL SEVEN-DAY MINIMUM	6.2			5.6			2.5		
INSTANTANEOUS PEAK FLOW				1910			18500		
INSTANTANEOUS PEAK STAGE				9.53			20.00		
INSTANTANEOUS LOW FLOW							2.1		
ANNUAL RUNOFF (AC-FT)	24020			25490			22080		
ANNUAL RUNOFF (CFSM)	3.59			3.80			3.30		
ANNUAL RUNOFF (INCHES)	48.70			51.68			44.78		
10 PERCENT EXCEEDS	68			70			57		
50 PERCENT EXCEEDS	18			18			13		
90 PERCENT EXCEEDS	8.2			6.3			4.8		

e Estimated

RIO GRANDE DE ARECIBO BASIN
50025155 RIO SALIENTE AT COABEY NEAR JAYUYA--Continued



RIO GRANDE DE ARECIBO BASIN

50025850 RIO JAUCA AT PASO PALMA, PR

LOCATION.--Lat 18°12'50", long 66°38'44", Hydrologic Unit 21010001, 5.13 mi (8.2 km) southeast from Utuado Plaza, 4.5 mi (7.24 km) south of Caonillas Dam and 6.15 mi (9.89 km), northeast from Adjuntas Plaza.

DRAINAGE AREA.--6.89 mi² (17.84 km²).

PERIOD OF RECORD.--May to September 2000.

GAGE.--Water-stage recorder. Elevation of gage is 358 ft (109 m), from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1									e7.7	5.7	e5.7	66
2									e7.4	6.3	e5.1	43
3									e7.2	5.9	e4.6	29
4									e6.8	5.5	e4.4	27
5									e6.5	5.2	e4.3	43
6									e6.2	5.2	e4.1	39
7									e6.0	5.3	e4.2	e30
8									e6.0	5.1	e4.2	e24
9									e6.0	5.2	e4.0	e21
10									e6.0	5.5	e4.7	e35
11									e6.0	5.7	4.5	e26
12									e8.2	5.7	4.2	e21
13									e13	5.5	4.4	e18
14									e13	5.6	5.2	e19
15									e11	e5.6	5.7	23
16									e25	e5.3	6.3	28
17									e13	e5.4	5.8	31
18								e13	e7.9	e5.5	5.0	184
19								e12	e5.8	e5.4	5.1	64
20								e11	e13	e9.6	5.7	62
21								e12	e7.8	e6.9	6.0	48
22								e11	e5.9	e5.5	22	46
23								e13	6.4	e5.2	235	47
24								e14	6.0	e5.5	34	53
25								e10	6.3	e5.6	36	42
26								e9.8	6.3	e5.0	38	51
27								e9.0	6.0	e4.8	29	54
28								e8.5	5.8	e4.9	20	50
29								e10	5.6	e4.8	20	39
30								e9.2	5.6	e4.7	27	40
31								e8.2	---	e4.6	23	---
TOTAL								150.7	243.4	171.7	587.2	1303
MEAN								10.8	8.11	5.54	18.9	43.4
MAX								14	25	9.6	235	184
MIN								8.2	5.6	4.6	4.0	18
AC-FT								299	483	341	1160	2580

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2000 - 2000, BY WATER YEAR (WY)

MEAN	---	---	---	---	---	---	---	---	8.11	5.54	18.9	43.4
MAX	---	---	---	---	---	---	---	---	8.11	5.54	18.9	43.4
(WY)	---	---	---	---	---	---	---	---	2000	2000	2000	2000
MIN	---	---	---	---	---	---	---	---	8.11	5.54	18.9	43.4
(WY)	---	---	---	---	---	---	---	---	2000	2000	2000	2000

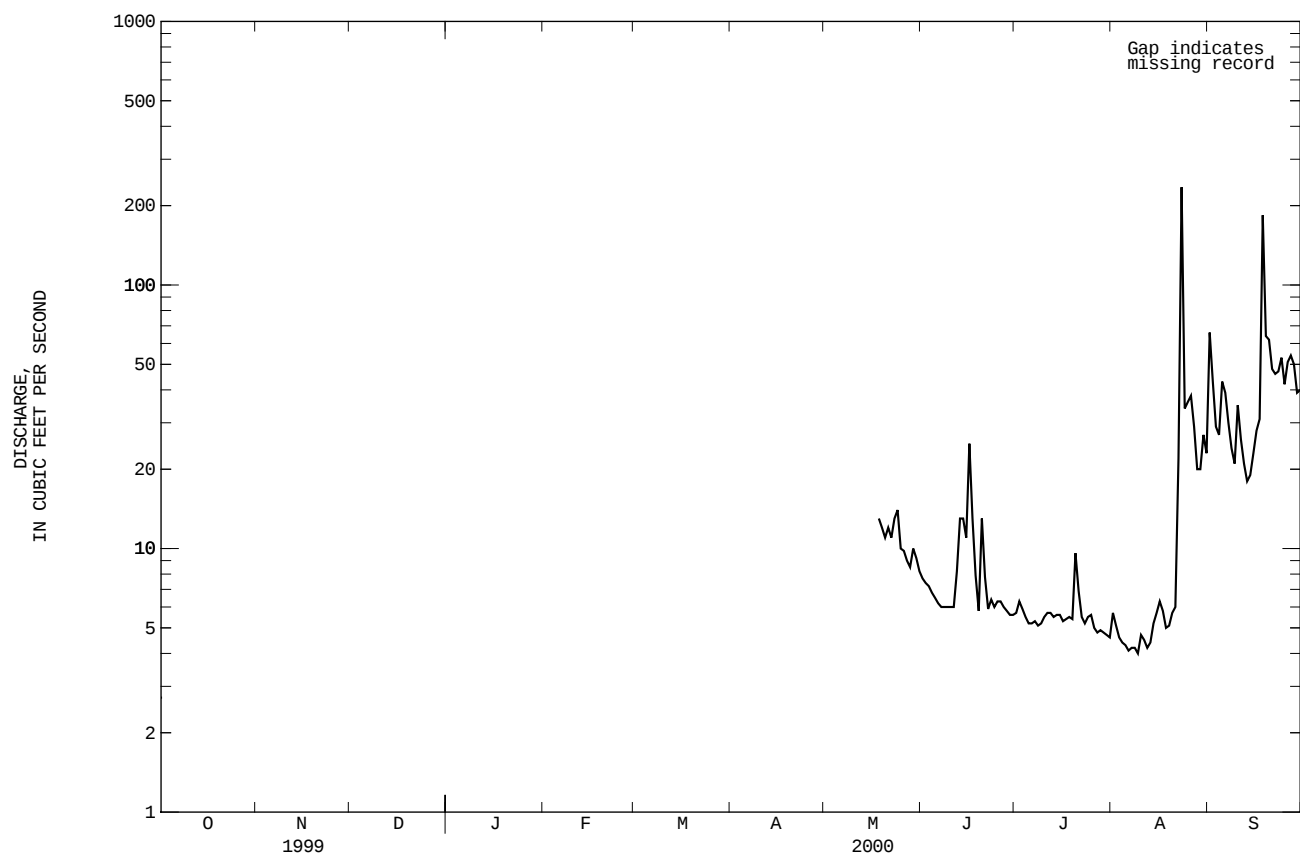
SUMMARY STATISTICS

FOR 2000 WATER YEAR

HIGHEST DAILY MEAN	235	Aug 23
LOWEST DAILY MEAN	4.0	Aug 9
ANNUAL SEVEN-DAY MINIMUM	4.3	Aug 3
INSTANTANEOUS PEAK FLOW	1120	Aug 23
INSTANTANEOUS PEAK STAGE	5.69	Aug 23
INSTANTANEOUS LOW FLOW	3.7	Aug 12
10 PERCENT EXCEEDS	43	
50 PERCENT EXCEEDS	6.9	
90 PERCENT EXCEEDS	4.8	

e Estimated

RIO GRANDE DE ARECIBO BASIN
50025850 RIO JAUCA AT PASO PALMA, PR--Continued



RIO GRANDE DE ARECIBO BASIN

50026025 RIO CAONILLAS AT PASO PALMA, PR

LOCATION.--Lat 18°13'53", long 66°38'14", Hydrologic Unit 21010001, 3.5 mi (5.6 km) south of Lago Caonillas Dam, 4.8 mi (7.72 km) southeast of Utuado Plaza and 2.78 mi (4.47 km) east of Lago Viví Dam.

DRAINAGE AREA.--37.94 mi² (98.26 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1995 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 984 ft (300 m), from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e173	e236	161	94	53	38	31	24	39	27	31	188
2	154	e287	233	91	e52	35	32	24	38	29	29	173
3	139	e286	291	116	51	34	32	211	37	28	26	112
4	130	e227	195	130	50	33	28	231	35	26	26	101
5	129	e227	227	118	49	33	27	138	34	25	24	165
6	142	e190	245	121	49	33	26	99	33	26	23	152
7	158	e159	201	115	48	32	25	155	32	28	23	113
8	191	e148	194	100	49	32	26	326	32	25	25	92
9	150	e153	170	92	45	32	25	445	32	25	23	81
10	137	e134	160	85	43	31	31	211	32	24	32	141
11	235	e132	144	80	42	30	42	182	32	24	28	96
12	216	e126	135	77	41	30	26	177	41	24	24	81
13	214	e118	127	79	41	30	24	110	60	23	23	73
14	164	e112	120	80	42	30	24	87	61	23	28	71
15	169	e109	e115	82	41	30	23	71	52	22	37	76
16	215	e231	e110	156	40	30	23	62	111	22	36	93
17	294	725	e114	84	40	30	25	73	62	23	29	103
18	285	1230	104	e77	40	30	29	79	40	24	25	569
19	206	971	107	e72	41	28	40	58	35	22	26	385
20	264	585	106	e67	41	28	58	54	61	128	25	338
21	266	397	106	e64	39	28	69	57	46	48	23	279
22	275	312	120	e62	40	30	40	54	35	28	177	343
23	226	276	108	e62	208	28	29	66	32	26	1010	373
24	204	250	104	e61	88	32	27	70	31	30	195	298
25	e250	231	102	e62	88	29	25	53	32	31	168	219
26	e234	210	97	e68	57	27	25	51	31	25	173	219
27	e206	191	92	61	52	29	24	47	30	24	138	323
28	e251	183	93	56	44	28	23	45	28	23	109	280
29	e225	166	155	58	40	57	23	49	27	23	103	208
30	e245	164	105	57	---	42	23	45	27	24	122	193
31	e492	---	98	54	---	32	---	41	---	23	116	---
TOTAL	6639	8766	4439	2581	1554	991	905	3395	1218	903	2877	5938
MEAN	214	292	143	83.3	53.6	32.0	30.2	110	40.6	29.1	92.8	198
MAX	492	1230	291	156	208	57	69	445	111	128	1010	569
MIN	129	109	92	54	39	27	23	24	27	22	23	71
AC-FT	13170	17390	8800	5120	3080	1970	1800	6730	2420	1790	5710	11780
CFSM	5.64	7.70	3.77	2.19	1.41	.84	.80	2.89	1.07	.77	2.45	5.22
IN.	6.51	8.60	4.35	2.53	1.52	.97	.89	3.33	1.19	.89	2.82	5.82

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 2000, BY WATER YEAR (WY)

MEAN	164	143	80.8	63.1	56.8	38.2	55.4	87.9	74.9	53.2	93.9	343
MAX	248	292	143	89.8	86.0	51.3	112	130	161	117	156	815
(WY)	1999	2000	2000	1997	1996	1996	1998	1998	1999	1996	1998	1998
MIN	72.9	44.2	21.0	19.6	41.9	25.7	17.0	29.1	16.1	15.5	47.9	33.2
(WY)	1997	1998	1998	1998	1997	1997	1997	1997	1997	1997	1996	1997

SUMMARY STATISTICS

FOR 1999 CALENDAR YEAR

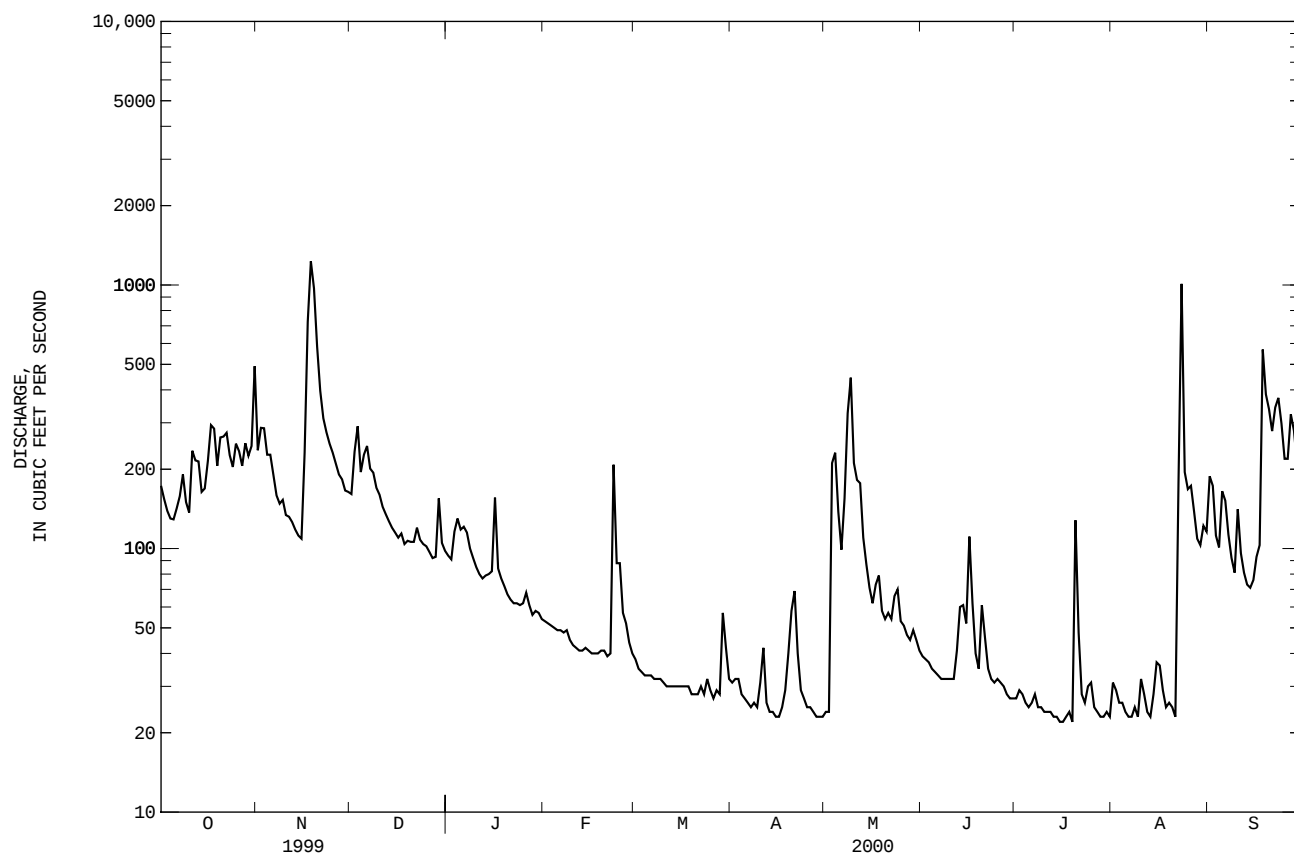
FOR 2000 WATER YEAR

WATER YEARS 1996 - 2000

ANNUAL TOTAL	45825	40206	
ANNUAL MEAN	126	110	104
HIGHEST ANNUAL MEAN			137
LOWEST ANNUAL MEAN			49.9
HIGHEST DAILY MEAN	1230	Nov 18	13000
LOWEST DAILY MEAN	22	Jul 26	10
ANNUAL SEVEN-DAY MINIMUM	26	Jul 25	11
INSTANTANEOUS PEAK FLOW			36000
INSTANTANEOUS PEAK STAGE			31.15
INSTANTANEOUS LOW FLOW			9.5
ANNUAL RUNOFF (AC-FT)	90890	79750	75520
ANNUAL RUNOFF (CFSM)	3.31	2.90	2.75
ANNUAL RUNOFF (INCHES)	44.93	39.42	37.33
10 PERCENT EXCEEDS	253	233	205
50 PERCENT EXCEEDS	75	61	53
90 PERCENT EXCEEDS	34	25	22

e Estimated

RIO GRANDE DE ARECIBO BASIN
50026025 RIO CAONILLAS AT PASO PALMA, PR--Continued



WATER-QUALITY RECORDS

PERIOD OF RECORDS.-- October, 1995 to current water year.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: October, 1995 to current water year.

INSTRUMENTATION.-- USDH-48 sediment sampler and automatic sediment sampler since 1996.

REMARKS.-- Sediment samples were collected by a local observer on a weekly basis. During high flow events sediments samples were collected by hydrologic technician and automatic sediment sampler.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATION: Maximum daily mean, 24,800 mg/L September 22, 1998; Minimum daily mean, 1 mg/L several days.

SEDIMENT LOADS: Maximum daily mean, e952,000 tons (e864,000 tonnes) September 22, 1998; Minimum daily mean, 0.04 ton (0.03 tonne) December 29-30, 1998.

EXTREMES FOR CURRENT YEAR 2000.

SEDIMENT CONCENTRATION: Maximum daily mean, 6,340 mg/L November 19, 1999; Minimum daily mean, 1 mg/L several days.

SEDIMENT LOADS: Maximum daily mean, 18,700 tons (16,965 tonnes) November 18, 1999; Minimum daily mean, 0.06 ton (0.05 tonne) several days.

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
OCTOBER			NOVEMBER			DECEMBER			
1	e173	e157	e75	e236	e551	e372	161	126	58
2	154	39	16	e287	e1020	e1680	233	380	366
3	139	21	7.8	e286	e888	e908	291	647	583
4	130	16	5.6	e227	e193	e121	195	55	30
5	129	35	12	e227	e303	e242	227	355	259
6	142	137	59	e190	e91	e49	245	136	99.8
7	158	283	134	e159	e28	e12	201	60	32
8	191	359	202	e148	e23	e9.1	194	59	31
9	150	162	68	e153	e34	e14	170	40	19
10	137	42	16	e134	e43	e15	160	26	12
11	235	874	1510	e132	e29	e10	144	18	7.0
12	216	153	95	e126	e22	e7.5	135	15	5.5
13	214	177	126	e118	e29	e9.3	127	26	8.9
14	164	284	127	e112	e40	e12	120	35	11
15	169	264	137	e109	e49	e14	e115	e11	e3.5
16	215	446	288	e231	e668	e782	e110	e11	e3.1
17	294	1010	1260	725	5340	16400	e114	e9	e2.9
18	285	882	783	1230	4680	18600	104	9	2.5
19	206	290	165	971	6340	18400	107	13	3.8
20	264	616	727	585	312	531	106	20	5.7
21	266	330	229	397	120	129	106	28	8.0
22	275	53	40	312	68	57	120	78	25
23	226	31	19	276	63	47	108	93	27
24	204	27	15	250	62	42	104	61	17
25	e250	e875	e772	231	38	24	102	40	11
26	e234	e180	e119	210	23	13	97	28	7.3
27	e206	e63	e35	191	20	10	92	25	6.2
28	e251	e459	e472	183	19	9.3	93	23	5.7
29	e225	e172	e106	166	22	10	155	21	8.6
30	e245	e418	e347	164	67	33	105	16	4.6
31	e492	e3080	e13900	---	---	---	98	12	3.3
TOTAL	6639	---	21867.4	8766	---	58562.2	4439	---	1667.4

RIO GRANDE DE ARECIBO BASIN

50026025 RIO CAONILLAS AT PASO PALMA, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JANUARY			FEBRUARY			MARCH			
1	94	9	2.4	53	3	.43	38	1	.11
2	91	7	1.8	e52	e3	e.44	35	1	.12
3	116	63	24	51	4	.54	34	1	.13
4	130	183	74	50	5	.68	33	2	.15
5	118	73	23	49	7	.87	33	2	.19
6	121	111	44	49	7	.94	33	4	.34
7	115	79	26	48	5	.61	32	7	.62
8	100	31	8.4	49	3	.39	32	11	.99
9	92	19	4.9	45	2	.27	32	8	.71
10	85	14	3.1	43	3	.34	31	5	.43
11	80	10	2.1	42	4	.46	30	3	.26
12	77	7	1.5	41	6	.62	30	2	.17
13	79	7	1.5	41	8	.86	30	3	.21
14	80	7	1.5	42	8	.95	30	3	.26
15	82	33	21	41	4	.49	30	4	.33
16	156	189	101	40	2	.25	30	5	.41
17	84	72	16	40	2	.22	30	6	.52
18	e77	e53	e11	40	2	.22	30	8	.65
19	e72	e39	e7.5	41	2	.22	28	10	.73
20	e67	e28	e5.1	41	2	.22	28	8	.62
21	e64	e21	e3.6	39	2	.21	28	7	.53
22	e62	e15	e2.6	40	2	.22	30	6	.44
23	e62	e11	e1.9	208	1680	3460	28	4	.28
24	e61	e8	e1.4	88	136	46	32	2	.20
25	e62	e6	e1.1	88	17	4.0	29	2	.12
26	e68	e5	e.91	57	9	1.4	27	1	.08
27	61	4	.72	52	7	1.1	29	1	.08
28	56	4	.58	44	4	.46	28	1	.08
29	58	3	.52	40	2	.20	57	31	5.4
30	57	3	.47	---	---	---	42	23	3.3
31	54	3	.44	---	---	---	32	11	1.0
TOTAL	2581	---	394.04	1554	---	3523.61	991	---	19.46
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
APRIL			MAY			JUNE			
1	31	10	.91	24	6	.37	39	2	.18
2	32	15	1.3	24	2	.15	38	3	.27
3	32	7	.59	211	1350	3520	37	4	.41
4	28	3	.27	231	1050	1810	35	6	.56
5	27	2	.15	138	522	252	34	6	.59
6	26	2	.14	99	157	55	33	7	.60
7	25	2	.14	155	496	378	32	6	.55
8	26	2	.14	326	1830	4390	32	4	.35
9	25	2	.14	445	2520	7980	32	3	.22
10	31	6	.76	211	233	163	32	2	.13
11	42	19	2.4	182	408	327	32	1	.09
12	26	6	.40	177	389	200	41	11	1.8
13	24	6	.36	110	75	23	60	43	11
14	24	6	.39	87	18	4.4	61	63	12
15	23	7	.41	71	17	3.3	52	32	5.0
16	23	7	.42	62	18	3.0	111	223	147
17	25	5	.37	73	48	13	62	107	19
18	29	5	.43	79	76	18	40	66	7.2
19	40	9	1.1	58	22	3.5	35	62	5.9
20	58	34	7.9	54	10	1.5	61	114	31
21	69	48	14	57	6	.87	46	89	12
22	40	19	2.3	54	7	1.0	35	43	4.1
23	29	6	.47	66	30	10	32	23	2.0
24	27	8	.56	70	48	9.9	31	12	1.0
25	25	11	.78	53	19	2.8	32	7	.62
26	25	15	1.0	51	6	.89	31	5	.43
27	24	16	1.0	47	2	.30	30	4	.32
28	23	15	.98	45	5	.63	28	3	.25
29	23	15	.93	49	73	9.9	27	5	.35
30	23	13	.81	45	11	1.3	27	7	.52
31	---	---	---	41	1	.14	---	---	---
TOTAL	905	---	41.55	3395	---	19182.95	1218	---	265.44

RIO GRANDE DE ARECIBO BASIN

50026025 RIO CAONILLAS AT PASO PALMA, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JULY			AUGUST			SEPTEMBER			
1	27	11	.80	31	11	1.3	188	502	734
2	29	13	1.0	29	12	.95	173	52	34
3	28	6	.45	26	7	.52	112	18	5.3
4	26	2	.16	26	5	.38	101	41	14
5	25	1	.07	24	4	.26	165	180	124
6	26	1	.07	23	3	.18	152	39	20
7	28	1	.08	23	3	.16	113	13	3.9
8	25	1	.07	25	2	.15	92	12	2.9
9	25	1	.08	23	2	.12	81	11	2.4
10	24	3	.17	32	11	1.4	141	130	73
11	24	6	.38	28	11	.80	96	91	24
12	24	8	.55	24	9	.56	81	50	11
13	23	3	.19	23	7	.44	73	31	6.0
14	23	1	.07	28	11	1.2	71	28	5.4
15	22	1	.06	37	14	1.5	76	27	5.5
16	22	1	.06	36	7	.67	93	64	23
17	23	1	.06	29	5	.39	103	90	31
18	24	1	.06	25	4	.25	569	2050	4120
19	22	1	.06	26	3	.18	385	1480	2620
20	128	463	699	25	2	.14	338	1110	1050
21	48	36	5.8	23	2	.12	279	423	319
22	28	7	.52	177	1270	8850	343	1110	1600
23	26	4	.29	1010	1870	8630	373	1130	1580
24	30	8	.99	195	132	76	298	127	105
25	31	12	1.0	168	203	147	219	44	26
26	25	9	.61	173	337	168	219	246	200
27	24	7	.48	138	164	63	323	328	481
28	23	6	.38	109	95	28	280	602	636
29	23	5	.31	103	94	31	208	95	53
30	24	4	.27	122	116	56	193	85	44
31	23	4	.25	116	158	55	---	---	---
TOTAL	903	---	714.34	2877	---	18115.67	5938	---	13953.4
YEAR	40206		138307.66						

e Estimated

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

SILT AND CLAY PERCENT OF SUSPENDED SEDIMENT

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT					
17...	1558	200	6460	3490	71
18...	1745	439	3150	3730	65
JAN					
16...	1100	148	100	40	88
APR					
16...	0900	23	7	.43	58

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1979 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

[illegible]

RIO GRANDE DE ARECIBO BASIN

50026140 LAGO CAONILLAS AT DAMSITE NEAR UTUADO, PR

LOCATION.--Lat 18°16'43", long 66°39'24", Hydrologic Unit 21010001, at Lago Caonillas Dam on Rio Caonillas, 2.9 mi (4.7 km) northeast of Plaza de Utuado, 0.3 mi (0.6 km) west from Iglesia Santa María del Monte Carmelo, and 1.8 mi (3.0 km) northwest from Hacienda Carbonell.

DRAINAGE AREA.--48.4 mi² (125.4 km²).

ELEVATION RECORDS

PERIOD OF RECORD.--March 1991 to current year. (March 16 to September 30, 1999, no records available due to repairs conducted by Puerto Rico Electric and Power Authority; inspections data available at District Office). Prior to October 1994, published as Lago Caonillas at Caonillas.

GAGE.--Water stage recorder. Datum of gage is mean sea level.

REMARKS.--Lago Caonillas was completed in 1948. The dam is a concrete gravity structure with a total length of 815 ft (248 m), a maximum height of 235 ft (72 m), and a maximum base width of 195 ft (59 m). Non-overflow sections on each abutment have a total length of 603 ft (184 m). The dam is the main unit of Caonillas Hydroelectric Project, and provides 49,000 acre-feet (60 hm³) of usable storage for power generation at Caonillas Power Plant No. 1 located 2.5 mi (4.0 km) downstream from the dam. The dam is owned by Puerto Rico Electric Power Authority. Gage-height and precipitation satellite telemetry at station. New capacity table based on U.S. Geological Survey Water-Resources Investigations Report 96-4153, February 1995. Record is poor, periods of no gage-height record due to repairs by PREPA to diversion tunnel.

EXTREMES OBSERVED FOR PERIOD OF RECORD.--Maximum elevation, 841.29 ft (256.42 m), Sept. 22, 1998; minimum elevation, 737.92 ft (224.92 m), Aug. 8, 1997.

EXTREMES OBSERVED FOR CURRENT YEAR.--Maximum elevation, 829.68 ft (252.89 m), May 12; minimum elevation, 820.33 ft (250.04 m), July 20, 2000.

Capacity Table

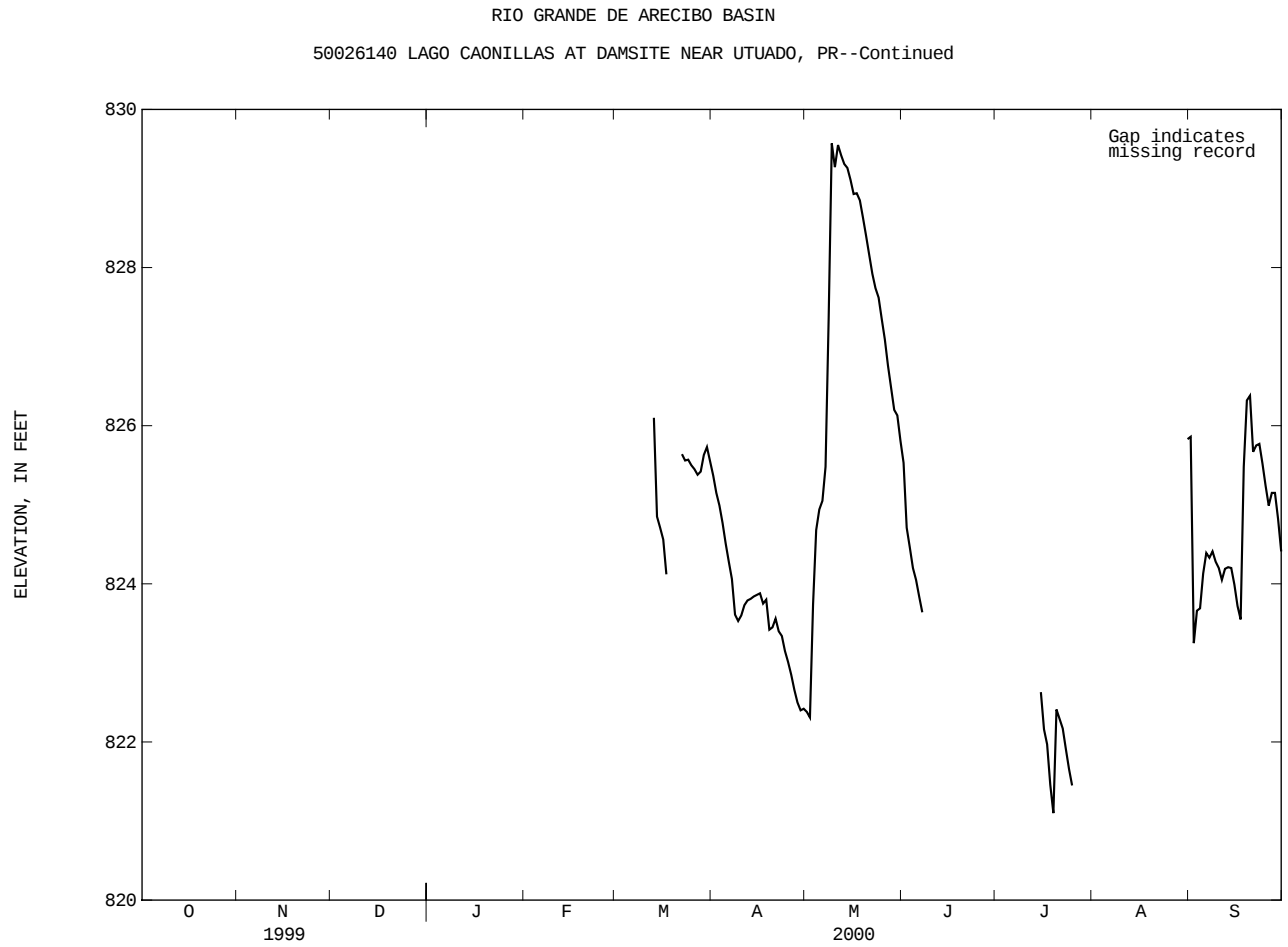
(based on data from U.S. Geological Survey Water-Resources Investigations Report 96-4153, Puerto Rico-1995)

Elevation, in feet	Contents, in acre-feet	Elevation, in feet	Contents, in acre-feet
689	0	745	6,015
705	778	764	10,077
725	2,919	830	42,295

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	A	A	A	A	A	A	825.37	822.38	825.53	A	A	825.86
2	A	A	A	A	A	A	825.15	822.31	824.71	A	A	823.25
3	A	A	A	A	A	A	824.99	823.74	824.46	A	A	823.66
4	A	A	A	A	A	A	824.77	824.68	824.20	A	A	823.69
5	A	A	A	A	A	A	824.51	824.94	824.05	A	A	824.13
6	A	A	A	A	A	A	824.28	825.05	823.84	A	A	824.39
7	A	A	A	A	A	A	824.06	825.48	823.64	A	A	824.33
8	A	A	A	A	A	A	823.61	827.36	A	A	A	824.41
9	A	A	A	A	A	A	823.53	829.57	A	A	A	824.28
10	A	A	A	A	A	A	823.60	829.27	A	A	A	824.20
11	A	A	A	A	A	A	823.73	829.55	A	A	A	824.05
12	A	A	A	A	A	A	823.79	829.42	A	A	A	824.19
13	A	A	A	A	A	826.10	823.81	829.31	A	A	A	824.21
14	A	A	A	A	A	824.85	823.84	829.26	A	A	A	824.20
15	A	A	A	A	A	824.71	823.86	829.11	A	822.63	A	823.99
16	A	A	A	A	A	824.56	823.88	828.93	A	822.16	A	823.72
17	A	A	A	A	A	824.12	823.75	828.94	A	821.97	A	823.55
18	A	A	A	A	A	A	823.80	828.85	A	821.46	A	825.48
19	A	A	A	A	A	A	823.42	828.63	A	821.10	A	826.32
20	A	A	A	A	A	A	823.45	828.40	A	822.41	A	826.38
21	A	A	A	A	A	A	823.56	828.16	A	822.29	A	825.67
22	A	A	A	A	A	825.64	823.40	827.92	A	822.17	A	825.75
23	A	A	A	A	A	825.56	823.34	827.74	A	821.91	A	825.77
24	A	A	A	A	A	825.57	823.15	827.62	A	821.66	A	825.52
25	A	A	A	A	A	825.50	823.01	827.35	A	821.45	A	825.24
26	A	A	A	A	A	825.45	822.85	827.09	A	A	A	824.99
27	A	A	A	A	A	825.38	822.66	826.76	A	A	A	825.15
28	A	A	A	A	A	825.42	822.50	826.48	A	A	A	825.15
29	A	A	A	A	A	825.63	822.40	826.20	A	A	A	824.82
30	A	A	A	A	---	825.73	822.42	826.13	A	A	A	824.41
31	A	---	A	A	---	825.55	---	825.81	---	A	825.83	---
MAX	---	---	---	---	---	826.10	825.37	829.57	825.53	822.63	825.83	826.38
MIN	---	---	---	---	---	824.12	822.40	822.31	823.64	821.10	825.83	823.25

A No gage-height record



RIO GRANDE DE ARECIBO BASIN

50026400 RIO YUNES AT HWY 140 NEAR FLORIDA, PR

LOCATION.--Lat 18°19'27", long 66°35'13", Hydrologic Unit 21010002, on left bank, 600 ft downstream from bridge on Hwy 140, 3.07 mi (4.9 km) southwest from Florida Plaza, 2.41 mi (3.94 km) northwest from Escuela Segunda Unidad de Frontón, 1.9 mi (3.1 km) northeast from Escuela Segunda Unidad de Mameyes.

DRAINAGE AREA.--13.9 mi² (36.1 km²).

PERIOD OF RECORD.--June to September 2000.

GAGE.--Water-stage recorder. Elevation of gage is 492 ft (150 m), from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1										6.9	5.8	27
2										7.1	6.9	38
3										7.1	6.2	13
4										6.7	9.0	94
5										6.5	7.5	42
6										6.3	5.7	27
7										6.3	5.5	15
8										7.9	5.3	12
9										6.4	5.0	14
10										6.5	8.8	27
11										6.2	6.1	19
12										6.4	4.7	11
13										6.3	4.9	10
14										6.1	5.0	9.7
15										5.5	6.0	11
16										5.4	5.5	9.6
17										7.6	5.2	15
18										8.1	4.8	63
19										6.7	5.2	35
20										51	5.3	27
21										16	5.0	47
22									e8.6	8.3	8.2	47
23									8.1	7.1	95	34
24									7.7	6.7	17	23
25									7.7	6.5	13	19
26									8.3	6.5	32	17
27									8.1	6.0	16	19
28									7.5	5.6	9.6	18
29									7.1	7.2	8.1	16
30									6.9	7.2	8.2	14
31										5.9	10	---
TOTAL									70.0	260.0	340.5	773.3
MEAN									7.78	8.39	11.0	25.8
MAX									8.6	51	95	94
MIN									6.9	5.4	4.7	9.6
AC-FT									139	516	675	1530
CFSM									.56	.60	.79	1.84
IN.									.19	.69	.91	2.06

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2000 - 2000, BY WATER YEAR (WY)

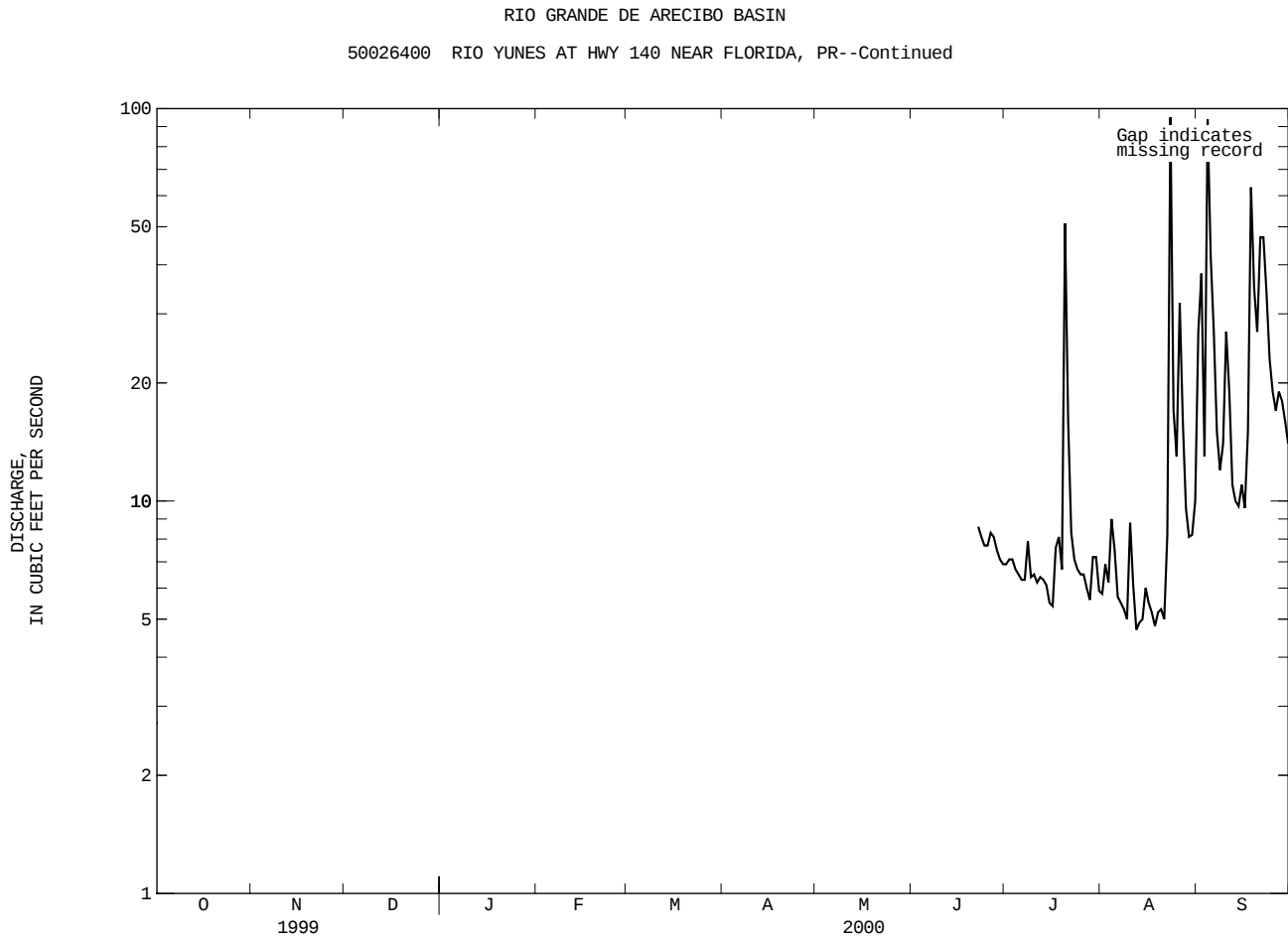
MEAN	---	---	---	---	---	---	---	---	---	8.39	11.0	25.8
MAX	---	---	---	---	---	---	---	---	---	8.39	11.0	25.8
(WY)	---	---	---	---	---	---	---	---	---	2000	2000	2000
MIN	---	---	---	---	---	---	---	---	---	8.39	11.0	25.8
(WY)	---	---	---	---	---	---	---	---	---	2000	2000	2000

SUMMARY STATISTICS

FOR 2000 WATER YEAR

HIGHEST DAILY MEAN	95	Aug 23
LOWEST DAILY MEAN	4.7	Aug 12
ANNUAL SEVEN-DAY MINIMUM	5.2	Aug 12
INSTANTANEOUS PEAK FLOW	995	Sep 4
INSTANTANEOUS PEAK STAGE	7.81	Sep 4
INSTANTANEOUS LOW FLOW	4.4	Aug 12
10 PERCENT EXCEEDS	34	
50 PERCENT EXCEEDS	7.9	
90 PERCENT EXCEEDS	5.3	

e Estimated



RIO GRANDE DE ARECIBO BASIN

50027000 RIO LIMON ABOVE LAGO DOS BOCAS, PR

LOCATION.--Lat 18°19'32', long 66°37'24", Hydrologic Unit 21010002, on right bank off Hwy. 146 2.16 mi(3.47 km) northwest from Escuela Segunda Unidad de Mameyes, 3.0 mi (4.82 km) southwest from Lago Dos Bocas Dam, 3.75 mi (6.03 km) northeast from Lago Caonillas Dam.

WATER-DISCHARGE RECORDS

DRAINAGE AREA.--33.2 mi² (86.0 km²).

PERIOD OF RECORD.--December 16, 1999 to September 30, 2000.

GAGE.--Water-stage recorder. Datum of gage is 311.6 ft (94.97 m), from topographic map.

REMARKS.--Records fair, except those for estimated daily discharges, which are poor. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1				114	68	52	39	32	42	28	23	44
2				113	66	51	38	43	42	29	26	72
3				225	66	50	42	298	41	28	24	37
4				180	65	49	38	201	40	26	e29	94
5				145	63	49	37	144	38	26	e28	111
6				149	61	48	35	64	38	25	22	71
7				145	61	47	35	51	37	77	21	47
8				130	60	47	34	205	38	40	20	45
9				119	58	46	33	261	41	28	19	69
10				111	57	45	32	143	38	26	35	72
11				107	56	44	33	e262	35	26	23	57
12				103	55	44	34	e131	e38	25	19	41
				110	54	44	32	e93	e58	25	19	36
14				106	54	43	31	e76	44	25	19	34
15				109	52	42	30	e67	36	23	22	35
16				144	51	42	30	e62	40	22	21	33
17			150	104	51	45	31	e88	41	e23	19	42
18			139	97	52	41	31	e79	34	e29	18	115
19			139	93	52	40	30	e63	33	24	19	74
20			140	90	50	39	74	e57	38	109	19	56
21			142	88	49	40	70	e53	42	49	18	64
22			164	85	61	44	59	e52	33	29	24	67
23			138	83	106	38	36	88	31	26	170	61
24			135	80	78	44	33	66	30	e25	48	48
25			134	78	83	39	31	60	30	e24	40	68
26			129	77	61	48	30	52	35	24	78	50
27			117	75	65	52	29	48	32	23	43	49
28			133	73	55	38	28	48	29	22	32	48
29			171	78	53	48	29	46	29	25	28	41
30			131	73		65	29	46	28	26	27	37
31			121	69	---	52	---	43	---	23	30	---
TOTAL			2083	3353	1763	1416	1093	3022	1111	960	983	1718
MEAN			139	108	60.8	45.7	36.4	97.5	37.0	31.0	31.7	57.3
MAX			171	225	106	65	74	298	58	109	170	115
MIN			117	69	49	38	28	32	28	22	18	33
AC-FT			4130	6650	3500	2810	2170	5990	2200	1900	1950	3410
CFSM			4.18	3.26	1.83	1.38	1.10	2.94	1.12	.93	.96	1.72
IN.			2.33	3.76	1.98	1.59	1.22	3.39	1.24	1.08	1.10	1.92

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2000 - 2000, BY WATER YEAR (WY)

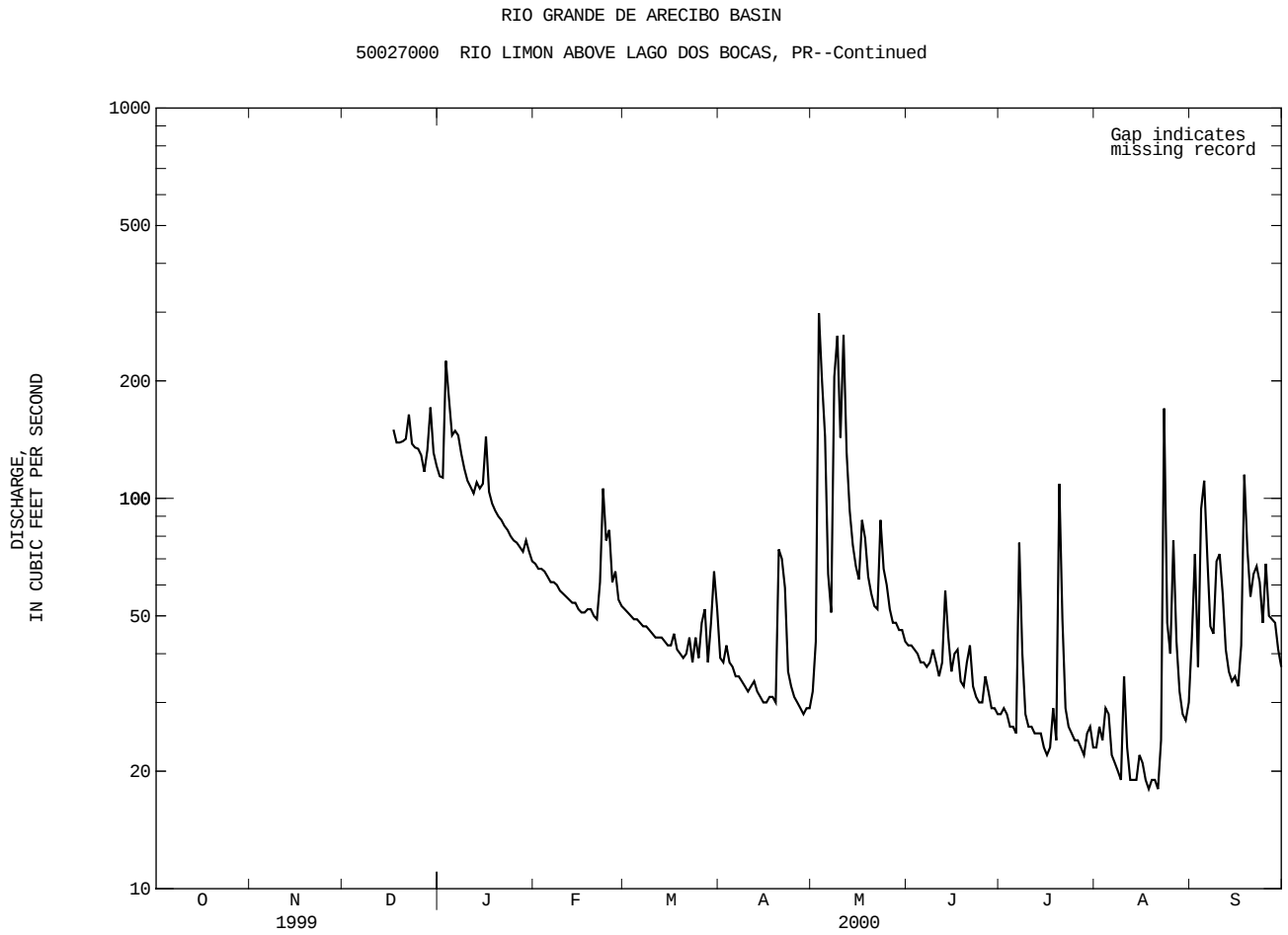
MEAN	---	---	---	108	60.8	45.7	36.4	97.5	37.0	31.0	31.7	57.3
MAX	---	---	---	108	60.8	45.7	36.4	97.5	37.0	31.0	31.7	57.3
(WY)	---	---	---	2000	2000	2000	2000	2000	2000	2000	2000	2000
MIN	---	---	---	108	60.8	45.7	36.4	97.5	37.0	31.0	31.7	57.3
(WY)	---	---	---	2000	2000	2000	2000	2000	2000	2000	2000	2000

SUMMARY STATISTICS

FOR 2000 WATER YEAR

HIGHEST DAILY MEAN	298	May	3
LOWEST DAILY MEAN	18	Aug	18
ANNUAL SEVEN-DAY MINIMUM	19	Aug	15
INSTANTANEOUS PEAK FLOW	2330	May	3
INSTANTANEOUS PEAK STAGE	10.33	May	3
INSTANTANEOUS LOW FLOW	17	Aug	18
10 PERCENT EXCEEDS	129		
50 PERCENT EXCEEDS	46		
90 PERCENT EXCEEDS	25		

e Estimated



RIO GRANDE DE ARECIBO BASIN

50027100 LAGO DOS BOCAS AT DAMSITE NEAR UTUADO, PR

LOCATION.--Lat 18°20'16", long 66°40'05", Hydrologic Unit 21010001, on upstream side of road 146 over damsite, close to the center of dam near bridge center, 10 mi (16.09 km) southeast of the city of Arecibo, 4.10 mi (6.596 km) north of Lago Caonillas Dam, 5.30 mi (8.527 km) northeast of Utuado Plaza, and 3.80 mi (6.114 km) southeast of Escuela Antonio Sánchez de Padilla.

DRAINAGE AREA.--169.45 mi² (438.87 km²).

ELEVATION RECORDS

PERIOD OF RECORD.--March 1999 to current year.

GAGE.--Water stage recorder. Datum of gage is mean sea level.

REMARKS.--Lago Dos Bocas was completed in 1942. The dam is a concrete gravity structure with a total length of 1,317 ft (401.42 m), a maximum height of 188 ft (57.302 m), and a maximum base width of 158 ft (48.158 m). No-overflow sections on each abutment have a total length of 957 ft (292 m). The dam and the powerplant comprise the Dos Bocas Hydroelectric Project, and provides 32,000 acre-feet (39.456 km³). A three-unit powerplant is located on the right bank of the slitting basin. The dam is owned by Puerto Rico Electric Power Authority. The capacity of Lago Dos Bocas was computed to be 714.40 million ft³ (20.23 million me³) for June 1997. The Puerto Rico Aqueduct and Sewer Authority (PRASA) plans to withdraw water from the Rio Grande de Arecibo, south of the town of Arecibo, to supply potable water for areas between Arecibo and San Juan town. Gage-height and precipitation satellite telemetry at station.

EXTREMES OBSERVED FOR CURRENT YEAR.--Maximum elevation, 298.55 ft (90.998 m), Nov.19,1999; minimum elevation, 283.88 ft (86.526 m), Aug.21,2000.

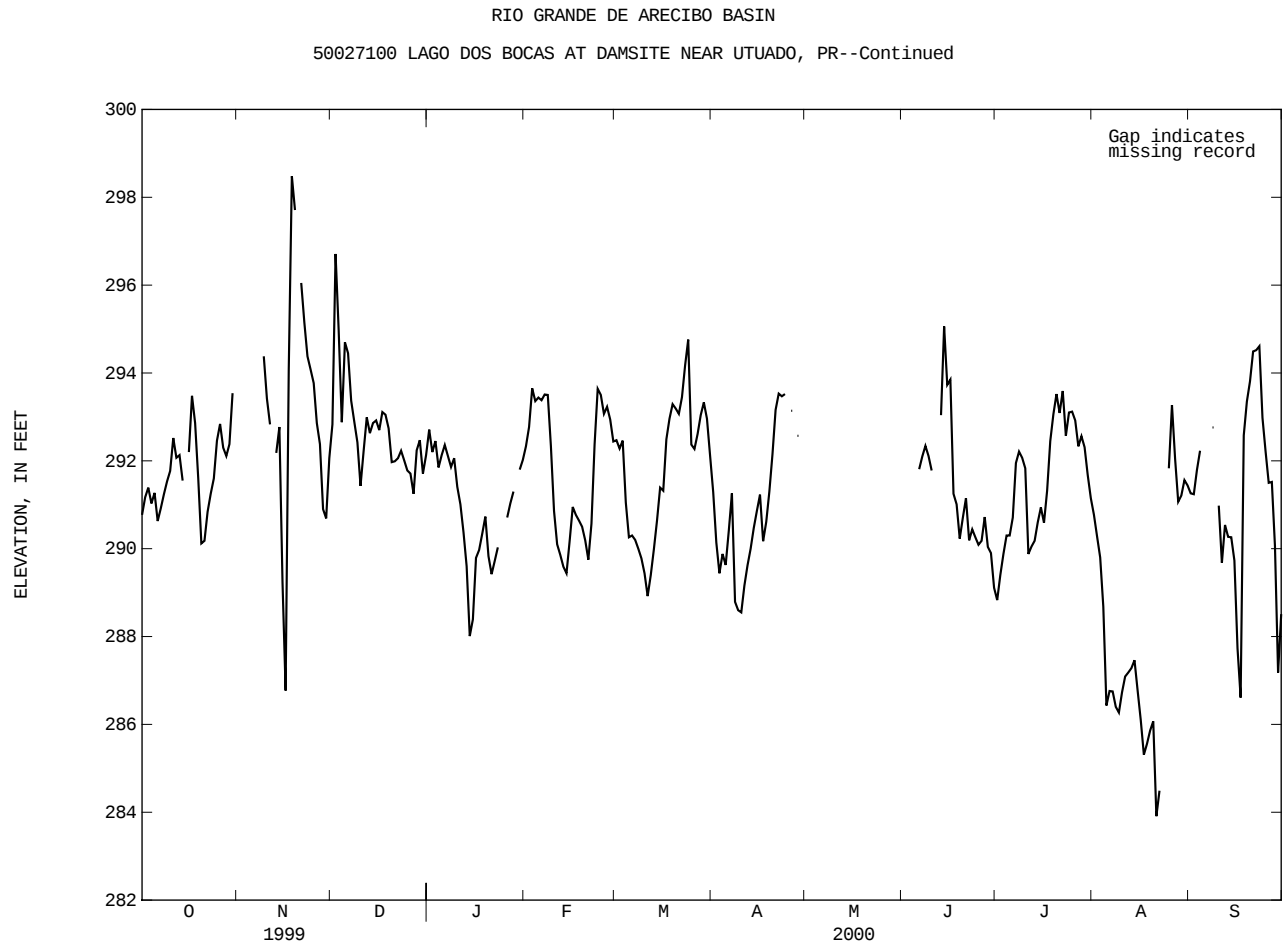
Capacity Table
(based on data from Puerto Rico Electric Power Authority)

Elevation, in feet	Contents, in acre-feet	Elevation, in feet	Contents, in acre-feet
216	0	275	9,283
236	1,403	288	13,684
256	4,491	295	16,400

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	290.77	A	292.83	292.71	292.33	292.47	291.29	A	A	288.83	290.77	291.26
2	291.17	A	296.71	292.20	292.77	292.28	290.14	A	A	289.40	290.28	291.24
3	291.39	A	294.96	292.45	293.65	292.46	289.44	A	A	289.88	289.80	291.79
4	291.03	A	292.88	291.85	293.36	291.05	289.88	A	A	290.30	288.68	292.23
5	291.27	A	294.70	292.13	293.44	290.26	289.63	A	A	290.30	286.43	A
6	290.63	A	294.45	292.36	293.38	290.30	290.41	A	291.81	290.71	286.76	A
7	290.92	A	293.37	292.11	293.51	290.20	291.26	A	292.10	291.95	286.75	A
8	291.24	A	292.89	291.86	293.50	290.00	288.79	A	292.34	292.21	286.40	292.76
9	291.53	294.38	292.42	292.06	292.33	289.78	288.60	A	292.11	292.07	286.27	A
10	291.77	293.42	291.43	291.41	290.86	289.44	288.55	A	291.78	291.83	286.73	290.98
11	292.52	292.83	292.23	291.01	290.10	288.92	289.16	A	A	289.88	287.09	289.68
12	292.07	A	292.99	290.37	289.86	289.40	289.62	A	A	290.05	287.18	290.54
13	292.13	292.18	292.63	289.60	289.59	289.99	290.00	A	293.04	290.18	287.28	290.27
14	291.55	292.77	292.86	288.01	289.44	290.64	290.47	A	295.06	290.60	287.46	290.26
15	A	289.24	292.92	288.39	290.17	291.39	290.86	A	293.73	290.94	286.77	289.73
16	292.20	286.77	292.70	289.79	290.95	291.32	291.23	A	293.85	290.59	286.10	287.73
17	293.48	294.07	293.11	289.97	290.77	292.49	290.17	A	291.25	291.32	285.31	286.61
18	292.86	298.48	293.05	290.34	290.64	292.96	290.61	A	291.01	292.45	285.56	292.58
19	291.60	297.71	292.74	290.73	290.50	293.29	291.30	A	290.23	293.06	285.86	293.35
20	290.12	A	291.97	289.83	290.19	293.19	292.15	A	290.71	293.52	286.07	293.81
21	290.18	296.05	291.99	289.42	289.75	293.07	293.16	A	291.15	293.09	283.91	294.49
22	290.84	295.15	292.06	289.72	290.57	293.45	293.53	A	290.19	293.59	284.49	294.52
23	291.25	294.38	292.23	290.03	292.37	294.17	293.47	A	290.44	292.57	A	294.61
24	291.60	294.08	292.01	A	293.64	294.76	293.52	A	290.26	293.10	A	292.98
25	292.46	293.77	291.78	A	293.50	292.37	A	A	290.09	293.12	291.83	292.21
26	292.84	292.86	291.71	290.71	293.07	292.27	293.14	A	290.18	292.92	293.27	291.50
27	292.30	292.38	291.25	291.03	293.23	292.61	A	A	290.72	292.33	292.05	291.52
28	292.11	290.90	292.24	291.30	292.94	293.04	292.57	A	290.04	292.56	291.07	290.06
29	292.38	290.69	292.47	A	292.44	293.33	A	A	289.90	292.31	291.21	287.18
30	293.54	292.06	291.71	291.80	---	292.96	A	A	289.11	291.68	291.56	288.51
31	A	---	292.13	292.02	---	292.12	---	A	---	291.15	291.44	---
MAX	293.54	298.48	296.71	292.71	293.65	294.76	293.53	---	295.06	293.59	293.27	294.61
MIN	290.12	286.77	291.25	288.01	289.44	288.92	288.55	---	289.11	288.83	283.91	286.61

A No gage-height record



RIO GRANDE DE ARECIBO BASIN

50027250 RIO GRANDE DE ARECIBO BELOW LAGO DOS BOCAS NEAR FLORIDA, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 18°20'50", long 66°40'02", at pedestrian bridge, 0.7 mi (1.1 km) downstream from Lago Dos Bocas and 6.6 mi (10.6km) west of Florida plaza.

DRAINAGE AREA.--169 mi² (436 km²) does not include 6.0 mi² (15.6 km²) above Lago Garzas.

PERIOD OF RECORD.--Water years 1970-71, 1974 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	STREP-TOCOCCI, KF AGAR (COLS. PER 100 ML) (31673)
NOV 04...	1220	E1500	179	7.7	25.3	160	6.6	80	<10	K640	K640
FEB 29...	0915	43	234	7.6	23.0	2.0	7.0	82	<10	K27	K140
MAR 29...	1000	55	235	7.7	25.5	.7	7.5	91	<10	K4	K17
MAY 02...	1600	63	218	7.1	25.4	.5	4.4	55	<10	K70	250
SEP 07...	1500	E1000	204	7.1	26.7	15	3.6	45	<10	320	800

DATE	HARD-NESS TOTAL (MG/L AS CAC03) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CAC03) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)
NOV 04...	65	18.0	4.94	7.9	.4	2.3	57	<1.0	11.7	7.8
FEB 29...	--	--	--	--	--	--	82	--	--	--
MAR 29...	86	22.9	6.89	11.2	.5	1.8	--	<1.0	13.5	11.7
MAY 02...	84	22.7	6.59	10.8	.5	1.9	78	<1.0	13.7	11.3
SEP 07...	74	19.9	5.84	10.2	.5	2.0	72	--	11.1	9.6

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SI02) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)
NOV 04...	.1	20.2	107	--	132	.90	.02	.9	.05	.38
FEB 29...	--	--	--	--	1	.60	.01	.6	.08	--
MAR 29...	<.1	16.9	--	--	1	.28	.02	.3	.10	.22
MAY 02...	<.1	20.0	134	22.6	<1	--	<.01	.1	.14	.10
SEP 07...	<.1	18.7	121	--	11	--	<.01	.3	.16	.16

DATE	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, TOTAL (MG/L AS NO3) (71887)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	CADMIUM UNFLTRD TOTAL (UG/L AS CD) (01027)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)
NOV 04...	.43	1.4	6.0	.130	<3	69.9	E15	.2	3	E20
FEB 29...	<.20	--	--	<.020	--	--	--	--	--	--
MAR 29...	.32	.62	2.7	<.020	<3	34.3	E12	E.1	<1	<20
MAY 02...	.24	.38	1.7	<.020	E2	34.3	E14	<.1	<1	<20
SEP 07...	.32	.65	2.9	.030	--	--	--	--	--	--

RIO GRANDE DE ARECIBO BASIN

50027750 RIO GRANDE DE ARECIBO ABOVE ARECIBO, PR

LOCATION.--Lat 18°25'22', long 66°41'58", Hydrologic Unit 21010002, 0.5 mi (0.8 km) upstream from Rio Tanamá, 3.6 mi (5.8 km), south of Arecibo and 4.9 mi (7.9 km) above mouth, and 10.4 mi (16.7 km) downstream from Lago Dos Bocas.

DRAINAGE AREA.--174 mi² (451 km²), approximately, of which an undetermined amount does not contribute directly to surface runoff.

PERIOD OF RECORD.--April 1982 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 30 ft (9 m), from topographic map.

REMARKS.--Records poor. Flow regulated by Lago Dos Bocas Dam 10.4 mi (16.7 km) upstream from gage. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

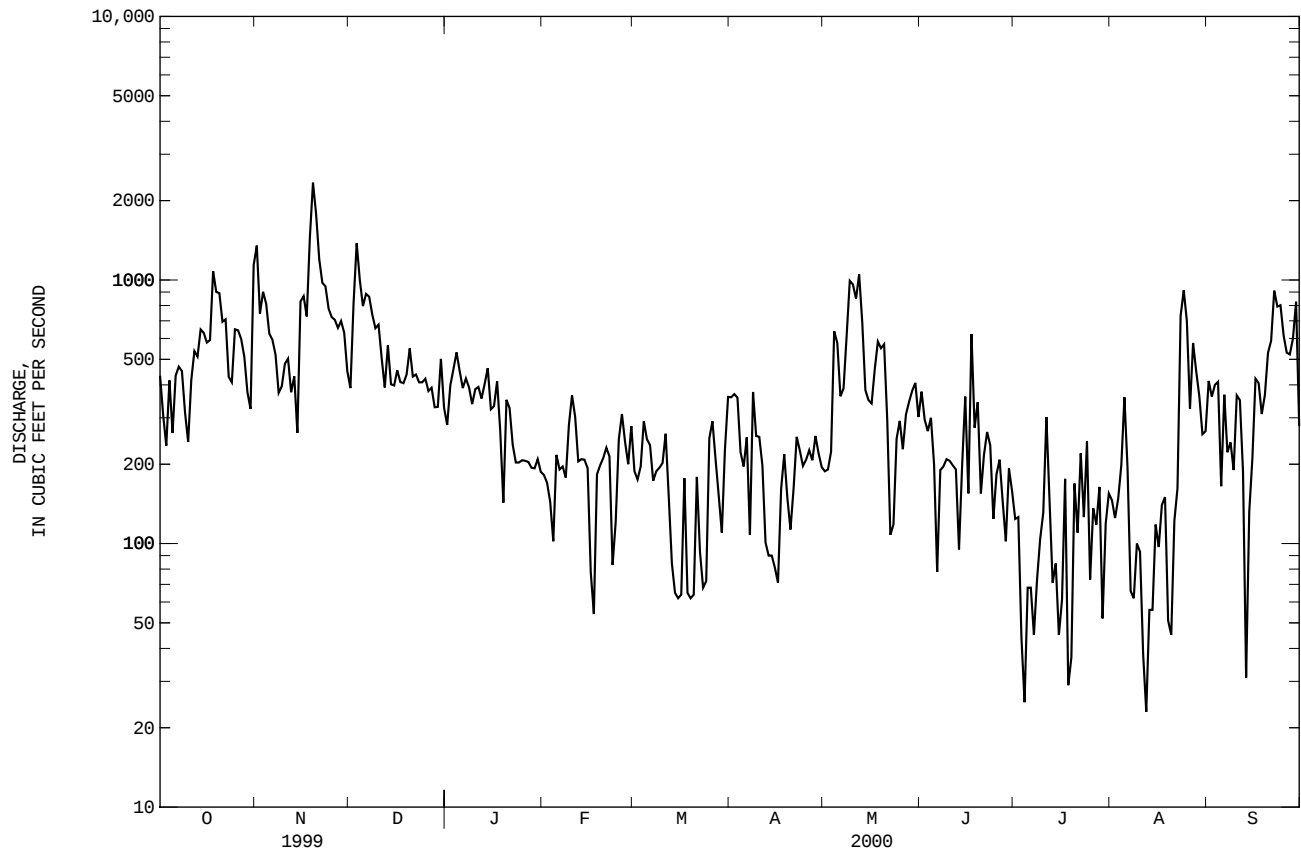
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	433	1350	389	282	182	188	359	188	377	124	146	414
2	307	745	818	398	170	175	369	191	295	126	125	361
3	235	902	1380	459	144	196	358	223	267	44	148	400
4	416	812	1000	531	102	291	222	639	300	25	198	411
5	263	626	796	451	217	249	196	577	200	68	359	165
6	434	593	886	389	191	236	253	362	78	68	193	367
7	469	520	864	423	196	173	108	388	190	45	66	222
8	451	373	739	391	178	188	376	616	196	73	62	242
9	314	395	656	338	282	194	256	993	209	104	100	190
10	243	481	677	385	365	202	254	962	206	131	93	365
11	417	503	506	393	303	261	198	849	198	302	38	350
12	537	375	391	355	205	150	101	1050	191	146	23	187
13	512	431	565	403	209	84	90	690	95	71	56	31
14	649	263	402	463	208	65	90	382	198	84	56	132
15	630	829	398	323	193	62	81	350	361	45	118	211
16	579	868	454	332	78	64	71	340	155	61	97	422
17	592	727	410	413	54	177	161	458	624	176	140	406
18	1080	1450	406	267	183	65	218	584	275	29	150	310
19	901	2340	438	143	198	62	149	551	344	37	51	366
20	891	1780	550	351	211	64	113	570	155	169	45	529
21	694	1200	430	326	231	179	162	296	217	110	122	588
22	709	976	438	237	214	93	254	108	265	220	162	911
23	429	946	409	203	83	68	225	118	236	126	730	793
24	409	779	409	203	121	72	197	250	124	244	914	802
25	650	723	422	207	249	251	208	292	183	73	700	617
26	644	706	379	206	310	291	226	228	208	136	325	530
27	597	658	390	204	243	208	207	309	144	118	577	522
28	511	699	329	194	200	152	256	345	102	164	450	600
29	375	631	330	193	279	110	220	380	193	52	362	827
30	324	451	502	209	---	228	195	407	158	119	260	279
31	1140	---	327	187	---	360	---	302	---	155	267	---
TOTAL	16835	24132	17090	9859	5799	5158	6173	13998	6744	3445	7133	12550
MEAN	543	804	551	318	200	166	206	452	225	111	230	418
MAX	1140	2340	1380	531	365	360	376	1050	624	302	914	911
MIN	235	263	327	143	54	62	71	108	78	25	23	31
AC-FT	33390	47870	33900	19560	11500	10230	12240	27770	13380	6830	14150	24890
CFSM	3.12	4.62	3.17	1.83	1.15	.96	1.18	2.60	1.29	.64	1.32	2.40
IN.	3.60	5.16	3.65	2.11	1.24	1.10	1.32	2.99	1.44	.74	1.52	2.68

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1982 - 2000, BY WATER YEAR (WY)

	MEAN	582	513	297	244	220	209	319	526	342	237	262	523
MAX	1984	1413	570	437	428	351	617	2000	683	374	474	1479	
(WY)	1986	1986	1988	1988	1988	1985	1986	1986	1987	1987	1988	1996	
MIN	171	123	72.4	83.5	61.2	60.1	65.7	178	69.3	62.7	82.8	99.9	
(WY)	1995	1995	1995	1995	1995	1998	1995	1994	1994	1994	1994	1994	

SUMMARY STATISTICS	FOR 1999 CALENDAR YEAR				FOR 2000 WATER YEAR				WATER YEARS 1982 - 2000			
ANNUAL TOTAL	148641				128916							
ANNUAL MEAN	407				352				356			
HIGHEST ANNUAL MEAN									729			
LOWEST ANNUAL MEAN									132			
HIGHEST DAILY MEAN	2340				2340				14800			
LOWEST DAILY MEAN	45				23				16			
ANNUAL SEVEN-DAY MINIMUM	69				61				22			
INSTANTANEOUS PEAK FLOW					2870				45800			
INSTANTANEOUS PEAK STAGE					8.63				18.22			
ANNUAL RUNOFF (AC-FT)	294800				255700				257600			
ANNUAL RUNOFF (CFSM)	2.34				2.02				2.04			
ANNUAL RUNOFF (INCHES)	31.78				27.56				27.76			
10 PERCENT EXCEEDS	781				713				731			
50 PERCENT EXCEEDS	355				267				239			
90 PERCENT EXCEEDS	113				84				56			

RIO GRANDE DE ARECIBO BASIN
50027750 RIO GRANDE DE ARECIBO ABOVE ARECIBO, PR--Continued



WATER-QUALITY RECORDS

PERIOD OF RECORDS.-- Water year 1982 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: October, 1995 to current year.

INSTRUMENTATION.-- USDH-48 sediment sampler and automatic sediment sampler since 1995.

REMARKS.-- Sediment samples were collected by a local observer on a weekly basis. During high flow events sediments samples were collected by hydrologic technician and automatic sediment sampler.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATION: Maximum daily mean, 3,510 mg/L September 22, 1998; Minimum daily mean, 1 mg/L several days during Water Year 2000.

SEDIMENT LOADS: Maximum daily mean, 84,900 tons (77,000 tonnes) September 22, 1998; Minimum daily mean, 0.06 ton (0.05 tonne) August 12, 2000.

EXTREMES FOR CURRENT YEAR 2000.

SEDIMENT CONCENTRATION: Maximum daily mean, 531 mg/L November 1, 1999; Minimum daily mean, 1 mg/L several days.

SEDIMENT LOADS: Maximum daily mean, 2,020 tons (1,832 tonnes) November 1, 1999; Minimum daily mean, 0.06 ton (0.05 tonne) August 12, 2000.

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
OCTOBER			NOVEMBER			DECEMBER			
1	433	52	74	1350	531	2020	389	31	36
2	307	32	34	745	292	579	818	79	253
3	235	32	24	902	199	483	1380	181	689
4	416	40	50	812	144	314	1000	116	315
5	263	22	22	626	104	174	796	74	158
6	434	22	34	593	44	80	886	47	113
7	469	27	44	520	49	72	864	33	77
8	451	30	40	373	32	38	739	39	78
9	314	26	26	395	26	32	656	50	89
10	243	24	20	481	47	65	677	54	98
11	417	38	47	503	48	68	506	50	67
12	537	70	133	375	54	54	391	26	30
13	512	61	107	431	42	55	565	37	58
14	649	63	119	263	34	28	402	14	17
15	630	53	102	829	58	131	398	32	42
16	579	48	88	868	27	63	454	38	55
17	592	57	132	727	22	44	410	34	44
18	1080	270	794	1450	47	223	406	33	43
19	901	218	531	2340	285	1800	438	34	48
20	891	141	338	1780	317	1510	550	52	79
21	694	82	158	1200	340	1090	430	31	44
22	709	69	144	976	365	961	438	31	42
23	429	40	50	946	310	790	409	31	41
24	409	30	39	779	72	157	409	54	59
25	650	146	323	723	46	97	422	30	41
26	644	80	154	706	54	111	379	49	51
27	597	71	126	658	51	95	390	30	37
28	511	28	41	699	51	104	329	14	18
29	375	22	23	631	41	75	330	17	20
30	324	31	32	451	34	39	502	35	61
31	1140	317	1540	---	---	---	327	21	27
TOTAL	16835	---	5389	24132	---	11352	17090	---	2830

RIO GRANDE DE ARECIBO BASIN

50027750 RIO GRANDE DE ARECIBO ABOVE ARECIBO, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JANUARY			FEBRUARY			MARCH			
1	282	20	22	182	17	11	188	17	13
2	398	27	35	170	17	9.1	175	7	4.6
3	459	32	49	144	15	6.5	196	14	10
4	531	45	79	102	14	4.7	291	22	21
5	451	36	52	217	21	16	249	50	33
6	389	32	38	191	19	12	236	26	23
7	423	35	46	196	19	13	173	10	5.9
8	391	32	40	178	12	7.9	188	11	7.4
9	338	29	31	282	17	16	194	8	6.2
10	385	28	32	365	24	29	202	13	8.6
11	393	35	42	303	25	25	261	15	12
12	355	31	34	205	20	15	150	10	5.2
13	403	36	44	209	23	16	84	4	.91
14	463	44	62	208	24	17	65	4	.70
15	323	31	35	193	30	17	62	4	.67
16	332	30	34	78	17	3.8	64	4	.73
17	413	44	53	54	15	2.3	177	24	12
18	267	20	16	183	12	8.4	65	14	2.5
19	143	12	5.2	198	16	11	62	12	2.1
20	351	30	32	211	17	12	64	11	2.0
21	326	28	30	231	20	16	179	10	5.0
22	237	15	15	214	23	17	93	10	2.5
23	203	18	13	83	9	2.0	68	10	1.7
24	203	16	11	121	11	3.5	72	9	1.8
25	207	14	11	249	23	17	251	16	20
26	206	16	12	310	20	22	291	14	14
27	204	11	9.4	243	22	20	208	18	12
28	194	14	10	200	17	11	152	5	2.2
29	193	12	8.3	279	29	24	110	4	1.2
30	209	18	13	---	---	---	228	4	2.5
31	187	17	11	---	---	---	360	15	17
TOTAL	9859	---	924.9	5799	---	385.2	5158	---	251.41

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
APRIL			MAY			JUNE			
1	359	25	29	188	17	10	377	33	39
2	369	31	36	191	16	9.8	295	25	22
3	358	32	35	223	21	15	267	21	18
4	222	22	15	639	78	151	300	24	23
5	196	16	9.6	577	93	178	200	16	13
6	253	26	21	362	38	49	78	6	1.2
7	108	8	2.5	388	31	38	190	16	9.7
8	376	13	20	616	58	110	196	17	11
9	256	11	8.0	993	107	290	209	19	13
10	254	22	17	962	106	278	206	19	12
11	198	19	12	849	92	254	198	17	11
12	101	7	2.1	1050	119	343	191	17	11
13	90	7	1.6	690	65	124	95	7	1.9
14	90	6	1.4	382	37	45	198	15	11
15	81	5	1.1	350	29	33	361	26	40
16	71	5	.88	340	27	31	155	16	8.2
17	161	11	7.5	458	31	51	624	52	98
18	218	19	15	584	44	81	275	29	30
19	149	10	5.1	551	44	77	344	28	32
20	113	10	3.2	570	45	80	155	18	9.2
21	162	12	5.9	296	25	29	217	21	15
22	254	25	22	108	8	2.4	265	20	16
23	225	21	16	118	10	3.7	236	10	6.8
24	197	17	11	250	23	20	124	6	2.1
25	208	18	11	292	29	27	183	15	8.9
26	226	21	16	228	20	15	208	17	10
27	207	18	12	309	26	24	144	11	4.9
28	256	20	15	345	30	31	102	7	2.3
29	220	21	16	380	33	38	193	18	11
30	195	17	11	407	33	44	158	11	5.1
31	---	---	---	302	26	30	---	---	---
TOTAL	6173	---	378.88	13998	---	2511.9	6744	---	496.3

RIO GRANDE DE ARECIBO BASIN

50027750 RIO GRANDE DE ARECIBO ABOVE ARECIBO, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JULY			AUGUST			SEPTEMBER			
1	124	9	4.3	146	11	6.1	414	35	48
2	126	8	3.5	125	11	4.9	361	30	43
3	44	3	.36	148	14	7.4	400	33	47
4	25	2	.13	198	16	10	411	25	31
5	68	4	1.0	359	17	18	165	14	8.0
6	68	5	.97	193	5	2.9	367	24	28
7	45	3	.37	66	4	.80	222	24	30
8	73	5	1.1	62	5	.87	242	14	12
9	104	7	2.5	100	8	2.5	190	12	10
10	131	8	3.9	93	3	.77	365	29	37
11	302	15	18	38	2	.18	350	27	35
12	146	7	2.9	23	1	.06	187	8	8.0
13	71	5	1.1	56	1	.15	31	3	.30
14	84	6	1.5	56	1	.15	132	12	6.1
15	45	2	.34	118	6	3.9	211	14	11
16	61	3	.61	97	4	1.2	422	31	55
17	176	13	11	140	9	4.6	406	26	39
18	29	1	.11	150	13	6.8	310	26	31
19	37	2	.22	51	9	1.3	366	23	30
20	169	11	9.6	45	7	.91	529	36	64
21	110	7	2.6	122	11	7.3	588	59	103
22	220	9	6.7	162	14	10	911	80	197
23	126	7	3.9	730	167	419	793	78	166
24	244	8	7.4	914	134	338	802	75	163
25	73	4	.80	700	69	141	617	55	96
26	136	3	1.0	325	21	28	530	29	51
27	118	8	3.0	577	57	97	522	37	62
28	164	12	7.5	450	59	81	600	54	95
29	52	4	.63	362	31	38	827	80	179
30	119	9	3.3	260	20	18	279	23	24
31	155	11	6.7	267	18	18	---	---	---
TOTAL	3445	---	107.04	7133	---	1268.79	12550	---	1709.40
YEAR	128916		27604.82						

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

SILT AND CLAY PERCENT OF SUSPENDED SEDIMENT

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
NOV					
02...	1708	834	294	662	95
JAN					
01...	1745	92	6	1.5	95
MAY					
04...	1427	735	131	260	93
05...	1727	740	166	332	94
JUL					
11...	1737	620	37	62	80
AUG					
23...	1142	703	756	1430	99
SEP					
08...	0207	57	675	104	67

50028000 RIO TANAMA NEAR UTUADO, PR

LOCATION.--Lat 18°18'02", long 66°46'58", Hydrologic Unit 21010001, on downstream side of left abutment of bridge on Highway 111, 1.2 mi (1.9 km) upstream from natural tunnel, 1.5 mi (2.4 km) northeast of Angeles, and 5.8 mi (9.3 km) northwest of Utuado.

DRAINAGE AREA.--18.4 mi² (47.7 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1944 to June 1958 (daily stage and two to four measurements per month by Puerto Rico Water Resources Authority), November 1959 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 938.32 ft (286.00 m) above mean sea level. Datum of gage was increased by 3.00 ft (0.91 m) on Oct. 1978.

REMARKS.--Records fair except those for estimated daily discharges, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	56	91	e75	53	33	e24	e26	24	34	30	e24	149
2	54	156	e140	54	35	e24	e25	26	33	32	e28	122
3	50	125	e160	67	34	e24	e24	102	32	29	e24	81
4	48	122	e112	60	33	e24	e24	105	31	36	e26	148
5	51	106	e130	62	32	e24	e25	60	30	30	e25	147
6	64	85	e140	59	31	e24	e23	49	30	50	e23	108
7	62	81	e120	55	31	e24	e22	111	29	46	e23	94
8	54	100	e112	53	31	e24	e26	162	28	30	e23	102
9	47	98	e92	54	30	e23	e23	146	27	112	e22	98
10	44	e90	e86	48	29	e24	e27	62	26	48	e22	83
11	106	e78	78	47	29	e23	e26	275	36	39	e21	66
12	58	e68	74	45	29	e23	e24	146	42	e35	23	62
13	77	e66	73	48	29	e23	e22	78	51	e30	22	60
14	51	e74	70	46	28	e24	e21	64	63	e29	21	58
15	49	e110	68	56	27	e24	e21	54	50	e27	22	56
16	168	e113	66	86	26	e24	e21	79	115	e26	26	178
17	122	e150	68	48	26	e24	e22	116	51	e26	26	112
18	121	e210	64	44	26	e24	e22	71	35	e25	22	161
19	83	e360	63	43	26	e24	e23	52	31	e39	22	138
20	100	e280	62	41	26	e24	e21	45	86	e28	22	133
21	100	e200	62	40	25	e23	e54	47	83	e39	21	102
22	122	e145	66	38	e26	e25	e54	45	41	e27	33	235
23	128	e130	59	38	e28	e24	e29	81	35	e26	424	167
24	95	e108	58	37	e36	e25	e24	54	32	e25	145	146
25	242	e94	61	37	e27	e24	22	47	31	e40	176	120
26	145	e88	56	37	e26	e23	22	41	75	e30	160	107
27	103	e84	54	38	e26	e24	21	40	42	e26	171	151
28	149	e76	56	37	e25	e23	20	62	33	e30	130	103
29	93	e76	81	37	e24	e23	20	41	32	e25	172	92
30	90	e74	56	35	---	e23	20	38	31	e25	131	85
31	147	---	55	33	---	e32	---	36	---	e25	103	---
TOTAL	2879	3638	2517	1476	834	745	754	2359	1295	1065	2133	3464
MEAN	92.9	121	81.2	47.6	28.8	24.0	25.1	76.1	43.2	34.4	68.8	115
MAX	242	360	160	86	36	32	54	275	115	112	424	235
MIN	44	66	54	33	24	23	20	24	26	25	21	56
AC-FT	5710	7220	4990	2930	1650	1480	1500	4680	2570	2110	4230	6870
CFSM	5.05	6.59	4.41	2.59	1.56	1.31	1.37	4.14	2.35	1.87	3.74	6.28
IN.	5.82	7.36	5.09	2.98	1.69	1.51	1.52	4.77	2.62	2.15	4.31	7.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 2000, BY WATER YEAR (WY)

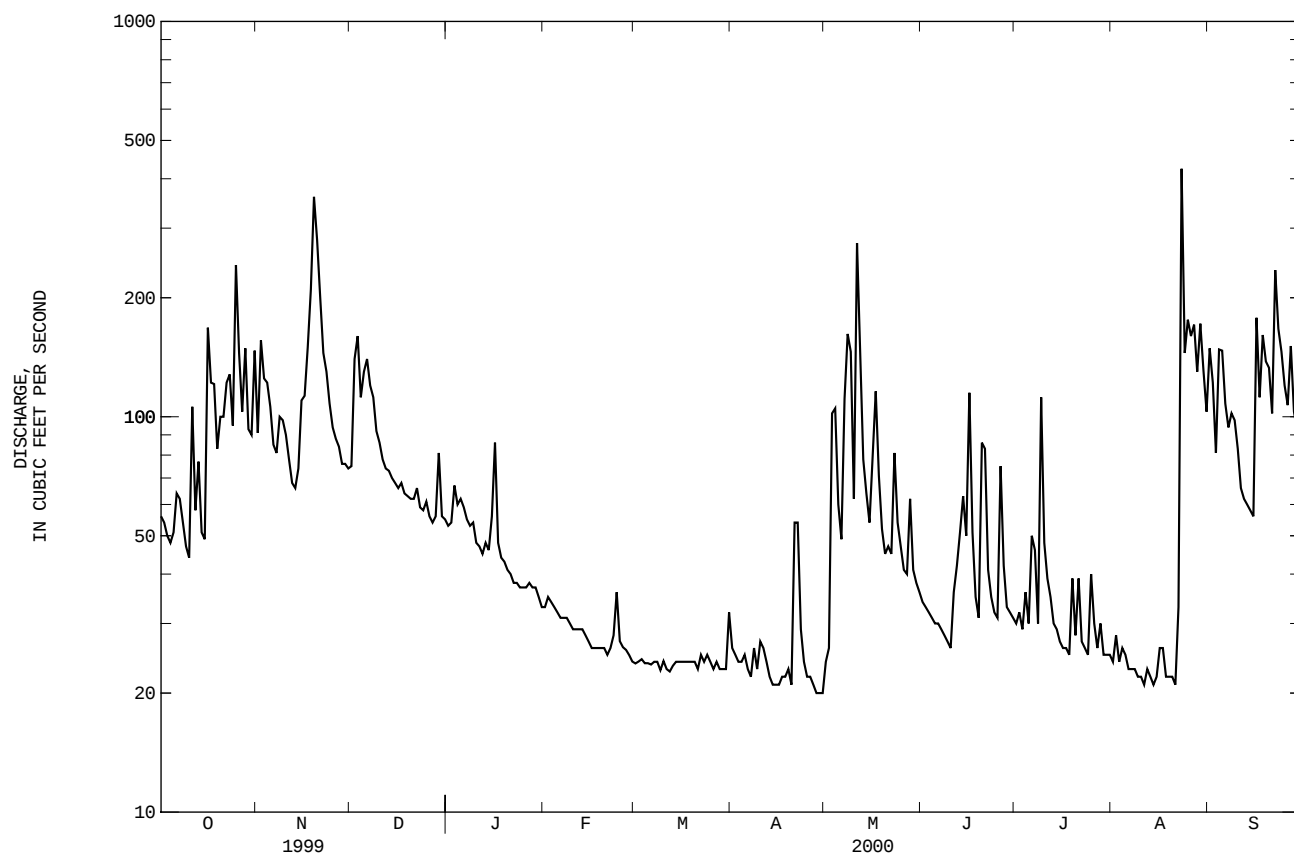
	MEAN	81.3	69.3	43.6	30.4	26.2	25.2	35.9	56.8	44.4	36.3	47.5	78.9
MAX	195	159	121	71.0	50.8	71.2	142	193	117	65.7	110	208	
(WY)	1990	1969	1966	1997	1996	1972	1969	1963	1999	1981	1979	1998	
MIN	25.4	25.1	18.1	14.7	13.2	11.0	9.70	12.4	15.6	9.18	15.9	25.0	
(WY)	1963	1995	1998	1998	1965	1984	1984	1977	1994	1994	1994	1994	

SUMMARY STATISTICS FOR 1999 CALENDAR YEAR FOR 2000 WATER YEAR WATER YEARS 1960 - 2000

	ANNUAL TOTAL	25995	23159	
ANNUAL MEAN	71.2	63.3	48.1	
HIGHEST ANNUAL MEAN			71.7	1999
LOWEST ANNUAL MEAN			20.7	1994
HIGHEST DAILY MEAN	360	Nov 19	424	Aug 23
LOWEST DAILY MEAN	25	Mar 17	20	Apr 28
ANNUAL SEVEN-DAY MINIMUM	27	May 20	21	Apr 24
INSTANTANEOUS PEAK FLOW			1730	Oct 16
INSTANTANEOUS PEAK STAGE			9.69	Oct 16
INSTANTANEOUS LOW FLOW			19	Apr 30
ANNUAL RUNOFF (AC-FT)	51560		45940	
ANNUAL RUNOFF (CFSM)	3.87		3.44	
ANNUAL RUNOFF (INCHES)	52.56		46.82	
10 PERCENT EXCEEDS	122		132	
50 PERCENT EXCEEDS	61		45	
90 PERCENT EXCEEDS	30		23	

e Estimated

RIO GRANDE DE ARECIBO BASIN
50028000 RIO TANAMA NEAR UTUADO, PR--Continued



RIO GRANDE DE ARECIBO BASIN

50028000 RIO TANAMA NEAR UTUADO, PR.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1958 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED SEDIMENT DISCHARGE: January 1968 to current year.

INSTRUMENTATION.--US D-49 SEDIMENT SAMPLER SINCE OCTOBER 1968.SEDIMENT PUMPING SAMPLER SINCE 1990

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATIONS: Maximum daily mean,20,400 mg/L November 27, 1968; minimum daily mean, 1 mg/L several days.

SEDIMENT LOADS: Maximum daily, 240,000 tons (218,000tonnes) September 22,1998; minimum daily, <0.01ton (<0.01tonne) several days during many years.

EXTREMES FOR CURRENT YEAR 2000.--

SEDIMENT CONCENTRATIONS: Maximum daily mean,1,630 mg/L August 23,2000; minimum daily mean, 3 mg/L August 14, 2000.

SEDIMENT LOADS: Maximum daily, 2,680 tons (2,431 tonnes) August 23,2000; minimum daily, .20 ton (.19 tonne) August 14,2000.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, UM-MF (COLS./100 ML) (31625)	STREP-TOCOCCI, FECAL, KF AGAR (COLS. PER 100 ML) (31673)
OCT 28...	1245	87	157	8.0	25.0	3.3	7.7	97	<10	2000	K150
FEB 22...	1100	29	166	7.0	22.2	3.0	8.6	102	<10	K5	K7
MAR 31...	0950	27	151	7.8	21.5	140	8.6	101	<10	3300	8400
APR 24...	1310	24	162	7.5	26.8	7.5	7.6	98	<10	210	220
AUG 16...	1225	28	169	8.2	27.5	3.5	9.4	123	<10	K64	K45

DATE	HARD-NESS TOTAL (MG/L AS CAC03) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CAC03) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS S04) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)
OCT 28...	56	13.4	5.36	7.1	.4	1.6	49	<1.0	10.8	7.9
FEB 22...	--	--	--	--	--	--	56	--	--	--
MAR 31...	52	12.5	5.05	7.0	.4	1.9	--	<1.0	8.1	8.1
APR 24...	61	14.8	5.73	8.0	.5	2.0	49	<1.0	11.7	8.1
AUG 16...	60	14.6	5.81	7.5	.4	1.4	56	--	11.2	7.6

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SI02) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)
OCT 28...	<.1	11.5	87	20.4	10	1.09	.01	1.1	.02	--
FEB 22...	--	--	--	--	<1	--	<.01	.8	.02	--
MAR 31...	<.1	23.6	--	--	109	.85	.02	.9	.05	.30
APR 24...	<.1	25.0	105	6.86	2	--	<.01	.9	.02	--
AUG 16...	<.1	24.2	106	7.93	<10	--	<.01	.4	.02	--

RIO GRANDE DE ARECIBO BASIN

50028000 RIO TANAMA NEAR UTUADO, PR.--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	NITRO- GEN, TOTAL (MG/L AS NO3) (71887)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV- ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CHRO- MIUM, WATER RECOV- ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)
OCT 28...	<.20	--	--	.030	<3	29.4	E11	E.1	E1	<20
FEB 22...	<.20	--	--	<.020	--	--	--	--	--	--
MAR 31...	.35	1.2	5.4	.080	<3	55.0	<18	<.1	7	E12
APR 24...	<.20	--	--	<.020	<3	29.4	E14	<.1	<1	<20
AUG 16...	<.20	--	--	<.020	--	--	--	--	--	--

DATE	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L AS SE) (01147)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	CYANIDE TOTAL (MG/L AS CN) (00720)	PHENOLS TOTAL (UG/L) (32730)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L) (38260)
OCT 28...	330	<1	23	<.3	<3	<1	<31	<.01	<4	.03
FEB 22...	--	--	--	--	--	--	--	--	--	--
MAR 31...	3080	1	166	<.3	<3	<1	<31	.01	<4	<.04
APR 24...	310	<1	20	<.3	<3	<1	<31	<.01	6	<.02
AUG 16...	--	--	--	--	--	--	--	--	--	--

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
OCTOBER			NOVEMBER			DECEMBER			
1	56	22	3.4	91	96	25	e75	e155	e58
2	54	9	1.4	156	754	785	e140	e145	e64
3	50	7	.95	125	281	100	e160	e754	e785
4	48	5	.67	122	332	151	e112	e209	e62
5	51	16	3.6	106	209	62	e130	e303	e122
6	64	95	20	85	129	30	e140	e303	e122
7	62	91	19	81	121	26	e120	e281	e100
8	54	48	7.5	100	252	122	e112	e209	e62
9	47	54	6.9	98	246	66	e92	e161	e60
10	44	43	5.1	e90	e114	e24	e86	e32	e7.4
11	106	632	606	e78	e114	e24	78	9	2.0
12	58	184	32	e68	e95	e20	74	9	1.8
13	77	155	58	e66	e95	e20	73	8	1.7
14	51	55	7.8	e74	e155	e58	70	8	1.5
15	49	46	6.3	e110	e632	e605	68	6	1.2
16	168	1160	2320	e113	e632	e605	66	6	1.1
17	122	403	218	e150	e716	e765	68	7	1.2
18	121	435	286	e210	e1160	e1860	64	7	1.3
19	83	168	39	e360	e1250	e2670	63	8	1.3
20	100	189	56	e280	e1160	e1860	62	8	1.4
21	100	183	55	e200	e1150	e1830	62	9	1.4
22	122	206	79	e145	e145	e64	66	7	1.3
23	128	303	122	e130	e281	e100	59	6	.96
24	95	162	43	e108	e246	e66	58	5	.85
25	242	1560	2540	e94	e246	e66	61	7	1.2
26	145	145	64	e88	e129	e30	56	10	1.6
27	103	70	20	e84	e168	e39	54	15	2.2
28	149	716	766	e76	e155	e58	56	22	3.4
29	93	95	25	e76	e155	e58	81	129	31
30	90	110	29	e74	e155	e58	56	44	6.7
31	147	578	395	---	---	---	55	18	2.8
TOTAL	2879	---	7835.62	3638	---	12247	2517	---	1510.31

RIO GRANDE DE ARECIBO BASIN

50028000 RIO TANAMA NEAR UTUADO, PR.--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JANUARY			FEBRUARY			MARCH			
1	53	18	2.6	33	9	.79	e24	e7	e.44
2	54	19	2.8	35	7	.70	e24	e7	e.45
3	67	74	14	34	6	.58	e24	e7	e.46
4	60	26	4.3	33	5	.46	e24	e7	e.46
5	62	41	10	32	5	.44	e24	e7	e.47
6	59	57	9.4	31	5	.45	e24	e7	e.48
7	55	21	3.3	31	6	.47	e24	e7	e.48
8	53	19	2.8	31	6	.48	e24	e8	e.49
9	54	22	3.2	30	7	.57	e23	e8	e.49
10	48	25	3.2	29	13	1.0	e24	e8	e.49
11	47	25	3.2	29	19	1.5	e23	e8	e.50
12	45	15	1.9	29	12	.92	e23	e8	e.50
13	48	9	1.2	29	7	.51	e23	e8	e.50
14	46	6	.73	28	4	.32	e24	e8	e.52
15	56	23	7.2	27	5	.35	e24	e8	e.54
16	86	161	60	26	6	.41	e24	e8	e.55
17	48	26	3.4	26	7	.47	e24	e9	e.56
18	44	10	1.2	26	7	.47	e24	e9	e.56
19	43	7	.83	26	6	.45	e24	e9	e.57
20	41	5	.60	26	6	.43	e24	e9	e.58
21	40	4	.47	25	6	.41	e23	e9	e.58
22	38	5	.56	e26	e6	e.43	e25	e9	e.60
23	38	7	.75	e28	e6	e.43	e24	e9	e.62
24	37	10	1.0	e36	e6	e.46	e25	e9	e.63
25	37	13	1.3	e27	e6	e.55	e24	e10	e.64
26	37	13	1.3	e26	e6	e.55	e23	e10	e.62
27	38	14	1.4	e26	e7	e.47	e24	e10	e.63
28	37	10	1.0	e25	e7	e.47	e23	e10	e.64
29	37	6	.60	e24	e7	e.45	e23	e10	e.63
30	35	6	.56	---	---	---	e23	e10	e.64
31	33	9	.80	---	---	---	e32	e10	e.77
TOTAL	1476	---	145.60	834	---	15.99	745	---	17.09

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
APRIL			MAY			JUNE			
1	e26	e11	e.83	24	12	.98	34	11	.99
2	e25	e11	e.74	26	24	1.7	33	10	.88
3	e24	e11	e.72	102	489	346	32	9	.83
4	e24	e11	e.72	105	438	257	31	9	.77
5	e25	e11	e.74	60	108	23	30	9	.76
6	e23	e9	e.52	49	73	25	30	10	.83
7	e22	e9	e.52	111	762	888	29	12	.91
8	e26	e12	e.76	162	516	349	28	13	.98
9	e23	e9	e.52	146	281	123	27	12	.88
10	e27	e12	e.81	62	92	16	26	11	.78
11	e26	e12	e.88	275	1250	2670	36	37	6.1
12	e24	e12	e.84	146	89	43	42	89	13
13	e22	e13	e.78	78	25	5.3	51	67	10
14	e21	e13	e.74	64	13	2.3	63	216	92
15	e21	e13	e.73	54	8	1.2	50	34	7.9
16	e21	e13	e.75	79	180	95	115	822	602
17	e22	e13	e.77	116	298	161	51	71	10
18	e22	e14	e.80	71	66	14	35	33	3.1
19	e23	e14	e.83	52	24	3.4	31	27	2.3
20	e21	e14	e.83	45	15	1.8	86	350	297
21	e54	e108	e23	47	9	1.1	83	251	80
22	e54	e108	e23	45	6	.74	41	43	4.8
23	e29	e24	e1.7	81	231	129	35	26	2.5
24	e24	e10	e.65	54	58	8.9	32	23	2.0
25	22	9	.52	47	30	3.8	31	20	1.7
26	22	8	.45	41	29	3.2	75	307	202
27	21	7	.38	40	34	4.0	42	51	5.8
28	20	7	.36	62	87	17	33	31	2.8
29	20	7	.40	41	49	5.5	32	19	1.6
30	20	8	.41	38	26	2.7	31	10	.82
31	---	---	---	36	17	1.6	---	---	---
TOTAL	754	---	65.70	2359	---	5204.22	1295	---	1356.03

RIO GRANDE DE ARECIBO BASIN

50028000 RIO TANAMA NEAR UTUADO, PR.--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JULY			AUGUST			SEPTEMBER			
1	30	10	.84	e24	e11	e.84	149	343	255
2	32	15	1.3	e28	e13	e1.0	122	71	32
3	29	13	1.0	e24	e6	e.33	81	10	2.1
4	36	28	3.7	e26	e6	e.33	148	507	439
5	30	27	2.2	e25	e6	e.33	147	486	248
6	50	89	35	e23	e6	e.33	108	211	62
7	46	59	8.5	e23	e6	e.33	94	71	19
8	30	29	2.4	e23	e6	e.33	102	192	86
9	112	647	548	e22	e6	e.33	98	194	65
10	48	38	6.3	e22	e6	e.33	83	91	21
11	39	18	2.6	e21	e5	e.30	66	44	7.9
12	e35	e35	e3.3	23	4	.26	62	21	3.6
13	e30	e11	e.84	22	4	.21	60	11	1.8
14	e29	e13	e1.0	21	3	.19	58	13	2.1
15	e27	e13	e1.0	22	6	.33	56	24	3.6
16	e26	e11	e.78	26	19	1.6	178	1560	2600
17	e26	e11	e.78	26	33	2.3	112	211	66
18	e25	e11	e.78	22	23	1.4	161	167	87
19	e39	e18	e2.6	22	15	.88	138	172	125
20	e28	e13	e1.0	22	10	.58	133	206	78
21	e39	e18	e2.6	21	5	.28	102	63	18
22	e27	e13	e1.0	33	527	78	235	1160	1860
23	e26	e11	e.78	424	1630	2680	167	203	91
24	e25	e11	e.78	145	280	200	146	158	69
25	e40	e51	e5.8	176	433	334	120	167	55
26	e30	e11	e.84	160	291	132	107	145	42
27	e26	e11	e.78	171	637	708	151	402	204
28	e30	e11	e.84	130	274	111	103	35	9.8
29	e25	e11	e.84	172	919	1140	92	18	4.5
30	e25	e11	e.84	131	247	93	85	17	4.0
31	e25	e11	e.84	103	79	29	---	---	---
TOTAL	1065	---	639.86	2133	---	5517.81	3464	---	6561.4
YEAR	23159		41116.63						

e Estimated

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

SILT AND CLAY PERCENT OF SUSPENDED SEDIMENT

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT					
19...	0730	81	172	38	95
NOV					
09...	0720	81	379	83	97
JAN					
11...	0745	46	28	3.5	65
MAY					
04...	1910	265	1870	1340	98
09...	0700	137	178	66	96
AUG					
24...	1807	362	853	834	94
SEP					
04...	1532	285	1040	800	96

RIO GRANDE DE ARECIBO BASIN

50028000 RIO TANAMA NEAR UTUADO, PR.--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM (70326)	SED. SUSP. FALL DIAM. % FINER THAN .004 MM (70327)	SED. SUSP. FALL DIAM. % FINER THAN .008 MM (70328)	
MAY								
04...	1750	257	3280	2280	35	52	77	
07...	1920	751	7780	15800	28	38	54	
11...	1445	1210	6860	22400	35	45	57	
16...	1742	287	1500	1160	46	58	71	
AUG								
25...	1645	426	1860	2150	31	44	64	
SEP								
04...	1702	494	3840	5120	37	50	69	
DATE		SED. SUSP. FALL DIAM. % FINER THAN .016 MM (70329)	SED. SUSP. FALL DIAM. % FINER THAN .031 MM (70330)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM (70332)	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM (70333)	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM (70334)	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM (70335)
MAY								
04...	92	98	100	100	100	100	100	100
07...	70	84	90	96	99	100	100	100
11...	67	74	79	87	95	99	100	100
16...	83	92	95	99	100	100	100	100
AUG								
25...	79	92	94	98	100	100	100	100
SEP								
04...	84	92	97	99	100	100	100	100

RIO GRANDE DE ARECIBO BASIN

50028400 RIO TANAMA AT CHARCO HONDO, PR

LOCATION.--Lat 18°24'52", long 66°42'52", Hydrologic Unit 21010002 on right bank near to an abandoned power house at Charco Hondo, 1.5 mi (2.4 km) upstream from mouth, and 4 mi (6 km) south of Arecibo.

DRAINAGE AREA.--22.2 mi² (57.5 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1969 to June 1971, October 1981 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 60 ft (18 m), from topographic map.

REMARKS.--Records poor. Diversion 0.8 mi (1.3 km) upstream for municipal supply of Arecibo. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	121	426	e140	e120	e77	e64	69	54	e63	e57	50	e157
2	115	324	e290	e117	e78	e64	66	64	e62	e56	58	e186
3	98	268	e350	e146	e82	e65	64	110	e61	e56	51	e119
4	89	218	e240	e161	e78	e64	65	134	e60	e53	53	e164
5	85	210	e280	e158	e77	e64	66	118	e59	e60	53	e175
6	91	177	e300	e141	e74	e64	61	71	e58	e52	48	e150
7	158	155	e250	e118	e74	e63	60	122	e57	e90	48	e124
8	143	153	e240	e108	e74	e63	68	165	e57	e83	47	e120
9	99	168	215	e112	e73	e62	61	257	e56	e77	45	e123
10	88	149	207	e103	e71	e64	71	187	e56	e100	45	e126
11	138	147	181	e97	e70	e61	69	530	e55	e62	44	e113
12	140	127	168	e95	e70	e61	63	e411	e66	e65	43	e101
13	172	e123	158	e95	70	e63	60	e143	e81	e62	43	e97
14	230	e142	151	e99	70	e64	57	e104	e77	e60	44	e92
15	269	e216	145	e101	69	e63	55	e91	e89	e55	43	e95
16	408	228	139	e189	70	e63	54	93	e118	e53	45	e233
17	254	315	e144	e115	70	e64	57	175	e98	e53	51	e159
18	265	468	e133	e98	69	e64	57	190	e66	e54	43	e186
19	204	777	e135	e92	70	e63	60	100	e61	e84	42	e165
20	190	e577	e135	e90	70	e63	56	85	e61	e58	44	e169
21	207	e393	e134	e89	70	e62	e144	79	e143	e81	41	e137
22	291	e290	e150	e88	70	e66	e143	81	e78	e57	42	e342
23	209	e250	e136	e88	75	e63	e74	90	e63	e53	606	e256
24	180	e203	e132	e86	95	e65	e67	100	e60	e51	e181	e162
25	590	e181	e129	e86	71	e64	e63	80	e58	e82	e208	e146
26	503	e171	e124	e85	69	e62	e60	72	e83	e63	e196	e129
27	305	e160	e118	e83	68	e64	56	69	e81	e54	e209	e202
28	302	e150	e121	e84	67	e62	54	78	e63	e62	e182	e142
29	219	e140	e190	e82	65	e62	53	80	e57	e52	e201	e125
30	186	e140	e132	e85	---	e61	55	67	e56	e51	e172	e108
31	368	---	e126	e82	---	e85	---	65	---	e52	e130	---
TOTAL	6717	7446	5493	3293	2106	1982	2008	4065	2103	1948	3108	4603
MEAN	217	248	177	106	72.6	63.9	66.9	131	70.1	62.8	100	153
MAX	590	777	350	189	95	85	144	530	143	100	606	342
MIN	85	123	118	82	65	61	53	54	55	51	41	92
AC-FT	13320	14770	10900	6530	4180	3930	3980	8060	4170	3860	6160	9130
CFSM	9.76	11.2	7.98	4.78	3.27	2.88	3.02	5.91	3.16	2.83	4.52	6.91
IN.	11.26	12.48	9.20	5.52	3.53	3.32	3.36	6.81	3.52	3.26	5.21	7.71

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1969 - 2000, BY WATER YEAR (WY)

MEAN	168	138	86.7	63.1	51.8	45.2	66.0	125	94.5	67.2	84.5	143
MAX	335	260	219	167	106	76.1	141	371	236	120	168	448
(WY)	1990	1982	1982	1997	1996	1999	1986	1999	1969	1998	1998	1998
MIN	72.1	50.4	36.4	22.3	16.8	16.6	25.9	15.8	23.3	22.0	35.1	44.9
(WY)	1983	1995	1989	1989	1989	1988	1989	1989	1989	1989	1994	1994

SUMMARY STATISTICS

FOR 1999 CALENDAR YEAR

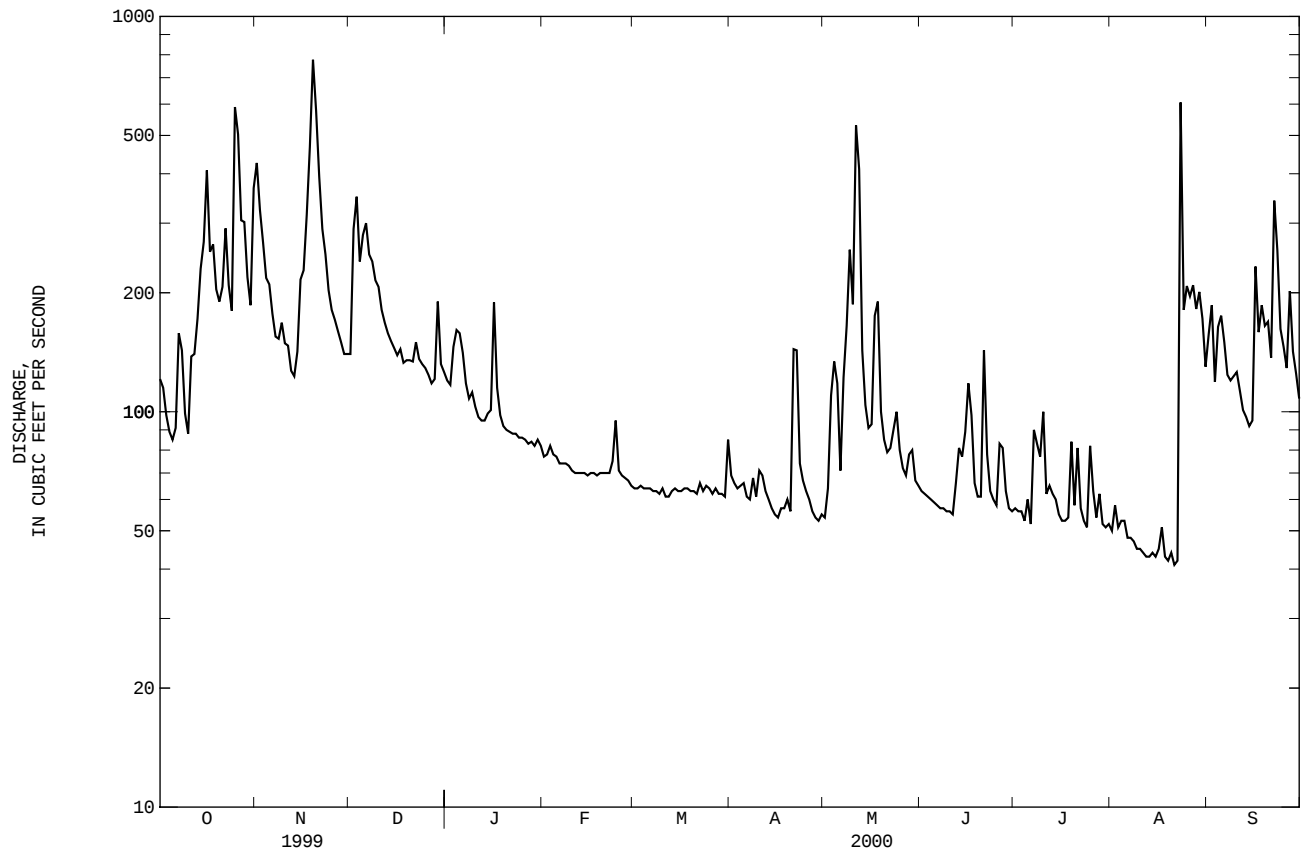
FOR 2000 WATER YEAR

WATER YEARS 1969 - 2000

ANNUAL TOTAL	51427	44872	
ANNUAL MEAN	141	123	92.9
HIGHEST ANNUAL MEAN			133
LOWEST ANNUAL MEAN			46.9
HIGHEST DAILY MEAN	777	777	6400
LOWEST DAILY MEAN	41	41	4.2
ANNUAL SEVEN-DAY MINIMUM	51	44	5.4
INSTANTANEOUS PEAK FLOW		3530	15000
INSTANTANEOUS PEAK STAGE		12.00	24.56
ANNUAL RUNOFF (AC-FT)	102000	89000	67310
ANNUAL RUNOFF (CFSM)	6.35	5.52	4.18
ANNUAL RUNOFF (INCHES)	86.17	75.19	56.86
10 PERCENT EXCEEDS	252	222	182
50 PERCENT EXCEEDS	117	85	67
90 PERCENT EXCEEDS	57	55	30

e Estimated

RIO GRANDE DE ARECIBO BASIN
50028400 RIO TANAMA AT CHARCO HONDO, PR--Continued



RIO GRANDE DE ARECIBO BASIN

50029000 RIO GRANDE DE ARECIBO AT CENTRAL CAMBALACHE, PR

LOCATION.--Lat 18°27'20", long 66°42'10", Hydrologic Unit 21010002, at bridge on unimproved road, about 500 ft (152 m) upstream from Central Cambalache, near Highway 2, 13.9 mi (22.4 km) downstream from Dos Bocas Reservoir, 1.9 mi (3.1 km) downstream from Río Tanamá junction, and 1.6 mi (2.6 km) southeast of Arecibo.

DRAINAGE AREA.--200 mi² (520 km²).

PERIOD OF RECORD.--January 1963 to January 1965 (monthly measurements only), February 1965 to April 1969 (occasional measurements only), May 1969 to September 1983, October 1996 to current year.

GAGE.--Water-stage recorder. Datum of gage is 3.73 ft (1.14 m) above mean sea level.

REMARKS.--Records poor. Flow regulated by Lago Dos Bocas dam, 13.9 mi (22.4 km) upstream. Gage-height satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	642	2890	822	460	318	310	406	252	465	224	235	e555
2	510	1280	1620	556	297	266	414	261	382	215	214	e933
3	415	1530	2960	634	274	297	424	316	324	111	235	e568
4	584	1340	2050	763	213	382	272	807	366	77	279	e681
5	436	1040	1550	666	352	346	210	758	280	124	448	e437
6	603	994	1840	555	321	356	285	489	139	138	290	e323
7	695	866	1850	604	333	256	126	484	246	127	126	e830
8	669	672	1530	561	306	270	424	788	252	164	124	e259
9	468	698	1410	507	412	283	331	1410	268	193	170	e570
10	389	762	1450	543	523	286	287	1350	258	256	162	e917
11	566	813	1030	553	460	330	258	1300	239	389	98	e769
12	749	648	834	504	343	226	131	1630	237	261	72	e265
13	748	704	1060	552	337	147	116	896	146	153	99	e209
14	906	540	862	633	338	126	120	529	243	163	106	244
15	915	1260	841	478	326	118	110	469	410	108	164	320
16	878	1350	875	513	193	115	109	450	214	114	195	560
17	889	1130	784	567	166	241	198	601	723	265	243	574
18	1780	2690	760	410	306	123	289	774	344	90	258	493
19	1330	5690	802	277	313	114	178	702	379	117	133	504
20	1310	3740	939	480	313	113	148	706	208	232	118	692
21	1010	2480	766	481	338	220	199	413	277	212	180	738
22	1100	2040	760	388	330	154	363	193	307	328	306	1180
23	631	1840	714	349	189	114	301	188	276	183	1250	1110
24	621	1480	692	343	250	119	265	346	160	367	1360	1040
25	1130	1360	710	348	349	298	257	371	212	178	991	824
26	1100	1380	645	344	433	385	284	297	238	234	513	711
27	1000	1260	658	345	358	254	257	364	197	208	763	727
28	911	1320	553	337	297	193	307	431	123	261	635	791
29	723	1190	549	333	387	138	288	480	219	124	530	1100
30	628	882	754	351	---	257	256	503	249	205	423	469
31	2220	---	532	328	---	419	---	382	---	249	386	---
TOTAL	26556	45869	33202	14763	9375	7256	7613	18940	8381	6070	11106	19393
MEAN	857	1529	1071	476	323	234	254	611	279	196	358	646
MAX	2220	5690	2960	763	523	419	424	1630	723	389	1360	1180
MIN	389	540	532	277	166	113	109	188	123	77	72	209
AC-FT	52670	90980	65860	29280	18600	14390	15100	37570	16620	12040	22030	38470
CFSM	4.28	7.64	5.36	2.38	1.62	1.17	1.27	3.05	1.40	.98	1.79	3.23
IN.	4.94	8.53	6.18	2.75	1.74	1.35	1.42	3.52	1.56	1.13	2.07	3.61

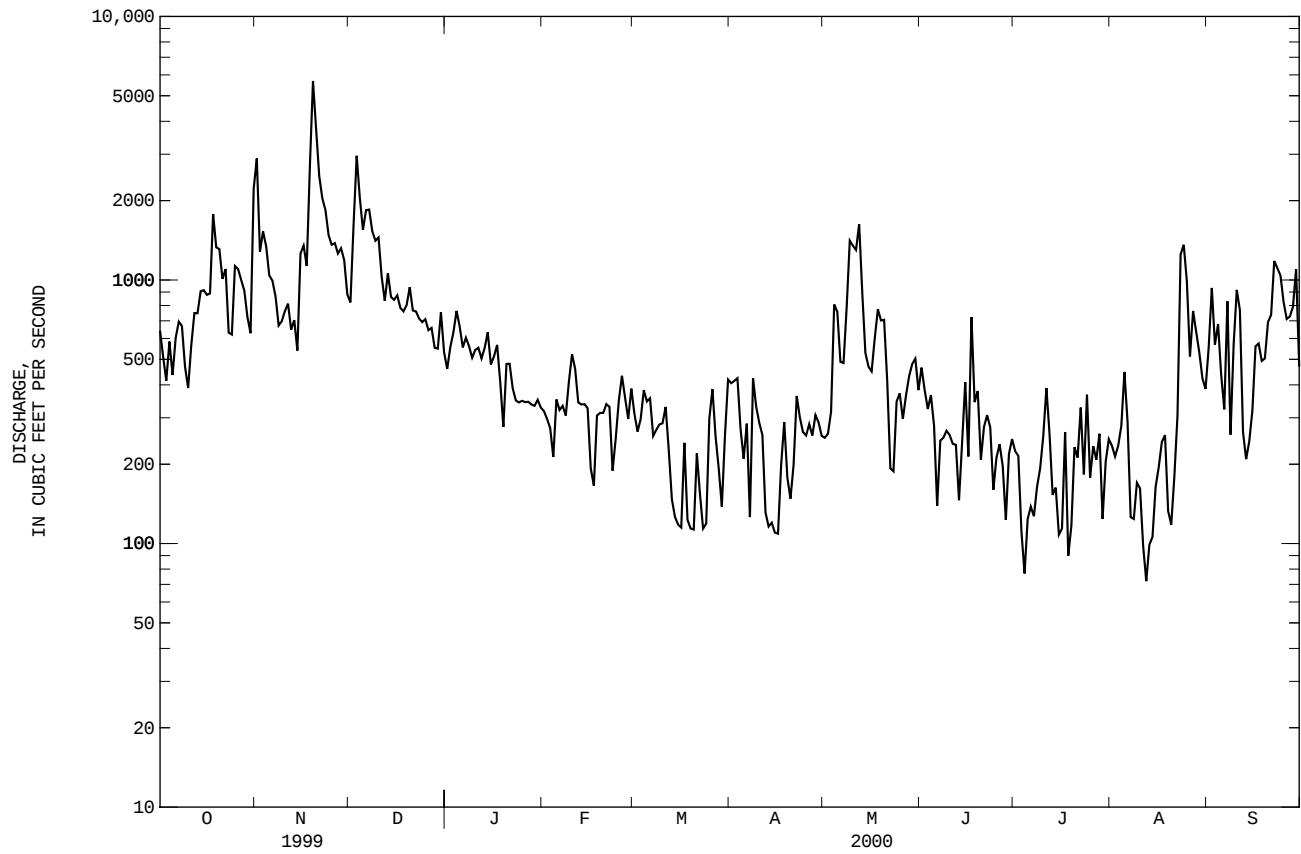
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1969 - 2000, BY WATER YEAR (WY)

MEAN	810	763	550	360	298	312	367	545	465	373	444	710
MAX	1577	1529	1327	651	425	627	641	1192	1220	854	1269	1866
(WY)	1971	2000	1982	1997	1997	1972	1983	1980	1979	1979	1979	1979
MIN	404	201	150	155	152	122	196	188	139	189	218	271
(WY)	1983	1998	1998	1973	1974	1998	1975	1977	1977	1997	1974	1997

SUMMARY STATISTICS	FOR 1999 CALENDAR YEAR		FOR 2000 WATER YEAR		WATER YEARS 1969 - 2000	
ANNUAL TOTAL	235992		208524			
ANNUAL MEAN	647		570		508	
HIGHEST ANNUAL MEAN					691	
LOWEST ANNUAL MEAN					290	
HIGHEST DAILY MEAN	5690	Nov 19	5690	Nov 19	15900	Aug 31 1979
LOWEST DAILY MEAN	96	Jan 20	72	Aug 12	56	Mar 28 1998
ANNUAL SEVEN-DAY MINIMUM	145	Feb 18	119	Aug 8	67	Mar 18 1998
INSTANTANEOUS PEAK FLOW			7870	Oct 31	Not determined	Sep 22 1998
INSTANTANEOUS PEAK STAGE			11.37	Oct 31	19.28	Sep 22 1998
INSTANTANEOUS LOW FLOW					50	Feb 26 1974
ANNUAL RUNOFF (AC-FT)	468100		413600		368200	
ANNUAL RUNOFF (CFSM)	3.23		2.85		2.54	
ANNUAL RUNOFF (INCHES)	43.89		38.79		34.53	
10 PERCENT EXCEEDS	1270		1210		982	
50 PERCENT EXCEEDS	527		384		357	
90 PERCENT EXCEEDS	195		147		136	

e Estimated

RIO GRANDE DE ARECIBO BASIN
50029000 RIO GRANDE DE ARECIBO AT CENTRAL CAMBALACHE, PR--Continued



RIO GRANDE DE ARECIBO BASIN

50029000 RIO GRANDE DE ARECIBO AT CENTRAL CAMBALACHE, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 18°27'20", long 66°42'10", Hydrologic Unit 21010002, at bridge on unimproved road, about 500 ft (152 m) upstream from Central Cambalache, near Highway 2, 10 mi (13.4 km) downstream from Dos Bocas Reservoir, 1.9 mi (3.1 km) downstream from Rio Tanamá, and 1.6 mi (2.6 km) southeast of Arecibo.

DRAINAGE AREA.--200 mi² (520 km²), approximately.

PERIOD OF RECORD.--Water years 1963-66, 1969 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	TURBIDITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER CENT SATURATION) (00301)	OXYGEN DEMAND, CHEMICAL (HIGH LEVEL) (MG/L) (00340)	COLIFORM, FECA, 0.7 UM-MF (COLS./100 ML) (31625)	STREPTOCOCCI, FECA, KF AGAR (COLS. PER 100 ML) (31673)
NOV 08...	0900	E574	243	7.9	24.3	38	7.1	85	14	410	360
FEB 09...	1000	250	275	8.0	23.3	2.6	8.0	94	<10	25	K150
MAR 29...	1240	120	324	8.1	27.0	1.5	8.8	110	<10	K110	K20
MAY 02...	1155	251	262	7.7	25.1	.6	7.6	92	<10	450	K50
AUG 08...	1200	116	277	8.0	28.7	1.4	10.6	138	<10	K140	K100

DATE	HARDNESS TOTAL (MG/L AS CAC03) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNESIUM DIS-SOLVED (MG/L AS MG) (00925)	SODIUM DIS-SOLVED (MG/L AS NA) (00930)	SODIUM ADSORPTION RATIO (00931)	POTASSIUM DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CAC03) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLORIDE, DIS-SOLVED (MG/L AS CL) (00940)
NOV 08...	100	33.3	5.10	7.6	.3	1.9	98	<1.0	10.4	8.8
FEB 09...	--	--	--	--	--	--	103	--	--	--
MAR 29...	140	46.5	6.00	8.7	.3	1.5	--	1.6	9.9	11.8
MAY 02...	110	34.7	6.37	9.7	.4	1.6	107	<1.0	12.1	11.1
AUG 08...	120	37.6	5.90	8.1	.3	1.6	115	--	11.2	11.1

DATE	FLUORIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SI02) (00955)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUSPENDED (MG/L) (00530)	NITROGEN, NITRATE TOTAL (MG/L AS N) (00620)	NITROGEN, NITRITE TOTAL (MG/L AS N) (00615)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITROGEN, ORGANIC TOTAL (MG/L AS N) (00605)
NOV 08...	<.1	18.2	144	--	46	--	<.01	.9	.05	.16
FEB 09...	--	--	--	--	5	--	<.01	.9	.02	--
MAR 29...	<.1	13.3	--	--	2	--	<.01	.6	.02	--
MAY 02...	<.1	17.0	156	106	2	--	<.01	.3	.03	--
AUG 08...	<.1	16.2	160	50.2	<10	.02	.02	.04	.27	.93

DATE	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITROGEN, TOTAL (MG/L AS N) (00600)	NITROGEN, TOTAL (MG/L AS N) (71887)	PHOSPHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOVERABLE (UG/L AS B) (01022)	CADMIUM, WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOVERABLE (UG/L AS CU) (01042)
NOV 08...	.21	1.1	5.1	.080	<3	43.5	E14	.2	1	E11
FEB 09...	<.20	--	--	<.020	--	--	--	--	--	--
MAR 29...	<.20	--	--	<.020	<3	29.3	21	<.1	<1	<20
MAY 02...	<.20	--	--	<.020	E2	28.7	20	<.1	E1	<20
AUG 08...	1.2	1.2	5.5	.160	--	--	--	--	--	--

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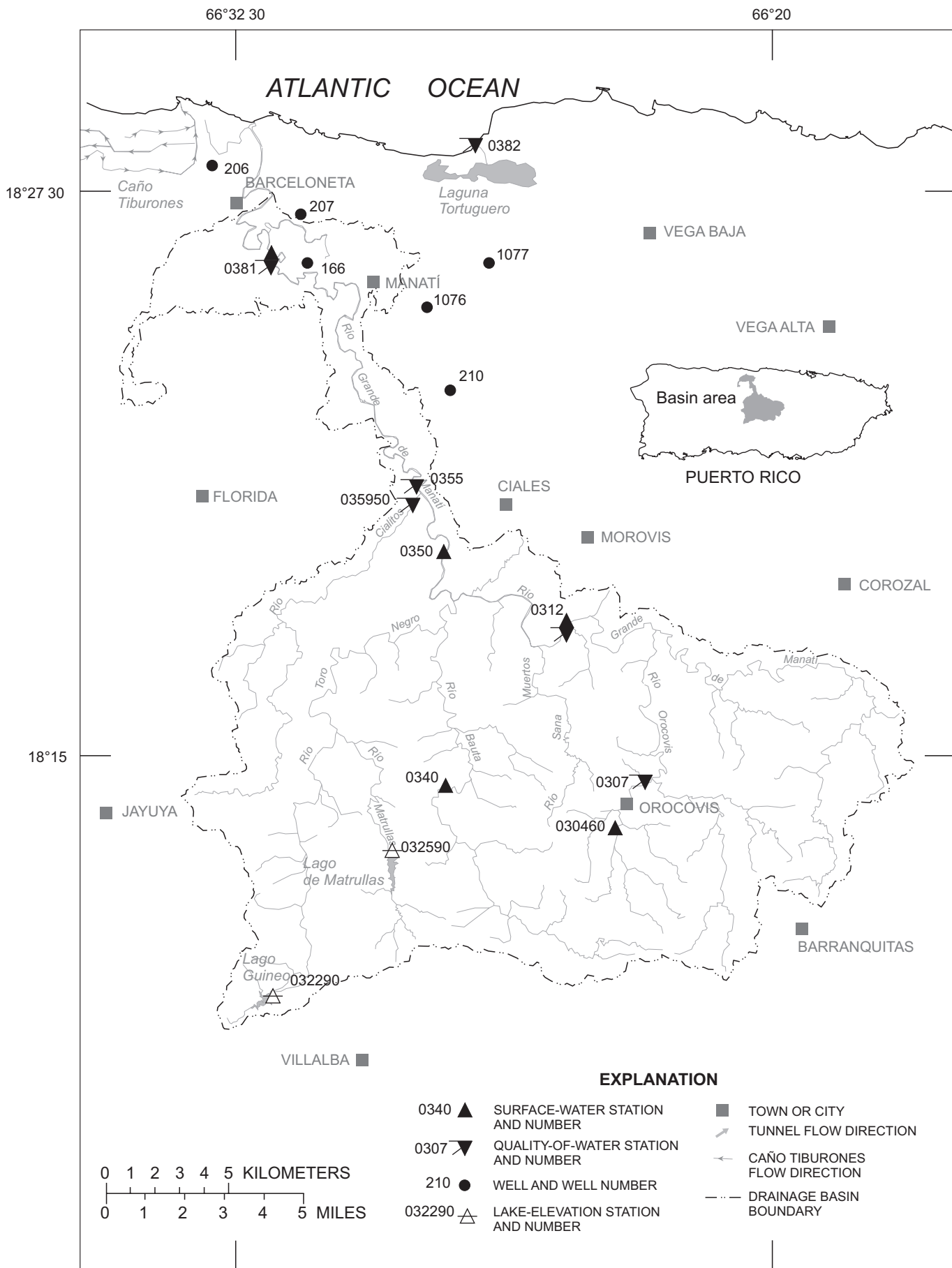


Figure 14. Río Grande de Manatí basin.

RIO GRANDE DE MANATI BASIN

50030460 RIO OROCOVIS AT OROCOVIS, PR

LOCATION.--Lat 18°13'25", long 66°23'34", Hydrologic Unit 21010001, on right bank, 0.4 mi (0.6 km) south of junction of Highways 155 and 156 in Orocovis, 2.1 mi (3.38 km) upstream from Rio Botijas, and 250 ft (76 m) upstream from bridge on Highway 599.

DRAINAGE AREA.--5.03 mi² (13.03 km²).

PERIOD OF RECORD.--April 1981 to September 1982, October 1988 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 500 ft (152 m), from topographic map.

REMARKS.--Records poor. Low flow affected by diversions for water supply. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e22	16	18	10	6.1	5.3	3.0	e2.1	e2.0	2.1	4.0	e2.2
2	e17	42	26	11	5.9	4.7	2.7	e2.1	e1.9	2.5	2.5	e2.1
3	14	26	24	25	5.9	4.4	3.0	e7.8	e1.8	2.4	2.5	e2.3
4	13	16	17	23	5.7	4.4	2.7	e6.0	e1.8	e2.3	3.2	e3.3
5	11	25	41	18	5.6	4.1	2.7	e4.1	e1.8	e2.2	2.1	e7.5
6	9.6	20	40	23	5.5	3.9	2.7	e2.6	e1.7	e2.2	1.7	e4.4
7	13	15	31	20	5.4	3.5	2.6	e2.2	1.8	e2.2	1.6	e3.0
8	11	e14	30	14	5.2	3.3	2.6	e9.9	2.1	e2.2	1.8	e2.5
9	9.0	e12	21	12	5.1	3.2	2.8	e7.1	2.2	e2.2	2.2	e2.2
10	9.7	12	18	11	4.8	3.2	2.2	e5.2	2.2	e1.9	2.0	e2.4
11	9.2	8.9	17	9.9	5.0	3.4	2.3	e35	2.4	e1.8	2.3	e3.1
12	9.3	e8.1	16	9.4	4.8	3.3	2.6	e34	3.8	e1.8	1.8	e2.7
13	9.7	e9.1	15	11	4.7	3.1	2.5	e24	3.5	e1.8	1.7	e2.4
14	8.7	13	14	11	4.6	3.0	2.5	e12	3.4	e1.8	2.5	e2.1
15	e11	20	13	18	4.7	2.9	2.3	e8.5	3.3	e1.7	e2.4	e1.8
16	52	46	13	25	4.3	2.9	2.4	e5.0	6.2	e1.7	e1.6	e1.6
17	e23	179	13	15	4.1	3.0	2.5	4.7	2.5	e2.1	e1.5	e28
18	e13	219	13	13	3.9	2.9	2.4	4.2	2.3	e2.3	e1.5	e112
19	e19	140	14	12	3.9	2.8	2.6	8.7	2.0	e2.0	e1.6	e21
20	27	72	14	11	3.8	2.8	2.8	7.3	1.7	e1.9	e1.6	e6.2
21	36	47	14	11	3.5	2.8	2.9	4.2	1.8	e2.0	e1.6	e46
22	36	38	16	11	5.2	3.6	2.2	3.2	1.7	e1.9	e26	e58
23	23	34	e13	11	11	3.3	2.3	2.6	1.7	e1.9	e134	e32
24	28	30	14	10	32	3.4	2.3	2.4	2.0	e1.8	e7.5	e11
25	59	27	e13	9.8	22	3.1	2.3	e2.2	2.0	e1.7	e3.3	e6.2
26	26	25	12	9.0	9.4	2.9	2.2	e2.1	2.0	e1.7	e3.6	e4.5
27	16	22	11	9.0	7.6	2.9	2.2	e2.0	2.1	e1.6	e3.4	e3.8
28	13	22	13	7.4	6.5	4.3	e2.1	e2.0	1.9	e1.6	e2.6	e4.5
29	10	20	17	7.2	6.0	3.8	e2.1	e2.2	1.9	2.2	e2.3	e3.9
30	9.5	18	12	7.1	---	2.8	e2.2	e2.0	1.9	2.2	e2.2	e3.2
31	33	---	11	6.2	---	4.5	---	e2.0	---	1.8	e2.0	---
TOTAL	600.7	1196.1	554	401.0	202.2	107.5	74.7	219.4	69.4	61.5	230.6	385.9
MEAN	19.4	39.9	17.9	12.9	6.97	3.47	2.49	7.08	2.31	1.98	7.44	12.9
MAX	59	219	41	25	32	5.3	3.0	35	6.2	2.5	134	112
MIN	8.7	8.1	11	6.2	3.5	2.8	2.1	2.0	1.7	1.6	1.5	1.6
AC-FT	1190	2370	1100	795	401	213	148	435	138	122	457	765
CFSM	3.85	7.93	3.55	2.57	1.39	.69	.50	1.41	.46	.39	1.48	2.56
IN.	4.44	8.85	4.10	2.97	1.50	.80	.55	1.62	.51	.45	1.71	2.85

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1981 - 2000, BY WATER YEAR (WY)

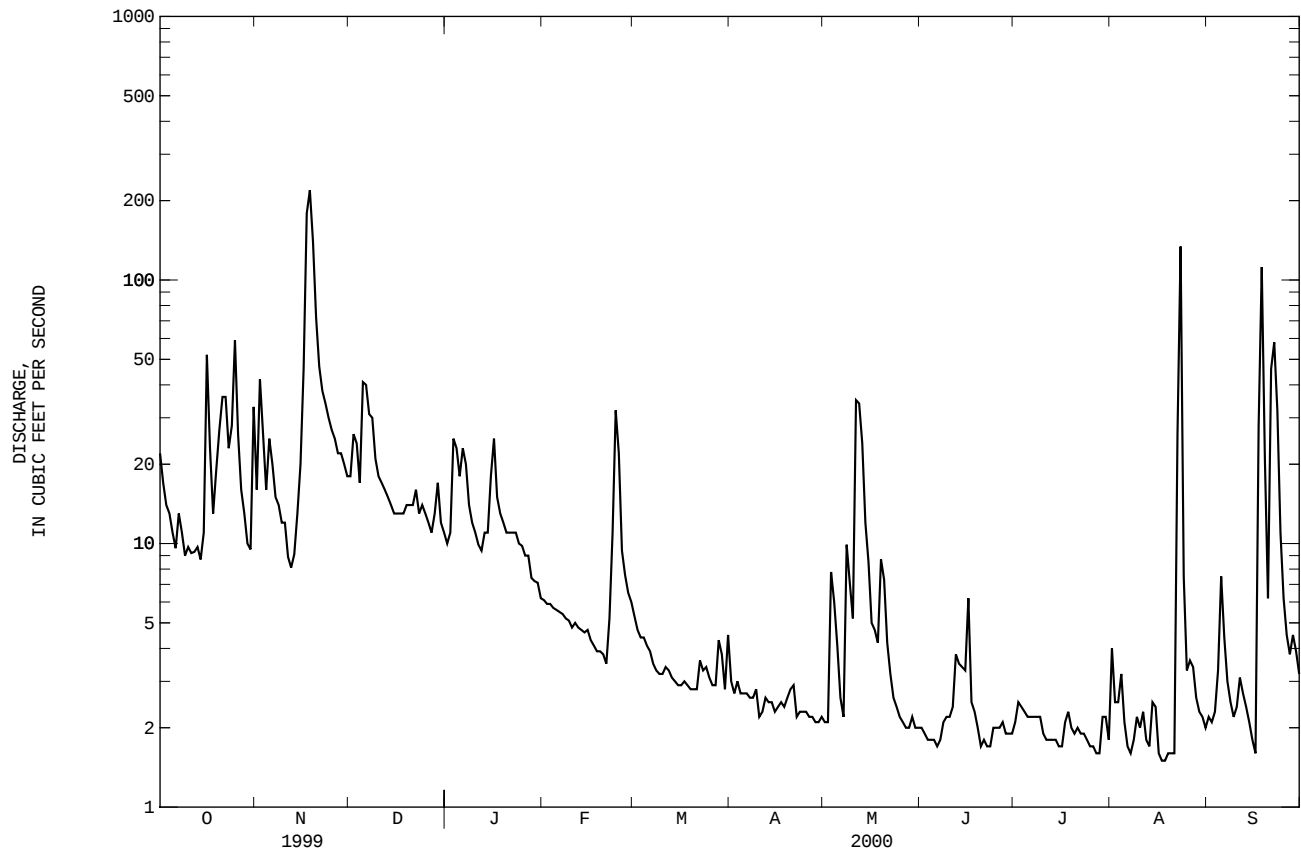
MEAN	17.2	10.4	6.73	6.53	4.35	1.95	5.12	13.5	4.99	3.22	4.70	24.9
MAX	58.0	39.9	17.9	34.3	15.7	3.47	21.0	45.9	17.1	9.07	12.3	83.0
(WY)	1990	2000	2000	1992	1996	2000	1993	1995	1999	1996	1989	1998
MIN	1.95	.93	.53	.77	.96	.90	.93	.86	.88	.88	1.03	.88
(WY)	1994	1998	1998	1995	1995	1994	1995	1997	1994	1994	1982	1994

SUMMARY STATISTICS FOR 1999 CALENDAR YEAR FOR 2000 WATER YEAR WATER YEARS 1981 - 2000

ANNUAL TOTAL	4929.27	4103.0	
ANNUAL MEAN	13.5	11.2	8.56
HIGHEST ANNUAL MEAN			13.3
LOWEST ANNUAL MEAN			1.49
HIGHEST DAILY MEAN	219	219	1570
LOWEST DAILY MEAN	.98	1.5	.20
ANNUAL SEVEN-DAY MINIMUM	1.1	1.7	.33
INSTANTANEOUS PEAK FLOW		955	8890
INSTANTANEOUS PEAK STAGE		9.35	17.38
ANNUAL RUNOFF (AC-FT)	9780	8140	6200
ANNUAL RUNOFF (CFSM)	2.68	2.23	1.70
ANNUAL RUNOFF (INCHES)	36.46	30.34	23.11
10 PERCENT EXCEEDS	33	25	15
50 PERCENT EXCEEDS	3.9	4.3	2.1
90 PERCENT EXCEEDS	1.3	1.9	.83

e Estimated

RIO GRANDE DE MANATI BASIN
50030460 RIO OROCOVIS AT OROCOVIS, PR--Continued



RIO GRANDE DE MANATI BASIN

50030700 RIO OROCOVIS NEAR OROCOVIS, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 18°14'20", long 66°22'58", at flat low bridge about 300 ft (91 m) northwest of Highway 568, 1.0 mi (1.6 km) north of Orocovis plaza.

DRAINAGE AREA.--10.1 mi² (26.2 km²).

PERIOD OF RECORD.--Water year 1979 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	STREP-TOCOCCI, KF AGAR (COLS. PER 100 ML) (31673)
OCT 25...	1210	E20	233	8.3	23.3	17	7.5	94	<10	5000	2400
FEB 15...	1130	13	304	8.5	21.3	2.9	8.2	97	<10	210	28
APR 18...	1135	9.8	337	8.4	22.3	1.8	8.6	104	<10	K1500	530
SEP 05...	1425	8.0	309	7.9	26.8	22	7.1	95	<10	5100	790

DATE	HARD-NESS TOTAL (MG/L AS CAC03) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CAC03) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)
OCT 25...	100	24.6	10.1	11.2	.5	2.4	97	<1.0	7.4	12.3
FEB 15...	--	--	--	--	--	--	125	--	--	--
APR 18...	130	33.2	12.4	12.0	.5	1.5	134	<1.0	7.7	15.9
SEP 05...	120	30.9	11.1	12.5	.5	1.9	120	--	7.6	15.7

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SI02) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)
OCT 25...	<.1	32.6	159	--	32	.91	.01	.9	.03	.17
FEB 15...	--	--	--	--	6	1.19	.01	1.2	.03	--
APR 18...	.1	38.4	201	5.30	2	1.29	.01	1.3	.04	--
SEP 05...	.1	33.1	185	3.99	23	1.29	.01	1.3	.04	--

DATE	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, TOTAL (MG/L AS NO3) (71887)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)
OCT 25...	.20	1.1	5.0	.080	<3	64.0	E16	<.1	1	<20
FEB 15...	<.20	--	--	.180	--	--	--	--	--	--
APR 18...	<.20	--	--	.120	<3	53.0	22	<.1	E1	<20
SEP 05...	<.20	--	--	.170	--	--	--	--	--	--

RIO GRANDE DE MANATI BASIN

50030700 RIO OROCOVIS NEAR OROCOVIS, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

[illegible]

RIO GRANDE DE MANATI BASIN

50031200 RIO GRANDE DE MANATI NEAR MOROVIS, PR

LOCATION.--Lat 18°17'45", long 66°24'47", Hydrologic Unit 21010001, on right bank, 0.1 mi (0.2 km) downstream from Quebrada Perchas, 0.8 mi (1.3 km) upstream from Río Sana Muerto, and 2.2 mi (3.5 km) south of Morovis.

DRAINAGE AREA.--55.2 mi² (143.0 km²).

PERIOD OF RECORD.--January 1965 to current year.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 440 ft (134 m), from topographic map. Feb.2,1966 to Apr.27,1967, staff gage read twice daily.

REMARKS.--Records poor. Public water-supply pumped, about 1000 ft. (305 m) above the station, influences low-flow discharges. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e274	e227	184	159	105	72	46	28	25	19	13	22
2	e150	e341	997	159	100	68	43	30	26	17	29	22
3	e120	e259	485	330	99	64	45	35	26	18	18	23
4	e110	e139	241	356	96	60	42	55	25	17	20	191
5	e105	e131	662	244	94	61	40	58	24	16	19	137
6	e100	e149	551	268	89	63	40	38	23	15	13	53
7	e130	118	387	283	89	59	38	33	22	15	12	38
8	e140	110	355	202	91	59	36	55	22	15	11	31
9	e110	110	263	178	86	58	35	82	21	14	10	51
10	e98	145	230	164	83	56	36	58	21	14	11	28
11	e94	125	210	154	84	57	35	e89	20	13	11	23
12	e100	109	196	149	83	56	38	e83	26	13	10	22
13	e96	120	186	158	82	55	35	e74	59	13	9.4	18
14	e98	141	179	161	79	55	34	e55	28	14	9.2	17
15	e100	251	173	150	77	52	32	e48	25	13	17	18
16	e280	289	e168	310	75	51	34	e45	52	13	14	28
17	e400	969	e168	165	73	53	37	e46	73	13	12	35
18	e200	1450	e162	148	77	51	33	e41	32	19	10	206
19	e150	1020	e163	139	76	48	32	e36	25	13	9.9	116
20	e300	487	e164	134	77	47	42	48	25	12	11	71
21	e400	319	e165	128	73	48	98	37	24	12	10	122
22	e480	259	e185	125	109	57	92	32	22	12	16	178
23	190	231	e183	122	201	48	53	43	20	12	517	148
24	165	212	e170	118	170	47	39	39	19	11	104	96
25	288	194	e175	116	170	45	33	36	21	11	49	63
26	197	187	e174	114	100	45	34	33	22	11	45	46
27	149	175	e163	110	100	55	30	28	23	11	44	42
28	130	295	175	108	86	46	29	28	20	10	35	40
29	118	209	222	115	75	79	28	28	18	12	28	37
30	110	207	180	113	---	47	30	28	18	15	25	33
31	e217	---	167	105	---	44	---	28	---	14	27	---
TOTAL	5599	8978	8083	5285	2799	1706	1219	1397	807	427	1169.5	1955
MEAN	181	299	261	170	96.5	55.0	40.6	45.1	26.9	13.8	37.7	65.2
MAX	480	1450	997	356	201	79	98	89	73	19	517	206
MIN	94	109	162	105	73	44	28	28	18	10	9.2	17
AC-FT	11110	17810	16030	10480	5550	3380	2420	2770	1600	847	2320	3880
CFSM	3.27	5.42	4.72	3.09	1.75	1.00	.74	.82	.49	.25	.68	1.18
IN.	3.77	6.05	5.45	3.56	1.89	1.15	.82	.94	.54	.29	.79	1.32

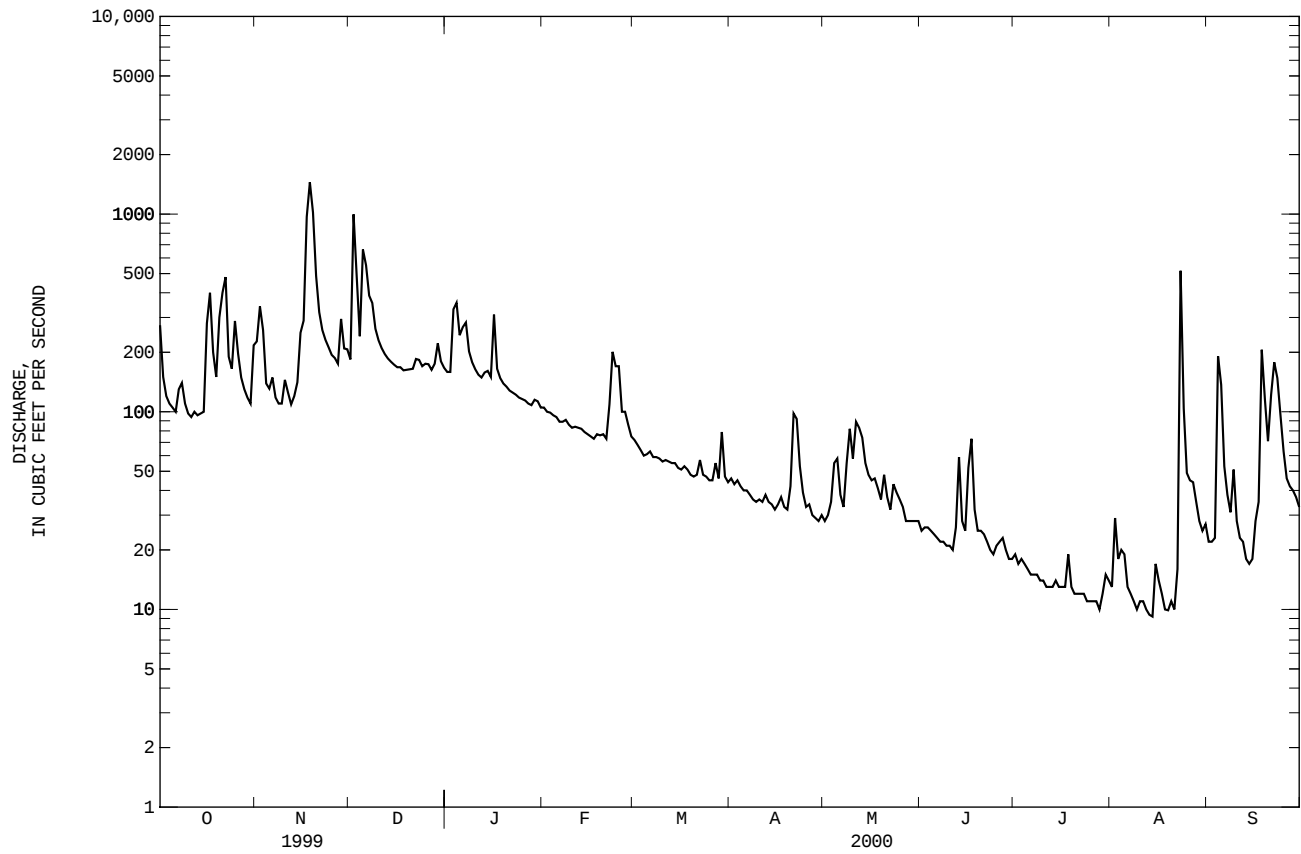
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 2000, BY WATER YEAR (WY)

	MEAN	151	144	112	83.0	64.5	62.7	101	152	60.9	45.1	53.1	111
MAX	1037	491	522	228	179	226	412	915	173	157	435	432	
(WY)	1971	1971	1966	1997	1969	1972	1969	1985	1987	1979	1979	1996	
MIN	24.0	11.4	8.65	10.4	15.3	12.7	8.80	15.7	6.75	5.54	9.70	6.87	
(WY)	1978	1995	1995	1995	1994	1984	1995	1994	1994	1994	1984	1994	

SUMMARY STATISTICS	FOR 1999 CALENDAR YEAR	FOR 2000 WATER YEAR	WATER YEARS 1965 - 2000
ANNUAL TOTAL	49093	39424.5	
ANNUAL MEAN	135	108	94.8
HIGHEST ANNUAL MEAN			248
LOWEST ANNUAL MEAN			24.2
HIGHEST DAILY MEAN	1450	Nov 18	17100
LOWEST DAILY MEAN	26	Apr 22	3.5
ANNUAL SEVEN-DAY MINIMUM	27	Apr 18	4.0
INSTANTANEOUS PEAK FLOW			3670
INSTANTANEOUS PEAK STAGE			6.19
ANNUAL RUNOFF (AC-FT)	97380		68690
ANNUAL RUNOFF (CFSM)	2.44		1.72
ANNUAL RUNOFF (INCHES)	33.08		23.34
10 PERCENT EXCEEDS	253		173
50 PERCENT EXCEEDS	91		49
90 PERCENT EXCEEDS	43		20

e Estimated

RIO GRANDE DE MANATI BASIN
50031200 RIO GRANDE DE MANATI NEAR MOROVIS, PR--Continued



RIO GRANDE DE MANATI BASIN

50031200 RIO GRANDE DE MANATI NEAR MOROVIS, PR.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1968 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)
OCT 27...	1210	146	236	8.0	26.2	18	7.6	96	<10	K1200
FEB 15...	1340	77	282	8.7	24.5	2.1	8.2	101	<10	K82
APR 19...	1000	32	301	8.0	24.8	2.5	8.8	108	<10	K64
AUG 30...	1050	23	310	7.8	27.5	.8	7.8	101	<10	K100
DATE	STREP-TOCOCCHI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD-NESS TOTAL (MG/L AS CAC03) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CAC03) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)
OCT 27...	3700	97	22.8	9.70	10.8	.5	2.3	91	<1.0	8.4
FEB 15...	K2	--	--	--	--	--	--	115	--	--
APR 19...	300	120	27.7	11.5	13.5	.5	1.9	119	--	6.8
AUG 30...	K91	110	27.7	11.0	12.6	.5	2.8	108	--	9.4
DATE	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SI02) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)
OCT 27...	13.7	<.1	28.1	150	59.3	21	<.01	1.0	.03	.20
FEB 15...	--	--	--	--	--	5	<.01	1.0	.02	--
APR 19...	16.3	.1	30.4	179	15.3	1	<.01	.6	.02	--
AUG 30...	17.4	.1	28.9	175	10.9	<10	<.01	.7	.04	--
DATE	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, TOTAL (MG/L AS NO3) (71887)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)
OCT 27...	.23	1.2	5.4	.070	<3	49.4	24	<.1	1	<20
FEB 15...	<.20	--	--	.070	--	--	--	--	--	--
APR 19...	<.20	--	--	.060	<3	47.3	23	<.1	E1	<20
AUG 30...	<.20	--	--	.060	--	--	--	--	--	--

RIO GRANDE DE MANATI BASIN

50031200 RIO GRANDE DE MANATI NEAR MOROVIS, PR.--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

[illegible][illegible]

50032290 LAGO EL GUINEO AT DAMSITE NEAR VILLALBA, PR

LOCATION.--Lat 18°09'41", long 66°31'36", Hydrologic Unit 21010001, at damsite on Río Toro Negro, 3.0 mi (4.8 km) northwest from Villalba plaza and 1.9 mi (3.1 km) northeast of Cerro Maravillas. The reservoir itself fixes the territorial limits between the Municipality of Ciales and Orocovis.

DRAINAGE AREA.--1.64 mi² (4.25 km²).

ELEVATION RECORDS

PERIOD OF RECORD.--May 1988 to current year. Prior to October 1994, published as Lago El Guineo at Damsite.

GAGE.--Water-stage recorder. Datum of gage is mean sea level.

REMARKS.--Lago El Guineo was completed in 1931. It provides a maximum storage of approximately 2,180 ac-ft (2.688 hm³) for power and irrigation. Waters are discharged through an outlet power tunnel into the Río Toro Negro and conveyed to the head water works of Toro Negro Hydroelectric Plant No.2, for energy generation at Toro Negro Hydroelectric plant No.1, and are discharged into the Guayabal Reservoir to be later used for irrigation at South Coast Irrigation System. The dam is rockfill with a vertical concrete corewall, rock toes, and riprap facing of upstream slope, with a total length of 565 ft (172 m), a maximum structural height of 125 ft (38 m) to top of corewall. At a maximum reservoir water surface elevation the uncontrolled morning-glory tunnel spillway crest has an elevation of 2,960 ft (902 m) above mean sea level and a design capacity of 7,000 ft³/s. The dam is owned by Puerto Rico Electric Power Authority. Gage-height and precipitation satellite telemetry at station.

EXTREMES OBSERVED FOR PERIOD OF RECORD.--Maximum elevation 2,964.40 ft (903.55 m), Sept, 22 1998; minimum elevation, 2,919.79 ft (899.95 m), May 27, 1988.

EXTREMES OBSERVED FOR CURRENT YEAR.--Maximum elevation, 2,961.57 ft (902.69 m), Oct.11; minimum elevation, 2,931.47 ft (893.51 m), Aug.22.

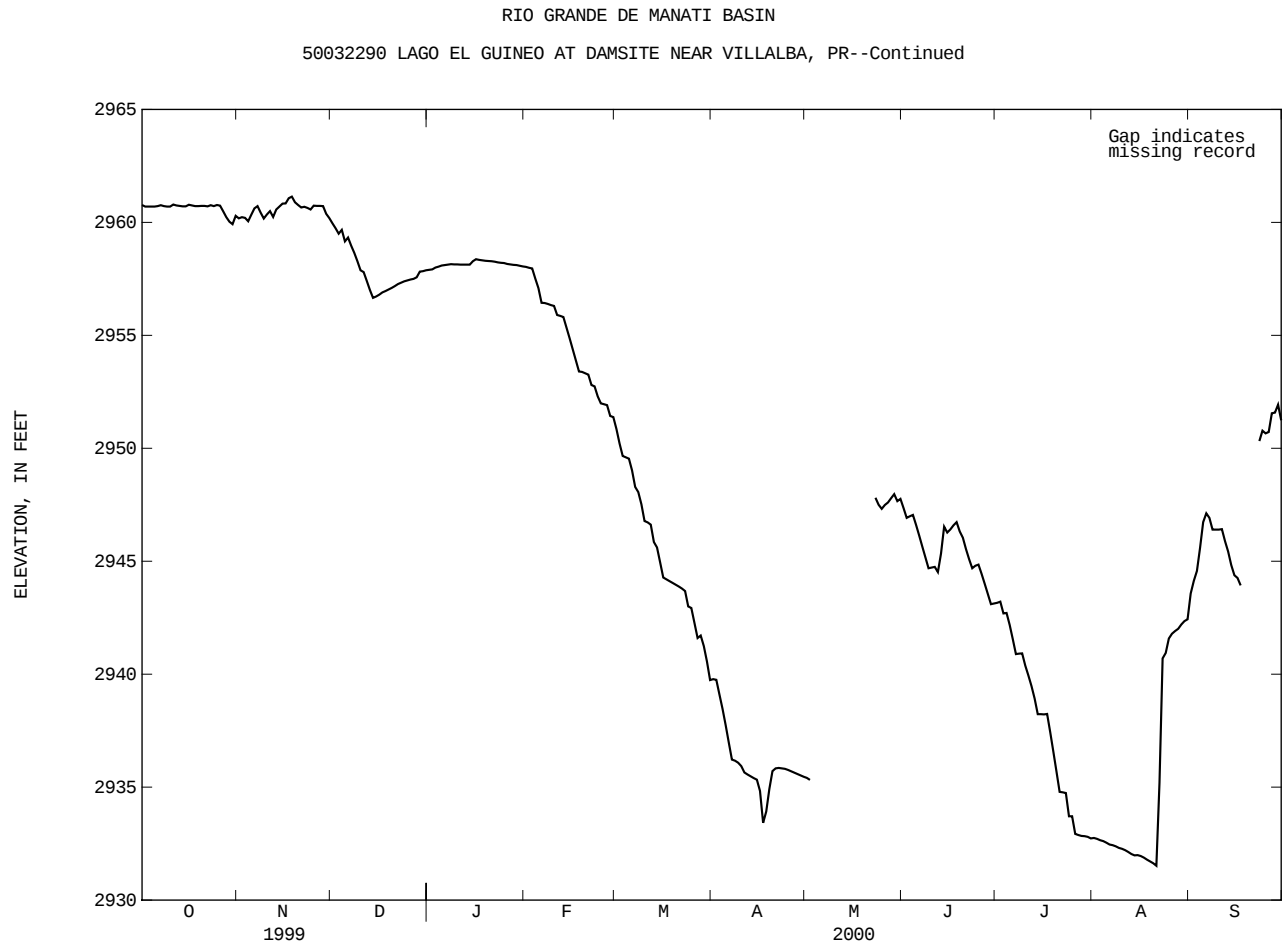
Capacity Table
(based on data from Puerto Rico Electric Power Authority)

Elevation, in feet	Contents, in acre-feet	Elevation, in feet	Contents, in acre-feet
2,872	0	2,950	1,308
2,919	361	2,961	1,852
2,925	491	2,966	2,180
2,943	1,029		

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2960.77	2960.18	2959.96	2957.90	2958.03	2950.85	2939.78	2935.41	2947.35	2943.16	2932.75	2943.57
2	2960.70	2960.23	2959.74	2957.92	2957.99	2950.21	2939.75	2935.32	2946.92	2943.21	2932.71	2944.13
3	2960.70	2960.20	2959.50	2958.00	2957.96	2949.66	2939.10	A	2946.99	2942.69	2932.65	2944.57
4	2960.70	2960.05	2959.67	2958.04	2957.51	2949.60	2938.46	A	2947.05	2942.71	2932.61	2945.59
5	2960.70	2960.34	2959.16	2958.09	2957.09	2949.54	2937.74	A	2946.61	2942.18	2932.54	2946.73
6	2960.72	2960.62	2959.33	2958.11	2956.44	2949.02	2936.97	A	2946.14	2941.55	2932.46	2947.12
7	2960.76	2960.72	2958.97	2958.13	2956.43	2948.29	2936.22	A	2945.65	2940.89	2932.43	2946.92
8	2960.72	2960.43	2958.65	2958.15	2956.39	2948.06	2936.17	A	2945.17	2940.91	2932.38	2946.40
9	2960.70	2960.17	2958.28	2958.14	2956.34	2947.52	2936.08	A	2944.69	2940.92	2932.31	2946.40
10	2960.70	2960.35	2957.88	2958.14	2956.30	2946.78	2935.93	A	2944.72	2940.38	2932.27	2946.40
11	2960.79	2960.50	2957.80	2958.13	2955.90	2946.72	2935.65	A	2944.75	2939.94	2932.21	2946.42
12	2960.75	2960.24	2957.41	2958.13	2955.86	2946.62	2935.56	A	2944.52	2939.47	2932.13	2945.89
13	2960.73	2960.57	2957.01	2958.13	2955.81	2945.85	2935.48	A	2945.34	2938.92	2932.04	2945.43
14	2960.71	2960.70	2956.66	2958.13	2955.34	2945.61	2935.40	A	2946.53	2938.23	2931.98	2944.83
15	2960.71	2960.83	2956.72	2958.28	2954.87	2944.95	2935.33	A	2946.27	2938.23	2931.99	2944.38
16	2960.78	2960.84	2956.80	2958.37	2954.38	2944.28	2934.83	A	2946.41	2938.22	2931.95	2944.26
17	2960.75	2961.07	2956.90	2958.34	2953.89	2944.20	2933.42	A	2946.59	2938.24	2931.88	2943.93
18	2960.72	2961.14	2956.96	2958.32	2953.40	2944.12	2933.92	A	2946.73	2937.42	2931.79	A
19	2960.72	2960.89	2957.03	2958.30	2953.38	2944.04	2934.92	A	2946.32	2936.56	2931.71	A
20	2960.73	2960.77	2957.10	2958.29	2953.32	2943.96	2935.71	A	2946.04	2935.69	2931.63	A
21	2960.73	2960.66	2957.18	2958.28	2953.26	2943.88	2935.83	A	2945.54	2934.79	2931.52	A
22	2960.71	2960.69	2957.27	2958.26	2952.80	2943.79	2935.85	A	2945.09	2934.77	2931.19	A
23	2960.76	2960.64	2957.33	2958.23	2952.74	2943.68	2935.83	2947.81	2944.69	2934.74	2940.70	2950.32
24	2960.72	2960.57	2957.39	2958.21	2952.30	2943.00	2935.81	2947.50	2944.80	2933.71	2940.94	2950.78
25	2960.77	2960.74	2957.43	2958.20	2951.99	2942.93	2935.76	2947.32	2944.85	2933.71	2941.58	2950.66
26	2960.74	2960.73	2957.47	2958.16	2951.95	2942.27	29 A 35.70	2947.49	2944.44	2932.93	2941.79	2950.72
27	2960.49	2960.73	2957.50	2958.14	2951.91	2941.60	2935.64	2947.60	2944.00	2932.88	2941.91	2951.55
28	2960.23	2960.72	2957.57	2958.12	2951.43	2941.71	2935.58	2947.79	2943.55	2932.84	2942.01	2951.58
29	2960.03	2960.38	2957.82	2958.11	2951.38	2941.24	2935.52	2947.97	2943.10	2932.83	2942.20	2951.93
30	2959.92	2960.19	2957.84	2958.08	---	2940.56	2935.46	2947.66	2943.13	2932.80	2942.35	2951.24
31	2960.29	---	2957.88	2958.05	---	2939.74	---	2947.76	---	2932.73	2942.43	---
MAX	2960.79	2961.14	2959.96	2958.37	2958.03	2950.85	2939.78	2947.97	2947.35	2943.21	2942.43	2951.93
MIN	2959.92	2960.05	2956.66	2957.90	2951.38	2939.74	2933.42	2935.32	2943.10	2932.73	2931.52	2943.57

A No gage-height record



50032590 LAGO DE MATRULLAS AT DAMSITE NEAR OROCOVIS, PR

LOCATION.--Lat 18°12'46", long 66°28'50", Hydrologic Unit 21010001, in shelter house at damsite, and 5.8 mi (9.3 km) southwest of Orocovis.

DRAINAGE AREA.--4.46 mi² (11.55 km²).

ELEVATION RECORDS

PERIOD OF RECORD.--May 1988 to current year. Prior to October 1994, published as Lago de Matrullas at Damsite.

GAGE.--Water-stage recorder. Datum of gage is mean sea level.

REMARKS.--Lago Matrullas was completed in 1934. The dam is an earthfill structure about 120 ft (37 m) height, a top width of 30 ft (9 m) and a length of 710 ft (216 m), and has a maximum storage capacity of about 4,274 ac-ft (5.220 hm³) at top of dam elevation. The Matrullas Dam is owned by the Puerto Rico Electric Power Authority and is part of the Toro Negro Hydroelectric Project; a project developed by the P.R.E.P.A. for the primary purpose of generating electric power. Discharges from the Power Plants are collected by the Jacaguas River which flows into Guayabal Dam, at which dam they are regulated for irrigation of lands served by the Juana Diaz Canal. Gage-height and precipitation satellite telemetry at station.

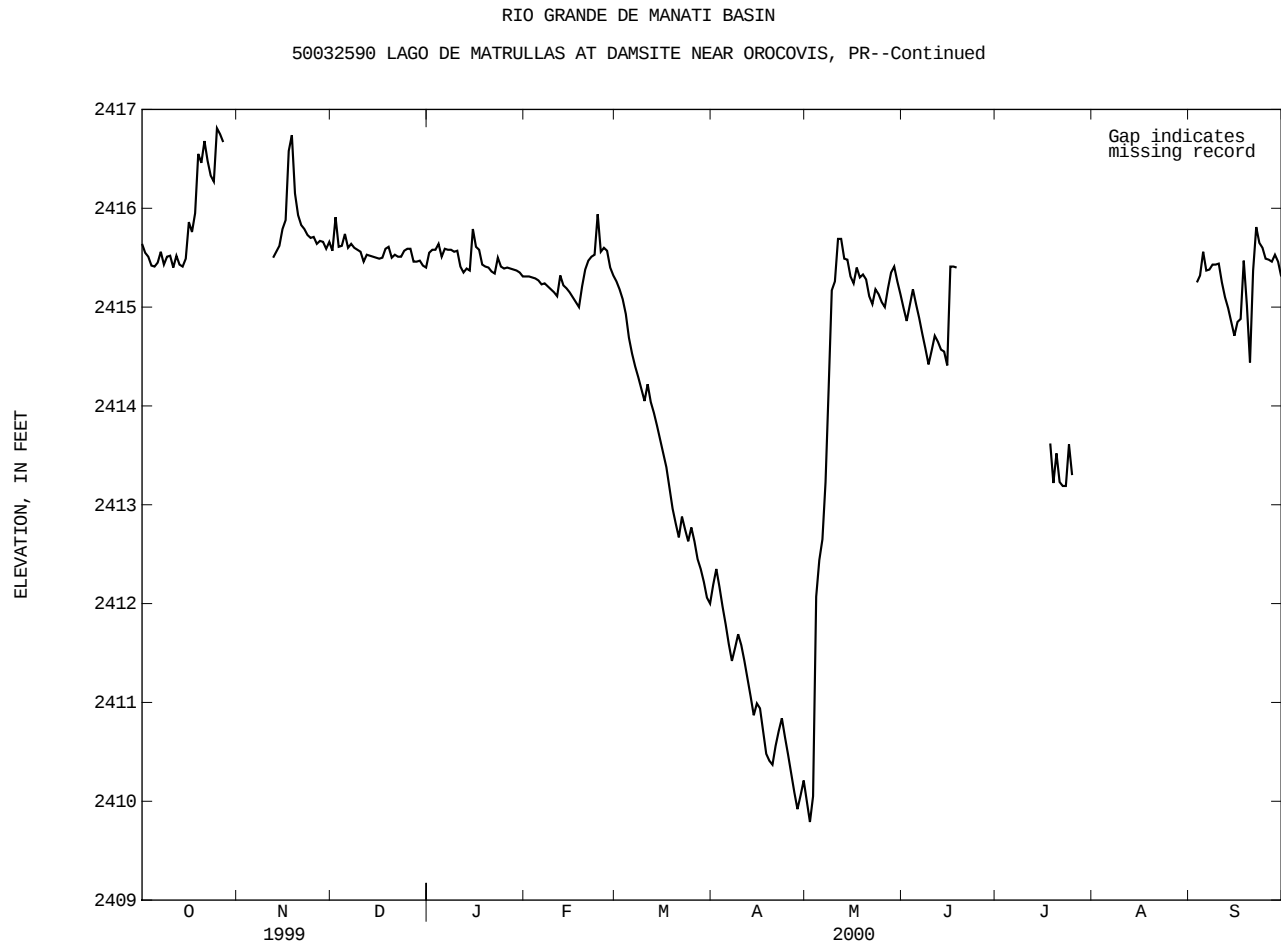
EXTREMES OBSERVED FOR PERIOD OF RECORD.--Maximum elevation 2,419.90 ft (737.58 m), Sept. 10, 1996; minimum elevation, 2,375.55 ft (724.06 m), Sept. 24, 25, 1994.

EXTREMES OBSERVED FOR CURRENT YEAR.--Maximum elevation, 2,416.87 ft (736.66 m), Nov. 18; minimum elevation, 2,409.65 ft (734.46 m), May 3.

Capacity Table
(based on data from Puerto Rico Electric Power Authority)

Elevation, in feet			Contents, in acre-feet			Elevation, in feet			Contents, in acre-feet			
2,338			2			2,399			1,845			
2,360			302			2,420			3,331			
ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000 DAILY OBSERVATION AT 2400 HOURS												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2415.64	A	2415.57	2415.55	2415.31	2415.26	2412.19	2410.00	2414.99	A	A	A
2	2415.55	A	2415.91	2415.58	2415.31	2415.18	2412.35	2409.79	2414.86	A	A	A
3	2415.51	A	2415.61	2415.58	2415.30	2415.08	2412.17	2410.05	2415.02	A	A	2415.25
4	2415.42	A	2415.62	2415.64	2415.29	2414.93	2411.97	2412.07	2415.18	A	A	2415.32
5	2415.41	A	2415.74	2415.51	2415.27	2414.69	2411.79	2412.44	2415.03	A	A	2415.56
6	2415.45	A	2415.60	2415.59	2415.23	2414.53	2411.59	2412.65	2414.89	A	A	2415.37
7	2415.56	A	2415.64	2415.58	2415.24	2414.40	2411.42	2413.23	2414.73	A	A	2415.38
8	2415.43	A	2415.60	2415.58	2415.21	2414.29	2411.55	2414.18	2414.58	A	A	2415.43
9	2415.51	A	2415.58	2415.56	2415.18	2414.17	2411.69	2415.17	2414.42	A	A	2415.43
10	2415.52	A	2415.56	2415.57	2415.15	2414.05	2411.58	2415.26	2414.56	A	A	2415.44
11	2415.40	A	2415.46	2415.41	2415.11	2414.22	2411.42	2415.69	2414.71	A	A	2415.25
12	2415.52	2415.50	2415.53	2415.35	2415.32	2414.04	2411.24	2415.69	2414.65	A	A	2415.10
13	2415.43	2415.56	2415.52	2415.39	2415.22	2413.93	2411.06	2415.49	2414.57	A	A	2414.99
14	2415.41	2415.62	2415.51	2415.37	2415.19	2413.80	2410.87	2415.48	2414.55	A	A	2414.85
15	2415.49	2415.79	2415.50	2415.79	2415.15	2413.66	2410.99	2415.31	2414.41	A	A	2414.71
16	2415.86	2415.88	2415.49	2415.61	2415.10	2413.52	2410.94	2415.24	2415.41	A	A	2414.85
17	2415.76	2416.58	2415.50	2415.58	2415.05	2413.38	2410.71	2415.40	2415.41	A	A	2414.88
18	2415.95	2416.74	2415.59	2415.43	2415.00	2413.17	2410.48	2415.30	2415.40	2413.62	A	2415.47
19	2416.55	2416.15	2415.61	2415.41	2415.21	2412.96	2410.41	2415.33	A	2413.22	A	2415.02
20	2416.46	2415.93	2415.50	2415.40	2415.38	2412.81	2410.37	2415.28	A	2413.52	A	2414.44
21	2416.68	2415.83	2415.53	2415.36	2415.47	2412.67	2410.56	2415.11	A	2413.23	A	2415.37
22	2416.48	2415.79	2415.51	2415.34	2415.51	2412.88	2410.71	2415.03	A	2413.19	A	2415.81
23	2416.33	2415.73	2415.51	2415.50	2415.53	2412.75	2410.84	2415.18	A	2413.19	A	2415.65
24	2416.27	2415.70	2415.57	2415.41	2415.94	2412.63	2410.65	2415.13	A	2413.61	A	2415.60
25	2416.81	2415.71	2415.59	2415.39	2415.56	2412.77	2410.47	2415.05	A	2413.30	A	2415.49
26	2416.75	2415.64	2415.59	2415.40	2415.60	2412.63	2410.28	2415.00	A	A	A	2415.48
27	2416.67	2415.67	2415.46	2415.39	2415.57	2412.45	2410.09	2415.19	A	A	A	2415.46
28	A	2415.66	2415.46	2415.38	2415.40	2412.35	2409.92	2415.35	A	A	A	2415.53
29	A	2415.59	2415.47	2415.37	2415.32	2412.22	2410.06	2415.41	A	A	A	2415.46
30	A	2415.66	2415.42	2415.35	---	2412.06	2410.21	2415.26	A	A	A	2415.31
31	A	---	2415.40	2415.31	---	2412.00	---	2415.13	---	A	A	---
MAX	2416.81	2416.74	2415.91	2415.79	2415.94	2415.26	2412.35	2415.69	2415.41	2413.62	---	2415.81
MIN	2415.40	2415.50	2415.40	2415.31	2415.00	2412.00	2409.92	2409.79	2414.41	2413.19	---	2414.44

A No gage-height record



RIO GRANDE DE MANATI BASIN

50034000 RIO BAUTA NEAR OROCOVIS, PR

LOCATION.--Lat 18°14'10", long 66°27'18", Hydrologic Unit 21010001, on left bank, at bridge on Highway 157 (12.1 km), and 4.2 mi (6.8 km) west of Orocovis.

DRAINAGE AREA.--16.7 mi² (43.3 km²).

PERIOD OF RECORD.--February 1959 to April 1966 (annual low-flow measurements only), February to September 1969 (occasional measurements only), October 1969 to September 1982, October 1988 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 772.82 ft (235.55 m) above mean sea level.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e58	e250	78	34	22	36	28	e8.1	13	10	12	13
2	e58	e140	188	34	22	33	15	e14	13	11	11	13
3	e52	e210	137	57	23	29	14	e59	13	11	9.3	14
4	e51	e110	79	78	22	29	12	110	12	9.8	11	16
5	e50	e82	117	73	22	29	11	76	12	9.6	10	41
6	e50	e94	138	69	21	28	10	27	12	9.5	8.3	32
7	e66	e80	104	71	21	24	10	29	11	9.5	8.4	19
8	e100	e64	102	55	21	22	10	192	11	9.4	8.8	15
9	e70	e66	84	e46	20	21	10	206	11	9.2	8.0	13
10	e54	e65	73	e41	20	21	10	123	11	8.7	8.0	13
11	e52	73	66	e38	19	20	10	145	10	8.3	7.9	19
12	e60	67	59	e35	18	20	11	183	12	8.3	7.7	15
13	e56	88	56	e40	18	20	9.8	104	13	8.2	7.7	13
14	e50	89	53	e38	18	18	9.3	60	13	8.1	11	12
15	e52	116	50	43	18	18	8.6	39	13	7.9	10	12
16	e100	227	46	83	18	17	9.1	31	25	7.8	8.8	12
17	e230	615	46	51	18	17	9.9	30	24	9.6	8.1	18
18	e150	780	42	41	18	17	9.0	27	16	10	7.8	289
19	e70	504	45	39	18	17	8.8	34	15	8.9	7.9	98
20	e110	239	47	35	18	16	e25	39	14	8.8	8.0	44
21	e170	147	47	34	17	16	e45	29	14	9.0	7.6	101
22	e220	115	59	e32	24	24	e20	23	13	8.4	33	158
23	e110	100	49	e31	63	16	e14	23	12	8.2	297	118
24	e80	89	46	e30	157	16	e12	22	13	7.8	56	70
25	e130	85	46	e29	117	15	e10	19	13	7.8	25	44
26	e131	78	42	e27	71	15	e9.9	18	12	7.6	24	36
27	e100	71	38	26	58	14	e9.2	16	11	7.5	25	31
28	e70	66	43	25	46	16	e9.1	16	11	7.4	17	35
29	e64	62	54	27	37	26	e8.9	15	10	10	15	34
30	e58	102	43	26	---	16	e8.8	16	10	10	13	27
31	e300	---	39	23	---	33	---	14	---	8.1	12	---
TOTAL	2972	4874	2116	1311	985	659	387.4	1747.1	393	275.4	704.3	1375
MEAN	95.9	162	68.3	42.3	34.0	21.3	12.9	56.4	13.1	8.88	22.7	45.8
MAX	300	780	188	83	157	36	45	206	25	11	297	289
MIN	50	62	38	23	17	14	8.6	8.1	10	7.4	7.6	12
AC-FT	5890	9670	4200	2600	1950	1310	768	3470	780	546	1400	2730
CFSM	5.74	9.73	4.09	2.53	2.03	1.27	.77	3.37	.78	.53	1.36	2.74
IN.	6.62	10.86	4.71	2.92	2.19	1.47	.86	3.89	.88	.61	1.57	3.06

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1969 - 2000, BY WATER YEAR (WY)

MEAN	84.1	56.2	29.9	22.0	17.2	15.3	26.6	49.5	20.3	15.7	21.6	115
MAX	392	205	108	83.4	43.5	59.9	80.2	179	78.6	104	152	1104
(WY)	1971	1971	1971	1992	1998	1972	1980	1981	1979	1979	1979	1996
MIN	14.6	7.12	4.29	3.66	5.70	4.18	4.92	4.24	3.59	3.22	3.97	3.55
(WY)	1994	1995	1995	1995	1994	1994	1995	1994	1994	1994	1994	1994

SUMMARY STATISTICS

FOR 1999 CALENDAR YEAR

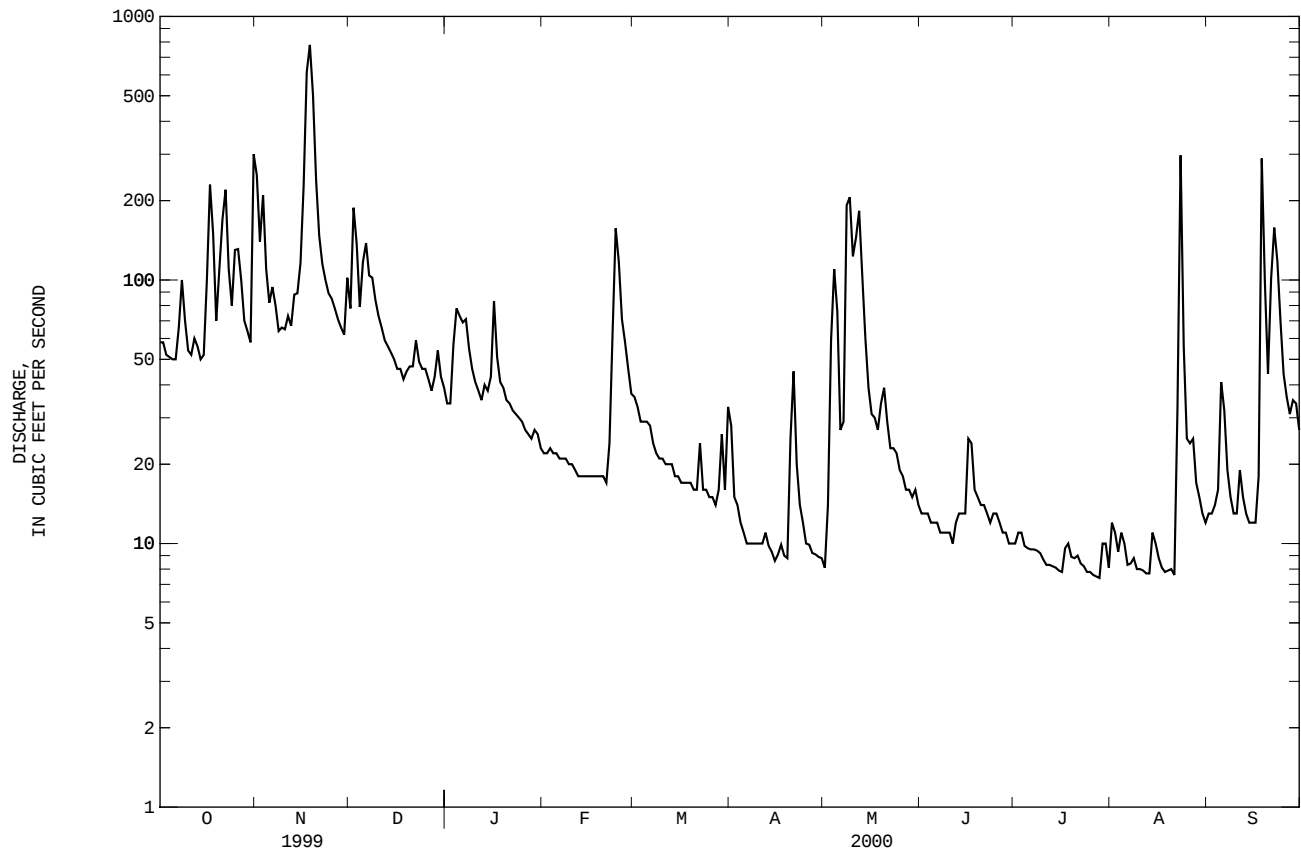
FOR 2000 WATER YEAR

WATER YEARS 1969 - 2000

ANNUAL TOTAL	19232.8	17799.2	
ANNUAL MEAN	52.7	48.6	39.5
HIGHEST ANNUAL MEAN			117
LOWEST ANNUAL MEAN			6.56
HIGHEST DAILY MEAN	780	Nov 18	19500
LOWEST DAILY MEAN	8.9	May 29	2.8
ANNUAL SEVEN-DAY MINIMUM	9.9	May 23	2.8
INSTANTANEOUS PEAK FLOW			996
INSTANTANEOUS PEAK STAGE			10.14
INSTANTANEOUS LOW FLOW			6.1
ANNUAL RUNOFF (AC-FT)	38150	35300	28620
ANNUAL RUNOFF (CFSM)	3.16	2.91	2.37
ANNUAL RUNOFF (INCHES)	42.84	39.65	32.14
10 PERCENT EXCEEDS	110	110	69
50 PERCENT EXCEEDS	26	24	14
90 PERCENT EXCEEDS	14	9.0	5.6

e Estimated

RIO GRANDE DE MANATI BASIN
50034000 RIO BAUTA NEAR OROCOVIS, PR--Continued



RIO GRANDE DE MANATI BASIN

50035000 RIO GRANDE DE MANATI AT CIALES, PR

LOCATION.--Lat 18°19'26", long 66°27'36", Hydrologic Unit 21010001, on left bank, 1.6 mi (2.6 km) upstream from Hwy 145 bridge, 0.8 mi (1.3 km) downstream from Quebrada Saliente, 0.9 mi (1.4 km) upstream from Quebrada Cojo Valés, and 1.2 mi (1.9 km) southeast of Ciales.

DRAINAGE AREA.--128 mi² (332 km²), excludes 6.0 mi² (15.5 km²), the runoff from which is diverted through El Guineo and Matrullas reservoirs.

PERIOD OF RECORD.--September 1946 to September 1953, May 1956 to December 1957 (unpublished, available in files of Caribbean District Office and in the National Water Data Storage and Retrieval System, Washington, D.C.); February 1959 to September 1960 (monthly discharge measurements only); October 1960 to current year. Equivalent record from January 1971 to December 1972 published as 50035200 Río Grande de Manati at Highway 145 at Ciales at site 1.6 mi (2.6 km) downstream, drainage area 132 mi² (342 km²).

GAGE.--Water-stage recorder. Elevation of gage is 140 ft (43 m), from topographic map. Prior to Apr. 1, 1962, staff gage, read twice daily, at site 100 ft (30 m) upstream at same datum. January 1971 to December 1972 at site 1.6 mi (2.6 km) downstream at different datum.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Gage-height and precipitation satellite telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Approximate gage heights of major floods, pointed out by local residents are as follows: August 1899, 50 ft (15 m), September 1928, 36 ft (11 m), and September 1932, 34 ft (10 m) at site 1.6 mi (2.6 km) upstream.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	438	719	545	327	198	134	e88	e54	e92	e56	e57	44
2	417	1200	4100	324	188	e130	e82	e86	e97	e56	e75	80
3	318	797	1510	621	188	e120	e86	e130	e97	e54	e68	55
4	282	499	591	759	182	e110	e81	e300	e95	e56	e64	219
5	261	507	1520	584	175	e120	e76	e520	e89	e54	e57	195
6	249	485	1480	534	172	e130	e76	e160	e85	e52	e55	132
7	561	407	865	649	169	e120	e72	e130	e82	e52	e52	86
8	410	382	817	436	165	e110	e69	e370	86	e51	e48	70
9	274	395	634	379	157	e110	e67	898	84	e50	e44	78
10	268	409	537	342	154	e100	e68	570	87	e50	e48	65
11	293	406	476	321	152	e110	e67	519	89	e48	e48	58
12	313	353	437	303	148	e100	e73	685	95	e49	e43	51
13	264	392	414	313	148	e100	e66	472	116	e48	e41	50
14	256	429	394	324	147	e100	e65	287	107	e52	e40	59
15	273	693	376	301	144	e98	e60	242	104	e49	e74	59
16	1200	1020	362	630	141	e96	e66	214	105	e46	e60	70
17	746	3940	375	354	139	e110	e71	273	150	e45	e49	74
18	459	6340	354	307	144	e98	e62	272	92	e50	e40	545
19	405	4070	381	280	141	e91	e61	213	e76	e52	39	370
20	883	1700	384	266	140	e90	e81	222	e71	e47	41	288
21	1020	903	399	247	137	e91	e190	186	e71	e54	39	426
22	911	706	491	252	176	e110	e180	176	e67	e54	49	574
23	466	584	431	240	425	e92	e90	259	e63	e56	800	604
24	391	516	410	238	443	e90	e72	229	e59	e52	205	383
25	789	464	442	227	430	e86	e63	193	e59	e48	94	275
26	548	441	401	225	202	e85	e66	188	e62	e49	87	e180
27	385	403	357	222	179	e110	e57	150	e64	e50	71	e170
28	340	625	e350	212	154	e88	e55	138	e60	e49	57	e160
29	313	493	e509	215	137	e150	e53	133	e57	e53	51	e150
30	310	598	396	211	---	e90	e57	120	e56	e65	50	e130
31	1490	---	349	202	---	e84	---	e110	---	e63	51	---
TOTAL	15533	30876	21087	10845	5475	3253	2320	8499	2517	1613	2597	5700
MEAN	501	1029	680	350	189	105	77.3	274	83.9	52.0	83.8	190
MAX	1490	6340	4100	759	443	150	190	898	150	65	800	604
MIN	249	353	349	202	137	84	53	54	56	45	39	44
AC-FT	30810	61240	41830	21510	10860	6450	4600	16860	4990	3200	5150	11310
CFSM	3.91	8.04	5.31	2.73	1.47	.82	.60	2.14	.66	.41	.65	1.48
IN.	4.51	8.97	6.13	3.15	1.59	.95	.67	2.47	.73	.47	.75	1.66

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 2000, BY WATER YEAR (WY)

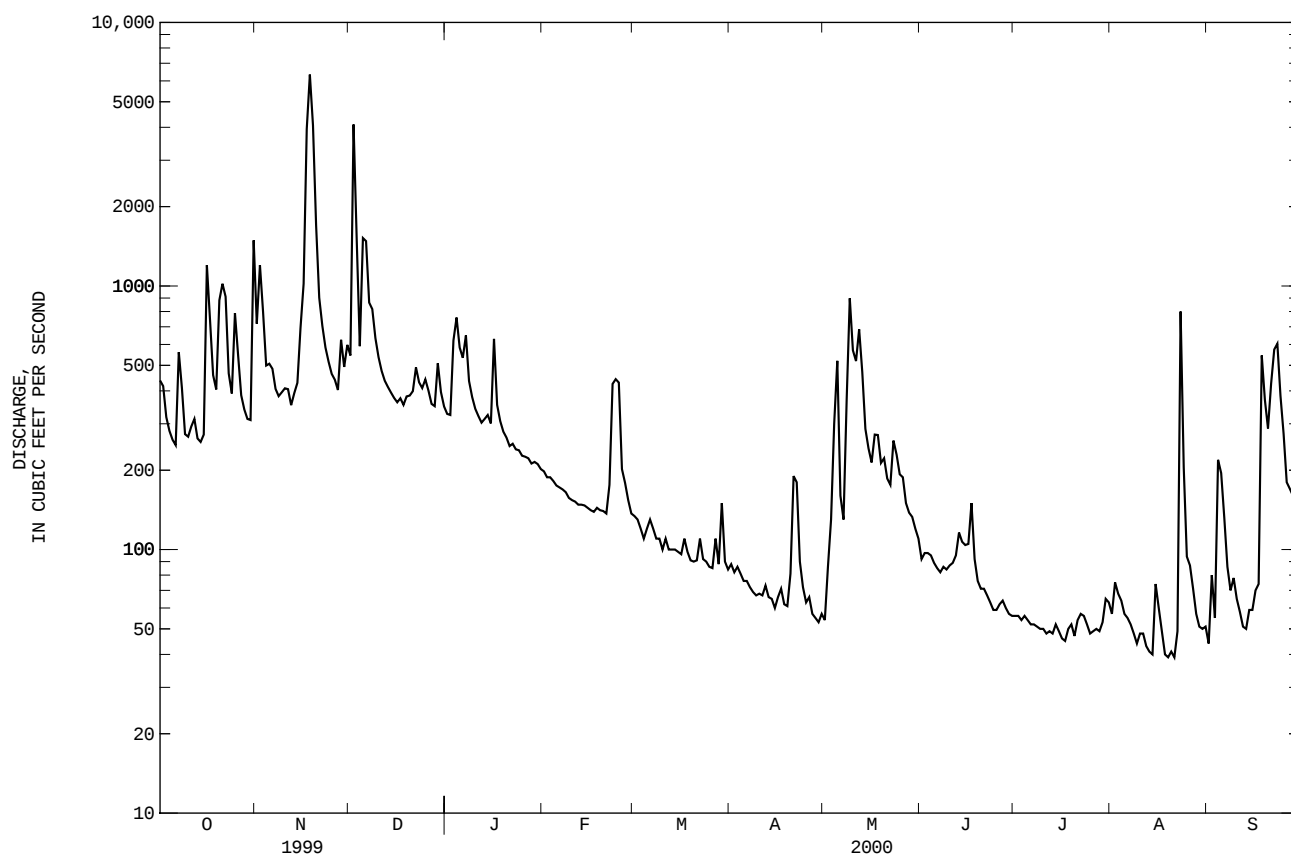
MEAN	424	355	267	196	167	135	249	403	157	104	149	315
MAX	2422	1029	1296	679	1393	477	1174	2293	512	438	1212	1295
(WY)	1971	2000	1966	1952	1950	1969	1969	1985	1999	1979	1979	1996
MIN	91.9	34.7	29.7	26.2	41.6	29.7	28.5	29.6	17.8	14.1	27.0	23.9
(WY)	1994	1995	1995	1995	1957	1994	1984	1994	1994	1994	1994	1994

RIO GRANDE DE MANATI BASIN

50035000 RIO GRANDE DE MANATI AT CIALES, PR--Continued

SUMMARY STATISTICS	FOR 1999 CALENDAR YEAR		FOR 2000 WATER YEAR		WATER YEARS 1946 - 2000	
ANNUAL TOTAL	143074		110315		244	
ANNUAL MEAN	392		301		520	1971
HIGHEST ANNUAL MEAN					47.3	1994
LOWEST ANNUAL MEAN						
HIGHEST DAILY MEAN	6340	Nov 18	6340	Nov 18	42700	May 18 1985
LOWEST DAILY MEAN	72	May 25	39	Aug 19	8.5	Jul 28 1994
ANNUAL SEVEN-DAY MINIMUM	78	May 20	45	Aug 8	9.5	Jul 24 1994
INSTANTANEOUS PEAK FLOW			17700	Dec 2	128000	Sep 10 1996
INSTANTANEOUS PEAK STAGE			12.50	Dec 2	25.20	Sep 10 1996
INSTANTANEOUS LOW FLOW					8.5	Jul 27 1994
ANNUAL RUNOFF (AC-FT)	283800		218800		177100	
ANNUAL RUNOFF (CFSM)	3.06		2.35		1.91	
ANNUAL RUNOFF (INCHES)	41.58		32.06		25.94	
10 PERCENT EXCEEDS	779		586		450	
50 PERCENT EXCEEDS	209		150		115	
90 PERCENT EXCEEDS	101		52		50	

e Estimated



RIO GRANDE DE MANATI BASIN

50035500 RIO GRANDE DE MANATI AT HIGHWAY 149 AT CIALES, RP

WATER-QUALITY RECORDS

LOCATION.--Lat 18°20'46", long 66°28'06", at bridge on Highway 149, about 800 ft (244 m) upstream from confluence with Río Cialitos, 0.5 mi (0.8 km) north of Ciales plaza.

DRAINAGE AREA.--136 mi² (352 km²) this excludes the 6 mi² (15.5 km²) upstream from Lago El Guineo and Lago de Matrullas, flow from which is diverted to Río Jacaguas.

PERIOD OF RECORD.--Water years 1979 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	TURBIDITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATURATION) (00301)	OXYGEN DEMAND, CHEMICAL (HIGH LEVEL) (MG/L) (00340)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	STREPTOCOCCI, FECAL, KF AGAR (COLS. PER 100 ML) (31673)
OCT 27...	1445	433	207	8.1	27.7	13	7.1	91	<10	K5000	2100
FEB 28...	1330	268	235	8.0	23.5	17	8.2	97	<10	K730	25
MAY 08...	0815	E600	175	7.5	23.4	42	7.0	83	>10	K10000	K11000
SEP 05...	0930	E300	186	7.3	25.2	300	7.5	92	24	26000	50000

DATE	HARDNESS TOTAL (MG/L AS CAC03) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNESIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM ADSORPTION RATIO (00931)	POTASSIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CAC03) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS S04) (00945)	CHLORIDE, DIS-SOLVED (MG/L AS CL) (00940)
OCT 27...	82	20.8	7.40	10.0	.5	1.9	82	<1.0	8.0	11.3
FEB 28...	--	--	--	--	--	--	89	--	--	--
MAY 08...	66	17.0	5.73	8.4	.4	1.7	64	<1.0	7.0	8.7
SEP 05...	66	15.9	6.34	7.9	.4	2.4	63	--	7.9	10.9

DATE	FLUORIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SI02) (00955)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITROGEN, NITRATE TOTAL (MG/L AS N) (00620)	NITROGEN, NITRITE TOTAL (MG/L AS N) (00615)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITROGEN, ORGANIC TOTAL (MG/L AS N) (00605)
OCT 27...	<.1	27.0	135	158	23	.84	.02	.9	.04	.28
FEB 28...	--	--	--	--	9	--	<.01	1.0	.07	--
MAY 08...	.1	21.3	108	--	67	.62	.02	.6	.06	.27
SEP 05...	.2	19.8	109	--	682	.86	.04	.9	.09	1.3

DATE	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITROGEN, TOTAL (MG/L AS N) (00600)	NITROGEN, TOTAL (MG/L AS N03) (71887)	PHOSPHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOVERABLE (UG/L AS B) (01022)	CADMIUM, TOTAL UNFLTRD (UG/L AS CD) (01027)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOVERABLE (UG/L AS CU) (01042)
OCT 27...	.32	1.2	5.2	.070	<3	43.3	21	<.1	E1	<20
FEB 28...	<.20	--	--	.080	--	--	--	--	--	--
MAY 08...	.33	.97	4.3	.150	<3	50.5	31	<.1	2	<20
SEP 05...	1.4	2.3	10.2	.460	--	--	--	--	--	--

RIO GRANDE DE MANATI BASIN

50035500 RIO GRANDE DE MANATI AT HIGHWAY 149 AT CIALES, RP--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

[illegible]

OCT 27...
FEB 28...
MAY 08...
SEP 05...

RIO GRANDE DE MANATI BASIN

50035950 RIO CIALITOS AT HIGHWAY 649 AT CIALES, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 18°20'18", long 66°28'28", 100 ft (30 m) upstream from bridge on Highway 649, 0.7 mi (1.1 km) upstream from mouth, and about 0.4 mi (0.6 km) west of Ciales plaza.

DRAINAGE AREA.--17.0 mi² (44.0 km²).

PERIOD OF RECORD.--Water years 1969-71, 1974 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	STREP-TOCOCCI, KF AGAR (COLS. PER 100 ML) (31673)
OCT 25...	1515	E350	118	7.4	24.4	660	7.7	93	17	K100000	81000
FEB 28...	1520	30	226	8.1	23.2	6.5	8.1	95	<10	>6000	45
MAY 08...	1020	68	151	7.4	23.5	94	8.1	97	19	K14000	K14000
SEP 05...	1150	26	173	7.3	26.0	70	7.9	99	12	K7500	K14000

DATE	HARD-NESS TOTAL (MG/L AS CAC03) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CAC03) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)
OCT 25...	53	16.5	2.91	5.6	.3	2.4	51	<1.0	5.4	5.9
FEB 28...	--	--	--	--	--	--	87	--	--	--
MAY 08...	56	15.7	3.95	6.5	.4	1.9	51	<1.0	5.2	8.9
SEP 05...	63	18.1	4.43	7.5	.4	1.8	58	--	5.7	8.1

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SI02) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)
OCT 25...	<.1	13.0	82	--	725	.82	.04	.9	.13	2.9
FEB 28...	--	--	--	--	6	--	<.01	.9	.05	--
MAY 08...	.1	18.6	91	16.8	154	.83	.02	.9	.07	.66
SEP 05...	<.1	19.1	100	7.09	86	1.08	.02	1.1	.07	.36

DATE	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, TOTAL (MG/L AS NO3) (71887)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)
OCT 25...	3.0	3.9	17.1	.870	<3	236	E15	.1	3	<20
FEB 28...	<.20	--	--	.080	--	--	--	--	--	--
MAY 08...	.73	1.6	7.0	.210	<3	80.2	28	<.1	4	E12
SEP 05...	.43	1.5	6.8	.160	--	--	--	--	--	--

RIO GRANDE DE MANATI BASIN

50035950 RIO CIALITOS AT HIGHWAY 649 AT CIALES, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

[illegible]

RIO GRANDE DE MANATI BASIN

50038100 RIO GRANDE DE MANATI AT HIGHWAY 2 NEAR MANATI, PR

LOCATION.--Lat 18°25'52", long 66°31'37", Hydrologic Unit 21010002, at bridge on Highway 2, and 2.3 mi (3.7 km) west of Manatí.

DRAINAGE AREA.--197 mi² (510 km²), approximately, of which about 38 mi² (98 km²) is partly or entirely noncontributing, excludes 6.0 mi² (15.5 km²) upstream from Lago El Guineo and Lago de Matrullas.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--1963-68 (annual maximum discharge only), February 1970 to current year.

REVISED RECORDS.--WRD PR-86-1: 1970-71 (M), 1975, 1979, 1982-85 (P).

GAGE.--Water-stage recorder. Elevation of gage is 14 ft (4 m), from topographic map. Prior to 1968 crest-stage gage at same site and datum 3.57 ft (1.09 m) lower.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Gage-height and precipitation satellite telemetry at station. Possible water extraction about 500 ft (152.4 m) upstream of gage by unknown source affecting low flow.

EXTREMES OUTSIDE PERIOD OF RECORD.--Approximate gage heights to gage datum of major floods, pointed out by local residents, are as follows: Sept. 13, 1928, 36.6 ft (11.16 m), Sept. 27, 1932, 36.3 ft (11.06 m), and Aug. 4, 1945, 34.3 ft (10.45 m).

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

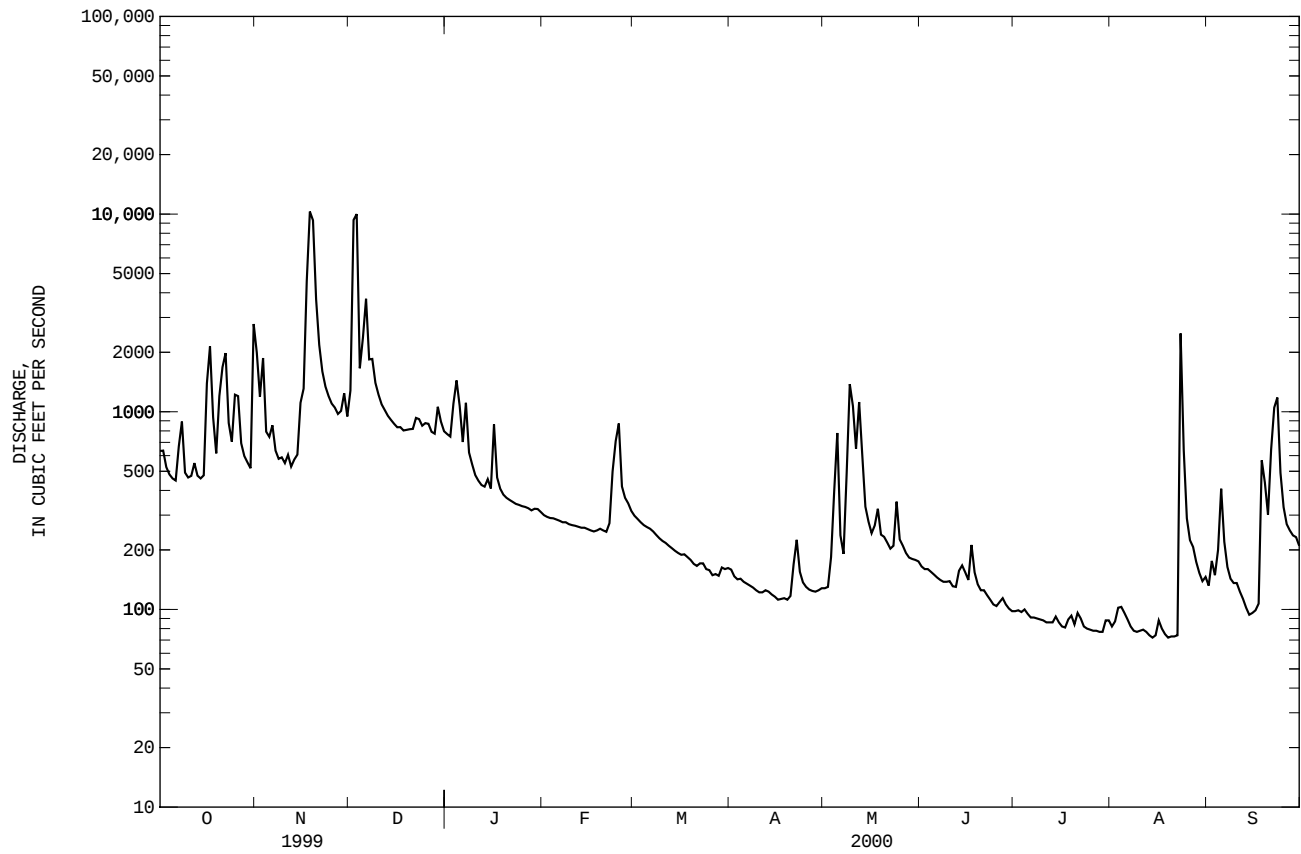
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	633	1990	1280	771	300	298	159	128	165	98	82	132
2	636	1190	9340	749	294	287	147	130	160	99	87	176
3	525	1870	10000	1100	290	276	142	184	160	97	162	149
4	482	793	1660	1440	289	267	143	395	155	100	103	200
5	460	747	2370	1070	285	261	138	781	150	95	96	408
6	449	854	3730	703	281	256	135	237	145	91	89	220
7	668	636	1840	1110	276	248	132	191	141	91	82	164
8	892	578	1850	622	276	238	129	488	138	90	78	143
9	492	588	1400	542	270	229	125	1380	138	89	77	136
10	465	550	1220	478	267	222	122	1070	139	88	78	136
11	474	606	1090	448	265	217	122	650	131	86	79	123
12	550	528	1020	426	262	210	125	1120	130	86	77	113
13	475	573	954	418	259	204	123	605	157	86	74	102
14	460	607	909	456	259	198	119	331	167	92	72	94
15	477	1110	869	409	255	193	116	278	154	86	74	96
16	1390	1310	835	862	251	189	112	243	141	82	88	99
17	2140	4570	836	465	248	190	113	266	212	81	80	107
18	938	10300	804	408	251	184	114	323	154	89	75	568
19	616	9300	810	381	256	178	112	239	134	93	72	438
20	1200	3710	816	367	251	170	117	233	125	84	73	302
21	1680	2180	819	358	247	166	169	218	125	96	73	643
22	1980	1600	931	350	273	171	225	203	118	90	74	1050
23	877	1340	918	342	499	171	155	210	112	82	2490	1180
24	706	1200	850	338	711	160	137	351	106	80	641	491
25	1220	1100	876	333	872	158	130	226	104	79	289	329
26	1200	1050	869	330	419	149	126	210	109	78	224	270
27	693	975	792	325	367	151	124	193	114	78	207	251
28	597	1010	775	317	344	148	123	183	106	77	174	237
29	555	1240	1060	323	315	163	125	180	101	77	153	232
30	518	947	892	322	---	160	128	178	98	88	139	210
31	2780	---	797	311	---	162	---	175	---	88	146	---
TOTAL	27228	55052	53212	16874	9432	6274	3987	11599	4089	2716	6248	8799
MEAN	878	1835	1717	544	325	202	133	374	136	87.6	202	293
MAX	2780	10300	10000	1440	872	298	225	1380	212	100	2490	1180
MIN	449	528	775	311	247	148	112	128	98	77	72	94
AC-FT	54010	109200	105500	33470	18710	12440	7910	23010	8110	5390	12390	17450
CFSM	4.46	9.32	8.71	2.76	1.65	1.03	.67	1.90	.69	.44	1.02	1.49
IN.	5.14	10.40	10.05	3.19	1.78	1.18	.75	2.19	.77	.51	1.18	1.66

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1970 - 2000, BY WATER YEAR (WY)

	MEAN	728	580	427	274	211	182	340	640	244	154	214	627
MAX	2958	1835	1717	879	444	521	1037	3178	815	577	1644	3732	
(WY)	1971	2000	2000	1997	1988	1972	1993	1985	1999	1979	1979	1998	
MIN	154	71.0	55.1	59.1	72.0	56.2	49.9	93.7	63.8	53.0	67.9	67.4	
(WY)	1995	1995	1998	1995	1994	1994	1995	1989	1994	1994	1984	1994	

SUMMARY STATISTICS	FOR 1999 CALENDAR YEAR		FOR 2000 WATER YEAR		WATER YEARS 1970 - 2000	
ANNUAL TOTAL	249520		205510			
ANNUAL MEAN	684		562		384	
HIGHEST ANNUAL MEAN					756	
LOWEST ANNUAL MEAN					96.5	
HIGHEST DAILY MEAN	10300	Nov 18	10300	Nov 18	80400	Sep 22 1998
LOWEST DAILY MEAN	127	May 27	72	Aug 14	31	Jan 24 1995
ANNUAL SEVEN-DAY MINIMUM	135	May 21	76	Aug 9	33	Jul 23 1994
INSTANTANEOUS PEAK FLOW			43300	Dec 2	198000	Sep 10 1996
INSTANTANEOUS PEAK STAGE			31.77	Dec 2	36.39	Sep 10 1996
INSTANTANEOUS LOW FLOW			69	Aug 14	28	Jan 23 1995
ANNUAL RUNOFF (AC-FT)	494900		407600		278100	
ANNUAL RUNOFF (CFSM)	3.47		2.85		1.95	
ANNUAL RUNOFF (INCHES)	47.12		38.81		26.48	
10 PERCENT EXCEEDS	1390		1110		685	
50 PERCENT EXCEEDS	306		250		168	
90 PERCENT EXCEEDS	147		89		82	

RIO GRANDE DE MANATI BASIN
50038100 RIO GRANDE DE MANATI AT HIGHWAY 2 NEAR MANATI, PR--Continued



RIO GRANDE DE MANATI BASIN

50038100 RIO GRANDE DE MANATI AT HIGHWAY 2 NEAR MANATI, PR.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1969 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	TURBIDITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATURATION) (00301)	OXYGEN DEMAND, CHEMICAL (HIGH LEVEL) (MG/L) (00340)	COLIFORM, FECA, 0.7 UM-MF (COLS./100 ML) (31625)	STREPTOCOCCI, KF AGAR (COLS. PER 100 ML) (31673)
NOV 01...	1225	1890	170	7.5	24.2	290	7.5	89	18	28000	22000
FEB 28...	1040	350	271	7.7	22.8	45	7.6	88	<10	K110	40
APR 27...	1145	124	322	7.6	28.6	2.5	6.5	84	<10	K11000	K140
AUG 28...	1315	171	288	7.4	30.0	15	6.1	81	<10	2900	4500

DATE	HARDNESS TOTAL (MG/L AS CAC03) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNESIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORPTION RATIO (00931)	POTASSIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CAC03) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLORIDE, DIS-SOLVED (MG/L AS CL) (00940)
NOV 01...	62	17.8	4.39	7.1	.4	1.8	62	<1.0	6.2	7.8
FEB 28...	--	--	--	--	--	--	105	--	--	--
APR 27...	140	42.4	8.04	10.8	.4	1.9	134	<1.0	8.7	13.7
AUG 28...	110	32.7	7.49	10.6	.4	2.0	108	--	9.4	12.4

DATE	FLUORIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SI02) (00955)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITROGEN, NITRATE TOTAL (MG/L AS N) (00620)	NITROGEN, NITRITE TOTAL (MG/L AS N) (00615)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITROGEN, ORGANIC TOTAL (MG/L AS N) (00605)
NOV 01...	<.1	7.1	89	456	585	.88	.03	.9	.09	1.3
FEB 28...	--	--	--	--	63	1.08	.02	1.1	.09	.13
APR 27...	.1	20.8	187	62.8	11	.98	.01	1.0	.03	.22
AUG 28...	<.1	21.5	161	74.3	19	.95	.02	1.0	.12	.44

DATE	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITROGEN, TOTAL (MG/L AS N) (00600)	NITROGEN, TOTAL (MG/L AS NO3) (71887)	PHOSPHORUS, TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOVERABLE (UG/L AS B) (01022)	CADMIUM, WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOVERABLE (UG/L AS CU) (01042)
NOV 01...	1.4	2.3	10.2	.620	E1	197	E17	.9	19	64
FEB 28...	.22	1.3	5.8	.110	--	--	--	--	--	--
APR 27...	.25	1.2	5.5	.080	<3	51.5	19	<.1	1	<20
AUG 28...	.56	1.5	6.8	.100	--	--	--	--	--	--

RIO GRANDE DE MANATI BASIN

50038100 RIO GRANDE DE MANATI AT HIGHWAY 2 NEAR MANATI, PR.--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

[illegible]

LAGUNA TORTUGUERO BASIN

50038200 LAGUNA TORTUGUERO OUTLET NEAR VEGA BAJA, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 18°28'29", long 66°26'50", at bridge on Highway 686, 4.2 mi (6.8 km) northeast of Manatí, and 4.4 mi (7.1 km) northwest of Vega Baja plaza.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--Water years 1964-66, 1969-71, 1974 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)
OCT 15...	1355	1080	7.1	30.0	6.4	85	190	91
FEB 17...	1340	808	8.0	27.0	7.4	93	K8	K48
APR 27...	1300	966	7.9	30.0	4.8	63	K26	80
AUG 17...	1115	1190	7.7	30.5	4.9	66	580	280

DATE	ANC WATER UNFLTRD FET FIELD MG/L AS CACO3 (00410)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
OCT 15...	120	3	.33	.02	1.2	.4	<.020	8.2
FEB 17...	143	<1	.29	.02	.81	1.1	<.020	--
APR 27...	116	<1	.41	.02	1.1	.6	<.020	7.7
AUG 17...	105	<10	.39	.02	1.6	.3	<.020	--

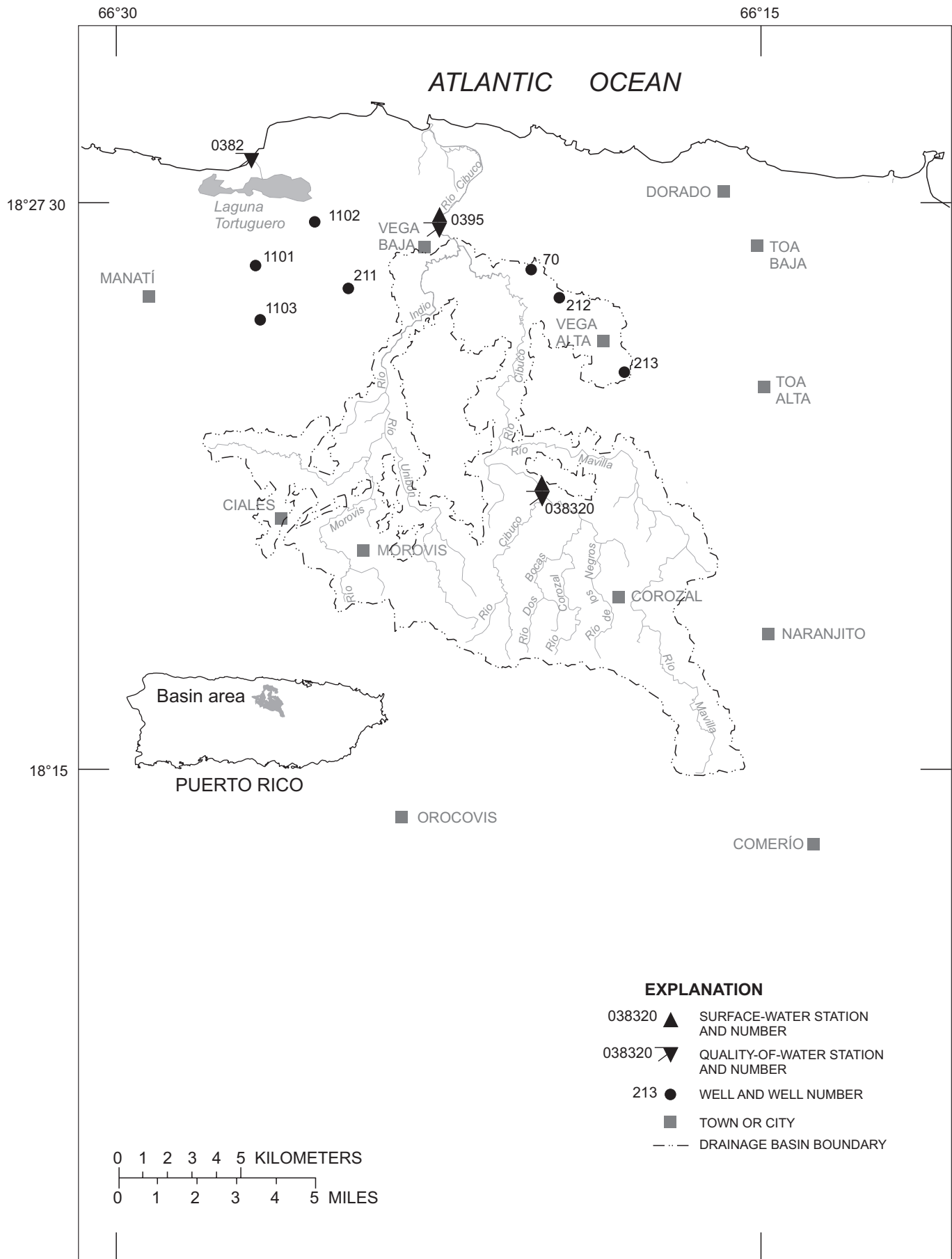


Figure 15. Río Cibuco basin.

RIO CIBUCO BASIN

50038320 RIO CIBUCO BELOW COROZAL, PR

LOCATION.--Lat 18°21'13", long 66°20'07", Hydrologic Unit 21010001, on right bank, 150 ft (46 m) downstream from junction with Rio Corozal, and 1.4 mi (2.3 km) northwest of Corozal.

DRAINAGE AREA.--15.1 mi² (39.1 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1969 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 195 ft (59 m), from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Gage-height and precipitation satellite telemetry at station. Daily discharge affected by sewage treatment plant about 0.6 mi (1.0 km) upstream from station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e30	e55	e350	45	e30	23	13	7.3	9.8	8.4	5.4	16
2	e28	e162	e1280	45	e28	22	13	7.5	10	8.2	5.2	14
3	e26	e61	e920	143	e27	21	14	8.6	10	8.0	9.7	14
4	e25	e52	e135	104	e28	20	14	10	9.7	8.6	7.6	35
5	e23	e134	e289	60	26	20	14	9.9	9.6	7.2	5.3	24
6	e21	e47	e280	91	25	19	12	8.7	9.4	7.2	4.5	15
7	e20	e34	e149	64	26	19	13	13	9.4	6.8	4.9	13
8	e24	e31	e137	58	25	19	12	31	9.5	7.4	4.5	34
9	e36	e30	e94	52	24	19	11	15	9.2	6.4	4.3	39
10	e24	e50	e80	44	24	19	11	9.5	9.0	6.4	5.8	16
11	e22	e29	e73	41	24	18	12	237	9.8	6.2	5.8	13
12	e20	e27	e66	41	23	17	13	29	22	6.4	5.0	12
13	e24	e39	e60	53	23	17	17	17	14	5.9	4.4	11
14	e23	e174	e56	46	24	17	14	14	11	6.4	4.5	11
15	e20	e293	e54	44	23	17	11	13	11	5.5	4.5	11
16	e669	e236	e50	47	23	18	11	14	44	5.1	4.6	11
17	e75	e358	e54	36	23	20	11	20	17	5.6	4.7	53
18	e46	e402	e49	34	25	18	10	14	12	5.6	4.6	39
19	e193	e254	e52	e33	24	17	10	13	11	5.9	5.1	80
20	165	e150	e48	33	22	16	9.8	12	11	5.4	4.9	28
21	e209	e110	60	32	24	16	9.7	11	10	5.1	4.4	18
22	e109	e98	76	34	29	17	9.2	11	9.2	4.9	7.4	55
23	87	e75	67	33	31	15	8.4	11	8.9	4.8	148	24
24	e71	e68	61	33	27	15	8.2	11	8.9	4.4	28	17
25	e310	e58	75	33	40	14	7.8	11	8.8	4.5	27	14
26	e122	e60	57	32	25	13	7.7	11	16	4.3	28	13
27	e47	e58	47	29	31	15	7.5	10	11	4.3	18	13
28	e35	e110	61	e28	24	16	7.3	10	9.3	4.4	14	12
29	e31	e128	68	e37	23	16	7.5	10	8.8	4.7	12	11
30	e29	e110	49	e36	---	14	7.7	11	8.6	4.5	18	12
31	e77	---	47	e31	---	13	---	10	---	4.4	17	---
TOTAL	2641	3493	4944	1472	751	540	326.8	620.5	357.9	182.9	427.1	678
MEAN	85.2	116	159	47.5	25.9	17.4	10.9	20.0	11.9	5.90	13.8	22.6
MAX	669	402	1280	143	40	23	17	237	44	8.6	148	80
MIN	20	27	47	28	22	13	7.3	7.3	8.6	4.3	4.3	11
AC-FT	5240	6930	9810	2920	1490	1070	648	1230	710	363	847	1340
CFSM	5.64	7.71	10.6	3.14	1.72	1.15	.72	1.33	.79	.39	.91	1.50
IN.	6.51	8.61	12.18	3.63	1.85	1.33	.81	1.53	.88	.45	1.05	1.67

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1969 - 2000, BY WATER YEAR (WY)

	MEAN	42.5	49.8	40.6	25.6	21.6	20.8	30.9	42.6	15.2	12.4	16.3	33.8
MAX	135	155	169	69.6	51.3	65.1	111	157	44.4	35.6	50.8	191	
(WY)	1991	1971	1971	1992	1988	1981	1973	1986	1987	1999	1979	1996	
MIN	8.05	5.63	1.94	6.93	7.75	4.36	3.32	3.20	1.63	2.19	3.44	3.88	
(WY)	1979	1998	1998	1995	1994	1984	1984	1977	1994	1994	1978	1994	

SUMMARY STATISTICS

FOR 1999 CALENDAR YEAR

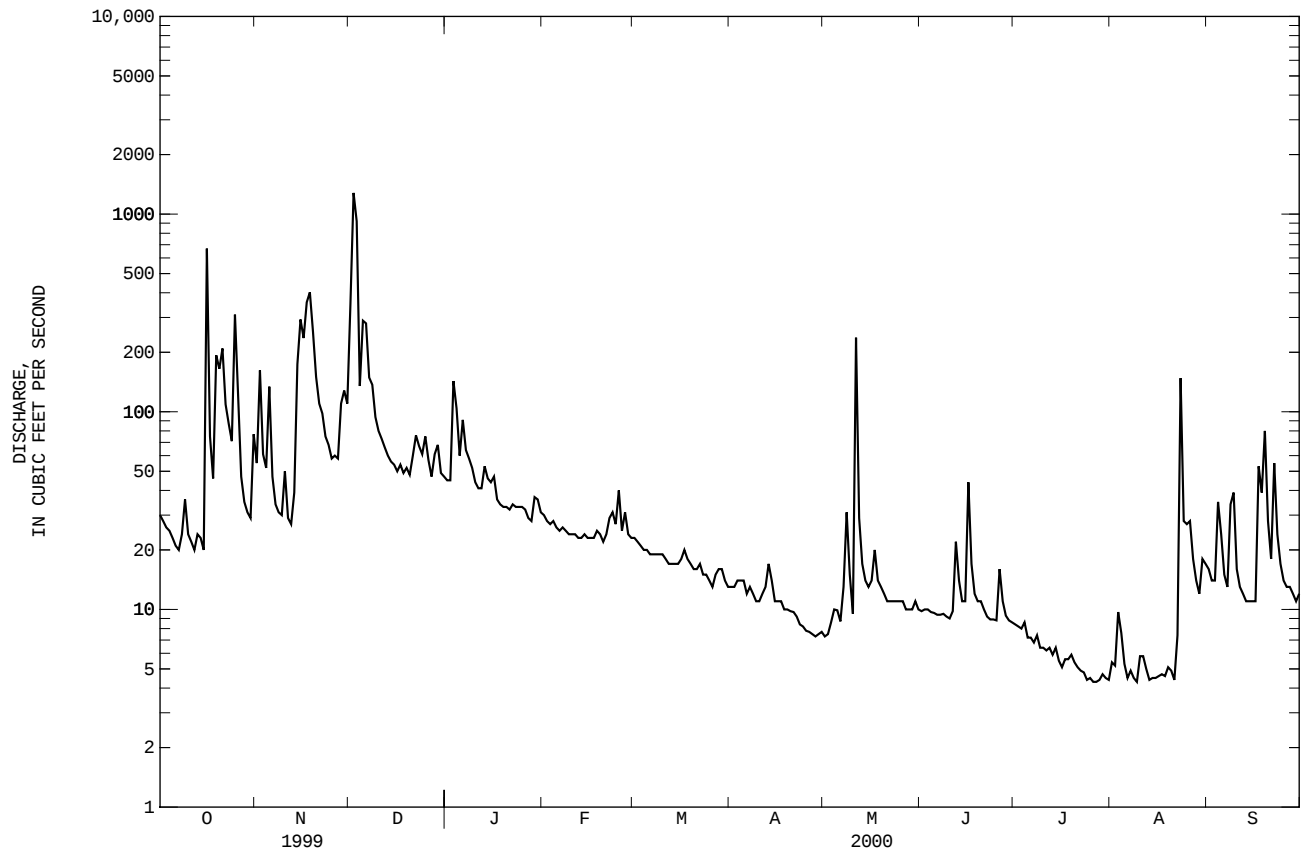
FOR 2000 WATER YEAR

WATER YEARS 1969 - 2000

ANNUAL TOTAL	18296.0	16434.2	
ANNUAL MEAN	50.1	44.9	29.4
HIGHEST ANNUAL MEAN			56.5
LOWEST ANNUAL MEAN			7.47
HIGHEST DAILY MEAN	1280	1280	3070
LOWEST DAILY MEAN	7.6	4.3	.91
ANNUAL SEVEN-DAY MINIMUM	7.9	4.4	1.2
INSTANTANEOUS PEAK FLOW		12500	20400
INSTANTANEOUS PEAK STAGE		19.67	22.35
ANNUAL RUNOFF (AC-FT)	36290	32600	21330
ANNUAL RUNOFF (CFSM)	3.32	2.97	1.95
ANNUAL RUNOFF (INCHES)	45.07	40.49	26.49
10 PERCENT EXCEEDS	100	82	52
50 PERCENT EXCEEDS	21	18	13
90 PERCENT EXCEEDS	9.8	5.9	5.1

e Estimated

RIO CIBUCO BASIN
50038320 RIO CIBUCO BELOW COROZAL, PR--Continued



RIO CIBUCO BASIN

50038320 RIO CIBUCO BELOW COROZAL, PR.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1969-76, 1979 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	TURBIDITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATURATION) (00301)	OXYGEN DEMAND, CHEMICAL (HIGH LEVEL) (MG/L) (00340)	COLIFORM, 0.7 UM-MF (COLS./100 ML) (31625)	STREPTOCOCCI, KF AGAR (COLS. PER 100 ML) (31673)
NOV 03...	1105	44	291	8.0	24.9	40	8.0	98	11	26000	9500
FEB 14...	1200	26	344	8.1	24.2	4.2	8.5	102	<10	370	77
APR 19...	1400	9.4	363	8.0	26.8	3.5	7.7	98	<10	350	K150
AUG 24...	1040	22	329	7.6	26.1	6.5	7.6	95	11	35000	3500

DATE	HARDNESS TOTAL (MG/L AS CAC03) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNESIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORPTION RATIO (00931)	POTASSIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CAC03) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLORIDE, DIS-SOLVED (MG/L AS CL) (00940)
NOV 03...	110	26.4	10.3	12.5	.5	3.9	96	<1.0	12.9	16.7
FEB 14...	--	--	--	--	--	--	115	--	--	--
APR 19...	130	32.8	11.9	19.1	.7	3.0	123	--	12.0	27.1
AUG 24...	120	29.0	11.4	14.9	.6	3.9	92	--	20.8	25.4

DATE	FLUORIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SI02) (00955)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUSPENDED (MG/L) (00530)	NITROGEN, NITRATE TOTAL (MG/L AS N) (00620)	NITROGEN, NITRITE TOTAL (MG/L AS N) (00615)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITROGEN, ORGANIC TOTAL (MG/L AS N) (00605)
NOV 03...	.1	26.3	167	19.7	55	1.27	.03	1.3	.10	.42
FEB 14...	--	--	--	--	7	2.38	.02	2.4	.05	.28
APR 19...	.2	34.0	214	5.43	1	2.57	.03	2.6	.12	.34
AUG 24...	.1	26.8	187	11.4	<10	2.18	.02	2.2	.18	.41

DATE	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITROGEN, TOTAL (MG/L AS N) (00600)	NITROGEN, TOTAL (MG/L AS NO3) (71887)	PHOSPHORUS, TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOVERABLE (UG/L AS B) (01022)	CADMIUM, WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOVERABLE (UG/L AS CU) (01042)
NOV 03...	.52	1.8	8.1	.140	<3	53.5	24	.2	3	<20
FEB 14...	.33	2.7	12.1	.180	--	--	--	--	--	--
APR 19...	.46	3.1	13.5	.280	<3	46.5	25	<.1	<1	<20
AUG 24...	.59	2.8	12.4	.190	--	--	--	--	--	--

RIO CIBUCO BASIN

50038320 RIO CIBUCO BELOW COROZAL, PR.--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

[illegible]

RIO CIBUCO BASIN

50039500 RIO CIBUCO AT VEGA BAJA, PR

LOCATION.--Lat 18°26'53", long 66°22'29", Hydrologic Unit 21010002, on left bank, at bridge on Hwy 2, 0.6 mi (1.0 km) downstream from Río Indio, and 0.8 mi (1.3 km) east of Vega Baja.

DRAINAGE AREA.--99.1 mi² (256.7 km²), of which 25.4 mi² (65.8 km²), does not contribute directly to surface runoff.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1973 to current year.

GAGE.--Water-stage recorder. Datum of gage is 7.79 ft (2.37 m) above mean sea level.

REMARKS.--Records fair, except those for estimated daily discharges, which are poor. Gage-height and precipitation satellite telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 11, 1965 reached a stage of 26.2 ft (7.99 m), datum unknown, discharge about 28,000 ft³/s (793 m³/s).

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e150	e300	1100	271	100	85	47	31	35	29	28	43
2	e140	e400	6860	250	94	79	46	32	34	28	44	50
3	e130	e240	4920	652	93	72	50	44	37	29	35	100
4	e120	e190	712	746	96	69	48	51	32	34	89	94
5	e110	226	1540	464	87	66	52	43	30	28	42	172
6	e105	349	1500	325	106	63	45	42	29	e26	30	59
7	e100	173	792	517	118	61	42	32	28	e26	27	46
8	e120	128	729	325	122	59	42	93	27	e27	28	45
9	e180	122	517	325	107	57	39	152	26	e27	25	201
10	e120	218	450	261	94	56	37	69	25	e27	28	111
11	e110	150	396	235	88	55	36	750	43	e27	46	58
12	e100	110	360	220	85	55	41	515	91	e28	27	44
13	e120	230	328	219	84	55	48	151	121	e28	25	40
14	e110	494	303	324	83	55	52	86	44	e29	25	37
15	e100	955	285	203	79	55	41	73	36	e28	29	36
16	e250	879	269	335	76	55	39	71	134	e27	26	40
17	e500	1710	279	205	92	81	40	191	152	e26	23	57
18	e200	1690	259	184	90	63	40	144	49	e26	21	325
19	165	1400	278	169	106	58	38	72	37	e27	22	232
20	767	788	255	159	87	54	40	64	34	e26	24	381
21	791	583	303	151	77	53	45	54	39	e26	22	172
22	714	505	385	147	146	61	44	48	34	e27	24	202
23	327	405	389	142	217	55	41	47	30	e27	544	249
24	372	363	334	133	245	54	36	47	28	28	246	161
25	668	302	354	127	281	54	33	46	28	27	163	124
26	457	321	341	119	143	51	32	47	44	27	143	75
27	212	312	261	111	161	58	31	43	80	27	112	67
28	e160	569	304	105	118	55	30	42	35	27	62	63
29	e140	680	523	142	88	69	30	39	31	38	48	52
30	e130	532	320	136	---	51	31	41	29	30	41	48
31	e800	---	272	107	---	48	---	41	---	27	72	---
TOTAL	8468	15324	25918	7809	3363	1862	1216	3201	1422	864	2121	3384
MEAN	273	511	836	252	116	60.1	40.5	103	47.4	27.9	68.4	113
MAX	800	1710	6860	746	281	85	52	750	152	38	544	381
MIN	100	110	255	105	76	48	30	31	25	26	21	36
AC-FT	16800	30400	51410	15490	6670	3690	2410	6350	2820	1710	4210	6710
CFSM	2.76	5.15	8.44	2.54	1.17	.61	.41	1.04	.48	.28	.69	1.14
IN.	3.18	5.75	9.73	2.93	1.26	.70	.46	1.20	.53	.32	.80	1.27

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1973 - 2000, BY WATER YEAR (WY)

MEAN	162	206	208	108	89.4	80.0	140	180	72.9	56.9	78.2	146
MAX	559	523	1316	339	190	339	667	655	239	235	461	690
(WY)	1986	1980	1982	1997	1988	1990	1987	1985	1987	1999	1979	1996
MIN	45.9	28.3	12.9	30.2	27.2	20.5	16.2	24.7	12.5	14.0	21.2	26.7
(WY)	1974	1998	1998	1995	1994	1994	1984	1977	1994	1994	1978	1994

SUMMARY STATISTICS

FOR 1999 CALENDAR YEAR

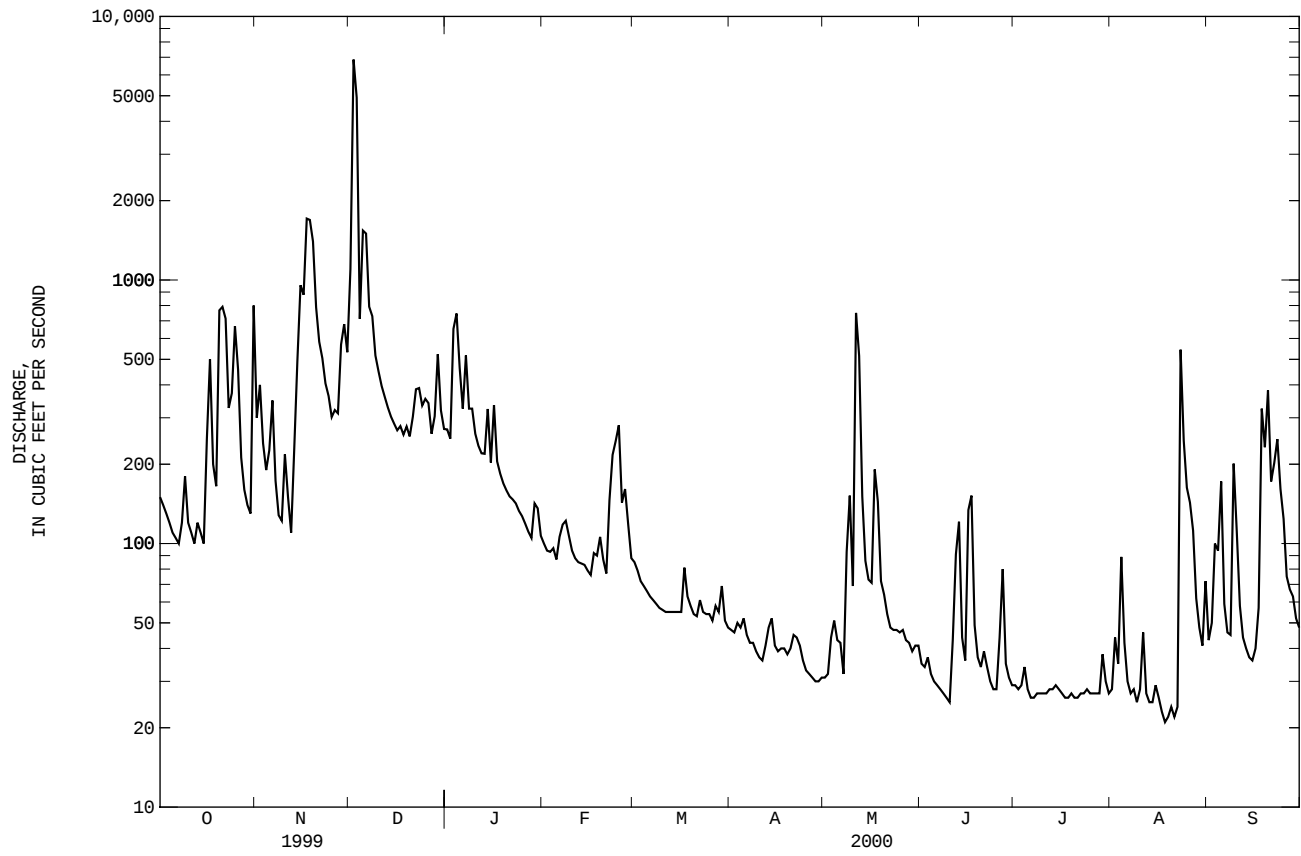
FOR 2000 WATER YEAR

WATER YEARS 1973 - 2000

ANNUAL TOTAL	83732	74952	
ANNUAL MEAN	229	205	
HIGHEST ANNUAL MEAN			126
LOWEST ANNUAL MEAN			236
HIGHEST DAILY MEAN	6860	Dec 2	14600
LOWEST DAILY MEAN	30	Apr 21	7.2
ANNUAL SEVEN-DAY MINIMUM	31	Apr 20	23
INSTANTANEOUS PEAK FLOW			26400
INSTANTANEOUS PEAK STAGE			18.52
INSTANTANEOUS LOW FLOW			19
ANNUAL RUNOFF (AC-FT)	166100	148700	91390
ANNUAL RUNOFF (CFSM)	2.31	2.07	1.27
ANNUAL RUNOFF (INCHES)	31.43	28.14	17.30
10 PERCENT EXCEEDS	441	452	240
50 PERCENT EXCEEDS	117	80	58
90 PERCENT EXCEEDS	41	28	22

e Estimated

RIO CIBUCO BASIN
50039500 RIO CIBUCO AT VEGA BAJA, PR--Continued



RIO CIBUCO BASIN

50039500 RIO CIBUCO AT VEGA BAJA, PR.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1972 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	STREP-TOCOCCEI, FECAL, KF AGAR (COLS. PER 100 ML) (31673)
NOV 03...	1430	237	332	8.0	25.2	83	7.3	89	20	26000	31000
FEB 14...	1455	84	427	7.9	24.4	1.6	8.7	104	<10	300	33
APR 14...	1325	45	408	7.9	25.6	4.8	6.7	82	<10	330	320
AUG 17...	1300	24	468	7.7	29.1	.3	5.8	75	12	K8800	240

DATE	HARD-NESS TOTAL (MG/L AS CAC03) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CAC03) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS S04) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)
NOV 03...	140	44.6	6.71	10.1	.4	3.8	131	<1.0	11.3	14.3
FEB 14...	--	--	--	--	--	--	167	--	--	--
APR 14...	170	53.3	9.10	16.2	.5	2.5	162	<1.0	10.9	25.1
AUG 17...	190	59.8	8.80	17.5	.6	2.4	183	--	11.6	26.8

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SI02) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)
NOV 03...	<.1	15.8	185	119	188	1.07	.03	1.1	.06	.66
FEB 14...	--	--	--	--	5	1.58	.02	1.6	.09	--
APR 14...	.2	20.6	235	28.3	9	1.86	.04	1.9	.22	.14
AUG 17...	.1	17.7	254	16.4	<10	1.28	.02	1.3	.04	.17

DATE	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, TOTAL (MG/L AS N03) (71887)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)
NOV 03...	.72	1.8	8.1	.230	<3	75.0	26	.2	10	20
FEB 14...	<.20	--	--	.080	--	--	--	--	--	--
APR 14...	.36	2.3	10.0	.150	<3	42.5	35	<.1	E1	<20
AUG 17...	.21	1.5	6.7	.140	--	--	--	--	--	--

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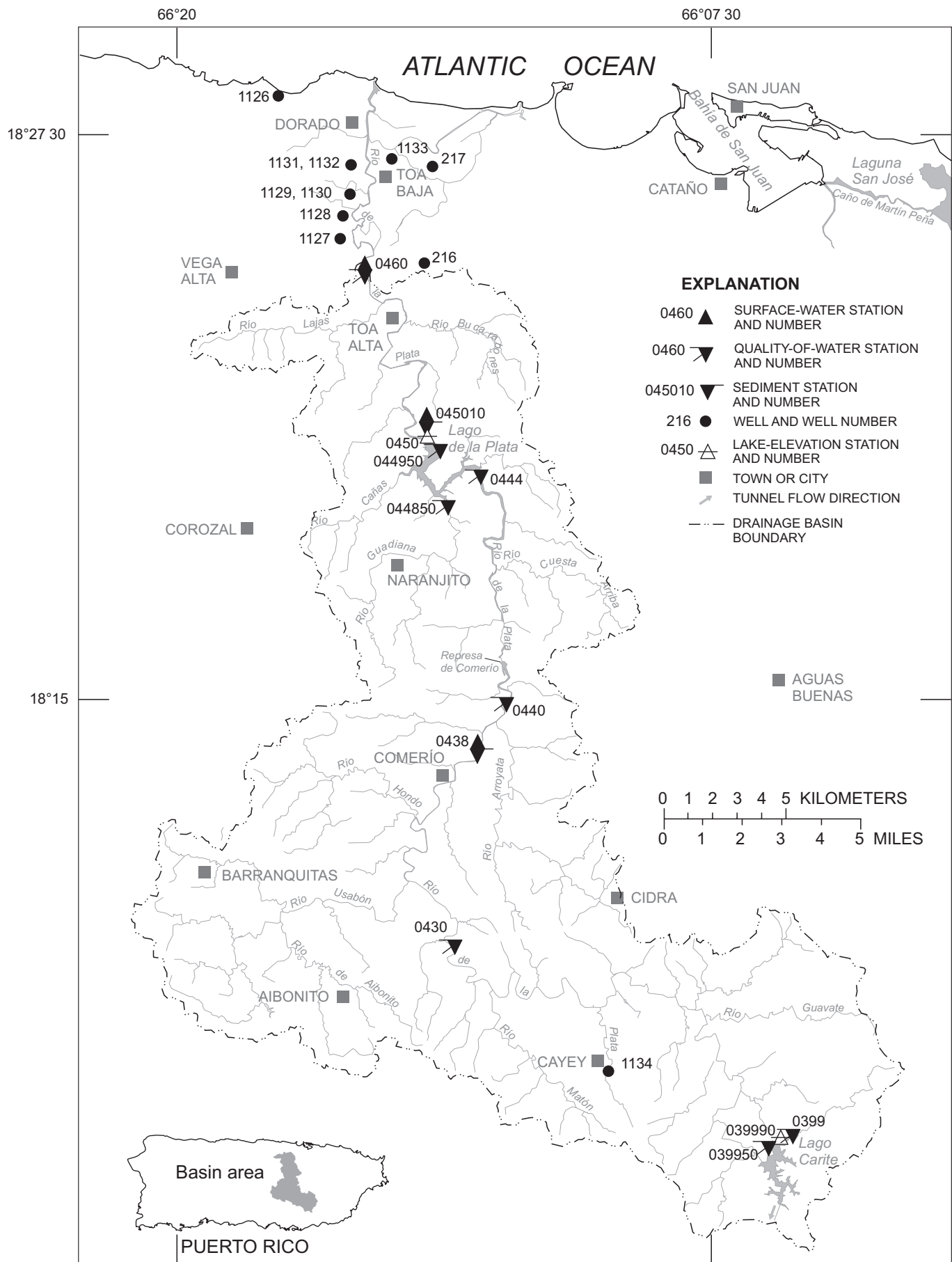


Figure 16. Río de la Plata basin.

RIO DE LA PLATA BASIN

50039990 LAGO CARITE AT GATE TOWER NEAR CAYEY, PR

LOCATION.--Lat 18°03'46", long 66°05'58", Hydrologic Unit 21010005, on top of a concrete tower at diversion tunnel on Carite Reservoir, 0.7 mi (1.1 km) northwest from Escuela Carite Chino, 1.2 mi (1.9 km) northeast from Central Hidroelectrica de Carite Num. 1 and 1.8 mi (2.9 km) northeast from Escuela Segunda Unidad.

DRAINAGE AREA.--8.20 mi² (21.24 km²).

ELEVATION RECORDS

PERIOD OF RECORD.--May 1989 to current year. Prior to October 1994, published as Lago Carite at Gate Tower.

GAGE.--Water stage recorder. Datum of gage is mean sea level.

REMARKS.--Lago Carite Dam was completed in 1913. The operation of the reservoir is controlled by the utilization of water to meet the demands for domestic, industrial and agricultural purposes in the Guayama Area. The dam is an earthfill with crest elevation of 1,806 ft (550 m) above mean sea level, with a structural height of 104 ft (32 m) and a length of 500 ft (152 m). The dam has a capacity of approximately 11,310 acre-feet (13.9 hm³). The Dam is operated by the Puerto Rico Electric and Power Authority. Gage-height and precipitation satellite telemetry at station.

EXTREMES OBSERVED FOR PERIOD OF RECORD.--Maximum elevation 1,789.62 ft (545.48 m), Sept. 21, 1998; minimum elevation, 1,761.22 ft (536.81 m), May 28, 1995.

EXTREMES FOR CURRENT YEAR.--Maximum elevation 1,783.27 ft (543.54 m), Nov. 17; minimum elevation, 1,768.92 ft (539.17 m), Aug. 22.

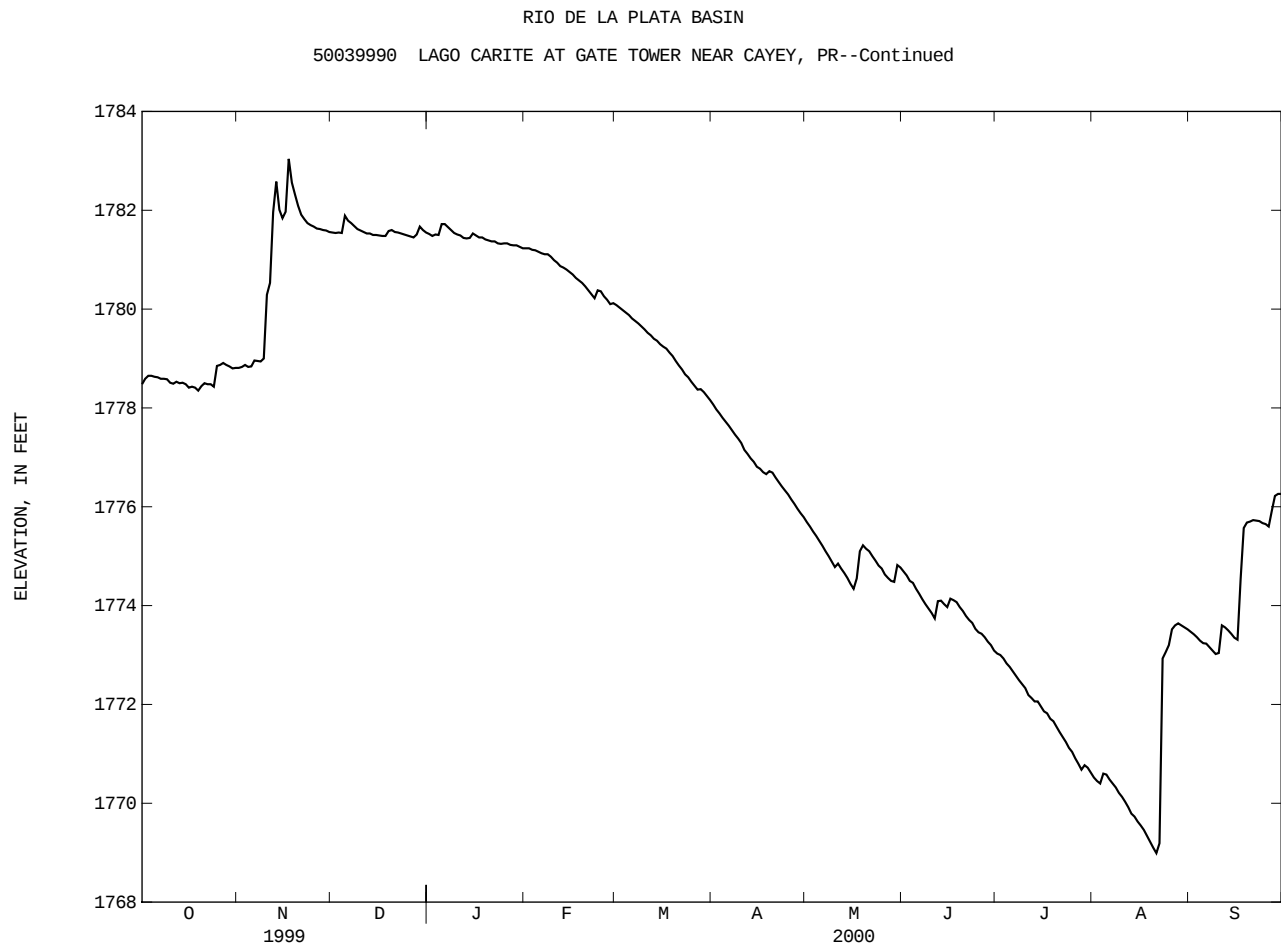
Capacity Table

(based on Data from Puerto Rico Electric Power Authority)

Elevation, in feet	Contents, in acre-feet	Elevation, in feet	Contents, in acre-feet
1,746	0	1,775	6,194
1,760	2,471	1,780	7,704
1,769	4,561	1,790	11,048

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1778.48	1778.81	1781.55	1781.52	1781.23	1780.08	1778.07	1775.69	1774.69	1773.03	1770.52	1773.47
2	1778.59	1778.83	1781.54	1781.48	1781.23	1780.03	1777.97	1775.60	1774.61	1773.00	1770.45	1773.42
3	1778.65	1778.87	1781.55	1781.51	1781.20	1779.98	1777.89	1775.50	1774.50	1772.93	1770.40	1773.36
4	1778.65	1778.83	1781.54	1781.50	1781.19	1779.93	1777.80	1775.41	1774.46	1772.83	1770.60	1773.29
5	1778.63	1778.84	1781.89	1781.72	1781.16	1779.88	1777.72	1775.31	1774.34	1772.76	1770.58	1773.24
6	1778.62	1778.96	1781.79	1781.72	1781.13	1779.81	1777.64	1775.21	1774.24	1772.67	1770.48	1773.23
7	1778.59	1778.95	1781.74	1781.66	1781.11	1779.76	1777.55	1775.10	1774.13	1772.58	1770.40	1773.16
8	1778.59	1778.94	1781.68	1781.60	1781.11	1779.71	1777.46	1775.00	1774.03	1772.49	1770.32	1773.09
9	1778.58	1779.00	1781.62	1781.54	1781.06	1779.65	1777.38	1774.89	1773.94	1772.41	1770.21	1773.02
10	1778.51	1780.29	1781.59	1781.51	1780.99	1779.59	1777.29	1774.78	1773.85	1772.33	1770.13	1773.04
11	1778.49	1780.53	1781.56	1781.49	1780.94	1779.52	1777.15	1774.85	1773.74	1772.19	1770.03	1773.60
12	1778.53	1781.96	1781.53	1781.44	1780.87	1779.47	1777.07	1774.75	1774.09	1772.13	1769.92	1773.56
13	1778.50	1782.58	1781.53	1781.43	1780.84	1779.40	1776.98	1774.66	1774.10	1772.06	1769.79	1773.50
14	1778.51	1782.01	1781.50	1781.44	1780.80	1779.36	1776.91	1774.56	1774.03	1772.06	1769.73	1773.43
15	1778.48	1781.84	1781.50	1781.53	1780.75	1779.29	1776.81	1774.44	1773.97	1771.96	1769.63	1773.35
16	1778.41	1781.97	1781.49	1781.49	1780.70	1779.24	1776.77	1774.34	1774.14	1771.86	1769.55	1773.31
17	1778.43	1783.04	1781.48	1781.45	1780.63	1779.20	1776.70	1774.55	1774.11	1771.82	1769.46	1774.54
18	1778.41	1782.56	1781.48	1781.45	1780.58	1779.12	1776.66	1775.10	1774.07	1771.71	1769.34	1775.57
19	1778.35	1782.32	1781.58	1781.41	1780.53	1779.05	1776.72	1775.22	1773.97	1771.66	1769.22	1775.68
20	1778.44	1782.09	1781.60	1781.39	1780.46	1778.95	1776.69	1775.15	1773.89	1771.55	1769.10	1775.70
21	1778.50	1781.91	1781.56	1781.37	1780.38	1778.86	1776.59	1775.10	1773.79	1771.44	1768.99	1775.73
22	1778.48	1781.82	1781.55	1781.37	1780.30	1778.78	1776.50	1775.00	1773.71	1771.34	1769.19	1775.72
23	1778.48	1781.74	1781.53	1781.33	1780.22	1778.68	1776.41	1774.91	1773.65	1771.24	1772.93	1775.71
24	1778.43	1781.70	1781.51	1781.32	1780.38	1778.62	1776.33	1774.81	1773.53	1771.12	1773.06	1775.67
25	1778.85	1781.67	1781.49	1781.33	1780.36	1778.53	1776.25	1774.75	1773.46	1771.04	1773.20	1775.65
26	1778.87	1781.63	1781.47	1781.33	1780.26	1778.45	1776.15	1774.63	1773.43	1770.91	1773.52	1775.60
27	1778.91	1781.62	1781.45	1781.30	1780.19	1778.37	1776.06	1774.56	1773.36	1770.80	1773.60	1775.92
28	1778.87	1781.60	1781.51	1781.29	1780.10	1778.38	1775.96	1774.50	1773.27	1770.68	1773.64	1776.22
29	1778.84	1781.59	1781.67	1781.29	1780.12	1778.32	1775.87	1774.48	1773.20	1770.77	1773.60	1776.26
30	1778.80	1781.56	1781.60	1781.26	---	1778.24	1775.79	1774.82	1773.09	1770.72	1773.56	1776.26
31	1778.81	---	1781.55	1781.23	---	1778.16	---	1774.77	---	1770.62	1773.52	---
MAX	1778.91	1783.04	1781.89	1781.72	1781.23	1780.08	1778.07	1775.69	1774.69	1773.03	1773.64	1776.26
MIN	1778.35	1778.81	1781.45	1781.23	1780.10	1778.16	1775.79	1774.34	1773.09	1770.62	1768.99	1773.02



RIO DE LA PLATA BASIN

50043000 RIO DE LA PLATA AT PROYECTO LA PLATA, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 18 09'37", long 66 13'44", Hydrologic Unit 21010005, at upstream side of bridge on Highway 173, 0.4 mi (0.6 km) northeast of Proyecto La Plata, and 2.5 mi (4.0 km) upstream from Río Usabón.

DRAINAGE AREA.--63.0 mi² (163.2 km²), excludes 8.2 mi² (21.1 km²) upstream from Carite Reservoir, the flow of which is diverted to Río Guamani.

PERIOD OF RECORD.--Water years 1958 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	TURBIDITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATURATION) (00301)	OXYGEN DEMAND, CHEMICAL (HIGH LEVEL) (MG/L) (00340)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	STREPTOCOCCI, FECAL, KF AGAR (COLS. PER 100 ML) (31673)
OCT 26...	1500	137	206	7.8	27.5	150	7.1	93	16	K7300	7400
FEB 11...	1030	39	468	8.3	23.0	1.4	8.8	106	<10	K640	K18
APR 17...	1030	24	487	8.1	24.8	2.8	8.0	100	11	410	270
AUG 14...	1135	7.4	510	7.9	28.7	3.7	7.2	96	13	570	K110

DATE	HARDNESS TOTAL (MG/L AS CAC03) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNESIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM ADSORPTION RATIO (00931)	POTASSIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CAC03) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLORIDE, DIS-SOLVED (MG/L AS CL) (00940)
OCT 26...	79	19.7	7.23	14.8	.7	1.9	75	<1.0	9.0	12.6
FEB 11...	--	--	--	--	--	--	157	--	--	--
APR 17...	160	39.4	15.3	36.0	1	2.9	169	<1.0	19.0	44.7
AUG 14...	170	37.6	19.3	85.7	3	4.4	144	--	22.0	59.9

DATE	FLUORIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SI02) (00955)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUSPENDED (MG/L) (00530)	NITROGEN, NITRATE TOTAL (MG/L AS N) (00620)	NITROGEN, NITRITE TOTAL (MG/L AS N) (00615)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITROGEN, ORGANIC TOTAL (MG/L AS N) (00605)
OCT 26...	.1	19.7	130	48.1	160	1.17	.03	1.2	.09	1.0
FEB 11...	--	--	--	--	7	1.75	.05	1.8	.03	.26
APR 17...	.1	25.1	284	18.2	5	1.57	.03	1.6	.07	.32
AUG 14...	.1	26.1	342	6.86	<10	2.26	.04	2.3	.04	.42

DATE	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITROGEN, TOTAL (MG/L AS N) (00600)	NITROGEN, TOTAL (MG/L AS NO3) (71887)	PHOSPHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOVERABLE (UG/L AS B) (01022)	CADMIUM, TOTAL RECOVERABLE (UG/L AS CD) (01027)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOVERABLE (UG/L AS CU) (01042)
OCT 26...	1.1	2.3	10.2	.130	<3	33.8	26	<.1	1	<20
FEB 11...	.29	2.1	9.3	.080	--	--	--	--	--	--
APR 17...	.39	2.0	8.8	.130	<3	26.4	74	<.1	<1	<20
AUG 14...	.46	2.8	12.2	.200	--	--	--	--	--	--

[illegible]

RIO DE LA PLATA BASIN

50043800 RIO DE LA PLATA AT COMERIO, PR

LOCATION.--Lat 18°13'23", long 66°13'30", Hydrologic Unit 21010005, on right bank 50 ft (15 m) upstream from bridge off Highway 167 in the Town of Comerio, 0.4 mi (0.6 km) southwest of Comerio High School, and 0.2 mi (0.3 km) northeast of Plaza de Comerio.

DRAINAGE AREA.--109 mi² (282 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1988 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 604.2 ft (184.16 m) above mean sea level.

REMARKS.--Records fair except those for estimated daily discharges, which are poo. Filtration plant more or less 500 feet upstream from station. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	92	262	177	192	80	74	40	29	73	32	39	70
2	314	869	229	159	78	70	39	33	54	41	54	64
3	72	634	407	480	73	60	38	31	45	48	38	57
4	44	210	188	610	71	57	38	33	44	50	39	293
5	35	141	901	460	71	57	39	38	40	45	137	172
6	29	230	1440	1020	67	54	36	32	36	42	70	76
7	29	156	666	956	66	53	35	28	34	38	34	84
8	38	102	683	385	72	51	30	25	35	37	28	69
9	60	80	410	257	66	49	30	27	29	36	25	66
10	44	976	323	188	63	48	31	29	27	33	24	50
11	48	503	242	158	63	51	32	56	26	27	23	135
12	41	e799	205	140	59	51	33	146	162	26	21	124
13	54	e1060	182	137	60	48	39	99	377	26	21	64
14	63	e752	168	136	65	48	42	46	77	39	21	50
15	120	655	153	140	66	49	44	33	46	44	26	50
16	489	1500	143	298	62	49	39	32	210	35	22	46
17	340	9880	146	143	58	46	40	38	255	34	19	104
18	148	8130	137	121	66	46	43	515	77	39	19	2550
19	94	4590	164	111	76	44	40	591	46	27	18	545
20	180	2070	339	105	85	40	67	302	37	28	18	419
21	503	1010	230	102	63	45	58	98	32	26	17	407
22	347	657	244	98	122	46	42	112	30	24	34	412
23	332	499	213	95	173	42	36	78	26	22	14000	279
24	265	412	198	91	143	41	31	55	25	22	795	167
25	952	364	169	89	294	41	e30	48	42	22	331	127
26	471	361	145	96	115	41	e29	48	33	22	554	91
27	141	268	129	89	86	41	28	43	77	21	487	250
28	92	261	128	81	73	41	27	40	55	21	203	270
29	73	264	1200	83	67	41	26	53	36	22	141	270
30	60	212	393	90	---	43	29	182	30	29	100	137
31	359	---	239	78	---	44	---	190	---	29	81	---
TOTAL	5929	37907	10591	7188	2503	1511	1111	3110	2116	987	17439	7498
MEAN	191	1264	342	232	86.3	48.7	37.0	100	70.5	31.8	563	250
MAX	952	9880	1440	1020	294	74	67	591	377	50	14000	2550
MIN	29	80	128	78	58	40	26	25	25	21	17	46
MED	92	501	213	137	71	48	37	46	41	29	34	126
AC-FT	11760	75190	21010	14260	4960	3000	2200	6170	4200	1960	34590	14870
CFSM	1.76	11.6	3.15	2.14	.80	.45	.34	.92	.65	.29	5.18	2.30
IN.	2.03	13.00	3.63	2.46	.86	.52	.38	1.07	.73	.34	5.98	2.57

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 2000, BY WATER YEAR (WY)

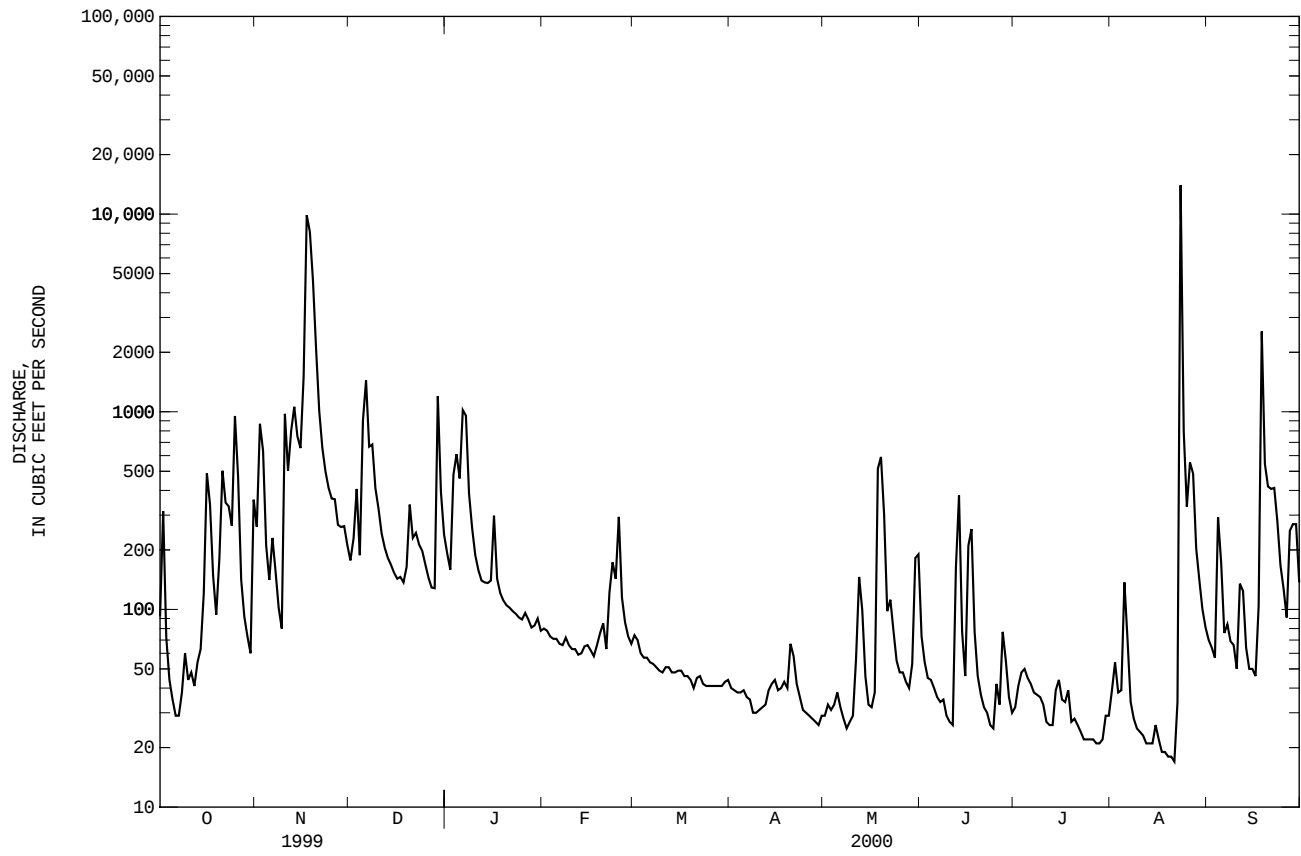
MEAN	227	218	116	144	96.8	44.5	52.0	87.1	72.4	86.7	132	444
MAX	866	1264	457	732	268	75.7	162	263	213	291	563	1433
(WY)	1991	2000	1999	1992	1998	1989	1993	1992	1996	1993	2000	1996
MIN	40.6	19.0	17.1	21.3	24.4	20.6	22.3	19.7	13.2	10.4	12.7	26.2
(WY)	1992	1995	1995	1995	1990	1993	1991	1994	1994	1994	1994	1997

SUMMARY STATISTICS FOR 1999 CALENDAR YEAR FOR 2000 WATER YEAR WATER YEARS 1989 - 2000

ANNUAL TOTAL	82007	97890	
ANNUAL MEAN	225	267	142
HIGHEST ANNUAL MEAN			267
LOWEST ANNUAL MEAN			35.3
HIGHEST DAILY MEAN	9880	Nov 17	14000
LOWEST DAILY MEAN	17	Jun 26	17
ANNUAL SEVEN-DAY MINIMUM	20	Jun 23	20
INSTANTANEOUS PEAK FLOW			49000
INSTANTANEOUS PEAK STAGE			20.03
ANNUAL RUNOFF (AC-FT)	162700	194200	103000
ANNUAL RUNOFF (CFSM)	2.07	2.47	1.31
ANNUAL RUNOFF (INCHES)	28.12	33.56	17.81
10 PERCENT EXCEEDS	411	474	198
50 PERCENT EXCEEDS	73	66	40
90 PERCENT EXCEEDS	31	28	16

e Estimated

RIO DE LA PLATA BASIN
50043800 RIO DE LA PLATA AT COMERIO, PR--Continued



RIO DE LA PLATA BASIN

50043800 RIO DE LA PLATA AT COMERIO, PR--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORDS.-- Water year 1989 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: October 1989 to current year.

INSTRUMENTATION.-- USD-77 sediment sampler since 1989. Automatic sediment sampler since 1989.

REMARKS.--Sediment samples were collected by a local observer on a week basis. During high flow events sediment samples were collected by hydrologic technician and automatic sediment sampler.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATION: Maximum daily mean, 8,800 mg/L January 05, 1992; Minimum daily mean, 1 mg/L several days.

SEDIMENT LOADS: Maximum daily mean, 950,000 tons (862,000 tonnes) January 05, 1992; Minimum daily mean, 0.04 tons (0.04 tonne) November 28, 1994.

EXTREMES FOR WATER YEARS 2000.--

SEDIMENT CONCENTRATION: Maximum daily mean, 2,210 mg/L September 18, 2000; Minimum daily mean, 5 mg/L November 24, 1999.

SEDIMENT LOADS: Maximum daily mean, 48,500 tons (44,000 tonnes) November 17, 1999; Minimum daily mean, 0.51 ton (0.46 tonne) April 10, 2000.

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
OCTOBER			NOVEMBER			DECEMBER			
1	92	42	25	262	240	189	177	6	2.8
2	314	183	188	869	378	2480	229	30	32
3	72	54	11	634	291	647	407	66	94
4	44	37	4.4	210	183	102	188	15	7.8
5	35	33	3.1	141	227	89	901	232	1370
6	29	29	2.2	230	208	137	1440	103	662
7	29	26	2.0	156	183	77	666	6	12
8	38	30	3.1	102	180	49	683	7	13
9	60	49	8.8	80	95	21	410	7	7.2
10	44	36	4.4	976	811	3290	323	6	5.3
11	48	35	4.6	503	1080	1570	242	6	4.1
12	41	31	3.4	e799	e754	e2560	205	7	3.6
13	54	43	6.5	e1060	e588	e2250	182	8	3.7
14	63	51	9.1	e752	e694	e1730	168	22	9.9
15	120	82	70	655	384	695	153	69	29
16	489	250	819	1500	558	2510	143	75	29
17	340	222	252	9880	1430	48500	146	61	24
18	148	99	42	8130	585	13800	137	51	19
19	94	63	16	4590	188	2430	164	43	19
20	180	124	86	2070	63	375	339	38	35
21	503	238	324	1010	21	60	230	49	30
22	347	181	192	657	7	13	244	64	42
23	332	212	206	499	6	7.5	213	57	33
24	265	176	136	412	5	5.8	198	47	25
25	952	402	2390	364	6	6.2	169	51	23
26	471	286	446	361	8	7.8	145	62	24
27	141	116	44	268	10	7.5	129	72	25
28	92	107	27	261	13	9.4	128	77	27
29	73	104	21	264	15	11	1200	521	2220
30	60	75	12	212	10	5.7	393	225	255
31	359	198	547	---	---	---	239	76	50
TOTAL	5929	---	5905.6	37907	---	83634.9	10591	---	5136.4

RIO DE LA PLATA BASIN

50043800 RIO DE LA PLATA AT COMERIO, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JANUARY			FEBRUARY			MARCH			
1	192	58	30	80	36	7.8	74	16	3.3
2	159	53	23	78	37	7.8	70	12	2.3
3	480	128	314	73	39	7.8	60	8	1.4
4	610	351	614	71	42	8.0	57	8	1.2
5	460	213	288	71	45	8.6	57	8	1.2
6	1020	376	1720	67	49	8.9	54	8	1.2
7	956	231	853	66	53	9.3	53	8	1.2
8	385	75	78	72	49	9.6	51	9	1.2
9	257	64	45	66	45	8.0	49	10	1.3
10	188	57	29	63	43	7.4	48	11	1.5
11	158	71	30	63	52	8.8	51	16	2.2
12	140	92	35	59	64	10	51	23	3.1
13	137	84	31	60	52	8.4	48	28	3.6
14	136	74	27	65	43	7.6	48	19	2.4
15	140	91	37	66	46	8.2	49	12	1.7
16	298	183	156	62	52	8.7	49	11	1.5
17	143	79	31	58	58	9.0	46	11	1.4
18	121	55	18	66	64	11	46	13	1.6
19	111	48	14	76	71	15	44	16	1.9
20	105	54	15	85	83	19	40	18	2.0
21	102	60	16	63	107	18	45	15	1.8
22	98	52	14	122	136	59	46	12	1.4
23	95	41	10	173	168	101	42	11	1.2
24	91	33	8.0	143	98	43	41	10	1.1
25	89	35	8.4	294	164	138	41	9	1.0
26	96	39	10	115	81	26	41	9	.94
27	89	37	8.9	86	40	9.3	41	8	.91
28	81	34	7.4	73	17	3.3	41	9	.94
29	83	34	7.5	67	15	2.8	41	9	.97
30	90	34	8.3	---	---	---	43	9	.98
31	78	35	7.4	---	---	---	44	8	.94
TOTAL	7188	---	4493.9	2503	---	589.3	1511	---	49.38
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
APRIL			MAY			JUNE			
1	40	7	.80	29	132	10	73	71	14
2	39	7	.70	33	123	11	54	56	8.2
3	38	6	.65	31	114	9.6	45	46	5.6
4	38	9	.88	33	110	9.7	44	37	4.4
5	39	11	1.2	38	108	11	40	30	3.2
6	36	9	.91	32	105	9.1	36	21	2.0
7	35	7	.68	28	103	7.9	34	14	1.3
8	30	7	.55	25	100	6.8	35	13	1.2
9	30	6	.51	27	92	6.8	29	14	1.1
10	31	6	.51	29	85	6.5	27	22	1.6
11	32	6	.52	56	88	14	26	22	1.6
12	33	6	.54	146	98	39	162	89	90
13	39	6	.63	99	97	26	377	210	297
14	42	6	.68	46	104	13	77	22	5.1
15	44	7	.77	33	97	8.8	46	18	2.2
16	39	7	.76	32	72	6.2	210	104	134
17	40	8	.91	38	50	5.1	255	154	123
18	43	13	1.5	515	250	1310	77	48	11
19	40	18	2.0	591	545	1020	46	20	2.5
20	67	12	2.1	302	270	242	37	14	1.5
21	58	7	1.2	98	99	28	32	13	1.1
22	42	18	1.9	112	99	32	30	16	1.3
23	36	53	5.0	78	73	15	26	21	1.4
24	31	129	11	55	57	8.5	25	22	1.5
25	e30	e142	e11	48	87	11	42	34	4.0
26	e29	e137	e11	48	131	17	33	20	1.8
27	28	101	7.8	43	125	15	77	50	12
28	27	103	7.6	40	109	12	55	18	2.9
29	26	113	7.9	53	104	15	36	12	1.1
30	29	124	9.6	182	143	111	30	12	.94
31	---	---	---	190	124	72	---	---	---
TOTAL	1111	---	91.80	3110	---	3109.0	2116	---	738.54

RIO DE LA PLATA BASIN

50043800 RIO DE LA PLATA AT COMERIO, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JULY			AUGUST			SEPTEMBER			
1	32	16	1.4	39	36	4.0	70	49	9.3
2	41	23	2.6	54	45	6.5	64	45	7.9
3	48	31	4.0	38	37	3.8	57	42	6.5
4	50	21	2.9	39	32	3.6	293	151	418
5	45	15	1.8	137	90	34	172	126	67
6	42	20	2.2	70	75	14	76	55	11
7	38	27	2.8	34	52	4.8	84	68	15
8	37	28	2.8	28	52	4.0	69	60	11
9	36	28	2.7	25	54	3.6	66	51	9.0
10	33	27	2.5	24	35	2.3	50	42	5.7
11	27	27	2.0	23	22	1.3	135	82	48
12	26	27	1.9	21	22	1.2	124	89	32
13	26	24	1.7	21	24	1.4	64	48	8.4
14	39	35	3.9	21	26	1.5	50	39	5.3
15	44	37	4.4	26	25	1.8	50	35	4.7
16	35	29	2.7	22	23	1.4	46	35	4.4
17	34	26	2.5	19	22	1.1	104	80	32
18	39	17	1.9	19	20	1.1	2550	2220	24500
19	27	10	.77	18	22	1.0	545	307	481
20	28	11	.82	18	24	1.2	419	203	262
21	26	12	.82	17	26	1.2	407	168	445
22	24	12	.77	34	52	8.1	412	293	351
23	22	13	.76	14000	712	40500	279	180	140
24	22	13	.78	795	129	280	167	118	53
25	22	14	.85	331	109	98	127	97	34
26	22	15	.85	554	297	510	91	80	20
27	21	15	.86	487	315	474	250	152	166
28	21	16	.90	203	130	72	270	170	129
29	22	17	1.0	141	90	35	270	152	115
30	29	21	1.7	100	68	19	137	95	36
31	29	28	2.2	81	56	12	---	---	---
TOTAL	987	---	59.78	17439	---	42102.9	7498	---	27427.2
YEAR	97890		173338.70						

e Estimated

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

SILT AND CLAY PERCENT OF SUSPENDED SEDIMENT

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
NOV					
12...	1550	1310	1710	6070	98
17...	1355	9580	1300	33600	95
17...	2100	9090	876	21500	98
JAN					
28...	1650	81	33	7.2	88
FEB					
16...	1130	64	52	9.0	90
MAR					
13...	0940	52	31	4.4	57
JUL					
03...	1230	54	34	5.0	74
AUG					
23...	0910	31100	901	75700	97
SEP					
18...	0840	3140	1480	12500	93

RIO DE LA PLATA BASIN

50043800 RIO DE LA PLATA AT COMERIO, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM (70326)	SED. SUSP. FALL DIAM. % FINER THAN .004 MM (70327)	SED. SUSP. FALL DIAM. % FINER THAN .008 MM (70328)	
		SED. SUSP. FALL DIAM. % FINER THAN .016 MM (70329)	SED. SUSP. FALL DIAM. % FINER THAN .031 MM (70330)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM (70332)	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM (70333)	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM (70334)	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM (70335)
OCT 25...	2210	1760	862	4100	67	79	93	
NOV 17...	1700	9650	1040	27200	50	61	72	
AUG 23...	0410	17600	1940	92000	32	41	50	
SEP 18...	0225	4660	2740	34500	44	56	70	
DATE		SED. SUSP. FALL DIAM. % FINER THAN .016 MM (70329)	SED. SUSP. FALL DIAM. % FINER THAN .031 MM (70330)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM (70332)	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM (70333)	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM (70334)	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM (70335)
OCT 25...	98	99	99	100	100	100	100	
NOV 17...	84	92	94	98	99	100	100	
AUG 23...	59	68	73	86	97	99	100	
SEP 18...	83	92	96	98	99	100	100	

RIO DE LA PLATA BASIN

50044000 RIO DE LA PLATA NEAR COMERIO, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 18°14'33", long 66°12'28", at bridge on Highway 156, 0.56 mi (0.9 km) upstream from dam, about 2.0 mi (3.2 km) northeast of Comerio plaza.

DRAINAGE AREA.--139 mi² (360 km²), excludes 8.2 mi² (21.1 km²) upstream from Carite Reservoir, the flow of which is diverted to Rio Guamani.

PERIOD OF RECORD.--Water years 1979 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	TURBIDITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATURATION) (00301)	OXYGEN DEMAND, CHEMICAL (HIGH LEVEL) (MG/L) (00340)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	STREPTOCOCCI, FECAL, KF AGAR (COLS. PER 100 ML) (31673)
NOV 18...	1310	E1000	187	7.8	23.7	140	8.2	101	26	K7200	8500
FEB 08...	0820	122	480	8.2	21.0	2.4	8.2	94	<10	K100	58
MAY 01...	1400	46	417	8.3	28.5	1.9	8.2	109	<10	K120	K120
SEP 06...	1030	74	363	7.8	28.3	17	7.5	98	12	3100	300

DATE	HARDNESS TOTAL (MG/L AS CAC03) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNESIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM ADSORPTION RATIO (00931)	POTASSIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CAC03) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLORIDE, DIS-SOLVED (MG/L AS CL) (00940)
NOV 18...	110	29.5	8.40	38.2	2	4.0	61	<1.0	18.2	67.4
FEB 08...	--	--	--	--	--	--	162	--	--	--
MAY 01...	170	38.1	18.5	22.0	.7	1.4	153	<1.0	14.3	27.3
SEP 06...	130	31.3	12.9	21.2	.8	3.0	115	--	14.6	23.5

DATE	FLUORIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SI02) (00955)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUSPENDED (MG/L) (00530)	NITROGEN, NITRATE TOTAL (MG/L AS N) (00620)	NITROGEN, NITRITE TOTAL (MG/L AS N) (00615)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITROGEN, ORGANIC TOTAL (MG/L AS N) (00605)
NOV 18...	<.1	7.3	209	--	188	.93	.03	1.0	.08	1.3
FEB 08...	--	--	--	--	2	1.49	.01	1.5	.03	.20
MAY 01...	<.1	41.9	255	31.4	2	.35	.01	.4	.14	--
SEP 06...	.1	25.8	201	40.4	22	.97	.01	1.0	.05	.23

DATE	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITROGEN, TOTAL (MG/L AS N) (00600)	NITROGEN, TOTAL (MG/L AS NO3) (71887)	PHOSPHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOVERABLE (UG/L AS B) (01022)	CADMIUM, TOTAL RECOVERABLE (UG/L AS CD) (01027)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOVERABLE (UG/L AS CU) (01042)
NOV 18...	1.4	2.4	10.4	.250	E1	34.3	27	.1	6	E15
FEB 08...	.23	1.7	7.7	.060	--	--	--	--	--	--
MAY 01...	<.20	--	--	.050	<3	20.0	36	<.1	<1	<20
SEP 06...	.28	1.3	5.6	.110	--	--	--	--	--	--

50044850 RIO GUADIANA NEAR NARANJITO, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 18°18'39", long 66°13'28", at steel-cross-bridge 0.8 mi (1.3 km) northwest of Highway 164, 1.2 mi (1.9 km) upstream from mouth and about 2.0 mi (3.2 km) northeast of Naranjito plaza.

DRAINAGE AREA.--4.0 mi² (10.3 km²).

PERIOD OF RECORD.--Water year 1979 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS TOTAL (MG/L AS CAC03) (00900)
OCT 17...	1340	14	366	7.9	28.8	17	6.1	80	<10	K10000	K1100	150
FEB 08...	1030	18	339	8.1	23.0	1.4	8.0	94	<10	K100	41	--
MAY 01...	1235	5.9	365	7.9	29.5	.4	6.7	93	<10	290	K100	140
SEP 06...	0800	6.4	382	7.4	26.9	.3	5.5	70	<10	K1100	480	140

DATE	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD MG/L AS CAC03 (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS- SOLVED (MG/L AS S04) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SI02) (00955)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)
OCT 17...	33.5	15.0	16.5	.6	2.6	130	--	23.8	21.8	.1	27.7	219
FEB 08...	--	--	--	--	--	119	--	--	--	--	--	--
MAY 01...	31.5	14.2	17.0	.6	2.1	130	<1.0	14.5	26.0	<.1	29.5	213
SEP 06...	34.4	14.0	17.9	.6	2.3	128	--	21.6	23.3	<.1	26.0	216

DATE	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL	NITRO- GEN,	NITRO- GEN,	NITRO- GEN,	NITRO- GEN,	NITRO- GEN,AM- MONIA +	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV- ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)
		AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	NITRATE TOTAL (MG/L AS N) (00620)	NITRITE TOTAL (MG/L AS N) (00615)	NIT2+NO3 TOTAL (MG/L AS N) (00630)	AMMONIA TOTAL (MG/L AS N) (00610)	ORGANIC TOTAL (MG/L AS N) (00625)					
OCT 17...	8.11	24	--	--	--	--	--	--	E2	62.7	23	<.1
FEB 08...	--	2	--	<.01	1.6	.02	<.20	.100	--	--	--	--
MAY 01...	3.36	<1	1.69	.01	1.7	.04	<.20	.190	<3	46.5	36	<.1
SEP 06...	3.77	<10	--	<.01	1.1	.03	<.20	.150	--	--	--	--

	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOVERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECOVERABLE (UG/L AS FE) (01045)	LEAD, TOTAL RECOVERABLE (UG/L AS PB) (01051)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN) (01055)	MERCURY TOTAL RECOVERABLE (UG/L AS HG) (71900)	SELNIUM, TOTAL RECOVERABLE (UG/L AS SE) (01147)	SILVER, TOTAL RECOVERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN) (01092)	CYANIDE TOTAL (MG/L AS CN) (00720)	PHENOLS TOTAL (UG/L) (32730)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L) (38260)
OCT 17... FEB 08... MAY 01... SEP 06...	3 -- <1 --	<20 -- ~20 --	1070 -- 50 --	E1 -- ~1 --	96 -- 20 --	<.3 -- ~.3 --	<3 -- ~3 --	<1 -- ~1 --	<31 -- ~31 --	<.01 -- ~.01 --	-- -- 5 --	-- -- ~.02 --

50045000 LAGO LA PLATA AT DAMSITE NEAR TOA ALTA, PR

LOCATION.--Lat 18°20'40", long 66°14'10", Hydrologic Unit 21010005, 2.9 mi (4.7 km) at northeast of Plaza de Naranjito, 2.7 mi (4.3 km) West of Road 167, km 15.3, Buena Vista, Bayamón, 5.2 mi (8.4 km) east of Plaza de Corozal.

DRAINAGE AREA.--181 mi² (469 km²).

ELEVATION RECORDS

PERIOD OF RECORD.--February 1989 to current year. Prior to October 1994, published as Lago La Plata at Damsite.

GAGE.--Water-stage recorder. Datum of gage is mean sea level.

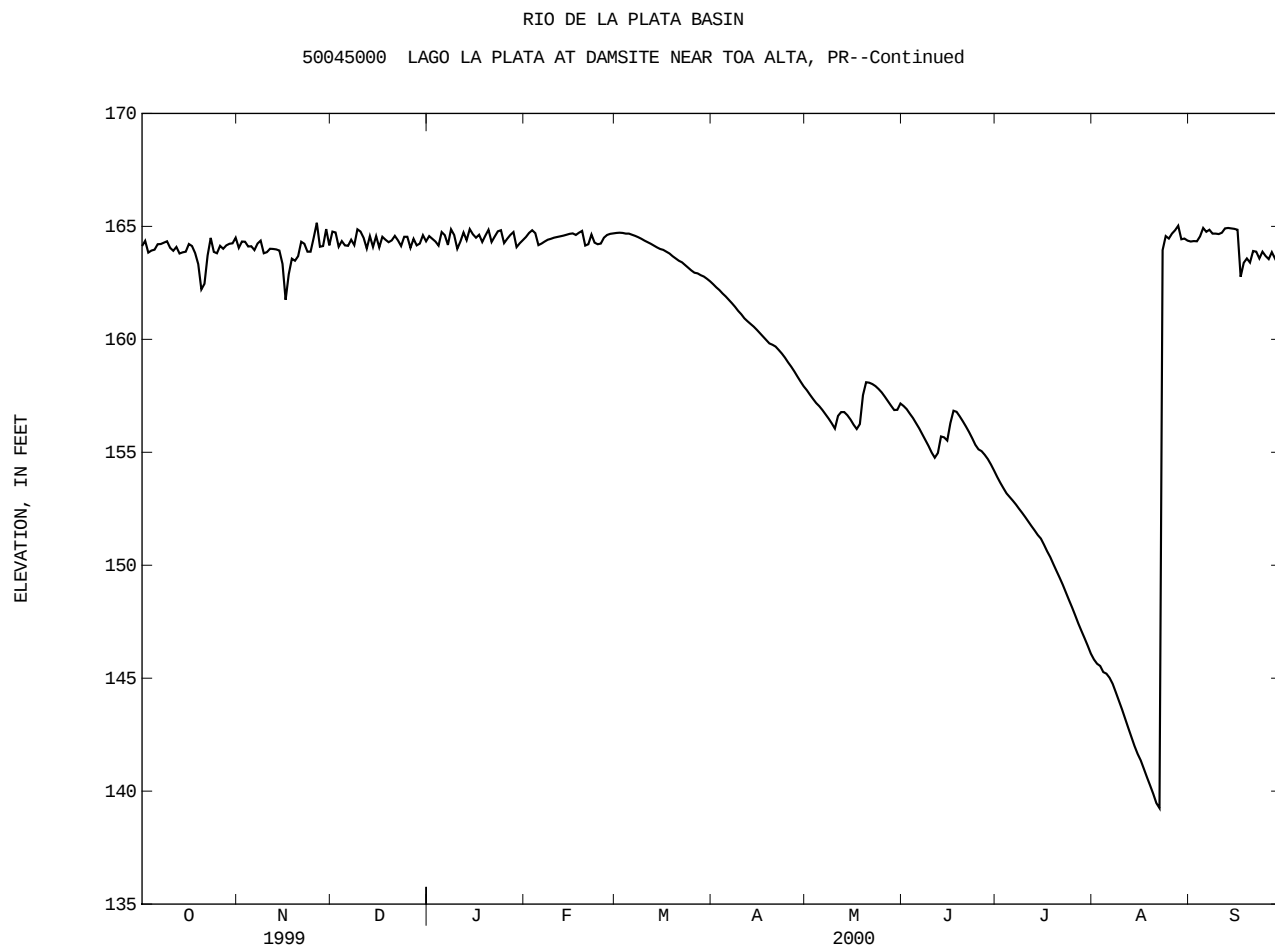
REMARKS.--Lago La Plata first construction phase was completed in 1974 and the second construction phase to provide the spillway with bascule gates was completed in October 1989. The maximum storage is 37,000 ac-ft (45.6 hm³) and its purpose is the supply of water for domestic and industrial use. La Plata Dam is a concrete gravity structure located across the Rio de la Plata, the dam has an overall length of 774 ft (236 m) and a maximum height of about 131 ft (40 m). The dam spillway is provided with 6 bascule gates. The spillway crest has a total clear length of 690 ft (210 m), an elevation of 155 ft (47 m). The Dam is owned and operated by Puerto Rico Aqueduct and Sewer Authority. Gage-height and precipitation satellite telemetry at station. New capacity table based on U.S. Geological Survey Water-Resources Investigations Report 00-40-45, October 1998.

EXTREMES OBSERVED FOR PERIOD OF RECORD.--Maximum elevation, 170.90 ft (52.09 m), Sept. 10, 1996; minimum elevation, 107.95 ft (32.90 m), Feb. 21, 1995.

EXTREMES FOR CURRENT YEAR.--Maximum elevation, 166.24 ft (50.67 m), Dec. 29; minimum elevation, 139.24 ft (42.44 m), Aug. 22.

Capacity Table
(based on data from U.S. Geological Survey Water-Resources Investigations Report 00-4045, Puerto Rico-1998)

	Elevation, in feet			Contents, in acre-feet		Elevation, in feet			Contents, in acre-feet			
	82			0			144			12,915		
	105			1,873			164			24,021		
	125			5,943			171			28,748		
ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000												
DAILY OBSERVATION AT 2400 HOURS												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	164.13	164.05	164.77	164.57	164.53	164.71	162.44	157.75	157.05	153.91	145.83	164.33
2	164.36	164.33	164.73	164.45	164.71	164.72	162.30	157.55	156.91	153.65	145.64	164.35
3	163.84	164.32	164.10	164.33	164.83	164.71	162.18	157.36	156.71	153.41	145.54	164.34
4	163.93	164.11	164.35	164.15	164.70	164.68	162.03	157.18	156.52	153.18	145.27	164.56
5	163.97	164.12	164.16	164.75	164.17	164.68	161.90	157.04	156.29	153.02	145.20	164.93
6	164.21	163.95	164.14	164.61	164.24	164.63	161.75	156.87	156.06	152.86	145.02	164.76
7	164.22	164.24	164.41	164.18	164.33	164.58	161.60	156.68	155.80	152.69	144.75	164.85
8	164.28	164.37	164.17	164.87	164.41	164.52	161.44	156.49	155.54	152.50	144.38	164.68
9	164.34	163.81	164.87	164.62	164.45	164.45	161.26	156.28	155.28	152.32	144.00	164.68
10	164.05	163.86	164.77	164.01	164.50	164.37	161.11	156.05	154.99	152.13	143.62	164.66
11	163.92	164.01	164.49	164.33	164.53	164.30	160.93	156.61	154.76	151.93	143.21	164.72
12	164.09	164.00	164.02	164.73	164.56	164.23	160.80	156.78	154.97	151.73	142.80	164.91
13	163.80	163.98	164.57	164.39	164.59	164.15	160.68	156.78	155.70	151.54	142.40	164.93
14	163.85	163.93	164.09	164.88	164.63	164.07	160.56	156.64	155.66	151.34	142.00	164.91
15	163.88	163.34	164.57	164.65	164.67	164.00	160.42	156.45	155.52	151.18	141.65	164.89
16	164.22	161.75	164.07	164.50	164.69	163.96	160.27	156.22	156.29	150.91	141.36	164.85
17	164.13	162.88	164.54	164.63	164.62	163.88	160.12	156.03	156.84	150.62	140.99	162.77
18	163.82	163.57	164.41	164.31	164.72	163.80	159.97	156.25	156.79	150.36	140.61	163.39
19	163.33	163.48	164.30	164.59	164.80	163.68	159.82	157.53	156.59	150.05	140.25	163.58
20	162.21	163.68	164.38	164.85	164.15	163.58	159.76	158.10	156.37	149.75	139.88	163.40
21	162.46	164.32	164.58	164.31	164.21	163.48	159.68	158.08	156.14	149.45	139.47	163.91
22	163.71	164.23	164.38	164.55	164.64	163.41	159.53	158.02	155.89	149.14	139.25	163.88
23	164.49	163.88	164.13	164.78	164.28	163.29	159.37	157.93	155.62	148.80	163.95	163.58
24	163.87	163.88	164.54	164.83	164.21	163.17	159.19	157.80	155.33	148.46	164.57	163.88
25	163.81	164.50	164.54	164.26	164.24	163.05	158.98	157.65	155.13	148.13	164.46	163.69
26	164.14	165.16	164.05	164.45	164.50	162.95	158.79	157.46	155.05	147.78	164.68	163.55
27	164.01	164.10	164.45	164.62	164.62	162.92	158.58	157.26	154.89	147.42	164.83	163.86
28	164.16	164.13	164.16	164.75	164.67	162.84	158.35	157.06	154.70	147.09	165.03	163.58
29	164.23	164.88	164.24	164.08	164.69	162.78	158.13	156.87	154.46	146.77	164.43	163.93
30	164.25	164.16	164.61	164.25	---	162.68	157.92	156.88	154.19	146.44	164.46	163.60
31	164.50	---	164.34	164.39	---	162.57	---	157.16	---	146.09	164.37	---
MAX	164.50	165.16	164.87	164.88	164.83	164.72	162.44	158.10	157.05	153.91	165.03	164.93
MIN	162.21	161.75	164.02	164.01	164.15	162.57	157.92	156.03	154.19	146.09	139.25	162.77



50045010 RIO DE LA PLATA BELOW LA PLATA DAM

LOCATION.--Lat 18°20'45", long 66°14'17", Hydrologic Unit 21010005, 2.8 mi (4.5 km) west of Road 167, km 15.3, Buena Vista, Bayamón, 5.0 mi (8.0 km) east of Corozal Plaza, 3.0 mi (4.8 km) northeast of Naranjito Plaza .

DRAINAGE AREA.--173 mi² (448 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1989 to current year.

GAGE.--Water-stage recorder. Elevation of gage 66 ft (20 m), from topographic map.

REMARKS.--Records poor. Regulation at all stages by Puerto Rico Aqueduct and Sewer Authority reservoir upstream from gage. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	110	449	179	69	3.1	2.2	.93	.13	.93	.96	1.1	3.2
2	254	395	4470	294	1.7	2.4	1.0	.15	2.2	.96	1.15	1.1
3	294	602	1500	825	1.5	2.6	1.0	.14	1.6	1.1	1.1	2.1
4	4.0	279	258	1100	75	2.5	1.3	.33	.41	1.1	2.1	1.9
5	2.5	148	2790	255	264	2.6	1.4	.68	.14	2.1	1.7	1.2
6	3.1	321	2020	973	1.2	2.5	1.3	.49	.09	2.5	1.6	1.6
7	2.7	4.8	815	1330	1.2	2.4	1.3	.29	.21	.97	1.5	.00
8	2.4	4.1	1050	217	1.4	2.3	1.1	.31	.10	.57	1.5	84
9	2.2	246	291	376	9.2	2.5	.82	.13	.05	.90	1.5	4.1
10	206	832	413	443	1.7	2.3	.76	.08	.03	.76	.95	3.2
11	129	420	401	59	1.7	2.2	.78	3.8	.12	.68	.40	2.3
12	139	524	433	3.3	1.8	2.2	.83	1.5	1.1	.64	.59	2.4
13	201	693	37	369	1.8	1.9	.87	.84	4.8	.59	1.3	2.4
14	8.6	835	374	3.5	2.1	1.9	.94	.67	3.4	.71	1.1	2.1
15	7.9	1100	4.5	357	2.7	2.1	.50	.41	1.7	1.0	1.4	2.2
16	287	1750	335	449	2.7	2.3	.36	2.2	3.3	.94	2.3	1.1
17	483	9930	5.4	116	35	2.4	.38	5.2	6.7	.91	1.1	9.9
18	306	9280	183	291	2.5	2.3	.65	5.7	5.3	.87	1.8	1530
19	404	4820	270	2.8	2.8	2.1	.27	9.6	15	1.1	2.7	480
20	1020	2020	226	2.9	301	2.1	.24	13	13	1.2	1.3	577
21	1180	723	135	310	2.3	1.9	.23	10	7.4	.92	2.7	37
22	63	792	424	2.3	3.1	2.2	.12	8.1	8.3	1.5	4.1	5.9
23	5.8	781	355	2.1	313	2.1	.10	6.3	7.2	1.2	8370	334
24	495	650	225	53	198	2.1	.24	5.6	4.5	1.8	507	1.8
25	768	182	372	325	382	2.0	.47	4.7	1.7	1.5	290	143
26	332	116	317	3.7	2.8	1.7	.36	3.8	.32	1.1	203	124
27	186	728	5.1	3.6	2.3	1.5	.13	1.8	3.9	1.1	317	2.1
28	2.9	1190	284	3.8	2.1	1.3	.07	5.3	19	1.2	3.4	298
29	2.6	254	1440	363	2.2	.98	.07	1.9	4.2	1.6	250	2.8
30	2.5	957	349	9.0	---	.87	.07	.87	1.8	2.2	2.1	3.3
31	7.5	---	392	2.9	---	.75	---	.57	---	1.5	2.7	---
TOTAL	6911.7	41025.9	20353.0	8613.9	1621.9	63.20	18.59	94.59	118.50	36.18	9979.19	3663.70
MEAN	223	1368	657	278	55.9	2.04	.62	3.05	3.95	1.17	322	122
MAX	1180	9930	4470	1330	382	2.6	1.4	13	19	2.5	8370	1530
MIN	2.2	4.1	4.5	2.1	1.2	.75	.07	.08	.03	.57	.15	.00
AC-FT	13710	81370	40370	17090	3220	125	37	188	235	72	19790	7270
CFSM	1.29	7.91	3.80	1.61	.32	.01	.00	.02	.02	.01	1.86	.71
IN.	1.49	8.83	4.38	1.85	.35	.01	.00	.02	.03	.01	2.15	.79

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 2000, BY WATER YEAR (WY)

MEAN	191	205	173	215	55.8	13.3	25.8	89.9	33.5	66.4	63.1	962
MAX	1107	1368	926	1581	241	83.2	231	494	220	384	322	8046
(WY)	1991	2000	1999	1992	1998	1990	1993	1993	1993	1993	2000	1996
MIN	.048	.004	.000	.19	.14	.022	.011	.000	.002	.037	.020	.001
(WY)	1992	1995	1995	1990	1995	1995	1995	1994	1994	1994	1989	1991

SUMMARY STATISTICS

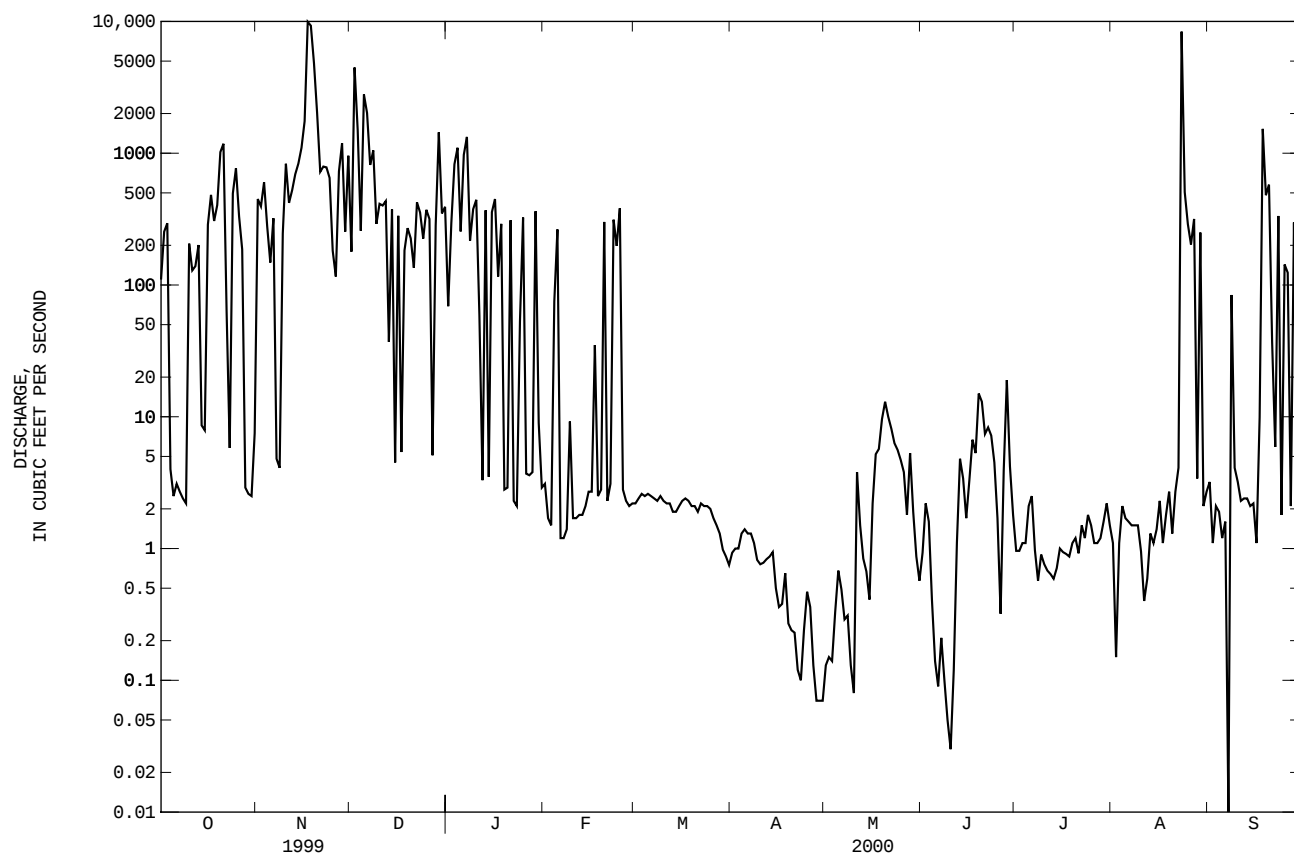
FOR 1999 CALENDAR YEAR

FOR 2000 WATER YEAR

WATER YEARS 1989 - 2000

ANNUAL TOTAL	87744.96	92500.35	
ANNUAL MEAN	240	253	179
HIGHEST ANNUAL MEAN			714
LOWEST ANNUAL MEAN			8.62
HIGHEST DAILY MEAN	9930	Nov 17	141000
LOWEST DAILY MEAN	.03	May 24	.00
ANNUAL SEVEN-DAY MINIMUM	.04	May 18	.11
INSTANTANEOUS PEAK FLOW			39800
INSTANTANEOUS PEAK STAGE			21.34
ANNUAL RUNOFF (AC-FT)	174000	183500	129600
ANNUAL RUNOFF (CFSM)	1.39	1.46	1.04
ANNUAL RUNOFF (INCHES)	18.89	19.91	14.06
10 PERCENT EXCEEDS	529	499	206
50 PERCENT EXCEEDS	1.5	2.7	1.4
90 PERCENT EXCEEDS	.15	.50	.00

RIO DE LA PLATA BASIN
50045010 RIO DE LA PLATA BELOW LA PLATA DAM--Continued



50045010 RIO DE LA PLATA BELOW LA PLATA DAM, PR--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORDS.--Water years 1990 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: October 1989 to current year.

INSTRUMENTATION.--Automatic sediment sampler since 1989.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATION: Maximum daily mean, 4,390 mg/L September 10, 1996; Minimum daily mean, <1 mg/L several days.

SEDIMENT LOADS: Maximum daily mean, 1,810,000 tons (1,640,000 tonnes) September 10, 1996; Minimum daily mean, <0.01 ton (<0.01 tonne) several days.

EXTREMES FOR CURRENT YEAR 2000.--

SEDIMENT CONCENTRATION: Maximum daily mean, 702 mg/L August 23, 2000; Minimum daily mean, 1 mg/L several days.

SEDIMENT LOADS: Maximum daily mean, 24,700 tons (22,400 tonnes) August 23, 2000; Minimum daily mean, <0.01 ton (<0.01 tonne) several days.

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
OCTOBER			NOVEMBER			DECEMBER			
1	110	30	47	449	34	86	179	75	72
2	254	50	70	395	29	106	4470	233	3350
3	294	32	66	602	33	98	1500	249	1020
4	4.0	17	.19	279	31	54	258	77	170
5	2.5	16	.11	148	27	38	2790	202	1510
6	3.1	14	.12	321	37	46	2020	151	1000
7	2.7	13	.10	4.8	16	.21	815	134	387
8	2.4	12	.08	4.1	14	.15	1050	165	471
9	2.2	11	.07	246	34	45	291	69	93
10	206	31	52	832	46	187	413	71	188
11	129	36	23	420	36	49	401	74	166
12	139	39	35	524	40	136	433	82	181
13	201	47	44	693	92	172	37	46	6.8
14	8.6	18	.41	835	82	186	374	66	138
15	7.9	17	.37	1100	74	219	4.5	40	.49
16	287	34	73	1750	67	313	335	59	126
17	483	40	83	9930	67	1820	5.4	36	.51
18	306	32	61	9280	282	5920	183	45	67
19	404	31	74	4820	248	3380	270	55	57
20	1020	31	107	2020	91	528	226	43	74
21	1180	45	231	723	43	99	135	41	33
22	63	19	4.6	792	304	648	424	53	114
23	5.8	15	.24	781	274	571	355	45	85
24	495	34	98	650	103	410	225	37	46
25	768	34	180	182	57	62	372	47	59
26	332	29	54	116	56	85	317	31	51
27	186	25	31	728	260	507	5.1	35	.52
28	2.9	15	.12	1190	205	618	284	21	32
29	2.6	13	.09	254	80	95	1440	32	150
30	2.5	11	.07	957	220	564	349	26	32
31	7.5	10	.88	---	---	---	392	25	46
TOTAL	6911.7	---	1336.45	41025.9	---	17042.36	20353.0	---	9726.32

RIO DE LA PLATA BASIN

50045010 RIO DE LA PLATA BELOW LA PLATA DAM, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JANUARY			FEBRUARY			MARCH			
1	69	14	9.2	3.1	18	.15	2.2	7	.04
2	294	24	31	1.7	15	.07	2.4	7	.05
3	825	29	101	1.5	13	.05	2.6	6	.05
4	1100	39	116	75	14	10	2.5	6	.04
5	255	22	23	264	29	28	2.6	6	.04
6	973	29	138	1.2	19	.06	2.5	5	.04
7	1330	55	196	1.2	13	.04	2.4	5	.03
8	217	31	25	1.4	10	.04	2.3	5	.03
9	376	31	57	9.2	14	.68	2.5	4	.03
10	443	29	64	1.7	5	.02	2.3	4	.03
11	59	26	6.2	1.7	1	.01	2.2	4	.02
12	3.3	16	.15	1.8	2	.01	2.2	4	.02
13	369	25	54	1.8	2	.01	1.9	3	.02
14	3.5	17	.16	2.1	3	.02	1.9	3	.02
15	357	30	50	2.7	5	.04	2.1	3	.02
16	449	33	66	2.7	7	.05	2.3	3	.02
17	116	18	17	35	17	4.4	2.4	3	.02
18	291	29	32	2.5	19	.13	2.3	2	.01
19	2.8	18	.14	2.8	14	.10	2.1	2	.01
20	2.9	13	.10	301	10	8.6	2.1	2	.01
21	310	27	42	2.3	10	.06	1.9	2	.01
22	2.3	19	.12	3.1	10	.09	2.2	2	.01
23	2.1	12	.07	313	13	15	2.1	2	.01
24	53	11	9.8	198	17	9.0	2.1	2	.01
25	325	40	50	382	14	16	2.0	2	.01
26	3.7	21	.21	2.8	10	.07	1.7	1	.01
27	3.6	17	.17	2.3	9	.05	1.5	1	<.01
28	3.8	14	.14	2.1	8	.05	1.3	1	<.01
29	363	31	58	2.2	8	.05	.98	1	<.01
30	9.0	25	.56	---	---	---	.87	1	<.01
31	2.9	21	.17	---	---	---	.75	1	<.01
TOTAL	8613.9	---	1147.19	1621.9	---	92.85	63.20	---	0.66
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
APRIL			MAY			JUNE			
1	.93	1	<.01	.13	2	<.01	.93	2	<.01
2	1.0	1	<.01	.15	2	<.01	2.2	1	.01
3	1.0	1	<.01	.14	2	<.01	1.6	1	.01
4	1.3	1	<.01	.33	2	<.01	.41	1	<.01
5	1.4	1	<.01	.68	2	<.01	.14	1	<.01
6	1.3	1	<.01	.49	2	<.01	.09	1	<.01
7	1.3	1	<.01	.29	2	<.01	.21	1	<.01
8	1.1	1	<.01	.31	2	<.01	.10	1	<.01
9	.82	1	<.01	.13	2	<.01	.05	1	<.01
10	.76	1	<.01	.08	2	<.01	.03	1	<.01
11	.78	1	<.01	3.8	2	.02	.12	1	<.01
12	.83	1	<.01	1.5	2	.01	1.1	1	<.01
13	.87	1	<.01	.84	2	.01	4.8	1	.01
14	.94	1	<.01	.67	3	<.01	3.4	1	.01
15	.50	1	<.01	.41	3	<.01	1.7	1	<.01
16	.36	1	<.01	2.2	3	.02	3.3	1	.01
17	.38	1	<.01	5.2	3	.04	6.7	1	.02
18	.65	1	<.01	5.7	3	.04	5.3	1	.01
19	.27	1	<.01	9.6	3	.07	15	1	.04
20	.24	1	<.01	13	3	.10	13	1	.04
21	.23	1	<.01	10	3	.08	7.4	1	.02
22	.12	2	<.01	8.1	3	.06	8.3	1	.02
23	.10	2	<.01	6.3	3	.05	7.2	1	.02
24	.24	2	<.01	5.6	3	.04	4.5	1	.01
25	.47	2	<.01	4.7	2	.03	1.7	1	<.01
26	.36	2	<.01	3.8	2	.02	.32	1	<.01
27	.13	2	<.01	1.8	2	.01	3.9	1	.01
28	.07	2	<.01	5.3	2	.03	19	1	.05
29	.07	2	<.01	1.9	2	.01	4.2	1	.01
30	.07	2	<.01	.87	2	<.01	1.8	1	<.01
31	---	---	---	.57	2	<.01	---	---	---
TOTAL	18.59	---	0.30	94.59	---	0.78	118.50	---	0.44

RIO DE LA PLATA BASIN

50045010 RIO DE LA PLATA BELOW LA PLATA DAM, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JULY			AUGUST			SEPTEMBER			
1	.96	1	<.01	1.1	1	<.01	3.2	20	.17
2	.96	1	<.01	.15	1	<.01	1.1	19	.06
3	1.1	1	<.01	1.1	1	<.01	2.1	18	.10
4	1.1	1	<.01	2.1	1	.01	1.9	17	.09
5	2.1	1	.01	1.7	1	.01	1.2	16	.05
6	2.5	1	.01	1.6	2	.01	1.6	15	.07
7	.97	1	<.01	1.5	2	.01	.00	0	<.01
8	.57	1	<.01	1.5	2	.01	84	29	26
9	.90	1	<.01	1.5	2	.01	4.1	22	.25
10	.76	1	<.01	.95	2	.01	3.2	19	.16
11	.68	1	<.01	.40	3	<.01	2.3	16	.10
12	.64	1	<.01	.59	3	<.01	2.4	13	.09
13	.59	1	<.01	1.3	3	.01	2.4	11	.07
14	.71	1	<.01	1.1	4	.01	2.1	9	.05
15	1.0	1	<.01	1.4	4	.02	2.2	8	.05
16	.94	1	<.01	2.3	5	.03	1.1	7	.02
17	.91	1	<.01	1.1	5	.01	9.9	6	.15
18	.87	1	<.01	1.8	6	.03	1530	160	790
19	1.1	1	<.01	2.7	7	.05	480	87	227
20	1.2	1	<.01	1.3	7	.03	577	84	226
21	.92	1	<.01	2.7	8	.06	37	27	6.2
22	1.5	1	<.01	4.1	9	.10	5.9	15	.25
23	1.2	1	<.01	8370	702	24700	334	56	100
24	1.8	1	<.01	507	292	758	1.8	15	.08
25	1.5	1	<.01	290	194	303	143	24	53
26	1.1	1	<.01	203	141	218	124	36	35
27	1.1	1	<.01	317	71	158	2.1	16	.09
28	1.2	1	<.01	3.4	18	.16	298	55	95
29	1.6	1	<.01	250	70	178	2.8	16	.12
30	2.2	1	.01	2.1	22	.12	3.3	9	.10
31	1.5	1	<.01	2.7	21	.16	---	---	---
TOTAL	36.18	---	0.31	9979.19	---	26315.91	3663.70	---	1560.33
YEAR	92500.35		57223.90						

< Actual value is known to be less than the value shown

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

SILT AND CLAY PERCENT OF SUSPENDED SEDIMENT

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT					
19...	2030	1850	114	569	96
NOV					
17...	0745	17400	84	3950	94
18...	1630	7080	356	6810	100
19...	0030	5920	403	6440	99
DEC					
03...	1215	911	243	598	99
29...	1230	1200	32	104	95
FEB					
20...	0445	1600	27	117	94
AUG					
23...	1640	8190	1110	24500	100
24...	1820	1320	599	2130	100

RIO DE LA PLATA BASIN

50045010 RIO DE LA PLATA BELOW LA PLATA DAM, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM (70326)	SED. SUSP. FALL DIAM. % FINER THAN .004 MM (70327)	SED. SUSP. FALL DIAM. % FINER THAN .008 MM (70328)	
AUG 23...	0810	35000	1150	109000	55	67	81	
DATE		SED. SUSP. FALL DIAM. % FINER THAN .016 MM (70329)	SED. SUSP. FALL DIAM. % FINER THAN .031 MM (70330)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM (70332)	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM (70333)	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM (70334)	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM (70335)
AUG 23...	93	98	100	100	100	100	100	

50046000 RIO DE LA PLATA AT HIGHWAY 2 NEAR TOA ALTA, PR

LOCATION.--Lat 18°24'41", long 66°15'39", Hydrologic Unit 21010005, on left bank, at downstream side of bridge on Highway 2, 1.3 mi (2.1 km) downstream from Río Lajas, and 1.6 mi (2.6 km) northwest of Toa Alta, 11.3 mi (18.2 km) downstream from Puerto Rico Aqueduct and Sewer Authority reservoir.

DRAINAGE AREA.--208 mi² (539 km²), excludes 8.2 mi² (21.2 km²) upstream from Lago Carite, flow from which is diverted to Río Guamaní. Area at site used prior to September 25, 1984, 200 mi² (518 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 1959 (measurement only), January 1960 to current year. Prior to October 1984, published as Río de la Plata at Toa Alta, PR; October 1984 to September 1988 published as 50046900.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 9.15 ft (2.789 m), above mean sea level. Prior to October, 1984, at site about 1.0 mi (1.6 km) upstream at mean sea level datum.

REMARKS.--Records poor. Regulation at all stages by Puerto Rico Aqueduct and Sewer Authority reservoir upstream from gage. Gage-height and precipitation satellite telemetry at station. Flow affected by water extraction for La Virgencita water treatment plant by Puerto Rico Aqueduct and Sewer Authority of about 3.99 ft³/s (0.11 m³/s). Located about 1,000 ft upstream from station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Approximate discharges and elevations of major floods, as pointed out by local residents are as follows: Sept. 13, 1928, 120,000 ft³/s (3,400 m³/s), gage height, 37.4 ft (11.40 m); June 16, 1943, 82,000 ft³/s (2,322 m³/s), gage height, 34.4 ft (10.48 m), at site 1.0 mi upstream and different datum.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	87	590	806	218	55	41	23	18	22	25	24	39
2	409	320	7320	548	49	40	23	19	22	24	23	35
3	194	1300	3510	974	51	35	23	22	22	23	16	67
4	257	494	564	1350	49	32	21	25	22	26	19	51
5	64	157	2950	621	330	31	22	34	20	24	23	42
6	91	619	3380	707	59	32	22	25	21	20	16	84
7	109	148	1290	1960	50	36	23	26	23	52	17	76
8	147	92	1510	532	44	31	21	42	23	34	9.4	67
9	77	280	704	567	41	30	24	23	23	19	21	66
10	64	1030	671	320	41	29	36	13	22	17	15	32
11	387	848	616	434	38	29	32	360	56	22	13	36
12	135	353	407	123	36	29	22	126	130	18	13	25
13	334	866	433	414	37	29	21	39	91	15	13	25
14	76	1030	313	201	38	27	24	28	98	24	12	22
15	51	1640	394	412	38	26	25	26	49	16	17	21
16	193	1890	209	549	37	27	24	24	52	13	24	21
17	969	11900	449	132	53	45	20	16	57	22	19	999
18	160	13300	150	437	65	34	19	14	33	18	13	2250
19	556	6980	588	99	54	31	19	21	28	18	18	815
20	1910	3020	165	80	272	28	31	26	29	17	19	1000
21	1890	1280	595	316	77	27	31	37	38	18	15	532
22	844	952	639	110	259	33	21	26	31	15	21	572
23	231	739	479	71	261	29	19	24	25	13	11100	539
24	503	823	551	65	446	28	19	24	25	11	1270	190
25	681	731	672	363	462	30	16	23	24	13	548	80
26	1030	373	351	83	138	28	16	23	61	14	418	325
27	410	758	336	61	79	26	18	28	46	13	677	65
28	133	1560	265	60	50	29	19	28	27	11	88	253
29	101	931	1770	214	41	30	19	24	28	48	318	138
30	80	1280	987	253	---	25	20	31	28	26	63	313
31	93	---	527	62	---	24	---	23	---	15	43	---
TOTAL	12266	56284	33601	12336	3250	951	673	1218	1176	644	14905.4	8780
MEAN	396	1876	1084	398	112	30.7	22.4	39.3	39.2	20.8	481	293
MAX	1910	13300	7320	1960	462	45	36	360	130	52	11100	2250
MIN	51	92	150	60	36	24	16	13	20	11	9.4	21
AC-FT	24330	111600	66650	24470	6450	1890	1330	2420	2330	1280	29560	17420
CFSM	1.90	9.02	5.21	1.91	.54	.15	.11	.19	.19	.10	2.31	1.41
IN.	2.19	10.07	6.01	2.21	.58	.17	.12	.22	.21	.12	2.67	1.57

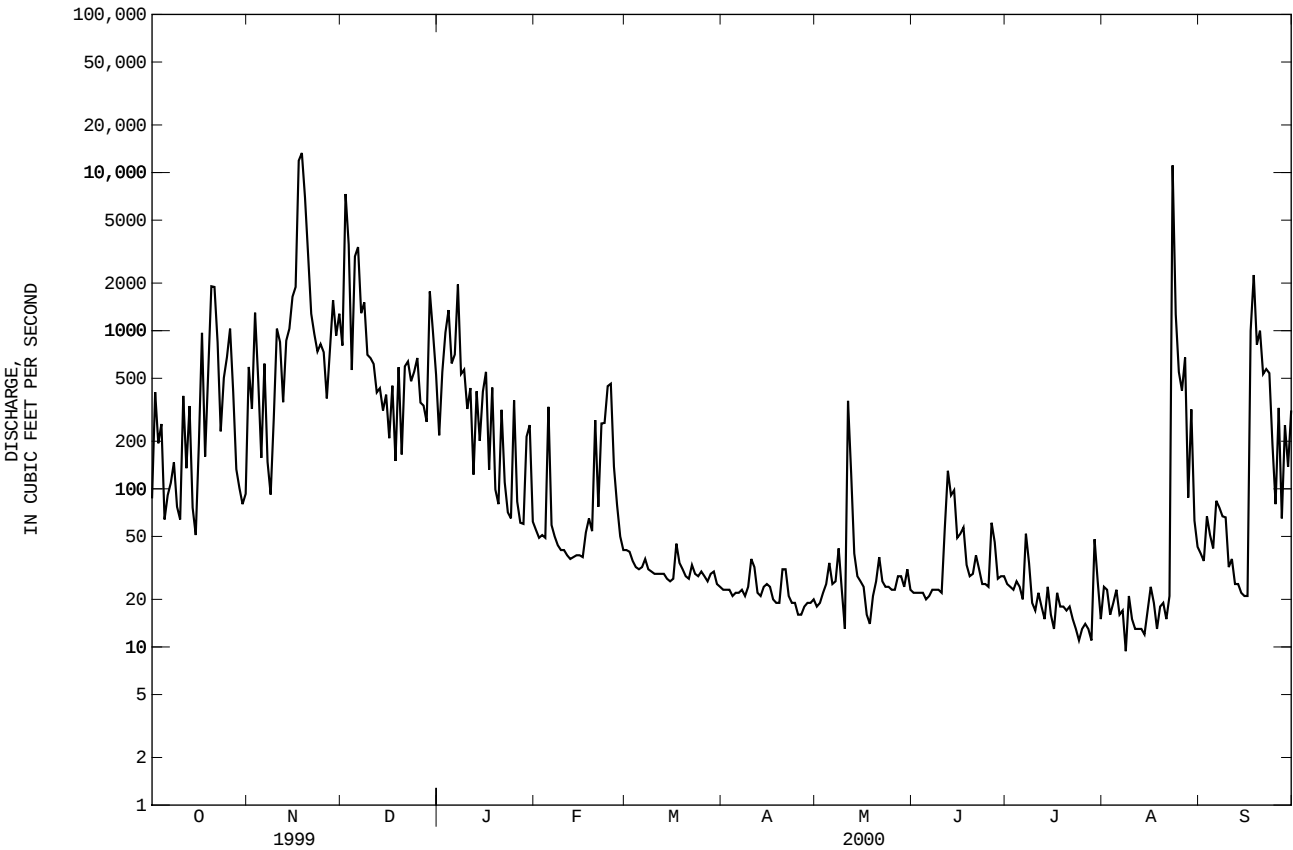
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 2000, BY WATER YEAR (WY)

	MEAN	464	454	348	188	130	93.5	171	317	153	142	245	438
MAX	4813	2015	1352	929	409	468	722	1939	847	690	1677	3173	
(WY)	1971	1985	1971	1992	1989	1969	1987	1985	1970	1961	1979	1996	
MIN	18.8	18.4	14.8	16.9	16.0	8.31	5.07	7.63	11.4	13.2	16.5	19.2	
(WY)	1995	1995	1995	1984	1983	1986	1984	1984	1977	1994	1976	1991	

RIO DE LA PLATA BASIN

50046000 RIO DE LA PLATA AT HIGHWAY 2 NEAR TOA ALTA, PR--Continued

SUMMARY STATISTICS	FOR 1999 CALENDAR YEAR		FOR 2000 WATER YEAR		WATER YEARS 1960 - 2000	
ANNUAL TOTAL	134252		146084.4		260	
ANNUAL MEAN	368		399		824	
HIGHEST ANNUAL MEAN					31.5	
LOWEST ANNUAL MEAN					1971	
HIGHEST DAILY MEAN	13300	Nov 18	13300	Nov 18	68100	Sep 10 1996
LOWEST DAILY MEAN	18	May 2	9.4	Aug 8	2.7	Apr 17 1984
ANNUAL SEVEN-DAY MINIMUM	20	Apr 29	13	Jul 22	2.9	Apr 15 1984
INSTANTANEOUS PEAK FLOW			34600	Aug 23	160000	Sep 10 1996
INSTANTANEOUS PEAK STAGE			21.08	Aug 23	27.33	Sep 10 1996
ANNUAL RUNOFF (AC-FT)	266300		289800		188300	
ANNUAL RUNOFF (CFSM)	1.77		1.92		1.25	
ANNUAL RUNOFF (INCHES)	24.01		26.13		16.98	
10 PERCENT EXCEEDS	747		845		484	
50 PERCENT EXCEEDS	77		46		80	
90 PERCENT EXCEEDS	23		18		18	



50046000 RIO DE LA PLATA AT HWY 2 NR TOA ALTA, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 18°24'41", long 66°15'39", at Highway 2, 1.3 mi (2.1 km) downstream from Río Lajas, and 1.6 mi (2.6 km) northwest of Toa Alta, 11.3 mi (18.2 km) downstream from Puerto Rico Aqueduct and Sewer Authority reservoir.

DRAINAGE AREA.--208 mi² (539 km²), exclude 8.2 mi² (21.2 km²) upstream from Lago Carite, flow from which is diverted to Río Guamaní.

PERIOD OF RECORD.--Water years 1958 to current year

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (MG/L) (00301)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)
OCT 19...	1045	288	292	7.7	27.7	9.8	5.0	64	10	3000	3100
FEB 08...	1320	43	432	7.7	26.0	2.3	7.6	93	<10	K14	<1
APR 13...	1400	22	466	7.7	27.6	.6	6.3	80	11	K82	K10
AUG 28...	1735	66	362	7.5	29.5	50	4.4	59	15	K1300	460

DATE	HARD- NESS TOTAL (MG/L AS CAC03) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD MG/L AS CAC03 (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS- SOLVED (MG/L AS S04) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)
OCT 19...	110	27.6	9.65	15.6	.7	2.9	110	<1.0	12.4	19.2
FEB 08...	--	--	--	--	--	--	167	--	--	--
APR 13...	170	48.9	12.2	28.1	.9	3.1	164	<1.0	14.3	32.6
AUG 28...	140	40.4	9.74	16.7	.6	3.0	131	--	13.9	20.1

DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SI02) (00955)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDE (MG/L) (00530)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)
OCT 19...	.1	21.9	175	136	16	.41	.02	.4	.12	.45
FEB 08...	--	--	--	--	<1	.94	.06	1.0	.19	.20
APR 13...	.2	19.7	257	15.1	3	.62	.12	.7	.29	.16
AUG 28...	.1	18.4	201	36.0	59	.73	.12	.9	.52	.48

DATE	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	NITRO- GEN, TOTAL (MG/L AS N03) (71887)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV- ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)
OCT 19...	.57	1.0	4.4	.060	<3	40.6	30	<.1	E1	<20
FEB 08...	.39	1.4	6.2	.060	--	--	--	--	--	--
APR 13...	.45	1.2	5.3	.080	E2	62.5	52	<.1	<1	<20
AUG 28...	1.0	1.9	8.2	.130	--	--	--	--	--	--

RIO DE LA PLATA BASIN

50046000 RIO DE LA PLATA AT HWY 2 NR TOA ALTA, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

[illegible]



RIO HONDO BASIN

50047530 RIO HONDO AT FLOOD CHANNEL NEAR CATAÑO, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 18°26'13", long 66°09'36", at Río Hondo Channel, 800 ft (245 m) below junction with Río Hondo, 0.9 mi (1.5 km) downstream from bridge on de Diego Expressway and 1.1 mi (1.8 km) above mouth.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--Water years 1979 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD) (UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)
NOV 18...	1045	470	8.0	25.2	98	4.4	55	29	30000	42000
MAR 01...	1400	1540	8.2	26.6	20	9.5	119	64	270	K10
APR 13...	1030	6800	7.7	27.5	25	3.8	49	54	42000	K18000
AUG 09...	1130	28300	8.1	33.5	24	5.6	87	62	420	400
DATE	HARD- NESS TOTAL (MG/L AS CAC03) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CAC03) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS- SOLVED (MG/L AS S04) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)
NOV 18...	64	15.1	6.36	9.5	.5	2.7	90	<1.0	<.3	11.7
MAR 01...	--	--	--	--	--	--	162	--	--	--
APR 13...	610	69.3	107	884	16	37.8	162	<1.0	209	1630
AUG 09...	2800	188	567	4960	41	187	153	--	1260	9330
DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDE (MG/L) (00530)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)
NOV 18...	<.1	24.7	--	122	.27	.04	.3	.21	.89	1.1
MAR 01...	--	--	--	16	.13	.05	.2	.40	1.3	1.7
APR 13...	.3	16.7	3050	50	.27	.05	.3	1.20	.40	1.6
AUG 09...	.4	7.4	16600	56	--	<.01	.3	.01	--	<.20
DATE	NITRO- GEN, TOTAL (MG/L AS N) (00600)	NITRO- GEN, TOTAL (MG/L AS NO3) (71887)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV- ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)
NOV 18...	1.4	6.2	.220	--	--	--	--	--	--	--
MAR 01...	1.9	8.3	.160	--	--	--	--	--	--	--
APR 13...	1.9	8.5	.250	E2	99.3	442	E.1	1	<20	1640
AUG 09...	--	--	<.020	--	--	--	--	--	--	--

RIO HONDO BASIN

50047530 RIO HONDO AT FLOOD CHANNEL NEAR CATAÑO, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

[illegible]

RIO DE BAYAMON BASIN

50047535 RIO DE BAYAMON AT ARENAS, PR

LOCATION.--Lat 18°10'11", long 66°07'18", Hydrologic Unit 21010005, at left bank, 2.61 mi (4.20 km) southeast of plaza de Cidra, 0.56 mi (0.90 km) southwest from Escuela Segunda Unidad de Bayamón, and 2.70 mi (4.34 km) northeast from Central Cayey.

DRAINAGE AREA.--0.45 mi² (1.16 km²).

PERIOD OF RECORD.--July 1992 to September 1993, October 1995 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 1,378 ft (420 m), from topographic map.

REMARKS.--Records fair, except those for estimated daily discharges, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.51	.28	.63	1.3	.55	.39	.24	.06	.39	.19	.18	.11
2	.40	3.3	.70	.83	.44	.33	.22	.06	.33	.20	.15	.10
3	.35	1.2	.96	7.9	.43	.31	.22	.07	.28	.19	.13	.11
4	.38	.49	.63	2.6	.42	.30	.19	.06	.30	.20	.45	.11
5	.29	.50	12	1.9	.37	.31	.20	.06	.25	.17	.44	.11
6	.28	.75	4.0	3.3	.31	.31	.19	.06	.23	.16	.14	.09
7	.24	.48	5.7	2.4	.37	.30	.19	.05	.23	.16	.12	.08
8	.35	.37	2.4	1.3	.30	.33	.19	.05	.23	.18	.12	.08
9	.51	.32	1.5	.89	.28	.32	.17	.10	.21	.15	.11	.08
10	.35	e1.1	.94	.72	.27	.30	.15	.24	.20	.14	.09	.09
11	.27	e.60	.68	.63	.25	.26	.14	.85	.21	.14	.09	.17
12	.24	e2.2	.55	.57	.23	.28	.15	.64	1.5	.26	.09	.12
13	.23	e1.3	.51	.58	.22	.31	.16	.38	.53	.19	.09	.11
14	.21	e.89	.43	.76	.23	.31	.13	.32	.25	.29	.13	.11
15	.22	e1.3	.40	.97	.21	.30	.11	.30	.22	.20	.18	e.12
16	.23	e2.0	.38	1.2	.19	.28	.15	.29	1.4	.19	.21	e.11
17	.31	e48	.38	.67	.20	.27	.14	.33	.57	.20	.11	e1.1
18	.25	e25	.41	.61	.23	.28	.12	.31	.27	.21	.10	e8.9
19	.43	11	1.1	.58	.23	.26	.15	.31	.21	.20	.14	e1.6
20	5.7	4.2	2.0	.53	.23	.24	.11	.29	.21	.21	.12	e.74
21	5.1	2.2	.90	.58	.36	.24	.10	.31	.20	.19	.10	e.53
22	2.1	1.4	1.3	.58	.26	.24	.09	.27	.18	.16	1.0	e.35
23	.97	.99	.95	.53	1.6	.25	.09	.26	.17	.15	34	e.52
24	.51	.85	.86	.52	.68	.27	.08	.26	.25	.16	1.1	e.39
25	.36	.74	.65	.58	.78	.25	.08	.26	.23	.13	.84	e.25
26	.30	.68	.46	.56	.43	.33	.07	.24	.64	.13	3.0	e.20
27	.27	.64	.36	.50	.39	.49	.06	.23	.46	.13	1.2	e4.8
28	.24	.62	.71	.49	.33	.36	.06	.31	.24	.13	.48	e1.5
29	.23	.63	8.4	.61	.39	.32	.07	.32	.19	.17	.32	e.57
30	.22	.64	1.4	.52	---	.26	.08	1.5	.18	.14	.26	e.27
31	.25	---	1.4	.46	---	.24	---	.64	---	.11	.15	---
TOTAL	22.30	114.67	53.69	36.17	11.18	9.24	4.10	9.43	10.76	5.43	45.64	23.42
MEAN	.72	3.82	1.73	1.17	.39	.30	.14	.30	.36	.18	1.47	.78
MAX	5.7	48	12	7.9	1.6	.49	.24	1.5	1.5	.29	34	8.9
MIN	.21	.28	.36	.46	.19	.24	.06	.05	.17	.11	.09	.08
AC-FT	44	227	106	72	22	18	8.1	19	21	11	91	46
CFSM	1.60	8.49	3.85	2.59	.86	.66	.30	.68	.80	.39	3.27	1.73
IN.	1.84	9.48	4.44	2.99	.92	.76	.34	.78	.89	.45	3.77	1.94

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 2000, BY WATER YEAR (WY)

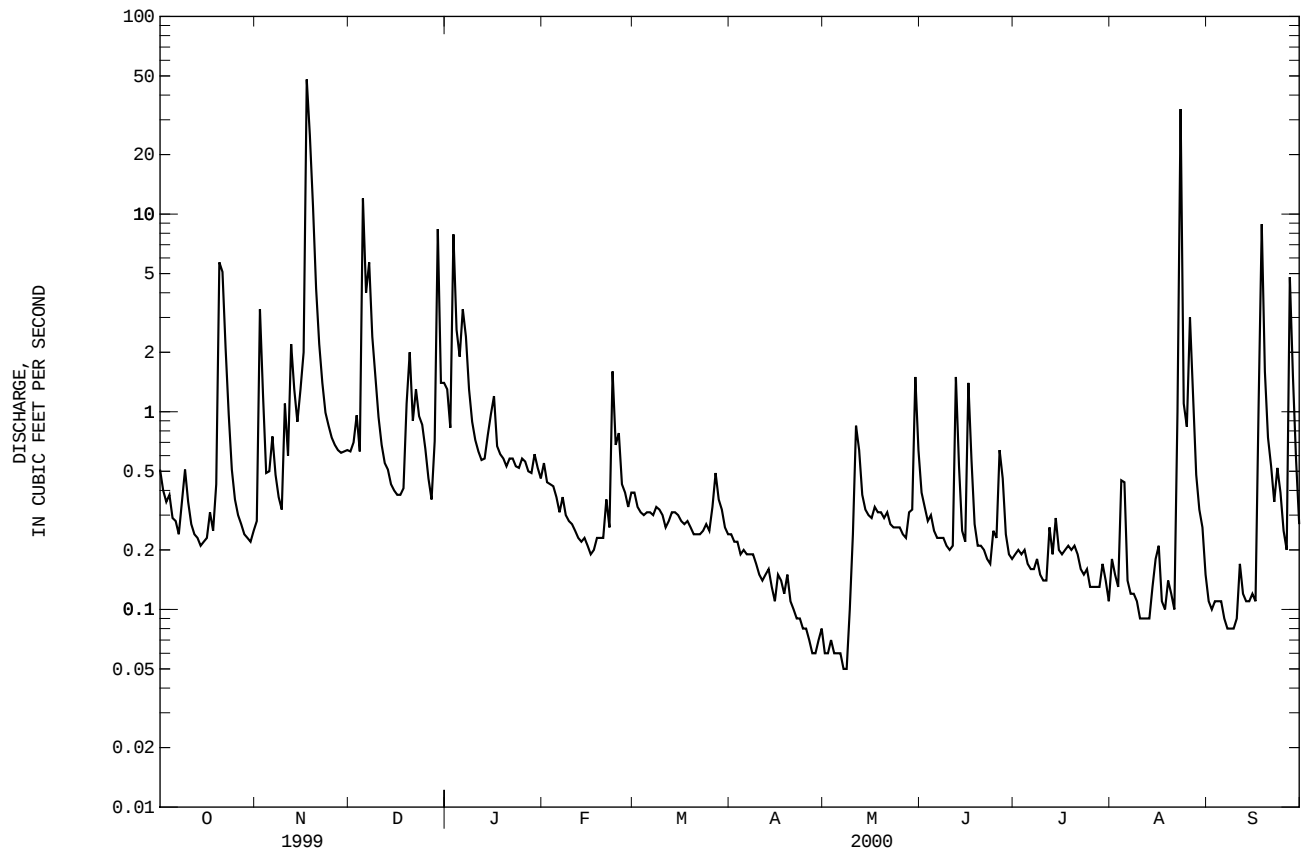
	MEAN	.74	1.31	1.25	.71	.67	.27	.20	.48	.62	.86	1.00	2.54
MAX	1.73	3.82	4.63	1.17	2.38	.65	.45	2.02	1.79	2.12	1.87	6.52	
(WY)	1998	2000	1999	2000	1998	1998	1993	1993	1996	1993	1996	1998	
MIN	.30	.32	.048	.41	.16	.097	.095	.10	.10	.092	.46	.20	
(WY)	1997	1998	1998	1998	1993	1993	1997	1999	1998	1998	1992	1997	

SUMMARY STATISTICS FOR 1999 CALENDAR YEAR FOR 2000 WATER YEAR WATER YEARS 1992 - 2000

ANNUAL TOTAL	349.69	346.03	
ANNUAL MEAN	.96	.95	.91
HIGHEST ANNUAL MEAN			1.16
LOWEST ANNUAL MEAN			.31
HIGHEST DAILY MEAN	48	Nov 17	141
LOWEST DAILY MEAN	.06	May 22	.02
ANNUAL SEVEN-DAY MINIMUM	.07	May 18	.03
INSTANTANEOUS PEAK FLOW			203
INSTANTANEOUS PEAK STAGE			5.02
INSTANTANEOUS LOW FLOW			7.89
ANNUAL RUNOFF (AC-FT)	694	686	.02
ANNUAL RUNOFF (CFSM)	2.13	2.10	2.01
ANNUAL RUNOFF (INCHES)	28.91	28.61	27.37
10 PERCENT EXCEEDS	1.4	1.3	1.2
50 PERCENT EXCEEDS	.30	.30	.20
90 PERCENT EXCEEDS	.11	.11	.07

e Estimated

RIO DE BAYAMON BASIN
50047535 RIO DE BAYAMON AT ARENAS, PR--Continued



RIO DE BAYAMON BASIN

50047540 RIO SABANA AT VISTA MONTE, PR

LOCATION.--Lat 18°10'28", long 66°08'38", Hydrologic Unit 21010005, at left bank, 1.2 mi (1.9 km) southeast of Plaza de Cidra, 1.2 mi (1.9 km) southwest from Escuela Segunda Unidad de Bayamón, and 0.4 mi (0.6 km) upstream from Lago de Cidra.

DRAINAGE AREA.--0.80 mi² (2.07 km²).

PERIOD OF RECORD.--August 1992 to September 1993, October 1995 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 1,345 ft (410 m), from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.99	.46	.68	.99	e.82	.46	e.24	e.24	.09	.23	.52	.28
2	.80	.58	1.2	.81	e.68	.45	e.22	e.14	.09	.31	.28	.26
3	.60	.61	.94	13	e.75	.45	e.30	e.14	.10	.35	.27	.25
4	.53	.46	.66	3.2	e.67	.45	e.25	e.14	.14	.31	1.6	.25
5	.43	.80	12	2.3	e.60	.45	e.22	e.13	.10	.25	.69	.24
6	.40	.82	4.3	6.5	e.58	.44	e.19	e.12	.09	.22	.24	.25
7	.38	.58	5.8	3.0	e.66	.44	e.18	e.12	.09	.22	.24	.29
8	.41	.50	2.8	1.6	.57	.43	e.19	e.12	.08	.24	.22	.24
9	.52	.46	1.7	1.1	.57	.41	e.17	e.16	.08	.21	.20	.23
10	.53	2.4	1.3	.89	.54	.41	e.17	e.19	.08	.18	.18	.27
11	.86	.89	1.1	.82	.57	.43	e.17	.87	.10	.18	.17	.38
12	.39	7.7	.96	.75	.58	.43	e.23	.25	1.6	.37	.17	.26
13	.37	3.2	.86	.78	.66	.45	e.19	.16	.48	.38	.16	.25
14	.35	1.8	.83	.78	.67	.44	e.19	.14	.30	.30	.55	.24
15	.48	3.1	.79	.99	.58	e.53	e.20	.13	.26	.20	.56	e.22
16	.36	6.1	.73	1.1	.57	e.46	e.27	.12	1.8	.18	.52	e.22
17	.88	62	.75	.75	.65	e.43	e.21	.25	.40	.21	.21	e3.6
18	.45	33	.80	.72	.56	e.41	e.20	.21	.28	.19	.18	e8.7
19	2.9	11	1.6	.74	.60	e.37	e.23	.20	.24	.18	.21	e2.1
20	5.0	4.1	2.4	.75	.58	e.34	e.20	.15	.24	.20	.17	e.93
21	6.4	2.2	1.2	.71	.97	e.31	e.19	.15	.22	.18	.19	e.68
22	2.5	1.4	2.1	.69	.61	e.29	e.18	.13	.20	.17	1.8	e.63
23	1.4	1.0	1.3	.66	2.1	e.27	e.16	.12	.19	.16	84	e.59
24	.90	.95	1.5	.64	.70	e.26	e.15	.11	5.1	.16	2.1	e.53
25	1.5	.84	1.2	.63	1.8	e.24	e.16	.12	.70	.15	1.4	e.32
26	.63	.79	1.0	.60	.65	e.62	e.14	.10	1.5	.14	5.8	e.41
27	.52	.78	.95	.56	.51	e.32	e.13	.09	.57	.13	1.8	e8.0
28	.48	.73	1.6	.58	.47	e.22	e.13	.15	.32	.14	.88	e3.5
29	.45	.73	11	e.72	.48	e.26	e.14	.17	.25	.31	.57	e1.4
30	.43	.71	1.8	e.70	---	e.23	e.16	1.0	.22	.26	.40	e.75
31	.47	---	1.3	e.68	---	e.24	---	.12	---	.22	.32	---
TOTAL	33.31	150.69	67.15	48.74	20.75	11.94	5.76	6.24	15.91	6.93	106.60	36.27
MEAN	1.07	5.02	2.17	1.57	.72	.39	.19	.20	.53	.22	3.44	1.21
MAX	6.4	62	12	13	2.1	.62	.30	1.0	5.1	.38	84	8.7
MIN	.35	.46	.66	.56	.47	.22	.13	.09	.08	.13	.16	.22
AC-FT	66	299	133	97	41	24	11	12	32	14	211	72
CFSM	1.34	6.28	2.71	1.97	.89	.48	.24	.25	.66	.28	4.30	1.51
IN.	1.55	7.01	3.12	2.27	.96	.56	.27	.29	.74	.32	4.96	1.69

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 2000, BY WATER YEAR (WY)

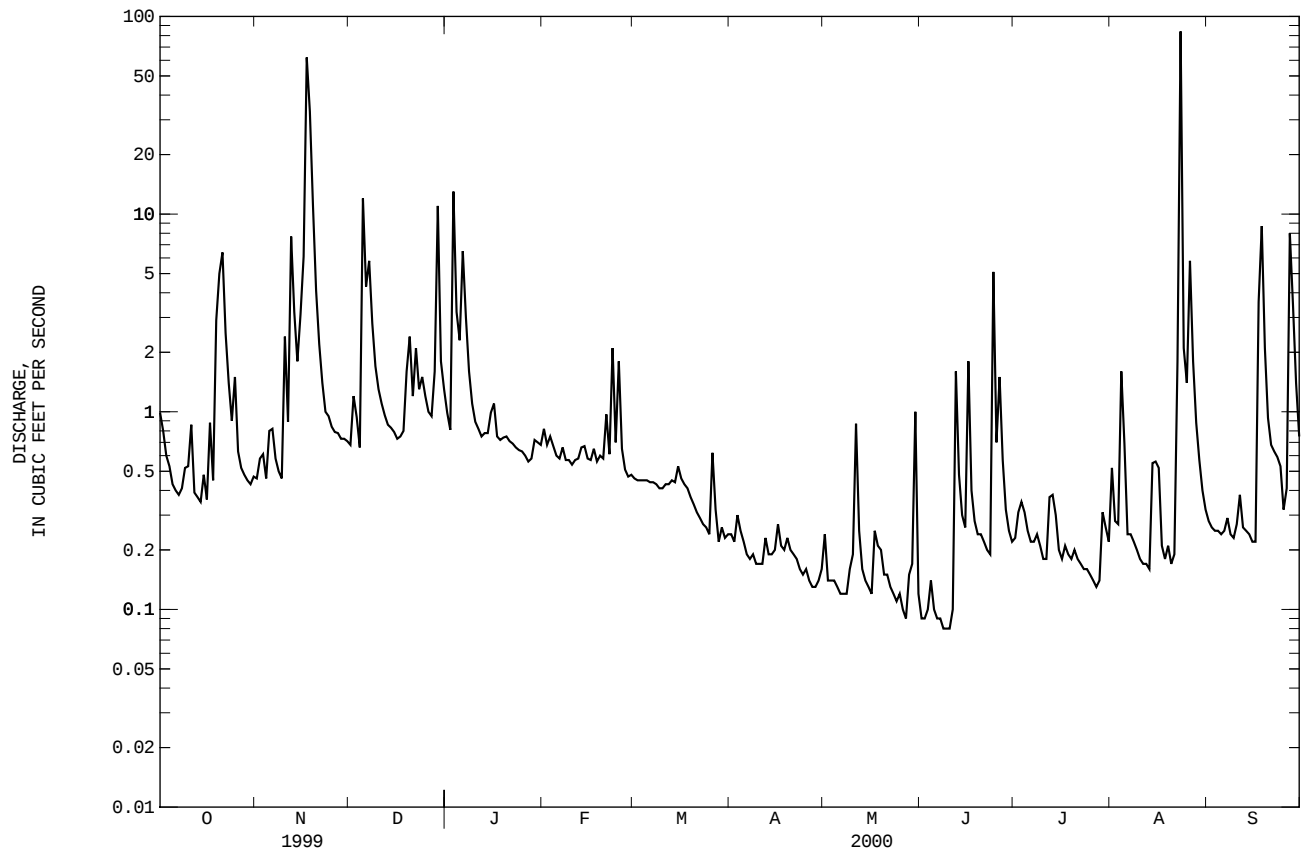
	MEAN	2.04	2.28	2.12	1.07	1.15	.52	.57	.69	.79	1.33	1.68	5.17
MAX	4.51	5.02	7.83	1.91	3.50	1.01	1.23	2.26	1.57	3.02	3.44	16.7	
(WY)	1998	2000	1999	1999	1998	1998	1993	1993	1999	1993	2000	1996	
MIN	.76	.86	.31	.33	.33	.15	.19	.20	.25	.22	.48	.25	
(WY)	1997	1998	1998	1998	1993	1993	2000	2000	1997	2000	1997	1997	

SUMMARY STATISTICS FOR 1999 CALENDAR YEAR FOR 2000 WATER YEAR WATER YEARS 1992 - 2000

ANNUAL TOTAL	552.35	510.29	
ANNUAL MEAN	1.51	1.39	1.67
HIGHEST ANNUAL MEAN			2.37
LOWEST ANNUAL MEAN			.63
HIGHEST DAILY MEAN	62	Nov 17	84
LOWEST DAILY MEAN	.17	May 22	.08
ANNUAL SEVEN-DAY MINIMUM	.18	May 22	.09
INSTANTANEOUS PEAK FLOW			420
INSTANTANEOUS PEAK STAGE			5.31
INSTANTANEOUS LOW FLOW			.07
ANNUAL RUNOFF (AC-FT)	1100	1010	1210
ANNUAL RUNOFF (CFSM)	1.89	1.74	2.09
ANNUAL RUNOFF (INCHES)	25.68	23.73	28.36
10 PERCENT EXCEEDS	2.8	1.9	1.8
50 PERCENT EXCEEDS	.58	.45	.49
90 PERCENT EXCEEDS	.30	.15	.19

e Estimated

RIO DE BAYAMON BASIN
50047540 RIO SABANA AT VISTA MONTE, PR--Continued



RIO DE BAYAMON BASIN

50047550 LAGO CIDRA AT DAMSITE NEAR CIDRA, PR

LOCATION.--Lat 18°11'57", long 66°08'29", Hydrologic Unit 21010005, at Lago de Cidra Dam on Río de Bayamón, 1.9 mi (3.0 km) northeast of Plaza de Cidra and 1.8 mi (2.9 km) northwest of Escuela Segunda Unidad de Bayamón.

DRAINAGE AREA.--8.26 mi² (21.39 km²).

ELEVATION RECORDS

PERIOD OF RECORD.--January 1988 to current year.

GAGE.--Water-stage recorder. Datum of gage is mean sea level.

REMARKS.--Lago de Cidra was completed in 1946. The maximum storage is 5,300 ac-ft (6.53 hm³) and provides supplemental water to metropolitan San Juan. The dam is a concrete gravity and earthfill structure approximately 541 ft (165 m) long between abutments with a maximum structural height of about 78.7 ft (24.0 m). The spillway portion of the dam, length 131 ft (40 m) and crest elevation 1,322 ft (403 m), is an ungated ogee crest located 131 ft (40 m) from the right abutment. This dam is owned by Puerto Rico Aqueduct and Sewer Authority. Gage-height and precipitation satellite telemetry at station. New capacity table based on U.S. Geological Survey Water-Resources Investigations Report 99-4144, November 1997.

EXTREMES OBSERVED FOR PERIOD OF RECORD.--Maximum elevation 1,328.09 ft (404.80 m), Sep. 10, 1996; minimum elevation 1,295.86 ft (394.98 m), April 22, 1995.

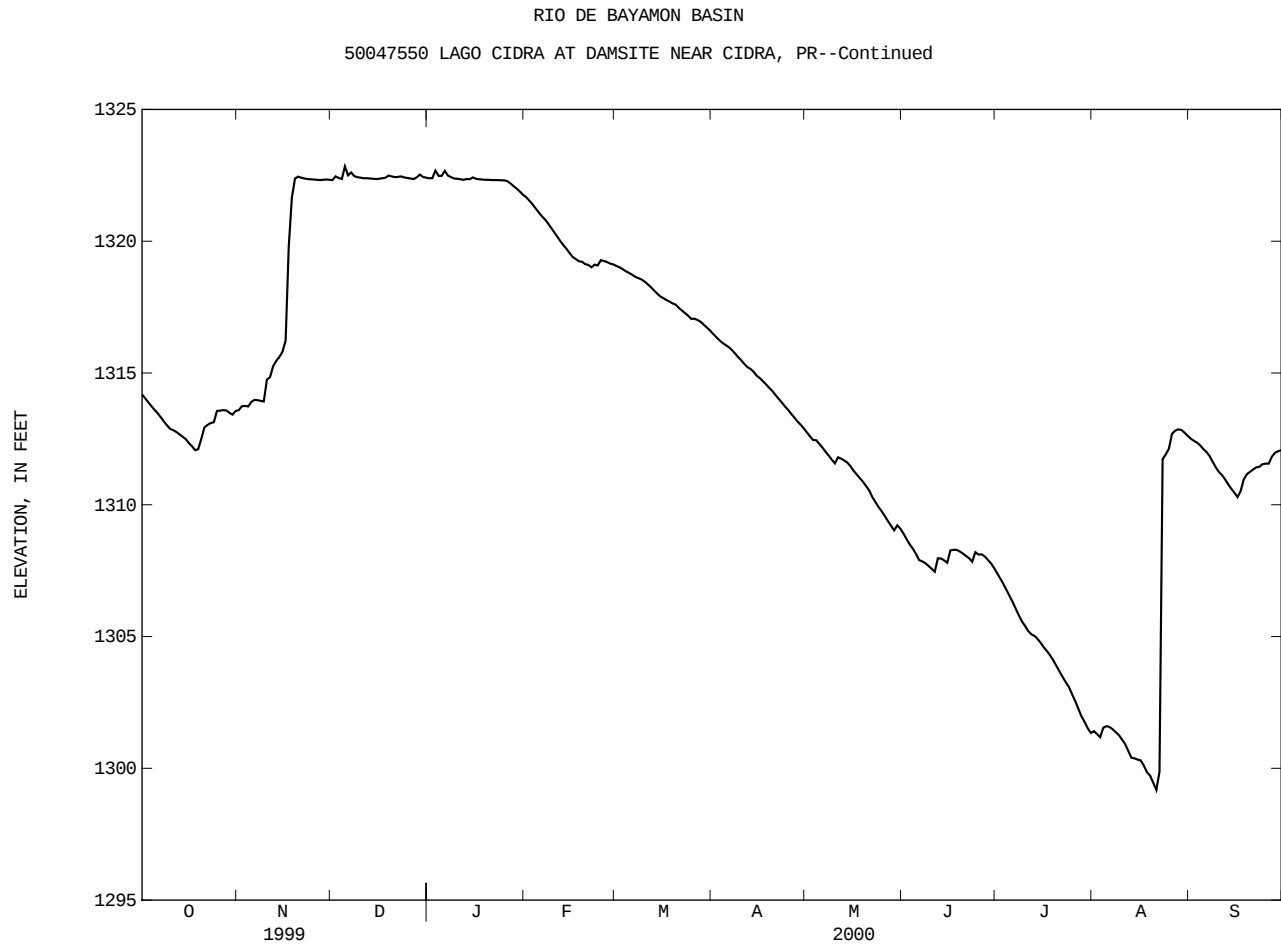
EXTREMES OBSERVED FOR CURRENT YEAR.--Maximum elevation, 1,322.87 ft (403.21 m), Dec. 5; minimum elevation, 1,299.14 ft (395.98 m), Aug. 22.

Capacity Table
(based on data from U.S. Geological Survey Water-Resources Investigations Report 99-4144, Puerto Rico-1997)

Elevation, in feet	Contents, in acre-feet	Elevation, in feet	Contents, in acre-feet
1,260	0	1,309	2,059
1,276	97	1,315	3,170
1,296	762	1,322	4,670

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1314.18	1313.59	1322.32	1322.39	1321.68	1319.06	1316.48	1312.75	1308.90	1307.40	1301.41	1312.51
2	1314.04	1313.74	1322.46	1322.39	1321.55	1319.01	1316.36	1312.60	1308.69	1307.20	1301.30	1312.43
3	1313.89	1313.75	1322.40	1322.68	1321.42	1318.94	1316.24	1312.46	1308.49	1306.99	1301.18	1312.36
4	1313.74	1313.73	1322.36	1322.48	1321.26	1318.86	1316.14	1312.45	1308.33	1306.76	1301.54	1312.26
5	1313.60	1313.90	1322.84	1322.48	1321.11	1318.80	1316.06	1312.31	1308.13	1306.53	1301.60	1312.12
6	1313.47	1313.98	1322.50	1322.67	1320.96	1318.73	1315.98	1312.17	1307.90	1306.30	1301.57	1312.01
7	1313.32	1313.97	1322.61	1322.49	1320.84	1318.65	1315.87	1312.01	1307.85	1306.04	1301.48	1311.86
8	1313.16	1313.94	1322.47	1322.43	1320.69	1318.60	1315.74	1311.87	1307.78	1305.79	1301.37	1311.64
9	1313.01	1313.92	1322.43	1322.38	1320.52	1318.55	1315.60	1311.71	1307.68	1305.56	1301.26	1311.43
10	1312.88	1314.75	1322.41	1322.37	1320.35	1318.47	1315.48	1311.57	1307.57	1305.39	1301.09	1311.25
11	1312.83	1314.84	1322.39	1322.35	1320.18	1318.37	1315.34	1311.80	1307.46	1305.20	1300.92	1311.13
12	1312.76	1315.26	1322.39	1322.33	1320.01	1318.26	1315.22	1311.75	1307.97	1305.08	1300.66	1310.97
13	1312.67	1315.46	1322.38	1322.36	1319.85	1318.14	1315.15	1311.68	1307.96	1305.02	1300.40	1310.78
14	1312.58	1315.61	1322.37	1322.35	1319.71	1318.02	1315.04	1311.60	1307.89	1304.90	1300.38	1310.61
15	1312.49	1315.81	1322.36	1322.42	1319.55	1317.91	1314.89	1311.46	1307.80	1304.75	1300.33	1310.46
16	1312.34	1316.23	1322.37	1322.37	1319.40	1317.84	1314.80	1311.29	1308.27	1304.58	1300.30	1310.29
17	1312.22	1319.79	1322.39	1322.35	1319.32	1317.77	1314.68	1311.15	1308.29	1304.44	1300.10	1310.52
18	1312.07	1321.65	1322.41	1322.34	1319.24	1317.71	1314.56	1311.01	1308.29	1304.28	1299.85	1310.96
19	1312.11	1322.38	1322.49	1322.33	1319.22	1317.64	1314.43	1310.87	1308.23	1304.09	1299.72	1311.16
20	1312.51	1322.45	1322.46	1322.33	1319.13	1317.59	1314.31	1310.71	1308.15	1303.88	1299.45	1311.25
21	1312.94	1322.41	1322.43	1322.32	1319.10	1317.47	1314.16	1310.54	1308.06	1303.67	1299.18	1311.34
22	1313.03	1322.38	1322.44	1322.32	1319.01	1317.37	1314.02	1310.29	1307.97	1303.46	1299.87	1311.42
23	1313.10	1322.36	1322.46	1322.32	1319.11	1317.27	1313.88	1310.10	1307.84	1303.26	1311.73	1311.44
24	1313.13	1322.35	1322.42	1322.31	1319.08	1317.17	1313.73	1309.91	1308.20	1303.08	1311.91	1311.54
25	1313.56	1322.34	1322.40	1322.31	1319.28	1317.05	1313.60	1309.75	1308.11	1302.81	1312.12	1311.56
26	1313.57	1322.33	1322.38	1322.28	1319.25	1317.06	1313.45	1309.57	1308.12	1302.55	1312.69	1311.56
27	1313.59	1322.32	1322.36	1322.20	1319.21	1317.01	1313.31	1309.38	1308.04	1302.26	1312.81	1311.82
28	1313.58	1322.33	1322.42	1322.09	1319.15	1316.94	1313.16	1309.20	1307.91	1301.97	1312.86	1311.97
29	1313.49	1322.34	1322.53	1322.00	1319.12	1316.83	1313.04	1309.03	1307.78	1301.76	1312.84	1312.03
30	1313.42	1322.33	1322.44	1321.89	---	1316.72	1312.90	1309.22	1307.60	1301.52	1312.74	1312.07
31	1313.56	---	1322.41	1321.77	---	1316.61	---	1309.09	---	1301.34	1312.62	---
MAX	1314.18	1322.45	1322.84	1322.68	1321.68	1319.06	1316.48	1312.75	1308.90	1307.40	1312.86	1312.51
MIN	1312.07	1313.59	1322.32	1321.77	1319.01	1316.61	1312.90	1309.03	1307.46	1301.34	1299.18	1310.29



RIO DE BAYAMON BASIN

50047560 RIO DE BAYAMON BELOW LAGO CIDRA, PR

LOCATION.--Lat 18°12'04", long 66°08'26", Hydrologic Unit 21010005, 0.2 mi(0.3 km) downstream of Lago Cidra Dam on right bank, 2.1 mi (3.4 km) northwest of Cidra Plaza.

DRAINAGE AREA.--8.32 mi² (21.5 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 1990 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 1,279 ft (390 m), from topographic map.

REMARKS.--Records poor. Regulation at all stages by Puerto Rico Aqueduct and Sewer Authority reservoir upstream from gage. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

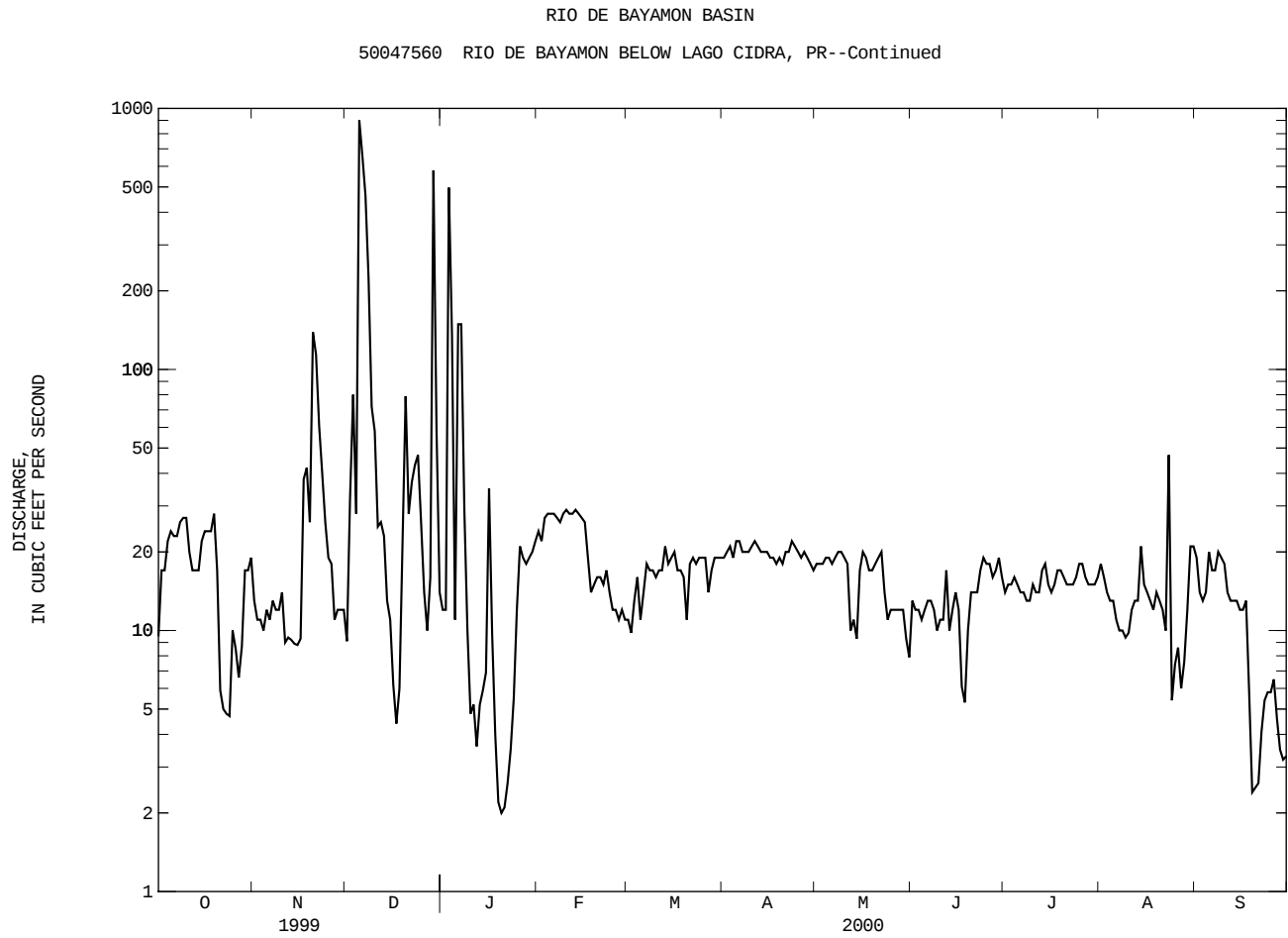
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.5	13	9.1	e12	e24	11	19	e18	13	14	18	19
2	17	11	32	e12	e22	9.8	20	e18	12	15	16	14
3	17	11	80	e497	e27	13	21	18	12	15	14	13
4	22	10	28	e135	e28	16	19	19	11	16	13	14
5	24	12	900	e11	e28	11	22	19	12	15	13	20
6	23	11	658	e149	e28	14	22	18	13	14	11	17
7	23	13	463	e149	e27	18	20	19	13	14	10	17
8	26	12	223	e29	e26	17	20	20	12	13	10	20
9	27	12	72	e10	e28	17	20	20	10	13	e9.4	19
10	27	14	58	e4.8	29	16	21	19	11	15	9.8	18
11	20	9.0	25	e5.2	28	17	22	18	11	14	12	14
12	17	9.4	26	e3.6	28	17	21	10	17	14	13	13
13	17	e9.2	23	e5.2	29	21	20	11	10	e17	13	13
14	17	e8.9	13	e5.9	28	18	20	9.3	12	e18	21	13
15	22	e8.8	e11	e6.9	27	19	20	17	14	e15	15	12
16	24	9.3	e6.2	e35	26	20	19	20	12	e14	14	12
17	24	38	e4.4	e9.7	19	17	19	19	6.1	e15	13	13
18	24	42	e6.0	e4.0	14	17	18	17	5.3	e17	12	5.8
19	28	26	e22	e2.2	15	16	e19	17	10	e17	14	2.4
20	17	139	e79	e2.0	16	11	e18	18	14	e16	13	2.5
21	5.9	114	e28	e2.1	16	18	e20	19	14	e15	12	2.6
22	5.0	61	e37	e2.6	15	19	e20	20	14	e15	10	4.1
23	4.8	40	e43	e3.5	17	18	e22	14	17	e15	47	5.4
24	4.7	26	e47	e5.5	14	19	e21	11	19	e16	5.4	5.8
25	10	19	e26	e12	12	19	e20	12	18	e18	7.4	5.8
26	8.5	18	e14	e21	12	19	e19	12	18	e18	8.6	6.5
27	6.6	11	e10	e19	11	14	e20	12	16	e16	6.0	4.6
28	8.7	12	e16	e18	12	17	e19	12	17	e15	7.6	3.5
29	17	12	e579	e19	11	19	e18	12	19	15	12	3.2
30	17	12	e59	e20	---	19	e17	9.3	16	15	21	3.3
31	19	---	e14	e22	---	19	---	7.9	---	16	21	---
TOTAL	532.7	743.6	3611.7	1233.2	617	515.8	596	485.5	398.4	475	422.2	316.5
MEAN	17.2	24.8	117	39.8	21.3	16.6	19.9	15.7	13.3	15.3	13.6	10.6
MAX	28	139	900	497	29	21	22	20	19	18	47	20
MIN	4.7	8.8	4.4	2.0	11	9.8	17	7.9	5.3	13	5.4	2.4
AC-FT	1060	1470	7160	2450	1220	1020	1180	963	790	942	837	628
CFSM	2.07	2.98	14.0	4.78	2.56	2.00	2.39	1.88	1.60	1.84	1.64	1.27
IN.	2.38	3.32	16.15	5.51	2.76	2.31	2.66	2.17	1.78	2.12	1.89	1.42

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 2000, BY WATER YEAR (WY)

MEAN	16.2	23.1	31.4	20.6	18.3	17.4	14.4	12.8	11.7	14.2	14.5	42.4
MAX	31.2	41.2	117	59.6	36.5	26.3	24.5	23.2	20.6	39.6	29.2	233
(WY)	1999	1992	2000	1991	1991	1998	1996	1998	1998	1993	1996	1996
MIN	3.74	8.85	4.36	5.45	7.24	11.4	5.72	4.13	3.47	1.56	1.18	1.64
(WY)	1995	1995	1994	1995	1994	1994	1997	1993	1994	1994	1995	1994

SUMMARY STATISTICS	FOR 1999 CALENDAR YEAR	FOR 2000 WATER YEAR	WATER YEARS 1991 - 2000
ANNUAL TOTAL	9510.7	9947.6	
ANNUAL MEAN	26.1	27.2	19.8
HIGHEST ANNUAL MEAN			36.1
LOWEST ANNUAL MEAN			5.93
HIGHEST DAILY MEAN	900	900	5420
LOWEST DAILY MEAN	4.1	2.0	.60
ANNUAL SEVEN-DAY MINIMUM	4.7	3.1	.80
INSTANTANEOUS PEAK FLOW		1950	15000
INSTANTANEOUS PEAK STAGE		16.20	27.34
ANNUAL RUNOFF (AC-FT)	18860	19730	14370
ANNUAL RUNOFF (CFSM)	3.13	3.27	2.38
ANNUAL RUNOFF (INCHES)	42.52	44.48	32.40
10 PERCENT EXCEEDS	26	28	28
50 PERCENT EXCEEDS	17	16	13
90 PERCENT EXCEEDS	8.9	6.6	3.6

e Estimated



RIO DE BAYAMON BASIN

50047560 RIO DE BAYAMON BELOW LAGO CIDRA , PR--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORDS.-- Water years 1991 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: November 1990 to current year.

INSTRUMENTATION.-- USDH-48 sediment sampler and automatic sediment sampler since 1990.

REMARKS.-- Sediment samples were collected by a local observer on a weekly basis. During high flow events sediment samples were collected by hydrologic technician and automatic sediment sampler.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATION: Maximum daily mean, 7,610 mg/L November 17, 1999; Minimum daily mean, 3 mg/L several days.

SEDIMENT LOADS: Maximum daily mean, 27,700 tons (25,100 tonnes) September 10, 1996; Minimum daily mean, 0.02 ton (0.02 tonne) November 21, 1993.

EXTREMES FOR CURRENT YEAR 2000.--

SEDIMENT CONCENTRATION: Maximum daily mean, 7,610 mg/L November 17, 1999; Minimum daily mean, 3 mg/L several days.

SEDIMENT LOADS: Maximum daily mean, 23,100 tons (21,200 tonnes) December 15, 1999; Minimum daily mean, e0.10 ton (e0.09 tonne) January 19, 2000.

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
OCTOBER			NOVEMBER			DECEMBER			
1	9.5	52	1.4	13	73	2.6	9.1	160	3.9
2	17	79	3.7	11	40	1.2	32	140	12
3	17	77	3.5	11	33	.94	80	123	27
4	22	70	4.2	10	32	.86	28	108	8.2
5	24	64	4.1	12	775	75	900	6650	23100
6	23	59	3.7	11	61	1.9	658	2200	5320
7	23	53	3.3	13	47	1.6	463	5250	8000
8	26	47	3.2	12	40	1.3	223	507	438
9	27	42	3.1	12	35	1.1	72	63	12
10	27	40	2.9	14	1060	74	58	40	6.4
11	20	39	2.1	9.0	93	2.3	25	27	1.8
12	17	37	1.7	9.4	80	2.0	26	26	1.8
13	17	32	1.5	e9.2	e68	e1.7	23	28	1.7
14	17	26	1.2	e8.9	e57	e1.4	13	29	1.0
15	22	22	1.3	e8.8	e48	e1.1	e11	e31	e.96
16	24	18	1.2	9.3	476	39	e6.2	e38	e.64
17	24	18	1.1	38	7610	1020	e4.4	e48	e.57
18	24	18	1.1	42	7380	1180	e6.0	e60	e1.0
19	28	432	49	26	163	12	e22	e262	e23
20	17	93	4.4	139	328	131	e79	e75	e18
21	5.9	79	1.3	114	227	71	e28	e26	e2.0
22	5.0	68	.92	61	160	26	e37	e21	e2.1
23	4.8	58	.75	40	149	16	e43	e20	e2.4
24	4.7	48	.62	26	155	10	e47	e20	e2.5
25	10	403	31	19	162	8.4	e26	e19	e1.3
26	8.5	107	2.6	18	169	8.0	e14	e19	e.70
27	6.6	80	1.4	11	176	5.2	e10	e18	e.48
28	8.7	71	1.7	12	177	5.5	e16	e174	e18
29	17	64	3.0	12	176	5.5	e579	e1200	e774
30	17	57	2.7	12	175	5.5	e59	e83	e14
31	19	469	37	---	---	---	e14	e43	e1.6
TOTAL	532.7	---	180.69	743.6	---	2712.10	3611.7	---	37797.05

RIO DE BAYAMON BASIN

50047560 RIO DE BAYAMON BELOW LAGO CIDRA , PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JANUARY			FEBRUARY			MARCH			
1	e12	e33	e1.0	e24	e155	e9.9	11	5	.15
2	e12	e24	e.75	e22	e68	e4.1	9.8	5	.13
3	e497	e2010	e841	e27	e30	e2.2	13	4	.15
4	e135	e371	e84	e28	e13	e.99	16	4	.17
5	e11	e630	e59	e28	e6	e.48	11	4	.11
6	e149	e86	e70	e28	e6	e.42	14	3	.13
7	e149	e75	e32	e27	e5	e.39	18	3	.15
8	e29	e44	e3.5	e26	e5	e.35	17	4	.19
9	e10	e37	e1.0	e28	e5	e.35	17	5	.24
10	e4.8	e33	e.43	29	4	.34	16	7	.29
11	e5.2	e30	e.42	28	4	.32	17	9	.41
12	e3.6	e31	e.29	28	4	.31	17	10	.47
13	e5.2	e33	e.47	29	4	.34	21	12	.68
14	e5.9	e35	e.55	28	5	.37	18	12	.61
15	e6.9	e35	e.65	27	5	.39	19	10	.50
16	e35	e26	e2.6	26	6	.41	20	8	.44
17	e9.7	e19	e.50	19	6	.32	17	7	.30
18	e4.0	e14	e.15	14	7	.26	17	5	.24
19	e2.2	e16	e.10	15	7	.29	16	5	.19
20	e2.0	e20	e.11	16	8	.32	11	4	.12
21	e2.1	e25	e.14	16	9	.38	18	4	.17
22	e2.6	e30	e.22	15	10	.39	19	3	.16
23	e3.5	e36	e.34	17	11	.48	18	4	.19
24	e5.5	e43	e.64	14	10	.40	19	6	.28
25	e12	e49	e1.6	12	9	.30	19	8	.39
26	e21	e36	e1.9	12	8	.26	19	7	.39
27	e19	e23	e1.1	11	7	.22	14	7	.26
28	e18	e15	e.71	12	7	.21	17	6	.29
29	e19	e12	e.62	11	6	.17	19	7	.37
30	e20	e61	e3.4	---	---	---	19	8	.42
31	e22	e252	e15	---	---	---	19	8	.44
TOTAL	1233.2	---	1124.19	617	---	25.66	515.8	---	9.03

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
APRIL			MAY			JUNE			
1	19	8	.44	e18	e13	e.63	13	20	.69
2	20	9	.46	e18	e11	e.56	12	18	.58
3	21	9	.50	18	13	.63	12	17	.53
4	19	9	.45	19	15	.78	11	18	.54
5	22	9	.53	19	17	.85	12	22	.72
6	22	8	.47	18	19	.97	13	26	.92
7	20	7	.37	19	25	1.3	13	27	.91
8	20	6	.33	20	34	1.8	12	18	.56
9	20	6	.31	20	37	1.9	10	11	.31
10	21	5	.30	19	37	1.9	11	8	.22
11	22	5	.31	18	36	1.8	11	6	.18
12	21	7	.43	10	36	1.0	17	565	58
13	20	12	.66	11	36	1.0	10	80	2.4
14	20	21	1.1	9.3	31	.78	12	57	1.8
15	20	31	1.6	17	26	1.2	14	41	1.5
16	19	25	1.3	20	22	1.1	12	30	.99
17	19	19	.99	19	18	.92	6.1	22	.36
18	18	14	.69	17	14	.64	5.3	16	.22
19	e19	e11	e.55	17	10	.48	10	11	.29
20	e18	e10	e.50	18	8	.37	14	8	.30
21	e20	e10	e.53	19	7	.37	14	8	.29
22	e20	e10	e.56	20	8	.41	14	9	.34
23	e22	e11	e.62	14	8	.31	17	10	.48
24	e21	e11	e.64	11	9	.28	19	12	.59
25	e20	e12	e.63	12	11	.35	18	16	.79
26	e19	e13	e.67	12	13	.42	18	23	1.1
27	e20	e14	e.76	12	15	.50	16	28	1.2
28	e19	e16	e.80	12	17	.57	17	24	1.1
29	e18	e17	e.86	12	19	.64	19	20	1.0
30	e17	e15	e.72	9.3	22	.53	16	17	.72
31	---	---	---	7.9	22	.47	---	---	---
TOTAL	596	---	19.08	485.5	---	25.46	398.4	---	79.63

RIO DE BAYAMON BASIN

50047560 RIO DE BAYAMON BELOW LAGO CIDRA , PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JULY			AUGUST			SEPTEMBER			
1	14	14	.53	18	526	47	19	233	12
2	15	10	.41	16	47	2.0	14	225	8.3
3	15	8	.32	14	42	1.6	13	217	7.4
4	16	6	.24	13	37	1.3	14	209	7.8
5	15	5	.20	13	33	1.1	20	201	11
6	14	24	.88	11	29	.88	17	193	8.7
7	14	21	.78	10	26	.74	17	178	8.3
8	13	14	.52	10	24	.67	20	162	8.7
9	13	14	.51	e9.4	e22	e.56	19	148	7.7
10	15	14	.59	9.8	20	.54	18	136	6.7
11	14	15	.57	12	19	.61	14	126	4.7
12	14	15	.57	13	18	.62	13	117	4.1
13	e17	e15	e.69	13	16	.56	13	108	3.9
14	e18	e15	e.75	21	434	38	13	100	3.4
15	e15	e15	e.64	15	140	5.8	12	93	3.0
16	e14	e16	e.60	14	88	3.4	12	86	2.7
17	e15	e16	e.66	13	68	2.4	13	79	2.8
18	e17	e16	e.72	12	52	1.7	5.8	73	1.2
19	e17	e17	e.79	14	40	1.5	2.4	68	.44
20	e16	e20	e.87	13	33	1.2	2.5	64	.43
21	e15	e22	e.90	12	27	.86	2.6	73	.51
22	e15	e25	e1.0	10	33	1.7	4.1	87	.99
23	e15	e28	e1.1	47	1800	720	5.4	102	1.5
24	e16	e32	e1.3	5.4	289	4.2	5.8	97	1.5
25	e18	e36	e1.8	7.4	385	7.8	5.8	85	1.3
26	e18	e39	e1.9	8.6	422	9.8	6.5	75	1.3
27	e16	e36	e1.6	6.0	416	6.7	4.6	76	.91
28	e15	e33	e1.3	7.6	405	8.3	3.5	80	.74
29	15	31	1.3	12	389	13	3.2	75	.65
30	15	29	1.2	21	319	18	3.3	71	.63
31	16	28	1.2	21	252	15	---	---	---
TOTAL	475	---	26.44	422.2	---	917.54	316.5	---	123.30
YEAR	9947.6		43040.17						
e Estimated									

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

SILT AND CLAY PERCENT OF SUSPENDED SEDIMENT

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT					
12...	1636	17	37	1.7	78
NOV					
10...	1605	10	281	7.6	78
30...	1850	2.7	175	1.3	95
DEC					
19...	1305	E55	379	56.3	86
20...	0405	E120	461	149	81
29...	1215	E707	134	256	69
29...	2000	E223	12100	7290	5
JAN					
04...	1215	E60	55	8.9	66
06...	1810	E412	352	392	77
15...	1120	E2.7	37	.27	85
APR					
05...	1640	24	9	.58	56
JUN					
13...	0700	11	83	2.5	87
AUG					
23...	0700	158	4920	2100	93

RIO DE BAYAMON BASIN

50047560 RIO DE BAYAMON BELOW LAGO CIDRA , PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM (70326)	SED. SUSP. FALL DIAM. % FINER THAN .004 MM (70327)	SED. SUSP. FALL DIAM. % FINER THAN .008 MM (70328)
NOV 17...	1125	105	7490	2120	52	62	74
DEC 07...	0705	333	18700	16800	46	56	68
JAN 05...	1930	E40	16400	1770	45	56	66
AUG 23...	0100	207	10400	5790	49	61	74
DATE	SED. SUSP. FALL DIAM. % FINER THAN .016 MM (70329)	SED. SUSP. FALL DIAM. % FINER THAN .031 MM (70330)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM (70332)	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM (70333)	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM (70334)	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM (70335)
NOV 17...	84	93	96	99	100	100	100
DEC 07...	74	86	87	96	99	100	100
JAN 05...	78	89	92	99	100	100	100
AUG 23...	85	94	96	99	99	100	100

RIO DE BAYAMON BASIN

50047600 RIO DE BAYAMON NEAR AGUAS BUENAS, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 18°14'39", long 66°08'39", at bridge on Highway 156, and 2.9 mi (4.7 km) west of Aguas Buenas plaza.

DRAINAGE AREA.--18.5 mi² (47.9 km²).

PERIOD OF RECORD.--Water years 1958-65, 1974 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)
OCT 26...	1730	22	266	7.9	25.6	39	7.5	96	<10	360	700000
FEB 11...	1300	43	263	8.3	22.5	6.7	8.8	105	<10	K54	22
APR 17...	1400	32	275	8.1	24.0	2.6	8.3	102	<10	K170	270
AUG 14...	1415	23	295	7.9	27.0	3.9	7.1	93	12	K120	390

DATE	HARD- NESS TOTAL (MG/L AS CAC03) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD MG/L AS CAC03 (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS- SOLVED (MG/L AS S04) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)
OCT 26...	110	24.8	11.2	14.9	.6	2.8	98	<1.0	9.2	16.5
FEB 11...	--	--	--	--	--	--	90	--	--	--
APR 17...	93	21.2	9.66	14.9	.7	2.3	96	<1.0	7.3	19.9
AUG 14...	97	21.7	10.4	19.0	.8	1.9	100	--	9.1	19.7

DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L DAY) (70301)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDE (MG/L) (00530)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)
OCT 26...	<.1	25.5	164	9.90	38	.79	.01	.8	.03	.46
FEB 11...	--	--	--	--	7	--	<.01	.6	.01	.20
APR 17...	<.1	23.8	157	13.6	4	.45	.01	.5	.04	.20
AUG 14...	.1	24.6	166	10.5	<10	.64	.01	.6	<.01	--

DATE	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	NITRO- GEN, TOTAL (MG/L AS NO3) (71887)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV- ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)
OCT 26...	.49	1.3	5.7	.070	<3	29.5	28	<.1	1	<20
FEB 11...	.21	.77	3.4	.020	--	--	--	--	--	--
APR 17...	.24	.70	3.1	<.020	<3	18.7	33	<.1	<1	<20
AUG 14...	.21	.86	3.8	<.020	--	--	--	--	--	--

RIO DE BAYAMON BASIN

50047850 RIO BAYAMON NR BAYAMON, PR

LOCATION.--Lat 18°20'08", long 66°08'13", Hydrologic Unit 21010005, on left bank, at rock quarry near Highway 174, 1.3 mi (2.1km) south of colonia Santa Rosa and 4.7 mi (7.6 km) south of Bayamón.

DRAINAGE AREA.--41.8 mi² (108.3 km²).

PERIOD OF RECORD.--September 1964 to October 1970, June 1988 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 98 ft (30 m), from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Diversion to the Guaynabo water treatment plant, for municipal supply, made upstream from station (at Represa de San Juan). Flow is regulated by storage and release of water at Lago de Cidra (capacity 5,220 acre-ft), 10.5 mi(16.9 km) upstream. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	63	e78	75	40	20	14	10	9.4	8.4	9.3	11
2	21	213	e127	64	37	20	14	10	10	8.8	9.0	11
3	20	148	e356	295	38	20	14	11	9.3	8.7	29	11
4	19	72	151	266	37	19	13	11	9.1	8.5	13	11
5	19	164	1070	148	34	19	14	18	8.5	8.1	11	12
6	176	183	590	182	33	18	13	13	8.0	7.7	7.7	12
7	36	67	279	212	34	18	13	11	8.1	7.0	7.5	12
8	55	40	231	104	34	18	12	10	8.0	7.0	7.2	11
9	29	29	131	81	32	18	12	10	8.0	7.2	6.8	11
10	29	e461	100	60	29	17	12	9.9	8.3	7.1	6.7	11
11	48	117	83	51	29	17	12	53	9.5	7.2	6.2	13
12	93	45	73	44	28	17	12	70	48	8.1	6.3	11
13	32	32	64	70	29	16	13	23	35	20	6.0	10
14	25	55	57	69	28	16	12	12	11	11	5.8	10
15	23	228	51	66	27	16	11	11	11	6.4	5.7	11
16	248	144	47	94	26	17	11	10	177	6.2	6.1	16
17	135	1250	46	51	25	17	11	11	34	6.6	5.8	136
18	218	1250	52	43	30	16	11	53	11	7.0	5.4	318
19	167	729	58	39	27	15	11	21	9.4	6.8	5.7	115
20	547	310	81	36	35	14	11	11	8.5	8.1	5.0	174
21	693	192	71	35	23	15	10	11	8.5	7.5	4.7	34
22	e298	152	125	34	28	17	10	9.7	8.3	7.2	9.5	20
23	e72	e169	89	34	42	14	10	10	8.2	7.1	2320	20
24	e32	e124	148	34	38	14	10	9.4	8.3	7.2	75	17
25	e158	e167	124	34	82	14	9.9	9.4	8.2	7.3	23	16
26	e51	e154	74	33	29	14	10	9.1	11	6.9	16	14
27	32	e96	52	32	24	19	10	9.3	9.0	6.9	14	15
28	32	e92	70	35	21	15	10	9.0	8.6	7.0	12	21
29	28	e110	382	43	21	15	10	8.5	8.3	11	12	16
30	28	e96	112	40	---	14	11	18	8.1	8.4	12	13
31	117	---	85	36	---	14	---	12	---	7.5	13	---
TOTAL	3503	6952	5057	2440	940	513	346.9	504.3	527.6	249.9	2676.4	1113
MEAN	113	232	163	78.7	32.4	16.5	11.6	16.3	17.6	8.06	86.3	37.1
MAX	693	1250	1070	295	82	20	14	70	177	20	2320	318
MIN	19	29	46	32	21	14	9.9	8.5	8.0	6.2	4.7	10
AC-FT	6950	13790	10030	4840	1860	1020	688	1000	1050	496	5310	2210
CFSM	2.70	5.54	3.90	1.88	.78	.40	.28	.39	.42	.19	2.07	.89
IN.	3.12	6.19	4.50	2.17	.84	.46	.31	.45	.47	.22	2.38	.99

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 2000, BY WATER YEAR (WY)

MEAN	41.4	55.6	56.9	38.6	23.9	18.0	19.6	35.5	20.4	23.5	45.1	65.9
MAX	129	232	263	159	75.3	52.9	72.7	131	60.8	79.2	137	360
(WY)	1991	2000	1966	1969	1989	1990	1971	1966	1970	1999	1970	1996
MIN	4.30	7.91	3.45	5.30	4.75	3.58	5.36	4.85	3.68	4.01	7.47	6.02
(WY)	1969	1965	1998	1968	1965	1965	1965	1994	1994	1994	1994	1967

SUMMARY STATISTICS

FOR 1999 CALENDAR YEAR

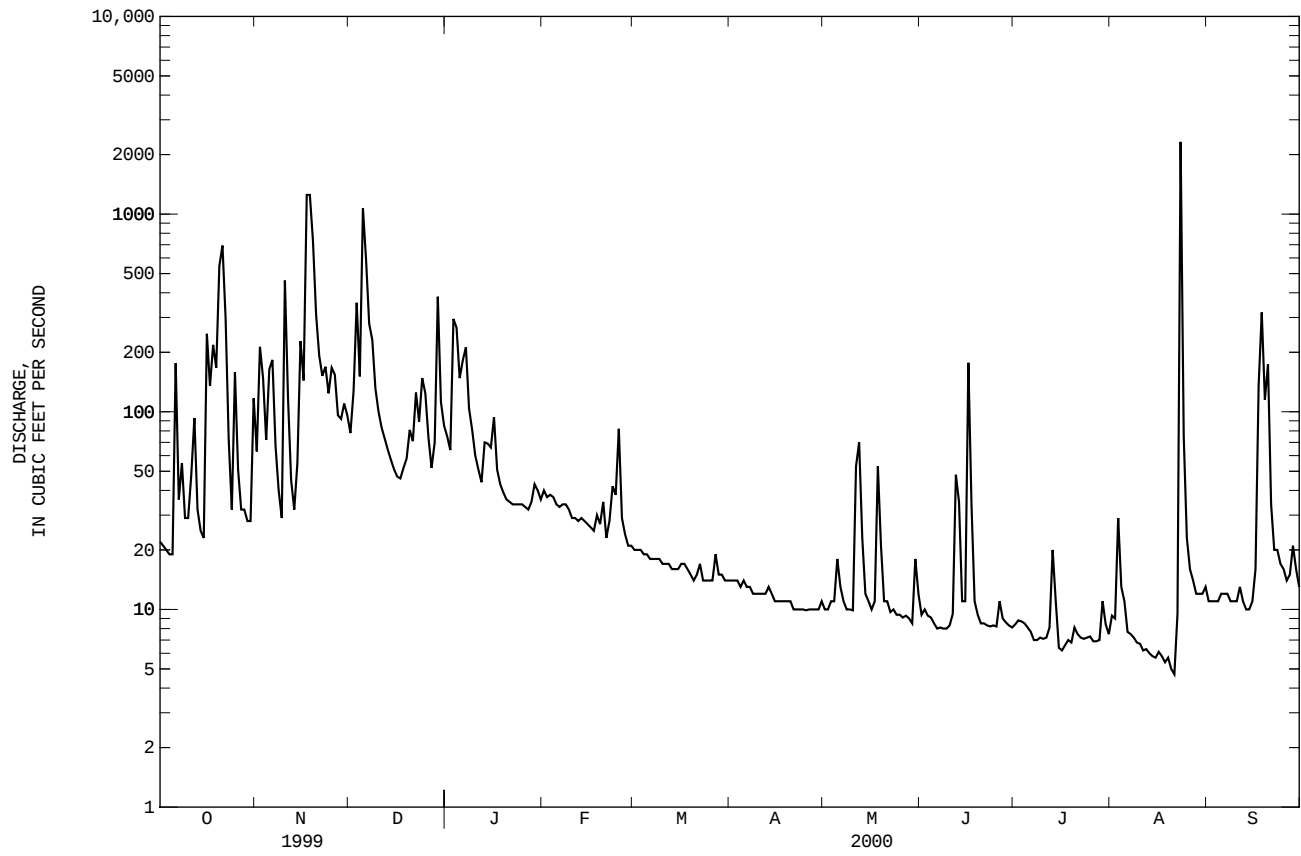
FOR 2000 WATER YEAR

WATER YEARS 1964 - 2000

ANNUAL TOTAL	27523.9	24823.1	
ANNUAL MEAN	75.4	67.8	
HIGHEST ANNUAL MEAN			37.1
LOWEST ANNUAL MEAN			69.5
HIGHEST DAILY MEAN	1250	Nov 17	1999
LOWEST DAILY MEAN	6.6	May 27	1994
ANNUAL SEVEN-DAY MINIMUM	7.1	May 22	1994
INSTANTANEOUS PEAK FLOW			8640
INSTANTANEOUS PEAK STAGE			Sep 10 1996
ANNUAL RUNOFF (AC-FT)	54590	17.07	2.2
ANNUAL RUNOFF (CFSM)	1.80	4.7	Apr 19 1965
ANNUAL RUNOFF (INCHES)	24.49	5.5	Aug 15 1965
10 PERCENT EXCEEDS	170	12800	Aug 23 1996
50 PERCENT EXCEEDS	29	17.07	Aug 23 1996
90 PERCENT EXCEEDS	9.3	49240	Sep 10 1996
		26910	
		1.62	.89
		22.09	12.07
		151	64
		18	13
		7.9	5.2

e Estimated

RIO DE BAYAMON BASIN
50047850 RIO BAYAMON NR BAYAMON, PR--Continued



RIO DE BAYAMON BASIN

50047990 RIO GUAYNABO NEAR BAYAMON, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 18°22'32", long 66°07'59", at bridge on Highway 833, 0.2 mi (0.3 km) upstream from Rio de Bayamón, and 2.3 mi (3.7 km) southeast of Bayamón plaza.

DRAINAGE AREA.--19.8 mi² (51.2 km²).

PERIOD OF RECORD.--Water years 1958, 1964, 1971-73, 1976, 1979 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)
OCT 22...	1100	350	7.6	26.0	60	5.9	74	<10	27000	9300
FEB 28...	1310	452	7.9	25.3	8.1	4.3	52	16	2200	K100
APR 13...	1055	461	7.8	24.7	7.0	5.3	63	12	K1500	290
AUG 30...	1030	531	7.9	27.7	11	1.8	23	11	K7000	500
DATE	HARD- NESS TOTAL (MG/L AS CAC03) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD MG/L AS CAC03 (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS- SOLVED (MG/L AS S04) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)
OCT 22...	120	31.7	9.70	18.5	.7	3.0	117	<1.0	14.5	20.9
FEB 28...	--	--	--	--	--	--	166	--	--	--
APR 13...	150	40.5	11.8	22.4	.8	2.5	167	<1.0	10.9	36.0
AUG 30...	180	50.4	13.6	29.3	.9	3.4	185	--	22.7	34.0
DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)
OCT 22...	.1	27.9	197	20	1.16	.04	1.2	.14	.69	.83
FEB 28...	--	--	--	30	.92	.06	1.0	.18	.82	1.0
APR 13...	.2	24.9	249	25	.50	.05	.6	.14	.24	.38
AUG 30...	.2	27.9	293	<10	.68	.06	.7	.90	.02	.92
DATE	NITRO- GEN, TOTAL (MG/L AS N) (00600)	NITRO- GEN, TOTAL (MG/L AS NO3) (71887)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV- ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)
OCT 22...	2.0	9.0	.180	<3	112	28	<.1	3	24	3260
FEB 28...	2.0	8.8	.390	--	--	--	--	--	--	--
APR 13...	.93	4.1	.220	E1	110	50	<.1	<1	<20	510
AUG 30...	1.7	7.3	.180	--	--	--	--	--	--	--

RIO DE BAYAMON BASIN

50047990 RIO GUAYNABO NEAR BAYAMON, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

[illegible]

RIO DE BAYAMON BASIN

50048510 RIO DE BAYAMON AT FLOOD CHANNEL AT BAYAMON, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 18°24'29", long 66°09'04", at bridge on Highway 890, 1.0 mi (1.6 km) downstream from bridge on Highway 2, and 3.2 mi (5.1 km) above mouth.

DRAINAGE AREA.--71.9 mi² (186.2 km²).

PERIOD OF RECORD.--Water years 1974 to current year.

REMARKS.--Prior to 1979 sampling site was 0.8 mile (1.3 km) downstream but was changed because of flood channel construction.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	STREP-TOCOCCI, FECAL, KF AGAR (COLS. PER 100 ML) (31673)
OCT 22...	0915	E300	262	7.9	25.0	92	7.4	91	<10	K6800	4500
FEB 28...	1130	59	432	7.9	23.6	9.5	7.3	85	<10	59000	890
MAY 03...	1040	20	463	7.8	26.3	4.1	6.8	83	<10	K10000	540
SEP 05...	1045	6.2	482	7.6	29.9	16	6.8	89	10	K1000	K45

DATE	HARD-NESS TOTAL (MG/L AS CAC03) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CAC03) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS S04) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)
OCT 22...	97	24.6	8.63	14.0	.6	2.4	98	<1.0	11.5	16.2
FEB 28...	--	--	--	--	--	--	163	--	--	--
MAY 03...	170	43.4	15.4	26.0	.9	2.0	182	<1.0	11.7	35.4
SEP 05...	180	48.0	14.9	23.8	.8	2.7	179	--	19.0	31.4

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SI02) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, NO2+N03 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)
OCT 22...	.1	25.7	162	--	126	1.08	.02	1.1	.05	.60
FEB 28...	--	--	--	--	8	.72	.04	.8	.33	.19
MAY 03...	.1	31.1	274	14.9	22	.18	.02	.2	.11	.20
SEP 05...	.1	26.1	273	4.57	23	.18	.09	.3	.10	.32

DATE	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N03) (00600)	NITRO-GEN, TOTAL (MG/L AS N03) (71887)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)
OCT 22...	.65	1.8	7.7	.160	<3	83.9	30	<.1	5	21
FEB 28...	.52	1.3	5.7	.130	--	--	--	--	--	--
MAY 03...	.31	.51	2.3	.080	E2	79.4	39	<.1	E1	<20
SEP 05...	.42	.69	3.1	.070	--	--	--	--	--	--

[illegible][illegible][illegible][illegible]

RIO PUERTO NUEVO BASIN

50048680 LAGO LAS CURIAS AT DAMSITE NEAR RIO PIEDRAS, PR

LOCATION.--Lat 18°20'23", long 66°03'05", Hydrologic Unit 21010005 at Lago Las Curiar Dam on Río Piedras, 4.15 mi (6.67 km) south of University of Puerto Rico Tower, 1.6 mi (2.57 km) northwest from Escuela José F. Díaz and 0.8 mi (1.28 km) north of Escuela Cupey Alto.

DRAINAGE AREA.--0.97 mi² (2.51 km²).

ELEVATION RECORDS

PERIOD OF RECORD.--April 1997 to current year.

GAGE.--Water stage recorder. Datum of gage is mean sea level.

REMARKS.--Lago Las Curiar was completed in 1946. The reservoir has a capacity of 1,135 ac-ft (1.40 hm³) at spillway crest elevation 315.78 ft (96.25 m) for water supply. The dam is earthfill and has a crest elevation of 327.3 ft (99.75 m). Masonry parapet walls continuous from abutment on each side of the 25 ft (7.62 m) wide crest. The dam is about 82.0 ft (25.0 m) high and 984.2 ft (300.0 m) long. The morning-glory inlet conduit spillway in located along the left abutment of the dam and has an uncontrolled capacity of about 5,000 ft³/s (141.6 m³/s) at reservoir elevation 321.5 ft (98.0 m). This dam is operated by Puerto Rico Aqueduct and Sewer Authority. Gage-height and precipitation satellite telemetry at station.

EXTREMES OBSERVED FOR PERIOD OF RECORD.--Maximum elevation, 317.01 ft (96.62 m), Aug. 11, 1998; minimum elevation, 313.04 ft (95.41 m), Oct. 5, 1998.

EXTREMES OBSERVED FOR CURRENT YEAR.--Maximum elevation, 316.90 ft (96.59 m), Aug. 23; minimum elevation, 315.41 ft (96.14 m), Aug. 22.

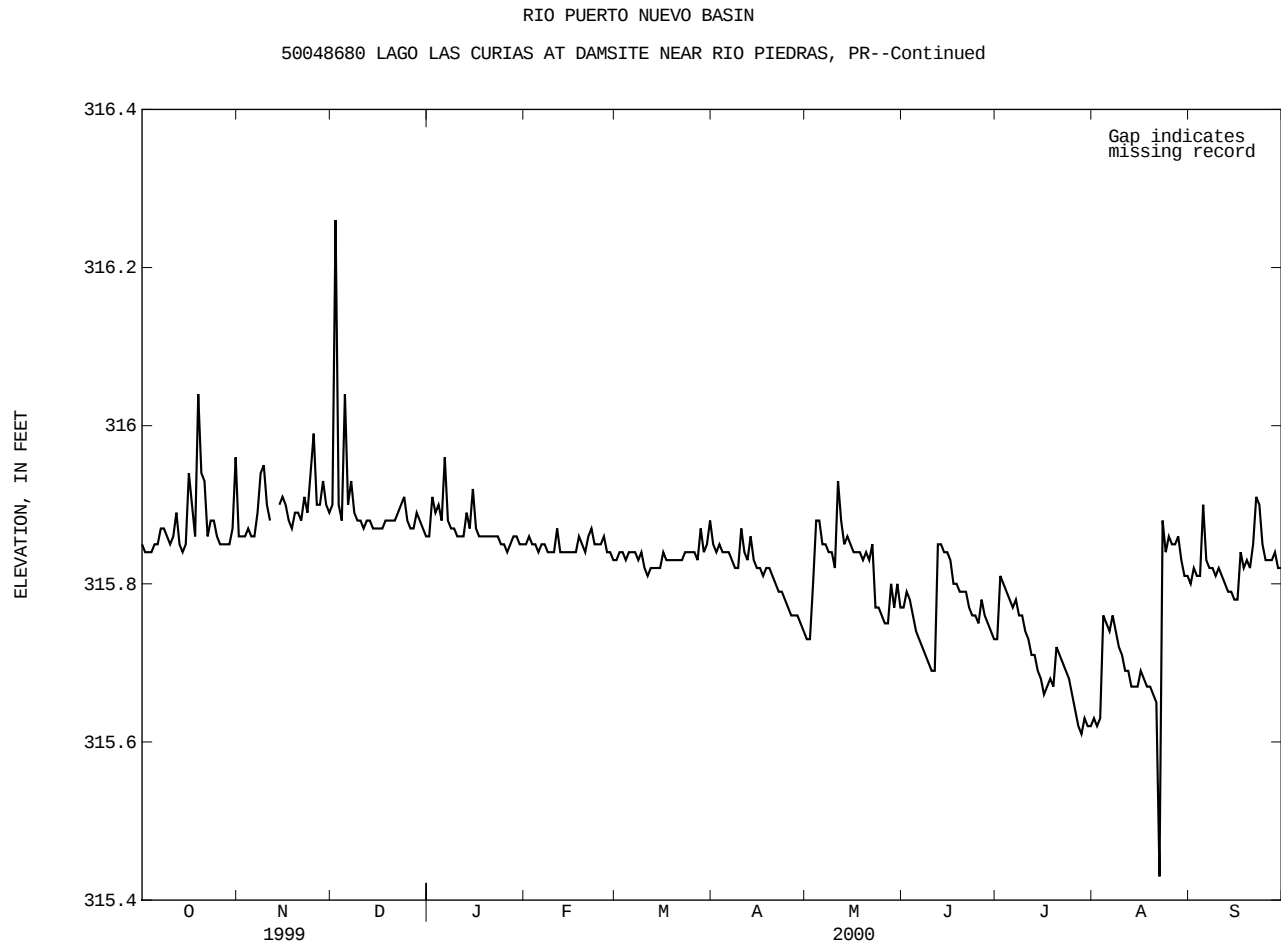
Capacity Table
(based on data from Puerto Rico Electric Power Authority)

Elevation, in feet	Contents, in acre-feet	Elevation, in feet	Contents, in acre-feet
284.7	154	313.0	677
298.2	462	314.3	1,078
307.1	770	317.5	1,232

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	315.85	315.86	315.90	315.86	315.85	315.83	315.85	315.73	315.77	315.73	315.63	315.80
2	315.84	315.86	316.26	315.91	315.86	315.84	315.84	315.73	315.79	315.81	315.62	315.82
3	315.84	315.86	315.90	315.89	315.85	315.84	315.85	315.80	315.78	315.80	315.63	315.81
4	315.84	315.87	315.88	315.90	315.85	315.83	315.84	315.88	315.76	315.79	315.76	315.81
5	315.85	315.86	316.04	315.88	315.84	315.84	315.84	315.88	315.74	315.78	315.75	315.90
6	315.85	315.86	315.90	315.96	315.85	315.84	315.84	315.85	315.73	315.77	315.74	315.83
7	315.87	315.89	315.93	315.88	315.85	315.84	315.83	315.85	315.72	315.78	315.76	315.82
8	315.87	315.94	315.89	315.87	315.84	315.83	315.82	315.84	315.71	315.76	315.74	315.82
9	315.86	315.95	315.88	315.87	315.84	315.84	315.82	315.84	315.70	315.76	315.72	315.81
10	315.85	315.90	315.88	315.86	315.84	315.82	315.87	315.82	315.69	315.74	315.71	315.82
11	315.86	315.88	315.87	315.86	315.87	315.81	315.84	315.93	315.69	315.73	315.69	315.81
12	315.89	A	315.88	315.86	315.84	315.82	315.83	315.88	315.85	315.71	315.69	315.80
13	315.85	A	315.88	315.89	315.84	315.82	315.86	315.85	315.85	315.71	315.67	315.79
14	315.84	315.90	315.87	315.87	315.84	315.82	315.83	315.86	315.84	315.69	315.67	315.79
15	315.85	315.91	315.87	315.92	315.84	315.82	315.82	315.85	315.84	315.68	315.67	315.78
16	315.94	315.90	315.87	315.87	315.84	315.84	315.82	315.84	315.83	315.66	315.69	315.78
17	315.90	315.88	315.87	315.86	315.84	315.83	315.81	315.84	315.80	315.67	315.68	315.84
18	315.86	315.87	315.88	315.86	315.86	315.83	315.82	315.84	315.80	315.68	315.67	315.82
19	316.04	315.89	315.88	315.86	315.85	315.83	315.82	315.83	315.79	315.67	315.67	315.83
20	315.94	315.89	315.88	315.86	315.84	315.83	315.81	315.84	315.79	315.72	315.66	315.82
21	315.93	315.88	315.88	315.86	315.86	315.83	315.80	315.83	315.79	315.71	315.65	315.85
22	315.86	315.91	315.89	315.86	315.87	315.83	315.79	315.85	315.77	315.70	315.43	315.91
23	315.88	315.89	315.90	315.86	315.85	315.84	315.79	315.77	315.76	315.69	315.88	315.90
24	315.88	315.94	315.91	315.85	315.85	315.84	315.78	315.77	315.76	315.68	315.84	315.85
25	315.86	315.99	315.88	315.85	315.85	315.84	315.77	315.76	315.75	315.66	315.86	315.83
26	315.85	315.90	315.87	315.84	315.86	315.84	315.76	315.75	315.78	315.64	315.85	315.83
27	315.85	315.90	315.87	315.85	315.84	315.83	315.76	315.75	315.76	315.62	315.85	315.83
28	315.85	315.93	315.89	315.86	315.84	315.87	315.76	315.80	315.75	315.61	315.86	315.84
29	315.85	315.90	315.88	315.86	315.83	315.84	315.75	315.77	315.74	315.63	315.83	315.82
30	315.87	315.89	315.87	315.85	---	315.85	315.74	315.80	315.73	315.62	315.81	315.82
31	315.96	---	315.86	315.85	---	315.88	---	315.77	---	315.62	315.81	---
MAX	316.04	315.99	316.26	315.96	315.87	315.88	315.87	315.93	315.85	315.81	315.88	315.91
MIN	315.84	315.86	315.86	315.84	315.83	315.81	315.74	315.73	315.69	315.61	315.43	315.78

A No gage-height record



RIO PUERTO NUEVO BASIN

50048690 QUEBRADA LAS CURIAS BELOW LAS CURIAS DAM, PR

LOCATION.--Lat 18°20'43", long 66°03'08", Hydrologic Unit 21010005, at 0.20 miles (0.32 km) from Lago Las Curias Dam on Río Piedras, 4.13 mi (6.64 km) south of University of Puerto Rico Tower, 2.55 mi (4.10 km) northwest from Lago Loíza spillway crest and 0.85 mi (1.37 km) north of Escuela Cupey Alto.

DRAINAGE AREA.--1.08 mi² (2.79 km²).

PERIOD OF RECORD.--August 1997 to current year.

GAGE.--Water stage recorder. Elevation of gage is 262.47 ft (80.0 m), from topographic map.

REMARKS.--Records poor. Flow completely regulated by Lago Las Curias Dam, 0.20 mi (0.32 km) from gage. Gage-height and precipitation satellite telemetry at station..

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.63	7.2	2.7	2.1	e1.2	.55	1.4	.38	.43	.36	.29	.35
2	.37	2.0	52	1.6	e.86	.55	.53	.40	.53	.49	.29	.35
3	.33	1.7	18	12	e1.0	.50	.53	.50	.64	.73	.31	.58
4	.46	3.0	3.4	8.7	e.87	.53	.47	2.0	.65	.44	.39	.42
5	.53	2.8	37	8.7	e.80	.47	.52	2.0	.36	.48	.44	15
6	.44	2.2	15	4.8	e.70	.51	.45	.95	.41	.26	.26	3.8
7	2.0	4.7	8.1	8.9	e1.8	.52	.71	.43	.33	.24	.35	.64
8	3.3	24	8.1	2.5	e.84	.55	.60	.40	.38	.44	.46	.46
9	1.3	27	3.8	1.8	e.76	.43	.40	e.29	.43	.25	.24	.56
10	.55	23	2.9	e1.4	e.68	.63	1.7	e.28	.36	.31	.24	.36
11	.56	4.9	2.5	e1.2	e1.5	.59	1.4	e2.0	.41	.32	.26	1.4
12	5.5	5.7	2.3	e1.0	e.83	.43	1.1	e.41	4.4	.29	.22	.39
13	1.9	e3.2	2.2	e5.1	e.82	.40	1.1	e.29	6.4	.22	.22	.28
14	.87	e5.0	2.1	e3.9	e.84	.48	.94	e.27	6.2	.33	.24	.28
15	.55	24	1.7	e3.3	e.68	.47	.62	e.31	2.4	.25	.25	.29
16	7.9	9.0	1.8	e3.0	e.68	.51	.31	.34	1.8	.23	.26	.32
17	17	40	2.1	e1.6	e.68	1.4	.61	.26	1.0	.28	.26	1.5
18	3.0	18	2.2	e1.2	e2.4	.57	.44	.24	.59	.33	.26	1.8
19	8.1	12	2.0	e1.2	e2.5	.38	.41	.24	.41	.33	.27	1.5
20	28	6.2	2.0	e1.3	e.83	.28	.50	.26	.41	.34	.27	.75
21	34	3.3	2.4	e.90	e.99	.29	.30	.26	.38	.32	.27	2.5
22	7.4	11	7.5	e.81	e2.1	.66	.52	.29	.43	.27	12	31
23	5.1	4.1	5.1	e.74	e.81	.41	.52	.39	.46	.30	66	20
24	4.5	9.3	4.7	e.73	e1.1	.47	.42	.40	.36	.28	2.6	5.1
25	2.3	65	4.8	e1.3	2.9	.41	.44	.57	.49	.27	1.4	1.6
26	1.6	9.4	1.8	e.77	1.4	.39	.44	.54	.36	.28	2.0	.82
27	1.3	3.3	1.3	e.99	1.3	.55	.45	.41	.48	.26	1.5	1.1
28	.92	5.4	5.6	.75	.85	1.1	.31	.49	.42	.28	3.8	.80
29	.98	4.3	4.3	1.9	.90	2.1	.33	1.1	.31	.32	1.3	.79
30	1.8	2.7	2.2	1.5	---	.52	.36	1.9	.36	.31	.67	.64
31	11	---	1.6	1.1	---	3.4	---	.98	---	.27	.53	---
TOTAL	154.19	343.4	213.2	86.79	33.62	21.05	18.83	19.58	32.59	10.08	97.85	95.38
MEAN	4.97	11.4	6.88	2.80	1.16	.68	.63	.63	1.09	.33	3.16	3.18
MAX	34	65	52	12	2.9	3.4	1.7	2.0	6.4	.73	66	31
MIN	.33	1.7	1.3	.73	.68	.28	.30	.24	.31	.22	.22	.28
AC-FT	306	681	423	172	67	42	37	39	65	20	194	189
CFSM	4.33	9.95	5.98	2.43	1.01	.59	.55	.55	.94	.28	2.74	2.76
IN.	4.99	11.11	6.90	2.81	1.09	.68	.61	.63	1.05	.33	3.17	3.09

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 2000, BY WATER YEAR (WY)

	MEAN	4.78	6.44	5.86	2.75	1.76	1.17	.89	.80	1.75	1.63	4.12	4.69
MAX	5.90	11.4	10.2	4.63	2.51	2.52	1.24	1.50	3.64	3.51	7.06	12.2	
(WY)	1999	2000	1999	1999	1999	1999	1999	1999	1999	1999	1998	1998	
MIN	3.46	.92	.51	.83	1.16	.33	.63	.29	.52	.33	2.15	1.03	
(WY)	1998	1998	1998	1998	2000	1998	2000	1998	1998	2000	1999	1997	

SUMMARY STATISTICS

FOR 1999 CALENDAR YEAR

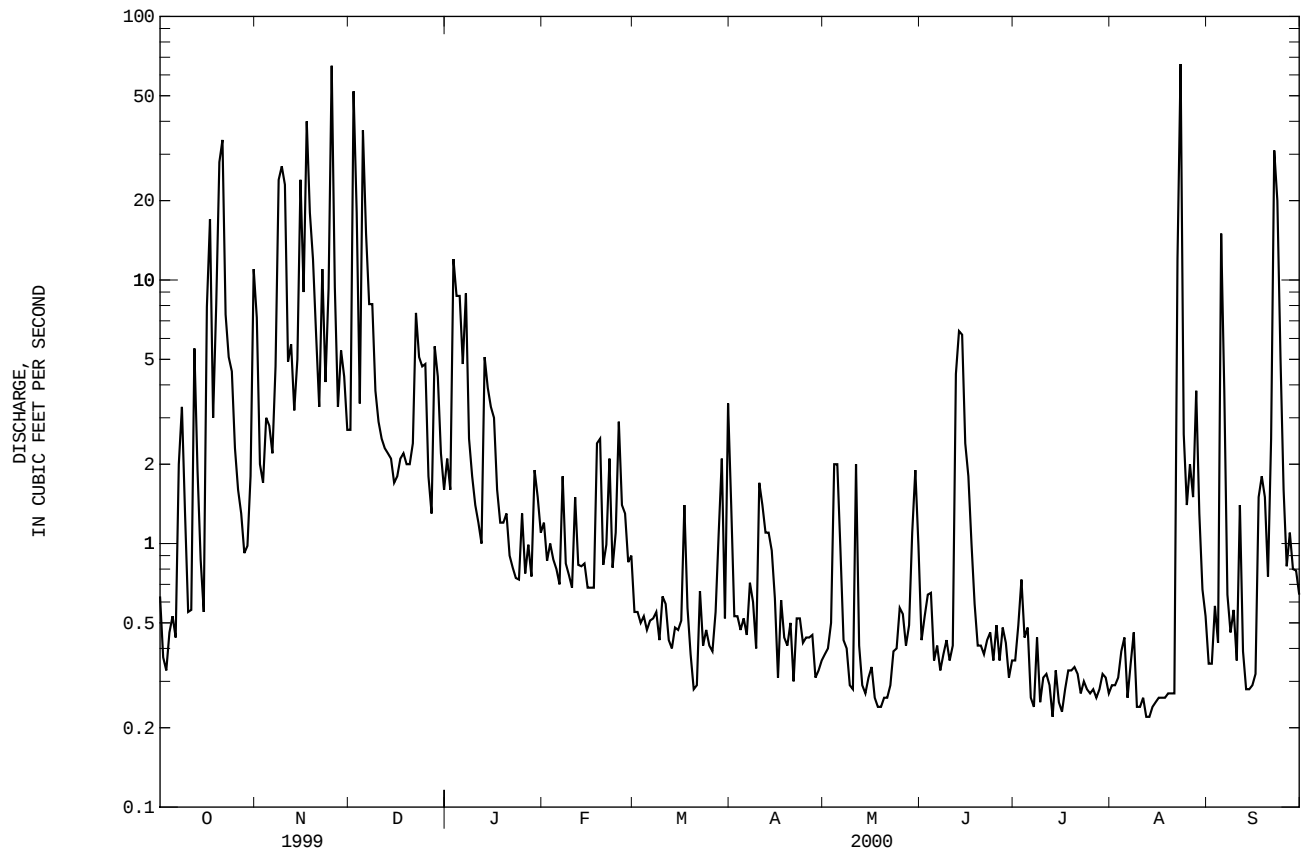
FOR 2000 WATER YEAR

WATER YEARS 1997 - 2000

ANNUAL TOTAL	1443.14	1126.56	
ANNUAL MEAN	3.95	3.08	3.16
HIGHEST ANNUAL MEAN			3.95
LOWEST ANNUAL MEAN			2.46
HIGHEST DAILY MEAN	65	66	96
LOWEST DAILY MEAN	.28	.22	.17
ANNUAL SEVEN-DAY MINIMUM	.35	.24	.19
INSTANTANEOUS PEAK FLOW		398	431
INSTANTANEOUS PEAK STAGE		11.51	11.70
ANNUAL RUNOFF (AC-FT)	2860	2230	2290
ANNUAL RUNOFF (CFSM)	3.66	2.85	2.93
ANNUAL RUNOFF (INCHES)	49.71	38.80	39.75
10 PERCENT EXCEEDS	9.1	6.6	7.9
50 PERCENT EXCEEDS	1.7	.75	.81
90 PERCENT EXCEEDS	.52	.28	.28

e Estimated

RIO PUERTO NUEVO BASIN
50048690 QUEBRADA LAS CURIAS BELOW LAS CURIAS DAM, PR--Continued



RIO PUERTO NUEVO BASIN

50048770 RIO PIEDRAS AT EL SEÑORIAL, PR

LOCATION.--Lat 18°21'51", long 66°03'56", Hydrologic Unit 21010005, on right bank, in the Riberas of Señorial Housing areas, 0.6 mi (1.0 km) west of Highway 176 and 2.7 mi (4.3 km) southwest of Río Piedras Plaza.

DRAINAGE AREA.--7.49 mi² (19.40 km²).

WATER DISCHARGE RECORDS

PERIOD OF RECORDS.--March 1988 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 98.4 ft (30.0 m), from topographic map.

REMARKS.--Records poor. Low flow is affected by discharges from water treatment plant of PRASA and others dispersed pollution points directly to the river. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	47	22	20	18	9.2	11	6.6	5.6	6.9	12	9.6
2	9.2	18	337	24	14	9.2	9.8	6.7	8.8	15	5.3	23
3	8.6	14	86	85	15	9.2	12	17	5.7	6.2	7.1	12
4	9.3	39	25	70	14	e9.0	8.0	26	5.4	5.7	39	8.4
5	11	22	229	56	13	9.0	8.0	25	5.2	5.4	12	120
6	24	13	77	68	12	9.1	7.7	11	5.2	5.4	5.3	23
7	40	23	49	71	19	9.1	7.7	14	5.0	14	8.5	10
8	53	213	41	37	13	9.1	7.9	8.9	5.1	5.5	5.1	9.5
9	13	213	28	26	12	9.0	7.1	7.6	5.1	5.4	4.7	7.3
10	9.8	150	21	24	12	9.2	28	8.2	5.2	5.2	4.7	12
11	12	39	19	23	17	9.0	9.2	87	5.6	5.3	4.7	21
12	54	34	17	18	12	8.9	8.7	14	57	5.3	4.8	6.4
13	13	e20	16	41	12	9.0	13	8.8	40	6.0	4.2	6.1
14	9.5	43	16	33	12	9.1	8.1	7.7	59	4.7	5.2	6.3
15	e8.5	116	15	31	11	9.2	7.2	7.8	31	4.5	7.7	6.1
16	e55	48	16	29	11	17	7.7	7.0	16	4.6	16	7.1
17	e56	269	19	20	11	16	7.6	7.2	8.7	8.3	5.3	36
18	e22	95	20	18	22	11	7.0	7.8	6.8	8.5	4.9	26
19	e52	76	17	18	23	9.1	9.1	7.4	6.2	5.2	9.8	24
20	e83	42	16	e19	12	8.5	7.4	7.4	6.0	20	4.9	26
21	e87	28	20	e15	13	e8.4	7.1	6.8	5.9	5.4	4.6	21
22	e26	59	55	14	20	e10	7.5	7.1	5.4	5.2	51	149
23	e42	25	44	14	12	9.1	7.3	7.2	5.5	5.2	646	150
24	e59	88	38	14	11	9.6	7.2	6.5	5.5	5.0	39	38
25	e23	468	33	18	22	9.4	7.2	6.6	6.3	4.9	73	18
26	e17	58	20	14	e13	9.0	7.1	6.3	13	4.8	53	13
27	e14	31	15	14	11	9.3	6.8	8.9	5.8	4.7	70	19
28	12	42	46	13	9.7	19	6.6	13	5.4	6.6	62	13
29	11	29	25	27	9.6	24	7.1	11	5.3	12	17	11
30	20	24	19	15	---	14	6.9	24	5.2	5.6	12	10
31	125	---	17	14	---	26	---	6.4	---	5.0	11	---
TOTAL	988.9	2386	1418	903	406.3	345.7	263.0	396.9	355.9	211.5	1209.8	841.8
MEAN	31.9	79.5	45.7	29.1	14.0	11.2	8.77	12.8	11.9	6.82	39.0	28.1
MAX	125	468	337	85	23	26	28	87	59	20	646	150
MIN	8.5	13	15	13	9.6	8.4	6.6	6.3	5.0	4.5	4.2	6.1
AC-FT	1960	4730	2810	1790	806	686	522	787	706	420	2400	1670
CFSM	4.26	10.6	6.11	3.89	1.87	1.49	1.17	1.71	1.58	.91	5.21	3.75
IN.	4.91	11.85	7.04	4.48	2.02	1.72	1.31	1.97	1.77	1.05	6.01	4.18

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 2000, BY WATER YEAR (WY)

	MEAN	27.2	27.2	21.2	16.4	13.0	11.4	11.3	14.1	12.4	14.9	22.8	31.5
MAX	57.3	79.5	66.3	29.1	23.6	20.1	23.9	47.2	25.5	38.0	66.9	80.8	
(WY)	1991	2000	1999	2000	1991	1999	1993	1992	1999	1993	1992	1998	
MIN	8.48	5.93	4.32	6.95	2.70	1.85	2.83	3.38	2.66	4.22	6.60	6.90	
(WY)	1992	1996	1996	1995	1996	1996	1995	1994	1994	1994	1990	1991	

SUMMARY STATISTICS

FOR 1999 CALENDAR YEAR

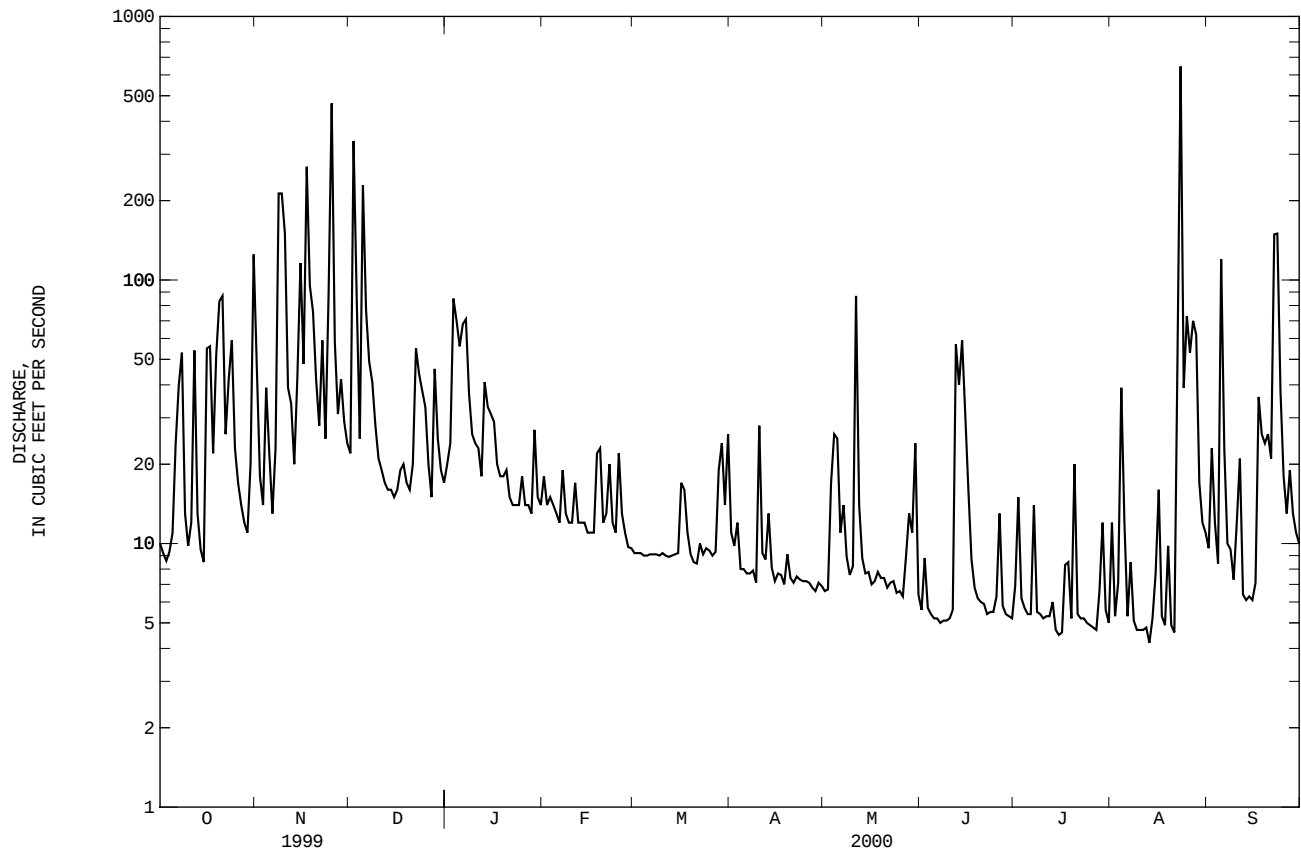
FOR 2000 WATER YEAR

WATER YEARS 1988 - 2000

ANNUAL TOTAL	10414.0	9726.8	
ANNUAL MEAN	28.5	26.6	18.5
HIGHEST ANNUAL MEAN			28.6
LOWEST ANNUAL MEAN			7.76
HIGHEST DAILY MEAN	468	Nov 25	646
LOWEST DAILY MEAN	4.8	May 27	4.2
ANNUAL SEVEN-DAY MINIMUM	5.6	Apr 30	4.8
INSTANTANEOUS PEAK FLOW			5220
INSTANTANEOUS PEAK STAGE			15.28
ANNUAL RUNOFF (AC-FT)	20660	19290	13390
ANNUAL RUNOFF (CFSM)	3.81	3.55	2.47
ANNUAL RUNOFF (INCHES)	51.72	48.31	33.54
10 PERCENT EXCEEDS	60	55	38
50 PERCENT EXCEEDS	15	12	8.2
90 PERCENT EXCEEDS	7.1	5.4	2.8

e Estimated

RIO PUERTO NUEVO BASIN
50048770 RIO PIEDRAS AT EL SEÑORIAL, PR--Continued



RIO PUERTO NUEVO BASIN

50048800 RIO PIEDRAS NEAR RIO PIEDRAS, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 18°22'15", long 66°03'40", at bridge on Winston Churchill Avenue in the El Señorial Housing area, 0.5 mi (0.8 km) west of Highway 176, and 2.5 mi (4.0 km) southwest of Río Piedras plaza.

DRAINAGE AREA.--8.17 mi² (20.9 km²).

PERIOD OF RECORD.--Water years 1972 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	STREP-TOCOCCI, KF AGAR (COLS. PER 100 ML) (31673)
NOV 29...	1125	31	374	7.3	24.8	39	6.8	81	26	47000	41000
FEB 23...	1430	10	419	7.6	27.5	3.6	6.9	86	10	K14000	5800
APR 20...	1315	5.4	445	7.9	29.1	4.7	5.5	72	13	22000	5300
AUG 16...	1030	4.5	347	7.7	30.1	14	7.2	95	19	K11000	K1500

DATE	HARD-NESS TOTAL (MG/L AS CAC03) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CAC03) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)
NOV 29...	130	33.6	11.9	23.1	.9	2.5	138	<1.0	16.9	27.4
FEB 23...	--	--	--	--	--	--	148	--	--	--
APR 20...	150	37.8	12.9	29.4	1	2.4	156	--	13.3	36.3
AUG 16...	110	30.6	9.08	20.1	.8	2.3	118	--	9.6	25.8

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SI02) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)
NOV 29...	.1	30.8	229	19.3	8	1.06	.04	1.1	.53	.77
FEB 23...	--	--	--	--	6	.93	.07	1.0	.25	.29
APR 20...	.1	35.1	261	3.79	7	.88	.11	1.0	.35	.51
AUG 16...	.1	25.5	194	2.38	10	.72	.08	.8	.17	.54

DATE	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, TOTAL (MG/L AS NO3) (71887)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)
NOV 29...	1.3	2.4	10.6	.120	<3	109	56	<.1	<1	<20
FEB 23...	.54	1.5	6.8	.140	--	--	--	--	--	--
APR 20...	.86	1.9	8.2	.180	E2	103	64	<.1	<1	<20
AUG 16...	.71	1.5	6.7	.140	--	--	--	--	--	--

RIO PUERTO NUEVO BASIN

50049100 RIO PIEDRAS AT HATO REY, PR

LOCATION.--Lat 18°24'34", long 66°04'10", Hydrologic Unit 21010005, at bridge on Avenida Piñeiro near Expreso Las Américas(Luis A. Ferré), and 0.8 mi (1.3 km) southwest of Hato Rey.

DRAINAGE AREA.--15.2 mi² (39.4 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1970 to December 1987 (discharge measurements only), 1972 to December 1982 (maximum discharge only), January 1988 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 16 ft (5 m), from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Mean daily discharge affected by sewage discharges (approximately 2.0 ft³/s (0.06 m³/s)), 20 ft (6 m) upstream from gaging station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e22	e38	38	44	e38	19	23	18	13	26	28	31
2	e30	e31	541	44	e28	19	21	17	21	28	15	55
3	e20	e29	159	e146	e29	20	27	105	13	17	16	86
4	e22	e39	e51	144	e29	19	19	45	12	14	106	31
5	e21	e33	e309	92	e27	19	18	72	12	14	32	241
6	e28	e30	133	95	e25	19	18	29	12	13	15	43
7	47	e32	99	132	e33	19	17	39	12	19	22	31
8	45	e77	68	67	e23	18	21	33	12	14	15	30
9	e26	e96	49	49	e23	17	16	27	11	13	14	27
10	e22	e95	42	45	e24	18	28	23	11	13	21	179
11	e29	96	39	42	e40	18	18	406	11	12	13	47
12	e51	e78	37	38	e26	20	21	30	77	13	14	28
13	e26	e47	35	e63	e26	20	41	20	54	22	13	27
14	e22	e75	34	e61	e28	21	23	18	53	14	16	27
15	e22	e126	33	e50	e25	e21	20	17	29	11	54	27
16	e52	79	33	e55	e25	e23	26	16	26	11	29	25
17	e119	376	40	42	e25	e38	21	16	18	20	16	93
18	43	147	39	41	e60	e25	20	19	15	19	15	39
19	87	120	38	37	e61	e20	21	15	15	12	24	55
20	187	84	37	37	e28	e19	19	17	14	51	15	39
21	235	e65	48	32	e30	e22	18	15	14	15	15	38
22	54	e98	83	30	e52	e24	20	18	14	14	63	247
23	70	e56	100	31	e26	18	19	16	13	21	1740	251
24	85	e132	75	30	23	19	18	19	13	14	71	44
25	38	492	56	e37	32	19	18	16	16	14	255	43
26	30	116	50	e31	25	18	18	13	43	14	126	31
27	28	39	34	e30	27	19	17	14	16	15	78	35
28	e27	41	111	e28	21	40	18	31	14	14	89	27
29	e28	35	58	e77	20	71	20	22	13	37	37	26
30	e30	51	56	31	---	117	20	36	14	16	35	25
31	e58	---	62	e28	---	29	---	13	---	14	33	---
TOTAL	1604	2853	2587	1709	879	808	624	1195	611	544	3035	1928
MEAN	51.7	95.1	83.5	55.1	30.3	26.1	20.8	38.5	20.4	17.5	97.9	64.3
MAX	235	492	541	146	61	117	41	406	77	51	1740	251
MIN	20	29	33	28	20	17	16	13	11	11	13	25
AC-FT	3180	5660	5130	3390	1740	1600	1240	2370	1210	1080	6020	3820
CFSM	3.40	6.26	5.49	3.63	1.99	1.71	1.37	2.54	1.34	1.15	6.44	4.23
IN.	3.93	6.98	6.33	4.18	2.15	1.98	1.53	2.92	1.50	1.33	7.43	4.72

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1972 - 2000, BY WATER YEAR (WY)

MEAN	72.4	75.8	55.1	46.2	41.6	36.7	49.4	43.1	40.6	46.8	59.5	95.3
MAX	156	235	168	97.4	86.9	78.5	150	97.5	81.9	97.4	97.8	261
(WY)	1999	1993	1993	1993	1995	1972	1972	1992	1995	1993	2000	1996
MIN	16.6	23.9	18.8	12.9	10.8	11.5	13.6	4.12	20.0	12.8	20.2	26.3
(WY)	1992	1991	1992	1973	1992	1994	1995	1972	1994	1994	1993	1972

SUMMARY STATISTICS

FOR 1999 CALENDAR YEAR

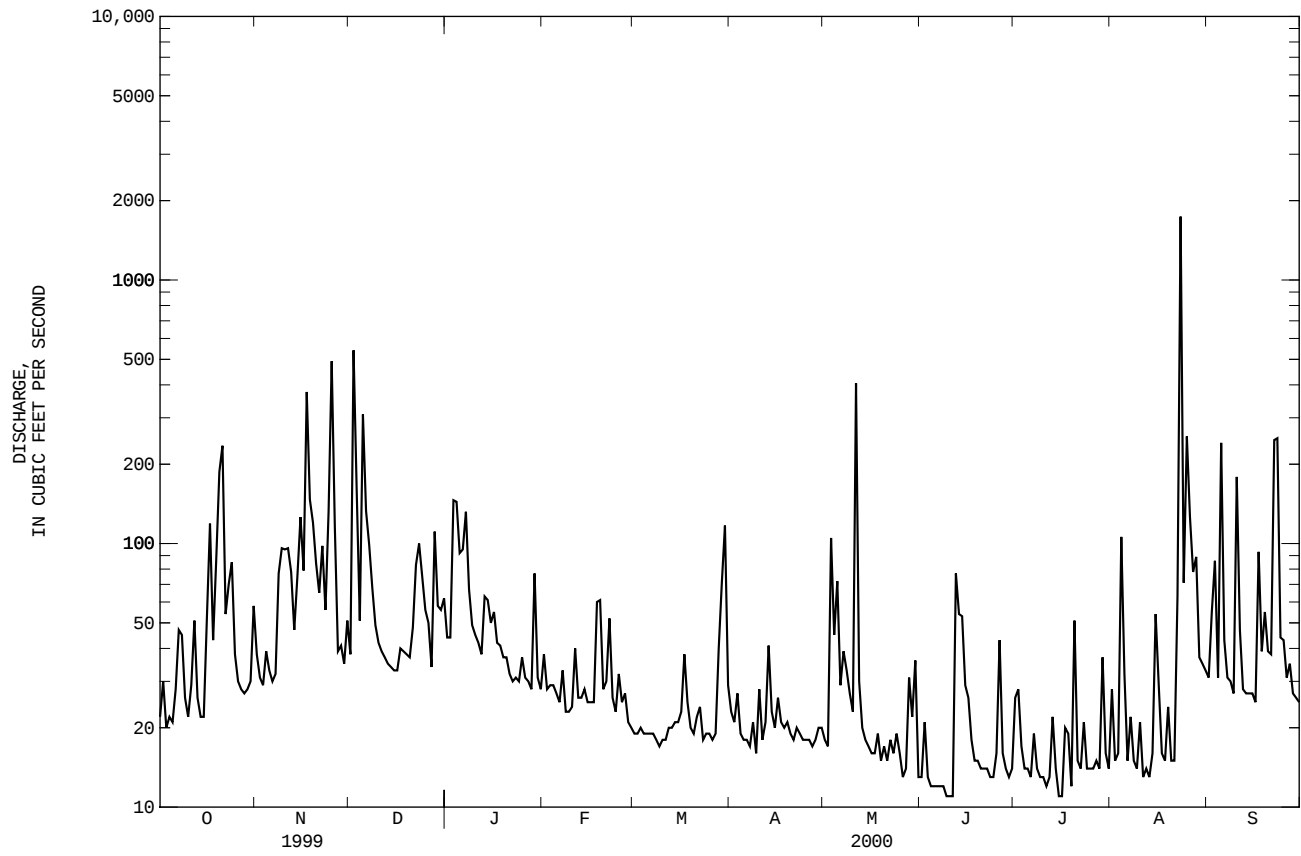
FOR 2000 WATER YEAR

WATER YEARS 1972 - 2000

ANNUAL TOTAL	17607	18377	
ANNUAL MEAN	48.2	50.2	54.5
HIGHEST ANNUAL MEAN			84.0
LOWEST ANNUAL MEAN			28.7
HIGHEST DAILY MEAN	541	Dec 2	1740
LOWEST DAILY MEAN	13	May 2	11
ANNUAL SEVEN-DAY MINIMUM	14	Apr 28	12
INSTANTANEOUS PEAK FLOW			6410
INSTANTANEOUS PEAK STAGE			18.35
ANNUAL RUNOFF (AC-FT)	34920	36450	39500
ANNUAL RUNOFF (CFSM)	3.17	3.30	3.59
ANNUAL RUNOFF (INCHES)	43.09	44.98	48.74
10 PERCENT EXCEEDS	99	94	119
50 PERCENT EXCEEDS	30	28	23
90 PERCENT EXCEEDS	17	14	10

e Estimated

RIO PUERTO NUEVO BASIN
50049100 RIO PIEDRAS AT HATO REY, PR--Continued



RIO PUERTO NUEVO BASIN

50049100 RIO PIEDRAS AT HATO REY, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 18°24'34", long 66°04'10", at bridge on Avenida Piniero at Expreso Las Americas, and 0.8 mi (1.3 km) southwest of Hato Rey.

DRAINAGE AREA.--15.4 mi² (39.9 km²).

PERIOD OF RECORD.--Water years 1971 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	STREP-TOCOCCI, KF AGAR (COLS. PER 100 ML) (31673)
NOV 26...	1300	65	368	7.8	25.9	91	6.9	84	30	46000	26000
FEB 23...	1130	25	251	7.7	25.8	59	8.0	97	11	39000	71000
APR 25...	1100	18	477	8.0	28.2	32	7.1	90	14	58000	6700
AUG 15...	1015	15	447	7.6	28.2	2.0	3.8	49	30	61000	39000

DATE	HARD-NESS TOTAL (MG/L AS CAC03) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CAC03) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)
NOV 26...	140	38.6	10.6	21.4	.8	2.7	136	<1.0	19.0	23.3
FEB 23...	--	--	--	--	--	--	161	--	--	--
APR 25...	160	44.3	12.1	31.3	1	2.8	175	<1.0	12.9	38.2
AUG 15...	150	41.0	10.5	28.1	1	3.1	154	--	12.6	34.8

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SI02) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)
NOV 26...	.1	23.5	221	38.9	154	1.24	.06	1.3	.44	.76
FEB 23...	--	--	--	--	99	.88	.09	1.0	.77	.63
APR 25...	.2	35.1	282	13.4	47	1.16	.14	1.3	.74	.36
AUG 15...	.2	29.6	252	10.0	<10	.44	.09	.5	2.30	.60

DATE	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, TOTAL (MG/L AS NO3) (71887)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)
NOV 26...	1.2	2.5	11.1	.130	E2	166	47	.1	5	E14
FEB 23...	1.4	2.4	10.5	.270	--	--	--	--	--	--
APR 25...	1.1	2.4	10.6	.240	<3	109	58	<.1	2	<20
AUG 15...	2.9	3.4	15.2	.390	--	--	--	--	--	--

RIO PUERTO NUEVO BASIN

50049100 RIO PIEDRAS AT HATO REY, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

[illegible]

RIO PUERTO NUEVO BASIN

50049820 LAGUNA SAN JOSE NO. 2 AT SAN JUAN, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 18°25'46", long 66°02'10", 0.2 mi (0.3 km) east of Caño de Martín Peña, and 650 ft (200 m) south of Isla Guachinango.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--Water years 1974 to current year.

WATER-QUALITY DATA WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	TRANS- PAR- ENCY (SECCHI DISK) (IN) (00077)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	COLI- FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)	STREP- TOCOCCI FECAL, (COLS. PER 100 ML) (31679)
OCT 1999 14...	1040	17400	7.4	28.6	42.0	3.3	45	K9100	230
DEC 13...	0900	6180	7.9	24.2	30.0	8.1	99	>600	>530
MAR 2000 03...	0900	2130	8.0	25.2	26.0	4.6	56	48	K150
MAY 10...	0930	29500	7.1	28.5	54.0	1.3	19	K820	K40
SEP 12...	1050	18600	7.4	30.8	64.0	2.2	31	4100	K70

DATE	ANC WATER UNFLTRD FET FIELD MG/L AS CAC03 (00410)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
OCT 1999 14...	75	23	.54	<.01	1.2	<.1	.180	5.8
DEC 13...	82	16	.30	.09	.92	.2	.090	6.1
MAR 2000 03...	100	17	.29	.02	1.8	<.1	.260	12
MAY 10...	75	18	.67	.01	1.3	<.1	.240	8.1
SEP 12...	82	14	.91	.02	1.8	.1	.210	6.2

RIO PUERTO NUEVO BASIN

50049920 BAHIA DE SAN JUAN NO.5 AT SAN JUAN, PR

WATER-QUALITY RECORDS

LOCATION--Lat 18°26'37", long 66°05'11", 0.4 mi (0.6 km) west of Puente de la Constitucion, and 0.5 mi (0.8 km) south from U.S. Naval Reservation.

DRAINAGE--Indeterminate.

PERIOD OF RECORD--Water years 1974 to present.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	TRANS- PAR- ENCY (SECCHI DISK) (IN) (00077)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (MG/L) (00301)	COLI- FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)	STREP- TOCOCCHI FECAL, (COLS. PER 100 ML) (31679)
OCT 14...	1140	54000	7.8	30.1	36.0	4.6	74	>6000	5800
DEC 13...	1000	52400	7.5	26.4	54.0	5.3	81	>240	>400
MAR 03...	1030	5260	8.2	26.0	44.0	4.6	58	K1800	31
MAY 10...	1030	53900	7.8	27.3	27.0	4.6	71	K18000	600
SEP 12...	1150	49500	8.0	30.2	36.0	4.2	68	20000	650

DATE	ANC WATER UNFLTRD FET FIELD MG/L AS CACO3 (00410)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDE (MG/L) (00530)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
OCT 14...	133	61	1.60	.06	1.2	.1	.160	4.1
DEC 13...	167	41	1.20	.09	1.5	.5	.200	4.4
MAR 03...	146	25	.56	.05	1.0	.2	.200	7.1
MAY 10...	126	28	.46	.02	.62	.1	.110	2.7
SEP 12...	118	32	.44	.02	.78	.1	.120	3.0

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RIO GRANDE DE LOIZA BASIN

50050300 QUEBRADA BLASINA NEAR CAROLINA, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 18°23'27", long 65°58'28", at bridge on Highway 3, 1.4 mi (2.3 km) south of Valle Arriba Heights housing area, and 1.2 mi (1.9 km) west-southwest of Carolina plaza.

DRAINAGE AREA.--2.96 mi² (7.67 km²).

PERIOD OF RECORD.--Water years 1973 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	STREP-TOCOCCI, FECAL, KF AGAR (COLS. PER 100 ML) (31673)
DEC 03...	1335	26	479	7.3	25.5	6.0	5.4	65	17	34000	7900
FEB 14...	1325	9.9	484	7.8	27.4	25	4.0	50	20	21000	960
MAY 01...	1330	5.9	509	8.0	27.4	.5	5.4	68	12	K3000	750
SEP 07...	1045	5.1	473	7.9	27.8	66	6.1	77	13	5800	2300

DATE	HARD-NESS TOTAL (MG/L AS CAC03) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CAC03) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)
DEC 03...	180	54.5	9.85	27.0	.9	3.4	169	<1.0	24.0	29.6
FEB 14...	--	--	--	--	--	--	175	--	--	--
MAY 01...	180	52.2	12.1	33.4	1	2.6	167	<1.0	15.7	42.4
SEP 07...	170	55.0	8.49	22.2	.7	2.9	175	--	10.9	35.9

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SI02) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)
DEC 03...	.1	19.0	269	18.5	16	1.23	.07	1.3	1.00	.90
FEB 14...	--	--	--	--	6	1.11	.09	1.2	.38	.40
MAY 01...	.2	29.1	288	4.61	<10	.87	.13	1.0	.38	.08
SEP 07...	.1	24.8	265	3.66	119	1.14	.16	1.3	.53	.47

DATE	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, TOTAL (MG/L AS NO3) (71887)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)
DEC 03...	1.9	3.2	14.2	.180	3	81.4	58	<.1	<1	<20
FEB 14...	.78	2.0	8.8	.190	--	--	--	--	--	--
MAY 01...	.46	1.5	6.5	.170	E1	57.7	56	<.1	<1	<20
SEP 07...	1.0	2.3	10.2	.170	--	--	--	--	--	--

RIO GRANDE DE LOIZA BASIN

50050300 QUEBRADA BLASINA NEAR CAROLINA, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	SELE- NIUM, TOTAL (UG/L AS SE) (01147)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	CYANIDE TOTAL (MG/L AS CN) (00720)	PHENOLS TOTAL (UG/L) (32730)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L) (38260)
DEC 03... FEB 14... MAY 01... SEP 07...	450 -- 180 --	E1 -- <1 --	185 -- 94 --	<.3 -- <.3 --	E2 -- <3 --	<1 -- <1 --	E22 -- <31 --	<.01 -- <.01 --	8 -- <4 --	.20 -- .03 --

RIO GRANDE DE LOIZA BASIN

50050900 RIO GRANDE DE LOIZA AT QUEBRADA ARENAS, PR

LOCATION.--Lat 18°07'10", long 65°59'22", Hydrologic Unit 21010005, at intersection of Highways 181 and 9990, 0.2 mi (0.3 km) upstream from confluence with Río Emajagua and about 7.1 mi (11.4 km) southwest of San Lorenzo.

DRAINAGE AREA.--6.00 mi² (15.54 km²).

PERIOD OF RECORD.--October 1977 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 640 ft (195 m), from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32	56	27	17	13	9.2	6.0	6.5	17	8.7	8.9	16
2	21	18	26	16	12	8.6	5.9	6.1	15	17	8.2	15
3	18	28	26	28	12	8.4	5.9	5.9	13	18	11	15
4	25	20	22	20	12	8.1	5.9	5.9	14	11	23	13
5	18	29	112	40	11	7.9	6.5	11	11	9.2	19	13
6	22	59	46	71	11	7.7	6.1	8.6	10	8.6	11	13
7	18	24	28	37	12	7.8	5.9	9.0	9.9	8.1	14	30
8	23	20	24	21	11	7.6	6.0	8.7	9.7	9.7	37	15
9	20	29	22	17	10	7.4	5.7	6.4	9.2	8.2	13	13
10	16	532	21	16	11	7.3	5.8	8.6	9.3	7.8	24	103
11	15	177	20	15	10	7.0	5.6	634	9.3	7.9	13	315
12	28	266	19	14	9.8	7.1	5.7	34	187	26	9.9	21
13	35	506	18	14	11	7.2	6.0	14	25	13	8.9	16
14	20	80	18	13	12	7.0	8.6	11	14	28	8.6	15
15	16	97	17	13	10	6.9	6.4	9.4	12	12	9.2	14
16	15	85	17	14	9.7	6.9	10	8.6	29	9.4	13	29
17	15	615	17	12	9.5	7.0	7.6	247	16	9.9	12	111
18	15	273	18	12	9.7	6.6	6.7	182	13	17	8.7	248
19	14	127	32	12	12	6.5	22	27	11	12	8.1	46
20	30	82	29	12	10	6.4	20	17	10	11	7.7	30
21	23	59	19	12	9.3	6.4	7.5	21	10	9.2	7.5	43
22	16	49	20	12	11	6.3	6.5	12	9.6	8.5	18	23
23	14	42	18	12	10	6.2	7.6	11	9.1	8.3	979	44
24	13	38	17	12	30	6.7	12	9.9	8.9	8.0	e24	22
25	119	35	16	14	25	6.2	7.5	12	10	7.7	e30	20
26	26	32	15	18	11	6.1	6.7	11	13	7.5	e45	17
27	18	30	15	13	9.8	6.0	6.4	11	11	7.4	e27	159
28	16	28	18	12	9.2	8.2	6.1	22	8.9	7.3	e28	175
29	17	27	107	13	9.4	9.0	6.5	17	8.5	36	e19	31
30	15	26	20	12	---	6.8	7.0	336	8.3	16	17	23
31	19	---	19	11	---	6.2	---	24	---	9.8	e33	---
TOTAL	712	3489	843	555	343.4	222.7	232.1	1747.6	541.7	378.2	1495.7	1648
MEAN	23.0	116	27.2	17.9	11.8	7.18	7.74	56.4	18.1	12.2	48.2	54.9
MAX	119	615	112	71	30	9.2	22	634	187	36	979	315
MIN	13	18	15	11	9.2	6.0	5.6	5.9	8.3	7.3	7.5	13
AC-FT	1410	6920	1670	1100	681	442	460	3470	1070	750	2970	3270
CFSM	3.83	19.4	4.53	2.98	1.97	1.20	1.29	9.40	3.01	2.03	8.04	9.16
IN.	4.41	21.63	5.23	3.44	2.13	1.38	1.44	10.84	3.36	2.34	9.27	10.22

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1978 - 2000, BY WATER YEAR (WY)

	MEAN	MAX	(WY)	MIN	(WY)
1978	42.1	123	1986	13.1	1990
1979	46.7	122	1988	8.34	1990
1980	26.2	59.5	1989	6.65	1990
1981	21.5	56.1	1992	8.16	1990
1982	19.0	38.0	1982	6.36	1979
1983	15.2	53.6	1988	5.07	1979
1984	14.1	31.5	1998	4.64	1979
1985	30.0	77.5	1985	7.20	1999
1986	35.8	122	1979	11.3	1985
1987	35.1	92.3	1993	12.2	2000
1988	34.8	90.0	1979	9.30	1991
1989	60.4	351	1998	11.8	1981

SUMMARY STATISTICS

FOR 1999 CALENDAR YEAR

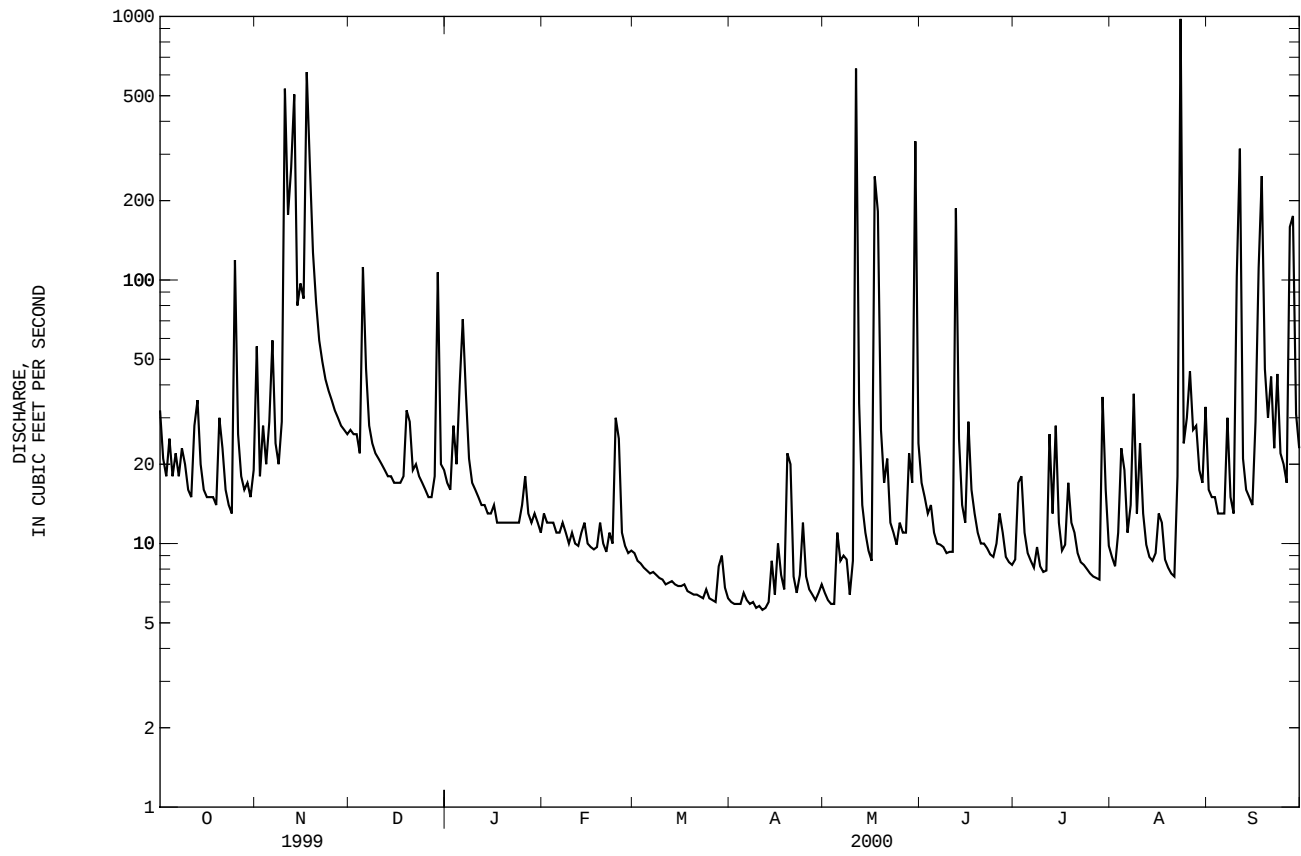
FOR 2000 WATER YEAR

WATER YEARS 1978 - 2000

ANNUAL TOTAL	10669.7	12208.4	
ANNUAL MEAN	29.2	33.4	31.7
HIGHEST ANNUAL MEAN			62.7
LOWEST ANNUAL MEAN			14.5
HIGHEST DAILY MEAN	615	979	4690
LOWEST DAILY MEAN	5.2	5.6	3.1
ANNUAL SEVEN-DAY MINIMUM	5.4	5.8	3.6
INSTANTANEOUS PEAK FLOW		7170	45000
INSTANTANEOUS PEAK STAGE		12.35	26.37
INSTANTANEOUS LOW FLOW		5.2	2.8
ANNUAL RUNOFF (AC-FT)	21160	24220	23000
ANNUAL RUNOFF (CFSM)	4.87	5.56	5.29
ANNUAL RUNOFF (INCHES)	66.15	75.69	71.90
10 PERCENT EXCEEDS	41	42	50
50 PERCENT EXCEEDS	15	13	15
90 PERCENT EXCEEDS	6.4	6.8	7.1

e Estimated

RIO GRANDE DE LOIZA BASIN
50050900 RIO GRANDE DE LOIZA AT QUEBRADA ARENAS, PR--Continued



RIO GRANDE DE LOIZA BASIN

50051150 QUEBRADA BLANCA AT EL JAGUAL, PR

LOCATION.--Lat 18°09'40", long 65°58'58", Hydrologic Unit 21010005, 0.1 mi (0.2 km) upstream from bridge on Highway 181, and 2.8 mi (4.5 km) southwest of San Lorenzo.

DRAINAGE AREA.--3.25 mi² (8.42 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1984 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 459 ft (140 m), from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.5	10	5.5	4.7	5.4	4.1	1.5	1.4	4.7	2.2	5.1	4.6
2	4.1	3.9	16	4.3	3.1	3.0	1.5	1.3	3.2	2.6	3.1	5.1
3	3.4	3.6	14	4.9	2.9	2.8	1.4	1.8	2.6	2.3	2.5	4.4
4	7.8	3.2	e7.2	4.2	3.3	2.6	1.4	1.4	4.3	2.0	6.0	3.3
5	3.7	4.1	e27	8.9	2.8	2.5	1.3	3.9	2.4	1.7	6.3	3.1
6	3.6	12	e19	10	2.5	2.4	1.3	2.8	1.9	1.6	2.9	3.4
7	3.0	4.9	e14	9.3	2.6	2.4	1.2	1.9	1.7	1.7	2.8	2.8
8	10	3.3	e11	6.0	2.5	2.3	1.3	1.6	1.6	1.8	5.2	2.5
9	13	4.9	e8.9	4.9	2.4	2.2	1.2	1.4	1.5	1.7	3.4	2.3
10	5.3	72	e7.7	4.4	2.4	2.1	1.2	1.4	1.4	1.7	2.8	6.9
11	4.1	26	e6.8	4.0	2.4	2.1	1.2	43	1.4	1.6	2.4	18
12	5.4	26	e6.1	3.7	2.2	2.1	1.2	13	38	2.5	2.2	4.7
13	4.8	e22	e5.6	3.5	2.5	2.1	1.7	5.0	17	2.1	2.0	3.4
14	4.0	14	e5.2	5.2	2.4	2.0	2.1	3.0	7.0	3.8	1.9	2.6
15	3.4	16	4.9	4.2	2.2	2.0	1.6	2.3	6.1	2.5	2.4	2.3
16	3.0	18	4.8	4.5	2.1	1.9	1.5	2.0	14	2.0	4.2	2.1
17	3.3	67	4.7	3.4	2.1	1.9	1.6	4.5	8.2	1.9	2.4	4.6
18	3.3	60	4.6	3.2	2.3	2.0	1.5	10	5.1	2.5	2.0	18
19	7.4	35	6.2	3.0	3.0	1.9	4.2	4.8	3.9	2.7	1.9	14
20	11	23	6.6	2.9	2.4	1.8	2.0	2.8	3.1	2.4	1.9	11
21	19	16	4.9	2.8	2.1	1.7	1.6	2.4	2.8	2.0	1.8	15
22	8.6	13	4.7	2.7	2.2	1.7	1.5	1.9	2.5	2.0	8.8	7.2
23	5.5	11	4.2	2.6	12	1.6	1.5	1.6	2.3	2.0	149	7.4
24	4.3	9.1	3.9	2.6	6.5	1.8	1.5	1.5	2.1	1.9	11	5.9
25	6.5	8.2	4.8	3.5	8.2	1.7	1.5	1.7	2.4	1.8	13	4.4
26	6.5	7.4	4.4	5.4	4.3	1.6	1.4	1.5	6.1	1.7	19	3.6
27	3.9	6.6	3.7	3.2	3.6	1.6	1.3	1.3	3.7	1.6	16	21
28	3.3	6.2	5.4	3.0	3.1	2.5	1.2	1.5	2.3	1.5	18	12
29	3.0	5.8	18	4.2	6.3	2.4	1.8	7.4	2.0	5.2	11	8.3
30	2.8	5.4	6.8	3.2	---	1.8	1.8	35	2.1	3.3	7.7	6.1
31	3.5	---	5.5	2.8	---	1.6	---	8.8	---	2.1	6.3	---
TOTAL	176.0	517.6	252.1	135.2	101.8	66.2	47.0	173.9	157.4	68.4	325.0	210.0
MEAN	5.68	17.3	8.13	4.36	3.51	2.14	1.57	5.61	5.25	2.21	10.5	7.00
MAX	19	72	27	10	12	4.1	4.2	43	38	5.2	149	21
MIN	2.8	3.2	3.7	2.6	2.1	1.6	1.2	1.3	1.4	1.5	1.8	2.1
AC-FT	349	1030	500	268	202	131	93	345	312	136	645	417
CFSM	1.75	5.31	2.50	1.34	1.08	.66	.48	1.73	1.61	.68	3.23	2.15
IN.	2.01	5.92	2.89	1.55	1.17	.76	.54	1.99	1.80	.78	3.72	2.40

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 2000, BY WATER YEAR (WY)

	MEAN	10.0	14.2	7.16	5.35	4.28	4.22	2.47	6.20	5.95	5.97	7.22	10.1
MAX	47.8	36.9	30.1	12.0	8.21	20.7	5.47	31.5	21.3	15.0	20.2	27.7	
(WY)	1986	1985	1988	1999	1989	1989	1998	1985	1987	1993	1988	1996	
MIN	2.75	2.49	1.49	1.74	1.32	1.64	.75	.62	2.12	2.02	1.95	1.36	
(WY)	1993	1990	1990	1995	1985	1993	1994	1994	1994	1986	1994	1990	

SUMMARY STATISTICS

FOR 1999 CALENDAR YEAR

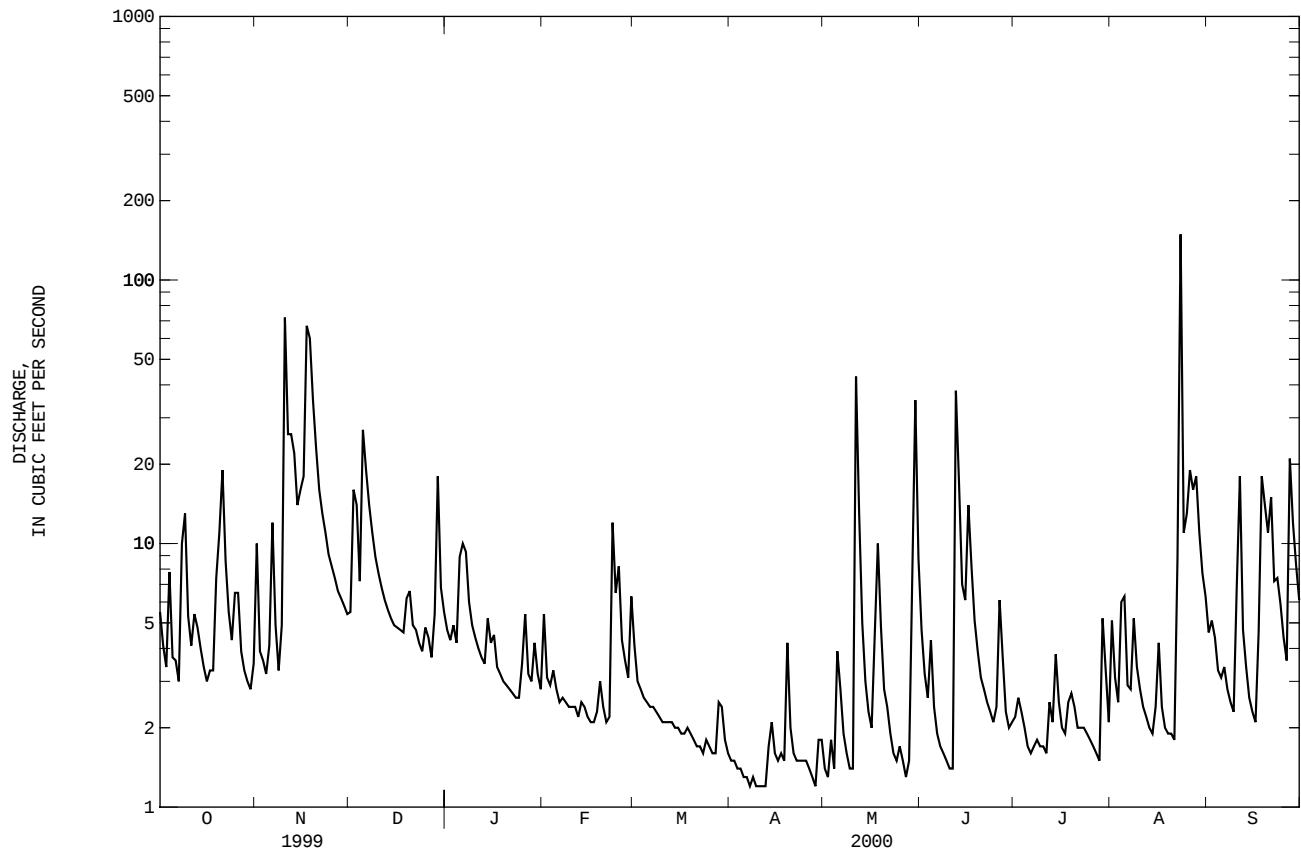
FOR 2000 WATER YEAR

WATER YEARS 1984 - 2000

ANNUAL TOTAL	2503.5	2230.6	
ANNUAL MEAN	6.86	6.09	6.93
HIGHEST ANNUAL MEAN			12.3
LOWEST ANNUAL MEAN			2.50
HIGHEST DAILY MEAN	72	149	457
LOWEST DAILY MEAN	1.0	1.2	.33
ANNUAL SEVEN-DAY MINIMUM	1.1	1.2	.37
INSTANTANEOUS PEAK FLOW		1210	7610
INSTANTANEOUS PEAK STAGE		8.29	14.64
INSTANTANEOUS LOW FLOW		1.1	.30
ANNUAL RUNOFF (AC-FT)	4970	4420	5020
ANNUAL RUNOFF (CFSM)	2.11	1.88	2.13
ANNUAL RUNOFF (INCHES)	28.66	25.53	28.99
10 PERCENT EXCEEDS	15	13	13
50 PERCENT EXCEEDS	3.7	3.2	2.8
90 PERCENT EXCEEDS	1.6	1.6	1.2

e Estimated

RIO GRANDE DE LOIZA BASIN
50051150 QUEBRADA BLANCA AT EL JAGUAL, PR--Continued



WATER-QUALITY RECORDS

PERIOD OF RECORDS.-- Water years 1985 to 1986 and water year 1989 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: October 1984 to September 1986 and from October 1989 to current year.

INSTRUMENTATION.-- USDH-48 sediment sampler and automatic sediment sampler since 1989.

REMARKS.-- Sediment samples were collected by a local observer on a weekly basis. During high flow events sediment samples were collected by hydrologic technician and automatic sediment sampler.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATION: Maximum daily mean, 7,300 mg/L October 06, 1985; Minimum daily mean, <1 mg/L several days during Water Year 1996.

SEDIMENT LOADS: Maximum daily mean, 4,940 tons (4,480 tonnes) May 17, 1985; Minimum daily mean, <0.01 ton (<0.01 tonne) several days.

EXTREMES FOR CURRENT YEAR 2000.--

SEDIMENT CONCENTRATION: Maximum daily mean, 946 mg/L August 23, 2000; Minimum daily mean, 1 mg/L several days.

SEDIMENT LOADS: Maximum daily mean, 1,350 tons (1,225 tonnes) August 23, 2000; Minimum daily mean, 0.01 ton (0.01 tonne) several days.

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
OCTOBER			NOVEMBER			DECEMBER			
1	5.5	17	.30	10	44	2.9	5.5	4	.06
2	4.1	12	.14	3.9	20	.21	16	72	8.4
3	3.4	9	.08	3.6	21	.21	14	45	2.3
4	7.8	22	.59	3.2	22	.19	e7.2	e14	e.28
5	3.7	10	.10	4.1	21	.23	e27	e120	e13
6	3.6	6	.05	12	55	2.2	e19	e19	e1.1
7	3.0	3	.03	4.9	10	.14	e14	e33	e1.5
8	10	53	3.2	3.3	2	.02	e11	e19	e.60
9	13	57	2.9	4.9	8	.69	e8.9	e9	e.22
10	5.3	19	.27	72	299	124	e7.7	e6	e.13
11	4.1	17	.19	26	58	5.7	e6.8	e4	e.08
12	5.4	22	.42	26	52	4.4	e6.1	e3	e.05
13	4.8	13	.17	e22	e44	e2.5	e5.6	e2	e.03
14	4.0	5	.05	14	16	.61	e5.2	e2	e.04
15	3.4	2	.02	16	45	3.8	4.9	3	.04
16	3.0	2	.02	18	70	3.8	4.8	3	.04
17	3.3	2	.02	67	177	39	4.7	3	.04
18	3.3	2	.02	60	462	90	4.6	3	.04
19	7.4	29	2.3	35	135	13	6.2	17	.30
20	11	30	1.6	23	58	3.7	6.6	8	.17
21	19	92	5.0	16	25	1.1	4.9	3	.04
22	8.6	23	.58	13	11	.38	4.7	3	.04
23	5.5	8	.12	11	6	.16	4.2	3	.03
24	4.3	6	.07	9.1	3	.08	3.9	3	.03
25	6.5	19	.84	8.2	3	.07	4.8	10	.16
26	6.5	29	.60	7.4	3	.07	4.4	18	.21
27	3.9	12	.13	6.6	4	.06	3.7	17	.17
28	3.3	11	.09	6.2	4	.06	5.4	21	.33
29	3.0	9	.07	5.8	4	.06	18	87	6.7
30	2.8	7	.05	5.4	4	.06	6.8	14	.27
31	3.5	6	.06	---	---	---	5.5	4	.05
TOTAL	176.0	---	20.08	517.6	---	299.40	252.1	---	36.45

RIO GRANDE DE LOIZA BASIN

50051150 QUEBRADA BLANCA AT EL JAGUAL, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JANUARY			FEBRUARY			MARCH			
1	4.7	3	.04	5.4	17	.28	4.1	9	.10
2	4.3	3	.04	3.1	2	.02	3.0	7	.06
3	4.9	3	.04	2.9	2	.02	2.8	7	.05
4	4.2	3	.03	3.3	4	.04	2.6	7	.05
5	8.9	26	.75	2.8	6	.05	2.5	7	.05
6	10	47	2.5	2.5	10	.07	2.4	7	.05
7	9.3	38	.97	2.6	13	.09	2.4	8	.05
8	6.0	21	.35	2.5	12	.08	2.3	8	.05
9	4.9	12	.16	2.4	11	.07	2.2	7	.04
10	4.4	8	.09	2.4	8	.05	2.1	6	.03
11	4.0	9	.09	2.4	5	.04	2.1	5	.03
12	3.7	10	.10	2.2	4	.02	2.1	5	.03
13	3.5	13	.12	2.5	3	.02	2.1	4	.02
14	5.2	24	.51	2.4	3	.02	2.0	3	.02
15	4.2	18	.21	2.2	13	.07	2.0	3	.02
16	4.5	16	.20	2.1	8	.04	1.9	3	.02
17	3.4	14	.13	2.1	5	.03	1.9	4	.02
18	3.2	9	.07	2.3	4	.03	2.0	4	.02
19	3.0	5	.04	3.0	3	.03	1.9	4	.02
20	2.9	3	.02	2.4	3	.02	1.8	5	.02
21	2.8	2	.02	2.1	2	.01	1.7	5	.03
22	2.7	4	.03	2.2	2	.01	1.7	5	.03
23	2.6	9	.06	12	58	8.6	1.6	3	.01
24	2.6	14	.10	6.5	32	.60	1.8	2	.01
25	3.5	12	.11	8.2	28	.75	1.7	2	.01
26	5.4	9	.13	4.3	12	.14	1.6	2	.01
27	3.2	8	.06	3.6	7	.07	1.6	3	.01
28	3.0	6	.05	3.1	4	.04	2.5	3	.02
29	4.2	5	.06	6.3	20	.64	2.4	3	.02
30	3.2	5	.04	---	---	---	1.8	2	.01
31	2.8	5	.04	---	---	---	1.6	2	.01
TOTAL	135.2	---	7.16	101.8	---	11.95	66.2	---	0.92

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
APRIL			MAY			JUNE			
1	1.5	2	.01	1.4	7	.03	4.7	7	.09
2	1.5	3	.01	1.3	6	.02	3.2	5	.04
3	1.4	3	.01	1.8	13	.07	2.6	4	.03
4	1.4	3	.01	1.4	9	.04	4.3	11	.15
5	1.3	4	.01	3.9	17	.30	2.4	3	.02
6	1.3	4	.01	2.8	11	.08	1.9	2	.01
7	1.2	5	.01	1.9	7	.04	1.7	2	.01
8	1.3	5	.02	1.6	5	.02	1.6	2	.01
9	1.2	5	.02	1.4	3	.01	1.5	2	.01
10	1.2	6	.02	1.4	2	.01	1.4	2	.01
11	1.2	6	.02	43	420	182	1.4	2	.01
12	1.2	7	.02	13	54	2.4	38	446	185
13	1.7	8	.04	5.0	15	.21	17	42	2.5
14	2.1	8	.04	3.0	10	.08	7.0	18	.34
15	1.6	6	.03	2.3	8	.05	6.1	12	.21
16	1.5	4	.02	2.0	6	.03	14	55	4.4
17	1.6	3	.01	4.5	14	.26	8.2	24	.56
18	1.5	2	.01	10	59	5.1	5.1	8	.12
19	4.2	9	.17	4.8	17	.23	3.9	3	.04
20	2.0	2	.01	2.8	9	.07	3.1	3	.03
21	1.6	1	.01	2.4	9	.05	2.8	4	.03
22	1.5	2	.01	1.9	8	.04	2.5	4	.03
23	1.5	3	.01	1.6	8	.03	2.3	4	.02
24	1.5	4	.02	1.5	7	.03	2.1	4	.02
25	1.5	4	.02	1.7	6	.03	2.4	4	.03
26	1.4	1	.01	1.5	5	.02	6.1	22	.71
27	1.3	3	.01	1.3	4	.01	3.7	15	.15
28	1.2	7	.02	1.5	3	.01	2.3	8	.05
29	1.8	8	.04	7.4	29	1.0	2.0	5	.03
30	1.8	7	.04	35	188	37	2.1	5	.03
31	---	---	---	8.8	27	.72	---	---	---
TOTAL	47.0	---	0.69	173.9	---	229.99	157.4	---	194.69

RIO GRANDE DE LOIZA BASIN

50051150 QUEBRADA BLANCA AT EL JAGUAL, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JULY			AUGUST			SEPTEMBER			
1	2.2	3	.02	5.1	20	.53	4.6	18	.22
2	2.6	3	.02	3.1	18	.16	5.1	19	.33
3	2.3	3	.02	2.5	4	.03	4.4	34	.41
4	2.0	6	.03	6.0	40	.81	3.3	32	.29
5	1.7	13	.06	6.3	30	.55	3.1	24	.20
6	1.6	13	.06	2.9	13	.10	3.4	5	.05
7	1.7	12	.05	2.8	7	.05	2.8	1	.01
8	1.8	11	.05	5.2	10	.14	2.5	1	.01
9	1.7	10	.05	3.4	13	.12	2.3	2	.01
10	1.7	8	.04	2.8	11	.09	6.9	35	2.8
11	1.6	6	.02	2.4	9	.06	18	108	14
12	2.5	7	.05	2.2	8	.05	4.7	10	.13
13	2.1	4	.02	2.0	6	.03	3.4	4	.04
14	3.8	10	.11	1.9	5	.03	2.6	4	.03
15	2.5	8	.05	2.4	4	.03	2.3	4	.02
16	2.0	7	.04	4.2	6	.09	2.1	4	.02
17	1.9	6	.03	2.4	3	.02	4.6	9	.27
18	2.5	4	.03	2.0	4	.02	18	79	4.2
19	2.7	3	.02	1.9	7	.03	14	75	3.9
20	2.4	2	.01	1.9	10	.05	11	30	.89
21	2.0	1	.01	1.8	5	.02	15	65	2.8
22	2.0	1	.01	8.8	21	1.8	7.2	23	.46
23	2.0	1	.01	149	946	1350	7.4	14	.27
24	1.9	1	.01	11	12	.37	5.9	8	.13
25	1.8	1	.01	13	43	3.0	4.4	2	.02
26	1.7	2	.01	19	78	4.1	3.6	2	.02
27	1.6	3	.01	16	85	3.9	21	113	13
28	1.5	3	.01	18	93	7.5	12	27	.88
29	5.2	14	.23	11	28	.91	8.3	21	.48
30	3.3	9	.08	7.7	8	.17	6.1	17	.28
31	2.1	5	.03	6.3	20	.33	---	---	---
TOTAL	68.4	---	1.20	325.0	---	1375.09	210.0	---	46.17
YEAR	2230.6		2223.79						

e Estimated

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

SILT AND CLAY PERCENT OF SUSPENDED SEDIMENT

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
NOV					
10...	0440	356	1670	1600	83
17...	1215	88	450	107	96

RIO GRANDE DE LOIZA BASIN

50051150 QUEBRADA BLANCA AT EL JAGUAL, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (000061)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM (70326)	SED. SUSP. FALL DIAM. % FINER THAN .004 MM (70327)	SED. SUSP. FALL DIAM. % FINER THAN .008 MM (70328)	
NOV 10...	0400	250	1810	1220	41	50	65	
DATE		SED. SUSP. FALL DIAM. % FINER THAN .016 MM (70329)	SED. SUSP. FALL DIAM. % FINER THAN .031 MM (70330)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM (70332)	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM (70333)	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM (70334)	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM (70335)
NOV 10...	76	85	91	97	100	100	100	

RIO GRANDE DE LOIZA BASIN

50051180 QUEBRADA SALVATIERRA NEAR SAN LORENZO, PR

LOCATION.--Lat 18°10'24", long 65°58'38", Hydrologic Unit 21010005, on right bank 50 ft upstream from bridge on Highway 181, 0.2 mi (0.3 km) upstream from Río Grande de Loiza, and 1.5 mi (2.4 km) southwest of San Lorenzo.

DRAINAGE AREA.--3.74 mi² (9.69 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1984 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 330 ft (100 m), from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.1	9.6	4.1	3.0	3.2	3.2	e1.0	e.91	e3.5	1.2	3.8	2.3
2	2.2	3.1	35	2.8	2.1	1.7	1.0	e.74	2.4	1.8	1.4	2.1
3	1.7	3.1	22	4.2	2.1	1.5	e1.0	e.75	2.1	1.5	.85	2.3
4	4.1	2.1	7.6	3.0	2.3	1.4	1.0	e.75	2.8	1.2	1.8	1.7
5	1.9	2.4	29	5.8	2.0	1.5	e1.0	e4.3	1.9	1.1	1.7	1.7
6	1.7	15	18	4.0	1.9	1.4	e.90	e1.9	1.7	1.1	.85	1.9
7	1.5	3.1	13	3.9	2.0	1.3	e.91	e2.5	1.7	1.1	.86	2.0
8	1.4	2.1	10	2.9	2.0	1.3	e.99	e2.0	1.6	1.2	1.1	1.8
9	2.0	10	7.4	2.7	1.8	1.1	e.83	e.90	1.5	1.1	.97	1.6
10	1.6	191	6.0	2.5	1.7	1.1	e.89	e2.2	1.5	1.1	.84	3.2
11	1.3	65	5.0	2.5	1.8	e1.1	e1.0	e69	1.4	1.1	.80	9.6
12	1.6	75	4.3	2.4	1.7	e1.0	e.93	e6.9	38	1.8	.71	2.8
13	1.7	43	4.0	2.5	1.8	.99	e1.1	e1.8	12	1.3	.64	2.1
14	1.5	18	3.8	2.7	1.7	1.1	e2.4	e1.2	3.4	2.8	.63	1.8
15	1.5	19	3.4	e2.6	1.7	1.1	e1.3	e.86	2.4	1.5	1.3	1.7
16	1.3	28	3.3	e2.5	1.6	1.1	e3.9	.74	6.9	1.2	3.1	1.6
17	1.6	139	3.2	e2.3	1.6	1.1	e1.8	2.1	3.8	1.2	.98	7.9
18	1.9	93	3.3	e2.3	1.9	1.2	e1.4	18	2.1	1.5	.75	22
19	12	39	4.4	e2.2	2.1	1.1	e11	4.1	1.7	1.3	.66	7.9
20	7.0	20	5.1	e2.1	1.8	e1.0	e8.0	e1.6	1.6	1.3	.72	5.1
21	14	13	3.5	2.0	1.5	1.1	e1.3	1.1	1.5	1.2	.64	9.9
22	4.9	9.2	3.5	2.0	1.7	1.1	e.93	.94	1.4	1.1	5.3	4.9
23	2.7	6.9	3.1	2.0	9.9	.98	e1.4	.83	1.3	1.2	281	4.9
24	20	5.6	3.1	2.0	3.4	1.1	e4.4	.73	1.3	1.2	7.3	4.5
25	8.8	5.1	3.0	2.4	4.5	1.1	e1.3	.83	1.4	1.0	2.4	3.8
26	3.8	4.8	3.4	2.9	2.1	1.0	e.98	.84	1.8	.93	8.6	2.7
27	2.6	4.3	2.7	2.1	1.8	1.2	e.89	.76	1.7	.88	10	25
28	2.0	4.2	4.7	2.1	1.7	1.8	e.79	.95	1.3	.85	17	13
29	1.8	4.2	15	2.7	7.5	1.7	e.95	5.5	1.2	4.1	8.9	8.5
30	1.7	4.1	4.2	2.2	---	e1.1	e1.1	56	1.1	2.0	4.8	5.9
31	4.6	---	3.4	1.9	---	1.1	---	8.4	---	1.3	3.1	---
TOTAL	119.5	841.9	241.5	83.2	72.9	39.57	56.39	200.13	108.0	43.16	373.50	166.2
MEAN	3.85	28.1	7.79	2.68	2.51	1.28	1.88	6.46	3.60	1.39	12.0	5.54
MAX	20	191	35	5.8	9.9	3.2	11	69	38	4.1	281	25
MIN	1.3	2.1	2.7	1.9	1.5	.98	.79	.73	1.1	.85	.63	1.6
AC-FT	237	1670	479	165	145	78	112	397	214	86	741	330
CFSM	1.03	7.50	2.08	.72	.67	.34	.50	1.73	.96	.37	3.22	1.48
IN.	1.19	8.37	2.40	.83	.73	.39	.56	1.99	1.07	.43	3.72	1.65

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 2000, BY WATER YEAR (WY)

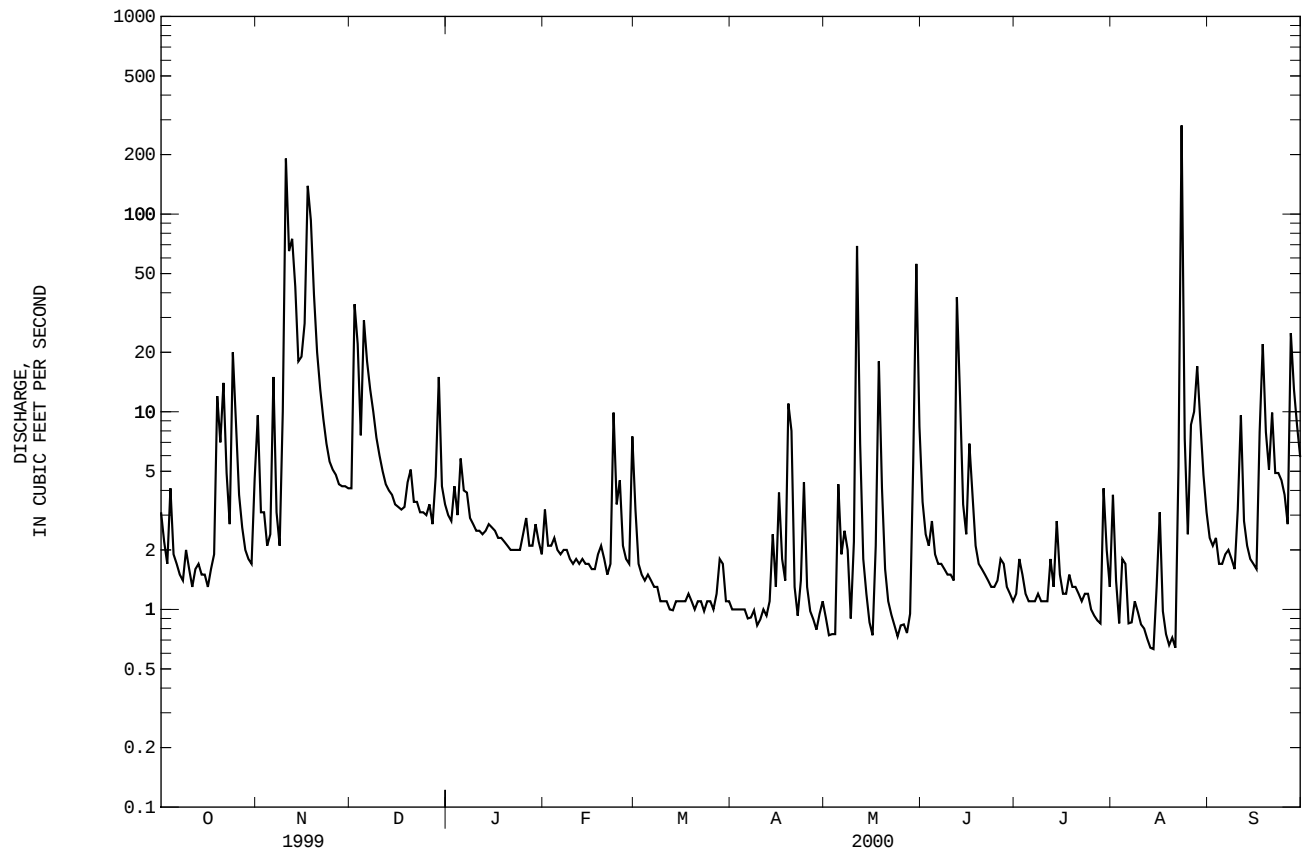
MEAN	9.97	12.5	5.81	5.11	3.54	3.47	2.33	5.69	5.86	5.52	6.95	16.8
MAX	36.2	33.4	22.8	23.4	10.3	17.4	6.60	35.8	17.5	20.5	14.5	76.5
(WY)	1986	1988	1988	1992	1984	1989	1985	1985	1996	1993	1996	1996
MIN	2.31	2.72	1.17	1.16	1.23	1.15	.66	.86	.92	1.39	1.51	1.88
(WY)	1987	1990	1990	1990	1990	1992	1995	1995	1997	2000	1994	1990

SUMMARY STATISTICS	FOR 1999 CALENDAR YEAR	FOR 2000 WATER YEAR	WATER YEARS 1984 - 2000
ANNUAL TOTAL	2799.80	2345.95	
ANNUAL MEAN	7.67	6.41	6.96
HIGHEST ANNUAL MEAN			12.4
LOWEST ANNUAL MEAN			3.19
HIGHEST DAILY MEAN	191	281	1750
LOWEST DAILY MEAN	.83	.63	.29
ANNUAL SEVEN-DAY MINIMUM	.86	.81	.41
INSTANTANEOUS PEAK FLOW		2680	15000
INSTANTANEOUS PEAK STAGE		13.39	20.87
INSTANTANEOUS LOW FLOW		.57	.26
ANNUAL RUNOFF (AC-FT)	5550	4650	5040
ANNUAL RUNOFF (CFSM)	2.05	1.71	1.86
ANNUAL RUNOFF (INCHES)	27.85	23.33	25.30
10 PERCENT EXCEEDS	14	9.9	10
50 PERCENT EXCEEDS	2.5	2.0	2.0
90 PERCENT EXCEEDS	1.1	.95	.94

e Estimated

RIO GRANDE DE LOIZA BASIN

50051180 QUEBRADA SALVATIERRA NEAR SAN LORENZO, PR--Continued



RIO GRANDE DE LOIZA BASIN

50051180 QUEBRADA SALVATIERRA NEAR SAN LORENZO, PR--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.-- Water years 1984 to 1986 and water years 1989 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: October 1984 to September 1986 and from October 1989 to current year.

INSTRUMENTATION.-- USDH-48 sediment sampler and automatic sediment sampler since 1989.

REMARKS.-- Sediment samples were collected by local observer on a weekly basis. During high flow sediment samples were collected by hydrologic technician and automatic sediment sampler.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATION: Maximum daily mean, 7,300 mg/L October 06, 1985; Minimum daily mean, 1 mg/L several days.

SEDIMENT LOADS: Maximum daily mean, 33,000 tons (29,900 tonnes) September 10, 1996; Minimum daily mean, <0.01 ton (<0.01 tonne) several days.

EXTREMES FOR CURRENT YEAR 2000.-

SEDIMENT CONCENTRATION: Maximum daily mean, 1,370 mg/L September 23, 2000; Minimum daily mean, 1 mg/L several days.

SEDIMENT LOADS: Maximum daily mean, 3,990 tons (3,620 tonnes) September 23, 2000; Minimum daily mean, <0.01 ton (<0.01 tonne) several days.

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
OCTOBER			NOVEMBER			DECEMBER			
1	3.1	4	.04	9.6	79	4.6	4.1	1	.01
2	2.2	4	.02	3.1	19	.17	35	238	73
3	1.7	1	.01	3.1	19	.17	22	145	14
4	4.1	7	.10	2.1	10	.06	7.6	43	.90
5	1.9	2	.01	2.4	5	.03	29	295	36
6	1.7	1	<.01	15	115	9.5	18	55	3.2
7	1.5	1	.01	3.1	10	.09	13	51	2.2
8	1.4	2	.01	2.1	3	.02	10	25	.75
9	2.0	1	.01	10	120	51	7.4	10	.20
10	1.6	1	<.01	191	837	754	6.0	7	.10
11	1.3	2	.01	65	358	82	5.0	4	.06
12	1.6	4	.02	75	675	179	4.3	3	.03
13	1.7	5	.02	43	329	43	4.0	2	.02
14	1.5	2	.01	18	58	3.0	3.8	2	.02
15	1.5	1	<.01	19	101	10	3.4	3	.03
16	1.3	1	<.01	28	266	30	3.3	3	.03
17	1.6	1	<.01	139	932	369	3.2	4	.03
18	1.9	1	<.01	93	661	215	3.3	4	.04
19	12	82	19	39	332	39	4.4	5	.06
20	7.0	86	2.6	20	87	5.0	5.1	5	.07
21	14	117	5.2	13	18	.62	3.5	2	.02
22	4.9	35	.50	9.2	7	.17	3.5	1	.01
23	2.7	15	.11	6.9	9	.16	3.1	1	.01
24	20	172	36	5.6	11	.16	3.1	1	.01
25	8.8	73	5.7	5.1	7	.10	3.0	4	.04
26	3.8	23	.26	4.8	4	.05	3.4	21	.20
27	2.6	14	.10	4.3	3	.03	2.7	10	.08
28	2.0	13	.07	4.2	2	.02	4.7	22	.43
29	1.8	12	.06	4.2	1	.01	15	140	9.9
30	1.7	11	.05	4.1	1	.01	4.2	15	.18
31	4.6	45	1.9	---	---	---	3.4	2	.02
TOTAL	119.5	---	71.88	841.9	---	1795.97	241.5	---	141.65

RIO GRANDE DE LOIZA BASIN

50051180 QUEBRADA SALVATIERRA NEAR SAN LORENZO, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JANUARY			FEBRUARY			MARCH			
1	3.0	2	.02	3.2	29	.29	3.2	19	.21
2	2.8	2	.01	2.1	5	.03	1.7	8	.04
3	4.2	20	.28	2.1	4	.02	1.5	5	.02
4	3.0	18	.14	2.3	3	.02	1.4	4	.02
5	5.8	27	.49	2.0	3	.02	1.5	4	.01
6	4.0	23	.28	1.9	3	.01	1.4	3	.01
7	3.9	22	.24	2.0	2	.01	1.3	4	.01
8	2.9	15	.12	2.0	2	.01	1.3	4	.01
9	2.7	7	.05	1.8	2	.01	1.1	4	.01
10	2.5	2	.01	1.7	3	.01	1.1	4	.01
11	2.5	2	.01	1.8	3	.01	e1.1	e3	e.01
12	2.4	1	.01	1.7	4	.02	e1.0	e3	e.01
13	2.5	1	.01	1.8	5	.02	.99	3	.01
14	2.7	1	.01	1.7	6	.03	1.1	5	.01
15	e2.6	e1	e.01	1.7	5	.02	1.1	7	.02
16	e2.5	e2	e.01	1.6	10	.04	1.1	8	.03
17	e2.3	e2	e.01	1.6	11	.05	1.1	10	.03
18	e2.3	e2	e.01	1.9	11	.06	1.2	12	.04
19	e2.2	e2	e.01	2.1	11	.06	1.1	14	.04
20	e2.1	e2	e.01	1.8	11	.05	e1.0	e17	e.05
21	2.0	2	.01	1.5	10	.04	1.1	20	.06
22	2.0	2	.01	1.7	4	.02	1.1	19	.06
23	2.0	2	.01	9.9	68	7.5	.98	8	.02
24	2.0	2	.01	3.4	32	.34	1.1	3	.01
25	2.4	11	.07	4.5	33	.58	1.1	4	.01
26	2.9	14	.11	2.1	11	.06	1.0	4	.01
27	2.1	10	.06	1.8	6	.03	1.2	5	.02
28	2.1	10	.06	1.7	2	.01	1.8	6	.03
29	2.7	16	.13	7.5	56	3.2	1.7	7	.03
30	2.2	14	.08	---	---	---	e1.1	e7	e.02
31	1.9	10	.05	---	---	---	1.1	7	.02
TOTAL	83.2	---	2.34	72.9	---	12.57	39.57	---	0.89
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
APRIL			MAY			JUNE			
1	e1.0	e7	e.02	e.91	e10	e.02	e3.5	e17	e.16
2	1.0	7	.02	e.74	e9	e.02	2.4	13	.09
3	e1.0	e8	e.02	e.75	e8	e.02	2.1	11	.06
4	1.0	8	.02	e.75	e8	e.02	2.8	10	.08
5	e1.0	e8	e.02	e4.3	e27	e.65	1.9	8	.04
6	e.90	e8	e.02	e1.9	e13	e.09	1.7	4	.02
7	e.91	e7	e.02	e2.5	e17	e.29	1.7	2	.01
8	e.99	e7	e.02	e2.0	e29	e.20	1.6	2	.01
9	e.83	e6	e.01	e.90	e8	e.02	1.5	2	.01
10	e.89	e6	e.01	e2.2	e14	e.18	1.5	2	.01
11	e1.0	e5	e.01	e69	e451	e137	1.4	2	.01
12	e.93	e5	e.01	e6.9	e52	e1.4	38	221	89
13	e1.1	e4	e.01	e1.8	e8	e.04	12	35	1.4
14	e2.4	e3	e.02	e1.2	e5	e.01	3.4	14	.13
15	e1.3	e2	e.01	e.86	e4	e.01	2.4	11	.07
16	e3.9	e20	e.32	.74	4	.01	6.9	65	2.3
17	e1.8	e12	e.06	2.1	16	.13	3.8	24	.28
18	e1.4	e9	e.04	18	148	29	2.1	7	.04
19	e11	e44	e1.7	4.1	32	.47	1.7	3	.01
20	e8.0	e57	e2.0	e1.6	e8	e.03	1.6	3	.01
21	e1.3	e7	e.03	1.1	5	.02	1.5	2	.01
22	e.93	e5	e.01	.94	4	.01	1.4	2	.01
23	e1.4	e7	e.03	.83	3	.01	1.3	2	.01
24	e4.4	e14	e.32	.73	4	.01	1.3	2	.01
25	e1.3	e3	e.01	.83	5	.01	1.4	2	.01
26	e.98	e7	e.02	.84	5	.01	1.8	5	.04
27	e.89	e8	e.02	.76	4	.01	1.7	8	.04
28	e.79	e9	e.02	.95	4	.01	1.3	4	.01
29	e.95	e9	e.02	5.5	40	1.3	1.2	2	.01
30	e1.1	e10	e.03	56	336	127	1.1	2	.01
31	---	---	---	8.4	56	1.4	---	---	---
TOTAL	56.39	---	4.87	200.13	---	299.40	108.0	---	93.90

RIO GRANDE DE LOIZA BASIN

50051180 QUEBRADA SALVATIERRA NEAR SAN LORENZO, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JULY			AUGUST			SEPTEMBER			
1	1.2	2	.01	3.8	25	.59	2.3	8	.05
2	1.8	10	.06	1.4	9	.04	2.1	8	.05
3	1.5	7	.03	.85	8	.02	2.3	14	.09
4	1.2	8	.03	1.8	10	.05	1.7	8	.04
5	1.1	9	.03	1.7	9	.04	1.7	8	.04
6	1.1	8	.02	.85	4	.01	1.9	11	.06
7	1.1	8	.02	.86	3	.01	2.0	11	.07
8	1.2	7	.02	1.1	4	.01	1.8	9	.04
9	1.1	6	.02	.97	6	.01	1.6	8	.03
10	1.1	6	.02	.84	6	.01	3.2	18	.37
11	1.1	5	.01	.80	6	.01	9.6	70	2.6
12	1.8	11	.06	.71	5	.01	2.8	12	.10
13	1.3	3	.01	.64	5	.01	2.1	5	.03
14	2.8	18	.17	.63	5	.01	1.8	4	.02
15	1.5	10	.04	1.3	9	.03	1.7	4	.02
16	1.2	10	.03	3.1	15	.21	1.6	4	.02
17	1.2	10	.03	.98	5	.01	7.9	82	5.7
18	1.5	9	.04	.75	4	.01	22	197	16
19	1.3	9	.03	.66	4	.01	7.9	33	.73
20	1.3	8	.03	.72	4	.01	5.1	12	.21
21	1.2	8	.02	.64	4	.01	9.9	66	1.9
22	1.1	7	.02	5.3	47	2.2	4.9	31	.42
23	1.2	6	.02	281	1370	4000	4.9	31	.46
24	1.2	6	.02	7.3	25	.50	4.5	27	.35
25	1.0	6	.01	2.4	13	.09	3.8	20	.21
26	.93	8	.02	8.6	70	2.7	2.7	14	.10
27	.88	11	.03	10	81	2.7	25	202	23
28	.85	11	.02	17	156	13	13	97	3.9
29	4.1	46	.73	8.9	39	.98	8.5	55	1.3
30	2.0	14	.08	4.8	12	.16	5.9	37	.61
31	1.3	7	.03	3.1	9	.08	---	---	---
TOTAL	43.16	---	1.71	373.50	---	4023.53	166.2	---	58.52
YEAR	2345.95		6507.23						

e Estimated

< Actual value is known to be less than the value shown

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

SILT AND CLAY PERCENT OF SUSPENDED SEDIMENT

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
NOV					
09...	2319	191	3290	1690	94
10...	1208	257	1340	928	92
17...	0443	192	2800	1450	86
18...	0323	247	2480	1650	90
MAR					
22...	1000	1.0	23	.06	77
APR					
19...	0930	8.0	22	.48	77
MAY					
11...	1453	315	1270	1080	83
30...	0747	157	1170	495	88
JUN					
12...	1627	213	2320	1330	86
AUG					
23...	0204	1300	184	644	84
23...	0602	274	1240	915	84
SEP					
18...	0900	54	488	71	94

RIO GRANDE DE LOIZA BASIN

50051180 QUEBRADA SALVATIERRA NEAR SAN LORENZO, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM (70326)	SED. SUSP. FALL DIAM. % FINER THAN .004 MM (70327)	SED. SUSP. FALL DIAM. % FINER THAN .008 MM (70328)	
NOV								
10...	0353	562	5140	7800	33	41	54	
17...	0418	487	3510	4610	32	39	51	
DATE		SED. SUSP. FALL DIAM. % FINER THAN .016 MM (70329)	SED. SUSP. FALL DIAM. % FINER THAN .031 MM (70330)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM (70332)	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM (70333)	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM (70334)	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM (70335)
10...	66	75	80	88	92	95	99	
17...	61	75	80	91	95	98	100	

RIO GRANDE DE LOIZA BASIN

50051310 RIO CAYAGUAS AT CERRO GORDO, PR

LOCATION.--Lat 18°09'13", long 65°57'24", Hydrologic Unit 21010005, at downstream side of bridge on Highway 912, at Barrio Cerro Gordo, 2.8 mi (4.5 km) south of San Lorenzo.

DRAINAGE AREA.--10.2 mi² (26.4 km²).

PERIOD OF RECORD.--October 1977 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 490 ft (150 m), from topographic map. Prior to Oct. 1, 1983, at site 2,000 ft (610 m) downstream at different datum.

REMARKS.--Records poor. Sand removal at a commercial level is practiced at times during the year. This takes place about one hundred feet downstream from the low water control. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	93	93	45	43	30	20	12	13	28	18	e16	28
2	64	40	132	42	26	19	12	13	25	20	e15	44
3	37	45	78	54	24	16	12	13	24	23	e20	43
4	47	47	47	54	29	16	12	14	30	20	e39	27
5	40	53	232	92	26	17	12	20	23	17	e34	25
6	76	132	117	137	27	21	12	16	22	e16	e19	27
7	53	53	57	93	27	16	12	14	20	e15	e25	43
8	47	41	50	48	25	15	12	15	20	17	e64	51
9	55	84	46	44	25	16	11	12	19	17	e23	26
10	42	1040	47	40	28	17	11	12	19	17	e42	36
11	40	180	47	36	25	15	11	1190	20	16	e23	291
12	57	141	e44	34	23	e14	11	125	188	28	e18	33
13	46	345	43	35	25	e15	11	52	64	20	e17	27
14	39	101	43	33	24	e13	21	45	23	25	e17	25
15	36	133	43	34	21	e15	14	38	23	19	22	23
16	38	117	43	40	e21	e13	14	e35	33	17	35	38
17	42	850	45	35	24	e12	e17	e408	25	17	16	46
18	42	485	48	33	23	e13	e15	105	21	20	14	138
19	38	193	72	33	23	e11	e58	54	20	21	14	35
20	51	140	58	32	21	e13	e55	35	19	17	15	31
21	76	101	46	30	21	12	19	37	18	14	14	56
22	43	83	52	31	22	12	18	34	18	14	22	27
23	36	77	48	28	26	12	18	27	17	13	1040	33
24	34	61	46	30	33	13	24	28	17	13	30	30
25	175	61	50	32	34	11	20	35	21	13	73	24
26	84	58	45	41	19	12	16	31	28	14	115	27
27	37	52	42	27	19	12	14	34	24	14	50	300
28	34	52	47	32	17	14	14	57	19	13	48	127
29	35	52	e116	28	18	17	14	69	16	26	35	42
30	34	47	e44	26	---	13	14	304	e17	28	28	32
31	56	---	44	22	---	13	---	41	---	19	56	---
TOTAL	1627	4957	1917	1319	706	448	516	2926	861	561	1999	1735
MEAN	52.5	165	61.8	42.5	24.3	14.5	17.2	94.4	28.7	18.1	64.5	57.8
MAX	175	1040	232	137	34	21	58	1190	188	28	1040	300
MIN	34	40	42	22	17	11	11	12	16	13	14	23
AC-FT	3230	9830	3800	2620	1400	889	1020	5800	1710	1110	3970	3440
CFSM	5.15	16.2	6.06	4.17	2.39	1.42	1.69	9.25	2.81	1.77	6.32	5.67
IN.	5.93	18.08	6.99	4.81	2.57	1.63	1.88	10.67	3.14	2.05	7.29	6.33

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1977 - 2000, BY WATER YEAR (WY)

	MEAN	65.0	73.3	47.7	35.2	30.6	24.0	20.8	44.2	44.3	43.7	52.5	80.4
MAX	176	196	163	99.5	74.1	64.1	46.0	155	140	118	202	330	
(WY)	1986	1988	1988	1998	1997	1998	1985	1985	1979	1979	1979	1998	
MIN	14.4	19.2	12.5	14.6	11.0	11.3	10.7	9.68	10.9	15.4	14.5	16.9	
(WY)	1992	1982	1992	1990	1992	1992	1980	1990	1994	1994	1991	1980	

SUMMARY STATISTICS

FOR 1999 CALENDAR YEAR

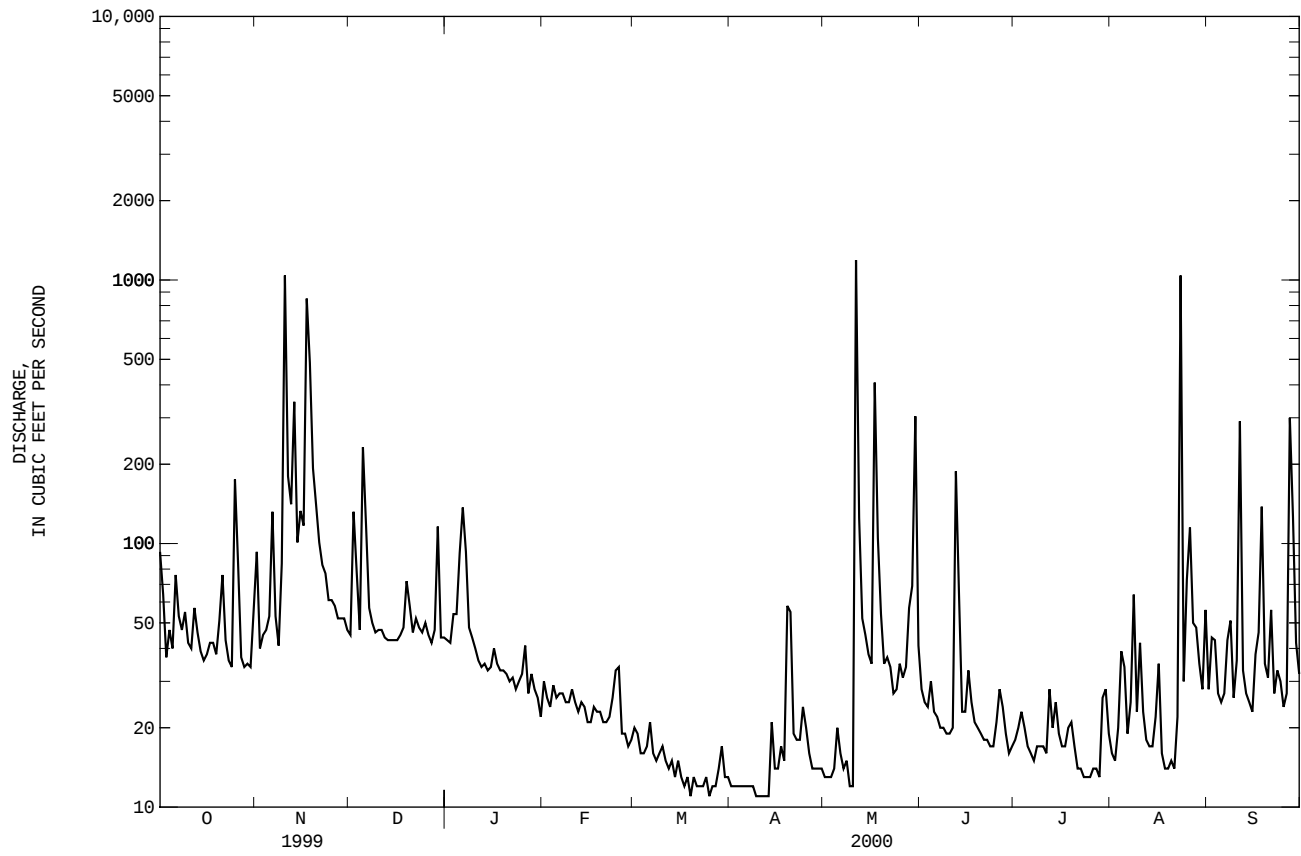
FOR 2000 WATER YEAR

WATER YEARS 1977 - 2000

ANNUAL TOTAL	21865.2	19572	
ANNUAL MEAN	59.9	53.5	46.8
HIGHEST ANNUAL MEAN			89.7
LOWEST ANNUAL MEAN			18.6
HIGHEST DAILY MEAN	1040	1190	5120
LOWEST DAILY MEAN	8.4	11	7.1
ANNUAL SEVEN-DAY MINIMUM	10	11	8.5
INSTANTANEOUS PEAK FLOW		7090	13200
INSTANTANEOUS PEAK STAGE		18.88	9.44
ANNUAL RUNOFF (AC-FT)	43370	38820	33930
ANNUAL RUNOFF (CFSM)	5.87	5.24	4.59
ANNUAL RUNOFF (INCHES)	79.74	71.38	62.39
10 PERCENT EXCEEDS	109	84	73
50 PERCENT EXCEEDS	37	28	25
90 PERCENT EXCEEDS	14	13	13

e Estimated

RIO GRANDE DE LOIZA BASIN
50051310 RIO CAYAGUAS AT CERRO GORDO, PR--Continued



RIO GRANDE DE LOIZA BASIN

50051800 RIO GRANDE DE LOIZA AT HWY 183 NEAR SAN LORENZO, PR

LOCATION.--Lat 18°11'09", long 65°57'42", Hydrologic Unit 21010005, at upstream side of bridge on Highway 183 by-pass, 0.4 mi (0.6 km) south from Plaza de San Lorenzo, 1.4 mi (2.2 km), southwest from Escuela Rafael Colón García and 2.0 mi (3.2 km) northwest from Escuela Segunda Unidad de Carlos Zayas.

DRAINAGE AREA.--25.0 mi² (64.8 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1990 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 262 ft (80 m), from topographic map.

REMARKS.--Records fair except those for estimated discharges, which are poor. Water purification plant located about 0.2 mi (0.3 km) upstream from gage. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	108	145	136	94	68	55	28	27	85	39	e48	91
2	103	89	233	88	56	45	27	24	71	52	e46	91
3	78	87	185	103	57	41	26	25	61	70	32	107
4	99	91	137	105	65	44	25	20	74	48	80	79
5	82	79	328	148	58	41	27	40	59	43	70	74
6	97	159	241	165	54	40	26	47	48	37	40	78
7	98	107	177	175	55	38	25	27	48	34	38	84
8	95	84	163	118	57	40	27	35	44	36	68	103
9	115	92	147	102	52	36	23	25	41	35	52	68
10	81	1380	137	92	51	37	22	32	40	34	50	112
11	75	389	131	86	51	35	23	1310	41	30	50	441
12	93	e408	127	85	47	36	22	191	507	67	34	105
13	100	e574	121	84	54	37	24	89	172	44	29	86
14	89	243	116	85	54	36	48	62	87	78	27	75
15	75	245	113	86	52	34	37	51	79	47	43	74
16	69	253	109	87	47	35	35	44	108	37	70	92
17	76	1290	108	75	46	34	40	326	93	35	38	112
18	77	859	109	71	48	35	34	219	70	46	29	355
19	84	459	141	70	58	34	84	112	61	47	27	160
20	106	304	141	68	53	31	83	73	54	40	26	131
21	137	228	114	67	45	31	40	76	50	36	23	170
22	93	190	116	66	48	31	30	66	47	32	47	113
23	77	174	106	62	81	29	29	50	44	32	2450	121
24	83	161	100	62	74	33	45	45	42	30	163	121
25	158	154	101	72	127	32	36	48	49	28	209	98
26	116	147	99	88	62	29	28	47	67	25	308	91
27	81	143	91	66	53	29	23	45	65	26	186	435
28	71	138	100	65	47	40	25	79	45	24	194	239
29	69	136	224	70	57	54	28	113	39	65	124	146
30	66	133	111	65	---	37	32	572	40	e68	97	126
31	78	---	101	55	---	31	---	123	---	e34	120	---
TOTAL	2829	8941	4363	2725	1677	1140	1002	4043	2331	1299	4818	4178
MEAN	91.3	298	141	87.9	57.8	36.8	33.4	130	77.7	41.9	155	139
MAX	158	1380	328	175	127	55	84	1310	507	78	2450	441
MIN	66	79	91	55	45	29	22	20	39	24	23	68
AC-FT	5610	17730	8650	5410	3330	2260	1990	8020	4620	2580	9560	8290
CFSM	3.65	11.9	5.63	3.52	2.31	1.47	1.34	5.22	3.11	1.68	6.22	5.57
IN.	4.21	13.30	6.49	4.05	2.50	1.70	1.49	6.02	3.47	1.93	7.17	6.22

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 2000, BY WATER YEAR (WY)

MEAN	153	156	108	112	79.8	58.6	42.4	67.9	101	90.9	111	210
MAX	340	298	253	192	160	158	104	186	290	208	196	631
(WY)	1999	2000	1999	1992	1998	1998	1998	1992	1992	1993	1996	1996
MIN	77.6	69.2	59.2	50.1	21.0	17.4	16.8	25.2	42.3	41.9	39.3	59.7
(WY)	1993	1996	1998	1995	1992	1992	1992	1995	1994	2000	1994	1990

SUMMARY STATISTICS

FOR 1999 CALENDAR YEAR

FOR 2000 WATER YEAR

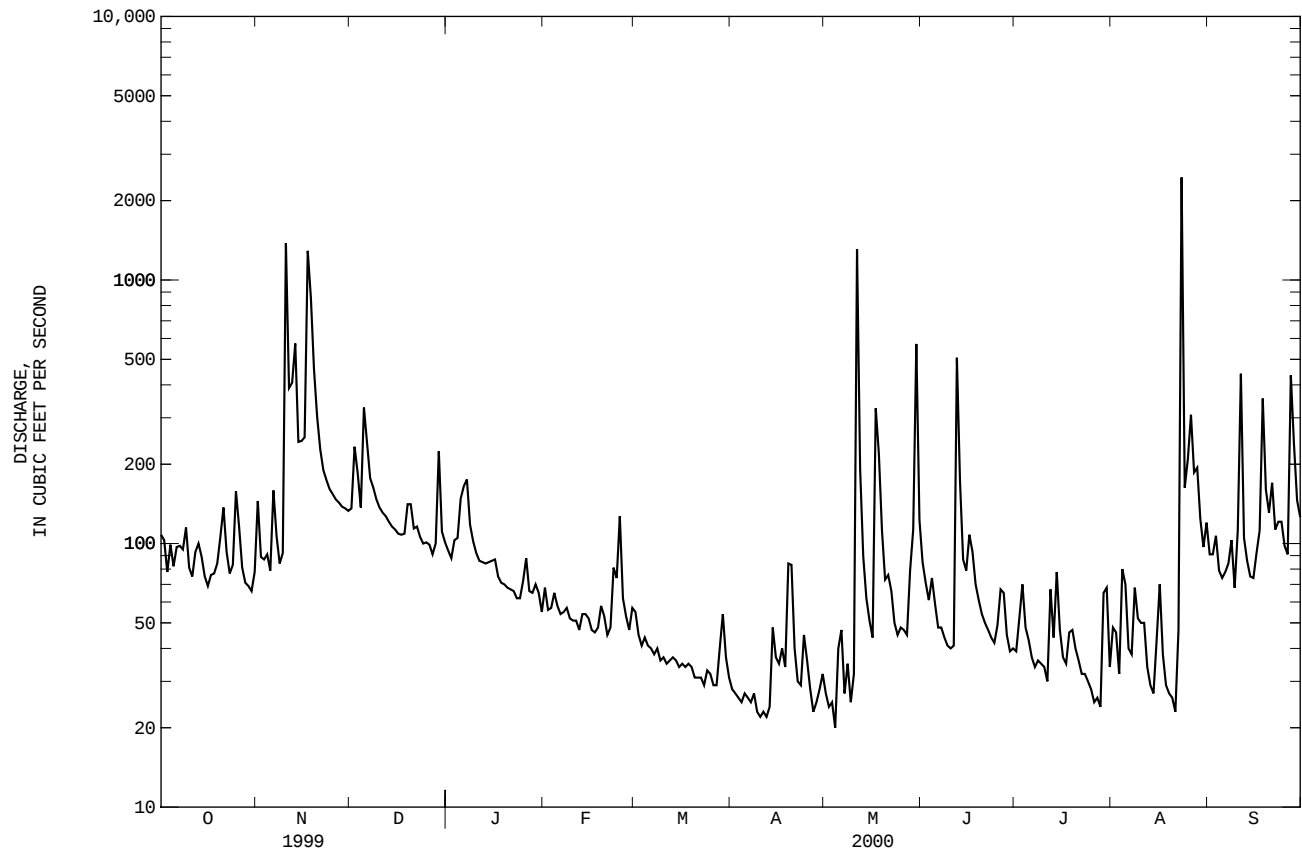
WATER YEARS 1990 - 2000

ANNUAL TOTAL	36479	39346	
ANNUAL MEAN	99.9	108	110
HIGHEST ANNUAL MEAN			154
LOWEST ANNUAL MEAN			67.8
HIGHEST DAILY MEAN	1380	2450	10000
LOWEST DAILY MEAN	19	20	6.3
ANNUAL SEVEN-DAY MINIMUM	20	24	7.4
INSTANTANEOUS PEAK FLOW		18000	56800
INSTANTANEOUS PEAK STAGE		23.19	35.62
ANNUAL RUNOFF (AC-FT)	72360	78040	79670
ANNUAL RUNOFF (CFSM)	4.00	4.30	4.40
ANNUAL RUNOFF (INCHES)	54.28	58.55	59.77
10 PERCENT EXCEEDS	172	173	186
50 PERCENT EXCEEDS	69	68	64
90 PERCENT EXCEEDS	30	29	27

e Estimated

RIO GRANDE DE LOIZA BASIN

50051800 RIO GRANDE DE LOIZA AT HWY 183 NEAR SAN LORENZO, PR--Continued



50051800 RIO GRANDE DE LOIZA AT HWY 183 NEAR SAN LORENZO, PR--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORDS.-- Water years 1990 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: February 1990 to current year.

INSTRUMENTATION.-- USDH-48 sediment sampler and automatic sediment sampler since 1990.

REMARKS.-- Sediment samples were collected by a local observer on a weekly basis. During high flow events sediment samples were collected by hydrologic technician and automatic sediment sampler.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATION: Maximum daily mean, 3,080 mg/L November 10, 1997; Minimum daily mean, 5 mg/L several days.

SEDIMENT LOADS: Maximum daily mean, 80,600 tons (73,100 tonnes) September 10, 1996; Minimum daily mean, 0.20 ton (0.18 tonne) May 5, 1992.

EXTREMES FOR CURRENT YEAR 2000.--

SEDIMENT CONCENTRATION: Maximum daily mean, 1,930 mg/L May 11, 2000; Minimum daily mean, 6 mg/L February 18, 2000 and July 5, 2000.

SEDIMENT LOADS: Maximum daily mean, 28,800 tons (26,100 tonnes) May 11, 2000; Minimum daily mean, 0.70 ton (0.63 tonne) July 6, 2000.

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
OCTOBER				NOVEMBER			DECEMBER		
1	108	72	29	145	177	98	136	124	46
2	103	111	32	89	102	25	233	573	630
3	78	80	17	87	84	20	185	720	390
4	99	86	24	91	73	18	137	196	73
5	82	57	13	79	70	15	328	321	376
6	97	54	16	159	162	75	241	96	69
7	98	93	26	107	70	21	177	71	34
8	95	66	20	84	39	8.7	163	78	34
9	115	110	37	92	44	20	147	81	32
10	81	32	7.0	1380	1290	8630	137	83	31
11	75	11	2.2	389	432	530	131	79	28
12	93	40	14	e408	e374	e418	127	75	26
13	100	55	18	e574	e549	e1110	121	67	22
14	89	69	17	243	239	163	116	50	16
15	75	27	5.4	245	196	197	113	38	11
16	69	33	6.2	253	272	195	109	30	8.9
17	76	46	9.6	1290	1160	5810	108	26	7.5
18	77	63	13	859	700	2470	109	24	7.1
19	84	92	24	459	177	232	141	91	39
20	106	84	25	304	82	67	141	64	25
21	137	108	41	228	62	38	114	30	9.3
22	93	44	11	190	47	24	116	17	5.4
23	77	36	7.5	174	38	18	106	19	5.3
24	83	68	17	161	28	12	100	20	5.5
25	158	143	112	154	15	6.4	101	18	5.0
26	116	110	36	147	9	3.5	99	16	4.4
27	81	71	16	143	9	3.6	91	14	3.6
28	71	75	14	138	11	4.0	100	13	3.4
29	69	81	15	136	16	5.9	224	197	178
30	66	81	15	133	50	18	111	15	4.4
31	78	81	17	---	---	---	101	10	2.7
TOTAL	2829	---	656.9	8941	---	20256.1	4363	---	2132.5

RIO GRANDE DE LOIZA BASIN

50051800 RIO GRANDE DE LOIZA AT HWY 183 NEAR SAN LORENZO, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JANUARY			FEBRUARY			MARCH			
1	94	14	3.6	68	27	4.9	55	33	5.1
2	88	22	5.1	56	32	4.8	45	27	3.3
3	103	32	9.0	57	34	5.3	41	26	2.9
4	105	42	12	65	34	5.8	44	25	3.0
5	148	140	62	58	26	4.1	41	25	2.7
6	165	170	111	54	19	2.8	40	24	2.6
7	175	157	82	55	16	2.3	38	23	2.4
8	118	50	16	57	16	2.5	40	23	2.5
9	102	18	5.0	52	18	2.5	36	24	2.4
10	92	9	2.1	51	22	3.1	37	26	2.6
11	86	14	3.4	51	25	3.4	35	27	2.6
12	85	28	6.4	47	19	2.4	36	29	2.8
13	84	57	13	54	13	1.9	37	30	2.9
14	85	88	20	54	11	1.7	36	29	2.8
15	86	44	10	52	15	2.2	34	29	2.7
16	87	19	4.5	47	9	1.2	35	34	3.3
17	75	11	2.3	46	7	.90	34	41	3.7
18	71	22	4.3	48	6	.81	35	49	4.7
19	70	40	7.5	58	7	1.1	34	58	5.3
20	68	34	6.2	53	7	1.1	31	69	5.9
21	67	28	5.1	45	8	.98	31	83	6.9
22	66	26	4.7	48	9	1.1	31	94	7.8
23	62	25	4.2	81	58	25	29	87	6.7
24	62	26	4.4	74	65	21	33	80	7.1
25	72	41	8.0	127	40	18	32	77	6.6
26	88	56	13	62	9	1.6	29	75	5.8
27	66	47	8.5	53	8	1.1	29	72	5.7
28	65	38	6.7	47	7	.88	40	137	19
29	70	31	5.8	57	24	5.0	54	209	30
30	65	25	4.5	---	---	---	37	115	11
31	55	22	3.3	---	---	---	31	75	6.2
TOTAL	2725	---	453.6	1677	---	129.47	1140	---	179.0
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
APRIL			MAY			JUNE			
1	28	77	5.9	27	52	3.9	85	51	12
2	27	83	6.2	24	100	6.5	71	34	6.5
3	26	89	6.4	25	149	10	61	23	3.8
4	25	96	6.5	20	75	4.1	74	16	3.1
5	27	101	7.3	40	33	3.2	59	12	1.9
6	26	99	7.0	47	19	2.4	48	16	2.1
7	25	97	6.5	27	34	2.5	48	21	2.8
8	27	95	6.9	35	51	5.0	44	24	2.8
9	23	94	5.9	25	34	2.3	41	27	3.0
10	22	93	5.6	32	31	3.1	40	30	3.3
11	23	93	5.7	1310	1930	28800	41	34	3.7
12	22	96	5.7	191	218	133	507	679	3320
13	24	116	7.7	89	68	17	172	108	70
14	48	136	18	62	32	5.4	87	60	14
15	37	132	13	51	16	2.2	79	63	13
16	35	126	12	44	12	1.4	108	117	40
17	40	120	13	326	362	808	93	81	21
18	34	115	11	219	200	205	70	29	5.6
19	84	109	25	112	101	36	61	14	2.3
20	83	104	23	73	65	14	54	20	3.0
21	40	104	11	76	90	22	50	32	4.3
22	30	124	10	66	151	27	47	42	5.3
23	29	151	12	50	113	15	44	31	3.8
24	45	178	21	45	159	19	42	22	2.5
25	36	188	18	48	193	24	49	16	2.1
26	28	189	14	47	110	14	67	37	10
27	23	146	9.2	45	58	6.9	65	61	11
28	25	107	7.1	79	110	20	45	49	6.0
29	28	78	5.8	113	117	41	39	58	6.1
30	32	57	5.0	572	458	1260	40	47	5.1
31	---	---	---	123	117	41	---	---	---
TOTAL	1002	---	311.4	4043	---	31554.9	2331	---	3590.1

RIO GRANDE DE LOIZA BASIN

50051800 RIO GRANDE DE LOIZA AT HWY 183 NEAR SAN LORENZO, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JULY			AUGUST			SEPTEMBER			
1	39	39	4.1	e48	e45	e7.6	91	8	2.0
2	52	33	4.5	e46	e80	e10	91	24	8.3
3	70	24	4.7	32	58	4.9	107	99	30
4	48	12	1.5	80	98	22	79	42	8.9
5	43	6	.75	70	57	11	74	20	4.0
6	37	7	.70	40	27	3.0	78	16	3.4
7	34	8	.75	38	24	2.8	84	43	13
8	36	9	.92	68	62	13	103	111	32
9	35	11	1.0	52	27	4.1	68	73	13
10	34	14	1.3	50	41	7.0	112	130	87
11	30	25	2.0	50	52	7.3	441	534	1430
12	67	319	80	34	30	2.7	105	64	19
13	44	280	36	29	23	1.8	86	19	4.4
14	78	106	22	27	20	1.5	75	14	2.9
15	47	49	6.4	43	33	3.9	74	12	2.3
16	37	22	2.2	70	74	16	92	10	2.5
17	35	12	1.1	38	28	2.9	112	21	11
18	46	10	1.3	29	18	1.4	355	445	475
19	47	10	1.2	27	16	1.1	160	89	39
20	40	9	1.0	26	14	1.0	131	55	19
21	36	9	.89	23	13	.81	170	189	90
22	32	9	.80	47	29	9.8	113	98	30
23	32	10	.83	2450	1590	25400	121	53	17
24	30	10	.79	163	51	25	121	29	9.5
25	28	10	.77	209	137	167	98	17	4.4
26	25	11	.76	308	380	279	91	12	3.1
27	26	13	.91	186	143	104	435	462	893
28	24	18	1.2	194	218	145	239	250	179
29	65	65	14	124	67	23	146	168	66
30	e68	e65	e13	97	13	3.5	126	133	45
31	e34	e22	e2.3	120	10	3.1	---	---	---
TOTAL	1299	---	209.67	4818	---	26285.21	4178	---	3543.7
YEAR	39346		89302.55						

e Estimated

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000\

SILT AND CLAY PERCENT OF SUSPENDED SEDIMENT

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT					
18...	0930	76	62	13	78
NOV					
10...	0430	3500	6120	57900	76
10...	1530	1930	374	1950	13
17...	0425	2150	3120	18100	69
17...	0825	1680	1460	6580	89
DEC					
03...	1309	164	599	265	95
MAY					
11...	1715	4070	4190	46100	77
30...	0745	2410	1110	7240	83
30...	0900	1750	1200	5660	89
AUG					
04...	0900	79	131	28	93
23...	0705	8410	6320	144000	75
SEP					
11...	0830	482	634	825	95

RIO GRANDE DE LOIZA BASIN

50051800 RIO GRANDE DE LOIZA AT HWY 183 NEAR SAN LORENZO, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM (70326)	SED. SUSP. FALL DIAM. % FINER THAN .004 MM (70327)	SED. SUSP. FALL DIAM. % FINER THAN .008 MM (70328)	
NOV								
10...	0545	4500	4780	58000	26	32	42	
17...	0510	5360	3490	50500	23	31	42	
DEC								
03...	1309	164	599	265	33	48	66	
MAY								
11...	1530	8550	70700	1630000	20	26	34	
AUG								
23...	0245	2020	5160	28100	19	26	39	
DATE		SED. SUSP. FALL DIAM. % FINER THAN .016 MM (70329)	SED. SUSP. FALL DIAM. % FINER THAN .031 MM (70330)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM (70332)	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM (70333)	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM (70334)	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM (70335)
NOV								
10...	51	63	70	80	93	99	100	
17...	54	64	72	83	95	99	100	
DEC								
03...	85	94	95	99	99	99	100	
MAY								
11...	43	53	61	78	94	99	100	
AUG								
23...	57	78	85	94	99	100	100	

RIO GRANDE DE LOIZA BASIN

50053025 RIO TURABO ABOVE BORINQUEN, PR

LOCATION.--Lat 18°09'35", long 66°02'26", Hydrologic Unit 21010005, on left bank at Highway 765, 1.12 mi (1.8 km) south of Villa Borinquén, 1.35 mi (2.17 km), north from Mercedes Palma school and 0.83 mi (1.34 km) east from Atravezada school on road 763.

DRAINAGE AREA.--7.49 mi² (18.49 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1990 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 492 ft (150 m), from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	14	23	24	15	e16	9.0	6.4	21	10	e13	15
2	15	20	44	21	13	e12	8.7	6.1	16	16	e13	12
3	14	17	67	24	14	11	8.6	6.2	13	17	e9.0	12
4	16	14	25	24	14	11	8.1	5.7	18	12	e22	e12
5	16	14	162	37	12	10	8.0	17	12	10	e19	e14
6	19	29	89	54	12	9.5	7.9	10	11	9.8	e9.3	e34
7	18	21	69	41	13	9.4	7.8	10	10	9.1	e8.4	46
8	38	15	52	26	13	9.0	7.8	4.5	9.8	10	e9.5	34
9	34	19	38	21	12	9.3	7.0	5.6	9.1	8.2	e7.5	20
10	19	205	32	19	12	9.3	6.9	5.2	9.0	7.6	e14	59
11	14	53	29	17	11	9.0	6.7	196	9.0	e8.2	e11	159
12	31	70	26	16	11	9.1	6.8	44	145	e18	e7.8	21
13	18	44	24	16	14	9.6	9.0	20	54	e12	e6.5	14
14	15	23	22	19	14	9.3	15	14	24	e21	e14	11
15	13	36	21	20	12	9.2	7.8	12	19	e13	e13	11
16	12	58	20	26	12	9.2	11	11	78	e10	e48	20
17	13	461	20	16	11	9.5	9.8	16	35	e9.8	e25	102
18	13	304	20	15	14	9.7	8.4	21	22	e13	e8.4	133
19	24	196	36	14	17	9.1	15	14	18	e13	e6.5	39
20	26	130	44	14	13	8.7	11	12	15	e11	e6.8	30
21	49	73	24	14	12	9.2	8.0	11	13	e10	e5.9	30
22	23	54	24	14	12	9.2	7.3	10	12	e8.8	e18	24
23	17	43	21	13	19	8.9	7.2	8.7	11	e8.8	265	21
24	14	38	19	13	35	9.8	7.2	8.3	11	e8.2	37	19
25	15	33	27	16	40	8.6	7.4	10	12	e7.8	26	19
26	14	30	21	23	17	8.7	6.8	8.4	44	e7.0	81	16
27	13	27	18	14	15	9.8	6.3	8.9	20	e7.2	41	120
28	12	26	31	13	12	13	6.0	16	13	e6.6	27	77
29	12	26	137	20	23	13	6.7	16	11	e18	23	37
30	11	23	34	15	---	10	7.8	197	10	e19	17	29
31	15	---	27	13	---	9.5	---	35	---	e9.4	17	---
TOTAL	579	2116	1246	632	444	308.6	251.0	766.0	704.9	349.5	829.6	1190
MEAN	18.7	70.5	40.2	20.4	15.3	9.95	8.37	24.7	23.5	11.3	26.8	39.7
MAX	49	461	162	54	40	16	15	197	145	21	265	159
MIN	11	14	18	13	11	8.6	6.0	4.5	9.0	6.6	5.9	11
MED	15	32	27	17	13	9.4	7.8	11	13	10	14	22
AC-FT	1150	4200	2470	1250	881	612	498	1520	1400	693	1650	2360
CFSM	2.62	9.88	5.63	2.86	2.14	1.39	1.17	3.46	3.29	1.58	3.75	5.56
IN.	3.02	11.02	6.49	3.29	2.31	1.61	1.31	3.99	3.67	1.82	4.32	6.20

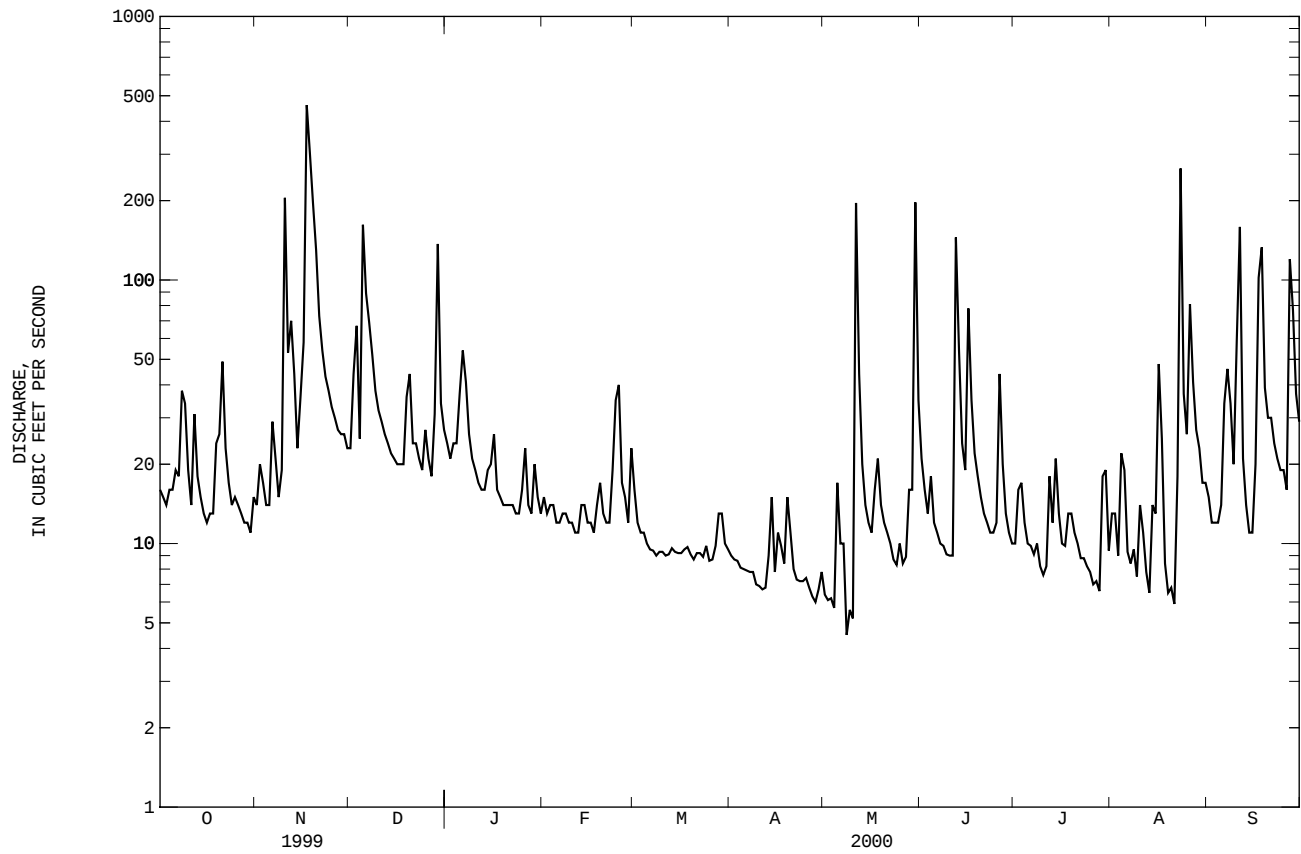
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 2000, BY WATER YEAR (WY)

	MEAN	27.7	28.7	21.9	23.6	17.4	13.2	10.0	15.3	24.4	21.4	22.3	47.1
MAX	51.3	70.5	42.7	47.5	25.0	26.9	20.2	31.9	67.9	54.6	41.4	123	
(WY)	1998	2000	1999	1992	1997	1998	1998	1993	1996	1993	1996	1996	
MIN	10.3	18.6	10.6	7.85	8.93	7.35	6.18	6.11	9.59	8.42	6.98	14.1	
(WY)	1994	1996	1994	1990	1990	1993	1990	1994	1991	1995	1994	1990	

SUMMARY STATISTICS	FOR 1999 CALENDAR YEAR	FOR 2000 WATER YEAR	WATER YEARS 1990 - 2000
ANNUAL TOTAL	8677.2	9416.6	
ANNUAL MEAN	23.8	25.7	23.4
HIGHEST ANNUAL MEAN			38.1
LOWEST ANNUAL MEAN			12.1
HIGHEST DAILY MEAN	461	461	1940
LOWEST DAILY MEAN	5.4	4.5	3.3
ANNUAL SEVEN-DAY MINIMUM	5.8	6.4	3.8
INSTANTANEOUS PEAK FLOW		2810	15200
INSTANTANEOUS PEAK STAGE		10.60	22.60
INSTANTANEOUS LOW FLOW			2.6
ANNUAL RUNOFF (AC-FT)	17210	18680	16930
ANNUAL RUNOFF (CFSM)	3.33	3.60	3.27
ANNUAL RUNOFF (INCHES)	45.21	49.06	44.47
10 PERCENT EXCEEDS	37	44	36
50 PERCENT EXCEEDS	15	14	12
90 PERCENT EXCEEDS	8.4	8.0	6.3

e Estimated

RIO GRANDE DE LOIZA BASIN
50053025 RIO TURABO ABOVE BORINQUEN, PR--Continued



WATER-QUALITY RECORDS

PERIOD OF RECORDS.-- Water years 1990 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: January 1990 to current year.

INSTRUMENTATION.-- USDH-48 sediment sampler and automatic sediment sampler since 1990.

REMARKS.-- Sediment samples were collected by a local observer on a weekly basis. During high flow events sediments samples were collected by hydrologic technician and automatic sediment sampler.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATION: Maximum daily mean, 9,230 mg/L September 10, 1996; Minimum daily mean, 1 mg/L several days.

SEDIMENT LOADS: Maximum daily mean, 80,900 tons (73,400 tonnes) September 10, 1996; Minimum daily mean, 0.01 ton (0.01 tonne) several days.

EXTREMES FOR CURRENT YEAR 2000.--

SEDIMENT CONCENTRATION: Maximum daily mean, 2,400 mg/L November 17, 1999; Minimum daily mean, 1 mg/l. June 20, 2000.

SEDIMENT LOADS: Maximum daily mean, 4,070 tons (3,690 tonnes) November 17, 1999; Minimum daily mean, 0.05 ton (0.04 tonne) June/11, 20/2000.

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
OCTOBER			NOVEMBER			DECEMBER			
1	16	9	.37	14	16	.60	23	3	.18
2	15	21	.84	20	33	3.3	44	62	18
3	14	19	.76	17	16	.72	67	178	70
4	16	16	.69	14	8	.29	25	45	3.1
5	16	13	.55	14	7	.25	162	564	404
6	19	10	.51	29	38	3.3	89	260	68
7	18	9	.44	21	30	1.8	69	136	26
8	38	85	27	15	21	.84	52	95	14
9	34	48	5.5	19	38	7.8	38	53	5.5
10	19	26	1.4	205	678	655	32	31	2.7
11	14	18	.71	53	134	20	29	18	1.4
12	31	75	14	70	154	43	26	10	.73
13	18	24	1.2	44	60	8.0	24	6	.40
14	15	10	.41	23	30	1.8	22	4	.24
15	13	7	.24	36	94	16	21	4	.21
16	12	5	.17	58	151	39	20	4	.19
17	13	5	.19	461	2400	4070	20	3	.18
18	13	6	.19	304	1290	1200	20	3	.17
19	24	54	10	196	498	311	36	61	8.0
20	26	42	3.5	130	44	17	44	71	10
21	49	109	15	73	22	4.3	24	16	1.0
22	23	38	2.5	54	21	3.1	24	9	.58
23	17	12	.57	43	21	2.4	21	7	.38
24	14	8	.31	38	13	1.3	19	5	.28
25	15	6	.23	33	7	.63	27	24	2.7
26	14	4	.17	30	5	.41	21	26	1.5
27	13	8	.26	27	4	.30	18	10	.49
28	12	14	.45	26	4	.25	31	35	4.9
29	12	13	.44	26	3	.24	137	471	496
30	11	12	.37	23	3	.19	34	24	2.2
31	15	16	.74	---	---	---	27	12	.87
TOTAL	579	---	89.71	2116	---	6412.82	1246	---	1143.90

RIO GRANDE DE LOIZA BASIN

50053025 RIO TURABO ABOVE BORINQUEN, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JANUARY			FEBRUARY			MARCH			
1	24	11	.71	15	4	.17	e16	e17	e.71
2	21	13	.72	13	6	.21	e12	e10	e.33
3	24	15	.96	14	8	.31	11	6	.19
4	24	17	1.1	14	11	.43	11	4	.13
5	37	62	8.0	12	15	.51	10	6	.16
6	54	195	82	12	15	.49	9.5	8	.20
7	41	59	7.3	13	13	.46	9.4	10	.26
8	26	13	.89	13	11	.38	9.0	10	.25
9	21	9	.50	12	10	.34	9.3	9	.23
10	19	8	.40	12	9	.30	9.3	8	.20
11	17	7	.34	11	9	.26	9.0	7	.17
12	16	7	.31	11	8	.25	9.1	7	.16
13	16	7	.30	14	9	.32	9.6	6	.16
14	19	18	1.5	14	9	.35	9.3	6	.14
15	20	41	3.2	12	10	.31	9.2	5	.13
16	26	47	4.7	12	8	.24	9.2	5	.12
17	16	13	.57	11	6	.17	9.5	4	.11
18	15	9	.37	14	4	.15	9.7	4	.11
19	14	18	.71	17	3	.15	9.1	5	.12
20	14	27	1.0	13	4	.15	8.7	7	.16
21	14	9	.33	12	6	.19	9.2	9	.21
22	14	2	.09	12	8	.25	9.2	11	.28
23	13	2	.07	19	24	2.6	8.9	11	.26
24	13	2	.07	35	78	24	9.8	9	.25
25	16	2	.09	40	49	5.5	8.6	8	.19
26	23	31	2.3	17	25	1.1	8.7	8	.18
27	14	17	.61	15	21	.83	9.8	7	.19
28	13	10	.37	12	19	.64	13	7	.24
29	20	6	.34	23	174	23	13	6	.22
30	15	4	.17	---	---	---	10	6	.16
31	13	3	.12	---	---	---	9.5	6	.14
TOTAL	632	---	120.14	444	---	64.06	308.6	---	6.36

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
APRIL			MAY			JUNE			
1	9.0	5	.13	6.4	9	.15	21	22	1.3
2	8.7	5	.12	6.1	7	.12	16	14	.61
3	8.6	5	.10	6.2	7	.12	13	10	.35
4	8.1	4	.09	5.7	8	.12	18	22	1.2
5	8.0	4	.09	17	22	1.8	12	10	.32
6	7.9	5	.10	10	11	.34	11	6	.17
7	7.8	5	.11	10	13	.46	10	4	.10
8	7.8	6	.13	4.5	14	.17	9.8	8	.21
9	7.0	8	.16	5.6	21	.31	9.1	10	.25
10	6.9	12	.23	5.2	19	.27	9.0	9	.22
11	6.7	17	.31	196	1400	2070	9.0	2	.05
12	6.8	13	.23	44	83	13	145	586	834
13	9.0	10	.39	20	8	.47	54	51	11
14	15	16	.76	14	3	.13	24	4	.28
15	7.8	9	.18	12	3	.09	19	4	.19
16	11	8	.24	11	2	.07	78	291	180
17	9.8	7	.19	16	13	.84	35	20	2.3
18	8.4	7	.16	21	28	2.0	22	3	.20
19	15	23	1.0	14	28	1.1	18	2	.09
20	11	16	.49	12	20	.63	15	1	.05
21	8.0	15	.32	11	15	.43	13	2	.06
22	7.3	14	.28	10	11	.32	12	3	.10
23	7.2	12	.24	8.7	9	.20	11	6	.17
24	7.2	10	.20	8.3	8	.18	11	11	.32
25	7.4	9	.17	10	8	.22	12	12	.41
26	6.8	7	.14	8.4	8	.18	44	110	36
27	6.3	8	.14	8.9	8	.19	20	26	1.6
28	6.0	10	.16	16	20	1.1	13	16	.56
29	6.7	11	.21	16	20	.95	11	17	.50
30	7.8	10	.22	197	596	663	10	17	.47
31	---	---	---	35	35	3.4	---	---	---
TOTAL	251.0	---	7.29	766.0	---	2762.36	704.9	---	1073.08

RIO GRANDE DE LOIZA BASIN

50053025 RIO TURABO ABOVE BORINQUEN, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JULY			AUGUST			SEPTEMBER			
1	10	16	.46	e13	e11	e.55	15	15	.62
2	16	15	.61	e13	e12	e.60	12	26	.85
3	17	13	.60	e9.0	e11	e.55	12	16	.53
4	12	11	.38	e22	e51	e5.6	e12	e7	e.22
5	10	10	.29	e19	e38	e2.3	e14	e3	e.13
6	9.8	10	.27	e9.3	e28	e.68	e34	e54	e6.0
7	9.1	11	.26	e8.4	e40	e.91	46	96	38
8	10	11	.31	e9.5	e55	e1.4	34	57	6.5
9	8.2	11	.25	e7.5	e46	e.94	20	14	.77
10	7.6	12	.24	e14	e33	e1.2	59	130	56
11	e8.2	e12	e.29	e11	e23	e.71	159	449	696
12	e18	e16	e.65	e7.8	e17	e.36	21	42	2.5
13	e12	e16	e.65	e6.5	e15	e.27	14	25	.95
14	e21	e16	e.65	e14	e15	e.55	11	18	.57
15	e13	e18	e.80	e13	e14	e.49	11	15	.44
16	e10	e11	e.55	e48	e80	e18	20	26	1.5
17	e9.8	e10	e.40	e25	e37	e3.3	102	287	221
18	e13	e11	e.55	e8.4	e19	e.45	133	334	171
19	e13	e12	e.55	e6.5	e14	e.24	39	86	9.4
20	e11	e11	e.55	e6.8	e9	e.17	30	59	4.7
21	e10	e10	e.55	e5.9	e6	e.10	30	50	4.0
22	e8.8	e10	e.40	e18	e4	e.18	24	42	2.8
23	e8.8	e9	e.40	265	839	2240	21	36	2.0
24	e8.2	e9	e.40	37	84	9.1	19	30	1.5
25	e7.8	e8	e.30	26	44	3.2	19	26	1.4
26	e7.0	e6	e.30	81	169	49	16	22	.96
27	e7.2	e6	e.30	41	63	7.6	120	428	260
28	e6.6	e5	e.20	27	21	1.5	77	239	89
29	e18	e11	e.55	23	10	.63	37	81	8.2
30	e19	e19	e1.0	17	9	.41	29	50	3.9
31	e9.4	e16	e.65	17	9	.39	---	---	---
TOTAL	349.5	---	14.36	829.6	---	2351.38	1190	---	1591.44
YEAR	9416.6		15636.90						

e Estimated

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

SILT AND CLAY PERCENT OF SUSPENDED SEDIMENT

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
DEC 29...	1540	62	43	7.2	97
APR 18...	1715	8.4	7	.16	100
AUG 23...	0945	655	2300	4070	71
SEP 02...	1535	11	31	.92	91

RIO GRANDE DE LOIZA BASIN

50053025 RIO TURABO ABOVE BORINQUEN, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM (70326)	SED. SUSP. FALL DIAM. % FINER THAN .004 MM (70327)	SED. SUSP. FALL DIAM. % FINER THAN .008 MM (70328)	
NOV								
17...	0410	1390	5310	19900	31	39	50	
18...	1650	379	3210	3290	42	56	76	
AUG								
23...	0900	1150	7340	22800	21	27	36	
DATE		SED. SUSP. FALL DIAM. % FINER THAN .016 MM (70329)	SED. SUSP. FALL DIAM. % FINER THAN .031 MM (70330)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM (70332)	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM (70333)	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM (70334)	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM (70335)
NOV								
17...	60	67	70	79	87	92	96	
18...	88	94	96	99	99	100	100	
AUG								
23...	45	54	57	68	76	84	95	

RIO GRANDE DE LOIZA BASIN

50055000 RIO GRANDE DE LOIZA AT CAGUAS, PR

LOCATION.--Lat 18°14'33", long 66°00'34", Hydrologic Unit 21010005, on right bank 250 ft (76 m) upstream from bridge on Highway 189, 1.2 mi (1.9 km) downstream from Río Turabo, and 1.8 mi (2.9 km) east of Caguas Plaza.

DRAINAGE AREA.--89.8 mi² (232.6 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--1959 (low-flow measurement only), February to November 1959 (monthly measurements only), December 1959 to current year.

GAGE.--Water-stage recorder. Datum of gage is 143.28 ft (43.67 m) above mean sea level.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	163	262	196	153	124	124	49	39	191	56	65	162
2	191	226	915	137	104	90	50	33	155	73	102	146
3	123	186	534	297	104	82	49	34	133	109	59	188
4	154	175	223	211	112	75	48	33	150	80	122	139
5	125	144	855	269	106	73	47	47	126	61	154	134
6	128	314	607	275	98	72	46	73	111	49	81	149
7	154	204	384	399	100	69	44	62	101	45	64	137
8	128	173	311	211	106	66	44	50	95	53	95	183
9	197	142	241	171	99	65	43	35	90	58	102	125
10	132	e3620	213	146	98	62	39	30	85	52	64	136
11	120	759	196	138	97	62	39	2260	87	48	92	863
12	183	e838	181	135	91	58	39	468	1060	86	58	200
13	163	e1200	172	126	97	58	41	197	408	92	51	163
14	152	e447	162	133	94	60	60	134	146	110	46	146
15	121	424	154	142	96	59	58	107	119	86	65	138
16	119	577	148	162	84	59	46	93	262	52	161	146
17	141	3960	148	124	82	58	61	495	185	49	71	385
18	132	2250	146	118	91	57	44	557	102	52	51	1050
19	138	1150	197	117	104	60	102	275	82	62	61	263
20	299	650	225	110	107	55	104	129	79	54	48	197
21	387	447	162	110	101	54	66	113	72	48	40	262
22	216	355	159	109	108	54	43	147	66	46	73	185
23	155	313	145	104	173	51	42	106	59	45	7250	207
24	247	270	135	103	168	55	50	94	75	44	467	218
25	260	256	135	112	261	58	44	111	89	40	330	187
26	231	227	144	144	140	58	41	104	88	39	837	148
27	154	210	121	113	115	68	33	94	118	42	472	891
28	122	295	127	108	97	65	30	137	68	42	631	471
29	113	205	632	121	111	101	35	247	56	86	295	261
30	114	199	200	122	---	69	48	1410	51	129	193	182
31	178	---	167	102	---	53	---	322	---	67	202	---
TOTAL	5240	20478	8335	4822	3268	2050	1485	8036	4509	1955	12402	8062
MEAN	169	683	269	156	113	66.1	49.5	259	150	63.1	400	269
MAX	387	3960	915	399	261	124	104	2260	1060	129	7250	1050
MIN	113	142	121	102	82	51	30	30	51	39	40	125
AC-FT	10390	40620	16530	9560	6480	4070	2950	15940	8940	3880	24600	15990
CFSM	1.88	7.60	2.99	1.73	1.25	.74	.55	2.89	1.67	.70	4.46	2.99
IN.	2.17	8.48	3.45	2.00	1.35	.85	.62	3.33	1.87	.81	5.14	3.34

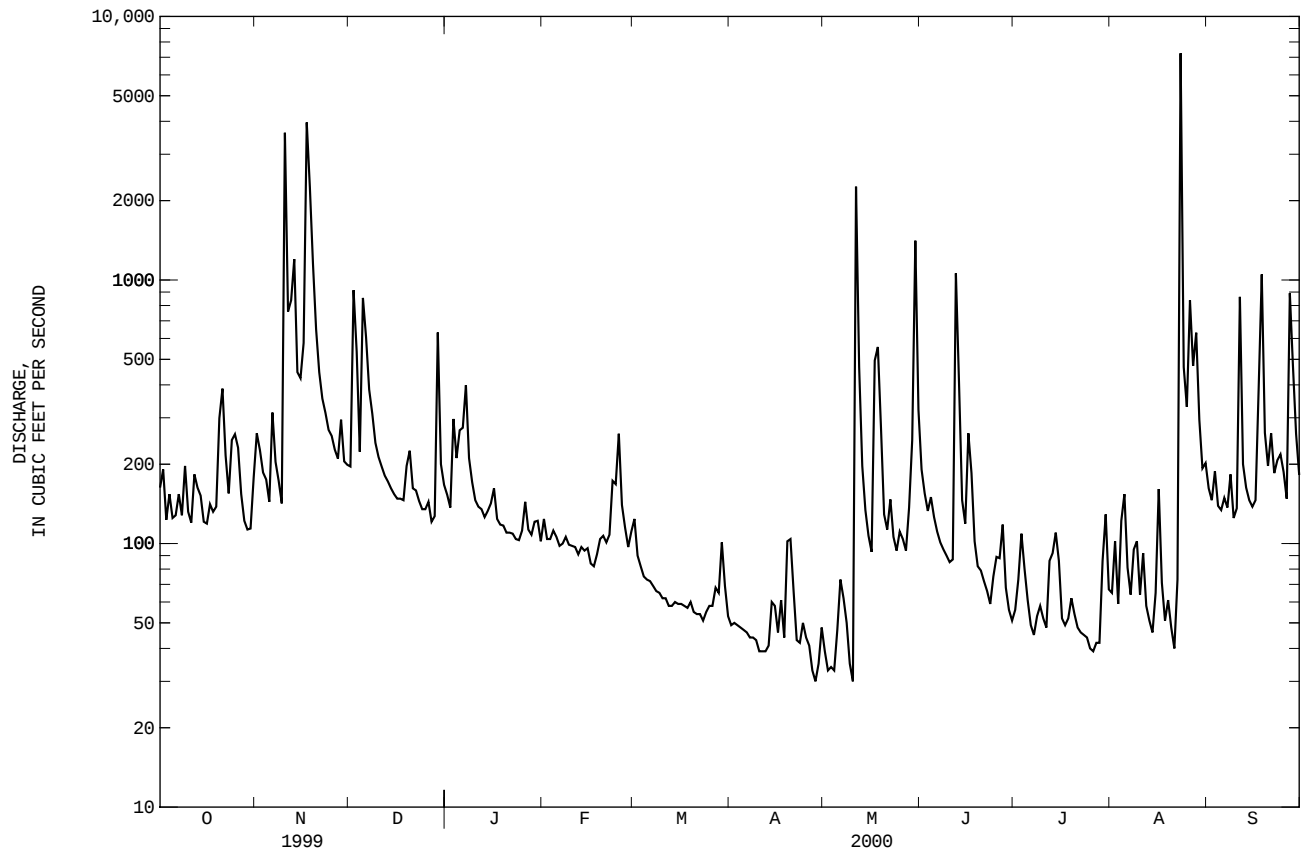
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 2000, BY WATER YEAR (WY)

MEAN	355	323	225	152	113	94.5	89.9	220	238	221	266	324
MAX	1910	1131	714	559	291	306	355	863	1283	660	949	1438
(WY)	1971	1988	1988	1992	1984	1989	1978	1985	1979	1961	1979	1960
MIN	44.2	64.9	33.6	45.3	35.6	23.2	30.6	33.7	34.1	21.8	51.4	37.4
(WY)	1968	1968	1968	1968	1968	1968	1995	1974	1975	1974	1994	1967

SUMMARY STATISTICS	FOR 1999 CALENDAR YEAR		FOR 2000 WATER YEAR		WATER YEARS 1960 - 2000	
ANNUAL TOTAL	74814		80642			
ANNUAL MEAN	205		220		216	
HIGHEST ANNUAL MEAN					526	
LOWEST ANNUAL MEAN					82.3	
HIGHEST DAILY MEAN	3960	Nov 17	7250	Aug 23	25300	Sep 6 1960
LOWEST DAILY MEAN	28	May 29	30	Apr 28	11	Apr 8 1968
ANNUAL SEVEN-DAY MINIMUM	33	May 26	36	Apr 27	11	Apr 8 1968
INSTANTANEOUS PEAK FLOW			40200	Aug 23	83000	Sep 10 1996
INSTANTANEOUS PEAK STAGE			23.56	Aug 23	32.32	Sep 10 1996
INSTANTANEOUS LOW FLOW			27	Apr 28	17	Aug 18 1994
ANNUAL RUNOFF (AC-FT)	148400		160000		156800	
ANNUAL RUNOFF (CFSM)	2.28		2.45		2.41	
ANNUAL RUNOFF (INCHES)	30.99		33.41		32.74	
10 PERCENT EXCEEDS	341		384		362	
50 PERCENT EXCEEDS	123		118		107	
90 PERCENT EXCEEDS	50		48		40	

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RIO GRANDE DE LOIZA BASIN
50055000 RIO GRANDE DE LOIZA AT CAGUAS, PR--Continued



RIO GRANDE DE LOIZA BASIN

50055000 RIO GRANDE DE LOIZA AT CAGUAS, PR.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1959 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: October 1983 to current year.

INSTRUMENTATION.-- USD-49 sediment sampler since October 1983. Sediment pumping sampler since 1984.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATION: Maximum daily mean, 14,500 mg/L November 27, 1987; Minimum daily mean, 8 mg/L January 23, 1992.

SEDIMENT LOADS: Maximum daily mean, 396,000 tons (359,000 tonnes) September 10, 1996; Minimum daily mean, 0.65 tons (0.59 tonnes) May 25, 1995.

EXTREMES FOR CURRENT YEAR 2000.--

SEDIMENT CONCENTRATION: Maximum daily mean, 1,330 mg/L August 23, 2000; Minimum daily mean, 13 mg/L November 27, 1999.

SEDIMENT LOADS: Maximum daily mean, 37,800 tons (34,292 tonnes) August 23, 2000; Minimum daily mean, ton 3.7 (3.4 tonnes) July 28, 2000.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (000061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (000095)	PH WATER WHOLE FIELD (STAND-ARD) (UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	STREP-TOCOCCEI, FECAL, KF AGAR (COLS. PER 100 ML) (31673)
DEC 08...	1045	305	215	7.6	23.0	47	8.1	93	<10	K17000	2500
MAR 03...	1315	82	305	7.5	23.7	72	9.0	105	<10	13000	350
MAY 03...	1400	31	332	7.9	29.0	21	6.7	86	<10	5500	540
AUG 30...	1400	189	253	7.8	29.2	65	7.3	95	11	2300	830

DATE	HARD-NESS TOTAL (MG/L AS CAC03) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CAC03) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS S04) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)
DEC 08...	68	16.5	6.48	16.7	.9	1.8	75	<1.0	9.9	16.4
MAR 03...	--	--	--	--	--	--	100	--	--	--
MAY 03...	98	24.2	8.99	28.3	1	1.6	105	<1.0	16.8	26.9
AUG 30...	76	19.6	6.53	18.3	.9	2.2	80	--	12.2	16.6

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SI02) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)
DEC 08...	<.1	30.9	144	119	52	.63	.03	.7	.11	.35
MAR 03...	--	--	--	--	71	.54	.07	.6	.13	.18
MAY 03...	.2	35.0	205	17.3	34	.42	.05	.5	.21	.20
AUG 30...	<.1	30.8	154	78.8	94	.45	.03	.5	.08	.19

DATE	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, TOTAL (MG/L AS N03) (71887)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	CADMIUM TOTAL UNFLTRD (UG/L AS CD) (01027)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)
DEC 08...	.46	1.1	5.0	.070	<3	40.0	26	<.1	1	<20
MAR 03...	.31	.92	4.1	.120	--	--	--	--	--	--
MAY 03...	.41	.88	3.9	.140	<3	30.9	47	<.1	<1	<20
AUG 30...	.27	.75	3.3	.130	--	--	--	--	--	--

RIO GRANDE DE LOIZA BASIN

50055000 RIO GRANDE DE LOIZA AT CAGUAS, PR.--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L AS SE) (01147)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	CYANIDE TOTAL (MG/L AS CN) (00720)	PHENOLS TOTAL (UG/L) (32730)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L) (38260)
DEC 08...	1900	E1	170	<.3	<3	<1	<31	<.01	7	<.04
MAR 03...	--	--	--	--	--	--	--	--	--	--
MAY 03...	1190	<1	269	<.3	<3	<1	<31	<.01	<4	<.04
AUG 30...	--	--	--	--	--	--	--	--	--	--

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
OCTOBER			NOVEMBER			DECEMBER			
1	163	146	69	262	255	198	196	94	50
2	191	204	109	226	204	132	915	394	2310
3	123	108	36	186	289	145	534	343	562
4	154	189	86	175	279	132	223	240	145
5	125	260	88	144	247	96	855	479	1540
6	128	207	72	314	261	232	607	454	766
7	154	172	73	204	198	109	384	449	467
8	128	143	52	173	207	101	311	485	404
9	197	201	110	142	260	100	241	524	340
10	132	85	31	e3620	e1010	e15200	213	456	263
11	120	38	12	759	344	803	196	181	96
12	183	161	122	e838	e450	e1070	181	67	33
13	163	346	153	e1200	e531	e1870	172	33	15
14	152	151	62	e447	e351	e445	162	68	30
15	121	126	41	424	282	387	154	158	65
16	119	123	41	577	254	421	148	265	106
17	141	145	57	3960	1160	19600	148	189	75
18	132	99	35	2250	875	5680	146	126	49
19	138	120	57	1150	420	1360	197	84	43
20	299	437	376	650	240	426	225	56	34
21	387	308	323	447	141	171	162	40	17
22	216	216	130	355	82	80	159	39	17
23	155	160	67	313	49	41	145	41	16
24	247	265	235	270	33	24	135	40	15
25	260	424	412	256	23	16	135	35	13
26	231	746	471	227	16	9.9	144	30	12
27	154	518	215	210	13	7.3	121	25	8.3
28	122	225	75	295	108	137	127	22	7.4
29	113	138	42	205	169	94	632	385	919
30	114	135	41	199	103	56	200	106	58
31	178	197	116	---	---	---	167	93	42
TOTAL	5240	---	3809	20478	---	49143.2	8335	---	8517.7

RIO GRANDE DE LOIZA BASIN

50055000 RIO GRANDE DE LOIZA AT CAGUAS, PR.--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JANUARY			FEBRUARY			MARCH			
1	153	92	38	124	92	31	124	129	46
2	137	91	34	104	107	30	90	98	24
3	297	249	207	104	121	34	82	93	21
4	211	167	98	112	127	39	75	82	17
5	269	225	173	106	133	38	73	71	14
6	275	220	220	98	139	37	72	62	12
7	399	349	402	100	145	39	69	59	11
8	211	228	131	106	150	43	66	76	14
9	171	162	75	99	151	40	65	101	18
10	146	116	46	98	152	40	62	122	20
11	138	85	32	97	151	40	62	112	19
12	135	87	32	91	148	36	58	100	16
13	126	96	33	97	144	38	58	90	14
14	133	106	38	94	141	36	60	81	13
15	142	115	44	96	140	36	59	74	12
16	162	124	54	84	147	33	59	68	11
17	124	135	45	82	156	35	58	66	10
18	118	146	46	91	155	38	57	71	11
19	117	152	48	104	125	35	60	77	12
20	110	158	47	107	99	29	55	83	12
21	110	154	46	101	79	22	54	90	13
22	109	123	36	108	74	21	54	97	14
23	104	97	27	173	261	196	51	96	13
24	103	76	21	168	380	191	55	95	14
25	112	63	19	261	227	164	58	91	14
26	144	73	28	140	174	66	58	78	12
27	113	89	27	115	138	43	68	65	12
28	108	102	30	97	109	28	65	63	11
29	121	98	32	111	114	37	101	79	21
30	122	93	31	---	---	---	69	98	18
31	102	85	23	---	---	---	53	113	16
TOTAL	4822	---	2163	3268	---	1495	2050	---	485
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
APRIL			MAY			JUNE			
1	49	106	14	39	68	7.1	191	83	43
2	50	98	13	33	68	6.2	155	61	26
3	49	91	12	34	61	5.6	133	58	21
4	48	87	11	33	54	4.8	150	55	22
5	47	102	13	47	63	8.8	126	52	18
6	46	124	15	73	96	20	111	52	16
7	44	140	17	62	89	18	101	65	18
8	44	129	15	50	112	15	95	82	21
9	43	118	14	35	90	8.6	90	98	24
10	39	107	11	30	73	5.9	85	98	22
11	39	98	10	2260	699	11900	87	96	23
12	39	97	10	468	372	521	1060	530	5400
13	41	97	11	197	151	83	408	213	333
14	60	97	16	134	84	30	146	83	33
15	58	99	15	107	59	17	119	86	28
16	46	101	13	93	43	11	262	211	240
17	61	102	17	495	402	1250	185	179	96
18	44	101	12	557	374	724	102	86	24
19	102	172	51	275	187	153	82	64	14
20	104	170	47	129	134	47	79	53	11
21	66	115	20	113	109	33	72	65	13
22	43	98	11	147	88	35	66	84	15
23	42	84	9.5	106	76	22	59	102	16
24	50	72	9.6	94	93	23	75	105	22
25	44	54	6.5	111	118	36	89	120	29
26	41	50	5.4	104	136	38	88	113	30
27	33	56	5.0	94	118	30	118	162	53
28	30	62	5.0	137	138	57	68	149	27
29	35	64	6.0	247	226	164	56	148	22
30	48	66	8.6	1410	774	5120	51	146	20
31	---	---	---	322	206	194	---	---	---
TOTAL	1485	---	423.6	8036	---	20588.0	4509	---	6680

RIO GRANDE DE LOIZA BASIN

50055000 RIO GRANDE DE LOIZA AT CAGUAS, PR.--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JULY			AUGUST			SEPTEMBER			
1	56	145	22	65	276	49	162	68	30
2	73	143	28	102	245	68	146	82	32
3	109	142	42	59	204	32	188	103	52
4	80	140	30	122	166	53	139	130	49
5	61	139	23	154	124	52	134	152	55
6	49	137	18	81	92	20	149	137	55
7	45	126	15	64	69	12	137	120	44
8	53	89	13	95	68	20	183	108	53
9	58	61	9.6	102	121	35	125	104	35
10	52	42	5.9	64	67	12	136	125	54
11	48	32	4.1	92	67	18	863	593	2030
12	86	57	19	58	49	7.6	200	189	103
13	92	155	39	51	45	6.1	163	118	52
14	110	122	35	46	41	5.2	146	73	29
15	86	87	21	65	39	6.8	138	50	19
16	52	62	8.7	161	258	114	146	49	20
17	49	44	5.8	71	276	53	385	175	681
18	52	33	4.6	51	231	32	1050	633	1940
19	62	31	5.2	61	131	21	263	194	141
20	54	30	4.4	48	72	9.4	197	98	53
21	48	30	4.0	40	43	4.7	262	197	147
22	46	37	4.5	73	48	11	185	86	43
23	45	44	5.4	7250	1330	37800	207	68	38
24	44	54	6.4	467	158	210	218	65	38
25	40	56	6.0	330	145	171	187	63	32
26	39	43	4.6	837	511	1230	148	61	24
27	42	35	4.0	472	397	516	891	518	1880
28	42	34	3.7	631	587	1600	471	266	347
29	86	57	15	295	350	289	261	88	62
30	129	102	34	193	183	96	182	69	34
31	67	179	32	202	102	54	---	---	---
TOTAL	1955	---	472.9	12402	---	42607.8	8062	---	8172
YEAR	80642		144557.2						

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

SILT AND CLAY PERCENT OF SUSPENDED SEDIMENT

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT					
20...	0728	267	668	482	97
27...	0839	152	581	238	99
NOV					
17...	1130	3950	1080	11600	94
17...	1815	1940	555	2910	99
DEC					
16...	0746	149	303	122	93
JAN					
21...	0744	112	163	49	99
FEB					
29...	0945	86	125	29	97
APR					
20...	0746	78	183	39	98
AUG					
23...	0325	3930	5780	61300	99
23...	1240	5220	1890	26700	95
SEP					
18...	1320	1610	1100	4780	99

RIO GRANDE DE LOIZA BASIN

50055000 RIO GRANDE DE LOIZA AT CAGUAS, PR.--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM (70326)	SED. SUSP. FALL DIAM. % FINER THAN .004 MM (70327)	SED. SUSP. FALL DIAM. % FINER THAN .008 MM (70328)	
NOV 17...	0515	7940	1290	27700	36	43	55	
MAY 30...	1003	4570	1350	16700	43	54	69	
SEP 11...	0620	3030	766	6270	34	45	61	
DATE		SED. SUSP. FALL DIAM. % FINER THAN .016 MM (70329)	SED. SUSP. FALL DIAM. % FINER THAN .031 MM (70330)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM (70332)	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM (70333)	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM (70334)	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM (70335)
NOV 17...	68	81	87	95	99	100	100	
MAY 30...	83	89	94	98	100	100	100	
SEP 11...	78	91	97	100	100	100	100	

50055100 RIO CAGÜITAS NEAR AGUAS BUENAS, PR

LOCATION.--Lat 18°14'48", long 66°05'37", Hydrologic Unit 21010005, on right bank 450 ft (137 m) upstream from bridge on Highway 777, 1.0 mi (1.6 km) southeast from Aguas Buenas, 3.9 mi (6.3 km) northwest from Caguas, and 2.1 mi (3.4 km) southwest from Las Carolinas.

DRAINAGE AREA.--5.30 mi² (13.72 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1990 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 394 ft (120 m), from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.6	19	12	12	10	8.2	5.4	4.3	4.9	4.3	11	5.1
2	7.1	24	36	12	8.8	7.5	5.3	4.1	4.7	4.6	6.9	4.8
3	6.7	15	28	42	9.0	7.1	5.5	4.0	4.4	4.4	5.2	4.8
4	6.6	11	14	23	9.1	7.1	5.3	5.8	4.8	4.3	7.1	4.7
5	6.6	95	92	22	8.7	7.0	5.3	6.2	4.2	4.2	6.6	4.6
6	6.4	42	49	26	8.4	6.8	5.1	4.1	4.0	4.1	4.6	5.2
7	6.1	16	43	19	9.7	6.7	5.0	3.8	3.9	4.1	4.7	4.8
8	6.6	21	27	14	8.5	6.6	4.8	3.7	3.8	4.0	4.4	4.4
9	6.1	14	20	13	8.1	6.4	4.7	3.6	3.7	3.9	4.3	4.2
10	6.2	83	17	12	8.0	6.4	4.7	3.6	3.8	3.9	4.4	6.3
11	6.5	25	16	11	7.9	6.3	4.6	12	3.7	3.7	4.3	8.5
12	9.1	e21	15	11	7.8	6.3	4.8	12	25	4.8	4.3	4.6
13	6.9	e15	14	12	8.0	6.2	6.0	6.1	6.8	3.9	4.2	4.2
14	6.0	e18	13	10	8.3	6.1	5.5	4.6	4.4	4.0	5.1	6.2
15	5.3	19	13	14	7.7	6.0	5.0	4.4	e4.0	3.7	5.6	5.6
16	5.9	30	12	15	7.5	6.0	5.6	4.1	e25	3.6	11	5.2
17	10	113	12	10	8.0	6.1	5.4	4.1	e10	4.6	4.9	44
18	7.9	101	13	10	8.8	6.1	5.0	24	e5.4	3.9	4.5	70
19	18	75	15	9.9	15	6.0	5.0	6.7	e4.8	3.7	4.7	15
20	27	37	17	9.8	9.3	5.9	4.7	4.9	e5.6	3.8	4.5	9.4
21	47	25	14	9.6	7.7	6.0	4.6	4.4	e5.5	3.6	4.5	7.7
22	23	20	16	9.4	7.7	6.3	4.5	4.5	4.9	3.5	8.8	16
23	12	19	17	9.2	13	5.8	4.6	4.2	4.7	3.5	393	13
24	10	16	17	9.1	9.0	5.9	4.4	3.9	4.6	3.5	16	24
25	26	30	17	9.2	16	5.6	4.3	4.9	4.6	3.7	9.5	14
26	14	17	13	9.5	9.4	9.7	4.2	3.9	5.0	3.7	8.4	9.6
27	12	14	12	9.1	8.8	8.6	4.2	3.6	4.6	3.6	6.9	19
28	11	17	13	9.0	7.8	6.2	4.3	3.8	4.4	3.6	7.6	30
29	11	15	43	9.8	9.5	6.0	4.7	3.9	4.3	4.4	5.9	14
30	10	13	15	9.5	---	5.6	5.1	25	4.3	4.1	6.9	11
31	32	---	13	8.9	---	5.5	---	6.3	---	4.1	5.5	---
TOTAL	376.6	980	668	410.0	265.5	202.0	147.6	194.5	183.8	122.8	585.3	379.9
MEAN	12.1	32.7	21.5	13.2	9.16	6.52	4.92	6.27	6.13	3.96	18.9	12.7
MAX	47	113	92	42	16	9.7	6.0	25	25	4.8	393	70
MIN	5.3	11	12	8.9	7.5	5.5	4.2	3.6	3.7	3.5	4.2	4.2
AC-FT	747	1940	1320	813	527	401	293	386	365	244	1160	754
CFSM	2.29	6.16	4.07	2.50	1.73	1.23	.93	1.18	1.16	.75	3.56	2.39
IN.	2.64	6.88	4.69	2.88	1.86	1.42	1.04	1.37	1.29	.86	4.11	2.67

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 2000, BY WATER YEAR (WY)

MEAN	9.88	11.1	11.0	9.32	6.04	5.18	4.71	5.25	5.15	6.61	8.07	15.4
MAX	20.9	32.7	39.2	16.7	10.1	8.87	13.1	18.0	12.1	18.6	18.9	52.9
(WY)	1991	2000	1999	1992	1999	1990	1993	1993	1999	1993	2000	1996
MIN	3.17	2.66	2.34	2.48	2.96	2.09	1.84	2.00	1.84	1.86	1.85	2.43
(WY)	1996	1995	1995	1995	1995	1996	1995	1997	1997	1994	1994	1997

SUMMARY STATISTICS

FOR 1999 CALENDAR YEAR

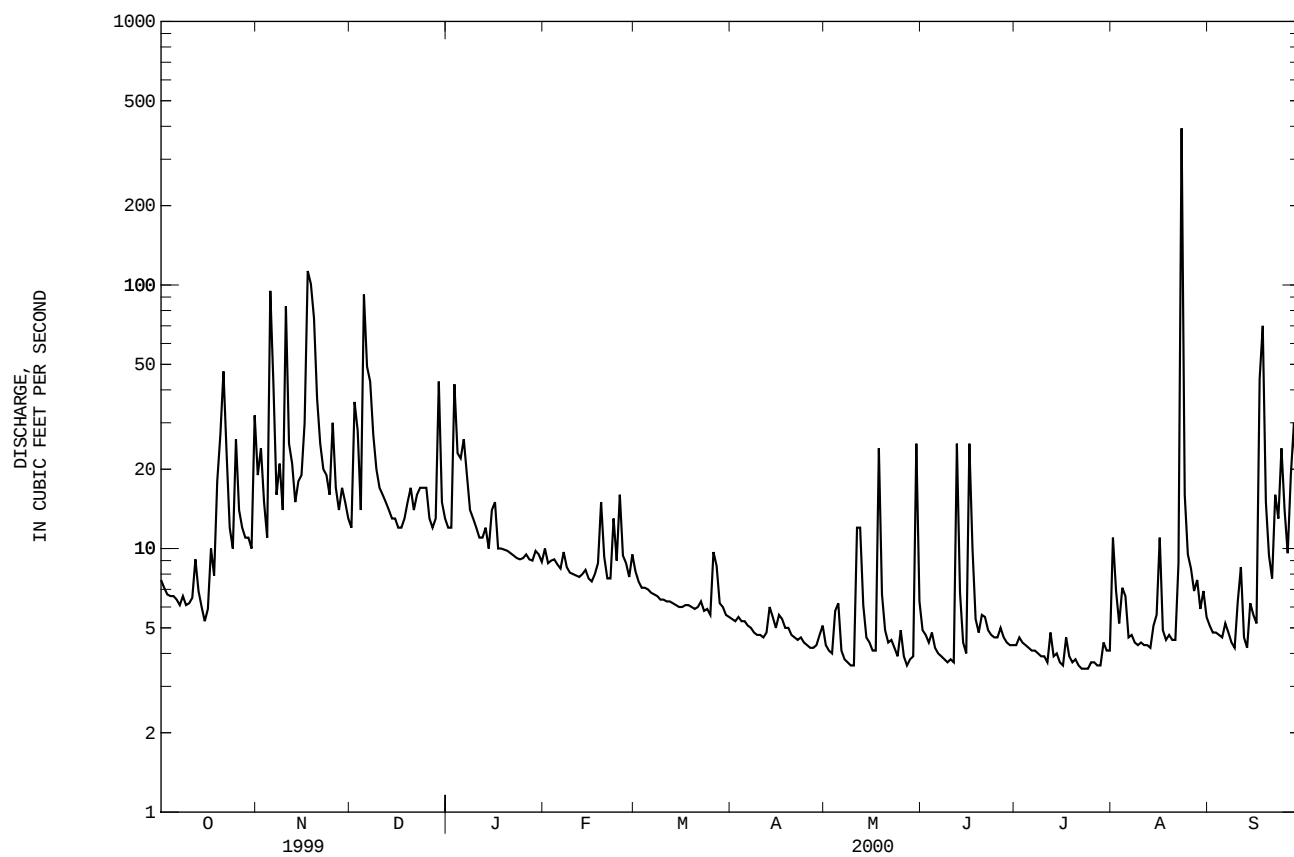
FOR 2000 WATER YEAR

WATER YEARS 1990 - 2000

ANNUAL TOTAL	4814.7	4516.0	
ANNUAL MEAN	13.2	12.3	
HIGHEST ANNUAL MEAN			8.31
LOWEST ANNUAL MEAN			14.5
HIGHEST DAILY MEAN	113	393	1260
LOWEST DAILY MEAN	4.2	3.5	1.0
ANNUAL SEVEN-DAY MINIMUM	4.3	3.6	1.2
INSTANTANEOUS PEAK FLOW		2500	4490
INSTANTANEOUS PEAK STAGE		17.41	21.22
INSTANTANEOUS LOW FLOW		2.9	.82
ANNUAL RUNOFF (AC-FT)	9550	8960	6020
ANNUAL RUNOFF (CFSM)	2.49	2.33	1.57
ANNUAL RUNOFF (INCHES)	33.79	31.70	21.31
10 PERCENT EXCEEDS	21	22	13
50 PERCENT EXCEEDS	8.9	6.8	4.7
90 PERCENT EXCEEDS	5.6	4.1	2.0

e Estimated

RIO GRANDE DE LOIZA BASIN
50055100 RIO CAGÜITAS NEAR AGUAS BUENAS, PR--Continued



50055100 RIO CAGÜITAS NEAR AGUAS BUENAS, PR--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORDS.-- Water years 1990 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: February 1990 to current year.

INSTRUMENTATION.-- USDH-48 sediment sampler and automatic sediment sampler since 1990.

REMARKS:-- Sediment samples were collected by a local observer on a weekly basis. During high flow events sediment samples were collected by hydrologic technician and automatic sediment sampler.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATION: Maximum daily mean, 5,300 mg/L September 10, 1996; Minimum daily mean, 1 mg/L several days during 1997-98.

SEDIMENT LOADS: Maximum daily mean, 24,500 tons (22,200 tonnes) September 10, 1996; Minimum daily mean, 0.01 ton (0.01 tonnes) several days during 1997-98.

EXTREMES FOR CURRENT YEAR 2000.--

SEDIMENT CONCENTRATION: Maximum daily mean, 2,090 mg/L August 23, 2000; Minimum daily mean, 1 mg/L several days.

SEDIMENT LOADS: Maximum daily mean, 4,230 tons (3,840 tonnes) December 1, 1998; Minimum daily mean, 0.02 ton (0.02 tonne) October 5-6, 1999.

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
OCTOBER				NOVEMBER			DECEMBER		
1	7.6	17	.36	19	134	7.7	12	8	.27
2	7.1	3	.05	24	224	43	36	465	111
3	6.7	2	.03	15	38	1.8	28	293	35
4	6.6	1	.03	11	5	.16	14	28	1.1
5	6.6	1	.02	95	1290	964	92	1500	539
6	6.4	1	.02	42	349	73	49	664	112
7	6.1	2	.03	16	12	.55	43	459	61
8	6.6	3	.05	21	149	18	27	161	12
9	6.1	4	.06	14	103	3.8	20	27	1.5
10	6.2	4	.07	83	1170	428	17	7	.34
11	6.5	4	.07	25	51	3.5	16	9	.37
12	9.1	39	1.5	e21	e44	e2.5	15	14	.55
13	6.9	23	.43	e15	e40	e1.7	14	18	.69
14	6.0	18	.29	e18	e36	e1.7	13	15	.53
15	5.3	12	.17	19	70	4.2	13	12	.40
16	5.9	7	.10	30	335	43	12	9	.31
17	10	61	2.8	113	1740	626	12	7	.25
18	7.9	54	1.2	101	986	320	13	9	.30
19	18	297	48	75	646	163	15	11	.43
20	27	291	29	37	27	2.8	17	14	.62
21	47	393	54	25	21	1.4	14	17	.64
22	23	185	13	20	17	.95	16	18	.77
23	12	32	1.1	19	15	.78	17	94	6.6
24	10	24	.65	16	16	.70	17	65	3.1
25	26	318	66	30	342	89	17	69	3.8
26	14	104	4.0	17	51	2.5	13	28	.98
27	12	39	1.2	14	12	.46	12	13	.41
28	11	14	.43	17	79	5.6	13	6	.22
29	11	9	.26	15	44	2.6	43	854	228
30	10	7	.20	13	8	.30	15	68	2.9
31	32	311	123	---	---	---	13	27	.92
TOTAL	376.6	---	348.12	980	---	2812.70	668	---	1126.00

RIO GRANDE DE LOIZA BASIN

50055100 RIO CAGÜITAS NEAR AGUAS BUENAS, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JANUARY			FEBRUARY			MARCH			
1	12	26	.81	10	11	.31	8.2	30	.66
2	12	27	.85	8.8	13	.31	7.5	23	.46
3	42	526	60	9.0	15	.37	7.1	17	.33
4	23	187	12	9.1	17	.42	7.1	13	.25
5	22	165	10	8.7	19	.45	7.0	10	.19
6	26	265	31	8.4	20	.46	6.8	8	.14
7	19	58	3.2	9.7	20	.53	6.7	6	.11
8	14	29	1.1	8.5	19	.44	6.6	6	.11
9	13	24	.82	8.1	13	.30	6.4	6	.10
10	12	20	.63	8.0	9	.19	6.4	6	.10
11	11	17	.50	7.9	6	.13	6.3	6	.10
12	11	16	.46	7.8	5	.10	6.3	8	.14
13	12	16	.49	8.0	7	.16	6.2	11	.18
14	10	15	.43	8.3	14	.30	6.1	10	.16
15	14	71	6.4	7.7	22	.45	6.0	7	.12
16	15	76	4.8	7.5	21	.43	6.0	6	.09
17	10	9	.26	8.0	19	.41	6.1	4	.07
18	10	13	.35	8.8	18	.42	6.1	3	.05
19	9.9	12	.32	15	112	7.5	6.0	3	.04
20	9.8	7	.20	9.3	60	1.6	5.9	2	.03
21	9.6	5	.12	7.7	45	.94	6.0	3	.05
22	9.4	3	.08	7.7	40	.82	6.3	4	.08
23	9.2	4	.10	13	99	5.4	5.8	7	.11
24	9.1	5	.13	9.0	44	1.1	5.9	11	.17
25	9.2	7	.17	16	138	8.9	5.6	12	.18
26	9.5	7	.17	9.4	30	.76	9.7	50	3.6
27	9.1	6	.16	8.8	26	.61	8.6	49	1.7
28	9.0	6	.15	7.8	31	.64	6.2	9	.16
29	9.8	6	.17	9.5	46	1.4	6.0	9	.14
30	9.5	9	.22	---	---	---	5.6	9	.13
31	8.9	11	.27	---	---	---	5.5	9	.13
TOTAL	410.0	---	136.36	265.5	---	35.85	202.0	---	9.88
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
APRIL			MAY			JUNE			
1	5.4	8	.12	4.3	4	.05	4.9	16	.22
2	5.3	8	.12	4.1	5	.05	4.7	11	.14
3	5.5	8	.12	4.0	5	.05	4.4	19	.22
4	5.3	8	.12	5.8	19	.63	4.8	38	.48
5	5.3	8	.11	6.2	48	.88	4.2	60	.68
6	5.1	8	.12	4.1	37	.41	4.0	53	.57
7	5.0	9	.12	3.8	32	.33	3.9	46	.48
8	4.8	8	.11	3.7	29	.29	3.8	39	.40
9	4.7	6	.07	3.6	28	.27	3.7	33	.34
10	4.7	3	.04	3.6	28	.27	3.8	25	.25
11	4.6	4	.05	12	112	6.9	3.7	5	.05
12	4.8	5	.07	12	146	12	25	572	137
13	6.0	7	.12	6.1	79	1.4	6.8	32	.72
14	5.5	10	.15	4.6	39	.49	4.4	19	.23
15	5.0	14	.18	4.4	23	.28	e4.0	e16	e.16
16	5.6	15	.23	4.1	14	.15	e25	e390	e55
17	5.4	17	.24	4.1	8	.09	e10	e112	e6.9
18	5.0	17	.22	24	534	129	e5.4	e10	e.21
19	5.0	10	.14	6.7	86	1.6	e4.8	e9	e.12
20	4.7	6	.08	4.9	36	.49	e5.6	e8	e.11
21	4.6	4	.05	4.4	23	.28	e5.5	e6	e.10
22	4.5	2	.03	4.5	15	.18	4.9	6	.07
23	4.6	2	.03	4.2	10	.12	4.7	5	.06
24	4.4	3	.04	3.9	12	.12	4.6	4	.05
25	4.3	4	.05	4.9	16	.21	4.6	6	.08
26	4.2	4	.05	3.9	21	.22	5.0	11	.15
27	4.2	4	.05	3.6	22	.22	4.6	14	.18
28	4.3	5	.05	3.8	21	.22	4.4	11	.13
29	4.7	5	.06	3.9	20	.22	4.3	7	.09
30	5.1	4	.06	25	390	55	4.3	5	.06
31	---	---	---	6.3	32	.56	---	---	---
TOTAL	147.6	---	3.00	194.5	---	212.98	183.8	---	205.25

RIO GRANDE DE LOIZA BASIN

50055100 RIO CAGÜITAS NEAR AGUAS BUENAS, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JULY			AUGUST			SEPTEMBER			
1	4.3	5	.06	11	107	5.1	5.1	4	.05
2	4.6	5	.07	6.9	75	1.4	4.8	3	.04
3	4.4	6	.06	5.2	73	1.0	4.8	3	.03
4	4.3	6	.07	7.1	71	1.4	4.7	2	.03
5	4.2	5	.05	6.6	67	1.2	4.6	2	.03
6	4.1	3	.03	4.6	33	.41	5.2	4	.06
7	4.1	3	.04	4.7	13	.16	4.8	8	.11
8	4.0	5	.05	4.4	9	.11	4.4	16	.19
9	3.9	6	.06	4.3	8	.09	4.2	26	.29
10	3.9	8	.08	4.4	7	.08	6.3	48	1.7
11	3.7	10	.10	4.3	6	.07	8.5	70	2.0
12	4.8	13	.16	4.3	8	.09	4.6	16	.19
13	3.9	16	.17	4.2	11	.13	4.2	11	.12
14	4.0	20	.21	5.1	16	.22	6.2	32	.77
15	3.7	16	.16	5.6	22	.34	5.6	51	.79
16	3.6	12	.12	11	437	16	5.2	39	.54
17	4.6	9	.11	4.9	108	1.5	44	633	160
18	3.9	6	.06	4.5	32	.38	70	369	105
19	3.7	8	.08	4.7	12	.15	15	42	1.9
20	3.8	14	.14	4.5	13	.16	9.4	24	.60
21	3.6	22	.22	4.5	15	.18	7.7	18	.37
22	3.5	33	.31	8.8	104	4.8	16	380	37
23	3.5	38	.36	393	2090	4240	13	171	6.2
24	3.5	44	.41	16	101	4.9	24	522	56
25	3.7	51	.51	9.5	33	.85	14	125	5.4
26	3.7	58	.57	8.4	16	.36	9.6	64	1.7
27	3.6	56	.54	6.9	9	.17	19	159	8.6
28	3.6	51	.50	7.6	6	.13	30	316	30
29	4.4	47	.56	5.9	7	.11	14	162	6.5
30	4.1	47	.52	6.9	7	.14	11	77	2.2
31	4.1	47	.52	5.5	6	.10	---	---	---
TOTAL	122.8	---	6.90	585.3	---	4281.73	379.9	---	428.41
YEAR	4516.0		9607.18						

e Estimated

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

SILT AND CLAY PERCENT OF SUSPENDED SEDIMENT

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT					
21...	1545	52	311	44	97
NOV					
18...	0727	111	323	97	91
JAN					
03...	0335	61	346	57	93
03...	1710	71	1500	288	95
03...	1825	61	923	152	96
06...	1945	58	1000	157	95
FEB					
22...	0705	7.3	39	.77	93
APR					
18...	0730	5.2	19	.27	82
MAY					
13...	1630	5.2	59	.83	93
30...	0750	74	944	189	99
JUN					
12...	1815	102	2660	733	98
AUG					
05...	1700	5.2	69	.97	97
23...	0055	294	4040	3210	90
SEP					
17...	2235	177	1950	932	94
18...	0405	68	330	61	97
18...	1535	43	181	21	97
22...	1735	59	1410	225	99

RIO GRANDE DE LOIZA BASIN

50055100 RIO CAGÜITAS NEAR AGUAS BUENAS, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM (70326)	SED. SUSP. FALL DIAM. % FINER THAN .004 MM (70327)	SED. SUSP. FALL DIAM. % FINER THAN .008 MM (70328)
DEC 29...	0410	236	3360	2140	33	44	57
MAY 12...	1720	57	1540	237	42	54	71
AUG 23...	0055	294	4040	3210	32	40	55
SEP 17...	1100	77	1340	279	36	44	62
DATE	SED. SUSP. FALL DIAM. % FINER THAN .016 MM (70329)	SED. SUSP. FALL DIAM. % FINER THAN .031 MM (70330)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM (70332)	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM (70333)	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM (70334)	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM (70335)
DEC 29...	65	75	80	90	96	98	99
MAY 12...	84	93	95	99	99	100	100
AUG 23...	70	82	90	96	98	99	100
SEP 17...	76	88	92	98	100	100	100

50055225 RIO CAGÜITAS AT VILLA BLANCA AT CAGUAS, PR

LOCATION.--Lat 18°14'55", long 66°01'40", Hydrologic Unit 21010005, on left bank, at 4 street Villa Blanca housing area at Caguas, 1.8 mi (2.9 km) upstream from Rio Grande de Loiza, and 0.95 mi (1.53 km) northeast from Caguas Plaza.

DRAINAGE AREA.--11.7 mi² (30.3 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1990 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 164 ft (50 m), from topographic map.

REMARKS.--Records poor. Gage-height and precipitation satellite telemetry at station. Low-flow affected by pluvial discharges above 50 ft (15 m), upstream from station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	52	44	39	36	e20	15	13	11	13	70	25
2	15	74	190	38	32	e19	17	12	9.1	17	18	39
3	15	43	126	125	34	e17	17	11	7.8	14	15	20
4	15	24	57	54	30	e17	17	48	9.0	15	37	19
5	14	271	201	57	28	e17	20	51	9.6	13	23	22
6	14	161	141	72	29	e16	19	17	11	12	12	21
7	14	44	122	52	e28	e16	18	29	9.8	11	15	21
8	18	74	71	41	e28	e16	17	15	9.4	10	12	20
9	14	31	53	35	e26	e15	18	11	8.5	10	9.3	20
10	14	432	47	32	e27	e15	18	12	8.4	8.9	7.6	46
11	23	77	44	31	e27	e15	19	104	8.8	7.4	7.0	53
12	73	69	42	28	e26	e15	23	27	113	15	7.2	21
13	17	e34	41	30	e25	e15	18	19	22	9.4	6.8	19
14	15	33	40	26	e25	13	16	11	10	15	9.8	20
15	15	46	38	40	e22	14	16	9.7	8.1	8.4	15	22
16	33	106	37	53	e21	14	21	9.2	112	6.6	94	26
17	59	354	37	40	e24	14	19	19	38	e7.7	15	204
18	23	317	37	36	e23	15	20	97	24	e6.6	9.9	302
19	76	215	45	34	e33	15	62	23	21	e8.0	20	52
20	136	111	46	33	e29	13	e152	13	25	e7.2	8.5	26
21	198	78	39	31	e24	16	e48	13	23	e6.4	7.1	23
22	62	62	42	31	e22	17	e20	18	18	e6.1	52	32
23	27	70	47	30	e172	15	e16	15	16	e5.9	1990	63
24	20	52	42	29	e33	16	e15	12	19	e5.7	94	79
25	52	96	40	32	e42	15	15	20	17	e5.3	56	42
26	23	53	34	34	e27	e23	14	12	17	e5.0	66	26
27	19	46	32	30	e22	28	14	11	17	e5.4	32	120
28	18	67	34	30	e21	29	12	14	14	e7.7	85	111
29	18	47	105	37	e19	20	14	21	13	e31	31	38
30	18	48	42	31	---	16	14	174	13	e11	32	26
31	126	---	41	31	---	16	---	18	---	e8.3	25	---
TOTAL	1203	3187	1957	1242	935	522	724	878.9	642.5	313.0	2882.2	1558
MEAN	38.8	106	63.1	40.1	32.2	16.8	24.1	28.4	21.4	10.1	93.0	51.9
MAX	198	432	201	125	172	29	152	174	113	31	1990	302
MIN	14	24	32	26	19	13	12	9.2	7.8	5.0	6.8	19
MED	19	68	42	34	27	16	18	15	14	8.4	18	26
AC-FT	2390	6320	3880	2460	1850	1040	1440	1740	1270	621	5720	3090
CFSM	3.31	9.07	5.39	3.42	2.75	1.44	2.06	2.42	1.83	.86	7.94	4.43
IN.	3.82	10.12	6.22	3.95	2.97	1.66	2.30	2.79	2.04	.99	9.16	4.95

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 2000, BY WATER YEAR (WY)

MEAN	42.7	49.6	36.6	38.2	25.7	18.5	17.0	22.9	26.6	32.8	45.7	100
MAX	130	114	123	120	67.9	42.6	39.8	59.8	55.9	74.6	109	364
(WY)	1999	1999	1999	1992	1998	1998	1993	1993	1999	1993	1998	1996
MIN	18.7	12.2	8.87	14.2	10.8	7.54	5.49	3.35	2.86	4.13	3.82	8.82
(WY)	1996	1995	1995	1995	1992	1994	1994	1994	1994	1994	1994	1994

SUMMARY STATISTICS

FOR 1999 CALENDAR YEAR

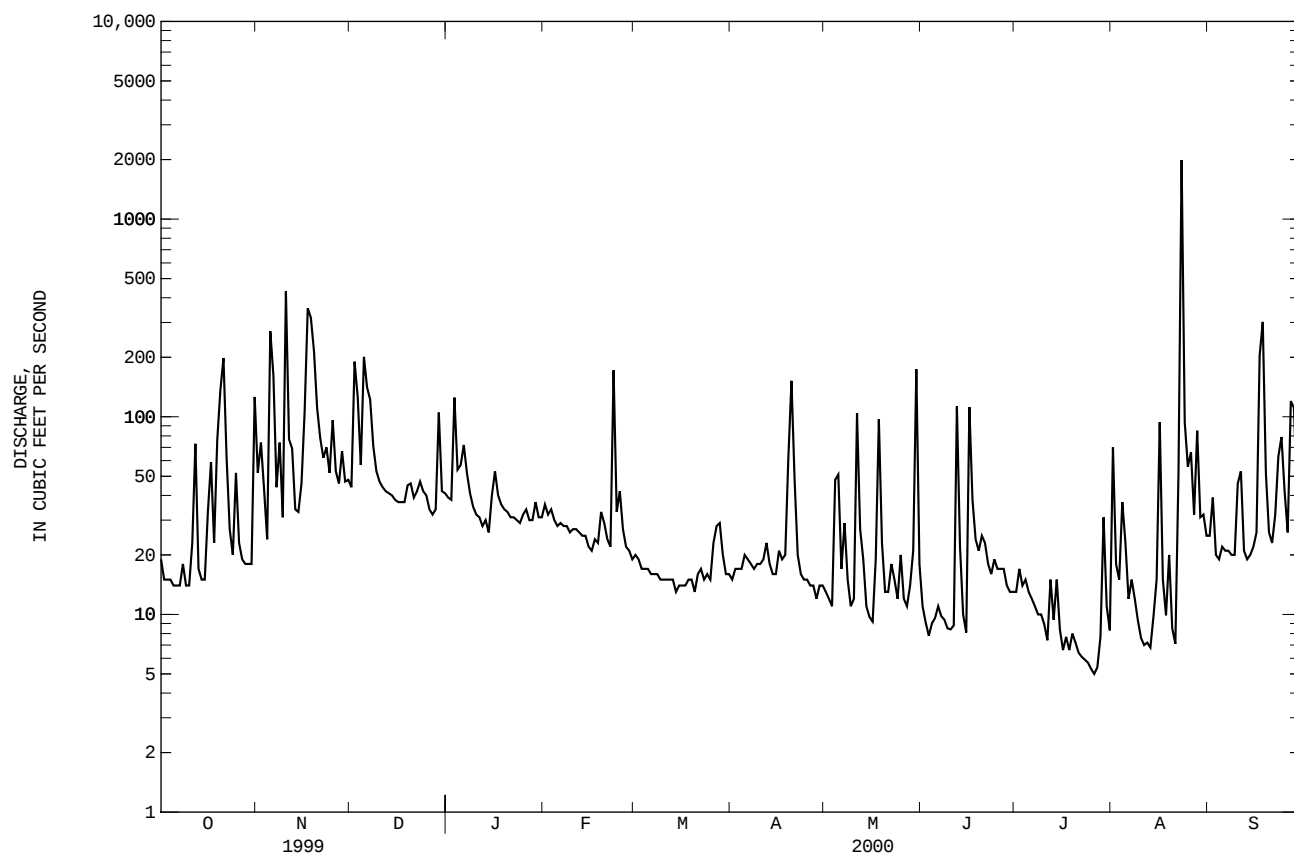
FOR 2000 WATER YEAR

WATER YEARS 1991 - 2000

ANNUAL TOTAL	15546.9	16044.6	
ANNUAL MEAN	42.6	43.8	39.6
HIGHEST ANNUAL MEAN			64.0
LOWEST ANNUAL MEAN			11.9
HIGHEST DAILY MEAN	763	Jul 2	1990
LOWEST DAILY MEAN	9.2	May 17	5.0
ANNUAL SEVEN-DAY MINIMUM	9.7	May 15	5.7
INSTANTANEOUS PEAK FLOW			19300
INSTANTANEOUS PEAK STAGE			22.19
ANNUAL RUNOFF (AC-FT)	30840	31820	28690
ANNUAL RUNOFF (CFSM)	3.64	3.74	3.38
ANNUAL RUNOFF (INCHES)	49.39	50.97	45.94
10 PERCENT EXCEEDS	77	77	54
50 PERCENT EXCEEDS	23	22	17
90 PERCENT EXCEEDS	12	9.8	6.4

e Estimated

RIO GRANDE DE LOIZA BASIN
50055225 RIO CAGÜITAS AT VILLA BLANCA AT CAGUAS, PR--Continued



50055225 RIO CAGÜITAS AT VILLA BLANCA AT CAGUAS, PR--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORDS.-- Water years 1991 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: December 1990 to current year.

INSTRUMENTATION.-- USDH-48 sediment sampler and automatic sediment sampler since 1991.

REMARKS.-- Sediment samples collected by local observer on a weekly basis. During high flow events sediments samples were collected by hydrologic technician and automatic sediment sampler.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATION: Maximum daily mean, 5,990 mg/L August 23, 2000; Minimum daily mean, 3 mg/L August 2, 1997.

SEDIMENT LOADS: Maximum daily mean, e110,000 tons (e99,800 tonnes) September 22,1998; Minimum daily mean, e0.03 ton (e0.02 tonne) June 15, 1994.

EXTREMES FOR CURRENT YEAR 2000.--

SEDIMENT CONCENTRATION: Maximum daily mean, 5,990 mg/L August 23, 2000; Minimum daily mean, 4 mg/L December 17, 1999.

SEDIMENT LOADS: Maximum daily mean, 106,000 tons (96,200 tonnes) August 23, 2000; Minimum daily mean, 0.18 ton (0.16 tonne) August 21, 2000.

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
OCTOBER			NOVEMBER			DECEMBER			
1	19	28	1.8	52	117	22	44	9	1.0
2	15	31	1.3	74	240	162	190	680	933
3	15	27	1.1	43	82	13	126	318	134
4	15	25	1.1	24	24	1.6	57	153	24
5	14	25	.96	271	1170	2280	201	538	396
6	14	24	.92	161	130	75	141	451	200
7	14	23	.85	44	19	2.3	122	373	143
8	18	38	2.3	74	223	152	71	123	24
9	14	37	1.4	31	47	4.3	53	42	6.2
10	14	32	1.2	432	1280	2380	47	14	1.8
11	23	46	8.2	77	124	29	44	5	.61
12	73	141	117	69	155	36	42	6	.64
13	17	32	1.4	e34	e26	e2.5	41	8	.93
14	15	27	1.1	33	44	6.0	40	12	1.3
15	15	25	1.0	46	90	14	38	9	.96
16	33	69	22	106	269	139	37	6	.63
17	59	132	46	354	1370	1580	37	4	.44
18	23	48	3.4	317	856	1040	37	5	.49
19	76	231	186	215	208	128	45	6	.75
20	136	567	265	111	81	25	46	8	.95
21	198	776	517	78	44	9.2	39	10	1.0
22	62	187	37	62	26	4.4	42	16	1.8
23	27	46	3.5	70	123	41	47	26	3.4
24	20	36	2.0	52	106	15	42	42	4.8
25	52	247	75	96	453	266	40	50	5.4
26	23	223	15	53	62	9.1	34	55	5.0
27	19	60	3.1	46	9	1.1	32	60	5.2
28	18	23	1.1	67	114	45	34	66	6.1
29	18	22	1.1	47	34	4.4	105	352	173
30	18	23	1.1	48	11	1.4	42	58	6.7
31	126	463	416	---	---	---	41	23	2.6
TOTAL	1203	---	1735.93	3187	---	8488.3	1957	---	2085.70

RIO GRANDE DE LOIZA BASIN

50055225 RIO CAGÜITAS AT VILLA BLANCA AT CAGUAS, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JANUARY			FEBRUARY			MARCH			
1	39	15	1.6	36	12	1.2	e20	e30	e2.0
2	38	22	2.7	32	14	1.2	e19	e24	e1.5
3	125	451	169	34	17	1.6	e17	e20	e1.5
4	54	159	24	30	21	1.7	e17	e18	e1.5
5	57	198	32	28	25	1.9	e17	e18	e1.0
6	72	207	58	29	22	1.7	e16	e17	e1.0
7	52	92	13	e28	e17	e1.3	e16	e17	e1.0
8	41	42	4.5	e28	e14	e1.1	e16	e17	e1.0
9	35	33	3.1	e26	e14	e1.0	e15	e14	e1.0
10	32	29	2.5	e27	e14	e1.0	e15	e14	e1.0
11	31	26	2.1	e27	e14	e1.0	e15	e14	e1.0
12	28	26	2.0	e26	e14	e.99	e15	e14	e1.0
13	30	29	2.4	e25	e14	e.94	e15	e15	e.59
14	26	44	3.1	e25	e14	e.96	13	17	.60
15	40	112	21	e22	e14	e.84	14	18	.69
16	53	96	17	e21	e15	e.85	14	19	.73
17	40	22	2.4	e24	e16	e1.1	14	20	.76
18	36	12	1.2	e23	e18	e1.1	15	22	.90
19	34	10	.96	e33	e55	e8.4	15	26	1.0
20	33	10	.88	e29	e57	e4.5	13	32	1.1
21	31	8	.71	e24	e47	e3.1	16	38	1.6
22	31	8	.63	e22	e40	e2.5	17	36	1.6
23	30	10	.84	e172	e648	e1420	15	31	1.2
24	29	14	1.1	e33	e65	e6.1	16	26	1.1
25	32	20	1.7	e42	e88	e11	15	23	.94
26	34	19	1.8	e27	e40	e2.9	e23	e47	e4.9
27	30	17	1.4	e22	e40	e5.0	28	45	3.7
28	30	16	1.3	e21	e30	e2.0	29	63	7.9
29	37	14	1.4	e19	e30	e2.0	20	24	1.3
30	31	13	1.1	---	---	---	16	17	.76
31	31	11	.94	---	---	---	16	13	.59
TOTAL	1242	---	376.36	935	---	1488.98	522	---	46.46
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
APRIL			MAY			JUNE			
1	15	11	.46	13	23	.77	11	18	.52
2	17	13	.58	12	21	.65	9.1	16	.40
3	17	13	.63	11	20	.63	7.8	15	.31
4	17	14	.66	48	117	42	9.0	14	.34
5	20	15	.81	51	151	57	9.6	13	.33
6	19	16	.83	17	27	1.3	11	12	.35
7	18	18	.88	29	41	8.6	9.8	12	.31
8	17	19	.90	15	20	.80	9.4	14	.36
9	18	17	.81	11	18	.52	8.5	18	.41
10	18	15	.71	12	17	.56	8.4	22	.50
11	19	15	.75	104	452	370	8.8	19	.46
12	23	16	.96	27	61	5.1	113	337	323
13	18	17	.82	19	33	1.9	22	40	3.0
14	16	19	.80	11	20	.59	10	16	.44
15	16	20	.88	9.7	17	.45	8.1	13	.28
16	21	22	1.3	9.2	15	.37	112	484	422
17	19	24	1.2	19	58	9.4	38	30	3.8
18	20	27	1.6	97	247	237	24	13	.85
19	62	152	28	23	41	2.8	21	12	.64
20	e152	e482	e311	13	13	.46	25	49	6.2
21	e48	e117	e17	13	10	.37	23	40	3.1
22	e20	e31	e1.8	18	26	2.2	18	30	1.4
23	e16	e20	e.87	15	20	.88	16	25	1.1
24	e15	e18	e.77	12	9	.30	19	22	1.1
25	15	17	.69	20	50	4.9	17	21	.96
26	14	15	.58	12	18	.58	17	22	1.0
27	14	14	.52	11	14	.39	17	22	1.0
28	12	15	.46	14	23	1.1	14	24	.91
29	14	21	1.2	21	38	2.9	13	25	.87
30	14	25	.91	174	894	730	13	25	.90
31	---	---	---	18	104	5.9	---	---	---
TOTAL	724	---	379.38	878.9	---	1490.42	642.5	---	776.84

RIO GRANDE DE LOIZA BASIN

50055225 RIO CAGÜITAS AT VILLA BLANCA AT CAGUAS, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JULY			AUGUST			SEPTEMBER			
1	13	24	.83	70	216	162	25	10	.63
2	17	26	1.2	18	48	2.4	39	132	63
3	14	27	1.1	15	34	1.4	20	41	2.5
4	15	28	1.1	37	80	22	19	16	.81
5	13	30	1.0	23	35	2.4	22	9	.54
6	12	28	.90	12	22	.73	21	8	.47
7	11	25	.79	15	23	.94	21	8	.43
8	10	24	.66	12	22	.71	20	7	.38
9	10	25	.69	9.3	19	.48	20	7	.36
10	8.9	27	.64	7.6	17	.34	46	132	48
11	7.4	27	.55	7.0	14	.28	53	256	48
12	15	45	3.1	7.2	15	.29	21	25	1.5
13	9.4	41	1.0	6.8	16	.30	19	13	.67
14	15	33	1.3	9.8	18	.47	20	12	.64
15	8.4	28	.63	15	21	.97	22	11	.65
16	6.6	26	.46	94	264	194	26	37	6.0
17	e7.7	e24	e.50	15	29	1.2	204	425	555
18	e6.6	e16	e.40	9.9	19	.51	302	980	1040
19	e8.0	e17	e.40	20	54	9.5	52	92	14
20	e7.2	e17	e.40	8.5	12	.28	26	46	3.2
21	e6.4	e16	e.40	7.1	9	.18	23	41	2.5
22	e6.1	e16	e.40	52	104	30	32	65	8.3
23	e5.9	e16	e.40	1990	5990	106000	63	130	44
24	e5.7	e14	e.31	94	28	8.2	79	296	117
25	e5.3	e14	e.31	56	9	1.3	42	233	28
26	e5.0	e14	e.31	66	134	44	26	96	7.0
27	e5.4	e20	e.36	32	45	4.0	120	608	245
28	e7.7	e23	e.49	85	253	147	111	490	185
29	e31	e83	e36	31	56	4.7	38	162	17
30	e11	e21	e.65	32	63	7.7	26	99	7.0
31	e8.3	e15	e.33	25	15	1.0	---	---	---
TOTAL	313.0	---	57.61	2882.2	---	106649.28	1558	---	2447.58
YEAR	16044.6		126022.84						

e Estimated

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

SILT AND CLAY PERCENT OF SUSPENDED SEDIMENT

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT					
12...	1330	545	1340	1970	82
21...	1610	254	9270	6360	99
NOV					
10...	1630	374	1180	1190	95
17...	0620	596	2500	4020	90
DEC					
29...	0720	239	2140	1380	96
JAN					
15...	1220	24	72	4.7	92
FEB					
23...	1705	E458	6290	7780	95
MAY					
05...	1200	233	713	449	93
AUG					
23...	1235	1010	2810	7660	94
SEP					
18...	1510	269	1190	861	98

RIO GRANDE DE LOIZA BASIN

50055225 RIO CAGÜITAS AT VILLA BLANCA AT CAGUAS, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM (70326)	SED. SUSP. FALL DIAM. % FINER THAN .004 MM (70327)	SED. SUSP. FALL DIAM. % FINER THAN .008 MM (70328)	
NOV 05...	1905	791	3210	6850	43	55	70	
FEB 23...	1700	E500	5560	7510	37	47	59	
AUG 23...	1155	1440	2900	11300	46	58	71	
DATE		SED. SUSP. FALL DIAM. % FINER THAN .016 MM (70329)	SED. SUSP. FALL DIAM. % FINER THAN .031 MM (70330)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM (70332)	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM (70333)	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM (70334)	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM (70335)
NOV 05...	82	91	94	98	100	100	100	
FEB 23...	73	86	91	97	100	100	100	
AUG 23...	82	91	94	99	100	100	100	

50055250 RIO CAGÜITAS AT HIGHWAY 30 AT CAGUAS, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 18°15'11", long 66°01'26", at Highway 30 bridge, and 0.8 mi (1.3 km) east of Caguas plaza.

DRAINAGE AREA.--14.1 mi² (36.5 km²).

PERIOD OF RECORD.--Water years 1972 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)
DEC 02...	1240	66	318	7.7	25.5	25	6.6	81	47	K130000	56000
FEB 16...	1205	17	497	7.7	24.8	59	7.1	85	<10	K1600	290
APR 24...	1330	10	659	7.9	32.4	8.5	6.3	86	110	24000	81000
AUG 17...	1430	11	510	7.5	31.5	45	4.6	62	11	K60000	K1500

DATE	HARD- NESS TOTAL (MG/L AS CAC03) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD MG/L AS CAC03 (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS- SOLVED (MG/L AS S04) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)
DEC 02...	130	32.6	10.9	18.7	.7	1.9	120	<1.0	21.1	20.9
FEB 16...	--	--	--	--	--	--	182	--	--	--
APR 24...	170	44.5	15.2	65.4	2	3.8	180	<1.0	61.4	68.9
AUG 17...	170	44.7	13.7	30.9	1	2.6	153	--	42.1	36.3

DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L DAY) (70301)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDE (MG/L) (00530)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)
DEC 02...	<.1	24.3	202	35.8	68	.75	.08	.8	.51	.69
FEB 16...	--	--	--	--	102	.80	.10	.9	.32	.32
APR 24...	.3	33.1	401	11.0	18	1.34	.16	1.5	4.50	.70
AUG 17...	.2	35.5	297	9.15	64	.60	.16	.8	.85	.55

DATE	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	NITRO- GEN, TOTAL (MG/L AS NO3) (71887)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV- ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)
DEC 02...	1.2	2.0	9.0	.260	E2	37.9	36	E.1	5	E14
FEB 16...	.64	1.5	6.8	.200	--	--	--	--	--	--
APR 24...	5.2	6.7	29.7	.920	E2	38.5	230	.1	16	80
AUG 17...	1.4	2.2	9.6	.250	--	--	--	--	--	--

RIO GRANDE DE LOIZA BASIN

50055250 RIO CAGÜITAS AT HIGHWAY 30 AT CAGUAS, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

[illegible]

50055390 RIO BAIROA AT BAIROA, PR

LOCATION.--Lat 18°15'32", long 66°02'24", Hydrologic Unit 21010005, on left bank, in the Bairoa Housing Area, 1.6 mi (2.6 km) northwest of Caguas Plaza, 4.1 mi (6.6 km) east of Aguas Buenas Plaza, and 0.9 mi (1.4 km) northwest of Escuela Pepita Garriga.

DRAINAGE AREA.--5.08 mi² (13.15 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 1990 to current year.

REVISED RECORDS.--WDR PR-2,000-1; 1999. The maximum discharge, 2,480 ft³/s, revised, June 15, 1999, gage-height, 12.04 ft.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 131 ft (40 m), from topographic map.

REMARKS.--Records poor. Gage-height and precipitation satellite telemetry at station. Mean daily discharge affected by domestic discharges from school nearby station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e11	77	85	e18	e10	15	6.8	5.4	11	12	19	8.8
2	e12	21	87	e16	e8.6	9.0	6.9	5.2	5.6	124	28	11
3	e10	14	69	e15	e9.4	7.3	6.2	5.1	4.7	24	13	15
4	e9.4	12	46	e13	e8.6	7.1	5.7	4.9	4.9	14	10	11
5	e9.0	11	38	e13	e8.4	7.1	5.9	5.2	6.8	13	9.8	13
6	e35	13	47	e12	e8.2	7.1	5.9	6.6	5.2	11	11	10
7	e21	10	e33	e11	e8.4	6.9	5.9	5.8	5.3	10	11	26
8	e12	9.7	e26	e11	e8.4	6.9	5.9	9.1	38	11	11	11
9	e11	33	e26	e12	e7.8	16	5.7	5.6	8.0	71	9.2	11
10	e10	33	e20	e24	e7.8	7.7	10	4.8	6.8	18	10	13
11	e9.4	21	e19	e16	e8.0	7.0	6.4	5.2	5.5	17	9.3	23
12	e9.8	100	e17	e13	e14	6.7	5.7	4.6	7.5	16	9.2	10
13	e9.0	118	e17	e11	e8.4	6.9	5.4	4.6	6.1	13	9.4	14
14	e9.0	27	e14	e12	e7.8	6.7	5.6	4.5	54	13	14	13
15	e8.2	20	e13	e28	e7.6	7.0	6.0	4.4	327	41	13	8.9
16	e8.4	17	e13	e17	e7.6	6.9	5.4	4.4	47	15	23	8.9
17	e8.0	16	e12	e13	e7.3	6.8	5.3	4.4	73	12	10	8.9
18	e7.8	14	e11	e12	e7.3	6.9	5.8	4.5	39	9.9	9.8	9.6
19	e8.6	13	e12	e12	e7.2	6.8	5.6	4.6	24	9.0	9.6	44
20	e10	17	e14	e12	e7.2	6.8	5.3	4.6	18	78	20	19
21	e16	13	e13	e11	e7.3	6.6	5.4	4.6	14	27	11	11
22	e102	12	e11	e12	e7.5	6.8	5.3	4.6	13	16	27	9.1
23	e27	15	e10	e10	7.4	6.7	5.6	4.7	12	18	16	29
24	e18	21	e10	e10	7.3	8.3	6.2	5.3	11	13	12	11
25	e16	13	e11	e12	7.3	6.7	13	5.2	9.9	12	9.3	9.2
26	e18	11	e16	e10	7.3	6.5	5.9	4.7	9.3	11	8.6	12
27	e95	23	e11	e10	7.3	6.5	5.5	4.7	9.1	11	8.7	17
28	e129	14	e60	e24	7.4	6.4	5.8	4.8	9.0	11	9.7	22
29	64	19	e64	e10	---	6.5	5.4	5.7	26	11	15	13
30	25	24	e25	e9.4	---	33	5.3	29	10	11	9.8	10
31	17	---	e23	e8.6	---	8.1	---	9.1	---	10	12	---
TOTAL	755.6	761.7	873	418.0	226.8	260.7	184.8	185.9	820.7	682.9	398.4	432.4
MEAN	24.4	25.4	28.2	13.5	8.10	8.41	6.16	6.00	27.4	22.0	12.9	14.4
MAX	129	118	87	28	14	33	13	29	327	124	28	44
MIN	7.8	9.7	10	8.6	7.2	6.4	5.3	4.4	4.7	9.0	8.6	8.8
AC-FT	1500	1510	1730	829	450	517	367	369	1630	1350	790	858
CFSM	4.80	5.00	5.54	2.65	1.59	1.66	1.21	1.18	5.39	4.34	2.53	2.84
IN.	5.53	5.58	6.39	3.06	1.66	1.91	1.35	1.36	6.01	5.00	2.92	3.17

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 1999, BY WATER YEAR (WY)

MEAN	11.5	11.1	10.3	9.21	6.21	4.95	4.94	5.88	7.63	9.36	9.52	20.8
MAX	25.3	25.4	28.2	14.7	8.81	8.41	9.23	12.5	27.4	22.0	17.7	76.9
(WY)	1991	1999	1999	1996	1997	1999	1996	1993	1999	1999	1996	1996
MIN	4.30	3.74	3.07	4.12	3.42	2.87	2.61	2.91	2.72	4.35	4.09	4.50
(WY)	1992	1998	1998	1995	1994	1994	1992	1994	1995	1994	1991	1991

SUMMARY STATISTICS

FOR 1998 CALENDAR YEAR

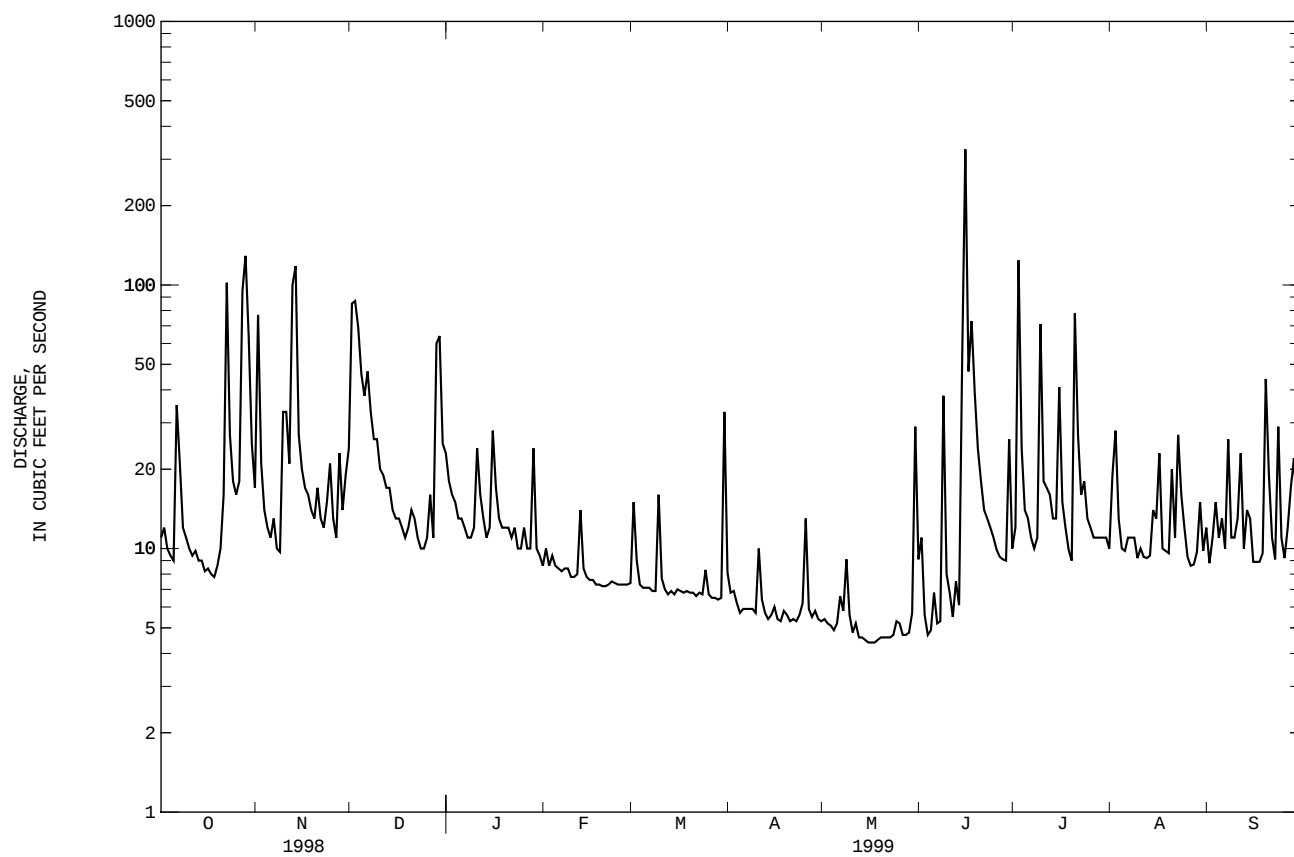
FOR 1999 WATER YEAR

WATER YEARS 1991 - 1999

ANNUAL TOTAL	4813.9	6000.9	
ANNUAL MEAN	13.2	16.4	9.29
HIGHEST ANNUAL MEAN			16.4
LOWEST ANNUAL MEAN			4.52
HIGHEST DAILY MEAN	532	Sep 22	327
LOWEST DAILY MEAN	2.6	Jul 14	4.4
ANNUAL SEVEN-DAY MINIMUM	2.9	Jul 30	4.5
INSTANTANEOUS PEAK FLOW			2480
INSTANTANEOUS PEAK STAGE			12.04
ANNUAL RUNOFF (AC-FT)	9550	11900	6730
ANNUAL RUNOFF (CFSM)	2.60	3.24	1.83
ANNUAL RUNOFF (INCHES)	35.25	43.94	24.84
10 PERCENT EXCEEDS	24	27	15
50 PERCENT EXCEEDS	4.7	10	4.8
90 PERCENT EXCEEDS	3.1	5.5	2.9

e Estimated

RIO GRANDE DE LOIZA BASIN
50055390 RIO BAIR0A AT BAIR0A, PR--Continued



RIO GRANDE DE LOIZA BASIN

50055390 RIO BAIR0A AT BAIR0A, PR--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	12	16	9.7	9.2	6.0	4.6	5.1	5.4	4.4	18	16
2	9.1	17	223	11	7.8	5.9	4.8	5.3	6.7	4.7	4.4	17
3	8.1	12	88	44	7.6	5.5	5.7	5.0	5.2	4.7	3.3	9.6
4	9.7	9.5	24	22	7.3	5.5	5.2	5.5	4.5	5.9	5.5	8.3
5	9.5	31	118	15	7.7	5.5	4.9	23	4.3	3.8	6.1	10
6	9.8	15	73	17	7.2	5.4	4.2	6.1	4.7	4.7	2.6	13
7	9.5	8.8	40	12	8.3	5.6	4.4	6.1	4.3	3.8	3.4	9.9
8	26	7.9	25	11	7.4	5.4	4.4	4.5	4.7	3.5	3.2	8.4
9	10	7.3	19	10	7.1	6.1	4.3	4.3	4.3	3.1	2.9	8.1
10	9.3	81	17	9.6	7.3	6.3	4.3	4.5	4.1	2.8	2.9	12
11	9.2	17	15	9.9	7.0	6.3	4.3	42	4.5	2.8	2.7	16
12	9.8	19	14	9.5	7.3	5.6	4.4	41	53	3.4	2.7	8.2
13	7.3	e13	14	15	8.1	5.9	5.7	8.1	8.5	3.1	2.7	8.5
14	6.8	17	13	11	8.1	5.7	5.2	4.9	5.6	3.4	2.9	8.6
15	6.1	18	12	21	7.9	5.5	4.9	4.6	18	2.9	3.5	7.5
16	8.1	30	11	19	7.7	5.3	5.8	4.7	53	3.2	24	17
17	16	140	11	10	8.2	5.6	5.8	4.3	11	7.4	3.0	139
18	20	116	14	9.9	14	5.9	5.5	93	7.4	2.8	3.1	137
19	26	89	15	9.7	16	5.5	7.1	8.0	6.4	2.4	3.6	62
20	42	43	13	9.4	7.4	5.0	5.0	4.8	6.4	2.5	3.5	21
21	88	26	12	9.0	6.1	4.8	4.6	4.1	5.2	2.4	3.3	20
22	26	20	14	8.7	6.0	5.7	5.0	24	4.5	2.4	32	46
23	9.5	16	11	8.7	26	4.9	5.8	5.1	4.3	2.5	894	20
24	9.0	18	11	8.2	6.4	4.9	6.6	3.9	5.2	2.7	36	58
25	70	24	18	8.7	13	4.6	5.1	5.7	5.2	2.3	19	19
26	23	16	10	8.7	6.0	12	4.9	4.6	5.2	2.3	15	13
27	14	12	9.6	7.9	6.5	10	4.8	4.5	5.9	2.3	11	46
28	11	47	10	7.9	5.8	7.8	4.5	6.1	5.4	2.3	13	34
29	10	20	32	8.9	5.8	6.0	5.3	5.8	5.1	8.1	8.4	18
30	10	20	9.9	8.1	---	4.7	5.0	67	6.4	3.0	16	13
31	20	---	12	7.5	---	4.6	---	6.9	---	2.5	9.7	---
TOTAL	553.8	922.5	924.5	378.0	250.2	183.5	152.1	422.5	274.4	108.1	1161.4	824.1
MEAN	17.9	30.8	29.8	12.2	8.63	5.92	5.07	13.6	9.15	3.49	37.5	27.5
MAX	88	140	223	44	26	12	7.1	93	53	8.1	894	139
MIN	6.1	7.3	9.6	7.5	5.8	4.6	4.2	3.9	4.1	2.3	2.6	7.5
AC-FT	1100	1830	1830	750	496	364	302	838	544	214	2300	1630
CFSM	3.52	6.05	5.87	2.40	1.70	1.17	1.00	2.68	1.80	.69	7.37	5.41
IN.	4.06	6.76	6.77	2.77	1.83	1.34	1.11	3.09	2.01	.79	8.50	6.03

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 2000, BY WATER YEAR (WY)

	MEAN	12.2	13.0	12.3	9.51	6.46	5.04	4.95	6.65	7.78	8.77	12.3	21.4
MAX	25.3	30.8	29.8	14.7	8.81	8.41	9.23	13.6	27.4	22.0	37.5	76.9	
(WY)	1991	2000	2000	1996	1997	1999	1996	2000	1999	1999	2000	1996	
MIN	4.30	3.74	3.07	4.12	3.42	2.87	2.61	2.91	2.72	3.49	4.09	4.50	
(WY)	1992	1998	1998	1995	1994	1994	1992	1994	1995	2000	1991	1991	

SUMMARY STATISTICS

FOR 1999 CALENDAR YEAR

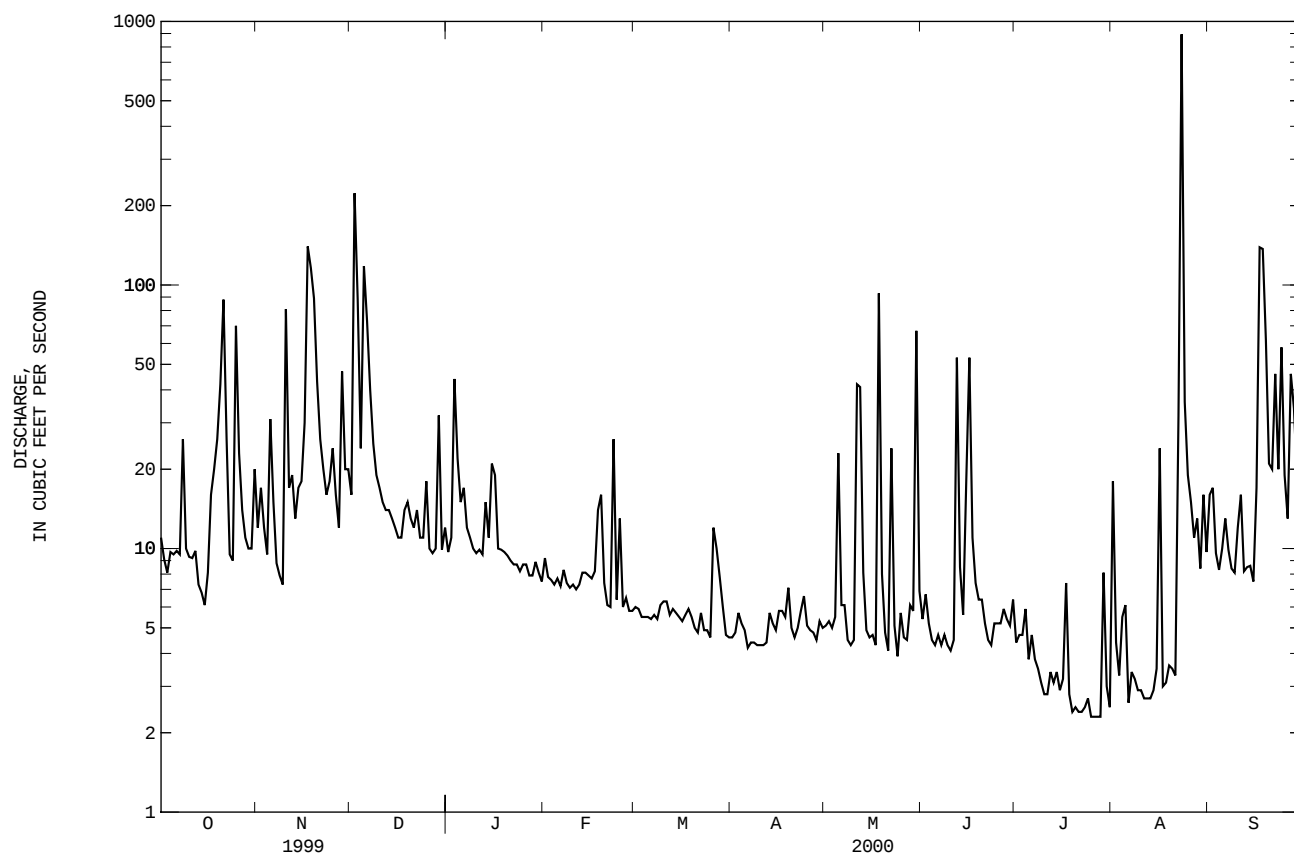
FOR 2000 WATER YEAR

WATER YEARS 1991 - 2000

ANNUAL TOTAL	6011.4	6155.1	
ANNUAL MEAN	16.5	16.8	10.0
HIGHEST ANNUAL MEAN			16.8
LOWEST ANNUAL MEAN			4.52
HIGHEST DAILY MEAN	327	894	1700
LOWEST DAILY MEAN	4.4	2.3	1.3
ANNUAL SEVEN-DAY MINIMUM	4.5	2.4	1.6
INSTANTANEOUS PEAK FLOW		5740	6190
INSTANTANEOUS PEAK STAGE		15.94	18.16
ANNUAL RUNOFF (AC-FT)	11920	12210	7280
ANNUAL RUNOFF (CFSM)	3.24	3.31	1.98
ANNUAL RUNOFF (INCHES)	44.02	45.07	26.86
10 PERCENT EXCEEDS	26	26	16
50 PERCENT EXCEEDS	10	7.9	5.0
90 PERCENT EXCEEDS	5.5	3.5	2.9

e Estimated

RIO GRANDE DE LOIZA BASIN
50055390 RIO BAIR0A AT BAIR0A, PR--Continued



50055390 RIO BAIROA AT BAIROA, PR--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORDS.-- Water years 1991 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: October 1994 to current year.

INSTRUMENTATION.-- USDH-48 sediment sampler and automatic sediment sampler since 1991.

REMARKS:-- Sediment samples were collected by a local observer on a weekly basis. During high flows events sediment samples were collected by hydrologic technician and automatic sediment sampler.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATION: Maximum daily mean, 7,040 mg/L September 10, 1996; Minimum daily mean, 1 mg/L several days during water years 1998 and 2000.

SEDIMENT LOADS: Maximum daily mean, 37,900 tons (34,300 tonnes) September 10, 1996; Minimum daily mean, 0.01 ton (0.01 tonne) several days during water year 2000.

EXTREME FOR CURRENT YEAR 2000.--

SEDIMENT CONCENTRATION: Maximum daily mean, 2,140 mg/L August 23, 2000; Minimum daily mean, 1 mg/L several days.

SEDIMENT LOADS: Maximum daily mean, 7,370 tons (6,690 tonnes) August 23, 2000; Minimum daily mean, 0.01 ton (0.01 tonne) several days.

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
OCTOBER			NOVEMBER			DECEMBER			
1	11	18	.86	12	30	1.1	16	26	1.1
2	9.1	21	.51	17	60	7.5	223	902	1810
3	8.1	17	.38	12	34	1.4	88	356	116
4	9.7	11	.37	9.5	18	.47	24	109	7.5
5	9.5	4	.10	31	290	56	118	650	348
6	9.8	3	.09	15	37	1.5	73	340	82
7	9.5	4	.10	8.8	26	.63	40	93	9.9
8	26	116	43	7.9	20	.42	25	46	3.1
9	10	25	.69	7.3	16	.31	19	24	1.3
10	9.3	22	.55	81	452	216	17	14	.63
11	9.2	20	.56	17	41	2.0	15	10	.41
12	9.8	22	1.1	19	44	3.0	14	8	.28
13	7.3	7	.13	e13	e28	e.95	14	6	.23
14	6.8	3	.06	17	52	4.5	13	8	.27
15	6.1	2	.03	18	43	2.3	12	9	.31
16	8.1	13	.68	30	99	12	11	11	.34
17	16	130	16	140	847	463	11	13	.39
18	20	91	18	116	541	255	14	15	.55
19	26	233	94	89	441	124	15	17	.67
20	42	394	71	43	127	15	13	19	.67
21	88	385	118	26	56	3.9	12	21	.68
22	26	75	6.7	20	25	1.3	14	18	.68
23	9.5	23	.59	16	11	.50	11	15	.46
24	9.0	16	.39	18	27	2.1	11	13	.36
25	70	1400	1420	24	78	6.6	18	42	3.5
26	23	54	3.6	16	30	1.3	10	18	.51
27	14	22	.84	12	21	.67	9.6	18	.47
28	11	14	.40	47	277	155	10	23	.62
29	10	8	.22	20	46	2.5	32	123	26
30	10	7	.19	20	30	1.6	9.9	24	.65
31	20	45	4.4	---	---	---	12	22	.70
TOTAL	553.8	---	1803.54	922.5	---	1342.55	924.5	---	2418.28

RIO GRANDE DE LOIZA BASIN

50055390 RIO BAIROA AT BAIROA, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JANUARY			FEBRUARY			MARCH			
1	9.7	21	.55	9.2	13	.33	6.0	3	.06
2	11	20	.63	7.8	11	.24	5.9	2	.03
3	44	156	28	7.6	9	.19	5.5	1	.02
4	22	54	3.8	7.3	8	.16	5.5	2	.02
5	15	37	1.6	7.7	7	.14	5.5	2	.03
6	17	48	3.1	7.2	6	.11	5.4	3	.04
7	12	45	1.5	8.3	5	.10	5.6	4	.05
8	11	34	.99	7.4	4	.08	5.4	2	.04
9	10	27	.74	7.1	4	.08	6.1	1	.02
10	9.6	22	.57	7.3	5	.09	6.3	1	.02
11	9.9	18	.47	7.0	5	.10	6.3	1	.02
12	9.5	16	.43	7.3	6	.11	5.6	1	.02
13	15	40	2.2	8.1	6	.13	5.9	2	.03
14	11	26	.76	8.1	6	.14	5.7	2	.03
15	21	58	8.7	7.9	7	.15	5.5	2	.03
16	19	50	3.8	7.7	6	.13	5.3	2	.03
17	10	11	.32	8.2	5	.12	5.6	2	.03
18	9.9	6	.16	14	25	1.4	5.9	2	.04
19	9.7	8	.22	16	44	3.2	5.5	3	.04
20	9.4	14	.36	7.4	15	.30	5.0	3	.04
21	9.0	20	.48	6.1	10	.17	4.8	3	.05
22	8.7	18	.42	6.0	10	.15	5.7	4	.06
23	8.7	16	.37	26	89	60	4.9	4	.05
24	8.2	14	.31	6.4	12	.21	4.9	4	.05
25	8.7	12	.29	13	40	3.4	4.6	4	.05
26	8.7	12	.29	6.0	12	.19	12	42	7.4
27	7.9	13	.27	6.5	8	.14	10	34	2.5
28	7.9	13	.27	5.8	6	.09	7.8	31	1.7
29	8.9	12	.29	5.8	5	.08	6.0	10	.16
30	8.1	12	.25	---	---	---	4.7	9	.11
31	7.5	13	.27	---	---	---	4.6	8	.10
TOTAL	378.0	---	62.41	250.2	---	71.73	183.5	---	12.87
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
APRIL			MAY			JUNE			
1	4.6	8	.10	5.1	11	.16	5.4	14	.21
2	4.8	8	.10	5.3	11	.16	6.7	11	.20
3	5.7	8	.12	5.0	11	.15	5.2	9	.12
4	5.2	8	.12	5.5	12	.17	4.5	7	.08
5	4.9	10	.13	23	128	56	4.3	5	.06
6	4.2	11	.13	6.1	14	.24	4.7	4	.05
7	4.4	12	.15	6.1	14	.43	4.3	5	.05
8	4.4	11	.13	4.5	3	.03	4.7	5	.07
9	4.3	9	.11	4.3	3	.04	4.3	6	.07
10	4.3	8	.09	4.5	5	.06	4.1	6	.07
11	4.3	7	.08	42	378	128	4.5	6	.07
12	4.4	5	.06	41	76	31	53	139	52
13	5.7	4	.06	8.1	24	.61	8.5	51	1.2
14	5.2	3	.04	4.9	18	.23	5.6	20	.29
15	4.9	3	.04	4.6	16	.20	18	117	18
16	5.8	4	.06	4.7	14	.18	53	305	161
17	5.8	4	.06	4.3	12	.14	11	34	1.1
18	5.5	5	.07	93	388	466	7.4	22	.43
19	7.1	26	.89	8.0	24	.60	6.4	15	.26
20	5.0	12	.16	4.8	10	.13	6.4	14	.31
21	4.6	8	.11	4.1	8	.09	5.2	8	.11
22	5.0	6	.08	24	51	21	4.5	7	.08
23	5.8	4	.06	5.1	8	.12	4.3	6	.07
24	6.6	3	.05	3.9	7	.07	5.2	6	.08
25	5.1	3	.04	5.7	8	.12	5.2	6	.08
26	4.9	3	.04	4.6	9	.11	5.2	6	.09
27	4.8	3	.04	4.5	8	.09	5.9	7	.10
28	4.5	3	.04	6.1	21	.61	5.4	7	.10
29	5.3	9	.15	5.8	12	.18	5.1	7	.10
30	5.0	12	.16	67	372	172	6.4	10	.36
31	---	---	---	6.9	18	.35	---	---	---
TOTAL	152.1	---	3.47	422.5	---	879.27	274.4	---	236.81

RIO GRANDE DE LOIZA BASIN

50055390 RIO BAIROA AT BAIROA, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JULY			AUGUST			SEPTEMBER			
1	4.4	6	.08	18	127	26	16	39	3.4
2	4.7	6	.07	4.4	12	.16	17	35	3.7
3	4.7	5	.06	3.3	6	.06	9.6	17	.44
4	5.9	4	.07	5.5	17	1.6	8.3	8	.18
5	3.8	4	.04	6.1	17	.44	10	4	.11
6	4.7	3	.04	2.6	10	.07	13	19	1.8
7	3.8	3	.03	3.4	8	.07	9.9	13	.34
8	3.5	3	.03	3.2	6	.05	8.4	6	.14
9	3.1	4	.03	2.9	4	.03	8.1	5	.11
10	2.8	4	.03	2.9	3	.02	12	31	2.9
11	2.8	5	.04	2.7	2	.01	16	46	3.5
12	3.4	8	.07	2.7	2	.01	8.2	13	.29
13	3.1	10	.08	2.7	2	.01	8.5	9	.21
14	3.4	11	.10	2.9	2	.02	8.6	7	.15
15	2.9	9	.07	3.5	2	.02	7.5	5	.10
16	3.2	7	.06	24	253	59	17	33	3.7
17	7.4	50	9.2	3.0	5	.04	139	346	257
18	2.8	8	.06	3.1	3	.03	137	512	218
19	2.4	5	.03	3.6	4	.04	62	222	79
20	2.5	3	.02	3.5	4	.04	21	50	3.1
21	2.4	2	.01	3.3	5	.04	20	66	6.9
22	2.4	2	.01	32	248	62	46	189	83
23	2.5	2	.01	894	2140	7370	20	35	1.9
24	2.7	2	.01	36	122	14	58	226	103
25	2.3	2	.01	19	19	1.0	19	55	3.0
26	2.3	3	.02	15	10	.39	13	28	.99
27	2.3	3	.02	11	9	.27	46	162	32
28	2.3	4	.03	13	35	1.9	34	113	14
29	8.1	52	12	8.4	7	.17	18	38	1.9
30	3.0	11	.09	16	39	2.8	13	19	.64
31	2.5	9	.06	9.7	19	.51	---	---	---
TOTAL	108.1	---	22.48	1161.4	---	7540.80	824.1	---	825.50
YEAR	6155.1		15219.71						

e Estimated

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

SILT AND CLAY PERCENT OF SUSPENDED SEDIMENT

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT					
20...	1640	160	1220	526	96
NOV					
10...	0745	263	2070	1470	94
19...	0936	149	606	244	93
DEC					
03...	0729	88	352	84	95
21...	1101	12	22	.71	54
FEB					
03...	0738	7.5	86	1.7	90
23...	1605	149	271	109	84
MAY					
19...	0720	8.7	25	.59	72
22...	1705	179	566	274	86
AUG					
01...	0948	2.3	7	.04	100
23...	0535	1070	4400	12700	99
SEP					
02...	2040	310	149	125	95

RIO GRANDE DE LOIZA BASIN

50055390 RIO BAIROA AT BAIROA, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM (70326)	SED. SUSP. FALL DIAM. % FINER THAN .004 MM (70327)	SED. SUSP. FALL DIAM. % FINER THAN .008 MM (70328)
OCT 25...	1435	310	6510	5450	42	54	68
FEB 23...	1450	165	4770	2130	24	32	45

DATE	SED. SUSP. FALL DIAM. % FINER THAN .016 MM (70329)	SED. SUSP. FALL DIAM. % FINER THAN .031 MM (70330)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM (70332)	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM (70333)	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM (70334)	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM (70335)
OCT 25...	80	91	96	99	100	100	100
FEB 23...	57	74	83	94	98	100	100

RIO GRANDE DE LOIZA BASIN

50055400 RIO BAIR0A NEAR CAGUAS, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 18°15'28", long 66°02'13", at bridge on Highway 1, about 2.5 mi (4.0 km) upstream from Río Grande de Loiza, and 1.4 mi (2.3 km) north of Caguas plaza.

DRAINAGE AREA.--5.4 mi² (14.0 km²).

PERIOD OF RECORD.--Water years 1958, 1962-66, 1973-74, 1979 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	STREP-TOCOCCI, KF AGAR (COLS. PER 100 ML) (31673)
DEC 02...	1500	54	342	7.1	25.0	66	6.7	81	14	38000	35000
FEB 16...	1415	5.7	394	8.4	25.6	1.5	8.4	102	<10	4400	110
APR 19...	1515	3.0	395	8.1	28.4	1.7	8.2	105	<10	K5000	850
AUG 16...	1400	2.6	365	7.7	30.4	4.7	6.1	81	14	2200	2700

DATE	HARD-NESS TOTAL (MG/L AS CAC03) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CAC03) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)
DEC 02...	130	32.1	12.8	18.1	.7	3.1	116	<1.0	12.5	25.3
FEB 16...	--	--	--	--	--	--	139	--	--	--
APR 19...	140	33.6	13.6	21.2	.8	3.1	134	--	12.4	32.4
AUG 16...	120	29.7	11.4	19.2	.8	3.9	115	--	13.3	28.3

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SI02) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)
DEC 02...	.1	29.4	203	29.6	109	1.75	.05	1.8	.20	1.0
FEB 16...	--	--	--	--	1	1.68	.02	1.7	.04	.22
APR 19...	.2	28.8	226	1.85	1	1.66	.04	1.7	.09	.29
AUG 16...	.1	27.2	202	1.42	<10	1.14	.06	1.2	.23	.44

DATE	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, TOTAL (MG/L AS NO3) (71887)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)
DEC 02...	1.2	3.0	13.3	.380	3	113	35	.1	11	24
FEB 16...	.26	2.0	8.7	.190	--	--	--	--	--	--
APR 19...	.38	2.1	9.2	.250	E1	72.1	43	<.1	E1	<20
AUG 16...	.67	1.9	8.3	.350	--	--	--	--	--	--

RIO GRANDE DE LOIZA BASIN

50055400 RIO BAIROA NEAR CAGUAS, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

[illegible]

50055750 RIO GURABO BELOW EL MANGO, PR

LOCATION.--Lat 18°14'02", long 65°53'07", Hydrologic Unit 21010005, on left bank, 2.43 mi (3.91 km) northeast of Juncos Plaza, 1.3 mi (2.1 km) southeast of Escuela La Placita and 0.35 mi (0.56 km) southwest of El Mango.

DRAINAGE AREA.--22.3 mi² (57.8 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1990 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 230 ft (70 m), from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Gage-height and precipitation satellite telemetry at station. Low-flow is affected by sewage discharges from a water treatment plant, 0.60 mi (0.96 m) upstream from gaging station since 1990.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e61	e61	e1030	27	30	8.9	4.9	5.7	14	11	6.6	7.1
2	e118	e61	e101	21	20	8.4	4.9	4.3	11	18	9.7	6.1
3	e63	e166	e68	76	15	8.2	4.8	4.3	11	13	23	9.1
4	e78	e132	e296	64	14	7.8	4.8	5.2	10	8.4	22	35
5	e58	129	e91	98	12	7.2	5.1	4.6	9.0	7.1	38	180
6	e90	261	e70	73	12	7.0	5.1	4.3	8.1	6.5	9.0	117
7	e96	111	e57	100	13	6.9	4.6	3.9	7.2	7.0	6.6	19
8	e95	90	e52	32	13	6.7	4.6	3.7	6.9	6.9	10	12
9	e98	118	e47	26	12	6.1	4.6	3.6	6.8	6.7	14	16
10	e50	943	e41	20	12	6.1	4.2	3.9	6.5	5.7	10	16
11	e55	197	e38	18	12	6.1	4.3	27	6.4	5.7	13	207
12	e59	599	e36	17	11	5.9	4.4	25	28	5.5	9.3	20
13	e125	e737	e32	16	11	5.8	6.6	9.6	21	5.6	7.6	12
14	e59	e151	e30	17	12	5.7	12	7.5	18	6.4	6.8	9.7
15	e52	148	e30	17	10	5.8	5.8	6.9	15	5.9	8.2	8.8
16	e45	241	e30	87	10	5.6	6.9	6.9	11	4.9	18	29
17	e96	892	e33	20	10	5.8	8.4	204	11	4.4	12	343
18	e81	1040	e55	16	13	6.2	6.7	98	8.5	5.4	7.9	370
19	e83	548	e34	15	34	6.4	14	39	8.3	6.0	6.9	82
20	e118	247	e30	13	20	5.9	10	19	8.0	5.7	7.1	111
21	e336	131	e34	12	20	5.6	5.8	17	6.4	4.8	6.5	223
22	e128	100	49	12	66	5.2	5.1	14	6.7	4.4	23	71
23	e66	76	47	12	15	5.3	5.2	13	6.7	4.8	422	86
24	e118	58	32	11	11	5.4	4.9	12	5.9	4.5	30	54
25	e435	62	27	14	57	5.6	4.7	22	7.4	4.4	14	30
26	e201	e52	29	15	14	5.5	4.4	21	7.2	4.1	22	168
27	e113	e42	23	13	11	5.2	4.1	13	6.7	3.9	36	158
28	e79	e66	21	16	9.5	6.3	3.9	16	5.8	3.9	12	122
29	e64	e41	22	16	9.3	15	4.7	66	5.5	6.3	9.9	55
30	e58	e48	20	14	---	9.2	6.1	106	5.5	12	7.6	80
31	e59	---	20	11	---	6.2	---	22	---	7.0	6.9	---
TOTAL	3237	7548	2525	919	508.8	207.0	175.6	808.4	289.5	205.9	835.6	2656.8
MEAN	104	252	81.5	29.6	17.5	6.68	5.85	26.1	9.65	6.64	27.0	88.6
MAX	435	1040	1030	100	66	15	14	204	28	18	422	370
MIN	45	41	20	11	9.3	5.2	3.9	3.6	5.5	3.9	6.5	6.1
AC-FT	6420	14970	5010	1820	1010	411	348	1600	574	408	1660	5270
CFSM	4.68	11.3	3.65	1.33	.79	.30	.26	1.17	.43	.30	1.21	3.97
IN.	5.40	12.59	4.21	1.53	.85	.35	.29	1.35	.48	.34	1.39	4.43

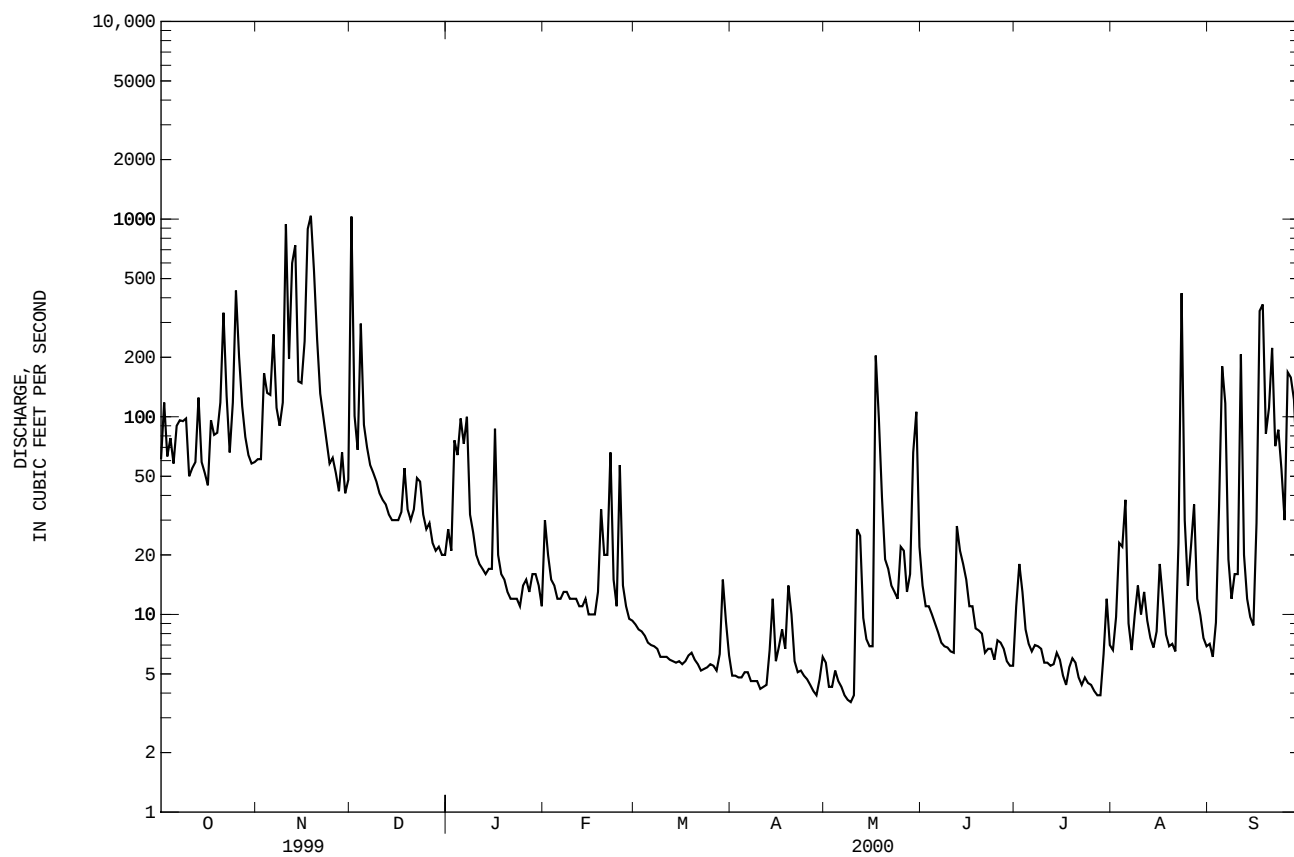
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 2000, BY WATER YEAR (WY)

MEAN	57.9	84.5	46.6	40.4	28.8	11.3	8.39	24.5	40.9	41.7	41.4	88.0
MAX	161	252	166	103	66.7	18.1	11.0	123	117	147	110	196
(WY)	1991	2000	1999	1996	1995	1991	1993	1992	1992	1993	1998	1998
MIN	4.01	13.6	10.7	6.34	10.4	5.63	5.29	4.83	9.65	6.64	10.2	21.4
(WY)	1993	1996	1998	1995	1993	1993	1995	1990	2000	2000	1993	1997

SUMMARY STATISTICS	FOR 1999 CALENDAR YEAR		FOR 2000 WATER YEAR		WATER YEARS 1990 - 2000	
ANNUAL TOTAL	21596.4		19916.6			
ANNUAL MEAN	59.2		54.4		43.7	
HIGHEST ANNUAL MEAN					54.4	
LOWEST ANNUAL MEAN					22.0	
HIGHEST DAILY MEAN	1040		1040		4040	
LOWEST DAILY MEAN	5.3		3.6		1.1	
ANNUAL SEVEN-DAY MINIMUM	5.9		4.2		1.4	
INSTANTANEOUS PEAK FLOW			3080		19100	
INSTANTANEOUS PEAK STAGE			15.38		24.12	
ANNUAL RUNOFF (AC-FT)	42840		39500		31650	
ANNUAL RUNOFF (CFSM)	2.65		2.44		1.96	
ANNUAL RUNOFF (INCHES)	36.03		33.22		26.62	
10 PERCENT EXCEEDS	118		118		78	
50 PERCENT EXCEEDS	22		14		12	
90 PERCENT EXCEEDS	7.8		5.1		4.8	

e Estimated

RIO GRANDE DE LOIZA BASIN
50055750 RIO GURABO BELOW EL MANGO, PR--Continued



50055750 RIO GURABO BELOW EL MANGO, PR--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORDS.-- Water year 1990 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: March 1990 to current year.

INSTRUMENTATION.--USDH-48 sediment sampler and automatic sediment sampler since 1990.

REMARKS:-- Sediment samples were collected by a local observer on a weekly basis. During high flow events sediment samples were collected by hydrologic technician and automatic sediment sampler.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATION: Maximum daily mean, 2,400 mg/L September 22, 1998; Minimum daily mean, 2 mg/L several days.

SEDIMENT LOADS: Maximum daily mean, 51,000 tons (46,300 tonnes) September 10, 1996; Minimum daily mean, 0.05 ton (0.04 tonne) several days.

EXTREMES FOR CURRENT YEAR 2000.--

SEDIMENT CONCENTRATION: Maximum daily mean, 1,450 mg/L November 10, 1999; Minimum daily mean, 2 mg/L several days.

SEDIMENT LOADS: Maximum daily mean, 5,850 tons (5,307 tonnes) December 1, 1999; Minimum daily mean, 0.05 ton (0.04 tonne) March 3-5, 2000.

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
OCTOBER			NOVEMBER			DECEMBER			
1	e61	e46	e8.4	e61	e22	e3.6	e1030	e816	e5820
2	e118	e166	e59	e61	e41	e7.4	e101	e147	e41
3	e63	e102	e18	e166	e182	e132	e68	e134	e27
4	e78	e117	e27	e132	e88	e33	e296	e344	e321
5	e58	e90	e16	129	97	40	e91	e135	e34
6	e90	e130	e32	261	183	197	e70	e101	e19
7	e96	e143	e39	111	52	15	e57	e91	e14
8	e95	e141	e38	90	45	11	e52	e82	e11
9	e98	e66	e21	118	96	44	e47	e74	e9.3
10	e50	e22	e2.9	943	1450	5250	e41	e69	e7.6
11	e55	e51	e12	197	239	133	e38	e67	e6.8
12	e59	e90	e15	599	641	1330	e36	e65	e6.2
13	e125	e174	e81	e737	e349	e1370	e32	e62	e5.4
14	e59	e113	e18	e151	e43	e18	e30	e60	e5.0
15	e52	e55	e5.9	148	95	65	e30	e59	e4.7
16	e45	e27	e2.3	241	215	225	e30	e57	e4.5
17	e96	e106	e50	892	813	2220	e33	e67	e6.2
18	e81	e125	e28	1040	754	2610	e55	e87	e13
19	e83	e148	e47	548	456	690	e34	e62	e5.8
20	e118	e182	e61	247	70	59	e30	e51	e4.1
21	e336	e376	e411	131	23	8.0	e34	e55	e5.2
22	e128	e139	e55	100	51	16	49	80	11
23	e66	e48	e8.6	76	53	11	47	81	11
24	e118	e151	e84	58	41	6.4	32	54	4.6
25	e435	e450	e1060	62	71	14	27	49	3.5
26	e201	e99	e79	e52	e85	e12	29	52	4.3
27	e113	e25	e7.5	e42	e71	e8.8	23	47	3.0
28	e79	e22	e4.8	e66	e112	e24	21	46	2.6
29	e64	e22	e3.9	e41	e67	e7.4	22	44	2.6
30	e58	e23	e3.5	e48	e88	e12	20	43	2.3
31	e59	e22	e3.6	---	---	---	20	41	2.3
TOTAL	3237	---	2302.4	7548	---	14572.6	2525	---	6418.0

RIO GRANDE DE LOIZA BASIN

50055750 RIO GURABO BELOW EL MANGO, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JANUARY			FEBRUARY			MARCH			
1	27	52	3.8	30	57	5.1	8.9	9	.21
2	21	47	2.7	20	39	2.1	8.4	5	.11
3	76	113	26	15	31	1.3	8.2	2	.05
4	64	108	21	14	24	.90	7.8	2	.05
5	98	143	50	12	24	.79	7.2	3	.05
6	73	65	29	12	24	.77	7.0	3	.05
7	100	131	42	13	38	1.4	6.9	3	.06
8	32	21	1.9	13	40	1.4	6.7	4	.07
9	26	10	.69	12	26	.84	6.1	9	.14
10	20	11	.59	12	22	.73	6.1	20	.32
11	18	11	.52	12	21	.68	6.1	21	.35
12	17	10	.46	11	21	.63	5.9	20	.31
13	16	10	.43	11	20	.61	5.8	18	.29
14	17	10	.47	12	17	.56	5.7	18	.28
15	17	20	1.2	10	14	.38	5.8	18	.28
16	87	119	53	10	13	.36	5.6	18	.28
17	20	19	1.1	10	12	.33	5.8	18	.29
18	16	12	.50	13	12	.44	6.2	19	.31
19	15	10	.41	34	45	4.9	6.4	19	.32
20	13	10	.36	20	35	2.0	5.9	19	.30
21	12	10	.34	20	32	3.7	5.6	19	.29
22	12	10	.34	66	91	21	5.2	19	.27
23	12	11	.33	15	18	.78	5.3	19	.28
24	11	11	.33	11	10	.30	5.4	19	.28
25	14	11	.42	57	84	22	5.6	20	.29
26	15	11	.45	14	28	1.1	5.5	20	.29
27	13	16	.55	11	17	.49	5.2	20	.28
28	16	25	1.1	9.5	11	.29	6.3	20	.34
29	16	27	1.1	9.3	10	.24	15	34	1.5
30	14	26	.99	---	---	---	9.2	20	.51
31	11	25	.78	---	---	---	6.2	16	.27
TOTAL	919	---	242.86	508.8	---	76.12	207.0	---	8.72
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
APRIL			MAY			JUNE			
1	4.9	16	.20	5.7	11	.17	14	29	1.1
2	4.9	15	.20	4.3	11	.12	11	22	.70
3	4.8	15	.19	4.3	11	.12	11	17	.50
4	4.8	15	.19	5.2	10	.15	10	13	.38
5	5.1	14	.20	4.6	10	.13	9.0	11	.26
6	5.1	14	.19	4.3	10	.12	8.1	10	.22
7	4.6	14	.17	3.9	10	.11	7.2	10	.19
8	4.6	13	.16	3.7	10	.10	6.9	10	.19
9	4.6	13	.16	3.6	10	.10	6.8	10	.18
10	4.2	13	.15	3.9	10	.11	6.5	10	.18
11	4.3	13	.14	27	42	6.0	6.4	10	.17
12	4.4	12	.15	25	49	4.1	28	41	9.4
13	6.6	14	.28	9.6	24	.61	21	54	3.7
14	12	27	1.0	7.5	21	.43	18	35	2.4
15	5.8	13	.20	6.9	19	.35	15	32	1.3
16	6.9	12	.22	6.9	17	.31	11	24	.69
17	8.4	12	.27	204	243	369	11	21	.65
18	6.7	12	.21	98	146	67	8.5	19	.44
19	14	12	.44	39	75	8.8	8.3	18	.40
20	10	12	.32	19	39	2.0	8.0	17	.37
21	5.8	11	.18	17	36	1.7	6.4	17	.28
22	5.1	11	.16	14	33	1.3	6.7	16	.29
23	5.2	11	.16	13	31	1.1	6.7	16	.28
24	4.9	11	.15	12	29	.93	5.9	15	.24
25	4.7	11	.14	22	41	3.8	7.4	15	.29
26	4.4	11	.13	21	41	2.5	7.2	14	.27
27	4.1	11	.12	13	27	.94	6.7	14	.25
28	3.9	11	.12	16	32	1.5	5.8	13	.21
29	4.7	11	.14	66	117	33	5.5	13	.19
30	6.1	11	.18	106	168	86	5.5	12	.18
31	---	---	---	22	45	2.8	---	---	---
TOTAL	175.6	---	6.52	808.4	---	595.40	289.5	---	25.90

RIO GRANDE DE LOIZA BASIN

50055750 RIO GURABO BELOW EL MANGO, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JULY			AUGUST			SEPTEMBER			
1	11	23	1.0	6.6	18	.32	7.1	17	.33
2	18	33	2.3	9.7	17	.44	6.1	17	.28
3	13	45	1.5	23	42	7.0	9.1	19	.46
4	8.4	44	1.0	22	55	3.8	35	57	8.1
5	7.1	43	.82	38	51	7.8	180	182	261
6	6.5	42	.73	9.0	20	.49	117	106	50
7	7.0	30	.52	6.6	16	.28	19	28	1.5
8	6.9	15	.28	10	25	.74	12	22	.75
9	6.7	16	.28	14	25	1.0	16	32	1.6
10	5.7	16	.25	10	22	.63	16	35	3.2
11	5.7	16	.24	13	30	1.1	207	255	269
12	5.5	16	.23	9.3	20	.51	20	37	2.1
13	5.6	15	.23	7.6	18	.37	12	17	.55
14	6.4	15	.26	6.8	17	.30	9.7	15	.38
15	5.9	15	.24	8.2	19	.43	8.8	14	.34
16	4.9	15	.20	18	26	1.3	29	45	5.0
17	4.4	16	.19	12	31	.97	343	344	842
18	5.4	16	.23	7.9	35	.75	370	398	654
19	6.0	17	.26	6.9	39	.73	82	119	27
20	5.7	20	.31	7.1	29	.57	111	146	68
21	4.8	24	.31	6.5	20	.35	223	311	365
22	4.4	28	.32	23	42	6.9	71	110	24
23	4.8	23	.30	422	309	540	86	138	39
24	4.5	19	.23	30	58	5.1	54	87	14
25	4.4	15	.18	14	30	1.1	30	54	4.4
26	4.1	13	.14	22	27	1.8	168	163	206
27	3.9	12	.12	36	74	9.1	158	219	100
28	3.9	11	.12	12	27	.90	122	179	85
29	6.3	11	.18	9.9	23	.60	55	93	15
30	12	27	.94	7.6	19	.39	80	129	34
31	7.0	19	.36	6.9	18	.33	---	---	---
TOTAL	205.9	---	14.27	835.6	---	596.10	2656.8	---	3081.99
YEAR	19916.6		27940.88						
e Estimated									

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

SILT AND CLAY PERCENT OF SUSPENDED SEDIMENT

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT					
05...	1330	49	67	8.9	87
NOV					
10...	0945	1300	3680	12900	96
23...	1315	71	33	6.3	84
JAN					
28...	1630	17	28	1.3	79
FEB					
02...	1600	18	38	1.8	91
AUG					
23...	0930	961	308	799	96

RIO GRANDE DE LOIZA BASIN

50055750 RIO GURABO BELOW EL MANGO, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM (70326)	SED. SUSP. FALL DIAM. % FINER THAN .004 MM (70327)	SED. SUSP. FALL DIAM. % FINER THAN .008 MM (70328)	
		NOV 10...	0730	2690	3340	24300	56	64
DATE		SED. SUSP. FALL DIAM. % FINER THAN .016 MM (70329)	SED. SUSP. FALL DIAM. % FINER THAN .031 MM (70330)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM (70332)	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM (70333)	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM (70334)	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM (70335)
		NOV 10...	86	94	97	99	100	100

50056400 RIO VALENCIANO NEAR JUNCOS, PR

LOCATION.--Lat 18°12'58", long 65°55'34", Hydrologic Unit 21010005, on left bank at Highway 919, 0.5 mi (0.8 km) upstream from Quebrada Don Víctor, 1.7 mi (2.7 km) upstream from Río Gurabo and 1.0 mi (1.6 km) south of Juncos town.

DRAINAGE AREA.--16.4 mi² (42.5 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1971 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 320 ft (98 m), from topographic map.

REMARKS.--Records poor. Minor diversion from public water supply tank, 0.5 mi upstream, during low flow. Gage-height and precipitation satellite telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Approximate discharges (no stages were recorded) of major floods are as follows: Sept. 6, 1960, 37,100 ft³/s (1,050 m³/s), Oct. 9, 1970, 18,200 ft³/s (515 m³/s).

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34	21	46	e22	27	6.3	5.6	3.5	10	9.4	16	10
2	60	20	857	e20	17	5.9	5.7	2.5	7.8	8.6	14	8.1
3	19	65	163	e23	15	e5.5	5.9	2.3	6.9	7.5	5.5	12
4	81	42	64	e27	18	e5.2	5.9	3.0	14	6.7	14	7.0
5	20	72	258	54	13	e5.4	8.5	4.2	6.9	4.6	7.2	44
6	41	104	120	43	9.9	e7.2	7.1	5.1	5.9	4.2	3.7	67
7	27	41	64	e52	13	e7.2	5.2	3.4	5.2	4.0	4.2	17
8	25	30	53	e30	12	e7.1	4.9	3.2	5.1	7.8	4.2	10
9	84	98	46	e25	11	e7.6	4.0	2.9	5.2	3.6	3.4	26
10	19	1440	43	e22	11	e5.1	4.3	3.3	4.7	3.0	4.0	49
11	21	186	39	e20	10	e4.6	3.6	176	4.3	2.9	13	101
12	23	262	36	17	9.2	e5.1	3.3	34	103	3.3	3.7	18
13	47	390	34	15	12	e7.9	4.3	8.4	47	2.9	2.7	9.9
14	18	93	32	16	15	e6.8	15	5.6	16	6.9	3.5	7.2
15	13	154	31	16	12	4.3	4.9	4.7	40	3.7	7.3	6.2
16	12	143	29	18	9.3	3.9	4.8	3.8	22	2.9	19	6.0
17	43	893	29	17	8.8	4.1	7.2	153	16	3.5	5.1	207
18	41	695	29	17	11	5.0	4.9	167	8.2	18	4.2	342
19	50	214	43	14	15	5.6	19	40	8.0	e7.1	2.9	72
20	51	123	40	17	11	5.3	16	13	6.4	e6.6	2.6	33
21	97	75	31	18	9.6	5.6	6.6	8.9	7.3	e6.7	2.4	68
22	47	61	31	19	16	4.9	3.9	8.6	5.4	3.4	5.7	29
23	23	55	26	15	14	4.6	4.0	6.5	4.7	4.0	1020	135
24	40	49	27	17	22	6.3	3.6	5.8	4.3	7.5	41	68
25	78	45	29	22	30	5.9	3.7	9.9	5.4	5.4	25	43
26	53	41	24	21	9.1	4.8	3.6	6.5	5.2	4.0	210	57
27	113	39	23	17	7.3	4.7	2.8	5.7	6.1	3.4	98	276
28	33	40	e26	19	6.1	7.6	2.7	9.5	4.4	2.6	134	89
29	22	55	e58	17	5.5	15	3.2	127	4.2	26	41	45
30	19	41	e28	15	---	7.4	5.7	97	4.5	15	16	99
31	20	---	e24	12	---	5.4	---	23	---	4.1	19	---
TOTAL	1274	5587	2383	677	379.8	187.3	179.9	947.3	394.1	199.3	1752.3	1961.4
MEAN	41.1	186	76.9	21.8	13.1	6.04	6.00	30.6	13.1	6.43	56.5	65.4
MAX	113	1440	857	54	30	15	19	176	103	26	1020	342
MIN	12	20	23	12	5.5	3.9	2.7	2.3	4.2	2.6	2.4	6.0
AC-FT	2530	11080	4730	1340	753	372	357	1880	782	395	3480	3890
CFSM	2.51	11.4	4.69	1.33	.80	.37	.37	1.86	.80	.39	3.45	3.99
IN.	2.89	12.67	5.41	1.54	.86	.42	.41	2.15	.89	.45	3.97	4.45

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1971 - 2000, BY WATER YEAR (WY)

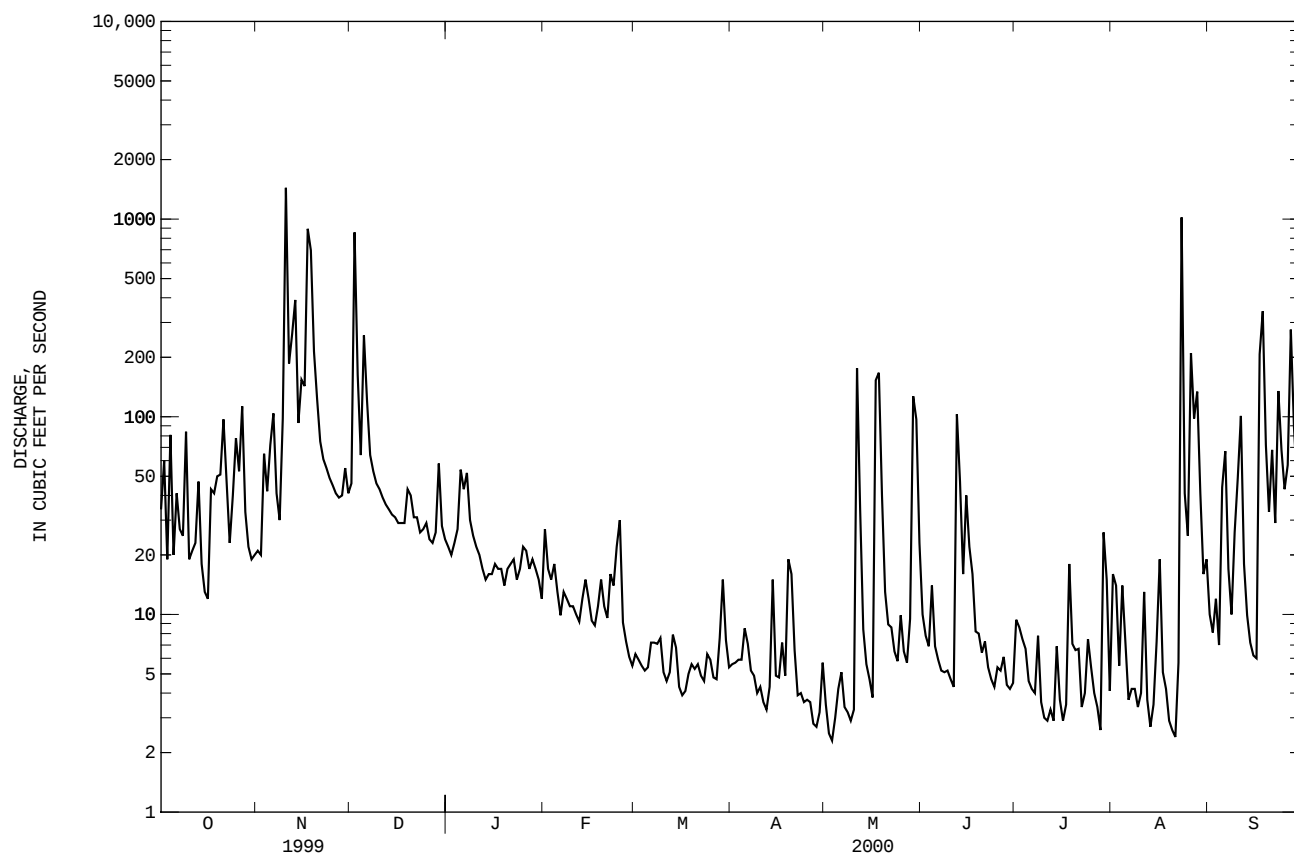
	MEAN	77.2	90.7	54.0	27.8	20.0	18.4	14.8	45.2	48.7	45.7	61.0	88.1
MAX	293	461	550	79.6	47.9	39.7	41.7	268	188	163	231	285	
(WY)	1986	1988	1988	1998	1984	1973	1985	1985	1979	1981	1979	1998	
MIN	19.9	16.8	11.0	11.4	7.21	6.04	5.17	5.02	4.95	4.61	4.71	10.8	
(WY)	1993	1996	1990	1976	1974	2000	1995	1990	1994	1994	1994	1987	

SUMMARY STATISTICS FOR 1999 CALENDAR YEAR FOR 2000 WATER YEAR WATER YEARS 1971 - 2000

ANNUAL TOTAL	17363.3	15922.4	
ANNUAL MEAN	47.6	43.5	49.5
HIGHEST ANNUAL MEAN			121
LOWEST ANNUAL MEAN			17.1
HIGHEST DAILY MEAN	1440	Nov 10	9100
LOWEST DAILY MEAN	5.7	May 6	1.4
ANNUAL SEVEN-DAY MINIMUM	6.4	Apr 30	3.2
INSTANTANEOUS PEAK FLOW			7000
INSTANTANEOUS PEAK STAGE			12.96
ANNUAL RUNOFF (AC-FT)	34440	31580	35820
ANNUAL RUNOFF (CFSM)	2.90	2.65	3.02
ANNUAL RUNOFF (INCHES)	39.39	36.12	40.97
10 PERCENT EXCEEDS	81	86	73
50 PERCENT EXCEEDS	20	14	18
90 PERCENT EXCEEDS	8.6	3.9	6.8

e Estimated

RIO GRANDE DE LOIZA BASIN
50056400 RIO VALENCIANO NEAR JUNCOS, PR--Continued



50056400 RIO VALENCIANO NEAR JUNCOS, PR--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORDS.-- Water years 1983 to 1986 and water year 1989 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: October 1994 to current year.

INSTRUMENTATION.-- USDH-48 sediment sampler since 1984. Automatic sediment sampler since 1984.

REMARKS:-- Sediment samples were collected by a local observer on a weekly basis. During high flow event sediment samples were collected by a hydrologic technician and automatic sediment sampler.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATION: Maximum daily mean, 8,340 mg/L September 10, 1996; Minimum daily mean, 1 mg/L several days.

SEDIMENT LOADS: Maximum daily mean, 263,000 tons (238,000 tonnes) September 10, 1996; Minimum daily mean, 0.01 ton (0.01 tonne) several days.

EXTREMES FOR CURRENT YEAR 2000.--

SEDIMENT CONCENTRATION: Maximum daily mean, 2,260 mg/L November 10, 1999; Minimum daily mean, 6 mg/L several days.

SEDIMENT LOADS: Maximum daily mean, 20,200 tons (18,300 tonnes) December 2, 1999; Minimum daily mean, 0.04 ton (0.04 tonne) May 3, 2000.

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
OCTOBER			NOVEMBER			DECEMBER			
1	34	113	12	21	82	4.7	46	157	21
2	60	194	42	20	75	4.4	857	2200	20200
3	19	71	3.8	65	390	239	163	391	247
4	81	443	176	42	142	18	64	162	28
5	20	90	5.4	72	236	74	258	1880	1250
6	41	149	21	104	460	196	120	300	102
7	27	109	9.2	41	139	16	64	217	38
8	25	84	6.4	30	114	9.4	53	210	30
9	84	405	232	98	263	639	46	202	25
10	19	62	3.2	1440	2260	11800	43	195	23
11	21	73	5.4	186	582	470	39	188	20
12	23	87	5.5	262	874	767	36	182	18
13	47	161	31	390	1230	1880	34	175	16
14	18	73	3.7	93	338	87	32	169	15
15	13	46	1.6	154	799	653	31	163	14
16	12	46	1.5	143	520	301	29	158	12
17	43	135	25	893	1570	5000	29	152	12
18	41	114	14	695	1860	4580	29	148	12
19	50	170	47	214	700	409	43	143	16
20	51	155	27	123	468	157	40	139	15
21	97	282	85	75	393	80	31	134	11
22	47	163	24	61	330	54	31	130	11
23	23	71	4.4	55	277	41	26	126	8.9
24	40	300	145	49	232	31	27	122	8.9
25	78	451	220	45	195	24	29	119	9.3
26	53	197	38	41	164	18	24	115	7.6
27	113	490	339	39	137	14	23	111	6.9
28	33	112	10	40	133	15	e26	e108	e7.6
29	22	99	6.0	55	178	37	e58	e203	e41
30	19	95	4.9	41	170	19	e28	e85	e6.4
31	20	92	4.9	---	---	---	e24	e60	e4.0
TOTAL	1274	---	1553.9	5587	---	27637.5	2383	---	22236.6

RIO GRANDE DE LOIZA BASIN

50056400 RIO VALENCIANO NEAR JUNCOS, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JANUARY			FEBRUARY			MARCH			
1	e22	e43	e2.6	27	48	3.5	6.3	20	.34
2	e20	e31	e1.7	17	47	2.1	5.9	19	.30
3	e23	e41	e3.0	15	47	1.9	e5.5	e18	e.27
4	e27	e88	e6.6	18	46	2.2	e5.2	e17	e.24
5	54	175	31	13	46	1.6	e5.4	e16	e.23
6	43	149	26	9.9	46	1.2	e7.2	e14	e.28
7	e52	e169	e27	13	45	1.6	e7.2	e13	e.25
8	e30	e104	e8.6	12	45	1.5	e7.1	e10	e.19
9	e25	e88	e6.1	11	44	1.3	e7.6	e7	e.15
10	e22	e75	e4.5	11	44	1.3	e5.1	e7	e.09
11	e20	e63	e3.4	10	44	1.2	e4.6	e6	e.08
12	17	58	2.6	9.2	43	1.1	e5.1	e6	e.08
13	15	57	2.4	12	43	1.4	e7.9	e6	e.13
14	16	57	2.4	15	42	1.7	e6.8	e6	e.11
15	16	56	2.4	12	42	1.3	4.3	6	.07
16	18	56	2.7	9.3	42	1.0	3.9	6	.06
17	17	55	2.5	8.8	41	.98	4.1	6	.07
18	17	55	2.5	11	41	1.2	5.0	6	.09
19	14	54	2.1	15	40	1.7	5.6	6	.10
20	17	54	2.5	11	40	1.2	5.3	7	.09
21	18	53	2.6	9.6	40	1.0	5.6	7	.10
22	19	53	2.7	16	39	1.7	4.9	7	.09
23	15	52	2.2	14	48	2.5	4.6	7	.09
24	17	52	2.3	22	66	16	6.3	7	.12
25	22	51	3.0	30	84	8.7	5.9	7	.11
26	21	51	2.8	9.1	31	.77	4.8	7	.09
27	17	50	2.4	7.3	28	.56	4.7	7	.09
28	19	50	2.5	6.1	25	.41	7.6	7	.15
29	17	49	2.3	5.5	22	.33	15	7	.29
30	15	49	1.9	---	---	---	7.4	7	.15
31	12	48	1.6	---	---	---	5.4	8	.11
TOTAL	677	---	168.9	379.8	---	62.95	187.3	---	4.61
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
APRIL			MAY			JUNE			
1	5.6	8	.12	3.5	7	.07	10	36	.99
2	5.7	8	.12	2.5	7	.05	7.8	30	.64
3	5.9	8	.13	2.3	7	.04	6.9	25	.47
4	5.9	8	.13	3.0	7	.06	14	49	2.3
5	8.5	8	.19	4.2	7	.08	6.9	25	.47
6	7.1	8	.16	5.1	7	.10	5.9	24	.38
7	5.2	8	.12	3.4	8	.07	5.2	22	.31
8	4.9	8	.11	3.2	8	.07	5.1	21	.29
9	4.0	8	.09	2.9	8	.06	5.2	20	.28
10	4.3	9	.10	3.3	8	.07	4.7	19	.24
11	3.6	9	.09	176	589	514	4.3	18	.20
12	3.3	9	.08	34	131	17	103	412	388
13	4.3	9	.10	8.4	25	.60	47	158	24
14	15	44	2.2	5.6	19	.28	16	61	2.8
15	4.9	16	.21	4.7	17	.21	40	126	20
16	4.8	13	.17	3.8	15	.16	22	81	4.7
17	7.2	13	.25	153	548	747	16	57	2.4
18	4.9	13	.17	167	1110	1260	8.2	39	.88
19	19	51	3.0	40	136	18	8.0	27	.59
20	16	53	3.3	13	58	2.0	6.4	20	.35
21	6.6	17	.32	8.9	37	.91	7.3	19	.37
22	3.9	10	.10	8.6	30	.70	5.4	18	.26
23	4.0	10	.10	6.5	31	.55	4.7	17	.22
24	3.6	9	.09	5.8	32	.51	4.3	16	.19
25	3.7	9	.09	9.9	36	1.0	5.4	15	.23
26	3.6	9	.09	6.5	26	.45	5.2	15	.21
27	2.8	8	.06	5.7	25	.39	6.1	14	.23
28	2.7	8	.06	9.5	36	1.1	4.4	13	.16
29	3.2	8	.07	127	512	421	4.2	13	.15
30	5.7	8	.12	97	575	296	4.5	13	.17
31	---	---	---	23	74	5.0	---	---	---
TOTAL	179.9	---	11.94	947.3	---	3287.53	394.1	---	452.48

RIO GRANDE DE LOIZA BASIN

50056400 RIO VALENCIANO NEAR JUNCOS, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JULY			AUGUST			SEPTEMBER			
1	9.4	14	.35	16	38	5.4	10	17	.48
2	8.6	14	.33	14	46	2.6	8.1	11	.24
3	7.5	15	.29	5.5	17	.25	12	38	1.4
4	6.7	15	.27	14	46	2.1	7.0	19	.37
5	4.6	15	.19	7.2	20	.41	44	138	49
6	4.2	16	.18	3.7	12	.12	67	222	52
7	4.0	15	.16	4.2	10	.11	17	37	1.6
8	7.8	13	.28	4.2	8	.09	10	13	.38
9	3.6	12	.12	3.4	8	.07	26	66	9.1
10	3.0	12	.10	4.0	8	.09	49	138	92
11	2.9	11	.09	13	32	1.6	101	323	139
12	3.3	9	.08	3.7	14	.14	18	44	2.2
13	2.9	8	.06	2.7	13	.09	9.9	34	.90
14	6.9	15	.31	3.5	13	.12	7.2	31	.59
15	3.7	10	.11	7.3	26	.71	6.2	27	.46
16	2.9	8	.07	19	61	3.8	6.0	20	.33
17	3.5	12	.11	5.1	16	.22	207	509	1720
18	18	47	3.0	4.2	10	.12	342	884	1150
19	e7.1	e28	e.79	2.9	10	.08	72	279	56
20	e6.6	e28	e.76	2.6	10	.07	33	170	16
21	e6.7	e26	e.87	2.4	10	.06	68	223	47
22	3.4	12	.12	5.7	14	.43	29	96	8.1
23	4.0	11	.12	1020	2090	12500	135	424	362
24	7.5	9	.19	41	45	6.0	68	242	55
25	5.4	14	.22	25	22	1.5	43	186	25
26	4.0	14	.15	210	632	586	57	183	51
27	3.4	10	.09	98	315	150	276	624	1040
28	2.6	7	.05	134	418	458	89	278	85
29	26	45	5.3	41	35	4.5	45	149	18
30	15	44	2.8	16	18	.75	99	376	174
31	4.1	11	.12	19	54	3.4	---	---	---
TOTAL	199.3	---	17.68	1752.3	---	13728.83	1961.4	---	5157.15
YEAR	15922.4		74320.07						

e Estimated

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

SILT AND CLAY PERCENT OF SUSPENDED SEDIMENT

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
NOV					
01...	0720	22	89	5.3	93
03...	1745	302	4000	3260	98
15...	1930	378	7790	7950	47
DEC					
05...	2050	424	664	760	95
MAY					
11...	1735	705	2040	3880	95
18...	1830	469	2620	3320	97
JUN					
12...	2040	333	1450	1300	99
AUG					
23...	0510	525	1530	2170	99
SEP					
27...	1038	252	345	235	98

RIO GRANDE DE LOIZA BASIN

50056400 RIO VALENCIANO NEAR JUNCOS, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM (70326)	SED. SUSP. FALL DIAM. % FINER THAN .004 MM (70327)	SED. SUSP. FALL DIAM. % FINER THAN .008 MM (70328)	
NOV								
10...	0530	1710	2460	11400	41	52	66	
17...	0400	1380	4010	14900	35	44	57	
MAY								
18...	1515	412	7050	7840	42	56	73	
29...	0950	601	1480	2400	64	75	88	
30...	1010	264	2240	1600	54	65	82	
AUG								
23...	0225	278	7840	5880	53	70	88	
DATE		SED. SUSP. FALL DIAM. % FINER THAN .016 MM (70329)	SED. SUSP. FALL DIAM. % FINER THAN .031 MM (70330)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM (70332)	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM (70333)	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM (70334)	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM (70335)
NOV								
10...	75	87	92	97	99	99	100	
17...	70	82	90	96	98	99	100	
MAY								
18...	87	96	99	100	100	100	100	
29...	94	96	98	99	100	100	100	
30...	92	96	100	100	100	100	100	
AUG								
23...	97	98	100	100	100	100	100	

50057000 RIO GURABO AT GURABO, PR

LOCATION.--Lat 18°15'30", long 65°58'05", Hydrologic Unit 21010005, on left bank, at bridge on Highway 181, 0.3 mi (0.5 km) east of Gurabo, and 4.5 mi (7.6 km) upstream from Río Grande de Loíza.

DRAINAGE AREA.--60.2 mi² (155.9 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--1958 (occasional low-flow measurements only), January to September 1959 (monthly measurements only), October 1959 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 131.58 ft (40.11 m) above mean sea level. Prior to Oct. 1, 1989 datum 5.0 ft (1.5 m) higher.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Gage-height and precipitation satellite telemetry at station. Low flow affected by diversions for water supply about, 400 ft (121 m) upstream from station by PRASA.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	174	285	134	76	58	24	15	14	56	19	13	40
2	257	307	1050	69	45	22	15	13	47	37	23	32
3	175	311	666	147	36	22	14	11	44	42	17	36
4	e193	231	181	138	36	21	14	11	46	24	42	43
5	e112	204	630	194	33	21	15	15	45	20	47	179
6	e219	435	438	113	31	19	16	15	42	17	22	223
7	e210	184	215	208	32	19	14	15	38	15	15	66
8	e211	152	165	92	33	19	13	13	36	20	16	52
9	e241	155	129	76	31	19	12	11	35	17	19	61
10	e123	2980	115	66	31	18	12	10	35	13	17	47
11	e97	491	101	63	31	17	13	109	35	12	22	333
12	e142	1100	92	59	35	18	12	67	85	12	18	87
13	e233	1390	85	56	32	19	13	20	119	10	14	61
14	e133	341	78	59	38	19	23	13	46	13	13	53
15	e101	294	73	57	38	18	17	11	60	13	14	54
16	e89	440	70	124	36	17	15	9.4	45	9.6	35	75
17	e189	2390	70	61	36	19	18	344	e46	8.4	26	427
18	e190	2460	68	52	42	19	17	396	e37	11	17	1250
19	e179	1170	89	48	57	19	30	112	e34	15	15	232
20	371	541	106	47	56	17	27	38	e31	11	13	e209
21	792	286	100	44	33	17	17	30	24	11	12	e370
22	405	221	115	43	84	16	13	31	25	8.6	21	e203
23	177	209	108	41	47	15	15	30	23	7.3	1650	e229
24	312	171	95	39	31	15	14	28	22	8.8	115	e192
25	609	167	100	46	91	16	13	39	23	8.7	48	e125
26	428	157	87	51	38	19	13	67	24	8.3	148	227
27	257	131	81	40	28	17	12	39	23	7.6	136	494
28	150	183	76	42	25	17	11	48	20	7.3	112	252
29	117	165	85	44	24	27	11	187	20	12	65	178
30	103	152	71	44	---	26	16	251	18	28	41	204
31	168	---	73	36	---	18	---	96	---	16	37	---
TOTAL	7157	17703	5546	2275	1168	589	460	2093.4	1184	462.6	2803	6034
MEAN	231	590	179	73.4	40.3	19.0	15.3	67.5	39.5	14.9	90.4	201
MAX	792	2980	1050	208	91	27	30	396	119	42	1650	1250
MIN	89	131	68	36	24	15	11	9.4	18	7.3	12	32
AC-FT	14200	35110	11000	4510	2320	1170	912	4150	2350	918	5560	11970
CFSM	3.84	9.80	2.97	1.22	.67	.32	.25	1.12	.66	.25	1.50	3.34
IN.	4.42	10.94	3.43	1.41	.72	.36	.28	1.29	.73	.29	1.73	3.73

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 2000, BY WATER YEAR (WY)

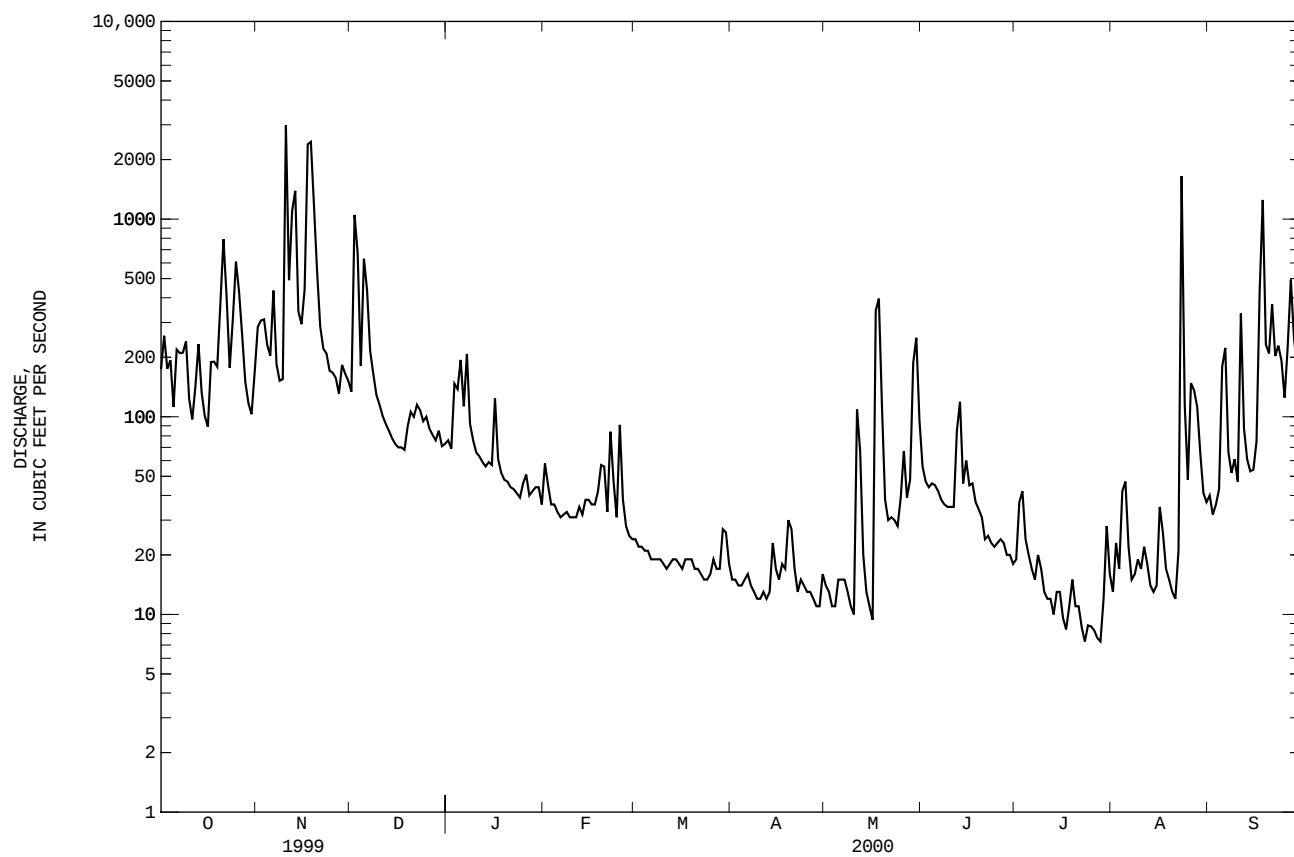
MEAN	222	217	149	64.5	47.6	38.4	40.0	134	125	110	159	234
MAX	1414	1045	863	204	131	97.5	108	746	468	376	610	1225
(WY)	1971	1988	1988	1992	1989	1985	1978	1985	1970	1993	1979	1960
MIN	16.0	23.7	10.7	16.4	12.6	11.2	13.1	12.7	16.8	14.9	24.8	8.76
(WY)	1968	1996	1968	1968	1968	1965	1995	1990	1972	2000	1967	1967

SUMMARY STATISTICS FOR 1999 CALENDAR YEAR FOR 2000 WATER YEAR WATER YEARS 1960 - 2000

ANNUAL TOTAL	53764	47475.0	
ANNUAL MEAN	147	130	129
HIGHEST ANNUAL MEAN			286
LOWEST ANNUAL MEAN			42.2
HIGHEST DAILY MEAN	2980	Nov 10	26200
LOWEST DAILY MEAN	16	May 1	3.7
ANNUAL SEVEN-DAY MINIMUM	17	Apr 29	8.1
INSTANTANEOUS PEAK FLOW			7130
INSTANTANEOUS PEAK STAGE			18.36
ANNUAL RUNOFF (AC-FT)	106600	94170	93220
ANNUAL RUNOFF (CFSM)	2.45	2.15	2.14
ANNUAL RUNOFF (INCHES)	33.22	29.34	29.04
10 PERCENT EXCEEDS	272	254	204
50 PERCENT EXCEEDS	73	42	47
90 PERCENT EXCEEDS	26	13	16

e Estimated

RIO GRANDE DE LOIZA BASIN
50057000 RIO GURABO AT GURABO, PR--Continued



50057000 RIO GURABO AT GURABO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.-- Water years 1985 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: October 1983 to current year.

INSTRUMENTATION.-- USDH-48 since 1984. Automatic sediment sampler since 1984.

REMARKS:-- Sediment samples were collected by a local observer on a weekly basis. During high flow events sediments samples were collected by hydrologic technician and automatic sediment sampler.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATION: Maximum daily mean, 9,220 mg/L November 27, 1987; Minimum daily mean, 3 mg/L August 09, 1994.

SEDIMENT LOADS: Maximum daily mean, 686,000 tons (622,340 tonnes) November 27, 1987; Minimum daily mean, 0.08 ton (0.07 tonne) August 09, 1994.

EXTREMES FOR CURRENT YEAR 2000.--

SEDIMENT CONCENTRATION: Maximum daily mean, 1,300 mg/L November 10, 1999; Minimum daily mean, 7 mg/L April 28, 2000.

SEDIMENT LOADS: Maximum daily mean, 14,500 tons (13,154 tonnes) November 10, 1999; Minimum daily mean, 0.20 ton (0.18 tonne) July 23, 2000.

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
OCTOBER			NOVEMBER			DECEMBER			
1	174	129	61	285	188	159	134	97	35
2	257	182	136	307	191	170	1050	477	4160
3	175	137	65	311	219	241	666	121	386
4	e193	e140	e79	231	202	135	181	51	25
5	e112	e106	e32	204	123	71	630	377	1090
6	e219	e129	e80	435	340	458	438	379	487
7	e210	e155	e95	184	163	81	215	184	107
8	e211	e156	e93	152	132	54	165	141	63
9	e241	e177	e120	155	108	45	129	112	39
10	e123	e112	e37	2980	1300	14500	115	92	28
11	e97	e105	e28	491	342	492	101	80	22
12	e142	e156	e63	1100	680	2540	92	70	17
13	e233	e207	e152	1390	713	3580	85	75	17
14	e133	e116	e42	341	244	232	78	75	16
15	e101	e88	e24	294	211	220	73	69	14
16	e89	e84	e20	440	290	394	70	65	12
17	e189	e178	e148	2390	948	7260	70	65	12
18	e190	e286	e155	2460	980	8310	68	66	12
19	e179	e129	e83	1170	342	1120	89	68	16
20	371	287	309	541	183	277	106	69	20
21	792	508	1330	286	134	104	100	67	18
22	405	294	369	221	100	60	115	53	16
23	177	148	71	209	79	44	108	41	12
24	312	221	317	171	84	39	95	32	8.1
25	609	546	1460	167	94	43	100	24	6.6
26	428	379	623	157	102	43	87	19	4.4
27	257	172	131	131	97	34	81	15	3.3
28	150	125	51	183	129	76	76	23	4.8
29	117	98	31	165	129	59	85	42	9.6
30	103	87	24	152	217	87	71	66	13
31	168	125	72	---	---	---	73	69	14
TOTAL	7157	---	6301	17703	---	40928	5546	---	6687.8

RIO GRANDE DE LOIZA BASIN

50057000 RIO GURABO AT GURABO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JANUARY			FEBRUARY			MARCH			
1	76	69	14	58	13	2.0	24	17	1.1
2	69	70	13	45	13	1.5	22	16	.98
3	147	98	40	36	13	1.2	22	16	.93
4	138	91	35	36	12	1.2	21	15	.86
5	194	141	83	33	12	1.1	21	15	.82
6	113	109	37	31	12	1.0	19	14	.76
7	208	158	99.7	32	12	1.0	19	14	.71
8	92	74	19	33	12	1.1	19	11	.59
9	76	54	11	31	15	1.2	19	9	.47
10	66	41	7.3	31	18	1.5	18	8	.40
11	63	31	5.2	31	22	1.9	17	8	.39
12	59	25	3.9	35	27	2.6	18	9	.41
13	56	20	3.1	32	35	3.0	19	9	.44
14	59	17	2.7	38	43	4.5	19	9	.45
15	57	17	2.7	38	48	5.0	18	9	.42
16	124	85	37	36	33	3.2	17	8	.39
17	61	18	3.0	36	22	2.1	19	9	.44
18	52	16	2.2	42	15	1.7	19	13	.64
19	48	14	1.8	57	39	6.5	19	18	.93
20	47	12	1.6	56	52	8.2	17	27	1.2
21	44	11	1.3	33	24	2.2	17	40	1.8
22	43	12	1.4	84	71	18	16	51	2.2
23	41	12	1.4	47	36	4.5	15	36	1.4
24	39	13	1.4	31	17	1.4	15	23	.96
25	46	14	1.7	91	73	20	16	16	.67
26	51	14	1.9	38	56	5.7	19	15	.74
27	40	14	1.5	28	53	4.0	17	14	.65
28	42	14	1.6	25	50	3.3	17	18	.83
29	44	15	1.8	24	28	1.9	27	23	1.7
30	44	16	1.9	---	---	---	26	25	1.8
31	36	15	1.4	---	---	---	18	27	1.3
TOTAL	2275	---	439.5	1168	---	112.5	589	---	27.38
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
APRIL			MAY			JUNE			
1	15	26	1.1	14	10	.37	56	45	6.8
2	15	25	.97	13	11	.38	47	29	3.7
3	14	23	.87	11	13	.37	44	22	2.7
4	14	23	.85	11	14	.44	46	17	2.2
5	15	27	1.1	15	16	.62	45	14	1.6
6	16	34	1.5	15	16	.65	42	11	1.3
7	14	37	1.4	15	16	.63	38	11	1.1
8	13	26	.89	13	17	.59	36	10	.99
9	12	17	.57	11	19	.55	35	10	.94
10	12	11	.36	10	22	.62	35	10	.95
11	13	9	.32	109	96	55	35	10	.95
12	12	17	.54	67	61	14	85	40	23
13	13	33	1.2	20	32	1.7	119	133	51
14	23	49	3.0	13	27	.92	46	55	7.1
15	17	35	1.6	11	22	.64	60	53	8.9
16	15	23	.91	9.4	19	.48	45	130	16
17	18	16	.79	344	199	550	e46	e102	e13
18	17	16	.76	396	248	539	e37	e63	e6.3
19	30	18	1.4	112	132	50	e34	e39	e3.5
20	27	19	1.3	38	52	5.5	e31	e25	e2.1
21	17	17	.81	30	30	2.4	24	20	1.3
22	13	16	.56	31	27	2.3	25	17	1.1
23	15	15	.60	30	25	2.0	23	14	.86
24	14	14	.53	28	23	1.7	22	13	.78
25	13	12	.42	39	25	3.0	23	12	.78
26	13	10	.35	67	64	13	24	12	.74
27	12	8	.26	39	42	4.5	23	11	.70
28	11	7	.21	48	46	6.0	20	12	.65
29	11	8	.24	187	138	99.7	20	13	.68
30	16	9	.38	251	191	166	18	14	.68
31	---	---	---	96	94	26	---	---	---
TOTAL	460	---	25.79	2093.4	---	1549.06	1184	---	162.40

RIO GRANDE DE LOIZA BASIN

50057000 RIO GURABO AT GURABO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JULY			AUGUST			SEPTEMBER			
1	19	15	.76	13	40	1.4	40	47	5.3
2	37	16	1.6	23	36	2.2	32	28	2.4
3	42	17	2.0	17	32	1.5	36	22	2.1
4	24	19	1.2	42	29	3.3	43	17	2.0
5	20	19	1.0	47	28	3.5	179	90	142
6	17	14	.65	22	27	1.6	223	164	114
7	15	11	.46	15	26	1.0	66	45	8.2
8	20	11	.58	16	24	1.0	52	28	4.0
9	17	11	.51	19	21	1.1	61	27	4.4
10	13	11	.40	17	17	.77	47	26	3.3
11	12	11	.36	22	15	.90	333	268	360
12	12	11	.35	18	15	.72	87	61	15
13	10	11	.31	14	14	.55	61	19	3.0
14	13	11	.38	13	14	.51	53	16	2.3
15	13	11	.38	14	14	.53	54	14	2.0
16	9.6	10	.27	35	14	1.3	75	42	11
17	8.4	10	.23	26	14	.98	427	365	1620
18	11	10	.30	17	14	.64	1250	469	2490
19	15	11	.44	15	14	.54	232	150	97
20	11	11	.35	13	13	.47	e209	e116	e85
21	11	12	.35	12	13	.43	e370	e248	e338
22	8.6	11	.26	21	12	.82	e203	e119	e73
23	7.3	10	.20	1650	808	7740	e229	e100	e82
24	8.8	10	.23	115	75	27	e192	e67	e39
25	8.7	10	.23	48	48	6.3	e125	e43	e14
26	8.3	13	.29	148	116	61	227	118	209
27	7.6	18	.37	136	108	45	494	357	531
28	7.3	24	.48	112	100	48	252	191	142
29	12	28	.94	65	133	24	178	152	76
30	28	32	2.4	41	56	6.2	204	150	89
31	16	37	1.5	37	49	4.8	---	---	---
TOTAL	462.6	---	19.78	2803	---	7988.06	6034	---	6566.0
YEAR	47475.0		70807.87						

e Estimated

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

SILT AND CLAY PERCENT OF SUSPENDED SEDIMENT

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT					
21...	1415	1370	847	3130	95
25...	1621	1920	827	4290	93
NOV					
18...	1005	3450	1120	10500	92
19...	0010	1620	615	2680	96
DEC					
07...	0835	244	182	120	98
JAN					
07...	0925	199	178	96	86
MAR					
31...	0811	18	28	1.4	88
MAY					
19...	0813	116	121	38	99
JUN					
13...	1340	74	107	21	100
AUG					
24...	0857	118	64	20	96
SEP					
18...	0337	2720	668	4910	95

RIO GRANDE DE LOIZA BASIN

50057000 RIO GURABO AT GURABO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM (70326)	SED. SUSP. FALL DIAM. % FINER THAN .004 MM (70327)	SED. SUSP. FALL DIAM. % FINER THAN .008 MM (70328)	
SEP 17...	2237	2020	2090	11400	42	53	69	
DATE		SED. SUSP. FALL DIAM. % FINER THAN .016 MM (70329)	SED. SUSP. FALL DIAM. % FINER THAN .031 MM (70330)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM (70332)	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM (70333)	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM (70334)	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM (70335)
SEP 17...	78	85	90	97	100	100	100	

50057025 RIO GURABO NEAR GURABO, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 18°15'56", long 65°59'04", at bridge on Highway 941, 1.2 mi (1.9 km) west-northwest from gaging station 50057000, and 1.0 mi (1.6 km) northwest of Gurabo plaza.

DRAINAGE AREA.--62.8 mi² (162.7 km²).

PERIOD OF RECORD.--Water years 1979 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

		DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)
NOV 29...	1400	E139	338	7.4	26.5	66	4.6	57	14	K14000
FEB 24...	1330	E31	327	7.5	24.0	32	1.3	16	21	3300
APR 19...	1230	E34	420	7.8	28.4	5.0	4.2	53	14	2600
AUG 14...	1000	E13	428	7.5	29.5	21	4.0	52	17	K160
DATE	STREP-TOCOCCHI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD-NESS TOTAL (MG/L AS CAC03) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD MG/L AS CAC03 (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)
NOV 29...	5200	110	26.6	11.4	22.0	.9	3.0	115	<1.0	13.1
FEB 24...	300	--	--	--	--	--	--	110	--	--
APR 19...	890	120	27.6	13.0	31.9	1	3.2	134	--	15.8
AUG 14...	K120	130	29.5	13.5	35.0	1	4.2	113	--	14.9
DATE	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SI02) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, NO2+N03 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)
NOV 29...	22.8	.1	25.6	193	98	.81	.07	.9	.17	.83
FEB 24...	--	--	--	--	27	.95	.15	1.1	2.20	.30
APR 19...	37.0	.2	30.3	239	7	1.08	.12	1.2	.56	.42
AUG 14...	35.7	.1	35.2	236	25	1.24	.06	1.3	.13	.48
DATE	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, TOTAL (MG/L AS NO3) (71887)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)
NOV 29...	1.0	1.9	8.3	.190	E1	95.0	40	E.1	5	E14
FEB 24...	2.5	3.6	15.9	.520	--	--	--	--	--	--
APR 19...	.98	2.2	9.6	.390	<3	64.8	54	E.1	<1	<20
AUG 14...	.61	1.9	8.5	.290	--	--	--	--	--	--

RIO GRANDE DE LOIZA BASIN

50057025 RIO GURABO NEAR GURABO, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

[illegible]

50058350 RIO CAÑAS AT RIO CAÑAS, PR

LOCATION.--Lat 18°17'41", long 66°02'44", Hydrologic Unit 21010005, at right bank, off road 798, upstream side of bridge on Highway 52, 0.5 mi (0.8 km) northeast from Escuela Segunda Unidad de Francisco Valdés, and 0.8 mi (1.3 km) north of La Barra neighborhood.

DRAINAGE AREA.--7.53 mi² (19.50 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1990 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 164 ft (50 m), from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	33	27	19	14	10	5.9	4.0	5.2	4.9	4.3	17
2	13	23	353	20	13	10	5.6	4.0	5.9	5.7	4.2	26
3	12	19	86	50	14	9.9	6.2	4.0	5.2	5.3	11	21
4	12	16	42	43	13	9.7	5.5	4.2	4.8	4.7	10	17
5	12	17	114	29	13	9.4	5.5	5.4	5.2	4.5	6.4	53
6	26	24	63	27	13	9.4	5.3	4.2	5.1	4.3	4.5	15
7	12	16	49	27	13	9.3	5.2	3.9	5.0	4.1	5.0	12
8	75	60	44	23	13	9.1	5.1	4.1	5.0	4.0	4.5	9.6
9	17	32	41	21	12	9.3	4.9	3.9	4.9	3.9	4.4	8.9
10	15	63	38	19	12	9.0	5.0	3.9	4.9	3.9	4.3	8.8
11	27	33	33	19	13	8.8	4.9	35	6.0	4.6	4.2	13
12	15	e32	31	18	12	8.9	4.8	11	34	4.3	4.0	8.3
13	14	e28	30	29	13	9.1	5.2	6.1	8.2	3.8	3.9	7.9
14	13	33	28	22	12	8.8	4.6	5.1	45	3.8	5.1	8.0
15	13	31	26	27	12	8.7	4.5	4.9	14	3.8	4.3	8.0
16	33	35	25	24	12	8.4	4.8	4.9	11	3.6	5.4	8.3
17	40	146	26	18	12	9.1	4.6	4.9	7.3	3.8	4.2	68
18	67	69	28	17	15	9.4	4.5	32	6.0	4.1	3.9	48
19	53	64	25	16	12	8.0	5.2	6.8	5.6	4.0	4.4	53
20	101	43	25	16	12	7.7	4.4	5.1	8.4	3.5	3.7	106
21	138	31	24	15	12	7.4	4.3	5.3	5.7	3.5	3.5	43
22	49	26	33	15	12	8.1	4.3	12	5.5	3.4	12	49
23	29	25	26	15	12	7.3	4.4	6.0	5.5	3.4	422	34
24	24	85	23	15	11	7.1	4.4	5.0	5.3	3.5	62	33
25	98	76	30	16	14	6.8	4.2	5.1	5.6	3.4	e29	20
26	33	36	23	14	10	7.2	4.2	4.6	6.8	3.4	e22	16
27	21	30	20	14	11	7.4	4.2	4.6	5.2	3.4	e20	21
28	21	89	23	14	10	7.4	4.1	4.9	4.8	3.6	e17	17
29	16	40	27	17	10	7.4	4.1	4.9	4.6	5.9	e17	15
30	15	28	21	14	---	6.0	4.1	19	4.7	4.1	e20	12
31	94	---	20	13	---	6.8	---	5.6	---	3.6	17	---
TOTAL	1122	1283	1404	646	357	260.9	144.0	234.4	250.4	125.8	743.2	776.8
MEAN	36.2	42.8	45.3	20.8	12.3	8.42	4.80	7.56	8.35	4.06	24.0	25.9
MAX	138	146	353	50	15	10	6.2	35	45	5.9	422	106
MIN	12	16	20	13	10	6.0	4.1	3.9	4.6	3.4	3.5	7.9
AC-FT	2230	2540	2780	1280	708	517	286	465	497	250	1470	1540
CFSM	4.81	5.68	6.01	2.77	1.63	1.12	.64	1.00	1.11	.54	3.18	3.44
IN.	5.54	6.34	6.94	3.19	1.76	1.29	.71	1.16	1.24	.62	3.67	3.84

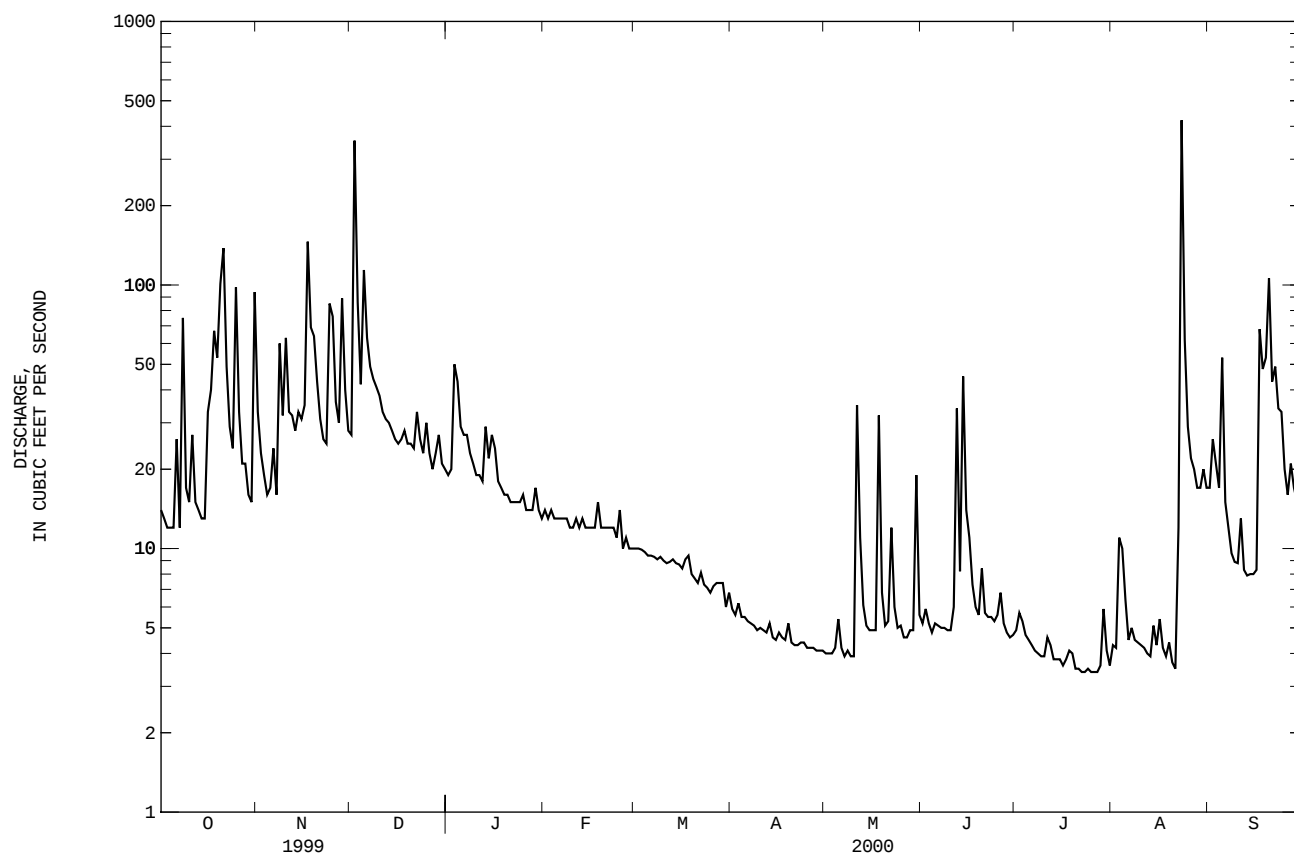
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 2000, BY WATER YEAR (WY)

MEAN	21.1	20.5	17.0	13.2	10.6	6.24	5.46	8.00	10.1	9.61	16.7	27.1
MAX	51.0	53.8	45.3	24.5	18.8	12.0	11.1	19.5	35.2	25.9	36.8	81.6
(WY)	1999	1999	2000	1992	1995	1999	1993	1992	1999	1999	1996	1996
MIN	4.60	7.18	5.55	4.48	4.29	2.48	3.24	2.50	1.78	3.40	4.36	4.25
(WY)	1992	1991	1994	1994	1994	1994	1995	1994	1994	1990	1990	1997

SUMMARY STATISTICS	FOR 1999 CALENDAR YEAR	FOR 2000 WATER YEAR	WATER YEARS 1990 - 2000
ANNUAL TOTAL	8594.0	7347.5	
ANNUAL MEAN	23.5	20.1	14.2
HIGHEST ANNUAL MEAN			24.8
LOWEST ANNUAL MEAN			5.77
HIGHEST DAILY MEAN	353	422	1670
LOWEST DAILY MEAN	4.0	3.4	1.1
ANNUAL SEVEN-DAY MINIMUM	4.3	3.4	1.2
INSTANTANEOUS PEAK FLOW		4540	7500
INSTANTANEOUS PEAK STAGE		21.62	24.60
INSTANTANEOUS LOW FLOW			1.0
ANNUAL RUNOFF (AC-FT)	17050	14570	10310
ANNUAL RUNOFF (CFSM)	3.13	2.67	1.89
ANNUAL RUNOFF (INCHES)	42.46	36.30	25.67
10 PERCENT EXCEEDS	43	41	27
50 PERCENT EXCEEDS	15	12	5.7
90 PERCENT EXCEEDS	5.9	4.1	2.9

e Estimated

RIO GRANDE DE LOIZA BASIN
50058350 RIO CAÑAS AT RIO CAÑAS, PR--Continued



50058350 RIO CAÑAS AT CAÑAS,PR--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORDS.-- Water years 1990 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: October 1994 to current year.

INSTRUMENTATION.-- USDH-48 sediment sampler and automatic sediment sampler since 1990.

REMARKS:-- Sediment samples were collected by a local observer on a weekly basis. During high flow events sediment samples were collected by hydrologic technician and automatic sediment sampler.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATION: Maximum daily mean, 12,900 mg/L September 10, 1996; Minimum daily mean, 1 mg/L several days.

SEDIMENT LOADS: Maximum daily mean, 95,000 tons (86,200 tonnes) September 10, 1996; Minimum daily mean, 0.01 ton (0.01 tonne) several days.

EXTREMES FOR CURRENT YEAR 2000.--

SEDIMENT CONCENTRATION: Maximum daily mean, 2,640 mg/L August 23, 2000; Minimum daily mean, 1 mg/L several days.

SEDIMENT LOADS: Maximum daily mean, 8,840 tons (8,019 tonnes) August 23,2000; Minimum daily mean, 0.01 ton (0.01 tonne) several days.

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
OCTOBER			NOVEMBER			DECEMBER			
1	14	21	.76	33	163	16	27	49	4.2
2	13	16	.54	23	49	3.2	353	2140	8760
3	12	13	.42	19	50	2.8	86	655	214
4	12	10	.32	16	28	1.2	42	276	31
5	12	5	.17	17	45	2.4	114	2160	1130
6	26	391	165	24	105	8.5	63	718	130
7	12	14	.48	16	54	2.5	49	189	25
8	75	787	963	60	601	504	44	75	9.0
9	17	73	3.5	32	216	20	41	32	3.5
10	15	61	2.4	63	431	118	38	19	1.9
11	27	375	68	33	116	11	33	14	1.3
12	15	39	1.6	e32	e50	e4.4	31	10	.88
13	14	18	.67	e28	e34	e2.5	30	14	1.1
14	13	20	.73	33	148	18	28	18	1.4
15	13	24	.85	31	40	3.3	26	20	1.4
16	33	415	152	35	94	12	25	21	1.4
17	40	309	43	146	1720	1140	26	21	1.5
18	67	721	429	69	727	170	28	21	1.6
19	53	859	301	64	531	112	25	21	1.4
20	101	1390	698	43	80	9.8	25	21	1.4
21	138	1560	706	31	26	2.2	24	21	1.3
22	49	223	35	26	20	1.4	33	140	15
23	29	109	8.4	25	16	1.0	26	81	6.3
24	24	87	5.8	85	762	673	23	39	2.5
25	98	1380	1770	76	1090	652	30	173	17
26	33	248	25	36	93	9.9	23	42	2.6
27	21	48	2.8	30	53	4.3	20	15	.79
28	21	65	4.3	89	1030	798	23	46	3.6
29	16	18	.80	40	174	22	27	131	11
30	15	18	.72	28	23	1.8	21	116	7.2
31	94	849	691	---	---	---	20	69	3.7
TOTAL	1122	---	6081.26	1283	---	4327.2	1404	---	10392.97

RIO GRANDE DE LOIZA BASIN

50058350 RIO CAÑAS AT CAÑAS,PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JANUARY			FEBRUARY			MARCH			
1	19	77	4.0	14	11	.42	10	14	.37
2	20	89	5.1	13	9	.31	10	9	.25
3	50	397	59	14	7	.27	9.9	7	.20
4	43	345	70	13	8	.28	9.7	8	.22
5	29	146	11	13	8	.29	9.4	10	.25
6	27	145	12	13	9	.30	9.4	11	.29
7	27	125	9.5	13	9	.34	9.3	12	.31
8	23	28	1.8	13	10	.35	9.1	10	.25
9	21	25	1.4	12	12	.40	9.3	8	.21
10	19	23	1.2	12	14	.46	9.0	8	.18
11	19	20	1.0	13	16	.54	8.8	10	.23
12	18	20	.98	12	16	.51	8.9	12	.29
13	29	130	13	13	15	.54	9.1	16	.39
14	22	96	5.7	12	15	.50	8.8	19	.45
15	27	164	24	12	15	.49	8.7	16	.38
16	24	111	8.4	12	15	.48	8.4	13	.29
17	18	31	1.5	12	15	.47	9.1	12	.29
18	17	12	.53	15	92	5.5	9.4	21	.55
19	16	12	.51	12	52	1.8	8.0	22	.46
20	16	13	.57	12	61	1.9	7.7	21	.44
21	15	15	.61	12	69	2.1	7.4	20	.41
22	15	15	.61	12	68	2.1	8.1	19	.42
23	15	15	.61	12	66	2.2	7.3	13	.27
24	15	15	.59	11	65	1.9	7.1	9	.17
25	16	26	1.3	14	162	10	6.8	6	.12
26	14	12	.48	10	47	1.3	7.2	8	.18
27	14	8	.28	11	31	.89	7.4	9	.20
28	14	5	.20	10	21	.57	7.4	12	.26
29	17	27	1.4	10	17	.46	7.4	15	.33
30	14	6	.21	---	---	---	6.0	5	.08
31	13	10	.37	---	---	---	6.8	10	.20
TOTAL	646	---	237.85	357	---	37.67	260.9	---	8.94
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
APRIL			MAY			JUNE			
1	5.9	5	.08	4.0	2	.02	5.2	12	.17
2	5.6	5	.07	4.0	2	.02	5.9	7	.11
3	6.2	4	.07	4.0	3	.04	5.2	6	.08
4	5.5	4	.06	4.2	5	.06	4.8	5	.07
5	5.5	5	.08	5.4	10	.18	5.2	5	.06
6	5.3	7	.10	4.2	7	.08	5.1	4	.05
7	5.2	8	.11	3.9	6	.07	5.0	2	.03
8	5.1	6	.08	4.1	6	.06	5.0	1	.02
9	4.9	4	.05	3.9	5	.05	4.9	1	.01
10	5.0	3	.04	3.9	4	.04	4.9	1	.01
11	4.9	2	.03	35	740	296	6.0	9	.23
12	4.8	2	.03	11	34	1.6	34	777	269
13	5.2	8	.12	6.1	16	.26	8.2	121	2.8
14	4.6	8	.10	5.1	12	.16	45	772	492
15	4.5	6	.07	4.9	9	.12	14	63	3.0
16	4.8	4	.05	4.9	7	.09	11	53	1.8
17	4.6	3	.04	4.9	7	.09	7.3	22	.43
18	4.5	3	.04	32	1520	585	6.0	20	.33
19	5.2	3	.04	6.8	88	2.0	5.6	18	.28
20	4.4	3	.04	5.1	8	.11	8.4	43	1.7
21	4.3	4	.04	5.3	7	.11	5.7	7	.11
22	4.3	5	.05	12	43	3.7	5.5	6	.09
23	4.4	6	.06	6.0	12	.20	5.5	5	.08
24	4.4	7	.08	5.0	7	.09	5.3	5	.07
25	4.2	8	.09	5.1	4	.06	5.6	5	.08
26	4.2	5	.06	4.6	3	.04	6.8	13	.41
27	4.2	3	.04	4.6	3	.04	5.2	6	.08
28	4.1	2	.02	4.9	3	.04	4.8	4	.05
29	4.1	2	.02	4.9	3	.04	4.6	4	.05
30	4.1	2	.02	19	299	43	4.7	5	.06
31	---	---	---	5.6	24	.37	---	---	---
TOTAL	144.0	---	1.78	234.4	---	933.74	250.4	---	773.26

RIO GRANDE DE LOIZA BASIN

50058350 RIO CAÑAS AT CAÑAS,PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JULY			AUGUST			SEPTEMBER			
1	4.9	5	.06	4.3	6	.08	17	23	1.2
2	5.7	9	.15	4.2	5	.05	26	207	47
3	5.3	9	.13	11	72	6.1	21	47	3.2
4	4.7	5	.06	10	57	4.2	17	12	.56
5	4.5	4	.05	6.4	20	.52	53	927	792
6	4.3	3	.03	4.5	6	.07	15	39	1.8
7	4.1	2	.03	5.0	5	.07	12	31	1.0
8	4.0	3	.04	4.5	5	.06	9.6	27	.69
9	3.9	5	.05	4.4	5	.05	8.9	28	.67
10	3.9	7	.08	4.3	4	.05	8.8	29	.69
11	4.6	8	.10	4.2	4	.05	13	65	3.3
12	4.3	6	.07	4.0	4	.04	8.3	39	.86
13	3.8	10	.10	3.9	4	.04	7.9	26	.56
14	3.8	14	.14	5.1	11	.20	8.0	18	.38
15	3.8	10	.10	4.3	14	.16	8.0	13	.29
16	3.6	6	.06	5.4	11	.16	8.3	14	.32
17	3.8	4	.04	4.2	9	.10	68	1170	423
18	4.1	3	.03	3.9	7	.07	48	506	96
19	4.0	3	.03	4.4	6	.07	53	412	104
20	3.5	2	.02	3.7	6	.05	106	2010	1400
21	3.5	2	.02	3.5	5	.05	43	594	230
22	3.4	2	.01	12	49	2.7	49	716	227
23	3.4	1	.01	422	2640	8840	34	184	21
24	3.5	1	.01	62	512	97	33	218	29
25	3.4	2	.02	e29	e134	e11	20	94	5.2
26	3.4	3	.03	e22	e70	e4.3	16	63	2.7
27	3.4	5	.05	e20	e36	e2.0	21	53	3.5
28	3.6	7	.07	e17	e19	e.89	17	21	.98
29	5.9	12	.24	e17	e10	e.46	15	17	.69
30	4.1	6	.07	e20	e10	e.52	12	15	.50
31	3.6	3	.03	17	10	.48	---	---	---
TOTAL	125.8	---	1.93	743.2	---	8971.59	776.8	---	3398.09
YEAR	7347.5		35166.28						

e Estimated

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

SILT AND CLAY PERCENT OF SUSPENDED SEDIMENT

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT					
06...	1645	150	8120	3290	89
11...	1626	51	1420	196	95
21...	1240	242	3340	2180	78
21...	1930	204	1840	1010	75
NOV					
17...	0455	207	2190	1220	80
24...	1840	311	4280	3590	66
28...	1535	384	3650	3780	66
DEC					
03...	0705	93	493	124	67
FEB					
18...	0715	28	1000	76	98
MAY					
30...	1055	34	900	83	97
JUN					
12...	1455	176	7870	3740	96
JUL					
21...	0658	3.5	2	.02	67
AUG					
24...	0742	44	304	36	98
SEP					
20...	1135	249	8860	5960	80
22...	1340	213	4920	2830	83

RIO GRANDE DE LOIZA BASIN
 50058350 RIO CAÑAS AT CAÑAS,PR--Continued
 WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
 PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM (70326)	SED. SUSP. FALL DIAM. % FINER THAN .004 MM (70327)	SED. SUSP. FALL DIAM. % FINER THAN .008 MM (70328)
OCT 18...	1420	508	5360	7350	30	39	50
NOV 17...	1205	733	6310	12500	33	43	54
MAY 11...	1505	186	3600	1810	39	52	67
SEP 05...	1530	571	12100	18700	31	41	54

DATE	SED. SUSP. FALL DIAM. % FINER THAN .016 MM (70329)	SED. SUSP. FALL DIAM. % FINER THAN .031 MM (70330)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM (70332)	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM (70333)	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM (70334)	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM (70335)
OCT 18...	60	70	73	84	94	98	100
NOV 17...	64	74	77	87	95	99	100
MAY 11...	79	87	88	96	99	100	100
SEP 05...	66	75	77	85	93	98	100

50059000 LAGO LOIZA AT DAMSITE NEAR TRUJILLO ALTO, PR

LOCATION.--Lat 18°19'49", long 66°01'00", Hydrologic Unit 21010005, at pumpsite at damsite, and 1.9 mi (3.1 km) south of Trujillo Alto plaza.

DRANAIGE AREA.--208 mi² (539 km²).

ELEVATION RECORDS

PERIOD OF RECORD.--December 1987 to current year. Prior to October 1994, published as Lago Loiza at Damsite.

GAGE.--Water-stage recorder. Datum of gage is mean sea level.

REMARKS.--Lake is formed by Loiza Dam, a concrete structure completed in 1954. Useable capacity of impoundment is 30,000 acre-ft (37.0 hm³). Out flow from lake is controlled by five slide gates in powerplant and pump intake structure, four sluiceways, and concrete spillway with eight radial gates. Lake is used for municipal water supply and intermittent power generation. Gage-height satellite telemetry at station. New capacity table based on U.S. Geological Survey Water-Resources Investigations Report 97-4108, November, 1994.

EXTREMES OBSERVED FOR PERIOD OF RECORD.--Maximum elevation 147.42 ft (44.93 m), Sept. 18, 1989; minimum elevation, 108.52 ft (33.08 m), July 18, 1994.

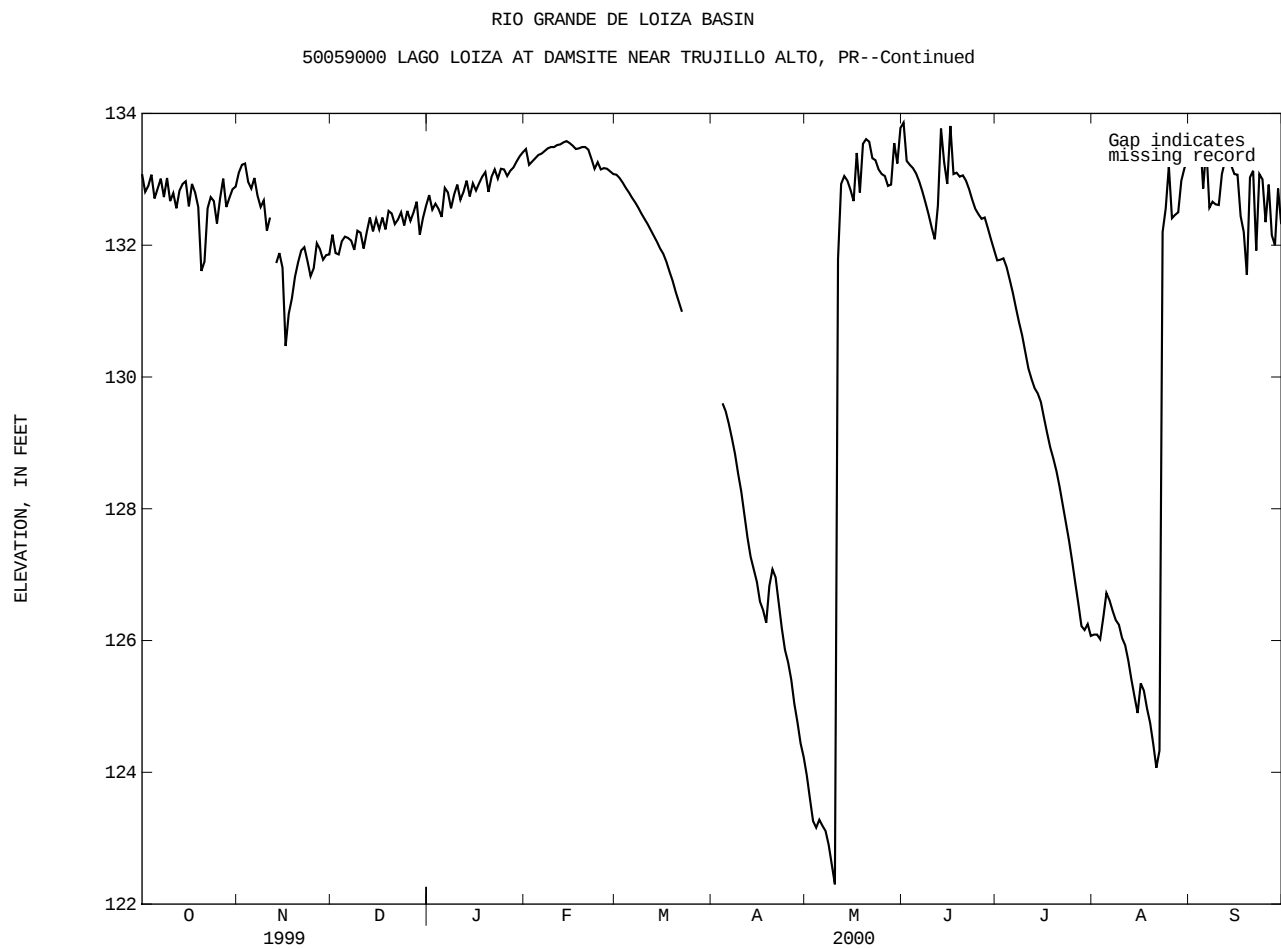
EXTREMES FOR CURRENT YEAR.--Maximum elevation 134.46 ft (40.98 m), May 18; minimum elevation, 122.20 ft (37.25 m), May 11.

Capacity Table
(based on data from U.S. Geological Survey Water-Resources Investigations Report 97-4108, Puerto Rico-1994)

Elevation, in feet		Contents in acre-feet		Elevation, in feet		Contents in acre-feet	
75		0		125		5,861	
95		73		131		9,218	
115		2,205		135		11,504	

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000 DAILY OBSERVATION AT 2400 HOURS												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	133.08	133.10	132.16	132.76	133.46	133.07	A	123.95	133.86	131.77	126.09	133.46
2	132.81	133.22	131.88	132.54	133.22	133.02	A	123.60	133.28	131.78	126.09	133.56
3	132.90	133.24	131.86	132.63	133.27	132.95	A	123.26	133.22	131.80	126.02	133.66
4	133.07	132.96	132.06	132.55	133.32	132.87	129.60	123.16	133.17	131.67	126.35	133.65
5	132.71	132.86	132.13	132.43	133.37	132.80	129.48	123.28	133.09	131.48	126.72	132.86
6	132.86	133.02	132.11	132.87	133.39	132.72	129.29	123.19	132.97	131.28	126.61	133.50
7	133.01	132.75	132.07	132.80	133.43	132.65	129.07	123.11	132.82	131.05	126.45	132.57
8	132.73	132.58	131.93	132.56	133.47	132.57	128.83	122.90	132.65	130.83	126.31	132.66
9	133.02	132.68	132.22	132.77	133.49	132.48	128.53	122.60	132.47	130.63	126.24	132.62
10	132.67	132.22	132.19	132.92	133.49	132.40	128.26	122.30	132.27	130.38	126.04	132.61
11	132.79	132.42	131.95	132.69	133.52	132.32	127.91	131.79	132.09	130.13	125.93	133.08
12	132.56	A	132.20	132.81	133.53	132.23	127.56	132.93	132.60	129.97	125.70	133.28
13	132.83	131.73	132.42	132.98	133.56	132.14	127.27	133.05	133.77	129.83	125.41	133.28
14	132.93	131.88	132.21	132.74	133.58	132.05	127.08	132.98	133.26	129.75	125.15	133.21
15	132.97	131.66	132.40	132.94	133.55	131.95	126.89	132.84	132.93	129.62	124.90	133.08
16	132.59	130.47	132.24	132.83	133.51	131.87	126.59	132.67	133.81	129.38	125.35	133.07
17	132.93	130.96	132.42	132.94	133.46	131.75	126.46	133.40	133.08	129.15	125.24	132.44
18	132.80	131.19	132.24	133.04	133.47	131.60	126.27	132.80	133.10	128.93	124.97	132.20
19	132.58	131.52	132.52	133.11	133.49	131.46	126.83	133.54	133.04	128.76	124.75	131.55
20	131.61	131.74	132.48	132.81	133.49	131.29	127.08	133.61	133.06	128.57	124.43	133.03
21	131.75	131.92	132.32	133.04	133.45	131.14	126.96	133.57	132.98	128.33	124.07	133.13
22	132.56	131.97	132.39	133.15	133.31	130.99	126.57	133.32	132.85	128.06	124.33	131.92
23	132.73	131.76	132.50	133.01	133.16	A	126.18	133.29	132.69	127.79	132.20	133.08
24	132.67	131.53	132.30	133.16	133.26	A	125.86	133.15	132.55	127.52	132.56	133.00
25	132.33	131.65	132.52	133.15	133.15	A	125.67	133.08	132.47	127.21	133.20	132.35
26	132.71	132.03	132.37	133.05	133.17	A	125.41	133.05	132.40	126.88	132.41	132.92
27	133.01	131.94	132.50	133.13	133.16	A	125.04	132.90	132.42	126.56	132.46	132.15
28	132.58	131.78	132.66	133.18	133.12	A	124.76	132.92	132.26	126.22	132.50	132.00
29	132.72	131.85	132.16	133.27	133.08	A	124.44	133.55	132.09	126.16	132.98	132.86
30	132.85	131.86	132.41	133.35	---	A	124.23	133.24	131.93	126.25	133.17	132.32
31	132.89	---	132.60	133.41	---	A	---	133.78	---	126.07	133.29	---
MAX	133.08	133.24	132.66	133.41	133.58	133.07	129.60	133.78	133.86	131.80	133.29	133.66
MIN	131.61	130.47	131.86	132.43	133.08	130.99	124.23	122.30	131.93	126.07	124.07	131.55

A No gage-height record



RIO GRANDE DE LOIZA BASIN

50059000 LAGO LOIZA AT DAMSITE, PR

WATER-QUALITY RECORDS

DRAINAGE AREA.--208 mi² (539 km²).

PERIOD OF RECORD.--Water years 1974 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)
DEC 03...	1015	202	7.5	24.4	5.3	63	>6000	>10000
MAR 01...	1345	356	7.7	25.2	2.0	24	K2	K8
APR 13...	1515	384	7.9	26.1	2.0	24	K3	K6
AUG 14...	1330	369	7.2	29.7	.5	7	K5	K7

DATE	ANC WATER UNFLTRD FET FIELD MG/L AS CAC03 (00410)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDE (MG/L) (00530)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)
DEC 03...	66	333	.24	.07	1.3	.7	.380
MAR 01...	118	2	.03	.01	<.20	.3	.030
APR 13...	126	3	.11	<.01	.31	.1	.030
AUG 14...	113	<10	.22	.02	.52	.1	.070

RIO GRANDE DE LOIZA BASIN

50059050 RIO GRANDE DE LOIZA BELOW DAMSITE, PR

LOCATION.--Lat 18°20'33", long 66°00'20", Hydrologic Unit 21010005, on left bank of Highway 175, 1.1 mi (1.8 km) downstream of Lago Loiza Dam.

DRAINAGE AREA.--209 mi² (541 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1986 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 32 ft (10 m), from topographic map.

REMARKS.--Records poor. Flow regulated by Lago Loiza Dam. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	333	24	19	55	12	7.5	5.1	10	10	5.6	33
2	548	504	4910	380	316	12	7.1	5.1	269	11	5.3	34
3	14	379	2150	656	14	12	7.0	5.8	8.7	10	5.4	34
4	14	498	258	530	13	11	6.6	7.4	8.3	10	7.0	36
5	437	757	2370	606	14	11	6.4	6.9	8.5	9.3	6.6	756
6	16	637	1570	20	14	11	6.2	6.1	8.7	8.9	4.7	35
7	16	477	870	775	14	11	6.1	5.8	8.6	9.1	4.7	447
8	631	505	686	509	14	10	5.7	6.6	8.8	8.4	4.6	33
9	15	21	81	17	14	9.1	5.6	5.9	8.2	8.2	4.5	32
10	428	9570	438	17	14	9.0	5.6	5.4	8.5	8.2	4.5	32
11	14	1070	507	348	14	9.2	5.5	10	8.8	7.6	4.4	1020
12	597	2510	23	17	14	9.5	5.5	6.9	1180	6.1	4.3	33
13	15	e2860	23	18	13	9.6	5.5	6.7	71	6.1	4.4	34
14	15	556	413	355	13	9.8	5.2	7.0	433	6.0	4.5	34
15	15	688	19	18	14	10	4.9	7.0	251	5.7	4.4	33
16	538	2150	333	385	14	11	5.1	7.0	10	5.6	4.3	33
17	26	8930	19	16	11	11	5.2	555	460	5.6	4.2	1230
18	499	6360	358	16	12	10	5.2	1770	9.1	5.6	4.3	3370
19	598	3150	18	17	12	10	5.2	38	9.2	5.4	4.5	802
20	2120	1250	342	423	13	10	5.1	8.6	9.4	6.9	4.5	69
21	1960	613	326	19	13	9.9	5.2	9.1	9.4	6.0	4.7	647
22	28	546	134	46	194	10	5.3	280	9.5	5.9	5.7	1160
23	16	734	175	412	1110	10	5.2	9.2	9.8	6.0	18500	55
24	490	821	300	15	12	9.6	5.2	8.2	9.6	6.2	402	603
25	1370	677	20	80	447	9.7	5.2	8.1	9.6	6.4	32	516
26	414	31	155	319	11	9.4	5.1	8.3	10	6.4	1360	41
27	14	384	17	14	12	8.8	5.1	8.8	10	6.3	523	1940
28	679	1290	19	15	12	8.5	5.2	9.1	9.7	6.1	733	854
29	14	309	e1370	15	12	8.3	5.2	9.4	10	6.5	32	41
30	14	308	e39	16	---	8.8	5.2	2260	10	5.8	32	526
31	935	---	18	15	---	8.9	---	9.5	---	5.5	32	---
TOTAL	12502	48918	17985	6108	2435	310.1	168.1	5096.0	2886.4	220.8	21753.1	14513
MEAN	403	1631	580	197	84.0	10.0	5.60	164	96.2	7.12	702	484
MAX	2120	9570	4910	775	1110	12	7.5	2260	1180	11	18500	3370
MIN	12	21	17	14	11	8.3	4.9	5.1	8.2	5.4	4.2	32
AC-FT	24800	97030	35670	12120	4830	615	333	10110	5730	438	43150	28790
CFSM	1.93	7.80	2.78	.94	.40	.05	.03	.79	.46	.03	3.36	2.31
IN.	2.23	8.71	3.20	1.09	.43	.06	.03	.91	.51	.04	3.87	2.58

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 2000, BY WATER YEAR (WY)

MEAN	394	575	385	173	77.4	49.4	25.8	81.3	162	150	260	848
MAX	1281	2732	2603	733	242	299	112	367	784	672	718	4255
(WY)	1999	1988	1988	1992	1989	1989	1987	1992	1987	1993	1988	1996
MIN	44.7	37.6	17.2	2.49	4.52	5.19	1.20	1.03	1.96	1.62	2.21	29.7
(WY)	1992	1996	1994	1995	1990	1997	1995	1995	1994	1994	1994	1990

SUMMARY STATISTICS

FOR 1999 CALENDAR YEAR

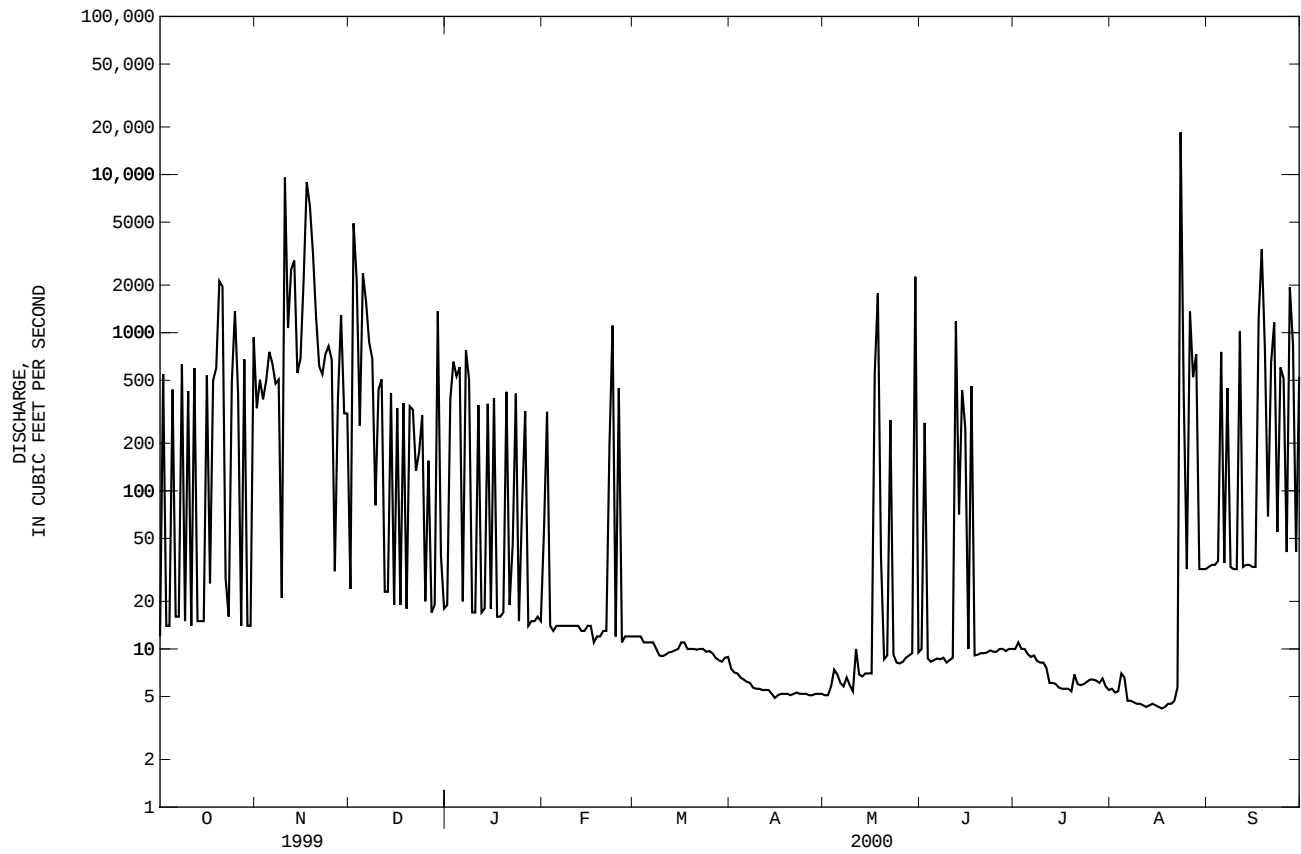
FOR 2000 WATER YEAR

WATER YEARS 1987 - 2000

ANNUAL TOTAL	124102.6	132895.5	
ANNUAL MEAN	340	363	
HIGHEST ANNUAL MEAN			266
LOWEST ANNUAL MEAN			652
HIGHEST DAILY MEAN	9570	Nov 10	110000
LOWEST DAILY MEAN	3.1	May 19	.42
ANNUAL SEVEN-DAY MINIMUM	3.3	May 15	.49
INSTANTANEOUS PEAK FLOW			94300
INSTANTANEOUS PEAK STAGE			34.38
ANNUAL RUNOFF (AC-FT)	246200	263600	193000
ANNUAL RUNOFF (CFSM)	1.63	1.74	1.27
ANNUAL RUNOFF (INCHES)	22.09	23.65	17.32
10 PERCENT EXCEEDS	695	756	442
50 PERCENT EXCEEDS	23	14	8.6
90 PERCENT EXCEEDS	4.5	5.4	2.6

e Estimated

RIO GRANDE DE LOIZA BASIN
50059050 RIO GRANDE DE LOIZA BELOW DAMSITE, PR--Continued



RIO GRANDE DE LOIZA BASIN

50059050 RIO GRANDE DE LOIZA BELOW DAMSITE LOIZA, PR--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.-- Water years 1987 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: December 1986 to current year.

INSTRUMENTATION.-- Automatic sediment sampler, since 1987.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATION: Maximum daily mean, 4,290 mg/L September 10, 1996; Minimum daily mean, 1 mg/L several days.

SEDIMENT LOADS: Maximum daily mean, 1,500,000 tons (1,360,000 tonnes) September 10, 1996; Minimum daily mean, <0.01 tons (<0.01 tonne) several days.

EXTREMES FOR CURRENT YEAR 2000.--

SEDIMENT CONCENTRATION: Maximum daily mean, 1,790 mg/L August 23, 2000; Minimum daily mean, 1 mg/L several days.

SEDIMENT LOADS: Maximum daily mean, 256,000 tons (232,200 tonnes) August 23, 2000; Minimum daily mean, 0.01 ton (0.01 tonne) several days.

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
OCTOBER			NOVEMBER			DECEMBER			
1	12	17	.56	333	42	122	24	42	2.7
2	548	42	175	504	49	157	4910	162	5080
3	14	28	1.1	379	43	121	2150	117	1140
4	14	26	.96	498	43	140	258	58	158
5	437	37	117	757	43	186	2370	353	3560
6	16	27	1.2	637	43	136	1570	141	911
7	16	25	1.1	477	37	88	870	99	643
8	631	44	171	505	35	85	686	86	438
9	15	31	1.2	21	31	1.8	81	46	54
10	428	34	59	9570	160	5680	438	141	276
11	14	31	1.2	1070	90	489	507	68	238
12	597	44	162	2510	157	1380	23	46	2.9
13	15	34	1.4	e2860	e156	e1570	23	36	2.2
14	15	31	1.2	556	78	341	413	58	185
15	15	29	1.1	688	107	569	19	38	2.0
16	538	51	203	2150	191	1610	333	54	112
17	26	31	2.2	8930	767	16800	19	42	2.1
18	499	51	184	6360	1360	20600	358	46	122
19	598	54	284	3150	679	6950	18	38	1.9
20	2120	110	842	1250	171	1240	342	51	112
21	1960	101	902	613	88	440	326	50	104
22	28	36	2.9	546	80	329	134	42	48
23	16	29	1.2	734	83	380	175	51	40
24	490	54	195	821	90	440	300	40	69
25	1370	77	484	677	102	298	20	43	2.3
26	414	44	96	31	80	6.8	155	37	29
27	14	28	1.1	384	60	156	17	41	1.9
28	679	57	249	1290	74	872	19	32	1.6
29	14	32	1.2	309	58	162	e1370	e132	e850
30	14	28	1.1	308	55	144	e39	e51	e2.5
31	935	62	396	---	---	---	18	42	2.0
TOTAL	12502	---	4539.72	48918	---	61493.6	17985	---	14193.1

RIO GRANDE DE LOIZA BASIN

50059050 RIO GRANDE DE LOIZA BELOW DAMSITE LOIZA, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JANUARY			FEBRUARY			MARCH			
1	19	35	1.8	55	35	14	12	22	.73
2	380	90	461	316	40	66	12	22	.72
3	656	70	339	14	25	.97	12	22	.67
4	530	46	104	13	19	.69	11	21	.65
5	606	46	154	14	16	.57	11	21	.63
6	20	38	2.1	14	13	.48	11	20	.60
7	775	45	164	14	11	.40	11	20	.58
8	509	39	58	14	9	.33	10	20	.55
9	17	39	1.8	14	7	.27	9.1	20	.48
10	17	32	1.5	14	6	.22	9.0	19	.47
11	348	39	66	14	5	.20	9.2	19	.47
12	17	27	1.2	14	5	.19	9.5	19	.48
13	18	27	1.3	13	5	.17	9.6	18	.47
14	355	37	78	13	5	.17	9.8	18	.47
15	18	31	1.5	14	5	.17	10	18	.48
16	385	40	80	14	5	.18	11	17	.50
17	16	37	1.6	11	4	.13	11	17	.51
18	16	35	1.5	12	4	.14	10	17	.48
19	17	33	1.5	12	4	.14	10	17	.47
20	423	40	109	13	4	.14	10	16	.45
21	19	44	2.2	13	4	.14	9.9	16	.43
22	46	33	15	194	37	188	10	16	.45
23	412	45	92	1110	79	688	10	16	.43
24	15	33	1.3	12	38	1.3	9.6	15	.40
25	80	30	23	447	58	188	9.7	15	.39
26	319	43	60	11	38	1.2	9.4	15	.37
27	14	37	1.5	12	29	.92	8.8	15	.35
28	15	35	1.4	12	23	.73	8.5	14	.33
29	15	32	1.3	12	23	.73	8.3	14	.31
30	16	30	1.3	---	---	---	8.8	14	.33
31	15	28	1.2	---	---	---	8.9	14	.32
TOTAL	6108	---	1829.0	2435	---	1154.58	310.1	---	14.97
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
APRIL			MAY			JUNE			
1	7.5	13	.27	5.1	8	.11	10	31	.87
2	7.1	13	.25	5.1	8	.11	269	43	95
3	7.0	13	.25	5.8	8	.12	8.7	18	.43
4	6.6	13	.23	7.4	8	.16	8.3	16	.35
5	6.4	13	.22	6.9	8	.14	8.5	13	.30
6	6.2	12	.20	6.1	8	.12	8.7	11	.26
7	6.1	12	.20	5.8	7	.12	8.6	9	.22
8	5.7	12	.18	6.6	7	.13	8.8	8	.20
9	5.6	12	.18	5.9	7	.12	8.2	10	.23
10	5.6	12	.17	5.4	7	.10	8.5	14	.31
11	5.5	11	.17	10	7	.20	8.8	18	.42
12	5.5	11	.17	6.9	8	.15	1180	35	241
13	5.5	11	.16	6.7	9	.17	71	29	6.9
14	5.2	11	.15	7.0	11	.21	433	46	150
15	4.9	11	.14	7.0	13	.24	251	24	56
16	5.1	10	.14	7.0	15	.28	10	36	1.0
17	5.2	10	.14	555	68	396	460	31	79
18	5.2	10	.14	1770	62	548	9.1	24	.58
19	5.2	10	.14	38	53	4.3	9.2	22	.55
20	5.1	10	.14	8.6	40	.93	9.4	20	.51
21	5.2	10	.14	9.1	30	.73	9.4	19	.48
22	5.3	10	.14	280	36	108	9.5	17	.45
23	5.2	9	.13	9.2	55	1.4	9.8	16	.42
24	5.2	9	.13	8.2	47	1.0	9.6	15	.38
25	5.2	9	.13	8.1	41	.91	9.6	14	.35
26	5.1	9	.12	8.3	36	.81	10	13	.34
27	5.1	9	.12	8.8	31	.75	10	12	.32
28	5.2	9	.12	9.1	27	.66	9.7	11	.29
29	5.2	8	.12	9.4	24	.60	10	10	.28
30	5.2	8	.12	2260	118	2000	10	9	.25
31	---	---	---	9.5	46	1.2	---	---	---
TOTAL	168.1	---	4.91	5096.0	---	3067.77	2886.4	---	637.69

RIO GRANDE DE LOIZA BASIN

50059050 RIO GRANDE DE LOIZA BELOW DAMSITE LOIZA, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JULY			AUGUST			SEPTEMBER			
1	10	8	.22	5.6	1	.02	33	67	6.1
2	11	7	.21	5.3	1	.02	34	63	5.7
3	10	6	.17	5.4	1	.02	34	59	5.4
4	10	5	.15	7.0	1	.03	36	55	5.3
5	9.3	5	.12	6.6	1	.02	756	92	498
6	8.9	4	.10	4.7	1	.02	35	50	4.7
7	9.1	4	.09	4.7	1	.02	447	68	266
8	8.4	3	.08	4.6	1	.02	33	37	3.3
9	8.2	3	.06	4.5	1	.01	32	37	3.2
10	8.2	3	.06	4.5	1	.01	32	37	3.2
11	7.6	2	.05	4.4	1	.01	1020	88	519
12	6.1	2	.03	4.3	1	.01	33	54	4.9
13	6.1	2	.03	4.4	1	.01	34	51	4.6
14	6.0	2	.03	4.5	1	.01	34	47	4.3
15	5.7	2	.03	4.4	1	.01	33	44	3.9
16	5.6	2	.03	4.3	1	.01	33	41	3.6
17	5.6	2	.03	4.2	1	.01	1230	133	1010
18	5.6	2	.03	4.3	1	.01	3370	365	5180
19	5.4	2	.03	4.5	1	.01	802	113	651
20	6.9	2	.03	4.5	1	.01	69	101	22
21	6.0	2	.03	4.7	1	.01	647	92	402
22	5.9	2	.03	5.7	1	.02	1160	146	660
23	6.0	2	.03	18500	1790	256000	55	100	15
24	6.2	2	.03	402	561	2050	603	76	282
25	6.4	2	.03	32	345	30	516	75	256
26	6.4	2	.03	1360	327	1780	41	47	5.3
27	6.3	2	.03	523	264	577	1940	214	1820
28	6.1	2	.03	733	183	550	854	100	553
29	6.5	2	.03	32	130	11	41	52	5.7
30	5.8	1	.02	32	77	6.6	526	59	197
31	5.5	1	.02	32	72	6.3	---	---	---
TOTAL	220.8	---	1.89	21753.1	---	261011.22	14513	---	12400.2
YEAR	132895.5		360348.65						

e Estimated

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

SILT AND CLAY PERCENT OF SUSPENDED SEDIMENT

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT					
02...	1225	3340	143	1290	100
10...	1315	2370	42	269	100
NOV					
17...	1450	12800	724	25100	97
DEC					
02...	2040	13500	227	8270	89
JAN					
02...	1205	910	247	607	96
04...	0920	3640	86	845	89
08...	1200	2760	47	350	66
MAY					
17...	1915	3140	210	1780	87
18...	2245	3750	70	709	96
JUN					
12...	2315	6220	70	1180	68
AUG					
24...	2030	2750	868	6440	98
27...	1410	3780	386	3940	98

RIO GRANDE DE LOIZA BASIN

50059050 RIO GRANDE DE LOIZA BELOW DAMSITE LOIZA, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. FALL DIAM. % FINER THAN (70326)	SED. SUSP. FALL DIAM. % FINER THAN (70327)	SED. SUSP. FALL DIAM. % FINER THAN (70328)	
AUG 24...	1915	6220	3210	53900	36	40	49	
DATE		SED. SUSP. FALL DIAM. % FINER THAN .016 MM (70329)	SED. SUSP. FALL DIAM. % FINER THAN .031 MM (70330)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM (70332)	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM (70333)	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM (70334)	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM (70335)
AUG 24...	61	76	91	100	100	100	100	

50059100 RIO GRANDE DE LOIZA BELOW TRUJILLO ALTO, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 18°21'35", long 66°00'15", 100 ft (30 m) downstream of Highway 181 bridge, 0.4 mi (0.6 km) northwest of Trujillo Alto plaza, and 2.2 mi (3.5 km) northeast of Lago Loiza Reservoir.

DRAINAGE AREA.--213 mi² (552 km²).

PERIOD OF RECORD.--Water years 1981 to current year.

REMARKS: Flow controlled by Lago Loiza reservoir.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (000061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (000095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (000400)	TEMPER-ATURE WATER (DEG C) (000010)	TUR-BID-ITY (NTU) (000076)	OXYGEN, DIS-SOLVED (MG/L) (000300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (000301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (000340)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	STREP-TOCOCCI, KF AGAR (COLS. PER 100 ML) (31673)
OCT 05...	1400	13	371	8.2	30.5	8.6	8.8	118	<10	K830	K140
DEC 10...	1125	38	275	7.7	24.0	57	6.5	76	13	510	K110
MAR 01...	1205	13	437	8.0	24.8	1.3	8.2	98	11	K100	<10
APR 25...	1430	5.6	491	8.2	30.0	.6	10.5	138	<10	23000	<10
AUG 17...	1150	5.3	447	8.1	30.5	<.5	9.0	120	12	K54	K70

DATE	HARD- NESS TOTAL	CALCIUM DIS- SOLVED	MAGNE- SIUM, DIS- SOLVED	SODIUM, DIS- SOLVED	SODIUM AD- SORP- TION	POTAS- SIUM, DIS- SOLVED	ANC WATER UNFLTRD FET FIELD	SULFIDE TOTAL	SULFATE DIS- SOLVED	CHLO- RIDE, DIS- SOLVED
	(MG/L AS CAC03)	(MG/L AS CA)	(MG/L AS MG)	(MG/L AS NA)	RATIO	(MG/L AS K)	MG/L AS CAC03	(MG/L AS S)	(MG/L AS S04)	(MG/L AS CL)
	(00900)	(00915)	(00925)	(00930)	(00931)	(00935)	(00410)	(00745)	(00945)	(00940)
OCT 05...	120	30.0	11.4	23.7	.9	2.8	129	--	13.6	24.2
DEC 10...	100	25.6	9.75	17.8	.8	2.7	102	<1.0	12.5	18.4
MAR 01...	--	--	--	--	--	--	161	--	--	--
APR 25...	160	35.0	16.9	35.6	1	2.2	112	<1.0	18.0	41.2
AUG 17...	140	32.2	13.9	33.9	1	2.7	149	--	16.1	36.3

DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS ST02) (00955)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDE (MG/L) (00530)	NITRO- GEN, NITRATE (MG/L AS N) (00620)	NITRO- GEN, NITRITE (MG/L AS N) (00615)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)
OCT 05...	.1	26.6	210	7.60	8	--	<.01	.7	.04	--
DEC 10...	<.1	24.6	172	17.8	42	.98	.02	1.0	.06	.41
MAR 01...	--	--	--	--	2	.61	.01	.6	.06	--
APR 25...	.2	31.6	248	3.74	2	.28	.02	.3	.10	.30
AUG 17...	.1	30.5	255	3.65	<10	--	--	--	--	--

[illegible]

RIO GRANDE DE LOIZA BASIN

50059100 RIO GRANDE DE LOIZA BELOW TRUJILLO ALTO, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

[illegible]

RIO GRANDE DE LOIZA BASIN

50061800 RIO CANOVANAS NEAR CAMPO RICO, PR

LOCATION.--Lat 18°19'08", long 65°53'21", Hydrologic Unit 21010005, at upstream side of bridge, on paved secondary road, 0.4 mi (0.6 km) northeast of junction of Highways 185 and 186, 1.5 mi (2.4 km) south of Campo Rico, and 4.4 mi (7.1 km) south of Loíza.

DRAINAGE AREA.--9.84 mi² (25.48 km²).

PERIOD OF RECORD.--March 1967 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 225 ft (68 m), from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	112	52	29	22	13	8.6	7.2	9.0	7.3	6.4	9.7
2	56	137	534	32	19	12	8.5	6.3	8.2	14	8.1	9.0
3	26	87	239	166	18	11	8.9	6.5	7.7	14	8.9	10
4	34	61	69	99	17	11	8.4	7.4	7.2	5.7	44	11
5	23	60	407	86	16	11	8.1	6.8	6.9	4.4	41	21
6	32	53	170	117	16	11	8.0	6.7	6.5	3.7	10	29
7	37	41	172	104	16	11	7.8	6.2	6.3	3.8	8.1	13
8	26	37	106	65	16	11	7.5	5.9	6.2	4.1	8.2	9.9
9	31	37	73	54	15	10	7.3	5.7	6.2	4.3	8.8	8.9
10	22	70	60	43	15	10	7.2	5.5	6.0	4.0	7.0	10
11	19	47	52	39	14	10	7.4	11	5.9	3.6	8.9	67
12	24	198	45	37	14	10	8.6	18	e55	3.2	6.5	16
13	22	133	41	36	14	10	12	11	e19	3.1	4.9	11
14	19	65	36	34	14	9.8	16	7.4	8.6	6.8	7.0	9.6
15	e17	91	33	37	14	9.4	9.1	6.0	e8.6	4.1	7.2	9.4
16	e19	79	31	70	13	9.6	9.6	5.6	e10	3.0	8.3	17
17	e99	427	30	36	14	10	8.9	6.2	8.9	3.1	7.7	94
18	e27	522	30	30	15	9.4	8.5	30	7.7	4.6	5.4	120
19	e67	286	34	27	25	9.2	12	15	7.0	3.7	5.5	39
20	145	149	35	26	19	9.1	12	7.8	e6.2	3.3	5.2	24
21	419	102	35	25	27	9.0	8.5	6.7	e5.8	2.8	4.9	83
22	108	89	53	24	30	9.7	8.0	6.7	e4.6	2.7	23	42
23	50	95	43	23	18	9.0	7.4	6.7	e4.8	2.7	374	31
24	223	97	34	22	15	9.0	7.3	6.3	e4.6	2.8	30	27
25	126	113	73	22	56	9.0	7.1	6.5	e5.0	3.5	17	19
26	85	76	36	22	18	9.2	6.9	7.1	e12	3.2	18	22
27	57	59	28	21	15	11	6.8	6.2	e8.8	3.0	15	35
28	44	113	31	22	13	9.3	6.6	8.9	e5.4	3.6	12	31
29	39	67	27	21	13	12	6.9	17	e4.4	6.8	11	24
30	35	61	24	20	---	10	7.4	47	3.7	14	11	17
31	101	---	23	18	---	8.9	---	15	---	6.4	10	---
TOTAL	2058	3564	2656	1407	531	313.6	257.3	316.3	266.2	155.3	743.0	869.5
MEAN	66.4	119	85.7	45.4	18.3	10.1	8.58	10.2	8.87	5.01	24.0	29.0
MAX	419	522	534	166	56	13	16	47	55	14	374	120
MIN	17	37	23	18	13	8.9	6.6	5.5	3.7	2.7	4.9	8.9
AC-FT	4080	7070	5270	2790	1050	622	510	627	528	308	1470	1720
CFSM	6.75	12.1	8.71	4.61	1.86	1.03	.87	1.04	.90	.51	2.44	2.95
IN.	7.78	13.47	10.04	5.32	2.01	1.19	.97	1.20	1.01	.59	2.81	3.29

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 2000, BY WATER YEAR (WY)

MEAN	42.4	46.8	35.3	26.1	19.7	13.9	14.6	26.1	17.3	18.2	26.2	41.3
MAX	273	125	116	62.4	48.4	36.2	53.2	93.2	63.7	63.7	137	196
(WY)	1971	1985	1971	1969	1988	1969	1971	1969	1970	1979	1979	1996
MIN	6.74	6.66	5.82	6.66	4.04	3.54	4.36	4.28	2.80	3.72	5.69	5.20
(WY)	1968	1981	1968	1977	1977	1977	1994	1974	1974	1974	1991	1967

SUMMARY STATISTICS

FOR 1999 CALENDAR YEAR

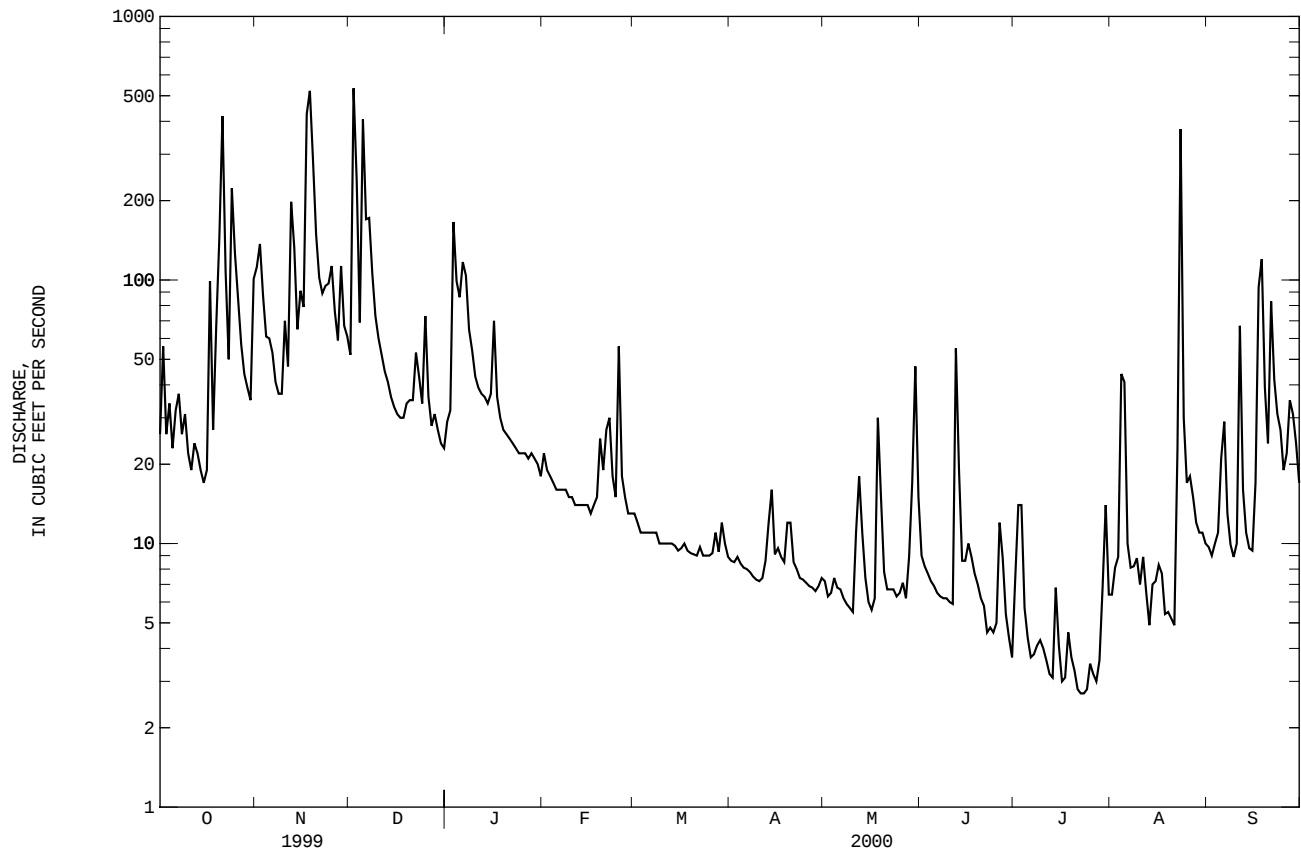
FOR 2000 WATER YEAR

WATER YEARS 1967 - 2000

ANNUAL TOTAL	13688.7	13137.2	
ANNUAL MEAN	37.5	35.9	27.6
HIGHEST ANNUAL MEAN			58.0
LOWEST ANNUAL MEAN			10.5
HIGHEST DAILY MEAN	534	534	4230
LOWEST DAILY MEAN	5.5	2.7	.80
ANNUAL SEVEN-DAY MINIMUM	5.8	3.0	1.5
INSTANTANEOUS PEAK FLOW		4040	17300
INSTANTANEOUS PEAK STAGE		9.73	15.90
INSTANTANEOUS LOW FLOW		2.4	.80
ANNUAL RUNOFF (AC-FT)	27150	26060	19980
ANNUAL RUNOFF (CFSM)	3.81	3.65	2.80
ANNUAL RUNOFF (INCHES)	51.75	49.67	38.08
10 PERCENT EXCEEDS	81	86	45
50 PERCENT EXCEEDS	16	14	12
90 PERCENT EXCEEDS	6.8	5.6	5.2

e Estimated

RIO GRANDE DE LOIZA BASIN
50061800 RIO CANOVANAS NEAR CAMPO RICO, PR--Continued



RIO GRANDE DE LOIZA BASIN
50061800 RIO CANOVANAS NEAR CAMPO RICO, PR--Continued
WATER-QUALITY RECORDS

PERIOD OF RECORD.-- Water years 1967 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: October 1994 to current year.

INSTRUMENTATION.-- USDH-48 sediment sampler and automatic sediment sampler, since 1992.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATION: Maximum daily mean, 1,560 mg/L September 21, 1998; Minimum daily mean, 2 mg/L several days in several years.

SEDIMENT LOADS: Maximum daily mean, 40,900 tons (37,100 tonnes) September 21, 1998; Minimum daily mean, 0.03 tons (0.03 tonnes) several days in 1995 and 2000.

EXTREMES FOR WATER YEAR 1995.--

SEDIMENT CONCENTRATION: Maximum daily mean, 346 mg/L August 30, 1995; Minimum daily mean, 2 mg/L several days.

SEDIMENT LOADS: Maximum daily mean, e1,300 tons (e1,180 tonnes) September 6, 1995; Minimum daily mean, 0.03 tons (0.03 tonnes) several days.

EXTREMES FOR WATER YEAR 1996.--

SEDIMENT CONCENTRATION: Maximum daily mean, 885 mg/L January 14, 1996; Minimum daily mean, 2 mg/L several days.

SEDIMENT LOADS: Maximum daily mean, 9,240 tons (8,380 tonnes) September 10, 1996; Minimum daily mean, 0.04 tons (0.04 tonnes) several days.

EXTREMES FOR WATER YEAR 1997.--

SEDIMENT CONCENTRATION: Maximum daily mean, 885 mg/L January 14, 1997; Minimum daily mean, 2 mg/L March 23 and April 11, 1997.

SEDIMENT LOADS: Maximum daily mean, 2,700 tons (2,450 tonnes) November 22, 1996; Minimum daily mean, 0.05 tons (0.04 tonnes) July 2-3, 1997.

EXTREMES FOR WATER YEAR 1998.--

SEDIMENT CONCENTRATION: Maximum daily mean, 1,560 mg/L September 21, 1998; Minimum daily mean, 2 mg/L March 23 and April 11, 1998.

SEDIMENT LOADS: Maximum daily mean, 40,900 tons (37,100 tonnes) September 21, 1998; Minimum daily mean, 0.04 tons (0.04 tonnes) April 11 and July 2, 1998.

EXTREMES FOR WATER YEAR 1999.--

SEDIMENT CONCENTRATION: Maximum daily mean, 1,490 mg/L September 21, 1999; Minimum daily mean, 2 mg/L April 11, 1999.

SEDIMENT LOADS: Maximum daily mean, e2,440 tons (e2,210 tonnes) October 22, 1998; Minimum daily mean, 0.06 tons (0.05 tonnes) March 23, 1999.

EXTREMES FOR CURRENT YEAR 2000.--

SEDIMENT CONCENTRATION: Maximum daily mean, 565 mg/L December 5, 1999 ; Minimum daily mean, 3 mg/L several days.

SEDIMENT LOADS: Maximum daily mean, 1,610 tons (1,460 tonnes) December 2, 1999 ; Minimum daily mean, 0.03 tons (0.03 tonnes) several days.

RIO GRANDE DE LOIZA BASIN

50061800 RIO CANOVANAS NEAR CAMPO RICO, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995									
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L) APRIL	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L) MAY	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L) JUNE	SEDIMENT DISCHARGE (TONS/DAY)
1	7.6	2	.04	5.3	6	.09	5.8	7	.10
2	6.7	2	.04	5.3	6	.09	14	17	.93
3	7.3	2	.04	5.4	6	.09	36	49	5.3
4	7.0	2	.04	7.6	10	.24	11	16	.54
5	7.0	2	.04	9.9	12	.39	5.7	7	.12
6	7.1	2	.04	8.6	11	.26	4.7	5	.07
7	6.5	2	.04	7.0	8	.16	5.0	5	.07
8	6.4	2	.04	7.1	8	.16	5.2	5	.07
9	6.6	2	.04	10	14	.40	3.8	5	.05
10	6.4	2	.03	6.2	10	.16	3.4	5	.05
11	6.9	2	.04	5.2	6	.09	24	31	2.8
12	30	57	8.0	4.7	6	.07	15	20	1.0
13	12	13	.43	4.2	6	.06	8.5	9	.20
14	8.3	8	.18	6.8	9	.21	5.4	6	.09
15	9.6	6	.16	6.5	9	.16	6.2	7	.14
16	11	6	.18	8.4	11	.27	12	15	.53
17	8.7	6	.14	6.8	8	.15	8.0	11	.25
18	7.6	6	.12	5.2	6	.08	4.5	6	.07
19	7.9	6	.13	5.0	6	.08	3.5	5	.05
20	7.1	6	.12	5.3	6	.09	3.5	5	.05
21	6.8	6	.11	4.7	6	.08	3.7	6	.06
22	7.6	6	.12	4.6	6	.07	4.1	6	.06
23	6.1	6	.10	4.3	6	.07	3.8	6	.06
24	5.3	6	.09	4.0	6	.06	3.4	6	.06
25	5.5	6	.09	3.9	6	.06	3.2	7	.06
26	5.3	6	.09	3.9	6	.06	2.9	7	.05
27	5.8	6	.09	5.2	6	.08	130	268	524
28	5.8	6	.09	5.9	6	.09	26	36	3.5
29	5.7	6	.09	13	15	.68	7.9	9	.19
30	5.5	6	.09	13	16	.58	4.6	6	.07
31	---	---	---	7.1	8	.16	---	---	---
TOTAL	237.1	---	10.85	200.1	---	5.29	374.8	---	540.59
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L) JULY	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L) AUGUST	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L) SEPTEMBER	SEDIMENT DISCHARGE (TONS/DAY)
1	4.0	5	.06	26	33	3.3	32	40	3.5
2	3.8	5	.05	33	45	4.6	20	28	1.5
3	3.8	5	.05	188	267	432	18	25	1.2
4	13	17	.62	30	41	3.5	17	25	1.1
5	13	16	.60	19	25	1.3	70	114	47
6	13	14	.48	16	22	.98	e586	e337	e1300
7	6.3	8	.14	17	20	.93	e59	e36	e6.3
8	4.4	5	.06	17	24	1.3	32	22	1.9
9	4.3	5	.05	17	21	.99	23	23	1.4
10	3.5	4	.04	11	14	.43	19	23	1.2
11	3.5	4	.04	10	13	.37	26	32	2.4
12	4.5	3	.04	9.5	12	.32	19	26	1.3
13	11	12	.91	8.9	12	.28	16	23	.97
14	19	27	1.6	8.5	11	.26	15	20	.81
15	32	60	13	8.4	11	.24	181	174	352
16	28	37	3.2	8.0	10	.22	859	140	418
17	14	16	.63	9.6	11	.30	107	40	12
18	9.5	12	.31	31	52	8.1	61	27	4.5
19	9.0	11	.28	102	144	53	38	26	2.7
20	5.9	8	.12	27	35	2.8	31	26	2.1
21	74	104	184	16	19	.84	29	25	2.0
22	104	114	71	13	16	.57	25	25	1.7
23	17	20	.92	21	28	2.1	29	47	6.0
24	11	15	.45	30	31	2.6	23	34	2.1
25	8.5	11	.26	21	27	1.5	19	29	1.5
26	13	18	1.0	15	23	.92	17	25	1.2
27	151	165	91	13	20	.69	17	22	.96
28	74	103	23	13	17	.58	15	18	.76
29	43	57	7.4	29	53	10	27	33	2.9
30	29	37	3.0	80	346	145	19	26	1.3
31	23	30	1.9	54	112	18	---	---	---
TOTAL	753.0	---	406.21	901.9	---	698.02	2449	---	2182.30
YEAR	7937.5		5444.06						
	e Estimated								

RIO GRANDE DE LOIZA BASIN

50061800 RIO CANOVANAS NEAR CAMPO RICO, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996									
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
OCTOBER				NOVEMBER			DECEMBER		
1	13	6	.21	14	13	.50	12	70	2.3
2	15	8	.49	26	35	2.6	14	75	2.5
3	19	23	1.4	38	42	5.2	11	85	2.5
4	12	14	.48	32	41	3.8	12	106	3.5
5	32	43	4.9	23	28	1.9	10	48	1.3
6	19	21	1.1	71	128	26	10	39	1.1
7	16	10	.43	53	74	21	10	33	.90
8	15	6	.24	36	86	7.7	10	27	.74
9	15	6	.25	22	43	2.6	10	22	.63
10	16	6	.26	18	92	4.5	11	19	.53
11	14	6	.23	17	36	1.6	9.9	15	.41
12	13	6	.20	18	17	.85	9.4	13	.32
13	16	4	.19	35	50	8.3	11	12	.36
14	17	4	.20	22	16	1.0	12	12	.36
15	12	5	.16	18	20	.95	8.7	11	.27
16	13	5	.19	20	24	1.4	8.6	11	.26
17	53	144	63	19	22	1.1	45	146	58
18	19	13	.69	18	18	.87	69	202	42
19	22	21	1.4	14	15	.58	29	36	3.1
20	17	148	6.7	12	13	.42	e15	e7	e.27
21	24	52	8.3	12	11	.35	e17	e6	e1.6
22	19	24	1.7	13	9	.32	e16	e22	e1.2
23	75	169	139	13	8	.28	e14	e13	e.48
24	121	212	79	15	7	.27	e13	e9	e.32
25	54	80	22	16	18	.73	e12	e12	e.36
26	36	34	3.4	14	13	.48	e11	e12	e.36
27	21	22	1.3	13	10	.35	e15	e7	e.27
28	21	16	1.1	13	9	.30	e19	e15	e.59
29	19	24	1.2	14	224	8.3	e13	e9	e.32
30	15	19	.78	13	272	9.4	e10	e22	e.64
31	14	7	.26	---	---	---	e9.8	e15	e.41
TOTAL	787	---	340.76	662	---	113.65	477.4	---	127.90
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JANUARY				FEBRUARY			MARCH		
1	e9.8	e15	e.41	25	11	.76	10	24	.65
2	e9.6	e13	e.33	22	11	.68	9.9	20	.54
3	e9.2	e13	e.33	21	11	.66	9.9	17	.47
4	e8.8	e11	e.27	22	12	.68	10	15	.40
5	e14	e13	e.48	19	12	.62	15	19	.82
6	e19	e12	e.62	28	29	3.2	13	15	.51
7	e16	e22	e1.2	34	42	4.0	11	11	.33
8	e22	e11	e.68	23	29	1.9	10	11	.29
9	e40	e55	e25	23	28	1.9	9.2	10	.25
10	16	22	1.2	18	23	1.1	8.7	10	.23
11	13	15	.55	18	20	.97	21	29	2.1
12	40	155	25	15	18	.77	13	28	.95
13	44	110	31	15	17	.65	9.0	112	2.9
14	712	885	6900	14	15	.58	7.6	10	.21
15	239	334	564	13	14	.50	29	37	5.7
16	39	50	5.5	e13	e13	e.46	18	24	1.4
17	28	23	1.7	e14	e15	e.58	9.9	12	.32
18	32	16	1.4	e13	e14	e.50	7.9	10	.22
19	47	52	7.2	e13	e14	e.50	14	17	.71
20	79	160	47	e13	e14	e.50	8.7	10	.24
21	49	61	8.4	12	29	.95	7.3	6	.13
22	30	36	2.9	12	27	.85	6.7	2	.04
23	e23	e29	e1.9	11	10	.31	6.8	2	.04
24	e22	e12	e.68	17	20	1.3	7.2	2	.05
25	e34	e16	e1.5	21	307	13	6.8	3	.05
26	41	104	13	13	66	2.4	6.6	3	.05
27	81	117	25	11	204	6.2	7.3	3	.06
28	92	172	52	10	279	7.9	6.8	3	.06
29	50	63	8.6	10	42	1.2	6.5	4	.06
30	34	16	1.5	---	---	---	6.1	4	.06
31	27	11	.83	---	---	---	5.9	4	.07
TOTAL	1920.4	---	7730.18	493	---	55.62	318.8	---	19.91
e Estimated									

RIO GRANDE DE LOIZA BASIN

50061800 RIO CANOVANAS NEAR CAMPO RICO, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MEAN DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	MEAN SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	MEAN SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	MEAN SEDIMENT DISCHARGE (TONS/DAY)
APRIL			MAY			JUNE			
1	5.7	5	.07	7.0	7	.12	7.4	17	.33
2	5.7	5	.08	6.1	6	.10	6.6	49	.87
3	5.4	6	.08	5.9	10	.16	6.3	16	.28
4	7.0	8	.19	5.9	12	.20	6.6	7	.13
5	7.7	9	.19	6.1	11	.18	e6.4	e8	e.14
6	6.2	7	.11	6.4	8	.14	e8.2	e9	e.20
7	5.9	5	.08	7.2	8	.15	e22	e23	e1.8
8	5.7	4	.06	8.4	13	.31	e12	e14	e.40
9	5.8	3	.05	14	18	.72	7.0	7	.13
10	5.7	2	.04	11	10	.30	6.3	31	.53
11	6.1	57	.88	8.3	9	.20	e7.0	e7	e.13
12	8.3	14	.36	6.8	8	.15	17	22	1.3
13	14	16	.63	7.1	10	.19	11	14	.40
14	7.2	7	.14	11	10	.30	7.5	8	.15
15	7.3	9	.17	7.5	9	.19	56	67	22
16	15	19	.84	7.2	8	.16	47	62	8.4
17	9.0	11	.26	6.6	6	.10	22	23	1.8
18	7.6	10	.20	6.3	6	.10	9.1	11	.27
19	7.2	10	.19	6.4	6	.10	7.4	9	.19
20	7.0	10	.18	6.0	6	.09	6.6	8	.14
21	7.0	9	.18	5.8	6	.09	7.4	8	.16
22	7.7	9	.19	6.1	6	.10	9.4	12	.35
23	9.9	12	.33	7.4	6	.12	9.1	11	.28
24	11	13	.37	7.7	6	.12	7.6	9	.18
25	8.0	9	.20	7.9	6	.13	7.0	8	.15
26	7.6	8	.17	7.4	6	.12	7.0	268	5.0
27	7.0	8	.15	6.9	6	.11	7.3	36	.71
28	6.9	7	.14	6.4	15	.25	8.0	9	.19
29	7.4	7	.14	6.3	16	.27	9.2	6	.14
30	8.9	7	.17	6.2	8	.14	8.3	5	.12
31	---	---	---	6.7	7	.12	---	---	---
TOTAL	230.9	---	6.84	226.0	---	5.53	359.7	---	46.87

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	MEAN SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	MEAN SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	MEAN SEDIMENT DISCHARGE (TONS/DAY)
JULY			AUGUST			SEPTEMBER			
1	6.8	5	.09	11	45	1.4	e8.8	e2	e.30
2	6.2	5	.09	11	265	8.5	e8.4	e12	e.30
3	6.3	17	.28	13	22	.73	e8.4	e12	e.30
4	6.5	16	.28	22	28	1.9	e25	e9	e2.0
5	6.5	14	.25	14	17	.64	e30	e47	e3.6
6	6.7	8	.14	13	18	.60	e41	e45	e5.0
7	7.0	7	.14	11	24	.71	44	16	1.9
8	353	188	676	9.7	21	.54	71	126	29
9	72	64	15	9.3	14	.36	230	154	396
10	25	27	1.9	9.7	14	.37	4230	530	9240
11	15	19	.76	12	14	.48	356	81	60
12	26	23	1.8	11	15	.42	78	86	18
13	28	33	2.9	16	22	1.5	54	62	9.1
14	68	147	57	86	165	61	44	179	21
15	116	63	34	65	104	24	133	171	93
16	21	18	1.1	112	140	56	e95	e140	e56
17	15	12	.51	30	63	9.3	46	44	5.5
18	14	11	.42	21	106	5.7	45	60	7.9
19	13	8	.28	10	35	1.0	41	45	5.0
20	14	104	3.7	9.1	18	.43	43	28	3.3
21	13	114	4.0	9.1	12	.30	33	26	2.3
22	11	20	.62	e9.5	e14	e.36	29	47	3.6
23	11	16	.44	e40	e45	e5.0	28	34	2.6
24	11	12	.36	e110	e140	e56	25	29	2.0
25	14	17	.72	e15	e22	e1.5	23	25	1.6
26	15	140	5.4	e13	e18	e.60	22	22	1.3
27	12	91	2.8	e12	e14	e.48	22	18	1.1
28	44	84	18	e11	e15	e.42	27	33	2.4
29	22	37	2.2	e11	e15	e.42	22	26	1.6
30	13	30	1.0	e10	e15	e.42	19	20	1.0
31	12	33	1.1	e9.4	e14	e.36	---	---	---
TOTAL	1004.0	---	833.28	745.8	---	241.44	5881.6	---	9976.70
YEAR	13106.6		19498.68						
e	Estimated								

RIO GRANDE DE LOIZA BASIN

50061800 RIO CANOVANAS NEAR CAMPO RICO, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
APRIL			MAY			JUNE			
1	13	21	.73	7.7	7	.14	6.9	7	.14
2	17	21	1.0	7.7	7	.14	7.4	13	.29
3	32	41	3.7	7.7	6	.13	19	34	1.8
4	17	16	.72	7.6	10	.21	12	17	.58
5	15	9	.36	7.7	12	.25	7.6	8	.17
6	14	9	.34	7.3	11	.22	6.8	7	.13
7	13	7	.23	9.1	10	.28	6.3	9	.14
8	11	5	.16	21	20	1.1	5.4	9	.13
9	12	4	.12	16	14	.63	5.5	9	.14
10	11	3	.09	14	18	.71	5.1	7	.10
11	12	2	.08	10	12	.33	5.2	31	.42
12	11	57	1.7	9.1	10	.25	5.2	20	.28
13	11	14	.41	9.6	11	.29	5.0	22	.30
14	11	16	.45	16	16	.68	4.9	14	.18
15	10	7	.21	9.6	10	.28	4.5	8	.09
16	10	9	.23	8.2	9	.21	4.1	67	.74
17	9.4	19	.47	8.4	8	.18	4.0	62	.66
18	9.3	11	.26	8.1	6	.13	4.0	23	.24
19	9.1	10	.25	7.2	6	.12	3.9	11	.12
20	14	17	.68	6.7	6	.11	4.2	9	.10
21	9.6	11	.28	7.1	6	.12	4.2	8	.09
22	9.1	10	.25	8.1	6	.14	3.8	6	.06
23	8.6	10	.22	7.3	7	.13	5.5	9	.17
24	8.4	12	.27	6.9	7	.12	9.3	12	.31
25	8.5	13	.29	7.0	7	.13	6.1	9	.15
26	8.2	9	.21	6.4	7	.12	4.6	6	.08
27	8.5	8	.19	8.0	9	.46	4.3	267	2.9
28	8.7	8	.18	24	31	2.4	4.3	36	.41
29	8.0	7	.16	13	18	.74	4.0	9	.09
30	7.6	7	.15	21	21	1.3	4.0	6	.06
31	---	---	---	9.2	9	.22	---	---	---
TOTAL	347.0	---	14.39	316.7	---	12.27	177.1	---	11.07
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JULY			AUGUST			SEPTEMBER			
1	3.9	5	.06	15	33	1.3	13	40	1.4
2	3.9	5	.05	13	45	1.6	11	28	.81
3	4.0	5	.05	12	239	7.5	9.0	25	.62
4	3.9	17	.18	18	17	.83	7.6	25	.50
5	4.4	16	.19	17	29	1.3	7.4	114	2.3
6	4.4	14	.17	12	14	.47	7.7	320	6.7
7	4.2	8	.09	9.8	14	.38	9.0	17	.41
8	4.3	6	.06	9.0	23	.56	9.5	16	.41
9	7.5	159	4.8	13	22	.87	15	96	3.4
10	13	36	1.2	26	28	1.9	12	115	3.5
11	11	17	.49	18	21	1.0	11	529	16
12	9.7	19	.50	12	15	.50	14	27	1.1
13	9.0	23	.54	13	15	.52	17	22	1.1
14	8.3	33	.74	14	22	.78	35	65	8.2
15	8.8	147	3.6	11	64	2.0	20	174	10
16	10	63	1.7	11	104	3.6	17	169	8.0
17	11	18	.55	23	113	5.9	14	162	6.0
18	10	12	.35	58	83	12	13	44	1.5
19	9.8	14	.37	21	102	5.9	13	60	2.0
20	21	40	4.1	14	31	1.2	12	28	.90
21	43	151	16	12	19	.61	15	23	.92
22	28	100	8.0	262	490	979	21	28	1.7
23	29	36	3.1	42	33	3.4	18	43	2.1
24	17	21	.95	22	29	1.9	18	23	1.2
25	13	13	.45	28	28	2.2	12	17	.54
26	12	17	.55	14	17	.66	45	83	19
27	13	140	5.2	14	14	.53	27	34	2.6
28	20	49	3.0	14	14	.51	18	21	1.1
29	17	69	2.9	12	52	1.8	17	30	1.4
30	13	35	1.2	13	346	12	18	23	1.2
31	18	24	1.2	13	112	3.9	---	---	---
TOTAL YEAR	385.1 8991.2	---	62.34 6878.02	785.8	---	1056.62	476.2	---	106.61

RIO GRANDE DE LOIZA BASIN

50061800 RIO CANOVANAS NEAR CAMPO RICO, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
OCTOBER			NOVEMBER			DECEMBER			
1	13	9	.31	9.0	20	.49	15	74	2.9
2	37	31	3.5	8.7	41	.95	12	57	1.8
3	29	35	2.7	8.4	35	.81	10	84	2.3
4	16	16	.67	8.4	41	.94	9.6	105	2.7
5	14	39	1.5	8.6	29	.68	9.8	37	.99
6	12	78	2.5	8.5	113	2.5	9.3	23	.57
7	12	28	.88	8.3	212	4.8	9.2	14	.34
8	14	17	.69	7.9	86	1.8	8.8	8	.19
9	21	10	.61	8.0	43	.93	8.7	5	.12
10	14	15	.55	136	210	231	9.1	7	.17
11	46	82	25	15	34	1.4	8.9	224	5.5
12	32	17	1.4	11	338	10	8.4	42	.93
13	174	168	486	9.8	181	4.9	8.3	46	1.0
14	666	357	2010	9.1	16	.38	8.4	39	.88
15	31	38	3.3	8.9	20	.48	8.5	42	.96
16	28	29	2.2	12	24	.76	8.2	34	.74
17	23	133	7.4	10	87	2.3	11	149	4.3
18	16	13	.57	13	72	2.3	11	202	6.0
19	15	21	.83	17	30	1.5	9.0	36	.89
20	13	148	5.4	11	18	.54	8.3	15	.33
21	13	48	1.6	14	48	1.8	11	5	.15
22	12	24	.77	12	602	19	9.7	5	.14
23	12	169	5.1	11	91	2.7	8.1	7	.16
24	11	212	6.2	11	269	7.6	8.9	10	.24
25	10	53	1.5	9.7	96	2.5	7.9	14	.29
26	10	58	1.6	138	213	237	7.0	44	.84
27	9.8	31	.82	27	20	1.4	6.7	32	.57
28	9.5	27	.68	15	95	3.9	6.7	106	1.9
29	9.5	34	.88	13	238	8.3	6.7	110	2.0
30	9.1	19	.45	16	212	8.8	6.4	63	1.1
31	9.0	8	.19	---	---	---	6.9	42	.77
TOTAL	1340.9	---	2575.80	595.3	---	562.46	277.5	---	41.77
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JANUARY			FEBRUARY			MARCH			
1	8.3	32	.73	14	190	5.9	8.2	42	.92
2	9.5	24	.62	9.2	23	.57	7.8	26	.55
3	13	14	.49	9.0	19	.46	7.8	26	.55
4	14	8	.31	13	69	56	7.8	26	.55
5	12	5	.15	314	278	704	7.4	34	.68
6	39	64	11	20	34	1.7	8.0	19	.41
7	197	280	439	13	42	1.4	7.5	17	.35
8	22	33	2.1	34	67	21	9.2	29	.68
9	25	48	5.0	36	42	5.3	7.5	31	.63
10	25	25	1.8	14	25	.96	7.0	19	.36
11	30	35	3.4	12	22	.74	6.8	12	.22
12	15	151	6.3	15	30	1.2	6.5	31	.56
13	34	112	9.4	11	56	1.7	6.2	27	.46
14	32	569	37	13	24	.85	6.7	112	1.9
15	16	321	15	16	20	.88	8.4	10	.25
16	13	36	1.3	11	15	.44	9.0	37	.85
17	12	23	.74	10	18	.48	7.4	17	.33
18	11	20	.60	9.5	21	.53	6.9	12	.22
19	11	43	1.3	9.3	29	.72	6.6	10	.18
20	11	158	4.6	8.7	32	.76	7.8	17	.35
21	10	142	3.9	8.3	71	1.6	10	10	.28
22	9.8	150	4.0	7.7	77	1.6	8.8	6	.15
23	9.7	75	2.0	7.5	13	.26	8.4	2	.05
24	9.5	321	8.2	7.3	20	.40	7.3	3	.06
25	9.3	78	1.9	7.5	282	5.9	7.1	4	.08
26	8.9	103	2.5	11	28	.83	6.8	6	.11
27	9.2	115	2.8	9.1	165	4.0	7.2	8	.16
28	8.9	114	2.8	8.7	279	6.5	7.7	12	.25
29	8.5	63	1.4	---	---	---	11	21	.76
30	8.3	13	.29	---	---	---	34	57	16
31	10	49	1.3	---	---	---	23	30	2.6
TOTAL	651.9	---	571.93	658.8	---	826.68	281.8	---	31.50

RIO GRANDE DE LOIZA BASIN

50061800 RIO CANOVANAS NEAR CAMPO RICO, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998									
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
APRIL			MAY			JUNE			
1	9.0	11	.27	5.5	7	.11	7.0	7	.14
2	28	25	2.7	5.4	7	.11	6.6	13	.23
3	14	30	1.2	5.9	7	.11	6.4	35	.61
4	8.3	16	.36	11	14	.53	9.7	15	.48
5	6.8	9	.17	8.5	11	.24	6.6	8	.13
6	6.2	9	.15	6.3	9	.16	6.6	7	.13
7	6.2	7	.11	5.9	10	.16	6.2	8	.14
8	7.8	5	.11	118	170	335	8.5	8	.18
9	6.2	4	.06	33	21	2.1	14	20	1.5
10	5.7	3	.05	21	21	1.3	11	9	.28
11	5.8	2	.04	10	12	.32	7.1	31	.61
12	7.4	53	1.0	7.9	10	.21	14	18	.83
13	18	19	1.0	7.1	11	.21	30	34	3.9
14	8.1	16	.36	10	16	.43	9.0	13	.30
15	6.3	8	.13	9.3	10	.27	6.6	8	.13
16	65	250	147	8.1	9	.21	6.4	67	1.2
17	18	21	1.2	7.9	8	.17	8.1	58	1.3
18	10	11	.31	7.8	6	.13	12	14	.44
19	15	20	1.2	7.4	7	.13	7.5	10	.19
20	12	15	.49	6.6	7	.12	6.0	8	.14
21	9.4	13	.34	11	14	.45	6.1	8	.13
22	8.3	12	.26	7.2	9	.18	9.1	8	.19
23	7.2	10	.20	6.4	8	.14	6.4	9	.15
24	6.7	12	.22	6.3	8	.14	5.5	9	.13
25	6.9	13	.24	6.4	8	.14	4.9	9	.12
26	6.8	9	.17	6.5	8	.14	4.8	6	.08
27	7.6	8	.17	9.3	12	.30	4.2	267	3.1
28	6.5	8	.14	6.9	29	.55	3.8	36	.38
29	6.0	8	.13	7.7	17	.34	3.5	9	.08
30	5.7	8	.12	9.4	21	.51	3.3	6	.05
31	---	---	---	10	9	.24	---	---	---
TOTAL	334.9	---	159.90	389.7	---	345.15	240.9	---	17.27
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JULY			AUGUST			SEPTEMBER			
1	3.3	5	.05	4.8	27	.35	18	33	1.6
2	3.2	5	.04	4.4	45	.54	76	143	67
3	3.5	5	.05	4.1	239	2.7	51	68	11
4	4.5	17	.20	3.8	17	.18	32	41	3.9
5	4.9	16	.21	3.5	29	.27	30	109	7.7
6	3.5	14	.13	4.4	14	.16	22	304	18
7	5.5	8	.12	39	61	.29	30	25	2.1
8	4.9	6	.08	33	40	4.7	28	36	2.8
9	4.0	159	1.8	19	22	1.3	23	96	6.3
10	3.2	36	.31	13	19	.69	19	115	5.3
11	3.0	17	.14	6.8	8	.16	16	528	23
12	3.0	19	.15	5.4	13	.19	14	26	1.0
13	2.6	23	.16	5.2	15	.21	17	23	1.1
14	3.1	23	.17	4.3	22	.24	27	71	5.8
15	5.2	33	.42	4.9	64	.92	74	233	54
16	5.5	31	.52	40	116	32	29	159	13
17	4.0	15	.16	53	115	18	18	75	3.8
18	4.8	12	.16	16	83	3.3	17	44	2.0
19	7.9	11	.23	16	92	3.3	19	60	3.1
20	12	26	1.3	20	25	1.5	18	29	1.4
21	11	134	2.9	104	168	69	2060	1560	40900
22	5.3	100	1.6	41	386	41	1600	1530	14300
23	5.7	25	.37	19	33	1.6	127	101	34
24	50	87	21	554	291	1220	e70	e22	e4.2
25	13	13	.49	536	405	929	e55	e16	e2.3
26	7.1	15	.28	108	190	94	44	83	9.7
27	11	131	3.9	39	14	1.4	38	34	3.5
28	15	39	1.7	30	14	1.1	34	21	2.0
29	15	68	2.3	63	130	41	31	30	2.4
30	7.2	30	.59	26	211	13	29	23	1.8
31	5.4	21	.31	20	54	2.9	---	---	---
TOTAL	237.3	---	41.84	1840.6	---	2513.71	4666	---	55493.8
YEAR	11515.6		63181.81						

e Estimated

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

RIO GRANDE DE LOIZA BASIN

50061800 RIO CANOVANAS NEAR CAMPO RICO, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L) APRIL	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L) MAY	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L) JUNE	SEDIMENT DISCHARGE (TONS/DAY)
1	7.8	11	.23	8.4	7	.17	5.5	7	.11
2	17	26	1.8	8.4	7	.16	5.6	13	.20
3	19	24	1.3	8.4	7	.16	5.9	35	.57
4	20	19	1.1	8.8	14	.33	7.0	14	.26
5	13	11	.37	8.5	11	.25	7.1	8	.15
6	12	9	.30	8.0	9	.20	5.8	7	.11
7	12	7	.21	23	25	5.4	5.6	8	.12
8	12	5	.17	52	187	59	5.7	7	.11
9	12	4	.13	15	21	.84	9.3	21	.51
10	11	3	.09	9.1	21	.51	6.8	9	.17
11	11	2	.07	11	14	.52	6.5	31	.57
12	11	53	1.5	11	13	.39	7.0	18	.34
13	11	19	.53	8.5	11	.25	13	22	.78
14	10	16	.43	7.9	16	.34	7.2	12	.23
15	10	8	.20	7.1	10	.20	5.8	8	.12
16	9.9	250	6.9	6.7	9	.17	6.0	67	1.1
17	9.7	21	.56	6.5	8	.14	166	267	532
18	9.9	11	.29	6.6	6	.11	34	18	1.8
19	9.8	20	.52	6.8	7	.12	13	11	.37
20	9.5	15	.38	6.5	7	.12	21	27	2.2
21	9.4	11	.27	6.3	14	.23	17	18	.94
22	9.3	10	.25	6.2	9	.15	11	9	.27
23	11	10	.30	5.9	8	.13	11	9	.26
24	11	12	.35	5.9	8	.13	9.0	9	.21
25	10	13	.35	6.0	8	.13	8.3	9	.19
26	9.8	9	.25	5.8	8	.12	7.5	6	.12
27	9.1	8	.20	5.7	12	.19	7.5	267	5.5
28	9.0	8	.19	5.7	29	.44	7.4	36	.71
29	9.0	8	.19	5.7	17	.26	7.7	9	.18
30	8.7	8	.18	7.0	17	.31	7.5	6	.13
31	---	---	---	5.7	9	.14	---	---	---
TOTAL	333.9	---	19.61	294.1	---	71.61	437.7	---	550.33
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L) JULY	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L) AUGUST	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L) SEPTEMBER	SEDIMENT DISCHARGE (TONS/DAY)
1	7.2	8	.15	6.5	27	.47	12	33	1.1
2	20	24	1.6	6.3	32	.53	12	143	4.7
3	12	12	.40	12	203	5.4	11	68	2.1
4	7.8	17	.37	14	17	.65	11	41	1.2
5	7.6	16	.33	9.1	23	.56	10	109	3.0
6	7.3	14	.28	11	15	.47	14	288	9.0
7	6.8	8	.15	9.0	61	1.4	11	22	.62
8	8.6	10	.26	8.4	40	.88	17	30	1.5
9	15	160	8.9	7.0	22	.42	55	166	69
10	9.8	33	.88	e6.8	e19	e.35	20	115	5.0
11	12	17	.60	e6.2	e8	e.14	34	456	47
12	13	16	.54	e6.5	e6	e.11	18	28	1.3
13	12	22	.79	6.1	6	.11	85	93	56
14	32	29	2.3	6.0	19	.30	58	75	13
15	70	48	11	6.0	64	1.0	24	227	12
16	18	31	1.6	6.6	116	2.0	17	159	7.3
17	14	15	.55	6.5	115	2.0	15	75	3.1
18	13	14	.49	32	86	21	14	38	1.5
19	9.2	10	.26	69	105	22	73	75	44
20	8.4	26	.59	39	49	7.7	42	60	11
21	8.1	134	2.9	34	135	12	28	1490	81
22	7.4	100	2.0	45	324	40	17	1210	61
23	7.7	25	.53	95	68	28	15	101	4.2
24	7.8	87	1.8	46	288	39	15	22	.89
25	7.2	13	.26	22	400	22	15	16	.61
26	7.0	15	.29	16	184	8.1	61	108	40
27	8.3	131	3.1	20	27	1.5	71	111	25
28	7.2	39	.75	18	20	1.1	240	236	536
29	6.7	66	1.2	20	107	5.5	47	30	3.5
30	6.8	30	.56	17	207	8.7	28	23	1.8
31	6.8	21	.39	13	50	1.7	---	---	---
TOTAL	384.7	---	45.82	620.0	---	235.09	1090	---	1047.42
YEAR	12222.7		9935.61						
e	Estimated								

RIO GRANDE DE LOIZA BASIN

50061800 RIO CANOVANAS NEAR CAMPO RICO, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000									
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
APRIL			MAY			JUNE			
1	8.6	11	.25	7.2	9	.17	9.0	11	.27
2	8.5	10	.24	6.3	8	.14	8.2	10	.22
3	8.9	10	.24	6.5	8	.14	7.7	9	.18
4	8.4	10	.22	7.4	8	.16	7.2	8	.16
5	8.1	10	.21	6.8	8	.14	6.9	8	.15
6	8.0	9	.20	6.7	7	.13	6.5	8	.14
7	7.8	9	.19	6.2	7	.12	6.3	8	.13
8	7.5	9	.18	5.9	7	.11	6.2	7	.12
9	7.3	9	.17	5.7	7	.10	6.2	7	.12
10	7.2	9	.17	5.5	6	.10	6.0	7	.11
11	7.4	8	.17	11	14	.59	5.9	7	.11
12	8.6	8	.19	18	22	1.3	e55	e89	e35
13	12	10	.37	11	13	.38	e19	e24	e.50
14	16	20	.91	7.4	9	.17	8.6	11	.24
15	9.1	11	.26	6.0	7	.12	e8.6	e10	e.26
16	9.6	10	.26	5.6	7	.10	e10	e12	e.33
17	8.9	10	.24	6.2	7	.12	8.9	10	.25
18	8.5	9	.21	30	44	9.2	7.7	10	.20
19	12	13	.49	15	20	.93	7.0	9	.17
20	12	15	.47	7.8	9	.20	e6.2	e9	e.14
21	8.5	12	.27	6.7	8	.14	e5.8	e8	e.13
22	8.0	11	.25	6.7	8	.14	e4.6	e8	e.10
23	7.4	11	.22	6.7	7	.13	e4.8	e7	e.09
24	7.3	11	.21	6.3	7	.12	e4.6	e7	e9.0
25	7.1	10	.20	6.5	7	.12	e5.0	e6	e9.0
26	6.9	10	.19	7.1	7	.13	e12	e12	e.55
27	6.8	10	.18	6.2	7	.11	e8.8	e10	e.26
28	6.6	9	.17	8.9	11	.30	e5.4	e7	e.10
29	6.9	9	.17	17	21	1.0	e4.4	e5	e.06
30	7.4	9	.18	47	74	17	3.7	4	.04
31	---	---	---	15	18	.76	---	---	---
TOTAL	257.3	---	7.68	316.3	---	34.37	266.2	---	58.13

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JULY			AUGUST			SEPTEMBER			
1	7.3	9	.24	6.4	6	.10	9.7	13	.33
2	14	17	.75	8.1	6	.13	9.0	12	.30
3	14	17	.69	8.9	9	.43	10	12	.35
4	5.7	6	.10	44	68	20	11	12	.37
5	4.4	5	.06	41	57	11	21	30	2.0
6	3.7	4	.04	10	13	.36	29	38	3.3
7	3.8	4	.04	8.1	8	.18	13	16	.57
8	4.1	4	.04	8.2	8	.17	9.9	14	.36
9	4.3	4	.04	8.8	8	.19	8.9	11	.27
10	4.0	4	.04	7.0	8	.15	10	11	.33
11	3.6	3	.03	8.9	7	.18	67	102	36
12	3.2	3	.03	6.5	6	.11	16	19	.83
13	3.1	3	.03	4.9	5	.07	11	13	.39
14	6.8	7	.14	7.0	5	.10	9.6	12	.31
15	4.1	5	.05	7.2	6	.12	9.4	12	.31
16	3.0	3	.03	8.3	6	.14	17	22	1.1
17	3.1	4	.03	7.7	6	.13	94	132	57
18	4.6	5	.07	5.4	6	.09	120	109	52
19	3.7	4	.04	5.5	6	.09	39	50	5.4
20	3.3	4	.04	5.2	6	.08	24	30	2.0
21	2.8	4	.03	4.9	6	.08	83	150	89
22	2.7	4	.03	23	27	3.4	42	56	6.7
23	2.7	4	.03	374	271	484	31	38	3.4
24	2.8	4	.03	30	39	3.4	27	33	2.5
25	3.5	5	.04	17	21	.96	19	23	1.2
26	3.2	4	.04	18	22	1.1	22	26	1.7
27	3.0	4	.03	15	21	.87	35	40	3.8
28	3.6	4	.04	12	18	.60	31	42	4.2
29	6.8	7	.16	11	16	.47	24	32	2.2
30	14	17	.68	11	14	.40	17	22	1.0
31	6.4	8	.14	10	13	.35	---	---	---
TOTAL	155.3	---	3.78	743.0	---	529.45	869.5	---	279.22
YEAR	13137.2	---	8999.31						

e Estimated

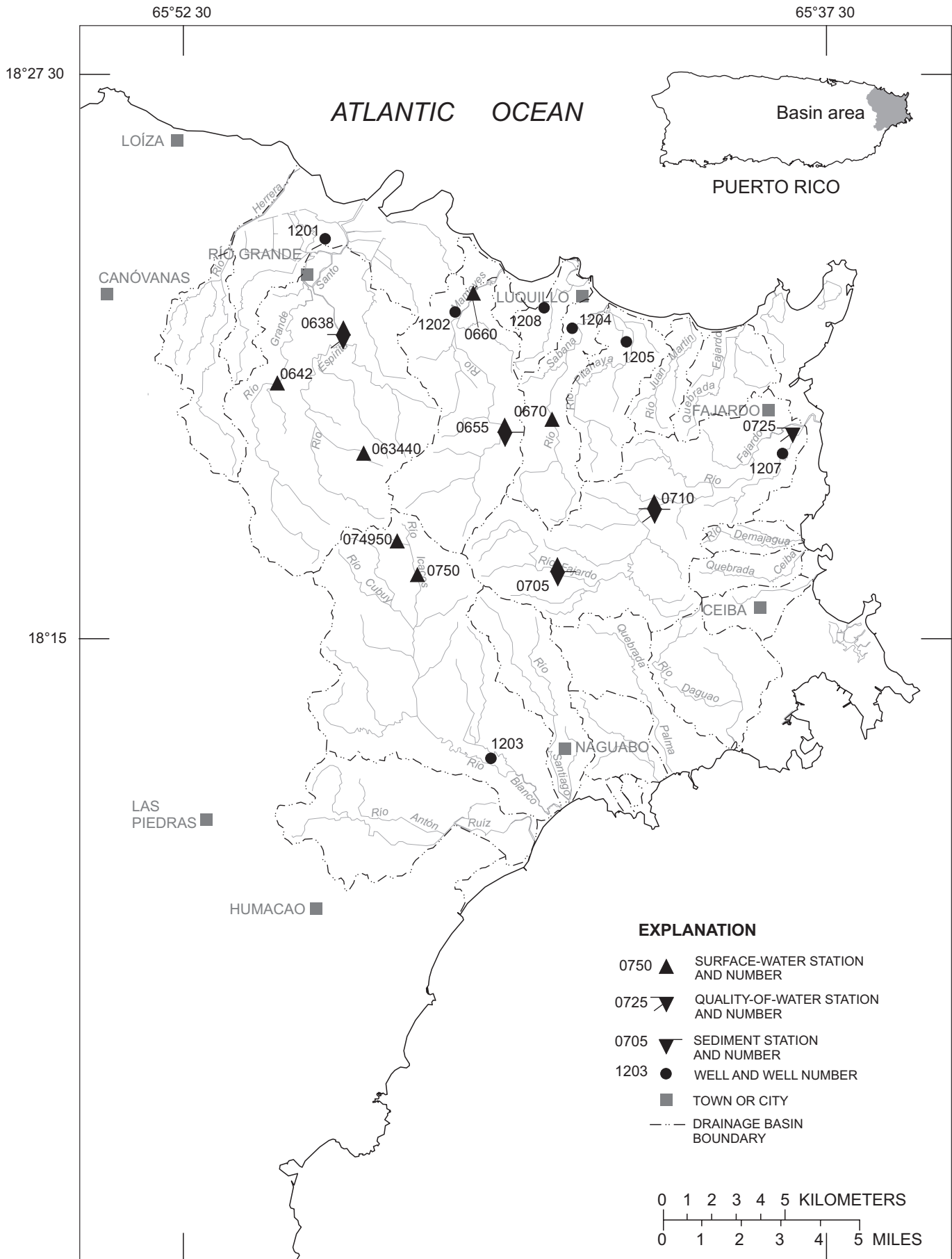


Figure 19. Northeastern river basins -- Río Herrera to Río Antón Ruiz basins.

RIO ESPIRITU SANTO BASIN

50063440 QUEBRADA SONADORA NEAR EL VERDE, PR

LOCATION.--Lat 18°19'24", long 65°49'03", Hydrologic Unit 21010005, in Caribbean National Forest, at El Yunque, 0.6 mi (1.0 km) upstream from Rio Espiritu Santo, 0.2 mi (0.3 km) upstream from Highway 186, and about 1.2 mi (1.9 km) south of El Verde.

DRAINAGE AREA.--1.01 mi² (2.62 km²).

PERIOD OF RECORD.--March 1983 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 1,230 ft (375 m), from topographic map.

REMARKS.--Records poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.2	6.4	8.9	e7.7	5.4	4.0	2.0	3.2	2.6	e2.0	e1.9	e3.1
2	3.2	8.6	e204	e5.8	4.4	3.8	1.9	1.6	3.4	e9.7	e3.0	e2.3
3	2.8	5.6	e50	e46	4.5	3.6	2.3	13	4.7	e4.4	e2.7	e2.9
4	3.8	4.8	e9.5	e18	4.7	3.5	2.1	11	3.6	e1.7	e5.7	e8.6
5	9.2	25	e133	e11	4.3	3.4	1.9	6.9	2.4	e1.4	e44	e3.6
6	17	8.8	e34	e15	3.7	3.3	1.8	5.3	1.8	e1.3	e3.4	e5.9
7	4.0	5.5	e41	11	4.7	3.1	1.8	6.3	1.7	e1.2	e2.7	e2.9
8	4.9	4.4	e18	8.3	4.7	3.0	2.0	5.4	1.6	e1.2	e4.0	2.0
9	5.8	4.0	e11	6.6	5.1	2.9	1.8	2.5	1.5	e1.3	e4.0	1.6
10	4.7	34	e9.3	5.3	4.3	2.8	1.6	2.0	1.4	e1.2	e2.7	8.6
11	4.0	15	e8.1	5.1	3.6	2.7	1.5	e63	1.4	e1.1	2.3	7.4
12	19	49	e7.2	5.2	3.3	2.9	3.5	e5.3	32	e1.1	1.8	3.1
13	5.8	10	e6.6	9.2	4.9	2.8	25	e3.0	8.8	e1.2	1.6	1.7
14	4.2	9.1	e6.0	6.8	3.8	2.7	11	e1.9	2.7	e3.2	3.8	1.5
15	3.5	16	e5.7	11	3.7	2.5	2.5	e1.6	12	e1.9	5.2	1.6
16	3.3	12	e5.3	e9.2	3.3	2.5	9.1	1.6	22	e1.1	12	2.7
17	8.8	58	e5.3	e5.8	4.0	4.1	3.2	1.6	9.4	e1.3	3.1	40
18	4.2	55	e6.1	e5.2	14	3.9	2.3	11	3.3	e1.8	2.1	16
19	10	31	e11	e5.0	15	3.1	1.8	3.2	2.5	e1.4	1.8	10
20	27	15	e14	4.8	5.6	2.4	1.6	2.6	3.3	e1.2	1.6	8.8
21	56	13	e8.9	4.7	24	2.5	1.4	2.0	3.9	e1.1	1.5	6.3
22	8.2	6.8	e14	4.6	16	4.2	1.3	1.6	2.3	e1.1	34	3.7
23	5.1	14	e12	4.5	5.7	2.8	1.3	1.4	1.9	e1.0	e101	3.6
24	21	7.6	e7.6	4.4	4.7	2.5	1.3	1.3	1.8	e1.0	e7.5	3.5
25	11	8.7	e12	4.3	22	2.4	1.6	2.1	1.8	e1.1	e5.1	2.7
26	5.3	5.9	e13	4.3	5.1	2.2	1.6	2.1	5.2	e1.1	e11	1.8
27	4.5	5.0	e5.9	4.1	5.5	2.0	1.4	3.0	4.6	e1.0	e4.5	5.6
28	4.1	4.7	e7.3	3.9	4.4	2.1	1.3	15	e1.9	e1.1	e3.8	5.5
29	3.7	4.5	e6.3	5.5	4.2	4.7	2.6	25	e1.6	e3.5	e4.7	2.5
30	3.5	6.2	e5.3	4.5	---	3.1	2.9	24	e1.5	e4.6	e3.2	1.5
31	3.3	---	e4.8	3.9	---	2.2	---	4.0	---	e1.7	e3.3	---
TOTAL	274.1	453.6	691.1	250.7	198.6	93.7	97.4	233.5	148.6	59.0	289.0	171.0
MEAN	8.84	15.1	22.3	8.09	6.85	3.02	3.25	7.53	4.95	1.90	9.32	5.70
MAX	56	58	204	46	24	4.7	25	63	32	9.7	101	40
MIN	2.8	4.0	4.8	3.9	3.3	2.0	1.3	1.3	1.4	1.0	1.5	1.5
AC-FT	544	900	1370	497	394	186	193	463	295	117	573	339
CFSM	8.75	15.0	22.1	8.01	6.78	2.99	3.21	7.46	4.90	1.88	9.23	5.64
IN.	10.10	16.71	25.45	9.23	7.31	3.45	3.59	8.60	5.47	2.17	10.64	6.30

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1983 - 2000, BY WATER YEAR (WY)

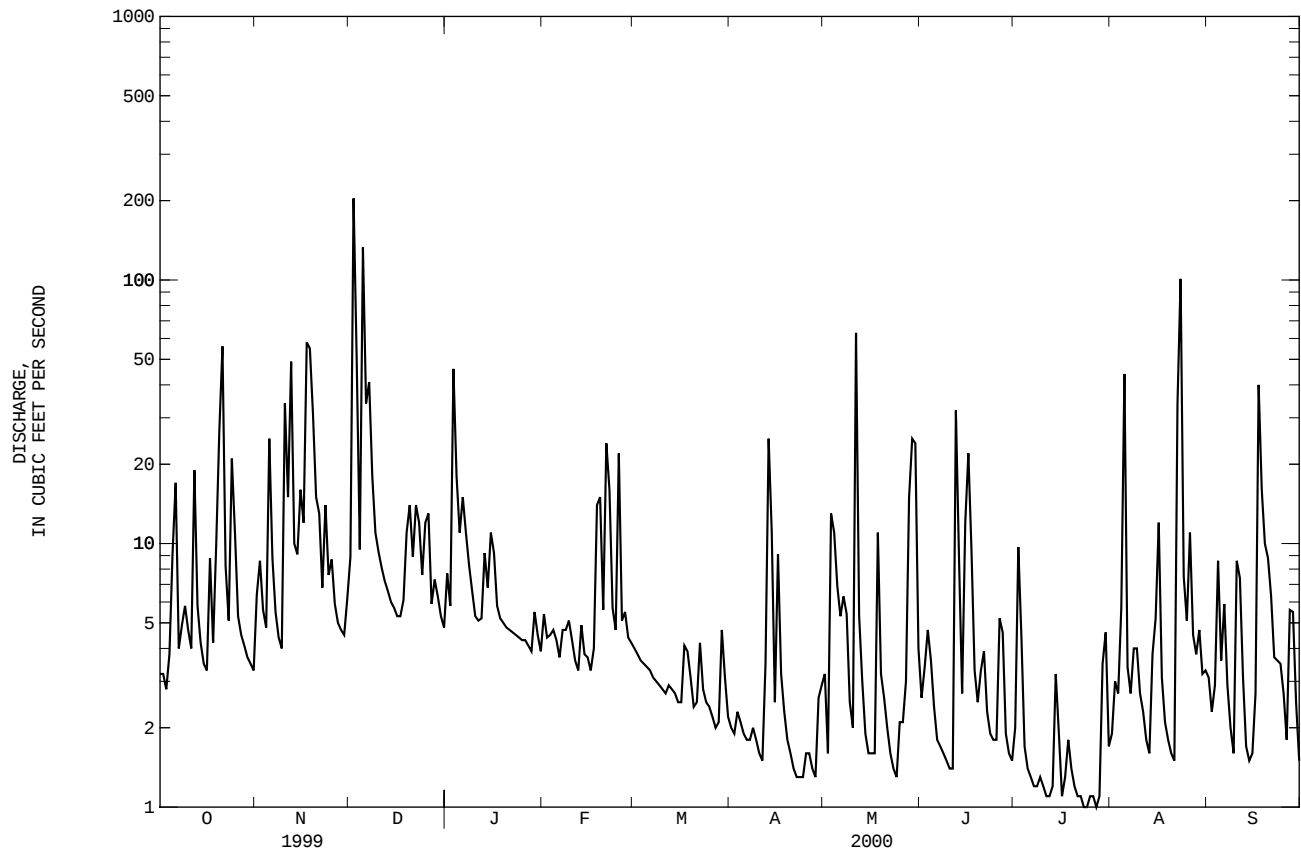
	MEAN	5.69	9.33	8.96	7.15	5.80	4.73	4.38	7.09	5.65	6.03	7.09	7.69
MAX	16.8	19.8	22.3	11.1	11.9	14.3	9.76	14.3	13.7	12.7	14.2	23.2	23.2
(WY)	1986	1985	2000	1996	1988	1990	1987	1992	1987	1983	1988	1998	1998
MIN	.22	2.47	.92	3.42	1.56	1.53	.90	2.00	.98	1.90	.50	2.45	2.45
(WY)	1993	1991	1990	1985	1992	1993	1997	1999	1985	2000	1993	1986	1986

SUMMARY STATISTICS	FOR 1999 CALENDAR YEAR	FOR 2000 WATER YEAR	WATER YEARS 1983 - 2000
ANNUAL TOTAL	2549.79	2960.3	
ANNUAL MEAN	6.99	8.09	6.58
HIGHEST ANNUAL MEAN			9.32
LOWEST ANNUAL MEAN			3.91
HIGHEST DAILY MEAN	204	204	346
LOWEST DAILY MEAN	.60	1.0	.00
ANNUAL SEVEN-DAY MINIMUM	.62	1.1	.01
INSTANTANEOUS PEAK FLOW		unknown	2230
INSTANTANEOUS PEAK STAGE		unknown	9.42
INSTANTANEOUS LOW FLOW			.00
ANNUAL RUNOFF (AC-FT)	5060	5870	4770
ANNUAL RUNOFF (CFSM)	6.92	8.01	6.52
ANNUAL RUNOFF (INCHES)	93.91	109.03	88.53
10 PERCENT EXCEEDS	14	15	16
50 PERCENT EXCEEDS	3.5	4.0	2.7
90 PERCENT EXCEEDS	.82	1.5	.52

e Estimated

RIO ESPIRITU SANTO BASIN

50063440 QUEBRADA SONADORA NEAR EL VERDE, PR--Continued



RIO ESPIRITU SANTO BASIN

50063800 RIO ESPIRITU SANTO NEAR RIO GRANDE, PR

LOCATION.--Lat 18°21'37", long 65°48'49", Hydrologic Unit 21010005, at left abutment, on downstream side of bridge on Highway 966, 0.1 mi (0.2 km) upstream from Quebrada Jiménez, and 1.9 mi (3.1 km) southeast of Rio Grande.

DRAINAGE AREA.--8.62 mi² (22.33 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1959 to April 1963 (annual low-flow and occasional measurements only), August 1966 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 40 ft (12 m), from topographic map.

REMARKS.--Records poor. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	78	154	81	71	e57	e31	17	40	20	26	28	48
2	e87	146	1310	56	e46	e29	17	18	20	169	29	26
3	66	e64	430	480	e42	e28	21	57	31	70	27	22
4	108	43	70	182	e41	e26	18	91	27	25	170	19
5	113	231	1310	97	e39	e25	16	50	18	15	137	19
6	237	122	404	163	e39	e25	16	46	13	12	e27	30
7	93	54	561	152	e39	e24	16	30	12	11	e24	27
8	128	37	189	98	e42	e23	18	41	11	12	e625	17
9	110	32	87	89	e40	e23	16	21	10	14	30	14
10	80	388	72	e63	e36	24	15	17	10	9.6	24	37
11	77	189	58	e57	e34	22	15	753	11	9.8	21	72
12	209	671	50	e58	e32	23	23	72	232	10	14	24
13	115	e177	45	e67	e33	23	239	26	80	9.6	12	16
14	65	75	39	e75	e32	21	69	17	25	18	24	15
15	51	189	34	e125	e29	20	17	14	38	e9.5	35	18
16	45	165	30	e197	e28	20	34	12	130	e8.0	57	29
17	125	805	35	e81	e28	31	18	12	58	e10	25	336
18	63	715	52	e64	e82	30	16	42	25	e8.7	16	168
19	93	374	101	e57	e196	23	14	27	18	e7.4	15	85
20	390	191	178	e52	e72	19	14	15	17	e8.3	12	68
21	789	149	84	e49	e257	20	14	13	23	e11	11	86
22	122	70	159	e48	e214	32	14	11	15	e14	171	43
23	51	125	117	e46	e68	23	15	11	13	e18	1240	45
24	293	213	63	e44	e42	19	16	9.7	13	e18	113	37
25	168	92	129	e45	e293	19	16	17	13	e24	52	29
26	58	59	112	e44	e57	17	16	23	60	e13	101	19
27	39	42	44	e43	e49	16	14	17	44	11	47	40
28	33	37	77	e46	e37	17	13	88	15	13	57	36
29	30	34	175	e60	e32	53	15	165	12	44	51	25
30	27	66	48	e50	---	29	28	183	11	32	32	17
31	26	---	40	e41	---	18	---	34	---	22	66	---
TOTAL	3969	5709	6184	2800	2036	753	790	1972.7	1025	682.9	3293	1467
MEAN	128	190	199	90.3	70.2	24.3	26.3	63.6	34.2	22.0	106	48.9
MAX	789	805	1310	480	293	53	239	753	232	169	1240	336
MIN	26	32	30	41	28	16	13	9.7	10	7.4	11	14
AC-FT	7870	11320	12270	5550	4040	1490	1570	3910	2030	1350	6530	2910
CFSM	14.9	22.1	23.1	10.5	8.14	2.82	3.05	7.38	3.96	2.56	12.3	5.67
IN.	17.13	24.64	26.69	12.08	8.79	3.25	3.41	8.51	4.42	2.95	14.21	6.33

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 2000, BY WATER YEAR (WY)

	MEAN	63.0	89.6	80.0	57.0	50.6	38.9	42.8	64.4	45.6	52.0	63.6	64.1
MAX	202	196	248	119	117	153	119	185	120	114	126	235	
(WY)	1971	1985	1999	1969	1982	1990	1981	1979	1970	1983	1998	1998	
MIN	12.3	29.1	16.8	18.5	10.8	9.53	6.27	14.9	10.0	11.1	18.5	17.7	
(WY)	1969	1982	1994	1977	1983	1996	1984	1973	1975	1975	1994	1971	

SUMMARY STATISTICS

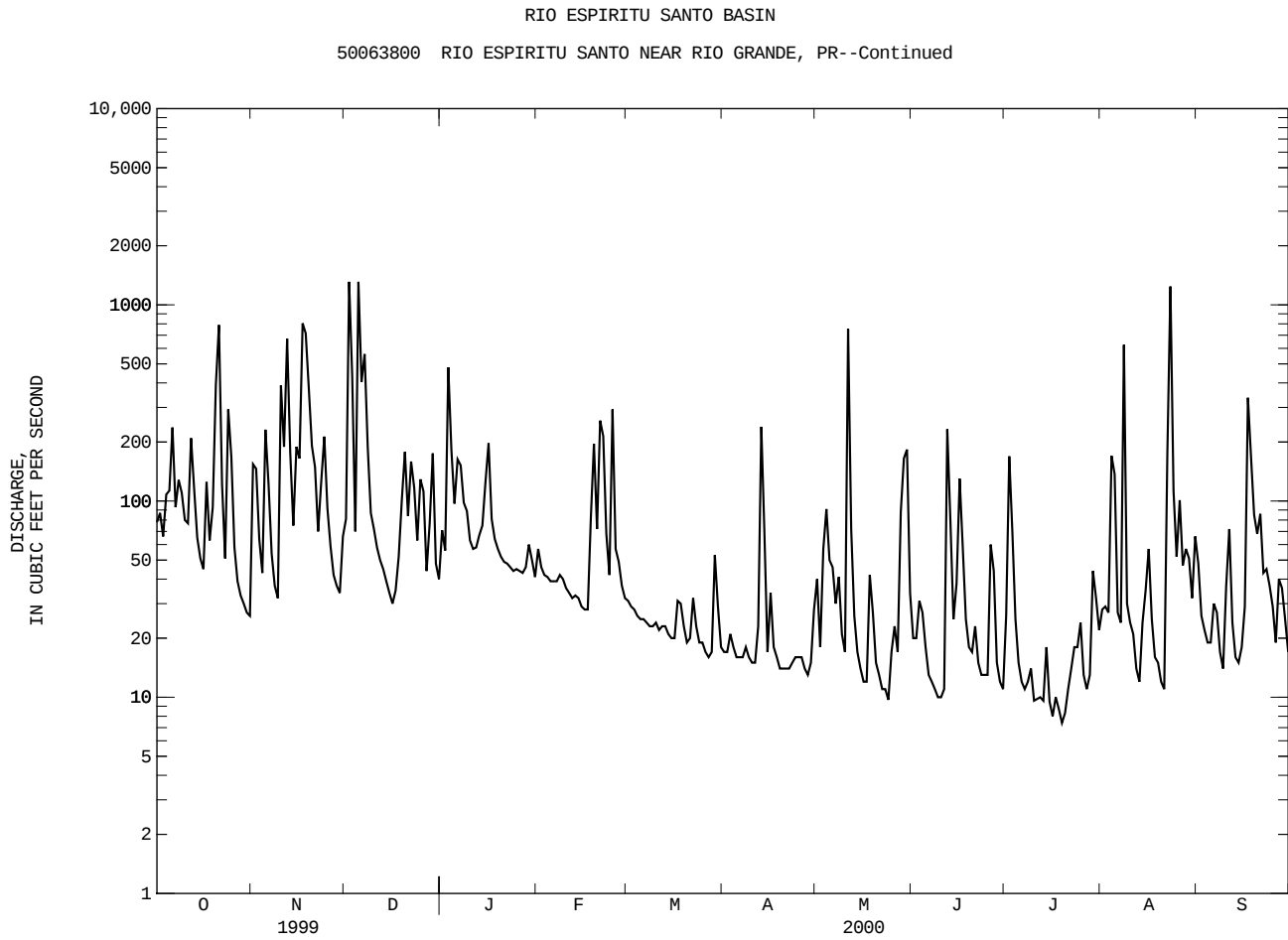
FOR 1999 CALENDAR YEAR

FOR 2000 WATER YEAR

WATER YEARS 1966 - 2000

ANNUAL TOTAL	28873.5	30681.6	
ANNUAL MEAN	79.1	83.8	59.4
HIGHEST ANNUAL MEAN			98.6
LOWEST ANNUAL MEAN			21.6
HIGHEST DAILY MEAN	1310	1310	2600
LOWEST DAILY MEAN	3.6	7.4	3.6
ANNUAL SEVEN-DAY MINIMUM	4.0	9.0	4.0
INSTANTANEOUS PEAK FLOW		9230	21200
INSTANTANEOUS PEAK STAGE		10.76	16.62
ANNUAL RUNOFF (AC-FT)	57270	60860	43050
ANNUAL RUNOFF (CFSM)	9.18	9.73	6.89
ANNUAL RUNOFF (INCHES)	124.60	132.41	93.66
10 PERCENT EXCEEDS	177	177	125
50 PERCENT EXCEEDS	34	37	26
90 PERCENT EXCEEDS	6.2	13	10

e Estimated



RIO ESPIRITU SANTO BASIN

50063800 RIO ESPIRITU SANTO NEAR RIO GRANDE, PR.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1958, 1961-66, 1968 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREP-TOCOCCI, KF AGAR (COLS. PER 100 ML)	HARD-NESS TOTAL (MG/L AS CAC03)
		(00061)	(00095)	(00400)	(00010)	(00076)	(00300)	(00301)	(00340)	(31625)	(31673)	(00900)
DEC 09...	1130	88	87	7.6	23.1	7.5	7.7	89	<10	2400	750	30
FEB 14...	1115	21	123	7.4	24.0	2.2	8.2	96	<10	230	K110	--
MAY 01...	1535	19	93	7.9	27.1	3.5	7.8	97	<10	K160	320	29
SEP 07...	1315	20	97	8.1	29.0	.9	7.6	99	<10	1300	K60	29

DATE	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD MG/L AS CAC03 (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS- SOLVED (MG/L AS S04) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)
DEC 09...	6.39	3.48	7.6	.6	.5	33	<1.0	1.8	10.8	<.1	19.1	69
FEB 14...	--	--	--	--	--	43	--	--	--	--	--	--
MAY 01...	6.42	3.12	7.2	.6	.5	28	<1.0	2.0	9.8	<.1	17.4	63
SEP 07...	6.43	3.24	6.9	.6	.5	30	--	1.9	8.6	<.1	17.8	63

DATE	SOLIDS, DIS- SOLVED (TONS PER DAY)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L)	NITRO- GEN, NITRITE (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA)	BORON, TOTAL RECOV- ERABLE (UG/L AS B)	CADMIUM, WATER UNFLTRD (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)
	(70302)	(00530)	(00615)	(00630)	(00610)	(00625)	(00665)	(01002)	(01007)	(01022)	(01027)	(01034)
DEC 09...	16.6	8	<.01	.2	.01	<.20	.040	<3	5.6	E14	<.1	<1
FEB 14...	--	5	<.01	.1	<.01	<.20	<.020	--	--	--	--	--
MAY 01...	3.19	<1	<.01	.1	.05	<.20	<.020	<3	4.4	19	<.1	<1
SEP 07...	3.41	<10	<.01	.1	.01	<.20	<.020	--	--	--	--	--

[illegible]

50064200 RIO GRANDE NEAR EL VERDE, PR

LOCATION.--Lat 18°20'42", long 65°50'30", Hydrologic Unit 21010005, on left bank 250 ft (8.0 m) upstream side of bridge at Hwy 960, 0.05 mi (0.08 km) southwest of junction of Highways 956 and 960, 1.1 mi (1.8 km) west of El Verde, and 2.7 mi (4.3 km) south of Rio Grande town.

DRAINAGE AREA.--7.31 mi² (18.93 km²).

PERIOD OF RECORD.--May 1967 to December 1970, January 1972 to September 1982, August 1990 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 131 ft (40 m), from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	42	96	34	59	25	16	8.7	9.1	11	13	13	18
2	81	135	855	43	18	15	8.5	8.1	11	73	19	12
3	27	72	325	403	16	14	9.8	12	12	23	24	16
4	65	51	50	176	15	13	9.1	15	14	9.7	141	49
5	45	141	914	89	14	13	8.0	13	11	7.6	101	27
6	108	87	301	191	13	13	7.8	13	8.6	6.6	13	45
7	51	47	393	141	13	12	7.9	8.7	7.7	6.4	11	15
8	77	35	159	80	15	12	8.0	7.7	7.4	6.5	20	12
9	67	39	73	62	13	11	7.4	7.5	7.0	6.8	16	10
10	39	151	60	39	12	12	7.0	7.3	6.9	6.1	17	19
11	31	64	48	35	11	11	7.3	163	7.3	5.9	14	66
12	96	341	39	35	11	11	13	31	143	6.0	8.6	e14
13	55	173	34	42	12	11	175	19	42	6.3	7.3	e10
14	30	60	29	46	13	11	51	11	13	12	11	e9.3
15	23	143	26	79	13	10	17	9.0	11	7.5	12	9.2
16	23	163	23	135	11	11	26	8.5	43	5.9	28	38
17	96	591	23	52	11	13	18	8.2	22	7.0	10	262
18	40	728	34	38	43	11	14	27	12	11	7.8	201
19	102	467	84	31	114	11	19	19	9.6	7.3	8.2	84
20	295	235	122	26	35	9.8	15	11	8.8	6.2	7.4	44
21	608	136	63	23	139	11	12	8.0	8.5	5.3	6.6	187
22	132	77	119	22	127	14	9.9	7.9	7.9	5.0	120	45
23	56	150	99	21	36	12	9.3	7.5	7.5	5.0	754	74
24	306	118	51	20	21	9.9	9.6	7.1	7.4	4.9	57	40
25	225	90	102	20	171	9.6	11	8.0	8.0	5.7	35	22
26	85	62	83	19	30	9.0	10	13	17	5.2	79	22
27	54	45	34	18	26	8.8	8.4	9.0	12	4.8	30	41
28	41	40	52	20	19	8.7	8.1	66	8.2	5.6	23	29
29	35	38	40	29	17	34	8.7	120	7.3	34	31	22
30	32	44	29	21	---	15	9.0	128	7.1	24	18	15
31	29	---	25	16	---	9.9	---	21	---	9.4	20	---
TOTAL	2996	4619	4323	2031	1014	382.7	533.5	803.6	499.2	342.7	1662.9	1457.5
MEAN	96.6	154	139	65.5	35.0	12.3	17.8	25.9	16.6	11.1	53.6	48.6
MAX	608	728	914	403	171	34	175	163	143	73	754	262
MIN	23	35	23	16	11	8.7	7.0	7.1	6.9	4.8	6.6	9.2
AC-FT	5940	9160	8570	4030	2010	759	1060	1590	990	680	3300	2890
CFSM	13.2	21.1	19.1	8.96	4.78	1.69	2.43	3.55	2.28	1.51	7.34	6.65
IN.	15.25	23.51	22.00	10.34	5.16	1.95	2.71	4.09	2.54	1.74	8.46	7.42

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 2000, BY WATER YEAR (WY)

	MEAN	57.6	68.9	52.6	45.1	30.8	20.3	25.8	47.1	30.0	35.5	44.9	52.0
MAX	392	172	140	151	76.4	54.4	119	203	86.5	109	90.0	153	
(WY)	1971	1970	1971	1969	1969	1969	1978	1969	1968	1969	1968	1975	
MIN	8.45	14.3	12.0	10.1	5.80	4.50	6.29	10.2	6.22	8.66	7.39	12.4	
(WY)	1969	1981	1998	1977	1977	1977	1995	1974	1975	1994	1991	1967	

SUMMARY STATISTICS

FOR 1999 CALENDAR YEAR

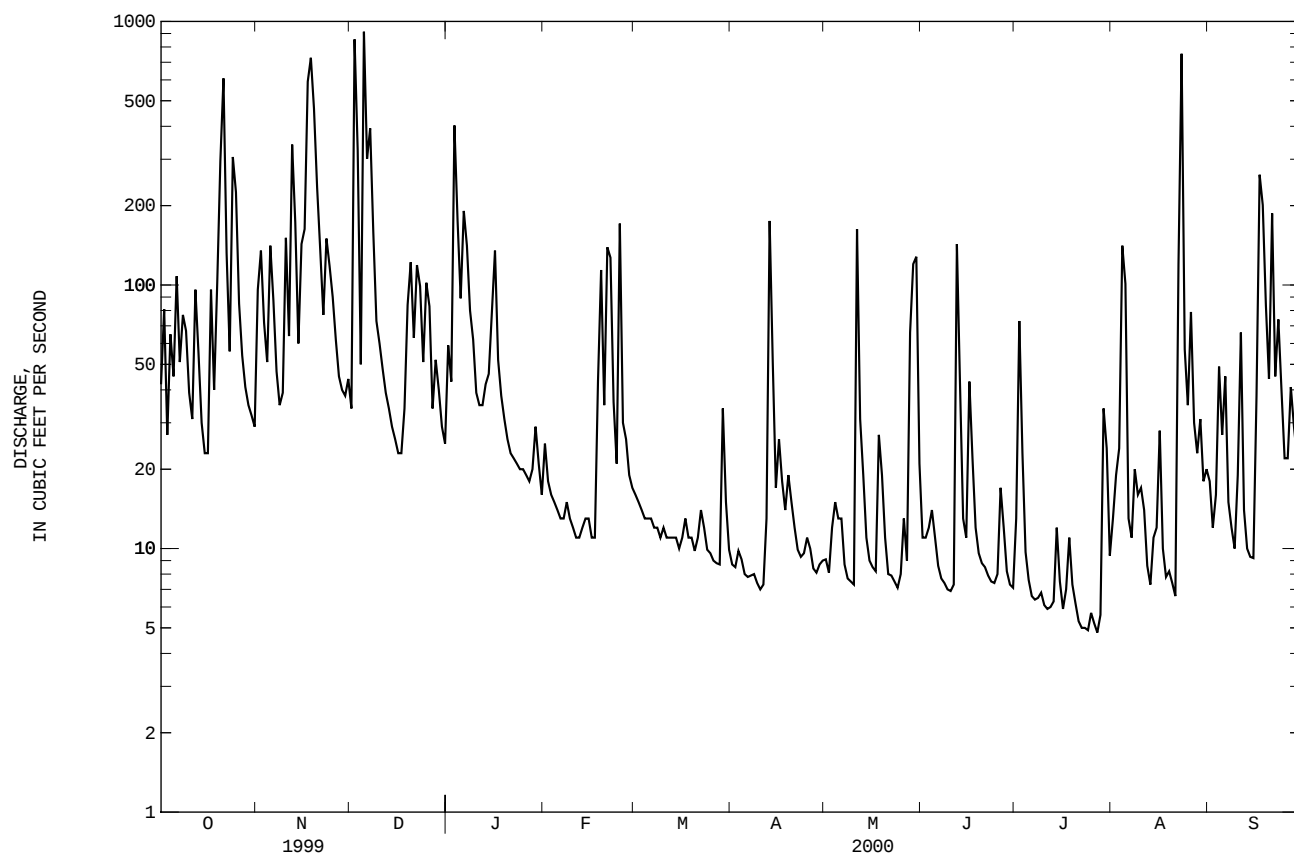
FOR 2000 WATER YEAR

WATER YEARS 1967 - 2000

ANNUAL TOTAL	20318.1	20665.1	
ANNUAL MEAN	55.7	56.5	41.1
HIGHEST ANNUAL MEAN			87.1
LOWEST ANNUAL MEAN			17.3
HIGHEST DAILY MEAN	914	914	3470
LOWEST DAILY MEAN	4.2	4.8	2.2
ANNUAL SEVEN-DAY MINIMUM	4.3	5.1	2.5
INSTANTANEOUS PEAK FLOW		4540	22000
INSTANTANEOUS PEAK STAGE		12.31	19.30
INSTANTANEOUS LOW FLOW		4.5	1.6
ANNUAL RUNOFF (AC-FT)	40300	40990	29810
ANNUAL RUNOFF (CFSM)	7.62	7.72	5.63
ANNUAL RUNOFF (INCHES)	103.40	105.16	76.47
10 PERCENT EXCEEDS	120	135	81
50 PERCENT EXCEEDS	25	19	17
90 PERCENT EXCEEDS	6.4	7.5	6.7

e Estimated

RIO ESPIRITU SANTO BASIN
50064200 RIO GRANDE NEAR EL VERDE, PR--Continued



50065500 RIO MAMEYES NEAR SABANA, PR

LOCATION.--Lat 18°19'46", long 65°45'04", Hydrologic Unit 21010005, on left bank, at bridge on Highway 988, 1.4 mi (2.3 km) west of Sabana, 2.0 mi (3.2 km) downstream from Rio de la Mina, and 3.2 mi (5.1 km) southeast of Mameyes.

DRAINAGE AREA.--6.88 mi² (17.82 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1967 to December 1973, June 1983 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 275 ft (84 m), from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	51	94	101	e52	31	24	13	21	32	47	64	74
2	43	142	e647	e165	26	21	20	15	37	77	56	67
3	35	121	241	e168	28	20	19	37	44	68	60	91
4	59	73	80	e97	30	19	14	36	35	40	e185	67
5	59	117	493	e64	30	19	13	31	27	31	78	67
6	116	94	229	79	24	18	12	27	24	28	41	79
7	50	64	294	71	29	17	12	62	23	26	43	65
8	81	72	139	56	26	17	13	40	22	32	60	56
9	53	63	80	51	24	16	11	22	21	26	40	53
10	40	223	68	40	22	16	11	33	22	24	63	60
11	45	117	60	37	20	15	11	e370	22	24	43	81
12	69	e423	53	34	20	16	14	58	e164	35	35	57
13	50	e189	48	51	25	16	101	33	e83	29	32	51
14	39	117	43	42	21	15	35	27	e49	49	41	53
15	35	207	39	65	19	14	15	24	59	29	47	69
16	33	149	37	75	18	14	27	22	108	25	61	88
17	64	e599	37	42	19	18	22	61	70	25	41	e220
18	40	329	57	38	75	16	17	53	47	26	33	100
19	51	212	70	33	100	14	15	32	41	24	34	95
20	160	148	105	30	41	13	13	26	43	27	30	78
21	410	125	71	28	81	14	11	23	47	24	29	68
22	125	89	104	27	102	20	11	21	37	24	185	54
23	80	130	81	27	43	14	12	21	35	27	e704	64
24	155	94	55	26	31	13	15	20	33	24	102	51
25	147	104	66	27	97	13	14	41	35	36	80	45
26	70	74	78	27	36	12	13	27	41	27	98	42
27	56	62	e43	23	39	12	13	30	42	29	79	57
28	49	56	e57	22	27	14	12	59	32	33	76	60
29	45	61	e182	49	26	38	14	108	30	75	69	45
30	42	77	e47	28	---	18	18	142	31	58	55	39
31	48	---	e43	23	---	14	---	41	---	41	76	---
TOTAL	2400	4425	3748	1597	1110	520	541	1563	1336	1090	2640	2096
MEAN	77.4	148	121	51.5	38.3	16.8	18.0	50.4	44.5	35.2	85.2	69.9
MAX	410	599	647	168	102	38	101	370	164	77	704	220
MIN	33	56	37	22	18	12	11	15	21	24	29	39
AC-FT	4760	8780	7430	3170	2200	1030	1070	3100	2650	2160	5240	4160
CFSM	11.3	21.4	17.6	7.49	5.56	2.44	2.62	7.33	6.47	5.11	12.4	10.2
IN.	12.98	23.93	20.27	8.63	6.00	2.81	2.93	8.45	7.22	5.89	14.27	11.33

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 2000, BY WATER YEAR (WY)

MEAN	64.9	82.9	62.7	55.3	41.7	36.4	39.2	62.6	53.7	49.6	55.5	63.9
MAX	240	191	164	105	68.0	79.7	83.1	147	112	93.4	85.2	166
(WY)	1971	1985	1971	1969	1988	1990	1973	1970	1970	1969	2000	1989
MIN	20.3	36.3	16.6	25.0	21.7	16.8	14.5	18.7	12.4	20.3	20.4	26.6
(WY)	1969	1974	1990	1985	1968	2000	1984	1973	1985	1994	1994	1986

SUMMARY STATISTICS

FOR 1999 CALENDAR YEAR

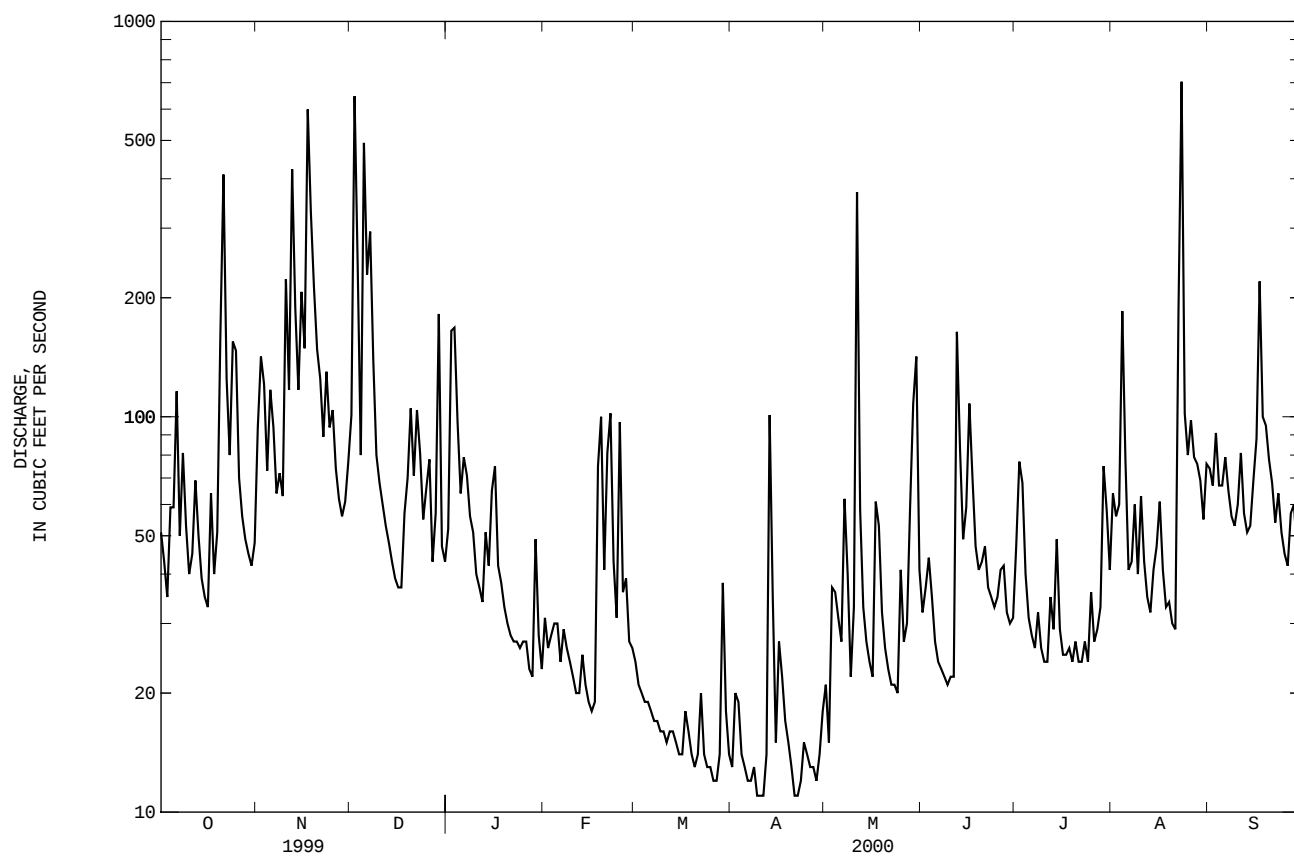
FOR 2000 WATER YEAR

WATER YEARS 1967 - 2000

ANNUAL TOTAL	23665	23066	
ANNUAL MEAN	64.8	63.0	56.3
HIGHEST ANNUAL MEAN			78.0
LOWEST ANNUAL MEAN			33.1
HIGHEST DAILY MEAN	647	704	2780
LOWEST DAILY MEAN	13	11	6.9
ANNUAL SEVEN-DAY MINIMUM	14	12	9.4
INSTANTANEOUS PEAK FLOW		10900	20500
INSTANTANEOUS PEAK STAGE		10.52	13.19
INSTANTANEOUS LOW FLOW		10	5.1
ANNUAL RUNOFF (AC-FT)	46940	45750	40780
ANNUAL RUNOFF (CFSM)	9.42	9.16	8.18
ANNUAL RUNOFF (INCHES)	127.96	124.72	111.16
10 PERCENT EXCEEDS	125	117	102
50 PERCENT EXCEEDS	43	41	34
90 PERCENT EXCEEDS	16	15	16

e Estimated

RIO MAMEYES BASIN
50065500 RIO MAMEYES NEAR SABANA, PR--Continued



50065500 RIO MAMEYES NEAR SABANA, PR--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.-- Water years 1992 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: October 1992 to current year.

INSTRUMENTATION.-- USDH-48 sediment sampler and automatic sediment sampler, since 1993.

REMARKS.-- Sediment samples were collected by a local observer on a weekly basis. During high flow events sediment samples were collected by hydrologic technician and automatic sediment sampler.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATION: Maximum daily mean, 484 mg/L September 10, 1996; Minimum daily mean, 1 mg/L several days.

SEDIMENT LOADS: Maximum daily mean, 5,390 tons (4,890 tonnes) September 21, 1998; Minimum daily mean, 0.03 ton (0.02 tonne) October 05, 1994.

EXTREMES FOR CURRENT YEAR 2000.--

SEDIMENT CONCENTRATION: Maximum daily mean, 157 mg/L December 2, 1999; Minimum daily mean, 1 mg/L several days.

SEDIMENT LOADS: Maximum daily mean, e645 tons (585 tonnes) December 2, 1999; Minimum daily mean, 0.06 ton (.05 tonne) January 27-28, 2000.

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
OCTOBER			NOVEMBER			DECEMBER			
1	51	16	2.2	94	31	27	101	19	5.1
2	43	13	1.5	142	47	21	e647	e157	e645
3	35	10	.95	121	36	12	241	57	50
4	59	14	3.3	73	7	1.5	80	24	5.3
5	59	19	4.1	117	26	13	493	105	152
6	116	42	16	94	34	9.0	229	64	40
7	50	14	1.9	64	23	4.0	294	103	96
8	81	22	5.1	72	20	4.2	139	64	24
9	53	17	2.5	63	16	2.8	80	55	12
10	40	15	1.6	223	75	60	68	46	8.6
11	45	12	1.5	117	41	17	60	39	6.4
12	69	18	3.8	e423	e128	e223	53	33	4.7
13	50	5	.75	e189	e69	e40	48	28	3.7
14	39	3	.33	117	37	12	43	24	2.8
15	35	3	.24	207	81	53	39	20	2.1
16	33	2	.21	149	45	19	37	17	1.7
17	64	18	3.3	e599	e136	e342	37	15	1.5
18	40	12	1.3	329	152	158	57	20	4.0
19	51	12	2.3	212	66	38	70	22	5.1
20	160	50	25	148	45	18	105	29	10
21	410	100	115	125	33	11	71	24	4.9
22	125	53	19	89	27	6.5	104	32	9.8
23	80	30	6.6	130	55	33	81	27	6.3
24	155	46	32	94	34	9.4	55	19	2.9
25	147	58	38	104	41	16	66	15	2.7
26	70	31	6.1	74	29	5.9	78	25	7.2
27	56	16	2.4	62	27	4.5	e43	e14	e1.6
28	49	15	2.0	56	25	3.7	e57	e18	e3.1
29	45	13	1.6	61	22	3.7	e182	e103	e282
30	42	12	1.4	77	20	4.2	e47	e20	e2.5
31	48	13	1.8	---	---	---	e43	e18	e2.1
TOTAL	2400	---	303.78	4425	---	1172.4	3748	---	1405.1

RIO MAMEYES BASIN

50065500 RIO MAMEYES NEAR SABANA, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JANUARY			FEBRUARY			MARCH			
1	e52	e16	e2.3	31	1	.09	24	2	.15
2	e165	e51	e108	26	1	.08	21	2	.12
3	e168	e70	e69	28	1	.09	20	2	.11
4	e97	e19	e7.1	30	1	.11	19	2	.11
5	e64	e12	e2.2	30	1	.12	19	2	.11
6	79	19	5.1	24	2	.10	18	2	.11
7	71	13	3.0	29	2	.13	17	2	.10
8	56	7	1.0	26	2	.13	17	2	.10
9	51	6	.88	24	2	.13	16	2	.10
10	40	6	.69	22	2	.13	16	2	.10
11	37	11	1.1	20	3	.14	15	2	.10
12	34	21	1.9	20	3	.16	16	2	.11
13	51	23	3.4	25	4	.25	16	3	.11
14	42	14	1.7	21	4	.23	15	3	.10
15	65	24	17	19	5	.25	14	3	.10
16	75	34	11	18	5	.24	14	3	.10
17	42	9	1.0	19	5	.25	18	3	.13
18	38	7	.68	75	22	6.5	16	3	.12
19	33	5	.46	100	31	9.5	14	3	.11
20	30	4	.31	41	12	1.5	13	3	.10
21	28	3	.23	81	30	19	14	3	.11
22	27	2	.17	102	30	10	20	3	.16
23	27	2	.13	43	11	1.3	14	3	.12
24	26	1	.09	31	8	.68	13	3	.11
25	27	1	.08	97	35	17	13	3	.10
26	27	1	.07	36	12	1.2	12	3	.10
27	23	1	.06	39	12	1.3	12	3	.09
28	22	1	.06	27	6	.45	14	3	.11
29	49	14	3.5	26	4	.26	38	11	1.6
30	28	5	.36	---	---	---	18	6	.28
31	23	1	.09	---	---	---	14	5	.20
TOTAL	1597	---	242.66	1110	---	71.32	520	---	5.17
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
APRIL			MAY			JUNE			
1	13	5	.17	21	4	.20	32	8	.73
2	20	4	.24	15	4	.16	37	8	.82
3	19	4	.20	37	12	2.0	44	8	.94
4	14	4	.14	36	10	1.0	35	8	.73
5	13	3	.12	31	8	.70	27	7	.55
6	12	3	.10	27	7	.48	24	7	.48
7	12	2	.07	62	19	6.7	23	7	.43
8	13	2	.08	40	12	1.4	22	7	.41
9	11	2	.07	22	7	.44	21	7	.38
10	11	2	.07	33	10	1.2	22	6	.38
11	11	3	.08	e370	e125	e420	22	6	.37
12	14	3	.11	58	18	3.2	e164	e63	e70
13	101	33	23	33	10	.91	e83	e27	e6.2
14	35	17	2.1	27	9	.64	e49	e17	e2.3
15	15	3	.12	24	8	.50	59	18	4.0
16	27	8	.75	22	7	.40	108	33	10
17	22	5	.31	61	18	4.8	70	18	3.6
18	17	4	.17	53	18	3.5	47	13	1.7
19	15	3	.13	32	10	.95	41	12	1.3
20	13	3	.10	26	6	.41	43	10	1.2
21	11	3	.09	23	4	.25	47	9	1.2
22	11	3	.09	21	3	.17	37	8	.83
23	12	3	.10	21	2	.12	35	7	.68
24	15	3	.12	20	2	.11	33	7	.59
25	14	3	.11	41	9	1.2	35	6	.55
26	13	3	.11	27	10	.70	41	5	.57
27	13	3	.10	30	7	.60	42	5	.52
28	12	3	.11	59	22	5.3	32	4	.36
29	14	3	.12	108	38	15	30	4	.30
30	18	4	.17	142	40	39	31	3	.28
31	---	---	---	41	9	.98	---	---	---
TOTAL	541	---	29.25	1563	---	513.02	1336	---	112.40

RIO MAMEYES BASIN

50065500 RIO MAMEYES NEAR SABANA, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JULY			AUGUST			SEPTEMBER			
1	47	11	1.8	64	18	3.7	74	2	.37
2	77	27	8.5	56	18	2.8	67	2	.30
3	68	20	4.0	60	18	3.6	91	1	.36
4	40	10	1.0	e185	e65	e247	67	1	.24
5	31	8	.66	78	26	6.6	67	1	.21
6	28	7	.56	41	13	1.5	79	1	.22
7	26	7	.50	43	13	1.5	65	1	.17
8	32	7	.58	60	17	3.0	56	1	.15
9	26	6	.46	40	13	1.3	53	1	.14
10	24	6	.40	63	18	3.5	60	1	.16
11	24	7	.43	43	12	1.4	81	1	.22
12	35	8	.75	35	8	.78	57	1	.15
13	29	9	.71	32	6	.48	51	1	.14
14	49	11	1.4	41	4	.42	53	1	.14
15	29	13	.97	47	3	.33	69	1	.19
16	25	15	1.0	61	16	3.8	88	1	.24
17	25	17	1.2	41	3	.31	e220	e53	e60
18	26	20	1.4	33	2	.18	100	25	7.5
19	24	23	1.5	34	2	.19	95	29	8.6
20	27	20	1.5	30	2	.16	78	7	1.6
21	24	16	1.0	29	2	.16	68	5	.82
22	24	12	.79	185	42	108	54	4	.60
23	27	10	.70	e704	e76	e340	64	4	.64
24	24	8	.49	102	6	1.6	51	3	.46
25	36	10	1.2	80	4	.95	45	3	.37
26	27	8	.55	98	4	1.0	42	3	.34
27	29	8	.71	79	3	.74	57	12	1.9
28	33	9	.80	76	3	.62	60	17	3.2
29	75	22	5.0	69	3	.50	45	3	.42
30	58	17	2.8	55	2	.35	39	1	.11
31	41	14	1.6	76	2	.44	---	---	---
TOTAL	1090	---	44.96	2640	---	736.91	2096	---	89.96
YEAR	23066		4726.93						

e Estimated

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

SILT AND CLAY PERCENT OF SUSPENDED SEDIMENT

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
AUG					
22...	2305	991	412	1100	89
23...	0615	782	234	494	82
SEP					
17...	1150	1070	290	838	96
17...	1230	464	56	70	97
17...	1600	425	185	212	96

RIO MAMEYES BASIN

50065500 RIO MAMEYES NEAR SABANA, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM (70326)	SED. SUSP. FALL DIAM. % FINER THAN .004 MM (70327)	SED. SUSP. FALL DIAM. % FINER THAN .008 MM (70328)	
DEC								
02...	1550	977	1540	4070	26	36	50	
02...	1600	1520	1550	6370	34	46	60	
02...	1610	2460	1230	8160	30	42	55	
AUG								
04...	2140	E1080	187	545	40	51	67	
23...	0455	5130	283	3920	32	43	59	
DATE		SED. SUSP. FALL DIAM. % FINER THAN .016 MM (70329)	SED. SUSP. FALL DIAM. % FINER THAN .031 MM (70330)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM (70332)	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM (70333)	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM (70334)	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM (70335)
DEC								
02...	64	73	76	89	96	99	100	
02...	72	79	84	90	96	99	100	
02...	66	76	79	95	99	100	100	
AUG								
04...	80	94	97	99	100	100	100	
23...	72	83	88	95	99	100	100	

50066000 RIO MAMEYES AT MAMEYES, PR

LOCATION.--Lat 18°22'27", long 65°45'50", Hydrologic Unit 21010005, on right bank, at bridge on Highway 3, 3.1 mi (5.0 km), southwest from Luquillo, 0.4 mi (0.6 km) downstream from Quebrada Anón, and 2.9 mi (4.7 km) east from Escuela Juan González.

WATER-DISCHARGE RECORDS

DRAINAGE AREA.--13.5 mi² (34.7 km²).

PERIOD OF RECORD.--July 1997 to current year

GAGE.--Water-stage recorder. Elevation of gage is 16.4 ft (5.0 m), from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Discharges above 5,000 ft³/s (141.6 m³/s), are based on a rating curve extension and are rated poor. Low flow affected by water supply intake about 1,000 ft (305 m), upstream from station. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	68	218	206	84	38	29	11	19	35	28	47	68
2	44	270	1770	200	34	24	21	9.9	35	84	47	50
3	32	301	301	241	34	22	19	34	52	85	46	86
4	71	108	152	164	43	e21	13	53	36	33	126	52
5	62	221	921	101	43	20	11	30	27	22	128	50
6	e109	136	276	106	39	19	10	24	22	18	32	68
7	e48	80	358	116	38	18	10	61	20	16	29	42
8	e76	92	158	78	43	17	12	52	18	20	53	32
9	e50	73	114	79	43	e17	9.4	17	17	17	31	27
10	e38	452	94	58	37	16	8.5	27	17	14	54	30
11	e42	230	81	53	28	15	7.9	739	17	13	36	63
12	e64	1070	70	48	26	e17	9.7	92	219	26	25	33
13	e48	291	63	67	35	16	136	36	107	18	20	24
14	e37	209	55	69	27	15	60	24	39	37	26	21
15	e34	380	49	79	25	14	17	19	46	18	35	27
16	e32	360	44	143	23	e13	29	16	134	14	55	55
17	e59	1140	44	59	25	18	22	82	69	15	29	338
18	e38	580	75	52	e181	17	19	76	37	16	20	175
19	e48	310	106	46	e266	14	13	40	29	14	20	125
20	e200	193	121	42	e95	12	10	28	27	17	17	94
21	636	183	90	40	e159	13	8.9	20	35	13	16	77
22	165	105	139	39	e296	20	7.7	16	24	12	217	56
23	76	188	105	38	e95	17	7.3	15	21	14	2130	64
24	250	162	70	37	e51	13	9.6	14	19	13	166	51
25	250	356	83	37	220	12	7.5	33	19	20	72	45
26	88	99	106	36	44	11	7.7	28	33	16	94	39
27	58	72	51	27	53	10	6.7	25	39	12	67	65
28	48	61	280	27	33	12	6.2	60	20	19	70	67
29	42	96	188	65	29	47	6.0	150	17	67	68	47
30	38	98	70	38	---	22	9.3	313	16	54	43	36
31	46	---	68	28	---	12	---	55	---	34	77	---
TOTAL	2897	8134	6308	2297	2103	543	525.4	2207.9	1246	799	3896	2007
MEAN	93.5	271	203	74.1	72.5	17.5	17.5	71.2	41.5	25.8	126	66.9
MAX	636	1140	1770	241	296	47	136	739	219	85	2130	338
MIN	32	61	44	27	23	10	6.0	9.9	16	12	16	21
AC-FT	5750	16130	12510	4560	4170	1080	1040	4380	2470	1580	7730	3980
CFSM	6.92	20.1	15.1	5.49	5.37	1.30	1.30	5.28	3.08	1.91	9.31	4.96
IN.	7.98	22.41	17.38	6.33	5.79	1.50	1.45	6.08	3.43	2.20	10.74	5.53

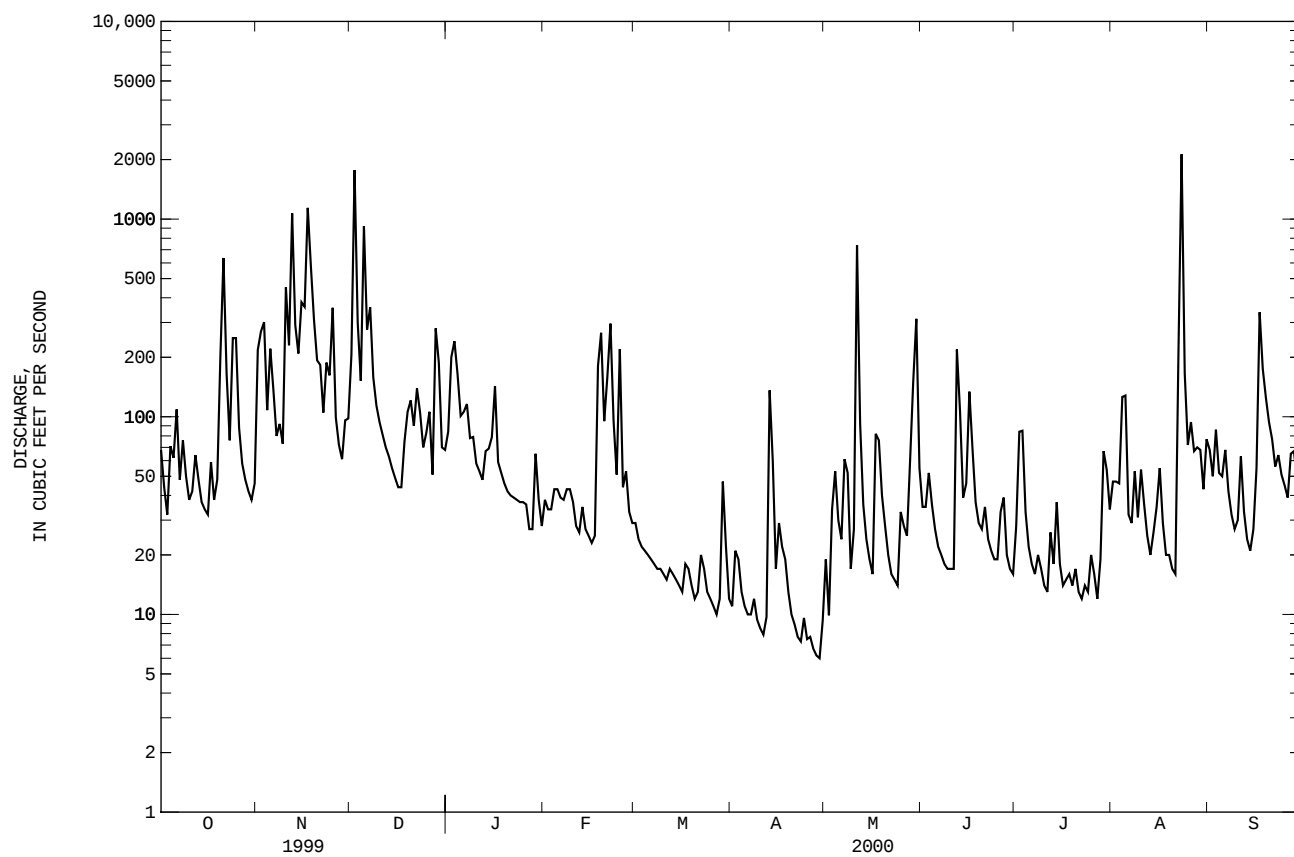
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 2000, BY WATER YEAR (WY)

MEAN	117	175	162	90.5	53.6	43.8	45.2	77.7	56.9	59.0	102	129
MAX	135	271	264	122	72.5	80.6	96.8	129	86.2	93.0	126	274
(WY)	1999	2000	1999	1999	2000	1998	1998	1998	1998	1999	2000	1998
MIN	93.5	109	18.4	74.1	38.2	17.5	17.5	32.7	41.5	25.8	60.5	66.9
(WY)	2000	1998	1998	2000	1999	2000	2000	1999	2000	2000	1997	2000

SUMMARY STATISTICS	FOR 1999 CALENDAR YEAR				FOR 2000 WATER YEAR				WATER YEARS 1997 - 2000			
ANNUAL TOTAL	35156.5				32963.3				95.2			
ANNUAL MEAN	96.3				90.1				101			
HIGHEST ANNUAL MEAN									90.1			
LOWEST ANNUAL MEAN									101			
HIGHEST DAILY MEAN	1770				2130				2660			
LOWEST DAILY MEAN	8.1				6.0				6.0			
ANNUAL SEVEN-DAY MINIMUM	9.2				7.3				7.3			
INSTANTANEOUS PEAK FLOW					14000				18400			
INSTANTANEOUS PEAK STAGE					13.16				14.18			
ANNUAL RUNOFF (AC-FT)	69730				65380				68990			
ANNUAL RUNOFF (CFSM)	7.19				6.72				7.11			
ANNUAL RUNOFF (INCHES)	97.60				91.51				96.56			
10 PERCENT EXCEEDS	219				200				190			
50 PERCENT EXCEEDS	49				41				44			
90 PERCENT EXCEEDS	13				13				15			

e Estimated

RIO MAMEYES BASIN
50066000 RIO MAMEYES AT MAMEYES, PR--Continued



50067000 RIO SABANA AT SABANA, PR

LOCATION.--Lat 18°19'52", long 65°43'52", Hydrologic Unit 21010005, on right bank along Highway 988, 0.3 mi (0.5 km) north of junction of Highways 988 and 983 in Sabana, and 3.3 mi (5.3 km) south of Luquillo.

DRAINAGE AREA.--3.96 mi² (10.26 km²).

PERIOD OF RECORD.--October 1979 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 260 ft (80 m), from topographic map.

REMARKS.--Records fair. Low-flow affected by Puerto Rico Aqueduct and Sewer Authority Water Intake 1.0 mi (1.6 km) upstream, and purification plant 0.2 mi (0.32 km). Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	81	e64	13	7.4	e4.5	2.3	8.3	5.2	2.7	6.7	9.9
2	13	e61	e400	17	8.2	e4.1	2.3	3.1	6.1	3.3	4.9	10
3	9.9	46	e140	47	7.7	e3.8	2.3	3.8	9.2	4.9	3.1	70
4	18	e18	e50	34	7.8	e3.6	2.1	6.3	5.4	2.6	16	15
5	11	e29	e310	17	6.8	e3.6	2.0	5.2	4.0	2.5	13	9.9
6	34	23	e84	15	6.9	e3.4	2.2	3.2	3.4	e2.4	2.6	12
7	11	13	55	14	7.3	e3.2	2.0	2.9	3.1	e2.2	2.4	8.4
8	41	18	37	12	7.0	e3.2	1.9	3.0	3.0	e2.8	3.3	6.4
9	14	13	27	12	6.4	e3.1	1.7	2.8	2.7	e2.2	2.5	e5.6
10	10	67	23	11	6.7	e3.0	1.8	3.1	2.6	e2.1	17	e5.7
11	14	38	21	9.9	6.7	e2.8	1.9	62	2.7	2.1	4.3	e11
12	22	277	19	9.3	6.4	e3.0	3.0	10	27	4.3	2.7	e6.0
13	14	e181	17	11	7.6	e3.0	16	5.4	12	2.8	1.9	e4.4
14	19	49	e15	9.8	6.4	e2.8	6.0	3.3	5.1	4.5	3.0	e3.7
15	12	165	e14	23	6.1	e2.7	3.3	2.8	3.8	2.8	4.9	e4.8
16	9.5	108	e13	23	6.2	3.1	2.9	2.7	15	2.1	4.4	e10
17	14	397	e13	9.4	5.4	4.1	2.5	135	7.7	2.1	2.2	e60
18	9.3	166	e20	8.4	11	3.2	2.4	52	4.2	2.1	e2.0	e31
19	9.4	102	e24	8.3	32	3.4	2.7	11	3.4	2.0	e2.1	19
20	58	67	e37	7.9	11	3.2	2.6	6.0	3.5	2.8	e1.9	17
21	116	56	e25	7.6	6.8	3.1	2.3	4.1	4.2	2.0	e1.8	14
22	e26	70	e37	7.4	12	3.9	2.3	3.7	3.2	1.9	77	8.0
23	e15	e84	e28	7.5	7.6	2.8	2.4	3.4	3.0	2.1	458	8.4
24	e43	e60	e15	7.2	6.2	2.6	2.5	2.8	2.8	2.0	30	6.9
25	e45	e66	e19	7.0	12	2.5	2.4	6.5	2.7	1.9	16	6.5
26	e13	e48	e22	7.1	5.6	2.5	2.3	3.2	3.7	2.0	10	7.0
27	e11	e41	e12	6.7	7.7	2.3	2.3	3.2	3.1	1.9	10	11
28	e9.3	e36	e16	6.6	5.1	2.9	2.3	2.7	2.5	1.9	9.5	11
29	e8.9	e38	e50	13	e4.6	5.3	2.5	24	2.6	6.3	6.9	8.2
30	8.2	e48	e13	7.7	---	2.8	2.5	137	2.8	6.4	6.6	6.8
31	e9.4	---	12	6.9	---	2.3	---	9.0	---	3.8	11	---
TOTAL	671.9	2466	1632	396.7	238.6	99.8	87.7	531.5	159.7	87.5	737.7	407.6
MEAN	21.7	82.2	52.6	12.8	8.23	3.22	2.92	17.1	5.32	2.82	23.8	13.6
MAX	116	397	400	47	32	5.3	16	137	27	6.4	458	70
MIN	8.2	13	12	6.6	4.6	2.3	1.7	2.7	2.5	1.9	1.8	3.7
AC-FT	1330	4890	3240	787	473	198	174	1050	317	174	1460	808
CFSM	5.47	20.8	13.3	3.23	2.08	.81	.74	4.33	1.34	.71	6.01	3.43
IN.	6.31	23.17	15.33	3.73	2.24	.94	.82	4.99	1.50	.82	6.93	3.83

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 2000, BY WATER YEAR (WY)

MEAN	23.8	35.5	27.2	16.4	12.8	10.9	10.9	29.8	19.2	15.9	18.4	24.9
MAX	66.4	82.2	64.1	48.5	23.2	36.0	33.5	63.9	50.6	36.0	39.9	74.2
(WY)	1986	2000	1982	1996	1997	1987	1990	1982	1987	1996	1995	1996
MIN	6.48	8.15	3.92	6.12	2.94	2.71	2.20	4.65	3.64	2.82	3.09	7.23
(WY)	1983	1981	1990	1986	1983	1994	1984	1994	1997	2000	1994	1987

SUMMARY STATISTICS

FOR 1999 CALENDAR YEAR

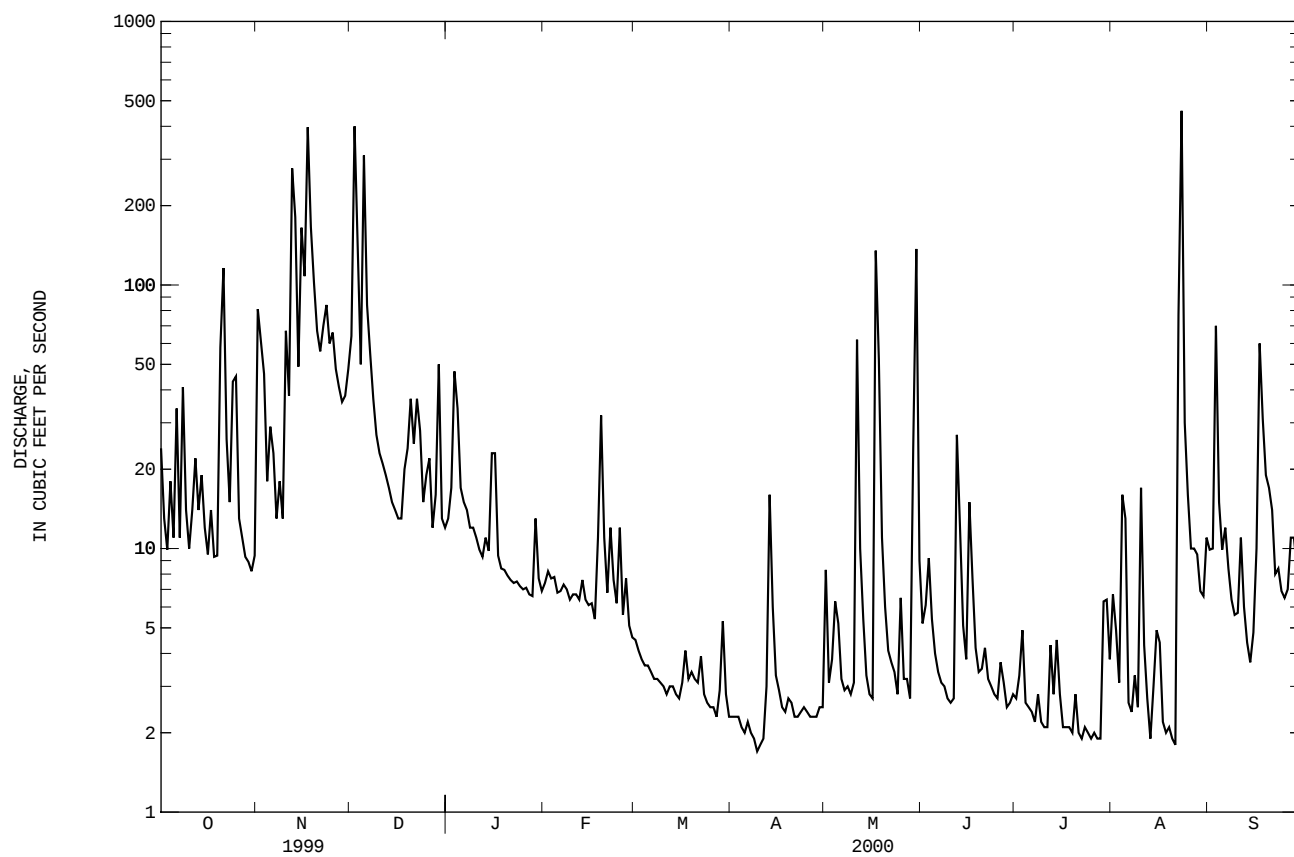
FOR 2000 WATER YEAR

WATER YEARS 1980 - 2000

ANNUAL TOTAL	8910.2	7516.7	
ANNUAL MEAN	24.4	20.5	20.5
HIGHEST ANNUAL MEAN			31.9
LOWEST ANNUAL MEAN			7.85
HIGHEST DAILY MEAN	400	Dec 2	1100
LOWEST DAILY MEAN	2.0	May 28	.96
ANNUAL SEVEN-DAY MINIMUM	2.6	May 25	1.9
INSTANTANEOUS PEAK FLOW			3030
INSTANTANEOUS PEAK STAGE			14.24
INSTANTANEOUS LOW FLOW			19.74
ANNUAL RUNOFF (AC-FT)	17670	14910	14870
ANNUAL RUNOFF (CFSM)	6.16	5.19	5.18
ANNUAL RUNOFF (INCHES)	83.70	70.61	70.40
10 PERCENT EXCEEDS	52	48	39
50 PERCENT EXCEEDS	11	6.9	8.9
90 PERCENT EXCEEDS	3.3	2.3	2.8

e Estimated

RIO SABANA BASIN
50067000 RIO SABANA AT SABANA, PR--Continued



50070500 RIO FAJARDO ABOVE FAJARDO, PR

LOCATION.--Lat 18°16'21", long 65°43'18", Hydrologic Unit 21010005, on right bank, 4.1 mi (6.6 km) from Naguabo Plaza, 0.5 mi (0.8 km) northeast from Escuela Sonadora, 1.5 mi (2.4 km) southwest of Colonia Paraiso, and 2.5 mi (4.0 km) north from Escuela Segunda Unidad Mariana.

DRAINAGE AREA.--3.69 mi² (9.56 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Oct. 1, 1995 to Nov. 8, 1995 (estimated discharge). Nov. 9, 1995 to current year.

GAGE.--Water-stage recorder. Datum of gage is 328 ft (100 m) above mean sea level, from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30	34	29	29	20	12	8.0	11	18	18	38	19
2	27	37	301	20	15	11	7.9	7.8	21	18	26	20
3	24	32	148	52	15	11	8.0	13	22	11	63	36
4	27	30	e39	69	15	11	7.7	13	20	12	57	22
5	27	38	e326	31	17	10	7.6	14	15	9.0	35	20
6	41	34	118	42	16	10	7.4	12	14	8.4	12	35
7	26	28	114	39	20	9.9	8.9	13	13	8.4	18	21
8	33	41	55	25	16	9.8	12	16	13	10	16	17
9	27	e30	39	27	14	9.6	7.8	11	12	8.6	11	16
10	23	e215	35	21	14	9.5	7.4	14	13	8.3	39	23
11	27	e51	30	20	13	9.5	7.2	80	13	8.1	13	25
12	27	e315	e26	19	13	9.8	9.7	22	88	8.8	11	16
13	26	e292	e24	22	17	9.5	43	14	27	8.5	9.1	15
14	24	e91	e22	21	15	9.2	11	12	38	20	9.8	14
15	23	e221	e21	54	14	8.8	7.0	11	40	9.7	11	16
16	23	e155	20	39	13	8.9	13	10	58	10	22	45
17	28	e461	19	19	12	9.7	14	196	20	10	9.7	111
18	23	e222	39	18	42	9.2	8.2	30	12	10	8.4	46
19	25	167	41	17	36	8.8	7.4	19	9.9	9.8	8.7	42
20	39	88	52	16	19	8.5	6.8	16	12	12	8.1	41
21	145	61	30	16	34	8.5	6.0	14	13	10	8.9	33
22	43	e56	57	16	39	11	5.8	13	9.6	10	143	27
23	38	e77	37	15	20	8.7	5.9	12	8.5	9.9	374	34
24	36	e50	26	15	15	8.3	6.2	12	8.1	9.6	38	22
25	62	e42	33	18	45	8.1	5.9	27	8.3	9.9	29	19
26	35	e34	31	18	17	8.1	5.9	15	7.9	9.8	40	21
27	31	e29	21	15	19	7.9	5.8	12	8.4	12	35	25
28	29	e26	21	14	13	10	5.6	51	7.3	15	24	31
29	28	e26	80	36	13	30	5.3	64	7.1	43	35	20
30	28	28	23	16	---	10	7.0	101	7.2	21	20	18
31	29	---	27	14	---	8.4	---	23	---	16	22	---
TOTAL	1054	3011	1884	793	571	314.7	269.4	878.8	564.3	384.8	1194.7	850
MEAN	34.0	100	60.8	25.6	19.7	10.2	8.98	28.3	18.8	12.4	38.5	28.3
MAX	145	461	326	69	45	30	43	196	88	43	374	111
MIN	23	26	19	14	12	7.9	5.3	7.8	7.1	8.1	8.1	14
AC-FT	2090	5970	3740	1570	1130	624	534	1740	1120	763	2370	1690
CFSM	9.21	27.2	16.5	6.93	5.34	2.75	2.43	7.68	5.10	3.36	10.4	7.68
IN.	10.63	30.35	18.99	7.99	5.76	3.17	2.72	8.86	5.69	3.88	12.04	8.57

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 2000, BY WATER YEAR (WY)

MEAN	30.4	52.5	45.0	37.7	20.6	12.1	12.9	21.4	25.0	26.1	31.1	51.3
MAX	50.9	100	92.4	49.9	33.6	14.5	22.2	30.2	50.3	42.4	41.1	121
(WY)	1999	2000	1999	1996	1997	1997	1998	1996	1996	1996	1996	1996
MIN	20.4	20.1	17.4	25.6	14.8	10.0	8.98	11.7	12.2	12.4	18.7	26.0
(WY)	1997	1996	1998	2000	1998	1999	2000	1999	1997	2000	1997	1999

SUMMARY STATISTICS

FOR 1999 CALENDAR YEAR

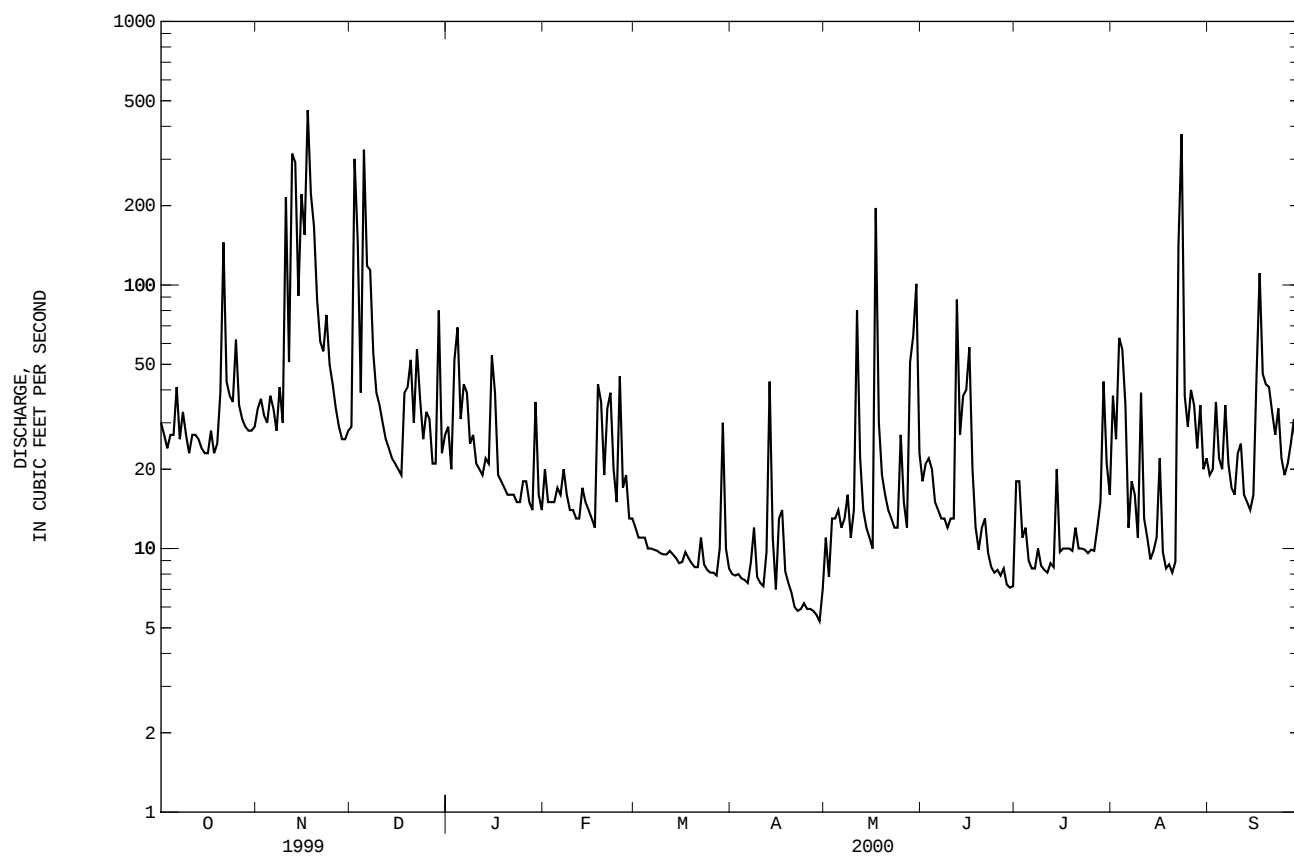
FOR 2000 WATER YEAR

WATER YEARS 1996 - 2000

ANNUAL TOTAL	12068.6	11769.7	
ANNUAL MEAN	33.1	32.2	30.5
HIGHEST ANNUAL MEAN			37.5
LOWEST ANNUAL MEAN			23.9
HIGHEST DAILY MEAN	461	461	1700
LOWEST DAILY MEAN	7.5	5.3	5.3
ANNUAL SEVEN-DAY MINIMUM	8.0	5.8	5.8
INSTANTANEOUS PEAK FLOW		2500	5110
INSTANTANEOUS PEAK STAGE		7.93	10.72
INSTANTANEOUS LOW FLOW		5.3	5.3
ANNUAL RUNOFF (AC-FT)	23940	23350	22100
ANNUAL RUNOFF (CFSM)	8.96	8.71	8.27
ANNUAL RUNOFF (INCHES)	121.67	118.65	112.34
10 PERCENT EXCEEDS	54	53	54
50 PERCENT EXCEEDS	23	19	18
90 PERCENT EXCEEDS	8.8	8.3	9.2

e Estimated

RIO FAJARDO BASIN
50070500 RIO FAJARDO ABOVE FAJARDO, PR--Continued



50070500 RIO FAJARDO ABOVE FAJARDO, PR--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1996 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: October 1995 to current year .

INSTRUMENTATION.-- USDH-48 sediment sampler and automatic sediment sampler since 1995.

REMARKS.-- Sediment samples were collected by a local observer on a weekly basis. During high flow events sediment samples were collected by hydrologic technician and automatic sediment sampler.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATION: Maximum daily mean, 1,020 mg/L September 21, 1998; Minimum daily mean, 1 mg/L several days.

SEDIMENT LOADS: Maximum daily mean, e5,320 tons (e4,830 tonnes) September 21, 1998; Minimum daily mean, 0.01 ton (0.01 tonne) several days.

EXTREMES FOR CURRENT YEAR 2000.--

SEDIMENT CONCENTRATION: Maximum daily mean, 367 mg/L November 12, 1999; Minimum daily mean, 1 mg/L several days.

SEDIMENT LOADS : Maximum daily mean, 512 tons (464 tonnes) November 12, 1999; Minimum daily mean 0.02 ton (0.02 tonne) several days.

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
OCTOBER			NOVEMBER			DECEMBER			
1	30	3	.34	34	12	1.4	29	1	.10
2	27	1	.10	37	9	1.0	301	104	294
3	24	2	.11	32	9	.78	148	57	52
4	27	6	.51	30	12	1.0	e39	e4	e.40
5	27	4	.45	38	20	2.1	e326	e101	e122
6	41	33	4.3	34	14	1.3	118	22	9.8
7	26	6	.43	28	11	.85	114	35	14
8	33	22	2.5	41	18	2.2	55	15	2.3
9	27	10	.74	e30	e12	e1.0	39	3	.37
10	23	9	.54	e215	e89	e76	35	1	.10
11	27	4	.29	e51	e22	e3.1	30	1	.08
12	27	1	.09	e315	e366	e512	e26	e1	e.07
13	26	2	.11	e292	e122	e196	e24	e1	e.06
14	24	2	.14	e91	e32	e8.4	e22	e1	e.06
15	23	3	.19	e221	e83	e64	e21	e1	e.06
16	23	4	.22	e155	e53	e42	20	1	.05
17	28	7	.62	e461	e202	e409	19	1	.05
18	23	6	.39	e222	e52	e29	39	24	4.8
19	25	7	.55	167	7	3.3	41	12	1.4
20	39	15	1.8	88	9	2.2	52	2	.48
21	145	41	20	61	6	1.0	30	7	.65
22	43	19	2.2	e56	e19	e3.7	57	11	2.0
23	38	16	1.6	e77	e16	e6.0	37	11	1.1
24	36	13	1.3	e50	e20	e2.9	26	7	.48
25	62	36	12	e42	e13	e1.5	33	9	.94
26	35	3	.31	e34	e1	e.13	31	17	1.5
27	31	4	.30	e29	e1	e.08	21	16	.87
28	29	10	.77	e26	e1	e.07	21	10	.55
29	28	19	1.5	e26	e1	e.07	80	60	38
30	28	16	1.2	28	1	.08	23	1	.08
31	29	13	.98	---	---	---	27	8	.65
TOTAL	1054	---	56.58	3011	---	1372.16	1884	---	549.00

RIO FAJARDO BASIN

50070500 RIO FAJARDO ABOVE FAJARDO, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JANUARY			FEBRUARY			MARCH			
1	29	11	.92	20	4	.20	12	3	.09
2	20	9	.47	15	7	.30	11	2	.06
3	52	16	2.7	15	11	.45	11	2	.07
4	69	34	12	15	13	.52	11	4	.12
5	31	8	.68	17	14	.65	10	7	.20
6	42	5	.90	16	16	.71	10	9	.26
7	39	11	1.1	20	18	.97	9.9	6	.15
8	25	14	.93	16	12	.52	9.8	3	.08
9	27	11	.85	14	7	.25	9.6	2	.06
10	21	8	.48	14	4	.15	9.5	2	.05
11	20	4	.21	13	4	.13	9.5	2	.05
12	19	2	.09	13	3	.12	9.8	2	.05
13	22	4	.32	17	3	.14	9.5	2	.05
14	21	6	.34	15	3	.12	9.2	2	.05
15	54	17	16	14	3	.10	8.8	2	.05
16	39	11	1.9	13	2	.08	8.9	2	.05
17	19	1	.06	12	2	.07	9.7	2	.06
18	18	1	.06	42	13	2.4	9.2	3	.06
19	17	2	.08	36	12	1.2	8.8	3	.06
20	16	2	.09	19	9	.46	8.5	3	.07
21	16	2	.09	34	13	2.9	8.5	3	.06
22	16	2	.08	39	15	2.0	11	2	.06
23	15	2	.08	20	7	.40	8.7	2	.05
24	15	2	.08	15	6	.26	8.3	3	.06
25	18	2	.09	45	17	3.4	8.1	3	.07
26	18	2	.09	17	7	.31	8.1	4	.09
27	15	2	.08	19	20	1.0	7.9	5	.10
28	14	2	.08	13	19	.67	10	5	.14
29	36	15	2.8	13	13	.43	30	13	2.3
30	16	7	.29	---	---	---	10	3	.08
31	14	5	.19	---	---	---	8.4	4	.09
TOTAL	793	---	44.13	571	---	20.91	314.7	---	4.79
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
APRIL			MAY			JUNE			
1	8.0	3	.07	11	4	.14	18	2	.09
2	7.9	3	.06	7.8	3	.06	21	2	.09
3	8.0	4	.10	13	4	.16	22	1	.09
4	7.7	3	.07	13	2	.09	20	1	.06
5	7.6	3	.05	14	2	.09	15	1	.04
6	7.4	2	.04	12	3	.08	14	1	.05
7	8.9	4	.11	13	4	.17	13	2	.06
8	12	5	.17	16	2	.10	13	2	.07
9	7.8	2	.04	11	2	.07	12	3	.09
10	7.4	1	.02	14	4	.17	13	3	.12
11	7.2	1	.02	80	25	12	13	4	.15
12	9.7	2	.06	22	8	.52	88	10	4.4
13	43	13	3.3	14	4	.15	27	5	.36
14	11	5	.16	12	3	.09	38	10	1.2
15	7.0	3	.05	11	2	.06	40	9	1.4
16	13	6	.26	10	2	.05	58	11	1.8
17	14	4	.19	196	82	209	20	6	.33
18	8.2	4	.08	30	9	.81	12	3	.11
19	7.4	3	.07	19	3	.18	9.9	2	.05
20	6.8	3	.05	16	2	.08	12	4	.16
21	6.0	3	.05	14	2	.07	13	5	.18
22	5.8	3	.05	13	2	.07	9.6	3	.08
23	5.9	3	.05	12	2	.06	8.5	3	.06
24	6.2	3	.05	12	2	.06	8.1	2	.05
25	5.9	3	.04	27	7	.66	8.3	2	.05
26	5.9	2	.04	15	7	.29	7.9	2	.04
27	5.8	2	.03	12	5	.16	8.4	2	.05
28	5.6	2	.03	51	21	4.6	7.3	3	.05
29	5.3	2	.03	64	13	3.5	7.1	3	.06
30	7.0	2	.05	101	19	16	7.2	4	.08
31	---	---	---	23	5	.29	---	---	---
TOTAL	269.4	---	5.39	878.8	---	249.83	564.3	---	11.42

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

RIO FAJARDO BASIN

50070500 RIO FAJARDO ABOVE FAJARDO, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

SILT AND CLAY PERCENT OF SUSPENDED SEDIMENT

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT					
06...	0740	48	83	11	98
06...	1340	33	8	.71	82
08...	0700	40	52	5.6	23
21...	0700	164	22	9.7	85
NOV					
12...	2037	340	1260	1160	66
19...	0324	192	10	5.2	92
DEC					
22...	1029	133	26	9.3	78
JAN					
04...	1414	293	113	89	96
16...	0124	105	24	6.8	98
FEB					
22...	0700	55	14	2.1	93
25...	0700	152	43	18	74
MAR					
29...	1255	103	42	12	93
MAY					
11...	1529	377	106	108	92
28...	1209	133	35	13	99
30...	0924	198	45	24	72
JUN					
12...	1534	304	42	34	82
16...	1159	149	21	8.4	81
JUL					
29...	2010	108	40	12	46
AUG					
03...	1914	105	36	10	71
04...	2114	568	303	465	98
16...	0529	127	16	5.5	90
22...	1719	118	19	6.1	89
23...	0004	1110	337	1010	91
23...	1124	144	12	4.7	89
SEP					
16...	1834	169	40	18	83

50071000 RIO FAJARDO NEAR FAJARDO, PR

LOCATION.--Lat 18°17'56", long 65°41'42", Hydrologic Unit 21010005, on left bank off Highway 976, 0.1 mi (0.2 km) upstream from Highway 977 bridge, 0.3 mi (0.5 km) downstream from Quebrada Peñón, 1.1 mi (1.8 km) northeast of Colonia Paraiso, and 3.3 mi (5.3 km) southwest of Fajardo.

DRAINAGE AREA.--14.9 mi² (38.6 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--1960-61 (occasional low and peak-flow measurements only), March 1961 to current year.

GAGE.--Water-stage recorder. Datum of gage is 137.60 ft (41.940 m) above mean sea level. Due to flood damage, gage datum has had changes as follows: Mar. 24, 1961 to May 5, 1969, 138.95 ft (42.352 m); May 6, 1969 to Mar. 16, 1972, 135.05 ft (41.163 m); Mar. 17, 1972 to Mar 25, 1975, 138.60 ft (42.245 m).

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Low flow affected by diversions for water supply about 0.25 mi (0.40 km) upstream from gaging station (estimated mean daily discharges is 9.0 ft³/s (0.255 m³/s). Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	158	98	59	67	30	18	6.2	43	34	19	39	24
2	81	237	946	43	25	15	5.7	17	35	22	29	28
3	54	110	660	120	23	14	5.7	19	37	15	107	154
4	78	69	82	245	22	13	5.1	26	29	12	97	46
5	74	155	1230	81	22	13	4.3	23	22	8.5	101	32
6	317	120	337	91	25	13	4.1	21	18	7.4	20	69
7	91	53	228	112	28	12	4.4	16	16	6.6	29	38
8	209	220	196	57	24	12	9.8	26	15	8.2	31	30
9	92	100	134	60	23	11	5.0	14	14	7.4	17	24
10	55	863	113	42	20	12	3.6	14	15	6.6	84	38
11	99	162	93	38	18	12	2.9	158	14	6.0	27	44
12	82	1060	80	35	17	11	4.4	57	188	6.2	18	25
13	101	1010	71	39	22	10	63	25	53	6.4	13	21
14	85	282	62	39	20	13	17	20	61	24	14	20
15	55	745	57	57	19	14	5.6	15	44	8.9	14	19
16	54	e492	53	129	18	15	12	12	107	6.7	41	92
17	130	1540	50	37	16	16	12	597	36	6.7	15	303
18	62	654	82	35	63	14	9.5	132	18	8.1	11	162
19	65	552	90	31	55	12	5.3	50	13	7.0	11	120
20	242	244	142	28	30	11	4.8	25	15	7.8	9.8	131
21	728	143	75	28	47	10	3.5	20	23	6.5	10	71
22	172	180	152	25	71	13	2.7	18	12	5.5	279	58
23	235	264	86	26	31	12	2.9	15	10	6.3	1420	63
24	95	134	62	26	24	10	3.8	12	9.1	5.7	100	42
25	350	94	73	28	72	8.1	3.4	29	9.8	5.2	61	32
26	95	68	82	29	25	7.3	3.1	21	9.0	6.0	67	40
27	67	51	50	24	28	7.2	3.4	12	9.6	5.0	64	51
28	54	43	50	23	19	8.2	3.8	73	8.3	7.0	39	86
29	49	42	232	57	18	45	2.6	161	7.1	44	60	61
30	44	42	55	28	---	14	4.1	514	7.2	26	28	41
31	48	---	59	24	---	7.6	---	61	---	9.4	29	---
TOTAL	4121	9827	5741	1704	855	403.4	223.7	2246	889.1	327.1	2884.8	1965
MEAN	133	328	185	55.0	29.5	13.0	7.46	72.5	29.6	10.6	93.1	65.5
MAX	728	1540	1230	245	72	45	63	597	188	44	1420	303
MIN	44	42	50	23	16	7.2	2.6	12	7.1	5.0	9.8	19
AC-FT	8170	19490	11390	3380	1700	800	444	4450	1760	649	5720	3900
CFSM	8.92	22.0	12.4	3.69	1.98	.87	.50	4.86	1.99	.71	6.25	4.40
IN.	10.29	24.53	14.33	4.25	2.13	1.01	.56	5.61	2.22	.82	7.20	4.91

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 2000, BY WATER YEAR (WY)

MEAN	95.6	113	85.7	50.8	39.1	34.6	42.5	88.0	58.4	49.9	58.9	89.9
MAX	260	328	237	150	80.4	109	129	399	166	132	159	421
(WY)	1971	2000	1976	1996	1982	1987	1963	1979	1962	1969	1979	1989
MIN	19.1	26.0	14.9	15.4	10.8	9.70	4.02	17.7	10.0	10.6	9.70	18.9
(WY)	1969	1994	1990	1977	1983	1977	1984	1973	1985	2000	1994	1994

SUMMARY STATISTICS

FOR 1999 CALENDAR YEAR

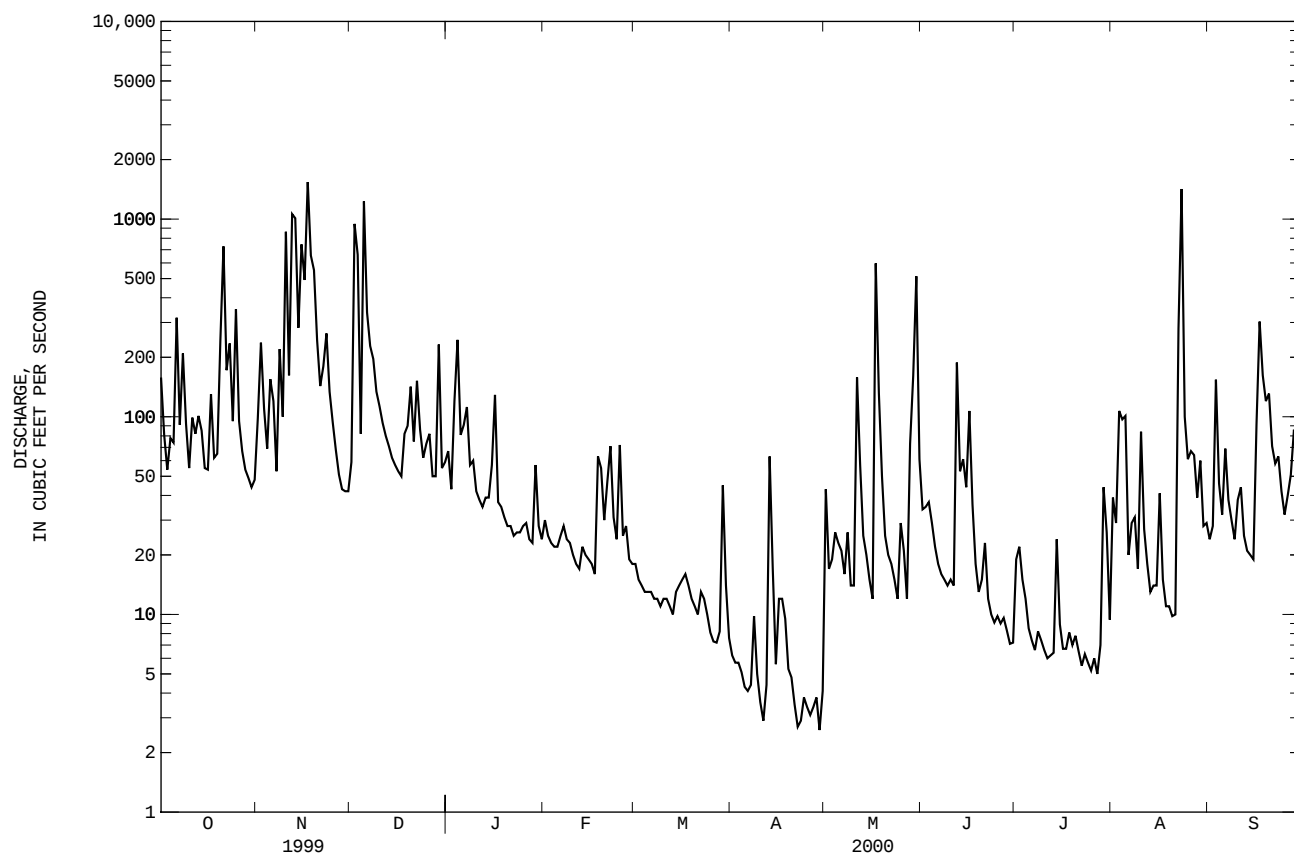
FOR 2000 WATER YEAR

WATER YEARS 1961 - 2000

ANNUAL TOTAL	37193.5	31187.1	
ANNUAL MEAN	102	85.2	67.6
HIGHEST ANNUAL MEAN			140
LOWEST ANNUAL MEAN			19.0
HIGHEST DAILY MEAN	1540	Nov 17	8800
LOWEST DAILY MEAN	5.2	May 3	1.0
ANNUAL SEVEN-DAY MINIMUM	6.9	Apr 16	3.3
INSTANTANEOUS PEAK FLOW			5800
INSTANTANEOUS PEAK STAGE			9.23
INSTANTANEOUS LOW FLOW			21700
ANNUAL RUNOFF (AC-FT)	73770	61860	.86
ANNUAL RUNOFF (CFSM)	6.84	5.72	4.54
ANNUAL RUNOFF (INCHES)	92.86	77.86	61.64
10 PERCENT EXCEEDS	233	162	131
50 PERCENT EXCEEDS	47	29	32
90 PERCENT EXCEEDS	11	6.7	11

e Estimated

RIO FAJARDO BASIN
50071000 RIO FAJARDO NEAR FAJARDO, PR--Continued



50071000 RIO FAJARDO NEAR FAJARDO, PR--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1960 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: October 1982 to September 1986 and October 1995 to current year.

INSTRUMENTATION.--USDH-48 sediment sampler and automatic sediment sampler since October 1983.

EXTREMES FOR PERIOD OF RECORD.--

SEDIMENT CONCENTRATION: Maximum daily mean, 2,210 mg/L October 6, 1985; Minimum daily mean, 1 mg/L several days.

SEDIMENT LOADS: Maximum daily mean, 22,100 tons (20,000 tonnes) October 6, 1985; Minimum daily mean, 0.01 tons (0.01 tonnes) May 06, 1996 and several days during water year 2000.

EXTREMES FOR CURRENT YEAR 2000.--

SEDIMENT CONCENTRATION: Maximum daily mean, 567 mg/L November 17, 1999; Minimum daily mean, 1 mg/L several days.

SEDIMENT LOADS: Maximum daily mean, 3,150 tons (2,858 tonnes) November 17, 1999; Minimum daily mean, 0.01 tons (0.01 tonnes) several days.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD) UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)
DEC 07...	1125	225	108	7.1	23.0	5.5	7.2	83	<10	450
FEB 09...	1145	26	134	6.9	26.1	97	7.0	86	31	K64
APR 26...	1150	3.0	140	7.7	28.9	.5	8.5	110	<10	K50
AUG 31...	1330	31	110	8.2	31.1	.7	8.0	107	<10	K40
DATE	STREP- TOCOCCEI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS TOTAL (MG/L AS CAC03) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD MG/L AS CAC03 (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS- SOLVED (MG/L AS S04) (00945)
DEC 07...	480	24	5.17	2.76	8.6	.8	1.2	27	<1.0	2.7
FEB 09...	240	--	--	--	--	--	--	57	--	--
APR 26...	K45	36	7.38	4.19	12.7	.9	1.1	43	<1.0	3.8
AUG 31...	K140	28	6.36	3.01	9.9	.8	.9	33	--	3.5
DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDE (MG/L) (00530)	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)
DEC 07...	11.9	<.1	24.9	74	44.6	24	<.01	.3	.06	.45
FEB 09...	--	--	--	--	--	537	<.01	.1	.27	1.9
APR 26...	15.6	<.1	29.9	100	.81	<1	<.01	.1	.03	--
AUG 31...	11.1	<.1	24.5	79	6.55	<10	<.01	.1	.02	--
DATE	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	NITRO- GEN, TOTAL (MG/L AS N03) (71887)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV- ERABLE (UG/L AS B) (01022)	CADMIUM TOTAL UNFLTRD TOTAL (UG/L AS CD) (01027)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)
DEC 07...	.51	.85	3.8	.050	<3	23.8	E17	.2	<1	<20
FEB 09...	2.2	2.3	10.4	.350	--	--	--	--	--	--
APR 26...	<.20	--	--	<.020	<3	23.2	21	<.1	<1	<20
AUG 31...	<.20	--	--	<.020	--	--	--	--	--	--

RIO FAJARDO BASIN

50071000 RIO FAJARDO NEAR FAJARDO, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

[illegible][illegible][illegible][illegible]

RIO FAJARDO BASIN

50071000 RIO FAJARDO NEAR FAJARDO, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
OCTOBER			NOVEMBER			DECEMBER			
1	158	19	17	98	28	11	59	31	5.5
2	81	24	5.4	237	119	119	946	329	2470
3	54	18	2.6	110	81	25	660	226	938
4	78	41	9.3	69	33	6.3	82	29	6.6
5	74	35	14	155	50	27	1230	343	1680
6	317	133	215	120	52	19	337	128	157
7	91	43	12	53	21	3.0	228	97	82
8	209	57	46	220	75	87	196	50	29
9	92	8	1.5	100	45	16	134	12	4.4
10	55	21	3.2	863	371	1290	113	3	.93
11	99	36	10	162	79	37	93	3	.72
12	82	19	4.4	1060	350	2010	80	5	.97
13	101	41	16	1010	216	1140	71	7	1.4
14	85	56	16	282	58	60	62	10	1.7
15	55	77	12	745	266	750	57	5	.84
16	54	48	7.2	e492	e167	e416	53	2	.34
17	130	61	28	1540	567	3150	50	4	.48
18	62	28	5.0	654	236	457	82	28	10
19	65	24	7.3	552	190	295	90	37	9.9
20	242	100	100	244	116	78	142	71	31
21	728	245	543	143	64	25	75	25	5.0
22	172	40	28	180	71	50	152	60	31
23	235	52	76	264	98	144	86	20	4.6
24	95	40	10	134	63	26	62	8	1.3
25	350	218	652	94	35	9.3	73	15	3.4
26	95	26	7.5	68	19	3.6	82	34	8.0
27	67	9	1.6	51	6	.79	50	27	3.6
28	54	5	.67	43	5	.59	50	27	3.7
29	49	2	.31	42	7	.77	232	110	180
30	44	2	.24	42	10	1.2	55	21	3.2
31	48	7	1.0	---	---	---	59	25	4.3
TOTAL	4121	---	1852.22	9827	---	10257.55	5741	---	5678.88

RIO FAJARDO BASIN

50071000 RIO FAJARDO NEAR FAJARDO, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JANUARY			FEBRUARY			MARCH			
1	67	32	5.9	30	2	.17	18	4	.18
2	43	20	2.4	25	4	.25	15	2	.06
3	120	30	12	23	3	.22	14	1	.04
4	245	63	116	22	3	.19	13	1	.04
5	81	20	4.8	22	3	.20	13	1	.04
6	91	16	10	25	4	.25	13	1	.04
7	112	22	9.9	28	4	.32	12	1	.03
8	57	4	.58	24	5	.32	12	1	.05
9	60	4	.57	23	5	.31	11	2	.07
10	42	3	.37	20	5	.27	12	4	.12
11	38	3	.32	18	5	.25	12	4	.12
12	35	4	.40	17	6	.26	11	4	.12
13	39	7	.72	22	6	.38	10	4	.11
14	39	10	1.0	20	7	.37	13	4	.14
15	57	29	30	19	8	.39	14	3	.13
16	129	56	46	18	9	.42	15	3	.11
17	37	11	1.1	16	10	.42	16	2	.09
18	35	5	.46	63	34	7.7	14	2	.08
19	31	4	.33	55	15	2.4	12	3	.09
20	28	4	.31	30	17	1.6	11	3	.10
21	28	4	.30	47	23	7.8	10	4	.11
22	25	4	.27	71	29	6.9	13	5	.18
23	26	4	.26	31	9	.82	12	7	.20
24	26	4	.25	24	13	.87	10	8	.23
25	28	3	.25	72	15	5.7	8.1	8	.18
26	29	3	.24	25	4	.27	7.3	8	.15
27	24	3	.19	28	14	1.1	7.2	7	.14
28	23	3	.19	19	9	.47	8.2	6	.14
29	57	15	4.1	18	6	.30	45	21	4.5
30	28	3	.21	---	---	---	14	9	.36
31	24	2	.15	---	---	---	7.6	6	.13
TOTAL	1704	---	249.57	855	---	40.92	403.4	---	8.08
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
APRIL			MAY			JUNE			
1	6.2	4	.07	43	23	5.3	34	10	.97
2	5.7	3	.05	17	8	.43	35	7	.62
3	5.7	3	.05	19	9	.60	37	5	.53
4	5.1	4	.05	26	8	.64	29	4	.34
5	4.3	4	.05	23	2	.10	22	4	.22
6	4.1	5	.05	21	1	.08	18	3	.15
7	4.4	5	.06	16	2	.10	16	3	.12
8	9.8	5	.15	26	4	.25	15	2	.10
9	5.0	3	.04	14	6	.21	14	2	.08
10	3.6	3	.03	14	7	.29	15	2	.10
11	2.9	3	.02	158	49	50	14	3	.12
12	4.4	3	.04	57	19	4.0	188	63	79
13	63	25	12	25	7	.50	53	25	4.8
14	17	11	.77	20	7	.36	61	98	23
15	5.6	3	.05	15	6	.25	44	17	3.4
16	12	7	.28	12	5	.18	107	38	17
17	12	6	.23	597	117	848	36	8	.89
18	9.5	5	.15	132	49	27	18	4	.18
19	5.3	3	.04	50	9	1.5	13	3	.12
20	4.8	2	.03	25	6	.38	15	4	.24
21	3.5	2	.02	20	5	.27	23	13	.88
22	2.7	2	.02	18	4	.19	12	11	.35
23	2.9	2	.02	15	3	.13	10	10	.28
24	3.8	3	.03	12	3	.10	9.1	8	.19
25	3.4	3	.03	29	10	1.1	9.8	6	.15
26	3.1	2	.02	21	9	.63	9.0	4	.10
27	3.4	2	.01	12	5	.16	9.6	3	.08
28	3.8	1	.01	73	41	17	8.3	3	.07
29	2.6	1	.01	161	73	49	7.1	3	.06
30	4.1	2	.03	514	124	587	7.2	3	.05
31	---	---	---	61	16	2.7	---	---	---
TOTAL	223.7	---	14.41	2246	---	1598.45	889.1	---	134.19

RIO FAJARDO BASIN

50071000 RIO FAJARDO NEAR FAJARDO, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JULY			AUGUST			SEPTEMBER			
1	19	9	.79	39	19	2.7	24	2	.13
2	22	14	1.1	29	21	1.7	28	3	.26
3	15	9	.39	107	46	50	154	76	75
4	12	6	.18	97	51	42	46	24	3.3
5	8.5	6	.14	101	50	21	32	18	1.6
6	7.4	8	.15	20	9	.52	69	26	7.7
7	6.6	10	.17	29	14	1.4	38	4	.38
8	8.2	10	.23	31	17	1.4	30	3	.27
9	7.4	11	.22	17	9	.44	24	3	.20
10	6.6	12	.21	84	35	14	38	11	1.5
11	6.0	12	.20	27	9	.69	44	20	2.6
12	6.2	13	.21	18	2	.08	25	7	.51
13	6.4	11	.19	13	1	.04	21	3	.15
14	24	15	1.1	14	1	.05	20	2	.11
15	8.9	8	.19	14	2	.07	19	2	.11
16	6.7	5	.09	41	24	4.0	92	36	23
17	6.7	4	.06	15	10	.40	303	132	151
18	8.1	3	.06	11	4	.12	162	77	46
19	7.0	4	.07	11	2	.06	120	50	19
20	7.8	7	.15	9.8	2	.05	131	28	16
21	6.5	9	.16	10	2	.05	71	18	4.8
22	5.5	11	.17	279	81	261	58	19	3.2
23	6.3	9	.15	1420	273	2450	63	15	3.7
24	5.7	6	.10	100	14	3.7	42	19	2.2
25	5.2	5	.06	61	11	1.8	32	13	1.2
26	6.0	3	.05	67	30	5.8	40	12	1.3
27	5.0	4	.05	64	26	4.8	51	10	1.3
28	7.0	5	.09	39	16	1.6	86	35	11
29	44	13	2.9	60	23	5.1	61	34	6.3
30	26	12	1.1	28	2	.19	41	10	1.1
31	9.4	5	.12	29	1	.11	---	---	---
TOTAL	327.1	---	10.85	2884.8	---	2874.87	1965	---	384.92
YEAR	31187.1		23104.91						

e Estimated

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

SILT AND CLAY PERCENT OF SUSPENDED SEDIMENT

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
NOV					
10...	1227	2010	826	4490	97
DEC					
02...	1520	237	573	367	95
07...	1630	459	272	337	96
FEB					
29...	1630	17	6	.28	83
MAR					
29...	1630	95	24	6.2	74
MAY					
17...	1630	531	44	63	99

RIO FAJARDO BASIN

50071000 RIO FAJARDO NEAR FAJARDO, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM (70326)	SED. SUSP. FALL DIAM. % FINER THAN .004 MM (70327)	SED. SUSP. FALL DIAM. % FINER THAN .008 MM (70328)	
OCT 25...	1307	2890	1680	13100	42	54	68	
DATE		SED. SUSP. FALL DIAM. % FINER THAN .016 MM (70329)	SED. SUSP. FALL DIAM. % FINER THAN .031 MM (70330)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM (70332)	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM (70333)	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM (70334)	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM (70335)
OCT 25...	79	90	96	99	100	100	100	

50072500 RIO FAJARDO BELOW FAJARDO, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 18°19'35", long 65°38'47", 1.2 mi (1.9 km) southwest of Playa de Fajardo, and 0.5 mi (0.8 km) east of Fajardo plaza.

DRAINAGE AREA.--23.4 mi² (60.6 km²).

PERIOD OF RECORD.--Water years 1974 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)
DEC 07...	1430	253	97	7.3	23.7	21	7.1	83	<10	K790
FEB 09...	1400	33	190	7.3	28.8	2.3	8.5	108	<10	K140
APR 26...	1430	5.0	201	7.6	30.2	2.8	7.9	105	<10	270
AUG 31...	1130	41	139	7.9	29.6	.3	8.1	105	<10	K150
DATE	STREP-TOCOCCHI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD-NESS TOTAL (MG/L AS CAC03) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLT RD FET FIELD MG/L AS CAC03 (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)
DEC 07...	500	35	8.25	3.56	11.4	.8	1.3	36	<1.0	4.1
FEB 09...	K10	--	--	--	--	--	--	48	--	--
APR 26...	<10	52	11.8	5.48	17.2	1	1.1	36	<1.0	4.3
AUG 31...	K90	36	8.27	3.71	11.7	.8	1.1	57	--	4.1
DATE	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SI02) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)
DEC 07...	15.2	<.1	24.6	90	61.5	10	<.01	.4	.08	.19
FEB 09...	--	--	--	--	--	7	<.01	.1	.03	--
APR 26...	21.8	<.1	23.2	107	1.44	1	<.01	.04	.05	.15
AUG 31...	13.8	<.1	23.0	100	11.0	<10	<.01	.03	.02	--
DATE	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, TOTAL (MG/L AS NO3) (71887)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLT RD TOTAL (UG/L AS CD) (01027)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)
DEC 07...	.27	.68	3.0	.030	<3	40.1	E18	.3	<1	<20
FEB 09...	<.20	--	--	<.020	--	--	--	--	--	--
APR 26...	.20	.23	1.0	<.020	<3	48.3	29	<.1	<1	<20
AUG 31...	<.20	--	--	<.020	--	--	--	--	--	--

RIO FAJARDO BASIN

50072500 RIO FAJARDO BELOW FAJARDO, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

[illegible]

50074950 QUEBRADA GUABA NEAR NAGUABO, PR

LOCATION---Lat 18°17'02", long 65°47'20", Hydrologic Unit 21010005, on right bank, off Highway 191 at El Yunque Caribbean National Forest, 4.8 mi (7.7 km) southeast of Campamento Eliza Colberg, 1.3 mi (2.1 km) southeast of Mt. Britton, 2.0 mi (3.2 km) northwest of Pico del Este and 7.3 mi (11.7 km) southeast of Rio Grande Plaza.

DRAINAGE AREA--0.12 mi² (0.31 km²).

PERIOD OF RECORD--June 1992 to current year.

GAGE--Water-stage recorder. Elevation of gage is 2,100 ft (640 m), from topographic map.

REMARKS--Records fair except those for estimated daily discharges, which are poor. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.49	.57	.56	e.44	.38	.44	.17	e.16	e.09	.27	.32	.25
2	.56	.68	1.9	e.70	.34	.39	.17	e.13	e.10	1.0	.23	.31
3	.39	.47	2.1	e1.6	e.41	e.37	.18	e.14	e.12	.47	.58	.26
4	.41	.43	.91	.97	e.44	e.37	.18	e.14	e.12	.41	1.6	e.28
5	.46	.51	8.0	.44	e.42	e.36	.16	e.16	e.09	.33	.46	e.36
6	.55	.49	1.6	.71	e.40	e.34	.15	e.16	e.09	.34	.24	e.40
7	.69	.41	2.9	.67	e.44	e.32	.16	e.40	e.09	.32	.28	e.26
8	.52	.70	1.4	.60	e.40	e.33	.15	e.23	e.09	.29	.28	.22
9	.44	.57	.98	.52	e.38	e.30	.15	e.18	e.09	.23	.21	.21
10	.38	1.4	.90	.51	e.38	e.29	.14	e.16	e.09	.22	.54	.47
11	.39	.96	.83	.49	e.37	e.34	.14	e2.2	e.20	.20	.26	.42
12	.44	2.9	.76	.49	e.37	e.29	.18	e.39	1.2	.20	.22	.28
13	.39	1.7	.73	.67	e.38	e.26	.95	e.28	.21	.25	.18	.22
14	.35	1.1	.71	e.67	e.38	e.24	.22	e.15	.18	.36	.22	.22
15	.33	1.3	.68	e1.8	e.35	e.23	.13	e.11	.16	.22	.23	.22
16	.32	1.4	.64	e1.3	e.34	e.26	e.20	e.10	.34	.21	.38	.44
17	.69	4.4	.62	e.70	e.42	e.28	e.21	.12	e.20	.29	e.23	2.3
18	.35	4.4	.89	e.61	e.98	e.24	e.14	.12	e.19	.26	e.17	.70
19	.49	2.3	1.2	e.57	e1.1	e.22	e.14	e.10	e.20	.26	.17	1.2
20	1.1	1.2	e1.9	e.53	e.55	e.21	e.15	e.09	e.21	.23	.15	.51
21	2.6	1.1	e.91	.46	e3.2	e.27	e.14	e.08	e.17	.21	.15	1.5
22	.58	.85	e1.2	.44	e1.9	e.28	e.13	e.07	e.15	.18	1.9	.90
23	.59	.99	e.94	.49	e.70	e.19	e.14	.07	e.15	.18	4.5	1.4
24	2.8	.78	e.75	.45	e.71	e.17	e.18	.07	e.16	.17	.37	.74
25	2.7	.79	e.71	.43	2.8	e.17	e.15	.10	e.15	.16	.34	.61
26	.57	.70	e.69	.38	.62	e.16	e.13	e.08	.15	.14	.38	.58
27	.49	.66	e.55	.46	.52	e.15	e.13	e.07	.13	.17	.30	.48
28	.45	.63	e.65	.40	.48	.18	e.12	e1.4	.12	.16	.30	.53
29	.43	.61	e.77	.78	.46	.36	e.14	e2.0	.12	.65	.45	.36
30	.41	.56	e.56	.44	---	.20	e.65	e1.1	.11	.28	.22	.35
31	.43	---	e.46	.38	---	.19	---	e.10	---	.18	.24	---
TOTAL	21.79	35.56	38.40	20.10	20.62	8.40	5.98	10.66	5.47	8.84	16.10	16.98
MEAN	.70	1.19	1.24	.65	.71	.27	.20	.34	.18	.29	.52	.57
MAX	2.8	4.4	8.0	1.8	3.2	.44	.95	2.2	1.2	1.0	4.5	2.3
MIN	.32	.41	.46	.38	.34	.15	.12	.07	.09	.14	.15	.21
AC-FT	43	71	76	40	41	17	12	21	11	18	32	34
CFSM	5.86	9.88	10.3	5.40	5.93	2.26	1.66	2.87	1.52	2.38	4.33	4.72
IN.	6.75	11.02	11.90	6.23	6.39	2.60	1.85	3.30	1.70	2.74	4.99	5.26

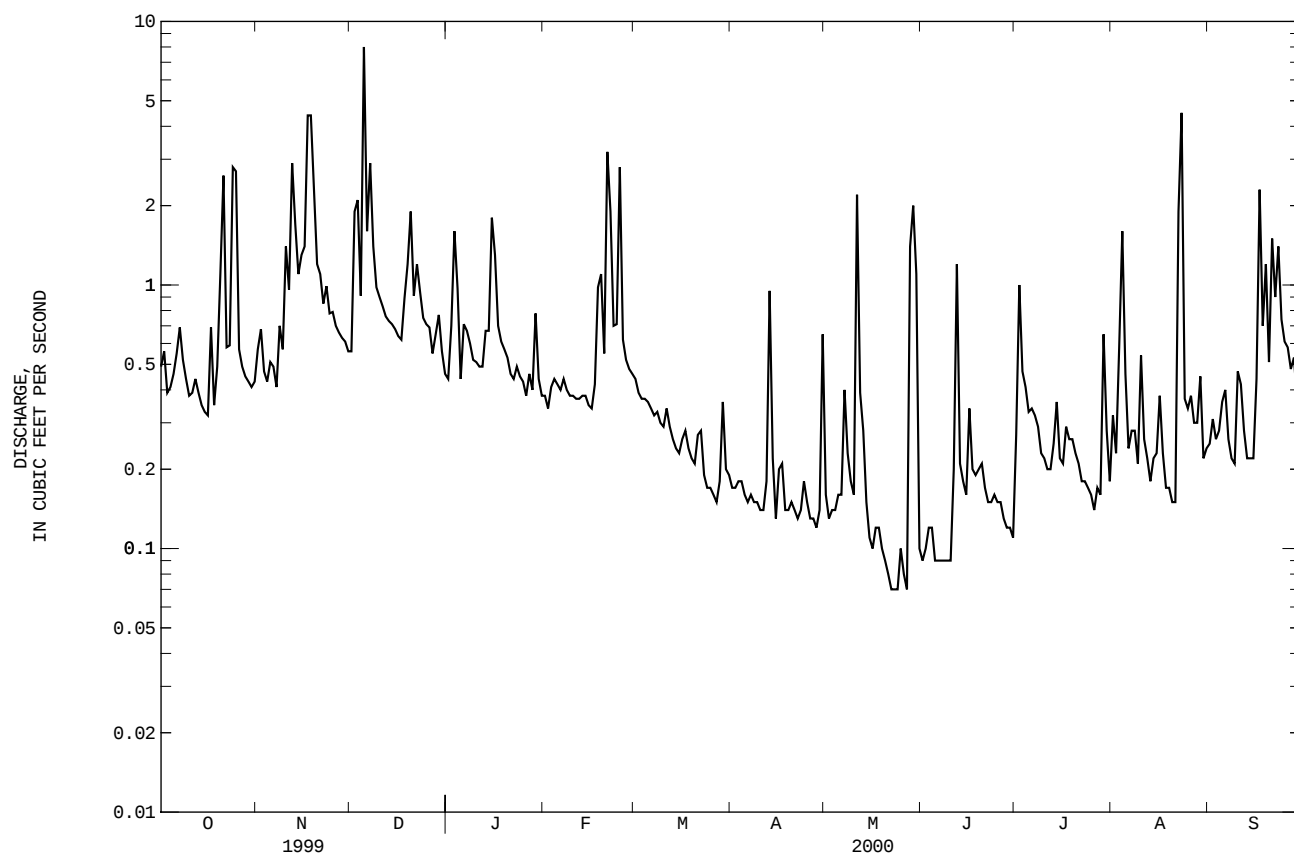
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 2000, BY WATER YEAR (WY)

MEAN	.49	.62	.58	.52	.44	.25	.25	.36	.34	.46	.43	.64
MAX	.89	1.19	1.24	.67	.71	.30	.33	.61	.50	1.18	.61	1.42
(WY)	1998	2000	2000	1997	2000	1995	1994	1993	1996	1992	1999	1996
MIN	.25	.32	.22	.28	.30	.16	.20	.13	.18	.22	.19	.34
(WY)	1993	1995	1994	1994	1998	1998	2000	1999	2000	1994	1993	1993

SUMMARY STATISTICS	FOR 1999 CALENDAR YEAR	FOR 2000 WATER YEAR	WATER YEARS 1992 - 2000
ANNUAL TOTAL	191.70	208.90	
ANNUAL MEAN	.53	.57	.44
HIGHEST ANNUAL MEAN			.57
LOWEST ANNUAL MEAN			.32
HIGHEST DAILY MEAN	8.0	Dec 5	23
LOWEST DAILY MEAN	.06	May 31	.06
ANNUAL SEVEN-DAY MINIMUM	.07	May 27	.07
INSTANTANEOUS PEAK FLOW		76	104
INSTANTANEOUS PEAK STAGE		10.32	10.78
INSTANTANEOUS LOW FLOW			.05
ANNUAL RUNOFF (AC-FT)	380	414	320
ANNUAL RUNOFF (CFSM)	4.38	4.76	3.68
ANNUAL RUNOFF (INCHES)	59.43	64.76	50.01
10 PERCENT EXCEEDS	.96	1.2	.77
50 PERCENT EXCEEDS	.35	.38	.30
90 PERCENT EXCEEDS	.12	.14	.15

e Estimated

RIO BLANCO BASIN
50074950 QUEBRADA GUABA NEAR NAGUABO, PR--Continued



50075000 RIO ICACOS NEAR NAGUABO, PR

LOCATION.--Lat 18°16'38", long 65°47'09", Hydrologic Unit 21010005, in Caribbean National Forest, at Highway 191, at El Yunque, 1.6 mi (2.6 km) upstream from confluence with Río Cubuy, 2.8 mi (4.5 km) north of Florida, and 5.3 mi (8.5 km) northwest of Naguabo Plaza.

DRAINAGE AREA.--1.26 mi² (3.26 km²).

PERIOD OF RECORD.--July 1945 to March 1953 (operated by Puerto Rico Water Resources Authority), annual maximum, water years 1953-62, annual low-flow measurements 1962-66, October 1979 to current year.

GAGE.--Water-stage recorder, crest-stage gage and sharp-crested weir. Elevation of gage is 2,020 ft (616 m), from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	27	16	20	11	11	5.0	6.1	8.0	18	13	7.8
2	18	45	73	18	8.4	9.4	4.9	5.0	9.1	28	9.3	7.9
3	9.6	25	50	52	8.8	8.9	5.1	6.4	9.1	e12	19	8.9
4	18	17	16	38	9.1	e7.6	4.8	6.3	e11	e9.5	40	8.0
5	16	29	201	26	8.4	e7.5	4.8	7.3	7.3	e8.1	16	9.4
6	24	e25	58	33	7.8	e7.6	4.7	5.7	6.9	e6.5	6.9	13
7	24	e17	87	28	9.3	e7.3	4.9	19	6.7	e6.2	7.7	e7.1
8	21	32	32	20	8.1	e6.8	4.9	7.2	6.7	e6.0	6.9	6.4
9	14	e20	24	16	7.5	e6.4	4.7	5.3	6.3	e5.3	5.6	e6.3
10	10	60	22	14	7.2	e6.6	4.6	5.0	6.1	e5.2	19	12
11	12	27	20	13	6.9	e6.7	4.6	79	7.3	e4.9	7.2	12
12	17	96	18	12	6.8	e6.7	6.0	12	47	e5.6	6.1	6.5
13	12	53	17	16	7.3	e7.3	38	8.0	9.6	e6.1	5.8	e6.3
14	10	21	17	14	7.2	e7.0	8.1	6.4	8.3	e9.8	7.0	5.7
15	9.1	30	16	32	6.8	e7.3	5.6	5.5	15	e5.7	e8.2	6.2
16	9.0	29	15	e23	6.5	e6.2	9.2	5.1	30	e5.4	e30	18
17	21	127	15	e16	7.3	e6.4	10	9.9	13	e6.7	e20	62
18	10	100	26	12	21	e7.0	6.0	6.2	9.7	e5.8	e13	22
19	18	66	34	11	26	e6.4	6.0	5.3	8.0	e5.6	e7.3	32
20	44	29	34	10	8.9	e5.9	6.2	4.8	8.4	e5.8	e5.7	15
21	101	26	23	9.8	49	e6.1	5.3	4.7	7.2	e5.6	e4.6	28
22	16	17	34	9.4	41	e6.3	5.1	4.5	7.0	e5.0	49	11
23	14	30	29	9.2	15	e5.7	5.2	4.5	6.5	e5.1	149	24
24	65	17	20	9.1	14	e5.6	5.8	4.3	6.5	e5.5	13	11
25	68	18	20	9.1	61	e5.4	5.3	10	6.6	e6.1	14	9.3
26	e23	14	18	8.9	18	e5.8	4.9	5.2	7.1	e4.6	18	11
27	e19	14	14	9.4	16	e5.4	4.8	4.7	6.1	6.4	11	12
28	e17	13	17	8.5	13	6.2	4.7	29	5.4	4.5	10	17
29	e17	13	27	19	13	13	5.4	38	5.0	22	15	9.9
30	e15	13	14	9.3	---	5.6	8.8	33	4.9	7.3	7.7	8.9
31	e16	---	16	7.9	---	5.1	---	e9.0	---	5.3	9.8	---
TOTAL	700.7	1050	1023	533.6	430.3	216.2	203.4	362.4	295.8	243.6	554.8	414.6
MEAN	22.6	35.0	33.0	17.2	14.8	6.97	6.78	11.7	9.86	7.86	17.9	13.8
MAX	101	127	201	52	61	13	38	79	47	28	149	62
MIN	9.0	13	14	7.9	6.5	5.1	4.6	4.3	4.9	4.5	4.6	5.7
AC-FT	1390	2080	2030	1060	854	429	403	719	587	483	1100	822
CFSM	17.9	27.8	26.2	13.7	11.8	5.54	5.38	9.28	7.83	6.24	14.2	11.0
IN.	20.69	31.00	30.20	15.75	12.70	6.38	6.01	10.70	8.73	7.19	16.38	12.24

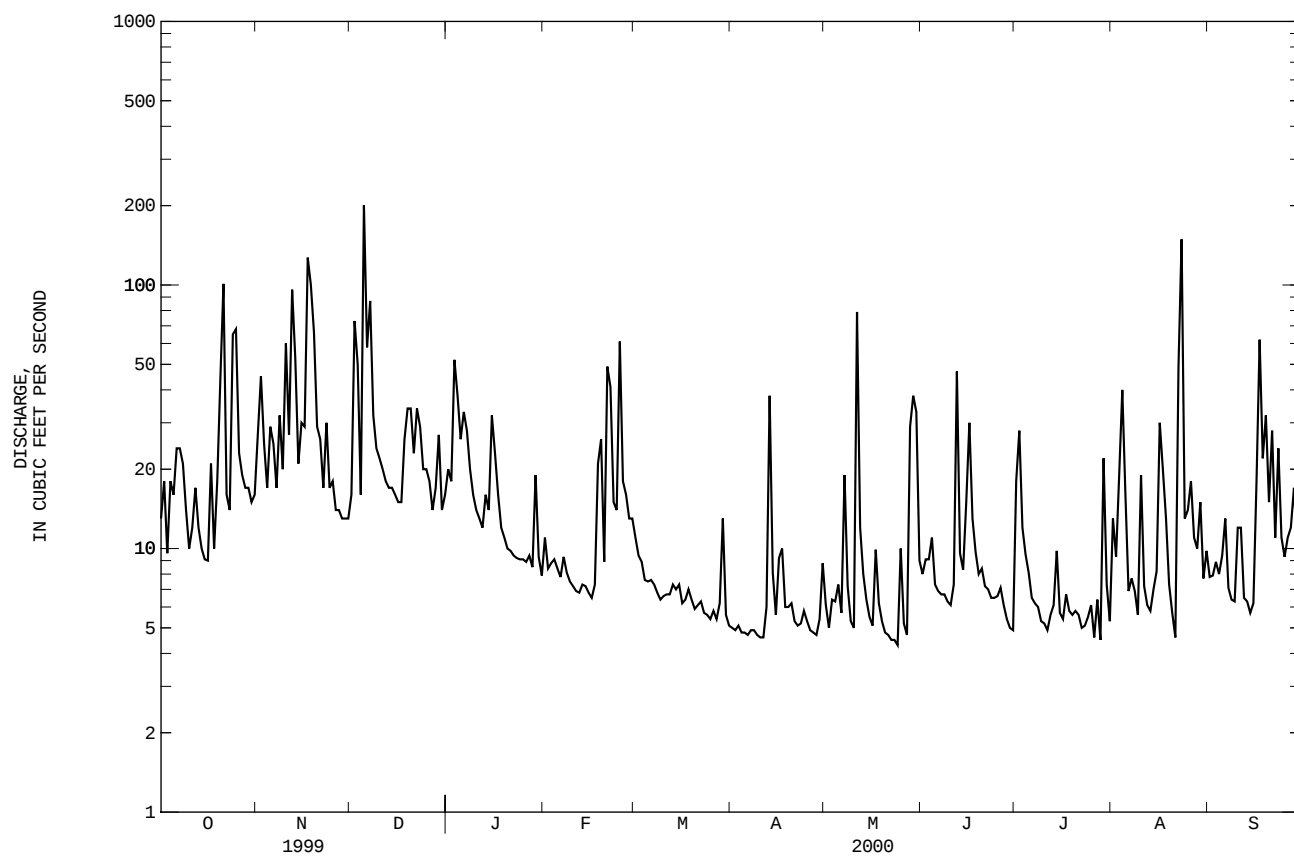
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1945 - 2000, BY WATER YEAR (WY)

	MEAN	16.1	19.8	16.6	14.4	14.2	10.3	11.8	15.9	12.5	13.5	15.2	18.3
MAX	32.1	46.8	37.7	28.4	44.0	26.2	34.4	26.4	23.7	38.9	24.5	51.7	
(WY)	1986	1951	1999	1996	1950	1949	1950	1948	1996	1952	1945	1996	
MIN	4.78	8.00	4.99	6.65	4.86	3.90	4.77	6.06	5.19	7.21	5.91	7.03	
(WY)	1993	1948	1990	1994	1983	1951	1984	1999	1985	1994	1993	1986	

SUMMARY STATISTICS	FOR 1999 CALENDAR YEAR	FOR 2000 WATER YEAR	WATER YEARS 1945 - 2000
ANNUAL TOTAL	6052.3	6028.4	
ANNUAL MEAN	16.6	16.5	14.9
HIGHEST ANNUAL MEAN			21.0
LOWEST ANNUAL MEAN			8.00
HIGHEST DAILY MEAN	201	201	737
LOWEST DAILY MEAN	3.5	4.3	1.5
ANNUAL SEVEN-DAY MINIMUM	3.7	4.7	2.0
INSTANTANEOUS PEAK FLOW		760	2860
INSTANTANEOUS PEAK STAGE		5.61	8.96
INSTANTANEOUS LOW FLOW			2.5
ANNUAL RUNOFF (AC-FT)	12000	11960	10770
ANNUAL RUNOFF (CFSM)	13.2	13.1	11.8
ANNUAL RUNOFF (INCHES)	178.69	177.98	160.36
10 PERCENT EXCEEDS	32	32	30
50 PERCENT EXCEEDS	11	9.4	8.5
90 PERCENT EXCEEDS	5.0	5.3	4.7

e Estimated

RIO BLANCO BASIN
50075000 RIO ICACOS NEAR NAGUABO, PR--Continued



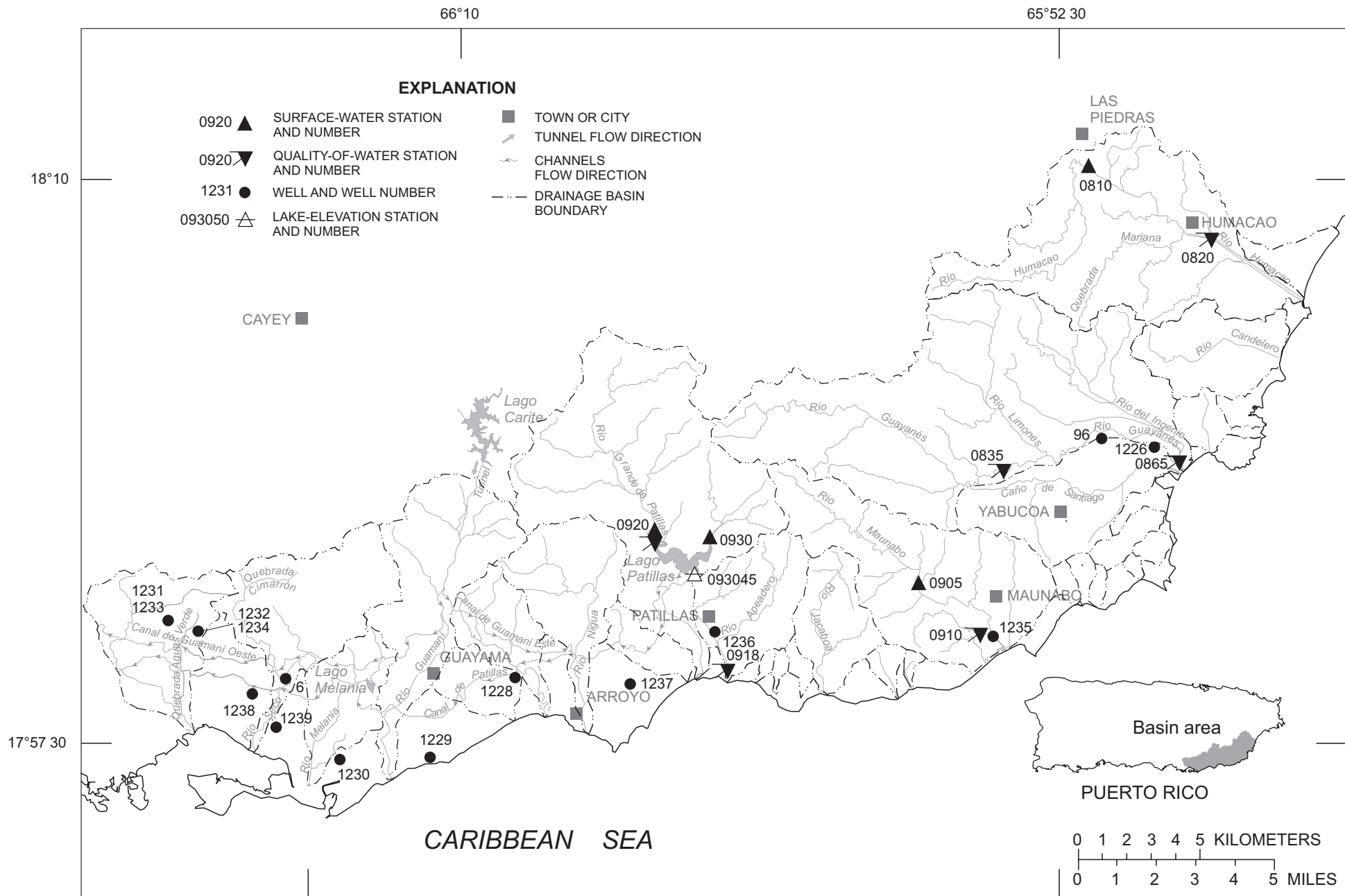


Figure 20. Southeastern river basins -- Río Humacao to Quebrada Aguas Verdes basins.

RIO HUMACAO BASIN

50081000 RIO HUMACAO AT LAS PIEDRAS, PR

LOCATION.--Lat 18°10'27", long 65°52'11", Hydrologic unit 21010005, on left bank at downstream side of bridge on Highway 921, 0.6 mi (1.0 km) southeast of junction with Highway 30, 0.8 mi (1.3 km) downstream from Quebrada Blanca and 0.8 mi (1.3 km) south of Las Piedras.

DRAINAGE AREA.--6.65 mi² (17.22 km²).

PERIOD OF RECORD.--September 1958 to December 1967 (monthly discharge measurements), July 1974 to September 1977, October 1987 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 260 ft (79 m), from topographic map. Prior to July 1974, crest-stage gage at different datum. July 1974 to September 1977 at site 90 ft (27 m) upstream at present datum.

REMARKS.--Records fair except those above 1,000 ft³/s (28.3 m³/s), which are poor. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	26	35	22	17	12	8.0	7.5	12	9.2	10	15
2	25	21	210	20	14	11	7.9	6.9	11	9.8	6.9	13
3	18	37	79	28	14	11	8.1	7.0	10	9.1	6.2	20
4	46	28	40	24	16	11	7.8	6.6	10	7.4	9.3	12
5	26	37	184	39	14	11	9.9	6.7	9.3	7.3	6.1	30
6	120	48	75	46	13	11	7.9	6.6	8.8	6.8	4.9	30
7	49	27	44	39	15	11	7.6	6.2	8.5	7.0	5.5	15
8	35	22	38	25	14	10	8.3	6.5	8.2	8.0	5.5	14
9	64	80	35	22	13	10	7.2	6.3	8.0	6.9	5.2	13
10	27	374	33	21	13	9.8	7.2	7.1	8.2	6.3	7.2	16
11	26	69	32	20	12	9.7	6.8	146	8.1	6.2	9.4	44
12	28	75	30	20	12	10	7.1	31	51	8.0	5.5	14
13	34	259	29	19	13	9.7	7.4	13	29	7.1	4.8	12
14	25	61	28	19	13	9.6	16	10	13	9.8	4.8	12
15	22	74	27	18	12	9.3	8.6	9.3	20	7.2	7.3	11
16	21	65	26	19	12	9.4	7.7	8.6	14	6.4	9.3	11
17	32	376	26	18	11	9.2	8.2	34	12	6.7	5.5	28
18	29	415	26	17	12	9.1	8.1	23	10	15	4.9	62
19	25	113	40	17	13	8.7	11	14	9.8	10	5.7	20
20	44	76	37	17	12	8.5	30	11	9.3	8.6	4.8	20
21	45	57	26	16	12	8.5	8.9	9.4	9.5	7.6	4.5	30
22	29	50	27	16	14	8.2	9.8	8.8	8.5	7.0	7.6	16
23	24	45	24	16	20	7.8	8.3	7.6	7.8	7.4	277	27
24	22	42	24	15	54	8.3	11	7.3	7.7	6.9	17	22
25	110	39	24	16	27	7.9	8.0	7.7	8.5	6.7	20	15
26	29	37	23	16	14	7.7	7.5	7.2	10	6.4	56	14
27	36	35	23	15	13	7.5	7.0	11	10	5.9	16	132
28	24	34	23	16	12	9.5	6.9	19	8.0	5.6	21	49
29	21	34	25	16	13	13	8.5	100	7.1	15	20	26
30	23	33	22	15	---	9.0	9.1	39	7.2	15	12	35
31	24	---	23	14	---	8.1	---	16	---	6.9	49	---
TOTAL	1106	2689	1338	641	444	296.5	275.8	600.3	354.5	253.2	628.9	778
MEAN	35.7	89.6	43.2	20.7	15.3	9.56	9.19	19.4	11.8	8.17	20.3	25.9
MAX	120	415	210	46	54	13	30	146	51	15	277	132
MIN	18	21	22	14	11	7.5	6.8	6.2	7.1	5.6	4.5	11
AC-FT	2190	5330	2650	1270	881	588	547	1190	703	502	1250	1540
CFSM	5.37	13.5	6.49	3.11	2.30	1.44	1.38	2.91	1.78	1.23	3.05	3.90
IN.	6.19	15.04	7.48	3.59	2.48	1.66	1.54	3.36	1.98	1.42	3.52	4.35

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 - 2000, BY WATER YEAR (WY)

	MEAN	33.1	40.2	31.2	21.3	16.4	11.7	9.69	14.0	17.0	19.5	20.5	37.3
MAX	77.5	126	112	37.5	22.2	16.4	15.1	42.2	41.1	38.1	34.7	121	
(WY)	1999	1988	1988	1999	1997	1989	1997	1992	1996	1993	1996	1996	
MIN	12.8	13.4	11.5	10.5	11.0	8.87	5.88	7.26	5.91	7.95	9.45	10.0	
(WY)	1995	1996	1992	1995	1977	1996	1977	1990	1977	1990	1974	1990	

SUMMARY STATISTICS

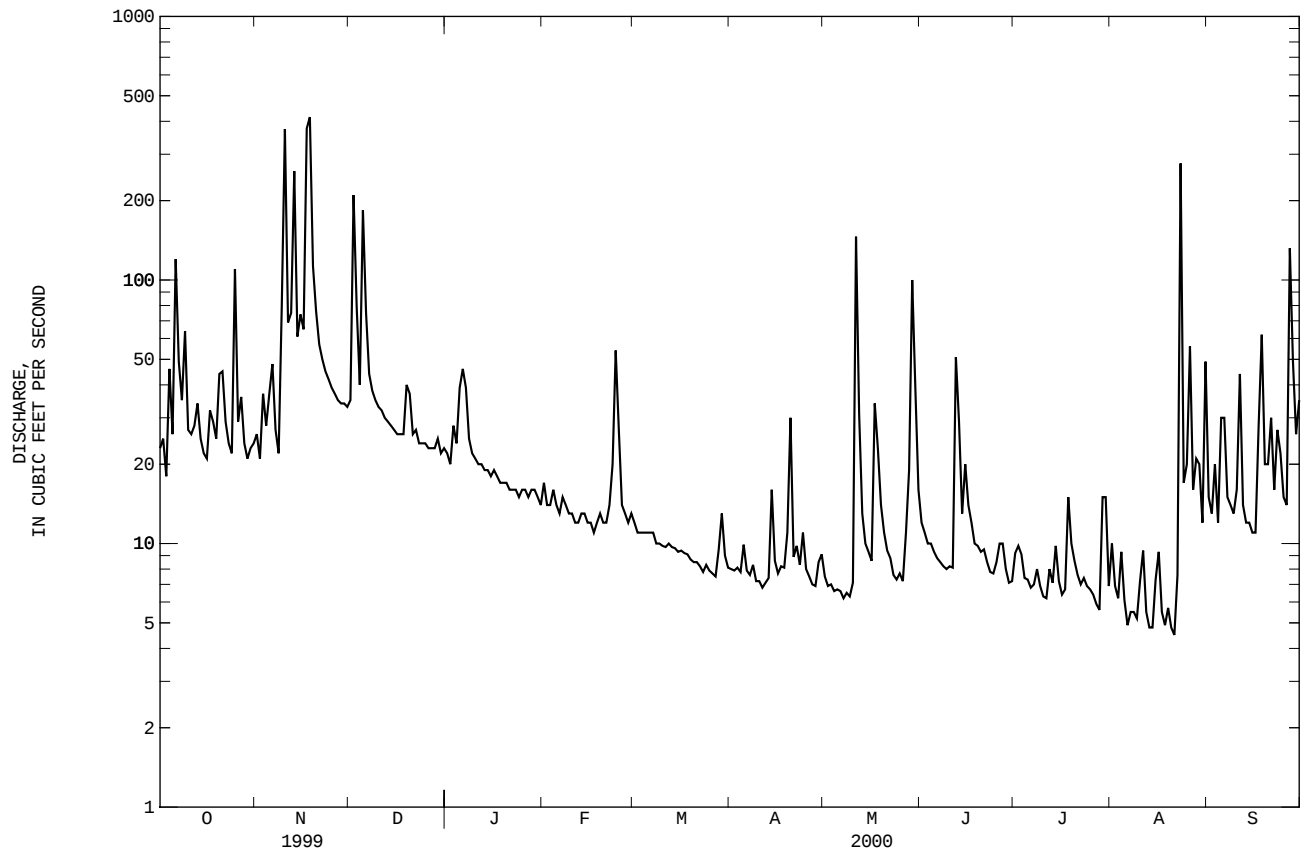
FOR 1999 CALENDAR YEAR

FOR 2000 WATER YEAR

WATER YEARS 1974 - 2000

ANNUAL TOTAL	10640.3	9405.2	
ANNUAL MEAN	29.2	25.7	22.8
HIGHEST ANNUAL MEAN			37.6
LOWEST ANNUAL MEAN			12.1
HIGHEST DAILY MEAN	415	Nov 18	2010
LOWEST DAILY MEAN	5.5	May 31	2.2
ANNUAL SEVEN-DAY MINIMUM	5.8	May 27	2.8
INSTANTANEOUS PEAK FLOW			1480
INSTANTANEOUS PEAK STAGE			4.96
ANNUAL RUNOFF (AC-FT)	21110	18660	16520
ANNUAL RUNOFF (CFSM)	4.38	3.86	3.43
ANNUAL RUNOFF (INCHES)	59.52	52.61	46.60
10 PERCENT EXCEEDS	48	45	34
50 PERCENT EXCEEDS	18	14	14
90 PERCENT EXCEEDS	8.0	7.0	7.3

RIO HUMACAO BASIN
50081000 RIO HUMACAO AT LAS PIEDRAS, PR--Continued



RIO HUMACAO BASIN

50082000 RIO HUMACAO AT HIGHWAY 3 AT HUMACAO, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 18°08'49", long 65°49'37", at bridge on Highway 3, 300 ft (91 m) downstream from Quebrada Mariana, and 0.4 mi (0.6 km) south of Humacao.

DRAINAGE AREA.--17.3 mi² (44.8 km²).

PERIOD OF RECORD.--Water years 1958-66, 1969 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECA, 0.7 UM-MF (COLS./100 ML) (31625)	STREP-TOCOCCI, KF AGAR (COLS. PER 100 ML) (31673)
OCT 05...	1150	43	265	7.7	29.8	24	7.4	97	<10	K7300	550
NOV 29...	0840	58	270	7.2	23.5	6.1	8.6	101	12	2000	600
FEB 24...	1200	20	311	7.6	27.1	26	7.5	93	<10	54000	5100
APR 18...	1330	10	379	7.7	31.6	2.5	7.8	105	<10	520	290
AUG 18...	1130	5.4	397	7.8	30.0	2.5	6.7	88	<10	K1700	290

DATE	HARD-NESS TOTAL (MG/L AS CAC03) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CAC03) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)
OCT 05...	78	20.8	6.24	19.2	.9	2.5	82	--	7.9	22.1
NOV 29...	90	24.0	7.40	20.5	.9	1.8	85	<1.0	9.2	23.8
FEB 24...	--	--	--	--	--	--	95	--	--	--
APR 18...	100	27.2	7.97	27.0	1	1.6	107	<1.0	11.1	38.2
AUG 18...	110	30.8	9.07	29.7	1	1.2	116	--	9.4	41.4

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SI02) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)
OCT 05...	.1	32.9	161	18.7	31	.57	.01	.6	.09	--
NOV 29...	<.1	40.4	178	27.7	4	.79	.01	.8	.03	.18
FEB 24...	--	--	--	--	21	.61	.01	.6	.35	.75
APR 18...	.1	41.6	219	5.98	6	.32	.01	.3	.06	.16
AUG 18...	.1	41.3	233	3.39	<10	.21	.01	.2	.05	--

DATE	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, TOTAL (MG/L AS NO3) (71887)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	CADMIUM UNFLTRD TOTAL (UG/L AS CD) (01027)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)
OCT 05...	<.20	--	--	.100	--	--	--	--	--	--
NOV 29...	.21	1.0	4.5	.050	8	76.3	E17	<.1	<1	<20
FEB 24...	1.1	1.7	7.6	.120	--	--	--	--	--	--
APR 18...	.22	.55	2.4	.040	<3	65.2	34	<.1	<1	<20
AUG 18...	<.20	--	--	.040	--	--	--	--	--	--

RIO HUMACAO BASIN

50082000 RIO HUMACAO AT HIGHWAY 3 AT HUMACAO, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

[illegible]

RIO GUAYANES BASIN

50083500 RIO GUAYANES AT YABUCOA, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 18°03'33", long 65°54'03", at bridge on Highway 182, 1.4 mi (2.2 km) west-northwest of Yabucoa plaza.

DRAINAGE AREA.--17.2 mi² (44.6 km²).

PERIOD OF RECORD.--Water years 1958-62, 1968-70, 1980 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

		DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (00340)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)
OCT 04...	1425	56	175	7.6	29.7	8.0	6.2	82	<10	K7000
NOV 29...	1125	91	176	6.5	24.0	7.1	7.8	93	<10	K800
FEB 29...	1445	27	186	7.4	23.6	6.0	8.1	95	<10	570
APR 17...	1430	21	186	7.6	27.0	5.5	7.0	88	<10	220
AUG 29...	1400	33	186	7.4	29.3	3.0	6.7	87	<10	K1500
DATE	STREP-TOCOCCEI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD-NESS TOTAL (MG/L AS CAC03) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CAC03) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)
OCT 04...	K110	50	12.9	4.43	13.2	.8	1.6	61	--	4.0
NOV 29...	720	51	13.2	4.51	15.0	.9	1.2	59	<1.0	4.6
FEB 29...	420	--	--	--	--	--	--	67	--	--
APR 17...	560	52	13.0	4.68	14.4	.9	1.7	62	<1.0	4.9
AUG 29...	370	52	13.1	4.78	14.8	.9	1.9	59	--	4.0
DATE	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SI02) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)
OCT 04...	13.0	.1	36.3	122	18.4	16	<.01	.3	.05	--
NOV 29...	13.9	<.1	39.8	128	31.4	7	<.01	.6	.03	.18
FEB 29...	--	--	--	--	--	7	<.01	.3	.02	--
APR 17...	15.9	.1	38.4	131	7.24	9	<.01	.4	.05	--
AUG 29...	13.2	<.1	36.0	123	11.0	10	<.01	.3	.04	.27
DATE	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, TOTAL (MG/L AS NO3) (71887)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)
OCT 04...	<.20	--	--	.050	--	--	--	--	--	--
NOV 29...	.21	.83	3.7	.040	<3	50.6	E13	<.1	<1	<20
FEB 29...	<.20	--	--	.040	--	--	--	--	--	--
APR 17...	<.20	--	--	.020	<3	46.4	18	<.1	<1	<20
AUG 29...	.31	.64	2.8	.060	--	--	--	--	--	--

RIO GUAYANES BASIN

50083500 RIO GUAYANES AT YABUCOA, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

[illegible]

RIO GUAYANES BASIN

50086500 RIO GUAYANES ABOVE MOUTH AT PLAYA DE GUAYANES, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 18°03'45", long 65°49'42", at old railroad crossing, 0.2 mi (0.3 km) from mouth, 0.4 mi (0.6 km) west of Playa de Guayanés, and 3.5 mi (5.6 km) northeast of Yabucoa plaza.

DRAINAGE AREA.--34.0 mi² (88.1 km²).

PERIOD OF RECORD.--Water years 1974 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI KF AGAR (COLS. PER 100 ML) (31673)
OCT 04...	1630	183	7.8	29.0	15	6.5	85	<10	K680	360
DEC 08...	0830	255	6.5	23.0	62	5.2	60	20	K900	4000
FEB 29...	1550	267	7.8	26.8	20	7.8	97	<10	450	320
APR 18...	1130	304	7.6	25.6	13	6.6	80	<10	580	K170
AUG 18...	1300	317	7.4	28.7	3.0	1.3	17	14	300	K36
DATE	HARD- NESS TOTAL (MG/L CAC03) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD MG/L AS CAC03 (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS- SOLVED (MG/L AS S04) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)
OCT 04...	74	18.8	6.51	26.1	1	4.2	77	--	6.0	23.8
DEC 08...	71	18.5	5.98	24.1	1	4.9	67	<1.0	15.2	26.1
FEB 29...	--	--	--	--	--	--	89	--	--	--
APR 18...	55	13.7	5.00	18.7	1	2.0	67	<1.0	6.9	20.0
AUG 18...	65	16.5	5.71	24.0	1	2.5	84	--	3.8	23.4
DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SI02) (00955)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)
OCT 04...	.2	36.5	168	14	--	<.01	.3	.09	.23	.32
DEC 08...	.1	31.8	167	76	.51	.02	.5	.11	.73	.84
FEB 29...	--	--	--	14	--	<.01	.2	.04	.22	.26
APR 18...	.2	38.3	145	14	--	<.01	.3	.05	.21	.26
AUG 18...	.1	36.0	162	18	--	<.01	.1	.03	.36	.39
DATE	NITRO- GEN, TOTAL (MG/L AS N) (00600)	NITRO- GEN, TOTAL (MG/L AS N03) (71887)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV- ERABLE (UG/L AS B) (01022)	CADMIUM TOTAL UNFLTRD TOTAL (UG/L AS CD) (01027)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)
OCT 04...	.67	3.0	.130	--	--	--	--	--	--	--
DEC 08...	1.4	6.1	.170	<3	115	31	<.1	<1	<20	3540
FEB 29...	.49	2.2	.080	--	--	--	--	--	--	--
APR 18...	.56	2.5	.040	<3	61.8	25	<.1	<1	<20	1030
AUG 18...	.50	2.2	.100	--	--	--	--	--	--	--

[illegible]

RIO MAUNABO BASIN

50090500 RIO MAUNABO AT LIZAS, PR

LOCATION.--Lat 18°01'38", long 65°56'24",Hydrologic Unit 21010005, on right bank,off Highway 759 at Lizas, about 1.0 mi (1.6 km) downstream from Quebrada Coroco, and about 3.0 mi (4.8 km) northwest of Maunabo.

DRAINAGE AREA.--5.38 mi² (13.93 km²).

PERIOD OF RECORD.--February 1971 to January 1985, February 1991 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 230 ft (70 m), from topographic map.

REMARKS.--Records poor. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40	18	23	14	12	6.5	4.1	4.2	e9.4	e4.2	e6.1	e7.9
2	27	17	22	15	9.4	6.1	4.1	3.3	e8.0	e4.2	e5.8	e6.5
3	19	44	21	20	8.7	5.9	4.3	16	e7.0	e8.0	e6.4	e6.4
4	16	23	20	16	8.4	5.9	3.9	28	e8.0	e4.7	e31	e6.2
5	15	23	73	48	8.1	5.9	6.6	5.7	e6.8	e4.7	e13	e6.9
6	15	38	37	46	7.9	5.9	4.3	4.6	e6.0	e4.4	5.9	e7.2
7	13	22	26	36	10	5.7	4.2	3.8	e5.6	e4.2	6.0	e20
8	32	29	22	20	9.8	5.6	3.9	4.4	e5.4	e4.7	6.4	e11
9	30	128	20	17	8.3	5.6	3.9	3.9	e5.4	e4.5	5.5	e7.0
10	16	400	19	15	7.8	5.4	3.8	3.7	e5.8	e4.5	e8.2	e22
11	14	127	18	14	7.6	5.2	3.5	180	e5.4	e5.4	e6.6	e103
12	14	142	17	14	7.5	5.2	3.8	24	e64	e8.1	e5.9	e11
13	45	e282	17	14	9.4	5.4	3.5	9.5	13	e6.8	e6.4	e7.9
14	20	85	16	13	9.0	5.3	5.2	e5.3	e7.6	e21	e11	e6.8
15	16	70	16	13	7.7	4.9	5.0	e4.9	e6.8	e7.0	e9.5	e6.3
16	15	66	15	13	7.3	4.8	5.4	e4.6	18	e5.2	e24	e9.1
17	16	292	15	12	7.2	4.7	5.5	96	10	e5.3	e14	e62
18	15	146	16	12	11	4.7	4.9	19	6.0	e6.6	e6.7	e70
19	14	80	27	11	11	4.7	22	54	e5.2	e5.3	e7.6	e17
20	29	64	33	11	8.0	4.4	7.2	20	e4.9	e5.0	e6.0	e15
21	26	53	18	11	7.4	4.4	4.6	9.7	e4.4	e4.2	e5.8	e16
22	17	46	18	10	8.0	4.3	4.0	e7.4	e4.2	e4.2	e40	14
23	16	41	17	10	7.3	4.2	4.3	e6.2	e4.2	e4.8	e253	13
24	14	37	16	9.9	8.1	4.4	5.4	e6.0	e3.9	e4.4	e18	12
25	40	34	17	10	9.2	4.5	4.4	e7.0	e4.2	e4.2	e13	12
26	27	31	15	12	6.8	4.8	3.7	e6.2	e5.8	e4.5	e41	10
27	17	29	14	9.6	6.7	4.6	3.5	e6.6	e5.5	e4.5	e19	82
28	16	27	16	9.4	7.2	5.6	3.4	e8.6	e4.1	e4.7	e13	50
29	15	26	27	11	6.7	6.2	3.6	43	e3.9	e24	e11	24
30	15	25	16	9.1	---	4.7	4.0	33	e3.9	e18	e8.8	21
31	18	---	15	8.5	---	4.3	---	e14	---	e7.3	e8.5	---
TOTAL	642	2445	662	484.5	243.5	159.8	150.0	642.6	252.4	208.6	623.1	663.2
MEAN	20.7	81.5	21.4	15.6	8.40	5.15	5.00	20.7	8.41	6.73	20.1	22.1
MAX	45	400	73	48	12	6.5	22	180	64	24	253	103
MIN	13	17	14	8.5	6.7	4.2	3.4	3.3	3.9	4.2	5.5	6.2
AC-FT	1270	4850	1310	961	483	317	298	1270	501	414	1240	1320
CFSM	3.85	15.1	3.97	2.91	1.56	.96	.93	3.85	1.56	1.25	3.74	4.11
IN.	4.44	16.91	4.58	3.35	1.68	1.10	1.04	4.44	1.75	1.44	4.31	4.59

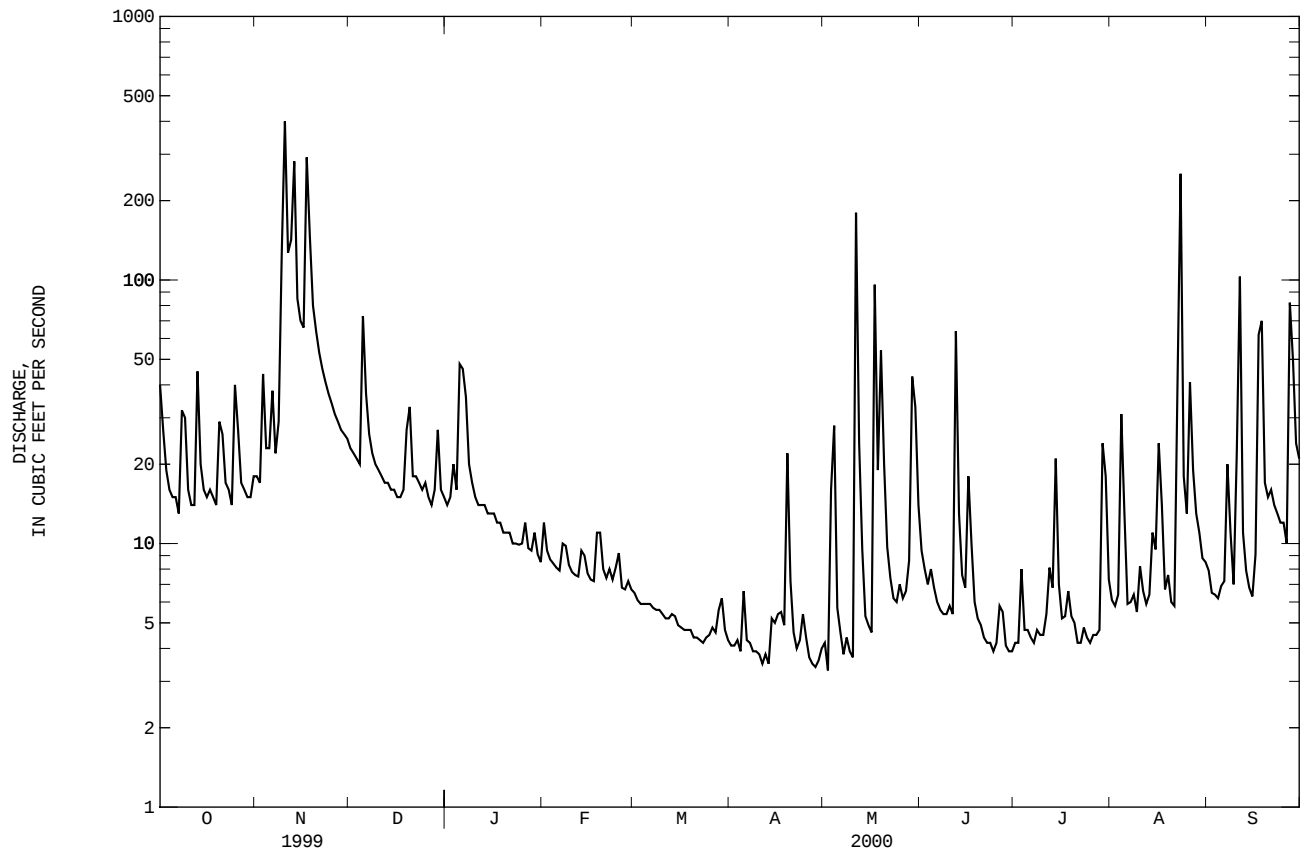
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1971 - 2000, BY WATER YEAR (WY)

	MEAN	28.5	33.3	19.3	15.3	12.6	9.80	7.43	12.9	17.0	16.6	22.7	29.4
MAX	52.6	88.9	48.1	40.2	24.5	18.9	13.4	25.1	47.1	40.2	131	94.6	
(WY)	1979	1978	1999	1998	1982	1976	1998	1979	1979	1993	1979	1996	
MIN	10.4	7.46	8.74	7.79	6.10	4.32	3.92	4.46	4.40	3.70	6.18	7.99	
(WY)	1994	1982	1994	1981	1979	1979	1979	1999	1974	1974	1974	1980	

SUMMARY STATISTICS	FOR 1999 CALENDAR YEAR	FOR 2000 WATER YEAR	WATER YEARS 1971 - 2000
ANNUAL TOTAL	7544.2	7176.7	
ANNUAL MEAN	20.7	19.6	18.8
HIGHEST ANNUAL MEAN			36.7
LOWEST ANNUAL MEAN			10.8
HIGHEST DAILY MEAN	400	Nov 10	2480
LOWEST DAILY MEAN	3.2	Jun 1	2.2
ANNUAL SEVEN-DAY MINIMUM	3.4	May 28	3.7
INSTANTANEOUS PEAK FLOW			2070
INSTANTANEOUS PEAK STAGE			9.71
ANNUAL RUNOFF (AC-FT)	14960	14230	17.46
ANNUAL RUNOFF (CFSM)	3.84	3.64	3.50
ANNUAL RUNOFF (INCHES)	52.16	49.62	47.55
10 PERCENT EXCEEDS	38	37	34
50 PERCENT EXCEEDS	11	9.3	11
90 PERCENT EXCEEDS	4.2	4.3	5.2

e Estimated

RIO MAUNABO BASIN
50090500 RIO MAUNABO AT LIZAS, PR--Continued



RIO MAUNABO BASIN

50091000 RIO MAUNABO AT MAUNABO, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 18°00'24", long 65°54'19", at bridge on Highway 3, 0.4 mi (0.6 km) southwest of Maunabo plaza, and 1.3 mi (2.1 km) upstream from mouth.

DRAINAGE AREA.--12.4 mi² (32.1 km²).

PERIOD OF RECORD.--Water years 1958-66, 1975 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

		DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD) (UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)
OCT 04...	1150	33	237	7.7	30.5	4.3	7.2	95	<10	530
DEC 08...	1055	44	254	6.9	24.2	9.5	6.7	79	<10	K1500
FEB 29...	1230	14	285	7.5	25.0	3.3	9.7	117	<10	260
APR 17...	1130	11	276	7.8	30.7	3.0	7.3	96	<10	230
AUG 29...	1200	22	239	7.8	30.8	1.8	6.7	89	<10	510
DATE	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD-NESS TOTAL (MG/L AS CAC03) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CAC03) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)
OCT 04...	240	72	17.6	6.72	17.8	.9	1.3	74	--	10.2
DEC 08...	640	78	19.1	7.22	19.4	1	1.4	77	<1.0	11.2
FEB 29...	340	--	--	--	--	--	--	90	--	--
APR 17...	330	84	20.0	8.19	20.0	.9	1.0	90	<1.0	10.6
AUG 29...	160	71	17.1	6.84	18.6	1	1.2	71	--	8.5
DATE	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SI02) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)
OCT 04...	20.1	.1	36.8	155	13.8	11	<.01	.5	.04	--
DEC 08...	22.1	.1	39.4	166	19.8	23	<.01	.9	.02	.22
FEB 29...	--	--	--	--	--	2	<.01	.3	.02	--
APR 17...	25.1	.1	37.5	177	5.22	8	<.01	.1	.05	--
AUG 29...	18.5	.1	36.0	149	8.95	<10	<.01	.4	.04	--
DATE	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, TOTAL (MG/L AS N03) (71887)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)
OCT 04...	<.20	--	--	.050	--	--	--	--	--	--
DEC 08...	.24	1.1	5.0	.060	<3	36.7	169	<.1	<1	<20
FEB 29...	<.20	--	--	.040	--	--	--	--	--	--
APR 17...	<.20	--	--	.020	<3	43.6	29	<.1	<1	<20
AUG 29...	<.20	--	--	.040	--	--	--	--	--	--

RIO MAUNABO BASIN

50091000 RIO MAUNABO AT MAUNABO, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

[illegible]

RIO CHICO BASIN

50091800 RIO CHICO AT PROVIDENCIA, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 17°59'16", long 66°00'18", at flat low bridge 200 ft (61 m) south of Highway 3, 0.5 mi (0.8 km) above mouth, and 1.5 mi (2.4 km) southeast of Patillas plaza.

DRAINAGE AREA.--4.9 mi² (12.8 km²).

PERIOD OF RECORD.--Water years 1979 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	STREP-TOCOCCI, KF AGAR (COLS. PER 100 ML) (31673)
DEC 08...	1330	9.9	379	7.5	26.3	.8	6.2	77	21	K1200	3200
FEB 25...	1445	1.3	465	7.8	30.6	3.0	7.7	102	30	340	370
MAY 02...	1505	.60	655	7.9	32.1	1.9	5.8	80	62	K1000	850
AUG 28...	1410	14	454	7.8	31.0	1.0	5.8	77	27	K1800	260

DATE	HARD-NESS TOTAL (MG/L AS CAC03) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CAC03) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)
DEC 08...	100	23.7	10.3	31.8	1	2.0	125	<1.0	14.6	30.4
FEB 25...	--	--	--	--	--	--	153	--	--	--
MAY 02...	71	17.8	6.50	49.3	3	9.9	154	<1.0	24.7	56.3
AUG 28...	92	22.1	9.06	37.0	2	3.5	137	--	16.3	32.4

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SI02) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)
DEC 08...	.1	33.6	222	5.94	3	.42	.04	.5	3.60	.30
FEB 25...	--	--	--	--	3	.15	.51	.7	7.80	4.2
MAY 02...	<.1	26.6	283	.46	<10	.04	.47	.5	34.0	2.0
AUG 28...	.1	29.2	232	8.56	<10	.22	.30	.5	11.0	1.0

DATE	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, TOTAL (MG/L AS NO3) (71887)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)
DEC 08...	3.9	4.4	19.3	.310	<3	21.1	42	<.1	<1	<20
FEB 25...	12	13	56.0	1.50	--	--	--	--	--	--
MAY 02...	36	37	162	3.40	<3	6.6	163	<.1	<1	<20
AUG 28...	12	13	55.4	1.30	--	--	--	--	--	--

RIO GRANDE DE PATILLAS BASIN

50092000 RIO GRANDE DE PATILLAS NEAR PATILLAS, PR

LOCATION.--Lat 18°02'04", long 66°01'58",Hydrologic Unit 21010004, on left bank, off Highway 184, 1.2 mi (1.9 km) upstream from Lago Patillas Dam and 2.2 mi (3.5 km) northwest of Patillas.

DRAINAGE AREA.--18.3 mi² (47.4 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1959 to October 1965 (annual low-flow and occasional measurements only), January 1966 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 235 ft (72 m), from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	242	40	65	36	27	22	14	14	28	16	23	25
2	206	36	63	33	24	20	15	12	24	16	22	22
3	114	59	66	47	23	20	14	12	21	31	24	23
4	91	40	57	45	23	19	13	12	24	18	116	19
5	69	36	163	130	23	19	14	14	20	18	65	21
6	61	82	122	70	22	18	14	17	18	17	27	26
7	54	50	74	88	25	18	13	14	17	16	23	29
8	65	43	68	63	24	17	13	19	16	18	33	25
9	59	57	58	49	22	17	12	14	16	17	27	19
10	45	1030	53	43	21	16	12	15	17	17	27	42
11	41	420	49	39	20	16	12	116	16	17	24	420
12	46	962	46	36	20	16	12	37	188	31	19	58
13	76	e1200	44	34	22	16	12	19	47	26	18	35
14	53	421	42	33	23	16	15	16	23	81	17	27
15	39	217	40	33	20	16	14	15	20	28	20	23
16	35	239	38	40	19	15	17	14	58	20	24	40
17	50	1110	39	30	18	16	17	99	35	20	34	250
18	40	887	40	29	21	16	16	169	23	25	19	521
19	34	528	62	28	23	15	37	87	20	20	16	111
20	45	325	80	27	20	14	30	45	e19	19	15	73
21	59	211	47	26	18	14	17	27	e17	16	14	65
22	41	156	49	26	19	14	15	23	16	16	27	51
23	36	121	42	25	18	14	15	19	16	18	759	43
24	32	104	38	25	83	15	19	18	15	17	78	39
25	209	94	36	29	77	15	15	21	16	16	54	33
26	84	85	35	36	27	15	14	19	22	17	103	31
27	50	79	33	27	23	16	13	20	21	17	69	222
28	44	75	39	25	22	19	13	25	16	18	44	165
29	39	71	115	28	22	23	13	49	15	91	33	89
30	36	68	46	26	---	16	15	195	15	67	27	63
31	37	---	40	23	---	15	---	42	---	28	31	---
TOTAL	2132	8846	1789	1229	749	518	465	1218	819	792	1832	2610
MEAN	68.8	295	57.7	39.6	25.8	16.7	15.5	39.3	27.3	25.5	59.1	87.0
MAX	242	1200	163	130	83	23	37	195	188	91	759	521
MIN	32	36	33	23	18	14	12	12	15	16	14	19
AC-FT	4230	17550	3550	2440	1490	1030	922	2420	1620	1570	3630	5180
CFSM	3.76	16.1	3.15	2.17	1.41	.91	.85	2.15	1.49	1.40	3.23	4.75
IN.	4.33	17.98	3.64	2.50	1.52	1.05	.95	2.48	1.66	1.61	3.72	5.31

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 2000, BY WATER YEAR (WY)

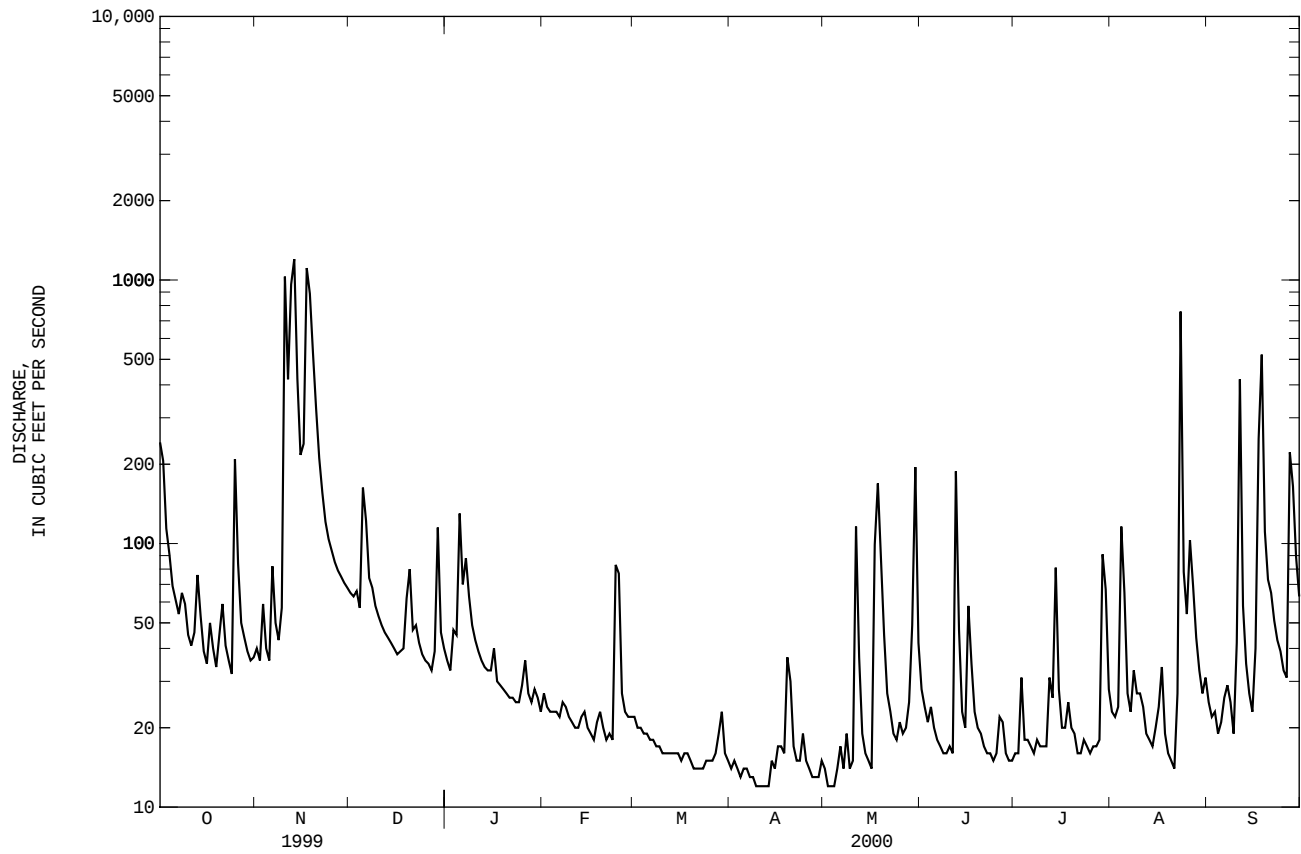
	MEAN	99.2	93.9	54.1	36.8	29.1	25.0	22.1	48.8	61.4	62.1	68.4	98.8
MAX	593	393	195	125	94.6	51.2	44.4	172	200	164	231	432	
(WY)	1971	1978	1999	1992	1982	1998	1998	1969	1979	1979	1979	1998	
MIN	14.4	16.1	8.63	14.0	7.09	6.74	9.98	10.3	13.1	14.1	17.2	12.1	
(WY)	1968	1968	1968	1973	1973	1968	1968	1974	1974	1974	1994	1967	

SUMMARY STATISTICS	FOR 1999 CALENDAR YEAR		FOR 2000 WATER YEAR		WATER YEARS 1966 - 2000	
ANNUAL TOTAL	25440.2		22999			
ANNUAL MEAN	69.7		62.8		57.8	
HIGHEST ANNUAL MEAN					117	
LOWEST ANNUAL MEAN					19.8	
HIGHEST DAILY MEAN	1200		1200		4780	
LOWEST DAILY MEAN	8.5		12		4.8	
ANNUAL SEVEN-DAY MINIMUM	9.5		12		5.0	
INSTANTANEOUS PEAK FLOW			2850		30900	
INSTANTANEOUS PEAK STAGE			9.46		.00	
INSTANTANEOUS LOW FLOW			11		4.6	
ANNUAL RUNOFF (AC-FT)	50460		45620		41910	
ANNUAL RUNOFF (CFSM)	3.81		3.43		3.16	
ANNUAL RUNOFF (INCHES)	51.71		46.75		42.95	
10 PERCENT EXCEEDS	129		100		97	
50 PERCENT EXCEEDS	33		26		28	
90 PERCENT EXCEEDS	14		15		12	

e Estimated

RIO GRANDE DE PATILLAS BASIN

50092000 RIO GRANDE DE PATILLAS NEAR PATILLAS, PR--Continued



RIO GRANDE DE PATILLAS BASIN

50092000 RIO GRANDE DE PATILLAS NEAR PATILLAS, PR.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1960 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

		DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)
DEC 09...	1145	58	156	7.6	23.9	.9	8.4	100	<10	K100
FEB 25...	1215	111	121	7.1	25.0	33	7.8	94	<10	K1600
MAY 02...	1200	12	187	8.6	28.1	.4	7.8	100	<10	K90
AUG 28...	1215	44	149	8.2	28.0	.4	7.8	100	<10	230
DATE	STREP-TOCOCCHI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD-NESS TOTAL (MG/L AS CAC03) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CAC03) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)
DEC 09...	770	48	11.2	4.92	13.2	.8	.4	64	<1.0	9.5
FEB 25...	2300	--	--	--	--	--	--	34	--	--
MAY 02...	K45	58	13.6	5.92	14.7	.8	.5	62	<1.0	11.8
AUG 28...	K130	44	10.4	4.48	12.2	.8	1.5	41	--	9.6
DATE	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SI02) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)
DEC 09...	12.1	<.1	25.8	116	18.2	4	<.01	.1	<.01	--
FEB 25...	--	--	--	--	--	31	<.01	.4	.03	.38
MAY 02...	12.0	.1	24.6	121	3.85	<10	<.01	<.1	.02	--
AUG 28...	11.0	<.1	22.8	97	11.5	<10	<.01	.2	.01	--
DATE	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, TOTAL (MG/L AS NO3) (71887)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)
DEC 09...	<.20	--	--	.040	<3	11.2	23	<.1	<1	<20
FEB 25...	.41	.77	3.4	.030	--	--	--	--	--	--
MAY 02...	<.20	--	--	<.020	<3	12.7	19	<.1	<1	<20
AUG 28...	<.20	--	--	<.020	--	--	--	--	--	--

RIO GRANDE DE PATILLAS BASIN

50093000 RIO MARIN NEAR PATILLAS, PR

LOCATION.--Lat 18°02'16", long 66°00'31", Hydrologic Unit 21010004, on left bank, 3.52 mi (5.66 km) southeast from Escuela Francisco Zenón Gedy, 1.45 mi (2.33 km) northeast from Lago Patillas Dam and 2.10 mi (3.38 km) north from Patillas town.

DRAINAGE AREA.--4.45 mi² (11.52 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February to September 2000.

GAGE.--Water-stage recorder. Elevation of gage is 295.3 ft (90 m), from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Gage-height satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1						5.5	4.1	4.9	7.8	7.4	6.3	8.5
2						5.3	9.9	4.3	7.3	7.2	6.4	7.4
3						5.3	4.8	7.1	6.8	7.5	8.2	7.0
4						5.2	4.3	9.1	13	6.8	24	6.6
5						5.2	5.5	6.2	9.0	6.6	13	8.2
6						5.3	4.4	5.1	8.2	6.4	7.0	8.9
7						5.2	4.3	4.6	8.0	6.4	6.5	78
8						5.0	4.1	4.6	8.1	6.7	6.5	22
9						4.9	4.2	4.5	8.0	6.3	5.9	11
10						4.8	4.2	4.6	8.7	6.2	7.7	20
11						4.6	4.2	37	7.9	6.2	6.1	139
12						4.6	4.3	10	e8.6	7.1	5.6	18
13						4.9	5.5	5.7	e11	7.3	5.4	13
14						4.7	5.6	4.9	9.1	10	6.0	11
15						4.7	5.0	4.7	11	6.6	6.5	9.8
16						4.7	6.4	4.5	26	6.2	8.0	10
17						4.9	5.6	124	13	6.5	8.5	80
18						4.7	6.1	47	9.7	7.4	5.7	76
19						4.5	17	69	8.6	6.3	5.4	24
20						4.5	16	20	8.2	6.8	5.3	19
21						4.4	6.0	10	8.0	6.0	5.2	17
22					e8.4	4.3	4.9	8.3	7.6	5.9	8.9	15
23					6.7	4.3	5.1	7.5	7.5	5.9	192	14
24					20	4.5	6.1	7.0	7.4	5.8	15	13
25					9.2	4.3	5.3	8.9	8.0	5.9	12	13
26					6.3	4.4	4.7	7.0	7.9	6.0	33	12
27					6.0	4.3	4.6	8.2	8.1	6.2	15	85
28					5.8	5.5	4.4	8.5	7.1	6.0	12	35
29					5.7	5.8	4.6	30	6.9	20	9.7	22
30						4.4	4.8	29	6.8	9.8	8.2	20
31						4.2	---	7.6	---	6.5	9.2	---
TOTAL					68.1	148.9	176.0	513.8	273.3	221.9	474.2	823.4
MEAN					8.51	4.80	5.87	16.6	9.11	7.16	15.3	27.4
MAX					20	5.8	17	124	26	20	192	139
MIN					5.7	4.2	4.1	4.3	6.8	5.8	5.2	6.6
AC-FT					135	295	349	1020	542	440	941	1630

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2000 - 2000, BY WATER YEAR (WY)

MEAN	---	---	---	---	---	4.80	5.87	16.6	9.11	7.16	15.3	27.4
MAX	---	---	---	---	---	4.80	5.87	16.6	9.11	7.16	15.3	27.4
(WY)	---	---	---	---	---	2000	2000	2000	2000	2000	2000	2000
MIN	---	---	---	---	---	4.80	5.87	16.6	9.11	7.16	15.3	27.4
(WY)	---	---	---	---	---	2000	2000	2000	2000	2000	2000	2000

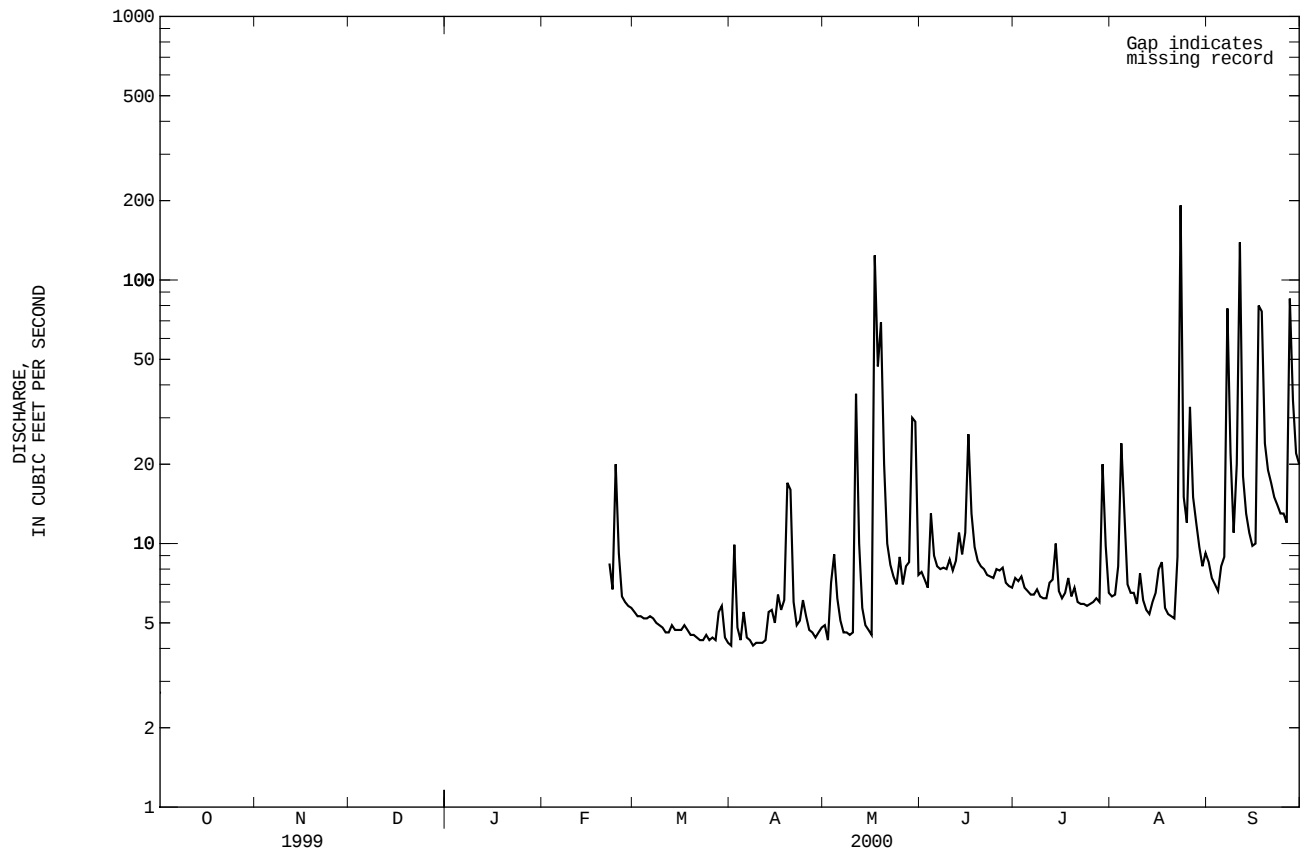
SUMMARY STATISTICS

FOR 2000 WATER YEAR

HIGHEST DAILY MEAN	192	Aug 23
LOWEST DAILY MEAN	4.1	Apr 1
ANNUAL SEVEN-DAY MINIMUM	4.2	Apr 6
INSTANTANEOUS PEAK FLOW	2140	Sep 11
INSTANTANEOUS PEAK STAGE	10.02	Sep 11
10 PERCENT EXCEEDS	20	
50 PERCENT EXCEEDS	6.8	
90 PERCENT EXCEEDS	4.5	

e Estimated

RIO GRANDE DE PATILLAS BASIN
50093000 RIO MARIN NEAR PATILLAS, PR--Continued



RIO PATILLAS BASIN

50093045 LAGO PATILLAS AT DAMSITE NEAR PATILLAS, PR

LOCATION.--Lat 18°01'15", long 66°01'19", Hydrologic Unit 21010004, on right bank, in a concrete tower at Damsite, 1.05 mi (1.69 km) northeast from Patillas plaza, 0.45 mi (0.72 km) northeast from Escuela Segunda Unidad de Real and 2.30 mi (3.70 km) from Escuela Segunda Unidad de Jesús María Rodríguez.

DRAINAGE AREA.--25.6 mi² (66.3 km²).

ELEVATION RECORDS

PERIOD OF RECORD.--March 1995 to current year.

GAGE.--Water stage recorder. Datum of gage is mean sea level.

REMARKS.--Lago Patillas was completed in 1914. The dam is a semihydraulic earthfill structure about 147 ft (45 m) height, a top width of 15 ft (4.6 m), maximum pool elevation of 230 ft (70.1 m), a base width of 625 ft (190 m), a crest length of 1,067 ft (325 m) and has maximum pool storage of 17,073 ac-ft (21.05 hm³). The Patillas Dam is owned by the Puerto Rico Electric Power Authority (P.R.E.P.A) and its primary purpose is for irrigation of lands served by the Patillas irrigation canal. Gage-height and precipitation satellite telemetry at station. New capacity table based on U.S. Geological Survey Water-Resources Investigations Report 99-4030, April, 1997.

EXTREMES OBSERVED FOR PERIOD OF RECORD.--Maximum elevation, 225.92 ft (68.86 m) Sept. 10, 1996; minimum elevation, 211.19 ft (64.37 m), May 29, 1995, July 19, 1997.

EXTREMES OBSERVED FOR CURRENT YEAR.--Maximum elevation, 223.01 ft (67.97 m), Nov. 13; minimum elevation, 216.23 ft (65.90 m), May 10.

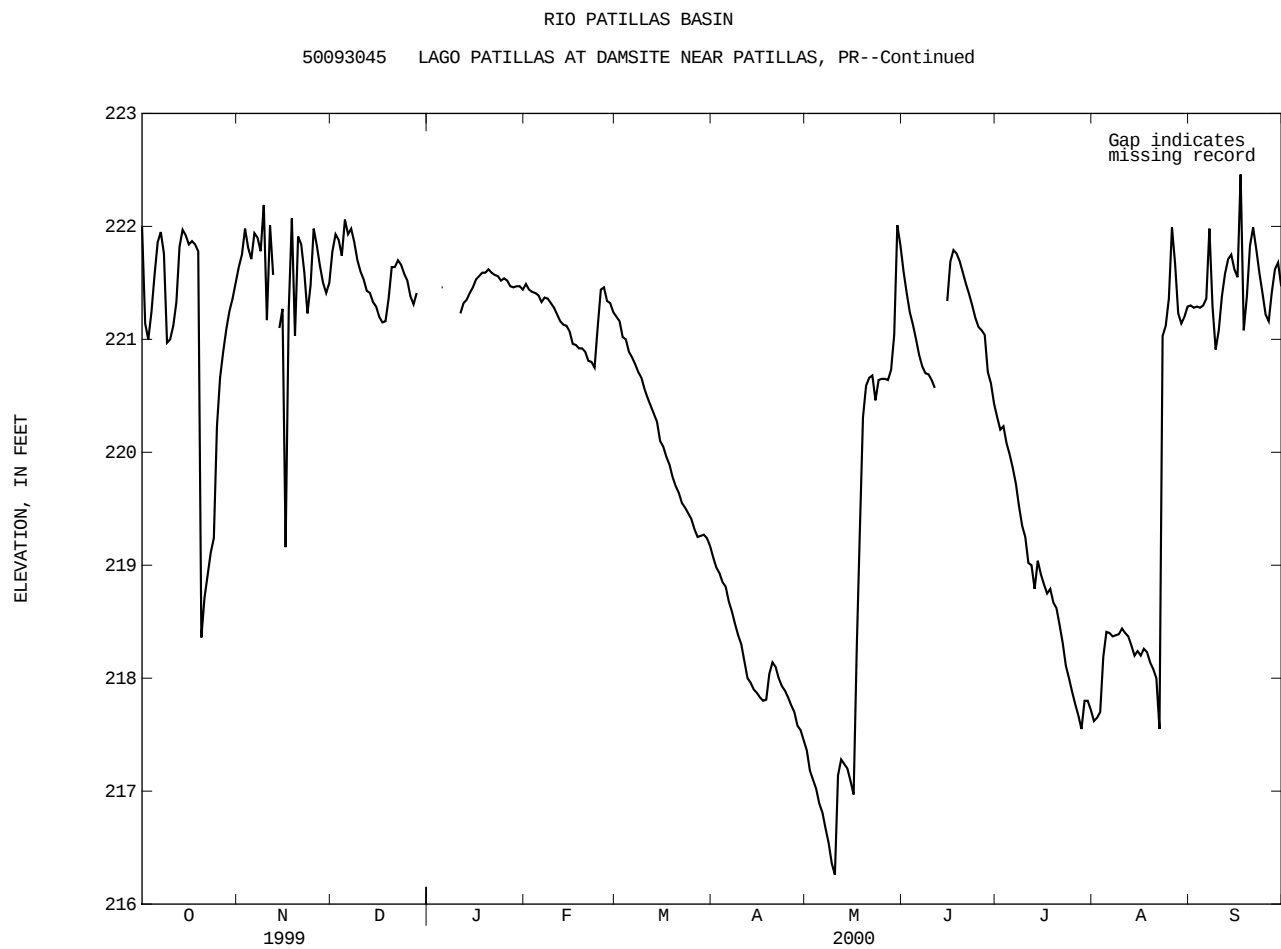
Capacity Table
(based on data from U.S. Geological Survey Water-Resources Investigations Report 99-4030, Puerto Rico-1997)

Elevation, in feet	Contents, in acre-feet	Elevation, in feet	Contents, in acre-feet
147	0	192	4,281
163	819	209	7,629
179	2,294	222	11,220

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	222.00	221.64	221.78	A	221.49	221.20	219.07	217.36	221.60	220.31	217.62	221.30
2	221.14	221.75	221.93	A	221.44	221.16	218.98	217.18	221.41	220.20	217.65	221.28
3	221.00	221.98	221.88	A	221.42	221.02	218.93	217.10	221.24	220.23	217.70	221.29
4	221.24	221.81	221.74	A	221.41	221.00	218.85	217.02	221.13	220.08	218.19	221.28
5	221.57	221.71	222.06	221.46	221.39	220.89	218.81	216.89	221.00	219.98	218.41	221.30
6	221.86	221.94	221.93	A	221.33	220.84	218.68	216.81	220.86	219.86	218.40	221.36
7	221.95	221.90	221.98	A	221.37	220.78	218.59	216.67	220.76	219.72	218.37	221.98
8	221.76	221.78	221.86	A	221.36	220.71	218.48	216.54	220.70	219.52	218.38	221.29
9	220.97	222.19	221.70	A	221.32	220.66	218.38	216.36	220.69	219.35	218.39	220.91
10	221.00	221.17	221.60	A	221.28	220.56	218.30	216.26	220.64	219.25	218.44	221.08
11	221.12	222.01	221.53	221.23	221.22	220.48	218.15	217.14	220.57	219.02	218.40	221.38
12	221.33	221.57	221.43	221.32	221.16	220.41	218.00	217.28	A	219.00	218.37	221.58
13	221.82	A	221.41	221.35	221.13	220.34	217.96	217.24	A	218.79	218.29	221.71
14	221.97	221.10	221.33	221.41	221.12	220.27	217.90	217.20	A	219.04	218.20	221.75
15	221.92	221.27	221.29	221.46	221.07	220.10	217.87	217.09	221.34	218.92	218.24	221.62
16	221.84	219.16	221.20	221.53	220.96	220.05	217.83	216.97	221.69	218.83	218.20	221.55
17	221.87	221.26	221.15	221.56	220.95	219.96	217.80	218.26	221.79	218.75	218.26	222.46
18	221.84	222.07	221.16	221.59	220.92	219.89	217.81	219.31	221.76	218.79	218.23	221.08
19	221.78	221.03	221.36	221.59	220.92	219.78	218.04	220.31	221.69	218.67	218.14	221.38
20	218.36	221.91	221.64	221.62	220.89	219.70	218.14	220.59	221.59	218.62	218.08	221.83
21	218.71	221.84	221.64	221.59	220.81	219.64	218.10	220.66	221.49	218.47	218.00	221.99
22	218.91	221.59	221.70	221.57	220.80	219.55	218.00	220.68	221.40	218.31	217.55	221.80
23	219.11	221.23	221.66	221.56	220.75	219.51	217.93	220.46	221.30	218.11	221.03	221.59
24	219.24	221.48	221.58	221.52	221.11	219.46	217.89	220.64	221.19	218.00	221.12	221.41
25	220.23	221.98	221.52	221.54	221.44	219.41	217.83	220.65	221.11	217.88	221.36	221.22
26	220.66	221.83	221.38	221.52	221.46	219.32	217.76	220.65	221.08	217.77	221.99	221.16
27	220.89	221.65	221.31	221.47	221.34	219.25	217.70	220.64	221.04	217.67	221.67	221.42
28	221.09	221.50	221.41	221.46	221.32	219.26	217.58	220.73	220.71	217.55	221.23	221.62
29	221.25	221.41	A	221.47	221.24	219.27	217.54	221.04	220.61	217.80	221.14	221.68
30	221.36	221.50	A	221.47	---	219.24	217.45	222.01	220.43	217.80	221.20	221.47
31	221.50	---	A	221.44	---	219.17	---	221.83	---	217.72	221.29	---
MAX	222.00	222.19	222.06	221.62	221.49	221.20	219.07	222.01	221.79	220.31	221.99	222.46
MIN	218.36	219.16	221.15	221.23	220.75	219.17	217.45	216.26	220.43	217.55	217.55	220.91

A No gage-height record



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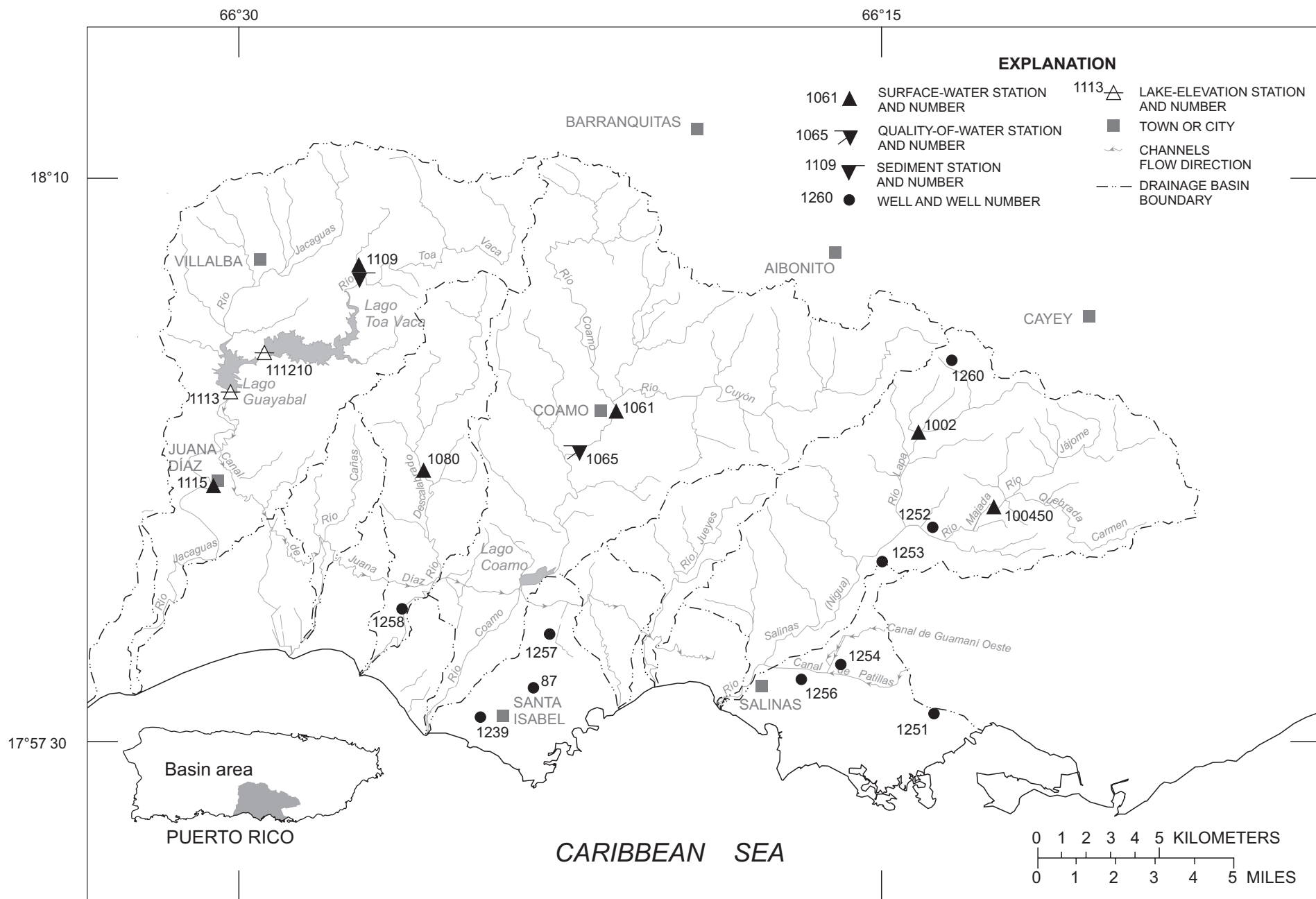


Figure 21. South coast river basins -- Río Salinas to Río Jacaguas basins.

RIO SALINAS BASIN

50100200 RIO LAPA NEAR RABO DEL BUEY, PR

LOCATION.--Lat 18°03'36", long 66°14'28", Hydrologic Unit 21010004, on left bank, at bridge on Highway 1, Km 9.7, 1.5 mi (2.4 km) north of Rabo del Buey, and 4.4 mi (7.1 km) northeast of Salinas Plaza.

DRAINAGE AREA.--9.92 mi² (25.69 km²).

PERIOD OF RECORD.--1953-63 (annual low-flow measurements only), September 1988 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 394 ft (120 m), from topographic map.

REMARKS.--Records poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	42	7.8	14	9.8	4.3	3.1	1.4	2.1	3.7	1.5	1.3	3.5
2	32	8.1	13	9.0	4.3	3.1	1.5	2.2	3.4	1.6	1.8	3.3
3	16	10	13	8.6	4.3	3.0	1.6	2.4	3.0	1.6	1.2	3.4
4	12	6.6	11	11	4.3	2.9	1.5	2.5	2.9	1.5	1.5	3.5
5	9.4	5.4	15	19	4.3	2.9	1.6	2.5	2.7	1.5	2.7	3.2
6	7.7	5.3	20	12	4.0	3.0	1.7	2.3	2.4	1.5	1.4	3.1
7	6.8	4.9	15	13	3.7	3.1	1.7	2.1	2.3	1.4	1.2	3.0
8	6.7	4.6	14	11	3.7	3.0	1.8	1.9	2.2	1.5	1.0	3.1
9	6.2	4.3	13	10	3.6	3.1	1.8	1.9	2.1	1.4	e.98	2.8
10	5.5	24	11	8.6	3.5	3.1	1.9	2.0	1.9	1.4	e.99	2.9
11	5.5	10	9.9	7.6	3.5	3.0	1.9	7.7	1.9	1.4	e.92	5.1
12	5.5	e8.3	9.3	7.2	3.5	3.1	2.0	6.5	4.7	1.3	e.85	3.5
13	5.6	e74	9.0	6.9	3.5	3.1	2.0	5.5	4.9	1.3	e.79	2.9
14	5.5	e22	8.8	6.9	3.3	3.0	2.1	4.9	2.8	1.3	e.79	2.7
15	5.1	15	8.6	6.3	3.3	2.8	2.2	3.1	2.3	1.2	e.75	2.6
16	5.2	48	8.6	5.7	3.3	2.5	2.2	2.0	2.5	1.1	.76	2.6
17	8.3	193	8.6	5.6	3.3	2.5	2.3	12	3.2	1.3	.76	80
18	5.6	171	8.6	5.5	3.5	2.4	2.3	50	2.4	1.2	.68	132
19	5.1	109	9.2	5.4	3.5	2.3	2.3	36	2.0	1.0	.68	23
20	5.4	76	9.4	5.1	3.5	2.2	2.5	14	1.8	.90	.70	13
21	6.5	58	9.4	5.0	3.6	2.1	2.4	7.9	1.6	.91	.68	12
22	5.4	44	9.4	4.7	3.5	2.0	2.3	6.2	1.6	.81	47	12
23	8.7	36	9.4	4.7	4.2	1.8	2.4	5.1	1.6	.67	422	12
24	7.2	30	9.8	4.5	32	1.8	2.4	4.7	1.5	.65	23	9.7
25	17	27	10	4.5	13	1.7	2.3	4.5	1.6	.56	10	8.4
26	8.0	22	10	4.5	7.7	1.5	2.3	4.1	1.5	.58	7.0	8.2
27	6.2	20	10	4.5	6.3	1.4	2.3	3.8	1.5	.59	6.2	10
28	5.4	17	9.8	4.5	5.2	1.4	2.3	3.7	1.5	.58	5.5	35
29	4.8	16	15	4.3	3.2	1.4	2.2	3.6	1.4	1.1	4.9	16
30	4.6	14	11	4.3	---	1.3	2.2	6.5	1.4	1.3	4.4	11
31	8.7	---	11	4.1	---	1.4	---	4.9	---	1.0	3.9	---
TOTAL	283.6	1091.3	343.8	223.8	152.9	75.0	61.4	218.6	70.3	35.65	556.33	433.5
MEAN	9.15	36.4	11.1	7.22	5.27	2.42	2.05	7.05	2.34	1.15	17.9	14.4
MAX	42	193	20	19	32	3.1	2.5	50	4.9	1.6	422	132
MIN	4.6	4.3	8.6	4.1	3.2	1.3	1.4	1.9	1.4	.56	.68	2.6
AC-FT	563	2160	682	444	303	149	122	434	139	71	1100	860
CFSM	.92	3.67	1.12	.73	.53	.24	.21	.71	.24	.12	1.81	1.46
IN.	1.06	4.09	1.29	.84	.57	.28	.23	.82	.26	.13	2.09	1.63

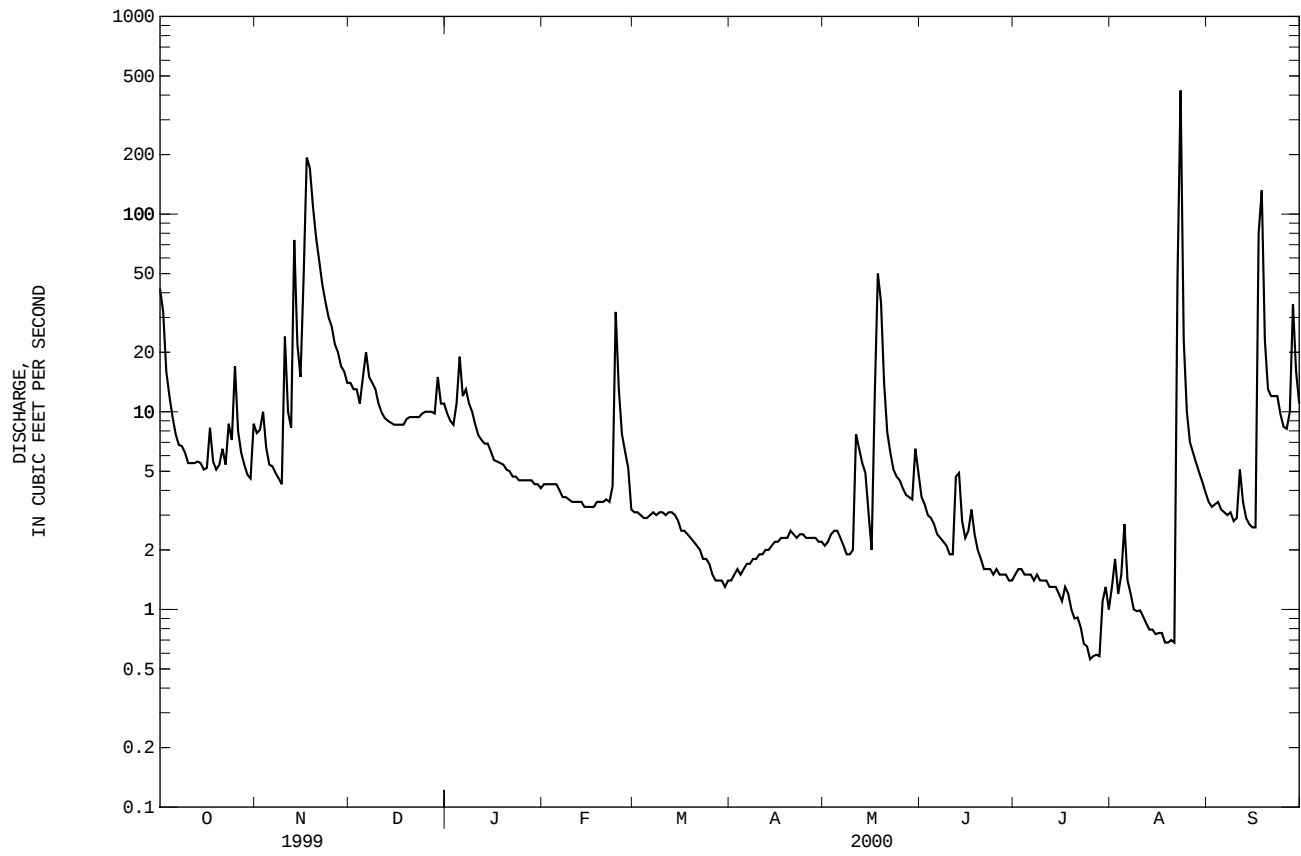
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 2000, BY WATER YEAR (WY)

	MEAN	17.2	10.1	3.91	8.07	3.62	1.28	1.46	4.48	2.16	1.68	4.54	20.4
MAX	76.1	36.4	14.4	68.8	12.4	2.59	4.18	36.6	10.4	7.80	17.9	81.2	
(WY)	1991	2000	1999	1992	1991	1999	1998	1992	1993	1993	2000	1996	
MIN	1.46	1.07	.75	.47	.49	.44	.28	.086	.036	.009	.001	.052	
(WY)	1992	1994	1995	1994	1990	1990	1990	1994	1994	1994	1994	1997	

SUMMARY STATISTICS	FOR 1999 CALENDAR YEAR	FOR 2000 WATER YEAR	WATER YEARS 1988 - 2000
ANNUAL TOTAL	2803.45	3546.18	
ANNUAL MEAN	7.68	9.69	6.57
HIGHEST ANNUAL MEAN			14.1
LOWEST ANNUAL MEAN			.57
HIGHEST DAILY MEAN	193	422	1900
LOWEST DAILY MEAN	.69	.56	.00
ANNUAL SEVEN-DAY MINIMUM	.74	.63	.00
INSTANTANEOUS PEAK FLOW		1720	18100
INSTANTANEOUS PEAK STAGE		10.17	18.65
ANNUAL RUNOFF (AC-FT)	5560	7030	4760
ANNUAL RUNOFF (CFSM)	.77	.98	.66
ANNUAL RUNOFF (INCHES)	10.51	13.30	9.01
10 PERCENT EXCEEDS	14	15	9.4
50 PERCENT EXCEEDS	2.9	3.7	1.3
90 PERCENT EXCEEDS	.88	1.3	.16

e Estimated

RIO SALINAS BASIN
50100200 RIO LAPA NEAR RABO DEL BUEY, PR--Continued



RIO SALINAS BASIN

50100450 RIO MAJADA AT LA PLENA, PR

LOCATION.--Lat 18°02'40", long 66°12'27", Hydrologic Unit 21010004, on right bank, upstream side of bridge on Hwy 712, about 0.3 mi (0.5 km) southwest of La Plena.

DRAINAGE AREA.--16.7 mi² (43.3 km²).

PERIOD OF RECORD.--January 1973 to April 1979 (monthly measurements only), September 1988 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 410 ft (125 m), from topographic map.

REMARKS.-Records fair except those for estimated daily discharges, which are poor. Some regulation at low flow upstream from station by local residents for agricultural purposes.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	170	8.2	33	13	e8.0	5.5	2.7	2.4	6.2	2.4	1.7	1.2
2	111	57	30	12	e7.5	5.1	2.6	2.3	5.2	2.4	1.9	1.2
3	46	33	30	12	e7.8	4.7	2.8	2.2	4.9	2.5	2.0	1.3
4	28	15	29	12	e7.6	4.6	2.7	2.2	5.6	2.7	2.5	1.2
5	17	12	35	44	e6.9	4.5	2.8	2.2	5.6	2.3	4.2	1.3
6	14	17	34	22	e6.4	4.4	2.9	2.2	3.7	2.2	1.8	1.6
7	13	12	28	21	e7.9	4.1	2.6	2.0	3.5	2.3	1.4	1.4
8	12	11	26	17	e7.1	4.1	2.7	2.1	3.5	2.5	1.2	1.3
9	11	10	24	16	e6.2	3.9	2.5	2.0	3.8	2.5	1.0	1.2
10	10	93	23	15	e5.9	3.9	2.5	2.0	3.6	2.1	1.1	.98
11	10	44	20	15	e5.2	3.7	2.8	12	3.2	2.2	1.0	7.8
12	10	57	20	14	e4.9	3.7	2.4	6.4	4.0	2.1	.89	1.9
13	9.6	313	20	14	e5.3	3.8	2.3	3.9	6.7	2.2	.90	1.4
14	9.4	81	20	13	e4.5	4.2	2.9	3.3	5.3	2.1	1.1	1.0
15	9.0	63	19	13	4.6	3.9	3.0	2.7	4.0	2.0	1.1	1.2
16	9.0	118	18	14	4.5	4.1	2.8	2.6	4.9	2.0	1.2	.97
17	8.2	324	17	13	4.3	3.6	3.2	26	6.9	1.9	1.1	79
18	8.1	235	17	12	4.3	3.3	4.3	168	4.8	1.9	.75	213
19	7.1	181	21	12	4.5	3.1	12	128	4.1	1.8	.83	29
20	7.4	139	20	12	4.6	3.1	e6.4	52	3.6	1.9	.73	14
21	8.3	112	18	11	4.3	3.8	4.7	13	3.4	1.8	.71	11
22	8.2	95	17	11	4.1	3.6	3.8	10	3.2	1.7	3.6	7.8
23	9.2	82	17	11	4.1	3.1	3.7	8.4	3.0	1.7	238	5.5
24	9.9	71	16	10	20	3.2	3.4	6.9	3.1	1.6	21	4.9
25	94	67	15	10	14	3.5	3.1	6.7	3.1	1.6	4.9	4.2
26	34	58	14	11	7.3	3.3	3.0	5.5	3.1	1.8	3.1	4.4
27	15	51	13	10	6.1	2.8	2.8	8.2	2.9	1.4	2.3	10
28	12	47	13	9.8	5.8	2.9	2.6	7.5	2.6	1.4	1.7	32
29	9.9	42	22	9.3	5.4	4.3	2.5	5.7	2.5	2.2	1.6	13
30	8.9	36	15	9.0	---	3.2	2.6	14	2.4	3.0	1.3	8.7
31	8.4	---	14	8.8	---	3.1	---	8.2	---	1.8	1.3	---
TOTAL	737.6	2484.2	658	426.9	189.1	118.1	101.1	520.6	122.4	64.0	307.91	463.45
MEAN	23.8	82.8	21.2	13.8	6.52	3.81	3.37	16.8	4.08	2.06	9.93	15.4
MAX	170	324	35	44	20	5.5	12	168	6.9	3.0	238	213
MIN	7.1	8.2	13	8.8	4.1	2.8	2.3	2.0	2.4	1.4	.71	.97
AC-FT	1460	4930	1310	847	375	234	201	1030	243	127	611	919
CFSM	1.42	4.96	1.27	.82	.39	.23	.20	1.01	.24	.12	.59	.93
IN.	1.64	5.53	1.47	.95	.42	.26	.23	1.16	.27	.14	.69	1.03

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1973 - 2000, BY WATER YEAR (WY)

MEAN	16.8	17.0	6.56	9.81	3.94	2.40	2.22	4.87	3.23	3.05	4.61	26.3
MAX	76.4	82.8	21.4	68.8	12.1	4.42	6.19	25.5	12.1	12.9	23.4	109
(WY)	1991	2000	1999	1992	1991	1999	1998	1992	1992	1993	1998	1996
MIN	1.43	1.53	.62	.37	.63	.59	.30	.21	.042	.012	.010	.008
(WY)	1992	1994	1995	1995	1990	1990	1995	1994	1994	1997	1994	1997

SUMMARY STATISTICS

FOR 1999 CALENDAR YEAR

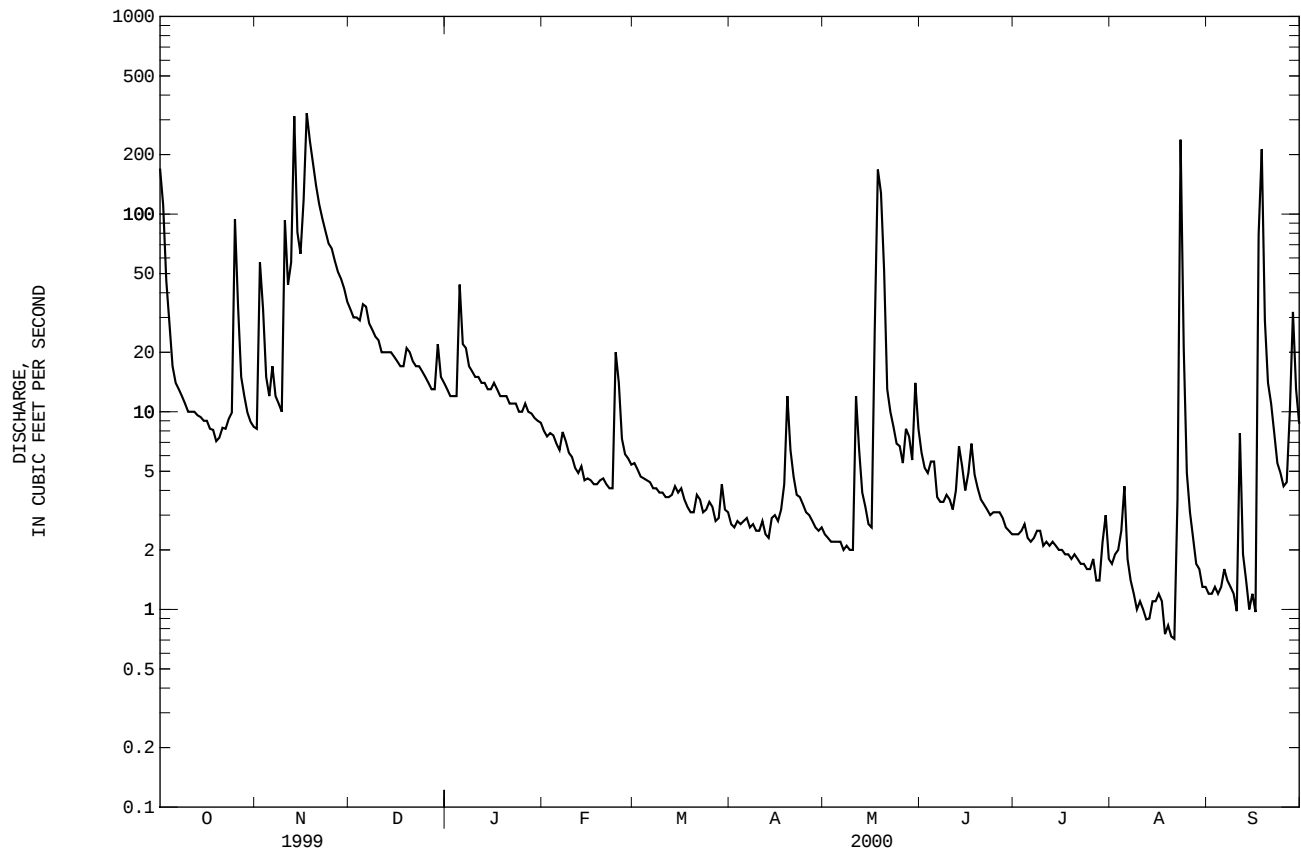
FOR 2000 WATER YEAR

WATER YEARS 1973 - 2000

ANNUAL TOTAL	5718.87	6193.36	
ANNUAL MEAN	15.7	16.9	8.39
HIGHEST ANNUAL MEAN			18.7
LOWEST ANNUAL MEAN			.81
HIGHEST DAILY MEAN	324	324	2270
LOWEST DAILY MEAN	.97	.71	.00
ANNUAL SEVEN-DAY MINIMUM	1.1	.92	.00
INSTANTANEOUS PEAK FLOW		2580	17700
INSTANTANEOUS PEAK STAGE		9.31	19.69
ANNUAL RUNOFF (AC-FT)	11340	12280	6080
ANNUAL RUNOFF (CFSM)	.94	1.01	.50
ANNUAL RUNOFF (INCHES)	12.74	13.80	6.82
10 PERCENT EXCEEDS	33	33	13
50 PERCENT EXCEEDS	4.9	5.0	2.2
90 PERCENT EXCEEDS	1.8	1.7	.25

e Estimated

RIO SALINAS BASIN
50100450 RIO MAJADA AT LA PLENA, PR--Continued



RIO COAMO BASIN

50106100 RIO COAMO AT COAMO, PR

LOCATION.--Lat 18°05'00", long 66°21'16", Hydrologic Unit 21010004, on Highway 14 bridge, 0.8 mi (1.3 km) northeast from parque Atlético, 1.2 mi (1.9 km) southeast from (W.C.P.R.) Antena de Radio.

DRAINAGE AREA.--43.5 mi² (112.7 km²).

PERIOD OF RECORD.--January 1987 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 335 ft (110 m), from topographic map.

REMARKS.--Records poor. Low-flow is affected by domestic discharges about 200 ft (65.6 m), upstream from gaging station. Gage-height and precipitation satellite telemetry at station. The gage-height recovered for the instantaneous peak stage produced by Hurricane Georges was affected by backwater caused by the Hwy. 14 old bridge which is about 100 ft. (30.40 m) downstream from gage.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e67	53	93	32	16	11	25	8.3	10	4.6	3.6	5.8
2	e66	e148	87	32	15	11	19	7.8	9.6	5.1	3.6	6.7
3	e55	e73	81	36	16	10	16	11	9.1	5.1	3.4	5.7
4	e47	e43	75	40	15	11	15	43	8.7	4.7	3.6	29
5	e39	e40	75	42	16	13	14	30	8.5	5.7	4.0	73
6	e41	e37	88	44	14	13	15	e17	8.1	4.7	3.4	21
7	e37	e34	77	47	14	13	13	12	7.6	5.0	3.5	9.6
8	e36	e33	74	36	14	12	12	e29	7.7	4.4	3.7	6.6
9	e35	e32	69	33	13	9.9	11	e16	8.1	4.5	4.1	5.2
10	e33	e71	60	29	13	9.2	9.9	e16	8.3	4.3	3.9	5.7
11	e42	e39	59	28	14	8.3	9.4	e25	8.3	4.4	3.7	8.4
12	e36	e38	54	27	13	8.4	8.9	e29	15	4.4	3.6	6.5
13	e34	e39	50	25	12	10	8.4	23	16	4.4	4.1	5.2
14	e33	e39	48	25	12	13	8.7	14	12	4.8	4.6	5.0
15	e30	e39	45	23	12	12	8.6	11	10	5.5	4.6	4.3
16	e211	e89	41	25	11	11	8.3	10	12	4.7	4.3	4.5
17	91	e638	39	23	11	12	8.9	14	14	4.6	3.7	339
18	113	471	37	21	11	12	11	e352	10	5.2	3.5	196
19	69	377	36	20	11	12	24	e298	9.4	4.5	3.3	76
20	58	313	37	19	12	11	16	e47	8.4	4.7	3.4	54
21	57	257	35	19	11	10	e13	e29	7.8	4.5	3.3	72
22	76	225	35	19	12	9.2	e11	e22	6.7	4.7	4.6	88
23	99	212	33	18	13	8.4	e9.8	e19	6.3	4.9	346	57
24	80	173	33	17	23	12	e9.0	e14	7.0	4.8	31	49
25	72	158	41	17	26	11	e8.1	13	6.7	3.9	15	44
26	60	138	37	20	13	9.9	e7.6	12	6.2	3.6	11	38
27	54	129	34	18	12	9.9	7.1	11	5.7	3.7	9.3	39
28	49	113	35	17	12	28	7.1	11	5.5	3.8	7.7	44
29	46	105	48	16	12	e43	7.2	11	5.1	6.2	7.1	43
30	42	101	29	17	---	37	7.5	15	4.8	5.0	6.5	44
31	65	---	30	16	---	97	---	11	---	3.9	5.8	---
TOTAL	1873	4257	1615	801	399	498.2	349.5	1181.1	262.6	144.3	522.9	1385.2
MEAN	60.4	142	52.1	25.8	13.8	16.1	11.6	38.1	8.75	4.65	16.9	46.2
MAX	211	638	93	47	26	97	25	352	16	6.2	346	339
MIN	30	32	29	16	11	8.3	7.1	7.8	4.8	3.6	3.3	4.3
AC-FT	3720	8440	3200	1590	791	988	693	2340	521	286	1040	2750
CFSM	1.39	3.26	1.20	.59	.32	.37	.27	.88	.20	.11	.39	1.06
IN.	1.60	3.64	1.38	.68	.34	.43	.30	1.01	.22	.12	.45	1.18

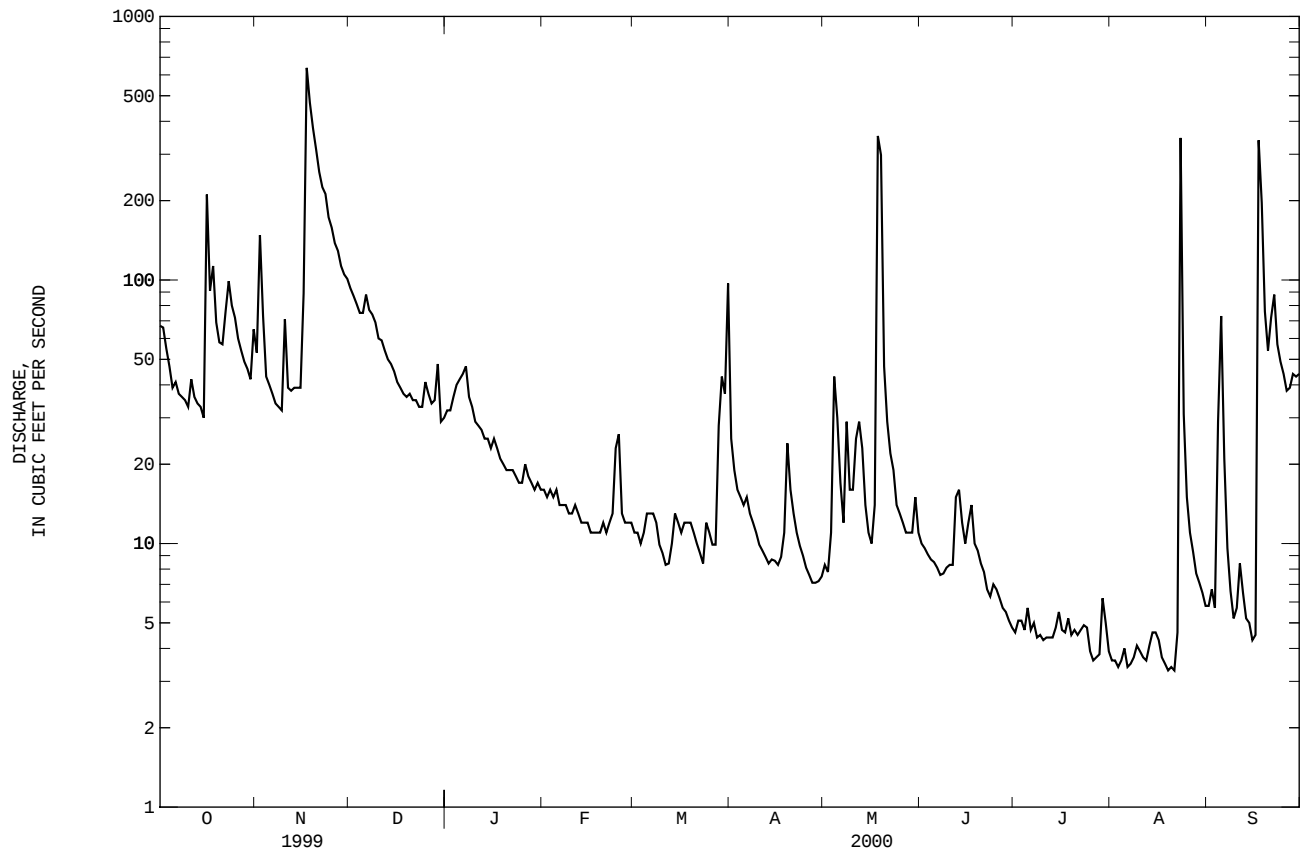
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 2000, BY WATER YEAR (WY)

MEAN	58.0	38.1	21.8	18.7	11.1	7.04	11.4	19.1	15.5	6.99	10.9	52.2
MAX	274	142	83.8	79.0	25.5	16.1	27.6	69.6	76.1	15.5	29.7	291
(WY)	1991	2000	1988	1992	1998	2000	1987	1992	1987	1988	1998	1998
MIN	10.3	4.91	3.72	2.71	3.17	3.09	2.49	1.66	1.99	.78	1.28	1.61
(WY)	1989	1995	1989	1995	1989	1987	1995	1989	1989	1989	1994	1994

SUMMARY STATISTICS	FOR 1999 CALENDAR YEAR	FOR 2000 WATER YEAR	WATER YEARS 1987 - 2000
ANNUAL TOTAL	14188.8	13288.8	
ANNUAL MEAN	38.9	36.3	22.4
HIGHEST ANNUAL MEAN			40.9
LOWEST ANNUAL MEAN			4.52
HIGHEST DAILY MEAN	638	Nov 17	4530
LOWEST DAILY MEAN	2.5	Aug 28	.67
ANNUAL SEVEN-DAY MINIMUM	3.3	Aug 26	.70
INSTANTANEOUS PEAK FLOW			52700
INSTANTANEOUS PEAK STAGE			25.94
ANNUAL RUNOFF (AC-FT)	28140	26360	16200
ANNUAL RUNOFF (CFSM)	.89	.83	.51
ANNUAL RUNOFF (INCHES)	12.13	11.36	6.98
10 PERCENT EXCEEDS	87	75	46
50 PERCENT EXCEEDS	18	14	7.6
90 PERCENT EXCEEDS	4.8	4.6	2.4

e Estimated

RIO COAMO BASIN
50106100 RIO COAMO AT COAMO, PR--Continued



50106500 RIO COAMO NEAR COAMO, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 18°03'52", long 66°22'10", Hydrologic Unit 21010004, on Highway 153 bridge, 0.4 mi (0.6 km) above Río de la Mina, and 1.8 mi (2.9 km) south of Coamo plaza.

DRAINAGE AREA.--46.0 mi² (119.1 km²).

PERIOD OF RECORD.--Water years 1978 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI KF AGAR PER (COLS. 100 ML) (31673)	HARD- NESS TOTAL (MG/L AS CAC03) (00900)
DEC 03...	1155	84	633	8.2	25.7	1.4	9.7	119	<10	260	180	280
MAR 02...	1225	12	558	8.9	27.0	.6	12.4	155	<10	K110	K130	--
MAY 10...	1645	14	525	8.5	32.2	.8	8.0	111	<10	470	K210	190
SEP 06...	1250	27	467	8.2	30.6	1.5	7.1	96	<10	2700	590	170

DATE	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD MG/L AS CAC03 (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS- SOLVED (MG/L AS S04) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SI02) (00955)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L 70301)
DEC 03...	74.7	23.3	31.8	.8	1.9	249	<1.0	35.8	38.6	.2	33.5	389
MAR 02...	--	--	--	--	--	205	--	--	--	--	--	--
MAY 10...	50.5	16.3	27.7	.9	2.1	198	<1.0	27.0	32.6	.2	33.5	309
SEP 06...	46.7	14.0	25.7	.8	2.1	167	--	23.1	26.2	.2	34.2	273

DATE	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL	NITRO- GEN,	NITRO- GEN,	NITRO- GEN,	NITRO- GEN,	NITRO- GEN,AM- MONIA +	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV- ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)
		AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	NITRATE TOTAL (MG/L AS N) (00620)	NITRITE TOTAL (MG/L AS N) (00615)	NO2+NO3 TOTAL (MG/L AS N) (00630)	AMMONIA TOTAL (MG/L AS N) (00610)	ORGANIC TOTAL (MG/L AS N) (00625)					
DEC 03...	88.7	<1	--	<.01	4.6	.02	<.20	.130	<3	40.9	66	<.1
MAR 02...	--	<1	2.38	.02	2.4	.02	<.20	.070	--	--	--	--
MAY 10...	11.7	<10	1.78	.02	1.8	.04	<.20	.110	<3	27.3	67	<.1
SEP 06...	19.6	<10	1.99	.01	2.0	.03	<.20	.160	--	--	--	--

DATE	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOVERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECOVERABLE (UG/L AS FE) (01045)	LEAD, TOTAL RECOVERABLE (UG/L AS PB) (01051)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN) (01055)	MERCURY TOTAL RECOVERABLE (UG/L AS HG) (71900)	SELENIUM, TOTAL RECOVERABLE (UG/L AS SE) (01147)	SILVER, TOTAL RECOVERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN) (01092)	CYANIDE TOTAL (MG/L AS CN) (00720)	PHENOLS TOTAL (UG/L) (32730)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L) (38260)
DEC 03... MAR 02... MAY 10... SEP 06...	<1 -- <1 --	<20 -- <20 --	130 -- 150 --	<1 -- <1 --	9 -- 13 --	<.3 -- <.3 --	<3 -- <3 --	<1 -- <1 --	E17 -- <31 --	<.01 -- <.01 --	9 -- <4 --	<.02 -- <.02 --

50108000 RIO DESCALABRADO NEAR LOS LLANOS, PR

LOCATION.--Lat 18°03'08", long 66°25'34", Hydrologic Unit 21010004, at bridge on Highway 14, 1.5 mi (2.4 km) west of Los Llanos, and 5.3 mi (8.5 km) east of Juana Díaz.

DRAINAGE AREA.--12.9 mi² (33.4 km²).

PERIOD OF RECORD.--1959-65 (annual low-flow measurements only), 1965 (annual maximum discharge), January 1966 to June 1969, July to December 1969 (maximum discharge only), February 1984 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 220 ft (67 m), from topographic map.

REMARKS.--Records poor. Some regulation at low flow by local resident upstream from station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e21	21	e32	8.0	4.5	2.9	3.2	1.8	e3.0	1.1	.62	e1.5
2	e32	54	e27	7.7	4.4	2.9	2.1	1.8	e2.7	1.2	.59	e.99
3	e25	22	e26	7.4	4.3	2.3	2.0	1.9	e2.6	1.1	.52	e.99
4	e22	16	e24	7.3	4.2	2.4	2.0	13	e2.5	1.1	.52	e.91
5	e20	16	e22	7.6	4.1	2.6	1.9	4.4	e2.4	1.0	.50	e31
6	e17	15	e24	7.1	3.9	2.3	1.8	11	e2.3	1.0	.47	e16
7	e19	15	e22	6.9	3.8	2.3	1.8	4.0	e2.3	1.0	.46	e2.8
8	28	16	e20	6.8	3.4	2.2	1.8	7.9	e2.2	.96	.46	e1.5
9	16	14	e19	6.7	3.3	2.1	1.8	e4.4	e2.1	.93	.46	e1.2
10	15	19	e19	6.6	3.1	2.1	1.8	e2.2	e2.0	.85	.46	e.95
11	18	16	18	6.5	2.9	2.1	1.8	e2.5	e2.0	.83	.46	e1.2
12	18	16	17	6.5	2.7	2.1	1.7	e3.1	e2.7	.79	.45	e1.1
13	28	57	17	6.2	2.5	2.1	1.8	e2.5	e3.5	.80	.45	e.99
14	16	36	16	6.3	2.5	2.0	1.7	e2.1	2.5	.88	.44	e.92
15	15	25	15	6.1	2.5	2.0	1.7	e2.0	e2.7	.80	.44	e.89
16	28	109	15	6.1	2.5	2.0	1.8	e1.9	e1.9	.71	.44	e.88
17	22	97	14	6.3	2.4	2.0	1.8	e2.4	2.5	.69	.44	e354
18	19	55	14	6.5	2.4	2.0	1.8	e142	2.0	.66	.44	e425
19	16	54	13	6.6	2.4	2.0	6.3	e34	2.0	.63	.63	e52
20	15	51	13	6.6	2.4	2.0	3.6	e21	1.9	.62	.57	e24
21	15	47	12	6.4	2.3	2.0	2.6	e8.4	1.8	.63	.49	e64
22	19	42	e12	e6.2	2.4	2.0	2.3	e5.0	1.7	.61	3.2	e60
23	21	40	e11	6.1	2.4	2.0	2.1	e4.6	1.6	.61	e72	e58
24	17	e39	e11	6.0	5.3	2.1	1.9	e5.0	1.5	.61	e3.4	e47
25	20	e36	e10	5.9	3.4	2.0	1.8	e4.5	1.5	.57	e2.7	e27
26	15	e34	e9.7	6.7	2.8	2.0	1.8	e4.2	1.5	.56	e5.9	e21
27	14	e31	e9.0	6.0	2.7	2.0	1.8	e3.6	1.3	.56	e2.7	e20
28	14	e30	e9.1	5.8	2.9	2.5	1.8	e3.9	1.3	.55	e1.8	e28
29	14	e63	e10	5.4	2.8	5.8	1.8	e3.5	1.2	.68	e1.4	e22
30	14	e74	e8.6	5.1	---	2.2	1.8	e3.8	1.2	.73	e1.1	19
31	83	---	e8.4	4.7	---	2.5	---	e3.2	---	.53	e1.0	---
TOTAL	656	1160	497.8	200.1	91.2	71.5	63.9	315.6	62.4	24.29	105.51	1284.82
MEAN	21.2	38.7	16.1	6.45	3.14	2.31	2.13	10.2	2.08	.78	3.40	42.8
MAX	83	109	32	8.0	5.3	5.8	6.3	142	3.5	1.2	72	425
MIN	14	14	8.4	4.7	2.3	2.0	1.7	1.8	1.2	.53	.44	.88
AC-FT	1300	2300	987	397	181	142	127	626	124	48	209	2550
CFSM	1.64	3.00	1.24	.50	.24	.18	.17	.79	.16	.06	.26	3.32
IN.	1.89	3.35	1.44	.58	.26	.21	.18	.91	.18	.07	.30	3.71

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 2000, BY WATER YEAR (WY)

MEAN	27.5	16.2	5.81	4.85	3.63	1.97	4.99	13.9	4.68	2.45	4.12	37.1
MAX	117	41.0	24.5	36.4	23.9	8.93	20.5	62.2	25.2	10.5	13.1	395
(WY)	1986	1985	1988	1992	1995	1996	1999	1985	1987	1991	1996	1996
MIN	2.02	1.04	.19	.057	.020	.012	.000	.032	.000	.000	.19	.063
(WY)	1968	1995	1968	1968	1968	1968	1968	1968	1967	1967	1990	1967

SUMMARY STATISTICS

FOR 1999 CALENDAR YEAR

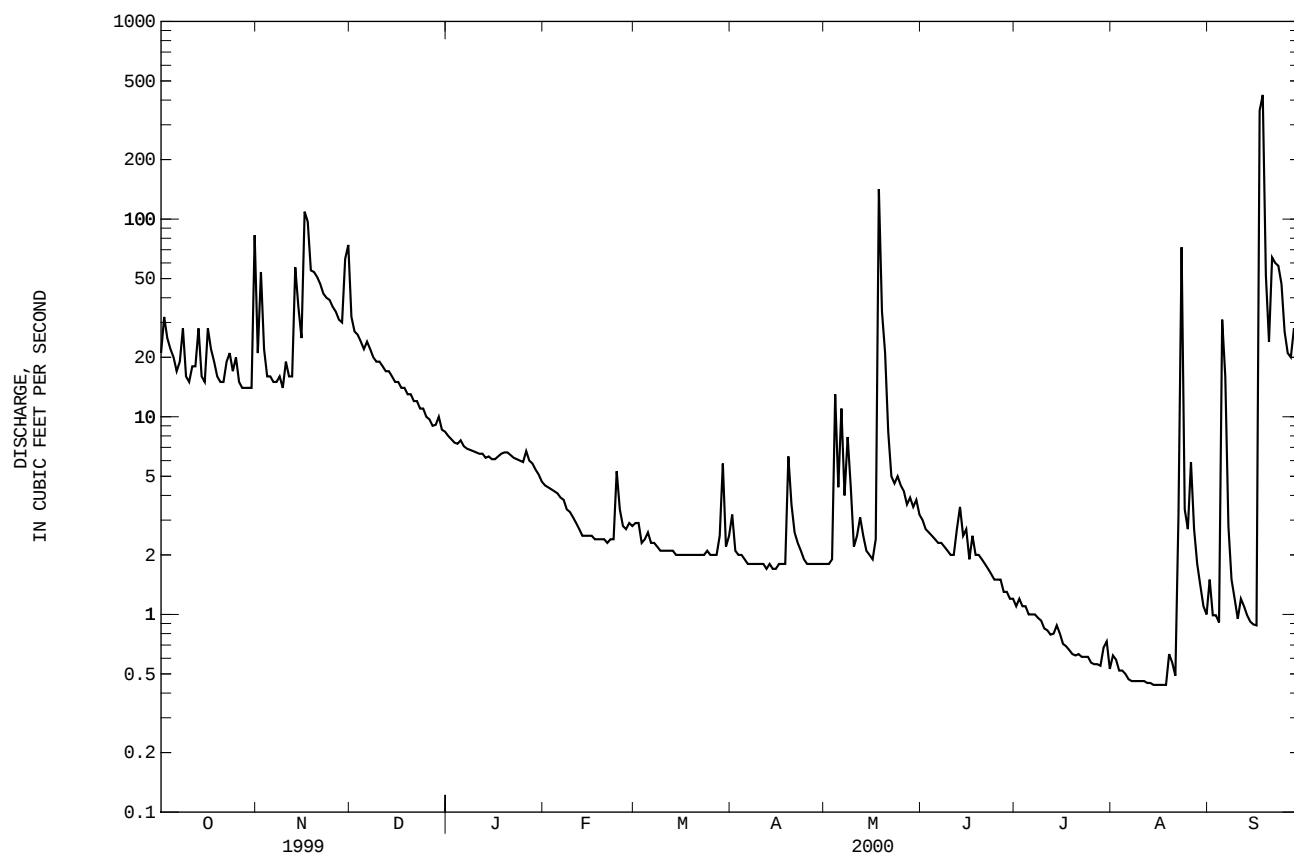
FOR 2000 WATER YEAR

WATER YEARS 1966 - 2000

ANNUAL TOTAL	4026.37	4533.12	
ANNUAL MEAN	11.0	12.4	
HIGHEST ANNUAL MEAN			11.1
LOWEST ANNUAL MEAN			41.7
HIGHEST DAILY MEAN	243	425	1.69
LOWEST DAILY MEAN	.66	.44	10000
ANNUAL SEVEN-DAY MINIMUM	.71	.44	.00
INSTANTANEOUS PEAK FLOW		4810	30000
INSTANTANEOUS PEAK STAGE		12.15	24.37
INSTANTANEOUS LOW FLOW		.44	.00
ANNUAL RUNOFF (AC-FT)	7990	8990	8060
ANNUAL RUNOFF (CFSM)	.86	.96	.86
ANNUAL RUNOFF (INCHES)	11.61	13.07	11.72
10 PERCENT EXCEEDS	23	27	16
50 PERCENT EXCEEDS	4.1	2.9	1.6
90 PERCENT EXCEEDS	1.3	.72	.07

e Estimated

RIO DESCALABRADO BASIN
50108000 RIO DESCALABRADO NEAR LOS LLANOS, PR--Continued



50110900 RIO TOA VACA ABOVE LAGO TOA VACA, PR

LOCATION.--Lat 18°07'37", long 66°27'24", Hydrologic Unit 21010004, on right bank, off a dirt road about 0.3 mi (0.5 km) from road 553, 2.4 mi (3.9 km) southeast from Villalba plaza, and 0.2 mi (0.3 km) downstream from confluence with Quebrada Limón.

DRAINAGE AREA.--14.2 mi² (36.8 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1989 to current year.

GAGE.--Water stage recorder. Elevation of gage is 525 ft (160 m), from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e34	34	24	10	6.6	4.7	8.5	4.5	6.7	3.5	3.0	4.4
2	e29	68	23	9.9	6.4	4.7	5.2	3.7	6.4	4.2	3.4	3.6
3	e27	44	23	10	6.3	4.6	4.6	7.7	6.3	3.6	3.1	3.6
4	e25	28	21	10	6.3	4.5	4.2	16	6.0	3.3	3.1	9.8
5	e23	23	21	10	6.3	4.5	4.0	14	5.9	3.1	3.3	30
6	e22	21	22	9.9	6.2	4.6	3.9	7.9	5.6	3.1	2.9	15
7	e25	19	21	9.8	6.2	4.1	3.9	7.8	5.4	3.3	2.8	8.3
8	e23	23	20	8.9	6.2	4.1	3.9	17	5.4	3.2	2.8	6.3
9	e21	20	19	8.4	5.6	3.7	3.9	28	5.5	3.1	2.6	5.3
10	e22	30	19	8.1	5.3	3.5	3.7	20	5.4	2.8	3.1	4.8
11	e22	23	18	7.6	5.2	3.4	3.5	14	5.3	2.8	2.7	5.8
12	e22	20	18	7.5	5.1	3.5	3.4	20	7.1	2.6	2.6	5.2
13	e22	32	17	7.5	4.9	3.5	3.3	14	8.5	2.8	2.6	4.7
14	e20	21	16	7.6	4.9	3.4	3.5	8.9	12	2.7	2.7	4.2
15	20	26	16	7.2	4.9	3.9	3.4	6.8	9.8	2.8	3.3	4.1
16	110	103	16	8.8	4.8	4.4	3.5	5.5	17	2.7	3.5	3.8
17	89	187	16	7.5	4.7	4.3	3.8	14	12	2.4	3.2	78
18	56	214	15	7.3	4.9	4.3	4.7	40	7.6	2.5	3.2	281
19	34	169	15	7.0	5.0	4.2	11	63	6.3	2.2	3.3	41
20	29	122	14	6.8	5.3	4.2	8.6	26	5.6	2.4	3.4	23
21	28	88	14	6.8	4.9	4.4	6.3	16	5.2	2.7	3.0	46
22	28	73	14	6.7	7.0	4.0	4.8	12	4.9	2.5	6.4	46
23	29	67	13	6.5	6.4	3.8	4.3	10	4.5	2.6	86	43
24	30	38	13	6.3	7.4	4.3	4.0	10	4.4	2.6	9.7	38
25	39	37	12	6.4	8.0	4.0	3.8	8.8	4.4	2.5	7.4	27
26	33	32	12	7.4	5.5	3.9	3.7	8.5	4.3	2.2	9.6	23
27	26	29	11	6.9	5.2	3.8	3.6	7.5	4.1	2.2	7.7	21
28	23	26	12	6.9	5.1	4.6	3.5	8.3	3.8	2.3	5.5	26
29	21	25	13	6.8	4.9	9.4	3.5	7.4	3.5	4.0	4.7	22
30	20	29	11	6.9	---	4.9	3.6	7.8	3.5	5.4	3.9	21
31	52	---	11	6.8	---	8.1	---	7.0	---	3.4	3.6	---
TOTAL	1004	1671	510	244.2	165.5	137.3	135.6	442.1	192.4	91.5	208.1	854.9
MEAN	32.4	55.7	16.5	7.88	5.71	4.43	4.52	14.3	6.41	2.95	6.71	28.5
MAX	110	214	24	10	8.0	9.4	11	63	17	5.4	86	281
MIN	20	19	11	6.3	4.7	3.4	3.3	3.7	3.5	2.2	2.6	3.6
AC-FT	1990	3310	1010	484	328	272	269	877	382	181	413	1700
CFSM	2.28	3.92	1.16	.55	.40	.31	.32	1.00	.45	.21	.47	2.01
IN.	2.63	4.38	1.34	.64	.43	.36	.36	1.16	.50	.24	.55	2.24

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 2000, BY WATER YEAR (WY)

MEAN	41.7	21.5	8.15	9.00	5.61	3.87	9.43	21.2	12.4	6.35	9.64	43.8
MAX	109	55.7	16.5	43.1	12.6	7.87	26.3	76.1	35.4	14.4	36.4	152
(WY)	1991	2000	2000	1992	1996	1999	1993	1995	1992	1992	1998	1998
MIN	4.61	2.19	1.42	1.79	2.38	1.67	1.46	1.42	1.23	.71	2.74	3.21
(WY)	1992	1992	1992	1995	1990	1990	1990	1997	1990	1990	1990	1994

SUMMARY STATISTICS

FOR 1999 CALENDAR YEAR

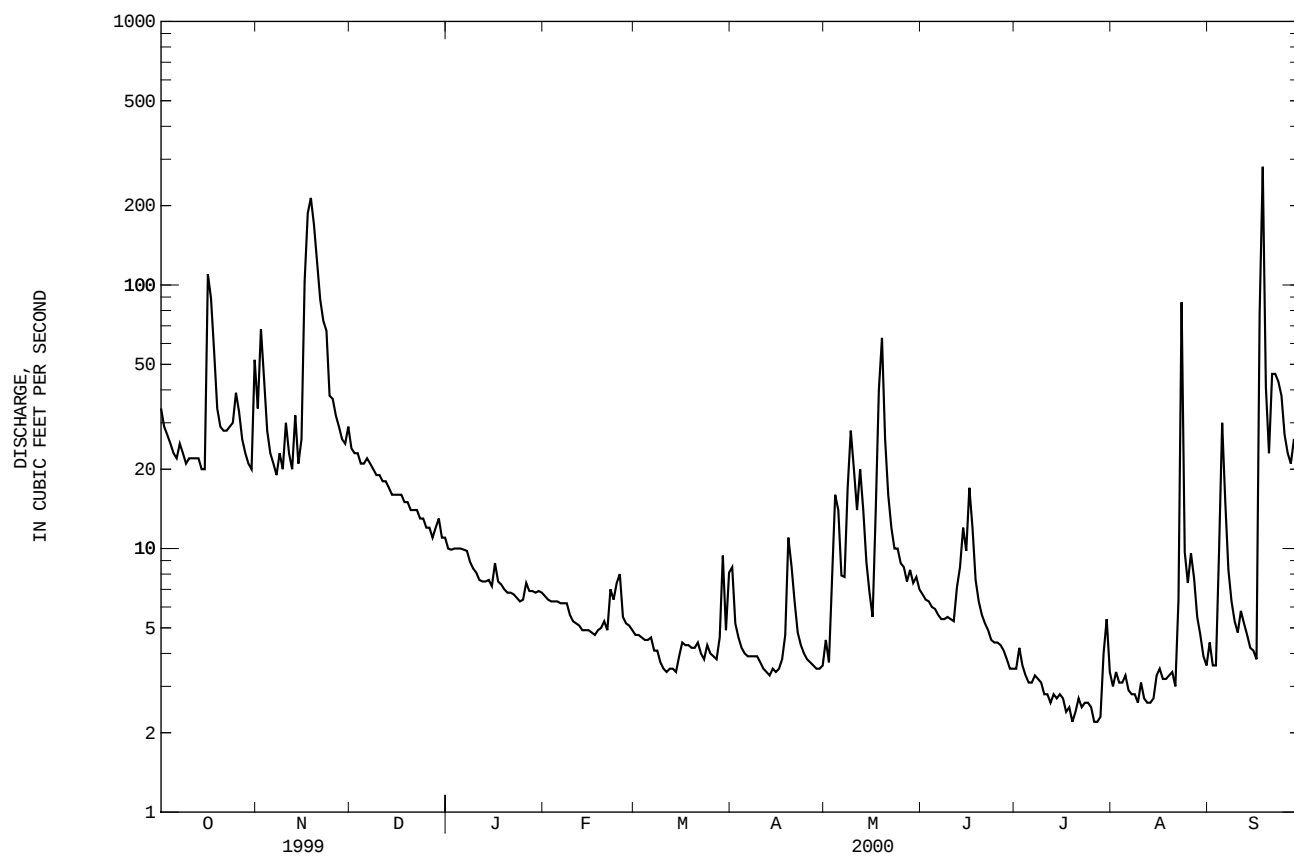
FOR 2000 WATER YEAR

WATER YEARS 1989 - 2000

ANNUAL TOTAL	7418.4	5656.6	
ANNUAL MEAN	20.3	15.5	16.3
HIGHEST ANNUAL MEAN			29.3
LOWEST ANNUAL MEAN			4.02
HIGHEST DAILY MEAN	272	Sep 13	2050
LOWEST DAILY MEAN	2.9	Aug 12	.45
ANNUAL SEVEN-DAY MINIMUM	3.1	Aug 7	.61
INSTANTANEOUS PEAK FLOW			Not determined
INSTANTANEOUS PEAK STAGE			20.60
INSTANTANEOUS LOW FLOW			.42
ANNUAL RUNOFF (AC-FT)	14710	11220	11780
ANNUAL RUNOFF (CFSM)	1.43	1.09	1.14
ANNUAL RUNOFF (INCHES)	19.43	14.82	15.55
10 PERCENT EXCEEDS	39	29	34
50 PERCENT EXCEEDS	11	6.8	4.9
90 PERCENT EXCEEDS	4.1	3.2	1.5

e Estimated

RIO JACAGUAS BASIN
50110900 RIO TOA VACA ABOVE LAGO TOA VACA, PR--Continued



50110900 RIO TOA VACA ABOVE LAGO TOA VACA, PR--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORDS.-- Water years 1988 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: April 1988 to current year.

INSTRUMENTATION.-- USDH-48 and automatic sediment sampler since 1988.

REMARKS.-- Sediment samples were collected by a local observer on a weekly basis. During high flow events sediment samples were collected by hydrologic technician and automatic sediment sampler.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATION: Maximum daily mean, 11,800 mg/L September 22, 1998; Minimum daily mean, 1 mg/L several days.

SEDIMENT LOADS: Maximum daily mean, 93,300 tons (84,600 tonnes) September 12, 1998; Minimum daily mean, <0.01 ton (<0.01 tonne) several days.

EXTREMES FOR CURRENT YEAR 2000.--

SEDIMENT CONCENTRATION: Maximum daily mean, 3,380 mg/L November 18, 1999; Minimum daily mean, 1 mg/L several days.

SEDIMENT LOADS: Maximum daily mean, 2,330 tons (2,100 tonnes) September 18, 2000; Minimum daily mean, 0.01 ton (0.01 tonne) several days.

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
OCTOBER			NOVEMBER			DECEMBER			
1	e34	e100	e20	34	115	11	24	57	3.8
2	e29	e90	e18	68	342	136	23	38	2.4
3	e27	e46	e14	44	142	17	23	34	2.1
4	e25	e46	e10	28	88	6.7	21	31	1.8
5	e23	e40	e5	23	68	4.3	21	28	1.6
6	e22	e25	e4	21	61	3.5	22	26	1.5
7	e25	e30	e4.5	19	57	2.9	21	23	1.3
8	e23	e35	e5	23	71	5.3	20	21	1.1
9	e21	e25	e4	20	61	3.2	19	19	.99
10	e22	e25	e4	30	100	11	19	18	.90
11	e22	e25	e4	23	71	4.5	18	16	.81
12	e22	e25	e4	20	61	3.2	18	15	.72
13	e22	e25	e4	32	126	16	17	14	.64
14	e20	e23	e2.5	21	64	3.6	16	13	.56
15	20	35	1.9	26	91	7.7	16	12	.51
16	110	465	593	103	264	154	16	11	.46
17	89	429	167	187	291	164	16	10	.41
18	56	85	15	214	3380	1960	15	9	.37
19	34	26	2.4	169	1020	477	15	8	.33
20	29	104	8.3	122	434	146	14	8	.30
21	28	69	5.1	88	226	54	14	7	.27
22	28	46	3.5	73	118	23	14	7	.27
23	29	31	2.4	67	141	29	13	8	.28
24	30	22	1.7	38	123	13	13	8	.29
25	39	170	24	37	124	13	12	9	.29
26	33	270	24	32	105	9.1	12	9	.30
27	26	167	12	29	88	6.9	11	10	.31
28	23	88	5.5	26	82	5.8	12	11	.34
29	21	43	2.5	25	75	5.0	13	11	.41
30	20	22	1.2	29	105	10	11	12	.37
31	52	176	58	---	---	---	11	13	.36
TOTAL	1004	---	1030.5	1671	---	3305.7	510	---	26.09

RIO JACAGUAS BASIN

50110900 RIO TOA VACA ABOVE LAGO TOA VACA, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JANUARY			FEBRUARY			MARCH			
1	10	13	.37	6.6	3	.05	4.7	5	.06
2	9.9	14	.38	6.4	3	.06	4.7	6	.07
3	10	15	.43	6.3	4	.06	4.6	6	.08
4	10	16	.44	6.3	4	.07	4.5	7	.09
5	10	17	.47	6.3	8	.14	4.5	8	.10
6	9.9	18	.48	6.2	19	.33	4.6	9	.11
7	9.8	19	.51	6.2	42	.70	4.1	11	.12
8	8.9	20	.49	6.2	36	.60	4.1	12	.14
9	8.4	22	.49	5.6	23	.34	3.7	14	.14
10	8.1	23	.50	5.3	14	.20	3.5	13	.12
11	7.6	24	.50	5.2	9	.13	3.4	12	.11
12	7.5	26	.52	5.1	6	.09	3.5	11	.10
13	7.5	27	.56	4.9	4	.06	3.5	10	.09
14	7.6	29	.59	4.9	4	.05	3.4	9	.09
15	7.2	31	.60	4.9	3	.04	3.9	12	.13
16	8.8	33	.78	4.8	3	.04	4.4	16	.19
17	7.5	35	.70	4.7	5	.06	4.3	14	.16
18	7.3	37	.72	4.9	10	.13	4.3	10	.12
19	7.0	39	.74	5.0	18	.24	4.2	8	.09
20	6.8	41	.76	5.3	21	.30	4.2	6	.06
21	6.8	44	.81	4.9	23	.31	4.4	4	.05
22	6.7	47	.85	7.0	29	.63	4.0	3	.03
23	6.5	49	.85	6.4	14	.26	3.8	2	.02
24	6.3	40	.69	7.4	6	.12	4.3	2	.03
25	6.4	31	.53	8.0	4	.08	4.0	3	.03
26	7.4	21	.41	5.5	4	.06	3.9	3	.03
27	6.9	10	.18	5.2	5	.06	3.8	3	.04
28	6.9	5	.09	5.1	4	.06	4.6	6	.09
29	6.8	2	.04	4.9	4	.06	9.4	24	.68
30	6.9	2	.04	---	---	---	4.9	6	.08
31	6.8	3	.05	---	---	---	8.1	18	1.0
TOTAL	244.2	---	15.57	165.5	---	5.33	137.3	---	4.25
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
APRIL			MAY			JUNE			
1	8.5	23	.59	4.5	10	.13	6.7	17	.31
2	5.2	12	.17	3.7	4	.04	6.4	19	.32
3	4.6	9	.11	7.7	19	.73	6.3	19	.33
4	4.2	6	.07	16	51	4.1	6.0	20	.33
5	4.0	5	.05	14	40	1.6	5.9	21	.33
6	3.9	3	.03	7.9	21	.46	5.6	21	.32
7	3.9	3	.03	7.8	23	.68	5.4	21	.31
8	3.9	3	.03	17	63	8.6	5.4	16	.23
9	3.9	3	.03	28	95	11	5.5	11	.16
10	3.7	3	.03	20	63	3.7	5.4	9	.13
11	3.5	3	.03	14	38	1.8	5.3	8	.12
12	3.4	3	.03	20	54	3.0	7.1	12	.31
13	3.3	4	.04	14	27	1.0	8.5	10	.27
14	3.5	4	.04	8.9	15	.36	12	24	1.3
15	3.4	4	.04	6.8	8	.15	9.8	28	.78
16	3.5	4	.04	5.5	4	.06	17	28	1.9
17	3.8	4	.04	14	38	3.5	12	16	.50
18	4.7	4	.05	40	192	58	7.6	13	.27
19	11	21	.86	63	372	199	6.3	11	.19
20	8.6	24	.63	26	38	3.0	5.6	9	.14
21	6.3	11	.18	16	8	.35	5.2	8	.12
22	4.8	6	.09	12	6	.19	4.9	8	.10
23	4.3	4	.05	10	4	.12	4.5	7	.09
24	4.0	3	.03	10	5	.13	4.4	10	.12
25	3.8	2	.02	8.8	6	.14	4.4	17	.20
26	3.7	1	.01	8.5	7	.15	4.3	26	.31
27	3.6	1	.01	7.5	7	.15	4.1	34	.38
28	3.5	2	.01	8.3	16	.39	3.8	18	.18
29	3.5	3	.03	7.4	8	.15	3.5	9	.08
30	3.6	5	.05	7.8	7	.14	3.5	7	.07
31	---	---	---	7.0	13	.24	---	---	---
TOTAL	135.6	---	3.42	442.1	---	303.06	192.4	---	10.20

RIO JACAGUAS BASIN

50110900 RIO TOA VACA ABOVE LAGO TOA VACA, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JULY			AUGUST			SEPTEMBER			
1	3.5	7	.07	3.0	25	.21	4.4	7	.14
2	4.2	8	.09	3.4	18	.17	3.6	11	.11
3	3.6	8	.08	3.1	11	.09	3.6	11	.10
4	3.3	8	.07	3.1	10	.08	9.8	34	2.6
5	3.1	7	.05	3.3	9	.08	30	110	28
6	3.1	5	.04	2.9	9	.07	15	10	.42
7	3.3	4	.04	2.8	8	.06	8.3	5	.10
8	3.2	4	.04	2.8	8	.06	6.3	3	.06
9	3.1	4	.03	2.6	5	.03	5.3	5	.07
10	2.8	4	.03	3.1	2	.02	4.8	8	.10
11	2.8	4	.03	2.7	1	.01	5.8	13	.21
12	2.6	3	.02	2.6	1	.01	5.2	23	.32
13	2.8	3	.02	2.6	2	.01	4.7	36	.46
14	2.7	2	.02	2.7	2	.02	4.2	24	.27
15	2.8	2	.02	3.3	3	.03	4.1	12	.13
16	2.7	2	.02	3.5	4	.04	3.8	9	.09
17	2.4	3	.02	3.2	4	.04	78	187	656
18	2.5	3	.02	3.2	5	.04	281	852	2330
19	2.2	5	.03	3.3	5	.05	41	39	4.6
20	2.4	7	.04	3.4	5	.05	23	28	2.2
21	2.7	3	.02	3.0	5	.04	46	131	45
22	2.5	3	.02	6.4	10	.38	46	41	5.7
23	2.6	4	.03	86	290	110	43	85	13
24	2.6	6	.04	9.7	12	.38	38	125	13
25	2.5	9	.06	7.4	10	.28	27	41	3.0
26	2.2	9	.05	9.6	27	.94	23	13	.81
27	2.2	7	.04	7.7	21	.45	21	5	.31
28	2.3	6	.04	5.5	14	.22	26	29	2.7
29	4.0	8	.10	4.7	10	.12	22	7	.43
30	5.4	12	.17	3.9	6	.07	21	3	.16
31	3.4	18	.16	3.6	4	.04	---	---	---
TOTAL	91.5	---	1.51	208.1	---	114.09	854.9	---	3110.09
YEAR	5656.6		7929.81						
e Estimated									

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

SILT AND CLAY PERCENT OF SUSPENDED SEDIMENT

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
NOV					
18...	0729	285	8930	6870	94
18...	0757	285	8730	6720	96
18...	1630	194	17600	9230	83
MAY					
12...	1406	17	47	2.2	100
19...	1502	545	3120	4600	95
AUG					
11...	1708	2.2	15	.09	98
SEP					
18...	0330	385	986	1020	93

RIO JACAGUAS BASIN

50110900 RIO TOA VACA ABOVE LAGO TOA VACA, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM (70326)	SED. SUSP. FALL DIAM. % FINER THAN .004 MM (70327)	SED. SUSP. FALL DIAM. % FINER THAN .008 MM (70328)	
NOV 18...	0742	295	8440	6720	31	43	58	
SEP 17...	2330	1710	2830	13000	36	44	57	
DATE		SED. SUSP. FALL DIAM. % FINER THAN .016 MM (70329)	SED. SUSP. FALL DIAM. % FINER THAN .031 MM (70330)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM (70332)	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM (70333)	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM (70334)	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM (70335)
NOV 18...	72	86	91	97	99	100	100	
SEP 17...	69	82	90	95	97	98	98	

50111210 LAGO TOA VACA AT DAMSITE NEAR VILLALBA, PR

LOCATION.--Lat 18°06'07", long 66°29'23", Hydrologic Unit 21010004, in a concrete gate tower at Damsite on Río Toa Vaca, 0.45 mi (0.7 km) northwest from Escuela Higüero, 2.0 mi (3.2 km) south from Villalba Plaza.

DRAINAGE AREA.--22.0 mi² (57.9 km²).

PERIOD OF RECORD.--August 1997 to current year.

GAGE.--Water stage recorder. Datum of gage is mean sea level.

REMARKS.--Lago Toa Vaca was completed in 1972. The dam is located in the Toa Vaca river just upstream from Guayabal reservoir. The Toa Vaca dam is a zoned earth and rockfill embankment structure. At crest elevation 555.00 ft (169.2 m) (Top of Dam), the dam is approximately 1,740 ft (530.3 m) long about 215 ft (65.53 m) height, and has a maximum storage capacity of about 67,759 ac-ft (83.55 hm³) at top of dam elevation. The Toa Vaca Dam is owned by the Puerto Rico Aqueduct and Sewer Authority and its primary purpose is to provide water for municipal and industrial use, and for irrigation of some of the lands served by the South Coast irrigation district thru the Juana Díaz canal. Gage-height and precipitation satellite telemetry at station.

EXTREMES OBSERVED FOR PERIOD OF RECORD.--Maximum elevation, 535.24 ft (163.14 m) Nov. 13, 1998; minimum elevation, 488.68 ft (148.95 m), Sept. 28, 1997.

EXTREMES OBSERVED FRO CURRENT YEAR.--Maximum elevation, 527.13 ft (160.66 m), Dec.2; minimum elevation, 490.86 ft (149.62 m), Sept. 17.

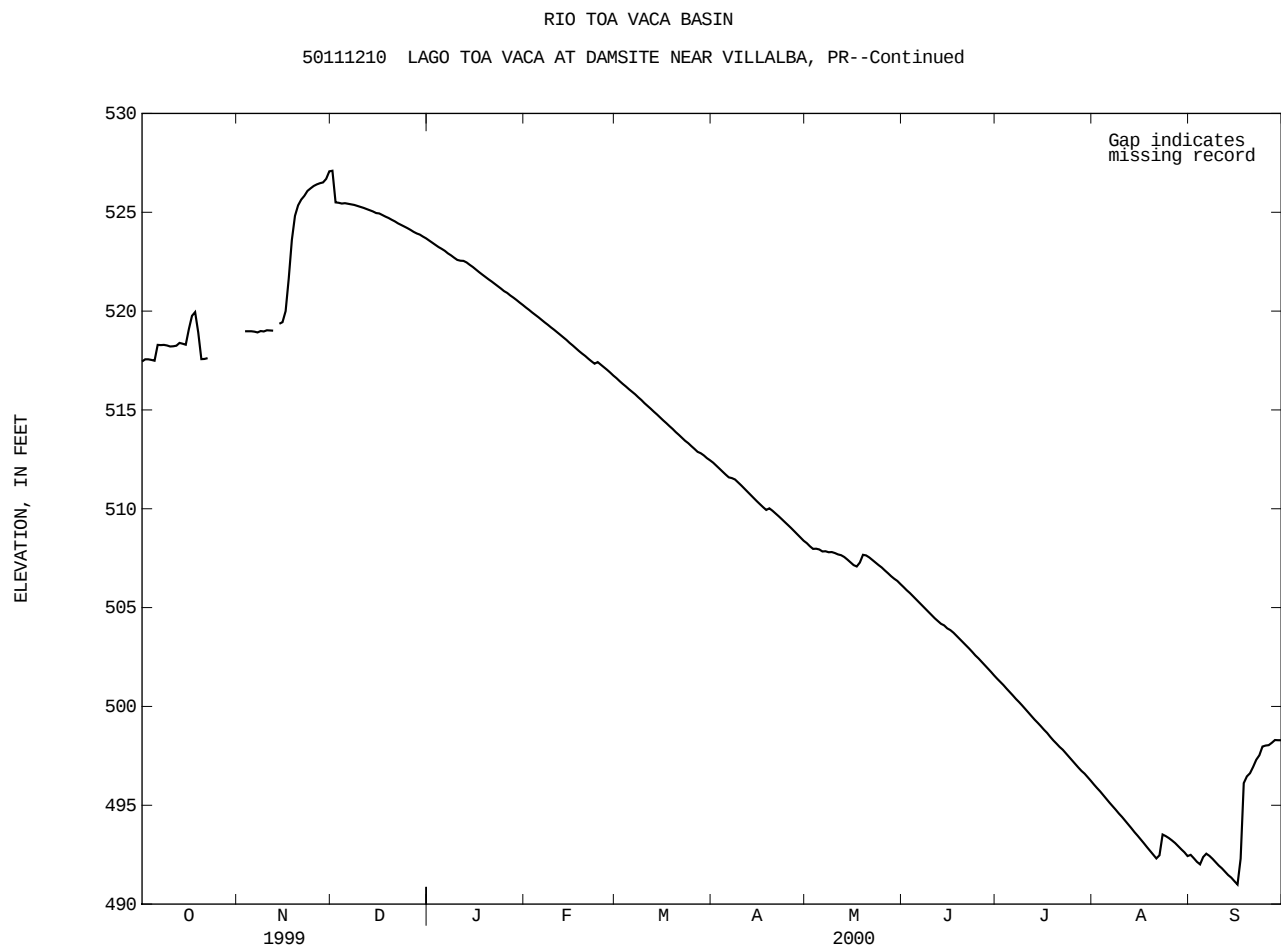
Capacity Table
(based on data from Puerto Rico Electric Power Authority)

Elevation, in feet	Contents, in acre-feet	Elevation, in feet	Contents, in acre-feet
345.00	0	489.80	23,756
488.70	23,259	531.20	48,362
		570.00	81,991

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	517.45	A	527.10	523.57	520.18	516.61	512.33	508.26	506.04	501.40	496.05	492.49
2	517.56	A	525.50	523.46	520.06	516.46	512.18	508.10	505.88	501.24	495.87	492.32
3	517.56	518.98	525.48	523.35	519.93	516.32	512.03	507.97	505.74	501.08	495.70	492.14
4	517.53	518.98	525.44	523.24	519.81	516.19	511.88	507.98	505.58	500.90	495.51	492.01
5	517.49	518.98	525.46	523.15	519.69	516.05	511.73	507.94	505.42	500.73	495.32	492.38
6	518.29	518.96	525.43	523.05	519.56	515.92	511.59	507.84	505.26	500.56	495.13	492.55
7	518.28	518.92	525.40	522.92	519.43	515.79	511.55	507.85	505.10	500.38	494.95	492.44
8	518.29	518.99	525.37	522.82	519.31	515.64	511.48	507.80	504.94	500.22	494.77	492.29
9	518.26	518.97	525.32	522.70	519.18	515.50	511.33	507.81	504.78	500.05	494.58	492.12
10	518.21	519.03	525.27	522.59	519.06	515.34	511.18	507.76	504.62	499.87	494.41	491.95
11	518.22	519.02	525.22	522.55	518.93	515.20	511.02	507.69	504.46	499.69	494.22	491.81
12	518.25	519.01	525.16	522.54	518.80	515.06	510.86	507.65	504.32	499.51	494.03	491.64
13	518.39	A	525.10	522.46	518.67	514.91	510.70	507.56	504.18	499.33	493.84	491.47
14	518.35	519.36	525.04	522.34	518.54	514.77	510.54	507.43	504.10	499.17	493.64	491.34
15	518.30	519.44	524.96	522.23	518.39	514.62	510.38	507.29	503.95	499.00	493.46	491.16
16	519.09	520.00	524.94	522.10	518.26	514.47	510.23	507.15	503.86	498.82	493.27	490.99
17	519.76	521.65	524.86	521.97	518.12	514.33	510.08	507.08	503.73	498.66	493.08	492.30
18	519.95	523.60	524.78	521.85	517.98	514.18	509.94	507.28	503.57	498.46	492.88	496.12
19	518.92	524.82	524.71	521.73	517.85	514.04	510.02	507.67	503.41	498.28	492.69	496.46
20	517.57	525.35	524.62	521.61	517.73	513.88	509.90	507.64	503.25	498.12	492.50	496.62
21	517.58	525.64	524.54	521.50	517.59	513.74	509.76	507.54	503.09	497.95	492.31	496.94
22	517.62	525.83	524.44	521.38	517.46	513.59	509.62	507.41	502.93	497.81	492.47	497.30
23	A	526.08	524.36	521.26	517.34	513.44	509.47	507.28	502.76	497.63	493.52	497.53
24	A	526.21	524.28	521.14	517.42	513.32	509.32	507.15	502.58	497.45	493.44	497.97
25	A	526.33	524.20	521.01	517.29	513.17	509.17	507.03	502.43	497.27	493.34	498.02
26	A	526.41	524.11	520.92	517.16	513.03	509.02	506.88	502.26	497.09	493.22	498.04
27	A	526.47	524.01	520.79	517.03	512.88	508.86	506.74	502.09	496.91	493.09	498.16
28	A	526.51	523.93	520.68	516.89	512.81	508.70	506.59	501.92	496.74	492.93	498.30
29	A	526.69	523.87	520.56	516.74	512.70	508.54	506.46	501.75	496.60	492.77	498.29
30	A	527.07	523.77	520.43	---	512.56	508.38	506.35	501.57	496.42	492.62	498.29
31	A	---	523.68	520.31	---	512.45	---	506.19	---	496.24	492.43	---
TOTAL	11400.92	14107.30	16270.35	16182.21	15034.40	15948.97	15311.79	15729.37	15115.57	15463.58	15308.04	14831.44
MAX	519.95	527.07	527.10	523.57	520.18	516.61	512.33	508.26	506.04	501.40	496.05	498.30
MIN	517.45	518.92	523.68	520.31	516.74	512.45	508.38	506.19	501.57	496.24	492.31	490.99

A No gage-height record



RIO JACAGUAS BASIN

50111300 LAGO GUAYABAL AT DAMSITE NEAR JUANA DIAZ, PR

LOCATION.--Lat 18°05'17", long 66°30'09", Hydrologic Unit 21010004, at Damsite, 2.30 mi (3.70 km) northeast from Juana Díaz plaza, 0.70 mi (1.13 km) northeast from Escuela Salvador Bousquets and 2.45 mi (3.94 km) southeast from Escuela Zoilo Gracia.

DRAINAGE AREA.--43.3 mi² (112.1 km²).

ELEVATION RECORDS

PERIOD OF RECORD.--April 1995 to current year.

GAGE.--Water stage recorder. Datum of gage is mean sea level.

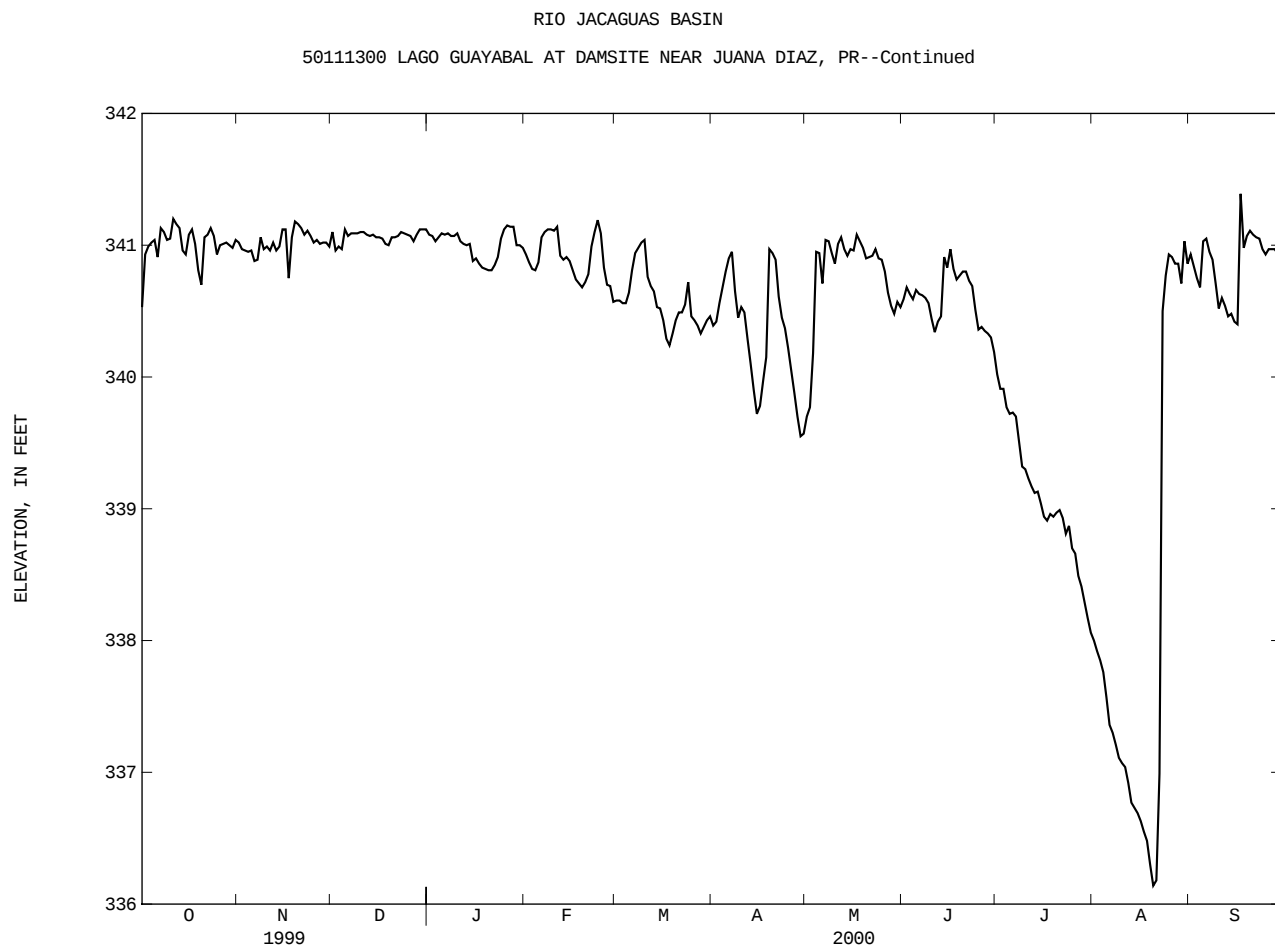
REMARKS.--Lago Guayabal was completed in 1913. The dam is a reinforced concrete, flat slab and buttress-type structure about 130 ft (40 m) height, a net crest length at the right side of the dam of 693 ft (211 m) and a crest elevation of 331 ft (101 m). It has a maximum storage capacity of 7,600 acre-feet (9.37 hm³). The Guayabal Dam is owned by the Puerto Rico Electric Power Authority (P.R.E.P.A) and its primary purpose is for irrigation of lands served by the Juana Díaz Canal. Gage-height and precipitation satellite telemetry at station.

EXTREMES OBSERVED FOR PERIOD OF RECORD.--Maximum elevation, 342.24 ft (104.31 m), Sept. 01, 2000; minimum elevation, 325.99 ft (99.36 m), Sept. 29, 1997.

EXTREMES OBSERVED FOR CURRENT YEAR.--Maximum elevation, 342.24 ft (104.31 m), Sept. 01; minimum elevation, 336.06 ft (102.43 m), Aug. 21.

Capacity Table
(based on data from Puerto Rico Electric Power Authority)

	Elevation, in feet			Contents, in acre-feet			Elevation, in feet			Contents, in acre-feet		
	305 321				366 2,010			330 341			3,885 7,360	
ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000 DAILY OBSERVATION AT 2400 HOURS												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	340.53	341.02	341.10	341.08	340.93	340.58	340.39	339.70	340.59	340.02	338.00	340.93
2	340.93	340.97	340.96	341.07	340.87	340.58	340.42	339.77	340.68	339.91	337.92	340.84
3	340.99	340.96	340.99	341.03	340.82	340.56	340.56	340.18	340.63	339.91	337.85	340.75
4	341.02	340.95	340.97	341.06	340.81	340.56	340.68	340.95	340.59	339.77	337.76	340.68
5	341.04	340.96	341.12	341.09	340.87	340.64	340.80	340.94	340.66	339.72	337.57	341.03
6	340.91	340.88	341.07	341.08	341.06	340.81	340.90	340.71	340.63	339.73	337.36	341.05
7	341.13	340.89	341.09	341.09	341.10	340.94	340.95	341.04	340.62	339.70	337.30	340.95
8	341.10	341.06	341.09	341.07	341.12	340.98	340.65	341.03	340.60	339.51	337.21	340.89
9	341.04	340.97	341.09	341.07	341.12	341.02	340.45	340.94	340.56	339.32	337.11	340.71
10	341.05	340.99	341.10	341.09	341.11	341.04	340.53	340.86	340.44	339.30	337.07	340.52
11	341.20	340.96	341.10	341.03	341.14	340.76	340.49	341.01	340.34	339.23	337.04	340.60
12	341.16	341.02	341.08	341.01	340.92	340.69	340.29	341.06	340.42	339.17	336.92	340.54
13	341.13	340.96	341.07	341.00	340.89	340.65	340.10	340.97	340.46	339.12	336.77	340.46
14	340.96	340.99	341.08	341.01	340.91	340.53	339.90	340.92	340.91	339.13	336.73	340.48
15	340.93	341.12	341.06	340.88	340.88	340.52	339.72	340.97	340.83	339.04	336.69	340.42
16	341.08	341.12	341.06	340.90	340.81	340.43	339.78	340.96	340.97	338.94	336.63	340.40
17	341.12	340.75	341.05	340.86	340.74	340.29	339.97	341.08	340.82	338.91	336.55	341.39
18	341.01	341.06	341.01	340.83	340.71	340.24	340.15	341.03	340.74	338.96	336.48	340.98
19	340.81	341.18	341.00	340.82	340.68	340.33	340.97	340.98	340.77	338.94	336.30	341.07
20	340.70	341.16	341.06	340.81	340.72	340.43	340.94	340.90	340.80	338.97	336.14	341.11
21	341.06	341.13	341.06	340.81	340.78	340.49	340.89	340.91	340.80	338.99	336.18	341.08
22	341.08	341.08	341.07	340.85	340.99	340.49	340.61	340.92	340.73	338.93	336.99	341.06
23	341.13	341.11	341.10	340.91	341.10	340.55	340.45	340.97	340.69	338.81	340.50	341.05
24	341.07	341.07	341.09	341.05	341.19	340.72	340.37	340.90	340.51	338.87	340.77	340.97
25	340.93	341.02	341.08	341.12	341.09	340.46	340.22	340.89	340.36	338.70	340.93	340.93
26	341.00	341.04	341.07	341.15	340.83	340.43	340.05	340.80	340.38	338.66	340.91	340.97
27	341.01	341.01	341.03	341.14	340.70	340.39	339.88	340.64	340.35	338.49	340.86	340.97
28	341.02	341.02	341.08	341.14	340.69	340.33	339.70	340.54	340.33	338.41	340.86	340.97
29	341.00	341.02	341.12	341.00	340.57	340.38	339.55	340.48	340.30	338.29	340.71	340.92
30	340.98	340.99	341.12	341.00	---	340.43	339.57	340.57	340.19	338.17	341.03	340.97
31	341.04	---	341.12	340.98	---	340.46	---	340.53	---	338.06	340.86	---
MAX	341.20	341.18	341.12	341.15	341.19	341.04	340.97	341.08	340.97	340.02	341.03	341.39
MIN	340.53	340.75	340.96	340.81	340.57	340.24	339.55	339.70	340.19	338.06	336.14	340.40



50111500 RIO JACAGUAS AT JUANA DIAZ, PR

LOCATION.--Lat 18°03'16", long 66°30'40", Hydrologic Unit 21010004, on Highway 14 bridge, 0.4 mi (0.6 km) west of Juana Díaz plaza, and 4.0 mi (6.4 km) downstream from Lago Guayabal.

DRAINAGE AREA.--49.8 mi² (129.0 km²).

PERIOD OF RECORD.--March 1984 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 131 ft (40 m), from topographic map.

REMARKS.--Records poor. Flow regulation from Lago Guayabal. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e308	116	146	53	e12	13	11	18	28	15	7.5	e10
2	e457	302	561	45	e11	13	12	18	28	14	7.3	e8.0
3	e213	179	139	36	11	13	12	18	27	14	7.1	e8.0
4	e195	139	107	29	11	13	12	148	26	13	6.9	e22
5	e226	133	95	34	11	15	13	128	25	13	6.7	e125
6	e516	116	94	44	13	14	15	60	25	14	6.4	e27
7	e518	92	84	41	28	13	19	115	24	14	6.3	e18
8	e439	126	84	38	34	16	22	105	24	13	6.1	e13
9	e366	158	82	37	33	19	13	101	23	13	e5.9	e12
10	e189	126	77	36	32	25	12	62	23	13	e7.0	e11
11	e208	127	71	29	34	20	12	44	23	13	e6.0	e13
12	e421	e137	77	21	30	10	14	104	21	12	e5.8	e11
13	e351	e360	72	19	13	9.7	14	108	21	12	e5.8	e10
14	e223	e131	68	18	13	9.1	13	68	25	12	e6.2	e9.4
15	71	189	e60	16	12	9.1	12	62	59	11	e7.6	e9.3
16	90	590	e68	13	12	9.0	13	66	56	11	e7.8	e8.4
17	142	649	e52	14	12	9.0	13	109	71	11	e7.0	e45
18	133	721	e49	14	11	9.0	14	182	35	11	e7.0	e1200
19	411	549	e40	14	11	9.6	34	185	27	10	e7.4	e100
20	475	380	e39	14	13	10	58	100	26	9.7	e7.6	e54
21	62	310	45	13	13	10	49	71	24	10	e6.8	e110
22	128	239	46	13	13	10	31	67	23	11	e25	e110
23	130	248	47	16	23	10	20	62	21	10	e360	e100
24	137	206	56	16	67	11	18	81	20	9.6	e22	e86
25	296	170	55	26	69	11	17	58	19	9.3	e17	e61
26	98	155	52	44	33	9.7	16	49	18	8.9	e40	e50
27	96	142	41	e42	14	9.3	16	37	17	8.6	e15	e49
28	89	131	33	e38	14	11	16	33	16	8.4	e12	e60
29	86	240	51	e39	13	12	16	32	16	8.6	e10	e50
30	79	277	47	e20	---	10	17	35	16	8.3	e8.4	e48
31	122	---	55	e15	---	11	---	30	---	7.6	e8.0	---
TOTAL	7275	7438	2593	847	616	373.5	554	2356	807	349.0	659.6	2438.1
MEAN	235	248	83.6	27.3	21.2	12.0	18.5	76.0	26.9	11.3	21.3	81.3
MAX	518	721	561	53	69	25	58	185	71	15	360	1200
MIN	62	92	33	13	11	9.0	11	18	16	7.6	5.8	8.0
AC-FT	14430	14750	5140	1680	1220	741	1100	4670	1600	692	1310	4840
CFSM	4.71	4.98	1.68	.55	.43	.24	.37	1.53	.54	.23	.43	1.63
IN.	5.43	5.56	1.94	.63	.46	.28	.41	1.76	.60	.26	.49	1.82

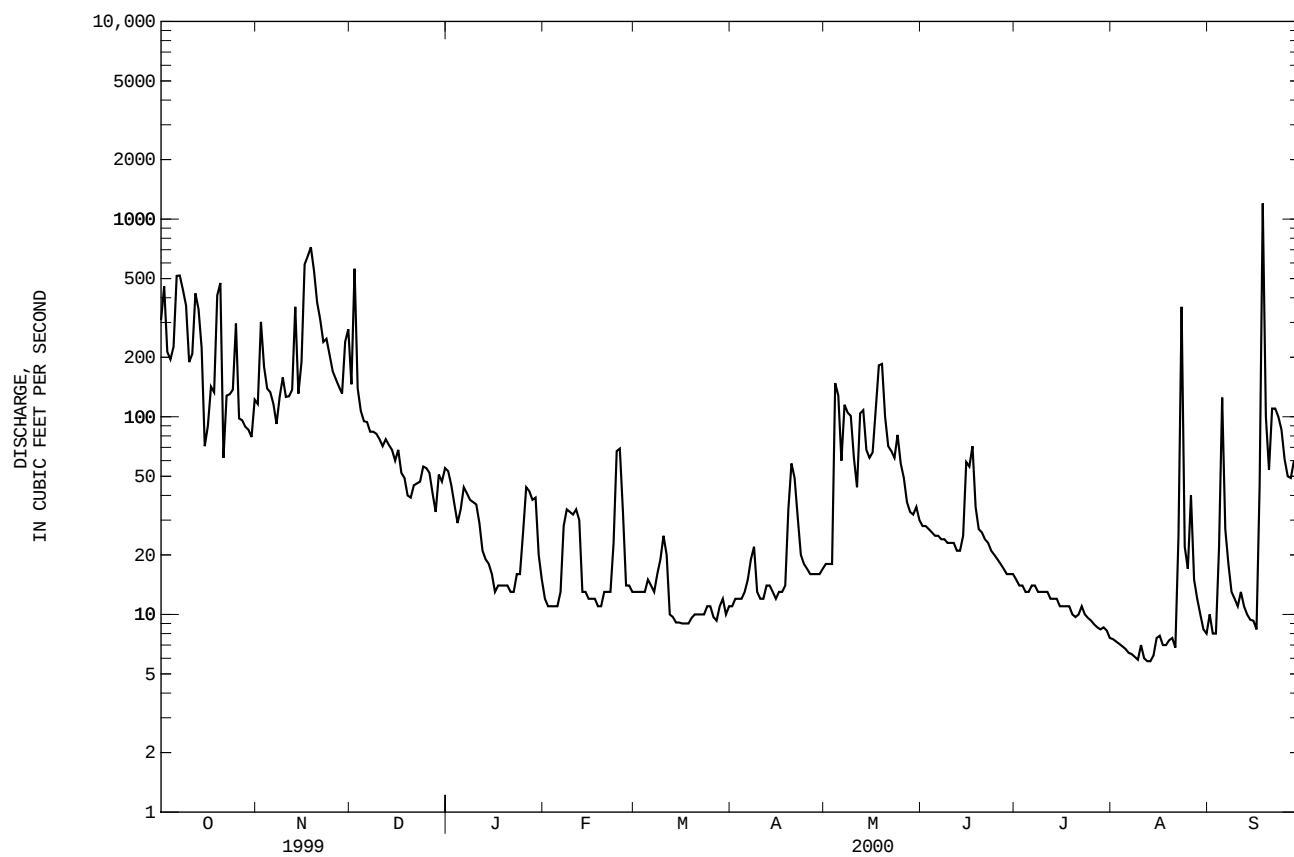
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 2000, BY WATER YEAR (WY)

	MEAN	125	98.3	36.0	23.7	9.58	5.60	13.8	64.8	38.8	21.2	27.6	89.8
MAX	445	287	151	144	21.2	12.0	46.7	215	198	82.4	136	667	
(WY)	1986	1988	1988	1992	2000	2000	1998	1985	1987	1987	1998	1998	
MIN	4.31	7.57	6.20	1.71	1.98	1.95	1.84	1.46	.93	1.04	1.59	.76	
(WY)	1995	1995	1998	1998	1994	1994	1994	1994	1994	1994	1994	1997	

SUMMARY STATISTICS	FOR 1999 CALENDAR YEAR				FOR 2000 WATER YEAR				WATER YEARS 1984 - 2000			
ANNUAL TOTAL	30231.4				26306.2							
ANNUAL MEAN	82.8				71.9				47.4			
HIGHEST ANNUAL MEAN									93.1			
LOWEST ANNUAL MEAN									6.23			
HIGHEST DAILY MEAN	721				1200				8530			
LOWEST DAILY MEAN	4.5				5.8				.24			
ANNUAL SEVEN-DAY MINIMUM	4.7				6.1				.51			
INSTANTANEOUS PEAK FLOW					unknown				40000			
INSTANTANEOUS PEAK STAGE					unknown				29.42			
ANNUAL RUNOFF (AC-FT)	59960				52180				34310			
ANNUAL RUNOFF (CFSM)	1.66				1.44				.95			
ANNUAL RUNOFF (INCHES)	22.58				19.65				12.92			
10 PERCENT EXCEEDS	229				180				104			
50 PERCENT EXCEEDS	35				24				9.3			
90 PERCENT EXCEEDS	6.2				9.1				2.4			

e Estimated

RIO JACAGUAS BASIN
50111500 RIO JACAGUAS AT JUANA DIAZ, PR--Continued



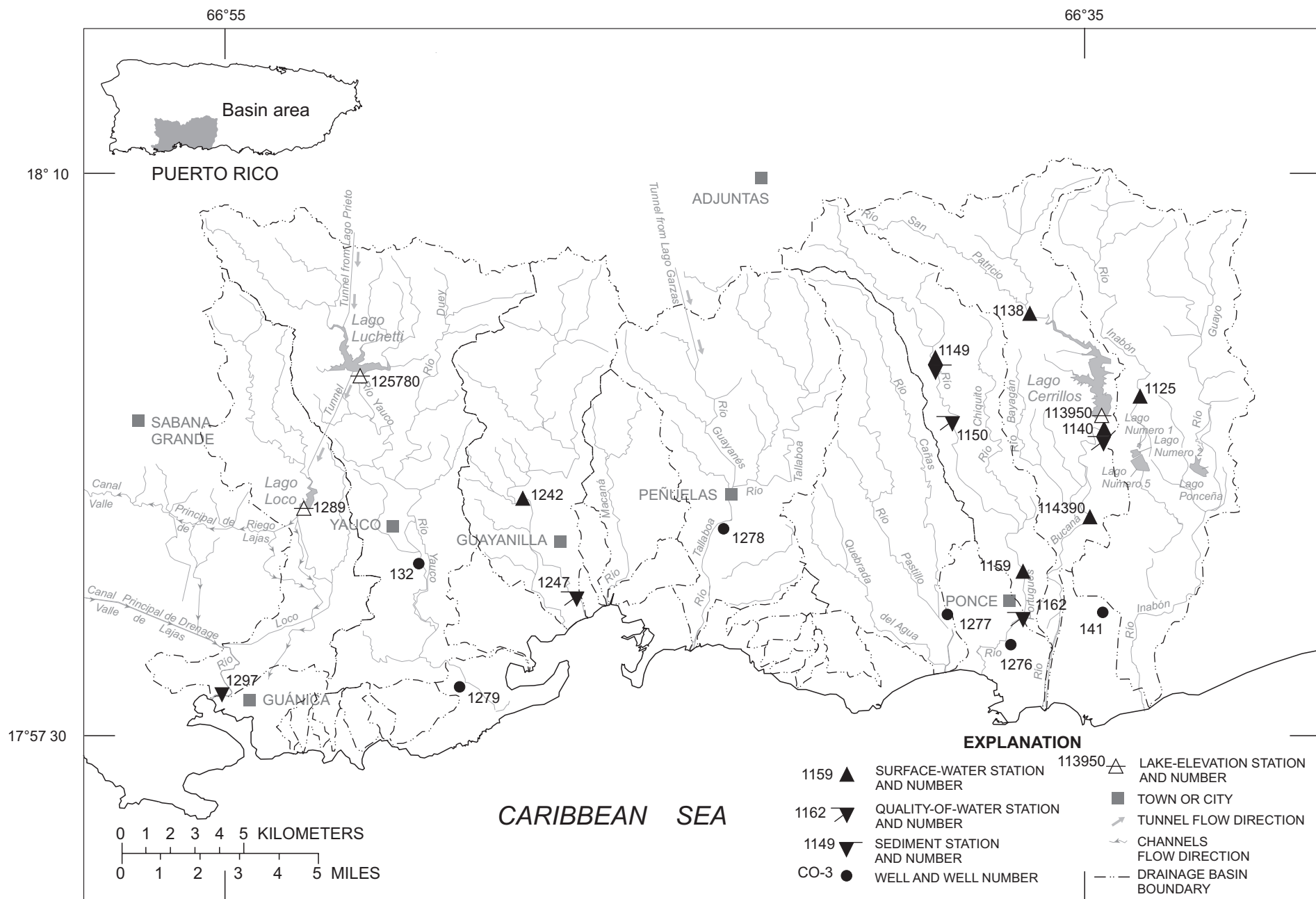


Figure 22. South coast river basins -- Río Inabón to Río Loco basins.

RIO INABON BASIN

50112500 RIO INABON AT REAL ABAJO, PR

LOCATION.--Lat 18°05'10", long 66°33'46", Hydrologic Unit 21010004, at bridge on private road, off Highway 511 at Hacienda La Concordia, 0.4 mi (0.6 km) upstream from diversion canal, 0.5 mi (0.8 km) north of Real Abajo, and 6.1 mi (9.8 km) northeast of Plaza Degetau in Ponce.

DRAINAGE AREA.--9.70 mi² (25.12 km²).

PERIOD OF RECORD.--1962-63 (annual low-flow measurements only), February to June 1964 (monthly measurements only), July 1964 to July 1970, April 1971 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 410 ft (125 m), from topographic map. Prior to April 1971 non-recording gage and crest-stage gage at different datum.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	75	48	44	12	5.2	4.1	e5.7	8.5	22	8.9	6.2	51
2	70	55	41	11	5.2	3.9	e5.8	8.2	21	10	5.5	41
3	65	51	40	11	5.2	3.7	5.8	25	20	10	4.6	27
4	63	45	36	11	5.2	3.7	6.1	48	19	9.7	4.4	21
5	62	46	34	12	5.2	3.5	5.8	20	18	9.2	4.1	26
6	78	43	33	11	5.3	3.7	5.7	9.8	18	8.1	3.9	29
7	66	40	32	10	5.2	4.0	12	38	17	8.1	3.5	24
8	63	38	30	10	5.2	3.9	11	55	17	7.5	3.9	19
9	59	37	29	9.9	5.1	4.1	7.3	45	17	7.2	3.6	17
10	60	36	28	9.5	5.2	4.2	13	29	19	7.6	4.0	16
11	97	36	26	9.4	5.1	4.3	17	39	16	7.8	4.2	14
12	58	34	25	8.9	4.9	4.5	12	37	17	7.5	3.7	12
13	48	40	24	8.5	4.7	5.0	10	30	31	7.9	3.3	11
14	43	35	23	8.7	4.8	4.9	10	21	43	8.3	3.1	16
15	40	58	22	8.5	5.0	4.8	9.8	17	22	7.3	3.6	13
16	39	81	21	11	4.9	5.1	9.5	13	19	7.2	4.1	14
17	61	111	20	7.8	4.7	5.2	9.7	28	15	8.2	4.3	61
18	50	131	19	7.2	4.7	5.2	12	33	15	10	e3.8	352
19	42	118	19	6.9	4.7	5.1	27	38	16	8.9	e4.0	107
20	40	87	18	6.9	4.7	4.7	21	27	22	7.6	e3.5	83
21	38	66	17	6.8	5.0	4.8	17	18	16	7.6	e3.4	70
22	38	58	17	6.5	5.6	4.5	12	17	13	11	e18	62
23	39	55	16	6.5	15	4.3	9.2	39	11	8.0	e58	63
24	39	50	15	6.4	14	4.2	7.3	36	10	7.9	e12	60
25	80	47	14	7.6	13	4.0	6.2	32	11	7.3	e24	52
26	50	45	14	8.7	5.8	4.6	6.4	30	11	5.3	41	48
27	42	43	13	8.1	4.7	5.7	5.9	26	10	4.9	30	81
28	43	42	12	7.1	4.3	8.4	5.0	25	8.6	4.8	23	67
29	40	42	17	6.2	4.2	16	5.2	27	8.1	5.3	29	53
30	60	51	13	5.7	---	7.6	5.8	27	7.7	5.6	58	49
31	62	---	12	5.0	---	7.5	---	23	---	5.1	31	---
TOTAL	1710	1669	724	265.8	171.8	159.2	296.2	869.5	510.4	239.8	408.7	1559
MEAN	55.2	55.6	23.4	8.57	5.92	5.14	9.87	28.0	17.0	7.74	13.2	52.0
MAX	97	131	44	12	15	16	27	55	43	11	58	352
MIN	38	34	12	5.0	4.2	3.5	5.0	8.2	7.7	4.8	3.1	11
AC-FT	3390	3310	1440	527	341	316	588	1720	1010	476	811	3090
CFSM	5.69	5.74	2.41	.88	.61	.53	1.02	2.89	1.75	.80	1.36	5.36
IN.	6.56	6.40	2.78	1.02	.66	.61	1.14	3.33	1.96	.92	1.57	5.98

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 2000, BY WATER YEAR (WY)

MEAN	45.7	33.2	12.4	8.48	5.86	5.90	9.15	19.4	16.2	11.7	17.6	35.8
MAX	148	77.9	26.5	45.5	13.1	16.4	35.9	76.7	49.8	32.7	46.1	119
(WY)	1986	1978	1966	1992	1996	1972	1998	1969	1969	1979	1979	1975
MIN	14.5	8.32	4.43	4.11	3.05	1.85	2.76	1.94	2.75	1.77	4.47	6.16
(WY)	1994	1977	1977	1989	1977	1977	1975	1967	1967	1990	1974	1997

SUMMARY STATISTICS

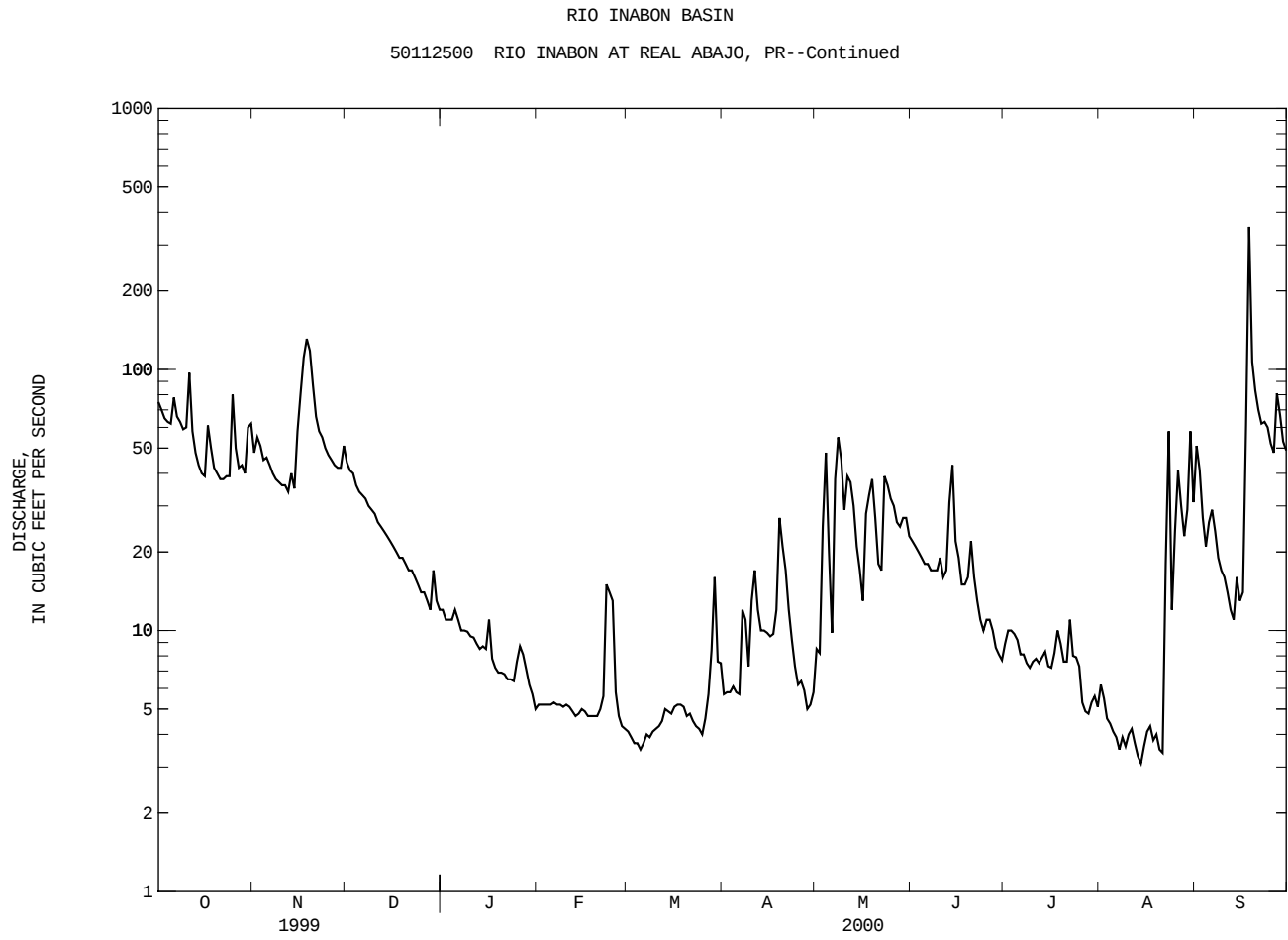
FOR 1999 CALENDAR YEAR

FOR 2000 WATER YEAR

WATER YEARS 1964 - 2000

ANNUAL TOTAL	10254.7	8583.4	
ANNUAL MEAN	28.1	23.5	18.3
HIGHEST ANNUAL MEAN			30.9
LOWEST ANNUAL MEAN			7.44
HIGHEST DAILY MEAN	167	Sep 13	2500
LOWEST DAILY MEAN	3.9	Mar 19	.80
ANNUAL SEVEN-DAY MINIMUM	4.5	Feb 17	3.6
INSTANTANEOUS PEAK FLOW			1110
INSTANTANEOUS PEAK STAGE			11.66
ANNUAL RUNOFF (AC-FT)	20340	17030	13290
ANNUAL RUNOFF (CFSM)	2.90	2.42	1.89
ANNUAL RUNOFF (INCHES)	39.33	32.92	25.70
10 PERCENT EXCEEDS	65	56	40
50 PERCENT EXCEEDS	15	13	9.2
90 PERCENT EXCEEDS	5.6	4.6	3.3

e Estimated



RIO BUCANA BASIN

50113800 RIO CERRILLOS ABOVE LAGO CERRILLOS NEAR PONCE, PR

LOCATION.--Lat 18°07'01", long 66°36'17", Hydrologic Unit 21010004, on right bank, 0.3 mi (0.5 km) downstream from confluence with Río San Patricio, 0.1 mi (0.2 km) southwest of Hwy 139 and 2.4 mi (3.7 km) northwest of Maragüez.

DRAINAGE AREA.-- 11.9 mi² (30.8 km²).

PERIOD OF RECORD.--December 1988 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 720 ft (210 m), from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	92	69	45	17	11	9.5	8.7	11	14	e13	e11	74
2	79	133	45	16	11	9.1	8.3	9.6	13	e12	e12	57
3	68	84	44	16	10	8.9	8.1	29	13	e11	e12	35
4	62	64	39	16	10	8.8	7.5	91	12	e11	e11	24
5	72	64	38	16	10	8.9	7.4	36	12	e12	e10	79
6	64	57	37	15	10	8.9	7.2	44	11	e11	e10	66
7	59	54	35	14	10	8.7	9.8	72	11	e11	e8.2	39
8	70	50	33	14	10	8.6	8.6	132	11	e10	e8.8	28
9	57	48	32	14	10	8.5	7.5	89	11	e10	e9.4	24
10	53	46	31	13	10	8.2	10	39	11	e9.5	e10	23
11	92	45	29	13	10	8.1	9.9	63	10	e10	e9.0	21
12	88	45	28	12	9.8	8.0	9.5	58	12	e9.6	e8.0	18
13	75	47	28	12	9.7	8.0	9.1	40	45	e10	e7.4	17
14	64	42	27	12	9.6	7.9	7.1	28	40	e9.6	e8.2	46
15	59	56	26	12	9.4	7.8	6.8	22	26	e8.6	e9.6	28
16	57	98	25	15	9.2	7.8	6.9	20	21	e9.0	e10	67
17	90	144	24	12	9.1	7.7	7.6	58	16	e8.0	e9.0	99
18	72	225	23	12	9.0	7.7	11	40	13	e8.3	e9.6	473
19	61	186	23	12	9.2	7.8	20	37	13	e9.8	e8.2	108
20	66	115	23	11	9.3	7.6	16	26	47	e9.0	e8.0	88
21	61	81	22	12	10	7.6	15	20	21	e9.4	e23	77
22	60	70	21	12	9.7	7.7	12	18	e16	e9.4	e130	69
23	63	66	20	11	29	7.5	11	21	e16	e9.0	e28	66
24	64	59	20	11	28	8.2	10	18	e15	e8.0	54	63
25	71	56	19	12	18	7.6	9.9	19	e15	e8.0	111	59
26	64	52	19	14	11	7.4	9.7	17	e14	e8.4	81	59
27	61	50	18	12	11	7.4	9.5	16	e13	e16	43	76
28	72	48	19	11	10	8.5	8.9	15	e13	e19	24	81
29	60	45	25	11	9.9	13	8.9	17	e13	e12	39	65
30	72	51	18	11	---	8.5	8.9	17	e15	e11	45	64
31	105	---	17	11	---	8.8	---	14	---	e12	35	---
TOTAL	2153	2250	853	402	332.9	258.7	290.8	1136.6	513	324.6	802.4	2093
MEAN	69.5	75.0	27.5	13.0	11.5	8.35	9.69	36.7	17.1	10.5	25.9	69.8
MAX	105	225	45	17	29	13	20	132	47	19	130	473
MIN	53	42	17	11	9.0	7.4	6.8	9.6	10	8.0	7.4	17
AC-FT	4270	4460	1690	797	660	513	577	2250	1020	644	1590	4150
CFSM	5.84	6.30	2.31	1.09	.96	.70	.81	3.08	1.44	.88	2.18	5.86
IN.	6.73	7.03	2.67	1.26	1.04	.81	.91	3.55	1.60	1.01	2.51	6.54

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 2000, BY WATER YEAR (WY)

MEAN	66.9	37.2	16.9	15.5	12.0	10.9	16.1	25.0	24.1	16.2	35.2	73.2
MAX	154	75.0	27.5	59.0	26.1	27.5	40.7	68.2	46.4	26.7	83.3	196
(WY)	1991	2000	2000	1992	1996	1989	1998	1993	1996	1991	1998	1998
MIN	24.6	9.77	8.10	6.59	6.34	4.77	5.01	4.58	4.14	3.37	11.3	13.1
(WY)	1992	1994	1995	1995	1990	1990	1997	1990	1997	1994	1994	1997

SUMMARY STATISTICS

FOR 1999 CALENDAR YEAR

FOR 2000 WATER YEAR

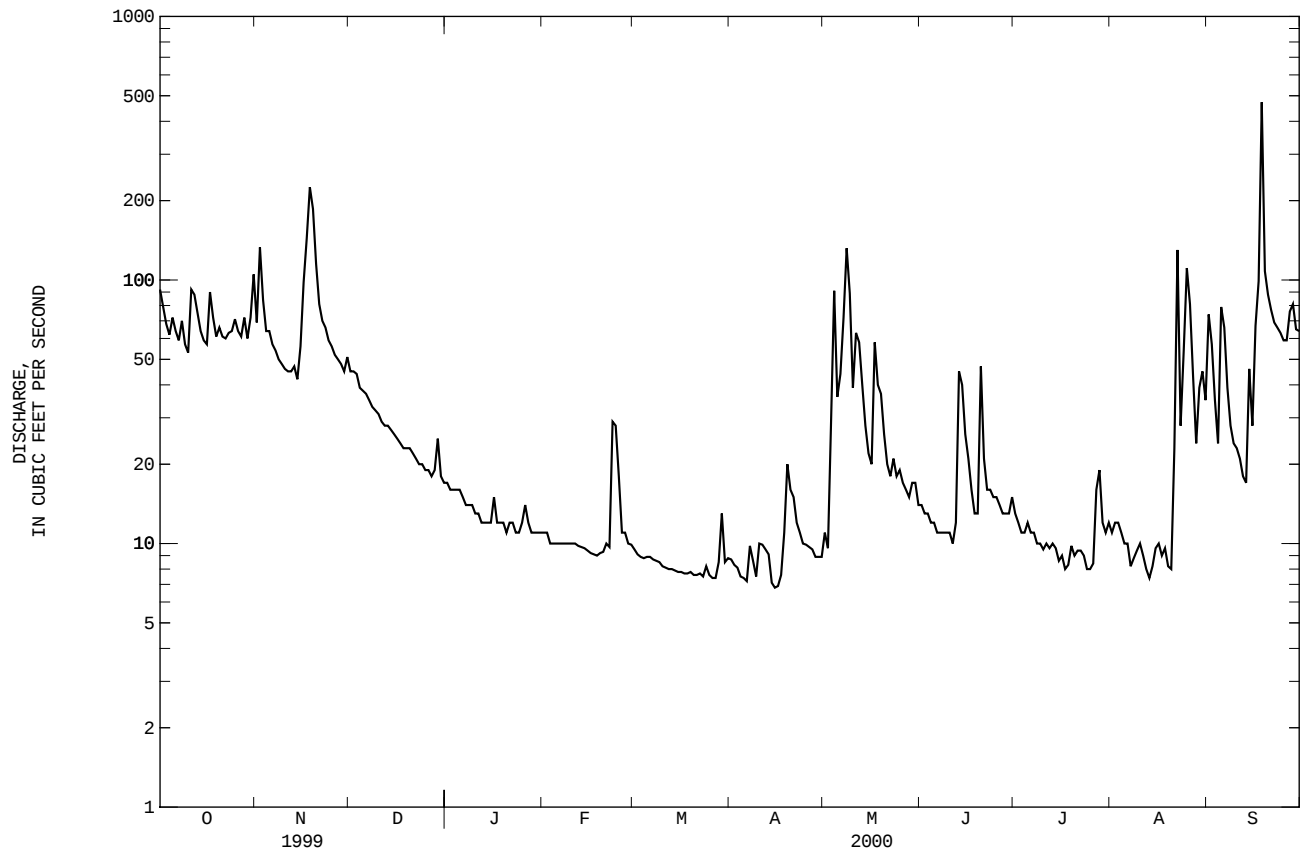
WATER YEARS 1989 - 2000

ANNUAL TOTAL	14586.6	11410.0	
ANNUAL MEAN	40.0	31.2	29.0
HIGHEST ANNUAL MEAN			43.9
LOWEST ANNUAL MEAN			9.94
HIGHEST DAILY MEAN	306	Sep 13	2510
LOWEST DAILY MEAN	8.0	Mar 5	3.0
ANNUAL SEVEN-DAY MINIMUM	8.3	Feb 20	7.6
INSTANTANEOUS PEAK FLOW			2410
INSTANTANEOUS PEAK STAGE			7.24
INSTANTANEOUS LOW FLOW			12.42
ANNUAL RUNOFF (AC-FT)	28930	22630	21030
ANNUAL RUNOFF (CFSM)	3.36	2.62	2.44
ANNUAL RUNOFF (INCHES)	45.60	35.67	33.14
10 PERCENT EXCEEDS	88	70	66
50 PERCENT EXCEEDS	22	15	14
90 PERCENT EXCEEDS	10	8.3	5.2

e Estimated

RIO BUCANA BASIN

50113800 RIO CERRILLOS ABOVE LAGO CERRILLOS NEAR PONCE, PR--Continued



RIO BUCANA BASIN

50113950 LAGO CERRILLOS AT DAMSITE NEAR PONCE, PR

LOCATION.--Lat 18°04'41", long 66°34'38", Hydrologic Unit 21010004, on left bank west from intake house of dam, 0.7 mi (1.1 km) southwest from Iglesia San Mateo at Real Abajo, 3.2 mi (5.1 km) northeast from Hospital de Distrito de Ponce, and 2.2 mi (3.5 km) northwest from Escuela Yuca.

DRAINAGE AREA.--17.4 mi² (45.1 km²).

ELEVATION RECORDS

PERIOD OF RECORD.--October 1992 to current year .

REVISED RECORDS.--WDR PR-94-1: 1993,1994.

GAGE.--Water-stage recorder. Datum of gage is mean sea level.

REMARKS.--Lake is formed by Cerrillos Dam, a rockfilled ungated structure completed in 1992. Elevation of crest is 611 ft (186 m) above mean sea level, with a structural height of 323 ft (98 m) and a length of 1,555 ft (474 m). The dam has a capacity of approximately 47,900 ac-ft (59.1 hm³). The dam is operated by U.S. Army Corps of Engineers and its purpose is for flood control, water supply, power generation, and recreation. Gage-height and precipitation satellite telemetry at station.

EXTREMES OBSERVED FOR PERIOD OF RECORD.--Maximum elevation, 602.84 ft (183.74 m), Sept. 22, 1998; minimum elevation, 416.63 ft (126.99 m), Oct. 1, 1992, (Revised).

EXTREMES OBSERVED FOR CURRENT YEAR.--Maximum elevation, 575.58 ft (175.44 m), May 9; minimum elevation, 560.04 ft (170.70 m), Nov.16.

Capacity Table

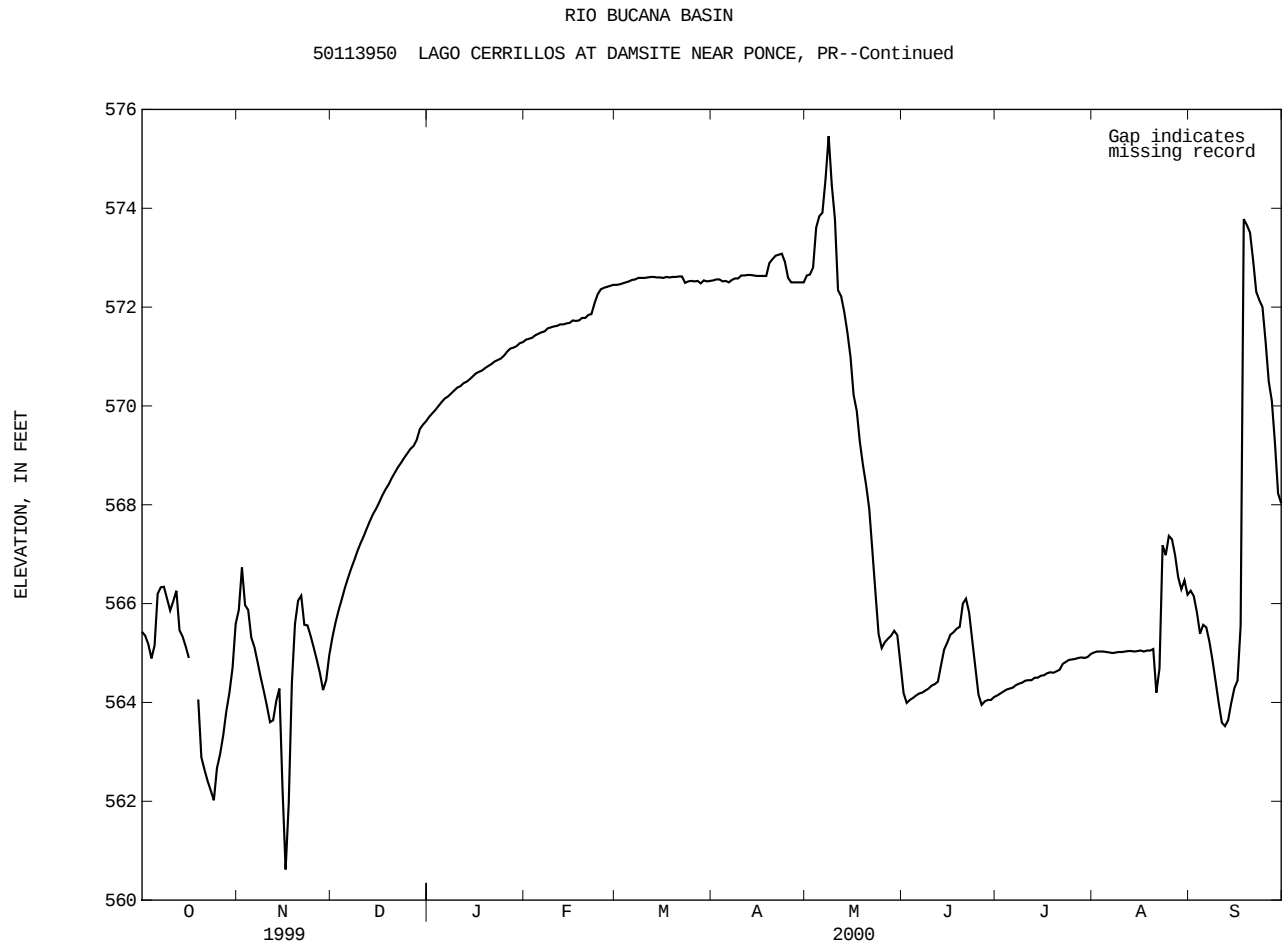
(based on data from U.S. Army Corps of Engineers)

Elevation , in feet	Contents in acre-feet	Elevation, in feet	Contents in acre-feet
328	0	525	16,990
426	3,206	558	25,786
492	10,621	590	37,509

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	565.43	565.87	565.32	569.78	571.34	572.45	572.54	572.64	564.19	564.14	565.01	566.26
2	565.35	566.73	565.62	569.85	571.36	572.46	572.56	572.66	563.99	564.18	565.03	566.15
3	565.18	565.97	565.87	569.92	571.38	572.48	572.56	572.80	564.05	564.22	565.03	565.82
4	564.89	565.87	566.09	570.00	571.43	572.50	572.52	573.61	564.09	564.26	565.03	565.39
5	565.15	565.31	566.32	570.08	571.46	572.52	572.53	573.84	564.14	564.28	565.02	565.57
6	566.20	565.12	566.52	570.15	571.49	572.55	572.50	573.91	564.18	564.30	565.01	565.52
7	566.33	564.82	566.71	570.19	571.51	572.56	572.55	574.59	564.20	564.35	565.00	565.23
8	566.34	564.51	566.88	570.25	571.57	572.59	572.58	575.46	564.24	564.38	565.01	564.85
9	566.10	564.23	567.06	570.31	571.59	572.59	572.58	574.47	564.28	564.40	565.02	564.42
10	565.86	563.93	567.22	570.37	571.61	572.59	572.64	573.79	564.34	564.44	565.02	563.98
11	566.05	563.60	567.36	570.40	571.62	572.60	572.64	572.34	564.37	564.45	565.03	563.59
12	566.26	563.64	567.52	570.46	571.65	572.61	572.65	572.22	564.42	564.45	565.04	563.52
13	565.46	564.03	567.67	570.49	571.65	572.61	572.65	571.90	564.75	564.50	565.04	563.64
14	565.33	564.28	567.81	570.54	571.67	572.60	572.64	571.49	565.07	564.50	565.03	563.99
15	565.13	562.26	567.92	570.60	571.68	572.60	572.63	570.99	565.21	564.54	565.04	564.29
16	564.90	560.62	568.05	570.66	571.73	572.59	572.63	570.22	565.37	564.55	565.05	564.44
17	A	561.96	568.19	570.69	571.72	572.61	572.63	569.90	565.42	564.59	565.03	565.55
18	A	564.39	568.31	570.72	571.73	572.60	572.63	569.27	565.49	564.61	565.05	573.78
19	564.06	565.59	568.41	570.77	571.78	572.61	572.89	568.80	565.53	564.60	565.05	573.66
20	562.89	566.06	568.54	570.81	571.78	572.61	572.97	568.40	566.00	564.63	565.08	573.51
21	562.64	566.16	568.65	570.85	571.84	572.62	573.04	567.92	566.10	564.66	564.20	572.95
22	562.41	565.57	568.76	570.90	571.86	572.62	573.06	567.07	565.82	564.78	564.69	572.31
23	562.22	565.56	568.85	570.93	572.08	572.49	573.08	566.22	565.26	564.82	567.18	572.14
24	562.02	565.35	568.95	570.96	572.26	572.52	572.91	565.38	564.71	564.86	566.98	572.00
25	562.67	565.11	569.04	571.02	572.36	572.53	572.59	565.10	564.16	564.87	567.37	571.30
26	562.95	564.86	569.13	571.10	572.39	572.52	572.50	565.22	563.95	564.88	567.30	570.50
27	563.33	564.59	569.19	571.16	572.41	572.53	572.50	565.29	564.02	564.90	566.98	570.10
28	563.82	564.25	569.31	571.18	572.43	572.48	572.50	565.35	564.05	564.91	566.53	569.25
29	564.20	564.45	569.53	571.21	572.45	572.54	572.50	565.45	564.05	564.90	566.29	568.23
30	564.70	564.96	569.62	571.27	---	572.52	572.50	565.36	564.11	564.92	566.47	568.03
31	565.59	---	569.69	571.29	---	572.53	---	564.78	---	564.98	566.18	---
MAX	566.34	566.73	569.69	571.29	572.45	572.62	573.08	575.46	566.10	564.98	567.37	573.78
MIN	562.02	560.62	565.32	569.78	571.34	572.45	572.50	564.78	563.95	564.14	564.20	563.52

A No gage-height record



RIO BUCANA BASIN

50114000 RIO CERRILLOS NEAR PONCE, PR

LOCATION.--Lat 18°04'15", long 66°34'51", Hydrologic Unit 21010004, on right bank off Highway 139, 0.8 mi (1.3 km) below Lago Cerrillos Dam, 2.3 mi (3.7 km) upstream from Quebrada Ausubo and 4.6 mi (7.4 km) northeast of Plaza Degetau in Ponce.

DRAINAGE AREA.--17.8 mi² (46.1 km²), excludes 17.4 mi² (45.1 km²) upstream from Lago Cerrillos Dam.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February to April 1964 (monthly measurements only), May 1964 to June 1985, July 1985 to April 1991 (semi-monthly measurements only), May 1991 to current year.

GAGE.--Water-stage recorder. Datum of gage is 253.10 ft (77.145 m), above mean sea level. Prior to March 22, 1977 at site 0.15 mi (0.24 km) upstream and datum 9.90 ft (3.018 m) higher.

REMARKS.--Records poor. Flow regulated by Lago Cerrillos Dam since May 1991. Gage-height and precipitation satellite telemetry at station. Prior to June 1985 some low-flow regulation by construction upstream. Maximum discharge prior to regulation, 22,400 ft³/s (634 m³/s), Sept. 16, 1975, gage-height, 11.2 ft (3.414 m), site and datum then in use from floodmarks, from rating curve extended above 150 ft³/s (4.25 m³/s), on basis of slope-area measurements of peak flow; minimum discharge prior to regulation, 2.2 ft³/s (0.062 m³/s), May 28, 1967.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	115	78	5.6	5.2	5.4	8.9	e4.7	e4.5	210	e5.4	e4.7	214
2	114	145	5.0	5.1	5.5	9.5	e4.3	e4.3	78	e5.2	e4.6	163
3	112	e274	4.9	5.0	5.5	9.5	e4.1	e4.2	9.9	e5.3	e4.5	85
4	115	e144	4.9	5.0	5.6	9.9	e10	e4.1	4.8	e5.0	e4.5	148
5	53	e193	4.8	5.3	5.8	10	e4.5	e4.0	5.1	e4.9	e4.4	146
6	6.6	e130	4.6	5.1	5.8	9.9	e10	e10	5.4	e4.9	e4.5	139
7	78	e135	4.8	5.0	5.8	10	e5.0	e50	4.4	e5.0	e4.4	139
8	133	e132	5.1	5.0	5.5	9.3	e4.6	e70	3.6	e5.5	e4.4	138
9	134	e136	5.2	5.0	5.3	7.5	e4.2	268	3.9	e5.2	e4.5	136
10	134	137	5.3	5.0	5.4	6.2	e4.1	235	3.9	e4.9	e4.4	136
11	135	140	5.2	5.0	5.3	5.2	e13	342	3.6	e5.5	e4.4	137
12	136	58	5.3	5.2	5.3	4.4	e6.0	151	4.2	e4.8	e4.3	47
13	268	6.0	5.3	5.1	5.0	3.5	e4.5	191	4.5	e4.8	e4.3	3.7
14	130	5.5	5.2	5.1	5.1	2.9	e4.2	200	4.9	e5.1	e4.4	3.3
15	134	364	5.2	5.1	5.3	3.1	e4.1	177	e5.2	e5.5	e4.5	3.2
16	131	458	6.2	5.1	5.2	3.3	e4.1	211	e5.4	e6.0	e4.4	108
17	130	94	5.2	5.2	5.3	3.2	e4.0	212	e5.0	e5.4	e4.5	193
18	135	5.9	5.1	5.1	5.3	3.5	e13	199	e4.9	e5.2	e10	225
19	259	122	5.2	5.3	e5.2	4.0	e8.0	170	e4.5	e6.2	e6.0	306
20	263	e131	5.2	5.4	e5.1	4.3	e13	102	e4.2	e6.6	11	264
21	129	e131	5.2	5.3	e5.0	3.8	e7.0	104	e4.0	e5.5	192	302
22	133	214	5.2	5.3	e5.1	3.8	e5.0	173	e80	e6.2	149	285
23	136	137	5.2	5.3	e5.2	31	e4.5	171	e110	e5.6	174	183
24	140	137	5.2	5.3	e5.1	e5.0	e10	182	e120	e5.4	179	188
25	144	136	5.2	5.4	e5.2	e4.0	e45	87	e120	e5.2	151	281
26	72	137	5.1	5.5	e5.1	e3.8	e50	5.0	e90	e5.1	140	281
27	5.7	135	5.2	5.4	e5.0	e3.7	e15	4.3	e7.0	e4.9	86	249
28	5.5	132	5.5	5.4	e5.1	e20	e6.0	4.4	e6.0	e4.8	80	337
29	5.5	55	5.3	5.5	e5.2	e10	e5.0	4.6	e5.2	e4.7	61	328
30	5.4	5.5	5.2	5.5	---	e15	e4.5	81	e5.1	e4.7	113	146
31	5.3	---	5.1	5.4	---	e6.0	---	194	---	e4.6	177	---
TOTAL	3497.0	4107.9	160.7	161.6	153.7	234.2	281.4	3619.4	922.7	163.1	1604.7	5314.2
MEAN	113	137	5.18	5.21	5.30	7.55	9.38	117	30.8	5.26	51.8	177
MAX	268	458	6.2	5.5	5.8	31	50	342	210	6.6	192	337
MIN	5.3	5.5	4.6	5.0	5.0	2.9	4.0	4.0	3.6	4.6	4.3	3.2
AC-FT	6940	8150	319	321	305	465	558	7180	1830	324	3180	10540
CFSM	6.34	7.69	.29	.29	.30	.42	.53	6.56	1.73	.30	2.91	9.95
IN.	7.31	8.59	.34	.34	.32	.49	.59	7.56	1.93	.34	3.35	11.11

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 2000, BY WATER YEAR (WY)

MEAN	44.7	37.4	10.7	15.5	7.25	8.77	11.2	30.5	25.5	14.3	32.8	73.2
MAX	113	137	20.5	74.2	14.7	17.9	31.0	117	107	27.3	105	230
(WY)	2000	2000	1999	1992	1992	1997	1999	2000	1999	1998	1999	1999
MIN	4.93	5.21	4.81	4.42	4.37	4.39	5.51	4.18	3.69	4.75	5.26	4.52
(WY)	1996	1996	1995	1998	1993	1998	1994	1998	1995	1995	1995	1997

SUMMARY STATISTICS

FOR 1999 CALENDAR YEAR

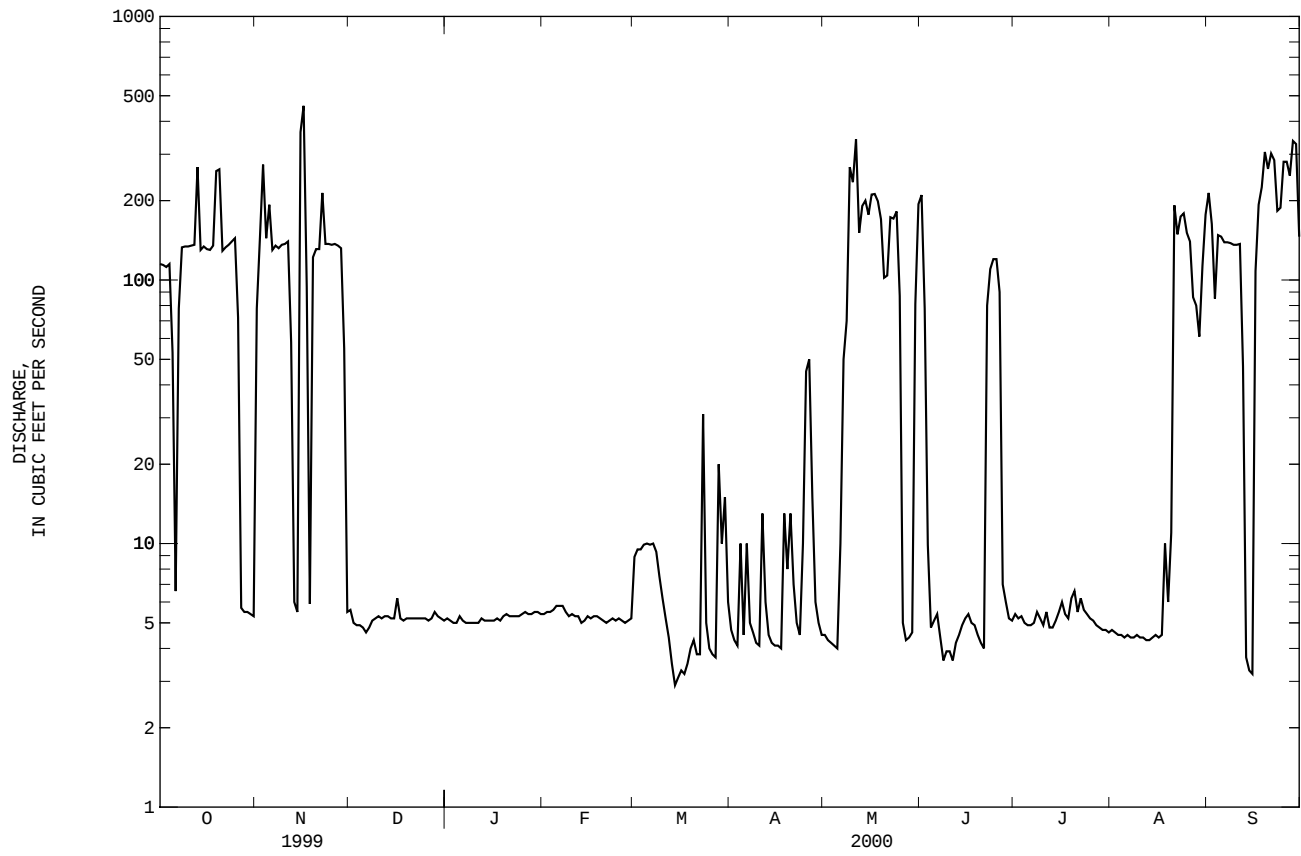
FOR 2000 WATER YEAR

WATER YEARS 1991 - 2000

ANNUAL TOTAL	24512.8	20220.6	
ANNUAL MEAN	67.2	55.2	26.8
HIGHEST ANNUAL MEAN			62.8
LOWEST ANNUAL MEAN			5.35
HIGHEST DAILY MEAN	680	458	900
LOWEST DAILY MEAN	3.1	2.9	.64
ANNUAL SEVEN-DAY MINIMUM	3.2	3.4	1.7
INSTANTANEOUS PEAK FLOW		900	1320
INSTANTANEOUS PEAK STAGE		4.93	7.74
ANNUAL RUNOFF (AC-FT)	48620	40110	19390
ANNUAL RUNOFF (CFSM)	3.77	3.10	1.50
ANNUAL RUNOFF (INCHES)	51.23	42.26	20.43
10 PERCENT EXCEEDS	148	177	68
50 PERCENT EXCEEDS	29	5.4	5.9
90 PERCENT EXCEEDS	3.8	4.3	4.2

e Estimated

RIO BUCANA BASIN
50114000 RIO CERRILLOS NEAR PONCE, PR--Continued



RIO BUCANA BASIN

50114000 RIO CERRILLOS NEAR PONCE, PR.

WATER-QUALITY RECORDS

LOCATION.--Lat 18°04'15", long 66°34'51", Hydrologic unit 21010004, on right bank off Highway 139, 2.3 mi (3.7 km) upstream from Quebrada Ausubo and 4.6 mi (7.4 km) northeast of Plaza Degetau in Ponce.

DRAINAGE AREA.--17.8 mi² (46.1 km²)

PERIOD OF RECORD.--Water years 1964 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	STREP-TOCOCCI, KF AGAR (COLS. PER 100 ML) (31673)
		HARD-NESS TOTAL (MG/L AS CAC03) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CAC03) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)
DEC 07...	1155	4.8	355	7.7	26.9	.5	7.9	100	11	K30	K120
MAR 08...	1235	9.2	315	8.2	27.0	.6	6.6	82	<10	220	K40
MAY 18...	1600	128	422	8.0	24.3	.6	7.0	83	<10	K10	250
AUG 21...	1330	E700	276	7.8	24.3	.4	8.1	97	<10	550	760

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SI02) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)
	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SI02) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)
DEC 07...	.2	25.2	231	2.97	1	--	<.01	.4	.02	--
MAR 08...	--	--	--	--	1	--	<.01	.2	<.01	--
MAY 18...	<.1	19.6	155	53.6	13	1.87	.03	1.9	.18	.58
AUG 21...	<.1	20.4	159	--	<10	--	<.01	.02	.12	.12

DATE	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, TOTAL (MG/L AS NO3) (71887)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)
	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, TOTAL (MG/L AS NO3) (71887)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)
DEC 07...	<.20	--	--	<.020	<3	34.9	28	<.1	<1	<20
MAR 08...	<.20	--	--	<.020	--	--	--	--	--	--
MAY 18...	.76	2.7	11.8	.290	<3	22.8	E11	<.1	<1	<20
AUG 21...	.24	.26	1.2	.040	--	--	--	--	--	--

RIO BUCANA BASIN

50114000 RIO CERRILLOS NEAR PONCE, PR.--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

[illegible]

RIO BUCANA BASIN

50114390 RIO BUCANA AT HWY 14 BRIDGE NEAR PONCE, PR

LOCATION.--Lat 18°02'29", long 66°34'58", Hydrologic Unit 21010004, on left bank, 200 ft (61 m) upstream from bridge on Highway 14 and 4.0 mi (6.4 km) downstream from Lago Cerrillos Dam, 2.8 mi (4.5 km) northeast of Degetau Plaza in Ponce.

DRAINAGE AREA.--24.9 mi² (64.5 km²).

PERIOD OF RECORD.--October 1985 to September 1986 (maximum only), published as "Rio Bucaná Floodway Channel at Highway 14 bridge", October 1986 to July 1987 (maximum only), August 1987 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 116.40 ft (35.50 m) above mean sea level. Prior to Oct. 1, 1986, crest-stage gage located at Highway 14 bridge, at elevation of mean sea level.

REMARKS.--Records poor. Flow regulated by Lago Cerrillos Dam 4.0 mi upstream. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	177	33	17	5.8	6.8	4.9	5.0	5.2	138	4.5	3.7	147
2	158	137	11	5.6	6.7	4.8	4.9	4.9	89	4.4	3.7	153
3	148	377	8.8	5.7	6.7	4.8	4.9	4.8	10	4.3	3.6	166
4	144	128	8.2	5.7	6.7	4.8	10	4.8	5.9	4.2	3.6	152
5	106	238	7.8	5.7	6.7	4.8	5.2	4.8	5.4	4.1	3.5	194
6	42	129	7.3	5.4	6.5	4.8	9.9	20	5.1	4.0	3.5	172
7	95	129	7.0	5.5	6.5	4.8	5.2	67	4.9	3.9	3.5	173
8	141	131	6.7	5.6	6.4	4.7	4.7	107	4.8	3.9	3.6	161
9	137	129	6.5	5.5	6.4	4.6	4.6	493	4.5	3.8	3.6	158
10	136	128	6.4	5.5	6.4	4.4	4.7	227	4.4	3.8	3.6	157
11	135	127	6.2	5.5	6.3	4.4	12	551	4.4	4.0	3.6	164
12	135	86	6.1	5.5	6.3	4.5	5.1	124	4.6	3.8	3.6	107
13	381	14	6.0	5.5	6.3	4.5	4.6	125	4.3	3.7	3.5	8.4
14	130	7.4	5.8	5.4	6.3	4.5	4.6	126	4.3	4.0	3.6	6.8
15	129	568	5.7	5.5	6.2	4.4	4.5	126	4.1	3.9	3.6	6.3
16	128	900	6.4	5.4	6.1	4.5	4.6	195	4.2	3.8	3.6	54
17	136	139	5.8	5.5	6.0	4.5	4.7	216	4.1	4.2	3.7	630
18	153	36	5.7	5.6	6.0	4.5	14	229	4.0	4.1	3.8	1240
19	373	124	5.6	5.6	6.2	4.5	8.8	229	4.0	3.9	9.0	436
20	386	124	5.5	5.6	6.2	4.6	14	133	4.0	4.0	4.7	360
21	136	123	5.6	5.7	8.5	4.6	6.4	130	4.0	3.9	168	424
22	142	256	5.5	5.6	5.4	4.6	5.3	217	28	4.1	128	383
23	144	128	5.5	5.5	5.2	20	5.1	216	117	4.1	204	238
24	138	127	5.5	5.5	5.6	6.0	20	216	121	4.0	157	228
25	157	126	5.6	6.1	5.3	4.8	55	111	123	4.0	145	349
26	112	125	5.5	7.7	5.1	4.7	57	23	99	3.8	144	328
27	20	125	5.6	7.0	5.1	4.6	9.7	8.2	12	3.7	145	318
28	15	125	6.3	6.9	4.9	21	5.6	7.9	5.2	3.7	145	438
29	11	198	7.9	6.8	4.9	6.8	5.4	7.6	4.9	3.8	145	404
30	9.3	35	5.9	6.8	---	13	5.2	35	4.6	3.8	171	170
31	9.0	---	5.9	6.8	---	5.6	---	134	---	3.7	153	---
TOTAL	4263.3	5052.4	210.3	181.5	177.7	188.0	310.7	4098.2	832.7	122.9	1783.6	7925.5
MEAN	138	168	6.78	5.85	6.13	6.06	10.4	132	27.8	3.96	57.5	264
MAX	386	900	17	7.7	8.5	21	57	551	138	4.5	204	1240
MIN	9.0	7.4	5.5	5.4	4.9	4.4	4.5	4.8	4.0	3.7	3.5	6.3
AC-FT	8460	10020	417	360	352	373	616	8130	1650	244	3540	15720
CFSM	5.52	6.76	.27	.24	.25	.24	.42	5.31	1.11	.16	2.31	10.6
IN.	6.37	7.55	.31	.27	.27	.28	.46	6.12	1.24	.18	2.66	11.84

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 2000, BY WATER YEAR (WY)

MEAN	117	66.9	15.9	36.0	10.2	13.5	14.4	30.2	37.3	21.2	75.9	160
MAX	527	222	49.1	337	19.3	48.0	42.5	132	194	75.8	417	756
(WY)	1991	1988	1988	1992	1995	1989	1992	2000	1999	1998	1998	1998
MIN	6.34	5.09	5.03	4.51	4.10	4.49	4.74	4.29	4.90	3.96	4.06	5.66
(WY)	1996	1994	1996	1994	1994	1994	1994	1994	1994	2000	1994	1997

SUMMARY STATISTICS

FOR 1999 CALENDAR YEAR

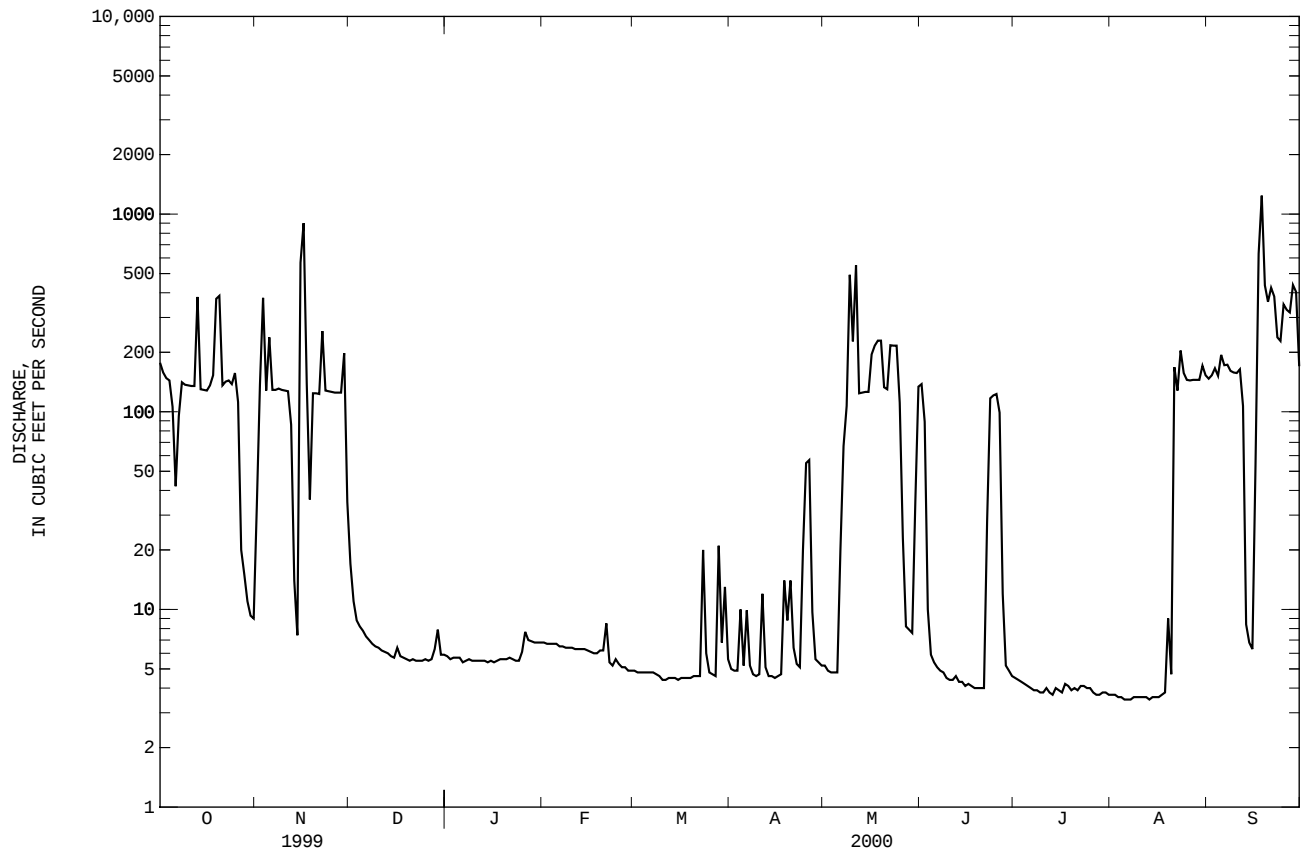
FOR 2000 WATER YEAR

WATER YEARS 1987 - 2000

ANNUAL TOTAL	35385.9	25146.8	51.2	1998
ANNUAL MEAN	96.9	68.7	113	1994
HIGHEST ANNUAL MEAN			7.43	1992
LOWEST ANNUAL MEAN			4340	Jan 6 1992
HIGHEST DAILY MEAN	1280	Sep 15	2.3	Jul 23 1999
LOWEST DAILY MEAN	2.3	Jul 23	2.8	Sep 23 1992
ANNUAL SEVEN-DAY MINIMUM	4.2	Jul 9	17400	Oct 7 1985
INSTANTANEOUS PEAK FLOW			15.46	Oct 7 1985
INSTANTANEOUS PEAK STAGE			37060	
ANNUAL RUNOFF (AC-FT)	70190	49880	2.05	
ANNUAL RUNOFF (CFSM)	3.89	2.76	27.91	
ANNUAL RUNOFF (INCHES)	52.87	37.57	101	
10 PERCENT EXCEEDS	245	172	8.8	
50 PERCENT EXCEEDS	24	6.3	4.6	
90 PERCENT EXCEEDS	5.5	4.0		

RIO BUCANA BASIN

50114390 RIO BUCANA AT HWY 14 BRIDGE NEAR PONCE, PR--Continued



RIO PORTUGUES BASIN

50114900 RIO PORTUGUES NEAR TIBES, PR

LOCATION.--Lat 18°06'00", long 66°38'34", Hydrologic Unit 21010004, 1.6 mi (2.6 km), north from Escuela Segunda unidad of Corral Viejo, 0.3 mi (0.50 km) south from Hacienda Burenes and 6.0 mi (9.6 km) north east from Peñuelas Plaza Church.

DRAINAGE AREA.--7.27 mi² (18.83 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1997 to current year

GAGE.--Water-stage recorder. Elevation of gage is 918 ft (280 m), from topographic map.

REMARKS.--Records poor. Some low-flow regulation due to PRASA intakes (2) 0.85 mi (1.36 km) upstream from station. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e86	e35	e27	e8.6	e4.9	e6.2	e5.7	e5.4	e7.8	e6.1	e6.0	e40
2	e60	e101	e25	e8.4	e5.0	e5.8	e6.5	e5.1	e7.5	e6.2	e4.5	e41
3	e35	e61	e24	e8.3	e5.1	e5.6	e4.7	e5.8	e7.3	e5.9	e3.7	e29
4	e31	e49	e21	e8.3	e4.7	e5.4	e4.5	e20	e7.5	e5.6	e3.5	e22
5	e43	e42	e20	e8.1	e4.8	e5.2	e4.1	e12	e7.2	e5.3	e3.5	e33
6	e100	e36	e20	e8.1	e4.7	e5.1	e4.0	e22	e7.0	e5.3	e3.3	e31
7	e65	e34	e19	e7.7	e4.5	e5.2	e4.3	e25	e6.8	e5.1	e3.3	e25
8	e44	e31	e18	e7.5	e4.7	e5.2	e4.1	e69	e6.7	e5.0	e3.2	e21
9	e35	e29	e17	e7.4	e4.6	e4.9	e4.4	e43	e6.7	e4.9	e3.0	e20
10	e25	e27	e17	e7.1	e4.6	e4.8	e6.9	e15	e6.6	e4.7	e3.4	e18
11	e23	e32	e16	e7.1	e4.5	e4.6	e5.1	e50	e6.7	e4.4	e3.5	e18
12	e56	e27	e15	e8.7	e4.4	e4.7	e4.2	e24	e11	e4.5	e3.3	e16
13	e40	e30	e15	e7.7	e4.3	e4.5	e4.1	e15	e31	e4.4	e3.3	e15
14	e30	e25	e15	e6.3	e4.4	e4.0	e4.0	e12	e20	e4.4	e3.3	e25
15	e23	e32	e14	e5.8	e4.2	e4.0	e3.9	e8.8	e16	e4.3	e4.3	e20
16	e30	e61	e13	e6.5	e4.2	e3.9	e4.0	e7.3	e14	e4.2	e3.8	e91
17	e72	e84	e13	e5.6	e4.2	e3.8	e4.2	e35	e12	e4.4	e3.5	e91
18	e40	e94	e12	e5.5	e5.2	e4.0	e9.8	e29	e11	e4.6	e3.4	e279
19	e27	e90	e12	e5.4	e6.8	e3.9	e21	e18	e9.7	e4.3	e3.8	e71
20	e28	e68	e12	e5.4	e6.6	e3.8	e15	e15	e14	e3.9	e3.5	e62
21	e24	e55	e11	e5.4	e9.7	e3.7	e11	e12	e11	e3.9	e3.3	e59
22	e26	e45	e11	e5.3	e7.9	e3.9	e8.0	e11	e9.0	e4.5	e18	e54
23	e40	e44	e10	e5.2	e12	e4.0	e6.7	e11	e7.9	e3.9	e204	e48
24	e38	e38	e9.9	e5.1	e19	e4.5	e6.3	e8.7	e7.7	e3.9	e59	e41
25	e50	e34	e9.9	e5.9	e11	e4.0	e6.0	e11	e7.3	e3.8	e57	e34
26	e33	e31	e9.5	e10	e7.6	e4.1	e5.5	e10	e7.4	e3.9	e54	e30
27	e27	e29	e9.3	e6.1	e6.8	e4.2	e5.7	e8.6	e7.0	e4.1	e36	e45
28	e19	e27	e9.4	e5.5	e6.8	e5.8	e5.6	e8.4	e6.5	e3.9	e28	e63
29	e17	e26	e15	e5.7	e6.3	e6.4	e5.4	e9.1	e6.4	e4.0	e26	e42
30	e21	e34	e9.4	e5.1	---	e4.7	e5.4	e11	e6.3	e3.9	e40	e39
31	e44	---	e8.7	e4.9	---	e5.5	---	e8.7	---	e3.7	e34	---
TOTAL	1232	1351	458.1	207.7	183.5	145.4	190.1	545.9	293.0	141.0	632.4	1423
MEAN	39.7	45.0	14.8	6.70	6.33	4.69	6.34	17.6	9.77	4.55	20.4	47.4
MAX	100	101	27	10	19	6.4	21	69	31	6.2	204	279
MIN	17	25	8.7	4.9	4.2	3.7	3.9	5.1	6.3	3.7	3.0	15
AC-FT	2440	2680	909	412	364	288	377	1080	581	280	1250	2820
CFSM	5.47	6.19	2.03	.92	.87	.65	.87	2.42	1.34	.63	2.81	6.52
IN.	6.30	6.91	2.34	1.06	.94	.74	.97	2.79	1.50	.72	3.24	7.28

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1998 - 2000, BY WATER YEAR (WY)

MEAN	31.6	28.3	10.1	6.43	5.77	4.62	11.6	12.2	12.5	11.5	27.8	85.1
MAX	41.6	45.0	14.8	9.51	6.33	5.64	17.5	17.6	17.6	16.1	34.5	147
(WY)	1999	2000	2000	1999	2000	1999	1998	2000	1999	1998	1999	1998
MIN	13.3	6.91	3.98	3.07	5.29	3.52	6.34	5.96	9.77	4.55	20.4	47.4
(WY)	1998	1998	1998	1998	1998	1998	2000	1999	2000	2000	2000	2000

SUMMARY STATISTICS

FOR 1999 CALENDAR YEAR

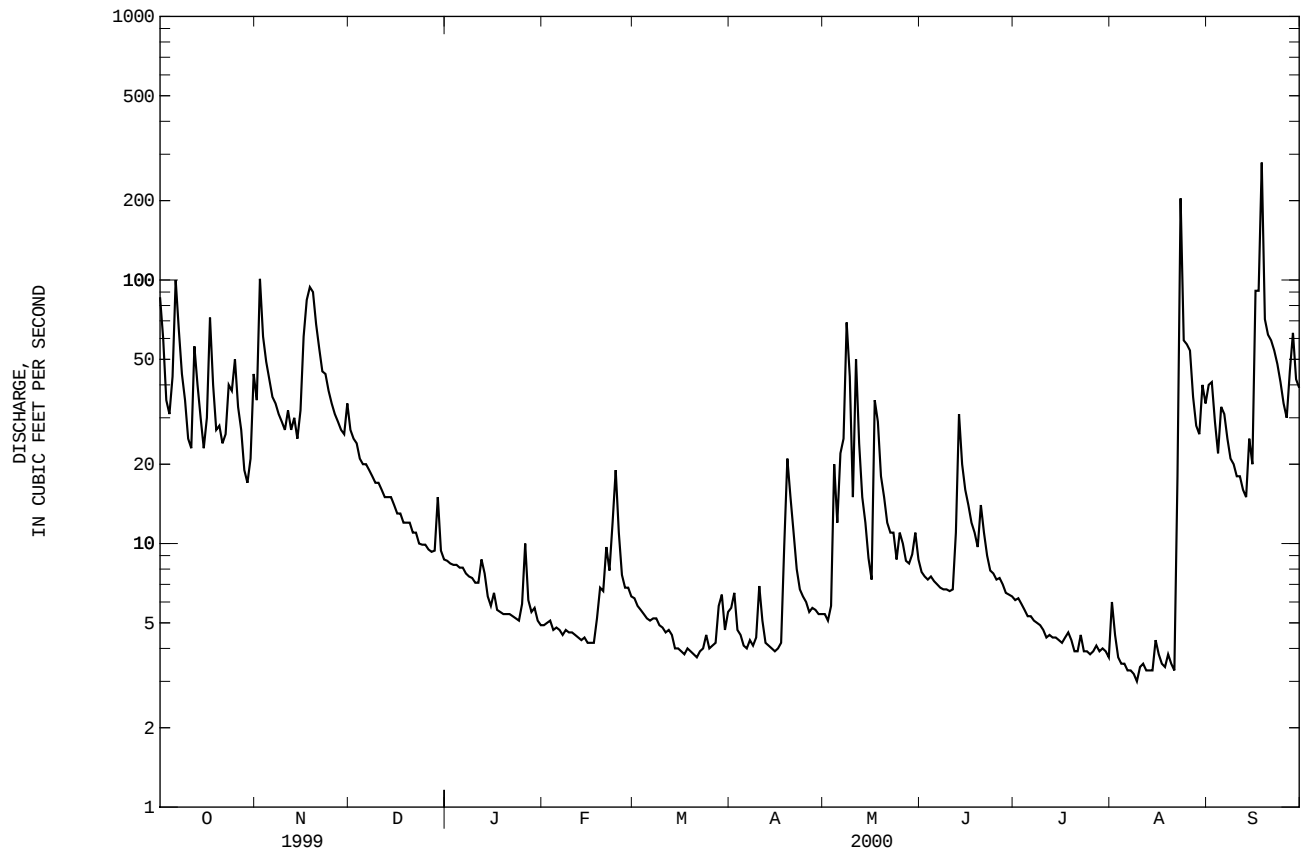
FOR 2000 WATER YEAR

WATER YEARS 1998 - 2000

ANNUAL TOTAL	8048.0	6803.1	
ANNUAL MEAN	22.0	18.6	20.6
HIGHEST ANNUAL MEAN			22.2
LOWEST ANNUAL MEAN			18.6
HIGHEST DAILY MEAN	219	Sep 13	3000
LOWEST DAILY MEAN	4.2	Mar 29	1.1
ANNUAL SEVEN-DAY MINIMUM	4.4	Mar 14	1.7
INSTANTANEOUS PEAK FLOW			10000
INSTANTANEOUS PEAK STAGE			22.46
ANNUAL RUNOFF (AC-FT)	15960	13490	14910
ANNUAL RUNOFF (CFSM)	3.03	2.56	2.83
ANNUAL RUNOFF (INCHES)	41.18	34.81	38.47
10 PERCENT EXCEEDS	54	43	42
50 PERCENT EXCEEDS	11	8.3	8.6
90 PERCENT EXCEEDS	5.0	4.0	3.8

e Estimated

RIO PORTUGUES BASIN
50114900 RIO PORTUGUES NEAR TIBES, PR--Continued



RIO PORTUGUES BASIN

50114900 RIO PORTUGUES NEAR TIBES, PR--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORDS.-- October, 1997 to current water year.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: October, 1997 to current water year.

INSTRUMENTATION.-- USDH-48 sediment sampler and automatic sediment sampler since 1997.

REMARKS.-- Sediment samples were collected by a local observer on a weekly basis. During high flow events sediments samples were collected by hydrologic technician and automatic sediment sampler.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATION: Maximum daily mean, e17,500 mg/L September 22, 1998; Minimum daily mean, 2 mg/L March 1, 1998.

SEDIMENT LOADS: Maximum daily mean, e143,000 tons (e130,000 tonnes) September 22, 1998; Minimum daily mean, 0.02 ton (0.02 tonne) several days during water year 2000.

EXTREMES FOR CURRENT YEAR 2000.--

SEDIMENT CONCENTRATION: Maximum daily mean, 7,870 mg/L November 1, 1999; Minimum daily mean, 1 mg/L July 27, 2000.

SEDIMENT LOADS: Maximum daily mean, 10,700 tons (9,700 tonnes) September 18, 2000; Minimum daily mean, 0.02 ton (0.02 tonne) several days.

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
OCTOBER			NOVEMBER			DECEMBER			
1	e86	e200	e40	e35	e7870	e745	e27	e57	e4.2
2	e60	e197	e39	e101	e6520	e2730	e25	e43	e2.9
3	e35	e156	e20	e61	e4020	e747	e24	e33	e2.1
4	e31	e123	e11	e49	e668	e94	e21	e25	e1.5
5	e43	e95	e9.4	e42	e27	e3.0	e20	e24	e1.3
6	e100	e73	e13	e36	e9	e.87	e20	e25	e1.3
7	e65	e59	e13	e34	e7	e.70	e19	e26	e1.3
8	e44	e50	e7.3	e31	e6	e.54	e18	e22	e1.1
9	e35	e104	e11	e29	e11	e.85	e17	e18	e.83
10	e25	e294	e23	e27	e23	e1.7	e17	e15	e.65
11	e23	e380	e25	e32	e16	e1.3	e16	e12	e.50
12	e56	e398	e40	e27	e7	e.49	e15	e11	e.43
13	e40	e265	e34	e30	e5	e.38	e15	e11	e.43
14	e30	e184	e17	e25	e4	e.29	e15	e11	e.44
15	e23	e128	e9.1	e32	e707	e108	e14	e11	e.42
16	e30	e102	e7.2	e61	e4010	e1060	e13	e14	e.48
17	e72	e87	e11	e84	e1170	e240	e13	e18	e.65
18	e40	e74	e11	e94	e77	e20	e12	e24	e.80
19	e27	e53	e4.8	e90	e44	e11	e12	e16	e.52
20	e28	e35	e2.6	e68	e26	e4.9	e12	e8	e.25
21	e24	e32	e2.3	e55	e17	e2.5	e11	e10	e.29
22	e26	e35	e2.3	e45	e20	e2.4	e11	e17	e.51
23	e40	e50	e4.4	e44	e32	e3.7	e10	e19	e.51
24	e38	e80	e8.4	e38	e49	e5.0	e9.9	e16	e.42
25	e50	e112	e13	e34	e40	e3.7	e9.9	e15	e.41
26	e33	e108	e12	e31	e24	e2.0	e9.5	e16	e.41
27	e27	e102	e7.3	e29	e14	e1.1	e9.3	e17	e.41
28	e19	e98	e5.1	e27	e16	e1.1	e9.4	e17	e.44
29	e17	e96	e4.4	e26	e22	e1.6	e15	e22	e.86
30	e21	e371	e35	e34	e41	e4.1	e9.4	e38	e.96
31	e44	e3740	e800	---	---	---	e8.7	e35	e.82
TOTAL	1232	---	1242.6	1351	---	5797.22	458.1	---	28.14

RIO PORTUGUES BASIN

50114900 RIO PORTUGUES NEAR TIBES, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JANUARY			FEBRUARY			MARCH			
1	e8.6	e32	e.75	e4.9	e8	e.10	e6.2	e44	e.74
2	e8.4	e30	e.68	e5.0	e9	e.12	e5.8	e17	e.26
3	e8.3	e28	e.63	e5.1	e10	e.14	e5.6	e10	e.16
4	e8.3	e41	e.91	e4.7	e25	e.32	e5.4	e9	e.12
5	e8.1	e69	e1.5	e4.8	e79	e1.0	e5.2	e12	e.16
6	e8.1	e54	e1.2	e4.7	e46	e.58	e5.1	e19	e.27
7	e7.7	e31	e.64	e4.5	e12	e.14	e5.2	e31	e.43
8	e7.5	e29	e.58	e4.7	e16	e.20	e5.2	e18	e.25
9	e7.4	e35	e.69	e4.6	e46	e.57	e4.9	e6	e.08
10	e7.1	e42	e.80	e4.6	e51	e.63	e4.8	e8	e.10
11	e7.1	e46	e.89	e4.5	e39	e.47	e4.6	e18	e.22
12	e8.7	e50	e1.2	e4.4	e40	e.47	e4.7	e22	e.28
13	e7.7	e53	e1.1	e4.3	e47	e.54	e4.5	e20	e.24
14	e6.3	e57	e.97	e4.4	e55	e.65	e4.0	e18	e.20
15	e5.8	e53	e.83	e4.2	e66	e.75	e4.0	e17	e.18
16	e6.5	e47	e.82	e4.2	e78	e.89	e3.9	e16	e.17
17	e5.6	e42	e.63	e4.2	e76	e.86	e3.8	e15	e.15
18	e5.5	e37	e.55	e5.2	e68	e.96	e4.0	e20	e.21
19	e5.4	e33	e.49	e6.8	e64	e1.2	e3.9	e32	e.33
20	e5.4	e36	e.52	e6.6	e62	e1.1	e3.8	e49	e.51
21	e5.4	e41	e.60	e9.7	e201	e8.5	e3.7	e51	e.52
22	e5.3	e43	e.61	e7.9	e131	e3.0	e3.9	e45	e.47
23	e5.2	e42	e.58	e12	e483	e39	e4.0	e39	e.42
24	e5.1	e41	e.56	e19	e911	e109	e4.5	e38	e.46
25	e5.9	e41	e.65	e11	e437	e15	e4.0	e39	e.41
26	e10	e158	e9.6	e7.6	e64	e1.3	e4.1	e38	e.43
27	e6.1	e15	e.25	e6.8	e40	e.73	e4.2	e36	e.40
28	e5.5	e12	e.19	e6.8	e55	e1.0	e5.8	e9	e.13
29	e5.7	e10	e.16	e6.3	e75	e1.3	e6.4	e16	e.26
30	e5.1	e9	e.12	---	---	---	e4.7	e16	e.20
31	e4.9	e7	e.10	---	---	---	e5.5	e8	e.11
TOTAL	207.7	---	29.80	183.5	---	190.52	145.4	---	8.87

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
APRIL			MAY			JUNE			
1	e5.7	e10	e.15	e5.4	e2880	e42	e7.8	e9	e.18
2	e6.5	e20	e.34	e5.1	e2970	e41	e7.5	e18	e.35
3	e4.7	e40	e.50	e5.8	e3150	e51	e7.3	e36	e.70
4	e4.5	e34	e.41	e20	e3230	e197	e7.5	e73	e1.5
5	e4.1	e20	e.23	e12	e1150	e42	e7.2	e145	e2.8
6	e4.0	e23	e.25	e22	e1450	e207	e7.0	e181	e3.4
7	e4.3	e34	e.39	e25	e1180	e97	e6.8	e187	e3.4
8	e4.1	e36	e.40	e69	e2180	e1800	e6.7	e185	e3.4
9	e4.4	e33	e.39	e43	e705	e97	e6.7	e178	e3.2
10	e6.9	e65	e2.3	e15	e415	e17	e6.6	e151	e2.7
11	e5.1	e34	e.49	e50	e378	e41	e6.7	e125	e2.3
12	e4.2	e23	e.26	e24	e68	e5.7	e11	e321	e15
13	e4.1	e13	e.15	e15	e201	e12	e31	e905	e363
14	e4.0	e7	e.08	e12	e117	e4.4	e20	e5	e.25
15	e3.9	e6	e.06	e8.8	e7	e.16	e16	e5	e.21
16	e4.0	e6	e.06	e7.3	e6	e.13	e14	e5	e.19
17	e4.2	e5	e.06	e35	e554	e170	e12	e11	e.34
18	e9.8	e198	e8.3	e29	e411	e37	e11	e28	e.80
19	e21	e604	e52	e18	e57	e2.8	e9.7	e74	e1.9
20	e15	e75	e2.8	e15	e21	e.85	e14	e483	e27
21	e11	e14	e.44	e12	e14	e.46	e11	e111	e3.7
22	e8.0	e11	e.24	e11	e9	e.27	e9.0	e21	e.52
23	e6.7	e11	e.19	e11	e10	e.29	e7.9	e28	e.59
24	e6.3	e12	e.20	e8.7	e19	e.44	e7.7	e17	e.36
25	e6.0	e13	e.21	e11	e209	e10	e7.3	e8	e.15
26	e5.5	e32	e.46	e10	e339	e9.7	e7.4	e6	e.12
27	e5.7	e119	e1.8	e8.6	e149	e3.5	e7.0	e6	e.11
28	e5.6	e268	e4.0	e8.4	e72	e1.6	e6.5	e6	e.10
29	e5.4	e602	e8.8	e9.1	e38	e.93	e6.4	e6	e.10
30	e5.4	e1360	e20	e11	e20	e.57	e6.3	e5	e.09
31	---	---	---	e8.7	e10	e.24	---	---	---
TOTAL	190.1	---	105.96	545.9	---	2893.04	293.0	---	438.46

RIO PORTUGUES BASIN

50114900 RIO PORTUGUES NEAR TIBES, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JULY			AUGUST			SEPTEMBER			
1	e6.1	e5	e.09	e6.0	e96	e2.9	e40	e1470	e302
2	e6.2	e5	e.09	e4.5	e27	e.36	e41	e439	e60
3	e5.9	e5	e.08	e3.7	e9	e.09	e29	e8	e.61
4	e5.6	e5	e.07	e3.5	e10	e.10	e22	e5	e.28
5	e5.3	e4	e.06	e3.5	e9	e.08	e33	e514	e90
6	e5.3	e5	e.07	e3.3	e7	e.06	e31	e25	e2.5
7	e5.1	e6	e.08	e3.3	e5	e.04	e25	e8	e.55
8	e5.0	e5	e.07	e3.2	e4	e.03	e21	e8	e.45
9	e4.9	e4	e.05	e3.0	e3	e.02	e20	e8	e.42
10	e4.7	e3	e.04	e3.4	e2	e.02	e18	e7	e.37
11	e4.4	e2	e.03	e3.5	e2	e.02	e18	e33	e1.5
12	e4.5	e2	e.02	e3.3	e3	e.03	e16	e1230	e54
13	e4.4	e2	e.02	e3.3	e5	e.04	e15	e2130	e89
14	e4.4	e2	e.02	e3.3	e8	e.07	e25	e2260	e181
15	e4.3	e2	e.02	e4.3	e13	e.15	e20	e1200	e69
16	e4.2	e4	e.04	e3.8	e12	e.12	e91	e1140	e783
17	e4.4	e9	e.11	e3.5	e8	e.08	e91	e1900	e1470
18	e4.6	e10	e.12	e3.4	e6	e.05	e279	e7830	e10800
19	e4.3	e7	e.08	e3.8	e4	e.04	e71	e229	e45
20	e3.9	e5	e.06	e3.5	e4	e.04	e62	e89	e15
21	e3.9	e5	e.05	e3.3	e5	e.04	e59	e72	e11
22	e4.5	e5	e.06	e18	e1580	e782	e54	e77	e11
23	e3.9	e6	e.06	e204	e2760	e1870	e48	e90	e12
24	e3.9	e7	e.07	e59	e39	e6.3	e41	e110	e12
25	e3.8	e8	e.08	e57	e708	e189	e34	e107	e9.7
26	e3.9	e5	e.05	e54	e83	e14	e30	e102	e8.4
27	e4.1	e1	e.02	e36	e9	e.85	e45	e2960	e434
28	e3.9	e2	e.02	e28	e9	e.63	e63	e2380	e590
29	e4.0	e2	e.02	e26	e8	e.57	e42	e1270	e140
30	e3.9	e2	e.02	e40	e1090	e218	e39	e1610	e234
31	e3.7	e2	e.02	e34	e633	e67	---	---	---
TOTAL	141.0	---	1.69	632.4	---	3152.73	1423	---	15426.78
YEAR	6803.1		29315.81						

e Estimated

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

SILT AND CLAY PERCENT OF SUSPENDED SEDIMENT

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
APR					
19...	1830	35	614	58	95
MAY					
08...	2222	208	1890	1060	99
JUN					
09...	1500	179	6	3.1	98
AUG					
23...	0742	372	4410	4430	99
23...	1046	417	2870	3230	99

RIO PORTUGUES BASIN

50114900 RIO PORTUGUES NEAR TIBES, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM (70326)	SED. SUSP. FALL DIAM. % FINER THAN .004 MM (70327)	SED. SUSP. FALL DIAM. % FINER THAN .008 MM (70328)	
NOV 01...	1930	31	8390	702	33	45	62	
MAY 08...	2026	900	16000	38900	48	65	84	
JUN 13...	1616	403	20000	21800	46	63	82	
AUG 23...	0132	160	7680	3320	40	54	72	
30...	1800	107	4060	1170	52	66	81	
DATE		SED. SUSP. FALL DIAM. % FINER THAN .016 MM (70329)	SED. SUSP. FALL DIAM. % FINER THAN .031 MM (70330)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM (70332)	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM (70333)	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM (70334)	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM (70335)
NOV 01...	75	85	88	94	98	100	100	
MAY 08...	97	99	100	100	100	100	100	
JUN 13...	95	99	100	100	100	100	100	
AUG 23...	90	99	100	100	100	100	100	
30...	91	97	98	100	100	100	100	

PERIOD OF RECORD.--Water year 1964 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

[illegible]

50115900 RIO PORTUGUES AT HIGHWAY 14 AT PONCE, PR

LOCATION.--Lat 18°01'09", long 66°36'26", Hydrologic Unit 21010004, on right bank upstream from bridge on Highway 14, 1.70 mi (2.74 km) downstream from Rio Chiquito, and 0.6 mi (0.96 km) northeast of Plaza Degetau in Ponce.

DRAINAGE AREA.--18.6 mi² (48.17 km²).

PERIOD OF RECORD.--Occasional measurements 1963, annual maximum discharge and peaks above base at different datum, from 1965 to 1972. June 1997 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 67.2 ft (20.48 m), from topographic map. Prior to June 18, 1997 non-recording gage crested-stage gage at same site and different datum.

REMARKS.--Records poor. Some low-flow regulation due to Río Portugués dam construction activity upstream. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e196	e79	e82	e24	e8.6	e6.7	e21	e8.4	e19	e5.6	e12	e44
2	e144	e250	e36	e27	e9.2	e5.5	e21	e7.9	e18	e5.2	e8.0	e81
3	e82	e228	e31	e27	e9.8	e5.5	e11	e8.3	e17	e5.8	e3.6	e40
4	e70	e100	e39	e26	e9.2	e5.3	e9.4	e30	e16	e4.9	e3.3	e22
5	e106	e81	e36	e24	e9.0	e5.1	e8.9	e54	e15	e4.6	e3.2	e30
6	e231	e54	e30	e23	e9.2	e6.2	e8.5	e25	e15	e4.2	e3.0	e58
7	e147	e46	e35	e22	e9.7	e7.9	e8.2	e88	e14	e4.0	e3.0	e27
8	e102	e45	e32	e22	e9.7	e5.6	e8.1	e68	e14	e3.9	e3.0	e18
9	e79	e50	e28	e20	e9.6	e6.3	e8.1	e268	e13	e3.7	e2.9	e13
10	e56	e47	e30	e18	e9.8	e6.4	e14	e53	e13	e3.8	e5.3	e16
11	e51	e50	e27	e17	e11	e6.0	e20	e89	e13	e3.4	e6.7	e12
12	e129	e45	e24	e15	e11	e7.7	e10	e78	e20	e3.4	e5.6	e8.5
13	e92	e65	e21	e14	e9.2	e9.8	e9.3	e43	e101	e3.8	e4.8	e7.3
14	e69	e48	e29	e14	e8.9	e12	e9.0	e40	e46	e3.5	e4.7	e19
15	e52	e185	e35	e12	e12	e14	e9.1	e21	e29	e3.4	e8.8	e26
16	e71	e323	e27	e16	e10	e12	e9.7	e14	e15	e3.3	e9.8	e206
17	e164	e323	e24	e11	e8.7	e8.4	e9.4	e57	e18	e3.5	e5.6	e148
18	e111	e453	e26	e11	e9.2	e7.5	e24	e110	e11	e4.8	e5.0	e1110
19	e61	e405	e26	e11	e7.6	e8.0	e57	e54	e9.6	e4.2	e6.0	e198
20	e64	e250	e33	e10	e6.9	e7.6	e45	e39	e31	e3.5	e6.2	e102
21	e53	e127	e31	e12	e15	e7.2	e41	e28	e24	e3.4	e4.4	e89
22	e59	e97	e22	e11	e12	e7.2	e19	e20	e9.7	e5.4	e4.8	e71
23	e92	e85	e24	e9.9	e9.4	e7.2	e12	e20	e7.4	e4.6	e769	e62
24	e86	e60	e26	e9.6	e22	e9.4	e11	e18	e7.0	e3.4	e126	e46
25	e113	e51	e25	e9.8	e34	e7.1	e9.6	e26	e6.5	e3.5	e108	e32
26	e65	e43	e27	e20	e10	e6.9	e8.8	e39	e6.2	e3.1	e109	e20
27	e47	e36	e21	e11	e9.9	e7.5	e9.1	e23	e6.0	e3.0	e64	e53
28	e46	e31	e27	e9.5	e7.4	e9.2	e8.4	e21	e5.5	e2.9	e33	e125
29	e41	e92	e50	e10	e7.5	e24	e8.1	e24	e5.3	e3.1	e26	e54
30	e38	e134	e31	e9.5	---	e9.7	e8.1	e31	e5.2	e3.2	e46	e38
31	e106	---	e28	e9.1	---	e13	---	e25	---	e2.9	e65	---
TOTAL	2823	3883	963	485.4	315.5	261.9	455.8	1430.6	530.4	121.0	1465.7	2775.8
MEAN	91.1	129	31.1	15.7	10.9	8.45	15.2	46.1	17.7	3.90	47.3	92.5
MAX	231	453	82	27	34	24	57	268	101	5.8	769	1110
MIN	38	31	21	9.1	6.9	5.1	8.1	7.9	5.2	2.9	2.9	7.3
AC-FT	5600	7700	1910	963	626	519	904	2840	1050	240	2910	5510
CFSM	4.90	6.96	1.67	.84	.58	.45	.82	2.48	.95	.21	2.54	4.97
IN.	5.65	7.77	1.93	.97	.63	.52	.91	2.86	1.06	.24	2.93	5.55

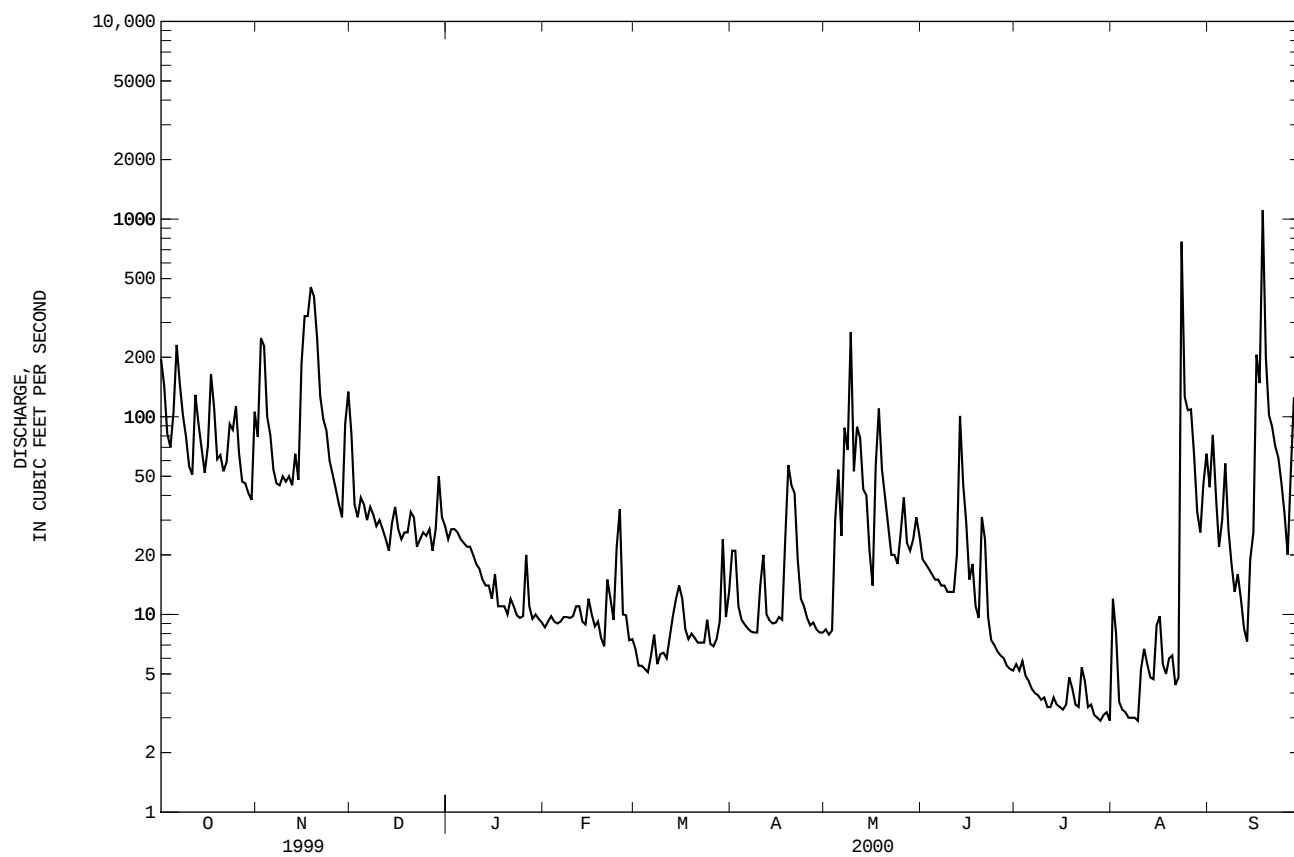
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 2000, BY WATER YEAR (WY)

MEAN	87.2	66.4	19.0	14.5	13.5	10.4	26.0	29.0	34.0	18.2	63.2	143
MAX	103	129	31.1	21.7	20.6	17.4	37.0	46.1	60.4	36.8	112	314
(WY)	1998	2000	2000	1999	1998	1999	1998	2000	1999	1999	1998	1998
MIN	68.0	15.1	6.00	6.09	9.14	5.33	15.2	15.9	17.7	3.90	6.79	12.5
(WY)	1999	1998	1998	1998	1999	1998	2000	1999	2000	2000	1997	1997

SUMMARY STATISTICS	FOR 1999 CALENDAR YEAR		FOR 2000 WATER YEAR		WATER YEARS 1997 - 2000	
ANNUAL TOTAL	20678.0		15511.1			
ANNUAL MEAN	56.7		42.4		49.3	
HIGHEST ANNUAL MEAN					57.8	
LOWEST ANNUAL MEAN					42.4	
HIGHEST DAILY MEAN	956	Sep 13	1110	Sep 18	5580	Sep 22 1998
LOWEST DAILY MEAN	5.3	May 26	2.9	Jul 28	.97	Jun 18 1997
ANNUAL SEVEN-DAY MINIMUM	6.2	May 24	3.1	Jul 25	1.6	Jul 27 1997
INSTANTANEOUS PEAK FLOW			unknown		16300	
INSTANTANEOUS PEAK STAGE			unknown		19.73	
ANNUAL RUNOFF (AC-FT)	41010		30770		35690	
ANNUAL RUNOFF (CFSM)	3.05		2.28		2.65	
ANNUAL RUNOFF (INCHES)	41.36		31.02		35.98	
10 PERCENT EXCEEDS	133		94		92	
50 PERCENT EXCEEDS	25		18		14	
90 PERCENT EXCEEDS	8.6		4.8		4.5	

e Estimated

RIO PORTUGUES BASIN
50115900 RIO PORTUGUES AT HIGHWAY 14 AT PONCE, PR--Continued



50116200 RIO PORTUGUES AT PONCE, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 18°00'20", long 66°36'28", 1,300 ft (400 m) south of Las Americas Avenue Bridge, 1.2 mi (1.9 km) south of CSC 50115900, 0.8 mi (1.3 km) west of Highways 1 and 2 junction, and 0.7 mi (1.1 km) southeast of Ponce.

DRAINAGE AREA.--18.9 mi² (49.0 km²).

PERIOD OF RECORD.--Water years 1979 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	STREP-TOCOCCI, KF AGAR (COLS. PER 100 ML) (31673)
DEC 07...	0850	36	472	7.8	22.2	3.0	9.1	105	<10	K6900	2100
MAR 08...	1445	9.7	414	8.4	29.5	42	7.1	92	<10	K8000	220
MAY 18...	1340	71	314	8.0	26.3	160	7.2	89	27	29000	K19000
SEP 11...	1145	22	390	8.6	30.6	25	11.1	147	13	22000	2000

DATE	HARD-NESS TOTAL (MG/L AS CAC03) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CAC03) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)
DEC 07...	200	58.9	12.5	20.9	.6	1.5	185	<1.0	29.4	21.8
MAR 08...	--	--	--	--	--	--	134	--	--	--
MAY 18...	120	36.2	7.76	13.4	.5	1.7	116	--	20.7	12.7
SEP 11...	140	40.0	9.99	22.5	.8	1.8	133	--	36.0	17.2

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SI02) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)
DEC 07...	.2	23.4	280	27.2	2	1.19	.01	1.2	.07	.17
MAR 08...	--	--	--	--	61	.46	.05	.5	.15	--
MAY 18...	.1	17.4	180	34.3	306	--	<.01	.3	<.01	--
SEP 11...	.1	16.1	223	13.0	43	.59	.02	.6	.06	.32

DATE	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, TOTAL (MG/L AS NO3) (71887)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)
DEC 07...	.24	1.4	6.4	.040	<3	41.7	46	<.1	<1	<20
MAR 08...	<.20	--	--	.110	--	--	--	--	--	--
MAY 18...	<.20	--	--	<.020	<3	111	45	<.1	6	E20
SEP 11...	.38	.99	4.4	.060	--	--	--	--	--	--

RIO PORTUGUES BASIN

50116200 RIO PORTUGUES AT PONCE, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

[illegible]

50124200 RIO GUAYANILLA NEAR GUAYANILLA, PR

LOCATION.--Lat 18°02'40", long 66°47'53", Hydrologic Unit 21010004, on left bank, 0.7 mi (1.1 km) north of junction of Highways 2 and 132, 0.6 mi (1.0 km) downstream from Quebrada Consejo, 1.8 mi (2.9 km) north-northwest from Plaza de Guayanilla.

DRAINAGE AREA.--18.9 mi² (49.0 km²).

PERIOD OF RECORD.--March 1981 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 80 ft (24 m), from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	92	e74	e38	e14	e8.8	e8.2	e5.2	e6.4	e18	8.0	141	23
2	61	e124	e39	e14	e8.6	e7.6	e5.2	e5.3	e16	6.2	45	e17
3	50	e88	e33	e14	e8.4	e7.3	e5.3	e22	e16	6.4	16	e24
4	46	e67	e32	e14	e8.4	e7.1	e4.8	e75	e14	5.8	11	e21
5	43	e61	e32	e14	e8.1	e7.0	e4.7	e28	e14	5.7	e8.6	e17
6	47	e57	e32	e13	e8.0	e6.8	e4.7	e34	e14	5.6	e7.6	17
7	39	e54	e30	e12	e7.6	e6.5	e4.5	e57	e12	6.5	6.9	e13
8	39	e51	e29	e12	e7.7	e6.4	e4.7	e113	e12	6.5	e7.0	e12
9	73	e49	e28	e12	e7.4	e6.1	e4.5	e67	e13	5.8	e6.5	9.0
10	73	e47	e27	e11	e7.5	e5.9	e9.8	e43	e12	5.2	e6.1	7.9
11	109	e46	e25	e10	e7.5	e5.6	e8.8	e60	e12	6.7	e6.1	18
12	208	e47	e25	e10	e7.3	e5.5	e5.1	e57	e21	5.5	e5.2	e7.7
13	117	e48	e24	e10	e7.2	e5.2	e4.6	e42	e37	5.3	e4.9	e6.8
14	83	e44	e24	e9.9	e7.2	e5.2	e4.4	e34	e34	6.1	e4.7	e9.5
15	68	e58	e23	e9.9	e7.1	e5.3	e4.4	e30	e20	5.6	e5.9	e11
16	58	e94	e23	e15	e7.0	e5.3	e4.5	e28	e15	5.2	e7.5	e29
17	69	e137	e22	e12	e6.8	e5.6	e5.0	e58	e11	50	6.2	e169
18	59	e203	e21	e12	e6.7	e5.4	e9.5	e43	e9.0	32	e5.6	597
19	52	e171	e21	e12	e6.6	e5.8	e18	e41	e8.7	18	17	135
20	49	e113	e20	e12	e6.5	e5.8	e14	e33	e8.7	13	11	128
21	46	e75	e19	e12	e7.2	e5.7	e11	e28	e16	12	6.7	e52
22	47	e64	e19	e11	e6.7	e5.3	e6.7	e26	e10	14	147	e46
23	97	e58	e19	e11	e19	e5.1	e5.3	e28	10	17	837	e44
24	78	e52	e18	e10	e18	e6.0	e4.9	e26	33	13	106	e42
25	162	e48	e18	e11	e14	e5.2	e4.7	e27	19	11	e43	e41
26	85	e44	e17	e13	e11	e5.0	e4.7	e24	14	11	e25	e40
27	e58	e43	e16	e11	e9.7	e5.3	e4.6	e22	11	10	e19	e41
28	e70	e40	e17	e10	e9.0	e6.3	e4.5	e21	8.2	15	15	51
29	e57	e38	e22	e10	e8.6	e14	e4.4	e22	6.5	17	e13	46
30	e71	e43	e16	e9.7	---	e6.3	e4.5	e22	5.7	12	e13	41
31	e101	---	e15	e9.4	---	e5.6	---	e19	---	12	e11	---
TOTAL	2307	2138	744	360.9	253.6	193.4	187.0	1141.7	450.8	353.1	1565.5	1715.9
MEAN	74.4	71.3	24.0	11.6	8.74	6.24	6.23	36.8	15.0	11.4	50.5	57.2
MAX	208	203	39	15	19	14	18	113	37	50	837	597
MIN	39	38	15	9.4	6.5	5.0	4.4	5.3	5.7	5.2	4.7	6.8
AC-FT	4580	4240	1480	716	503	384	371	2260	894	700	3110	3400
CFSM	3.94	3.77	1.27	.62	.46	.33	.33	1.95	.80	.60	2.67	3.03
IN.	4.54	4.21	1.46	.71	.50	.38	.37	2.25	.89	.69	3.08	3.38

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1981 - 2000, BY WATER YEAR (WY)

MEAN	61.1	47.5	18.3	10.7	7.70	6.40	10.9	25.0	14.5	12.0	21.2	48.4
MAX	167	110	41.9	27.5	11.6	13.2	31.2	80.4	41.0	25.9	50.5	124
(WY)	1986	1988	1988	1992	1996	1989	1999	1985	1987	1986	2000	1998
MIN	16.0	15.2	4.78	4.06	3.10	2.85	2.76	2.33	2.35	2.45	5.14	3.62
(WY)	1983	1998	1998	1998	1990	1981	1995	1994	1997	1994	1997	1997

SUMMARY STATISTICS

FOR 1999 CALENDAR YEAR

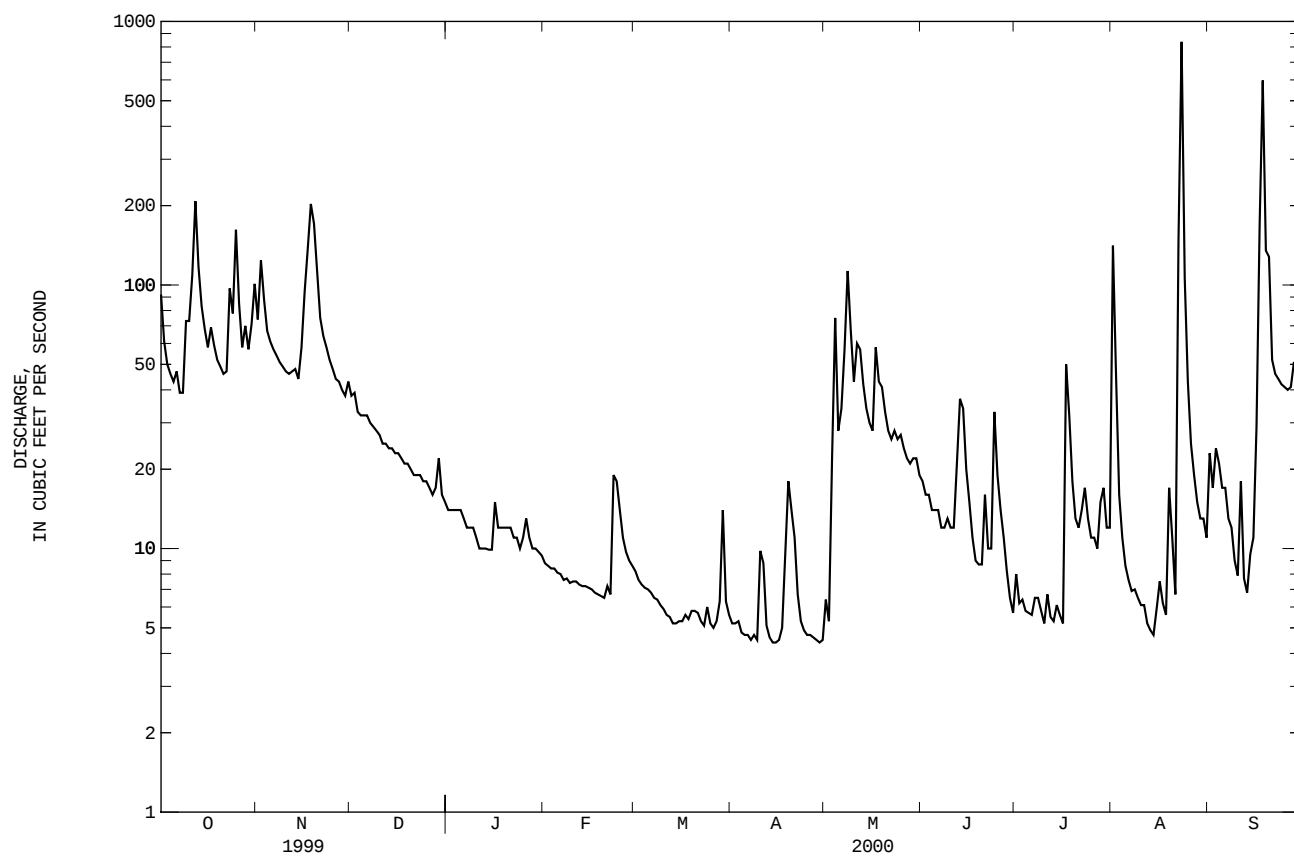
FOR 2000 WATER YEAR

WATER YEARS 1981 - 2000

ANNUAL TOTAL	13048.2	11410.9	
ANNUAL MEAN	35.7	31.2	23.4
HIGHEST ANNUAL MEAN			34.7
LOWEST ANNUAL MEAN			8.94
HIGHEST DAILY MEAN	322	Sep 13	1500
LOWEST DAILY MEAN	6.3	May 29	.77
ANNUAL SEVEN-DAY MINIMUM	7.1	Jul 8	4.6
INSTANTANEOUS PEAK FLOW			3440
INSTANTANEOUS PEAK STAGE			12.71
INSTANTANEOUS LOW FLOW			
ANNUAL RUNOFF (AC-FT)	25880	22630	16960
ANNUAL RUNOFF (CFSM)	1.89	1.65	1.24
ANNUAL RUNOFF (INCHES)	25.68	22.46	16.83
10 PERCENT EXCEEDS	89	67	52
50 PERCENT EXCEEDS	17	14	10
90 PERCENT EXCEEDS	7.7	5.3	3.4

e Estimated

RIO GUAYANILLA BASIN
50124200 RIO GUAYANILLA NEAR GUAYANILLA, PR--Continued



50124700 RIO GUAYANILLA AT CENTRAL RUFINA, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 18°00'40", long 66°46'49", at dirt road bridge, 0.7 mi (1.1 km) from mouth, 0.9 mi (1.4 km) east of Central Rufina and 0.9 mi (1.4 km) southeast of Guayanilla.

DRAINAGE AREA.--22.8 mi² (59.1 km²).

PERIOD OF RECORD.--Water years 1960-65, 1974 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	STREP-TOCOCCI, KF AGAR (COLS. PER 100 ML) (31673)
NOV 24...	1025	48	513	8.4	24.7	3.9	8.8	106	<10	K870	330
MAR 07...	1205	3.1	670	8.0	27.5	.7	8.1	101	<10	360	K10
MAY 16...	1500	25	394	8.4	32.2	1.8	6.9	95	<10	320	K170
SEP 11...	1345	17	377	8.6	32.4	20	8.2	112	<10	2000	K160

DATE	HARD-NESS TOTAL (MG/L AS CAC03) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CAC03) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)
NOV 24...	230	59.9	18.7	15.7	.5	1.6	180	<1.0	43.7	21.7
MAR 07...	--	--	--	--	--	--	194	--	--	--
MAY 16...	160	44.3	12.4	13.4	.5	1.6	118	<1.0	37.3	17.2
SEP 11...	150	42.1	12.0	13.9	.5	2.0	130	--	33.3	16.4

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SI02) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)
NOV 24...	.1	22.4	291	38.0	3	--	<.01	1.7	.02	.22
MAR 07...	--	--	--	--	1	2.62	.08	2.7	.44	.18
MAY 16...	<.1	20.4	217	14.6	<10	--	<.01	2.0	.01	--
SEP 11...	.1	16.6	214	9.91	21	.94	.01	.9	.04	.22

DATE	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, TOTAL (MG/L AS NO3) (71887)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)
NOV 24...	.24	1.9	8.6	.120	<3	54.7	38	<.1	<1	<20
MAR 07...	.62	3.3	14.7	.670	--	--	--	--	--	--
MAY 16...	<.20	--	--	.140	<3	45.9	40	<.1	E1	<20
SEP 11...	.26	1.2	5.4	.150	--	--	--	--	--	--

RIO GUAYANILLA BASIN

50124700 RIO GUAYANILLA AT CENTRAL RUFINA, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

[illegible]

50125780 LAGO LUCCHETTI AT DAMSITE NEAR YAUCO, PR

LOCATION.--Lat 18°05'37", long 66°51'54, Hydrologic Unit 21010004, at Antonio Lucchetti Dam on Río Yauco, 3.9 mi (6.3 km) north of Yauco town.

DRAINAGE AREA.--17.4 mi² (45.1 km²).

ELEVATION RECORDS

PERIOD OF RECORD.--December 1989 to current year. Prior to October 1994, published as Lago Lucchetti at Damsite.

GAGE.--Water-stage recorder. Datum of gage is mean sea level.

REMARKS.--Lago Lucchetti was completed in 1952. The dam is on Río Yauco and is a unit of the Southwestern Puerto Rico Project. It provides 16,500 acre-feet (20.3 hm³) of usable storage for power generation and irrigation. The dam is a concrete gravity structure with a total length of 591 ft (180 m), a maximum height of 178 ft (54 m), and a maximum width at the base of 150 ft (46 m). An ungated, overflow tupe spillway with a clear length of 171 ft (52 m), and a maximum capacity of 62,800 ft³/s (1,778 m³/s) at a design head of 20 ft (6 m). The dam is owned by Puerto Rico Electric Power Authority. Gage-height and precipitation satellite telemetry at station.

EXTREMES OBSERVED FOR PERIOD OF RECORD.--Maximum elevation, 577.56 ft (176.04 m), Sep. 22, 1998; minimum elevation, 512.09 ft (156.08 m), Sept. 9, 1994.

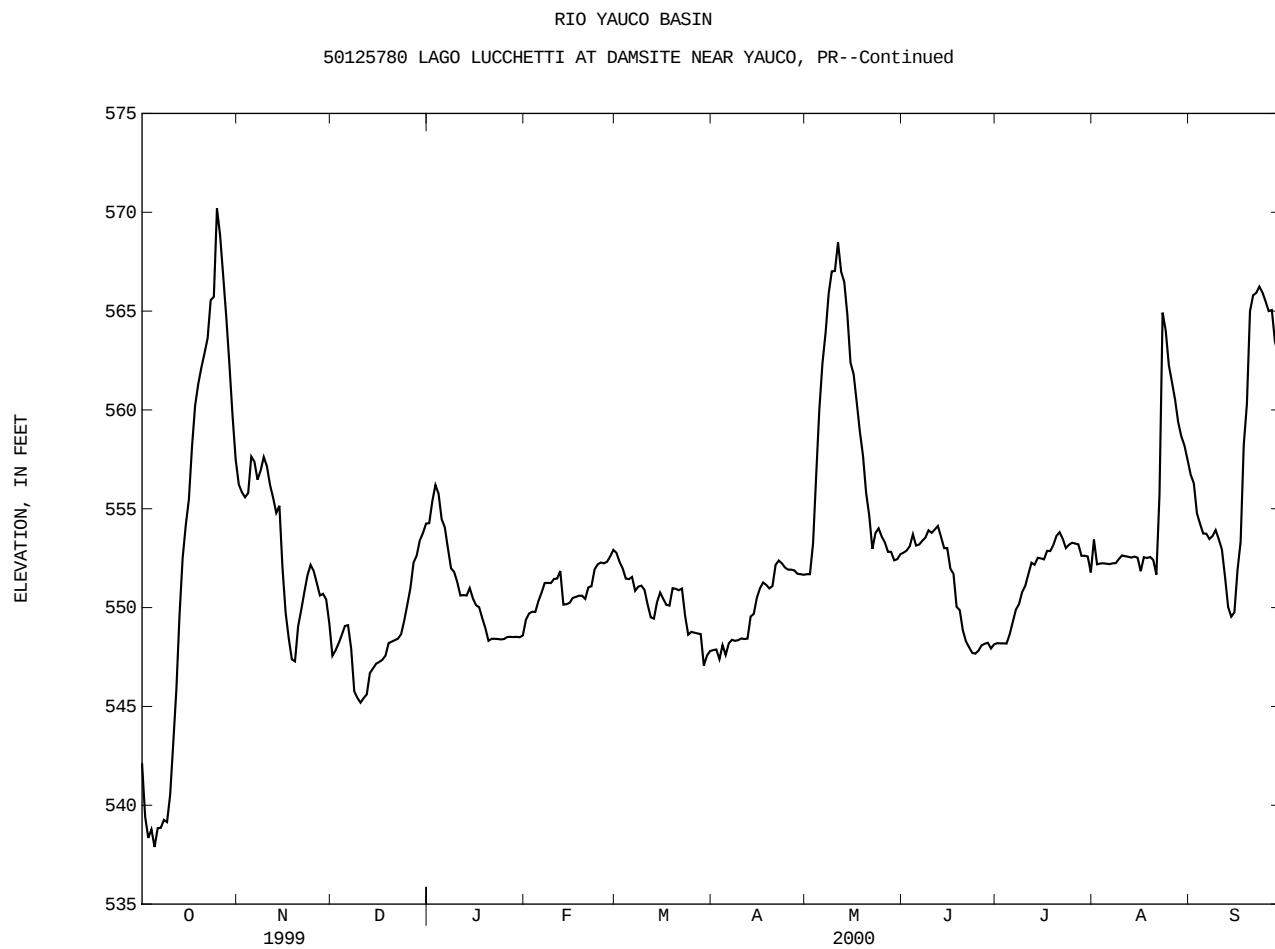
EXTREMES OBSERVED FOR CURRENT YEAR.--Maximum elevation, 570.19 ft (173.79 m), Oct. 25, minimum elevation, 537.85 ft (163.94 m), Oct. 5.

Capacity Table
(based on data from Puerto Rico Water Resources Authority)

Elevation, in feet	Contents, in acre-feet	Elevation, in feet	Contents, in acre-feet
512	1,505	540	5,165
520	2,385	550	7,020
525	2,965	561	9,600
527	3,255	563	10,125
530	3,695	571	12,125
532	3,975	573	12,645
		578	14,061

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	542.13	556.23	547.56	554.27	549.39	552.77	547.85	551.69	552.78	548.20	553.44	556.72
2	539.41	555.83	547.84	555.38	549.70	552.31	547.88	551.69	552.89	548.19	552.19	556.29
3	538.35	555.58	548.20	556.20	549.79	551.98	547.39	553.25	553.11	548.19	552.23	554.77
4	538.78	555.80	548.62	555.76	549.78	551.47	548.10	556.68	553.71	548.18	552.24	554.24
5	537.89	557.64	549.07	554.47	550.33	551.44	547.60	560.00	553.14	548.65	552.22	553.75
6	538.84	557.38	549.11	554.06	550.75	551.55	548.19	562.34	553.19	549.28	552.20	553.74
7	538.86	556.47	547.92	553.00	551.24	550.85	548.37	563.88	553.38	549.90	552.24	553.47
8	539.26	556.94	545.76	551.99	551.25	551.06	548.32	565.88	553.54	550.18	552.25	553.62
9	539.15	557.62	545.43	551.80	551.24	551.11	548.35	567.01	553.91	550.79	552.46	553.92
10	540.53	557.15	545.19	551.29	551.45	550.89	548.44	567.03	553.78	551.10	552.64	553.46
11	543.16	556.21	545.42	550.61	551.47	550.15	548.41	568.48	553.95	551.70	552.60	552.94
12	545.88	555.55	545.61	550.63	551.85	549.51	548.43	566.99	554.13	552.27	552.57	551.56
13	549.61	554.79	546.69	550.61	550.15	549.44	549.55	566.47	553.58	552.17	552.53	550.03
14	552.50	555.15	546.92	550.99	550.17	550.27	549.68	564.79	553.01	552.52	552.58	549.54
15	554.16	552.00	547.16	550.47	550.24	550.76	550.50	562.39	553.01	552.49	552.52	549.76
16	555.47	549.74	547.25	550.12	550.49	550.44	550.98	561.81	551.97	552.44	551.84	551.90
17	558.13	548.44	547.36	550.02	550.54	550.14	551.27	560.38	551.71	552.87	552.55	553.34
18	560.22	547.38	547.57	549.47	550.60	550.10	551.15	558.90	550.04	552.86	552.51	558.23
19	561.31	547.28	548.20	548.96	550.60	550.98	550.97	557.69	549.87	553.17	552.56	560.28
20	562.14	549.05	548.28	548.32	550.44	550.95	551.09	555.81	548.84	553.63	552.41	564.99
21	562.86	549.88	548.35	548.42	551.02	550.88	552.16	554.66	548.29	553.81	551.67	565.80
22	563.62	550.78	548.43	548.42	551.08	550.96	552.38	552.97	547.99	553.48	555.71	565.92
23	565.56	551.63	548.65	548.41	551.93	549.59	552.24	553.77	547.71	553.01	564.92	566.24
24	565.72	552.16	549.34	548.39	552.19	548.63	552.03	554.01	547.67	553.18	564.01	565.94
25	570.19	551.85	550.15	548.41	552.28	548.77	551.92	553.59	547.82	553.28	562.26	565.49
26	568.85	551.24	551.00	548.51	552.24	548.73	551.92	553.30	548.09	553.24	561.41	565.00
27	566.78	550.61	552.28	548.52	552.32	548.69	551.88	552.82	548.17	553.20	560.51	565.05
28	564.67	550.70	552.63	548.51	552.59	548.66	551.71	552.82	548.22	552.62	559.37	563.46
29	562.28	550.41	553.40	548.52	552.92	547.07	551.69	552.39	547.93	552.62	558.66	562.82
30	559.70	549.21	553.77	548.50	---	547.57	551.66	552.45	548.14	552.59	558.20	562.16
31	557.49	---	554.25	548.59	---	547.80	---	552.70	---	551.78	557.47	---
MAX	570.19	557.64	554.25	556.20	552.92	552.77	552.38	568.48	554.13	553.81	564.92	566.24
MIN	537.89	547.28	545.19	548.32	549.39	547.07	547.39	551.69	547.67	548.18	551.67	549.54



50128900 LAGO LOCO AT DAMSITE NEAR YAUCO, PR

LOCATION.--Lat 18°02'41", long 66°53'16", Hydrologic Unit 21010004, at Damsite, 2.60 mi (4.18 km) northwest from Yauco plaza, 0.45 mi (0.72 km) northeast from Escuela Rio Cañas and 0.95 mi (1.53 km) northwest from Escuela Susúa Alta.

DRAINAGE AREA.--8.35 mi² (21.63 km²).

ELEVATION RECORDS

PERIOD OF RECORD.--May 1995 to current year.

GAGE.--Water stage recorder. Datum of gage is mean sea level.

REMARKS.--Lago Loco was completed in 1951. The dam is a concrete gravity structure with a total length of 600 ft (183 m), maximum structural height of 72 ft (21.9 m), the ungated overflow spillway is 150 ft (47.7 m) long with crest at elevation of 230 ft (70.1 m). It has a normal storage capacity of 1,950 acre-feet (2.40 hm³) as for May 4, 1979. The Loco Dam is owned by the Puerto Rico Electric Power Authority (P.R.E.P.A) and is part of the Southwestern Puerto Rico Project which was developed for electric power generation and irrigation of the lands in the Lajas Valley, some of the Project waters are used for water supply in the Lajas area. The maximum drawdown of the Dam is from 230 ft (70.1 m) to 220 ft (67.1 m) and the Capacity Table provided by P.R.E.P.A includes only that portion of the storage for the dam. Gage-height and precipitation satellite telemetry at station.

EXTREMES OBSERVED FOR PERIOD OF RECORD.--Maximum elevation, 234.77 ft (71.56 m), Sept. 22, 1998; minimum elevation, 217.77 ft (66.4 m), June 10, 1997.

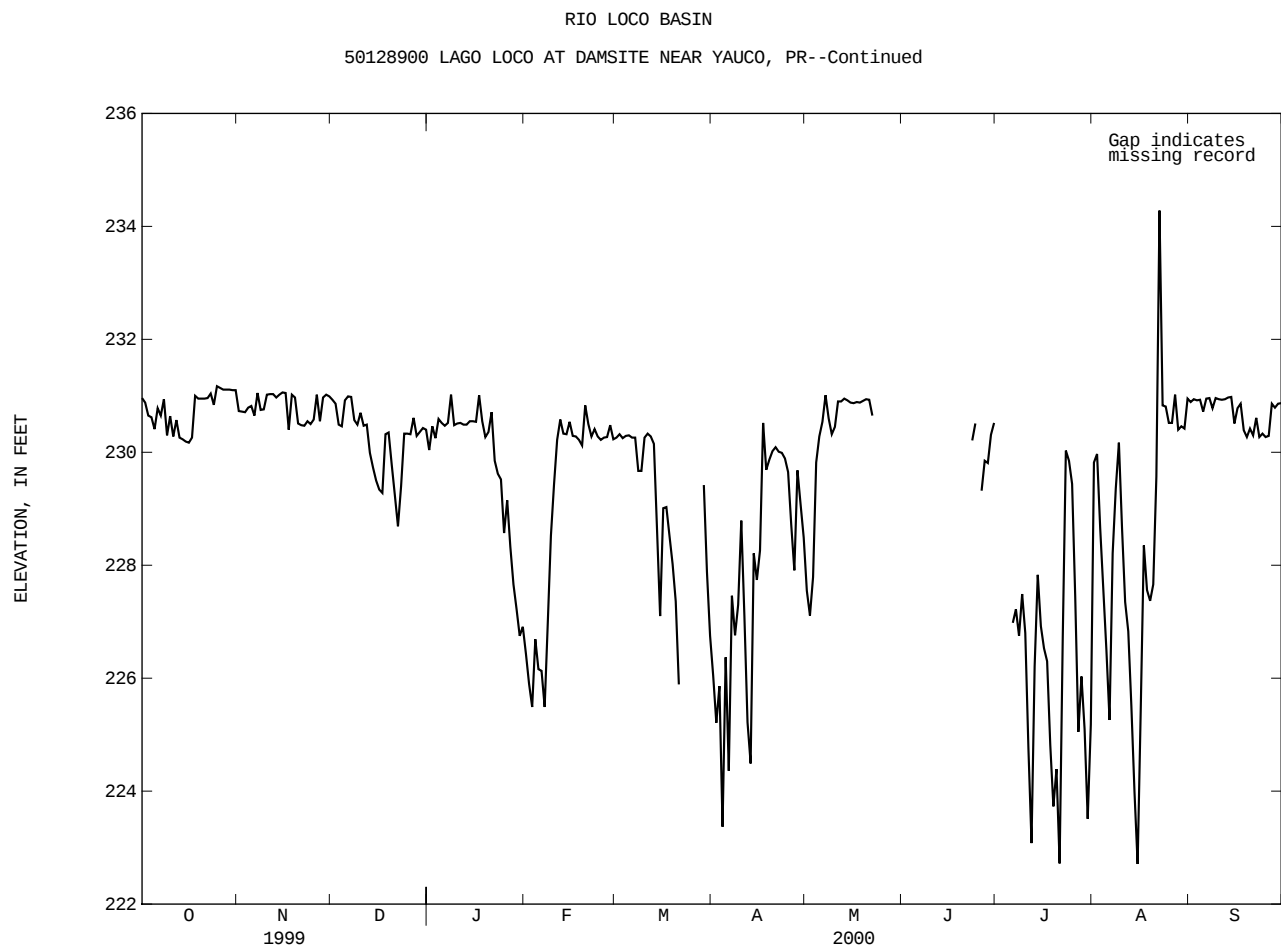
EXTREMES OBSERVED FOR CURRENT YEAR.--Maximum elevation, 234.31 ft (71.42 m), Aug. 23; minimum elevation, 221.59 ft (67.54 m), Aug. 16.

Capacity Table

(based on data from Puerto Rico Electric Power Authority)

	Elevation, in feet		Contents, in acre-feet		Elevation, in feet		Contents, in acre-feet					
	220		0		230		639					
	225		299		232		787					
ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000												
DAILY OBSERVATION AT 2400 HOURS												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	230.96	230.73	230.93	230.04	226.43	230.26	226.04	227.55	A	A	229.82	230.89
2	230.88	230.72	230.86	230.46	225.90	230.32	225.21	227.11	A	A	229.97	230.94
3	230.65	230.71	230.49	230.25	225.49	230.25	225.86	227.79	A	A	228.66	230.92
4	230.62	230.79	230.46	230.59	226.69	230.29	223.37	229.82	A	A	227.57	230.93
5	230.41	230.82	230.92	230.52	226.16	230.30	226.37	230.28	A	A	226.49	230.72
6	230.78	230.65	230.99	230.47	226.13	230.26	224.36	230.54	A	226.98	225.26	230.95
7	230.65	231.05	230.98	230.52	225.49	230.26	227.46	231.01	A	227.22	228.21	230.96
8	230.94	230.75	230.57	231.02	226.98	229.67	226.76	230.60	A	226.75	229.36	230.78
9	230.30	230.76	230.49	230.48	228.52	229.67	227.30	230.32	A	227.49	230.17	230.96
10	230.64	231.02	230.70	230.51	229.43	230.26	228.79	230.45	A	226.80	228.66	230.94
11	230.28	231.03	230.47	230.52	230.22	230.33	227.10	230.90	A	224.77	227.35	230.93
12	230.57	231.03	230.49	230.49	230.58	230.28	225.22	230.90	A	223.08	226.83	230.94
13	230.26	230.97	229.99	230.49	230.33	230.15	224.49	230.95	A	226.21	225.50	230.97
14	230.23	231.02	229.73	230.55	230.32	228.64	228.21	230.92	A	227.83	223.98	230.98
15	230.19	231.06	229.50	230.55	230.54	227.10	227.74	230.88	A	226.92	222.71	230.51
16	230.17	231.05	229.34	230.54	230.29	229.01	228.26	230.87	A	226.53	225.45	230.78
17	230.26	230.40	229.28	231.01	230.28	229.03	230.52	230.89	A	226.30	228.35	230.86
18	231.00	231.02	230.32	230.55	230.22	228.52	229.69	230.88	A	224.82	227.56	230.39
19	230.95	230.97	230.35	230.27	230.12	228.02	229.87	230.91	A	223.73	227.37	230.27
20	230.95	230.51	229.78	230.36	230.83	227.36	230.02	230.94	A	224.39	227.66	230.42
21	230.95	230.48	229.24	230.71	230.50	225.89	230.09	230.93	A	222.72	229.57	230.30
22	230.96	230.47	228.69	229.85	230.28	A	230.01	230.65	A	226.71	234.28	230.61
23	231.04	230.55	229.40	229.62	230.41	A	229.99	A	230.21	230.03	230.83	230.27
24	230.84	230.50	230.33	229.52	230.28	A	229.89	A	230.51	229.85	230.81	230.33
25	231.17	230.58	230.33	228.57	230.22	A	229.65	A	A	229.44	230.52	230.27
26	231.14	231.02	230.32	229.15	230.26	A	228.72	A	229.32	227.44	230.52	230.29
27	231.11	230.55	230.61	228.33	230.27	A	227.91	A	229.85	225.05	231.02	230.86
28	231.11	230.97	230.29	227.66	230.48	A	229.68	A	229.81	226.03	230.40	230.79
29	231.11	231.02	230.36	227.22	230.23	229.42	229.08	A	230.31	225.10	230.46	230.86
30	231.10	230.99	230.43	226.75	---	227.88	228.49	A	230.52	223.51	230.42	230.87
31	231.10	---	230.40	226.91	---	226.75	---	A	---	225.18	230.95	---
MAX	231.17	231.06	230.99	231.02	230.83	230.33	230.52	231.01	230.52	230.03	234.28	230.98
MIN	230.17	230.40	228.69	226.75	225.49	225.89	223.37	227.11	229.32	222.72	222.71	230.27

A No gage-height record



RIO LOCO BASIN

50129700 RIO LOCO AT GUANICA, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 17°58'33", long 66°54'52", 0.6 mi (1.0 km) northwest of Guanica and 1.2 mi (1.9 km) northeast of Ensenada.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--Water years 1975 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOC- CI FECAL, KF AGAR (COLS. PER 100 ML)	
		(US/CM (00095)	(00400)	(00010)	(00076)	(00300)	(00301)	(00340)	(31625)	(31673)	
NOV 24...	0915	535	8.2	25.2	7.8	4.5	55	14	310	2000	
FEB 06...	1050	308	7.8	24.0	--	5.6	65	--	410	470	
MAR 07...	1300	419	7.7	23.6	5.3	6.1	71	<10	540	K160	
MAY 09...	1600	257	8.1	26.7	76	6.8	85	15	570	2800	
AUG 22...	1155	3480	7.3	27.7	1.0	.7	9	16	200	580	
DATE		HARD- NESS TOTAL (MG/L AS CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ANC WATER UNFLTRD FET FIELD CAC03	SULFIDE TOTAL (MG/L AS S)	SULFATE DIS- SOLVED (MG/L AS S04)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
		(00900)	(00915)	(00925)	(00930)	(00931)	(00935)	(00410)	(00745)	(00945)	(00940)
NOV 24...	190	42.4	21.1	33.6	1	3.3	197	<1.0	25.7	32.3	
FEB 06...	--	--	--	--	--	--	133	--	--	--	
MAR 07...	--	--	--	--	--	--	154	--	--	--	
MAY 09...	99	21.7	11.0	9.7	.4	2.1	98	<1.0	12.1	11.2	
AUG 22...	340	51.2	50.8	267	6	11.0	236	--	71.0	460	
DATE		FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SI02)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)
		(00950)	(00955)	(70301)	(00530)	(00620)	(00615)	(00630)	(00610)	(00605)	(00625)
NOV 24...	.1	27.9	304	12	.82	.01	.8	.04	.48	.52	
FEB 06...	--	--	--	--	--	--	--	--	--	--	
MAR 07...	--	--	--	12	.91	.01	.9	.07	.14	.21	
MAY 09...	<.1	20.4	147	80	.97	.03	1.0	.07	.45	.52	
AUG 22...	.3	31.5	1080	14	--	<.01	<.1	.03	.41	.44	
DATE		NITRO- GEN, TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N03)	PHOS- PHORUS TOTAL (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA)	BORON, TOTAL RECOV- ERABLE (UG/L AS B)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)
		(00600)	(71887)	(00665)	(01002)	(01007)	(01022)	(01027)	(01034)	(01042)	(01045)
NOV 24...	1.4	6.0	.160	<3	72.2	66	<.1	3	<20	650	
FEB 06...	--	--	--	--	--	--	--	--	--	--	
MAR 07...	1.1	5.0	.030	--	--	--	--	--	--	--	
MAY 09...	1.5	6.7	.140	<3	66.8	23	<.1	22	<20	4360	
AUG 22...	--	--	.100	--	--	--	--	--	--	--	

RIO LOCO BASIN

50129700 RIO LOCO AT GUANICA, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

[illegible]

RIO GUANAJIBO BASIN

50131990 RIO GUANAJIBO AT HWY 119 AT SAN GERMAN, PR

LOCATION.--Lat 18°05'06", long 67°02'02", Hydrologic Unit 21010003, on left bank, at bridge on Hwy 119, 0.6 mi (1.0 km) southwest of junction of Highways 119 and 2, 0.2 mi (0.3 km) northeast of junction of Highways 119 and 102, 0.7 mi (1.1 km) east from public Plaza of San Germán.

DRAINAGE AREA.--34.6 mi² (89.6 km²).

PERIOD OF RECORD.--April 1991 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 148 ft (45 m), from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	117	172	62	24	8.7	40	37	3.6	16	49	e98	224
2	78	408	65	21	12	23	39	6.1	15	21	e57	145
3	57	236	73	26	14	18	21	69	14	16	e38	77
4	48	136	66	23	16	15	15	103	13	12	44	55
5	187	210	66	84	16	14	10	128	11	11	21	50
6	230	139	63	61	13	14	8.4	121	10	9.0	15	68
7	92	108	59	34	14	13	8.1	650	9.9	8.2	12	89
8	432	96	57	44	14	11	7.4	473	8.2	7.6	12	77
9	560	99	54	31	11	10	8.1	442	8.7	7.3	9.3	54
10	226	83	54	24	9.7	10	8.7	126	11	8.5	9.2	44
11	296	73	51	23	11	9.7	10	435	12	15	9.6	35
12	609	90	47	22	12	8.9	e9.9	188	16	6.7	8.2	29
13	429	79	46	21	11	8.2	e62	118	29	5.4	6.7	26
14	210	72	44	21	11	8.1	e53	87	19	13	21	75
15	175	70	43	18	11	7.5	e8.6	62	16	6.0	23	67
16	167	168	40	16	11	7.4	e5.6	51	36	4.7	9.8	40
17	378	127	36	15	12	8.2	e6.5	98	26	28	7.7	63
18	831	124	36	14	15	9.6	e12	75	17	17	10	1300
19	418	183	34	13	21	18	e20	54	14	7.0	132	508
20	413	156	33	11	29	9.8	e136	46	51	5.7	63	1070
21	216	111	32	11	93	8.6	e351	39	60	5.8	31	518
22	196	133	32	10	70	6.1	e195	39	21	11	38	242
23	611	111	31	9.6	106	5.8	e57	36	17	9.7	1940	240
24	234	95	32	9.0	84	9.8	e38	31	31	6.7	284	205
25	379	88	33	9.2	65	9.2	e18	29	24	e8.6	107	142
26	246	83	28	33	47	8.7	e11	21	15	e6.0	71	99
27	155	78	22	18	28	6.3	e6.5	21	14	e5.3	53	105
28	167	74	24	15	24	7.4	5.0	43	12	e11	43	68
29	154	68	68	19	22	51	4.4	25	11	e5.8	64	59
30	114	65	35	16	---	47	3.8	24	38	e4.4	88	53
31	158	---	27	11	---	77	---	20	---	e22	111	---
TOTAL	8583	3735	1393	706.8	811.4	500.3	1176.0	3663.7	595.8	354.4	3436.5	5827
MEAN	277	124	44.9	22.8	28.0	16.1	39.2	118	19.9	11.4	111	194
MAX	831	408	73	84	106	77	351	650	60	49	1940	1300
MIN	48	65	22	9.0	8.7	5.8	3.8	3.6	8.2	4.4	6.7	26
MED	216	104	43	19	14	9.8	10	54	16	8.5	38	76
AC-FT	17020	7410	2760	1400	1610	992	2330	7270	1180	703	6820	11560
CFSM	8.00	3.60	1.30	.66	.81	.47	1.13	3.42	.57	.33	3.20	5.61
IN.	9.23	4.02	1.50	.76	.87	.54	1.26	3.94	.64	.38	3.69	6.26

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 2000, BY WATER YEAR (WY)

MEAN	182	79.5	31.5	22.7	22.4	12.4	22.2	50.0	26.4	19.5	54.7	235
MAX	632	127	76.5	47.5	45.3	25.8	55.9	118	61.3	37.6	111	1585
(WY)	1999	1997	1999	1997	1998	1995	1996	2000	1999	1995	2000	1998
MIN	20.4	15.8	8.21	6.10	4.32	3.52	7.79	5.11	3.91	6.68	17.2	11.2
(WY)	1992	1992	1992	1998	1992	1992	1997	1994	1994	1994	1994	1997

SUMMARY STATISTICS

FOR 1999 CALENDAR YEAR

FOR 2000 WATER YEAR

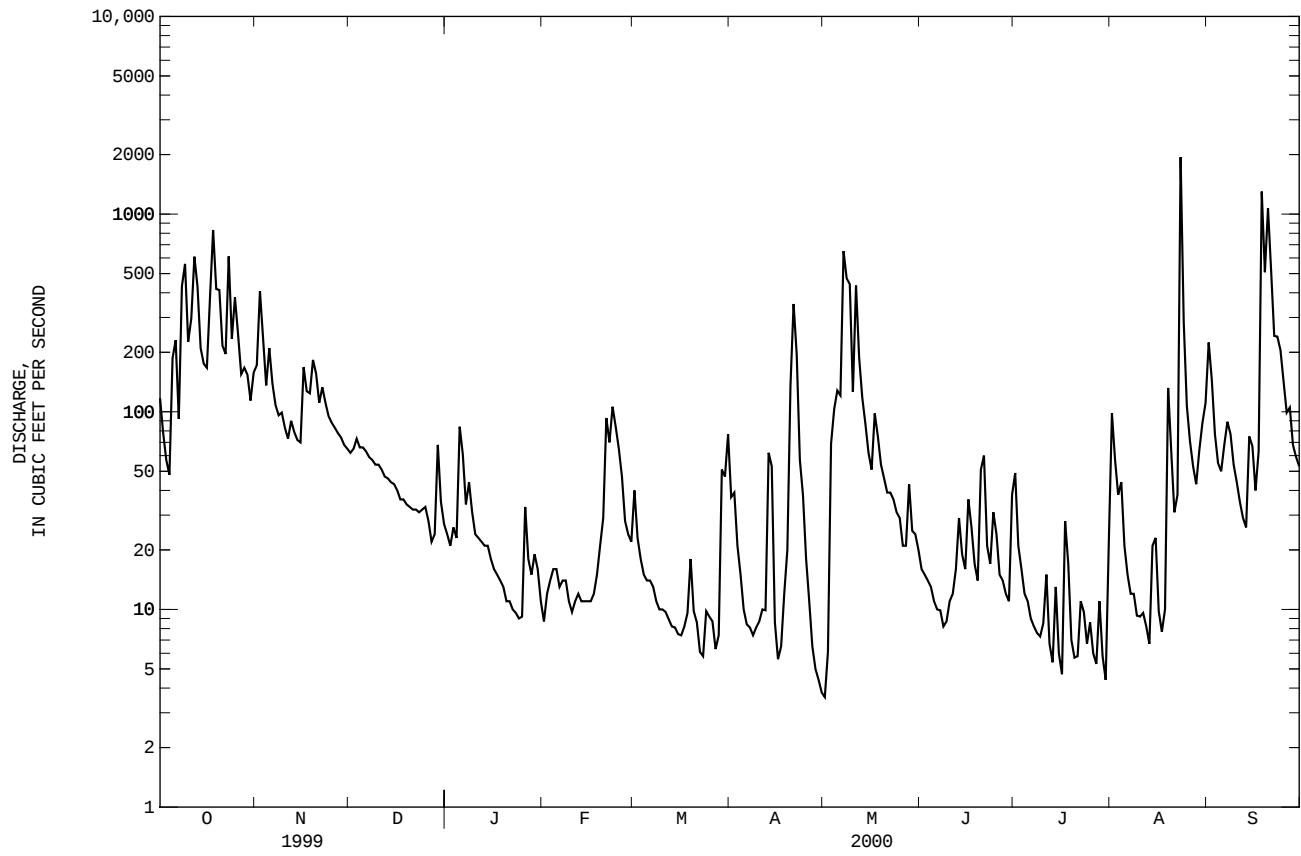
WATER YEARS 1991 - 2000

ANNUAL TOTAL	26311.7	30782.9	
ANNUAL MEAN	72.1	84.1	65.9
HIGHEST ANNUAL MEAN			179
LOWEST ANNUAL MEAN			16.6
HIGHEST DAILY MEAN	831	Oct 18	17300
LOWEST DAILY MEAN	7.5	May 28	1.5
ANNUAL SEVEN-DAY MINIMUM	7.8	May 22	1.8
INSTANTANEOUS PEAK FLOW			7030
INSTANTANEOUS PEAK STAGE			13.44
ANNUAL RUNOFF (AC-FT)	52190	61060	47720
ANNUAL RUNOFF (CFSM)	2.08	2.43	1.90
ANNUAL RUNOFF (INCHES)	28.29	33.10	25.87
10 PERCENT EXCEEDS	185	195	111
50 PERCENT EXCEEDS	29	31	17
90 PERCENT EXCEEDS	11	8.2	5.3

e Estimated

RIO GUANAJIBO BASIN

50131990 RIO GUANAJIBO AT HWY 119 AT SAN GERMAN, PR--Continued



RIO GUANAJIBO BASIN

50133600 RIO GUANAJIBO NEAR SAN GERMAN, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 18°07'18", long 67°03'56", at bridge on Highway 347, 2.2 mi (3.5 km) northwest of San German.

DRAINAGE AREA.--45.5 mi² (117.8 km²).

PERIOD OF RECORD.--Water years 1979 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	STREP-TOCOCCI, FECAL, KF AGAR (COLS. PER 100 ML) (31673)
NOV 23...	1200	161	408	8.1	26.5	25	7.7	96	18	2700	610
MAR 13...	1445	11	761	8.1	25.9	1.3	6.0	73	10	K100	K30
MAY 16...	1315	48	544	8.1	29.9	.6	7.2	95	<10	K60	K120
SEP 08...	1520	59	488	8.2	30.0	1.5	8.1	106	<10	410	30

DATE	HARD-NESS TOTAL (MG/L AS CAC03) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CAC03) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS S04) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)
NOV 23...	180	20.2	32.6	12.1	.4	2.0	174	<1.0	16.4	14.6
MAR 13...	--	--	--	--	--	--	270	--	--	--
MAY 16...	230	23.9	40.6	23.0	.7	2.5	215	<1.0	27.2	28.5
SEP 08...	200	21.3	34.7	16.4	.5	3.0	194	--	24.6	20.8

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SI02) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)
NOV 23...	<.1	33.3	236	102	24	1.05	.05	1.1	.18	.64
MAR 13...	--	--	--	--	5	1.68	.12	1.8	.24	.68
MAY 16...	<.1	35.9	310	40.2	<10	1.41	.09	1.5	.11	.17
SEP 08...	<.1	31.7	268	42.7	<10	.94	.06	1.0	.14	.29

DATE	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, TOTAL (MG/L AS NO3) (71887)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)
NOV 23...	.82	1.9	8.5	.150	<3	47.4	59	<.1	11	<20
MAR 13...	.92	2.7	12.0	.580	--	--	--	--	--	--
MAY 16...	.28	1.8	7.9	.230	<3	58.7	56	<.1	6	<20
SEP 08...	.43	1.4	6.3	.200	--	--	--	--	--	--

RIO GUANAJIBO BASIN

50133600 RIO GUANAJIBO NEAR SAN GERMAN, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

[illegible]

RIO GUANAJIBO BASIN

50136400 RIO ROSARIO NEAR HORMIGUEROS, PR

LOCATION.--Lat 18°09'36", long 67°05'08", Hydrologic Unit 21010003, at bridge on Highway 348, 0.5 mi (0.8 km) southwest of Rosario plaza.

DRAINAGE AREA.--18.3 mi² (47.4 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1985 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 50.0 ft (15.2 m), from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	59	179	97	40	28	23	14	e12	e27	34	e21	e100
2	55	185	109	38	28	20	14	e14	e26	23	e23	e70
3	52	156	98	38	27	19	14	e20	e26	26	e24	e56
4	72	138	87	40	27	19	13	e30	e26	25	e24	e50
5	208	197	83	41	27	18	13	e32	e25	22	e21	e52
6	228	150	80	41	26	19	12	e60	e25	24	e20	e56
7	187	131	75	38	27	18	14	e54	e25	e23	e21	e80
8	350	151	72	36	26	18	16	e150	e24	e21	e22	e50
9	173	214	70	36	25	18	12	e130	e25	e20	20	44
10	116	160	69	35	24	17	12	e60	e25	e24	20	41
11	132	148	67	34	24	18	15	e48	e26	29	20	38
12	118	127	65	34	24	17	15	e90	e26	31	19	35
13	121	121	63	35	24	18	15	e54	e30	27	18	34
14	106	118	61	43	24	18	14	e50	e28	29	18	33
15	94	113	59	44	24	17	13	e42	e28	25	18	36
16	93	128	56	40	24	17	13	e38	e42	22	19	40
17	115	146	55	34	23	16	12	e35	e45	23	18	e70
18	99	158	53	34	23	17	13	e54	e35	26	19	e200
19	87	196	51	33	23	17	12	e38	e32	30	20	e140
20	80	167	49	32	25	16	13	e36	e55	28	21	e180
21	76	149	48	31	37	17	e25	e34	e60	27	e25	e200
22	152	222	47	31	38	14	e70	e32	e40	25	e35	e130
23	350	204	46	31	25	15	e40	e33	33	23	e300	e170
24	160	159	43	30	25	20	e20	e31	29	23	e200	e175
25	371	138	43	30	22	16	e17	e30	27	25	e100	e140
26	190	123	41	31	21	15	e15	e29	26	23	e60	e80
27	151	113	42	29	22	13	e14	e28	25	22	e50	e70
28	249	105	41	29	21	13	e13	e33	23	21	e45	e66
29	182	102	54	29	23	19	e13	e30	22	21	e54	e64
30	168	112	42	29	---	20	e12	e29	43	21	e90	e60
31	281	---	40	28	---	21	e28	e28	---	22	e95	---
TOTAL	4875	4510	1906	1074	737	543	508	1384	929	765	1460	2560
MEAN	157	150	61.5	34.6	25.4	17.5	16.9	44.6	31.0	24.7	47.1	85.3
MAX	371	222	109	44	38	23	70	150	60	34	300	200
MIN	52	102	40	28	21	13	12	12	22	20	18	33
AC-FT	9670	8950	3780	2130	1460	1080	1010	2750	1840	1520	2900	5080
CFSM	8.59	8.21	3.36	1.89	1.39	.96	.93	2.44	1.69	1.35	2.57	4.66
IN.	9.91	9.17	3.87	2.18	1.50	1.10	1.03	2.81	1.89	1.56	2.97	5.20

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 2000, BY WATER YEAR (WY)

	MEAN	113	76.2	34.4	24.2	19.9	21.2	23.6	43.0	46.7	42.6	63.6	105
MAX	206	150	61.5	39.7	37.8	77.0	57.7	122	127	75.2	102	308	
(WY)	1986	2000	2000	1997	1995	1989	1993	1999	1999	1989	1989	1998	
MIN	33.2	16.1	9.92	15.1	8.55	10.1	11.0	14.8	12.0	23.2	25.1	32.7	
(WY)	1992	1992	1992	1994	1992	1992	1998	1997	1992	1990	1991	1986	

SUMMARY STATISTICS

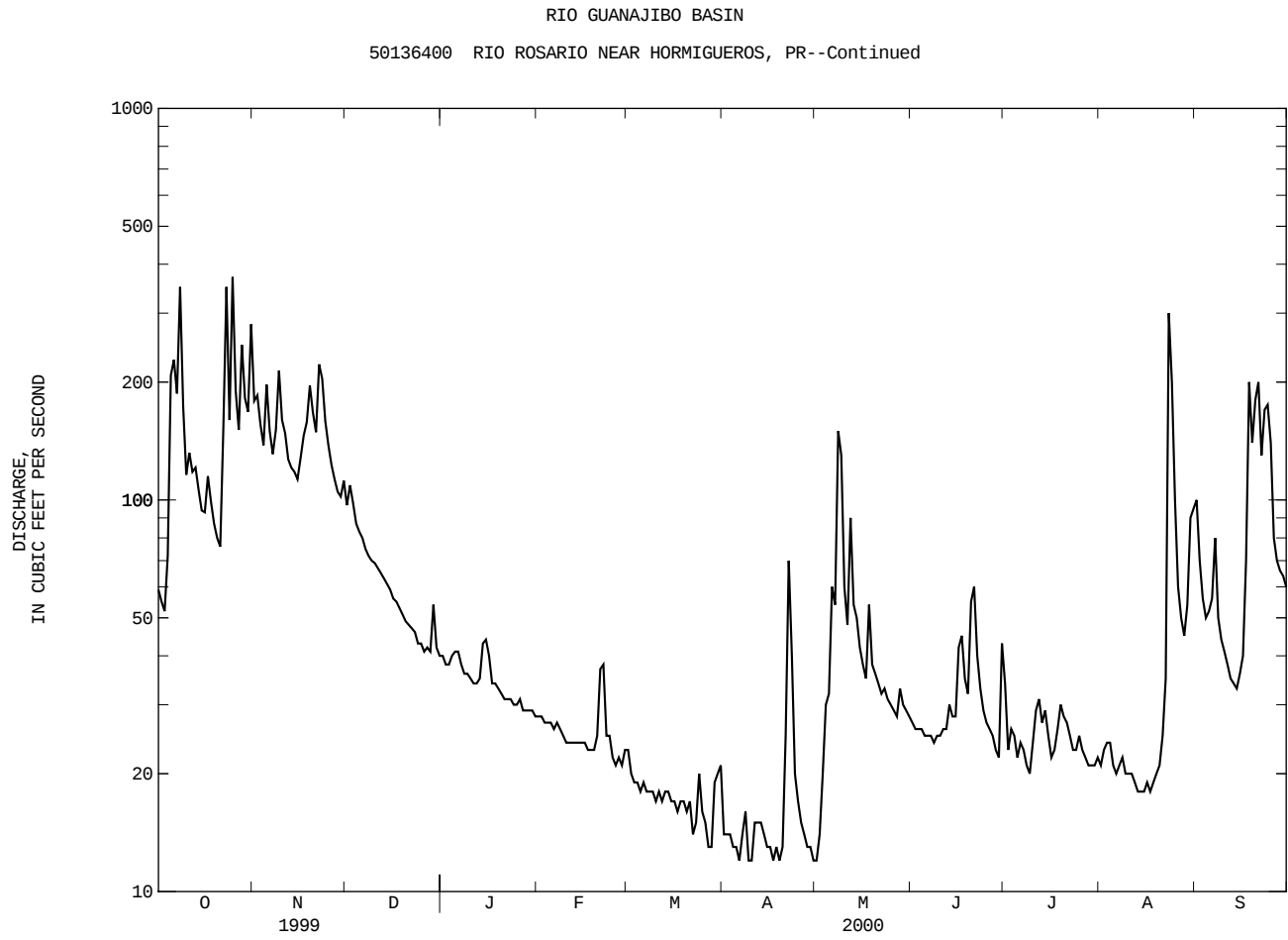
FOR 1999 CALENDAR YEAR

FOR 2000 WATER YEAR

WATER YEARS 1986 - 2000

ANNUAL TOTAL	28246	21251	
ANNUAL MEAN	77.4	58.1	51.2
HIGHEST ANNUAL MEAN			75.9
LOWEST ANNUAL MEAN			30.8
HIGHEST DAILY MEAN	540	371	4420
LOWEST DAILY MEAN	14	12	3.9
ANNUAL SEVEN-DAY MINIMUM	14	13	4.2
INSTANTANEOUS PEAK FLOW		1970	13700
INSTANTANEOUS PEAK STAGE		8.09	18.66
INSTANTANEOUS LOW FLOW		11	3.7
ANNUAL RUNOFF (AC-FT)	56030	42150	37120
ANNUAL RUNOFF (CFSM)	4.23	3.17	2.80
ANNUAL RUNOFF (INCHES)	57.42	43.20	38.04
10 PERCENT EXCEEDS	160	150	119
50 PERCENT EXCEEDS	57	32	29
90 PERCENT EXCEEDS	19	17	12

e Estimated



RIO GUANAJIBO BASIN

50136400 RIO ROSARIO NEAR HORMIGUEROS, PR.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--WATER YEARS 1979 TO CURRENT YEAR.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: OCTOBER 1985 TO CURRENT YEAR.

INSTRUMENTATION.--USD-49 SEDIMENT SAMPLER SINCE OCTOBER 1985. AUTOMATIC SEDIMENT SAMPLER SINCE 1986

REMARKS.--sediment samples were collected by a local observer on a weekly basis. During high flow events sediment samples were collected by hydrologic technician and automatic sediment sampler.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 15,900 mg/L September 22, 1998; Minimum daily mean, 1 mg/L several days.

SEDIMENT LOADS: Maximum daily mean, 356,000 tons (323,000 tonnes) September 22, 1998; Minimum daily mean, 0.05 ton (0.04 Tonne) several days.

EXTREMES FOR CURRENT YEAR 2000.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 770 mg/L October 8, 1999; Minimum daily mean, 1.0 mg/L March 3, 2000.

SEDIMENT LOADS: Maximum daily, 1,520 tons (1,379 tonnes) October 8, 2000; Minimum daily mean, 0.05 ton (0.04 tonne) April 18, 2000.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, UM-MF (COLS./100 ML) (31625)	STREP-TOCOCCI, FECAL, KF AGAR (COLS. PER 100 ML) (31673)
NOV 23...	1355	263	216	8.1	24.7	82	8.4	102	24	5000	5600
MAR 13...	1320	18	295	8.6	25.7	1.5	5.9	72	21	K18	K70
MAY 09...	1245	78	192	8.1	24.3	29	7.7	92	<10	400	840
SEP 08...	1320	51	295	8.4	29.5	14	7.9	103	<10	570	320

DATE	HARD-NESS TOTAL (MG/L AS CAC03) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CAC03) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)
NOV 23...	98	17.1	13.3	5.2	.2	1.2	93	<1.0	6.0	5.9
MAR 13...	--	--	--	--	--	--	141	--	--	--
MAY 09...	84	12.8	12.7	4.1	.2	1.0	84	<1.0	5.9	6.3
SEP 08...	120	20.7	15.4	6.7	.3	1.3	115	--	6.2	6.6

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SI02) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)
NOV 23...	<.1	28.9	134	94.9	126	1.09	.01	1.1	.04	.86
MAR 13...	--	--	--	--	<1	--	<.01	.4	.05	--
MAY 09...	<.1	26.8	120	25.2	23	--	<.01	1.5	.03	.21
SEP 08...	<.1	29.7	155	21.4	<10	--	<.01	.9	.02	--

RIO GUANAJIBO BASIN

50136400 RIO ROSARIO NEAR HORMIGUEROS, PR.--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	NITRO- GEN, TOTAL (MG/L AS NO3) (71887)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV- ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)
NOV 23...	.90	2.0	8.9	.160	<3	71.1	19	<.1	12	E14
MAR 13...	<.20	--	--	.030	--	--	--	--	--	--
MAY 09...	.24	1.7	7.7	.040	<3	33.7	E13	<.1	16	<20
SEP 08...	<.20	--	--	.030	--	--	--	--	--	--

DATE	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	SELE- NIUM, TOTAL (UG/L AS SE) (01147)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	CYANIDE TOTAL (MG/L AS CN) (00720)	PHENOLS TOTAL (UG/L) (32730)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L) (38260)
NOV 23...	3690	1	169	<.3	<3	<1	E23	<.01	<4	<.02
MAR 13...	--	--	--	--	--	--	--	--	--	--
MAY 09...	850	<1	45	<.3	<3	<1	<31	<.01	4	<.04
SEP 08...	--	--	--	--	--	--	--	--	--	--

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
OCTOBER			NOVEMBER			DECEMBER			
1	59	11	1.7	179	109	59	97	10	2.5
2	55	5	.81	185	135	132	109	26	12
3	52	3	.45	156	19	8.0	98	19	5.1
4	72	42	16	138	17	6.3	87	16	3.8
5	208	373	514	197	193	202	83	9	2.0
6	228	489	553	150	23	9.4	80	5	1.1
7	187	296	234	131	13	4.8	75	4	.74
8	350	770	1520	151	98	94	72	3	.54
9	173	124	67	214	329	321	70	2	.44
10	116	31	9.7	160	57	26	69	4	.68
11	132	112	63	148	21	8.6	67	4	.72
12	118	90	33	127	20	6.7	65	4	.72
13	121	114	41	121	14	4.4	63	5	.85
14	106	54	16	118	9	3.0	61	6	.94
15	94	145	37	113	8	2.4	59	5	.79
16	93	64	16	128	8	3.0	56	4	.64
17	115	86	35	146	19	7.4	55	5	.74
18	99	137	36	158	39	17	53	6	.87
19	87	97	23	196	40	21	51	7	.90
20	80	30	6.5	167	35	16	49	7	.86
21	76	9	1.8	149	32	13	48	5	.61
22	152	149	154	222	224	160	47	3	.43
23	350	497	618	204	109	62	46	4	.55
24	160	58	26	159	29	12	43	7	.79
25	371	630	1380	138	16	5.9	43	8	.97
26	190	180	101	123	10	3.4	41	11	1.3
27	151	19	7.5	113	9	2.7	42	23	2.6
28	249	368	457	105	8	2.2	41	44	4.9
29	182	74	37	102	6	1.7	54	25	3.7
30	168	29	13	112	31	15	42	10	1.2
31	281	741	1170	---	---	---	40	8	.92
TOTAL	4875	---	7188.46	4510	---	1229.9	1906	---	54.90

RIO GUANAJIBO BASIN

50136400 RIO ROSARIO NEAR HORMIGUEROS, PR.--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JANUARY			FEBRUARY			MARCH			
1	40	8	.91	28	8	.64	23	5	.33
2	38	11	1.2	28	14	1.1	20	2	.13
3	38	14	1.4	27	7	.48	19	1	.06
4	40	12	1.3	27	2	.17	19	2	.09
5	41	10	1.1	27	2	.15	18	3	.15
6	41	8	.84	26	2	.15	19	4	.22
7	38	6	.62	27	2	.18	18	6	.28
8	36	6	.58	26	3	.22	18	5	.24
9	36	6	.58	25	7	.47	18	4	.19
10	35	6	.56	24	15	.99	17	3	.16
11	34	6	.55	24	11	.68	18	3	.15
12	34	5	.50	24	6	.41	17	3	.16
13	35	5	.47	24	6	.38	18	4	.19
14	43	14	2.4	24	7	.47	18	3	.17
15	44	31	4.4	24	70	4.6	17	3	.14
16	40	8	.84	24	324	21	17	3	.12
17	34	3	.31	23	61	3.7	16	2	.09
18	34	4	.32	23	8	.50	17	3	.13
19	33	4	.36	23	5	.33	17	4	.18
20	32	5	.39	25	4	.28	16	4	.17
21	31	5	.40	37	17	3.9	17	4	.18
22	31	4	.32	38	62	7.5	14	4	.14
23	31	3	.28	25	20	1.3	15	3	.12
24	30	6	.47	25	10	.66	20	3	.16
25	30	9	.70	22	15	.91	16	3	.13
26	31	5	.44	21	21	1.2	15	3	.14
27	29	4	.29	22	10	.56	13	4	.14
28	29	8	.62	21	5	.26	13	4	.14
29	29	15	1.2	23	5	.31	19	4	.20
30	29	10	.79	---	---	---	20	6	.49
31	28	6	.45	---	---	---	21	24	1.5
TOTAL	1074	---	25.59	737	---	53.50	543	---	6.69
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
APRIL			MAY			JUNE			
1	14	15	.58	e12	e5	e.16	e27	e6	e.46
2	14	10	.38	e14	e2	e.07	e26	e6	e.43
3	14	7	.26	e20	e6	e.49	e26	e6	e.41
4	13	5	.17	e30	e9	e.70	e26	e5	e.34
5	13	4	.14	e32	e9	e.70	e25	e4	e.29
6	12	3	.10	e60	e6	e.94	e25	e5	e.37
7	14	4	.13	e54	e5	e.74	e25	e7	e.49
8	16	4	.18	e150	e149	e154	e24	e7	e.44
9	12	4	.14	e130	e17	e6.3	e25	e5	e.35
10	12	5	.16	e60	e6	e.94	e25	e6	e.38
11	15	4	.16	e48	e5	e.61	e26	e7	e.46
12	15	3	.13	e90	e16	e3.8	e26	e8	e.54
13	15	4	.17	e54	e5	e.74	e30	e9	e.70
14	14	6	.21	e50	e5	e.74	e28	e9	e.70
15	13	5	.17	e42	e8	e.92	e28	e9	e.70
16	13	4	.13	e38	e6	e.62	e42	e5	e.61
17	12	2	.07	e35	e6	e.59	e45	e5	e.61
18	13	2	.05	e54	e5	e.74	e35	e9	e.84
19	12	11	.38	e38	e6	e.62	e32	e9	e.84
20	13	88	3.0	e36	e6	e.59	e55	e5	e.74
21	e25	e6	e.41	e34	e6	e.59	e60	e6	e1.7
22	e70	e2	e.44	e32	e5	e.40	e40	e8	e.96
23	e40	e8	e.92	e33	e5	e.40	33	8	.71
24	e20	e6	e.49	e31	e5	e.40	29	9	.68
25	e17	e4	e.18	e30	e5	e.40	27	9	.63
26	e15	e3	e.13	e29	e3	e.27	26	7	.51
27	e14	e5	e.22	e28	e3	e.27	25	6	.41
28	e13	e5	e.18	e33	e5	e.40	23	6	.37
29	e13	e4	e.14	e30	e5	e.40	22	6	.35
30	e12	e3	e.11	e29	e5	e.40	43	79	26
31	---	---	---	e28	e8	e.58	---	---	---
TOTAL	508	---	9.93	1384	---	179.52	929	---	43.02

RIO GUANAJIBO BASIN

50136400 RIO ROSARIO NEAR HORMIGUEROS, PR.--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JULY			AUGUST			SEPTEMBER			
1	34	177	20	e21	e46	e3.0	e100	e54	e16
2	23	13	.78	e23	e87	e6.3	e70	e2	e.44
3	26	9	.64	e24	e23	e1.4	e56	e4	e.64
4	25	8	.57	e24	e15	e.96	e50	e7	e.90
5	22	8	.46	e21	e11	e.63	e52	e7	e.90
6	24	12	1.2	e20	e9	e.47	e56	e6	e.64
7	e23	e20	e1.5	e21	e10	e.60	e80	e7	e.90
8	e21	e8	e.49	e22	e12	e.69	e50	e16	e1.8
9	e20	e9	e.51	20	6	.35	44	6	.69
10	e24	e11	e.69	20	3	.19	41	5	.55
11	29	13	1.0	20	4	.23	38	5	.54
12	31	16	1.3	19	6	.29	35	9	.83
13	27	19	1.3	18	6	.29	34	14	1.3
14	29	19	1.5	18	6	.29	33	16	1.4
15	25	16	1.1	18	7	.35	36	17	1.7
16	22	6	.36	19	8	.40	40	16	1.8
17	23	3	.19	18	8	.40	e70	e40	e16
18	26	14	.99	19	8	.41	e200	e109	e62
19	30	63	5.1	20	7	.37	e140	e17	e6.3
20	28	48	3.6	21	7	.40	e180	e74	e37
21	27	21	1.5	e25	e9	e.63	e200	e109	e62
22	25	9	.63	e35	e9	e.84	e130	e112	e63
23	23	5	.30	e300	e497	e618	e170	e74	e37
24	23	8	.48	e200	e109	e62	e175	e74	e37
25	25	13	.87	e100	e54	e16	e140	e17	e6.3
26	23	11	.69	e60	e6	e.94	e80	e30	e6.5
27	22	8	.49	e50	e7	e.90	e70	e42	e16
28	21	9	.49	e45	e16	e1.8	e66	e42	e16
29	21	9	.52	e54	e6	e.87	e64	e6	e.94
30	21	12	.70	e90	e64	e16	e60	e6	e.94
31	22	18	1.0	e95	e54	e16	---	---	---
TOTAL	765	---	50.95	1460	---	752.00	2560	---	398.01
YEAR	21251		9992.47						

e Estimated

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

SILT AND CLAY PERCENT OF SUSPENDED SEDIMENT

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT					
05...	1720	522	1520	2140	68
NOV					
22...	1515	258	354	247	93
FEB					
16...	1000	24	554	36	98
APR					
20...	1800	13	148	5.2	96
AUG					
02...	1150	32	123	11	98

RIO GUANAJIBO BASIN

50136400 RIO ROSARIO NEAR HORMIGUEROS, PR.--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM (70326)	SED. SUSP. FALL DIAM. % FINER THAN .004 MM (70327)	SED. SUSP. FALL DIAM. % FINER THAN .008 MM (70328)	
OCT 06...	1600	945	2740	2140	27	34	44	
DATE		SED. SUSP. FALL DIAM. % FINER THAN .016 MM (70329)	SED. SUSP. FALL DIAM. % FINER THAN .031 MM (70330)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM (70332)	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM (70333)	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM (70334)	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM (70335)
OCT 06...	56	67	74	88	97	99	100	

50138000 RIO GUANAJIBO NEAR HORMIGUEROS, PR

LOCATION.--Lat 18°08'36", long 67°08'57", Hydrologic Unit 21010003, at bridge on Highway 100, 1.4 mi (2.3 km) west of Hormigueros, and 2.0 mi (3.2 km) downstream from Río Rosario.

DRAINAGE AREA.--120 mi² (311 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Annual low-flow measurements 1959, monthly measurements April 1959 to November 1967, January 1973 to current year.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level. Previous to Nov. 7, 1980, at site 0.3 mi (0.5 km) upstream at datum 7.36 ft (2.24 m) higher.

REMARKS.--Records fair. Gage-height and precipitation satellite telemetry at station. Daily discharges affected by sewage treatment plant about 2.1 mi (3.4 km) upstream from gage.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	168	759	190	95	53	45	48	e20	e64	119	e117	343
2	174	700	179	91	51	38	37	e23	e63	63	e134	265
3	145	e771	183	90	51	34	32	e24	e63	58	e90	180
4	148	474	160	95	50	32	30	e82	e62	57	97	157
5	361	969	154	139	51	31	30	e83	e61	53	75	160
6	752	1360	149	142	46	30	30	e163	e60	50	67	231
7	363	980	146	93	47	29	32	e145	e59	54	64	332
8	756	516	141	88	46	27	39	e490	e58	49	62	234
9	1050	586	136	92	45	25	34	e383	e59	47	58	192
10	404	456	134	81	44	24	37	e163	e59	48	57	168
11	531	359	129	78	42	24	37	e115	e62	73	55	151
12	607	323	124	75	43	24	33	e283	e63	81	53	138
13	580	e291	122	73	43	23	40	e134	e72	56	52	127
14	391	267	119	75	41	23	73	e129	e67	80	62	122
15	314	241	117	82	40	22	e32	e102	e66	55	74	147
16	267	326	114	75	43	21	26	e92	e109	48	60	115
17	379	346	112	68	44	22	26	e85	116	56	54	121
18	695	315	109	66	43	22	28	e131	87	76	53	760
19	623	385	106	65	49	25	33	e92	75	88	111	417
20	447	384	105	64	51	23	60	e87	137	56	107	633
21	348	295	102	64	63	23	125	e81	169	52	75	751
22	367	800	103	64	90	22	220	e78	87	63	83	416
23	1300	590	106	63	69	23	62	e79	71	87	1470	560
24	754	378	107	61	78	32	43	e74	71	63	691	574
25	921	305	99	59	49	32	33	e73	74	e64	319	481
26	1560	263	99	65	54	26	28	e71	62	56	181	272
27	e490	237	95	64	42	26	24	e67	60	e54	145	258
28	758	216	94	60	39	26	22	e79	56	54	130	212
29	634	199	144	58	40	40	21	e72	52	56	155	188
30	e431	188	117	59	---	41	20	e68	65	e51	298	171
31	665	---	100	54	---	73	---	e66	---	e57	320	---
TOTAL	17383	14279	3895	2398	1447	908	1335	3634	2229	1924	5369	8876
MEAN	561	476	126	77.4	49.9	29.3	44.5	117	74.3	62.1	173	296
MAX	1560	1360	190	142	90	73	220	490	169	119	1470	760
MIN	145	188	94	54	39	21	20	20	52	47	52	115
AC-FT	34480	28320	7730	4760	2870	1800	2650	7210	4420	3820	10650	17610
CFSM	4.67	3.97	1.05	.64	.42	.24	.37	.98	.62	.52	1.44	2.47
IN.	5.39	4.43	1.21	.74	.45	.28	.41	1.13	.69	.60	1.66	2.75

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1973 - 2000, BY WATER YEAR (WY)

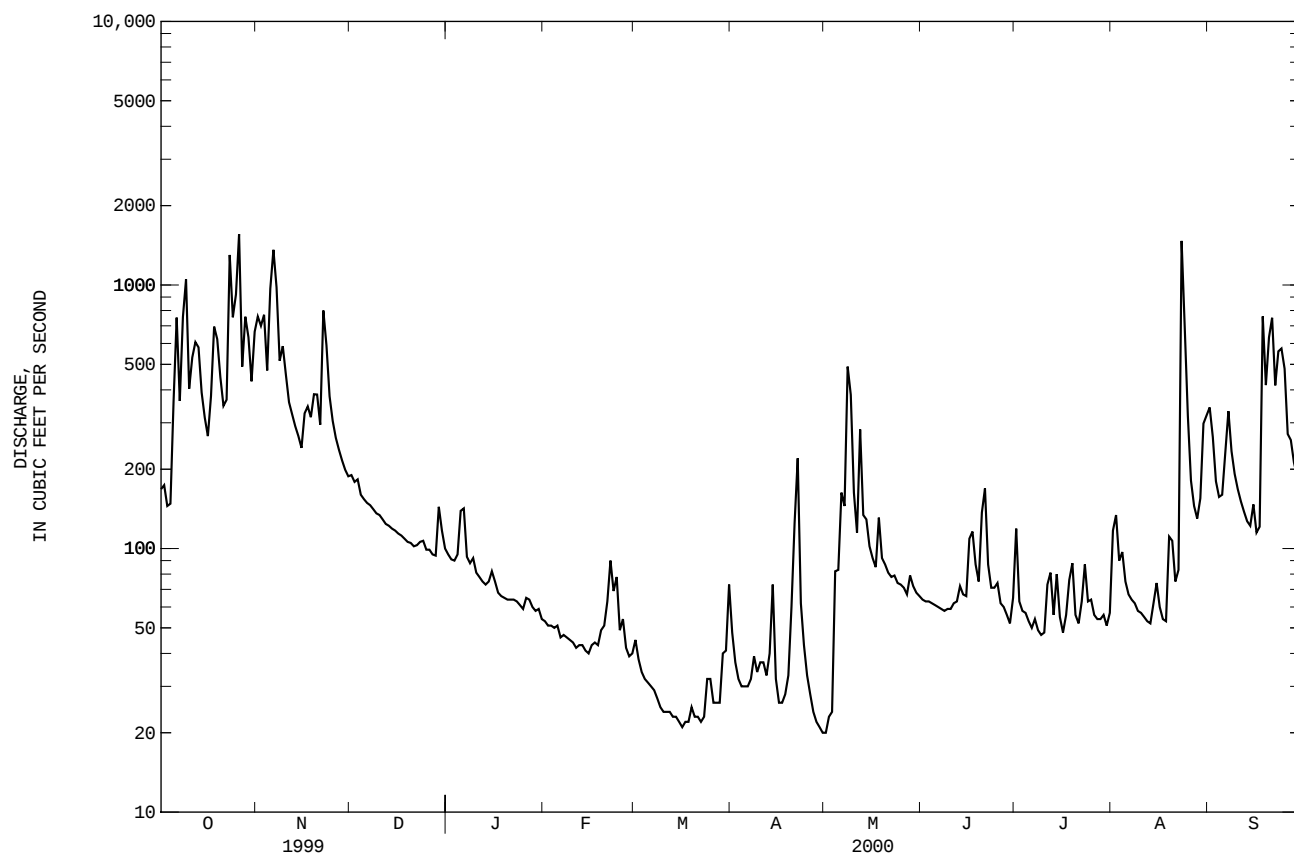
MEAN	466	397	127	61.3	51.6	46.4	68.2	162	110	99.2	222	484
MAX	1254	1518	422	112	119	244	316	636	504	240	757	2075
(WY)	1986	1978	1976	1997	1996	1989	1989	1980	1979	1984	1988	1975
MIN	97.5	42.7	15.4	13.8	13.9	10.6	16.1	12.7	9.23	26.4	42.3	78.5
(WY)	1992	1992	1992	1973	1977	1977	1977	1977	1977	1976	1976	1997

SUMMARY STATISTICS FOR 1999 CALENDAR YEAR FOR 2000 WATER YEAR WATER YEARS 1973 - 2000

ANNUAL TOTAL	81377	63677	
ANNUAL MEAN	223	174	193
HIGHEST ANNUAL MEAN			402
LOWEST ANNUAL MEAN			69.6
HIGHEST DAILY MEAN	1850	Sep 7	35000
LOWEST DAILY MEAN	30	May 26	5.0
ANNUAL SEVEN-DAY MINIMUM	32	May 21	5.5
INSTANTANEOUS PEAK FLOW			2770
INSTANTANEOUS PEAK STAGE			20.15
INSTANTANEOUS LOW FLOW			28.50
ANNUAL RUNOFF (AC-FT)	161400	126300	139800
ANNUAL RUNOFF (CFSM)	1.86	1.45	1.61
ANNUAL RUNOFF (INCHES)	25.23	19.74	21.85
10 PERCENT EXCEEDS	554	461	420
50 PERCENT EXCEEDS	123	78	78
90 PERCENT EXCEEDS	46	32	21

e Estimated

RIO GUANAJIBO BASIN
50138000 RIO GUANAJIBO NEAR HORMIGUEROS, PR--Continued



50138000 RIO GUANAJIBO NEAR HORMIGUEROS, PR--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1958 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)
NOV 24...	0730	E394	361	7.8	24.0	43	6.7	80	<10	600	2200
MAR 09...	1450	24	537	8.2	25.6	1.5	8.8	106	<10	K50	K60
MAY 08...	1545	E280	266	7.8	25.5	64	6.8	82	15	3500	4700
AUG 22...	0845	81	322	7.9	22.0	54	5.8	66	24	K5000	9400

DATE	HARD- NESS TOTAL (MG/L AS CAC03) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD MG/L AS CAC03 (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)
NOV 24...	170	26.0	25.5	9.3	.3	1.8	158	<1.0	13.8	11.1
MAR 09...	--	--	--	--	--	--	215	--	--	--
MAY 08...	120	15.6	18.8	6.9	.3	2.0	120	<1.0	12.3	10.1
AUG 22...	140	21.9	19.9	12.0	.4	2.8	130	--	13.1	13.5

DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SI02) (00955)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDE (MG/L) (00530)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)
NOV 24...	<.1	31.5	214	--	58	.89	.02	.9	.05	.43
MAR 09...	--	--	--	--	2	.65	.01	.7	.02	.30
MAY 08...	<.1	27.5	165	--	133	1.38	.02	1.4	.06	.65
AUG 22...	<.1	24.6	185	40.6	76	.61	.04	.6	.08	.88

DATE	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	NITRO- GEN, TOTAL (MG/L AS NO3) (71887)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV- ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)
NOV 24...	.48	1.4	6.2	.160	<3	73.8	27	<.1	<1	<20
MAR 09...	.32	.98	4.3	.190	--	--	--	--	--	--
MAY 08...	.71	2.1	9.3	.240	<3	72.7	35	<.1	51	<20
AUG 22...	.96	1.6	7.1	.330	--	--	--	--	--	--

RIO GUANAJIBO BASIN

50138000 RIO GUANAJIBO NEAR HORMIGUEROS, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

[illegible][illegible][illegible][illegible]

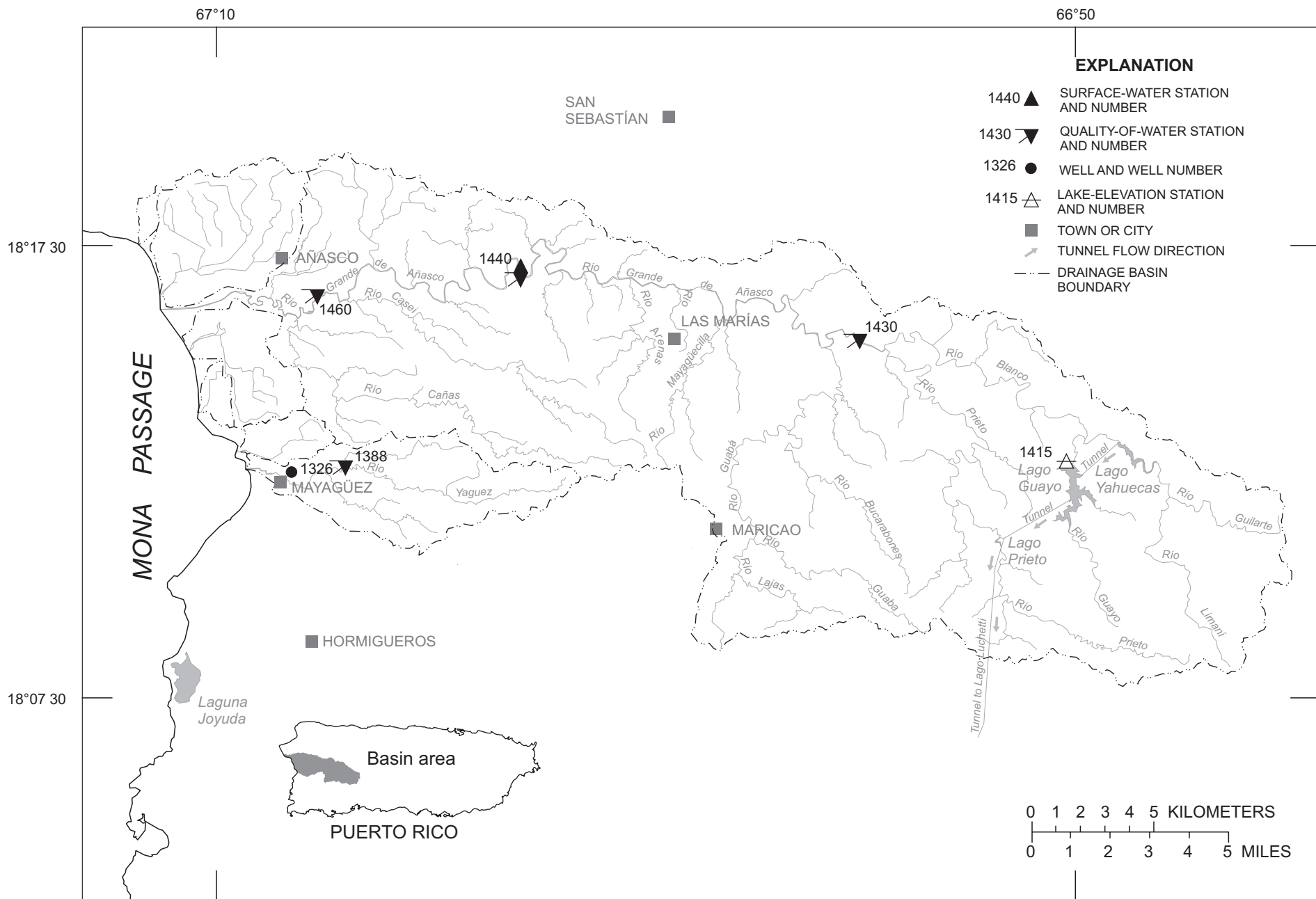


Figure 24. Río Yagüez to Río Grande de Añasco basins.

RIO YAGÜEZ BASIN

50138800 RIO YAGÜEZ NEAR MAYAGÜEZ, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 18°12'31", long 67°07'07", at steel-truss bridge on unnumbered paved road about 800 ft (244 m) south of Highway 106, 1.8 mi (2.9 km) west of Highways 106 and 352 junction, and 1.4 mi (2.3 km) east-northeast from Mayagüez plaza.

DRAINAGE AREA.--6.7 mi² (17.3 km²).

PERIOD OF RECORD.--Water years 1979 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	STREP-TOCOCCI, FECAL, KF AGAR (COLS. PER 100 ML) (31673)
NOV 23...	1630	86	218	7.9	25.0	110	8.1	99	17	K7000	10000
MAR 09...	1325	3.1	319	8.4	24.9	1.0	8.5	101	10	K1100	K80
MAY 08...	1340	6.0	262	7.6	28.4	15	7.8	99	11	380	390
SEP 12...	1200	10	298	8.4	27.1	3.0	8.0	101	<10	220	360

DATE	HARD-NESS TOTAL (MG/L AS CAC03) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CAC03) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS S04) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)
NOV 23...	85	22.0	7.42	7.6	.4	1.7	85	<1.0	5.7	7.1
MAR 09...	--	--	--	--	--	--	148	--	--	--
MAY 08...	110	29.5	9.40	9.8	.4	1.9	98	<1.0	7.0	10.6
SEP 12...	130	35.7	10.3	10.5	.4	2.3	112	--	5.8	9.7

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SI02) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)
NOV 23...	<.1	27.9	131	30.1	106	1.08	.02	1.1	.05	.91
MAR 09...	--	--	--	--	2	--	<.01	.4	.02	.22
MAY 08...	.1	29.7	157	2.55	7	--	<.01	.6	.03	--
SEP 12...	<.1	31.2	172	4.68	<10	--	<.01	.6	.01	--

DATE	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, TOTAL (MG/L AS N03) (71887)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)
NOV 23...	.96	2.1	9.1	.150	<3	71.3	19	<.1	3	<20
MAR 09...	.24	.61	2.7	.040	--	--	--	--	--	--
MAY 08...	<.20	--	--	.060	<3	66.8	18	<.1	E1	<20
SEP 12...	<.20	--	--	.040	--	--	--	--	--	--

RIO YAGÜEZ BASIN

50138800 RIO YAGÜEZ NEAR MAYAGÜEZ, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

[illegible]

50141500 LAGO GUAYO AT DAMSITE NEAR CASTAÑER, PR

LOCATION.--Lat 18°12'46", long 66°50'06", Hydrologic Unit 21010003, at Guayo Dam on Río Guayo, 1.1 mi (1.8 km) southwest of Lago Yahuecas, 2.6 mi (4.2 km) southwest of Lago Prieto, 2.1 mi (3.4 km) north of Castañer, and 6.0 mi (9.6 km) west of Adjuntas.

DRAINAGE AREA.--9.60 mi² (24.86 km²).

ELEVATION RECORDS

PERIOD OF RECORD.--April 1980 to January 1985, June 1989 to current year. Prior to October 1994, published as Lago Guayo near Castañer.

GAGE.--Water-stage recorder. Datum of gage is mean sea level.

REMARKS.--Lago Guayo was completed in 1956. The dam is on Río Guayo and is the largest in the Southwestern Puerto Rico Project. The maximum storage is 17,400 ac-ft (21.5 hm³) for power and irrigation. The dam is a concrete gravity structure with a total length of 555 ft (169 m), a maximum structural height of 190 ft (58 m), and a maximum width at the base of 145 ft (44 m). The ungated overflow spillway with a crest elevation of 60 ft (18.29 m) and a crest length of 220 ft (67 m) was designed to pass a maximum flood of 30,200 ft³/s (855 m³/s), at a reservoir elevation of 70 ft (21.34 m). Timber flashboards that were added to increase storage capacity were subsequently removed and their use discontinued. Gage-height and precipitation satellite telemetry at station. New capacity table based U.S. Geological Survey Water-Resources Investigations Report 99-4053, October, 1997.

EXTREMES OBSERVED FOR PERIOD OF RECORD.--Maximum elevation, 1,465.35 ft (446.64 m), Sept. 22, 1998; minimum elevation recorded, 1,415.43 ft (431.42 m), June 2, 1990, but may have been less during period of no gage-height record June 2-5, 1990.

EXTREMES OBSERVED FOR CURRENT YEAR.--Maximum elevation, 1,461.30 ft (445.40 m), May 11; minimum elevation 1,445.02 ft (440.44 m), July 24.

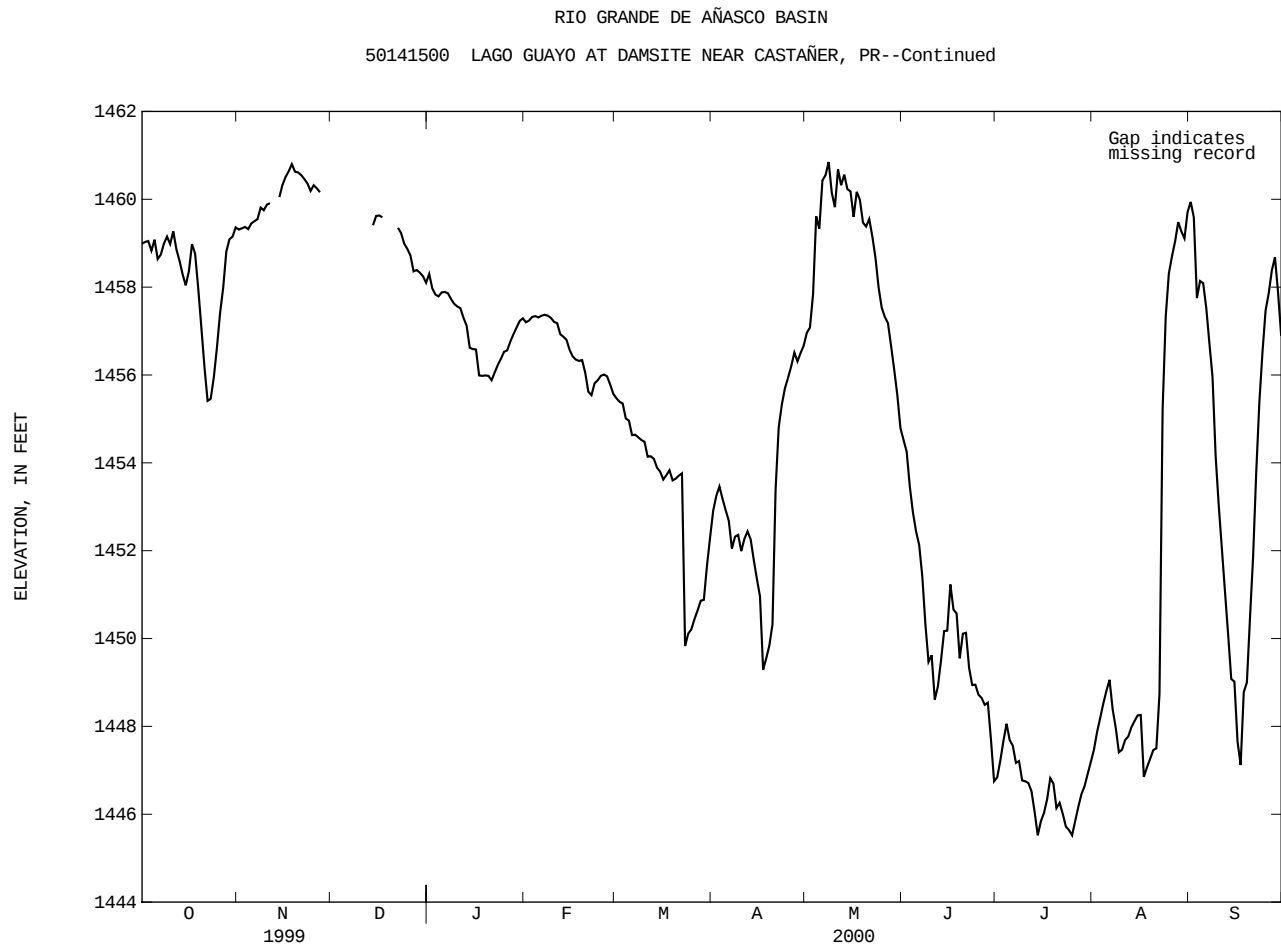
Capacity Table

(based on data from U.S. Geological Survey Water-Resources Investigations Report 99-4053, Puerto Rico-1997)

Elevation, in feet		Contents, in acre-feet		Elevation, in feet		Contents, in acre-feet	
1,333		0		1,400		2,745	
1,353		241		1,440		8,622	
1,373		820		1,460		13,436	

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000 DAILY OBSERVATION AT 2400 HOURS												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1458.99	1459.31	A	1458.30	1457.20	1455.47	1452.91	1456.96	1454.52	1446.84	1447.47	1459.94
2	1459.03	1459.34	A	1457.97	1457.24	1455.39	1453.25	1457.08	1454.25	1447.22	1447.87	1459.59
3	1459.05	1459.37	A	1457.83	1457.32	1455.35	1453.46	1457.84	1453.46	1447.67	1448.19	1457.75
4	1458.83	1459.32	A	1457.79	1457.34	1455.01	1453.18	1459.61	1452.87	1448.06	1448.52	1458.14
5	1459.08	1459.45	A	1457.88	1457.31	1454.96	1452.92	1459.33	1452.44	1447.69	1448.81	1458.09
6	1458.64	1459.50	A	1457.89	1457.35	1454.63	1452.68	1460.43	1452.13	1447.56	1449.06	1457.52
7	1458.74	1459.55	A	1457.86	1457.37	1454.64	1452.05	1460.55	1451.42	1447.17	1448.39	1456.72
8	1458.99	1459.81	A	1457.73	1457.35	1454.58	1452.32	1460.85	1450.32	1447.21	1447.96	1455.95
9	1459.15	1459.75	A	1457.62	1457.30	1454.52	1452.36	1460.15	1449.47	1446.77	1447.41	1454.15
10	1458.98	1459.88	A	1457.56	1457.21	1454.48	1451.99	1459.82	1449.62	1446.75	1447.47	1453.02
11	1459.27	1459.91	A	1457.52	1457.18	1454.14	1452.27	1460.68	1448.61	1446.71	1447.69	1452.04
12	1458.86	A	A	1457.30	1456.93	1454.15	1452.44	1460.32	1448.91	1446.52	1447.77	1451.06
13	1458.60	A	A	1457.12	1456.87	1454.09	1452.26	1460.56	1449.50	1446.05	1447.98	1450.09
14	1458.29	1460.05	1459.41	1456.62	1456.80	1453.89	1451.79	1460.23	1450.17	1445.52	1448.12	1449.08
15	1458.04	1460.33	1459.62	1456.59	1456.57	1453.80	1451.36	1460.18	1450.18	1445.84	1448.25	1449.02
16	1458.36	1460.51	1459.63	1456.58	1456.42	1453.62	1450.96	1459.60	1451.23	1446.03	1448.26	1447.66
17	1458.98	1460.64	1459.59	1455.99	1456.35	1453.72	1449.29	1460.17	1450.66	1446.34	1446.85	1447.12
18	1458.76	1460.80	A	1455.98	1456.32	1453.83	1449.55	1459.99	1450.57	1446.82	1447.07	1448.78
19	1457.97	1460.63	A	1455.99	1456.34	1453.60	1449.84	1459.47	1449.55	1446.70	1447.26	1449.00
20	1457.08	1460.61	A	1455.98	1456.05	1453.64	1450.32	1459.38	1450.11	1446.14	1447.46	1450.47
21	1456.18	1460.55	A	1455.88	1455.62	1453.71	1453.40	1459.55	1450.13	1446.26	1447.50	1451.87
22	1455.41	1460.46	1459.35	1456.06	1455.54	1453.76	1454.81	1459.15	1449.33	1446.01	1448.74	1453.79
23	1455.46	1460.36	1459.23	1456.23	1455.81	1449.83	1455.33	1458.67	1448.94	1445.72	1455.21	1455.38
24	1455.95	1460.19	1458.99	1456.37	1455.88	1450.11	1455.70	1457.99	1448.95	1445.64	1457.33	1456.52
25	1456.63	1460.32	1458.87	1456.53	1455.98	1450.21	1455.94	1457.53	1448.72	1445.52	1458.31	1457.47
26	1457.41	1460.25	1458.72	1456.56	1456.01	1450.44	1456.20	1457.32	1448.65	1445.85	1458.70	1457.86
27	1457.99	1460.16	1458.36	1456.76	1455.97	1450.64	1456.51	1457.18	1448.49	1446.17	1459.04	1458.38
28	1458.81	A	1458.39	1456.93	1455.78	1450.86	1456.31	1456.66	1448.54	1446.46	1459.48	1458.68
29	1459.09	A	1458.33	1457.08	1455.57	1450.88	1456.50	1456.12	1447.70	1446.64	1459.27	1457.87
30	1459.15	A	1458.2	1457.23	---	1451.65	1456.67	1455.54	1446.75	1446.92	1459.11	1456.89
31	1459.36	---	1458.10	1457.29	---	1452.30	---	1454.79	---	1447.19	1459.71	---
MAX	1459.36	1460.80	1459.63	1458.30	1457.37	1455.47	1456.67	1460.85	1454.52	1448.06	1459.71	1459.94
MIN	1455.41	1459.31	1458.10	1455.88	1455.54	1449.83	1449.29	1454.79	1446.75	1445.52	1446.85	1447.12

A No gage-height record



RIO GRANDE DE ANASCO BASIN

50143000 RIO GRANDE DE ANASCO NEAR LARES, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 18°15'26", long 66°55'00", at bridge on Highway 124, 0.7 mi (1.1 km) downstream from confluence of Río Blanco and Río Prieto, and 3.7 mi (6.0 km) southwest of Lares plaza.

DRAINAGE AREA.--26.3 mi² (68.1 km²) this does not include 36.2 mi² (93.8 km²) which contributes only during high floods, and 3.5 mi² (9.1 km²) which contributes only part of its storm runoff.

PERIOD OF RECORD.--Water years 1959-68, 1970 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	TURBIDITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATURATION) (00301)	OXYGEN DEMAND, CHEMICAL (HIGH LEVEL) (MG/L) (00340)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	STREPTOCOCCI, FECAL, KF AGAR (COLS. PER 100 ML) (31673)
OCT 28...	1530	E650	108	7.4	24.2	380	8.1	98	25	300000	60000
FEB 16...	1420	22	303	8.8	27.5	.8	9.5	123	<10	K10	<10
MAY 11...	0845	163	247	7.3	23.5	5.9	8.1	97	<10	300	2200
AUG 21...	1230	24	285	8.6	31.0	1.2	10.3	142	<10	K20	K110

DATE	HARDNESS TOTAL (MG/L AS CAC03) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNESIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM ADSORPTION RATIO (00931)	POTASSIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CAC03) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS S04) (00945)	CHLORIDE, DIS-SOLVED (MG/L AS CL) (00940)
OCT 28...	41	10.6	3.55	4.6	.3	2.3	39	<1.0	8.3	4.6
FEB 16...	--	--	--	--	--	--	116	--	--	--
MAY 11...	94	25.7	7.29	8.7	.4	2.3	87	<1.0	12.2	8.4
AUG 21...	120	30.8	9.62	12.9	.5	1.6	104	--	23.8	10.7

DATE	FLUORIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SI02) (00955)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUSPENDED (MG/L) (00530)	NITROGEN, NITRATE TOTAL (MG/L AS N) (00620)	NITROGEN, NITRITE TOTAL (MG/L AS N) (00615)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITROGEN, ORGANIC TOTAL (MG/L AS N) (00605)
OCT 28...	<.1	7.1	65	--	1510	.92	.05	1.0	.15	3.5
FEB 16...	--	--	--	--	<1	--	<.01	.7	.03	--
MAY 11...	<.1	25.5	142	62.6	<10	--	<.01	1.6	.02	--
AUG 21...	.1	32.0	184	12.0	<10	.37	.01	.4	.02	.21

DATE	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITROGEN, TOTAL (MG/L AS N) (00600)	NITROGEN, TOTAL (MG/L AS N03) (71887)	PHOSPHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOVERABLE (UG/L AS B) (01022)	CADMIUM, TOTAL RECOVERABLE (UG/L AS CD) (01027)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOVERABLE (UG/L AS CU) (01042)
OCT 28...	3.7	4.7	20.7	.740	E2	289	E16	.3	12	90
FEB 16...	<.20	--	--	.030	--	--	--	--	--	--
MAY 11...	<.20	--	--	.030	<3	23.6	24	<.1	E1	<20
AUG 21...	.23	.61	2.7	<.020	--	--	--	--	--	--

RIO GRANDE DE ANASCO BASIN

50143000 RIO GRANDE DE ANASCO NEAR LARES, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

[illegible]

RIO GRANDE DE AÑASCO BASIN

50144000 RIO GRANDE DE AÑASCO NEAR SAN SEBASTIAN, PR

LOCATION.--Lat 18°17'05", long 67°03'05", Hydrologic Unit 21010003, on left bank, at downstream side of bridge on Highway 108, 0.4 mi (0.6 km) downstream from Quebrada La Zumbadora, 4.4 mi (7.1 km) northwest of Las Marias, 5.4 mi (8.7 km) southwest of San Sebastián.

DRAINAGE AREA.--94.3 mi² (244.2 km²), does not include 36.2 mi² (93.8 km²) which contributes only during high floods, and 3.5 mi² (9.1 km²) which contributes only part of its storm runoff.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1963 to current year.

REVISED RECORDS.--WDR PR-2,000-1:1999. Revised maximum discharge and revised daily discharges, in cubic feet per second, for water-year 1999, are given below. These figures supersede those published in the report for 1999.

GAGE.--Water-stage recorder. Datum of gage is 103.72 ft (31.614 m) above mean sea level (Puerto Rico Department of Public Works bench mark). Previous to Oct. 30, 1975, at site 600 ft (180 m) upstream at same datum.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Transbasin diversion (except during floods) to Río Yauco basin for hydroelectric power and irrigation above Lago Guayo, Yahuecas, and Prieto, combined useable storage 17,300 acre-ft (21.3 km³). Limited storm runoff is contributed to basin by 3.5 mi² (9.1 km²) above Río Toro Diversion dam. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e3900	1160	e442	120	118	141	1170	159	930	e351	262	e404
2	e1800	1060	389	118	124	120	1290	146	2010	e309	299	1020
3	e1600	2020	422	120	120	189	740	142	2240	e292	168	843
4	e1400	1170	299	140	117	123	655	136	1270	e269	161	546
5	e1300	859	492	138	116	110	271	246	550	e323	634	1490
6	e1250	755	378	116	115	103	208	442	401	e283	248	3470
7	e1200	1010	290	115	116	101	179	854	360	e288	788	2170
8	e1900	1190	259	125	115	123	190	509	1700	e282	423	2640
9	e2020	768	229	114	116	111	339	399	1630	e301	176	2100
10	e1510	770	197	115	112	125	344	232	1130	e230	145	1200
11	e1250	653	169	117	113	258	383	226	1760	e292	e204	892
12	e1200	614	153	121	116	153	198	196	1170	e701	e199	733
13	e1270	591	145	142	126	116	168	180	648	e374	e738	1080
14	e1080	561	178	131	121	104	157	169	647	e244	e1900	801
15	e1210	597	207	232	111	113	147	163	1560	e220	e602	547
16	e2070	1060	289	345	109	102	141	162	1380	e255	e814	565
17	e1720	682	208	147	106	97	136	164	983	e248	e3840	782
18	993	527	180	129	103	100	134	191	811	e201	e1080	592
19	705	495	162	159	101	157	136	195	733	e177	e2520	880
20	668	485	147	127	101	325	132	156	1020	e164	e790	552
21	924	471	172	500	100	484	143	264	626	e799	e1620	496
22	773	491	147	326	99	200	129	555	1220	1080	e590	427
23	711	459	136	150	99	156	133	305	665	576	e715	457
24	755	457	128	135	97	175	337	187	493	293	549	759
25	1510	444	126	130	160	614	400	171	432	213	740	910
26	1810	441	125	128	260	358	635	165	e395	198	670	612
27	2300	597	152	133	211	151	700	368	e360	173	414	675
28	3240	755	179	130	135	359	363	748	e343	215	e353	426
29	1960	474	140	124	---	720	389	1040	e344	375	e416	367
30	1310	471	125	120	---	852	192	640	e350	193	e609	627
31	1590	---	120	118	---	686	---	587	---	161	e528	---
TOTAL	46929	22087	6785	4865	3437	7526	10539	10097	28161	10080	23195	29063
MEAN	1514	736	219	157	123	243	351	326	939	325	748	969
MAX	3900	2020	492	500	260	852	1290	1040	2240	1080	3840	3470
MIN	668	441	120	114	97	97	129	136	343	161	145	367
AC-FT	93080	43810	13460	9650	6820	14930	20900	20030	55860	19990	46010	57650
CFSM	16.1	7.81	2.32	1.66	1.30	2.57	3.73	3.45	9.95	3.45	7.93	10.3
IN.	18.51	8.71	2.68	1.92	1.36	2.97	4.16	3.98	11.11	3.98	9.15	11.46

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 1999, BY WATER YEAR (WY)

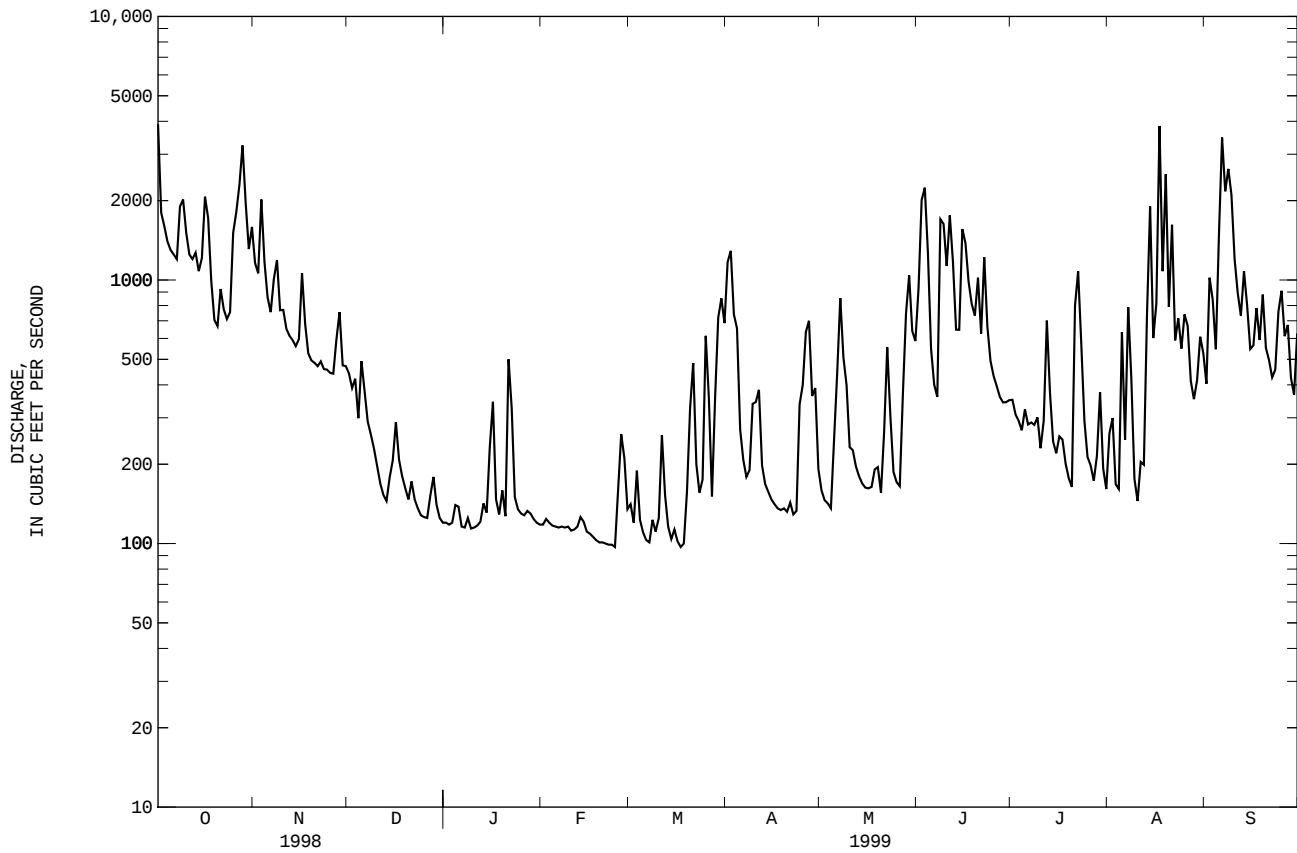
	MEAN	683	436	221	142	115	108	148	373	304	269	375	699
MAX	1514	746	482	286	345	271	351	1084	939	657	936	3505	
(WY)	1999	1982	1966	1997	1996	1972	1999	1986	1999	1979	1979	1998	
MIN	344	182	103	82.4	62.3	54.4	49.3	63.7	71.2	111	152	206	
(WY)	1983	1998	1992	1998	1992	1965	1968	1967	1977	1990	1967	1983	

RIO GRANDE DE AÑASCO BASIN

50144000 RIO GRANDE DE AÑASCO NEAR SAN SEBASTIAN, PR--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1963 - 1999	
ANNUAL TOTAL	239118		202764		323	
ANNUAL MEAN	655		556		556	
HIGHEST ANNUAL MEAN					189	
LOWEST ANNUAL MEAN					199	
HIGHEST DAILY MEAN	69900	Sep 22	3900	Oct 1	69900	Sep 22 1998
LOWEST DAILY MEAN	52	Apr 18	97	Feb 24	32	Apr 18 1965
ANNUAL SEVEN-DAY MINIMUM	58	Apr 12	100	Feb 18	35	Apr 14 1965
INSTANTANEOUS PEAK FLOW			15900	Sep 6	163000	Sep 22 1998
INSTANTANEOUS PEAK STAGE			11.44	Sep 6	34.50	Sep 22 1998
INSTANTANEOUS LOW FLOW			94	Feb 24	31	Apr 19 1965
ANNUAL RUNOFF (AC-FT)	474300		402200		233900	
ANNUAL RUNOFF (CFSM)	6.95		5.89		3.42	
ANNUAL RUNOFF (INCHES)	94.33		79.99		46.52	
10 PERCENT EXCEEDS	1190		1270		675	
50 PERCENT EXCEEDS	197		344		186	
90 PERCENT EXCEEDS	64		118		74	

e Estimated



RIO GRANDE DE AÑASCO BASIN

50144000 RIO GRANDE DE AÑASCO NEAR SAN SEBASTIAN, PR--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	455	1710	652	242	145	134	e113	99	183	314	179	1070
2	466	1590	954	236	144	118	e87	142	175	276	294	1020
3	300	1730	920	234	155	115	e87	243	169	205	197	451
4	287	1440	633	231	145	e112	e91	527	163	283	186	774
5	522	1030	524	228	145	108	e98	1110	157	206	184	1110
6	1040	961	516	e212	140	106	e84	977	152	210	167	717
7	823	909	436	e208	157	105	e88	2330	149	329	166	525
8	1060	2820	418	e202	143	103	e137	2440	159	199	161	352
9	730	3040	379	e202	140	101	e87	4890	148	302	156	460
10	336	1700	363	e198	136	99	e84	1100	164	248	258	370
11	387	1230	352	e194	134	93	e86	4780	210	330	167	301
12	873	947	336	e191	132	88	e79	2720	190	321	154	266
13	953	e824	320	e188	130	90	e77	1020	520	348	152	249
14	604	740	306	e188	130	88	e80	1120	737	268	151	235
15	733	808	291	e187	130	86	78	653	414	198	168	236
16	1020	856	288	e211	128	81	74	486	581	177	254	586
17	1050	1370	287	e175	126	81	73	1130	436	174	194	450
18	1470	1920	291	e171	126	e81	79	928	240	361	158	583
19	839	3050	283	e168	127	e85	75	420	e205	321	150	370
20	433	1970	293	e164	130	e75	92	322	e781	675	161	563
21	356	1410	303	e163	177	76	235	275	1160	286	152	833
22	644	1250	302	e160	216	74	1210	255	361	204	147	1960
23	2000	1050	303	e157	167	e71	234	234	260	181	3900	1930
24	1430	777	295	e156	454	e79	240	271	227	179	857	1850
25	1810	686	287	e155	e179	e79	154	245	209	224	856	1300
26	1450	723	259	153	e139	e69	111	248	242	e183	618	1160
27	914	659	257	152	128	e70	107	305	214	e222	827	673
28	1700	620	255	161	120	e66	93	488	188	201	540	494
29	1560	560	293	151	119	e73	92	311	179	174	968	425
30	1460	521	272	151	---	e186	97	221	317	241	1070	357
31	1720	---	252	145	---	e227	---	198	---	231	665	---
TOTAL	29425	38901	11920	5734	4442	3019	4322	30488	9290	8071	14257	21670
MEAN	949	1297	385	185	153	97.4	144	983	310	260	460	722
MAX	2000	3050	954	242	454	227	1210	4890	1160	675	3900	1960
MIN	287	521	252	145	119	66	73	99	148	174	147	235
AC-FT	58360	77160	23640	11370	8810	5990	8570	60470	18430	16010	28280	42980
CFSM	10.1	13.8	4.08	1.96	1.62	1.03	1.53	10.4	3.28	2.76	4.88	7.66
IN.	11.61	15.35	4.70	2.26	1.75	1.19	1.70	12.03	3.66	3.18	5.62	8.55

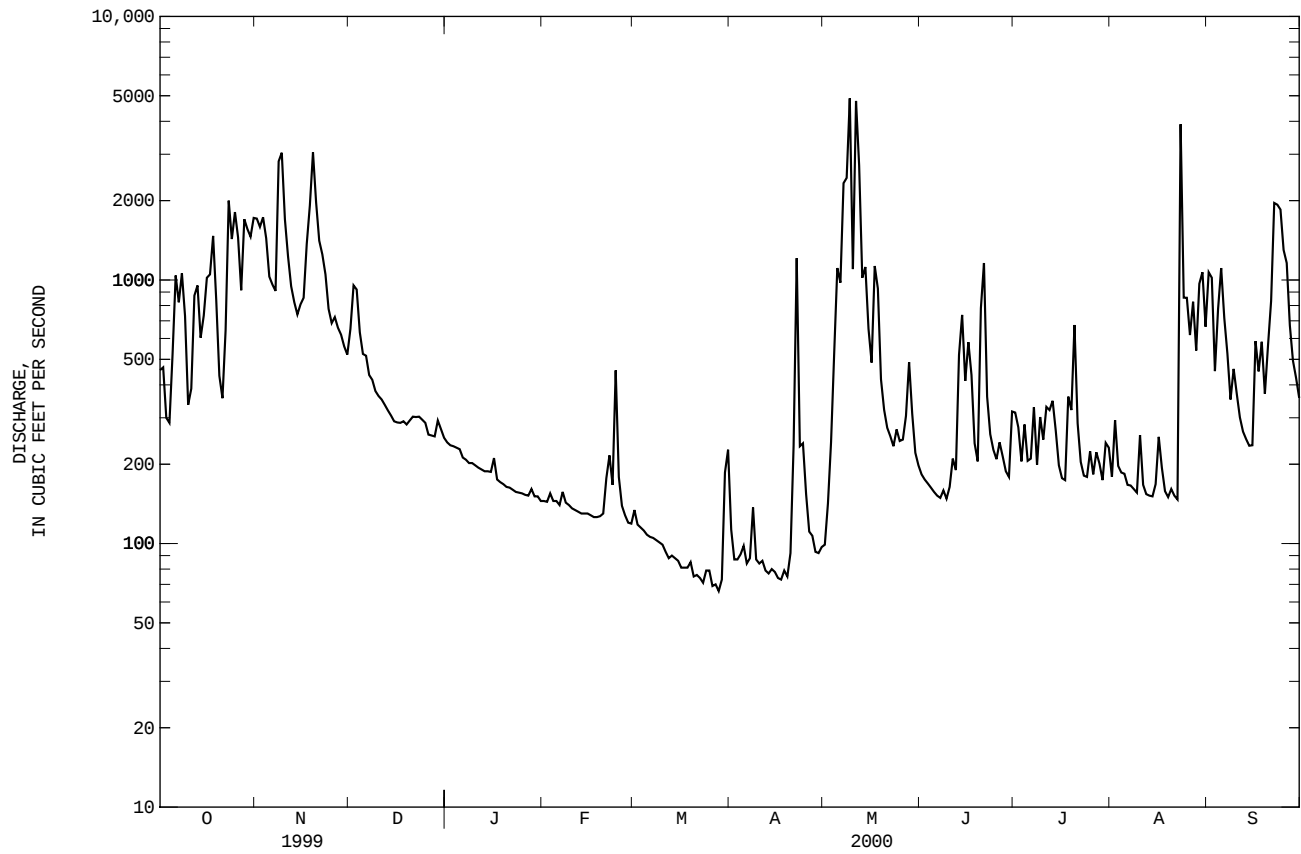
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 2000, BY WATER YEAR (WY)

MEAN	691	459	226	143	116	108	148	389	304	269	377	699
MAX	1514	1297	482	286	345	271	351	1084	939	657	936	3505
(WY)	1999	2000	1966	1997	1996	1972	1999	1986	1999	1979	1979	1998
MIN	344	182	103	82.4	62.3	54.4	49.3	63.7	71.2	111	152	206
(WY)	1983	1998	1992	1998	1992	1965	1968	1967	1977	1990	1967	1983

SUMMARY STATISTICS	FOR 1999 CALENDAR YEAR		FOR 2000 WATER YEAR		WATER YEARS 1963 - 2000	
ANNUAL TOTAL	207209		181539			
ANNUAL MEAN	568		496		328	
HIGHEST ANNUAL MEAN					556	
LOWEST ANNUAL MEAN					189	
HIGHEST DAILY MEAN	3840	Aug 17	4890	May 9	69900	Sep 22 1998
LOWEST DAILY MEAN	97	Feb 24	66	Mar 28	32	Apr 18 1965
ANNUAL SEVEN-DAY MINIMUM	100	Feb 18	72	Mar 23	35	Apr 14 1965
INSTANTANEOUS PEAK FLOW			17800	Nov 8	163000	Sep 22 1998
INSTANTANEOUS PEAK STAGE			12.05	Nov 8	34.50	Sep 22 1998
INSTANTANEOUS LOW FLOW					31	Apr 19 1965
ANNUAL RUNOFF (AC-FT)	411000		360100		237300	
ANNUAL RUNOFF (CFSM)	6.02		5.26		3.47	
ANNUAL RUNOFF (INCHES)	81.74		71.61		47.19	
10 PERCENT EXCEEDS	1370		1140		686	
50 PERCENT EXCEEDS	351		244		188	
90 PERCENT EXCEEDS	118		93		75	

e Estimated

RIO GRANDE DE AÑASCO BASIN
50144000 RIO GRANDE DE AÑASCO NEAR SAN SEBASTIAN, PR--Continued



RIO GRANDE DE AÑASCO BASIN

50144000 RIO GRANDE DE AÑASCO NEAR SAN SEBASTIAN, PR.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1963 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	TURBIDITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATURATION) (00301)	OXYGEN DEMAND, CHEMICAL (HIGH LEVEL) (MG/L) (00340)	COLIFORM, FECA, 0.7 UM-MF (COLS./100 ML) (31625)	STREPTOCOCCI, KF AGAR (COLS. PER 100 ML) (31673)
NOV 10...	1330	1750	191	7.9	23.9	97	7.9	95	<10	400	3700
FEB 23...	0945	149	241	7.9	22.8	15	8.1	94	<10	43	39
APR 25...	0915	155	185	7.7	24.3	170	7.7	92	<10	4700	10000
AUG 29...	1150	238	219	7.2	27.5	4.0	7.2	92	<10	400	450

DATE	HARDNESS TOTAL (MG/L AS CAC03) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNESIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM ADSORPTION RATIO (00931)	POTASSIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CAC03) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLORIDE, DIS-SOLVED (MG/L AS CL) (00940)
NOV 10...	76	18.8	6.93	6.6	.3	1.9	72	<1.0	6.5	5.7
FEB 23...	--	--	--	--	--	--	93	--	--	--
APR 25...	73	18.6	6.42	7.3	.4	1.9	72	<1.0	10.5	7.2
AUG 29...	91	23.1	8.01	8.3	.4	1.9	87	--	9.1	6.1

DATE	FLUORIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SI02) (00955)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUSPENDED (MG/L) (00530)	NITROGEN, NITRATE TOTAL (MG/L AS N) (00620)	NITROGEN, NITRITE TOTAL (MG/L AS N) (00615)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITROGEN, ORGANIC TOTAL (MG/L AS N) (00605)
NOV 10...	<.1	28.5	118	558	166	--	<.01	1.3	.04	.29
FEB 23...	--	--	--	--	12	.79	.01	.8	.03	--
APR 25...	<.1	23.3	119	49.7	200	.92	.02	.9	.04	.36
AUG 29...	<.1	28.6	137	88.0	11	--	<.01	1.0	.03	--

DATE	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITROGEN, TOTAL (MG/L AS N) (00600)	NITROGEN, TOTAL (MG/L AS NO3) (71887)	PHOSPHORUS, TOTAL (MG/L AS P) (00665)	ARSENIC, TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOVERABLE (UG/L AS B) (01022)	CADMIUM, WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOVERABLE (UG/L AS CU) (01042)
NOV 10...	.33	1.6	7.2	.150	<3	76.4	E13	.2	6	E16
FEB 23...	<.20	--	--	.040	--	--	--	--	--	--
APR 25...	.40	1.3	5.9	.100	<3	57.4	E17	<.1	2	22
AUG 29...	<.20	--	--	.050	--	--	--	--	--	--

RIO GRANDE DE AÑASCO BASIN

50146000 RIO GRANDE DE AÑASCO NEAR AÑASCO, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 18°16'00", long 67°08'05", at bridge on Highway 430, 0.2 mi (0.3 km) south of Highway 109 at El Espino and 1.4 mi (2.3 km) east-southeast from Añasco plaza.

DRAINAGE AREA.--139 mi² (360 km²) this does not include 39.7 mi² (102.8 km²), flow is diverted to south coast.

PERIOD OF RECORD.--Water years 1979 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD) (UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	STREP-TOCOCCEI, FECAL, KF AGAR (COLS. PER 100 ML) (31673)
OCT 29...	0710	E1000	157	6.9	23.0	550	7.8	91	<10	45000	30000
FEB 23...	1255	171	230	7.6	26.3	21	7.8	97	<10	56	K54
APR 25...	1220	175	199	7.5	26.9	120	7.1	89	<10	4000	3800
SEP 07...	0945	E600	206	7.5	26.0	52	7.3	90	<10	2800	2400

DATE	HARD-NESS TOTAL (MG/L AS CAC03) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CAC03) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS S04) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)
OCT 29...	61	15.0	5.80	5.8	.3	2.1	57	<1.0	7.1	5.3
FEB 23...	--	--	--	--	--	--	92	--	--	--
APR 25...	79	19.9	6.99	7.6	.4	1.9	79	<1.0	10.1	7.3
SEP 07...	81	20.5	7.19	7.4	.4	2.0	82	--	8.3	6.2

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SI02) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, NO2+N03 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)
OCT 29...	<.1	15.8	91	--	730	1.06	.04	1.1	.08	1.8
FEB 23...	--	--	--	--	4	--	<.01	.7	.03	.19
APR 25...	<.1	23.8	125	59.0	174	.79	.02	.8	.03	.38
SEP 07...	<.1	26.9	128	--	87	--	<.01	1.0	.02	.20

DATE	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, TOTAL (MG/L AS N03) (71887)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)
OCT 29...	1.9	3.0	13.3	.550	<3	246	E16	.1	22	51
FEB 23...	.22	.93	4.1	.050	--	--	--	--	--	--
APR 25...	.41	1.2	5.4	.100	<3	63.5	E11	<.1	2	<20
SEP 07...	.22	1.2	5.3	.090	--	--	--	--	--	--

RIO GRANDE DE AÑASCO BASIN
50146000 RIO GRANDE DE AÑASCO NEAR AÑASCO, PR
WATER-QUALITY RECORDS--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

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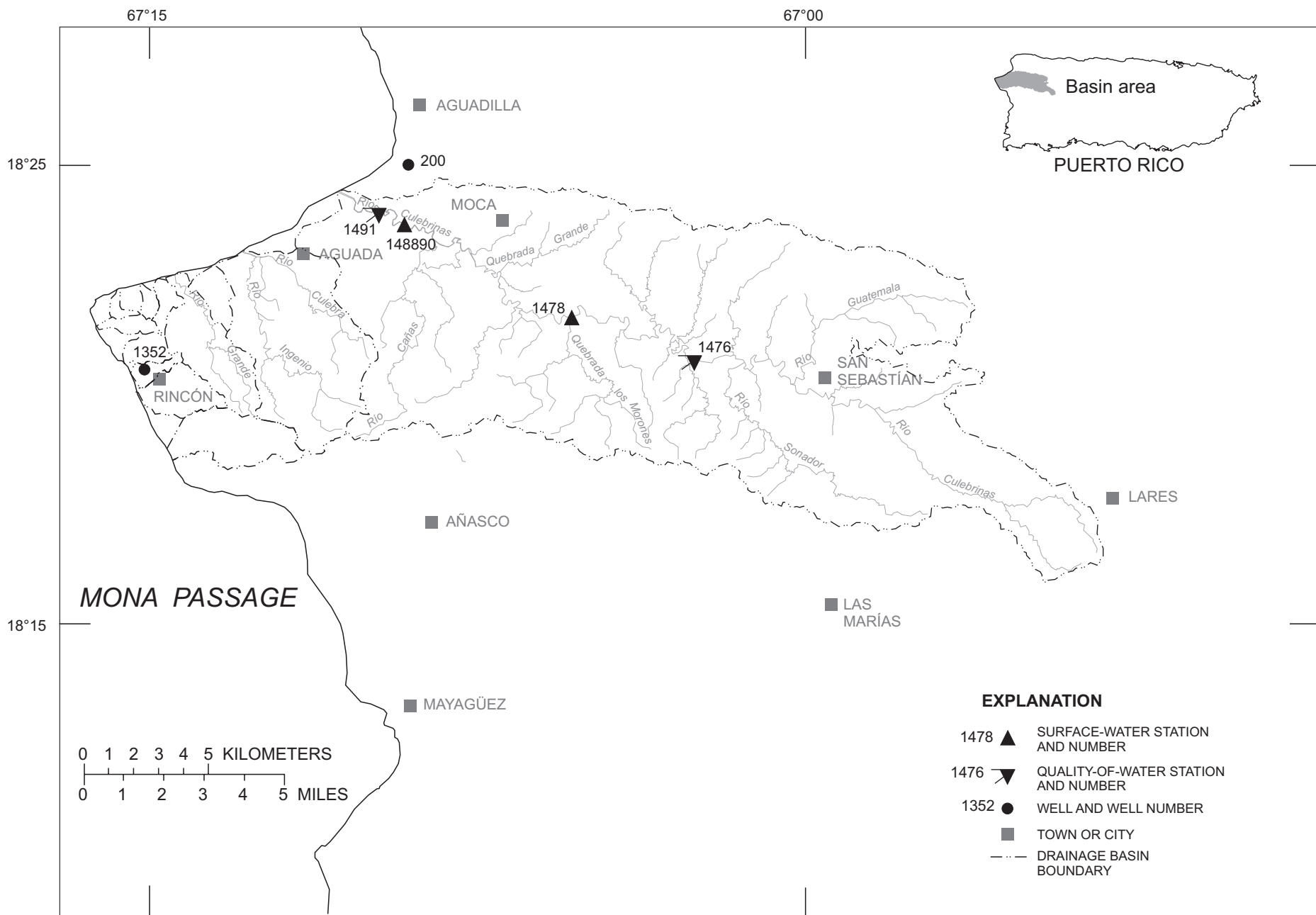


Figure 25. Río Culebrinas basin.

RIO CULEBRINAS BASIN

50147600 RIO CULEBRINAS NEAR SAN SEBASTIAN, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 18°20'51", long 67°02'40", at bridge on Highway 423, 1.3 mi (2.1 km) south of Quebrada El Salto Bridge on Highway 111, and 2.1 mi (3.4 km) west of Central La Plata.

DRAINAGE AREA.--58.2 mi² (150.7 km²).

PERIOD OF RECORD.--Water years 1979 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD) (UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	STREP-TOCOCCEI, FECAL, KF AGAR (COLS. PER 100 ML) (31673)
NOV 08...	1145	323	318	8.1	24.4	45	7.8	94	16	K10000	4700
FEB 23...	1520	38	312	8.2	25.5	6.7	9.3	115	<10	340	K190
APR 25...	1600	116	298	7.8	26.0	63	7.5	93	<10	4600	3100
AUG 29...	1430	210	310	7.5	27.1	32	7.2	92	<10	K6300	3800

DATE	HARD-NESS TOTAL (MG/L AS CAC03) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CAC03) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS S04) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)
NOV 08...	140	49.8	4.75	7.0	.3	2.8	143	<1.0	10.4	7.2
FEB 23...	--	--	--	--	--	--	112	--	--	--
APR 25...	120	41.9	4.35	8.5	.3	2.8	107	<1.0	23.8	12.1
AUG 29...	130	44.9	5.07	9.6	.4	2.7	123	--	15.4	9.0

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SI02) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, NO2+N03 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)
NOV 08...	.1	16.9	185	161	62	.87	.01	.9	.04	.29
FEB 23...	--	--	--	--	6	1.26	.04	1.3	.06	.20
APR 25...	<.1	17.3	175	54.7	60	1.58	.02	1.6	.05	.32
AUG 29...	<.1	21.0	181	103	47	.97	.01	1.0	.04	.36

DATE	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, TOTAL (MG/L AS N03) (71887)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)
NOV 08...	.33	1.2	5.4	.070	<3	46.9	20	.1	2	<20
FEB 23...	.26	1.6	6.9	.120	--	--	--	--	--	--
APR 25...	.37	2.0	8.7	.070	<3	43.3	22	<.1	E1	<20
AUG 29...	.40	1.4	6.1	.070	--	--	--	--	--	--

RIO CULEBRINAS BASIN

50147800 RIO CULEBRINAS AT HIGHWAY 404 NEAR MOCA, PR

LOCATION.--Lat 18°21'42", long 67°05'33", Hydrologic Unit 21010003, on right bank, at bridge on Highway 404, 0.3 mi (0.5 km) downstream from Quebrada Yagruma, and 2.8 mi (4.5 km) southeast of Moca.

DRAINAGE AREA.--71.2 mi² (184.4 km²).

PERIOD OF RECORD.--July 1967 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 45 ft (14 m), from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Gage-height and precipitation satellite telemetry at station.

REVISION.--The historical maximum discharge for the period of record have been revised to 41,200 ft³/s, Sept. 16, 1975, gage-height, 36.60 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1460	589	277	103	59	42	43	51	87	125	125	323
2	700	439	486	100	60	42	39	148	81	541	137	e1040
3	358	747	397	105	61	40	39	404	202	209	123	e509
4	251	600	257	117	58	39	40	308	113	235	118	e1390
5	218	405	276	107	56	37	50	137	78	297	119	e1550
6	1740	314	257	97	59	37	40	72	73	158	109	e387
7	2420	3640	221	94	55	37	38	61	71	961	111	e230
8	416	1630	212	92	53	36	79	78	361	306	114	e316
9	255	1140	197	92	52	36	42	556	174	755	107	e294
10	206	647	190	89	51	36	40	276	193	291	498	e2510
11	1450	509	178	86	50	35	43	1570	123	235	193	e556
12	388	390	168	84	50	35	38	539	95	371	287	e247
13	4240	346	161	82	48	36	37	253	476	212	140	e206
14	899	389	153	83	47	36	37	178	219	209	114	e190
15	2840	466	147	81	47	36	36	147	167	155	336	e386
16	1000	434	141	123	47	35	35	130	289	140	520	e2210
17	415	543	138	83	46	34	35	769	227	129	261	e439
18	363	596	134	80	45	35	33	304	134	218	138	e214
19	294	1270	129	78	44	35	33	166	119	270	122	e166
20	286	664	125	76	44	35	33	136	110	522	116	403
21	291	493	123	76	46	34	73	119	272	260	113	2120
22	431	2420	127	75	52	34	181	110	136	155	103	1070
23	604	685	119	73	55	34	483	103	107	165	263	679
24	316	497	115	73	56	37	456	102	97	187	147	3990
25	459	429	114	71	45	37	210	107	107	501	159	732
26	339	368	111	69	43	34	80	98	1660	202	3800	4850
27	340	342	116	67	42	35	67	97	334	180	1510	1200
28	899	322	108	66	42	34	60	129	185	163	1010	557
29	391	299	117	65	42	36	51	252	147	141	433	652
30	521	283	110	64	---	56	46	101	132	134	315	534
31	3950	---	105	62	---	55	---	90	---	165	374	---
TOTAL	28740	21896	5509	2613	1455	1160	2517	7591	6569	8592	12015	29950
MEAN	927	730	178	84.3	50.2	37.4	83.9	245	219	277	388	998
MAX	4240	3640	486	123	61	56	483	1570	1660	961	3800	4850
MIN	206	283	105	62	42	34	33	51	71	125	103	166
AC-FT	57010	43430	10930	5180	2890	2300	4990	15060	13030	17040	23830	59410
CFSM	13.0	10.3	2.50	1.18	.70	.53	1.18	3.44	3.08	3.89	5.44	14.0
IN.	15.02	11.44	2.88	1.37	.76	.61	1.32	3.97	3.43	4.49	6.28	15.65

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 2000, BY WATER YEAR (WY)

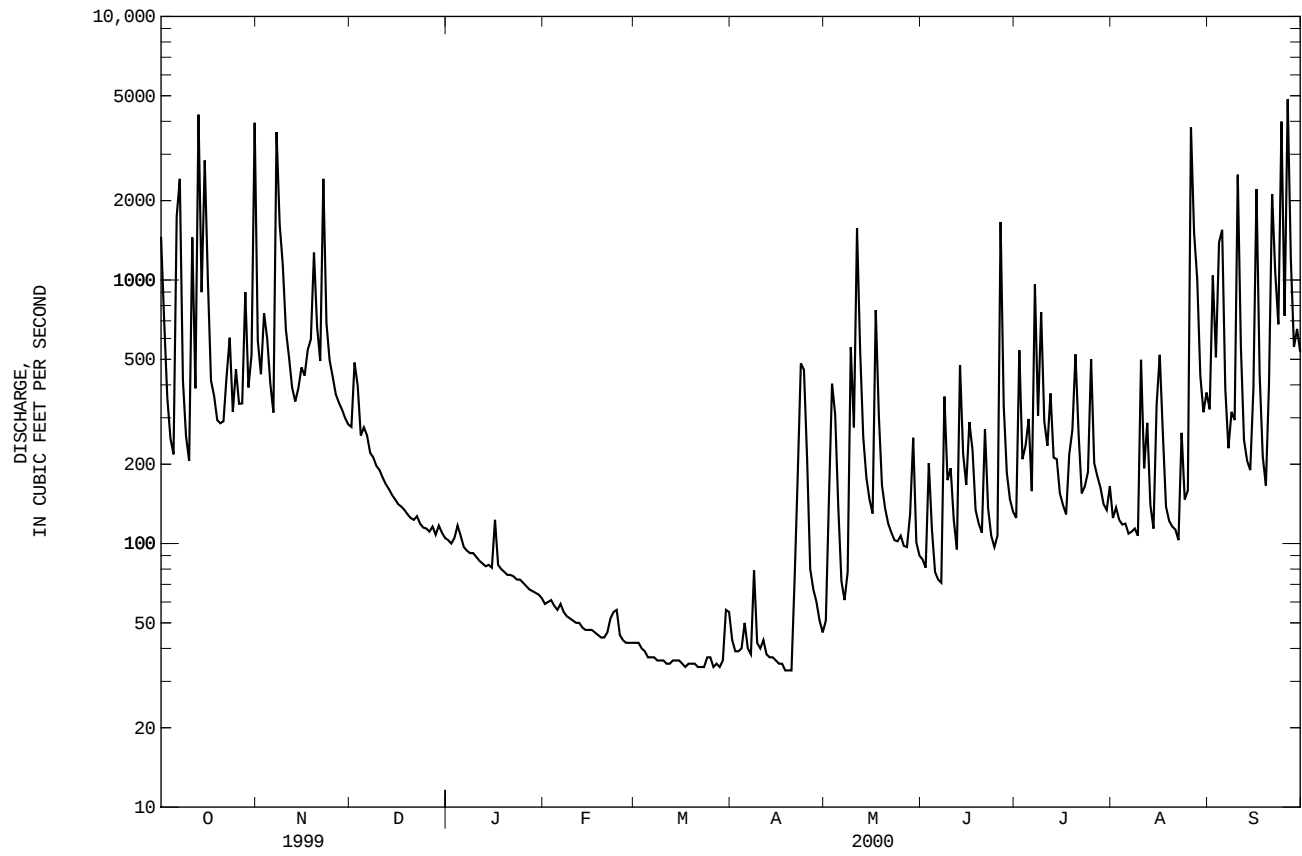
	MEAN	MAX	(WY)	MIN	(WY)
1967	621	1086	1973	231	1968
1968	338	799	1982	108	1979
1969	144	424	1982	72.1	1992
1970	94.6	530	1997	51.2	1979
1971	78.4	371	1996	37.0	1992
1972	76.3	319	1981	30.4	1979
1973	131	621	1986	26.4	1970
1974	455	2054	1986	96.7	1973
1975	399	773	1998	73.1	1997
1976	296	847	1979	66.7	1994
1977	339	831	1979	119	1970
1978	554	1651	1998	145	1986

SUMMARY STATISTICS	FOR 1999 CALENDAR YEAR	FOR 2000 WATER YEAR	WATER YEARS 1967 - 2000
ANNUAL TOTAL	148026	128607	
ANNUAL MEAN	406	351	296
HIGHEST ANNUAL MEAN			457
LOWEST ANNUAL MEAN			179
HIGHEST DAILY MEAN	4800	4850	17000
LOWEST DAILY MEAN	42	33	19
ANNUAL SEVEN-DAY MINIMUM	43	34	20
INSTANTANEOUS PEAK FLOW		24100	41200
INSTANTANEOUS PEAK STAGE		27.28	36.60
INSTANTANEOUS LOW FLOW		31	16
ANNUAL RUNOFF (AC-FT)	293600	255100	214400
ANNUAL RUNOFF (CFSM)	5.70	4.94	4.16
ANNUAL RUNOFF (INCHES)	77.34	67.19	56.47
10 PERCENT EXCEEDS	741	690	600
50 PERCENT EXCEEDS	197	139	135
90 PERCENT EXCEEDS	71	39	43

e Estimated

RIO CULEBRINAS BASIN

50147800 RIO CULEBRINAS AT HIGHWAY 404 NEAR MOCA, PR--Continued



50148890 RIO CULEBRINAS AT MARGARITA DAM NEAR AGUADA, PR

LOCATION.--Lat 18°23'40", long 67°09'04", Hydrologic Unit 21010003, on right bank 40 ft. upstream of Margarita Dam spillway 0.2 mi (0.32 km) upstream of Highway 2 at Aguadilla Filtration Plant water intake at Rio Culebrinas, 1.05 mi (1.69 km) northeast of Central Coloso and 2.55 mi (4.10 km) southeast from Aguadilla Plaza.

DRAINAGE AREA.--94.6 mi² (245 km²).

PERIOD OF RECORD.--July 1998 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 48.6 ft. (14.8 m), from topographic map. For mean sea level elevations add 3.0 ft. to gage-height readings.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1560	1270	313	127	64	44	e37	54	82	160	114	225
2	884	438	433	126	67	e44	e29	117	66	637	133	303
3	488	819	654	139	78	e43	e27	444	110	445	124	301
4	231	675	313	163	77	e42	e26	499	214	303	106	277
5	193	684	323	146	78	e41	43	260	72	513	116	415
6	818	391	328	127	75	e38	33	113	62	366	100	258
7	1640	847	266	118	77	38	26	93	53	805	114	186
8	899	1860	258	114	68	35	95	86	275	710	125	184
9	320	1720	237	113	71	32	56	500	291	690	97	215
10	245	1090	225	111	69	34	40	519	190	516	347	425
11	738	788	214	106	63	36	42	735	139	254	310	364
12	867	561	206	104	58	33	26	1160	76	610	249	261
13	e1950	419	194	103	57	29	27	255	417	367	222	234
14	e1530	450	185	102	61	32	41	175	311	313	124	231
15	1090	583	177	111	58	26	27	140	176	228	246	268
16	1350	538	172	163	56	23	30	119	194	204	265	864
17	797	686	174	108	55	36	22	531	346	199	251	526
18	470	602	175	99	56	32	17	512	126	453	137	236
19	394	1700	162	95	53	38	18	170	112	499	126	207
20	332	1020	156	97	55	34	27	134	107	694	124	353
21	352	659	162	96	56	32	98	118	468	631	121	1580
22	598	1660	163	89	86	19	97	106	233	276	117	1420
23	970	1230	160	84	92	21	349	95	158	237	190	1060
24	488	623	146	87	77	36	692	117	121	308	145	1340
25	569	556	147	81	60	46	386	102	139	611	173	1380
26	608	441	145	82	52	42	113	103	1080	344	475	e1560
27	370	400	155	78	52	e27	75	92	736	203	494	e2150
28	738	378	142	78	47	e23	83	112	268	184	681	663
29	706	341	168	76	46	e25	53	306	206	135	313	563
30	571	322	149	70	---	e50	59	112	169	130	220	730
31	1340	---	132	73	---	e70	---	90	---	164	251	---
TOTAL	24106	23751	6834	3266	1864	1101	2694	7969	6997	12189	6610	18779
MEAN	778	792	220	105	64.3	35.5	89.8	257	233	393	213	626
MAX	1950	1860	654	163	92	70	692	1160	1080	805	681	2150
MIN	193	322	132	70	46	19	17	54	53	130	97	184
AC-FT	47810	47110	13560	6480	3700	2180	5340	15810	13880	24180	13110	37250
CFSM	8.22	8.37	2.33	1.11	.68	.38	.95	2.72	2.47	4.16	2.25	6.62
IN.	9.48	9.34	2.69	1.28	.73	.43	1.06	3.13	2.75	4.79	2.60	7.38

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1998 - 2000, BY WATER YEAR (WY)

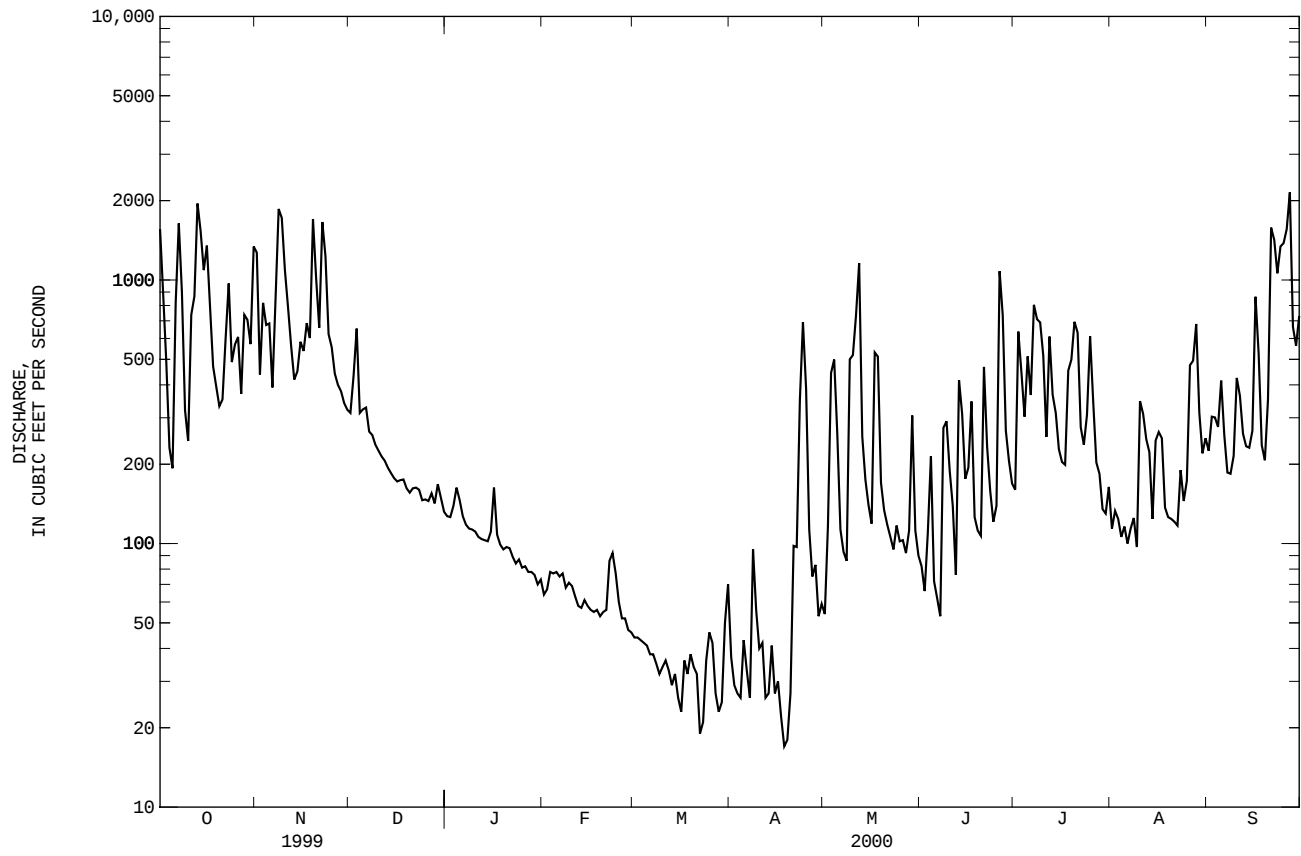
	MEAN	701	665	213	156	79.5	177	170	302	433	322	517	693
	MAX	778	792	220	207	95.3	318	250	346	632	393	949	970
	(WY)	2000	2000	2000	1999	1999	1999	1999	1999	1999	2000	1998	1998
	MIN	624	538	206	105	64.3	35.5	89.8	257	233	251	213	482
	(WY)	1999	1999	1999	2000	2000	2000	2000	2000	2000	1999	2000	1999

SUMMARY STATISTICS	FOR 1999 CALENDAR YEAR	FOR 2000 WATER YEAR	WATER YEARS 1998 - 2000
ANNUAL TOTAL	145081	116160	
ANNUAL MEAN	397	317	340
HIGHEST ANNUAL MEAN			362
LOWEST ANNUAL MEAN			317
HIGHEST DAILY MEAN	2180	2150	3860
LOWEST DAILY MEAN	57	17	17
ANNUAL SEVEN-DAY MINIMUM	62	26	26
INSTANTANEOUS PEAK FLOW		4900	5480
INSTANTANEOUS PEAK STAGE		17.20	18.28
INSTANTANEOUS LOW FLOW			49
ANNUAL RUNOFF (AC-FT)	287800	230400	246200
ANNUAL RUNOFF (CFSM)	4.20	3.35	3.59
ANNUAL RUNOFF (INCHES)	57.05	45.68	48.81
10 PERCENT EXCEEDS	889	738	940
50 PERCENT EXCEEDS	245	168	233
90 PERCENT EXCEEDS	87	39	66

e Estimated

RIO CULEBRINAS BASIN

50148890 RIO CULEBRINAS AT MARGARITA DAM NEAR AGUADA, PR--Continued



RIO CULEBRINAS BASIN

50149100 RIO CULEBRINAS NEAR AGUADA, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 18°24'03", long 67°09'40", at bridge on Highway 2, 2.3 mi (3.7 km) northeast of Aguada plaza.

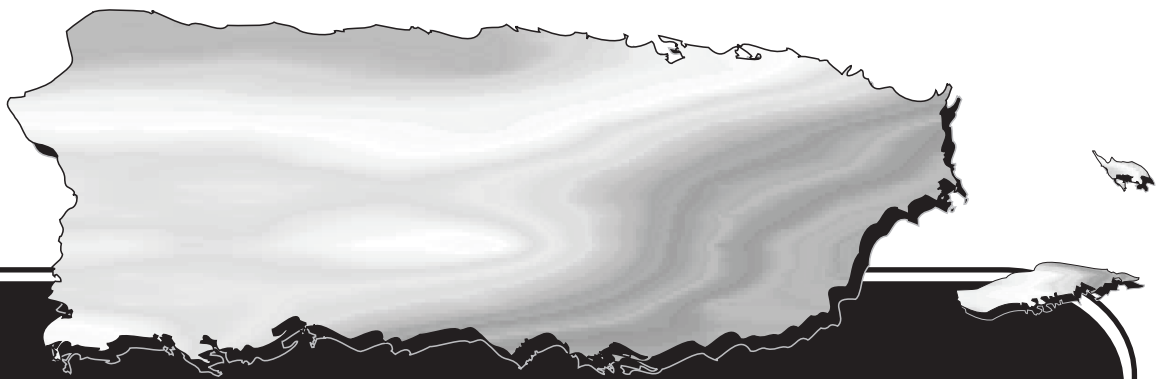
DRAINAGE AREA.--97.0 mi² (251.1 km²).

PERIOD OF RECORD.--Water years 1958, 1970 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)
OCT 29...	0835	E353	235	7.7	24.0	340	6.8	81	34	K40000
FEB 22...	1655	E49	298	7.9	24.7	17	7.6	92	<10	270
APR 26...	0735	E83	313	7.7	25.2	86	6.6	80	11	4300
AUG 22...	0600	E104	299	7.7	27.5	17	4.3	55	<10	400
DATE	STREP-TOCOCCHI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD-NESS TOTAL (MG/L AS CAC03) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD CAC03 (MG/L AS S) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS S04) (00945)
OCT 29...	40000	100	34.0	3.82	6.2	.3	2.4	125	<1.0	6.9
FEB 22...	230	--	--	--	--	--	--	123	--	--
APR 26...	4100	130	45.4	4.88	8.6	.3	3.0	116	<1.0	19.3
AUG 22...	200	120	40.3	5.54	11.9	.5	3.8	125	--	7.5
DATE	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SI02) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)
OCT 29...	7.7	<.1	25.7	161	725	.57	.04	.6	.08	2.0
FEB 22...	--	--	--	--	24	.49	.01	.5	.06	.34
APR 26...	11.8	<.1	17.2	180	128	1.38	.02	1.4	.06	.42
AUG 22...	12.3	<.1	33.2	189	21	.85	.01	.9	.03	.18
DATE	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, TOTAL (MG/L AS NO3) (71887)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)
OCT 29...	2.1	2.7	12.0	.400	E2	149	22	E.1	11	26
FEB 22...	.40	.90	4.0	.050	--	--	--	--	--	--
APR 26...	.48	1.9	8.3	.100	<3	60.9	23	<.1	2	<20
AUG 22...	.21	1.1	4.7	.030	--	--	--	--	--	--

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**Discharge at
Partial-Record Stations
in Puerto Rico**

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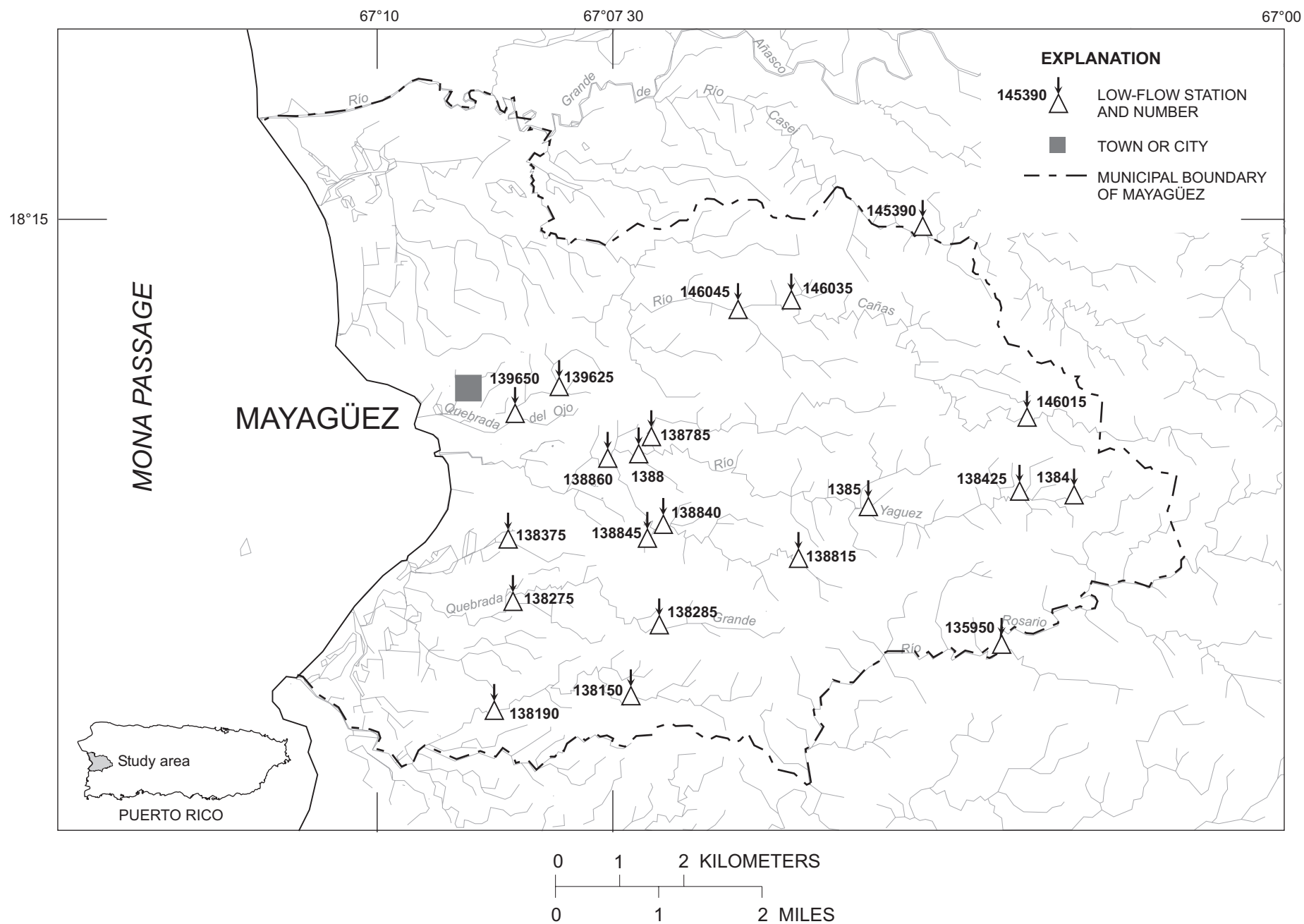


Figure 26. Location of low-flow partial-record stations in Mayagüez, Puerto Rico.

DISCHARGE AT PARTIAL-RECORD STATIONS

As the number of streams on which streamflow information is likely to be desired far exceeds the number of stream-gaging stations feasible to operate at one time, the Geological Survey collects limited streamflow data at sites other than stream-gaging stations. When limited streamflow data are collected on a systematic basis over a period of years for use in hydrologic analyses, the site at which the data are collected is called a partial-record station. Data collected at these partial-record stations are useable in low-flow or floodflow analyses, depending on the type of data collected. In addition, discharge measurements are made at other sites not included in the partial-record program. These measurements are generally made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

Low-flow partial-record stations

Measurements of streamflow in the areas covered by this report made at low-flow partial-record stations are given in the following table. These measurements were made during periods of base flow when streamflow is primarily from ground-water storage. These measurements, when correlated with the simultaneous discharge of nearby stream when continuous records are available, will give a picture of the low-flow potentiality of stream.

Discharge measurements made at low-flow partial-records stations during water year 2000

PUBLICATION RECORD						
STATION	STATION	LOCATION	DRAINAGE			STREAM-
NUMBER	NAME	AND	AREA	DATE	TIME	FLOW
		BASIN	mi ² (km ²)			ft ³ /s (m ³ /s)
Río Guanajibo basin						
50135950	Río Rosario at Limón, PR	Lat 18°10'33", long 67°03'07", Hydrologic Unit 21010003, at barrio Limón, 3.4 mi (5.5 km), southwest of Pico San Bernardo, 1.8 mi (2.9 km) northwest of El Cerro Avispa, and 2.4 mi (3.9 km) southeast of Represa de Mayagüez.	14.6 (37.8)	3/28/00	1315	11.4 (0.323)
				4/19/00	0900	11.6 (0.328)
				7/10/00	1320	20.8 (0.589)
				11/20/00	1040	39.4 (1.116)
				12/12/00	0900	23.2 (0.657)
				2/14/01	0910	11.9 (0.337)
				3/01/01	0910	10.2 (0.289)
				3/14/01	0820	9.41 (0.266)
				4/03/01	0915	11.9 (0.337)
50138150	Río Hondo at Río Hondo, PR	Lat 18°09'59", long 67°07'17", Hydrologic Unit 21010003, at barrio Río Hondo, 3.6 mi (5.8 km) northwest of Los Peñones, 3.7 mi (6.0 km) southwest of Represa de Mayagüez, and 2.6 mi (4.2 km) northwest of Rosario plaza.	1.61 (4.17)	3/27/00	1000	0.33 (0.009)
				4/17/00	0910	0.29 (0.008)
				7/07/00	0750	0.41 (0.012)
				11/16/00	0725	1.08 (0.031)
				12/11/00	1405	0.41 (0.012)
				2/12/01	1150	0.27 (0.008)
				2/27/01	1020	0.24 (0.007)
				3/12/01	1000	0.22 (0.006)
50138190	Río Hondo near Mayagüez, PR	Lat 18°09'53", Long 67°08'32", Hydrologic Unit 21010003, at barrio Guanajibo, 2.0 mi (3.2 km) northwest of Hormigueros plaza, 1.8 mi (2.9 km) east of Cerro Cornelia, and 2.9 mi (4.7 km) southwest of Mayagüez plaza.	2.93 (7.59)	12/04/00	1030	0.96 (0.027)
				12/13/00	0905	0.85 (0.024)
				2/12/01	1330	0.43 (0.012)
				3/12/01	1215	0.23 (0.006)
				2/27/01	1215	0.25 (0.007)

DISCHARGE AT PARTIAL-RECORD STATIONS
Low-flow partial-record stations--Continued

STATION NUMBER	STATION NAME	LOCATION AND BASIN Quebrada Sábalo basin	DRAINAGE AREA mi ² (km ²)	DATE	TIME	STREAM- FLOW ft ³ /s (m ³ /s)
50138275	Quebrada Guifén at Sábalo, PR	Lat 18°11'00", long 67°08'30", Hydrologic Unit 21010003, at barrio Sábalo, 2.7 mi (4.3 km) northeast of Cerro Cornelia, 2.9 mi (4.7 km) northwest of Hormigueros plaza, and 1.4 mi (2.2 km) south of Mayagüez plaza.	0.47 (1.22)	4/17/00 7/13/00 11/16/00 12/13/00 2/12/01 2/27/01 3/12/01	1015 1100 0925 0820 1250 1130 1045	0.53 (0.015) 1.12 (0.032) 2.43 (0.069) 1.42 (0.040) 0.72 (0.020) 0.73 (0.021) 0.77 (0.022)
50138285	Quebrada Grande at Quebrada Grande, PR	Lat 18°10'44", long 67°06'56", Hydrologic Unit 21010003, at barrio Quebrada Grande, 2.9 mi (4.7 km) southwest of Represa de Mayagüez, 3.6 mi (5.8 km) northwest of Los Peñones, and 2.6 mi (4.2 km) northwest of Rosario plaza.	0.72 (1.86)	3/27/00 4/17/00 7/07/00 11/16/00 12/11/00 2/12/01 2/27/01 3/12/01	1035 0940 0915 0830 1440 1110 0950 0935	0.28 (0.008) 0.23 (0.006) 0.48 (0.014) 0.80 (0.023) 0.58 (0.016) 0.36 (0.010) 0.24 (0.007) 0.20 (0.006)
50138375	Caño Majagual at Highway 348, PR	Lat 18°11'32", long 67°08'15", Hydrologic Unit 21010003, at barrio Quebrada Grande, 3.3 mi (5.3 km) northeast of Cerro Cornelia, 3.5 mi (5.6 km) northwest of Hormigueros plaza, and 0.8 mi (1.3 km), southeast of Mayagüez plaza.	0.20 (0.52)	12/04/00 12/13/00 2/12/01 2/27/01 3/12/01	1150 0755 1220 1100 1025	0.18 (0.005) 0.13 (0.004) 0.16 (0.004) 0.11 (0.003) 0.07 (0.002)
		Río Yagüez basin				
50138400	Río Yagüez at Montoso, PR	Lat 18°12'06", long 67°02'30", Hydrologic Unit 21010003, at barrio Montoso, 1.6 mi (2.6 km) northwest of Pico San Bernardo, 3.0 (4.8 km) southeast of El Cerro Avispa, and 2.4 mi (3.9 km) northeast of Represa de Mayagüez.	0.63 (1.63)	3/29/00 4/18/00 7/11/00 11/14/00 12/12/00 2/14/01 3/01/01 3/14/01 4/03/01	1045 1350 0910 1255 1025 1035 1025 0950 1125	0.69 (0.020) 0.62 (0.018) 1.03 (0.029) 2.59 (0.073) 1.43 (0.040) 0.73 (0.021) 0.63 (0.018) 0.53 (0.015) 0.54 (0.015)
50138425	Río Yagüez at Naranjales, PR	Lat 18°12'08", long 66°03'00", Hydrologic Unit 21010003, at barrio Naranjales, 3.2 mi (5.1 km) northwest of El Cerro Avispa, 1.6 mi (2.6 km) south- west of Pico San Bernardo, and 1.9 mi (3.0 km) northwest of Represa de Mayagüez.	1.32 (3.42)	3/29/00 4/18/00 7/11/00 11/15/00 12/12/00 2/14/01 3/01/01 3/14/01 4/03/01	1205 1215 1040 0825 1200 1230 1200 1135 1300	1.41 (0.040) 1.34 (0.038) 1.89 (0.054) 4.68 (0.132) 2.92 (0.083) 1.62 (0.046) 1.50 (0.042) 1.224 (0.035) 1.19 (0.034)

DISCHARGE AT PARTIAL-RECORD STATIONS
Low-flow partial-record stations--Continued

STATION NUMBER	STATION NAME	LOCATION AND BASIN	DRAINAGE AREA mi ² (km ²)	DATE	TIME	STREAM FLOWS ft ³ /s (m ³ /s)
Río Yagüez basin						
50138500	Río Yagüez at Presada de Mayagüez, PR	Lat 18°12'02", long 67°04'42", Hydrologic Unit 21010003, at barrio Bateyes, 2.9 mi (4.7 km) southeast of Pico San Bernardo, 4.2 mi (6.8 km) northwest of El Cerro Avispa, and 2.5 mi (4.0 km) north of Rosario plaza.	4.38 (11.3)	4/18/00	1025	3.41 (0.096)
				7/11/00	1210	5.02 (0.142)
				2/15/01	1045	3.56 (0.101)
				3/01/01	1315	2.97 (0.084)
				3/14/01	1300	2.90 (0.082)
				4/03/01	1455	2.79 (0.079)
50138785	Quebrada Gandel at Mayagüez Arriba, PR	Lat 18°12'42", long 67°06'57", Hydrologic Unit 21010003, at Mayagüez Arriba, 4.0 mi (6.4 km) northeast of Rosario plaza, 2.6 mi (4.2 km) southwest of Cerro Leclerc, and 2.6 mi (4.2 km) northwest of Represa de Mayagüez.	1.83 (4.74)	3/28/00	1045	0.88 (0.025)
				4/17/00	1350	1.03 (0.029)
				7/14/00	0825	1.43 (0.040)
				11/21/00	1345	2.38 (0.067)
				12/11/00	1220	1.84 (0.052)
				2/13/01	1055	0.80 (0.023)
				2/28/01	1245	0.69 (0.020)
				3/13/01	1210	0.63 (0.018)
50138800	Río Yagüez near Mayagüez, PR	Lat 18°12'32", long 67°07'05" Hydrologic Unit 21010003, at steel-truss bridge about 800 ft (244 m) south of Highway 106, 1.8 mi (2.9 km) west of Highways 106 and 352 junction, and 1.4 mi (2.2 km) east north- east from Mayagüez plaza.	8.53 (22.1)	3/28/00	1000	2.85 (0.081)
				4/17/00	1315	2.55 (0.072)
				7/11/00	1345	4.64 (0.131)
				11/15/00	1215	12.6 (0.357)
				12/11/00	1305	7.34 (0.208)
				2/13/01	1125	3.41 (0.096)
				2/28/01	1140	2.79 (0.079)
				3/13/01	1030	3.00 (0.085)
				4/05/01	0915	3.27 (0.093)
50138815	Quebrada Caricosa near Represa de Mayagüez, PR	Lat 18°11'27", long 67°05'18", Hydrologic Unit 21010003, at barrio Juan Alonso, 0.9 mi (1.4 km) southwest of Represa de Mayagüez, 2.9 mi (4.7 km) north- west of Los Peñones, and 1.9 mi (3.0 km) of Rosario plaza.	0.57 (1.48)	3/27/00	1135	0.14 (0.004)
				4/18/00	0730	0.08 (0.002)
				7/18/00	1015	0.09 (0.002)
				11/21/00	0910	0.22 (0.006)
				12/11/00	0945	0.17 (0.005)
				2/13/01	0820	0.10 (0.003)
				2/28/01	0910	0.11 (0.003)
				3/13/01	0755	0.14 (0.004)

DISCHARGE AT PARTIAL-RECORD STATIONS
Low-flow partial-record stations--Continued

STATION	STATION	LOCATION	DRAINAGE AREA			STREAM FLOWS
NUMBER	NAME	AND BASIN	mi ² (km ²)	DATE	TIME	ft ³ /s (m ³ /s)
		Río Yagüez basin				
50138840	Quebrada Caricosa near Mayagüez, PR	Lat 18°11'50", long 67°06'45", Hydrologic Unit 21010003, at barrio Juan Alonso, 2.3 mi (3.7 km) southwest of Represa de Mayagüez, 2.9 mi (4.7 km) southwest of Cerro Leclerc, and 3.1 mi (5.0 km) northwest of Rosario plaza.	2.40 (6.22)	3/27/00	1300	0.98 (0.028)
				4/17/00	1440	1.00 (0.028)
				7/18/00	1050	1.06 (0.030)
				11/21/00	1000	1.87 (0.053)
				12/11/00	0945	2.10 (0.059)
				2/13/01	0900	1.54 (0.044)
				2/28/01	0950	0.85 (0.024)
				3/13/01	0845	1.37 (0.039)
50138845	Tributario de Quebrada Caricosa at Highway 105, PR	Lat 18°11'48", long 67°06'56", Hydrologic Unit 21010003, at Mayagüez Arriba, 2.5 mi (4.0 km) southwest of Represa de Mayagüez, 3.1 mi (5.0 km) southwest of Cerro Leclerc, and 3.2 mi (5.1 km) northwest of Rosario plaza.	0.17 (0.44)	12/04/00	1230	0.13 (0.004)
				12/13/00	1105	0.12 (0.003)
				2/13/01	0940	0.05 (0.001)
				2/28/01	1030	0.03 (0.001)
				3/13/01	0920	0.02 (0.001)
50138860	Quebrada Caricosa at mouth, PR	Lat 18°12'31", long 67°07'27", Hydrologic Unit 21010003, at Mayagüez Arriba, 3.1 mi (5.0 km) northwest of Represa de Mayagüez, 3.2 mi (5.1 km) southwest of Cerro Leclerc, and 4.2 mi (6.8 km) of Rosario plaza.	2.92 (7.56)	3/27/00	1355	1.32 (0.037)
				4/17/00	1215	1.38 (0.039)
				7/18/00	1230	1.32 (0.037)
				11/21/00	1135	2.54 (0.072)
				12/11/00	1335	2.51 (0.071)
				2/13/01	1010	1.66 (0.047)
				2/28/01	1100	0.98 (0.028)
				3/13/01	0945	1.71 (0.048)
		Quebrada del Oro basin				
50139625	Quebrada del Oro at Miradero, PR	Lat 18°13'15", long 67°08'00", Hydrologic Unit 21010003, at barrio Miradero, 2.0 mi (3.2 km) southeast of Peña Cortada, 4.9 mi (7.9 km) northeast of Cerro Cornelia, and 2.3 mi (3.7 km) northeast of Mayagüez plaza.	0.69 (1.79)	3/29/00	0735	0.61 (0.017)
				4/17/00	1140	0.37 (0.010)
				7/12/00	1030	0.55 (0.016)
				11/27/00	1110	0.74 (0.021)
				12/13/00	1025	0.59 (0.017)
				2/13/01	1300	0.30 (0.008)
				2/28/01	1325	0.27 (0.008)
				3/13/01	1250	0.31 (0.009)
50139650	Quebrada del Oro at Highway 2, PR	Lat 18°12'50", long 67°08'48", Hydrologic Unit 21010003, at Highway 2, 0.8 mi (1.3 km) upstream from mouth, 4.0 mi (6.4 km) northeast of Cerro Cornelia, and 0.9 mi (1.4 km) northwest of Mayagüez plaza.	1.49 (3.86)	3/29/00	0820	1.29 (0.036)
				4/17/00	1100	0.96 (0.027)
				7/12/00	0930	1.30 (0.037)
				11/27/00	0930	1.91 (0.054)
				12/13/00	0945	1.32 (0.037)
				2/12/01	1355	0.89 (0.025)
				2/28/01	1400	0.84 (0.024)
		3/13/01	1335	0.79 (0.022)		

DISCHARGE AT PARTIAL-RECORD STATIONS
Low-flow partial-record stations--Continued

STATION NUMBER	STATION NAME	LOCATION AND BASIN	DRAINAGE AREA mi ² (km ²)	DATE	TIME	STREAM FLOWS ft ³ /s (m ³ /s)
Río Grande de Añasco basin						
50145390	Río Casey at Río Cañas Arriba, PR	Lat 18°14'58", long 67°04'00", Hydrologic Unit 21010003, at barrio Río Cañas Arriba, 2.3 mi (3.7 km) northwest of Pico San Bernardo, 1.9 mi (3.0 km) northeast of Cerro Leclerc, and 3.4 mi (5.5 km) northeast of Represa de Mayagüez.	7.03 (18.2)	3/29/00	1340	7.90 (0.224)
				4/19/00	1115	6.34 (0.180)
				7/13/00	1315	15.2 (0.430)
				11/17/00	1055	25.7 (0.728)
				12/13/00	1115	14.7 (0.416)
				2/13/01	1455	6.75 (0.191)
				2/27/01	1340	6.91 (0.196)
				3/12/01	1325	5.99 (0.170)
50146015	Río Cañas at Camino Charluisant, PR	Lat 18°12'57", long 67°02'48", Hydrologic Unit 21010003, at barrio Río Cañas Arriba, 0.6 mi (1.0 km) southeast of Pico San Bernardo, 2.2 mi (3.5 km) southeast of Cerro Leclerc, and 2.3 mi (3.7 km) northeast of Represa de Mayagüez.	1.76 (4.56)	3/28/00	1440	1.11 (0.031)
				4/18/00	1305	1.20 (0.034)
				7/06/00	1410	4.11 (0.116)
				11/14/00	1150	6.12 (0.173)
				12/12/00	1110	3.27 (0.093)
				2/14/01	1115	1.34 (0.038)
				3/01/01	1110	1.07 (0.030)
				3/14/01	1040	1.23 (0.035)
50146035	Río Cañas at Highway 352, PR	Lat 18°14'10", long 67°05'28", Hydrologic Unit 21010003, at barrio Río Cañas Arriba, 3.3 mi (5.3 km) southwest of Pico San Bernardo, 1.2 mi (1.9 km) northwest of Cerro Leclerc, and 2.6 mi (4.2 km) northwest of Represa de Mayagüez.	5.83 (15.1)	3/28/00	0855	5.07 (0.144)
				4/18/00	0815	5.31 (0.150)
				7/06/00	1255	9.28 (0.263)
				11/14/00	1020	17.1 (0.484)
				12/12/00	1500	10.4 (0.294)
				2/14/01	1335	5.32 (0.151)
				3/02/01	0805	4.65 (0.132)
				3/15/01	0830	4.38 (0.124)
				4/04/01	1025	4.32 (0.122)
50146045	Río Cañas at Represa, PR	Lat 18°14'07", long 67°06'01", Hydrologic Unit 21010003, at barrio Río Cañas Abajo, 4.3 mi (6.9 km) northwest of Pico San Bernardo, 2.0 mi (3.2 km) northwest of Cerro Leclerc, and 3.1 mi (5.0 km) northwest of Represa de Mayagüez.	7.05 (18.2)	3/28/00	0800	5.27 (0.149)
				4/18/00	0905	5.79 (0.164)
				7/06/00	1100	9.44 (0.267)
				11/14/00	0830	17.4 (0.493)
				12/12/00	1410	9.70 (0.275)
				2/15/01	0915	4.60 (0.130)
				3/02/01	0855	4.42 (0.125)
				3/15/01	0925	4.21 (0.119)
				4/04/01	0915	4.64 (0.131)



**Water-Quality at
Partial Record Stations
in Puerto Rico and
U.S. Virgin Island**

MISCELLANEOUS STATION ANALYSES

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATION

Water-quality partial-record stations are particular sites where chemical-quality, biological and or sediment data are collected systemtically over a period of years for use in hydrological analyses. The data are collected usually less than quarterly.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	TIME	SAM- PLING DEPTH (FEET) (00003)	TEMPER- ATURE WATER (DEG C) (00010)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TRANS- PAR- ENCY (SECCHI DISK) (IN) (00077)	OXYGEN, DIS- SOLVED CENT SATUR- ATION (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)
50010720	LAGO GUAJATACA NO.3 NR MOUTH NR QUEBRADILLAS,PR (LAT 18° 22'05"N LONG 066° 54'36"W)								
JAN 2000									
14...	0955	1.00	24.5	313	8.0	54.0	7.7	95	K1
14...	1005	23.0	24.4	356	7.6	--	2.8	--	--
MAR									
17...	1120	1.00	25.1	308	8.1	54.0	7.6	94	K5
17...	1125	13.0	25.0	311	8.0	--	6.7	--	--
JUL									
12...	0910	1.00	29.1	272	8.2	42.0	7.5	100	27
12...	0915	12.0	28.8	273	8.0	--	6.4	--	--
50025110	LAGO DOS BOCAS NO.3 AT WEST BRANCH NR UTUADO,PR (LAT 18° 19'15"N LONG 066° 40' 11"W)								
JAN 2000									
19...	1015	1.00	23.2	245	7.6	18.0	7.4	87	K110
19...	1020	6.50	22.8	247	7.6	--	7.6	--	--
MAR									
30...	1015	1.00	27.2	256	8.3	24.0	7.4	95	51
30...	1025	10.0	26.2	266	8.1	.00	6.6	83	--
JUL									
14...	1150	1.00	30.4	267	8.0	24.0	8.3	112	K13
14...	1155	3.00	29.5	275	7.9	--	7.9	--	--
50039900	LAGO CARITE NO.3 ON RIO DE LA PLATA NR CAYEY,PR (LAT 18° 05'04"N LONG 066° 06' 03"W)								
JAN 2000									
18...	1100	1.00	21.6	98	7.0	39.0	7.2	88	21
18...	1115	10.0	20.8	98	7.1	--	6.9	--	--
MAR									
13...	1225	1.00	22.8	110	7.4	60.0	7.8	97	<1
13...	1230	13.0	22.4	112	7.5	--	7.2	--	--
JUL									
07...	1305	1.00	28.1	116	7.6	30.0	7.8	107	K18
07...	1310	7.00	27.5	115	7.7	--	7.0	--	--
50044400	LAGO LA PLATA NO.5 NR MOUTH NR NARANJITO, PR (LAT 18° 19'33"N LONG 066° 12'28"W)								
JAN 2000									
12...	1240	1.00	25.6	329	8.2	30.0	11.9	146	130
12...	1245	39.0	22.9	364	7.9	--	8.4	--	--
MAR									
15...	1045	1.00	25.4	415	8.9	26.0	13.9	170	27
15...	1050	29.0	22.4	430	7.7	--	2.1	--	--
JUL									
05...	1415	1.00	30.1	417	8.3	24.0	7.7	103	K11
05...	1420	10.0	28.4	414	7.5	--	1.2	--	--

MISCELLANEOUS STATION ANALYSES

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATION--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	STREP- TOCOCCHI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	ANC WATER UNFLTRD FET FIELD MG/L AS CAC03 (00410)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDE (MG/L) (00530)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)
50010720	LAGO GUAJATACA NO.3 NR MOUTH NR QUEBRADILLAS, PR (LAT 18° 22'05"N LONG 066° 54'36"W)							
JAN 2000								
14...	35	143	3	--	<.01	.2	.04	.35
14...	--	144	--	--	--	--	--	--
MAR								
17...	K16	139	--	.06	.01	.1	.04	.25
17...	--	139	--	--	--	--	--	--
JUL								
12...	K9	110	<10	--	<.01	<.1	.02	.21
12...	--	112	--	--	--	--	--	--
50025110	LAGO DOS BOCAS NO.3 AT WEST BRANCH NR UTUADO, PR (LAT 18°19'15"N LONG 066° 40'11"W)							
JAN 2000								
19...	20	80	4	.89	.02	.9	.02	.41
19...	--	81	--	--	--	--	--	--
MAR								
30...	K3	84	5	.34	.02	.4	.03	.25
30...	0	87	--	--	--	--	--	--
JUL								
14...	K9	89	<10	.43	.02	.4	.05	.17
14...	--	90	--	--	--	--	--	--
50039900	LAGO CARITE NO.3 ON RIO DE LA PLATA NR CAYEY, PR (LAT 18°05'04N LONG 066° 06'03"W)							
JAN 2000								
18...	K14	33	5	--	<.01	.2	.02	.20
18...	--	33	--	--	--	--	--	--
MAR								
13...	54	36	4	--	<.01	.1	.07	.14
13...	--	37	--	--	--	--	--	--
JUL								
07...	37	36	10	--	<.01	<.1	<.01	--
07...	--	34	--	--	--	--	--	--
50044400	LAGO LA PLATA NO.5 NR MOUTH NR NARANJITO, PR (LAT 18° 19'33"N LONG 066° 12'28"W)							
JAN 2000								
12...	41	120	13	1.08	.02	1.1	.02	.54
12...	--	133	--	--	--	--	--	--
MAR								
15...	21	156	5	.92	.02	.9	.05	1.4
15...	--	151	--	--	--	--	--	--
JUL								
05...	K6	146	<10	.69	.04	.7	.03	.30
05...	--	148	--	--	--	--	--	--

MISCELLANEOUS STATION ANALYSES

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATION--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	NITRO- GEN, TOTAL (MG/L AS N03) (71887)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	CHLOR-A PHYTO- PLANK- TON CHROMO FLUOROM (UG/L) (70953)	CHLOR-B PHYTO- PLANK- TON CHROMO FLUOROM (UG/L) (70954)	PLANK- TON BIOMASS ASH WT (MG/L) (81353)	PLANK- TON BIOMASS DRY WT (MG/L) (81354)
50010720	LAGO GUAJATACA NO.3 NR MOUTH NR QUEBRADILLAS, PR (LAT 18° 22'05"N LONG 066° 54'36"W)							
JAN 2000								
14...	.39	.57	2.5	.020	7.1	.3	266	271
14...	--	--	--	--	--	--	--	--
MAR								
17...	.29	.36	1.6	<.020	--	--	--	--
17...	--	--	--	--	--	--	--	--
JUL								
12...	.23	--	--	.020	8.5	.4	264	271
12...	--	--	--	--	--	--	--	--
50025110	LAGO DOS BOCAS NO.3 AT WEST BRANCH NR UTUADO, PR (LAT 18° 19'15"N LONG 066° 40'11"W)							
JAN 2000								
19...	.43	1.3	5.9	.040	18.5	E.2	335	344
19...	--	--	--	--	--	--	--	--
MAR								
30...	.28	.64	2.8	.030	7.1	.3	345	353
30...	--	--	--	--	--	--	--	--
JUL								
14...	.22	.67	3.0	.030	20.9	.6	269	278
14...	--	--	--	--	--	--	--	--
50039900	LAGO CARITE NO.3 ON RIO DE LA PLATA NR CAYEY, PR (LAT 18° 05'04"N LONG 066° 06'03"W)							
JAN 2000								
18...	.22	.41	1.8	<.020	1.7	.3	277	282
18...	--	--	--	--	--	--	--	--
MAR								
13...	.21	.31	1.4	<.020	2.8	.9	271	278
13...	--	--	--	--	--	--	--	--
JUL								
07...	<.20	--	--	<.020	6.2	1.4	261	269
07...	--	--	--	--	--	--	--	--
50044400	LAGO LA PLATA NO.5 NR MOUTH NR NARANJITO, PR (LAT 18° 19'33"N LONG 066° 12'28"W)							
JAN 2000								
12...	.56	1.7	7.3	.090	19.0	2.4	463	476
12...	--	--	--	--	--	--	--	--
MAR								
15...	1.4	2.3	10.4	.210	60.6	2.8	416	435
15...	--	--	--	--	--	--	--	--
JUL								
05...	.33	1.1	4.7	.090	15.2	<.1	268	275
05...	--	--	--	--	--	--	--	--

MISCELLANEOUS STATION ANALYSES

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATION--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	TIME	SAM- PLING DEPTH (FEET) (00003)	TEMPER- ATURE WATER (DEG C) (00010)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TRANS- PAR- ENCY (SECCHI DISK) (IN) (00077)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	COLI- FORM, FECAL, UM-MF (COLS./ 100 ML) (31625)
50047537 LAGO DE CIDRA NR RIO BAYAMON MOUTH (LAT 18° 11'02"N LONG 066° 08'06"W)									
JAN 2000									
24...	1030	1.00	22.5	193	7.2	48.0	7.1	86	27
24...	1035	20.0	21.8	214	7.0	--	1.7	--	--
MAR									
14...	1230	1.00	23.5	210	7.7	30.0	6.9	86	K13
14...	1235	23.0	23.0	214	7.0	--	.8	--	--
JUL									
06...	1140	1.00	27.9	264	7.5	18.0	5.9	79	31
06...	1145	10.0	25.9	265	7.2	--	2.7	--	--

DATE	STREP- TOCOCCEI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	ANC WATER UNFLTRD FET FIELD MG/L AS CAC03 (00410)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDE (MG/L) (00530)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)
50047537 LAGO DE CIDRA NR RIO BAYAMON MOUTH (LAT 18° 11'02"N LONG 066° 08'06"W)								
JAN 2000								
24...	K11	61	6	.29	.04	.3	.04	.43
24...	--	61	--	--	--	--	--	--
MAR								
14...	260	70	4	--	<.01	.1	.15	.37
14...	--	71	--	--	--	--	--	--
JUL								
06...	K15	84	13	.40	.03	.4	.31	.31
06...	--	85	--	--	--	--	--	--

DATE	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	NITRO- GEN, TOTAL (MG/L AS NO3) (71887)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	CHLOR-A PHYTO- PLANK- TON CHROMO FLUOROM (UG/L) (70953)	CHLOR-B PHYTO- PLANK- TON CHROMO FLUOROM (UG/L) (70954)	PLANK- TON BIOMASS ASH WT (MG/L) (81353)	PLANK- TON BIOMASS DRY WT (MG/L) (81354)
50047537 LAGO DE CIDRA NR RIO BAYAMON MOUTH (LAT 18° 11'02"N LONG 066° 08'06"W)								
JAN 2000								
24...	.47	.80	3.5	.020	5.2	.3	268	273
24...	--	--	--	--	--	--	--	--
MAR								
14...	.52	.66	2.9	.030	7.4	.7	387	395
14...	--	--	--	--	--	--	--	--
JUL								
06...	.62	1.0	4.6	.040	10.4	1.0	266	273
06...	--	--	--	--	--	--	--	--

MISCELLANEOUS STATION ANALYSES

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATION

Water-quality partial-record stations are particular sites where chemical-quality, biological and or sediment data are collected systemtically over a period of years for use in hydrological analyses. The data are collected usually less than quarterly.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	TIME	SAM- PLING DEPTH (FEET) (00003)	TEMPER- ATURE WATER (DEG C) (00010)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TRANS- PAR- ENCY (SECCHI DISK) (IN) (00077)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS TOTAL (MG/L AS CAC03) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)
50010790 LAGO GUAJATACA NO.1 NR DAM NR QUEBRADILLAS,PR (LAT 18° 23'56"N LONG 066° 55'23"W)												
JAN 2000												
14...	0900	1.00	24.6	311	7.1	101	6.4	78	<1	K4	140	52.4
14...	0920	72.0	24.2	343	7.1	--	.2	--	--	--	150	54.4
MAR												
17...	1030	1.00	24.8	305	8.1	60.0	8.3	102	K3	K1	140	49.6
17...	1035	52.0	23.9	329	7.3	--	.5	--	--	--	140	50.6
JUL												
12...	0815	1.00	28.8	273	8.1	96.0	7.7	102	K1	K7	110	36.2
12...	0845	66.0	24.5	326	7.0	--	.4	--	--	--	140	51.1
50020050 LAGO GARZAS NO.1 NR DAM NR ADJUNTAS,PR (LAT 18° 08'21"N LONG 066° 44'35"W)												
JAN 2000												
13...	1350	1.00	21.3	152	7.7	72.0	7.2	90	20	<1	67	17.6
13...	1400	69.0	20.4	189	7.3	--	.2	--	--	--	64	17.9
MAR												
28...	1040	1.00	22.0	169	7.8	60.0	7.2	90	K1	72	66	18.2
28...	1130	62.0	20.0	175	7.0	--	.2	0	--	--	67	18.6
JUL												
11...	1210	1.00	25.5	154	6.8	90.0	8.1	109	K2	K3	59	16.0
11...	1230	95.0	20.5	186	6.6	--	.2	--	--	--	63	18.0
50027090 LAGO DOS BOCAS NO.1 NR DAM NR UTUADO,PR (LAT 18° 20'09"N LONG 066° 40'04"W)												
JAN 2000												
19...	1040	1.00	23.8	227	8.0	39.0	6.9	83	20	K14	79	21.2
19...	1100	65.0	22.2	233	7.5	--	4.3	--	--	--	85	23.0
MAR												
30...	1100	1.00	27.3	241	8.9	60.0	8.4	108	<1	<1	90	23.9
30...	1110	69.0	23.8	284	7.1	--	.2	0	--	--	83	22.1
JUL												
14...	1220	1.00	30.8	249	8.5	48.0	9.1	124	K4	K5	89	24.2
14...	1240	59.0	26.5	234	6.8	--	.1	--	--	--	82	22.0
50039950 LAGO CARITE NO.1 NR DAM NR CAYEY, P.R. (LAT 18° 04'39"N LONG 066° 06'19"W)												
JAN 2000												
18...	1130	1.00	21.8	98	7.3	36.0	7.5	91	K15	24	32	6.79
18...	1145	69.0	21.1	100	7.2	--	5.2	--	--	--	31	6.20
MAR												
13...	1130	1.00	22.8	109	8.3	78.0	8.0	99	K1	42	33	6.63
13...	1140	66.0	21.5	113	6.9	--	.2	--	--	--	33	6.58
JUL												
07...	1140	1.00	27.5	115	7.9	66.0	6.9	94	K7	27	33	6.20
07...	1215	49.0	22.0	131	6.8	--	.1	--	--	--	36	7.23

MISCELLANEOUS STATION ANALYSES

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATION--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD MG/L AS CAC03 (00410)	SULFATE DIS- SOLVED (MG/L AS S04) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SI02) (00955)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDE (MG/L) (00530)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)
50010790	LAGO GUAJATACA NO.1 NR DAM NR QUEBRADILLAS,PR (LAT 18° 23'56"N LONG 066° 55'23"W)											
JAN 2000												
14...	3.36	5.1	.2	1.8	142	6.1	7.2	<.1	4.9	166	<1	--
14...	3.46	5.3	.2	1.9	146	6.6	7.4	<.1	6.9	174	--	--
MAR												
17...	4.76	7.0	.3	2.0	141	--	5.7	<.1	2.5	--	1	--
17...	3.54	5.4	.2	2.1	143	7.3	7.8	<.1	3.2	165	--	--
JUL												
12...	3.86	5.7	.2	2.2	112	10.6	8.6	<.1	5.1	139	<10	--
12...	3.36	5.0	.2	1.8	144	7.3	7.5	<.1	6.7	169	--	--
50020050	LAGO GARZAS NO.1 NR DAM NR ADJUNTAS,PR (LAT 18° 08'21"N LONG 066° 44'35"W)											
JAN 2000												
13...	5.49	7.5	.4	1.4	62	2.3	6.0	<.1	20.5	98	<1	.34
13...	4.61	6.2	.3	1.3	66	2.4	6.2	<.1	20.8	99	--	--
MAR												
28...	4.94	6.6	.4	1.2	61	2.5	6.3	<.1	20.0	96	1	.09
28...	4.93	6.3	.3	1.2	77	2.2	6.2	<.1	21.8	108	--	--
JUL												
11...	4.53	6.1	.3	1.2	64	2.6	6.0	<.1	19.5	94	<10	--
11...	4.39	5.4	.3	1.4	79	.5	5.4	<.1	17.5	100	--	--
50027090	LAGO DOS BOCAS NO.1 NR DAM NR UTUADO,PR (LAT 18° 20'09N LONG 066° 40'04W)											
JAN 2000												
19...	6.38	10.3	.5	1.8	75	12.7	10.8	<.1	23.7	132	3	.85
19...	6.68	10.8	.5	1.7	77	12.2	11.3	<.1	25.3	137	--	--
MAR												
30...	7.48	11.3	.5	1.8	82	17.0	12.0	<.1	16.1	139	2	.25
30...	6.82	10.8	.5	1.9	85	13.9	11.4	<.1	17.3	135	--	--
JUL												
14...	7.02	11.3	.5	2.0	84	14.3	10.9	<.1	25.0	145	<10	.20
14...	6.55	9.8	.5	2.1	82	10.3	9.6	.1	22.6	132	--	--
50039950	LAGO CARITE NO.1 NR DAM NR CAYEY, P.R. (LAT 18° 04'39"N LONG 066° 06'19"W)											
JAN 2000												
18...	3.54	7.8	.6	.8	29	2.3	8.7	<.1	18.2	65	4	--
18...	3.67	7.9	.6	.8	32	2.4	8.9	<.1	18.6	67	--	--
MAR												
13...	3.95	8.3	.6	.8	36	2.9	13.8	<.1	17.4	75	4	--
13...	3.96	8.3	.6	.8	36	2.4	9.4	<.1	17.8	71	--	--
JUL												
07...	4.36	9.3	.7	.8	35	2.1	10.9	<.1	18.2	73	<10	--
07...	4.39	8.6	.6	.8	48	1.2	8.6	<.1	18.6	78	--	--

MISCELLANEOUS STATION ANALYSES

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATION--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

[illegible]

MISCELLANEOUS STATION ANALYSES

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATION--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

		PH				OXYGEN,		COLI-	STREP-			CALCIUM	
DATE	TIME	SAM-	TEMPER-	SPE-	WATER	TRANS-	OXYGEN,	DIS-	FORM,	TOCOCCI	HARD-		
		PLING	ATURE	CIFIC	WHOLE	PAR-		SOLVED	FECAL,	KF AGAR	NESS		
		DEPTH	WATER	CON-	(STAND-	(SECCHI	DIS-	(PER-	0.7	(COLS./	PER	TOTAL	
		(FEET)	(DEG C)	DUCT-	ARD	(IN)	SOLVED	SATUR-	(COLS./	100 ML)	CAC03)	(MG/L	
		(00003)	(00010)	ANCE	(US/CM)	(00077)	(MG/L)	ATION)	(31625)	(31673)	(00900)	(MG/L	
				(00095)	(00400)							(AS CA)	
50044950 LAGO LA PLATA NO.3 NR DAM NR NARANJITO, PR (LAT 18° 20'18"N LONG 066° 14'01"W)													
JAN 2000													
12...	1105	1.00	25.5	304	8.4	30.0	12.2	149	K5	K4	110	25.6	
12...	1130	75.0	23.0	273	7.0	--	.6	--	--	--	87	20.5	
MAR													
15...	1000	1.00	25.4	358	8.9	30.0	11.7	144	K17	K4	140	30.8	
15...	1010	75.0	22.6	365	7.2	--	.2	--	--	--	140	32.4	
JUL													
05...	1330	1.00	30.5	370	8.1	54.0	8.0	108	K5	K6	130	29.3	
05...	1340	69.0	23.3	389	6.8	--	.1	--	--	--	140	34.0	
50047549 LAGO DE CIDRA NR DAM (LAT 18° 11'52"N LONG 066° 08'24"W)													
JAN 2000													
24...	0950	1.00	22.4	184	7.4	37.0	6.6	79	K7	K3	56	12.1	
24...	0955	49.0	21.6	181	6.9	--	3.0	--	--	--	53	11.4	
MAR													
14...	1145	1.00	23.6	202	8.0	36.0	7.1	88	K11	K16	60	12.9	
14...	1205	72.0	22.2	214	6.8	--	.4	--	--	--	59	12.7	
JUL													
06...	1040	1.00	28.9	255	7.9	42.0	7.5	103	K3	K6	77	16.5	
06...	1120	39.0	23.1	264	6.8	--	.2	--	--	--	69	15.1	
50058800 LAGO LOIZA NO.7 NR DAM NR TRUJILLO ALTO, PR (LAT 18° 19'29"N LONG 066° 00'47"W)													
JAN 2000													
20...	1400	1.00	24.8	308	7.2	47.0	3.8	46	40	K5	100	25.0	
20...	1410	49.0	23.4	338	7.3	--	3.3	--	--	--	110	27.3	
DATE		MAGNE-	SODIUM,	SODIUM	POTAS-	ANC		CHLO-	FLUO-	SILICA,	SOLIDS,	RESIDUE	NITRO-
		SIUM,	DIS-	AD-	SIUM,	WATER		RIDE,	RIDE,	DIS-	SUM OF	TOTAL	GEN,
		DIS-	SOLVED	SORP-	DIS-	UNFLTRD		DIS-	DIS-	SOLVED	CONSTI-	AT 105	DEG. C,
		SOLVED	SOLVED	TION	SOLVED	FET		SOLVED	SOLVED	(MG/L	TUENTS,	SUS-	NITRATE
		(MG/L	(MG/L	RATIO	(MG/L	FIELD		(MG/L	(MG/L	AS	DIS-	PENDE	TOTAL
		AS MG)	AS NA)		AS K)	CAC03		AS CL)	AS F)	SI02)	(MG/L)	(MG/L)	(MG/L
		(00925)	(00930)	(00931)	(00935)	(00410)	(00945)	(00940)	(00950)	(00955)	(70301)	(00530)	(00620)
50044950 LAGO LA PLATA NO.3 NR DAM NR NARANJITO, PR (LAT 18° 20'18"N LONG 066° 14'01"W)													
JAN 2000													
12...	11.1	16.0	.7	2.2	112	12.7	33.5	.1	20.6	189	4	.58	
12...	8.77	12.6	.6	2.5	92	8.9	17.1	.1	22.4	148	--	--	
MAR													
15...	14.2	19.0	.7	2.2	134	--	27.9	<.1	23.5	--	1	--	
15...	13.7	17.8	.7	2.3	144	--	24.5	<.1	25.5	--	--	--	
JUL													
05...	14.2	22.2	.8	2.6	133	13.1	31.2	.1	21.5	214	<10	--	
05...	14.4	18.3	.7	2.6	165	6.4	23.4	<.1	26.3	224	--	--	
50047549 LAGO DE CIDRA NR DAM (LAT 18° 11'52"N LONG 066° 08'24"W)													
JAN 2000													
24...	6.18	13.3	.8	3.3	57	6.0	14.3	<.1	17.7	107	2	--	
24...	6.09	13.1	.8	3.2	57	5.8	14.1	<.1	17.6	106	--	--	
MAR													
14...	6.76	15.1	.8	3.0	67	5.4	16.3	<.1	17.3	117	3	--	
14...	6.53	14.0	.8	3.2	79	4.0	14.8	<.1	17.4	120	--	--	
JUL													
06...	8.71	20.9	1	2.2	80	7.8	20.6	.1	20.5	145	<10	.27	
06...	7.61	15.9	.8	3.0	93	.4	15.8	<.1	19.2	133	--	--	
50058800 LAGO LOIZA NO.7 NR DAM NR TRUJILLO ALTO, PR (LAT 18° 19'29"N LONG 066° 00'47"W)													
JAN 2000													
20...	9.79	20.2	.9	2.3	102	11.4	22.8	<.1	28.9	182	10	.75	
20...	10.7	22.7	.9	2.5	112	13.9	25.9	.1	30.4	200	--	--	

MISCELLANEOUS STATION ANALYSES

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATION--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

[illegible]

MISCELLANEOUS STATION ANALYSES

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATION

Water-quality partial-record stations are particular sites where chemical-quality, biological and or sediment data are collected systemtically over a period of years for use in hydrological analyses. The data are collected usually less than quarterly.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	TIME	PCB, TOTAL (UG/L) (39516)	ALDRIN, TOTAL (UG/L) (39330)	CHLOR- DANE, TECH- NICAL TOTAL (UG/L) (39350)	P, P' - DDD UNFILT RECOVER (UG/L) (39360)	P, P' - DDE, TOTAL RECOVER (UG/L) (39365)	P, P' - DDT UNFILT RECOVER (UG/L) (39370)	DI- AZINON, TOTAL (UG/L) (39570)	DI- ELDRIN TOTAL (UG/L) (39380)
50010790		LAGO GUAJATACA NO.1 NR DAM NR QUEBRADILLAS, PR (LAT 18° 23'56"N LONG 066° 55'23"W)							
JUL 2000 12...	0815	<.1	<.013	<.1	<.014	<.016	<.017	<.02	<.009
50020050		LAGO GARZAS NO.1 NR DAM NR ADJUNTAS, PR (LAT 18° 08'21"N LONG 066° 44'35"W)							
JUL 2000 11...	1210	<.1	<.013	<.1	<.014	<.016	<.017	<.02	<.009
50027090		LAGO DOS BOCAS NO.1 NR DAM NR UTUADO, PR (LAT 18° 20'09"N LONG 066° 40'04"W)							
JUL 2000 14...	1220	<.1	<.013	<.1	<.014	<.016	<.017	<.02	<.009
50039950		LAGO CARITE NO.1 NR DAM NR CAYEY, P.R. (LAT 18° 04'39"N LONG 066° 06'19"W)							
JUL 2000 07...	1140	<.1	<.013	<.1	<.014	<.016	<.017	<.02	<.009

MISCELLANEOUS STATION ANALYSES

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATION--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	ENDO-SULFAN I TOTAL (UG/L) (39388)	ENDRIN WATER UNFLTRD REC (UG/L) (39390)	ETHION, TOTAL (UG/L) (39398)	HEPTA- CHLOR, TOTAL (UG/L) (39410)	HEPTA- CHLOR EPOXIDE TOTAL (UG/L) (39420)	LINDANE TOTAL (UG/L) (39340)	MALA- THION, TOTAL (UG/L) (39530)	METH- OXY- CHLOR, TOTAL (UG/L) (39480)	METHYL PARA- THION, TOTAL (UG/L) (39600)
50010790	LAGO GUAJATACA NO.1 NR DAM NR QUEBRADILLAS, PR (LAT 18° 23'56"N LONG 066° 55'23"W)								
JUL 2000 12...	<.015	<.014	<.01	<.011	<.009	<.012	<.03	<.01	<.01
50020050	LAGO GARZAS NO.1 NR DAM NR ADJUNTAS, PR (LAT 18° 08'21"N LONG 066° 44'35"W)								
JUL 2000 11...	<.015	<.014	<.01	<.011	<.009	<.012	<.03	<.01	<.01
50027090	LAGO DOS BOCAS NO.1 NR DAM NR UTUADO, PR (LAT 18° 20'09"N LONG 066° 40'04"W)								
JUL 2000 14...	<.015	<.014	<.01	<.011	<.009	<.012	<.03	<.01	<.01
50039950	LAGO CARITE NO.1 NR DAM NR CAYEY, P.R. (LAT 18° 04'39"N LONG 066° 06'19"W)								
JUL 2000 07...	<.015	<.014	<.01	<.011	<.009	<.012	<.03	<.01	<.01

MISCELLANEOUS STATION ANALYSES

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATION--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

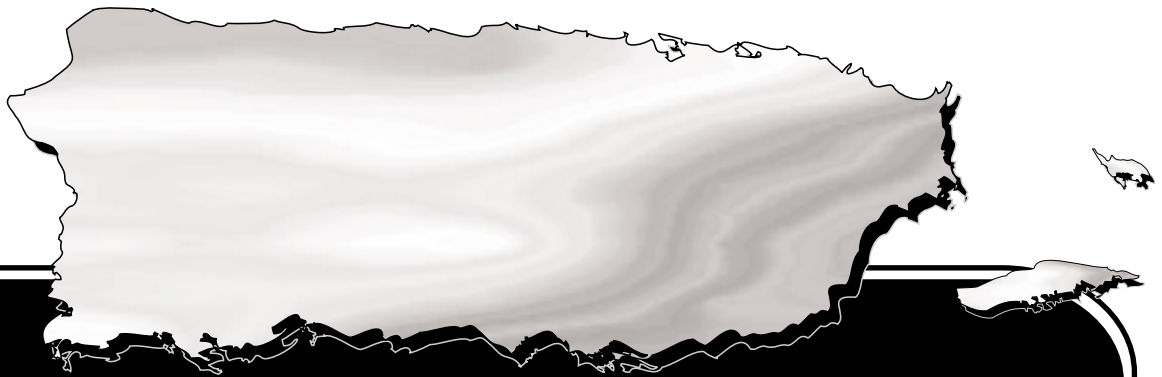
DATE		MIREX, TOTAL (UG/L) (39755)	PARA- THION, TOTAL (UG/L) (39540)	TOX- APHENE, TOTAL (UG/L) (39400)	CARBO- PHENO- THION WATER UNFLTRD (UG/L) (39786)	2,4-D, TOTAL (UG/L) (39730)	2,4,5-T TOTAL (UG/L) (39740)	2,4-DP TOTAL (UG/L) (82183)	SILVEX, TOTAL (UG/L) (39760)
50010790		LAGO GUAJATACA NO.1 NR DAM NR QUEBRADILLAS, PR (LAT 18° 23'56"N LONG 066° 55'23"W)							
JUL 2000 12...		<.01	<.01	<1	<.01	E.05	<.03	<.04	<.03
50020050		LAGO GARZAS NO.1 NR DAM NR ADJUNTAS, PR (LAT 18° 08'21"N LONG 066° 44'35"W)							
JUL 2000 11...		<.01	<.01	<1	<.01	<.05	<.03	<.04	<.03
50027090		LAGO DOS BOCAS NO.1 NR DAM NR UTUADO, PR (LAT 18° 20'09"N LONG 066° 40'04"W)							
JUL 2000 14...		<.01	<.01	<1	<.01	E.03	<.03	<.04	<.03
50039950		LAGO CARITE NO.1 NR DAM NR CAYEY, P.R. (LAT 18° 04'39"N LONG 066° 06'19"W)							
JUL 2000 07...		<.01	<.01	<1	<.01	E.01	<.03	<.04	<.03
DATE	TIME	PCB, TOTAL (UG/L) (39516)	ALDRIN, TOTAL (UG/L) (39330)	CHLOR- DANE, TECH- NICAL TOTAL (UG/L) (39350)	P, P' - DDD UNFILT RECOVER (UG/L) (39360)	P, P' - DDE, TOTAL (UG/L) (39365)	P, P' - DDT UNFILT RECOVER (UG/L) (39370)	DI- AZINON, TOTAL (UG/L) (39570)	DI- ELDRIN TOTAL (UG/L) (39380)
50044950		LAGO LA PLATA NO.3 NR DAM NR NARANJITO, PR (LAT 18° 20'18"N LONG 066° 14'01"W)							
JUL 2000 05...	1330	<.1	<.013	<.1	<.014	<.016	<.017	<.02	<.009
50047549		LAGO DE CIDRA NR DAM (LAT 18° 11'52"N LONG 066° 08'24"W)							
JUL 2000 06...	1040	<.1	<.013	<.1	<.014	<.016	<.017	<.02	<.009

MISCELLANEOUS STATION ANALYSES

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATION--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	ENDO-SULFAN I TOTAL (UG/L) (39388)	ENDRIN WATER UNFLTRD REC (UG/L) (39390)	ETHION, TOTAL (UG/L) (39398)	HEPTA- CHLOR, TOTAL (UG/L) (39410)	HEPTA- CHLOR EPOXIDE TOTAL (UG/L) (39420)	LINDANE TOTAL (UG/L) (39340)	MALA- THION, TOTAL (UG/L) (39530)	METH- OXY- CHLOR, TOTAL (UG/L) (39480)	METHYL PARA- THION, TOTAL (UG/L) (39600)
50044950	LAGO LA PLATA NO.3 NR DAM NR NARANJITO, PR (LAT 18° 20' 18"N LONG 066° 14' 01"W)								
JUL 2000 05...	<.015	<.014	<.01	<.011	<.009	<.012	<.03	<.01	<.01
50047549	LAGO DE CIDRA NR DAM (LAT 18° 11' 52"N LONG 066° 08' 24"W)								
JUL 2000 06...	<.015	<.014	<.01	<.011	<.009	<.012	<.03	<.01	<.01
DATE	MIREX, TOTAL (UG/L) (39755)	PARA- THION, TOTAL (UG/L) (39540)	TOX- APHENE, TOTAL (UG/L) (39400)	CARBO- PHENO- THION WATER UNFLTRD (UG/L) (39786)	2,4-D, TOTAL (UG/L) (39730)	2,4,5-T TOTAL (UG/L) (39740)	2,4-DP TOTAL (UG/L) (82183)	SILVEX, TOTAL (UG/L) (39760)	
50044950	LAGO LA PLATA NO.3 NR DAM NR NARANJITO, PR (LAT 18° 20' 18"N LONG 066° 14' 01"W)								
JUL 2000 05...	<.01	<.01	<1	<.01	<.05	<.03	<.04	<.03	
50047549	LAGO DE CIDRA NR DAM (LAT 18° 11' 52"N LONG 066° 08' 24"W)								
JUL 2000 06...	<.01	<.01	<1	<.01	E.03	<.03	<.04	<.03	



Ground-Water Records for Puerto Rico

GROUND-WATER LEVELS

RIO GUAJATACA BASIN

182925067031100. Local number, 1901.

LOCATION.--Lat 18°29'25", long 67°03'11", Hydrologic Unit 21010002, 0.15 mi northwest of Hwy 472, 1.90 mi northwest of the intersection of Hwy 112 with Hwy 2, and 1.32 mi east of Hwy 466. Owner: Otilio Milán, Name: Otilio.

AQUIFER.--Aymamón Limestone.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 20 in (0.51 m), cased 0-10 ft (0-3.05 m), open hole 10-347 ft (3.05-105.8 m). Depth 347 ft (105.8 m).

INSTRUMENTATION.--Pressure transducer with integrated electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 295 ft (89.9 m), above mean sea level, from topographic map. Measuring point: Hole on plexiglass plate on top of PVC pipe, 3.37 ft (0.94 m), above land-surface datum. Prior to, hole on shelter floor on top of the 4 in (0.10 m) casing 3.08 ft (0.94 m), above land-surface datum.

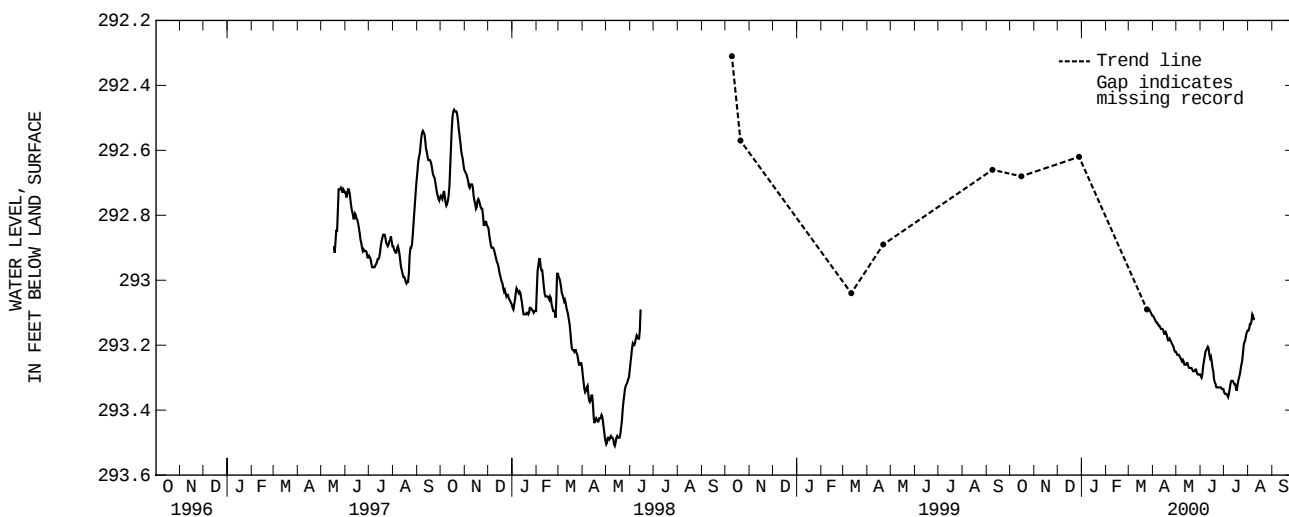
REMARKS.--Recording observation well. Electronic Data Logger (EDL), installed on May 16, 1997, removed on June 16, 1998. Formerly published as local number OT-1. Electronic Data Logger (EDL), re-installed on Mar. 24, 2000.

PERIOD OF RECORD.--May 16, 1997 to current year. From October 9, 1998, tape down measurements only until Dec. 28, 1999. Well found destroyed on Aug. 11, 2000.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 292.3 ft (89.1 m), below land-surface datum, Oct. 9, 1998; lowest water level recorded, 293.5 ft (89.5 m), below land-surface datum, May 12, 1998.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	293.11	293.22	293.29	293.34	293.15	---
2	---	---	---	---	---	---	293.11	293.23	293.30	293.35	293.16	---
3	---	---	---	---	---	---	293.12	293.23	293.30	293.35	293.14	---
4	---	---	---	---	---	---	293.12	293.23	293.28	293.35	293.13	---
5	---	---	---	---	---	---	293.13	293.23	293.25	293.35	293.14	---
6	---	---	---	---	---	---	293.13	293.24	293.25	293.36	293.11	---
7	---	---	---	---	---	---	293.13	293.24	293.22	293.36	293.10	---
8	---	---	---	---	---	---	293.14	293.25	293.22	293.34	293.12	---
9	---	---	---	---	---	---	293.14	293.25	293.21	293.33	293.12	---
10	---	---	---	---	---	---	293.14	293.24	293.21	293.31	293.12	---
11	---	---	---	---	---	---	293.15	293.26	293.20	293.31	---	---
12	---	---	---	---	---	---	293.15	293.26	293.22	293.31	---	---
13	---	---	---	---	---	---	293.15	293.26	293.24	293.31	---	---
14	---	---	---	---	---	---	293.15	293.26	293.24	293.32	---	---
15	---	---	---	---	---	---	293.16	293.25	293.23	293.32	---	---
16	---	---	---	---	---	---	293.17	293.26	293.27	293.32	---	---
17	---	---	---	---	---	---	293.16	293.27	293.27	293.34	---	---
18	---	---	---	---	---	---	293.16	293.27	293.29	293.34	---	---
19	---	---	---	---	---	---	293.17	293.27	293.32	293.31	---	---
20	---	---	---	---	---	---	293.18	293.27	293.31	293.31	---	---
21	---	---	---	---	---	---	293.19	293.27	293.33	293.29	---	---
22	---	---	---	---	---	---	293.18	293.28	293.33	293.29	---	---
23	---	---	---	---	---	---	293.18	293.28	293.33	293.26	---	---
24	---	---	---	---	---	---	293.19	293.28	293.33	293.26	---	---
25	---	---	---	---	---	293.09	293.19	293.28	293.33	293.24	---	---
26	---	---	---	---	---	293.09	293.20	293.27	293.33	293.21	---	---
27	---	---	---	---	---	293.09	293.20	293.28	293.33	293.19	---	---
28	---	---	---	---	---	293.09	293.21	293.29	293.33	293.19	---	---
29	---	---	---	---	---	293.10	293.22	293.29	293.34	293.18	---	---
30	---	---	---	---	---	293.10	293.22	293.29	293.33	293.16	---	---
31	---	---	---	---	---	293.11	---	293.29	---	293.16	---	---
MEAN	---	---	---	---	---	293.10	293.16	293.26	293.28	293.29	293.13	---
WTR YR 2000	MEAN 293.23	HIGHEST 293.07 AUG. 7, 8, 2000				LOWEST 293.39 JULY 16, 2000						



GROUND-WATER LEVELS

RIO GUAJATACA BASIN--Continued

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15	292.68	DEC 28	292.62	MAR 24	293.09	MAY 08	293.24
WATER YEAR 2000		HIGHEST 292.62 DEC. 28, 1999		LOWEST 293.24 MAY 8, 2000			

GROUND-WATER LEVELS

RIO GUAJATACA BASIN--Continued

182422067015100. Local number, 165.

LOCATION.--Lat 18°24'22", long 67°01'51", Hydrologic Unit 21010003, 5.60 mi northeast of Moca plaza, 4.70 mi southeast of Aguadilla US Naval Reservation radio antenna, and 1.63 mi northwest of La Virgen del Rosario Church. Owner: PR Aqueduct and Sewer Authority, Name: Saltos 1 Well.

AQUIFER.--Cibao Formation. Aguada Limestone.

WELL CHARACTERISTICS.--Drilled production water-table well, diameter 16 in (0.40 m), cased 16 in (0.40 m) 0-40.0 ft (0-12.2 m), cased 12 in (0.30 m) 40-200 ft (12.2-61.0 m). Depth 200 ft (61.0 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 689 ft (210 m), above mean sea level. Measuring point: Hole on pump base, 0.50 ft (0.15 m), above land-surface datum. Prior to October 6, 1988, hole on top of pipe on top of pump base, 0.80 ft (0.24 m), above land-surface datum. Prior to November 1985, hole on top of pump base, 1.00 ft (0.30 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on February 18, 1998. Formerly published as 182421067015000.

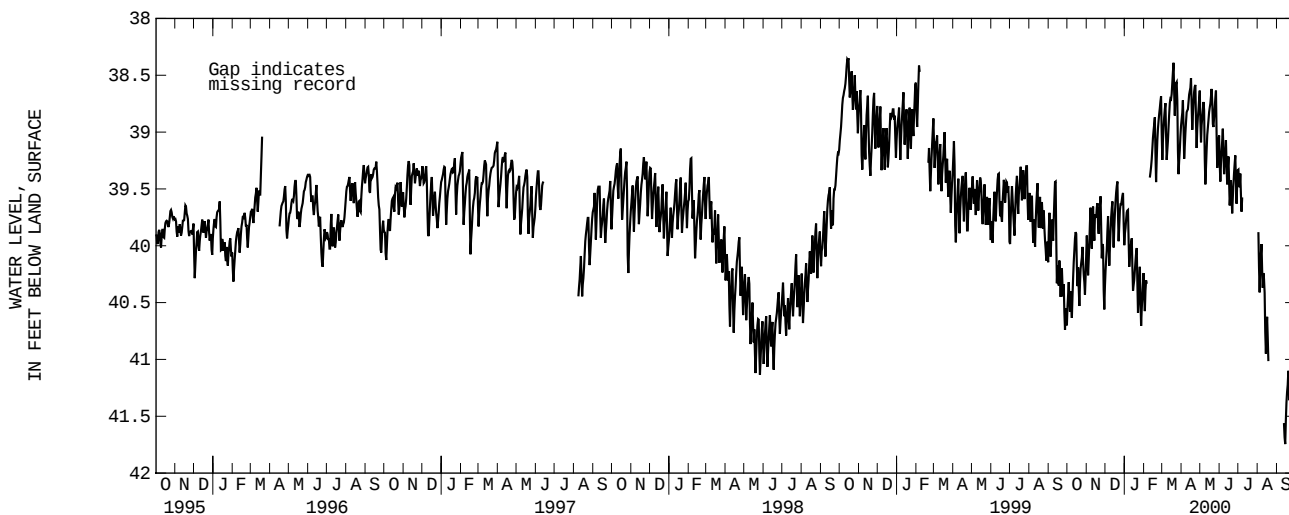
PERIOD OF RECORD.--January 1982 to March 1985, November 1985 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 38.24 ft (11.6 m), below land-surface datum, Oct. 16, 1998; lowest water level measured, 70.6 ft (21.5 m), below land-surface datum, June 18, 1982.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40.59	39.97	40.29	39.92	40.20	39.35	38.90	38.60	39.01	39.30	---	---
2	40.48	39.85	40.15	39.87	40.70	39.14	38.87	39.20	39.54	39.36	39.90	---
3	40.38	40.32	40.09	39.82	40.45	39.01	38.79	38.98	39.33	39.56	39.86	---
4	40.26	40.20	39.97	39.72	40.34	38.91	38.65	38.90	39.22	39.41	40.52	---
5	40.70	40.05	39.77	39.69	40.27	38.83	39.27	38.84	39.13	39.32	40.30	---
6	40.46	39.90	39.71	39.69	40.40	38.77	39.20	38.76	39.02	39.78	40.13	---
7	40.34	39.70	40.27	39.68	---	38.72	39.05	38.71	38.92	39.62	40.02	---
8	40.73	39.63	40.08	40.24	---	39.31	38.96	38.90	39.44	39.53	39.95	---
9	40.54	40.12	39.96	40.13	---	39.18	38.86	39.55	39.30	---	40.47	---
10	40.36	39.93	39.79	40.05	39.42	39.14	38.79	39.37	39.23	---	40.27	---
11	40.20	39.72	39.70	39.99	39.38	39.01	38.83	39.25	39.11	---	40.21	---
12	40.09	39.59	39.64	39.96	39.33	38.90	38.77	39.07	39.03	---	40.37	41.63
13	39.99	40.08	39.58	39.91	39.28	38.79	38.70	38.98	39.56	---	40.46	41.49
14	39.88	39.83	40.11	40.45	39.20	38.70	38.64	38.94	39.36	---	41.06	41.88
15	39.88	39.62	39.92	40.34	39.09	38.71	38.64	38.85	39.27	---	40.84	41.61
16	39.91	39.85	39.76	40.35	39.01	38.71	38.58	38.80	39.16	---	40.68	41.47
17	40.45	39.66	39.67	40.25	38.96	38.62	38.47	38.77	39.69	---	40.57	41.29
18	40.26	39.66	39.55	40.18	38.90	38.52	39.06	38.73	39.60	---	41.06	41.28
19	40.12	39.59	39.51	40.09	38.84	38.42	38.90	38.64	39.50	---	40.97	41.17
20	40.62	40.03	39.44	40.03	39.54	38.36	38.80	38.60	39.35	---	---	41.03
21	40.44	39.76	39.43	40.01	39.34	38.95	38.68	38.86	39.79	---	---	41.47
22	40.23	39.66	40.04	40.63	39.14	38.76	38.61	39.00	39.64	---	---	41.25
23	40.18	39.62	39.88	40.55	39.01	38.61	38.59	38.91	39.51	---	---	41.13
24	40.12	39.51	39.75	40.40	38.93	38.53	38.58	38.83	39.41	---	---	40.97
25	40.09	40.19	39.63	40.21	38.87	38.59	39.24	38.74	39.31	---	---	40.92
26	39.93	40.03	39.64	40.16	38.81	38.85	39.04	38.66	39.24	---	---	41.02
27	40.36	39.94	39.63	40.80	38.77	39.47	38.90	38.61	39.17	---	---	40.93
28	40.14	40.08	39.57	40.61	38.69	39.27	38.84	39.42	39.70	---	---	41.57
29	40.50	40.70	39.55	40.51	38.68	39.23	38.76	39.21	39.56	---	---	41.32
30	40.36	40.42	39.52	40.38	---	39.09	38.67	39.11	39.37	---	---	41.23
31	40.19	---	40.07	40.28	---	38.99	---	39.05	---	---	---	---
MEAN	40.28	39.91	39.80	40.16	39.37	38.89	38.82	38.93	39.35	39.49	40.42	41.30

WTR YR 2000 MEAN 39.66 HIGHEST 38.29 MAR. 20, 2000 LOWEST 41.92 SEPT. 14, 2000



GROUND-WATER LEVELS

RIO GUAJATACA BASIN--Continued

182647066552400. Local number, 202.

LOCATION.--Lat 18°26'47", long 66°55'24", Hydrologic Unit 21010002, 2.22 mi southeast of Quebradillas plaza, 1.29 mi north of Escuela José de Diego, and 1.99 mi northwest of El Calvario Church. Owner: PR Aqueduct and Sewer Authority, Name: Carmelo Barreto García Well.

AQUIFER.--Aguada Limestone.

WELL CHARACTERISTICS.--Drilled water-table well, diameter 20 in (0.51 m), cased 20 in (0.51 m) 0-296 ft (0-90.2 m), diameter 13 in (0.33 m), cased 13 in (0.33 m) 0-550 ft (0-168 m), perforated 270-529 ft (82.3-161 m). Depth 550 ft (168 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 475 ft (145 m), above mean sea level, from topographic map. Measuring point: Hole on side of casing, 1.50 ft (0.46 m), above land-surface datum. Prior July 25, 1986, top of shelter floor, 3.30 ft (1.00 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on February 18, 1998.

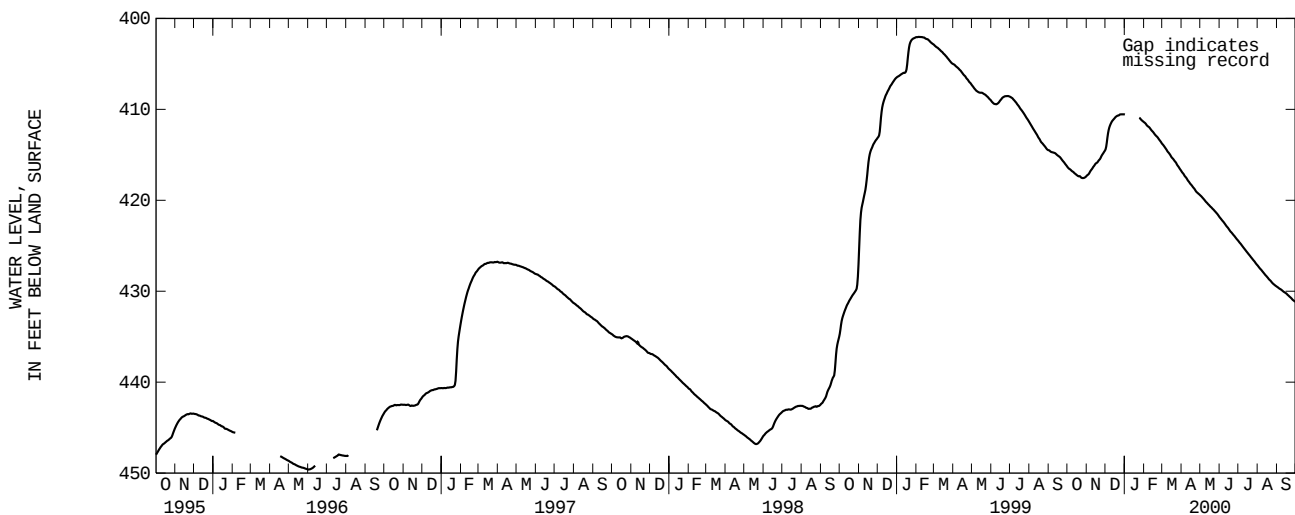
PERIOD OF RECORD.--November 1985 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 401.9 ft (122 m), below land-surface datum, Feb. 6, 1999; lowest water level recorded, 453.9 ft (138 m), below land-surface datum, May 14, 15, 16, 1995.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	416.29	417.33	414.50	410.56	411.41	413.79	416.78	419.44	421.83	424.44	427.14	429.50
2	416.39	417.25	414.30	410.58	411.45	413.83	416.90	419.50	421.92	424.52	427.23	429.53
3	416.46	417.20	413.93	---	411.51	413.93	416.99	419.56	422.00	424.63	427.33	429.59
4	416.53	417.16	413.39	---	411.58	414.01	417.05	419.64	422.08	424.70	427.41	429.65
5	416.57	417.06	412.83	---	411.69	414.12	417.16	419.72	422.18	424.77	427.51	429.70
6	416.61	416.95	412.42	---	411.79	414.21	417.29	419.80	422.26	424.87	427.57	429.75
7	416.68	416.80	412.12	---	411.84	414.32	417.39	419.87	422.33	424.96	427.64	429.77
8	416.75	416.71	411.89	---	411.90	414.40	417.45	419.96	422.42	425.06	427.73	429.83
9	416.81	416.62	411.71	---	411.94	414.53	417.54	420.04	422.51	425.14	427.82	429.88
10	416.85	416.54	411.56	---	412.00	414.65	417.64	420.14	422.61	425.24	427.90	429.94
11	416.89	416.42	411.41	---	412.11	414.72	417.78	420.21	422.71	425.32	427.99	430.00
12	416.97	416.30	411.30	---	412.20	414.79	417.87	420.27	422.81	425.41	428.07	430.06
13	417.05	416.24	411.21	---	412.29	414.90	417.95	420.35	422.90	425.50	428.16	430.10
14	417.08	416.13	411.13	---	412.38	414.98	418.04	420.44	422.97	425.59	428.25	430.14
15	417.15	416.01	411.05	---	412.43	415.11	418.16	420.49	423.05	425.68	428.31	430.19
16	417.21	415.94	410.98	---	412.52	415.24	418.23	420.57	423.16	425.76	428.39	430.24
17	417.26	415.90	410.88	---	412.61	415.32	418.31	420.65	423.26	425.85	428.48	430.28
18	417.31	415.86	410.81	---	412.71	415.39	418.39	420.72	423.36	425.94	428.54	430.39
19	417.36	415.79	410.77	---	412.80	415.46	418.49	420.77	423.46	426.02	428.66	430.43
20	417.36	415.66	410.72	---	412.87	415.56	418.59	420.84	423.51	426.10	428.72	430.49
21	417.33	415.58	410.68	---	412.95	415.66	418.66	420.94	423.59	426.20	428.79	430.57
22	417.39	415.51	410.68	---	413.00	415.75	418.74	420.98	423.68	426.29	428.84	430.62
23	417.48	415.43	410.66	---	413.08	415.81	418.85	421.06	423.77	426.36	428.94	430.69
24	417.53	415.27	410.58	410.92	413.18	415.93	418.97	421.14	423.85	426.46	429.02	430.74
25	417.55	415.12	410.55	410.93	413.29	416.08	419.06	421.22	423.92	426.54	429.10	430.83
26	417.56	415.01	410.55	411.00	413.37	416.19	419.13	421.29	424.01	426.64	429.17	430.90
27	417.55	414.91	410.55	411.10	413.47	416.26	419.18	421.38	424.11	426.69	429.23	430.99
28	417.54	414.80	410.54	411.17	413.55	416.36	419.25	421.44	424.19	426.80	429.28	431.01
29	417.50	414.70	410.55	411.23	413.66	416.49	419.31	421.54	424.29	426.90	429.34	431.08
30	417.47	414.58	410.55	411.29	---	416.58	419.36	421.62	424.35	426.99	429.40	431.14
31	417.40	---	410.54	411.34	---	416.68	---	421.73	---	427.08	429.44	---
MEAN	417.09	416.03	411.46	411.01	412.47	415.20	418.15	420.56	423.10	425.76	428.37	430.27

WTR YR 2000 MEAN 419.62 HIGHEST 410.48 DEC. 25, 29, 31, 1999 LOWEST 431.18 SEPT. 30, 2000



GROUND-WATER LEVELS

RIO CAMUY BASIN

182723066511200. Local number, 1026.

LOCATION.--Lat 18°27'23", Long 66°51'12", Hydrologic Unit 21010002, 1.60 mi south of the intersection of Hwy 119 with Hwy 2, 1.35 mi east of Hwy 119 of, and 0.01 mi east of Hwy 486. Owner: PR Aqueduct and Sewer Authority, Name: Zanja 4 Well.

AQUIFER.--Aguada Limestone.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 12 in (0.30 m). Depth 585 ft (178 m).

INSTRUMENTATION.--Pressure transducer with integrated electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 360 ft (110 m), above mean sea level, from topographic map. Measuring point: Shelter floor on top of the 4 in (0.10 m) casing, 3.00 ft (0.91 m), above land-surface datum.

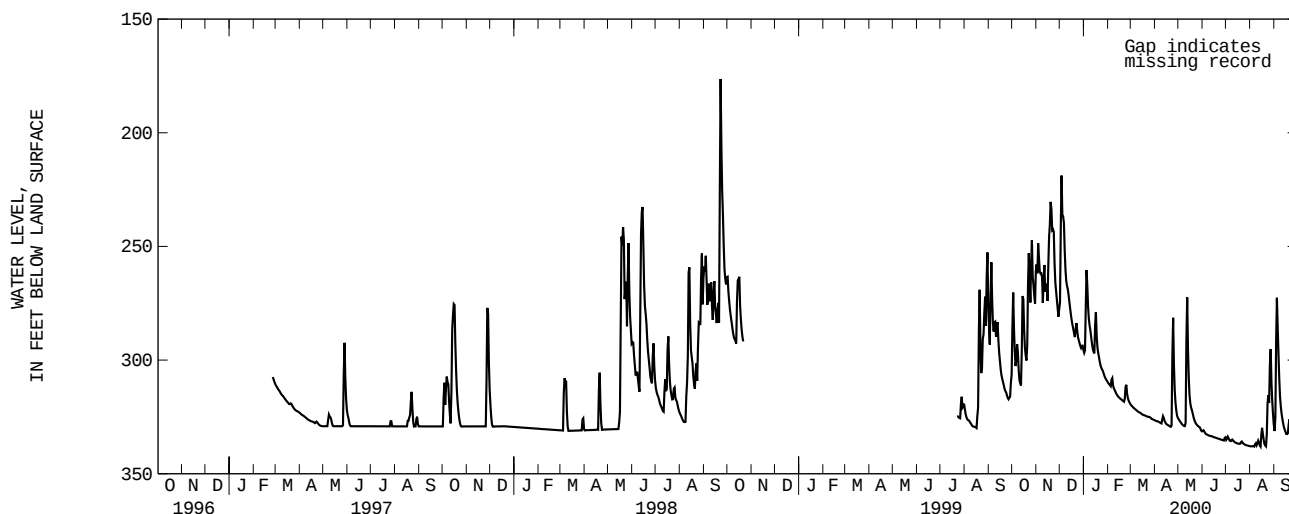
REMARKS.--Recording observation well. Electronic Data Logger (EDL), installed on February 25, 1997. Record is poor when the water level is below the level of the pressure transducer which is set at 331 ft (101 m), below land-surface datum. Formerly published as local number Z-4.

PERIOD OF RECORD.--February 25, 1997 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 161.8 ft (49.3 m), below land-surface datum, Sept. 22, 1998; lowest water level recorded, 338.6 ft (103 m), below land-surface datum, July 7, 2000.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	309.32	246.48	272.62	296.30	309.93	319.52	326.44	325.52	331.46	334.81	337.86	330.64
2	261.18	269.35	276.49	297.31	310.43	320.01	326.68	326.36	330.58	335.28	337.92	331.81
3	279.44	254.29	206.08	294.05	310.81	320.32	326.88	326.77	331.15	333.39	337.95	318.69
4	292.58	242.97	231.59	259.92	311.28	320.69	326.85	327.32	331.72	333.92	337.93	265.37
5	299.65	266.33	240.50	260.82	311.68	321.08	326.98	327.80	332.46	334.91	337.72	279.80
6	305.62	255.39	232.88	273.56	305.64	321.35	327.18	328.30	332.58	335.42	338.00	291.93
7	294.20	268.43	246.41	280.04	310.28	321.65	327.36	328.58	332.76	335.66	338.07	302.71
8	291.72	255.23	256.58	284.07	312.06	321.92	327.57	328.85	332.94	335.58	336.01	313.73
9	300.80	271.96	263.84	285.80	312.76	322.21	327.78	329.15	333.17	334.59	337.18	318.49
10	307.66	277.76	266.73	288.49	313.47	322.54	327.95	328.91	333.28	335.34	337.79	322.43
11	310.01	250.83	268.04	291.59	314.32	322.78	324.60	326.17	333.35	335.70	335.39	324.78
12	310.25	265.47	269.71	294.00	315.01	322.97	324.77	326.81	333.41	335.94	335.52	326.91
13	312.08	274.13	273.00	295.91	315.54	323.15	326.19	288.09	333.55	336.25	337.10	328.82
14	279.10	261.85	275.89	296.61	316.04	323.35	327.15	301.91	333.61	336.41	337.88	330.30
15	264.56	271.04	278.77	297.47	316.39	323.64	327.77	313.25	333.78	336.55	338.17	330.91
16	281.80	276.92	281.42	271.89	316.72	323.91	328.22	317.55	333.97	336.69	327.69	332.24
17	291.64	240.42	283.65	285.93	317.03	324.13	328.42	320.36	334.11	336.75	331.90	332.77
18	297.41	251.30	285.32	292.89	317.28	324.23	328.61	321.42	334.08	336.82	333.35	332.34
19	298.57	229.33	287.26	296.28	317.60	324.31	328.85	322.53	334.29	336.90	336.46	332.15
20	301.77	231.47	289.13	297.64	317.90	324.47	329.11	324.18	334.42	336.65	337.26	325.09
21	285.74	236.10	290.67	299.86	318.18	324.64	329.30	325.64	334.51	335.51	337.83	327.06
22	247.51	249.69	282.71	301.77	318.42	324.82	329.39	326.66	334.59	336.13	338.06	328.32
23	258.49	235.33	284.68	303.11	315.68	324.90	328.32	327.50	334.69	336.59	327.49	329.22
24	270.17	251.42	288.96	303.89	307.93	324.99	267.85	328.10	334.90	336.86	310.72	330.10
25	279.14	263.79	290.79	304.42	313.78	324.96	294.91	328.52	335.00	337.05	320.29	331.10
26	234.60	267.88	291.67	305.33	316.06	325.18	308.97	328.87	335.08	337.31	317.23	331.63
27	259.99	271.54	293.32	306.52	317.44	325.53	316.92	329.23	335.18	337.41	286.66	285.72
28	266.25	275.38	294.18	307.48	318.24	325.83	320.58	329.45	335.30	337.50	303.59	292.31
29	268.27	279.30	295.07	308.18	318.95	326.05	323.52	329.60	335.44	337.63	315.16	305.50
30	274.97	282.54	292.39	308.76	---	326.17	325.30	330.86	333.17	337.65	321.08	241.41
31	275.46	---	294.92	309.32	---	326.33	---	331.21	---	337.85	326.28	---
MEAN	284.19	259.13	273.72	293.52	314.37	323.47	323.01	322.11	333.62	336.16	330.05	315.81
WTR YR 2000	MEAN 309.08	HIGHEST 184.48	DEC. 2, 1999	LOWEST 338.56	JULY 7, 2000							



GROUND-WATER LEVELS

RIO CAMUY BASIN--Continued

182431066463400. Local number, 1027.

LOCATION.--Lat 18°24'31", long 66°46'34", Hydrologic Unit 21010005, 0.02 mi west of the intersection of Hwy 129 with Hwy 130, 1.68 mi southeast of the intersection of Hwy 130 with Hwy 490, and 3.00 mi east of Rio Camuy. Owner: PR Aqueduct and Sewer Authority, Name: Campo Alegre 4 Well.

AQUIFER.--Aguada Limestone.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 16 in (0.41 m). Depth 220 ft (67.1 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 606.8 ft (185 m), above mean sea level. Measuring point: Shelter floor on top of the 4 in (0.10 m) casing, 3.25 ft (0.99 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), installed on Sept. 27, 1996, replaced by an Electronic Data Logger (EDL), installed on Jan. 14, 1997. Formerly published as local number CA-4.

PERIOD OF RECORD.--September 27, 1996 to current year.

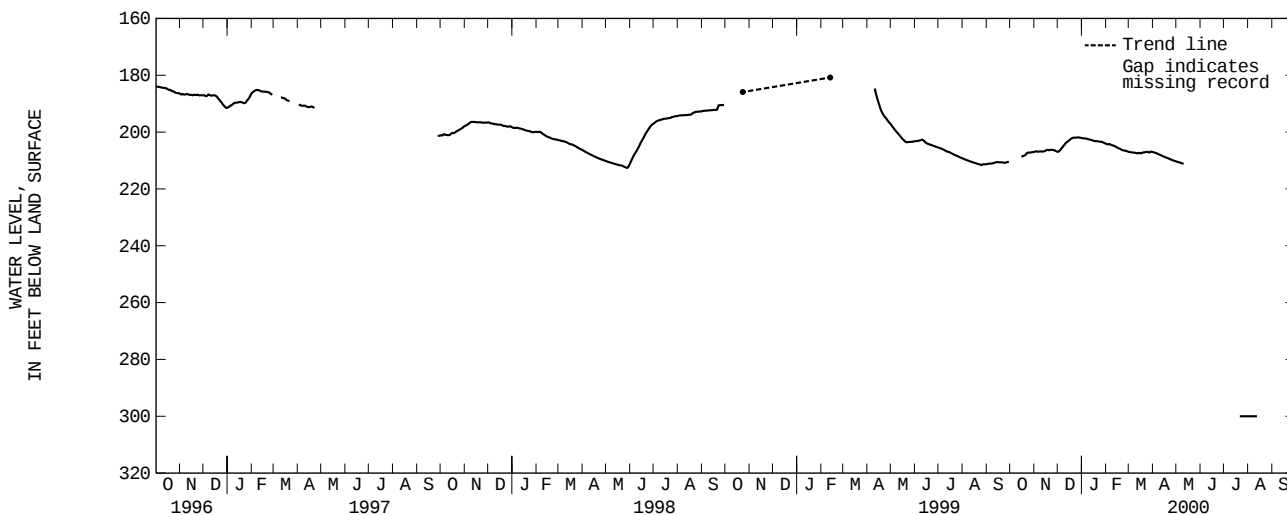
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 183.5 ft (55.9 m), below land-surface datum, Apr. 9, 1999; lowest water level recorded, 212.6 ft (64.8 m), below land-surface datum, May 28, 1998.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	206.97	206.93	202.10	204.09	206.94	207.02	210.35	---	---	>300.00	---
2	---	206.83	206.95	202.16	204.21	207.05	207.09	210.42	---	---	>300.00	---
3	---	206.76	206.66	202.19	204.31	207.05	207.20	210.51	---	---	>300.00	---
4	---	206.82	206.44	202.22	204.37	207.08	207.26	210.60	---	---	>300.00	---
5	---	206.88	206.08	202.21	204.13	207.13	207.35	210.69	---	---	>300.00	---
6	---	206.90	205.73	202.29	204.26	207.17	207.47	210.78	---	---	>300.00	---
7	---	206.88	205.36	202.31	204.41	207.22	207.60	210.87	---	---	>300.00	---
8	---	206.79	205.06	202.39	204.54	207.25	207.72	210.95	---	---	>300.00	---
9	---	206.77	204.71	202.47	204.64	207.25	207.84	211.04	---	---	>300.00	---
10	---	206.82	204.36	202.54	204.72	207.31	207.98	211.11	---	---	>300.00	---
11	---	206.85	204.01	202.62	204.81	207.40	208.10	211.20	---	---	>300.00	---
12	---	206.84	203.67	202.69	204.92	207.47	208.23	---	---	---	>300.00	---
13	---	206.77	203.45	202.78	205.09	207.51	208.36	---	---	---	>300.00	---
14	---	206.75	203.29	202.86	205.24	207.28	208.49	---	---	---	---	---
15	208.67	206.67	203.10	202.92	205.39	207.33	208.62	---	---	---	---	---
16	208.62	206.43	202.92	203.04	205.51	207.41	208.74	---	---	---	---	---
17	208.50	206.28	202.57	203.13	205.64	207.51	208.85	---	---	---	---	---
18	208.39	206.27	202.38	203.17	205.78	207.30	208.95	---	---	---	---	---
19	208.31	206.33	202.20	203.20	205.92	207.21	209.05	---	---	---	---	---
20	208.21	206.36	202.06	203.22	206.05	207.14	209.18	---	---	---	---	---
21	208.02	206.32	201.98	203.19	206.20	207.10	209.28	---	---	>300.00	---	---
22	207.56	206.21	201.95	203.25	206.34	207.11	209.37	---	---	>300.00	---	>300.00
23	207.31	206.21	201.96	203.37	206.44	207.04	209.48	---	---	>300.00	---	>300.00
24	207.22	206.24	201.99	203.39	206.49	206.93	209.66	---	---	>300.00	---	>300.00
25	207.22	206.27	201.92	203.38	206.49	206.95	209.76	---	---	>300.00	---	>300.00
26	207.23	206.33	201.87	203.39	206.55	207.03	209.86	---	---	>300.00	---	>300.00
27	207.19	206.42	201.86	203.45	206.67	207.15	209.95	---	---	>300.00	---	>300.00
28	207.14	206.57	201.89	203.62	206.74	207.24	210.06	---	---	>300.00	---	>300.00
29	207.07	206.71	201.92	203.75	206.84	206.80	210.15	---	---	>300.00	---	>300.00
30	207.04	206.84	201.99	203.86	---	206.90	210.24	---	---	>300.00	---	>300.00
31	207.05	---	202.04	203.97	---	206.95	---	---	---	>300.00	---	---
MEAN	207.69	206.60	203.53	202.94	205.41	207.17	208.63	210.77	---	300.00	300.00	300.00

WTR YR 2000 MEAN 218.87 HIGHEST 201.84 DEC. 26, 27, 1999 LOWEST 211.20 MAY 11, 2000

> Actual value is known to be greater than the value shown



GROUND-WATER LEVELS
RIO GRANDE DE ARECIBO BASIN

182756066454700. Local number, 1951

LOCATION.--Lat 18°27'56", Long 66°45'47", Hydrologic Unit 21010002, 0.04 mi north of Hwy 653, 1.86 mi west of Hwy 129, and 1.55 mi west of the University of Puerto Rico, Arecibo Campus. Owner: Vaqueria Barreto, Name: Barreto 1 Well.

AQUIFER.--Aymamón Limestone.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in (0.15 m). Depth 300 ft (91.4 m).

INSTRUMENTATION.--Pressure transducer with integrated electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 164 ft (50.0 m), above mean sea level, from topographic map. Measuring point: Top of white PVC cap 3.37 ft (1.03 m), above land-surface datum.

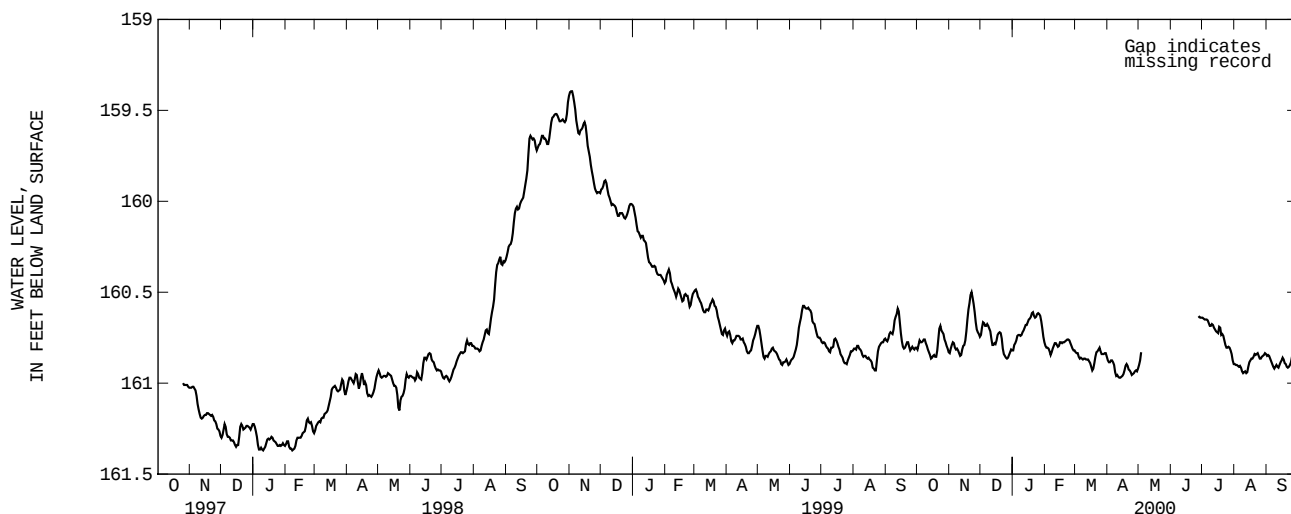
REMARKS.--Recording observation well. Electronic Data Logger (EDL), installed on October 24, 1997. Well is affected by marine tides. Formerly published as local number BARR-1.

PERIOD OF RECORD.--October 24, 1997 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 159.4 ft (48.6 m), below land-surface datum, Nov. 1, 2, 3, 1998; lowest water level recorded, 161.4 ft (49.2 m), below land-surface datum, Jan. 6, 1998.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	160.81	160.85	160.75	160.83	160.78	160.82	160.87	160.90	160.67	160.64	160.89	160.85
2	160.82	160.82	160.72	160.81	160.81	160.84	160.88	160.90	---	160.64	160.90	160.85
3	160.76	160.80	160.67	160.77	160.80	160.83	160.89	160.85	---	160.65	160.90	160.84
4	160.77	160.78	160.66	160.79	160.81	160.84	160.88	160.81	---	160.65	160.90	160.86
5	160.78	160.77	160.68	160.74	160.81	160.87	160.87	---	---	160.65	160.91	160.87
6	160.77	160.79	160.69	160.74	160.84	160.86	160.88	---	---	160.65	160.91	160.89
7	160.77	160.82	160.68	160.73	160.85	160.86	160.89	---	---	160.66	160.90	160.90
8	160.75	160.81	160.67	160.74	160.81	160.87	160.91	---	---	160.68	160.93	160.92
9	160.77	160.81	160.70	160.74	160.81	160.87	160.97	---	---	160.69	160.94	160.92
10	160.79	160.83	160.70	160.73	160.78	160.86	160.95	---	---	160.68	160.95	160.90
11	160.80	160.84	160.73	160.71	160.78	160.87	160.96	---	---	160.67	160.93	160.90
12	160.83	160.86	160.78	160.71	160.78	160.87	160.97	---	---	160.69	160.94	160.92
13	160.83	160.83	160.80	160.68	160.80	160.87	160.97	---	---	160.70	160.95	160.91
14	160.86	160.80	160.78	160.68	160.80	160.87	160.97	---	---	160.71	160.93	160.89
15	160.87	160.79	160.78	160.68	160.79	160.89	160.96	---	---	160.72	160.89	160.88
16	160.85	160.79	160.79	160.65	160.76	160.89	160.96	---	---	160.72	160.88	160.87
17	160.85	160.74	160.74	160.65	160.79	160.93	160.94	---	---	160.73	160.87	160.85
18	160.84	160.69	160.73	160.64	160.77	160.93	160.92	---	---	160.65	160.86	160.89
19	160.87	160.61	160.72	160.63	160.78	160.91	160.89	---	---	160.74	160.87	160.89
20	160.84	160.58	160.72	160.60	160.77	160.87	160.90	---	---	160.73	160.84	160.90
21	160.80	160.54	160.73	160.62	160.77	160.84	160.91	---	---	160.73	160.84	160.92
22	160.72	160.49	160.78	160.64	160.76	160.82	160.94	---	---	160.75	160.85	160.91
23	160.68	160.51	160.84	160.64	160.76	160.83	160.92	---	---	160.78	160.83	160.91
24	160.69	160.55	160.84	160.63	160.76	160.80	160.96	---	---	160.80	160.84	160.89
25	160.73	160.58	160.86	160.61	160.77	160.81	160.95	---	---	160.81	160.86	160.88
26	160.71	160.64	160.86	160.62	160.79	160.84	160.95	---	---	160.80	160.87	160.83
27	160.75	160.69	160.87	160.62	160.80	160.84	160.94	---	160.65	160.80	160.86	160.78
28	160.77	160.72	160.85	160.64	160.82	160.84	160.93	---	160.63	160.81	160.85	160.72
29	160.78	160.72	160.84	160.68	160.82	160.84	160.93	---	160.64	160.83	160.85	160.70
30	160.81	160.74	160.82	160.72	---	160.83	160.94	---	160.64	160.85	160.84	160.71
31	160.81	---	160.81	160.77	---	160.84	---	---	---	160.90	160.83	---
MEAN	160.79	160.73	160.76	160.69	160.79	160.86	160.93	160.86	160.65	160.73	160.88	160.87
WTR YR 2000	MEAN 160.80	HIGHEST 160.47 NOV. 22, 1999	LOWEST 161.01 APR. 11, 24, 26, 2000									



GROUND-WATER LEVELS

RIO GRANDE DE ARECIBO BASIN--Continued

18273706370900. Local number, 204.

LOCATION.--Lat 18°27'37", long 66°37'09", Hydrologic Unit 21010002, 5.26 mi west of Barceloneta plaza, 1.58 mi north of Hwy 2 km 63.7, and 3.67 mi southwest of Escuela Agustín Balseiro. Owner: Sucesión Márquez, Name: Gilberto Rivera Well.

AQUIFER.--Aymamón Limestone.

WELL CHARACTERISTICS.--Abandoned unused water-table well, diameter 6 in (0.15 m), cased 6 in (0.15 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is 48.0 ft (14.63 m), above mean sea level. Measuring point: Air hole on pump base, 0.50 ft (0.15 m), above land-surface datum.

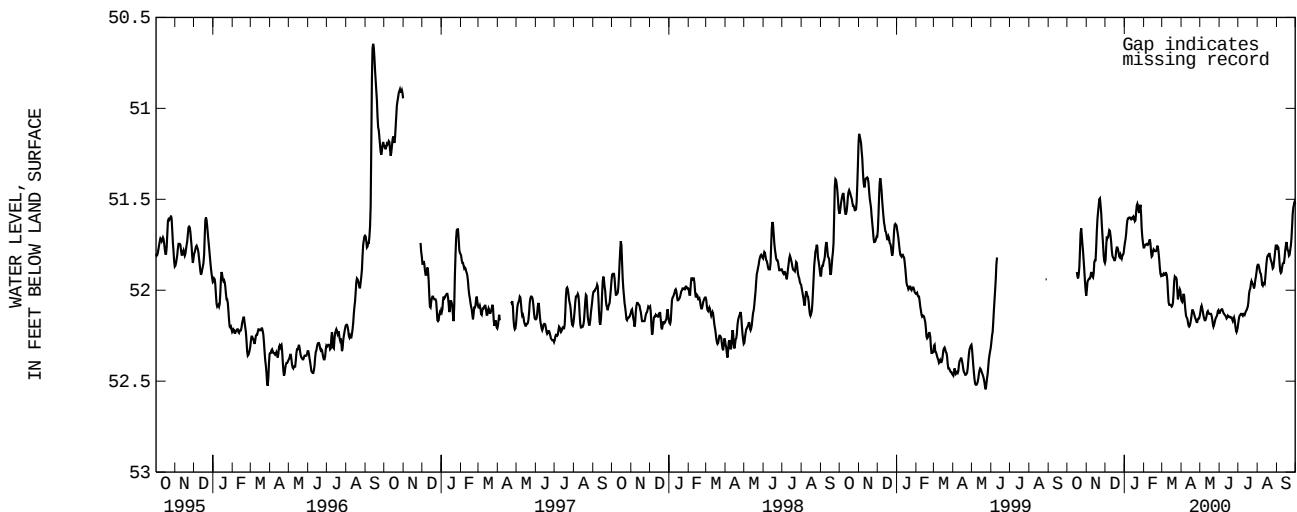
REMARKS.--Recording observation well. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on November 7, 1997.

PERIOD OF RECORD.--October 1985 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 50.0 ft (15.2 m), below land-surface datum, May 14, 1986; lowest water level recorded, 53.1 ft (16.2 m), below land-surface datum, Jan. 29, 1995.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	52.04	51.85	51.75	51.77	51.91	52.06	52.13	52.13	52.19	51.86	51.78
2	---	51.96	51.82	51.73	51.76	51.93	52.06	52.11	52.12	52.16	51.86	51.77
3	---	51.95	51.70	51.71	51.75	51.91	52.07	52.08	52.11	52.14	51.86	51.75
4	---	51.94	51.71	51.67	51.75	51.91	52.03	52.09	52.11	52.14	51.88	51.78
5	---	51.94	51.72	51.62	51.75	51.92	52.01	52.11	52.10	52.13	51.90	51.82
6	---	51.93	51.70	51.61	51.74	51.91	52.05	52.13	52.11	52.13	51.91	51.89
7	---	51.94	51.68	51.60	51.75	51.90	52.09	52.15	52.12	52.13	51.91	51.90
8	---	51.90	51.66	51.61	51.75	51.91	52.13	52.16	52.13	52.14	51.96	51.91
9	---	51.90	51.69	51.59	51.74	51.92	52.15	52.17	52.13	52.14	51.98	51.89
10	---	51.92	51.71	51.61	51.72	51.97	52.15	52.16	52.14	52.12	51.97	51.86
11	---	51.93	51.76	51.60	51.72	52.05	52.16	52.15	52.14	52.14	51.95	51.85
12	---	51.93	51.80	51.62	51.77	52.08	52.19	52.13	52.15	52.13	51.97	51.85
13	---	51.88	51.82	51.59	51.81	52.08	52.20	52.11	52.16	52.12	51.96	51.85
14	---	51.81	51.82	51.61	51.82	52.08	52.20	52.12	52.14	52.11	51.91	51.79
15	---	51.86	51.83	51.60	51.80	52.08	52.19	52.13	52.14	52.11	51.87	51.77
16	51.89	51.81	51.84	51.59	51.77	52.09	52.17	52.13	52.15	52.09	51.83	51.74
17	51.91	51.72	51.83	51.61	51.78	52.09	52.15	52.13	52.14	52.09	51.81	51.73
18	51.94	51.63	51.81	51.63	51.78	52.08	52.12	52.13	52.15	52.04	51.81	51.79
19	51.93	51.59	51.76	51.60	51.79	52.06	52.10	52.13	52.15	52.00	51.81	51.77
20	51.90	51.55	51.77	51.54	51.78	51.98	52.12	52.15	52.15	52.00	51.79	51.80
21	51.84	51.52	51.76	51.53	51.79	51.92	52.12	52.17	52.15	51.98	51.81	51.82
22	51.73	51.48	51.79	51.52	51.76	51.93	52.14	52.20	52.17	51.95	51.83	51.79
23	51.64	51.51	51.80	51.56	51.75	51.93	52.15	52.20	52.17	51.95	51.84	51.77
24	51.68	51.55	51.83	51.57	51.78	51.93	52.16	52.18	52.15	51.97	51.85	51.74
25	51.73	51.60	51.81	51.58	51.81	51.95	52.17	52.17	52.15	51.96	51.87	51.69
26	51.77	51.68	51.80	51.52	51.85	52.05	52.18	52.15	52.18	51.99	51.89	51.61
27	51.81	51.71	51.83	51.54	51.90	52.05	52.17	52.15	52.21	51.99	51.86	51.55
28	51.87	51.79	51.82	51.63	51.92	52.01	52.15	52.14	52.23	51.96	51.83	51.54
29	51.92	51.83	51.80	51.70	51.92	52.01	52.16	52.13	52.23	51.93	51.80	51.52
30	51.98	51.85	51.81	51.72	---	51.98	52.15	52.10	52.21	51.92	51.76	51.51
31	52.02	---	51.78	51.76	---	52.03	---	52.12	---	51.88	51.74	---
MEAN	51.85	51.79	51.78	51.62	51.79	51.99	52.13	52.14	52.15	52.06	51.87	51.76
WTR YR 2000	MEAN 51.91	HIGHEST 51.47 NOV. 22, 1999	LOWEST 52.26 MAY 22, 2000									



GROUND-WATER LEVELS

RT0 GRANDE DE ARECIBO BASIN--Continued

182616066364100. Local number. 1052.

LOCATION: --Lat 18°26'16", long 66°36'41", Hydrologic Unit 21010002, 3.00 west of the intersection of Hwy 140 with Hwy 2 (Cruce Davila), 0.32 mi southwest of Hwy 22, 0.15 mi north of Hwy 2, and 0.22 mi northeast of the intersection of Hwy 2 with Hwy 639. Owner: PR Aqueduct and Sewer Authority. Name: Encantada Well.

AOUIFER.--Aquada Limestone,AOUIFER.--Tertiary Limestone.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 20 in (0.51 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval

DATUM.--Elevation of land-surface datum is about 312 ft (95.0 m), above mean sea level, from topographic map. Measuring point: Shelter floor 3.40 ft (1.04 m), above land-surface datum.

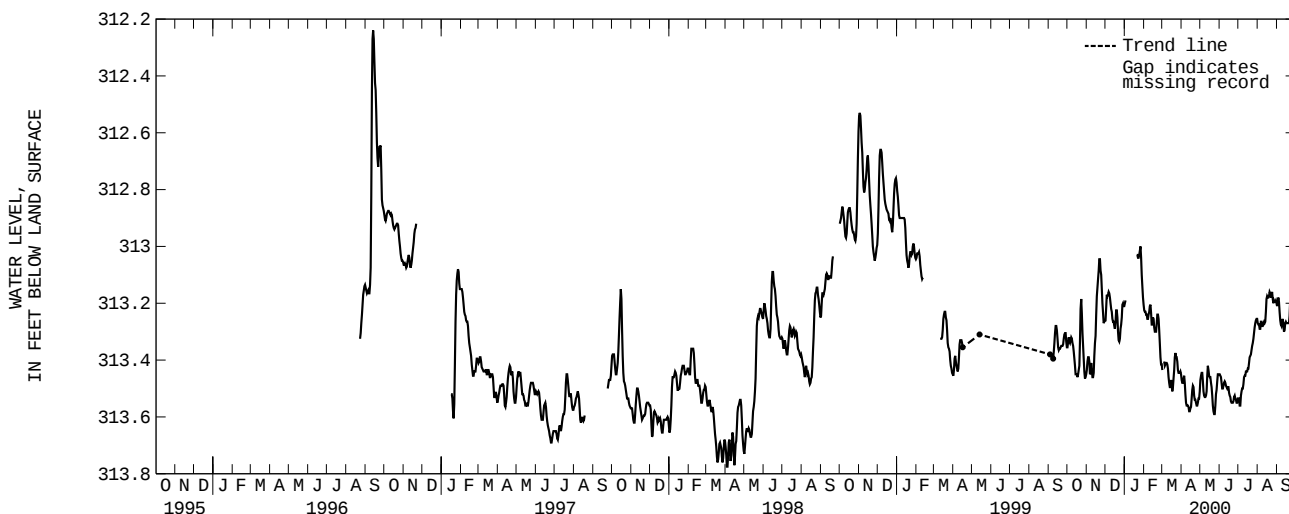
REMARKS.--Recording observation well. Automated Digital Recorder (ADR), installed on Aug. 23, 1996, replaced by an Electronic Data Logger (EDL) installed on January 13, 1997. Formerly published as local number EN-1.

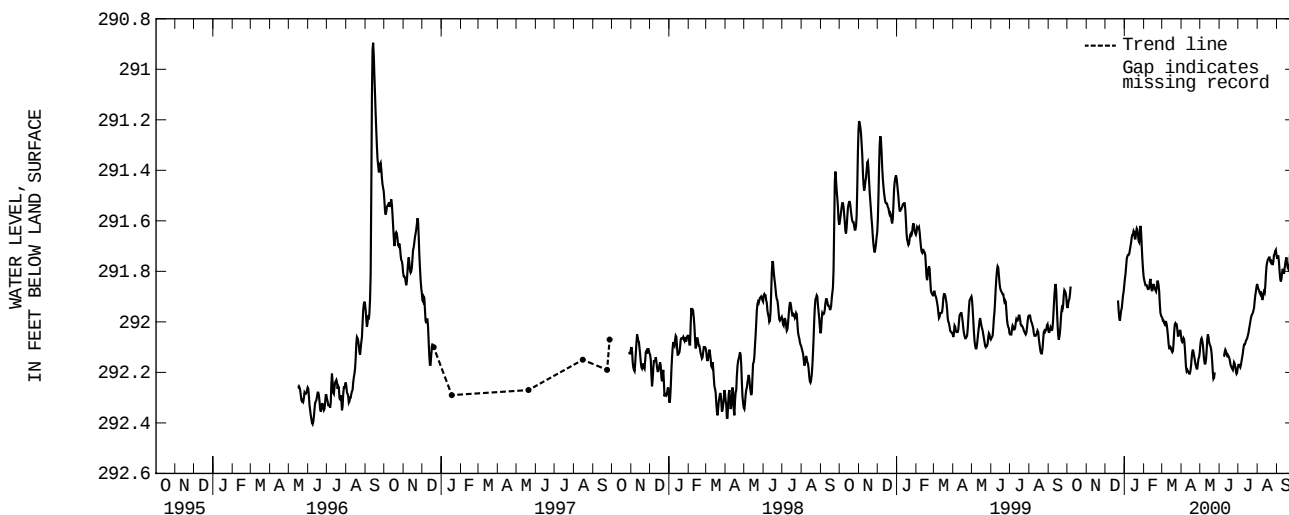
PERIOD OF RECORD.--August 23, 1996 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 312.23 ft (95.2 m), below land-surface datum, Sept. 13, 14, 1996;
lowest water level recorded, 313.84 ft (95.7 m), below land-surface datum, April 3, 1998.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	313.35	313.45	313.26	313.21	313.21	313.42	313.46	313.48	313.45	313.53	313.26	313.21
2	313.36	313.42	313.26	313.19	313.24	313.45	313.48	313.46	313.45	313.54	313.28	313.21
3	313.31	313.39	313.17	313.19	313.22	---	313.48	313.45	313.46	313.53	313.27	313.18
4	313.33	313.39	313.17	---	313.24	313.39	313.48	313.44	313.46	313.59	313.28	313.18
5	313.34	313.39	313.18	---	313.24	313.42	313.45	313.45	313.50	313.53	313.30	313.21
6	313.34	313.42	313.16	---	313.24	313.42	313.46	313.50	313.50	313.52	313.28	313.25
7	313.32	313.48	313.16	---	313.27	313.41	313.50	313.52	313.50	313.50	313.25	313.27
8	313.32	313.41	313.17	---	313.24	313.41	313.54	313.53	313.48	313.50	313.28	313.28
9	313.33	313.41	313.19	---	313.24	313.41	313.56	313.53	313.48	313.50	313.28	313.28
10	313.35	313.46	313.21	---	313.22	313.42	313.56	313.53	313.47	313.47	313.28	313.25
11	313.35	313.46	313.23	---	313.20	313.44	313.56	313.52	313.49	313.45	313.26	313.26
12	313.39	313.46	313.23	---	313.21	313.48	313.56	313.50	313.49	313.46	313.27	313.29
13	313.40	313.43	313.28	---	313.26	313.48	313.57	313.41	313.50	313.45	313.27	313.31
14	313.44	313.34	313.25	---	313.29	313.51	313.59	313.43	313.50	313.43	313.26	313.28
15	313.46	313.34	313.28	---	313.26	313.48	313.57	313.44	313.49	313.45	313.20	313.26
16	313.44	313.29	313.28	---	313.24	313.46	313.57	313.47	313.50	313.43	313.17	313.27
17	313.46	313.19	313.30	---	313.27	313.51	313.56	313.45	313.53	313.43	313.18	313.27
18	313.46	313.16	313.23	---	313.30	313.51	313.51	313.47	313.52	313.43	313.18	313.27
19	313.44	313.13	313.22	---	313.30	313.48	313.50	313.49	313.54	313.39	313.18	313.27
20	313.43	313.10	313.23	313.03	313.30	313.45	313.48	313.50	313.55	313.39	313.17	313.27
21	313.41	313.07	313.27	313.03	313.30	313.42	313.51	313.55	313.55	313.38	313.15	313.27
22	313.26	313.02	313.33	313.03	313.24	313.36	313.54	313.57	313.55	313.38	313.18	313.22
23	313.18	313.07	313.33	313.05	313.24	313.39	313.54	313.59	313.55	313.35	313.18	313.16
24	313.19	313.10	313.34	313.03	313.24	313.39	313.54	313.59	313.54	313.35	313.16	313.13
25	313.28	313.10	313.31	313.03	313.27	313.39	313.56	313.59	313.52	313.33	313.16	313.14
26	313.33	313.20	313.27	313.00	313.32	313.42	313.56	313.53	313.53	313.32	313.21	313.13
27	313.37	313.20	313.28	313.00	313.36	313.45	313.56	313.51	313.54	313.29	313.19	313.13
28	313.42	313.27	313.22	313.08	313.42	313.44	313.54	313.50	313.54	313.28	313.19	313.13
29	313.46	313.27	313.19	313.12	313.41	313.45	313.53	313.45	313.56	313.26	313.20	313.13
30	313.47	313.26	313.21	313.16	---	313.44	313.54	313.45	313.54	313.26	313.19	313.14
31	313.45	---	313.21	313.20	---	313.44	---	313.45	---	313.25	313.19	---
MEAN	313.37	313.29	313.24	313.09	313.27	313.44	313.53	313.50	313.51	313.42	313.22	313.22
WTR YR 2000	MEAN 313.35	HIGHEST 312.99 NOV. 22, 1999				LOWEST 313.65 MAY 23, 2000						





GROUND-WATER LEVELS

RIO GRANDE DE ARECIBO BASIN--Continued

182603066333601. Local number, 1954.

LOCATION.--Lat 18°26'03", long 66°33'36", Hydrologic Unit 21010002, 0.70 south of the intersection of Hwy 140 with Hwy 22, 0.35 mi east of the intersection of Hwy 140 with Hwy 2, and 1.35 mi northeast of the intersection of Hwy 140 with Hwy 666. Owner: PR Aqueduct and Sewer Authority, Name: Florida Afuera 2 Well.

AQUIFER.--Aymamón Limestone.

WELL CHARACTERISTICS.--Drilled water-table well, diameter 16 in (0.41 m), cased 0-270 ft (0-82.3 m), screened 200-270 ft (61.0-82.3 m). Depth 270 ft (82.3 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 213.3 ft (65.0 m), above mean sea level from topographic map. Measuring point: Shelter floor on top of the 4 in (0.10 m) casing, 4.00 ft (1.22 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), installed on August 23, 1996, replaced by an Electronic Data Logger (EDL), installed on January 17, 1997. Formerly published as local number FA-2.

PERIOD OF RECORD.--August 23, 1996 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 198.03 ft (60.36 m), below land-surface datum, Dec. 4, 5, 1998; lowest water level recorded, 201.63 ft (61.5 m), below land-surface datum, Apr. 10, 11, 12, 1998.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	200.25	199.38	200.04	199.52	199.96	200.52	200.92	200.95	201.22	201.14	---	---
2	200.24	199.53	199.43	199.54	199.96	200.55	200.92	200.94	201.22	201.17	---	---
3	200.27	199.64	198.80	199.54	199.96	200.55	200.92	200.95	201.23	201.16	---	---
4	200.28	199.65	198.14	199.55	199.97	200.57	200.92	200.97	201.22	201.16	---	---
5	200.34	199.71	198.06	199.57	200.00	200.57	200.92	201.00	201.20	201.16	---	---
6	200.37	199.77	198.26	199.60	200.01	200.58	200.92	201.03	201.16	201.14	---	---
7	200.39	199.88	198.56	199.60	200.03	200.58	200.94	201.04	201.16	201.14	---	---
8	200.40	199.95	198.75	199.61	200.05	200.61	200.94	201.07	201.01	201.14	---	---
9	200.42	200.04	198.95	199.61	200.08	200.63	200.94	200.98	200.96	201.14	---	---
10	200.42	200.02	199.07	199.63	200.11	200.64	200.94	201.00	200.80	201.16	---	---
11	200.43	200.00	199.21	199.63	200.15	200.66	200.95	201.01	200.78	201.16	---	---
12	200.43	199.82	199.25	199.63	200.18	200.67	200.94	201.03	200.80	201.16	---	---
13	200.43	199.77	199.36	199.66	200.20	200.69	200.92	201.04	200.84	201.18	---	---
14	200.42	199.76	199.40	199.54	200.23	200.70	200.92	201.01	200.87	---	---	---
15	200.37	199.79	199.49	199.58	200.23	200.70	200.92	201.02	200.92	---	---	---
16	200.36	199.86	199.54	199.64	200.24	200.72	200.92	201.02	200.93	---	---	---
17	200.37	199.91	199.57	199.69	200.24	200.72	200.94	201.04	200.98	---	---	---
18	200.39	199.98	199.60	199.73	200.27	200.73	200.95	201.05	200.95	---	---	---
19	200.42	200.02	199.64	199.75	200.33	200.71	200.95	201.07	200.95	---	---	---
20	200.42	200.04	199.67	199.76	200.34	200.71	200.95	201.10	200.95	---	---	---
21	200.45	200.07	199.66	199.79	200.34	200.71	200.95	201.10	200.95	---	---	---
22	200.48	200.10	199.61	199.82	200.34	200.71	200.95	201.10	200.96	---	---	---
23	200.49	200.13	199.63	199.85	200.36	200.73	200.97	201.10	200.96	---	---	---
24	200.51	200.14	199.63	199.87	200.39	200.74	200.97	201.11	200.99	---	---	---
25	200.51	200.16	199.61	199.87	200.45	200.74	200.97	201.11	201.02	---	---	---
26	200.52	200.19	199.60	199.91	200.48	200.77	200.97	201.13	201.04	---	---	---
27	200.52	200.22	199.58	199.88	200.51	200.83	200.97	201.14	201.07	---	---	---
28	200.52	200.24	199.55	199.85	200.52	200.85	200.97	201.16	201.08	---	---	---
29	200.30	200.24	199.55	199.87	---	200.87	200.95	201.17	201.10	---	---	---
30	199.41	200.22	199.55	199.90	---	200.89	200.95	201.17	201.11	---	---	---
31	199.23	---	199.54	199.91	---	200.91	---	201.17	---	---	---	---
MEAN	200.33	199.94	199.30	199.71	200.21	200.70	200.94	201.06	201.01	201.15	---	---

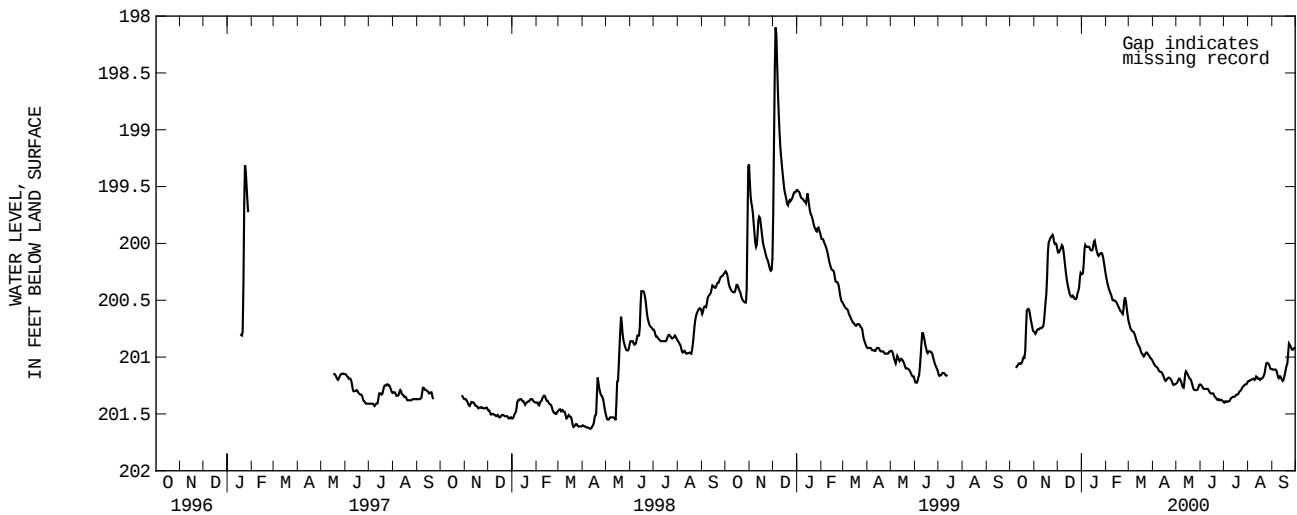
WTR YR 1999 MEAN 200.39 HIGHEST 198.03 DEC. 4, 5, 1998 LOWEST 201.23 JUNE 2, 3, 4, 1999

GROUND-WATER LEVELS

RIO GRANDE DE ARECIBO BASIN--Continued

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	200.77	200.07	200.27	200.29	200.69	201.03	201.23	201.24	201.40	201.21	201.11
2	---	200.79	200.09	200.27	200.32	200.71	201.06	201.23	201.25	201.40	201.21	201.11
3	---	200.80	200.07	200.25	200.36	200.74	201.06	201.21	201.25	201.38	201.21	201.11
4	---	200.77	200.06	200.09	200.38	200.76	201.08	201.20	201.27	201.40	201.20	201.11
5	---	200.76	200.05	200.01	200.41	200.76	201.08	201.18	201.28	201.39	201.20	201.11
6	---	200.75	200.02	200.02	200.42	200.78	201.09	201.20	201.28	201.39	201.20	201.11
7	---	200.76	200.01	200.04	200.45	200.77	201.09	201.21	201.28	201.39	201.19	201.13
8	201.10	200.75	200.04	200.02	200.45	200.79	201.11	201.23	201.28	201.39	201.19	201.16
9	201.09	200.74	200.09	200.04	200.50	200.80	201.12	201.26	201.28	201.38	201.19	201.19
10	201.08	200.75	200.16	200.02	200.50	200.83	201.13	201.27	201.28	201.36	201.21	201.18
11	201.07	200.74	200.22	200.04	200.50	200.85	201.13	201.27	201.28	201.36	201.17	201.16
12	201.06	200.73	200.28	200.06	200.50	200.87	201.13	201.17	201.30	201.35	201.17	201.18
13	201.05	200.73	200.33	200.06	200.51	200.89	201.14	201.12	201.31	201.35	201.18	201.19
14	201.06	200.65	200.37	200.06	200.51	200.90	201.16	201.13	201.32	201.35	201.20	201.21
15	201.06	200.56	200.40	200.06	200.53	200.91	201.17	201.14	201.32	201.35	201.17	201.21
16	201.05	200.48	200.43	200.00	200.54	200.93	201.20	201.16	201.32	201.34	201.21	201.19
17	201.04	200.42	200.46	199.97	200.56	200.96	201.21	201.17	201.32	201.33	201.19	201.16
18	200.99	200.17	200.46	199.98	200.57	200.97	201.21	201.19	201.32	201.33	201.19	201.12
19	201.01	200.00	200.48	200.04	200.59	200.97	201.19	201.19	201.35	201.33	201.19	201.09
20	201.00	199.99	200.46	200.06	200.60	201.00	201.19	201.20	201.35	201.32	201.18	201.06
21	200.90	199.96	200.46	200.09	200.60	200.99	201.18	201.23	201.36	201.30	201.17	201.05
22	200.60	199.95	200.48	200.11	200.62	200.98	201.18	201.25	201.37	201.30	201.15	200.88
23	200.58	199.94	200.49	200.11	200.62	200.96	201.19	201.28	201.38	201.29	201.12	200.88
24	200.58	199.93	200.49	200.09	200.53	200.96	201.19	201.29	201.37	201.28	201.06	200.90
25	200.57	199.92	200.49	200.09	200.47	200.96	201.21	201.29	201.37	201.26	201.05	200.91
26	200.60	199.97	200.46	200.08	200.48	200.98	201.22	201.29	201.39	201.26	201.05	200.93
27	200.64	200.01	200.42	200.09	200.54	200.98	201.25	201.29	201.37	201.25	201.06	200.94
28	200.69	200.00	200.42	200.11	200.59	201.00	201.24	201.29	201.38	201.24	201.06	200.93
29	200.71	200.00	200.36	200.15	200.65	201.01	201.24	201.28	201.38	201.24	201.09	200.92
30	200.76	200.02	200.25	200.20	---	201.01	201.24	201.25	201.39	201.24	201.11	200.92
31	200.78	---	200.27	200.24	---	201.03	---	201.24	---	201.23	201.10	---
MEAN	200.88	200.39	200.29	200.09	200.50	200.89	201.16	201.22	201.32	201.33	201.16	201.07
WTR YR 2000	MEAN 200.86	HIGHEST 199.92	NOV. 25, 1999	LOWEST 201.41	JULY 1, 2000							



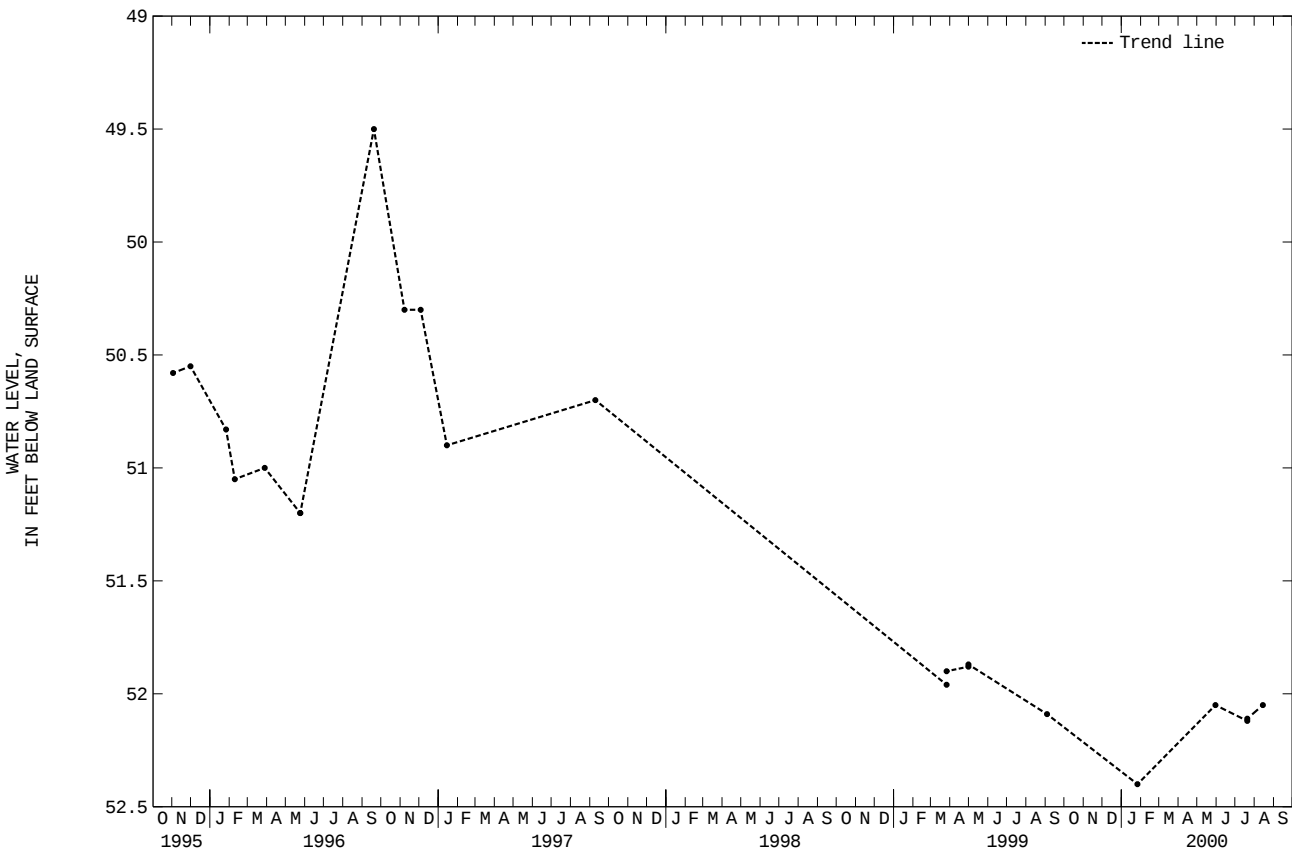
GROUND-WATER LEVELS

RIO GRANDE DE ARECIBO BASIN--Continued

182642066394900. Local number, 1055.
LOCATION.--Lat 18°26'42", long 66°39'49", Hydrologic Unit 21010002, 0.27 mi south southeast of Escuela Federico Degetau, 2.20 mi west of intersection of Hwy 2 with Hwy 22, and 2.47 mi east southeast of Central Cambalache. Owner: PR Aqueduct and Sewer Authority, Name: Santana Park Well.
AQUIFER.--Aymamón Limestone.
WELL CHARACTERISTICS.--Active production well.
DATUM.--Elevation of land-surface datum is about 62.0 ft (18.9 m), above mean sea level, from topographic map. Measuring point: Access hole in steel covering well, 0.55 ft (0.17 m), above land-surface datum. Prior Mar. 26, 1999, top of steel casing, 1.70 ft (0.52 m).
REMARKS.--Observation well.
PERIOD OF RECORD.--September 21, 1995 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 49.71 ft (15.15 m), below land-surface datum, Sept. 19, 1996; lowest water level measured, 52.40 ft (15.97 m), below land-surface datum, Jan. 26, 2000.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JAN 26	52.40	MAY 30	52.05	JUL 20	52.12	JUL 20	52.11	AUG 14	52.05	AUG 14	52.04
WATER YEAR 2000		HIGHEST 52.04 AUG. 14, 2000				LOWEST 52.40 JAN. 26, 2000					



GROUND-WATER LEVELS

RIO GRANDE DE ARECIBO BASIN--Continued

182639066385200. Local number, 1056.

LOCATION.--Lat 18°26'39", long 66°38'52", Hydrologic Unit 21010002, 0.19 mi south of Hwy 2, 1.14 mi west of intersection of Hwy 2 with the Hwy 22, 1.18 mi east southeast of Escuela Federico Degetau. Owner: PR Aqueduct and Sewer Authority, Name: Santana 1 Well.

AQUIFER.--Upper Aquifer.

WELL CHARACTERISTICS.--Abandoned production well, diameter 12 in (0.30 m), open screen 175-220 ft (53.34-60.96 m). Depth 220 ft (60.96 m).

DATUM.--Elevation of land-surface datum is about 131.0 ft (39.92 m), above mean sea level, from topographic map. Measuring point: Lowest point 1 3/8 in slanted access pipe, 0.50 ft (0.15 m), above land-surface datum.

REMARKS.--Observation well.

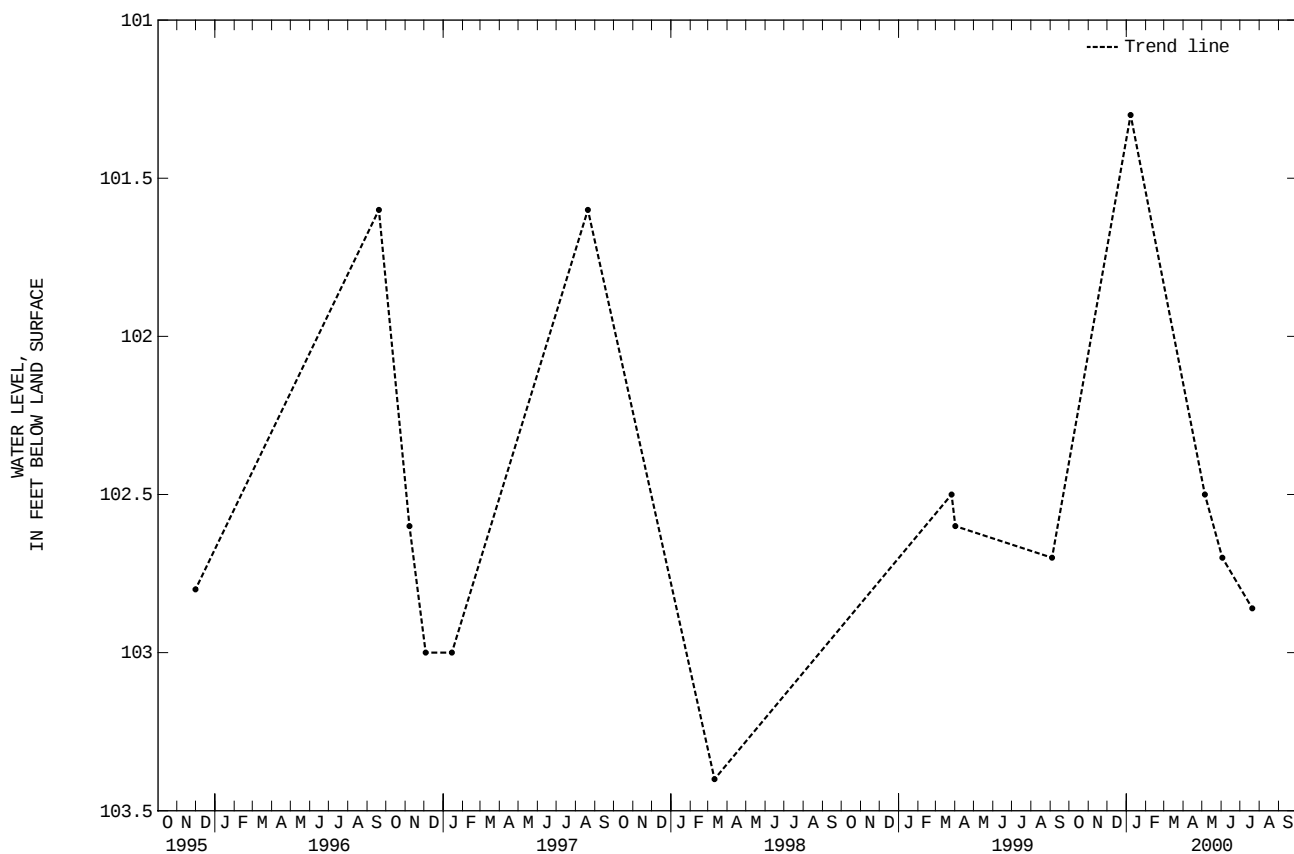
PERIOD OF RECORD.--August 10, 1995 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 101.29 ft (30.87 m), below land-surface datum, Jan. 7, 2000; lowest water level measured, 107.54 ft (32.78 m), below land-surface datum, June 3, 1998.

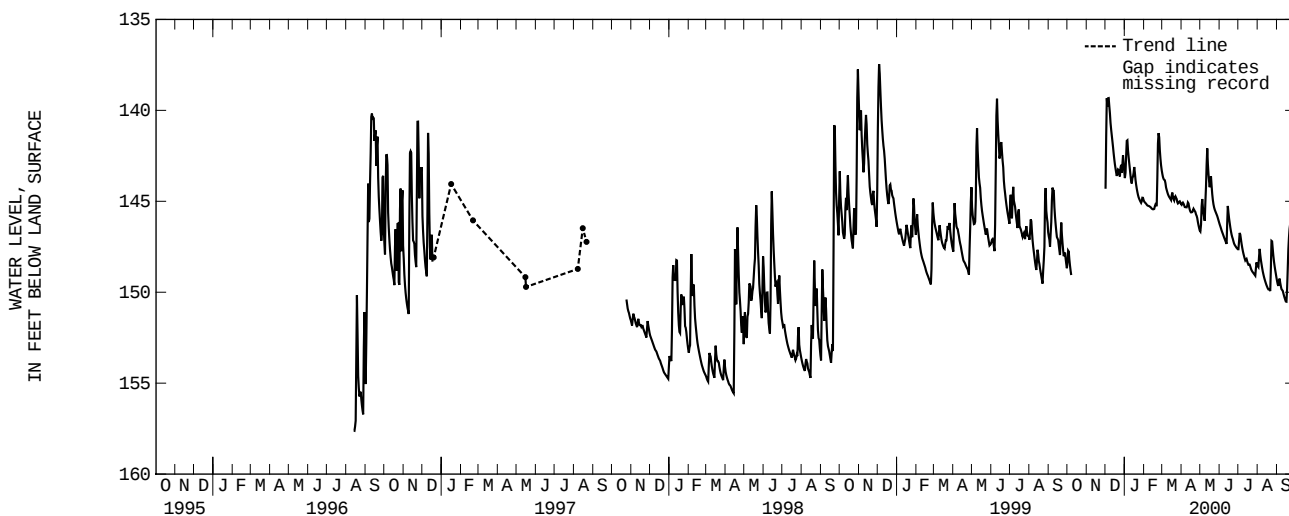
WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JAN 07	101.3	MAY 05	102.5	JUN 02	102.7	JUL 20	102.86	JUL 20	102.85

WATER YEAR 2000 HIGHEST 101.29 JAN. 7, 2000 LOWEST 102.86 JUL. 20, 2000



DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	148.80	---	144.45	143.57	144.99	143.41	145.18	146.68	146.22	147.66	148.60	149.31
2	147.89	---	144.17	143.88	145.04	143.57	145.21	146.64	146.33	147.61	148.53	149.48
3	147.54	---	138.72	142.97	145.08	143.75	145.03	145.94	146.43	146.78	148.70	149.65
4	148.00	---	139.94	142.05	145.11	143.79	145.12	144.62	146.54	146.70	147.44	149.65
5	148.39	---	139.67	141.30	145.16	143.84	145.15	145.13	146.66	146.96	147.79	149.12
6	148.69	---	139.00	141.99	145.21	143.85	145.29	145.50	146.74	147.21	148.11	149.38
7	148.95	---	139.65	142.40	145.24	144.15	145.34	145.79	146.84	147.44	148.34	149.59
8	149.16	---	139.85	142.75	145.25	144.33	145.31	145.96	146.94	147.64	148.56	149.75
9	---	---	140.48	143.07	145.26	144.42	145.33	146.19	147.03	147.80	148.76	149.90
10	---	---	140.90	143.42	145.28	144.57	145.33	143.94	147.12	147.95	148.94	149.85
11	---	---	141.23	143.74	145.31	144.65	145.13	144.46	147.21	148.08	149.09	149.99
12	---	---	141.53	144.01	145.33	144.73	145.00	141.54	147.31	148.20	149.23	150.12
13	---	---	141.85	144.03	145.38	144.79	145.24	142.64	147.37	148.30	149.35	150.25
14	---	---	142.20	143.43	145.42	144.84	145.40	143.24	145.05	148.10	149.46	150.36
15	---	---	142.54	143.84	145.43	144.90	145.53	143.73	145.46	148.23	149.57	150.47
16	---	---	142.84	143.03	145.45	144.96	145.60	144.10	145.80	148.36	149.66	150.55
17	---	---	143.10	143.20	145.42	144.40	145.62	144.35	146.07	148.45	149.74	150.49
18	---	---	143.31	143.66	145.42	144.64	145.59	143.38	146.32	148.52	149.83	149.16
19	---	---	143.53	143.96	145.14	144.83	145.59	143.88	146.55	148.43	149.85	148.39
20	---	---	143.68	144.21	145.22	144.93	145.42	144.41	146.74	148.53	149.82	146.88
21	---	---	143.20	144.39	145.24	144.98	145.40	144.80	146.91	148.64	149.91	147.12
22	---	---	143.30	144.58	145.21	144.59	145.54	145.06	147.01	148.75	149.96	145.90
23	---	---	143.26	144.73	142.20	144.86	145.53	145.27	147.13	148.82	147.37	146.55
24	---	---	143.77	144.83	141.44	144.75	145.65	145.40	147.27	148.88	146.98	147.11
25	---	---	143.50	144.91	141.06	144.99	145.79	145.51	147.37	148.92	147.43	147.40
26	---	---	142.80	144.99	141.91	145.10	145.81	145.59	147.42	148.97	147.82	147.75
27	---	---	143.19	145.05	142.45	145.14	146.04	145.68	147.48	149.02	148.18	147.70
28	---	---	143.66	145.12	142.87	145.04	146.23	145.76	147.53	149.06	148.45	147.67
29	---	---	142.29	144.87	143.17	145.00	146.40	145.86	147.58	149.12	148.68	147.75
30	---	---	142.67	144.74	---	145.00	146.54	145.98	147.61	148.27	148.89	147.64
31	---	---	143.17	144.88	---							



GROUND-WATER LEVELS

RIO GRANDE DE MANATI BASIN

182544066341500. Local number, 205.

LOCATION.--Lat 18°25'44", long 66°34'15", Hydrologic Unit 21010002, 300 ft (91.4 m) west of Hwy 140, 0.50 mi southwest of Cruce Dávila, and 1.30 mi southwest of intersection of Hwy 140 with Hwy 22. Owner: US Geological Survey, Name: NC-5 Cruce Dávila Well.

AQUIFER.--Montebello/Cibao Limestone.

WELL CHARACTERISTICS.--Deep test well, diameter 2.5 in (0.01 m) 0-1070 ft (0-326.1 m), open screened 1070-2564 ft (326.1-781.5 m). Depth 2564 ft (781.5 m).

DATUM.--Elevation of land-surface datum is about 312 ft (95.1 m), above mean sea level, from topographic map. Measuring point: Top of black PVC pipe, 1.25 ft (0.38 m), above land-surface datum.

REMARKS.--Observation well. Automated Digital Recorder (ADR), installed on December 10, 1986 and removed on September 30, 1989. Formerly published as 182544066341500.

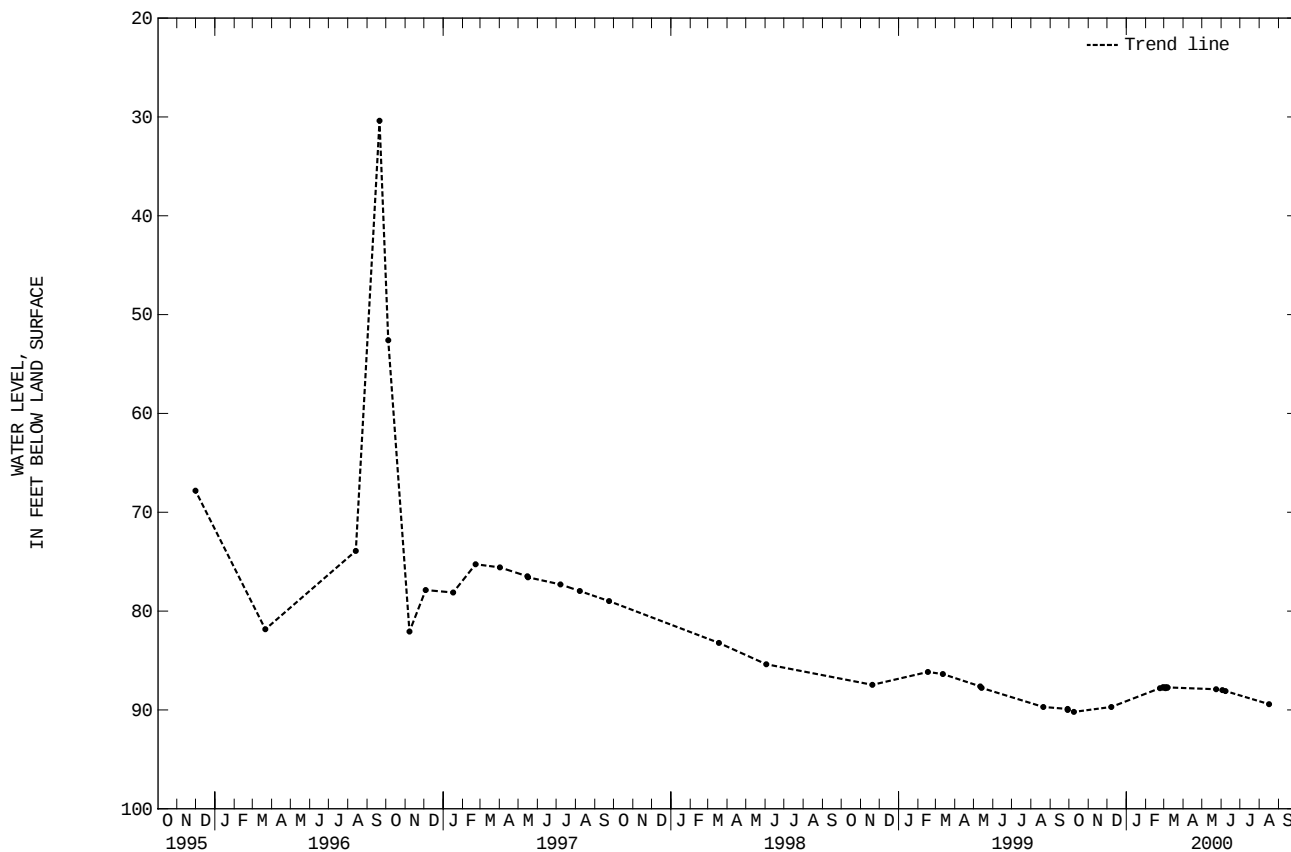
PERIOD OF RECORD.--December, 1986 to September 28, 1999.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 9.16 ft (2.79 m), below land-surface datum, Aug. 18, 1987; lowest water level measured, 90.24 ft (24.50 m), below land-surface datum, Oct. 8, 1999.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 08	90.24	FEB 28	87.73	MAR 03	87.76	MAR 06	87.72	JUN 02	87.99	AUG 16	89.42
DEC 07	89.74	28	87.75	06	87.75	MAY 23	87.91	07	88.09	16	89.43
FEB 23	87.79	MAR 03	87.72								

WATER YEAR 2000 HIGHEST 87.72 MAR. 3, 6, 2000 LOWEST 90.24 OCT. 8 1999



RIO GRANDE DE MANATI BASIN--Continued

182757066325600. Local number, 206.

LOCATION: -Lat 18°27'57", long 66°32'56", Hydrologic Unit 21010002, 0.84 mi northwest of Barceloneta plaza, 0.64 mi west of Central Plazuela, and 1.96 mi southeast of Escuela Agustin Balseiro. Owner: PR Department of Agriculture, Name: Plazuela 2 well.

AQUIFER. --Aymamón Limestone.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 16 in (0.41 m), cased 16 in (0.41 m) 0-85.0 ft (0-25.9 m), open hole 85-101 ft (25.9-30.8 m). Depth 101 ft (30.8 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 7.00 ft (2.1 m), above mean sea level, from topographic map. Measuring point:

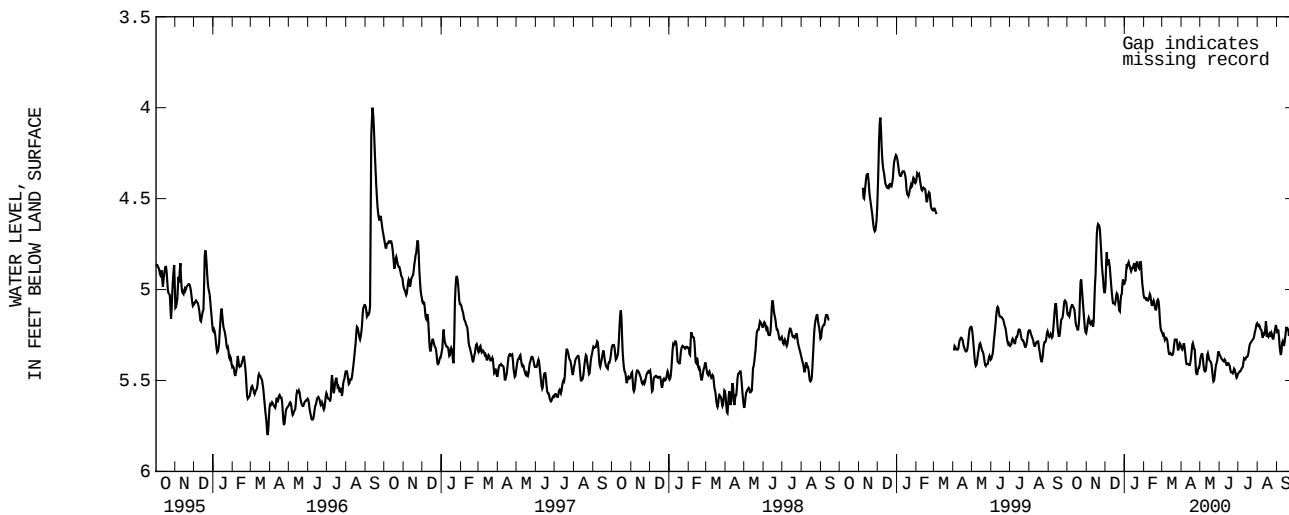
Hole on side of casing, 1.30 ft (0.40 m), above land-surface datum.

REMARKS. --Recording observation well. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on November 7, 1997.

PERIOD OF RECORD.--October 1985 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 3.75 ft (1.14 m), below land-surface datum, Sept. 11, 1988; lowest water level recorded, 6.03 ft (1.84 m), below land-surface datum, Sept. 15, 1995.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.12	5.24	5.01	4.96	5.04	5.23	5.32	5.39	5.36	5.46	5.19	5.23
2	5.15	5.20	4.94	4.96	5.05	5.25	5.33	5.37	5.36	5.46	5.20	5.23
3	5.13	5.19	4.76	4.94	5.04	5.25	5.33	5.36	5.37	5.45	5.20	5.22
4	5.14	5.15	4.83	4.86	5.06	5.24	5.31	5.35	5.38	5.45	5.19	5.23
5	5.15	5.16	4.89	4.86	5.05	5.28	5.29	5.36	5.38	5.45	5.21	5.29
6	5.11	5.17	4.82	4.88	5.05	5.27	5.31	5.40	5.39	5.44	5.22	5.33
7	5.10	5.20	4.85	4.84	5.06	5.26	5.34	5.43	5.39	5.43	5.22	5.35
8	5.09	5.18	4.86	4.86	5.06	5.27	5.38	5.45	5.40	5.43	5.23	5.37
9	5.08	5.18	4.91	4.87	5.05	5.27	5.41	5.45	5.39	5.42	5.27	5.31
10	5.09	5.17	4.95	4.88	5.03	5.29	5.41	5.45	5.38	5.38	5.26	5.28
11	5.10	5.20	5.00	4.90	5.02	5.33	5.41	5.43	5.40	5.38	5.23	5.29
12	5.10	5.21	5.03	4.90	5.05	5.35	5.41	5.37	5.41	5.39	5.25	5.31
13	5.12	5.14	5.07	4.88	5.08	5.36	5.41	5.35	5.42	5.38	5.24	5.31
14	5.16	5.01	5.08	4.88	5.09	5.35	5.42	5.35	5.41	5.37	5.20	5.27
15	5.20	4.94	5.07	4.88	5.08	5.35	5.41	5.38	5.40	5.37	5.15	5.25
16	5.20	4.89	5.08	4.85	5.06	5.36	5.39	5.39	5.41	5.37	5.26	5.21
17	5.21	4.72	5.08	4.86	5.06	5.36	5.36	5.39	5.41	5.36	5.25	5.20
18	5.23	4.67	5.05	4.91	5.08	5.36	5.32	5.40	5.43	5.34	5.26	5.24
19	5.21	4.64	5.02	4.89	5.11	5.35	5.29	5.40	5.45	5.31	5.26	5.20
20	5.18	4.64	5.02	4.85	5.11	5.32	5.30	5.43	5.46	5.30	5.23	5.24
21	5.11	4.65	5.03	4.85	5.11	5.28	5.32	5.47	5.45	5.29	5.25	5.27
22	4.98	4.65	5.07	4.85	5.07	5.27	5.33	5.50	5.46	5.29	5.27	5.20
23	4.93	4.70	5.10	4.88	5.05	5.28	5.33	5.51	5.46	5.28	5.23	5.17
24	4.96	4.76	5.13	4.88	5.06	5.27	5.45	5.49	5.44	5.28	5.25	5.15
25	5.02	4.82	5.11	4.89	5.07	5.28	5.46	5.46	5.43	5.27	5.26	5.12
26	5.06	4.90	5.02	4.85	5.13	5.32	5.47	5.42	5.45	5.27	5.28	5.07
27	5.11	4.91	5.04	4.84	5.19	5.34	5.46	5.41	5.46	5.25	5.26	5.04
28	5.15	4.97	5.01	4.89	5.22	5.32	5.43	5.40	5.48	5.23	5.24	5.04
29	5.20	5.01	4.93	4.96	5.23	5.30	5.43	5.38	5.49	5.22	5.23	5.02
30	5.23	5.02	4.96	4.98	--	5.29	5.43	5.34	5.47	5.20	5.20	5.03
31	5.24	---	4.98	5.02	---	5.31	---	5.34	---	5.18	5.19	---
MEAN	5.12	4.98	4.99	4.89	5.08	5.30	5.38	5.41	5.42	5.35	5.23	5.22
WTR YR 2000	MEAN 5.20		HIGHEST 4.63 NOV. 19, 20, 1999				LOWEST 5.55 MAY 22, 23, 2000					



GROUND-WATER LEVELS

RIO GRANDE DE MANATI BASIN--Continued

182710066303700. Local number, 207.

LOCATION.--Lat 18°27'10", long 66°30'37", Hydrologic Unit 21010002, 1.92 mi east of Barceloneta plaza, 1.35 mi north of Central Monserrate, and 2.68 mi northeast of Escuela José Cordero. Owner: PR Aqueduct and Sewer Authority, Name: Cantito La Luisa Well.

AQUIFER.--Aymamón Limestone.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 20 in (0.51 m), cased 20 in (0.51 m) 0-30.0 ft (0-9.14 m), cased 10 in (0.25 m) 0-126 ft (0-38.4 m), perforated 80-126 ft (24.4-38.4 m). Depth 126 ft (38.4 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 59.0 ft (18.0 m), above mean sea level, from topographic map. Measuring point: Top of shelter floor, 2.80 ft (0.85 m), above land-surface datum. Prior to Nov. 20, 1992, hole on side of casing, 2.00 ft (0.61 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on November 5, 1997.

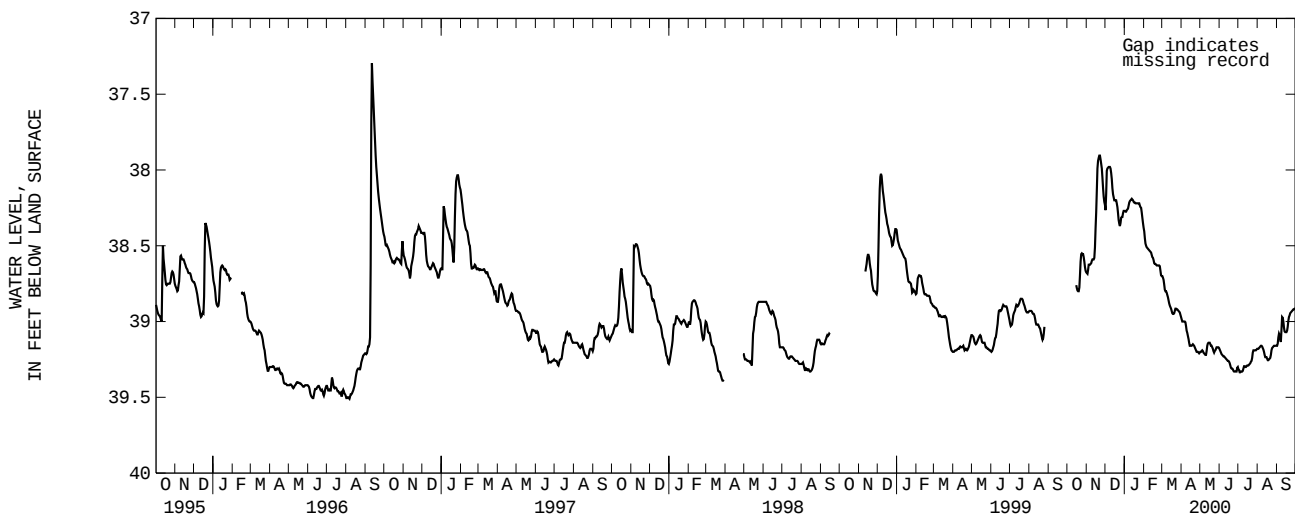
PERIOD OF RECORD.--October 1985 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 36.4 ft (11.1 m), below land-surface datum, May 15, 1986; lowest water level recorded, 89.8 ft (27.4 m), below land-surface datum, Oct. 5, 1985.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	38.68	38.24	38.27	38.39	38.70	38.97	39.20	39.18	39.32	39.18	39.16
2	---	38.68	38.29	38.27	38.42	38.70	39.00	39.20	39.19	39.31	39.18	39.16
3	---	38.69	38.02	38.28	38.48	38.72	39.00	39.20	39.20	39.33	39.18	39.13
4	---	38.63	37.99	38.27	38.49	38.73	39.00	39.19	39.21	39.34	39.17	39.08
5	---	38.62	37.99	38.26	38.51	38.78	39.00	39.19	39.22	39.33	39.17	39.08
6	---	38.63	37.98	38.26	38.51	38.80	39.00	39.20	39.22	39.33	39.16	39.10
7	---	38.62	37.98	38.25	38.52	38.80	39.00	39.21	39.23	39.33	39.16	39.13
8	---	38.62	37.98	38.22	38.52	38.80	39.01	39.21	39.23	39.33	39.16	39.14
9	---	38.61	37.98	38.21	38.53	38.82	39.05	39.22	39.23	39.32	39.17	38.97
10	---	38.59	38.00	38.20	38.53	38.83	39.07	39.22	39.24	39.30	39.18	38.97
11	---	38.59	38.04	38.20	38.54	38.85	39.08	39.22	39.24	39.29	39.19	38.98
12	---	38.59	38.08	38.19	38.54	38.87	39.11	39.17	39.25	39.30	39.21	39.02
13	---	38.59	38.16	38.19	38.55	38.89	39.12	39.15	39.25	39.30	39.23	39.06
14	---	38.57	38.16	38.20	38.57	38.90	39.16	39.14	39.26	39.30	39.24	39.07
15	38.75	38.45	38.20	38.20	38.58	38.91	39.16	39.14	39.26	39.29	39.23	39.07
16	38.77	38.32	38.20	38.22	38.58	38.92	39.16	39.14	39.26	39.29	39.24	39.07
17	38.79	38.24	38.20	38.21	38.61	38.94	39.16	39.14	39.27	39.29	39.25	39.07
18	38.80	38.03	38.20	38.22	38.62	38.95	39.16	39.16	39.28	39.29	39.26	39.05
19	38.80	37.95	38.20	38.22	38.62	38.95	39.15	39.16	39.30	39.28	39.25	39.02
20	38.80	37.93	38.24	38.22	38.62	38.95	39.15	39.16	39.31	39.28	39.25	38.97
21	38.75	37.91	38.25	38.22	38.63	38.94	39.16	39.18	39.31	39.27	39.24	38.97
22	38.64	37.90	38.32	38.22	38.63	38.92	39.16	39.18	39.31	39.26	39.24	38.95
23	38.57	37.91	38.34	38.22	38.63	38.91	39.18	39.21	39.32	39.26	39.20	38.94
24	38.54	37.95	38.37	38.22	38.63	38.92	39.18	39.20	39.33	39.22	39.18	38.94
25	38.56	37.97	38.37	38.22	38.63	38.92	39.20	39.19	39.33	39.19	39.17	38.93
26	38.55	38.01	38.33	38.25	38.63	38.92	39.20	39.19	39.33	39.19	39.17	38.93
27	38.56	38.09	38.30	38.24	38.64	38.93	39.20	39.17	39.33	39.19	39.16	38.92
28	38.59	38.15	38.32	38.26	38.69	38.93	39.20	39.17	39.33	39.19	39.16	38.92
29	38.62	38.20	38.30	38.30	38.70	38.94	39.21	39.17	39.33	39.19	39.16	38.92
30	38.66	38.22	38.27	38.33	---	38.94	39.21	39.17	39.28	39.19	39.16	38.91
31	38.67	---	38.27	38.37	---	38.97	---	39.17	---	39.18	39.16	---
MEAN	38.67	38.33	38.18	38.24	38.57	38.87	39.11	39.18	39.27	39.27	39.20	39.02

WTR YR 2000 MEAN 38.83 HIGHEST 37.90 NOV. 21, 22, 23, 1999 LOWEST 39.34 JULY 2, 3, 4, 7, 9, 2000



GROUND-WATER LEVELS

RIO GRANDE DE MANATI BASIN--Continued

182549066304300. Local number, 166.

LOCATION.--Lat 18°25'49", long 66°30'43", Hydrologic Unit 21010002, 0.95 mi east of the Rio Grande de Manatí Hwy 2 bridge, 0.40 mi southwest of Central Monserrate, 1.07 mi east of the intersection of Hwy 666 with Hwy 2, 1.20 mi west of the intersection of Hwy 685 with Hwy 2, 0.01 mi north of Hwy 2. Owner: PR Aqueduct and Sewer Authority Name: PRASA 166 USGS Observation Manatí Well.

AQUIFER.--Alluvial deposits.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 20 in (0.51 m), cased 0-100 ft (0-39.49 m), diameter 14 in (0.36 m), cased 0-140 ft (0-42.7 m), slotted 80-90 ft (24.7-27.4 m), and 130-140 ft (39.6-42.7 m). Depth 140 ft (42.7 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 29.50 ft (9.0 m), above mean-sea level, from topographic map. Measuring point: A hole in the side of the 20 in (0.51 m) diameter well casing, 1.65 ft (0.50 m) above land-surface datum. Prior May 31, 1996, top of 14 in (0.36 m) casing, 0.80 ft (0.24 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), installed on May 31, 1996. Formerly published as 182542066305200. From September 9, 1998, monthly measurements only. Electronic Data Logger (EDL), installed on March 29, 1999.

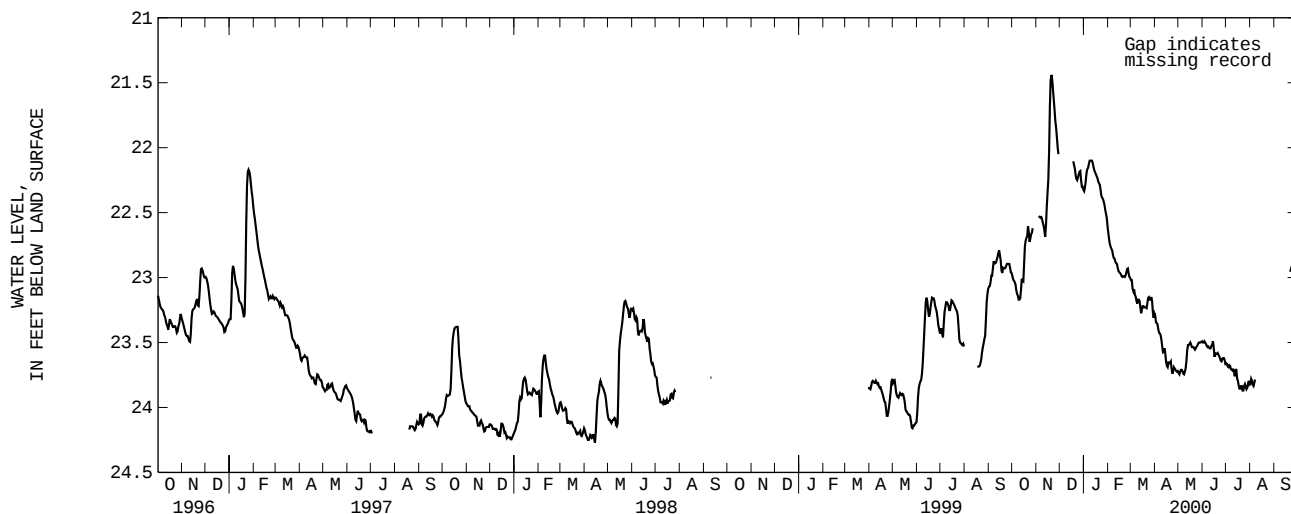
PERIOD OF RECORD.--January 1982 to December 1984, discontinued, May 31, 1996 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 21.38 ft (6.52 m), below land-surface datum, Nov. 21, 1999; lowest water level measured, 26.36 ft (8.04 m), below land-surface datum, Feb. 3, 1983.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22.96	---	---	22.35	22.64	23.02	23.25	23.72	23.49	23.67	23.86	---
2	23.02	---	---	22.32	22.68	23.02	23.33	23.75	23.51	23.65	23.78	---
3	23.01	---	---	22.29	22.74	23.02	23.36	23.74	23.49	23.68	23.78	---
4	23.04	22.53	---	22.22	22.75	23.15	23.34	23.71	23.49	23.69	23.81	---
5	23.03	22.52	---	22.17	22.78	23.06	23.38	23.71	23.51	23.69	23.84	---
6	23.08	22.55	---	22.16	22.78	23.12	23.42	23.71	23.51	23.66	23.83	---
7	23.12	22.53	---	22.15	22.81	23.15	23.43	23.73	23.54	23.70	23.79	---
8	23.13	22.54	---	22.10	22.85	23.14	23.43	23.75	23.53	23.71	23.78	---
9	23.15	22.56	---	22.10	22.85	23.22	23.46	23.74	23.53	23.70	---	---
10	23.19	22.60	---	22.10	22.86	23.18	23.50	23.71	23.55	23.73	---	---
11	23.15	22.60	---	22.10	22.90	23.16	23.56	23.69	23.54	23.69	---	---
12	23.17	22.68	---	22.10	22.88	23.18	23.59	23.60	23.55	23.76	---	---
13	23.02	22.69	---	22.14	22.91	23.18	23.55	23.52	23.50	23.76	---	---
14	23.00	22.51	---	22.16	22.94	23.28	23.54	23.52	23.54	23.66	---	---
15	23.05	22.41	---	22.19	22.96	23.27	23.64	23.52	23.44	23.76	---	---
16	23.01	22.29	---	22.19	22.96	23.22	23.66	23.50	23.63	23.79	---	---
17	22.77	22.21	---	22.22	22.97	23.22	23.70	23.50	23.59	23.80	---	---
18	22.75	21.86	22.08	22.22	22.98	23.22	23.68	23.53	23.58	23.86	---	---
19	22.68	21.52	22.13	22.25	23.00	23.24	23.63	23.54	23.60	23.85	---	---
20	22.71	21.44	22.14	22.27	22.99	23.22	23.69	23.53	23.57	23.86	---	---
21	22.65	21.44	22.18	22.28	22.99	23.24	23.62	23.54	23.59	23.81	---	22.96
22	22.56	21.51	22.24	22.29	22.99	23.23	23.67	23.55	23.60	23.86	---	22.95
23	22.74	21.60	22.24	22.36	23.00	23.16	23.73	23.56	23.61	23.88	---	22.92
24	22.71	21.66	22.26	22.38	22.97	23.15	23.75	23.53	23.63	23.86	---	22.91
25	22.69	21.76	22.20	22.39	22.95	23.15	23.69	23.53	23.65	23.81	---	22.95
26	22.64	21.83	22.21	22.40	22.92	23.19	23.69	23.52	23.64	23.83	---	22.97
27	22.67	21.86	22.16	22.43	22.94	23.15	23.71	23.50	23.61	23.85	---	23.00
28	22.57	21.98	22.20	22.45	23.00	23.15	23.71	23.50	23.63	23.87	---	23.00
29	---	22.02	22.30	22.51	22.99	23.21	23.73	23.50	23.61	23.83	---	23.11
30	---	22.08	22.30	22.51	---	23.32	23.72	23.50	23.66	23.80	---	23.12
31	---	---	22.30	22.58	---	23.30	---	23.49	---	23.79	---	---
MEAN	22.90	22.14	22.21	22.27	22.90	23.18	23.57	23.59	23.56	23.77	23.81	22.99

WTR YR 2000 MEAN 23.09 HIGHEST 21.38 NOV. 21, 1999 LOWEST 23.88 JULY 18, 19, 22, 23, 2000



GROUND-WATER LEVELS

RIO GRANDE DE MANATI BASIN--Continued

18250606280200. Local number, 1976.

LOCATION.--Lat 18°25'06", long 66°28'02", Hydrologic Unit 21010002, 0.72 mi southwest of the intersection of Hwy 686 with Hwy 670, 0.73 mi southeast of intersection of Hwy 149 with Hwy 670, and 0.78 mi northeast of Escuela Sabana Seca. Owner: US Geological Survey, WRD, Name: Piezometer Hill 2.

AQUIFER.--Aymamón Limestone.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 4 in (0.10 m), screened 360-410 ft (110-125 m). Depth 410 ft (125 m).

INSTRUMENTATION.--Pressure transducer with integrated electronic data logger--60 minutes interval.

DATUM.--Elevation of land-surface datum is about 312 ft (95.0 m), above mean sea level, from topographic map. Measuring point: Shelter floor on top of 4 in (0.10 m) casing, 3.76 ft (1.15 m), above land-surface datum.

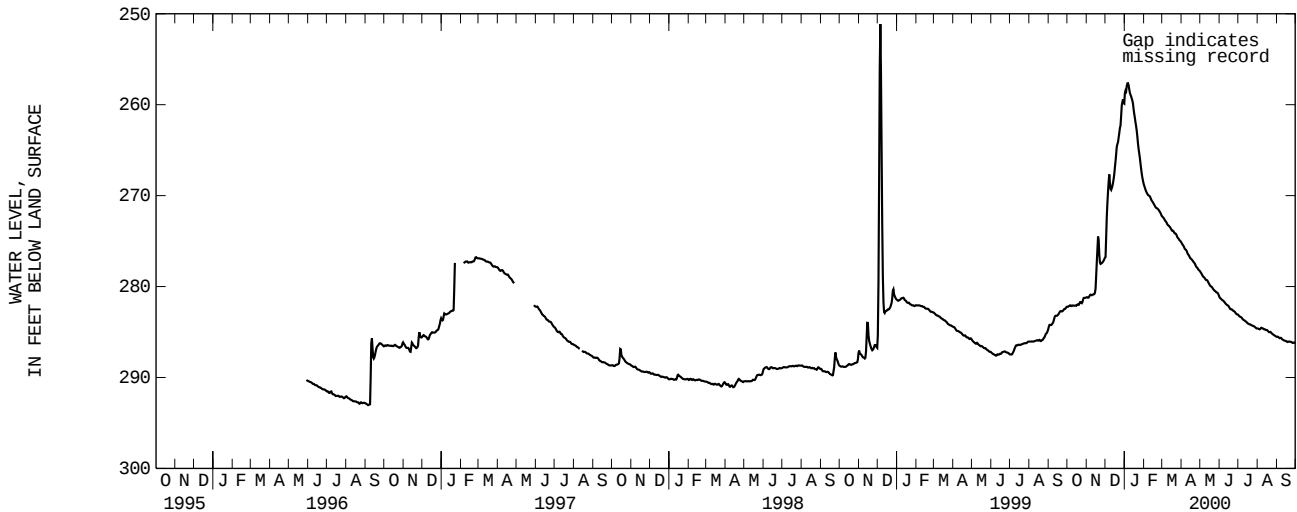
REMARKS.--Recording observation well. Electronic Data Logger (EDL), installed on May 28, 1996. Formerly published as local number HI-2.

PERIOD OF RECORD.--May 28, 1996 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 249.79 ft (76.1 m), below land-surface datum, Dec. 5, 1998; lowest water level recorded, 293.09 ft (89.3 m), below land-surface datum, Sept. 5, 6, 1996.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	282.20	281.17	276.82	259.45	268.83	272.28	275.14	278.32	281.16	283.09	284.60	285.53
2	282.23	281.17	276.70	258.01	269.00	272.32	275.28	278.45	281.27	283.18	284.62	285.50
3	282.19	281.21	272.27	258.90	269.24	272.43	275.40	278.53	281.31	283.28	284.66	285.52
4	282.14	281.25	272.27	258.19	269.45	272.49	275.48	278.67	281.36	283.32	284.70	285.59
5	282.11	281.15	269.30	257.66	269.61	272.62	275.59	278.80	281.48	283.33	284.71	285.66
6	282.03	281.00	269.76	257.64	269.73	272.77	275.79	278.92	281.50	283.38	284.62	285.70
7	282.11	280.88	267.17	257.63	269.87	272.83	275.90	278.95	281.54	283.45	284.50	285.63
8	282.16	280.90	268.18	258.11	269.97	272.91	275.94	279.03	281.62	283.56	284.57	285.65
9	282.12	280.96	269.01	258.53	269.99	273.08	276.00	279.13	281.70	283.64	284.59	285.74
10	282.05	280.95	269.48	258.88	270.04	273.21	276.16	279.24	281.79	283.68	284.60	285.83
11	282.10	280.89	269.26	258.94	270.13	273.27	276.39	279.31	281.88	283.71	284.69	285.85
12	282.10	280.84	269.09	259.23	270.33	273.30	276.47	279.25	281.96	283.76	284.69	285.91
13	282.12	280.87	268.79	259.42	270.49	273.43	276.56	279.37	282.01	283.84	284.69	285.94
14	282.06	280.78	268.38	259.68	270.61	273.44	276.69	279.51	282.05	283.87	284.78	285.95
15	282.13	280.57	267.94	260.13	270.68	273.63	276.85	279.65	282.10	283.93	284.79	285.98
16	282.10	279.85	267.27	260.88	270.81	273.72	276.94	279.76	282.18	284.04	284.76	286.01
17	281.97	277.74	266.50	261.15	270.96	273.86	276.95	279.88	282.31	284.08	284.82	286.02
18	281.97	276.72	265.89	261.77	271.04	273.88	277.09	279.99	282.43	284.09	284.91	286.13
19	282.02	275.07	264.99	262.12	271.19	273.85	277.11	279.98	282.52	284.16	284.98	286.07
20	282.00	273.94	264.25	262.64	271.32	274.00	277.26	280.06	282.49	284.16	285.03	286.06
21	281.77	275.84	264.41	263.12	271.36	274.15	277.34	280.17	282.50	284.17	285.00	286.03
22	281.67	277.17	263.83	263.94	271.38	274.15	277.40	280.27	282.59	284.26	284.97	286.07
23	281.74	277.52	263.39	264.61	271.47	274.17	277.53	280.37	282.65	284.26	285.08	286.09
24	281.84	277.50	262.85	265.14	271.49	274.28	277.70	280.43	282.71	284.31	285.16	286.06
25	281.82	277.44	262.29	265.55	271.63	274.47	277.85	280.49	282.71	284.32	285.21	286.15
26	281.57	277.40	262.27	266.16	271.72	274.65	277.90	280.54	282.82	284.38	285.26	286.18
27	281.27	277.31	260.21	266.74	271.84	274.67	277.96	280.64	282.91	284.38	285.32	286.21
28	281.24	277.17	259.90	267.35	271.95	274.77	278.11	280.66	282.99	284.45	285.36	286.15
29	281.24	277.14	259.50	267.81	272.16	274.93	278.19	280.67	283.07	284.51	285.41	286.15
30	281.25	276.84	259.34	268.20	---	274.95	278.24	280.81	283.05	284.58	285.46	286.22
31	281.22	---	260.32	268.54	---	275.04	---	280.93	---	284.62	285.51	---
MEAN	281.89	278.97	266.50	261.81	270.63	273.66	276.77	279.70	282.16	283.93	284.90	285.92
WTR YR 2000	MEAN 277.23	HIGHEST 257.19	JAN. 5, 2000	LOWEST 286.26	SEPT. 30, 2000							



RIO GRANDE DE MANATI BASIN--Continued

182308066260400. Local number, 210.

LOCATION:--Lat 18°23'08", long 66°26'04", Hydrologic Unit 21010002, 4.88 mi southeast of Manatí plaza, 5.24 mi southwest of Vega Baja plaza, and 2.25 mi west of Escuela Evaristo Camacho. Owner: Gelo Martinez, Name: Gelo Martinez Well.

AQUIFER.--Lares Limestone.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 8 in (0.20 m), cased 8 in (0.20 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 574 ft (174.9 m), above mean sea level, from topographic map. Measuring point: Top of shelter floor, 3.30 ft (1.01 m), above land-surface datum. Prior to January 14, 1993, hole on side of casing, 2.00 ft (0.61 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on November 17, 1997.

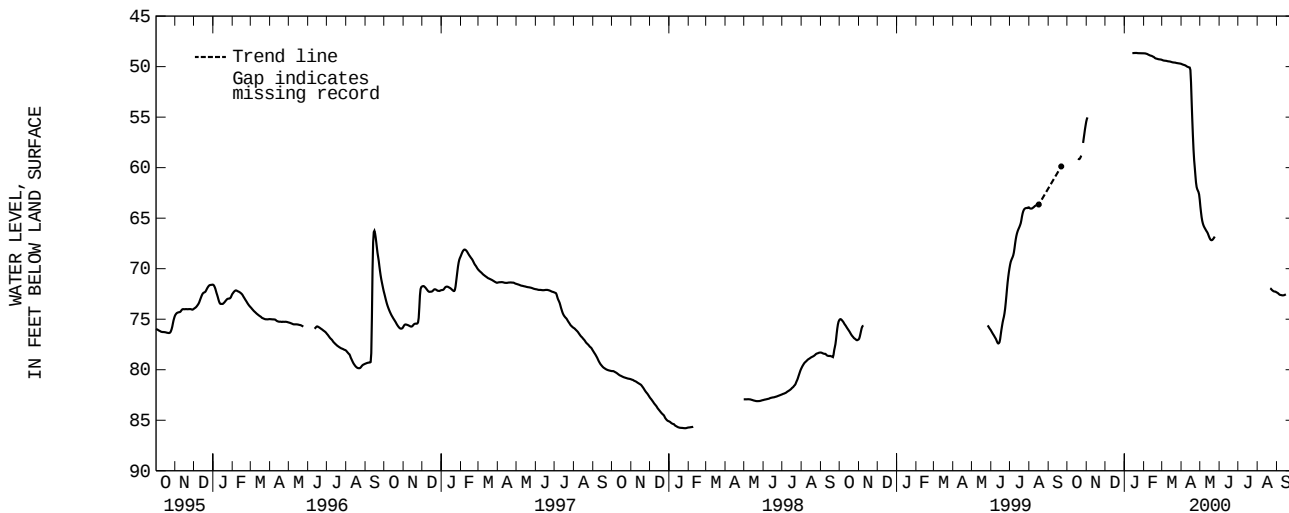
PERIOD OF RECORD.--October 1985 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 40.56 ft (12.4 m), below land-surface datum, May 22, 1986; lowest water level recorded, 85.50 ft (26.1 m), below land-surface datum, Oct. 14, 15, 1994.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	55.29	---	---	48.69	49.34	49.73	63.56	---	---	---	72.36
2	---	55.11	---	---	48.69	49.36	49.76	64.14	---	---	---	72.38
3	---	54.95	---	---	48.69	49.39	49.79	64.70	---	---	---	72.43
4	---	---	---	---	48.71	49.40	49.81	65.12	---	---	---	72.49
5	---	---	---	---	48.73	49.41	49.83	65.42	---	---	---	72.55
6	---	---	---	---	48.74	49.42	49.85	65.64	---	---	---	72.59
7	---	---	---	---	48.78	49.42	49.87	65.79	---	---	---	72.60
8	---	---	---	---	48.81	49.43	49.90	65.92	---	---	---	72.61
9	---	---	---	---	48.84	49.45	49.95	66.03	---	---	---	72.63
10	---	---	---	---	48.87	49.47	49.99	66.14	---	---	---	72.64
11	---	---	---	---	48.90	49.47	50.02	66.25	---	---	---	72.64
12	---	---	---	---	48.92	49.49	50.04	66.35	---	---	---	72.63
13	---	---	---	48.66	48.93	49.49	50.07	66.44	---	---	---	72.62
14	---	---	---	48.66	48.95	49.50	50.08	66.60	---	---	---	72.59
15	---	---	---	48.66	49.00	49.52	50.11	66.77	---	---	---	72.55
16	---	---	---	48.66	49.02	49.54	50.56	66.93	---	---	---	72.52
17	---	---	---	48.65	49.05	49.56	52.53	67.05	---	---	---	---
18	59.05	---	---	48.65	49.11	49.58	54.41	67.15	---	---	---	---
19	59.13	---	---	48.65	49.17	49.58	56.01	67.18	---	---	---	---
20	59.17	---	---	48.65	49.19	49.60	57.56	67.18	---	---	---	---
21	59.14	---	---	48.65	49.21	49.60	58.85	67.14	---	---	71.94	---
22	59.03	---	---	48.67	49.22	49.60	59.62	67.06	---	---	71.94	---
23	58.91	---	---	48.67	49.25	49.62	60.36	66.98	---	---	72.02	---
24	58.70	---	---	48.67	49.26	49.64	61.15	66.88	---	---	72.10	---
25	---	---	---	48.67	49.28	49.65	61.78	66.76	---	---	72.15	---
26	57.78	---	---	48.68	49.28	49.66	62.06	---	---	---	72.20	---
27	57.33	---	---	48.67	49.29	49.67	62.21	---	---	---	72.24	---
28	56.89	---	---	48.68	49.30	49.68	62.34	---	---	---	72.26	---
29	56.42	---	---	48.68	49.31	49.69	62.50	---	---	---	72.27	---
30	56.00	---	---	48.68	---	49.70	62.82	---	---	---	72.27	---
31	55.63	---	---	48.68	---	49.71	---	---	---	---	72.32	---
MEAN	57.94	55.12	---	48.67	49.01	49.54	54.45	66.21	---	---	72.16	72.55

WTR YR 2000 MEAN 56.74 HIGHEST 48.58 JAN. 11, 2000 LOWEST 72.64 SEPT. 10, 11, 12, 2000



GROUND-WATER LEVELS

R10 CIBUCO BASIN--Continued

182712066251700. Local number, 1102.

LOCATION.--Lat 18°27'12", long 66°25'17", Hydrologic Unit 21010002, 0.60 mi north of the intersection of Hwy 687 with Hwy 2, 0.55 mi southeast of the eastern shoreline of Laguna Tortuguero, 0.32 mi east of Laguna Rica, and 0.12 mi west of Hwy 687.

Owner: US Geological Survey WRD, Name: Piezometer Tortuguero 3.

AQUIFER.--Aymamón Limestone.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 4 in (0.10 m), screened 68-218 ft (20.7-66.4 m). Depth 218 ft (66.4 m).

INSTRUMENTATION.--Pressure transducer with integrated electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 30.0 ft (9.0 m), above mean sea level, from topographic map. Measuring point:

Shelter floor on top of 4 in (0.10 m) casing, 3.40 ft (1.04 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on June 10, 1999. Formerly published as local number T0-3.

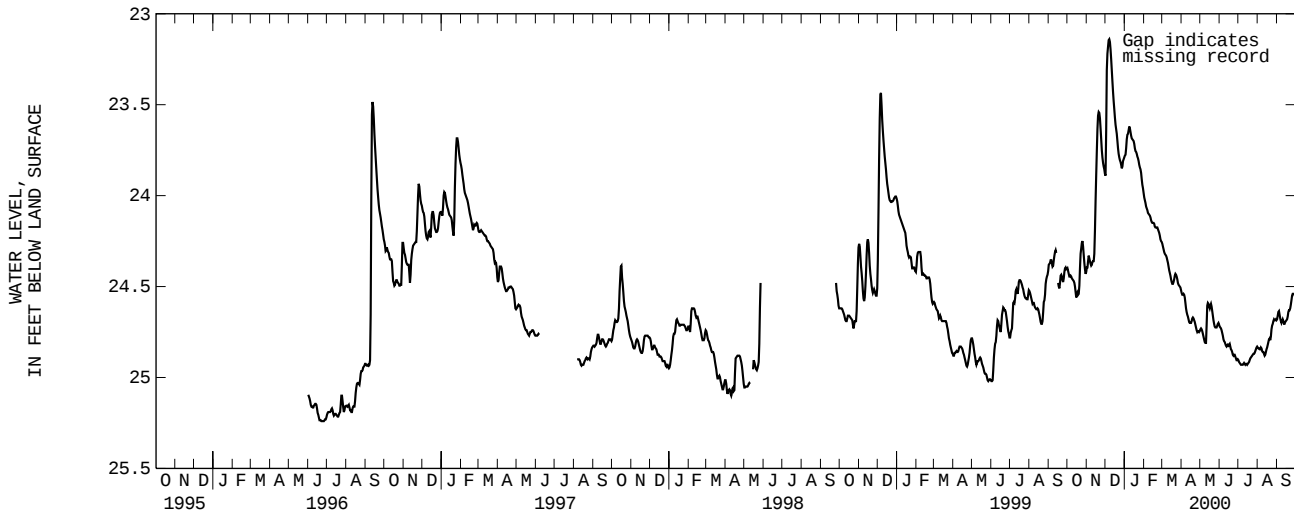
PERIOD OF RECORD.--May 31, 1996 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 23.13 ft (7.05 m), below land-surface datum, Dec. 7, 8, 1999; lowest water level recorded, 25.26 ft (7.70 m), below land-surface datum, June 21, 22, 23, 1996.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24.39	24.40	23.89	23.78	24.00	24.26	24.53	24.74	24.72	24.90	24.83	24.69
2	24.41	24.39	23.89	23.78	24.02	24.27	24.54	24.73	24.72	24.91	24.84	24.67
3	24.42	24.40	23.39	23.77	24.03	24.29	24.55	24.73	24.73	24.92	24.84	24.65
4	24.44	24.32	23.23	23.71	24.05	24.30	24.54	24.74	24.73	24.92	24.84	24.63
5	24.45	24.34	23.21	23.67	24.07	24.32	24.54	24.75	24.75	24.93	24.85	24.64
6	24.44	24.35	23.15	23.66	24.07	24.32	24.55	24.77	24.76	24.93	24.84	24.67
7	24.44	24.37	23.14	23.66	24.09	24.33	24.57	24.78	24.78	24.93	24.83	24.68
8	24.45	24.38	23.14	23.62	24.10	24.33	24.61	24.80	24.80	24.93	24.85	24.70
9	24.46	24.39	23.17	23.62	24.10	24.35	24.63	24.81	24.80	24.93	24.86	24.70
10	24.46	24.37	23.22	23.64	24.11	24.36	24.65	24.81	24.81	24.92	24.86	24.68
11	24.47	24.36	23.28	23.66	24.11	24.38	24.66	24.81	24.82	24.92	24.86	24.68
12	24.47	24.36	23.34	23.68	24.13	24.40	24.67	24.62	24.83	24.93	24.88	24.70
13	24.49	24.36	23.40	23.69	24.14	24.42	24.69	24.59	24.83	24.93	24.88	24.71
14	24.51	24.28	23.46	23.69	24.15	24.43	24.70	24.59	24.82	24.92	24.87	24.70
15	24.55	24.10	23.50	23.70	24.15	24.45	24.70	24.60	24.82	24.93	24.85	24.69
16	24.57	23.96	23.55	23.70	24.15	24.47	24.70	24.62	24.83	24.93	24.84	24.69
17	24.53	23.82	23.59	23.73	24.15	24.48	24.70	24.62	24.81	24.92	24.83	24.68
18	24.54	23.69	23.63	23.75	24.16	24.49	24.68	24.59	24.82	24.92	24.81	24.68
19	24.55	23.58	23.64	23.76	24.18	24.48	24.67	24.60	24.84	24.91	24.80	24.65
20	24.53	23.54	23.68	23.76	24.17	24.47	24.67	24.62	24.85	24.90	24.78	24.63
21	24.46	23.54	23.72	23.78	24.18	24.45	24.68	24.65	24.85	24.89	24.79	24.63
22	24.34	23.55	23.76	23.79	24.17	24.43	24.69	24.67	24.87	24.89	24.80	24.63
23	24.30	23.60	23.78	23.80	24.18	24.43	24.70	24.70	24.88	24.88	24.75	24.61
24	24.28	23.66	23.80	23.82	24.19	24.44	24.72	24.71	24.88	24.88	24.72	24.59
25	24.24	23.72	23.81	23.84	24.20	24.45	24.73	24.73	24.87	24.87	24.71	24.56
26	24.26	23.78	23.82	23.85	24.21	24.47	24.75	24.72	24.88	24.87	24.70	24.54
27	24.30	23.80	23.84	23.86	24.23	24.49	24.75	24.73	24.89	24.87	24.68	24.54
28	24.35	23.84	23.86	23.89	24.25	24.49	24.74	24.72	24.90	24.86	24.68	24.54
29	24.39	23.84	23.82	23.93	24.25	24.50	24.75	24.71	24.91	24.85	24.69	24.54
30	24.42	23.87	23.80	23.95	---	24.50	24.75	24.70	24.90	24.84	24.68	24.55
31	24.44	---	23.80	23.97	---	24.51	---	24.70	---	24.83	24.68	---
MEAN	24.43	24.03	23.56	23.76	24.14	24.41	24.66	24.70	24.82	24.90	24.80	24.64

WTR YR 2000 MEAN 24.40 HIGHEST 23.13 DEC. 7, 8, 1999 LOWEST 24.96 JULY 3, 4, 5, 16, 2000



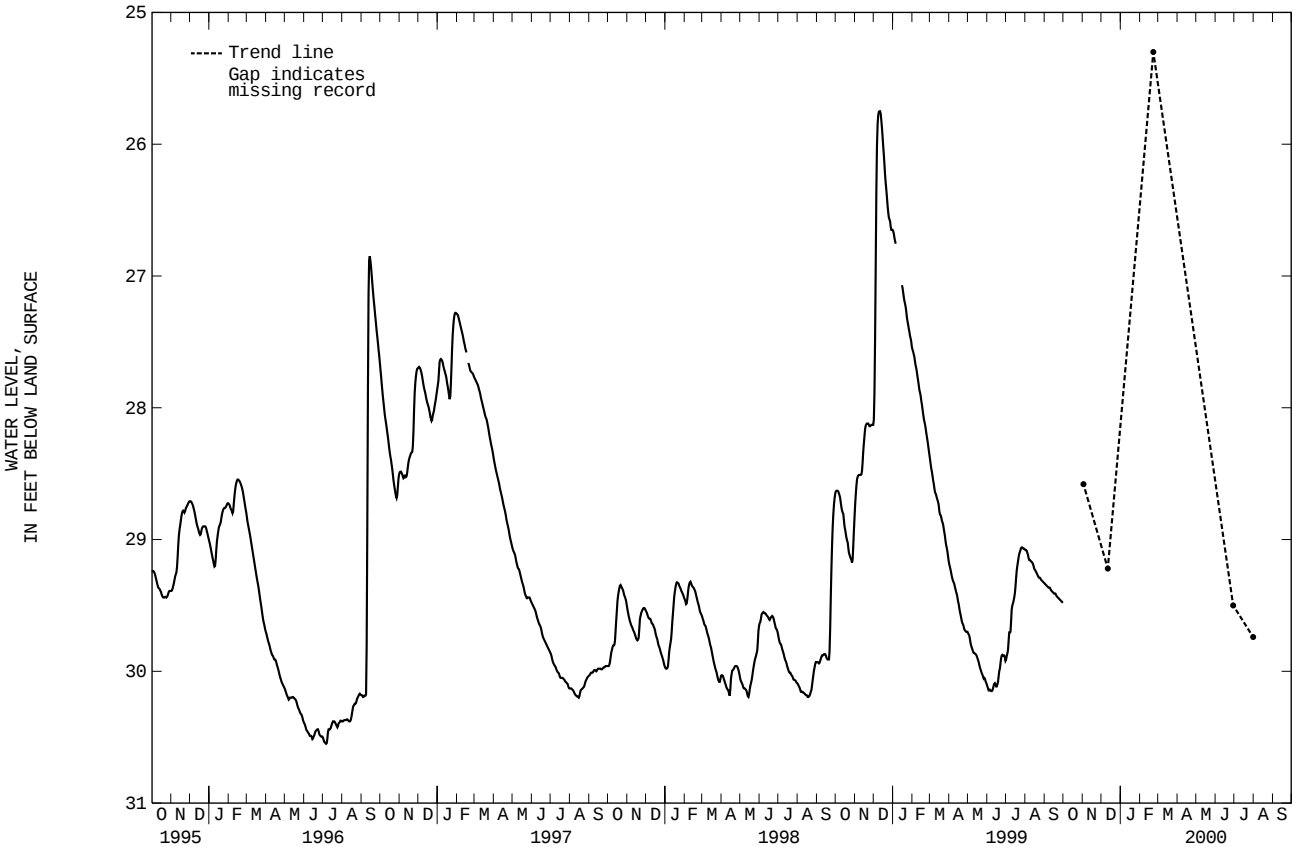
GROUND-WATER LEVELS

RIO CIBUCO BASIN--Continued

182647066201700. Local number, 70.
LOCATION.--Lat 18°26'47", long 66°20'17", Hydrologic Unit 21010002, 1.52 mi north of Vega Alta plaza, 4.78 mi southwest of Dorado plaza, and 2.01 mi northwest of Escuela Industrial para Mujeres. Owner: PR Aqueduct and Sewer Authority, Name: Sabana Hoyos Well.
AQUIFER.--Limestone of Tertiary Age.
WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 8 in (0.20 m), cased 0-90.0 ft (0-27.4 m), perforated. Depth 90.0 ft (27.4 m).
INSTRUMENTATION.--Electronic water level logger--60-minutes interval.
DATUM.--Elevation of land-surface datum is about 49.0 ft (14.9 m), above mean sea level, from topographic map. Measuring point: Top of casing wooden cover, 1.30 ft (0.40 m), above land-surface datum.
REMARKS.--Recording observation well. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on February 17, 1998. Only monthly tape down measurements published on water year 2000.
PERIOD OF RECORD.--February 1960 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 21.33 ft (6.50 m), below land-surface datum, Oct. 26, 1976; lowest water level recorded, 31.12 ft (9.48 m), below land-surface datum, May 12, 13, 1995.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 05	29.10	NOV 02	28.58	FEB 22	25.30	JUN 29	29.50	JUL 31	29.74
WATER YEAR 2000		HIGHEST 25.30 FEB. 22, 2000		LOWEST 29.74 JULY 31, 2000					



GROUND-WATER LEVELS

RIO CIBUCO BASIN--Continued

182515066194000. Local number, 212.

LOCATION.--Lat 18°25'15", long 66°19'40", Hydrologic Unit 21010002, 5.15 mi southwest of Dorado plaza, 0.49 mi north of Vega Alta plaza, and 1.04 mi northwest of Escuela Industrial para Mujeres. Owner: US Geological Survey, WRD, Name: Ponderosa 1 Well.

AQUIFER.--Aguada Limestone-Cibao Formation.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 4 in (0.10 m), cased 4 in (0.10 m) 0-136 ft (0-41.1 m), perforated 121-131 ft (36.9-39.9 m); bentonite packed 0.5-121 ft (0.15-36.9 m). Depth 136 ft (39.9 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 98.0 ft (29.9 m), above mean sea level, from topographic map. Measuring point: Shelter floor on top of 4 in (0.10 m) casing, 2.55 ft (0.78 m), above land-surface datum. Prior to November 3, 1989, hole on top of shelter floor casing, 3.00 ft (0.91 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on February 17, 1998. Water levels affected by nearby pumping well.

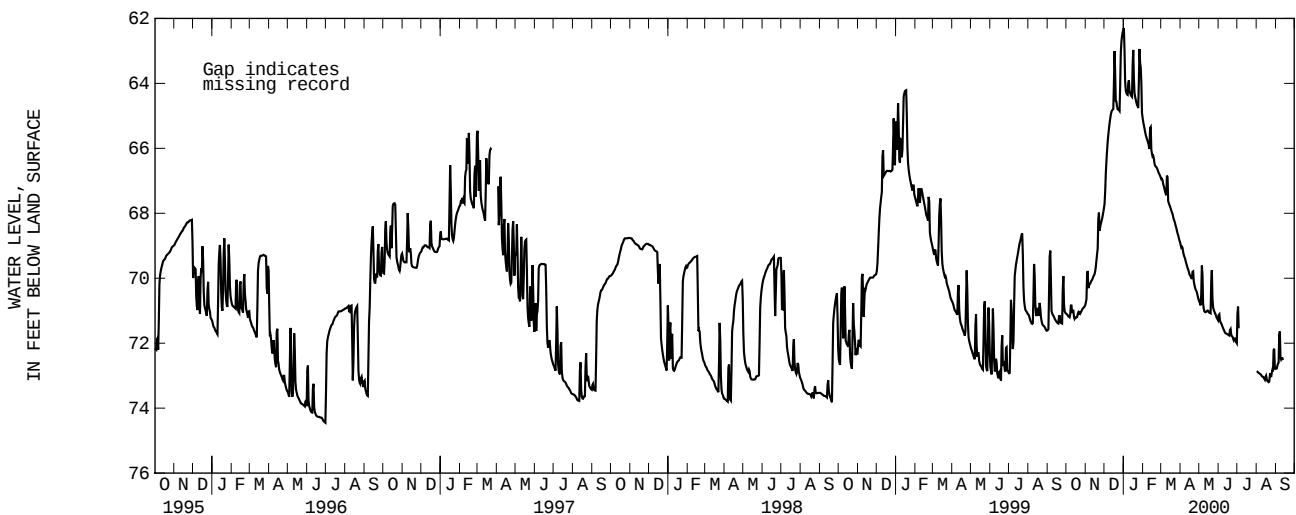
PERIOD OF RECORD.--October 1985 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 62.21 ft (19.0 m), below land-surface datum, Jan. 3, 2000; lowest water level recorded, 75.33 ft (22.9 m), below land-surface datum, Feb. 27, Mar. 4, 5, 6, 1995

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	71.09	70.80	67.77	62.33	65.14	66.92	68.92	70.71	71.32	72.02	72.86	72.79
2	71.11	70.70	67.66	62.26	65.24	66.98	69.03	70.75	70.95	70.20	72.86	72.78
3	71.12	70.59	66.99	63.69	65.33	66.90	69.08	70.80	71.27	71.55	72.89	72.78
4	71.17	69.23	66.57	64.18	65.43	67.07	68.98	70.87	71.34	71.53	72.91	72.61
5	71.18	70.32	66.24	64.26	65.55	67.14	69.15	70.10	71.37	---	72.92	72.65
6	71.16	70.29	65.93	64.33	65.62	67.19	69.24	69.12	71.41	---	72.93	72.56
7	71.23	70.20	65.68	64.35	65.69	67.30	69.32	70.70	71.46	---	72.96	70.90
8	71.01	70.18	65.51	64.36	65.74	67.37	69.36	70.87	71.52	---	72.96	72.38
9	70.67	70.15	65.30	63.64	65.81	67.41	69.42	71.00	71.56	---	72.99	72.49
10	71.01	70.09	65.17	64.18	65.87	67.48	69.52	71.03	71.60	---	73.03	72.51
11	71.13	70.06	65.02	64.26	65.98	66.20	69.57	71.05	71.65	---	73.03	72.41
12	70.86	70.04	64.91	64.33	66.06	67.57	69.65	71.04	71.69	---	73.04	72.51
13	71.13	69.97	64.85	64.38	64.68	67.67	69.71	71.02	71.70	---	73.08	72.53
14	71.23	69.93	64.82	64.40	66.00	67.71	69.75	71.02	71.71	---	73.10	---
15	71.27	69.90	64.80	64.43	66.10	67.77	69.84	70.97	71.72	---	73.15	---
16	71.16	69.84	64.78	62.49	66.22	67.82	69.90	71.03	71.73	---	72.93	---
17	71.28	69.74	63.28	63.45	66.29	67.88	69.93	71.05	71.75	---	73.07	---
18	71.12	69.55	62.73	64.21	66.18	67.95	69.96	71.07	71.76	---	73.15	---
19	71.27	69.35	64.61	64.37	66.43	67.99	70.00	71.07	71.77	---	73.17	---
20	70.94	69.18	64.48	64.46	66.50	68.06	70.05	71.09	71.43	---	73.19	---
21	71.16	68.99	64.65	64.54	66.56	68.16	69.56	69.11	71.70	---	73.21	---
22	71.01	67.38	64.77	64.63	66.56	68.22	70.02	70.39	71.77	---	73.16	---
23	71.11	68.58	64.82	64.70	66.59	68.25	70.16	70.87	71.79	---	72.81	---
24	71.07	68.49	64.80	64.70	66.63	68.36	70.24	70.94	71.81	---	73.04	---
25	71.03	68.36	64.84	64.82	66.69	68.41	70.33	71.00	71.89	---	73.05	---
26	70.99	68.29	64.86	63.04	66.74	68.49	70.37	71.05	71.92	---	72.79	---
27	70.95	68.21	63.34	62.84	66.79	68.59	70.41	71.09	71.79	---	72.87	---
28	70.93	68.14	62.82	63.91	66.82	68.65	70.45	71.14	71.92	---	72.87	---
29	70.90	68.01	62.63	63.11	66.87	68.70	70.59	71.21	71.95	---	71.56	---
30	70.88	67.92	62.47	64.84	---	68.81	70.63	71.25	71.98	---	72.78	---
31	70.86	---	62.39	64.98	---	68.86	---	71.27	---	---	72.79	---
MEAN	71.07	69.42	64.82	64.02	66.07	67.80	69.77	70.83	71.64	71.32	72.94	72.45

WTR YR 2000 MEAN 69.02 HIGHEST 62.21 JAN. 3, 2000 LOWEST 73.21 AUG. 20, 21, 2000



RIO CIBUCO BASIN--Continued

182330066185700. Local number, 213.

LOCATION:--Lat 18°23'30", long 66°18'57", Hydrologic Unit 21010002, 1.82 mi southeast of Vega Alta plaza, 4.23 mi west of Toa Alta plaza, and 1.27 mi northwest off the intersection of Hwy 820 with Hwy 823. Owner: PR Aqueduct and Sewer Authority, Name: Pampano 2 Well.

AQUIFER.--Río Indio Limestone-Lares Limestone.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 20 in (0.51 m), cased 20 in (0.51 m) 0-130 ft (0-39.6 m), diameter 14 in (0.36 m), cased 12 in (0.30 m) 0-220 ft (0-67.1 m); open hole 220-330 ft (67.6-101 m). Depth 330 ft (101 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 394 ft (120 m), above mean sea level, from topographic map. Measuring point:

Top of shelter floor, 9.32 ft (2.84 m), above land-surface datum. Prior April 27, 1993, hole on side of casing, 2.95 ft (0.90 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on February 17, 1998.

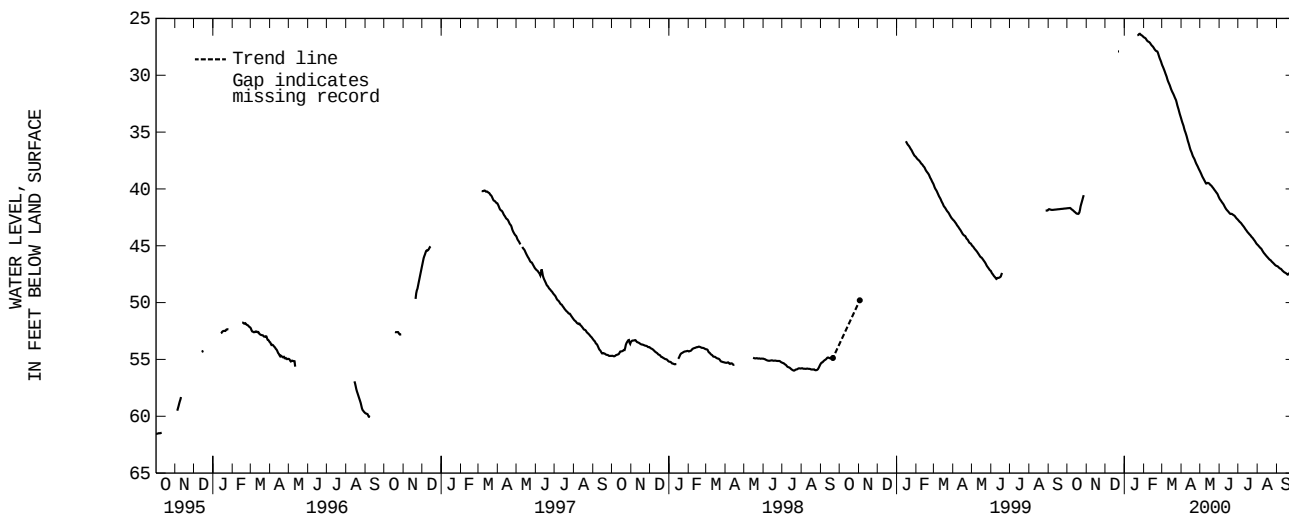
PERIOD OF RECORD.--October 1985 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 26.27 ft (8.01 m), below land-surface datum, Jan. 25, 2000; lowest water level recorded, 65.68 ft (20.0 m), below land-surface datum, Aug. 20, 1995.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	41.70	---	---	---	26.67	29.09	33.86	38.46	40.83	42.74	44.90	46.79
2	41.70	---	---	---	26.69	29.19	34.06	38.58	40.93	42.79	44.96	46.79
3	41.69	---	---	---	26.72	29.32	34.23	38.70	40.99	42.87	45.02	46.84
4	41.69	---	---	---	26.77	29.47	34.36	38.83	41.07	42.92	45.09	46.90
5	41.68	---	---	---	26.87	29.60	34.56	38.96	41.17	42.96	45.15	46.95
6	41.67	---	---	---	26.95	29.77	34.80	39.05	41.23	43.03	45.22	47.00
7	41.74	---	---	---	27.01	29.92	34.94	39.15	41.31	43.10	45.23	47.02
8	41.79	---	---	---	27.04	30.05	35.10	39.26	41.39	43.19	45.35	47.04
9	41.83	---	---	---	27.07	30.23	35.27	39.35	41.51	43.24	45.44	47.12
10	41.87	---	---	---	27.10	30.44	35.45	39.48	41.61	43.32	45.52	47.19
11	41.91	---	---	---	27.18	30.57	35.70	39.56	41.71	43.39	45.62	47.23
12	41.98	---	---	---	27.26	30.70	35.88	39.49	41.79	43.48	45.68	47.29
13	42.02	---	---	---	27.34	30.82	36.04	39.46	41.86	43.57	45.74	47.33
14	42.06	---	---	---	27.41	30.96	36.24	39.48	41.92	43.63	45.82	47.36
15	42.12	---	---	---	27.45	31.14	36.45	39.50	41.97	43.71	45.88	47.39
16	42.17	---	---	---	27.52	31.29	36.62	39.54	42.05	43.80	45.95	47.43
17	42.18	---	---	---	27.61	31.40	36.72	39.62	42.11	43.85	46.00	47.46
18	42.18	---	---	---	27.71	31.53	36.88	39.67	42.18	43.91	46.07	47.55
19	42.22	---	---	---	27.77	31.62	37.05	39.70	42.21	43.99	46.13	47.53
20	42.12	---	---	---	27.84	31.75	37.18	39.78	42.19	44.04	46.19	47.50
21	42.02	---	27.91	26.47	27.88	31.89	37.27	39.86	42.19	44.09	46.25	47.42
22	41.66	---	27.90	26.47	27.88	32.02	37.37	39.91	42.24	44.19	46.25	47.34
23	41.41	---	---	26.46	27.94	32.13	37.52	40.00	42.28	44.24	46.34	47.22
24	41.24	---	---	26.41	28.12	32.27	37.66	40.08	42.32	44.30	46.40	47.02
25	41.03	---	---	26.32	28.30	32.53	37.79	40.15	42.34	44.36	46.45	46.82
26	40.84	---	---	26.38	28.46	32.74	37.90	40.22	42.41	44.46	46.50	46.64
27	40.63	---	---	26.43	28.61	32.90	37.99	40.31	42.49	44.52	46.56	46.49
28	40.47	---	---	26.49	28.73	33.09	38.12	40.37	42.56	44.59	46.61	46.32
29	---	---	---	26.49	28.89	33.33	38.25	40.44	42.63	44.69	46.68	46.21
30	---	---	---	26.56	---	33.49	38.35	40.59	42.66	44.78	46.72	46.15
31	---	---	---	26.61	---	33.68	---	40.71	---	44.86	46.76	---
MEAN	41.70	---	27.90	26.46	27.54	31.26	36.32	39.62	41.87	43.76	45.89	47.04

WTR YR 2000 MEAN 38.90 HIGHEST 26.27 JAN. 25, 2000 LOWEST 47.55 SEPT. 19, 20, 2000



GROUND-WATER LEVELS

RIO CIBUCO BASIN--Continued

182426066260400. Local number, 1103.

LOCATION.--Lat 18°24'26", long 66°26'04", Hydrologic Unit 21010002, 1.30 mi south of Hwy 670, 1.80 mi south southeast of Escuela C. Ramirez de Arellano, and 2.30 mi south southwest of Morovis exit of the Hwy 22. Owner: US Geological Survey, Name: Perica. AQUIFER.--Cibao Limestone.

WELL CHARACTERISTICS.--Diameter 4 in (0.10 m), open screened 360-400 ft (110-122 m). Depth 400 ft (122 m).

DATUM.--Elevation of land-surface datum is about 492 ft (150 m), above mean sea level, from topographic map.

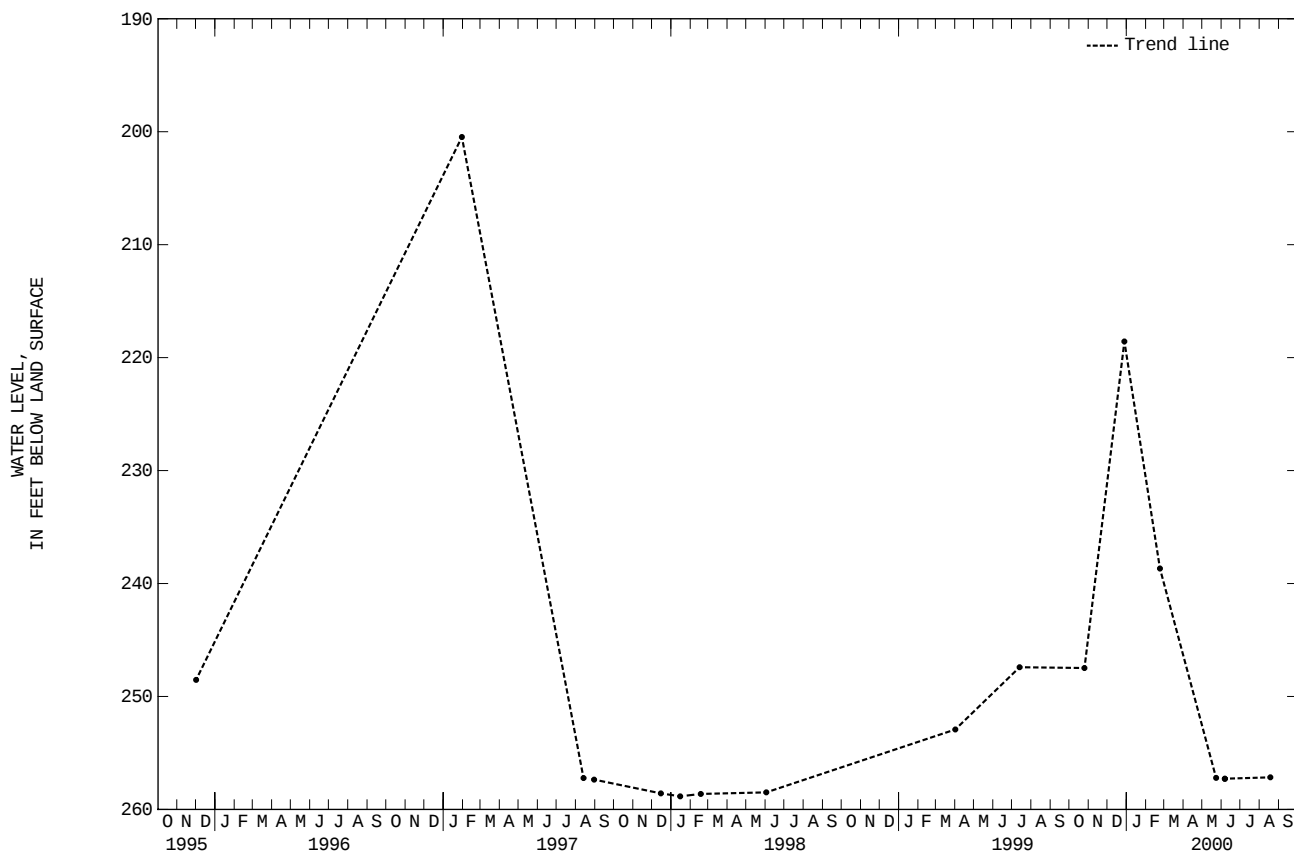
REMARKS.--Observation well.

PERIOD OF RECORD.--December 1, 1995 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 200.27 ft (61.04 m), below land-surface datum, Jan. 30, 1997;
lowest water level measured, 258.84 ft (78.89 m), below land-surface datum, Jan. 15, 1998.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	247.48	FEB 23	238.67	JUN 06	257.29	JUN 06	257.28	AUG 18	257.16	AUG 18	257.24
DEC 28	218.57	MAY 23	257.21								
WATER YEAR 2000		HIGHEST 218.57 DEC. 28, 1999		LOWEST 257.29 JUNE 6, 2000							



GROUND-WATER LEVELS
RIO DE LA PLATA BASIN

182526066165001. Local number, 1127.

LOCATION.--Lat 18°25'26", long 66°16'50", Hydrologic Unit 21010005, 1.03 mi north of Hwy 2, 0.93 mi west of the intersection of Hwy 659 with Hwy 693, and 0.03 mi north of Hwy 659. Owner: US Geological Survey, WRD, Name: Piezometer Santa Rosa USGS 2.

AQUIFER.--Aguada Limestone.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 4 in (0.10 m), cased 4 in (0.10 m) 0-140 ft (0-42.7 m), screened 120-130 ft (36.6-39.6 m). Depth 140 ft (42.7 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 91.8 ft (28.0 m), above mean sea level, from topographic map. Measuring point: Shelter floor on top of 4 in (0.10 m) casing, 3.31 ft (1.01 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed in February 6, 1997. Only monthly tape down measurements published on water years 1998, 1999, and partial 2000.

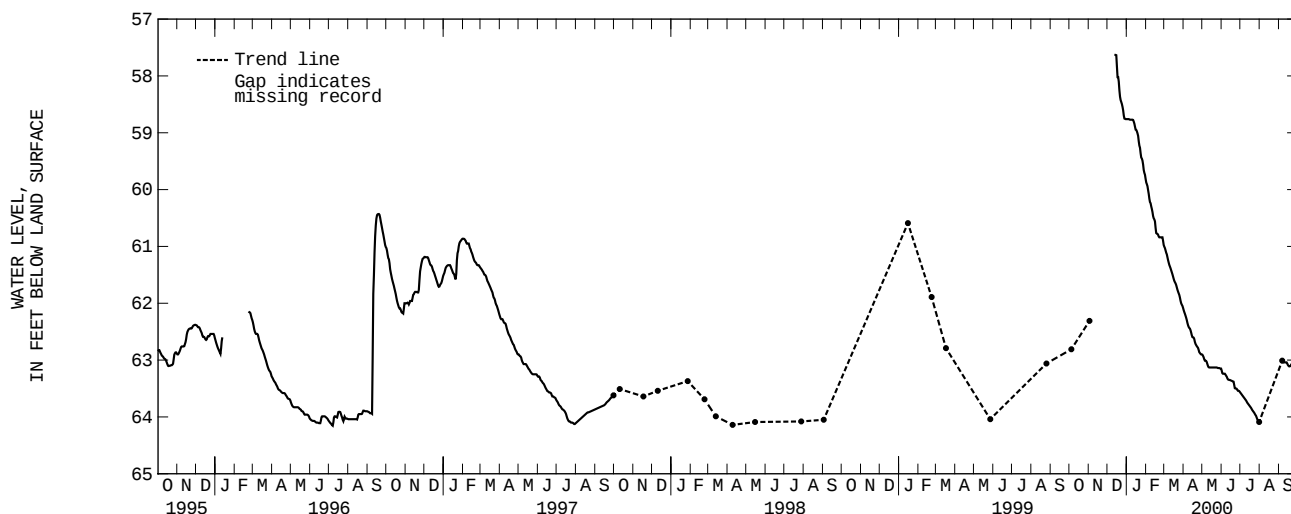
PERIOD OF RECORD.--February 2, 1995 to current year. Formerly published as local number SR-2.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 57.63 ft (17.56 m), below land-surface datum, Dec. 11-14, 1999; lowest water level recorded, 64.9 ft (19.8 m), below land-surface datum, May 2-5, 10-15, 1995.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	58.76	59.85	60.99	62.10	62.90	63.15	63.57	---	---
2	---	---	---	58.76	59.90	61.02	62.14	62.91	63.22	63.58	---	---
3	---	---	---	58.76	59.91	61.04	62.17	62.94	63.24	63.60	---	---
4	---	---	---	58.76	59.97	61.10	62.20	62.96	63.24	63.61	---	---
5	---	---	---	58.76	60.05	61.12	62.24	63.01	63.24	63.63	---	---
6	---	---	---	58.77	60.10	61.16	62.27	63.01	63.24	63.64	---	---
7	---	---	---	58.77	60.22	61.22	62.32	63.01	63.24	63.66	---	63.02
8	---	---	---	58.77	60.22	61.26	62.37	63.02	63.27	63.67	---	63.04
9	---	---	---	58.77	60.26	61.31	62.40	63.05	63.28	63.69	---	63.04
10	---	---	---	58.77	60.33	61.34	62.43	63.09	63.30	63.70	---	63.04
11	---	---	---	58.77	60.35	61.37	62.44	63.12	63.34	63.72	---	63.04
12	---	---	57.63	58.78	60.44	61.40	62.45	63.13	63.34	63.74	---	63.04
13	---	---	57.63	58.83	60.49	61.44	62.50	63.13	63.35	63.76	---	63.04
14	---	---	57.63	58.85	60.52	61.47	62.53	63.13	63.35	63.77	---	63.04
15	---	---	57.63	58.94	60.53	61.51	62.59	63.13	63.35	63.79	---	63.08
16	---	---	57.64	58.95	60.59	61.55	62.60	63.13	63.36	63.80	---	63.09
17	---	---	58.02	58.95	60.76	61.59	62.60	63.13	63.36	63.82	---	63.11
18	---	---	58.02	59.00	60.77	61.62	62.61	63.13	63.37	63.83	---	63.11
19	---	---	58.02	59.02	60.78	61.64	62.65	63.13	63.37	63.85	---	63.11
20	---	---	58.18	59.09	60.78	61.66	62.71	63.13	63.38	63.87	---	63.10
21	---	---	58.33	59.21	60.81	61.70	62.72	63.13	63.38	63.89	---	63.07
22	---	---	58.40	59.24	60.84	61.74	62.75	63.13	63.49	63.90	---	63.07
23	---	---	58.45	59.29	60.84	61.78	62.76	63.13	63.50	63.92	---	63.07
24	---	---	58.47	59.43	60.84	61.81	62.78	63.13	63.50	63.93	---	63.06
25	---	---	58.52	59.44	60.84	61.84	62.79	63.13	63.50	63.96	---	63.06
26	---	---	58.57	59.47	60.84	61.87	62.85	63.14	63.51	63.97	---	63.06
27	---	---	58.64	59.51	60.84	61.93	62.87	63.14	63.54	63.99	---	63.06
28	---	---	58.75	59.61	60.84	61.98	62.88	63.14	63.54	64.03	---	63.06
29	---	---	58.75	59.70	60.96	62.02	62.90	63.14	63.54	64.05	---	63.06
30	---	---	58.76	59.71	---	62.03	62.90	63.15	63.55	64.07	---	63.06
31	---	---	58.76	59.77	---	62.06	---	63.15	---	64.09	---	---
MEAN	---	---	58.24	59.07	60.50	61.53	62.55	63.09	63.37	63.81	---	63.06

WTR YR 2000 MEAN 61.80 HIGHEST 57.63 DEC. 11, 12, 13, 14, 1999 LOWEST 64.09 JULY 31, 2000



GROUND-WATER LEVELS

RIO DE LA PLATA BASIN

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 04	62.81	NOV 02	62.31	FEB 22	60.84	JUN 29	63.54	SEP 06	63.01	SEP 08	63.04
04	62.81	02	62.31	MAY 22	63.13	JUL 31	64.09				
WATER YEAR 2000		HIGHEST	60.84	FEB. 22, 2000	LOWEST	64.09	JULY 31, 2000				

RIO DE LA PLATA BASIN--Continued

182548066164401. Local number, 1128.

LOCATION.--Lat 18°25'48", long 66°16'44", Hydrologic Unit 2101005, 1.47 mi north of Hwy 2, 0.60 mi south of Hwy 695, 0.04 mi south of the intersection of Hwy 694 with 659, and 0.02 mi east of Hwy 659. Owner: US Geological Survey WRD, Name: Piezometer Maguayo USGS 2, Dorado.

AQUIFER.--Aguada Limestone.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 4 in (0.10 m), cased 4 in (0.10 m) 0-110 ft (0-33.5 m), screened 95-105 ft (29.0-32.0 m). Depth 110 ft (33.5 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 39.4 ft (12.0 m), above mean sea level, from topographic map. Measuring point: Shelter floor on top of 4 in (0.10 m) casing, 3.80 ft (1.16 m), above land-surface datum.

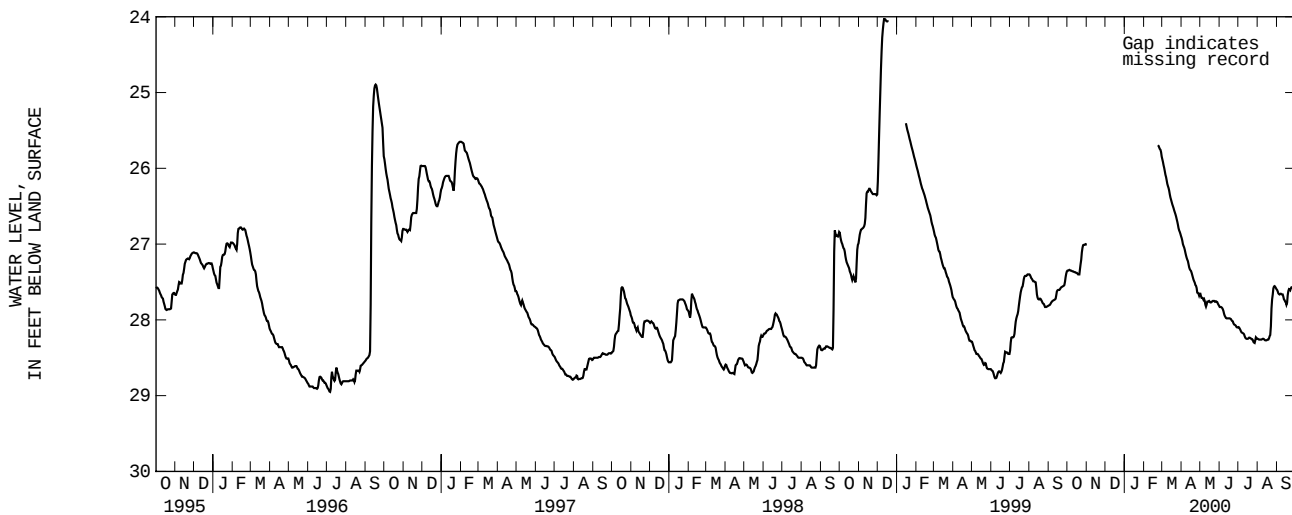
REMARKS.--Recording observation well. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on February 6, 1997. Formerly published as local number MA-2.

PERIOD OF RECORD.--June 22, 1995 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 24.02 ft (7.32 m), below land-surface datum, Dec. 11, 12, 1998;
lowest water level recorded, 29.05 ft (8.85 m), below land-surface datum, July 20, 21, 22, 1995.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27.35	27.01	---	---	---	25.87	26.91	27.63	27.83	28.10	28.25	27.60
2	27.35	27.00	---	---	---	25.89	26.93	27.68	27.83	28.09	28.25	27.61
3	27.35	---	---	---	---	25.94	26.98	27.70	27.83	28.11	28.26	27.64
4	27.34	---	---	---	---	25.98	27.02	27.72	27.83	28.12	28.26	27.66
5	27.34	---	---	---	---	26.01	27.03	27.70	27.84	28.14	28.26	27.66
6	27.35	---	---	---	---	26.07	27.06	27.73	27.85	28.16	28.26	27.67
7	27.35	---	---	---	---	26.10	27.09	27.74	27.87	28.17	28.26	27.65
8	27.35	---	---	---	---	26.13	27.14	27.71	27.90	28.17	28.26	27.66
9	27.36	---	---	---	---	26.19	27.16	27.79	27.94	28.18	28.25	27.66
10	27.36	---	---	---	---	26.22	27.20	27.81	27.95	28.18	28.25	27.67
11	27.36	---	---	---	---	26.25	27.21	27.84	27.97	28.20	28.25	27.66
12	27.37	---	---	---	---	26.27	27.24	27.76	27.98	28.23	28.26	27.73
13	27.37	---	---	---	---	26.32	27.29	27.76	27.98	28.24	28.27	27.73
14	27.37	---	---	---	---	26.37	27.32	27.76	27.98	28.25	28.27	27.75
15	27.38	---	---	---	---	26.40	27.34	27.75	27.98	28.25	28.27	27.77
16	27.38	---	---	---	---	26.43	27.35	27.75	27.98	28.25	28.27	27.77
17	27.38	---	---	---	---	26.46	27.36	27.77	27.98	28.25	28.26	27.83
18	27.40	---	---	---	---	26.49	27.40	27.77	27.98	28.24	28.26	27.72
19	27.40	---	---	---	---	26.51	27.42	27.77	27.99	28.23	28.26	27.63
20	27.40	---	---	---	---	26.54	27.46	27.76	27.99	28.24	28.23	27.61
21	27.40	---	---	---	---	26.57	27.48	27.75	28.02	28.24	28.20	27.58
22	27.26	---	---	---	---	26.59	27.50	27.75	28.01	28.25	28.20	27.62
23	27.27	---	---	---	25.70	26.62	27.52	27.75	28.03	28.26	27.97	27.60
24	27.14	---	---	---	25.69	26.65	27.56	27.75	28.06	28.25	27.73	27.57
25	27.08	---	---	---	25.72	26.69	27.54	27.77	28.06	28.28	27.73	27.57
26	27.02	---	---	---	25.73	26.72	27.62	27.75	28.07	28.30	27.60	27.57
27	27.01	---	---	---	25.76	26.77	27.66	27.76	28.07	28.30	27.57	27.57
28	27.01	---	---	---	25.75	26.81	27.63	27.76	28.09	28.31	27.55	27.62
29	27.01	---	---	---	25.82	26.83	27.68	27.77	28.10	28.23	27.56	27.61
30	27.00	---	---	---	---	26.85	27.68	27.80	28.10	28.23	27.57	27.61
31	27.00	---	---	---	---	26.88	---	27.80	---	28.25	27.59	---
MEAN	27.27	27.01	---	---	25.74	26.40	27.33	27.75	27.97	28.22	28.08	27.65

WTR YR 2000 MEAN 27.53 HIGHEST 25.69 FEB. 24, 2000 LOWEST 28.32 JULY 28, 2000



GROUND-WATER LEVELS

RIO DE LA PLATA BASIN--Continued

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 04	36.97	NOV 02	36.43	FEB 23	35.40	MAY 22	37.25	JUN 29	37.52	JUL 31	37.65
NOV 02	36.43										
WATER YEAR 2000		HIGHEST 35.40 FEB. 23, 2000				LOWEST 37.65 JULY 31, 2000					

GROUND-WATER LEVELS

RIO DE LA PLATA BASIN--Continued

182657066162700. Local number, 1131.

LOCATION: --Lat 18°26'57", long 66°16'27", Hydrologic Unit 21010005, 1.16 mi south of Dorado plaza, 0.45 mi west of Laboratorio Dorado, 1.79 mi southeast of Dorado airport main gate, and 0.19 mi west of the PR Aqueduct and Sewer Authority San Antonio public supply well (San Antonio 3). Owner: US Geological Survey, WRD, Name: Piezometer San Antonio USGS 1.

AQUIFER, --Aquada Limestone.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 4 in (0.10 m), cased 4 in (0.10 m), 0-290 ft (0-88.4 m), screened 270-280 ft (82.3-85.3 m). Depth 290 ft (88.4 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 19.6 ft (6.00 m), above mean sea level, from topographic map. Measuring point: Shelter floor on top of 4 in (0.10 m), casing, 3.20 ft (0.98 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on November 21, 1997. Formerly published as local number SA-1.

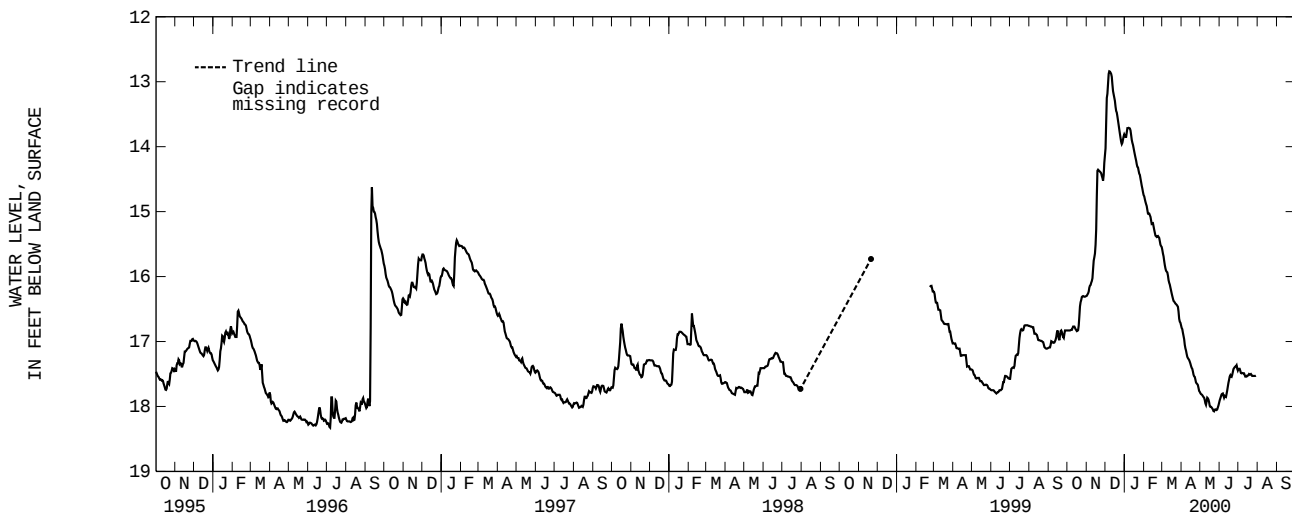
PERIOD OF RECORD.--October 19, 1994 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 12.83 ft (3.91 m), below land-surface datum, Dec. 7, 8, 1999;
lowest water level recorded, 19.56 ft (5.96 m), below land-surface datum, May 3, 4, 1995.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16.83	16.30	14.08	13.81	14.75	15.55	16.78	17.78	17.92	17.42	---	---
2	16.83	16.29	13.97	13.85	14.78	15.63	16.80	17.81	17.89	17.42	---	---
3	16.83	16.26	13.27	13.85	14.84	15.66	16.82	17.81	17.86	17.42	---	---
4	16.83	16.26	13.23	13.85	14.86	15.72	16.91	17.82	17.83	17.42	---	---
5	16.83	16.20	13.14	13.71	14.91	15.80	16.92	17.83	17.80	17.48	---	---
6	16.83	16.14	12.92	13.72	14.92	15.85	17.01	17.85	17.81	17.49	---	---
7	16.82	16.14	12.84	13.71	15.03	15.90	17.09	17.86	17.79	17.49	---	---
8	16.82	16.12	12.84	13.71	15.03	15.92	17.12	17.87	17.88	17.48	---	---
9	16.82	16.07	12.85	13.72	15.03	15.93	17.16	17.93	17.85	17.49	---	---
10	16.77	16.07	12.87	13.72	15.03	15.94	17.22	17.97	17.83	17.49	---	---
11	16.77	15.98	12.89	13.78	15.08	16.03	17.25	17.98	17.87	17.49	---	---
12	16.77	15.80	12.96	13.86	15.08	16.08	17.26	17.87	17.84	17.54	---	---
13	16.77	15.71	13.12	13.93	15.19	16.11	17.28	17.86	17.77	17.54	---	---
14	16.81	15.70	13.17	13.95	15.19	16.14	17.29	17.89	17.74	17.54	---	---
15	16.81	15.59	13.22	14.00	15.18	16.20	17.33	17.90	17.65	17.54	---	---
16	16.84	15.43	13.27	14.05	15.18	16.23	17.35	17.97	17.62	17.51	---	---
17	16.84	15.12	13.32	14.10	15.28	16.29	17.40	18.01	17.56	17.54	---	---
18	16.83	14.39	13.45	14.15	15.28	16.31	17.41	18.00	17.52	17.50	---	---
19	16.82	14.35	13.45	14.19	15.37	16.37	17.43	18.01	17.52	17.50	---	---
20	16.69	14.36	13.50	14.24	15.37	16.38	17.49	18.02	17.56	17.51	---	---
21	16.53	14.37	13.57	14.30	15.39	16.39	17.53	18.04	17.53	17.50	---	---
22	16.39	14.38	13.63	14.32	15.39	16.41	17.54	18.05	17.50	17.50	---	---
23	16.40	14.39	13.70	14.32	15.37	16.42	17.55	18.09	17.44	17.53	---	---
24	16.32	14.40	13.77	14.42	15.38	16.43	17.62	18.06	17.41	17.53	---	---
25	16.31	14.42	13.83	14.41	15.40	16.44	17.64	18.04	17.41	17.53	---	---
26	16.30	14.48	13.90	14.46	15.41	16.46	17.65	18.05	17.38	17.53	---	---
27	16.30	14.48	13.95	14.52	15.50	16.47	17.66	18.05	17.39	17.53	---	---
28	16.31	14.57	13.97	14.57	15.52	16.61	17.68	18.06	17.37	17.53	---	---
29	16.31	14.31	13.91	14.63	15.54	16.69	17.75	18.03	17.36	17.53	---	---
30	16.31	14.19	13.87	14.66	---	16.70	17.77	18.00	17.47	17.52	---	---
31	16.30	---	13.81	14.74	---	16.72	---	17.97	---	---	---	---
MEAN	16.64	15.28	13.43	14.10	15.18	16.19	17.32	17.95	17.65	17.50	---	---

WTR YR 2000 MEAN 16.12 HIGHEST 12.83 DEC. 7, 8, 1999 LOWEST 18.11 MAY 22, 23, 2000



GROUND-WATER LEVELS

RIO DE LA PLATA BASIN--Continued

182657066162701. Local number, 1132.

LOCATION.--Lat 18°26'57", long 66°16'27", Hydrologic Unit 21010005, 20.0 ft (6.10 m) north of San Antonio 1. Owner: US Geological Survey, WRD, Name: Piezometer San Antonio USGS 3.

AQUIFER.--Aguada Limestone.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 4 in (0.10 m), cased 4 in (0.10 m), 0-80.0 ft (0-24.4 m), screened 65-75.0 ft (19.8-22.9 m). Depth 80.0 ft (24.4 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 19.6 ft (6.00 m), above mean sea level, from topographic map. Measuring point: Shelter floor on top of 4 in (0.10 m), casing, 3.38 ft (1.03 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on February 6, 1997. Formerly published as local number SA-3.

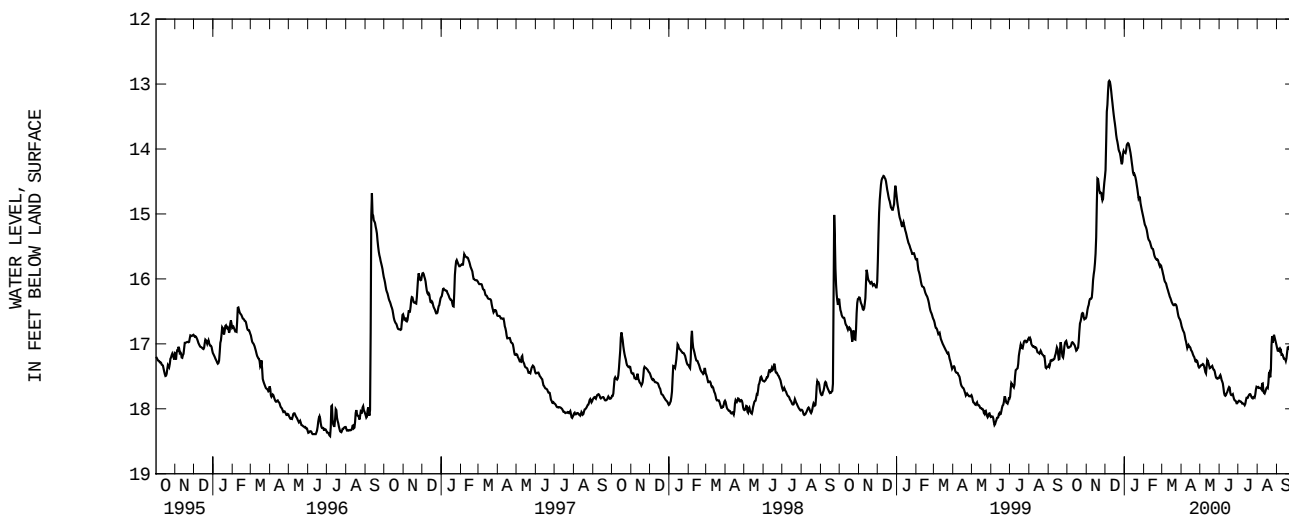
PERIOD OF RECORD.--October 19, 1994 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 12.93 ft (3.94 m), below land-surface datum, Dec. 8, 1999; lowest water level recorded, 19.03 ft (5.80 m), below land-surface datum, May 13, 1995.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17.03	16.57	14.34	14.05	15.09	15.84	16.71	17.35	17.51	17.90	17.68	17.04
2	17.05	16.52	14.31	14.05	15.15	15.90	16.75	17.34	17.48	17.87	17.66	17.09
3	17.07	16.43	13.46	14.07	15.18	15.93	16.77	17.32	17.48	17.88	17.67	17.12
4	17.05	16.43	13.39	13.97	15.19	15.98	16.81	17.33	17.54	17.88	17.69	17.09
5	17.05	16.37	13.25	13.91	15.23	16.03	16.81	17.31	17.57	17.90	17.67	17.08
6	17.04	16.31	12.97	13.93	15.26	16.05	16.85	17.31	17.59	17.88	17.69	17.13
7	17.04	16.31	12.96	13.89	15.34	16.06	16.90	17.33	17.63	17.92	17.68	17.02
8	16.99	16.30	12.94	13.95	15.38	16.08	16.96	17.36	17.73	17.92	17.72	17.16
9	16.97	16.31	12.99	13.97	15.41	16.14	16.97	17.42	17.78	17.92	17.51	17.17
10	16.98	16.26	13.05	14.05	15.41	16.15	17.06	17.45	17.80	17.92	17.71	17.15
11	16.99	16.09	13.16	14.07	15.44	16.20	17.07	17.46	17.80	17.94	17.74	17.19
12	17.01	15.95	13.24	14.18	15.48	16.22	17.01	17.25	17.78	17.95	17.77	17.22
13	17.02	15.91	13.33	14.23	15.51	16.26	17.03	17.25	17.74	17.90	17.76	17.24
14	17.05	15.82	13.43	14.32	15.54	16.29	17.06	17.28	17.75	17.84	17.72	17.22
15	17.09	15.69	13.50	14.40	15.53	16.30	17.03	17.31	17.68	17.82	17.69	17.25
16	17.12	15.53	13.59	14.38	15.55	16.35	17.09	17.36	17.69	17.84	17.67	17.28
17	17.07	15.19	13.63	14.38	15.61	16.36	17.10	17.39	17.64	17.82	17.67	17.17
18	17.07	14.47	13.75	14.43	15.65	16.39	17.12	17.35	17.71	17.79	17.69	17.10
19	17.05	14.44	13.81	14.45	15.67	16.40	17.14	17.36	17.80	17.78	17.51	17.01
20	16.87	14.49	13.88	14.53	15.69	16.41	17.18	17.34	17.77	17.77	17.40	17.09
21	16.74	14.60	13.90	14.58	15.70	16.40	17.19	17.34	17.81	17.78	17.47	17.05
22	16.63	14.67	13.99	14.65	15.71	16.38	17.21	17.40	17.76	17.81	17.56	17.10
23	16.68	14.68	14.03	14.73	15.69	16.40	17.25	17.39	17.79	17.83	17.24	17.11
24	16.53	14.66	14.05	14.79	15.73	16.40	17.29	17.41	17.84	17.84	16.81	17.05
25	16.55	14.69	14.07	14.69	15.76	16.45	17.26	17.44	17.86	17.84	16.96	17.05
26	16.50	14.79	14.16	14.80	15.80	16.51	17.25	17.51	17.88	17.80	17.01	17.02
27	16.56	14.79	14.21	14.86	15.81	16.56	17.28	17.52	17.87	17.83	16.84	17.00
28	16.62	14.74	14.26	14.91	15.76	16.60	17.33	17.54	17.90	17.82	16.88	16.93
29	16.62	14.52	14.14	14.96	15.83	16.61	17.37	17.53	17.93	17.74	16.92	16.93
30	16.60	14.52	14.01	15.00	---	16.63	17.36	17.52	17.90	17.67	16.96	17.03
31	16.62	---	14.05	15.05	---	16.66	---	17.54	---	17.65	17.00	---
MEAN	16.88	15.47	13.67	14.39	15.52	16.29	17.07	17.39	17.73	17.84	17.45	17.10

WTR YR 2000 MEAN 16.40 HIGHEST 12.93 DEC. 8, 1999 LOWEST 17.95 JULY 11, 12, 2000



GROUND-WATER LEVELS

RIO DE LA PLATA BASIN--Continued

182654066150600. Local number, 1133.

LOCATION.--Lat 18°26'54", long 66°15'06", Hydrologic Unit 21010005, 0.92 mi southeast of the Dorado bridge, 0.66 mi east of Hwy 693, 0.09 mi north of the intersection of Hwy 165 with Hwy 867, and 0.01 mi east of Hwy 165. Owner: US Geological Survey, WRD, Name: Piezometer USGS 1 Toa Baja.

AQUIFER.--Tertiary Limestone.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 4 in (0.10 m), cased 4 in (0.10 m), 0-165 ft (0-50.3 m), screened 25-165 ft (7.62-50.3 m). Depth 167 ft (50.9 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 7.00 ft (2.10 m), above mean sea level, from topographic map. Measuring point: Top of shelter floor on top of 4 in (0.10 m) casing, 3.60 ft (1.10 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on November 25, 1997. Water levels affected by nearby pumping well. Formerly published as local number TB-1.

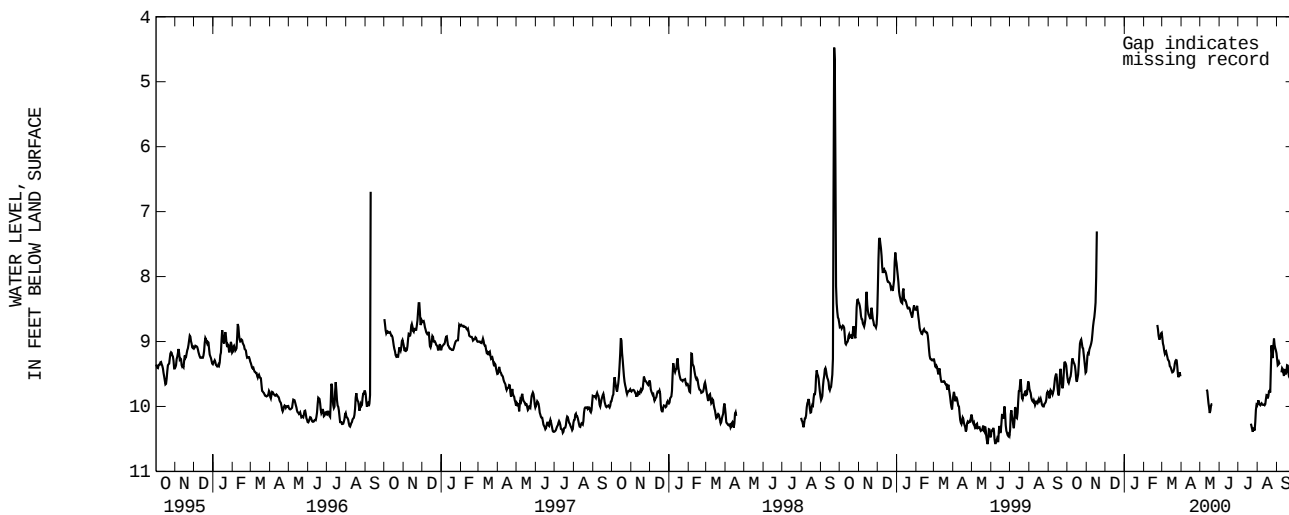
PERIOD OF RECORD.-- November 16, 1992 to current year.

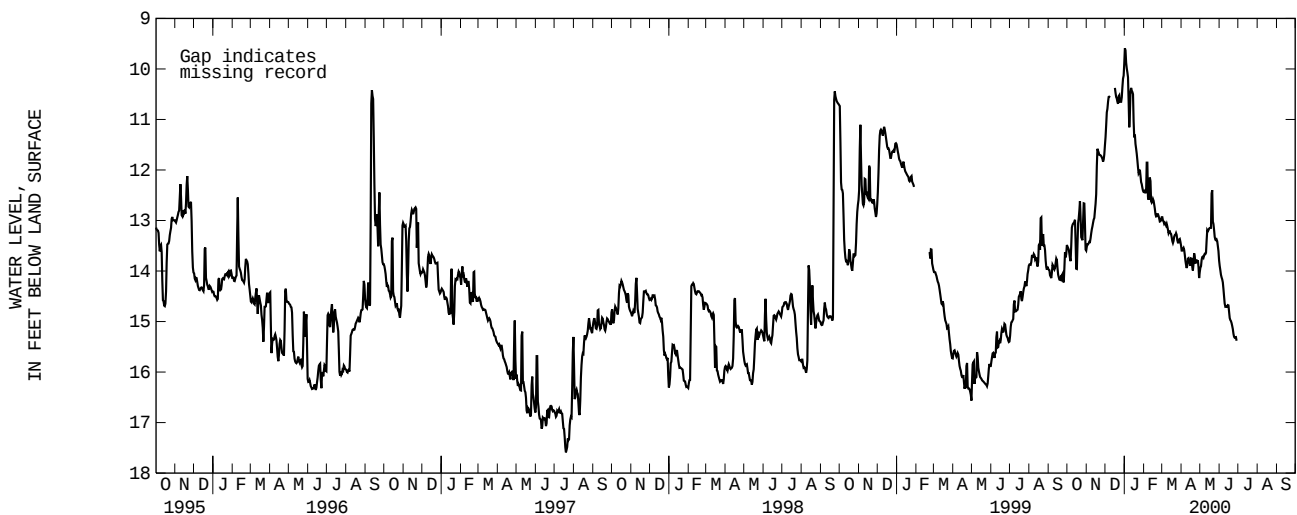
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 3.04 ft (0.93 m), below land-surface datum, Sept. 10, 1996; lowest water level recorded, 10.68 ft (3.25 m), below land-surface datum May 3, 4, 1995.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY OBSERVATION AT 1200 HOURS

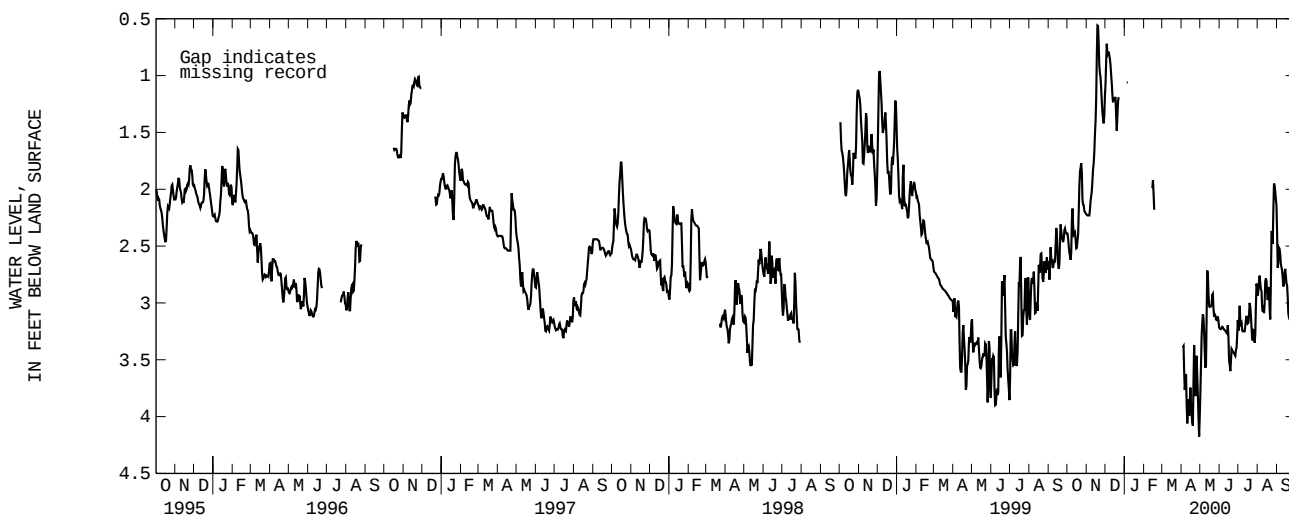
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.54	9.41	---	---	---	8.87	---	---	---	---	10.00	9.20
2	9.59	9.29	---	---	---	9.01	---	---	---	---	9.89	9.34
3	9.65	9.14	---	---	---	9.05	---	---	---	---	9.92	9.39
4	9.63	9.22	---	---	---	9.09	---	---	---	---	9.97	9.32
5	9.58	9.16	---	---	---	9.19	---	---	---	---	9.97	9.32
6	9.54	9.09	---	---	---	9.18	---	---	---	---	9.99	9.38
7	9.53	9.10	---	---	---	9.14	---	---	---	---	9.93	---
8	9.39	9.03	---	---	---	9.16	---	---	---	---	9.97	9.55
9	9.24	9.03	---	---	---	9.23	---	---	---	---	9.97	9.40
10	9.28	8.93	---	---	---	9.24	---	---	---	---	9.98	9.42
11	9.31	8.82	---	---	---	9.32	---	9.73	---	---	9.97	9.43
12	9.34	8.71	---	---	---	9.26	---	9.75	---	---	9.97	9.54
13	9.35	8.66	---	---	---	9.37	---	9.77	---	---	9.99	9.52
14	9.41	8.59	---	---	---	9.39	---	9.94	---	---	9.94	9.38
15	9.51	8.46	---	---	---	9.39	---	9.96	---	---	9.84	9.47
16	9.67	8.34	---	---	---	9.44	---	10.08	---	---	9.81	9.54
17	9.57	7.67	---	---	---	9.46	---	10.12	---	---	9.85	9.38
18	9.56	6.94	---	---	---	9.49	---	10.01	---	---	9.90	9.35
19	9.46	---	---	---	---	9.45	---	9.97	---	---	9.78	9.39
20	9.28	---	---	---	---	9.46	---	9.96	---	---	9.75	9.54
21	9.09	---	---	---	---	9.37	---	9.97	---	10.22	9.76	9.53
22	8.97	---	---	---	8.74	9.31	---	---	---	10.31	9.81	9.58
23	9.01	---	---	---	8.75	9.29	---	---	---	10.30	8.99	9.48
24	8.93	---	---	---	8.87	9.28	---	---	---	10.40	9.13	9.41
25	9.12	---	---	---	8.95	9.30	---	---	---	10.38	9.26	9.36
26	9.07	---	---	---	8.97	9.48	---	---	---	10.30	9.25	9.31
27	9.14	---	---	---	8.95	9.53	---	---	---	10.39	8.89	9.17
28	9.25	---	---	---	8.89	9.57	---	---	---	10.35	9.02	9.20
29	9.32	---	---	---	8.86	9.45	---	---	---	10.13	9.09	9.19
30	9.44	---	---	---	---	9.50	---	---	---	9.98	9.11	9.26
31	9.52	---	---	---	---	9.57	---	---	---	9.97	9.16	---
MEAN	9.36	8.76	---	---	8.87	9.32	---	9.93	---	10.25	9.67	9.39

WTR YR 2000 MEAN 9.42 HIGHEST 6.91 NOV. 18, 1999 LOWEST 10.40 JULY 24, 2000





DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.39	2.22	1.06	---	---	---	---	3.86	3.22	3.16	2.92	2.17
2	2.39	2.23	1.08	---	---	---	---	3.71	3.23	3.33	2.95	2.60
3	2.48	2.23	.65	---	---	---	3.44	3.38	3.23	2.99	2.82	2.78
4	2.52	2.23	.79	1.13	---	---	3.34	3.21	3.23	3.06	2.80	2.49
5	2.59	2.23	.85	.99	---	---	3.42	3.14	3.21	3.25	2.72	2.54
6	2.58	2.23	.77	---	---	---	3.78	3.06	3.21	3.12	2.93	2.51
7	2.66	2.13	.81	---	---	---	3.75	3.20	3.22	3.23	2.83	2.64
8	2.45	2.07	.83	---	---	---	3.62	3.30	3.23	3.25	2.96	2.68
9	2.10	2.05	.88	---	---	---	3.63	3.57	3.24	3.25	3.11	2.69
10	2.24	1.98	.94	---	---	---	4.15	3.57	3.24	3.25	3.04	2.74
11	2.40	1.86	1.05	---	---	---	3.97	3.52	3.25	3.25	3.01	2.82
12	2.40	1.79	1.09	---	---	---	3.84	2.74	3.26	3.25	3.17	2.89
13	2.38	1.75	1.25	---	---	---	3.86	2.69	3.27	3.16	2.84	2.79
14	2.38	1.59	1.22	---	2.08	---	4.13	2.81	3.27	3.14	2.78	2.68
15	2.50	1.44	1.19	---	1.90	---	3.62	3.02	3.12	3.09	2.79	2.72
16	2.54	1.36	1.21	---	1.94	---	3.87	3.04	3.49	3.18	2.82	2.80
17	2.49	1.04	1.18	---	2.14	---	3.90	3.03	3.52	3.18	2.99	2.85
18	2.42	.60	1.21	---	2.22	---	4.07	3.03	3.57	3.17	2.96	2.84
19	2.38	.52	1.51	---	---	---	4.03	3.03	3.63	3.03	2.81	3.05
20	2.03	.61	1.46	---	---	---	4.13	3.00	3.40	2.97	2.91	3.14
21	1.91	.82	1.25	---	---	---	3.25	2.86	3.41	3.10	3.19	3.11
22	1.78	1.00	1.21	---	---	---	3.49	2.98	3.42	3.12	3.10	3.18
23	1.84	.96	1.17	---	---	---	3.83	3.12	3.43	3.31	2.54	3.13
24	1.70	1.08	---	---	---	---	3.81	3.12	3.44	3.32	2.22	2.78
25	2.01	1.15	---	---	---	---	3.47	3.08	3.45	3.34	2.55	2.72
26	2.17	1.31	---	---	---	---	3.46	3.14	3.46	3.14	2.41	2.72
27	2.10	1.34	---	---	---	---	3.82	3.15	3.47	3.35	1.95	2.60
28	2.18	1.42	---	---	---	---	3.80	3.15	3.36	3.35	1.95	2.62
29	2.20	1.42	---	---	---	---	4.22	3.14	3.43	3.20	1.99	2.66
30	2.20	1.29	---	---	---	---	4.13	3.10	3.14	2.85	2.05	1.23
31	2.22	---	---	---	---	---	---	3.21	---	2.81	2.12	---
MEAN	2.28	1.53	1.07	1.06	2.06	---	3.78	3.16	3.34	3.17	2.72	2.71
WTR YR 2000	MEAN 2.65		HIGHEST 0.49 NOV. 18, 19, 1999				LOWEST 4.24 APR. 29, 2000					



GROUND-WATER LEVELS

RIO DE LA PLATA BASIN--Continued

180649066095500. Local number, 1134.

LOCATION.--Lat 18°06'49", long 66°09'55", Hydrologic Unit 21010005, 0.10 mi southeast of Cayey plaza, 0.50 mi northwest of the intersection of Hwy 1 with Hwy 15, and 1.30 mi west of Cayey exit from Hwy 52. Owner: PR Aqueduct and Sewer Authority, Name: Minima.

AQUIFER.--Alluvium.

WELL CHARACTERISTICS.--Abandoned production well, diameter 13 in (0.34 m), screened 40.0-90.0 ft (12.2-27.4 m) Depth 125 ft (38.1 m).

DATUM.--Elevation of land-surface datum is about 1296 ft (395 m), above mean sea level, from topographic map. Measuring point: On highest part of motor support, 1.86 ft (0.57 m), above land-surface datum.

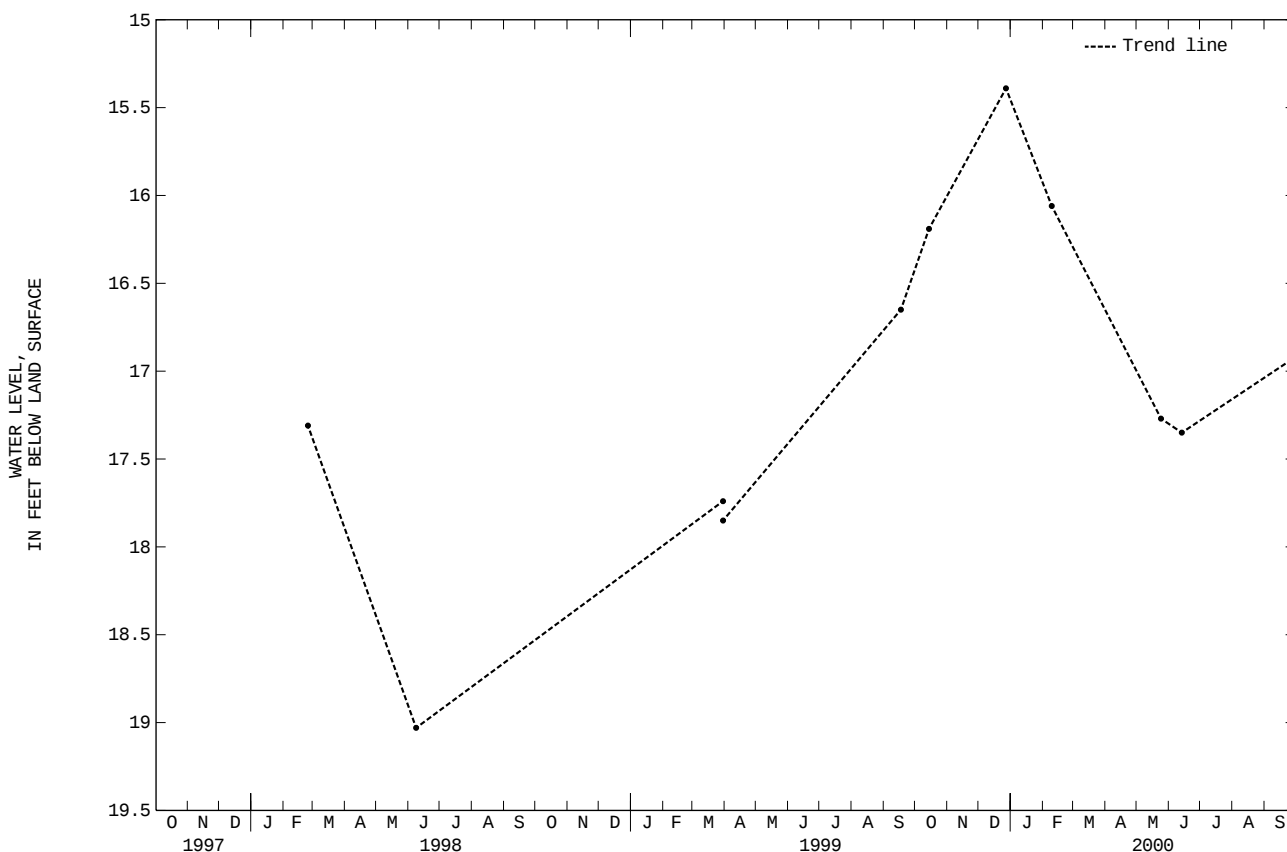
REMARKS.--Observation well.

PERIOD OF RECORD.--February 28, 1998 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 16.65 ft (5.04 m), below land-surface datum, Sept. 17, 1999;
lowest water level measured, 19.03 ft (5.80 m), below land-surface datum, June 11, 1998.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 14	16.19	FEB 09	16.06	MAY 24	17.27	JUN 13	17.35	SEP 25	16.94	SEP 25	16.93
DEC 27	15.39										
WATER YEAR 2000		HIGHEST 15.39 DEC. 27, 1999				LOWEST 17.35 JUNE 13, 2000					



GROUND-WATER LEVELS

RIO HONDO TO RIO PUERTO NUEVO BASINS

182441066082600. Local number, 219.

LOCATION.--Lat 18°24'41", long 66°08'26", Hydrologic Unit 21010005, 0.47 mi west of Fort Buchanan main gate, 1.74 mi northeast of Bayamón plaza, and 1.88 mi southwest of PR National Cemetery. Owner: US Department of Defense, Name: Buchanan Park 1 Well.

AQUIFER.--Cibao Formation.

WELL CHARACTERISTICS.--Drilled water-table well, diameter 10 in (0.25 m), cased 10 in (0.25 m) 0-270 ft (0-82.3 m), perforated 46-685 ft (14.0-20.7 m), 88-120 ft (26.8-36.6 m), 160-191 ft (48.8-58.2 m), 240-270 ft (73.2-82.3 m). Depth 270 ft (82.3 m). INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 66.0 ft (20.1 m), above mean sea level, from topographic map. Measuring point: Hole on side of casing, 0.75 ft (0.23 m), above land-surface datum. Prior June 30, 1986, top of shelter floor, 3.59 ft (1.09 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on January 28, 1998.

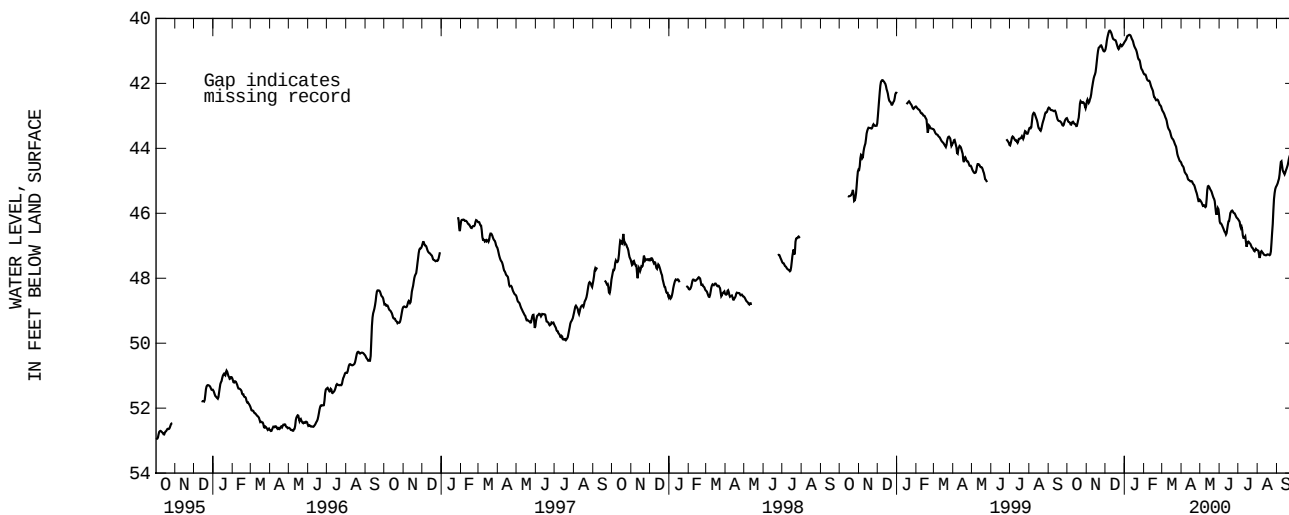
PERIOD OF RECORD.--December 1985 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 34.9 ft (10.7 m), below land-surface datum, Nov. 12, 13, 14, 1989; lowest water level recorded, 55.67 ft (17.0 m), below land-surface datum, May 13, 1995.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	43.07	42.61	40.97	40.73	41.71	42.82	44.45	45.59	46.20	46.19	47.13	45.14
2	43.15	42.50	40.92	40.69	41.73	42.85	44.52	45.62	46.31	46.21	47.15	45.10
3	43.19	42.50	40.75	40.67	41.72	42.88	44.54	45.66	46.31	46.25	47.16	45.04
4	43.19	42.60	40.63	40.63	41.74	42.92	44.56	45.68	46.32	46.28	47.39	44.96
5	43.20	42.60	40.54	40.55	41.82	42.96	44.61	45.76	46.36	46.51	47.36	44.91
6	43.23	42.53	40.46	40.53	41.88	43.03	44.72	45.78	46.41	46.40	47.22	44.69
7	43.30	42.45	40.39	40.53	41.91	43.07	44.75	45.74	46.45	46.43	47.15	44.48
8	43.24	42.42	40.37	40.50	41.92	43.11	44.78	45.77	46.50	46.58	47.18	44.36
9	43.20	42.25	40.38	40.51	41.92	43.20	44.81	45.81	46.56	46.78	47.21	44.44
10	43.17	42.12	40.42	40.51	41.92	43.32	44.82	45.81	46.59	46.73	47.22	44.64
11	43.19	42.01	40.46	40.54	41.99	43.38	44.92	45.77	46.61	46.79	47.27	44.71
12	43.24	41.89	40.53	40.60	42.06	43.42	44.96	45.39	46.70	46.70	47.28	44.74
13	43.25	41.80	40.61	40.65	42.12	43.44	44.98	45.19	46.53	46.73	47.29	44.78
14	43.25	41.75	40.64	40.67	42.16	43.49	44.98	45.15	46.44	47.02	47.29	44.82
15	43.30	41.70	40.65	40.74	42.21	43.57	45.01	45.17	46.28	47.04	47.30	44.68
16	43.33	41.60	40.66	40.83	42.26	43.65	45.02	45.20	46.22	46.89	47.28	44.69
17	43.29	41.40	40.67	40.87	42.44	43.69	45.00	45.25	46.26	46.87	47.26	44.58
18	43.17	41.23	40.68	40.92	42.41	43.71	45.02	45.29	46.01	46.87	47.27	44.57
19	43.11	41.05	40.76	40.94	42.46	43.73	45.05	45.31	45.98	46.91	47.27	44.46
20	43.00	40.94	40.82	41.00	42.51	43.78	45.11	45.37	45.94	46.93	47.29	44.37
21	42.71	40.87	40.89	41.06	42.53	43.83	45.11	45.44	45.91	46.95	47.29	44.26
22	42.53	40.90	40.94	41.17	42.50	43.89	45.15	45.49	45.92	47.01	47.25	44.22
23	42.56	40.84	40.95	41.25	42.50	43.92	45.22	45.55	45.96	47.05	47.10	44.18
24	42.58	40.83	40.88	41.27	42.53	43.97	45.29	45.57	46.00	47.07	46.71	44.00
25	42.61	40.83	40.80	41.27	42.59	44.13	45.35	45.68	45.99	47.08	46.50	43.91
26	42.58	40.91	40.81	41.36	42.65	44.21	45.40	45.93	46.02	47.15	46.16	43.88
27	42.58	40.94	40.85	41.48	42.68	44.27	45.50	46.03	46.07	47.16	45.67	43.85
28	42.61	41.01	40.86	41.57	42.68	44.31	45.58	46.06	46.11	47.18	45.45	43.77
29	42.65	41.01	40.81	41.57	42.74	44.38	45.67	45.83	46.15	47.08	45.31	43.75
30	42.76	41.02	40.80	41.62	---	44.40	45.58	45.85	46.15	47.11	45.21	43.80
31	42.77	---	40.75	41.67	---	44.41	---	45.90	---	47.13	45.18	---
MEAN	43.00	41.64	40.70	40.93	42.22	43.60	45.02	45.60	46.24	46.81	46.86	44.46

WTR YR 2000 MEAN 43.93 HIGHEST 40.34 DEC. 8, 9, 1999 LOWEST 47.42 AUG. 4, 5, 2000



GROUND-WATER LEVELS

RIO HONDO TO RIO PUERTO NUEVO BASINS--Continued

182531066075900. Local number, 652.

LOCATION.--Lat 18°25'31", long 66°06'59", Hydrologic Unit 21010005, 0.07 mi north of Hwy 22, 0.32 mi southwest of the intersection of Hwy 165 with Hwy 28, and 1.40 mi south of the Cataño ferry building. Owner: US Geological Survey, WRD, Name: Piezometer USGS Building 652.

AQUIFER.--Aymamón Limestone.

WELL CHARACTERISTICS.--Drilled water-table well, diameter 4.0 in (0.10 m), cased 0-192 ft (0-58.5 m). Depth 192 ft (58.5 m).

INSTRUMENTATION.--Pressure transducer with integrated electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 10.0 ft (3.05 m), above mean sea level, from topographic map. Measuring point: Shelter floor on top of the 4.0 in (0.10 m) casing, 3.27 ft (1.00 m), above land-surface datum.

REMARKS.--Recording observation well. Electronic Data Logger (EDL), installed on May 14, 1997. Water level affected by marine tides.

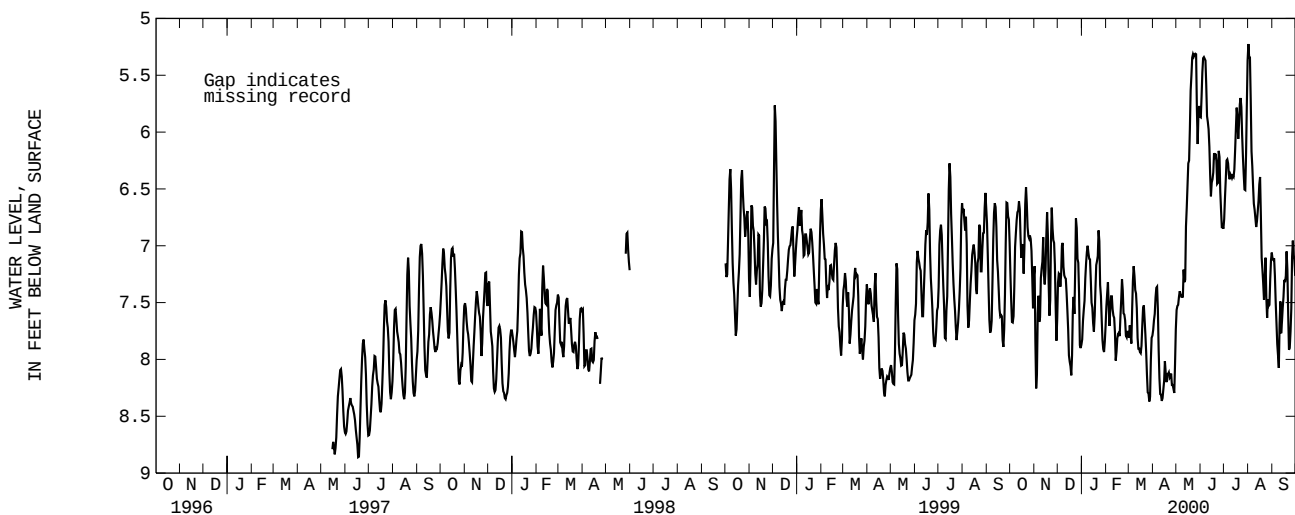
PERIOD OF RECORD.--May 14, 1997 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 4.59 ft (1.40 m), below land-surface datum, May 28, 2000; lowest water level recorded, 9.16 ft (2.79 m), below land-surface datum, Oct. 1, 1998.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.15	6.91	7.30	7.86	7.58	7.78	7.80	7.61	5.95	6.95	5.14	7.10
2	7.36	7.45	7.35	7.79	7.49	7.84	7.68	7.52	5.79	6.58	5.31	7.14
3	7.61	8.24	7.14	7.53	7.35	7.56	7.63	7.54	5.59	6.57	5.38	7.11
4	7.73	8.27	7.37	7.60	7.29	8.00	7.57	7.50	5.36	6.27	5.31	7.11
5	7.62	7.99	7.35	7.37	7.77	7.72	7.34	7.40	5.34	6.23	6.12	7.42
6	7.62	7.20	7.16	7.20	7.64	7.41	7.40	7.40	5.34	6.25	6.22	7.58
7	7.09	7.68	6.84	7.10	7.48	7.21	7.32	7.45	5.37	6.30	6.38	7.78
8	6.93	7.66	7.11	7.01	7.41	7.15	7.79	7.44	5.37	6.45	6.57	7.95
9	6.85	7.60	7.26	6.99	7.48	7.38	8.05	7.44	5.80	6.38	6.69	7.98
10	6.70	6.97	7.26	7.14	7.64	7.40	8.28	7.47	5.92	6.36	6.68	8.17
11	6.71	7.43	7.30	7.09	7.59	7.44	8.33	6.95	5.90	6.41	6.84	7.20
12	6.67	6.85	7.28	7.15	7.68	7.66	8.29	7.69	6.05	6.40	6.83	7.78
13	6.55	7.00	7.55	7.44	7.85	7.96	8.44	6.91	6.21	6.37	6.74	7.76
14	6.81	7.52	7.59	7.56	8.17	7.85	8.24	6.75	6.54	6.42	6.65	7.58
15	7.05	7.16	7.88	7.53	7.69	7.96	8.29	6.58	6.59	6.24	6.56	7.51
16	7.16	7.26	8.05	7.83	7.94	7.91	8.09	6.36	6.30	6.08	6.36	7.39
17	6.81	6.59	7.99	7.68	7.61	7.98	7.94	6.19	6.53	5.86	6.43	7.21
18	7.28	6.82	8.13	7.55	7.92	7.78	8.29	6.31	6.18	5.71	7.05	7.43
19	7.21	6.99	8.15	7.20	7.67	7.63	8.11	5.64	6.19	6.04	7.16	7.10
20	6.79	7.66	7.78	7.14	7.58	7.47	8.15	5.63	6.23	6.08	7.26	7.00
21	6.48	7.57	7.38	7.13	7.38	7.58	8.11	5.37	6.15	5.77	7.40	7.42
22	6.49	7.39	7.52	7.05	7.21	7.72	8.12	5.32	6.36	5.74	7.55	7.78
23	6.77	6.52	7.68	6.68	7.58	7.84	8.21	5.31	6.55	5.66	7.01	8.05
24	6.90	6.81	6.77	7.24	7.61	8.04	8.10	5.36	6.34	5.90	7.20	7.75
25	6.93	6.89	6.75	7.45	7.60	8.23	8.15	5.27	5.99	6.15	7.70	7.76
26	6.94	7.01	6.94	7.44	7.71	8.35	8.30	5.35	6.45	6.29	7.57	7.35
27	6.88	6.94	7.29	7.86	7.87	8.25	8.15	5.28	6.60	6.45	7.37	6.85
28	7.00	7.39	7.01	7.80	7.74	8.49	8.37	6.30	6.78	6.56	7.69	7.06
29	7.09	7.69	7.83	8.02	7.76	8.17	8.22	5.91	6.91	6.46	7.35	7.10
30	7.48	7.98	7.92	7.85	---	7.84	7.86	5.76	6.75	5.93	7.23	7.15
31	7.62	---	7.88	7.83	---	7.78	---	5.78	---	5.60	7.02	---
MEAN	7.04	7.31	7.45	7.42	7.63	7.79	8.02	6.48	6.11	6.21	6.73	7.45
MAX	7.73	8.27	8.15	8.02	8.17	8.49	8.44	7.69	6.91	6.95	7.70	8.17
MIN	6.48	6.52	6.75	6.68	7.21	7.15	7.32	5.27	5.34	5.60	5.14	6.85

WTR YR 2000 MEAN 7.13 HIGHEST 4.59 MAY 28, 2000 LOWEST 8.87 APR. 10, 2000



GROUND-WATER LEVELS

RIO HONDO TO RIO PUERTO NUEVO BASINS--Continued

182511066045401. Local number, 1152.

LOCATION.--Lat 18°25'11", long 66°04'54", Hydrologic Unit 21010005, 1.58 mi northeast of Fort Buchanan Military main. gate, 2.95 mi southeast of Cataño plaza, and 2.45 mi southeast of US Naval Reservation in Miramar. Owner: US Geological Survey, WRD, Name: Piezometer La Esperanza 2.

AQUIFER.--Alluvium.

WELL CHARACTERISTICS.--Drilled observation well, diameter 4 in (0.10 m), cased 4 in (0.10 m), 0-40 ft (0-12.2 m), perforated 30-40 ft (9.15-12.2 m). Depth 40.0 ft (12.2 m).

INSTRUMENTATION.--Electronic water level logger--15-minutes interval.

DATUM.--Elevation of land-surface datum is about 13 ft (3.96 m), above mean sea level, from topographic map. Measuring point: Hole on well shaft, 3.17 ft (0.97 m), above land-surface datum.

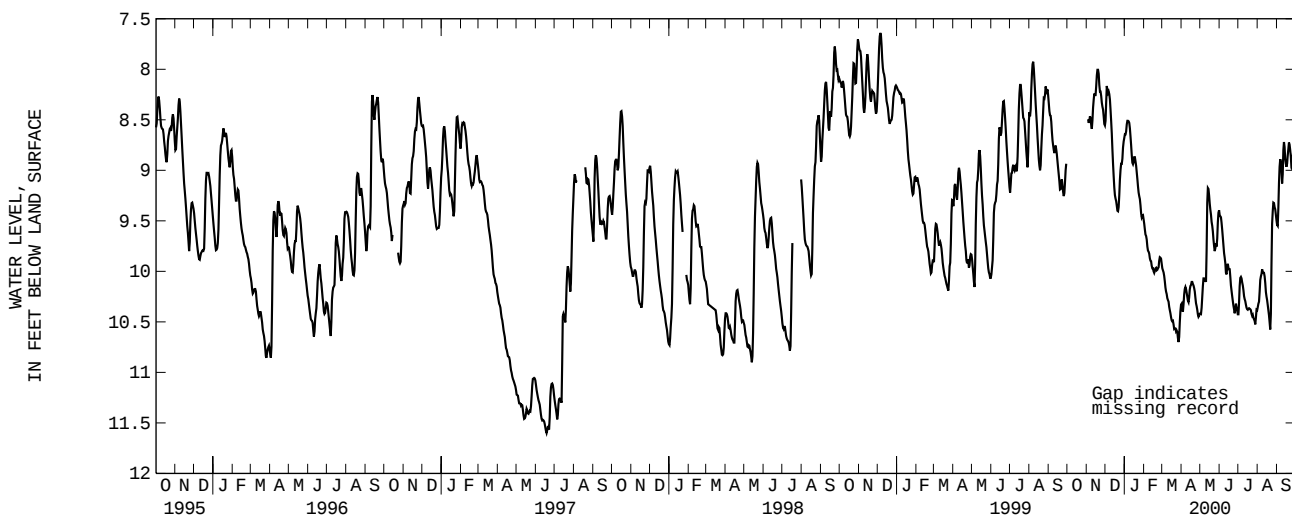
REMARKS.--Recording observation well. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on April 8, 1998. Formerly published as local number PN-2.

PERIOD OF RECORD.--July 1989 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 7.63 ft (2.32 m), below land-surface datum, Dec. 6, 1998; lowest water level recorded, 11.90 ft (3.63 m), below land-surface datum, July 15, 16, 1991.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	8.54	8.66	9.51	9.96	10.30	10.41	9.42	10.46	10.40	9.52
2	---	---	8.48	8.63	9.55	9.98	10.34	10.42	9.47	10.39	10.31	9.56
3	---	8.47	8.17	8.66	9.62	10.00	10.41	10.42	9.44	10.22	10.33	9.54
4	---	8.52	8.16	8.57	9.65	10.02	10.39	10.30	9.49	10.07	10.27	9.21
5	---	8.54	8.26	8.52	9.65	10.07	10.26	10.21	9.55	10.06	10.13	9.04
6	---	8.48	8.21	8.50	9.72	10.13	10.20	10.08	9.63	10.05	10.04	8.89
7	---	8.45	8.23	8.52	9.79	10.19	10.15	10.06	9.70	10.09	10.06	8.89
8	---	8.52	8.26	8.51	9.80	10.21	10.16	10.08	9.79	10.13	9.99	8.94
9	---	8.58	8.34	8.55	9.81	10.24	10.19	10.09	9.85	10.15	9.97	9.05
10	---	8.60	8.46	8.62	9.84	10.29	10.23	10.07	9.88	10.22	10.04	9.21
11	---	8.41	8.57	8.71	9.90	10.28	10.27	10.14	9.96	10.27	9.99	8.87
12	---	8.35	8.70	8.79	9.89	10.32	10.31	9.45	10.07	10.28	10.04	8.73
13	---	8.25	8.88	8.91	9.91	10.38	10.30	9.19	9.99	10.31	10.06	8.71
14	---	8.23	8.99	8.94	9.98	10.39	10.22	9.16	9.92	10.35	10.17	8.83
15	---	8.28	9.12	8.94	9.96	10.44	10.14	9.21	9.93	10.37	10.24	8.95
16	---	8.23	9.22	8.90	9.98	10.47	10.15	9.29	10.00	10.38	10.26	8.92
17	---	8.11	9.27	8.84	10.02	10.50	10.12	9.37	9.96	10.38	10.31	9.01
18	---	8.01	9.29	8.90	10.01	10.49	10.09	9.41	10.00	10.36	10.36	8.86
19	---	8.00	9.32	8.92	9.98	10.49	10.12	9.47	10.11	10.37	10.41	8.85
20	---	8.01	9.38	8.99	9.96	10.56	10.13	9.55	10.17	10.37	10.46	8.73
21	---	8.08	9.42	9.05	9.97	10.58	10.15	9.55	10.22	10.38	10.55	8.72
22	---	8.23	9.39	9.12	10.01	10.55	10.18	9.66	10.27	10.39	10.60	8.77
23	---	8.21	9.34	9.20	9.96	10.58	10.22	9.71	10.32	10.45	10.24	8.83
24	---	8.23	9.15	9.24	9.98	10.61	10.30	9.79	10.36	10.43	9.61	8.90
25	---	8.30	9.04	9.27	9.94	10.56	10.33	9.81	10.39	10.43	9.45	9.05
26	---	8.36	8.95	9.30	9.85	10.64	10.36	9.73	10.44	10.49	9.36	8.93
27	---	8.38	8.92	9.39	9.87	10.68	10.40	9.72	10.31	10.46	9.28	8.83
28	---	8.42	8.95	9.46	9.86	10.72	10.45	9.79	10.33	10.52	9.37	8.75
29	---	8.51	8.82	9.47	9.89	10.58	10.45	9.56	10.38	10.53	9.36	8.73
30	---	8.57	8.73	9.43	---	10.43	10.43	9.47	10.39	10.39	9.41	8.81
31	---	---	8.70	9.46	---	10.36	---	9.37	---	10.37	9.47	---
MEAN	---	8.33	8.81	8.93	9.86	10.38	10.26	9.76	9.99	10.33	10.02	8.95
WTR YR 2000	MEAN	9.61	HIGHEST	7.99 NOV. 18, 19, 1999	LOWEST	10.72 MAR. 28, 2000						



RIO HONDO TO RIO PUERTO NUEVO BASINS--Continued

18243506052700. Local number, 1153.

LOCATION.--Lat 18°24'35", long 66°05'27", Hydrologic Unit 21010005, 2.94 mi southeast of Cataño plaza, 0.44 mi north of Escuela Superior Gabriela Mistral, and 1.19 mi northeast of WAPA TV radio antenna. Owner: US Geological Survey, WRD, Name: Piezometer Salud Mental 1.

AQUIFER.--Alluvium.

WELL CHARACTERISTICS.--Drilled water-table well, diameter 4.0 in (0.10 m), cased 4.0 in (0.10 m), 0-83.0 ft (0-25.3 m), perforated 73-83.0 ft (22.2-25.3 m). Depth 83.0 ft (25.3 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 85.0 ft (25.9 m), above mean sea level, from topographic map. Measuring point: Hole on well shaft, 2.85 ft (0.87 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on April 8, 1998. Formerly published as local number PN-5.

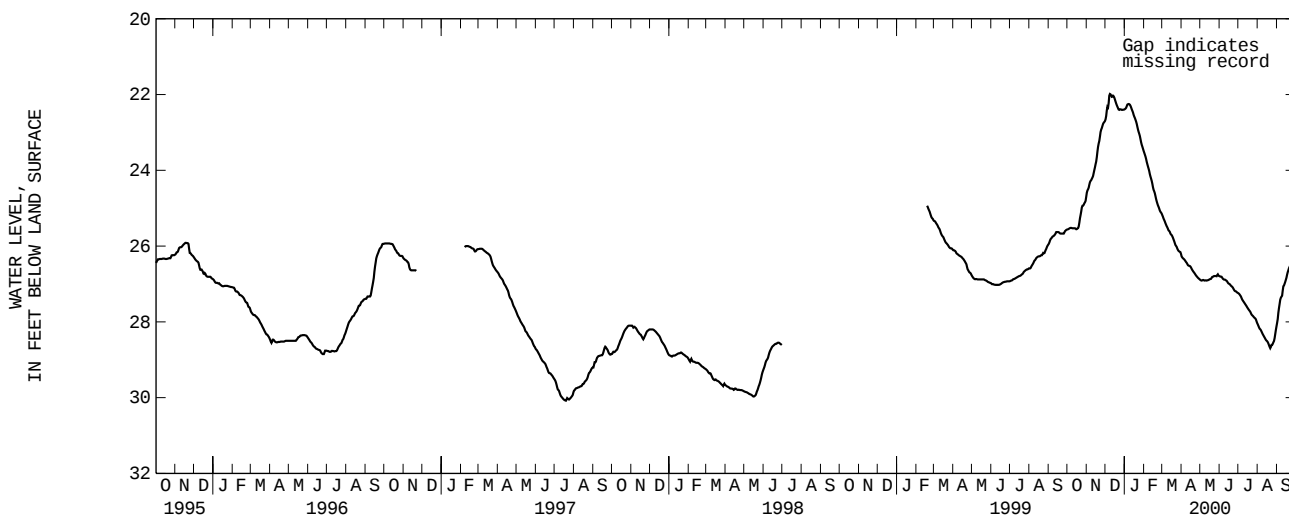
PERIOD OF RECORD.--April 1989 to July 1, 1998, discontinued, February 17, 1999 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 21.97 ft (6.69 m), below land-surface datum, Dec. 8, 9, 1999; lowest water level recorded, 32.82 ft (10.0 m), below land-surface datum, Sept. 25-28, 1994.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25.56	24.63	22.68	22.39	23.51	25.17	26.26	26.89	26.79	27.24	28.04	28.08
2	25.56	24.55	22.63	22.38	23.56	25.20	26.29	26.90	26.80	27.25	28.09	27.98
3	25.55	24.51	22.50	22.36	23.61	25.25	26.31	26.91	26.81	27.27	28.12	27.87
4	25.54	24.49	22.34	22.34	23.66	25.30	26.33	26.91	26.80	27.29	28.17	27.65
5	25.53	24.42	22.30	22.27	23.74	25.32	26.34	26.90	26.82	27.32	28.19	27.62
6	25.52	24.34	22.38	22.26	23.81	25.38	26.36	26.89	26.85	27.34	28.20	27.44
7	25.52	24.29	22.07	22.25	23.87	25.41	26.38	26.90	26.87	27.40	28.24	27.39
8	25.52	24.27	21.99	22.25	23.93	25.46	26.41	26.91	26.88	27.42	28.27	27.34
9	25.53	24.25	21.98	22.26	23.98	25.49	26.43	26.91	26.89	27.45	28.31	27.33
10	25.53	24.20	22.01	22.28	24.06	25.52	26.45	26.90	26.88	27.47	28.34	27.29
11	25.53	24.18	22.04	22.32	24.14	25.57	26.49	26.91	26.90	27.50	28.37	27.06
12	25.53	24.12	22.08	22.36	24.19	25.60	26.51	26.91	26.91	27.52	28.40	27.06
13	25.53	24.02	22.03	22.42	24.25	25.60	26.52	26.90	26.92	27.55	28.43	27.02
14	25.53	23.97	22.03	22.44	24.31	25.65	26.52	26.90	26.95	27.57	28.46	26.97
15	25.55	23.87	22.06	22.51	24.40	25.69	26.53	26.89	26.98	27.60	28.49	26.92
16	25.56	23.81	22.10	22.56	24.49	25.70	26.55	26.88	26.99	27.63	28.50	26.86
17	25.54	23.73	22.16	22.60	24.54	25.72	26.58	26.87	27.00	27.65	28.52	26.81
18	25.53	23.57	22.21	22.64	24.57	25.76	26.62	26.87	27.01	27.68	28.55	26.70
19	25.52	23.44	22.26	22.69	24.64	25.80	26.64	26.86	27.04	27.70	28.59	26.68
20	25.44	23.32	22.30	22.74	24.72	25.85	26.67	26.82	27.05	27.72	28.64	26.60
21	25.32	23.26	22.34	22.81	24.79	25.89	26.69	26.81	27.07	27.75	28.68	26.57
22	25.21	23.19	22.38	22.89	24.85	25.95	26.71	26.81	27.08	27.79	28.71	26.53
23	25.15	23.03	22.41	22.96	24.90	25.99	26.74	26.79	27.11	27.82	28.61	26.49
24	25.02	22.95	22.40	23.01	24.95	26.00	26.76	26.79	27.14	27.83	28.61	26.35
25	24.94	22.90	22.39	23.06	24.98	26.04	26.79	26.79	27.17	27.85	28.61	26.35
26	24.93	22.87	22.39	23.13	25.04	26.09	26.80	26.79	27.19	27.87	28.55	26.22
27	24.93	22.79	22.40	23.22	25.08	26.11	26.83	26.79	27.19	27.89	28.53	26.17
28	24.89	22.76	22.41	23.30	25.11	26.14	26.84	26.80	27.20	27.90	28.48	26.17
29	24.85	22.73	22.40	23.35	25.12	26.14	26.86	26.73	27.22	27.92	28.38	26.17
30	24.84	22.72	22.40	23.40	---	26.16	26.87	26.76	27.23	27.95	28.27	26.16
31	24.77	---	22.40	23.46	---	26.16	---	26.79	---	28.02	28.16	---
MEAN	25.34	23.71	22.27	22.67	24.37	25.71	26.57	26.85	26.99	27.62	28.40	26.93

WTR YR 2000 MEAN 25.62 HIGHEST 21.97 DEC. 8, 9, 1999 LOWEST 28.72 AUG. 22, 23, 2000



GROUND-WATER LEVELS

RIO HONDO TO RIO PUERTO NUEVO BASINS--Continued

182445066043401. Local number, 1154.

LOCATION.--Lat 18°24'45", long 66°04'34", Hydrologic Unit 21010005, 0.28 mi northeast of Escuela Dr. Pedreira, 3.52 mi southeast of Cataño plaza, and 0.53 mi south of Hiram Bithorn Stadium main gate. Owner: US Geological Survey, WRD, Name: Piezometer Alscadia 2.

AQUIFER. -- Alluvium.

WELL CHARACTERISTICS.--Drilled observation well, diameter 4 in (0.10 m), cased 4 in (0.10 m), 0-27.0 ft (0-8.23 m), perforated 21-27.0 ft (6.40-8.23 m). Depth 27 ft (8.23 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 10.0 ft (3.05 m), above mean sea level, from topographic map. Measuring point:

Hole on well shaft, 3.03 ft (0.91 m), above land-surface datum.

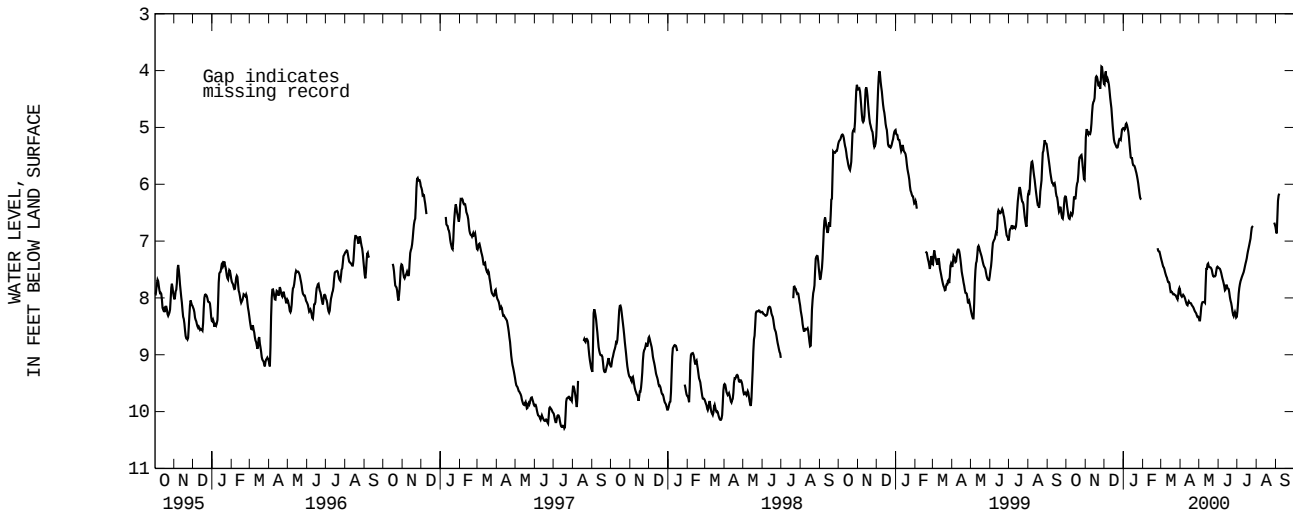
REMARKS.--Recording observation well. Automated Digital Recorder (ADR) replaced by an Electronic Data Logger (EDL), installed on

REMARKS:--Recording observation well. Automated Digital Recorder (ADR) replaced by an Electronic Data Logger January 26, 1998. Formerly published as local number PN-6.

PERIOD OF RECORD.--July 1989 to November 27, 1991, Temporary discontinued, September 9, 1993 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 2.60 ft (0.79 m), below land-surface datum, Nov. 25, 1999; lowest water level recorded, 13.65 ft (4.16 m), below land-surface datum, Oct. 6, 7, 1994.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.22	5.30	4.26	5.00	---	7.30	7.92	8.38	7.47	8.29	---	6.78
2	6.37	5.06	4.23	5.02	---	7.35	7.96	8.41	7.48	8.18	---	6.86
3	6.42	5.03	3.92	5.06	---	7.38	7.97	8.38	7.48	7.99	---	6.87
4	6.52	5.06	4.11	4.98	---	7.44	7.99	8.20	7.50	7.86	---	6.31
5	6.59	5.15	4.25	4.91	---	7.46	7.94	8.13	7.54	7.79	---	6.27
6	6.61	5.10	4.12	4.95	---	7.47	7.95	8.07	7.58	7.72	---	6.13
7	6.61	5.08	4.18	4.97	---	7.53	7.97	8.08	7.64	7.69	---	6.20
8	6.52	5.12	4.20	5.05	---	7.56	7.99	8.07	7.68	7.65	---	---
9	6.50	5.10	4.30	5.09	---	7.61	8.03	8.07	7.72	7.62	---	---
10	6.55	5.02	4.41	5.24	---	7.63	8.07	8.07	7.77	7.59	---	---
11	6.54	4.84	4.54	5.35	---	7.66	8.11	8.10	7.83	7.56	---	---
12	6.48	4.65	4.60	5.47	---	7.72	8.13	7.45	7.90	7.53	---	---
13	6.28	4.56	4.72	5.59	---	7.72	8.13	7.53	7.80	7.47	---	---
14	6.18	4.55	4.92	5.49	---	7.72	8.04	7.45	7.76	7.42	---	---
15	6.28	4.52	5.02	5.59	---	7.77	8.08	7.37	7.80	7.37	---	---
16	6.25	4.45	5.18	5.66	---	7.90	8.09	7.42	7.85	7.33	---	---
17	6.14	4.13	5.24	5.67	---	7.89	8.09	7.46	7.82	7.27	---	---
18	5.98	4.11	5.29	5.67	---	7.89	8.09	7.46	7.87	7.19	---	---
19	5.99	4.09	5.29	5.69	---	7.90	8.12	7.46	7.95	7.15	---	---
20	5.92	4.14	5.34	5.74	---	7.94	8.14	7.47	8.03	7.09	---	---
21	5.71	4.20	5.35	5.78	---	7.93	8.15	7.49	8.07	7.04	---	---
22	5.52	4.32	5.36	5.82	---	7.93	8.17	7.53	8.11	6.98	---	---
23	5.54	4.21	5.34	5.89	---	7.95	8.20	7.61	8.20	6.93	---	---
24	5.51	4.27	5.26	5.94	7.10	7.95	8.23	7.62	8.27	6.77	---	---
25	5.48	4.37	5.21	6.03	7.15	7.96	8.25	7.63	8.31	6.76	---	---
26	5.49	3.98	5.19	6.12	7.19	8.00	8.26	7.61	8.33	6.73	---	---
27	5.63	3.88	5.21	6.20	7.17	8.01	8.29	7.63	8.24	6.74	---	---
28	5.74	4.00	5.22	6.27	7.20	8.04	8.33	7.58	8.26	---	---	---
29	5.83	4.10	5.04	6.25	7.26	7.86	8.34	7.48	8.32	---	6.65	---
30	5.98	4.20	5.03	6.28	---	7.85	8.32	7.45	8.37	---	6.70	---
31	5.86	---	5.02	---	---	7.80	---	7.45	---	---	6.72	---
MEAN	6.10	4.55	4.82	5.56	7.18	7.75	8.11	7.75	7.90	7.40	6.69	6.49
WTR YR 2000	MEAN 6.66		HIGHEST 2.60	NOV. 25, 1999		LOWEST 8.45	MAY 3, 2000					



GROUND-WATER LEVELS

RIO HONDO TO RIO PUERTO NUEVO BASINS--Continued

182443066041502. Local number, 1155.

LOCATION: --Lat 18°24'43", long 66°04'15", Hydrologic Unit 21010005, 2.29 mi east of Fort Buchanan main gate, 3.83 mi southeast of Cataño plaza, and 0.16 mi southwest of Hospital del Maestro. Owner: US Geological Survey, WRD, Name: Piezometer Muñoz Marín 1C.

AQUIFER. - - Alluvium.

WELL CHARACTERISTICS.--Drilled observation well, diameter 4 in (0.10 m), cased 4 in (0.10), 0-33.0 ft (0-10.1 m), perforated 33-40 ft (10.1-12.2 m). Depth 40.0 ft (12.2 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 13.0 ft (3.96 m), above mean sea level, from topographic map. Measuring point:
Hole on well shaft, 3.00 ft (0.91 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on January 26, 1998. Formerly published as local number PN-8c.

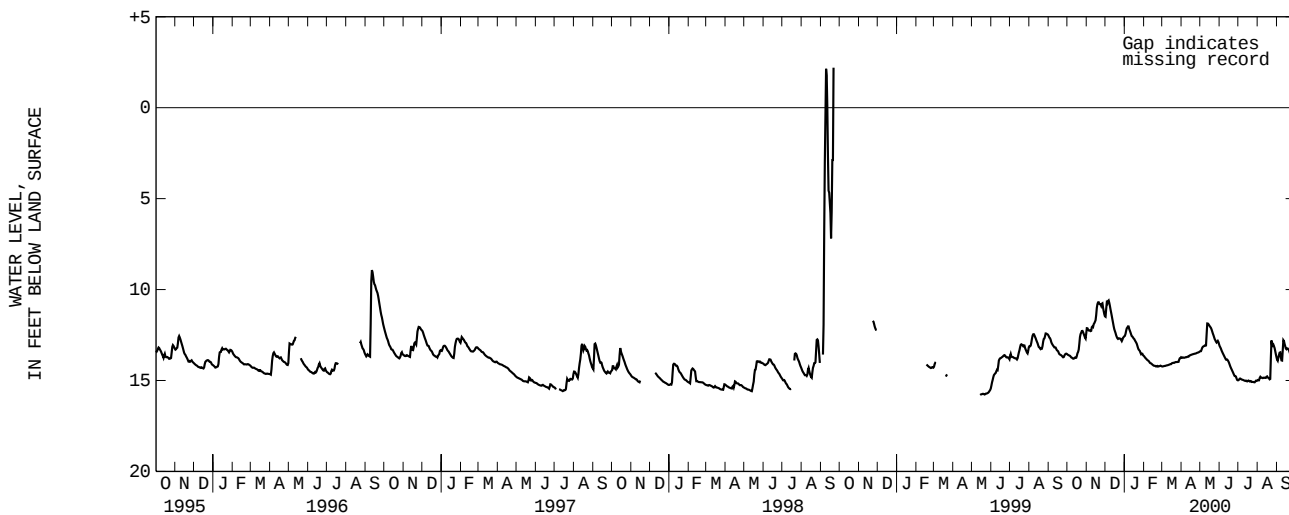
PERIOD OF RECORD.--February 1989 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, +7.28 ft (+2.22 m), above land-surface datum, Sept. 21, 1996;
lowest water level recorded, 16.18 ft (4.93 m), below land-surface datum, Oct. 5, 6, 7, 1994.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13.55	12.14	11.49	12.55	13.65	14.23	13.73	13.39	13.07	14.98	14.97	13.80
2	13.59	12.11	11.50	12.54	13.70	14.23	13.78	13.39	13.16	14.99	14.98	13.91
3	13.60	12.15	10.63	12.33	13.75	14.22	13.72	13.38	13.20	14.91	15.00	13.92
4	13.62	12.24	10.80	12.21	13.78	14.21	13.74	13.21	13.31	14.89	14.98	13.59
5	13.64	12.26	10.72	12.05	13.82	14.20	13.75	13.19	13.39	14.90	14.75	13.60
6	13.65	12.24	10.54	12.12	13.86	14.20	13.75	13.10	13.47	14.94	14.86	13.34
7	13.72	12.26	10.65	11.93	13.89	14.19	13.74	13.15	13.54	14.95	14.85	13.57
8	13.74	12.31	10.80	12.13	13.91	14.17	13.71	13.06	13.61	14.96	14.84	13.87
9	13.75	12.23	11.01	12.22	13.94	14.17	13.72	13.09	13.68	14.97	14.86	13.92
10	13.80	11.91	11.18	12.31	14.00	14.16	13.72	13.08	13.75	14.99	14.88	13.89
11	13.80	12.15	11.37	12.41	14.05	14.15	13.68	13.07	13.82	15.00	14.84	12.84
12	13.80	11.97	11.54	12.52	14.05	14.13	13.69	11.87	13.88	15.02	14.84	12.73
13	13.74	11.84	11.74	12.60	14.07	14.13	13.69	11.86	13.83	15.03	14.86	12.94
14	13.74	11.86	11.92	12.57	14.11	14.10	13.61	11.88	13.87	14.99	14.86	13.04
15	13.77	11.68	12.11	12.70	14.14	14.10	13.63	11.93	13.92	15.04	14.85	13.19
16	13.73	11.69	12.25	12.68	14.16	14.10	13.59	11.99	13.99	15.06	14.74	13.30
17	13.56	11.12	12.32	12.76	14.20	14.03	13.59	12.04	14.08	15.01	14.81	13.26
18	13.45	10.88	12.46	12.82	14.18	14.05	13.57	12.08	14.19	15.00	14.86	13.21
19	13.41	10.72	12.57	12.88	14.20	14.02	13.56	12.15	14.27	15.04	14.85	13.27
20	13.19	10.69	12.64	12.94	14.22	14.03	13.55	12.25	14.35	15.06	14.91	13.30
21	12.75	10.71	12.72	13.02	14.24	14.03	13.54	12.37	14.42	15.00	14.96	13.37
22	12.46	10.85	12.71	13.16	14.18	13.99	13.53	12.47	14.50	15.07	14.87	13.51
23	12.43	10.76	12.67	13.26	14.22	13.99	13.52	12.55	14.57	15.09	12.56	13.30
24	12.31	10.85	12.70	13.33	14.25	13.98	13.52	12.69	14.66	15.07	13.04	13.30
25	12.25	10.94	12.69	13.34	14.20	13.99	13.50	12.76	14.72	15.08	13.17	13.54
26	12.30	10.62	12.72	13.42	14.23	13.98	13.48	12.82	14.79	15.09	12.97	13.55
27	12.39	10.89	12.82	13.53	14.18	13.97	13.47	12.91	14.73	15.10	13.08	13.53
28	12.49	11.11	12.85	13.58	14.19	13.98	13.46	12.92	14.84	15.10	13.16	13.55
29	12.58	11.25	12.67	13.48	14.21	13.74	13.45	12.83	14.94	15.02	13.28	13.59
30	12.69	11.45	12.64	13.58	---	13.82	13.42	12.82	15.00	15.01	13.49	13.65
31	12.70	---	12.59	13.63	---	13.72	---	12.96	---	15.04	13.63	---
MEAN	13.23	11.53	11.94	12.79	14.05	14.06	13.61	12.69	14.05	15.01	14.37	13.45

WTR YR 2000 MEAN 13.40 HIGHEST 9.97 NOV. 25, 1999 LOWEST 15.15 JULY 26-29, 2000



+ above land-surface datum

GROUND-WATER LEVELS

RIO HONDO TO RIO PUERTO NUEVO BASINS--Continued

182417066042700. Local number, 1156.

LOCATION.--Lat 18°24'17", long 66°04'27", Hydrologic Unit 21010005, 3.96 mi southeast of Cataño plaza, 1.00 mi southwest of Escuela J.J. Osuna, and 2.26 mi east of WAPA TV radio antenna. Owner: US Geological Survey, WRD, Name: Piezometer Las Américas 1.

AQUIFER.--Alluvium.

WELL CHARACTERISTICS.--Drilled observation well, cased 4 in (0.10 m), 0-80.0 ft (0-24.4 m), 4 in (0.10 m), perforated pipe 80-90.0 ft (24.4-27.4 m). Depth 90.0 ft (27.4 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 16.0 ft (4.89 m), above mean sea level, from topographic map. Measuring point:

Hole on well shaft, 3.10 ft (0.95 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR) replaced by an Electronic Data Logger (EDL), installed on February 23, 1998, and re-installed on May 22, 2000. Well affected by pumping during June 1994. [+ , above land-surface datum]. Formerly published as local number PN-10.

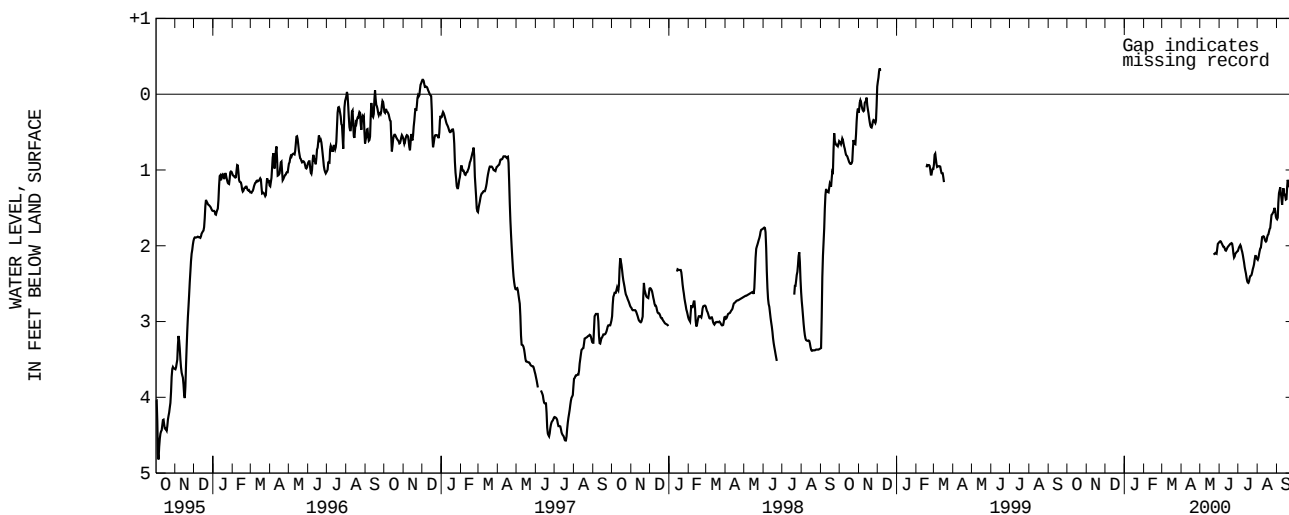
PERIOD OF RECORD.--October 1989 to March 19, 1999, discontinued, May 22, 2000 to September 30, 2000.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, +2.30 ft (+0.70 m), above land-surface datum, Jan. 9-12, 1993; lowest water level recorded, 6.92 ft (2.11 m) below land-surface datum, Oct. 6-9, 1994.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	1.95	2.07	2.18	1.64
2	---	---	---	---	---	---	---	---	1.94	2.02	2.19	1.66
3	---	---	---	---	---	---	---	---	1.94	2.02	2.13	1.60
4	---	---	---	---	---	---	---	---	1.95	1.99	2.10	1.26
5	---	---	---	---	---	---	---	---	1.98	1.99	2.04	1.35
6	---	---	---	---	---	---	---	---	1.98	2.03	2.03	1.19
7	---	---	---	---	---	---	---	---	2.02	2.07	2.02	1.27
8	---	---	---	---	---	---	---	---	2.01	2.09	1.89	1.34
9	---	---	---	---	---	---	---	---	2.02	2.15	1.88	1.41
10	---	---	---	---	---	---	---	---	2.05	2.19	1.88	1.51
11	---	---	---	---	---	---	---	---	2.07	2.25	1.87	1.19
12	---	---	---	---	---	---	---	---	2.06	2.31	1.89	1.29
13	---	---	---	---	---	---	---	---	2.04	2.34	1.93	1.32
14	---	---	---	---	---	---	---	---	2.02	2.39	1.94	1.32
15	---	---	---	---	---	---	---	---	2.01	2.45	1.95	1.37
16	---	---	---	---	---	---	---	---	2.00	2.48	1.92	1.41
17	---	---	---	---	---	---	---	---	1.99	2.49	1.86	1.36
18	---	---	---	---	---	---	---	---	1.98	2.49	1.86	1.11
19	---	---	---	---	---	---	---	---	1.97	2.45	1.84	1.15
20	---	---	---	---	---	---	---	---	1.97	2.40	1.79	1.18
21	---	---	---	---	---	---	---	---	1.96	2.40	1.77	1.20
22	---	---	---	---	---	---	---	2.12	1.99	2.39	1.76	1.24
23	---	---	---	---	---	---	---	2.11	2.07	2.38	1.60	1.14
24	---	---	---	---	---	---	---	2.11	2.14	2.32	1.59	1.07
25	---	---	---	---	---	---	---	2.10	2.17	2.30	1.58	1.07
26	---	---	---	---	---	---	---	2.09	2.11	2.26	1.56	.82
27	---	---	---	---	---	---	---	2.11	2.10	2.23	1.55	.82
28	---	---	---	---	---	---	---	2.10	2.09	2.14	1.51	.86
29	---	---	---	---	---	---	---	1.98	2.08	2.13	1.49	.97
30	---	---	---	---	---	---	---	1.97	2.07	2.14	1.59	1.06
31	---	---	---	---	---	---	---	1.96	---	2.17	1.64	---
MEAN	---	---	---	---	---	---	---	2.07	2.02	2.24	1.83	1.24

WTR YR 2000 MEAN 1.86 HIGHEST 0.78 SEPT. 25, 26, 2000 LOWEST 2.52 JULY 18, 2000



+ above land-surface datum

GROUND-WATER LEVELS

RIO HONDO TO RIO PUERTO NUEVO BASINS--Continued

182349066032600. Local number, 1157.

LOCATION:--Lat 18°23'49", long 66°03'26", Hydrologic Unit 21010005, 5.15 mi southeast of Cataño plaza, 1.28 mi south of Escuela J.J. Osuna, and 0.69 mi southwest of University of Puerto Rico main gate. Owner: US Geological Survey, WRD, Name: Piezometer Jardín Botánico 1.

AQUIFER, --Alluvium

WELL CHARACTERISTICS.--Drilled water-table well, diameter 4 in (0.10 m) cased 4.0 in (0.10 m), 0-45.0 ft (0-13.72 m), perforated 35-45.0 ft (10.67-13.72 m). Depth 45.0 ft (13.72 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 32 ft (9.75 m), above mean sea level, from topographic map. Measuring point:

Hole on well shaft, 2.84 ft (0.86 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on May 22, 1998. Formerly published as local number PN-13.

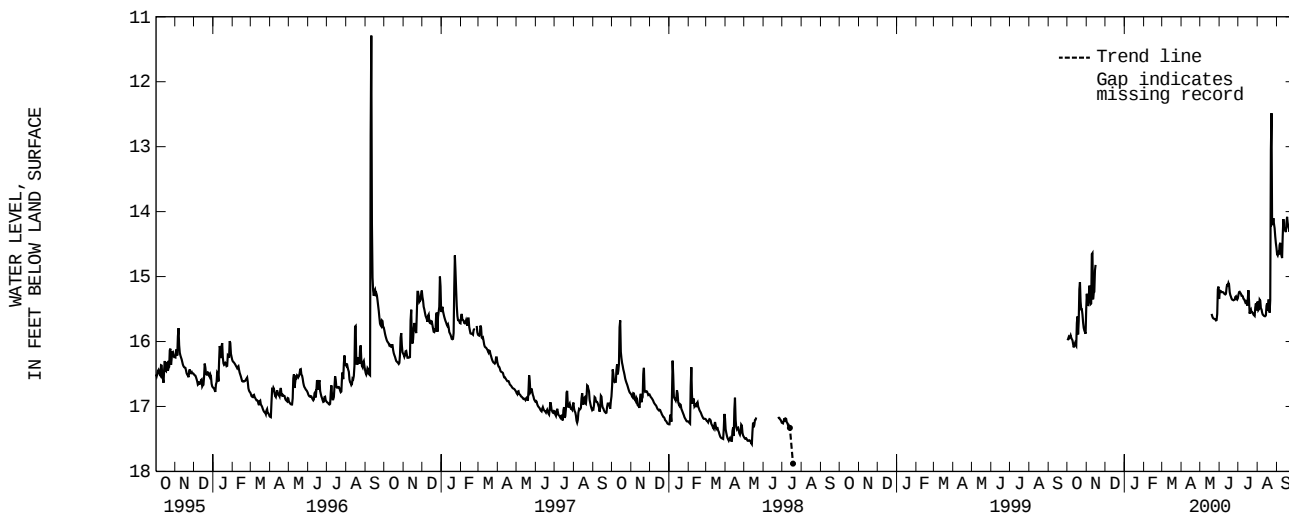
PERIOD OF RECORD.--March 1989 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 6.96 ft (2.12 m), below land-surface datum, Sept. 10, 1996; lowest water level recorded, 17.87 ft (5.45 m), below land-surface datum, Oct. 7, 1994.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15.97	15.11	---	---	---	---	---	---	15.27	15.31	15.27	14.59
2	15.99	15.42	---	---	---	---	---	---	15.23	15.25	15.50	14.72
3	15.93	15.44	---	---	---	---	---	---	15.21	15.23	15.53	14.63
4	15.93	15.43	---	---	---	---	---	---	15.24	15.24	15.47	14.65
5	15.96	15.26	---	---	---	---	---	---	15.24	15.26	15.24	14.61
6	15.90	15.02	---	---	---	---	---	---	15.24	15.27	15.50	14.36
7	15.91	15.44	---	---	---	---	---	---	15.24	15.32	15.48	14.60
8	15.97	15.41	---	---	---	---	---	---	15.25	15.27	15.53	14.67
9	15.96	15.42	---	---	---	---	---	---	15.27	15.34	15.58	14.68
10	16.00	13.89	---	---	---	---	---	---	15.27	15.34	15.59	14.75
11	16.08	15.39	---	---	---	---	---	---	15.28	15.36	15.60	13.99
12	16.10	15.31	---	---	---	---	---	---	15.25	15.38	15.61	14.24
13	16.00	15.18	---	---	---	---	---	---	15.09	15.41	15.61	14.25
14	16.05	15.29	---	---	---	---	---	---	15.14	15.35	15.61	14.27
15	16.06	14.52	---	---	---	---	---	---	15.15	15.44	15.58	14.30
16	16.08	15.12	---	---	---	---	---	---	15.05	15.45	15.32	14.33
17	15.35	---	---	---	---	---	---	---	15.20	15.25	15.50	14.02
18	15.88	---	---	---	---	---	---	---	15.28	15.17	15.54	14.14
19	15.90	---	---	---	---	---	---	15.56	15.29	15.57	15.19	14.21
20	15.47	---	---	---	---	---	---	15.59	15.33	15.57	15.54	14.26
21	14.92	---	---	---	---	---	---	15.63	15.35	15.47	15.57	14.28
22	15.25	---	---	---	---	---	---	15.64	15.36	15.54	15.16	14.34
23	15.52	---	---	---	---	---	---	15.65	15.36	15.56	10.94	14.07
24	15.49	---	---	---	---	---	---	15.65	15.37	15.54	14.03	14.08
25	15.52	---	---	---	---	---	---	15.66	15.35	15.58	14.36	14.31
26	15.65	---	---	---	---	---	---	15.66	15.36	15.59	14.01	14.37
27	15.76	---	---	---	---	---	---	15.69	15.27	15.60	14.19	14.20
28	15.82	---	---	---	---	---	---	15.65	15.34	15.61	14.19	14.37
29	15.84	---	---	---	---	---	---	15.50	15.35	15.34	14.32	14.39
30	15.87	---	---	---	---	---	---	14.89	15.36	15.49	14.44	14.43
31	15.89	---	---	---	---	---	---	15.42	---	15.55	14.53	---
MEAN	15.81	15.17	---	---	---	---	---	15.55	15.27	15.41	15.02	14.37

WTR YR 2000 MEAN 15.20 HIGHEST 9.55 AUG. 23, 2000 LOWEST 16.12 OCT. 12, 1999



GROUND-WATER LEVELS

RIO HONDO TO RIO PUERTO NUEVO BASINS--Continued

182406066034700. Local number, 1158.

LOCATION: --Lat 18°24'06", long 66°03'47", Hydrologic Unit 21010005, 4.65 mi southeast of Cataño plaza, 0.89 mi south of Escuela J.J. Osuna, and 0.78 mi southwest of University of Puerto Rico main gate. Owner: US Geological Survey, WRD, Name: Piezometer Jardín Botánico 3.

AQUIFER. -- Alluvium

WELL CHARACTERISTICS.--Drilled water-table well, diameter 4 in (0.10 m) cased 4.0 in (0.10 m), 0-48.0 ft (0-14.6 m), perforated 38-48 ft (11.6-14.6 m). Depth 48.0 ft.(14.6 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 32.0 ft (9.75 m), above mean sea level, from topographic map. Measuring point:
Hole on well shaft, 2.91 ft (0.88 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on May 22, 1998. Formerly published as local number PN-19.

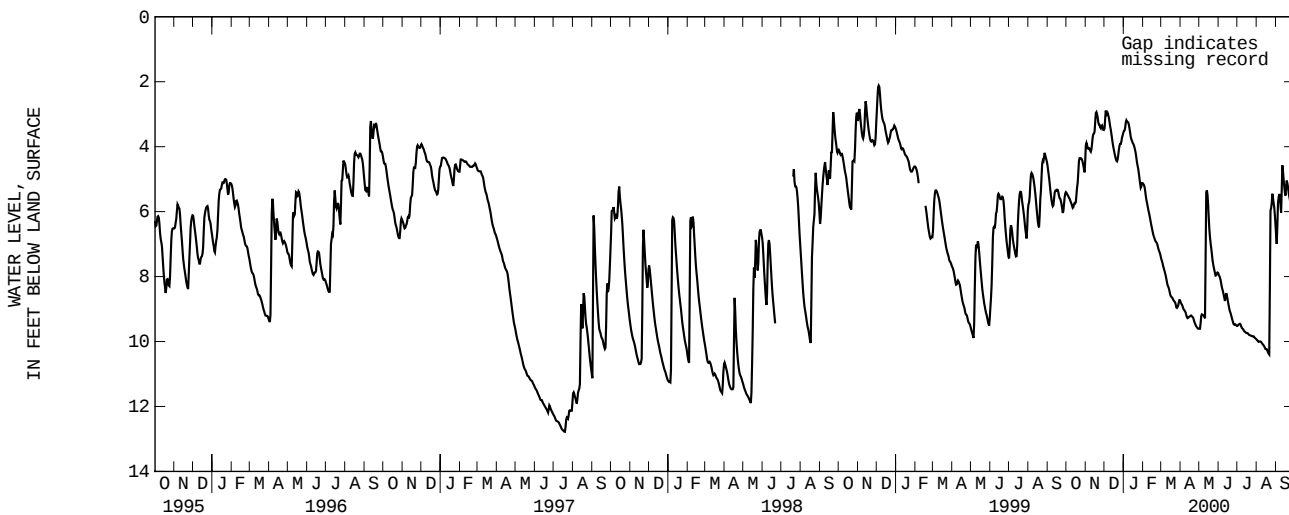
PERIOD OF RECORD.--June 1991 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 2.05 ft (0.62 m), below land-surface datum, Dec. 4, 1998; lowest water level recorded, 13.43 ft (4.09 m), below land-surface datum, Nov. 8, 9, 1994.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.38	4.03	3.46	3.53	5.14	7.43	8.76	9.60	7.91	9.53	9.93	6.57
2	5.46	3.88	3.42	3.51	5.16	7.50	8.82	9.61	7.97	9.51	9.96	6.85
3	5.48	3.89	2.83	3.50	5.19	7.54	8.85	9.60	8.00	9.49	9.97	7.14
4	5.50	4.01	2.95	3.35	5.27	7.64	8.88	9.26	8.06	9.47	10.02	5.75
5	5.56	4.08	3.11	3.17	5.42	7.72	8.94	9.17	8.15	9.45	10.00	5.73
6	5.59	4.05	2.93	3.21	5.58	7.78	9.01	9.16	8.28	9.46	10.00	5.41
7	5.62	4.04	3.01	3.24	5.69	7.86	9.02	9.19	8.37	9.49	10.00	5.50
8	5.69	4.08	3.06	3.24	5.76	7.92	9.06	9.19	8.43	9.57	10.00	5.67
9	5.74	4.17	3.17	3.27	5.89	8.02	9.08	9.22	8.52	9.59	10.03	5.89
10	5.78	4.14	3.32	3.39	5.97	8.11	9.14	9.26	8.60	9.61	10.06	6.17
11	5.87	4.02	3.43	3.49	6.07	8.23	9.23	9.31	8.72	9.63	10.08	4.52
12	5.90	3.79	3.53	3.64	6.15	8.29	9.27	5.50	8.78	9.67	10.11	4.63
13	5.82	3.63	3.68	3.76	6.27	8.33	9.29	5.32	8.50	9.70	10.13	4.87
14	5.73	3.60	3.82	3.79	6.37	8.39	9.25	5.37	8.52	9.70	10.17	5.11
15	5.74	3.59	3.95	3.86	6.47	8.49	9.24	5.57	8.62	9.73	10.21	5.31
16	5.75	3.49	4.06	3.90	6.56	8.58	9.23	5.99	8.73	9.74	10.25	5.48
17	5.66	3.02	4.15	3.92	6.66	8.61	9.22	6.39	8.85	9.74	10.22	5.53
18	5.29	2.91	4.26	3.99	6.74	8.63	9.19	6.69	8.94	9.74	10.26	5.01
19	5.20	2.96	4.33	4.06	6.79	8.65	9.21	6.89	9.05	9.77	10.30	5.08
20	5.00	3.04	4.41	4.16	6.85	8.69	9.24	7.06	9.10	9.79	10.36	5.16
21	4.53	3.16	4.45	4.25	6.91	8.73	9.25	7.19	9.15	9.81	10.39	5.31
22	4.35	3.34	4.45	4.43	6.93	8.76	9.28	7.40	9.24	9.80	10.41	5.49
23	4.36	3.30	4.33	4.55	6.96	8.78	9.37	7.56	9.31	9.83	6.20	5.56
24	4.35	3.35	4.17	4.63	6.99	8.80	9.42	7.65	9.38	9.82	5.74	5.68
25	4.36	3.46	4.01	4.74	7.09	8.90	9.47	7.77	9.44	9.83	6.05	5.83
26	4.38	3.41	3.92	4.91	7.16	9.00	9.51	7.84	9.50	9.85	5.42	5.55
27	4.44	3.32	3.91	5.05	7.22	8.93	9.55	7.94	9.46	9.84	5.48	5.41
28	4.53	3.37	3.92	5.22	7.26	8.94	9.57	8.00	9.47	9.84	5.70	5.32
29	4.62	3.45	3.76	5.31	7.33	8.85	9.60	7.92	9.49	9.89	5.76	5.41
30	4.76	3.51	3.68	5.14	---	8.75	9.61	7.89	9.51	9.89	5.98	5.58
31	4.82	---	3.62	5.10	---	8.70	---	7.86	---	9.92	6.24	---
MEAN	5.20	3.60	3.71	4.04	6.34	8.37	9.22	7.82	8.80	9.70	8.88	5.55

WTR YR 2000 MEAN 6.77 HIGHEST 2.83 DEC. 3, 1999 LOWEST 10.41 AUG. 22, 2000



GROUND-WATER LEVELS

RIO HONDO TO RIO PUERTO NUEVO BASINS--Continued

182451066080200. Local number, 1159.

LOCATION.--Lat 18°24'50", long 66°08'05", Hydrologic Unit 21010005, 1.7 mi west of main gate of Fort Buchanan, 0.2 mi southeast of oil refinery, and 0.9 mi east of Goya Products plant. Owner: US Geological Survey, Name: Piezometer Ft. Buchanan 1.

AQUIFER.--Mucarabones Sand.

WELL CHARACTERISTICS.--Drilled water-table well, diameter 4 in (0.10 m), screened 209-249 ft (63.7-75.9 m). Depth 249 ft (75.89 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 46.0 ft (14.0 m), about mean sea level, from topographic map. Measuring point: 3.33 ft (1.01 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), installed Sept. 12, 1997, replaced by an Electronic Data Logger (EDL), installed on Sept. 10, 1998. Well is affected by nearby pumping.

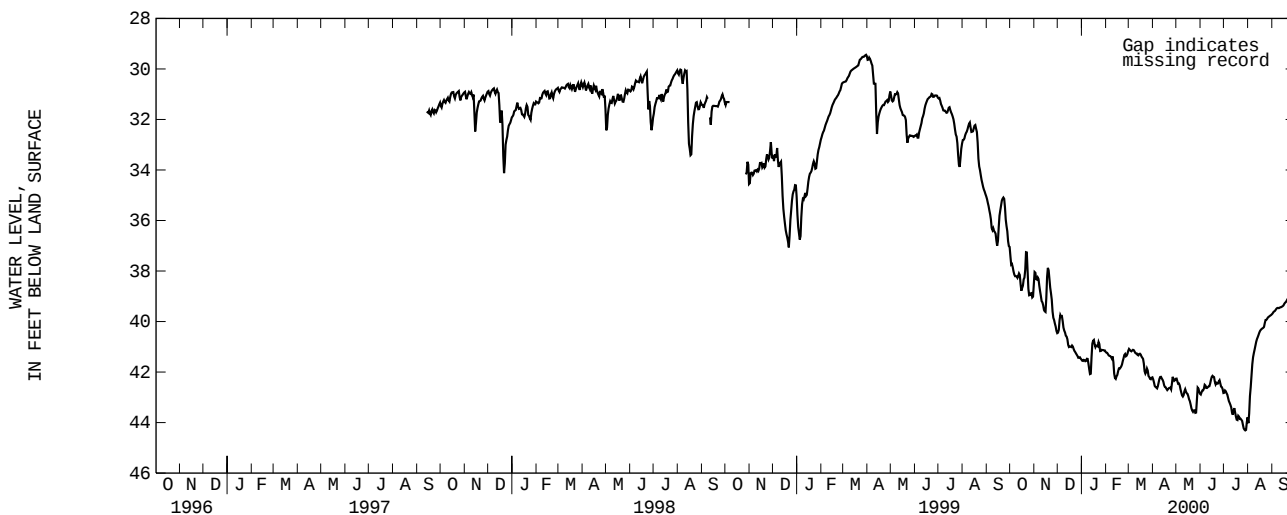
PERIOD OF RECORD.--September 12, 1997 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 29.43 ft (8.97 m), below land-surface datum, Mar. 31, 1999; lowest water level recorded, 44.38 ft (13.53 m), below land-surface datum, July 28, 29, 2000.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37.08	38.19	40.47	41.52	41.23	41.07	42.24	42.25	42.92	42.91	43.86	39.70
2	37.76	37.89	40.41	41.58	41.23	41.10	42.34	42.27	42.86	42.73	44.19	39.66
3	37.74	38.25	40.25	41.54	41.25	41.14	42.48	42.47	42.74	42.73	43.09	39.60
4	37.71	38.39	39.65	41.50	41.33	41.18	42.62	42.46	42.72	42.79	42.81	39.60
5	37.99	38.29	39.83	41.56	41.35	41.18	42.56	42.45	42.73	42.88	42.38	39.56
6	38.05	38.22	39.78	41.58	41.37	41.12	42.67	42.61	42.58	42.91	41.89	39.51
7	38.23	38.41	39.80	41.53	41.37	41.12	42.62	42.76	42.43	43.14	41.50	39.47
8	38.18	38.74	40.18	41.42	41.44	41.14	42.50	42.86	42.64	43.16	41.33	39.46
9	38.22	38.84	40.30	41.54	41.49	41.22	42.32	42.99	42.62	43.28	41.17	39.46
10	38.21	39.13	40.42	41.80	41.27	41.26	42.22	42.95	42.64	43.32	41.04	39.48
11	38.33	39.25	40.45	41.98	41.95	41.27	42.17	42.88	42.56	43.48	40.87	39.43
12	38.06	39.23	40.67	42.18	42.17	41.26	42.21	42.64	42.58	43.72	40.74	39.44
13	38.13	39.49	40.52	41.95	42.30	41.39	42.30	42.72	42.54	43.66	40.65	39.42
14	38.18	39.59	40.88	40.86	42.24	41.29	42.31	42.83	42.37	43.38	40.58	39.40
15	38.83	39.60	40.96	40.89	42.10	41.28	42.45	42.85	42.25	43.48	40.48	39.38
16	38.73	39.64	41.06	40.63	42.13	41.27	42.59	42.88	42.14	43.71	40.40	39.34
17	38.62	38.52	40.93	40.83	41.82	41.35	42.59	43.03	42.16	43.81	40.34	39.26
18	38.54	37.95	41.06	40.98	41.90	41.42	42.62	43.13	42.20	43.96	40.31	39.25
19	38.12	37.80	40.96	41.05	41.84	41.44	42.71	43.18	42.20	43.84	40.28	39.21
20	38.40	38.14	40.94	40.86	41.82	41.52	42.72	43.39	42.56	43.62	40.26	39.15
21	37.52	38.49	41.04	41.04	41.74	41.81	42.64	43.48	42.42	43.91	40.24	39.09
22	36.99	38.83	41.13	40.92	41.66	42.13	42.64	43.57	42.44	43.80	40.19	39.06
23	37.54	38.93	41.19	40.70	41.47	41.99	42.61	43.58	42.48	43.90	39.94	39.01
24	38.41	39.34	41.22	41.08	41.44	41.99	42.62	43.46	42.43	43.88	39.94	38.92
25	38.99	39.87	41.30	41.26	41.21	41.73	42.75	43.57	42.31	43.99	39.93	38.85
26	38.93	39.83	41.33	41.07	41.36	42.15	42.17	43.66	42.34	44.19	39.86	38.82
27	38.97	40.05	41.40	41.17	41.39	42.16	42.21	43.55	42.55	44.27	39.82	38.76
28	38.80	40.11	41.47	41.09	41.31	42.24	42.33	42.69	42.60	44.29	39.81	38.68
29	38.95	40.29	41.39	41.17	41.25	42.30	42.36	42.54	42.60	44.33	39.77	38.60
30	39.14	40.45	41.44	41.12	---	42.27	42.28	42.77	42.75	44.25	39.76	38.54
31	38.88	---	41.49	41.17	---	42.18	---	42.80	---	43.72	39.73	---
MEAN	38.27	38.99	40.77	41.28	41.60	41.55	42.46	42.94	42.51	43.58	40.88	39.24
MAX	39.14	40.45	41.49	42.18	42.30	42.30	42.75	43.66	42.92	44.33	44.19	39.70
MIN	36.99	37.80	39.65	40.63	41.21	41.07	42.17	42.25	42.14	42.73	39.73	38.54

WTR YR 2000 MEAN 41.17 HIGHEST 36.96 OCT. 22, 1999 LOWEST 44.38 JULY 28, 29, 2000



GROUND-WATER LEVELS

RIO GRANDE DE LOIZA BASIN--Continued

181311066022500. Local number, 1177.

LOCATION.--Lat 18°13'11", long 66°02'25", Hydrologic Unit 21010005, 1.13 mi south of the intersection of Hwy 156 with Hwy 52, 0.15 mi southeast of the intersection of Hwy 172 with Hwy 1, and 0.20 mi northeast of Escuela Antonio S. Pereira. Owner: US Geological Survey, WRD, Name: Piezometer Caguas-Juncos 11.

AQUIFER.--Unconsolidated deposits of Quaternary Age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 4 in (0.10 m), 0-110 ft (0-33.5 m), screened 66-96 ft (20.1-29.3 m). Depth 110 ft (33.5 m).

INSTRUMENTATION.--Electronic water level logger--60-minute interval.

DATUM.--Elevation of land-surface datum is about 279 ft (85.0 m), above mean sea level. Measuring point: Shelter floor on top of 4 in (0.10 m) casing, 3.04 ft (0.24 m), above land-surface datum.

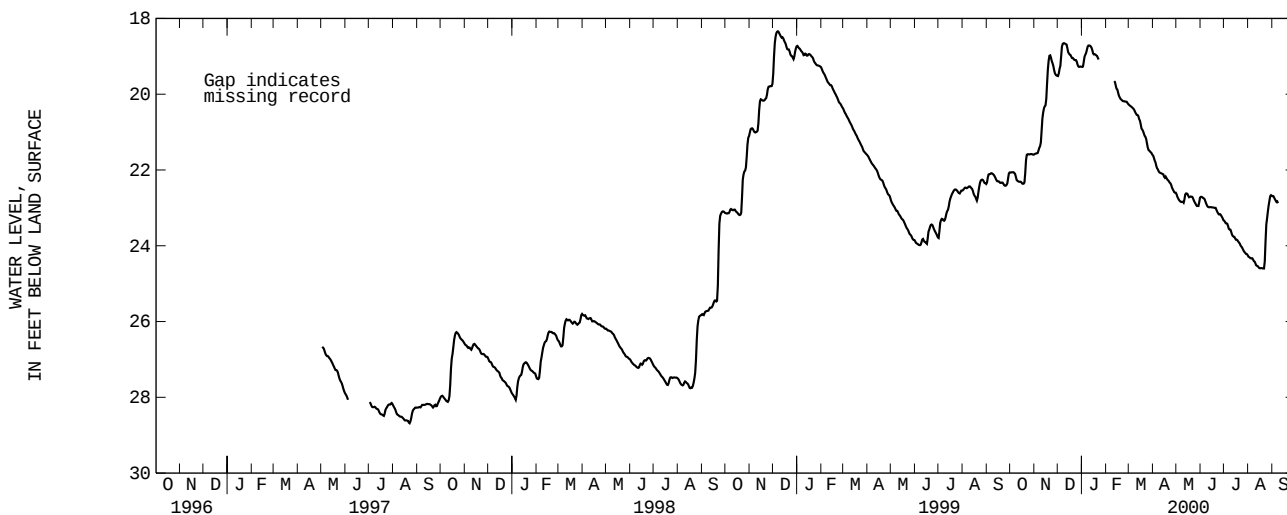
REMARKS.--Recording observation well. Automated Digital Recorder (ADR), installed on May 2, 1997. Automated Digital Recorder (ADR, replaced by an Electronic Data Logger (EDL), installed on September 17, 1999. Formerly published as local number and name CJ-TW11.

PERIOD OF RECORD.--May 2, 1997 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 18.34 ft (5.59 m), below land-surface datum, Dec. 6, 7, 8, 1998; lowest water level recorded, 28.73 ft (8.76 m), below land-surface datum, Aug. 22, 1997.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22.06	21.59	19.52	19.28	---	20.27	21.62	22.60	22.71	23.34	24.27	22.69
2	22.07	21.57	19.52	19.28	---	20.29	21.63	22.69	22.71	23.34	24.30	22.69
3	22.06	21.57	19.38	19.26	---	20.31	21.74	22.73	22.71	23.40	24.30	22.69
4	22.06	21.56	19.28	19.03	---	20.32	21.77	22.77	22.73	23.41	24.33	22.77
5	22.06	21.56	19.23	18.99	---	20.34	21.84	22.81	22.75	23.41	24.33	22.77
6	22.06	21.54	18.80	18.93	---	20.36	21.95	22.82	22.75	23.43	24.33	22.85
7	22.10	21.43	18.69	18.89	---	20.38	21.96	22.85	22.80	23.54	24.33	22.84
8	22.11	21.40	18.66	18.77	---	20.40	22.01	22.84	22.87	23.57	24.40	22.82
9	22.25	21.35	18.65	18.72	---	20.46	22.06	22.84	22.91	23.57	24.41	22.93
10	22.28	21.20	18.66	18.71	---	20.49	22.07	22.84	22.97	23.58	24.43	---
11	22.29	20.72	18.67	18.72	19.64	20.54	22.08	22.89	22.97	23.69	24.50	---
12	22.31	20.56	18.69	18.72	19.67	20.55	22.09	22.68	22.99	23.72	24.53	---
13	22.31	20.40	18.69	18.76	19.69	20.55	22.10	22.62	22.98	23.76	24.53	---
14	22.31	20.34	18.88	18.79	19.85	20.61	22.11	22.62	22.98	23.76	24.55	---
15	22.31	20.30	18.90	18.89	19.86	20.70	22.12	22.62	22.98	23.77	24.58	---
16	22.34	20.29	18.95	18.96	19.89	20.70	22.24	22.65	22.99	23.84	24.60	---
17	22.37	19.95	18.96	18.94	20.02	20.89	22.17	22.72	22.99	23.84	24.59	---
18	22.36	19.46	18.97	18.95	20.05	20.92	22.18	22.72	22.99	23.84	24.59	---
19	22.36	19.23	19.05	18.96	20.11	20.95	22.24	22.70	23.00	23.87	24.59	---
20	22.30	19.00	19.04	18.99	20.13	21.00	22.26	22.70	23.00	23.91	24.60	---
21	21.87	18.97	19.05	18.99	20.15	21.07	22.28	22.71	23.00	23.92	24.60	---
22	21.61	18.98	19.09	19.08	20.17	21.12	22.31	22.71	23.10	23.97	24.60	---
23	21.59	19.09	19.10	19.09	20.19	21.13	22.35	22.78	23.10	24.02	24.22	---
24	21.58	19.16	19.10	---	20.18	21.24	22.35	22.82	23.17	24.02	23.54	---
25	21.59	19.21	19.10	---	20.19	21.35	22.43	22.87	23.17	24.08	23.33	---
26	21.59	19.30	19.18	---	20.20	21.46	22.49	22.89	23.17	24.11	23.21	---
27	21.58	19.42	19.25	---	20.19	21.48	22.52	22.95	23.17	24.16	22.97	---
28	21.58	19.47	19.28	---	20.21	21.50	22.57	22.95	23.23	24.17	22.90	---
29	21.58	19.50	19.28	---	20.25	21.53	22.60	22.95	23.24	24.21	22.72	---
30	21.59	19.51	19.27	---	---	21.54	22.60	22.95	23.31	24.22	22.66	---
31	21.60	---	19.27	---	---	21.58	---	22.75	---	24.22	22.67	---
MEAN	22.00	20.25	19.04	18.94	20.03	20.84	22.16	22.78	22.98	23.80	24.08	22.78
WTR YR 2000	MEAN 21.69	HIGHEST 18.65 DEC. 8, 9, 1999	LOWEST 24.60 AUG. 15, 16, 2000									



GROUND-WATER LEVELS

RIO GRANDE DE LOIZA BASIN--Continued

181446066013400. Local number, 1178.

LOCATION.--Lat 18°14'46", long 66°01'34", Hydrologic Unit 21010005, 0.63 mi east of Hwy 1, 1.59 mi west of the intersection of Hwy 189 with Hwy 931, and 0.70 mi northeast of the intersection of Hwy 189 with Hwy 1. Owner: US Geological Survey, WRD, Name: Piezometer Caguas-Juncos 20.

AQUIFER.--Unconsolidated deposits of Quaternary Age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 4 in (0.10 m), casing 4 in (0.10 m), 0-37.0 ft (0-11.3 m), screened 25-35 ft (7.62-11.3 m). Depth 35.0 ft (11.3 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 187.0 ft (57.0 m), above mean sea level, from topographic map. Measuring point:

Shelter floor on top of 4 in (0.10 m) casing, 3.63 ft (1.11 m), above land-surface datum.

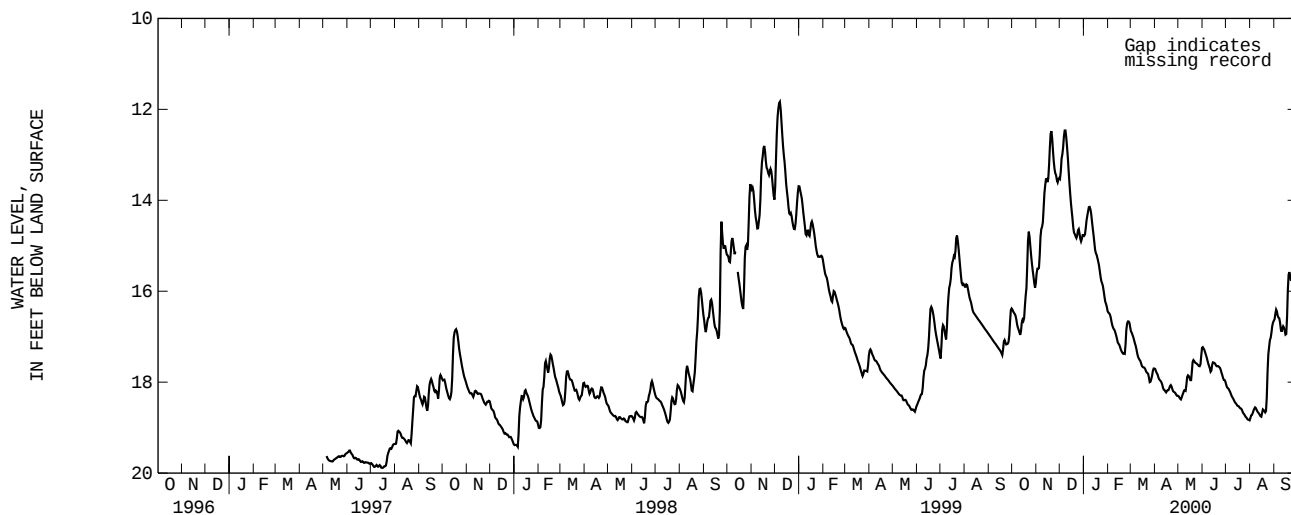
REMARKS.--Recording observation well. Automated Digital Recorder (ADR), installed on May 5, 1997. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on September 29, 1999. Formerly published as local number CJ-TW20.

PERIOD OF RECORD.--May 5, 1997 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 11.75 ft (3.58 m), below land-surface datum, Dec. 7, 1998; lowest water level recorded, 19.89 ft (6.06 m), below land-surface datum, July 15, 16, 17, 1997.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16.39	15.69	13.52	14.78	16.47	16.87	17.70	18.30	17.21	18.02	18.84	16.66
2	16.42	15.53	13.54	14.78	16.47	16.90	17.72	18.32	17.25	18.09	18.74	16.57
3	16.47	15.48	13.19	14.72	16.50	16.93	17.80	18.35	17.27	18.13	18.72	16.42
4	16.48	15.53	12.98	14.50	16.53	17.00	17.80	18.38	17.31	18.13	18.72	16.39
5	16.52	15.45	13.00	14.39	16.62	17.03	17.86	18.38	17.38	18.16	18.64	16.50
6	16.56	14.95	12.68	14.29	16.72	17.13	17.92	18.29	17.42	18.20	18.61	16.58
7	16.68	14.65	12.51	14.19	16.78	17.16	17.95	18.27	17.49	18.23	18.56	16.58
8	16.78	14.62	12.42	14.11	16.82	17.24	17.96	18.20	17.56	18.29	18.55	16.61
9	16.82	14.55	12.51	14.18	16.85	17.32	17.99	18.17	17.62	18.32	18.59	16.76
10	16.88	14.42	12.73	14.22	16.87	17.42	18.02	18.19	17.67	18.35	18.63	16.91
11	16.93	13.93	12.92	14.39	16.96	17.46	18.08	18.19	17.72	18.38	18.66	16.87
12	16.99	13.77	13.19	14.55	16.99	17.50	18.17	17.92	17.82	18.42	18.68	16.76
13	16.77	13.57	13.48	14.69	17.10	17.52	18.16	17.85	17.67	18.45	18.70	16.78
14	16.61	13.50	13.73	14.84	17.15	17.55	18.19	17.85	17.57	18.47	18.74	16.82
15	16.64	13.56	13.96	15.02	17.16	17.63	18.22	17.88	17.56	18.49	18.76	16.92
16	16.67	13.64	14.16	15.16	17.20	17.66	18.23	17.93	17.58	18.53	18.76	16.99
17	16.51	13.40	14.31	15.17	17.26	17.67	18.16	17.98	17.58	18.52	18.60	16.89
18	16.14	13.03	14.50	15.24	17.31	17.68	18.19	17.93	17.62	18.54	18.60	16.25
19	16.06	12.64	14.70	15.31	17.34	17.68	18.16	17.60	17.65	18.57	18.63	15.70
20	15.79	12.43	14.73	15.39	17.37	17.73	18.11	17.51	17.65	18.58	18.64	15.57
21	15.09	12.53	14.76	15.48	17.38	17.77	18.06	17.52	17.64	18.58	18.69	15.59
22	14.67	12.77	14.83	15.63	17.35	17.80	18.07	17.55	17.66	18.63	18.58	15.75
23	14.71	13.06	14.83	15.74	17.40	17.80	18.12	17.58	17.68	18.67	18.09	15.78
24	14.90	13.23	14.72	15.82	16.95	17.84	18.19	17.58	17.69	18.70	17.47	15.65
25	15.14	13.40	14.61	15.83	16.76	17.97	18.21	17.60	17.77	18.71	17.31	15.54
26	15.30	13.42	14.66	15.95	16.66	18.03	18.22	17.61	17.82	18.76	17.14	15.53
27	15.48	13.48	14.80	16.05	16.67	17.95	18.23	17.64	17.87	18.77	17.01	15.43
28	15.60	13.63	14.89	16.19	16.66	17.91	18.26	17.65	17.95	18.79	17.04	15.04
29	15.75	13.58	14.92	16.27	16.73	17.81	18.30	17.65	17.95	18.83	16.79	14.82
30	15.89	13.50	14.78	16.29	---	17.70	18.30	17.57	17.96	18.82	16.74	14.90
31	15.96	---	14.75	16.40	---	17.70	---	17.28	---	18.84	16.64	---
MEAN	16.12	13.90	13.91	15.15	16.93	17.53	18.08	17.89	17.62	18.48	18.22	16.19
WTR YR 2000	MEAN 16.67	HIGHEST 12.36 DEC. 8, 1999	LOWEST 18.85 JULY 31, AUG. 1, 2000									



GROUND-WATER LEVELS

RIO GRANDE DE LOIZA BASIN--Continued

181539066014500. Local number, 1179.

LOCATION.--Lat 18°15'39", long 66°01'45", Hydrologic Unit 21010005, 0.55 mi southeast of the intersection of Hwy 1 with Hwy 30, 0.75 mi southeast of the intersection of Hwy 1 with Hwy 52, and 0.06 mi north of Hwy 796. Owner: US Geological Survey, WRD, Name: Piezometer Caguas-Juncos 15.

AQUIFER.--Unconsolidated deposits of Quaternary Age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 4 in (0.10 m), 0-70.0 ft (0-21.3 m), screened 25-70 ft (7.62-21.3 m). Depth 70.0 ft (21.3 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 167.3 ft (51.0 m), above mean sea level, from topographic map. Measuring point:

Shelter floor on top of 4 in (0.10 m) casing, 3.75 ft (1.14 m), above land-surface datum.

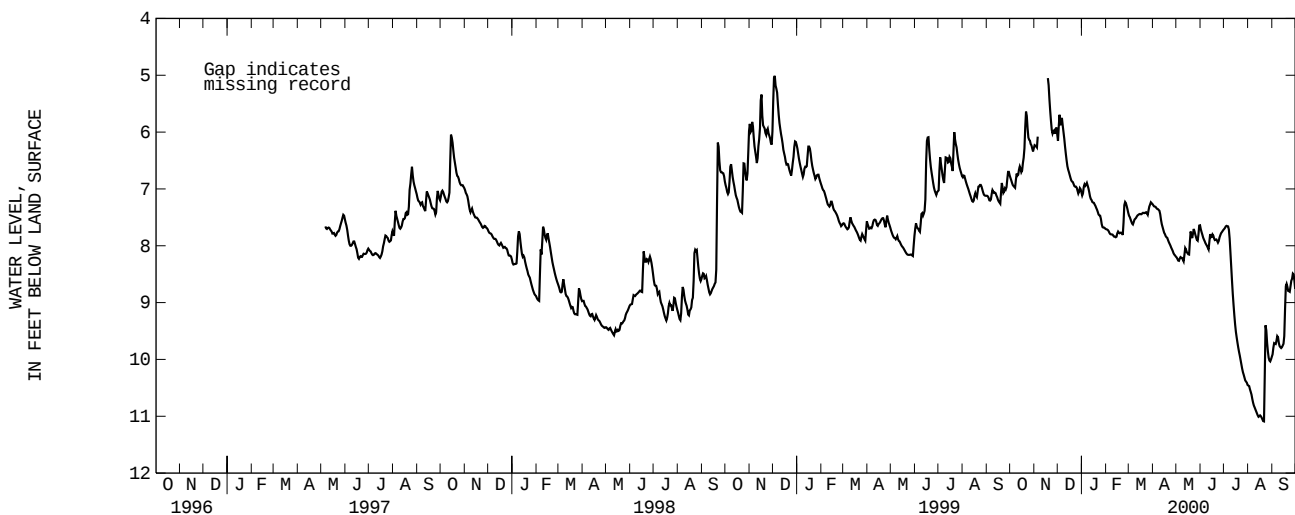
REMARKS.--Recording observation well. Automated Digital Recorder (ADR), installed on May 5, 1997. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on September 2, 1999. Formerly published as local number and name CJ-TW15.

PERIOD OF RECORD.--May 5, 1997 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 4.92 ft (1.50 m), below land-surface datum, Dec. 3, 1998; lowest water level recorded, 11.11 ft (3.39 m), below land-surface datum, Aug. 11, 22, 2000.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.79	6.22	6.10	7.09	7.71	7.46	7.27	8.20	7.68	7.71	10.47	9.95
2	6.82	6.24	6.21	7.14	7.71	7.48	7.30	8.21	7.74	7.70	10.45	9.87
3	6.87	6.24	5.56	7.01	7.72	7.51	7.31	8.25	7.78	7.67	10.49	9.72
4	6.91	6.26	5.83	6.92	7.73	7.56	7.31	8.27	7.83	7.65	10.56	9.71
5	6.95	6.28	5.93	6.92	7.76	7.59	7.32	8.26	7.88	7.65	10.58	9.74
6	6.95	5.88	5.68	6.97	7.79	7.63	7.35	8.19	7.90	7.66	10.66	9.72
7	6.98	---	5.82	6.88	7.80	7.62	7.35	8.21	7.94	7.66	10.73	9.62
8	6.98	---	5.94	6.91	7.80	7.55	7.36	8.21	7.97	7.77	10.79	9.56
9	6.71	---	6.05	6.97	7.80	7.53	7.38	8.22	7.99	7.98	10.83	9.66
10	6.75	---	6.18	7.01	7.81	7.52	7.39	8.27	8.02	8.25	10.86	9.76
11	6.78	---	6.33	7.10	7.84	7.50	7.50	8.28	8.05	8.49	10.90	9.77
12	6.72	---	6.43	7.16	7.84	7.47	7.59	8.05	8.08	8.74	10.93	9.80
13	6.60	---	6.56	7.19	7.84	7.46	7.65	8.03	7.77	8.95	10.97	9.80
14	6.61	---	6.64	7.20	7.86	7.45	7.69	8.10	7.82	9.14	11.00	9.77
15	6.68	---	6.68	7.26	7.82	7.44	7.75	8.12	7.88	9.31	11.02	9.74
16	6.73	---	6.73	7.22	7.74	7.44	7.79	8.14	7.81	9.46	10.98	9.71
17	6.62	---	6.78	7.27	7.76	7.45	7.80	8.16	7.79	9.57	10.99	9.47
18	6.47	5.05	6.83	7.28	7.78	7.44	7.86	8.15	7.85	9.66	11.01	8.75
19	6.43	5.05	6.87	7.32	7.78	7.42	7.84	7.71	7.89	9.75	11.04	8.67
20	6.14	5.30	6.87	7.35	7.76	7.42	7.88	7.79	7.91	9.83	11.07	8.67
21	5.69	5.55	6.89	7.38	7.78	7.43	7.92	7.85	7.88	9.90	11.10	8.77
22	5.59	5.71	6.94	7.43	7.78	7.42	7.95	7.88	7.90	9.97	11.08	8.82
23	5.84	5.90	6.96	7.47	7.84	7.41	7.98	7.69	7.93	10.05	9.45	8.78
24	6.02	6.02	6.96	7.46	7.34	7.41	8.01	7.72	7.96	10.12	9.35	8.84
25	6.17	6.03	6.96	7.48	7.23	7.45	8.05	7.78	7.87	10.20	9.63	8.58
26	6.10	5.94	7.00	7.58	7.23	7.46	8.07	7.83	7.84	10.25	9.79	8.65
27	6.20	6.00	7.06	7.66	7.27	7.30	8.11	7.88	7.79	10.29	9.93	8.51
28	6.22	6.06	7.10	7.68	7.33	7.32	8.15	7.91	7.77	10.35	10.01	8.47
29	6.25	5.86	6.99	7.68	7.38	7.23	8.16	7.91	7.75	10.39	10.03	8.54
30	6.33	5.98	6.98	7.68	---	7.24	8.18	7.69	7.73	10.39	10.04	8.69
31	6.35	---	7.03	7.70	---	7.26	---	7.60	---	10.43	9.96	---
MEAN	6.49	5.87	6.54	7.27	7.68	7.45	7.71	8.02	7.87	9.13	10.54	9.27
WTR YR 2000 MEAN 7.88 HIGHEST 5.05 NOV. 18, 19, 1999 LOWEST 11.11 AUG. 21, 22, 2000												



GROUND-WATER LEVELS

RIO GRANDE DE LOIZA BASIN--Continued

181550065593200. Local number, 50.

LOCATION.--Lat 18°15'50", long 65°59'32", Hydrologic Unit 21010005, 1.36 mi northwest of Gurabo plaza, 0.70 mi north of Estación Experimental Agrícola, and 2.42 mi southwest of Escuela José M. Gallardo. Owner: Gurabo Agricultural Experimental Station, Name: Piezometer USGS 50 Gurabo.

AQUIFER.--Unconsolidated deposits of Quaternary Age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 13 in (0.34 m), cased 4 in (0.10 m), 0-145 ft (0-44.2 m). Depth 145 ft (44.2 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 148 ft (45.1 m), above mean sea level, from topographic map. Measuring point:

Top of 12 in (0.30 m) casing, 0.80 ft (0.24 m), above land-surface datum.

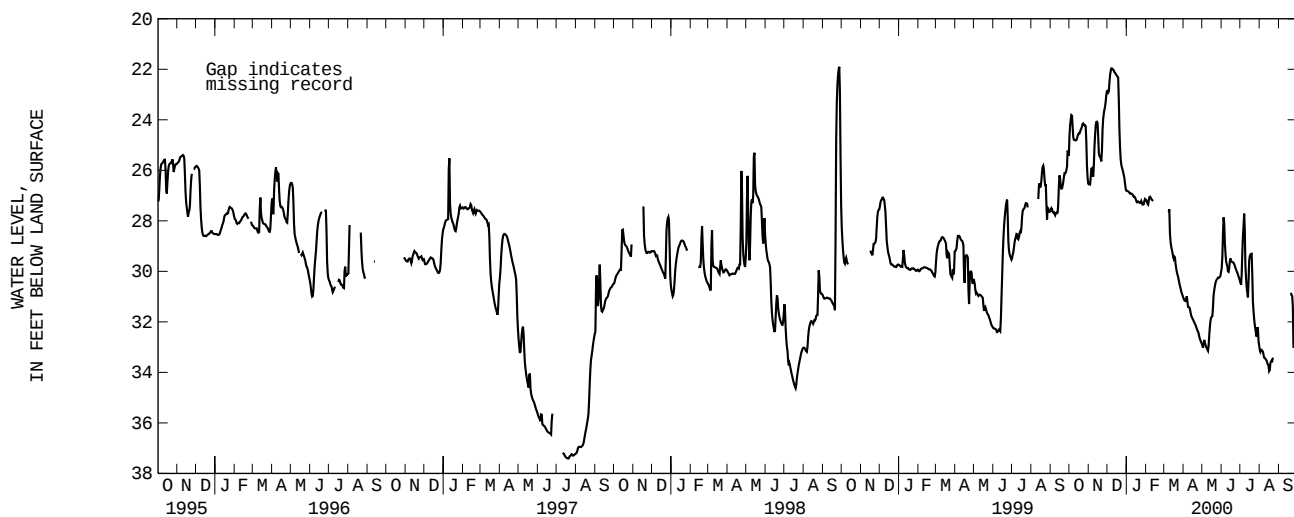
REMARKS.--Recording observation well. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on September 30, 1999.

PERIOD OF RECORD.--December 1960 to March 1985, discontinued, and September 1991 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 12.6 ft (3.86 m), below land-surface datum, Sept. 9, 1975; lowest water level measured, 44.4 ft (13.5 m), below land-surface datum, June 18, 1975.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24.92	26.57	22.83	26.82	27.19	---	31.05	32.89	29.89	30.41	32.99	---
2	24.31	26.54	22.88	26.81	27.16	---	31.12	32.99	29.87	30.51	33.20	---
3	24.10	26.56	22.96	26.82	27.29	---	31.16	33.06	28.98	30.56	33.18	---
4	23.90	26.56	22.79	26.85	27.35	---	31.17	32.65	28.12	29.72	33.09	---
5	23.73	26.01	22.28	26.85	27.36	---	31.18	32.78	27.61	28.88	33.13	---
6	23.95	25.86	22.17	26.92	27.08	---	30.99	32.85	28.56	28.29	33.17	---
7	24.58	25.97	21.99	26.92	27.05	---	30.99	32.96	29.11	28.13	33.18	---
8	24.77	26.18	21.94	26.91	27.04	28.54	31.40	33.01	29.46	27.30	33.42	---
9	24.81	26.31	21.99	26.94	27.11	26.77	31.41	33.07	29.73	29.46	33.41	---
10	24.78	25.36	22.04	26.93	27.14	28.31	31.42	33.12	29.69	30.09	33.45	---
11	24.84	24.83	21.99	26.98	27.18	28.69	31.43	33.17	29.91	30.49	33.48	---
12	24.79	24.38	22.10	27.05	27.20	28.96	31.54	32.72	30.09	30.75	33.50	---
13	24.81	24.07	22.12	27.05	27.23	29.07	31.71	32.34	29.95	30.93	33.58	---
14	24.68	24.10	22.16	27.03	---	29.20	31.78	32.05	29.80	31.13	33.67	---
15	24.61	24.05	22.20	27.11	---	29.32	31.83	31.87	29.42	29.70	33.71	---
16	24.53	24.19	22.23	27.16	---	29.47	31.89	31.80	29.56	29.47	33.74	---
17	24.53	25.14	22.29	27.25	---	29.51	31.94	31.79	29.59	29.34	34.16	---
18	24.55	25.45	22.29	27.28	---	29.32	31.99	31.76	29.64	29.32	33.65	---
19	24.40	25.42	22.38	27.25	---	29.57	32.05	31.06	29.64	29.31	33.63	---
20	24.38	25.51	23.93	27.22	---	29.82	32.10	30.82	29.65	29.30	33.52	30.79
21	24.31	25.56	24.80	27.29	---	29.94	32.15	30.67	29.67	30.96	33.54	30.91
22	24.22	25.73	25.35	27.26	---	30.09	32.23	30.51	29.75	31.43	33.56	30.98
23	24.12	24.70	25.73	27.32	---	30.16	32.31	30.42	29.82	31.73	33.27	30.98
24	24.17	24.06	25.82	27.20	---	30.26	32.37	30.33	29.90	32.04	---	31.78
25	24.21	23.85	25.95	27.22	---	30.40	32.39	30.33	29.96	32.20	---	34.28
26	24.23	23.65	25.99	27.35	---	30.52	32.53	30.26	30.03	32.39	---	---
27	24.20	23.54	26.16	27.36	---	30.62	32.63	30.24	30.08	32.51	---	---
28	24.31	23.42	26.22	27.36	---	30.72	32.72	30.27	30.17	32.66	---	---
29	25.51	23.14	26.39	27.33	---	30.85	32.76	30.23	30.24	31.83	---	---
30	26.12	22.90	26.65	27.11	---	30.88	32.84	30.20	30.31	32.66	---	---
31	26.48	---	26.79	27.18	---	30.98	---	30.15	---	32.87	---	---
MEAN	24.58	24.99	23.66	27.10	27.18	29.67	31.84	31.69	29.61	30.53	33.44	31.62
WTR YR 2000	MEAN 28.56	HIGHEST 21.87 DEC. 8, 1999	LOWEST 34.76 SEPT. 25, 2000									



GROUND-WATER LEVELS

RIO GRANDE DE LOIZA BASIN--Continued

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 29	5.30	MAY 12	5.60	JUL 27	5.85	AUG 08	5.63	SEP 07	5.68	SEP 20	5.82
FEB 24	5.58	JUN 30	5.75								
WATER YEAR 2000		HIGHEST 5.30 OCT. 29, 1999				LOWEST 5.85 JULY 27, 2000					

GROUND-WATER LEVELS

RIO GRANDE DE LOIZA BASIN--Continued

181540065580300. Local number, 1180.

LOCATION: --Lat 18°15'40", long 65°58'03", Hydrologic Unit 21010005, 0.75 mi northeast of the intersection of Hwy 181 with Hwy 30, 0.88 mi south of the intersection of Hwy 943 with Hwy 181, and 0.01 mi west of Hwy 181. Owner: US Geological Survey, WRD, Name: Piezometer Caguas-Juncos 18.

AQUIFER.--Unconsolidated deposits of Quaternary Age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 4 in (0.10 m), 0-65.0 ft (0-19.8 m), screened 25-65 ft (7.62-19.8 m). Depth 65.0 ft (19.8 m).

DATUM.--Elevation of land-surface datum is about 164.0 ft (50.0 m), above mean sea level, from topographic map. Measuring point: Shelter floor on top of 4 in (0.10 m) casing, 3.65 ft (1.11 m), above land-surface datum.

REMARKS.--Recording observation well Automated Digital Recorder (ADR), installed on June 23, 1997. Shelter with instrumentation found destroyed due to construction in the area, September 30, 1997. Since then, tapedown measurements only. Formerly published as local number and name CJ-TW18.

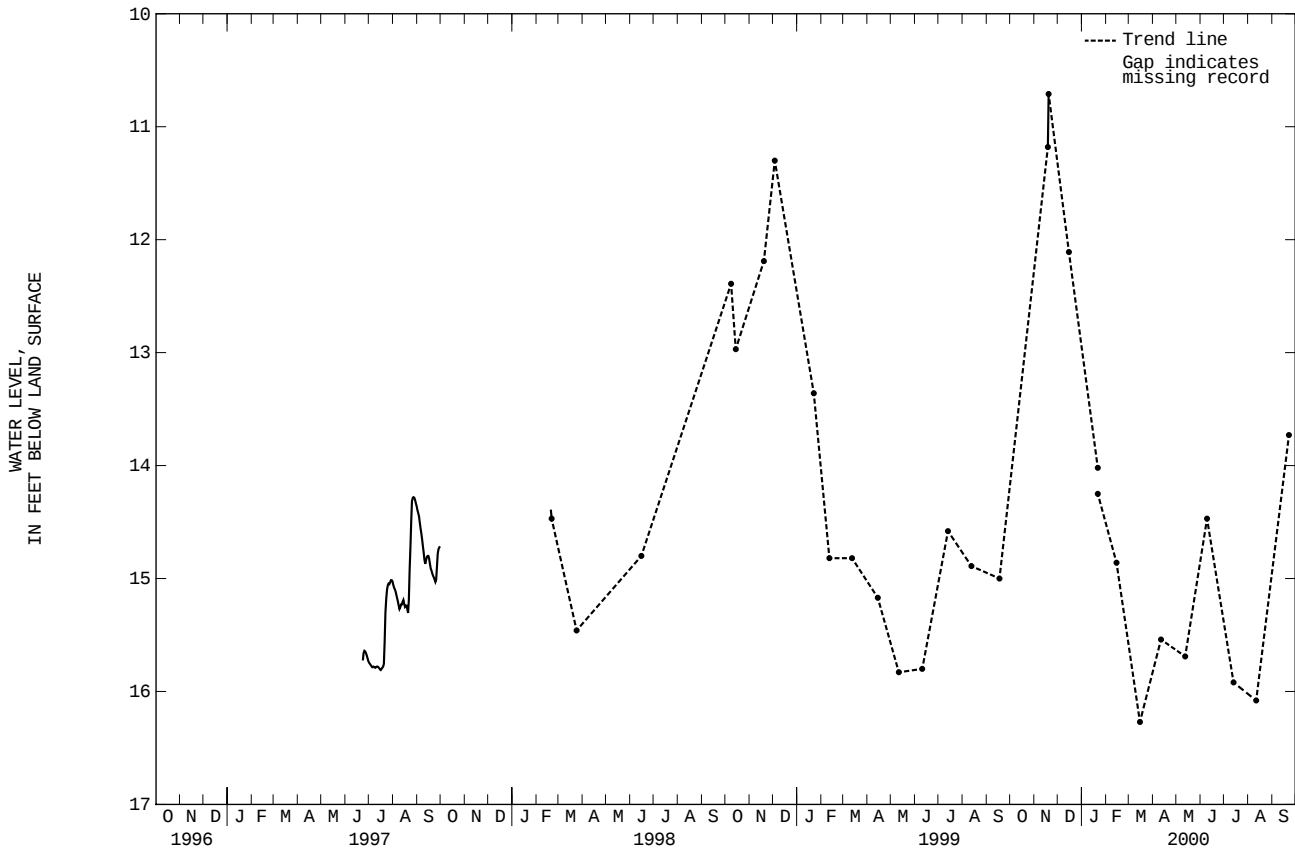
PERIOD OF RECORD.--June 23, 1997 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 10.71 ft (3.26 m), below land-surface datum, Jan. 21, 2000; lowest water level measured, 16.27 ft (4.96 m) below land-surface datum, Mar. 15, 2000.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

[illegible]

WATER YEAR 2000 HIGHEST 10.71 NOV. 19, 1999 LOWEST 16.27 MAR. 15, 2000



GROUND-WATER LEVELS

RIO GRANDE DE LOIZA BASIN--Continued

181513065554601. Local number, 1181.

LOCATION.--Lat 18°15'13", long 65°55'46", Hydrologic Unit 21010005, 2.86 mi east of Gurabo plaza, 3.57 mi southwest of Hwy 186 km 4.7, and 1.39 mi southwest of Hwy 185 km 15.7. Owner: US Geological Survey, WRD, Name: Piezometer CJ 3B.

AQUIFER.--Unconsolidated deposits of Quaternary Age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 4 in (0.10 m), cased 4 in (0.10 m), 0-38 ft (0-11.6 m) screened 25-35 ft (7.62 m). Depth 38.0 ft (11.6 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes punch.

DATUM.--Elevation of land-surface datum is about 187 ft (57.0 m), above mean sea level, from topographic map. Measuring point: Top of casing 2.95 ft (0.90 m), above land-surface datum.

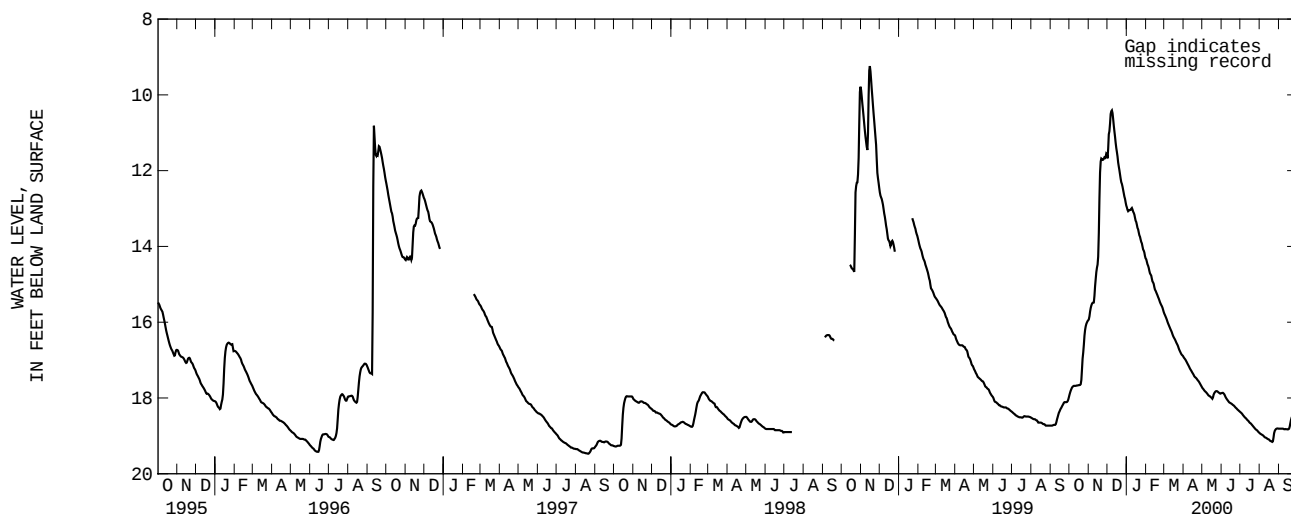
REMARKS.--Recording observation well. Automated Data Recorder (ADR) change to an Electronic Data Logger (EDL), installed on Feb. 17, 2000. Formerly published as local number and name CJ-TW3B.

PERIOD OF RECORD.--September 1991 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 9.18 ft (2.80 m), below land-surface datum, Nov. 15, 16, 1998; lowest water level recorded, 20.31 ft (6.19 m), below land-surface datum, Sept. 19, 1994.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17.94	15.94	11.63	12.94	14.32	15.76	16.91	17.72	17.87	18.37	18.92	18.81
2	17.89	15.91	11.72	13.00	14.36	15.79	16.94	17.75	17.87	18.38	18.94	18.81
3	17.82	15.78	11.11	13.07	14.45	15.83	16.96	17.76	17.86	18.40	18.95	18.81
4	17.79	15.66	10.97	13.07	14.49	15.87	16.98	17.79	17.87	18.41	18.96	18.81
5	17.74	15.59	10.95	13.04	14.53	15.91	17.01	17.81	17.89	18.44	18.97	18.81
6	17.71	15.53	10.56	13.04	14.60	15.96	17.04	17.83	17.91	18.46	18.98	18.81
7	17.70	15.50	10.45	13.04	14.69	16.01	17.07	17.84	17.95	18.48	18.99	18.81
8	17.68	15.48	10.42	13.03	14.73	16.05	17.11	17.86	17.99	18.50	19.01	18.81
9	17.68	15.49	10.40	12.98	14.75	16.09	17.13	17.88	18.01	18.52	19.03	18.82
10	17.68	15.47	10.56	12.99	14.79	16.13	17.17	17.90	18.04	18.53	19.04	18.83
11	17.68	15.14	10.72	13.06	14.91	16.17	17.20	17.93	18.06	18.55	19.05	18.82
12	17.68	14.97	10.90	13.10	14.94	16.21	17.24	17.94	18.08	18.57	19.05	18.82
13	17.67	14.75	11.02	13.13	14.96	16.24	17.26	17.95	18.11	18.59	19.07	18.83
14	17.67	14.61	11.19	13.19	15.02	16.29	17.29	17.96	18.12	18.60	19.08	18.82
15	17.67	14.51	11.34	13.30	15.13	16.34	17.32	17.98	18.13	18.62	19.09	18.83
16	17.66	14.45	11.47	13.34	15.15	16.38	17.35	17.99	18.14	18.65	19.09	18.83
17	17.66	14.09	11.55	13.37	15.19	16.41	17.37	18.01	18.15	18.66	19.11	18.82
18	17.66	13.20	11.71	13.49	15.23	16.44	17.41	18.03	18.16	18.67	19.13	18.80
19	17.65	12.27	11.86	13.53	15.27	16.47	17.44	17.94	18.18	18.69	19.14	18.71
20	17.62	11.83	11.92	13.57	15.31	16.51	17.45	17.89	18.19	18.71	19.14	18.62
21	17.43	11.69	12.06	13.69	15.36	16.55	17.47	17.86	18.20	18.73	19.16	18.55
22	17.07	11.67	12.14	13.72	15.39	16.58	17.48	17.84	18.22	18.75	19.16	18.50
23	16.86	11.72	12.28	13.77	15.45	16.61	17.51	17.82	18.24	18.77	19.13	18.46
24	16.74	11.71	12.33	13.86	15.49	16.66	17.53	17.82	18.26	18.79	18.97	18.41
25	16.46	11.71	12.37	13.90	15.53	16.71	17.55	17.82	18.27	18.81	18.89	18.37
26	16.25	11.66	12.48	13.94	15.56	16.75	17.57	17.83	18.29	18.83	18.85	18.34
27	16.16	11.64	12.54	14.06	15.59	16.78	17.60	17.85	18.31	18.84	18.83	18.33
28	16.06	11.69	12.66	14.10	15.64	16.82	17.63	17.86	18.32	18.85	18.81	18.29
29	16.03	11.59	12.71	14.12	15.70	16.85	17.66	17.87	18.34	18.87	18.81	18.26
30	15.98	11.51	12.78	14.20	---	16.87	17.69	17.89	18.35	18.89	18.80	18.24
31	15.96	---	12.90	14.31	---	16.88	---	17.88	---	18.91	18.81	---
MEAN	17.27	13.76	11.60	13.45	15.05	16.35	17.31	17.87	18.11	18.64	19.00	18.66
WTR YR 2000	MEAN 16.42	HIGHEST 10.38 DEC. 8, 9, 1999	LOWEST 19.17 AUG. 22, 23, 2000									



+ above land-surface datum

GROUND-WATER LEVELS

RIO HERRERA TO RIO ANTON RUIZ BASINS--Continued

182223065455900. Local number, 1202.

LOCATION.--Lat 18°22'23", long 65°45'59", Hydrologic Unit 21010005, 0.06 mi south of Hwy 2 and 0.27 mi east of Hwy 191. Owner: US Geological Survey, WRD, Name: Piezometer Rio Mameyes 2.

AQUIFER.--Alluvium.

WELL CHARACTERISTICS.--Drilled piezometer well, constructed in 1993 as part of a study of northeast of Puerto Rico, diameter 2 in (0.05 m), screened 13.0-24.0 ft (3.96-7.32 m). Depth 24.0 ft (7.32 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land surface datum is about 20.0 ft (6.10 m), above mean sea level, from topographic map. Measuring point: On shelter floor, 6.65 ft (2.03 m), above land-surface datum.

REMARKS.--Recording observation well. Electronic Data Logger (EDL), installed on Sept. 25, 1997. Formerly published as local number RM-02.

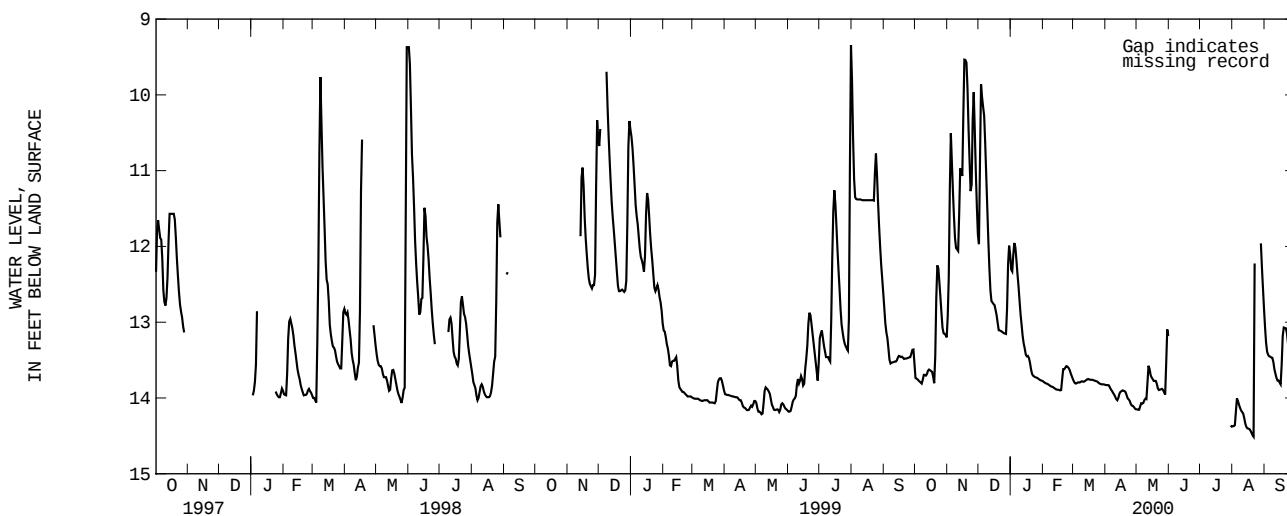
PERIOD OF RECORD.--September 25, 1997 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 9.30 ft (2.83 m), below land-surface datum, July 30, 31, 1999; lowest water level recorded, 14.52 ft (4.43 m), below land-surface datum, Aug. 22, 23, 2000.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13.73	13.22	12.00	12.21	13.78	13.76	13.83	14.15	13.27	---	14.37	12.96
2	13.74	12.62	11.94	12.40	13.79	13.79	13.83	14.15	---	---	14.38	13.17
3	13.75	12.19	9.85	12.26	13.80	13.81	13.83	14.16	---	---	14.36	13.37
4	13.76	10.32	9.87	11.96	13.81	13.81	13.83	14.15	---	---	14.36	13.41
5	13.78	10.69	10.19	11.95	13.81	13.80	13.84	14.07	---	---	14.00	13.45
6	13.79	11.10	10.13	12.07	13.82	13.79	13.89	14.07	---	---	14.01	13.45
7	13.80	11.45	10.42	12.28	13.83	13.80	13.89	14.08	---	---	14.07	13.46
8	13.82	11.77	10.85	12.44	13.84	13.79	13.93	14.05	---	---	14.11	13.47
9	13.70	12.01	11.27	12.60	13.85	13.78	13.94	14.01	---	---	14.15	13.47
10	13.69	12.03	11.71	12.82	13.85	13.78	13.97	14.01	---	---	14.18	13.58
11	13.70	12.05	12.12	12.97	13.86	13.79	14.00	14.02	---	---	14.19	13.66
12	13.71	12.07	12.44	13.10	13.87	13.78	14.03	13.58	---	---	14.22	13.70
13	13.66	11.08	12.71	13.26	13.88	13.77	14.03	13.57	12.79	---	14.31	13.77
14	13.62	10.86	12.73	13.30	13.89	13.76	13.97	13.66	---	---	14.36	13.77
15	13.63	11.15	12.75	13.39	13.89	13.75	13.92	13.73	---	---	14.40	13.77
16	13.64	10.99	12.77	13.46	13.89	13.75	13.92	13.73	---	---	14.40	13.82
17	13.65	9.54	12.78	13.44	13.90	13.76	13.90	13.77	---	---	14.41	13.82
18	13.66	9.53	12.90	13.45	13.90	13.76	13.90	13.78	---	---	14.41	13.30
19	13.78	9.55	12.92	13.49	13.89	13.76	13.91	13.77	---	---	14.45	13.07
20	13.83	9.60	13.10	13.57	13.62	13.76	13.91	13.78	---	---	14.47	13.07
21	13.06	10.22	13.11	13.66	13.62	13.77	13.94	13.85	---	---	14.51	13.08
22	12.29	10.66	13.11	13.70	13.62	13.77	13.99	13.90	---	---	14.51	13.08
23	12.21	11.07	13.12	13.71	13.58	13.78	14.02	13.89	---	---	9.94	13.20
24	12.37	11.47	13.13	13.72	13.58	13.78	14.02	13.89	---	---	---	13.34
25	12.59	10.90	13.14	13.73	13.59	13.79	14.06	13.88	---	---	---	13.38
26	12.76	9.75	13.15	13.73	13.61	13.81	14.10	13.88	---	---	---	13.47
27	13.01	10.18	13.15	13.74	13.64	13.81	14.10	13.91	---	---	---	13.50
28	13.14	10.75	13.16	13.75	13.69	13.82	14.11	13.94	---	---	11.79	13.50
29	13.15	11.27	12.49	13.76	13.72	13.82	14.13	13.97	---	---	12.13	13.47
30	13.16	11.69	11.98	13.77	---	13.82	14.15	13.10	---	14.40	12.42	13.46
31	13.18	---	12.00	13.77	---	13.82	---	13.09	---	14.37	12.68	---
MEAN	13.40	11.06	12.16	13.14	13.77	13.79	13.96	13.86	13.03	14.39	13.84	13.43

WTR YR 2000 MEAN 13.24 HIGHEST 9.51 NOV. 17, 1999 LOWEST 14.52 AUG. 22, 23, 2000



GROUND-WATER LEVELS

RIO HERRERA TO RIO ANTON RUIZ BASINS--Continued

181217065453000. Local number, 1203.

LOCATION.--Lat 18°12'17", long 65°45'30", Hydrologic Unit 21010005, 0.01 mi south of Hwy 927 at Km 8.0 and 0.62 mi south of Hwy 31. Owner: Carlos Arroyo, Name: Piezometer Carlos Arroyo 1.

AQUIFER.--Alluvium.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 4 in (0.10 m), screened 29.0-32.0 ft (8.84-9.75 m). Depth 32.0 ft (9.75 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 16.0 ft (4.87 m), above mean sea level, from topographic map. Measuring point: Shelter floor, 4.80 ft (1.46 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), installed on Oct. 26, 1997. Well is affected by stage in nearby Ro Blanco. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on September 27, 1999. Formerly published as local number ARR-1.

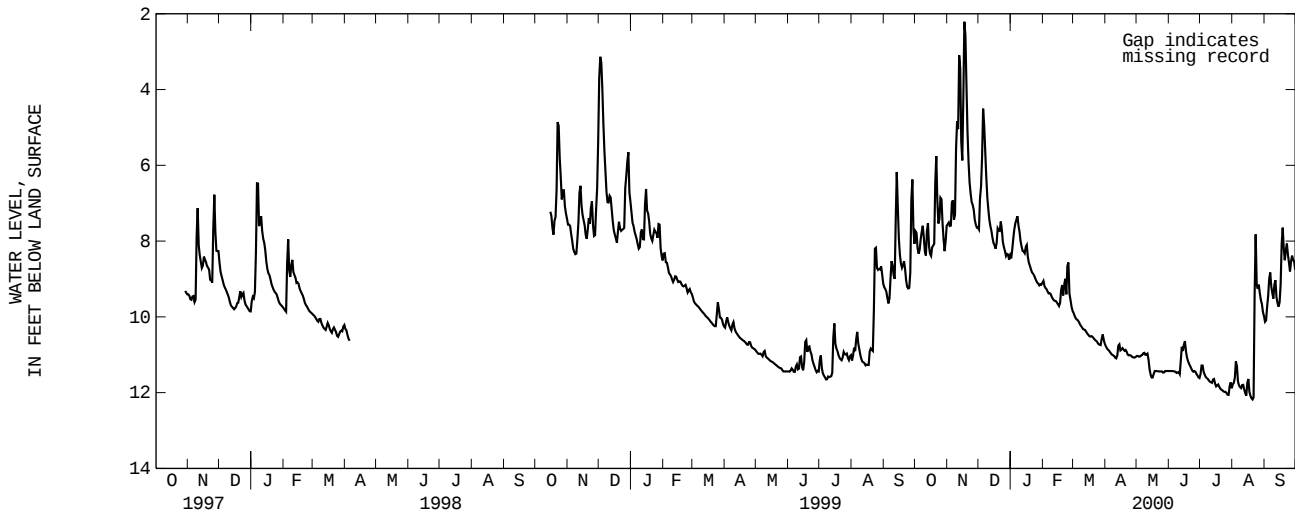
PERIOD OF RECORD.--October 26, 1997 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 1.66 ft (0.51 m), below land-surface datum, Nov. 13, 1999; lowest water level recorded, 12.20 ft (3.72 m), below land-surface datum, Aug. 21, 22, 2000.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.14	7.60	7.61	8.26	8.97	9.86	10.74	11.04	11.43	11.61	11.92	10.06
2	7.34	7.51	7.78	8.65	9.13	9.94	10.81	11.02	11.43	11.41	11.64	10.20
3	8.23	7.51	5.98	7.80	9.24	10.01	10.85	11.05	11.43	11.16	11.84	9.99
4	8.15	7.69	7.14	8.07	9.24	10.06	10.88	11.05	11.43	11.41	11.37	9.48
5	8.51	7.49	4.47	7.31	9.30	10.08	10.90	11.04	11.43	11.49	10.98	9.42
6	7.95	6.47	4.54	7.74	9.36	10.10	10.96	10.99	11.44	11.56	11.62	8.57
7	7.95	7.38	5.32	7.13	9.40	10.16	10.98	11.02	11.44	11.61	11.79	9.09
8	7.56	7.49	5.90	7.56	9.35	10.22	11.02	10.90	11.46	11.62	11.83	9.30
9	7.63	7.12	6.66	7.62	9.45	10.25	11.01	11.00	11.50	11.66	11.88	9.44
10	8.17	4.00	7.00	7.89	9.50	10.30	11.06	11.00	11.44	11.70	11.88	9.59
11	8.37	5.68	7.32	8.11	9.54	10.34	11.10	10.99	11.47	11.72	11.72	8.70
12	8.39	4.41	7.55	8.18	9.59	10.33	11.09	10.95	11.55	11.73	11.87	9.37
13	7.07	1.78	7.66	8.34	9.56	10.36	10.94	11.30	10.77	11.75	11.97	9.59
14	7.99	5.08	7.81	8.21	9.61	10.42	10.58	11.46	10.81	11.56	12.06	9.68
15	8.28	5.67	8.02	8.43	9.64	10.45	10.87	11.58	10.99	11.72	12.10	9.78
16	8.39	6.07	8.08	7.89	9.70	10.49	10.90	11.62	10.48	11.81	11.36	9.45
17	8.39	2.37	8.14	8.32	9.73	10.52	10.82	11.58	10.80	11.86	11.92	8.84
18	7.94	2.05	8.26	8.52	9.53	10.52	10.83	11.43	11.02	11.76	12.04	7.29
19	8.30	3.09	7.84	8.62	9.05	10.50	10.90	11.43	11.13	11.81	12.13	8.00
20	7.84	4.66	7.49	8.69	9.27	10.54	10.89	11.43	11.21	11.88	12.17	8.39
21	5.08	5.55	7.95	8.80	9.60	10.57	10.86	11.43	11.27	11.91	12.19	8.62
22	6.43	6.25	7.51	8.85	8.69	10.61	10.98	11.44	11.32	11.93	12.06	7.85
23	7.41	6.65	7.46	8.87	9.30	10.63	11.01	11.44	11.39	11.95	6.69	8.28
24	7.66	6.83	7.93	8.94	9.51	10.65	11.02	11.44	11.44	11.98	8.96	8.43
25	7.18	7.10	8.12	9.01	7.80	10.71	11.00	11.44	11.45	11.98	9.35	8.70
26	6.53	6.99	8.20	9.07	9.33	10.73	11.04	11.44	11.41	11.98	9.17	8.90
27	7.26	7.36	8.33	9.12	9.45	10.74	11.06	11.50	11.48	12.04	9.13	8.18
28	7.79	7.52	8.46	9.13	9.65	10.75	11.07	11.43	11.52	12.07	9.63	8.59
29	8.12	7.61	8.22	9.21	9.82	10.40	11.08	11.43	11.57	12.05	9.48	8.41
30	8.41	7.68	8.49	9.07	---	10.53	11.06	11.43	11.62	11.61	9.85	8.66
31	7.59	---	8.49	9.23	---	10.69	---	11.43	---	11.85	9.90	---
MEAN	7.74	6.02	7.41	8.41	9.36	10.40	10.94	11.28	11.30	11.75	11.05	8.96

WTR YR 2000 MEAN 9.56 HIGHEST 1.66 NOV. 13, 1999 LOWEST 12.20 AUG. 21, 22, 2000



RIO HERRERA TO RIO ANTON RUIZ BASINS--Continued

182138065431800. Local number, 1204.

LOCATION.--Lat 18°21'38", long 65°43'18", Hydrologic Unit 21010005, 0.87 mi southwest of Hwy 3, 0.39 mi south of the intersection of Hwy 992 with Hwy 991, 0.39 mi north of Hwy 983, and 0.07 mi east of Hwy 991. Owner: US Geological Survey, WRD, Name: Piezometer USGS RS-2.

AOUIFER. --Alluvium.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 4 in (0.10 m), cased 4 in (0.10 m) 0-56.0 ft (0-17.1 m), screened 2.56-56.0 ft (0.78-17.1 m). Depth 56.0 ft (17.1 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 33.9 ft (10.3 m), above mean sea level, from topographic survey. Measuring point: Shelter floor on top of 4 in (0.10 m) casing, 3.34 ft (1.02 m), above land-surface datum.

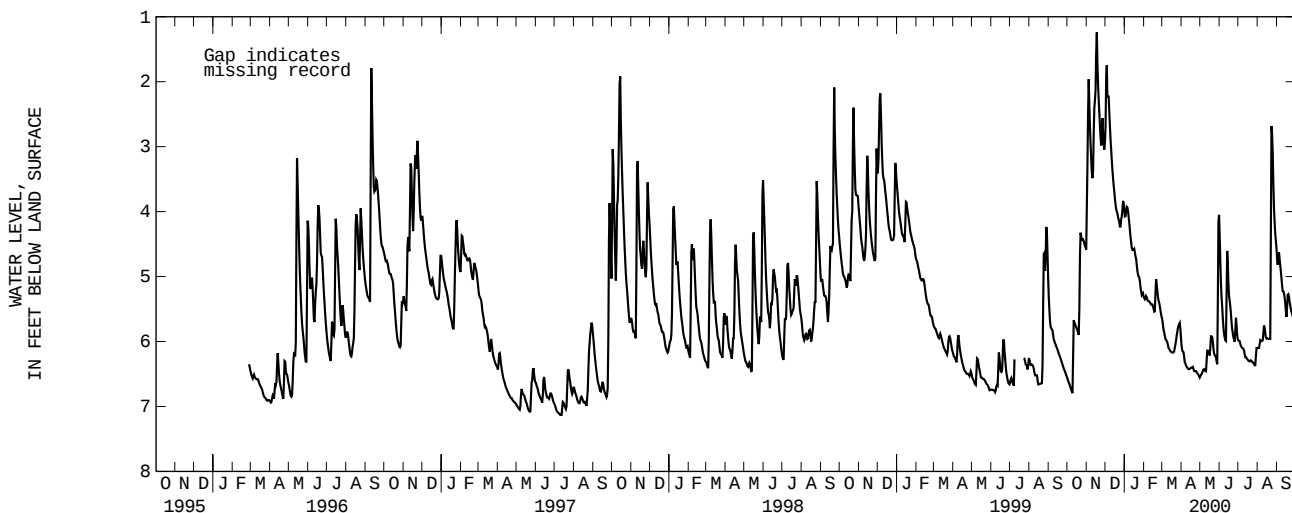
REMARKS.--Recording observation well. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on July 23, 1999. Formerly published as local number RS-02.

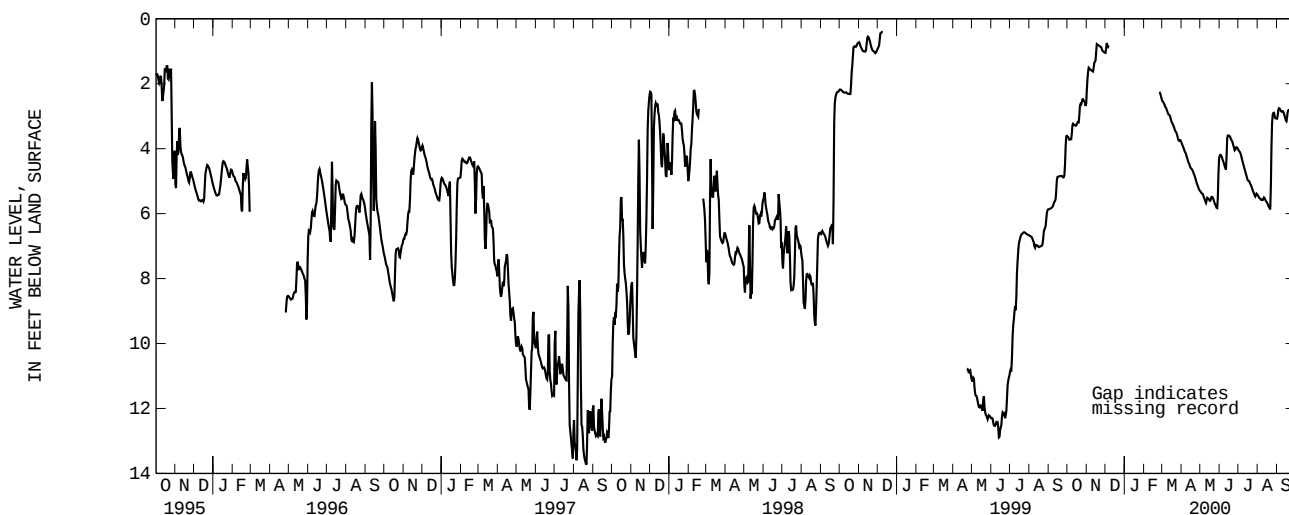
PERIOD OF RECORD.--August 22, 1995 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 0.91 ft (0.28 m), below land-surface datum, Oct. 14, 1997; lowest water level recorded, 7.13 ft (2.17 m), below land-surface datum, July 9-13, 1997.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.56	4.60	2.85	4.03	5.33	5.65	6.02	6.55	4.19	5.98	6.10	4.64
2	6.59	3.29	2.54	4.12	5.34	5.68	6.13	6.52	4.60	5.99	6.10	4.83
3	6.62	3.23	1.39	4.02	5.36	5.81	6.15	6.51	4.96	5.99	6.10	4.81
4	6.64	1.72	2.10	3.94	5.30	5.84	6.16	6.49	5.26	6.00	6.10	4.62
5	6.67	2.20	2.36	3.91	5.30	5.87	6.17	6.47	5.39	6.07	5.98	4.64
6	6.70	2.54	2.10	3.96	5.34	5.95	6.31	6.43	5.55	6.07	5.98	4.81
7	6.73	2.84	2.36	4.02	5.38	5.97	6.33	6.43	5.73	6.10	6.00	4.85
8	6.76	3.08	2.57	4.14	5.37	5.98	6.35	6.42	5.85	6.10	5.99	4.99
9	6.78	3.31	2.80	4.20	5.38	6.00	6.39	6.45	5.90	6.11	5.99	5.06
10	6.81	3.49	2.97	4.36	5.39	6.02	6.39	6.46	5.98	6.12	5.97	5.22
11	5.65	3.48	3.13	4.42	5.40	6.09	6.41	6.46	5.98	6.15	5.76	5.23
12	5.69	3.27	3.29	4.51	5.43	6.11	6.42	6.14	6.00	6.24	5.75	5.23
13	5.72	2.32	3.42	4.60	5.43	6.12	6.43	6.14	4.59	6.24	5.83	5.28
14	5.74	2.50	3.55	4.58	5.43	6.14	6.42	6.14	4.62	6.24	5.91	5.35
15	5.77	2.06	3.63	4.60	5.43	6.16	6.42	6.17	4.98	6.27	5.96	5.47
16	5.79	2.18	3.76	4.58	5.48	6.16	6.41	6.19	5.26	6.27	5.95	5.58
17	5.82	.92	3.84	4.57	5.51	6.17	6.40	6.24	5.34	6.29	5.95	5.66
18	5.85	1.56	3.94	4.68	5.57	6.17	6.40	5.93	5.41	6.30	5.96	5.29
19	5.88	1.89	3.99	4.70	5.50	6.17	6.39	5.91	5.52	6.30	5.96	5.27
20	5.91	2.17	4.00	4.76	5.01	6.16	6.39	5.93	5.62	6.31	5.96	5.27
21	5.07	2.39	4.06	4.88	5.07	6.14	6.46	5.94	5.80	6.29	5.96	5.35
22	4.31	2.55	4.11	4.94	5.16	6.05	6.45	6.07	5.82	6.29	5.96	5.42
23	4.34	2.80	4.13	5.00	5.27	6.04	6.46	6.16	5.93	6.31	2.64	5.47
24	4.43	2.91	4.19	5.00	5.36	5.93	6.45	6.20	5.95	6.32	2.73	5.53
25	4.44	3.05	4.27	5.02	5.38	5.89	6.46	6.22	5.97	6.32	2.89	5.56
26	4.44	2.44	4.19	5.12	5.43	5.82	6.49	6.23	6.04	6.34	3.33	5.58
27	4.42	2.68	4.05	5.20	5.48	5.76	6.48	6.27	5.62	6.36	3.82	5.64
28	4.48	2.87	4.09	5.26	5.56	5.75	6.52	6.34	5.65	6.37	4.07	5.53
29	4.51	3.07	3.86	5.30	5.60	5.72	6.51	6.36	5.85	6.36	4.25	5.41
30	4.54	3.02	3.81	5.22	---	5.71	6.56	4.40	5.95	6.10	4.42	5.34
31	4.57	---	3.92	5.28	---	5.90	---	3.91	---	6.10	4.48	---
MEAN	5.62	2.68	3.40	4.61	5.38	5.97	6.38	6.13	5.51	6.20	5.29	5.22

WTR YR 2000 MEAN 5.20 HIGHEST 0.92 NOV. 17, 1999 LOWEST 6.83 OCT. 10, 11, 1999





GROUND-WATER LEVELS

RIO HERRERA TO RIO ANTON RUIZ BASINS--Continued

182234065440000. Local number, 1208.

LOCATION.--Lat 18°22'34", long 65°44'00", Hydrologic Unit 2101005, 0.7 mi south of Balneario de Luquillo, 1.1 mi west of Luquillo, and 1.0 mi northwest of intersection of Hwy 991 with Hwy 992. Owner: US Geological Survey, Name: Piezometer Quebrada Mata de Platanos 1.

AQUIFER.--Alluvium.

WELL CHARACTERISTICS.--PVC cased ran levels, diameter 4 in (0.10 m) screened 5.00-25.0 ft (1.52-7.62 m). Depth 25.0 ft (7.62 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface is about 2.39 ft (0.73 m), about mean sea level, from topographic map. Measuring point: Floor of shelter, 5.60 ft (1.71 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), installed on Sept. 17, 1997. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on August 24, 1999.

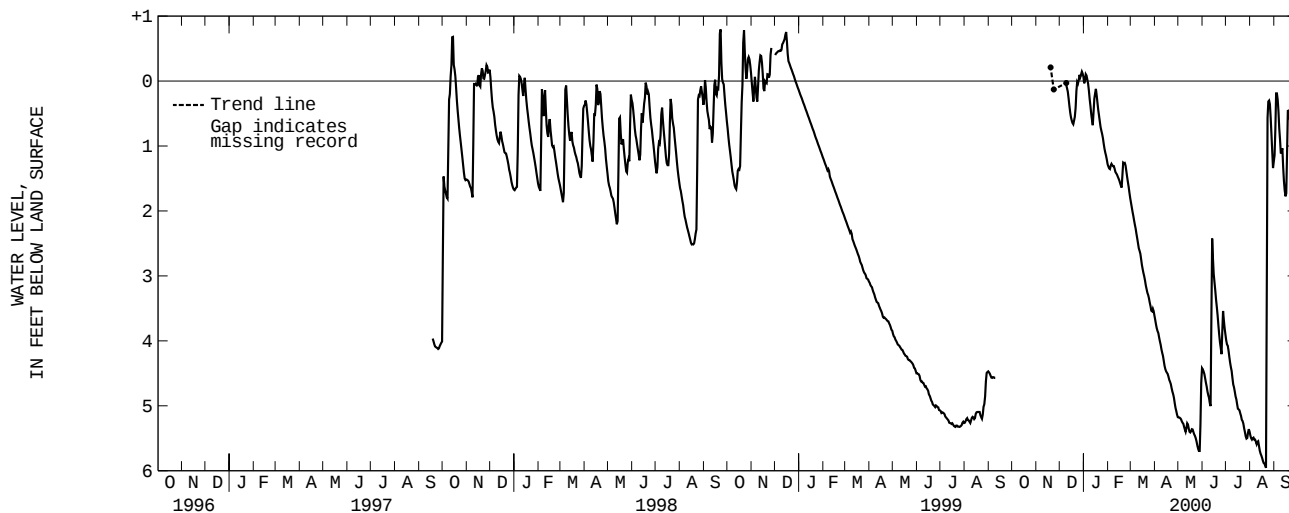
PERIOD OF RECORD.--September 17, 1997 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, +1.60 ft (+0.49 m), above land-surface datum, Sept. 21, 22, 1998; lowest water level measured, 5.96 ft (1.82 m), below land-surface datum, Aug. 22, 2000.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	+.03	1.31	1.84	3.63	5.18	4.43	3.93	5.43	1.03
2	---	---	---	.10	1.32	1.91	3.72	5.18	4.45	4.05	5.49	1.25
3	---	---	---	+.11	1.37	1.98	3.77	5.18	4.49	4.06	5.51	.23
4	---	---	---	+.10	1.34	2.05	3.84	5.20	4.53	4.09	5.53	.15
5	---	---	---	+.07	1.27	2.11	3.86	5.21	4.62	4.21	5.47	.23
6	---	---	---	.02	1.28	2.19	3.90	5.26	4.67	4.28	5.51	.35
7	---	---	---	.06	1.31	2.24	3.99	5.26	4.74	4.39	5.53	.59
8	---	---	---	.23	1.31	2.31	4.02	5.29	4.82	4.42	5.51	.87
9	---	---	.03	.32	1.31	2.40	4.10	5.35	4.85	4.51	5.59	.93
10	---	---	.10	.45	1.39	2.45	4.16	5.38	4.91	4.63	5.59	1.30
11	---	---	.12	.56	1.41	2.55	4.21	5.42	5.01	4.71	5.52	.88
12	---	---	.21	.64	1.43	2.60	4.26	5.27	5.00	4.72	5.57	1.19
13	---	---	.32	.72	1.45	2.63	4.36	5.27	2.29	4.84	5.66	1.45
14	---	---	.44	.24	1.49	2.69	4.41	5.31	2.56	4.87	5.72	1.63
15	---	---	.52	.30	1.51	2.80	4.46	5.39	2.89	4.93	5.75	1.74
16	---	---	.59	.08	1.55	2.87	4.48	5.41	3.05	5.02	5.78	1.81
17	---	---	.62	.16	1.59	2.93	4.50	5.41	3.15	5.07	5.82	1.65
18	---	---	.67	.28	1.63	2.99	4.52	5.37	3.30	5.04	5.87	.57
19	---	---	.66	.39	1.65	3.03	4.58	5.35	3.43	5.10	5.89	.35
20	---	---	.56	.50	1.24	3.12	4.62	5.38	3.53	5.13	5.89	.56
21	---	---	.54	.56	1.27	3.18	4.64	5.43	3.69	5.18	5.95	.54
22	---	---	.28	.68	1.26	3.23	4.69	5.45	3.83	5.25	5.96	.68
23	---	---	.03	.74	1.26	3.29	4.76	5.48	3.97	5.22	.83	.07
24	---	---	.00	.79	1.34	3.30	4.80	5.52	4.07	5.33	.31	.10
25	---	---	.08	.84	1.43	3.39	4.84	5.58	4.15	5.36	.32	.20
26	---	---	+.11	.92	1.52	3.43	4.91	5.64	4.26	5.45	.28	.43
27	---	---	+.08	1.01	1.59	3.50	5.00	5.68	3.45	5.49	.43	.29
28	---	---	+.04	1.07	1.67	3.57	5.06	5.71	3.63	5.52	.69	.09
29	---	---	+.16	1.13	1.77	3.52	5.10	5.68	3.74	5.47	.94	.01
30	---	---	+.13	1.17	---	3.49	5.17	4.89	3.87	5.35	1.23	.09
31	---	---	+.10	1.25	---	3.59	---	4.41	---	5.37	1.45	---
MEAN	---	---	.22	.48	1.42	2.81	4.41	5.34	3.98	4.87	4.23	.71

WTR YR 2000 MEAN 2.93 HIGHEST +.18 DEC. 29, 1999 LOWEST 5.96 AUG. 22, 2000



+ above land-surface datum

GROUND-WATER LEVELS

RIO HERRERA TO RIO ANTON RUIZ BASINS--Continued

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
(READINGS ABOVE LAND SURFACE INDICATED BY "+")

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 19	+.21	DEC 09	.03	MAR 07	2.30	MAY 25	5.58	JUN 14	2.51	SEP 18	.71
NOV 23	.13										
WATER YEAR 2000		HIGHEST +.21 NOV.19, 1999				LOWEST 5.58 MAY 25, 2000					

GROUND-WATER LEVELS

RIO HUMACAO TO QUEBRADA AGUAS VERDES BASINS

180358065503700. Local number, 1226.

LOCATION.--Lat 18°03'58", long 65°50'37", Hydrologic Unit 21010004, 2.01 mi east of Central Roig, 1.37 mi north of Yabucoa Sun Oil Refinery, and 0.19 mi east of Hwy 53. Owner: Yabucoa Sun Oil Refinery, Name: Piezometer Yabucoa USGS Brackish.

AQUIFER.--Alluvium.

WELL CHARACTERISTICS.--Drilled piezometer well, constructed in 1993 as part of study of Valle de Yabucoa, diameter 2 in (0.05 m), screened in brackish water, 320-340 ft (97.5-104 m). Depth 350 ft (107 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 2.00 ft (0.61 m), above mean sea level, from topographic map. Measuring point: Top of shelter floor, 7.30 ft (2.22 m), above land-surface datum.

REMARKS.--Recording observation well. Electronic Data Logger (EDL), installed on September 16, 1997. Formerly published as local number YD0-1.

PERIOD OF RECORD.--September 16, 1997 to current year.

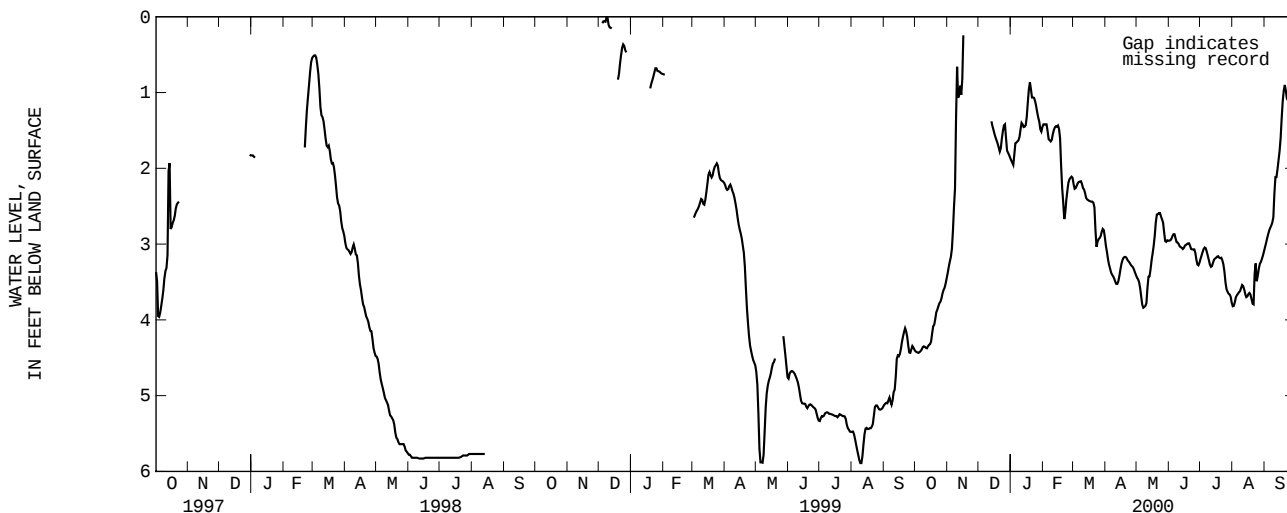
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, +0.29 ft (+0.09 m), above land-surface datum, Nov. 17, 1999; lowest water level recorded, 5.90 ft (1.80 m), below land-surface datum, Aug. 9, 10, 11, 1999.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.41	3.42	---	1.88	1.42	2.15	2.98	3.43	2.96	3.22	3.82	3.06
2	4.42	3.34	---	1.91	1.42	2.27	3.06	3.46	2.95	3.17	3.82	3.02
3	4.43	3.26	---	1.94	1.42	2.27	3.14	3.47	2.95	3.13	3.81	2.95
4	4.43	3.20	---	1.97	1.42	2.25	3.25	3.54	2.91	3.08	3.72	2.90
5	4.44	3.14	---	1.67	1.42	2.21	3.29	3.63	2.88	3.05	3.68	2.84
6	4.41	2.99	---	1.67	1.60	2.18	3.35	3.76	2.86	3.04	3.67	2.80
7	4.41	2.66	---	1.65	1.63	2.18	3.40	3.84	2.88	3.07	3.64	2.77
8	4.37	2.37	---	1.64	1.63	2.17	3.41	3.84	2.97	3.13	3.63	2.74
9	4.35	2.16	---	1.62	1.66	2.17	3.44	3.82	2.98	3.18	3.61	2.69
10	4.35	.51	---	1.55	1.59	2.24	3.47	3.81	2.98	3.24	3.55	2.60
11	4.36	.81	---	1.42	1.51	2.28	3.52	3.75	3.02	3.30	3.53	2.06
12	4.38	1.33	---	1.38	1.48	2.28	3.53	3.40	3.04	3.30	3.58	2.17
13	4.37	.73	1.34	1.46	1.44	2.37	3.52	3.46	3.04	3.28	3.62	2.06
14	4.33	1.09	1.42	1.45	1.45	2.41	3.46	3.39	3.06	3.21	3.70	1.96
15	4.33	.97	1.47	1.45	1.45	2.41	3.38	3.27	3.07	3.20	3.70	1.82
16	4.31	.68	1.52	1.41	1.42	2.43	3.29	3.15	3.03	3.18	3.68	1.72
17	4.26	+ .19	1.58	1.22	1.54	2.43	3.23	3.09	3.01	3.18	3.64	1.48
18	4.10	---	1.61	1.03	1.67	2.44	3.19	2.95	3.01	3.15	3.65	1.20
19	4.07	---	1.66	.88	2.26	2.44	3.17	2.83	2.99	3.17	3.68	1.03
20	4.06	---	1.69	.85	2.26	2.44	3.17	2.60	2.99	3.19	3.77	.92
21	3.92	---	1.76	1.07	2.63	2.47	3.17	2.62	2.99	3.18	3.80	.88
22	3.88	---	1.80	1.06	2.71	2.56	3.20	2.59	3.06	3.18	3.79	1.07
23	3.85	---	1.67	1.07	2.46	3.07	3.23	2.59	3.07	3.25	2.99	1.09
24	3.79	---	1.55	1.07	2.37	3.00	3.23	2.59	3.07	3.29	3.52	1.11
25	3.77	---	1.47	1.16	2.22	2.94	3.27	2.68	3.07	3.44	3.46	1.33
26	3.75	---	1.40	1.20	2.16	2.93	3.28	2.67	3.07	3.57	3.38	1.39
27	3.68	---	1.44	1.32	2.13	2.91	3.30	2.76	3.16	3.62	3.27	1.23
28	3.62	---	1.75	1.34	2.12	2.88	3.31	2.93	3.25	3.64	3.25	1.05
29	3.59	---	1.78	1.43	2.10	2.80	3.36	2.99	3.29	3.67	3.22	1.07
30	3.56	---	1.81	1.54	---	2.80	3.39	2.95	3.27	3.66	3.17	1.04
31	3.48	---	1.84	1.49	---	2.83	---	2.95	---	3.73	3.13	---
MEAN	4.11	1.91	1.61	1.41	1.81	2.49	3.30	3.19	3.03	3.28	3.56	1.87

WTR YR 2000 MEAN 2.70 HIGHEST +.29 NOV. 17, 1999 LOWEST 4.44 OCT. 4, 5, 1999

+ above land-surface datum



GROUND-WATER LEVELS

RIO HUMACAO TO QUEBRADA AGUAS VERDES BASINS--Continued

180415065513900. Local number, 96.

LOCATION.--Lat 18°04'15", long 65°51'39", Hydrologic Unit 21010005, 2.44 mi northwest of Escuela Eugenio María de Hostos 4.67 mi southwest of Escuela Segunda Unidad Luciano, and 3.93 mi southwest of Escuela Asunción López. Owner: PR Aqueduct and Sewer Authority, Name: Yabucoa 7 Well.

yAQUIFER.--Alluvium of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 16 in (0.41 m), cased 0-10 ft (0-3.05 m), diameter 6 in (0.15 m), cased about 0-183 ft (0-55.8 m), perforated 56-81 ft (17.1-24.7 m), 102-123 ft, (31.1-37.5 m), 144-181 ft (43.9-55.2 m). Depth 181 ft (55.2 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 25 ft (7.62 m), above mean sea level, from topographic map. Measuring point: Top of shelter floor, 4.00 ft (1.22 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on August 3, 1999.

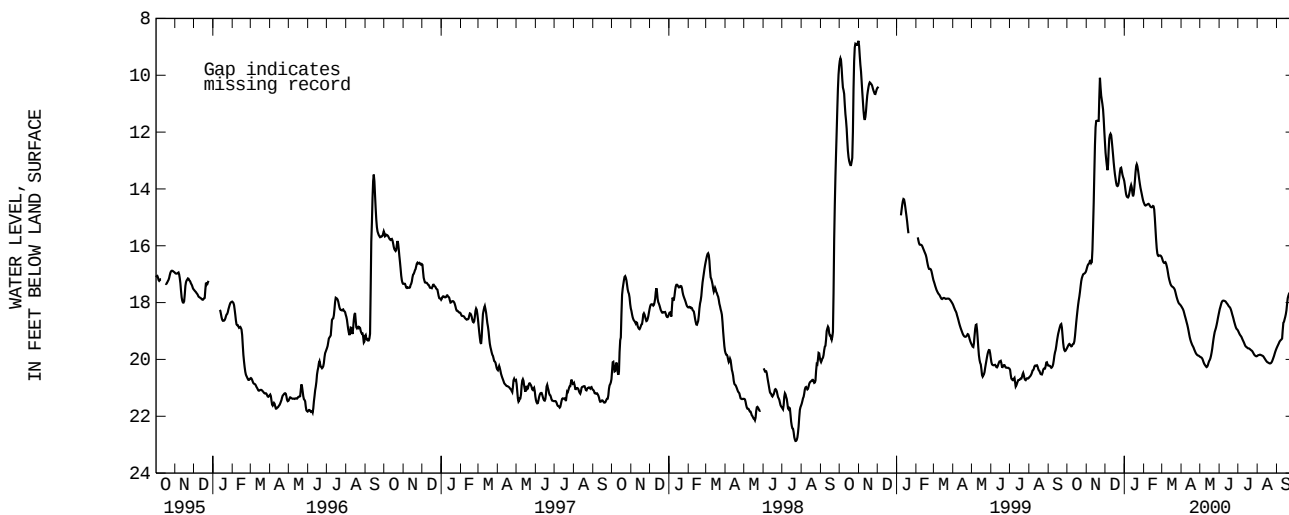
PERIOD OF RECORD.--April 25, 1978 to current year.

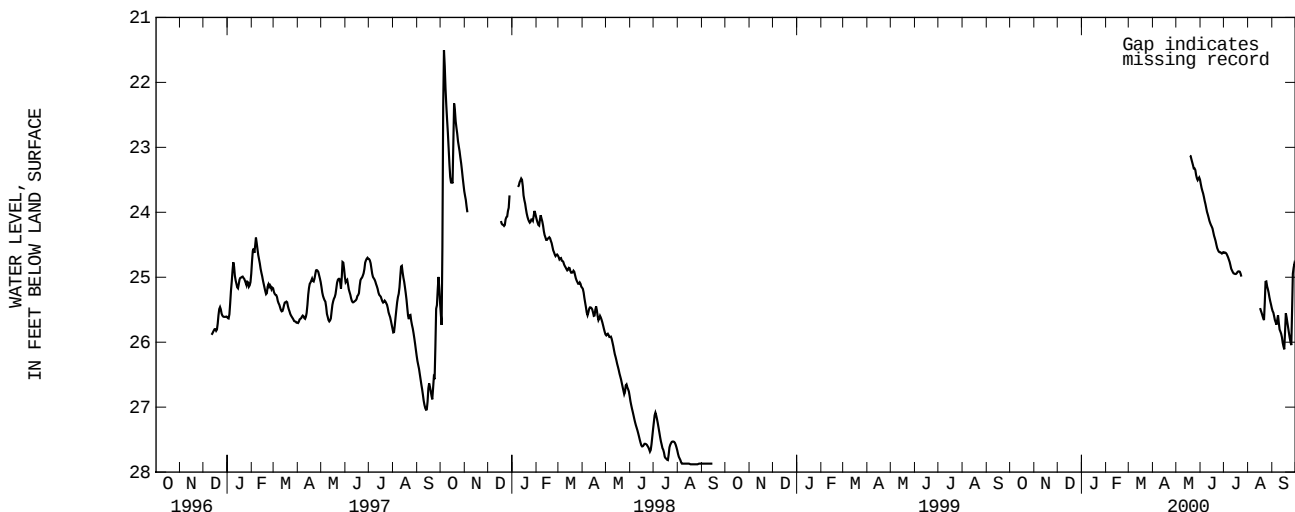
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 8.75 ft (2.67 m), below land-surface datum, Oct. 31, 1998; lowest water level recorded, 28.29 ft (8.62 m) below land-surface datum, Sept. 20, 1980.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19.59	16.84	12.56	13.78	14.49	16.43	18.13	19.91	18.28	19.00	19.87	19.59
2	19.54	16.75	12.88	13.97	14.55	16.51	18.17	19.92	18.19	19.04	19.85	19.54
3	19.49	16.68	13.04	14.13	14.59	16.57	18.21	19.93	18.12	19.10	19.85	19.49
4	19.46	16.64	13.28	14.25	14.58	16.60	18.25	19.95	18.03	19.13	19.84	19.45
5	19.45	16.64	13.40	14.28	14.57	16.61	18.32	19.99	17.97	19.17	19.83	19.39
6	19.50	16.57	12.93	14.30	14.55	16.58	18.41	20.06	17.94	19.19	19.84	19.35
7	19.53	16.49	12.33	14.30	14.54	16.58	18.49	20.12	17.93	19.24	19.85	19.33
8	19.55	16.56	12.12	14.23	14.52	16.67	18.57	20.17	17.93	19.30	19.86	19.30
9	19.51	16.65	12.09	14.10	14.53	16.75	18.65	20.20	17.94	19.34	19.87	19.29
10	19.46	16.49	12.03	14.00	14.57	16.87	18.74	20.23	17.95	19.39	19.88	19.24
11	19.45	15.77	12.19	13.86	14.61	17.02	18.82	20.27	17.96	19.44	19.91	18.70
12	19.44	14.94	12.43	13.86	14.64	17.14	18.93	20.27	18.00	19.50	19.95	18.72
13	19.28	14.04	12.66	14.03	14.64	17.22	19.05	20.23	18.03	19.54	19.98	18.63
14	19.08	12.87	12.93	14.25	14.65	17.31	19.17	20.17	18.05	19.56	20.02	18.55
15	18.81	12.04	13.18	14.27	14.60	17.37	19.27	20.08	18.09	19.57	20.05	18.46
16	18.58	11.62	13.39	14.11	14.60	17.41	19.35	20.04	18.13	19.60	20.08	18.35
17	18.38	11.60	13.57	13.86	14.63	17.43	19.41	20.00	18.15	19.61	20.10	18.19
18	18.18	11.60	13.71	13.58	14.82	17.45	19.47	19.93	18.17	19.61	20.11	17.89
19	17.99	11.60	13.86	13.28	15.22	17.46	19.52	19.82	18.22	19.62	20.12	17.81
20	17.86	11.61	13.90	13.13	15.59	17.49	19.55	19.70	18.28	19.64	20.14	17.71
21	17.71	11.60	13.90	13.14	15.95	17.52	19.61	19.54	18.37	19.66	20.14	17.68
22	17.53	9.96	13.87	13.26	16.22	17.58	19.67	19.36	18.45	19.68	20.14	17.74
23	17.33	10.22	13.72	13.41	16.32	17.68	19.72	19.22	18.52	19.69	20.12	17.81
24	17.17	10.64	13.49	13.59	16.37	17.77	19.77	19.08	18.61	19.72	20.09	17.84
25	17.11	10.80	13.32	13.75	16.35	17.85	19.81	18.99	18.70	19.76	20.04	17.87
26	17.03	10.94	13.22	13.90	16.34	17.92	19.83	18.93	18.77	19.80	19.97	17.97
27	16.99	11.10	13.29	14.02	16.34	17.98	19.86	18.84	18.85	19.84	19.92	18.00
28	16.99	11.31	13.44	14.12	16.35	18.03	19.86	18.74	18.91	19.86	19.84	18.02
29	16.97	11.76	13.54	14.23	16.38	18.05	19.87	18.62	18.94	19.88	19.77	17.97
30	16.95	12.15	13.61	14.34	---	18.07	19.89	18.50	18.95	19.89	19.70	17.87
31	16.91	---	13.67	14.44	---	18.10	---	18.40	---	19.89	19.64	---
MEAN	18.41	13.48	13.15	13.93	15.18	17.29	19.15	19.65	18.28	19.52	19.95	18.52

WTR YR 2000 MEAN 17.22 HIGHEST 9.95 NOV. 22, 1999 LOWEST 20.27 MAY 11, 12, 2000





GROUND-WATER LEVELS

RIO HUMACAO TO QUEBRADA AGUAS VERDES BASINS--Continued

175855066050500. Local number, 1228.

LOCATION.--Lat 17°58'55", long 66°05'05", Hydrologic Unit 21010004, 1.97 mi east-southeast of the intersection of Hwy 16 with Hwy 3, 1.00 mi west of the intersection of Hwy 3 with Hwy 178, and 0.04 mi south of Hwy 3. Owner: PR Land Authority, Name: Algarrobos Domestic Well.

AQUIFER.--Alluvium.

WELL CHARACTERISTICS.--Drilled unused water-table well. Depth 57.0 ft (17.4 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 89.0 ft (27.1 m), above mean sea level. Measuring point: Shelter floor on top of 4 in (0.10 m) casing, 2.95 ft (0.90 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), installed on May 24, 1997. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on September 30, 1999. Formerly published as local number ALG-1.

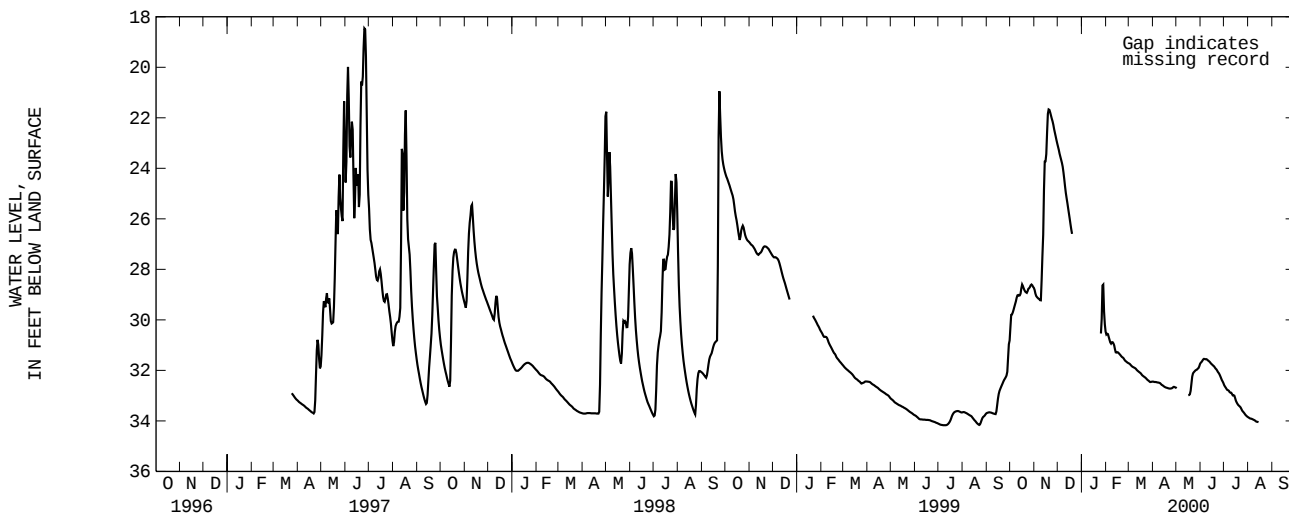
PERIOD OF RECORD.--May 24, 1997 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 18.19 ft (5.54 m), below land-surface datum, June 26, 1997; lowest water level recorded, 34.17 ft (10.42 m), below land-surface datum, July 6-11, Aug. 22, 23, 1999.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30.77	28.74	23.09	---	30.59	31.72	32.44	32.69	31.71	32.55	33.85	---
2	29.80	28.89	23.19	---	30.57	31.73	32.45	32.73	31.68	32.62	33.87	---
3	29.80	29.02	23.35	---	30.53	31.76	32.46	---	31.65	32.66	33.89	---
4	29.77	29.08	23.49	---	30.60	31.80	32.46	---	31.59	32.71	33.91	---
5	29.65	29.11	23.59	---	30.75	31.83	32.46	---	31.55	32.76	33.91	---
6	29.56	29.15	23.73	---	30.82	31.86	32.47	---	31.54	32.79	33.92	---
7	29.42	29.17	23.84	---	30.97	31.87	32.48	---	31.56	32.78	33.94	---
8	29.34	29.19	24.03	---	30.91	31.89	32.48	---	31.56	32.84	33.95	---
9	29.20	29.25	24.29	---	30.87	31.91	32.49	---	31.55	32.88	33.97	---
10	29.05	29.20	24.57	---	30.90	31.92	32.50	---	31.59	32.88	33.98	---
11	29.01	27.67	24.86	---	30.96	31.97	32.52	---	31.61	32.89	34.02	---
12	29.02	27.30	25.08	---	31.06	32.00	32.57	---	31.64	32.98	34.03	---
13	29.06	25.97	25.27	---	31.27	32.03	32.58	---	31.66	33.00	34.04	---
14	29.00	23.75	25.48	---	31.30	32.05	32.60	---	31.71	32.97	34.04	---
15	28.92	23.72	25.69	---	31.29	32.08	32.63	---	31.74	33.03	34.06	---
16	28.58	23.73	25.89	---	31.27	32.10	32.65	32.98	31.77	33.16	---	---
17	28.62	23.14	26.10	---	31.31	32.13	32.67	32.98	31.80	33.24	---	---
18	28.71	22.00	26.32	---	31.34	32.18	32.68	32.97	31.83	33.30	---	---
19	28.79	21.69	26.52	---	31.38	32.21	32.69	32.92	31.85	33.35	---	---
20	28.86	21.65	26.67	---	31.41	32.23	32.70	32.70	31.92	33.39	---	---
21	28.90	21.73	---	---	31.46	32.26	32.71	32.34	31.94	33.41	---	---
22	28.92	21.85	---	---	31.48	32.27	32.72	32.15	31.98	33.45	---	---
23	28.94	21.97	---	---	31.50	32.31	32.72	32.09	32.04	33.48	---	---
24	28.79	22.09	---	---	31.54	32.33	32.72	32.06	32.09	33.57	---	---
25	28.75	22.19	---	30.55	31.60	32.38	32.71	32.02	32.12	33.61	---	---
26	28.74	22.36	---	30.53	31.63	32.39	32.70	31.99	32.20	33.65	---	---
27	28.66	22.53	---	29.39	31.65	32.42	32.67	31.98	32.26	33.68	---	---
28	28.60	22.65	---	27.89	31.68	32.45	32.64	31.96	32.35	33.73	---	30.15
29	28.60	22.82	---	29.32	31.70	32.47	32.67	31.91	32.42	33.77	---	29.67
30	28.66	22.94	---	30.01	---	32.45	32.67	31.91	32.46	33.80	---	29.34
31	28.72	---	---	30.34	---	32.45	---	31.78	---	33.83	---	---
MEAN	29.07	25.15	24.75	29.72	31.18	32.11	32.60	32.34	31.85	33.19	33.96	29.72

WTR YR 2000 MEAN 30.55 HIGHEST 21.64 NOV. 20, 1999 LOWEST 34.07 AUG. 15, 16, 2000



1757280660722000. Local number. 1229.

VAQUIFER. --Alluvium.

WELL CHARACTERISTICS.--Hand-dug unused water-table well. Depth 38.0 ft (11.7 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval

DATUM.--Elevation of land-surface datum is about 59.1 ft (18.0 m), above mean sea level, from topographic map. Measuring point:

Shelter floor on top of 4 in (0.10 m) casing, 4.60 ft (1.40 m), above land-surface datum.

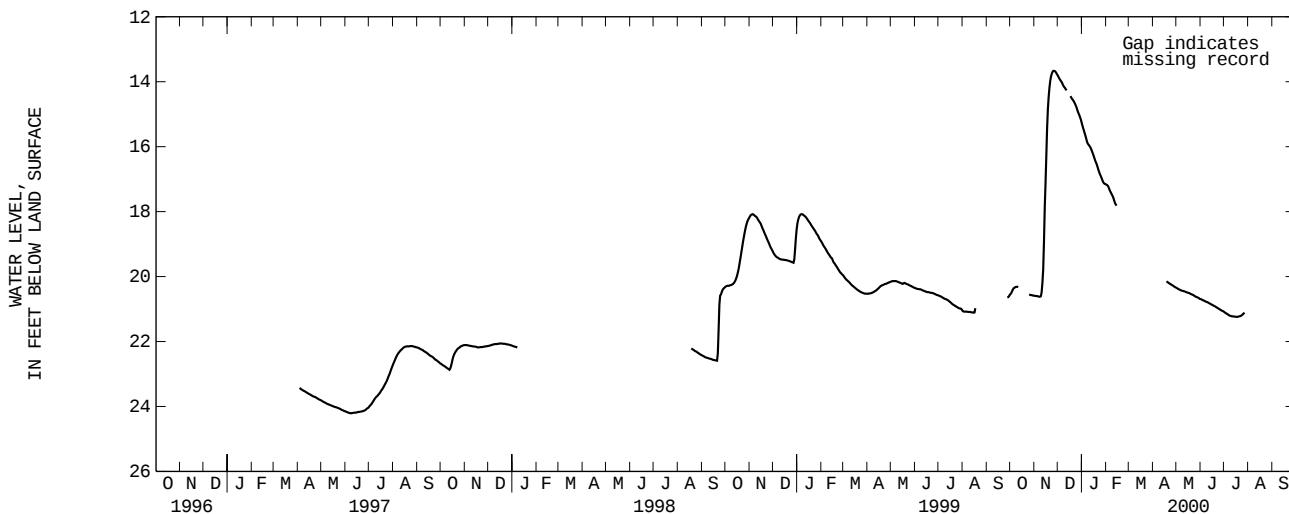
REMARKS.--Recording observation well. Automated Digital Recorder (ADR), installed on April 3, 1997. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on September 27, 1999. Formerly published as local number BAR-1.

PERIOD OF RECORD.--April 3, 1997 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 13.66 ft (4.16 m), below land-surface datum, Nov. 25, 26, 27, 1999; lowest water level recorded, 24.21 ft (7.38 m), below land-surface datum, June 7, 8, 9, 1997.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.55	20.59	13.80	15.28	17.16	---	---	20.34	20.69	21.08	---	---
2	20.53	20.59	13.84	15.37	17.18	---	---	20.36	20.70	21.10	---	---
3	20.49	20.60	13.90	15.45	17.19	---	---	20.37	20.71	21.12	---	---
4	20.43	20.60	13.93	15.53	17.23	---	---	20.39	20.73	21.13	---	---
5	20.38	20.60	13.97	15.61	17.29	---	---	20.40	20.73	21.15	---	---
6	20.35	20.61	14.00	15.69	17.36	---	---	20.41	20.75	21.16	---	---
7	20.34	20.62	14.05	15.79	17.40	---	---	20.42	20.76	21.18	---	---
8	20.32	20.62	14.11	15.87	17.45	---	---	20.44	20.77	21.20	---	---
9	20.32	20.62	14.15	15.93	17.50	---	---	20.43	20.78	21.20	---	---
10	20.31	20.59	14.18	15.94	17.54	---	---	20.45	20.79	21.22	---	---
11	20.32	20.38	14.21	15.99	17.62	---	---	20.45	20.80	21.22	---	---
12	20.33	20.02	14.26	16.02	17.70	---	---	20.46	20.82	21.22	---	---
13	---	19.55	14.27	16.07	17.76	---	---	20.47	20.83	21.23	---	---
14	---	18.32	---	16.14	17.80	---	---	20.48	20.84	21.23	---	---
15	---	17.45	---	16.20	17.83	---	---	20.49	20.86	21.23	---	---
16	---	16.82	---	16.27	---	---	---	20.50	20.87	21.24	---	---
17	---	15.81	14.42	16.34	---	---	---	20.50	20.88	21.24	---	---
18	---	15.07	14.47	16.42	---	---	20.14	20.51	20.90	21.24	---	---
19	---	14.64	14.51	16.48	---	---	20.16	20.53	20.91	21.24	---	---
20	---	14.31	14.55	16.53	---	---	20.17	20.54	20.92	21.23	---	---
21	---	14.07	14.57	16.61	---	---	20.19	20.55	20.94	21.22	---	---
22	---	13.89	14.62	16.69	---	---	20.21	20.56	20.95	21.22	---	---
23	---	13.79	14.66	16.77	---	---	20.22	20.57	20.97	21.21	---	---
24	---	13.72	14.72	16.83	---	---	20.24	20.59	20.98	21.19	---	---
25	20.55	13.67	14.77	16.89	---	---	20.25	20.60	21.00	21.17	---	---
26	20.55	13.66	14.85	16.94	---	---	20.27	20.62	21.01	21.15	---	---
27	20.57	13.67	14.93	17.01	---	---	20.28	20.63	21.03	21.12	---	---
28	20.57	13.68	14.98	17.07	---	---	20.30	20.64	21.04	21.10	---	20.01
29	20.57	13.72	15.04	17.12	---	---	20.32	20.65	21.06	---	---	20.02
30	20.58	13.76	15.11	17.14	---	---	20.33	20.66	21.06	---	---	20.02
31	20.59	---	15.18	17.15	---	---	---	20.69	---	---	---	---
MEAN	20.46	17.20	14.43	16.29	17.47	---	20.24	20.51	20.87	21.19	---	20.02

WTR YR 2000 MEAN 18.66 HIGHEST 13.66 NOV. 25, 26, 27, 1999 LOWEST 21.24 JULY 15-20, 2000



GROUND-WATER LEVELS

RIO HUMACAO TO QUEBRADA AGUAS VERDES BASINS--Continued

175719066085500. Local number, 1230.

LOCATION.--Lat 17°57'19", long 66°08'55", Hydrologic Unit 2101004, 1.0 mi east of the intersection of Hwy 3 with Hwy 707, 0.28 mi south of Hwy 3, and 0.25 mi northwest of the Phillips Petroleum oil refinery. Owner: Phillips Petroleum, Name: Phillips Petroleum 13 Well.

AQUIFER.--Alluvium.

WELL CHARACTERISTICS.--Drilled unused water-table well.

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 33.0 ft (10.1 m), above mean sea level, from topographic map. Measuring point: Shelter floor on top of 4 in (0.10 m) casing, 3.21 ft (0.98 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on April 15, 1998. Sampling performed on June 7, 1996 by private company. Formerly published as local number P-13.

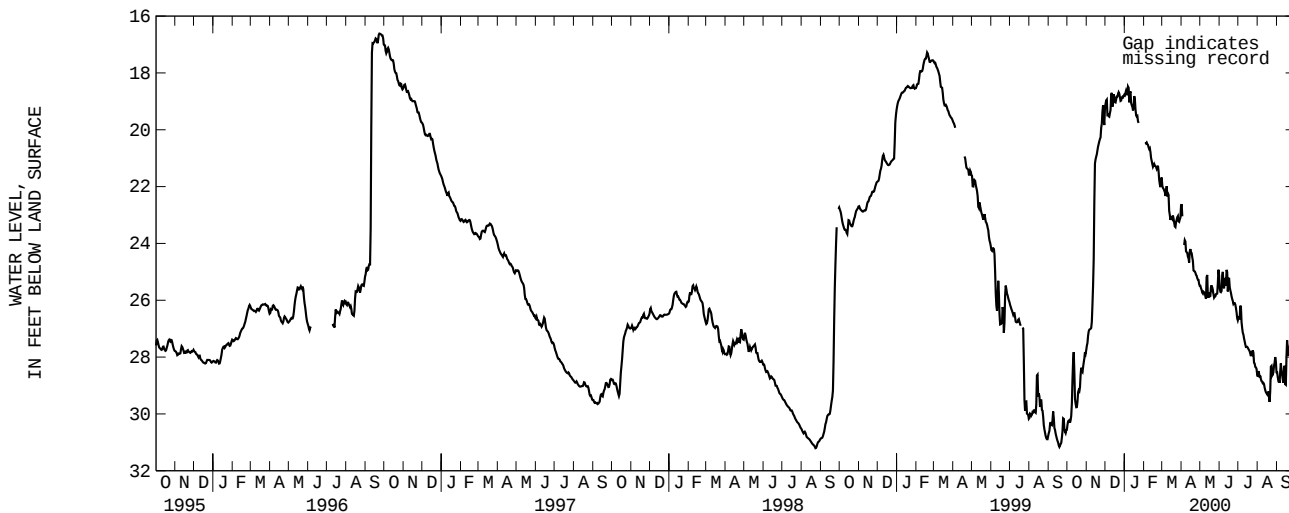
PERIOD OF RECORD.--September 25, 1991 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 14.47 ft (4.41 m), below land-surface datum, Mar. 22, 24, 1993; lowest water level recorded, 31.22 ft (9.52 m), below land-surface datum, Aug. 24, 1998.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30.54	27.56	18.62	18.77	---	21.90	22.32	25.47	25.46	26.59	28.70	28.52
2	30.22	27.65	19.56	18.81	---	22.05	22.92	25.52	25.68	26.65	28.67	28.54
3	30.30	27.35	18.38	18.58	20.36	22.04	23.17	25.64	25.72	26.65	28.32	28.85
4	30.17	27.14	19.50	18.65	20.52	22.12	---	25.63	25.71	26.64	28.80	28.81
5	30.27	27.04	19.46	18.72	20.44	22.15	24.05	25.83	25.64	25.74	28.64	28.82
6	30.35	27.03	19.48	18.85	20.46	22.23	24.06	25.70	24.65	26.74	28.67	28.99
7	30.10	27.01	19.57	18.11	20.55	22.43	23.71	25.70	25.35	26.80	28.87	28.00
8	30.04	27.00	19.51	18.94	20.52	21.93	24.16	25.74	25.59	27.17	28.82	28.44
9	29.23	26.95	19.32	19.13	20.72	22.04	24.39	25.77	25.57	27.12	28.90	28.51
10	28.34	26.57	19.30	18.32	20.64	22.65	24.23	25.94	24.98	27.30	28.94	28.71
11	27.93	25.75	18.24	18.98	20.66	21.84	24.43	25.96	25.46	27.39	28.88	28.84
12	27.72	25.24	19.16	19.13	20.93	22.74	24.51	24.41	25.51	27.50	29.02	28.97
13	29.40	23.86	19.22	19.15	21.07	22.96	24.54	25.81	24.35	27.61	29.13	27.80
14	29.55	21.28	18.82	19.24	21.12	23.04	24.81	26.00	25.67	27.68	29.20	28.81
15	29.73	21.09	18.69	19.40	21.30	23.30	23.76	25.61	25.71	27.61	29.27	29.10
16	29.80	20.99	18.99	19.02	21.31	22.92	24.64	25.84	24.97	27.67	29.27	28.85
17	29.72	20.91	19.07	18.61	21.20	23.25	24.00	25.89	25.45	27.67	29.35	27.21
18	29.43	20.81	19.01	19.26	21.21	23.01	24.68	25.81	25.61	27.76	29.33	27.60
19	29.04	20.64	18.85	19.31	21.31	23.03	24.30	25.27	25.69	27.75	29.09	27.93
20	29.29	20.55	18.82	19.68	21.26	23.21	24.93	25.68	25.79	27.84	29.53	27.97
21	29.11	20.45	18.84	19.39	21.35	23.32	24.97	25.73	25.94	27.92	29.63	27.78
22	29.02	20.36	18.65	19.64	21.40	23.48	24.98	25.58	25.97	28.01	28.75	27.55
23	28.26	20.29	18.71	19.76	21.24	23.37	24.99	25.99	26.09	27.73	27.92	27.41
24	28.49	20.25	18.75	19.76	21.29	23.14	25.07	25.83	26.17	28.07	28.70	27.43
25	28.51	19.60	18.95	---	21.65	23.19	25.14	25.92	26.03	27.45	28.61	27.41
26	28.55	19.97	19.02	---	21.87	22.97	25.13	25.80	26.17	28.24	28.62	27.55
27	28.15	18.79	18.92	---	21.97	23.11	25.31	25.77	26.13	28.16	28.46	27.39
28	28.24	19.48	18.81	---	22.07	23.33	25.24	25.79	26.42	28.29	28.16	26.52
29	27.85	19.78	18.87	---	21.46	23.15	25.33	25.74	26.43	28.40	28.23	26.96
30	27.81	19.89	18.85	---	---	23.16	25.52	25.06	26.82	28.33	27.77	27.38
31	27.96	---	18.77	---	---	23.03	---	24.79	---	28.50	28.54	---
MEAN	29.13	23.04	18.99	19.05	21.11	22.78	24.46	25.65	25.69	27.52	28.80	28.09

WTR YR 2000 MEAN 24.66 HIGHEST 17.99 DEC. 15, 1999 LOWEST 30.60 OCT. 1, 1999



GROUND-WATER LEVELS

RIO HUMACAO TO QUEBRADA AGUAS VERDES BASINS--Continued

175858066100200. Local number, 6.

LOCATION.--Lat 17°58'58", long 66°10'02", Hydrologic Unit 21010004, 4.23 mi northeast of Central Aguirre Church, 4.08 mi northeast of Colegio del Perpetuo Socorro Church, and 1.77 mi northwest of Hwy 3 km 144.2. Owner: Doctor Bruno, Name: Juana 5 Well.

AQUIFER.--Alluvium of Quaternary Age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 16 in (0.41 m). Depth 173 ft (52.74 m) reported, 110 ft (33.54 m) measured.

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 127 ft (38.7 m), above mean sea level, from topographic map. Measuring point: Top of shelter floor, 3.00 ft (0.91 m), above land-surface datum. After Aug. 7, 1981, top of 16 in (0.41 m) casing, 1.55 ft (0.47 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on April 15, 1998.

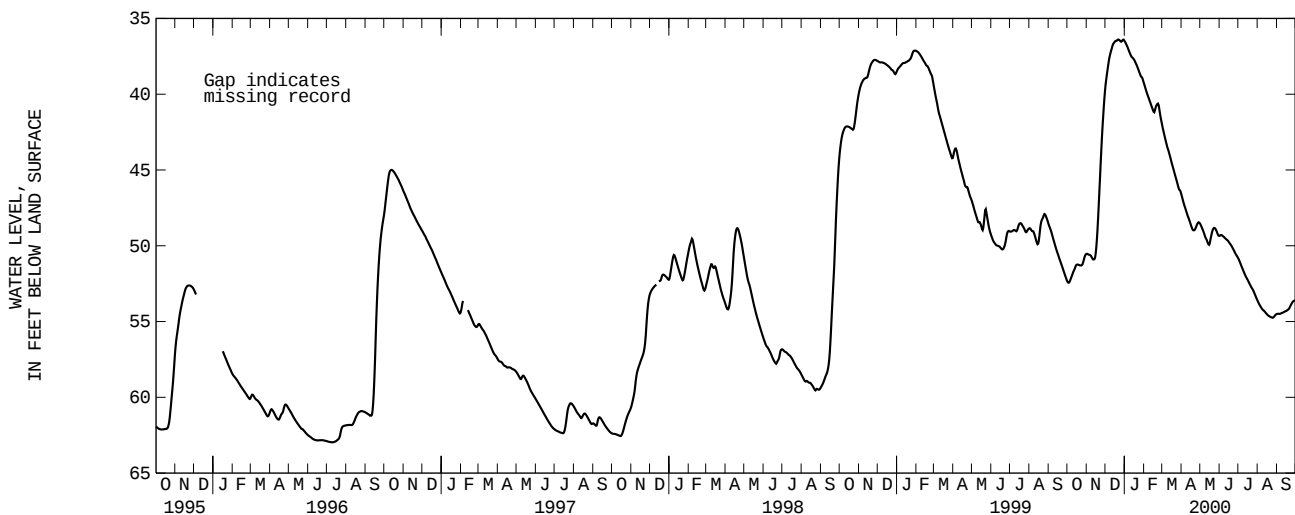
PERIOD OF RECORD.--November 1960 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 26.20 ft (7.99 m), below land-surface datum, Dec. 10, 1979; lowest water level recorded, 65.95 ft (20.1 m), below land-surface datum, June 2, 1968.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	52.34	50.53	39.59	36.50	39.28	41.99	46.61	48.54	49.35	50.81	53.61	54.50
2	52.41	50.53	39.20	36.56	39.41	42.19	46.76	48.62	49.33	50.89	53.70	54.49
3	52.44	50.55	38.90	36.64	39.55	42.38	46.92	48.72	49.29	50.99	53.79	54.49
4	52.44	50.58	38.59	36.74	39.68	42.56	47.08	48.81	49.29	51.10	53.87	54.49
5	52.37	50.59	38.30	36.82	39.82	42.74	47.23	48.91	49.31	51.19	53.94	54.49
6	52.26	50.60	38.01	36.92	39.95	42.92	47.36	49.02	49.34	51.31	54.01	54.49
7	52.15	50.62	37.74	37.03	40.07	43.08	47.48	49.13	49.38	51.41	54.08	54.48
8	52.04	50.66	37.52	37.14	40.18	43.25	47.61	49.25	49.41	51.51	54.14	54.46
9	51.93	50.73	37.35	37.24	40.29	43.42	47.74	49.38	49.45	51.61	54.21	54.43
10	51.81	50.81	37.19	37.35	40.42	43.57	47.88	49.50	49.50	51.71	54.24	54.42
11	51.70	50.88	37.05	37.43	40.52	43.67	48.01	49.55	49.53	51.81	54.27	54.41
12	51.61	50.93	36.90	37.52	40.65	43.82	48.11	49.65	49.57	51.91	54.32	54.38
13	51.54	50.87	36.74	37.57	40.76	43.97	48.22	49.77	49.61	52.00	54.36	54.36
14	51.40	50.91	36.66	37.60	40.88	44.12	48.34	49.89	49.64	52.08	54.41	54.34
15	51.30	50.72	36.62	37.65	40.99	44.29	48.46	49.93	49.68	52.15	54.47	54.31
16	51.25	50.42	36.55	37.71	41.10	44.45	48.59	49.95	49.76	52.23	54.50	54.32
17	51.24	49.95	36.50	37.77	41.21	44.60	48.72	49.75	49.81	52.31	54.56	54.28
18	51.24	49.36	36.47	37.87	41.17	44.75	48.83	49.51	49.86	52.39	54.60	54.24
19	51.25	48.65	36.48	37.96	41.00	44.89	48.94	49.33	49.92	52.49	54.62	54.22
20	51.27	47.84	36.46	38.05	40.84	45.04	48.98	49.13	49.98	52.56	54.65	54.19
21	51.29	46.94	36.40	38.14	40.74	45.20	48.98	48.99	50.05	52.64	54.68	54.13
22	51.30	46.07	36.39	38.25	40.67	45.35	48.98	48.88	50.13	52.73	54.70	54.05
23	51.30	45.16	36.40	38.36	40.63	45.49	48.92	48.83	50.21	52.79	54.72	53.95
24	51.30	44.24	36.44	38.48	40.61	45.64	48.82	48.81	50.28	52.85	54.73	53.88
25	51.26	43.41	36.49	38.59	40.79	45.78	48.72	48.85	50.37	52.93	54.75	53.80
26	51.18	42.61	36.54	38.69	41.07	45.95	48.61	48.90	50.46	53.02	54.75	53.72
27	51.04	41.92	36.53	38.82	41.34	46.09	48.52	48.99	50.54	53.12	54.71	53.68
28	50.87	41.25	36.48	38.86	41.58	46.26	48.46	49.09	50.61	53.22	54.66	53.64
29	50.72	40.64	36.43	38.88	41.78	46.33	48.45	49.20	50.67	53.32	54.61	53.62
30	50.62	40.08	36.38	39.00	---	46.32	48.48	49.30	50.74	53.42	54.55	53.63
31	50.56	---	36.42	39.14	---	46.46	---	49.36	---	53.52	54.53	---
MEAN	51.53	47.97	37.09	37.78	40.59	44.41	48.16	49.21	49.84	52.19	54.38	54.20

WTR YR 2000 MEAN 47.28 HIGHEST 36.37 DEC. 22, 30, 1999 LOWEST 54.76 AUG. 25, 2000



GROUND-WATER LEVELS

RIO HUMACAO TO QUEBRADA AGUAS VERDES BASINS--Continued

180002066132200. Local number, 1231.

LOCATION.--Lat 18°00'02", long 66°13'22", Hydrologic Unit 21010004, 3.30 mi southwest of Cerro Guaraco, 8.71 mi southwest of Cayey plaza, and 2.80 mi southeast of Hwy 1 km 82.3 on Rbo del Buey. Owner: US Geological Survey, WRD, Name: Piezometer Aguirre HW 1 Well.

AQUIFER.--Fractured, volcanic rock, water-table aquifer.

WELL CHARACTERISTICS.--Drilled observation well, diameter 7 in (0.18 m), 0-39.5 ft (0-12.0 m), cased 4 in (0.10 m), 0-38.2 ft (0-11.6 m), screened 32-37.0 ft (9.75-11.3 m). Depth 39.5 ft (12.0 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 190 ft (58.0 m), above mean sea level. Measuring point: Hole on side of 4 in (0.10 m) casing, 2.84 ft (0.87 m), above land-surface datum. Prior October 13, 1988, top of shelter floor, 3.48 ft (1.06 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on February 10, 1998. Formerly published as local number and name HW-TW-01.

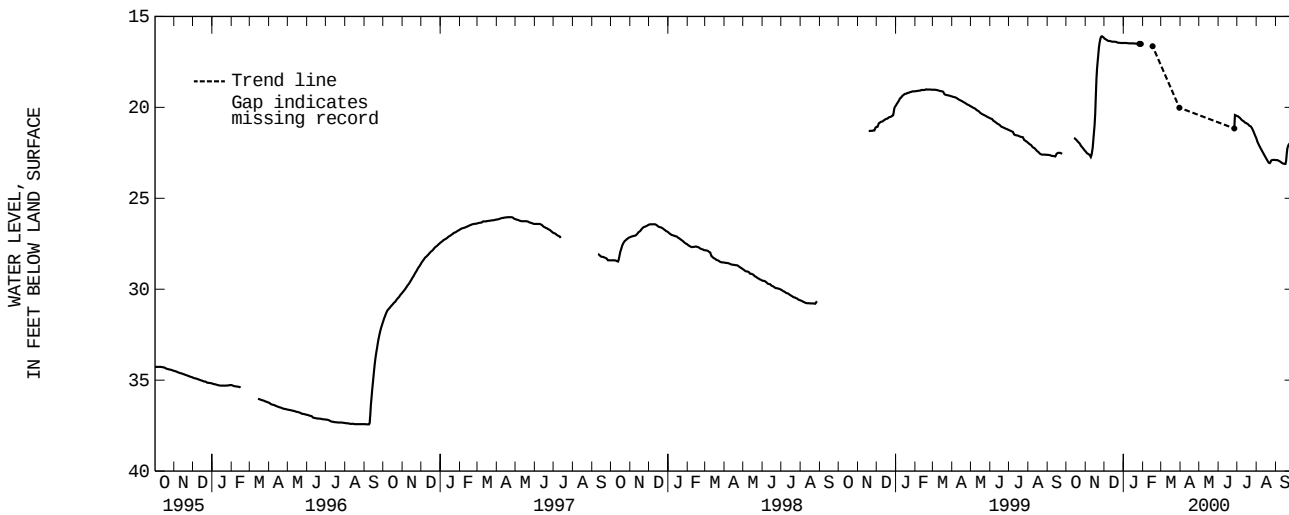
PERIOD OF RECORD.--April 14, 1988 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 16.09 ft (4.90 m), below land-surface datum, Nov. 27, 28, 1999; lowest water level recorded, 37.45 ft (11.4 m), below land-surface datum, Sept. 10, 1996.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	22.41	16.21	16.46	---	---	---	---	---	20.48	21.71	22.90
2	---	22.46	16.23	16.46	---	---	---	---	---	20.49	21.84	22.90
3	---	22.51	16.25	16.46	---	---	---	---	---	20.50	21.93	22.90
4	---	22.54	16.27	16.46	---	---	---	---	---	20.54	22.00	22.90
5	---	22.55	16.29	16.46	---	---	---	---	---	20.57	22.07	22.93
6	---	22.58	16.32	16.46	---	---	---	---	---	20.59	22.14	22.94
7	---	22.60	16.34	16.47	---	---	---	---	---	20.64	22.21	22.96
8	---	22.62	16.35	16.47	---	---	---	---	---	20.68	22.27	22.98
9	---	22.71	16.35	16.48	---	---	---	---	---	20.71	22.33	23.01
10	---	22.75	16.35	16.48	---	---	---	---	---	20.73	22.40	23.03
11	---	22.51	16.35	16.48	---	---	---	---	---	20.76	22.46	23.06
12	---	22.39	16.38	16.48	---	---	---	---	---	20.77	22.52	23.08
13	21.68	22.02	16.38	16.48	---	---	---	---	---	20.82	22.59	23.09
14	21.69	21.59	16.39	16.48	---	---	---	---	---	20.84	22.65	23.10
15	21.71	21.17	16.39	16.48	---	---	---	---	---	20.86	22.71	23.11
16	21.75	20.81	16.39	16.48	---	---	---	---	---	20.87	22.77	23.11
17	21.78	19.96	16.39	16.48	---	---	---	---	---	20.90	22.83	23.11
18	21.81	18.79	16.39	16.49	---	---	---	---	---	20.91	22.89	22.81
19	21.86	18.12	16.40	16.49	---	---	---	---	---	20.94	22.95	22.34
20	21.90	17.61	16.40	16.49	---	---	---	---	---	20.99	23.01	22.18
21	21.93	17.32	16.41	16.49	---	---	---	---	---	21.02	23.06	22.10
22	21.96	16.87	16.44	16.50	---	---	---	---	---	21.03	23.06	22.03
23	22.00	16.55	16.44	16.50	---	---	---	---	---	21.05	23.07	22.00
24	22.08	16.36	16.45	16.50	---	---	---	---	---	21.10	22.95	21.96
25	22.13	16.19	16.45	16.50	---	---	---	---	---	21.16	22.91	21.95
26	22.17	16.11	16.45	16.50	---	---	---	---	---	21.23	22.90	21.95
27	22.20	16.09	16.46	16.51	---	---	---	---	20.41	21.31	22.89	21.96
28	22.25	16.10	16.46	---	---	---	---	---	20.43	21.38	22.89	21.96
29	22.30	16.13	16.46	---	---	---	---	---	20.44	21.49	22.89	21.96
30	22.34	16.15	16.46	---	---	---	---	---	20.46	21.56	22.89	21.96
31	22.39	---	16.46	---	---	---	---	---	---	21.64	22.89	---
MEAN	22.00	19.82	16.38	16.48	---	---	---	---	20.43	20.92	22.60	22.61

WTR YR 2000 MEAN 20.07 HIGHEST 16.09 NOV. 27, 28, 1999 LOWEST 23.11 SEPT. 15-18, 2000



GROUND-WATER LEVELS

RIO HUMACAO TO QUEBRADA AGUAS VERDES BASINS--Continued

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 13	21.68	DEC 07	16.34	FEB 16	16.64	JUN 26	21.16	JUL 24	21.10	AUG 21	23.06
NOV 23	16.55	JAN 28	16.51	MAR 30	20.02						
WATER YEAR 2000		HIGHEST 16.34 DEC. 7, 1999				LOWEST 23.06 AUG. 21, 2000					

GROUND-WATER LEVELS

RIO HUMACAO TO QUEBRADA AGUAS VERDES BASINS--Continued

180001066122002. Local number, 1232.

LOCATION.--Lat 18°00'01", long 66°12'20", Hydrologic Unit 21010004, 8.27 mi southwest of Cayey plaza, 2.38 mi southwest of Cerro Garau, and 3.45 mi southeast of Hwy 1 km 82.3. Owner: US Geological Survey, WRD, Name: Piezometer Aguirre HW 3C Well.

AQUIFER.--Fractured, volcanic rock, water-table aquifer.

WELL CHARACTERISTICS.-Drilled observation well, diameter 7 in (0.18 m), 0-220 ft (0-67.0 m), cased 4 in (0.10 m), 0-150 ft (0-45.7 m), open hole 150-220 ft (45.7-67.0 m). Depth 220 ft (67.0 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 270 ft (82.6 m), above mean sea level. Measuring point: Top of shelter floor, 3.32 ft (1.01 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on April 15, 1998. Aquifer test performed during May 24, 25, 26, 1989. Formerly published as local number and name HW-TW-03C.

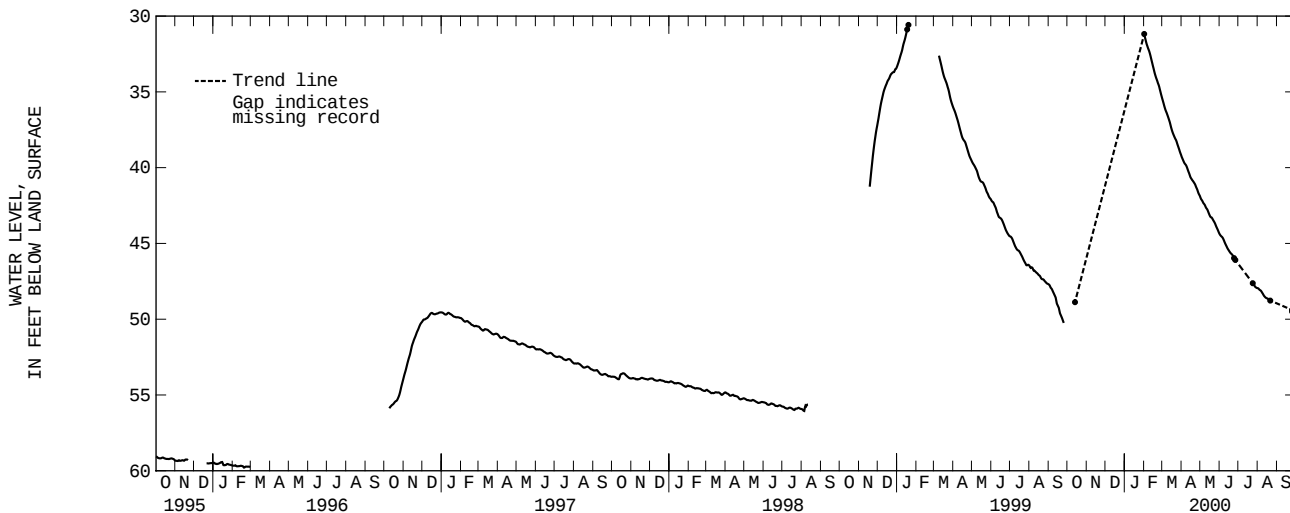
PERIOD OF RECORD.--December 15, 1988 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 26.29 ft (8.01 m), below land-surface datum, Dec. 15, 1990; lowest water level recorded, 59.82 ft (18.2 m), below land-surface datum, Mar. 1, 1996.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	31.20	35.39	39.22	41.89	44.36	---	47.94	---
2	---	---	---	---	31.30	35.54	39.34	42.03	44.43	---	47.96	---
3	---	---	---	---	31.45	35.67	39.42	42.10	44.49	---	47.99	---
4	---	---	---	---	31.62	35.84	39.53	42.15	44.52	---	48.05	---
5	---	---	---	---	31.80	35.98	39.62	42.22	44.57	---	48.08	---
6	---	---	---	---	31.92	36.13	39.71	42.32	44.60	---	48.10	---
7	---	---	---	---	32.05	36.24	39.76	42.38	44.69	---	48.14	---
8	---	---	---	---	32.16	36.34	39.81	42.41	44.77	---	48.22	---
9	---	---	---	---	32.26	36.44	39.87	42.50	44.88	---	48.28	---
10	---	---	---	---	32.38	36.57	39.98	42.59	44.98	---	48.34	---
11	---	---	---	---	32.54	36.68	40.10	42.69	45.07	---	48.43	---
12	---	---	---	---	32.70	36.81	40.22	42.71	45.15	---	48.48	---
13	---	---	---	---	32.88	36.93	40.33	42.80	45.24	---	48.53	---
14	---	---	---	---	33.04	37.08	40.42	42.90	45.33	---	48.57	---
15	---	---	---	---	33.22	37.25	40.57	43.01	45.39	---	48.60	---
16	---	---	---	---	33.38	37.42	40.67	43.11	45.46	---	48.62	---
17	---	---	---	---	33.55	37.54	40.72	43.20	45.52	---	48.63	---
18	---	---	---	---	33.72	37.68	40.80	43.27	45.59	---	48.66	---
19	---	---	---	---	33.87	37.78	40.85	43.28	45.64	---	48.71	---
20	---	---	---	---	34.00	37.88	40.90	43.30	45.68	---	48.74	---
21	---	---	---	---	34.13	37.98	40.97	43.39	45.72	---	---	---
22	---	---	---	---	34.23	38.07	41.03	43.46	45.76	---	---	---
23	---	---	---	---	34.36	38.15	41.10	43.53	45.84	---	---	---
24	---	---	---	---	34.49	38.22	41.20	43.60	45.94	47.61	---	---
25	---	---	---	---	34.57	38.37	41.32	43.68	46.00	47.64	---	---
26	---	---	---	---	34.75	38.50	41.39	43.79	---	47.70	---	---
27	---	---	---	---	34.91	38.61	41.50	43.89	---	47.76	---	---
28	---	---	---	---	35.08	38.73	41.64	43.98	---	47.85	---	---
29	---	---	---	---	35.24	38.86	41.74	44.07	---	47.89	---	---
30	---	---	---	---	---	39.00	41.81	44.16	---	47.91	---	---
31	---	---	---	---	---	39.09	---	44.27	---	47.95	---	---
MEAN	---	---	---	---	33.20	37.32	40.52	43.05	45.18	47.79	48.35	---

WTR YR 2000 MEAN 41.08 HIGHEST 31.12 FEB. 1, 2000 LOWEST 48.77 AUG. 21, 2000



GROUND-WATER LEVELS

RIO HUMACAO TO QUEBRADA AGUAS VERDES BASINS--Continued

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 13	48.88	MAR 30	39.00	JUL 24	47.62	SEP 25	49.39	SEP 25	49.50	SEP 27	49.37
FEB 01	31.18	JUN 26	46.09	AUG 21	48.77	25	49.38				
WATER YEAR 2000		HIGHEST 31.18 FEB. 1, 2000				LOWEST 49.50 SEPT. 25, 2000					

RIO HUMACAO TO QUEBRADA AGUAS VERDES BASINS--Continued

175947066130601. Local number, 1233.

LOCATION:--Lat 17°59'47", long 66°13'06", Hydrologic Unit 21010004, 2.70 mi northeast of Central Aguirre Church, 6.16 mi northwest of Escuela de Guayama, and 2.70 mi northeast of Hwy 3 km 151.3. Owner: US Geological Survey, WRD, Name: Piezometer Aguirre HW 5B well.

AQUIFER.--Fractured, volcanic rock, water-table aquifer.

WELL CHARACTERISTICS.--Drilled observation well, diameter 7 in (0.18 m), 0-52.0 ft (0-15.8 m), cased 4 in (0.10 m), 0-51.0 ft (0-15.5 m), screened 41-46 ft (12.5-14.0 m). Depth 52.0 ft (15.8 m).

INSTRUMENTATION.--Data collector platform--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 145 ft (44.2 m), above mean sea level. Measuring point: Hole on side of casing, 3.00 ft (0.91 m), above land-surface datum. Prior October 13, 1989 top of shelter floor, 3.47 ft (1.06 m), above land-surface datum.

REMARKS.--Recording observation well. Electronic Data Logger (EDL), installed on April 15, 1998, replaced by a Data Collector Platform (DCP), installed on Aug. 3, 2000. Formerly published as local number and name HW-TW-5B.

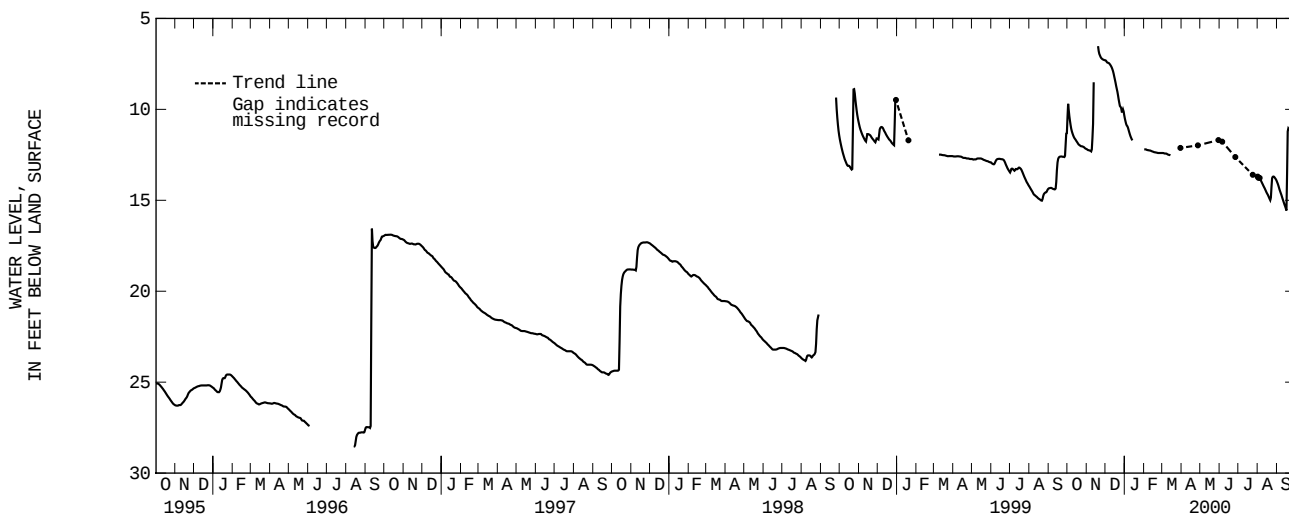
PERIOD OF RECORD.--April 13, 1988 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 5.55 ft (1.69 m), below land-surface datum, Nov. 13, 1999; lowest water level recorded, 28.55 ft (8.70 m), below land-surface datum, Aug. 14, 15, 1996.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11.36	12.18	7.30	10.42	12.20	12.40	---	---	11.69	---	---	13.95
2	9.53	12.20	7.31	10.60	12.20	12.40	---	---	11.69	---	---	14.04
3	9.86	12.24	7.37	10.73	12.20	12.40	---	---	11.71	---	---	14.13
4	10.23	12.24	7.42	10.87	12.20	12.41	---	---	11.74	---	---	14.24
5	10.52	12.25	7.44	10.91	12.21	12.43	---	---	11.76	---	13.81	14.37
6	10.76	12.27	7.44	10.95	12.24	12.43	---	---	11.79	---	13.87	14.47
7	10.98	12.27	7.46	11.08	12.24	12.43	---	---	---	---	13.95	14.58
8	11.15	12.30	7.50	11.20	12.24	12.43	---	---	---	---	14.02	14.66
9	11.27	12.32	7.55	11.32	12.26	12.45	---	---	---	---	14.09	14.77
10	11.37	12.08	7.60	11.44	12.26	12.48	---	---	---	---	14.16	14.89
11	11.47	11.06	7.67	11.52	12.26	12.49	---	---	---	---	14.24	14.99
12	11.54	10.55	7.74	11.61	12.28	12.50	---	---	---	---	14.30	15.10
13	11.61	6.47	7.85	11.68	12.29	12.51	---	---	---	---	14.37	15.20
14	11.64	---	7.96	11.73	12.31	12.51	---	---	---	---	14.45	15.30
15	11.70	---	8.12	---	12.32	12.54	---	---	---	---	14.53	15.39
16	11.76	---	8.30	---	12.33	---	---	---	---	---	14.60	15.51
17	11.80	---	8.43	---	12.35	---	---	---	---	---	14.66	15.61
18	11.86	---	8.64	---	12.36	---	---	---	---	---	14.72	11.41
19	11.92	6.36	8.79	---	12.36	---	---	---	---	---	14.81	11.02
20	11.95	6.69	8.95	---	12.37	---	---	---	---	---	14.88	11.07
21	11.97	6.90	9.12	---	12.38	---	---	---	---	---	14.97	11.11
22	12.00	7.00	9.34	---	12.38	---	---	---	---	---	15.02	11.16
23	12.03	7.07	9.55	---	12.40	---	---	---	---	---	14.69	11.21
24	12.03	7.16	9.73	---	12.40	---	---	---	---	---	13.85	11.26
25	12.03	7.19	9.90	---	12.40	---	---	---	---	---	13.72	11.29
26	12.05	7.23	9.82	---	12.40	---	---	---	---	---	13.70	11.43
27	12.06	7.25	10.03	---	12.40	---	11.98	---	---	---	13.69	11.53
28	12.08	7.27	10.22	---	12.40	---	11.98	---	---	---	13.72	11.61
29	12.12	7.28	10.01	---	12.40	---	---	---	---	---	13.77	11.61
30	12.15	7.30	10.00	---	---	---	---	11.69	---	---	13.82	11.67
31	12.17	---	10.24	---	---	---	---	11.69	---	---	13.87	---
MEAN	11.52	9.41	8.54	11.15	12.31	12.45	11.98	11.69	11.73	---	14.23	13.22

WTR YR 2000 MEAN 11.59 HIGHEST 5.55 NOV. 13, 1999 LOWEST 15.64 SEPT. 17, 2000



GROUND-WATER LEVELS

RIO HUMACAO TO QUEBRADA AGUAS VERDES BASINS--Continued

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 13	11.61	MAR 30	12.12	JUL 24	13.60	AUG 02	13.76	AUG 07	13.86	SEP 25	11.30
FEB 01	12.20	JUN 26	12.62	AUG 01	13.70	04	13.77				
WATER YEAR 2000		HIGHEST 11.30 SEPT. 25, 2000				LOWEST 13.86 AUG. 7, 2000					

GROUND-WATER LEVELS

RIO HUMACAO TO QUEBRADA AGUAS VERDES BASINS--Continued

175957066123400. Local number, 1234.

LOCATION: --Lat 17°59'57", long 66°12'34", Hydrologic Unit 21010004, 3.11 northeast of Central Aguirre Church, 5.76 mi northwest of Escuela de Guayama, and 2.03 mi northeast of Hwy 3 km 151.3. Owner: US Geological Survey, WRD, Name: Piezometer Aguirre HW 13 Well.

AQUIFER.--Fractured, volcanic rock, water-table aquifer.

WELL CHARACTERISTICS.--Drilled observation well, diameter 7 in (0.18 m), 0-69.0 ft (0-21.0 m), cased 4 in (0.10 m), 0-69.0 ft (0-21.0 m), screened 4.0-69 ft (1.22-21.0 m). Depth 69.0 ft (21.0 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 293 ft (61.9 m), above mean sea level. Measuring point: Hole on side of casing, 2.33 ft (0.71 m), above land-surface datum. Prior October 14, 1988, top of shelter floor, 3.47 ft (1.06 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on July 22, 1998. Formerly published as local number and name HW-TW-13.

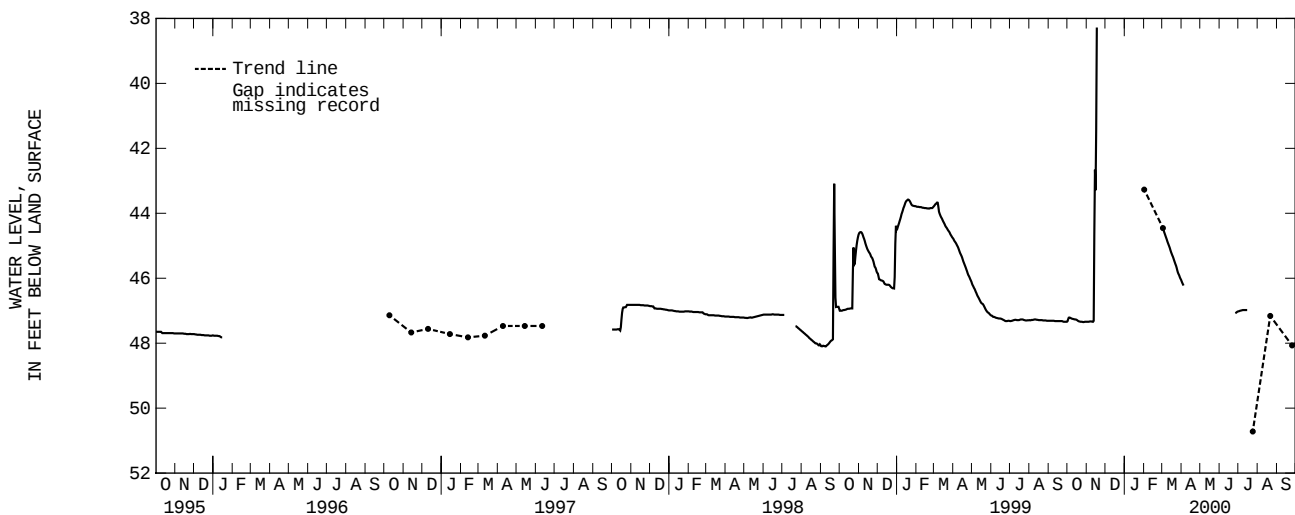
PERIOD OF RECORD.--April 14, 1988 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 34.39 ft (10.5 m), below land-surface datum, Oct. 27, 1990; lowest water level measured, 50.72 ft (15.46 m), below land-surface datum, July 24, 2000.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	47.34	47.34	---	---	---	---	46.07	---	---	47.02	---	---
2	47.31	47.34	---	---	---	44.43	46.12	---	---	47.02	---	---
3	47.22	47.34	---	---	---	44.48	46.17	---	---	47.01	---	---
4	47.21	47.34	---	---	---	44.55	46.20	---	---	47.00	---	---
5	47.21	47.34	---	---	---	44.61	46.25	---	---	47.00	---	---
6	47.22	47.33	---	---	---	44.66	---	---	---	46.99	---	---
7	47.23	47.33	---	---	---	44.72	---	---	---	46.99	---	---
8	47.24	47.33	---	---	---	44.77	---	---	---	46.98	---	---
9	47.25	47.33	---	---	---	44.83	---	---	---	46.98	---	---
10	47.25	47.34	---	---	---	44.89	---	---	---	46.98	---	---
11	47.26	47.34	---	---	---	44.94	---	---	---	46.98	---	---
12	47.26	47.34	---	---	---	44.99	---	---	---	46.98	---	---
13	47.27	47.28	---	---	---	45.04	---	---	---	46.98	---	---
14	47.27	42.01	---	---	---	45.10	---	---	---	46.98	---	---
15	47.27	43.31	---	---	---	45.17	---	---	---	46.98	---	---
16	47.28	43.27	---	---	---	45.22	---	---	---	46.98	---	---
17	47.29	39.60	---	---	---	45.27	---	---	---	---	---	---
18	47.31	36.96	---	---	---	45.32	---	---	---	---	---	---
19	47.32	---	---	---	---	45.36	---	---	---	---	---	---
20	47.33	---	---	---	---	45.43	---	---	---	---	---	---
21	47.33	---	---	---	---	45.48	---	---	---	---	---	---
22	47.34	---	---	---	---	45.54	---	---	---	---	---	---
23	47.34	---	---	---	---	45.59	---	---	---	---	---	---
24	47.34	---	---	---	---	45.64	---	---	---	---	---	---
25	47.34	---	---	---	---	45.72	---	---	---	---	---	48.03
26	47.35	---	---	---	---	45.80	---	---	47.08	---	---	48.03
27	47.35	---	---	---	---	45.85	---	---	47.07	---	---	48.03
28	47.35	---	---	---	---	45.89	---	---	47.06	---	---	48.03
29	47.34	---	---	---	---	45.93	---	---	47.04	---	---	48.02
30	47.34	---	---	---	---	46.00	---	---	47.03	---	---	48.01
31	47.34	---	---	---	---	46.02	---	---	---	---	---	---
MEAN	47.29	45.58	---	---	---	45.24	46.16	---	47.06	46.99	---	48.02

WTR YR 2000 MEAN 46.40 HIGHEST 36.41 NOV. 19, 1999 LOWEST 48.04 SEPT. 26, 27, 2000



GROUND-WATER LEVELS

RIO HUMACAO TO QUEBRADA AGUAS VERDES BASINS--Continued

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 13	47.26	MAR 30	45.99	JUL 24	50.72	AUG 21	47.16	SEP 25	48.07	SEP 25	48.03
FEB 01	43.27	JUN 26	47.08								
WATER YEAR 2000		HIGHEST 43.27 FEB. 1, 2000				LOWEST 50.72 JULY 24, 2000					

GROUND-WATER LEVELS

RIO HUMACAO TO QUEBRADA AGUAS VERDES BASINS--Continued

180027065541700. Local number, 1235.

LOCATION.--Lat 18°00'27", long 65°54'17", Hydrologic Unit 21010004, 400 ft (121.9 m) northeast of Hwy 3 bridge over Río Maunabo, 0.34 mi west southwest of Maunabo plaza, and 1.89 mi south southeast of Cerro Pandura. Owner: PR Aqueduct and Sewer Authority, Name: Maunabo 3.

AQUIFER.--Alluvium.

WELL CHARACTERISTICS.--Production well being repaired.

DATUM.--Elevation of land-surface datum is about 25.0 ft (7.62 m), above mean sea level, from topographic map. Measuring point: Top of steel casing, 1.40 ft (0.43 m), above land-surface datum.

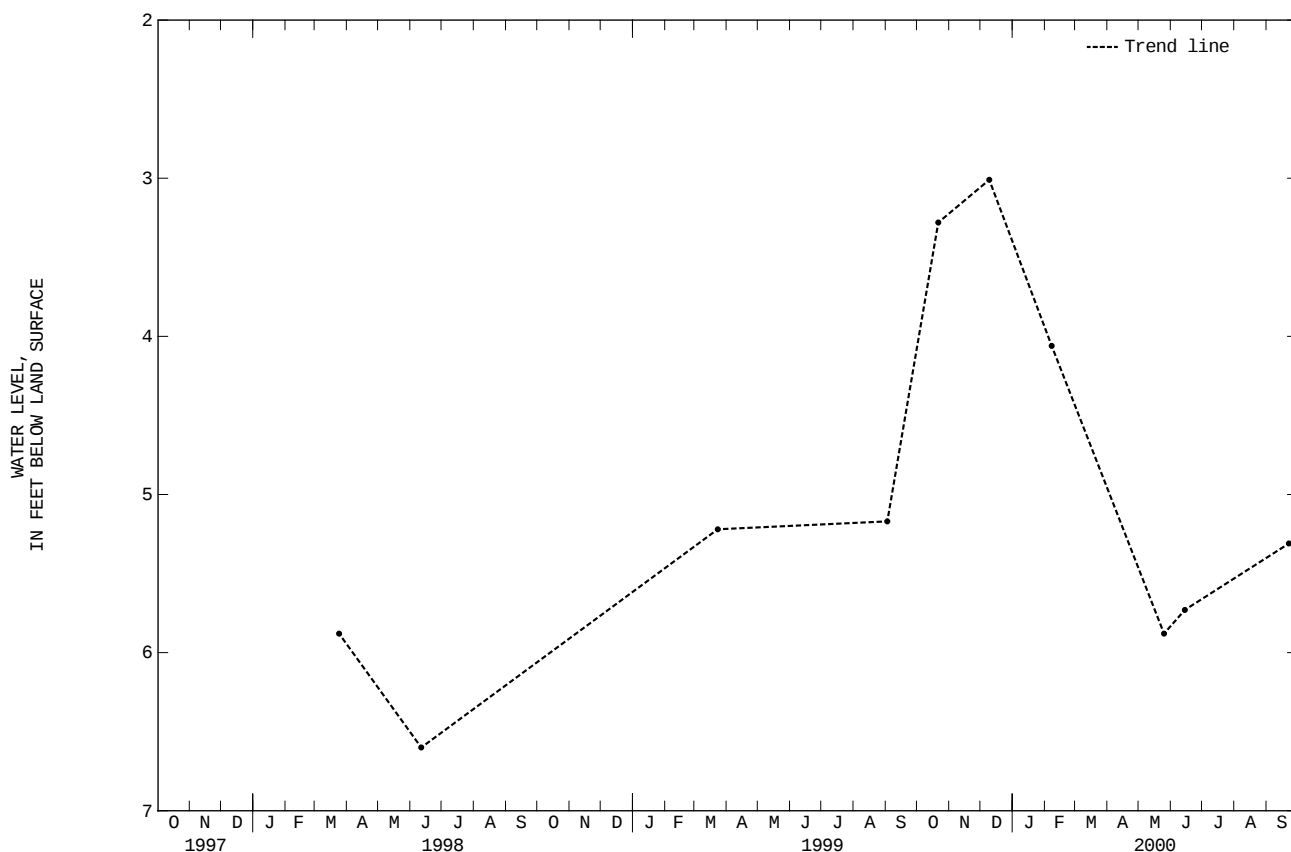
REMARKS.--Observation well.

PERIOD OF RECORD.--February 24, 1998 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 3.01 ft (0.92 m), below land-surface datum, Dec. 9, 1999; lowest water level measured, 6.60 ft (2.01 m), below land-surface datum, June 11, 1998.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	3.28	FEB 07	4.06	MAY 25	5.88	JUN 14	5.73	SEP 22	5.31	SEP 22	5.32
DEC 09	3.01										
WATER YEAR 2000		HIGHEST 3.01 DEC. 9, 1999				LOWEST 5.88 MAY 25, 2000					



GROUND-WATER LEVELS

RIO HUMACAO AT QUEBRADA AGUAS VERDES BASINS

180018066010100. Local number, 1236.

LOCATION.--Lat 18°00'18", long 66°01'01", Hydrologic Unit 21010004, 0.20 mi south of Patillas Athletic Park, 0.31 mi southwest of Patillas plaza, and 1.12 mi south southeast of Patillas Dam. Owner: PR Aqueduct and Sewer Authority Name: Cacao Bajo.

AQUIFER.--Alluvium.

WELL CHARACTERISTICS.--Abandoned production well, diameter 13 in (0.34 m), open screen 40.0-88.0 ft (12.2-26.8 m), perforated 90.0-125 ft (27.4-38.1 m). Depth 100 ft (30.48 m).

DATUM.--Elevation of land-surface datum is about 50.0 ft (15.24 m), above mean sea level, from topographic map. Measuring point: Access from side, well now has submersible pump for irrigation, top of access hole 8.03 ft (2.45 m), above land-surface datum. Prior to Mar. 26, 1999, top of steel motor mount, 8.38 ft (2.55 m).

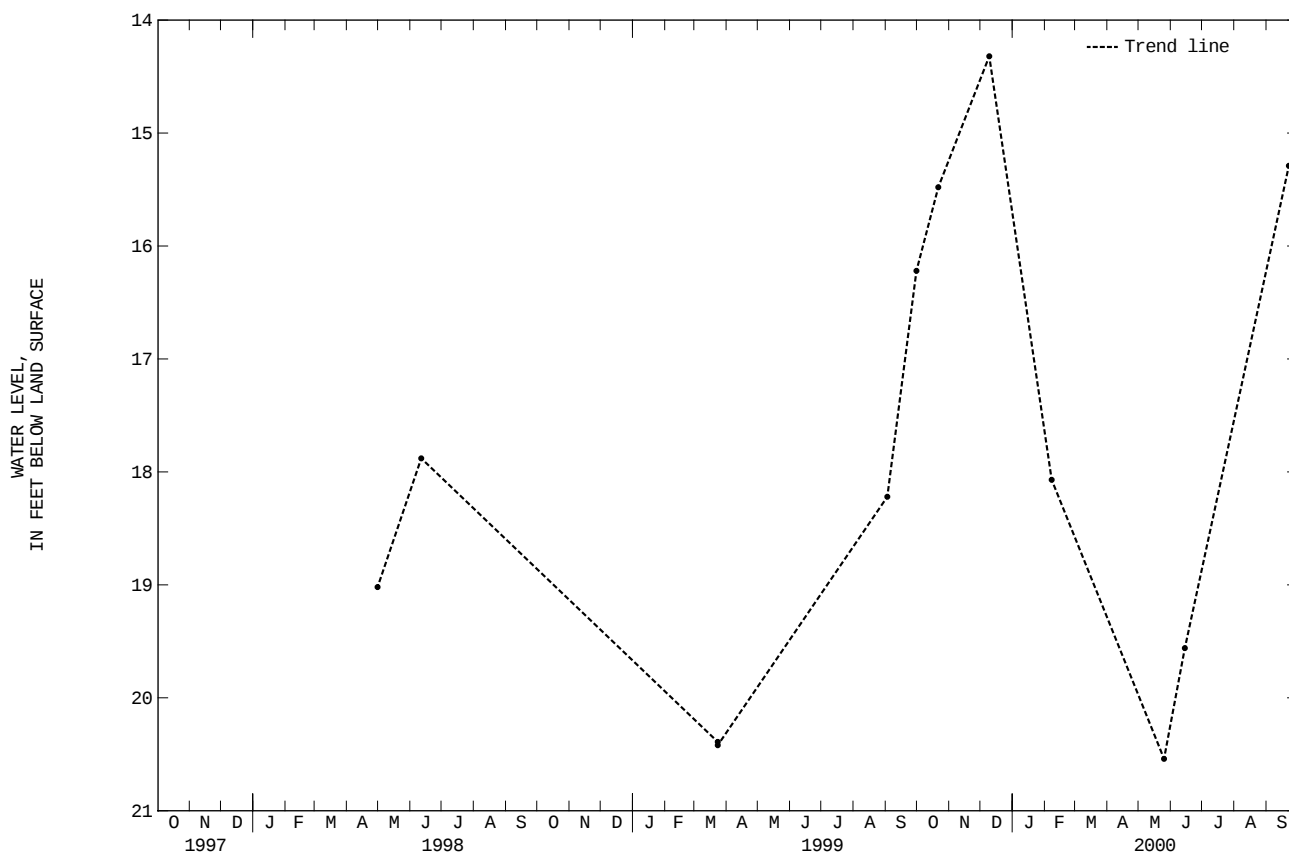
REMARKS.--Observation well.

PERIOD OF RECORD.--April 30, 1998 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 14.32 ft (4.36 m), below land-surface datum, Dec. 9, 1999; lowest water level measured, 20.54 ft (6.26 m), below land-surface datum, May 25, 2000.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	15.48	DEC 09	14.32	FEB 07	18.07	MAY 25	20.54	JUN 14	19.56	SEP 22	15.29
WATER YEAR 2000		HIGHEST 14.32 DEC. 9, 1999				LOWEST 20.54 MAY 25, 2000					



GROUND-WATER LEVELS

RIO HUMACAO TO QUEBRADA AGUAS VERDES BASINS

175903066024100. Local number, 1237.

LOCATION.--Lat 17°59'03", long 66°02'41", Hydrologic Unit 21010004, 1.03 mi east northeast of Central Lafayette, 1.57 mi north northwest of Punta Guilarte, and 1.93 mi northeast of Arroyo waterfront. Owner: Colón Moret, Name: Colón Moret Well.

AQUIFER.--Alluvium.

WELL CHARACTERISTICS.--Drilled unused water-table well.

INSTRUMENTATION.--Electronic water level logger--60-minutes punch.

DATUM.--Elevation of land-surface datum is about 59.0 ft (18.0 m), above mean sea level, from topographic map. Measuring point: Top of pipe in metal box, 3.36 ft (1.02 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), installed on June 22, 1999. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on Feb. 16, 2000. Well reported dry at 36.74 ft (11.20 m).

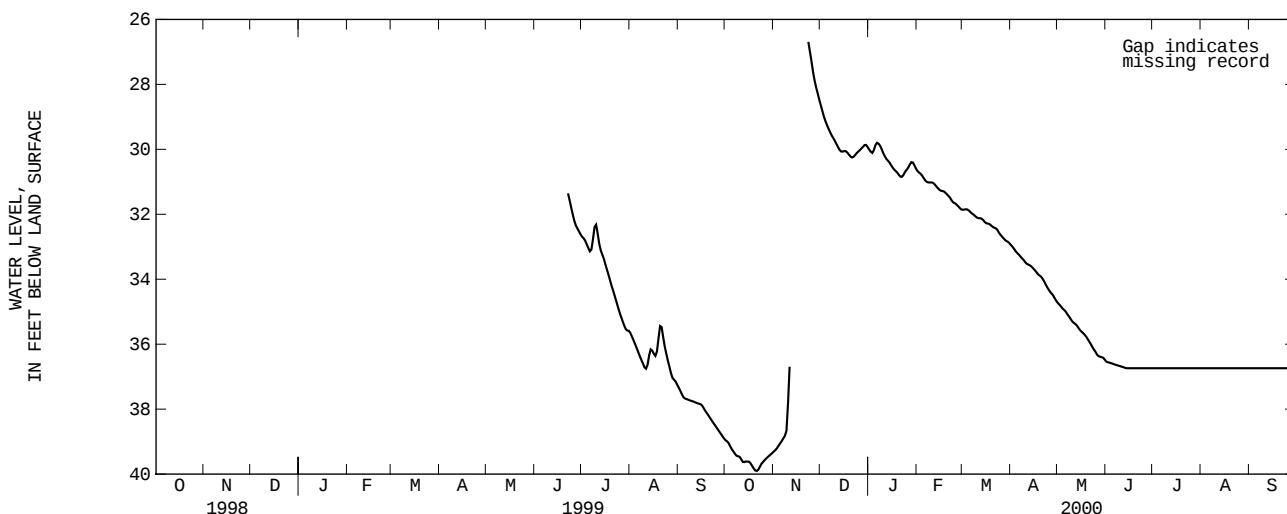
PERIOD OF RECORD.--June 22, 1999 to current year.

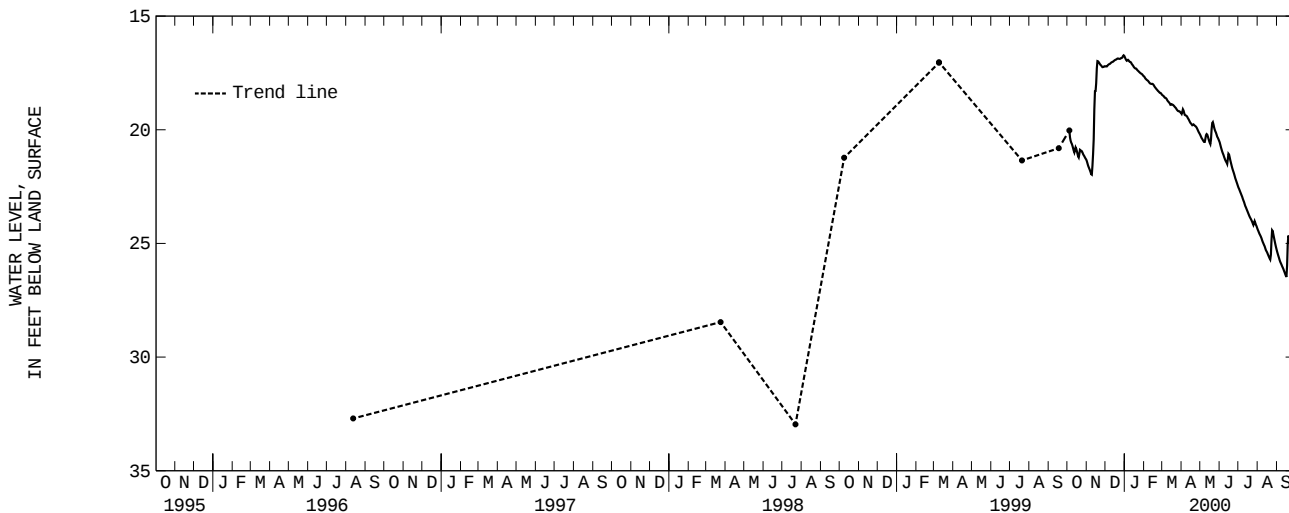
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 26.22 ft (7.99 m), below land-surface datum, Nov. 22, 1999; lowest water level measured, 39.92 ft (12.17 m), below land-surface datum, Oct. 21, 1999

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38.94	39.32	28.57	29.97	30.64	31.86	32.93	34.71	36.53	36.74	36.74	36.74
2	38.98	39.28	28.72	30.04	30.70	31.86	32.98	34.76	36.55	36.74	36.74	36.74
3	39.01	39.23	28.92	30.11	30.73	31.85	33.04	34.82	36.56	36.74	36.74	36.74
4	39.10	39.16	29.07	30.11	30.78	31.84	33.11	34.87	36.58	36.74	36.74	36.74
5	39.20	39.08	29.20	29.94	30.85	31.87	33.18	34.94	36.59	36.74	36.74	36.74
6	39.27	39.02	29.32	29.80	30.93	31.91	33.22	34.96	36.61	36.74	36.74	36.74
7	39.34	38.94	29.42	29.80	30.99	31.97	33.27	35.04	36.63	36.74	36.74	36.74
8	39.41	38.85	29.53	29.85	31.02	31.99	33.34	35.12	36.64	36.74	36.74	36.74
9	39.46	38.79	29.62	29.93	31.02	32.04	33.38	35.17	36.66	36.74	36.74	36.74
10	39.44	38.54	29.69	30.06	31.02	32.08	33.44	35.26	36.67	36.74	36.74	36.74
11	39.50	37.08	29.79	30.17	31.02	32.12	33.51	35.32	36.69	36.74	36.74	36.74
12	39.59	36.31	29.88	30.26	31.05	32.12	33.54	35.36	36.70	36.74	36.74	36.74
13	39.66	---	29.97	30.33	31.11	32.12	33.56	35.39	36.72	36.74	36.74	36.74
14	39.60	---	30.06	30.37	31.17	32.15	33.59	35.45	36.74	36.74	36.74	36.74
15	39.62	---	30.07	30.44	31.22	32.20	33.63	35.53	36.74	36.74	36.74	36.74
16	39.61	---	30.07	30.53	31.27	32.27	33.69	35.59	36.74	36.74	36.74	36.74
17	39.63	---	30.04	30.59	31.28	32.28	33.74	35.63	36.74	36.74	36.74	36.74
18	39.71	---	30.07	30.65	31.29	32.29	33.80	35.68	36.74	36.74	36.74	36.74
19	39.79	---	30.13	30.69	31.31	32.31	33.87	35.73	36.74	36.74	36.74	36.74
20	39.86	---	30.19	30.75	31.38	32.37	33.89	35.80	36.74	36.74	36.74	36.74
21	39.92	---	30.25	30.82	31.41	32.39	33.94	35.88	36.74	36.74	36.74	36.74
22	39.89	---	30.25	30.86	31.48	32.43	34.01	35.96	36.74	36.74	36.74	36.74
23	39.83	26.53	30.21	30.83	31.53	32.43	34.10	36.03	36.74	36.74	36.74	36.74
24	39.71	26.85	30.14	30.74	31.64	32.51	34.20	36.14	36.74	36.74	36.74	36.74
25	39.65	27.12	30.09	30.65	31.64	32.60	34.28	36.19	36.74	36.74	36.74	36.74
26	39.60	27.45	30.05	30.61	31.68	32.65	34.36	36.28	36.74	36.74	36.74	36.74
27	39.54	27.77	30.00	30.52	31.73	32.71	34.42	36.36	36.74	36.74	36.74	36.74
28	39.50	27.99	29.95	30.42	31.77	32.76	34.47	36.38	36.74	36.74	36.74	36.74
29	39.45	28.19	29.90	30.37	31.84	32.82	34.55	36.39	36.74	36.74	36.74	36.74
30	39.41	28.37	29.84	30.44	---	32.83	34.64	36.41	36.74	36.74	36.74	36.74
31	39.37	---	29.89	30.55	---	32.87	---	36.43	---	36.74	36.74	---
MEAN	39.50	34.19	29.77	30.36	31.22	32.27	33.72	35.60	36.69	36.74	36.74	36.74

WTR YR 2000 MEAN 34.48 HIGHEST 26.22 NOV. 22, 1999 LOWEST 39.92 OCT. 21, 1999





GROUND-WATER LEVELS

RIO HUMACAO TO QUEBRADA AGUAS VERDES BASINS--Continued

175814066102200. Local number, 1239.

LOCATION.--Lat 17°58'14", long 66°10'22", Hydrologic Unit 21010004, 1.0 mi northwest of Jobos community, 3.8 mi east of Colegio del Perpetuo Socorro, and 3.5 mi northeast of Central Aguirre. Owner: US Geological Survey, Name: Jobos Well.

AQUIFER.--Alluvium.

WELL CHARACTERISTICS.--Drilled unused water-table well.

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 59.0 ft (18.0 m), above mean sea level, from topographic map. Measuring point: On shelter floor, 2.86 ft (0.87 m), above land-surface datum.

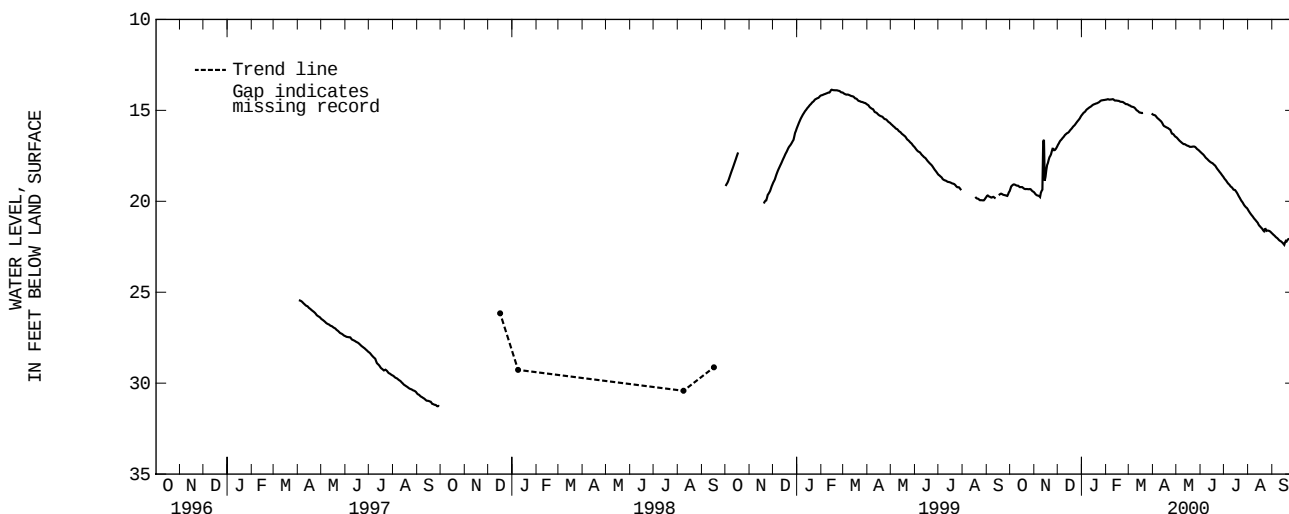
REMARKS.--Recording observation well. Automated Digital Recorder (ADR), installed on Apr. 2, 1997, replaced by an Electronic Data Logger (EDL), installed on September 27, 1999.

PERIOD OF RECORD.--April 2, 1997 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 6.14 ft (1.87 m), below land-surface datum, Oct. 18, 1998; lowest water level measured, 31.42 ft (9.27 m), below land-surface datum, Aug. 6, 1998.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19.42	19.50	16.93	15.26	14.41	14.71	15.23	16.47	17.29	18.69	20.48	21.77
2	19.21	19.58	16.85	15.21	14.41	14.73	15.25	16.51	17.32	18.77	20.53	21.81
3	19.16	19.62	16.79	15.14	14.38	14.73	15.26	16.56	17.37	18.81	20.61	21.86
4	19.12	19.66	16.68	15.11	14.39	14.79	15.27	16.61	17.40	18.86	20.66	21.88
5	19.08	19.68	16.65	15.09	14.41	14.79	15.32	16.66	17.44	18.93	20.73	21.94
6	19.07	19.69	16.60	15.02	14.41	14.81	15.38	16.70	17.50	18.99	20.78	21.98
7	19.08	19.70	16.54	14.96	14.40	14.81	15.43	16.73	17.55	19.05	20.83	22.01
8	19.10	19.74	16.49	14.93	14.40	14.84	15.46	16.78	17.62	19.07	20.89	22.04
9	19.13	19.79	16.45	14.90	14.39	14.87	15.50	16.80	17.64	19.14	20.96	22.10
10	19.14	19.28	16.37	14.86	14.38	14.92	15.54	16.85	17.69	19.20	21.00	22.14
11	19.14	19.58	16.33	14.83	14.41	14.99	15.58	16.86	17.73	19.22	21.05	22.18
12	19.15	19.14	16.30	14.81	14.46	15.01	15.62	16.85	17.78	19.26	21.11	22.19
13	19.22	14.27	16.25	14.78	14.46	15.04	15.69	16.89	17.81	19.34	21.15	22.23
14	19.22	18.97	16.24	14.74	14.46	15.08	15.77	16.91	17.85	19.38	21.22	22.27
15	19.22	18.75	16.21	14.70	14.46	15.13	15.86	16.94	17.87	19.36	21.33	22.31
16	19.22	18.55	16.16	14.68	14.48	15.12	15.87	16.95	17.90	19.41	21.35	22.38
17	19.22	18.04	16.09	14.66	14.47	15.13	15.90	16.96	17.91	19.48	21.41	22.41
18	19.28	17.98	16.05	14.65	14.49	15.16	15.92	17.00	17.98	19.54	21.46	22.11
19	19.30	17.82	16.00	14.62	14.52	15.13	15.95	17.01	18.00	19.62	21.49	22.24
20	19.33	17.64	15.95	14.62	14.53	15.15	15.96	17.00	18.04	19.71	21.57	22.17
21	19.33	17.52	15.88	14.60	14.53	---	15.99	17.01	18.11	19.78	21.63	22.10
22	19.32	17.50	15.85	14.57	14.54	---	16.03	16.99	18.18	19.85	21.66	22.07
23	19.33	17.34	15.81	14.56	14.54	---	16.05	16.99	18.24	19.94	21.40	22.07
24	19.33	17.18	15.74	14.51	14.59	---	16.09	16.99	18.29	20.00	21.64	22.07
25	19.34	17.04	15.69	14.48	14.60	---	16.27	17.00	18.35	20.05	21.62	22.08
26	19.33	17.19	15.62	14.45	14.65	---	16.28	17.04	18.41	20.13	21.60	22.09
27	19.32	17.19	15.58	14.45	14.66	---	16.30	17.09	18.45	20.21	21.62	22.12
28	19.36	17.17	15.52	14.44	14.66	---	16.34	17.14	18.52	20.26	21.62	22.12
29	19.42	17.09	15.47	14.43	14.67	---	16.41	17.16	18.58	20.31	21.65	22.11
30	19.45	17.03	15.40	14.43	---	15.16	16.45	17.20	18.63	20.36	21.68	22.11
31	19.48	---	15.31	14.42	---	15.19	---	17.24	---	20.37	21.73	---
MEAN	19.25	18.31	16.12	14.74	14.49	14.97	15.80	16.90	17.92	19.52	21.24	22.10
WTR YR 2000	MEAN 17.69	HIGHEST 13.88	NOV. 17, 1999	LOWEST 22.44	SEPT. 17, 2000							



RTO SALINAS TO RTO JACAGUAS BASINS--Continued

180206066135500. Local number. 1252.

LOCATION:--Lat 18°02'06", long 66°13'55", Hydrologic UNIT 21010004, 6.98 mi southwest of Cayey plaza, 0.63 mi east of Hwy 1 km 82.3 on Rabo del Buey, and 1.75 mi southeast of Capilla de Santa Marta. Owner: US Geological Survey, WRD, Name: Piezometer RM 5.

AQUIFER.--Quaternary alluvium.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 4 in (0.10 m), cased 4 in (0.10 m), 0-34.0 ft (0-10.4 m), screened 24-34.0 ft (7.32-10.7 m). Depth 34.0 ft (10.4 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 276 ft (84.2 m), above mean sea level. Measuring point: Top of shelter floor, 3.28 ft (1.00 m), above land-surface datum.

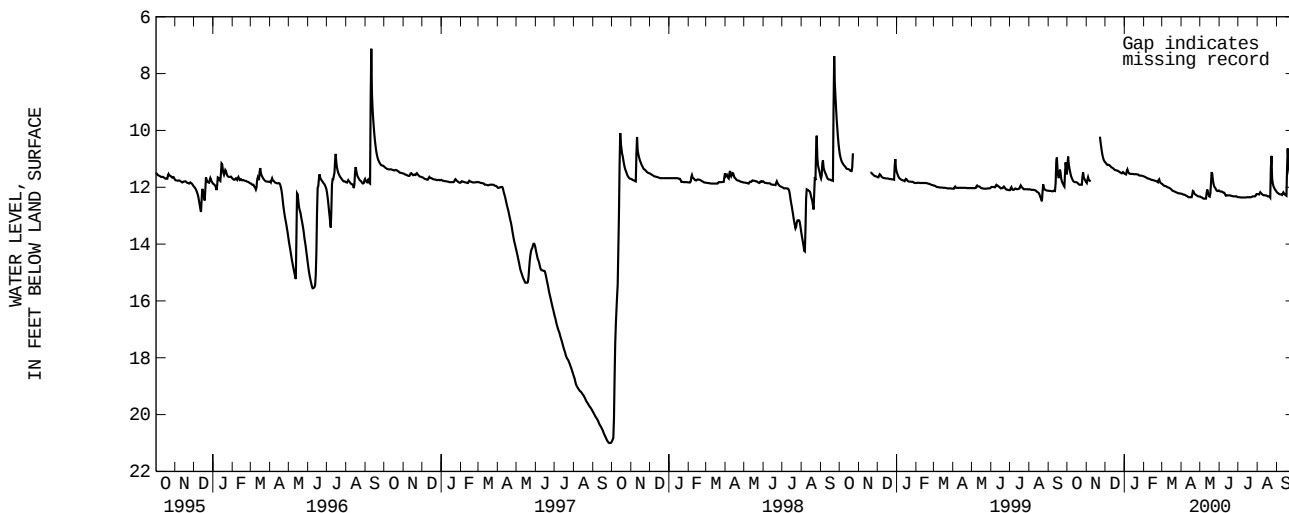
REMARKS.--Recording observation well. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on June 3, 1998. Formerly published as local number and name RM-5.

PERIOD OF RECORD.--March 9, 1989 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 5.56 ft (1.69 m), below land-surface datum, Sept. 10, 1996; lowest water level recorded, 24.24 ft (7.39 m), below land-surface datum, Sept. 20, 1994.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11.62	11.84	11.12	11.52	11.62	11.88	12.23	12.33	12.13	12.35	12.24	12.16
2	10.75	11.86	11.15	11.54	11.63	11.89	12.23	12.33	12.14	12.35	12.24	12.20
3	11.09	11.59	11.18	11.55	11.64	11.93	12.24	12.36	12.16	12.35	12.25	12.20
4	11.25	11.70	11.21	11.55	11.65	11.94	12.26	12.36	12.15	12.35	12.26	12.23
5	11.39	11.75	11.22	11.30	11.66	11.95	12.26	12.37	12.15	12.36	12.17	12.24
6	11.49	11.77	11.20	11.45	11.68	11.96	12.26	12.40	12.16	12.36	12.18	12.25
7	11.59	11.78	11.22	11.46	11.69	11.96	12.27	12.40	12.19	12.36	12.22	12.25
8	11.66	11.82	11.23	11.51	11.69	11.97	12.29	12.40	12.19	12.36	12.24	12.25
9	11.70	---	11.25	11.52	11.70	11.99	12.30	12.40	12.19	12.36	12.25	12.26
10	11.76	---	11.28	11.53	11.71	12.00	12.31	12.40	12.24	12.36	12.28	12.28
11	11.79	---	11.30	11.53	11.71	12.01	12.32	12.40	12.30	12.36	12.28	12.16
12	11.81	---	11.31	11.53	11.73	12.01	12.35	12.01	12.30	12.36	12.28	12.20
13	11.82	---	11.32	11.53	11.74	12.03	12.35	12.15	12.28	12.36	12.28	12.23
14	11.82	---	11.34	11.53	11.74	12.04	12.35	12.18	12.28	12.36	12.29	12.26
15	11.82	---	11.36	11.54	11.75	12.06	12.35	12.30	12.29	12.35	12.29	12.28
16	11.83	---	11.39	11.54	11.75	12.07	12.35	12.33	12.29	12.35	12.29	12.29
17	11.83	---	11.39	11.54	11.76	12.11	12.35	12.33	12.28	12.35	12.32	12.31
18	11.85	---	11.40	11.54	11.77	12.12	12.35	12.11	12.29	12.35	12.32	10.30
19	11.88	---	11.41	11.54	11.77	12.13	12.15	11.61	12.29	12.35	12.32	10.97
20	11.91	---	11.41	11.54	11.78	12.14	12.11	11.33	12.30	12.35	12.32	11.19
21	11.91	---	11.42	11.55	11.79	12.15	12.18	11.70	12.31	12.35	12.35	11.39
22	11.91	10.12	11.43	11.55	11.80	12.16	12.23	11.79	12.31	12.35	12.38	11.56
23	11.91	10.32	11.45	11.55	11.82	12.17	12.25	11.94	12.32	12.34	10.22	11.67
24	11.91	10.50	11.46	11.58	11.83	12.18	12.26	11.98	12.32	12.32	11.57	11.77
25	11.91	10.66	11.48	11.59	11.66	12.19	12.28	12.02	12.32	12.32	11.81	11.88
26	11.35	10.81	11.49	11.59	11.78	12.20	12.29	12.04	12.32	12.32	11.91	11.94
27	11.60	10.91	11.50	11.59	11.83	12.21	12.31	12.11	12.32	12.32	11.99	11.94
28	11.67	11.01	11.52	11.59	11.85	12.22	12.32	12.12	12.32	12.32	12.03	11.84
29	11.73	11.06	11.46	11.60	11.87	12.21	12.32	12.14	12.32	12.31	12.07	11.84
30	11.76	11.10	11.47	11.60	---	12.22	12.33	12.13	12.35	12.24	12.10	11.92
31	11.80	---	11.50	11.61	---	12.22	---	12.10	---	12.24	12.14	---
MEAN	11.68	11.21	11.35	11.54	11							

WTR YR 2000 MEAN 11.92 HIGHEST 9.11 SEPT. 18, 2000 LOWEST 12.41 MAY 5, 8-11, 2000



GROUND-WATER LEVELS

RIO SALINAS TO RIO JACAGUAS BASINS--Continued

175910066155500. Local number, 1254.

LOCATION.--Lat 17°59'10", long 66°15'55", Hydrologic Unit 21010004, 0.55 mi south of Hwy 52, 0.92 mi north of the Salinas
Speedway, and 2.27 mi northeast of the intersection of Hwy 1 with Hwy 3. Owner: US Geological Survey, WRD, Name: Piezometer
USGS D.

AQUIFER.--Alluvium.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 4 in (0.10 m), 0-86.0 ft (0-26.2 m). Depth 86.0 ft (26.2 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 73.0 ft (22.3 m), above mean sea level, from topographic map. Measuring point:
Shelter floor on top of 4 in (0.10 m) casing, 3.00 ft (0.91 m), above land-surface datum.

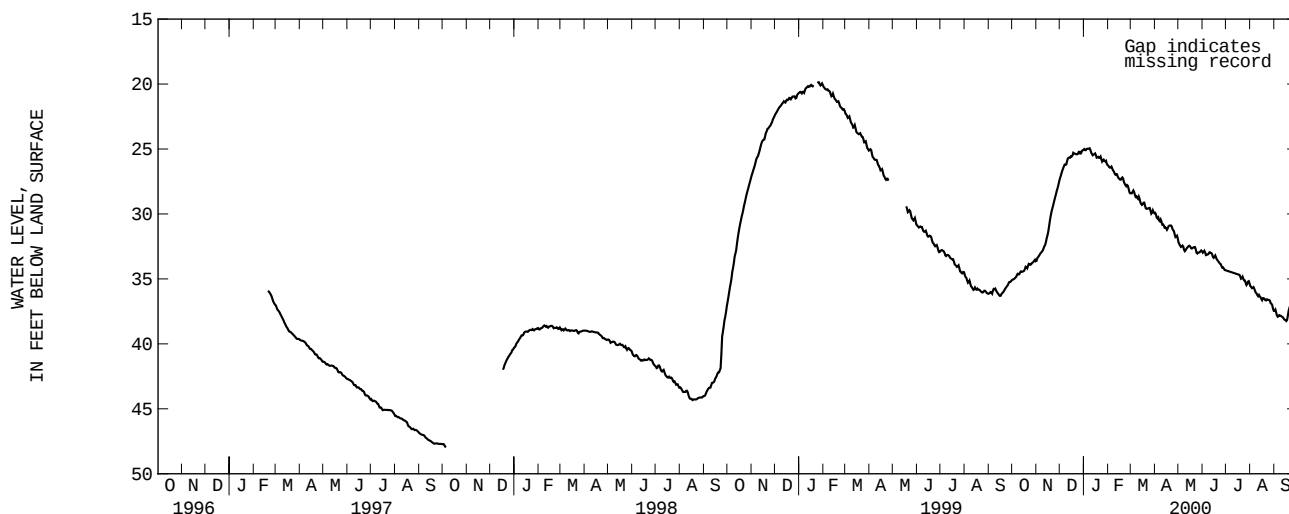
REMARKS.--recording observation well. Automated Digital Recorder (ADR), installed on Feb. 19, 1997. Automated Digital Recorder
(ADR), replaced by an Electronic Data Logger (EDL), installed on August 17, 1999. Formerly published as local number SA-D.

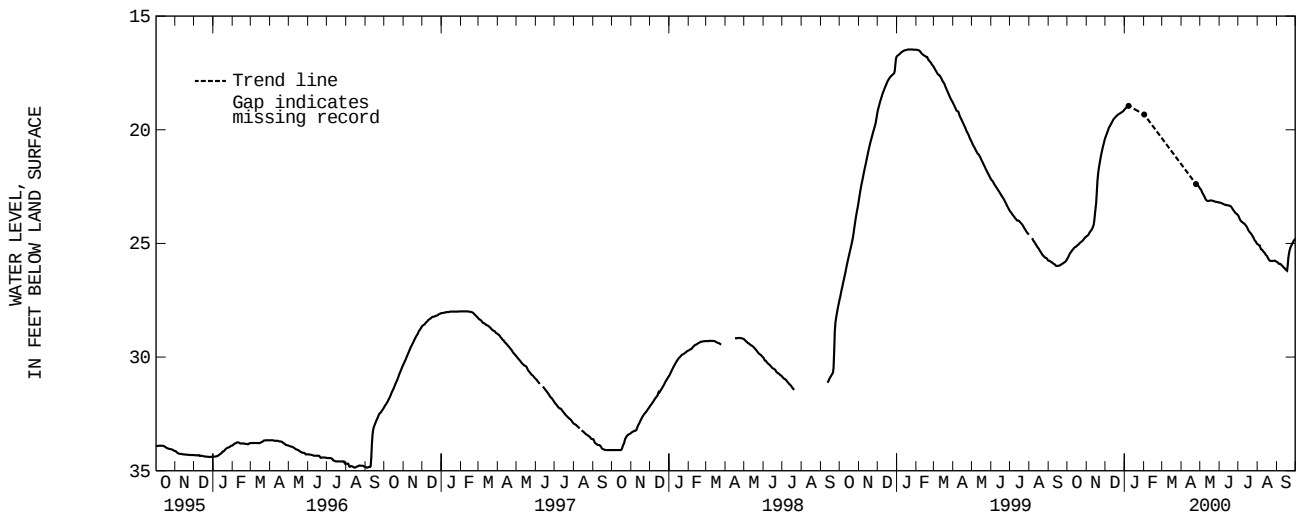
PERIOD OF RECORD.--February 19, 1997 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 19.70 ft (6.00 m), below land-surface datum, Jan. 24, 25, 1999;
lowest water level recorded, 47.98 ft (14.6 m) below land-surface datum, Oct. 7, 1997.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35.06	33.79	27.36	25.04	26.15	28.43	29.85	32.12	32.96	34.34	35.55	37.55
2	35.05	33.41	27.15	24.98	26.41	28.40	29.98	32.31	33.01	34.36	35.57	37.34
3	35.04	33.35	26.98	25.19	26.37	28.42	30.11	32.34	32.84	34.38	35.68	37.38
4	34.98	33.29	26.71	24.99	26.50	28.20	30.46	32.56	32.83	34.40	35.75	37.78
5	34.92	33.16	26.60	24.99	26.36	28.18	30.23	32.52	33.08	34.42	35.63	37.84
6	34.87	33.09	26.39	24.98	26.36	28.43	30.31	32.49	33.26	34.44	35.64	37.98
7	34.78	32.97	26.26	24.99	26.67	28.65	30.70	32.38	33.04	34.46	35.89	37.77
8	34.55	32.95	26.14	24.96	26.63	28.73	30.43	32.65	33.21	34.48	35.97	37.81
9	34.66	32.83	26.28	24.93	26.83	28.56	30.42	32.88	32.99	34.50	36.16	37.82
10	34.65	32.75	26.10	25.24	26.93	28.98	30.74	32.85	32.98	34.52	36.10	37.87
11	34.60	32.53	25.79	25.32	27.02	28.70	30.89	32.73	32.91	34.54	36.41	37.92
12	34.38	32.43	25.69	25.47	26.84	28.64	30.71	32.63	33.09	34.56	36.26	37.93
13	34.46	32.32	25.66	25.50	27.04	29.03	31.05	32.56	32.94	34.58	36.21	38.04
14	34.45	31.97	25.68	25.38	27.20	29.17	31.05	32.49	33.27	34.60	36.48	38.14
15	34.43	31.73	25.65	25.39	27.29	29.29	31.00	32.44	33.35	34.62	36.34	38.15
16	34.40	31.54	25.46	25.29	27.29	29.32	31.21	32.46	33.41	34.64	36.75	38.22
17	34.35	31.17	25.68	25.66	27.43	29.18	31.23	32.58	33.20	34.66	36.53	38.27
18	34.12	30.72	25.32	25.67	27.29	29.09	31.00	32.69	33.20	34.68	36.44	38.06
19	34.00	30.34	25.27	25.61	27.19	29.17	30.90	32.63	33.51	34.70	36.53	37.60
20	34.19	30.00	25.42	25.60	27.19	29.56	30.90	32.60	33.49	34.92	36.52	37.34
21	34.17	29.71	25.29	25.76	27.41	29.59	30.88	32.56	33.66	35.05	36.74	37.14
22	33.83	29.51	25.49	25.60	27.72	29.62	30.89	32.54	33.67	34.84	36.58	36.97
23	33.85	29.27	25.31	25.57	27.63	29.57	30.98	32.55	33.82	34.83	36.57	36.88
24	33.88	29.02	25.50	26.01	27.97	29.59	31.27	32.90	33.83	35.18	36.60	36.82
25	33.94	28.76	25.23	25.93	27.77	29.49	31.24	33.09	33.90	35.05	36.63	36.82
26	33.82	28.56	25.21	25.83	27.79	29.58	31.40	33.00	34.14	35.21	36.62	36.84
27	33.74	28.30	25.23	25.81	27.89	29.91	31.75	32.95	34.12	35.42	36.73	36.87
28	33.74	28.07	25.48	26.05	28.26	30.04	31.82	32.99	34.11	35.52	37.01	36.90
29	33.63	27.91	25.19	25.86	28.39	29.75	31.68	32.91	34.30	35.24	36.82	36.93
30	33.55	27.58	25.10	25.95	---	29.69	31.68	32.84	34.32	35.17	37.23	36.96
31	33.49	---	25.11	26.34	---	30.04	---	32.78	---	35.18	37.36	---
MEAN	34.31	31.10	25.80	25.48	27.17	29.13	30.89	32.65	33.41	34.76	36.36	37.53
WTR YR 2000	MEAN 31.55	HIGHEST 24.92	JAN. 9, 10, 2000				LOWEST 38.28	SEPT. 16, 17, 2000				



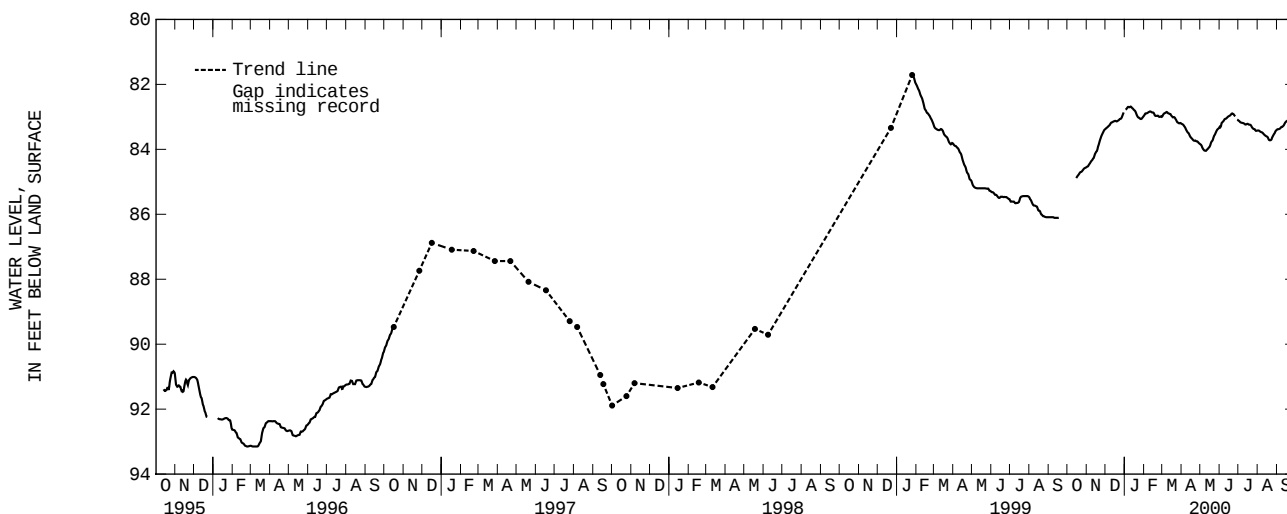


GROUND-WATER LEVELS

RIO SALINAS TO RIO JACAGUAS BASINS--Continued

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 13	25.17	FEB 01	19.33	APR 24	22.39	AUG 21	25.77
WATER YEAR 2000		HIGHEST 19.33 FEB. 1, 2000		LOWEST 25.77		AUG. 21, 2000	



GROUND-WATER LEVELS

RIO SALINAS TO RIO JACAGUAS BASINS--Continued

175829066232200. Local number, 87.

LOCATION.--Lat 17°58'29", long 66°23'22", Hydrologic Unit 21010004, 1.10 mi northeast of Santa Isabel plaza, 3.69 mi southeast of Escuela Playita Cortada, and 1.07 mi southeast of Estación Experimental Santa Isabel. Owner: Francisco Alomar, Name: Alomar 1 Well.

yaQUIFER.--Alluvium of Quaternary Age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 20 in (0.51 m), iron cased. Depth 112 ft (34.14 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 35.3 ft (10.8 m), above mean sea level. Measuring point: Bottom of clean-out shelter door, 2.50 ft (0.76 m), above land-surface datum. Prior to August 1981, top of recorder shelter floor, 4.00 ft (1.22 m), above land-surface datum.

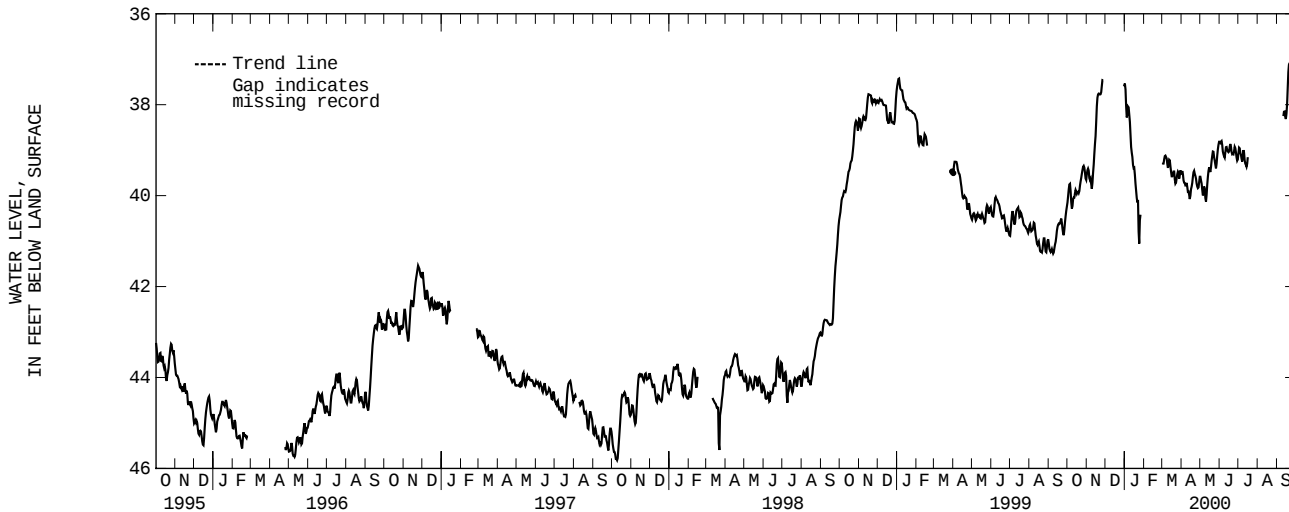
REMARKS.--Recording observation well. Automated Digital recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on December 16, 1997.

PERIOD OF RECORD.--April 1967 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 8.45 ft (2.58 m), below land-surface datum, Dec. 10, 1970; lowest water level recorded, 49.18 ft (14.99 m) below land-surface datum, July 27, 1974.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40.20	39.62	---	37.55	---	39.33	39.55	39.54	38.79	39.17	---	---
2	40.10	39.44	---	37.52	---	39.24	39.48	39.63	38.84	38.98	---	---
3	39.91	39.44	---	37.81	---	39.35	39.44	39.70	38.84	38.91	---	---
4	39.81	39.37	---	38.26	---	39.24	39.61	39.77	38.79	39.01	---	---
5	39.70	39.53	---	38.30	---	39.16	39.72	39.97	38.81	39.10	---	---
6	39.78	39.70	---	38.12	---	39.10	39.71	40.02	38.96	39.10	---	---
7	40.02	39.61	---	37.96	---	39.14	39.74	39.87	39.10	39.27	---	---
8	40.26	39.64	---	38.16	---	39.16	39.81	39.73	39.08	39.23	---	---
9	40.31	39.85	---	38.27	---	39.21	39.73	39.96	39.19	39.04	---	---
10	40.15	39.85	---	38.49	---	39.40	39.71	40.15	39.14	38.96	---	---
11	40.00	39.59	---	38.83	---	39.38	39.91	40.11	38.96	39.15	---	38.31
12	40.08	39.41	---	39.03	---	39.26	39.92	39.85	38.91	39.29	---	38.19
13	40.00	39.23	---	39.08	---	39.16	39.90	39.66	38.95	39.30	---	38.12
14	39.89	38.94	---	39.22	---	39.29	40.06	39.52	39.05	39.35	---	38.18
15	39.86	38.79	---	39.43	---	39.42	40.09	39.40	39.00	39.38	---	38.33
16	39.96	38.59	---	39.36	---	39.53	39.91	39.36	39.09	39.22	---	38.30
17	39.96	38.18	---	39.41	---	39.62	39.81	39.51	38.97	39.09	---	38.10
18	39.90	37.89	---	39.67	---	39.53	39.79	39.45	38.87	---	---	37.89
19	39.93	37.80	---	39.80	---	39.54	39.65	39.30	38.86	---	---	37.39
20	39.96	37.75	---	39.99	---	39.40	39.53	39.17	38.98	---	---	37.17
21	39.84	37.76	---	40.11	---	39.54	39.44	39.08	39.10	---	---	37.07
22	39.72	37.76	---	40.19	---	39.75	39.47	38.98	39.08	---	---	37.09
23	39.66	37.79	---	40.00	---	39.72	39.57	39.09	39.08	---	---	---
24	39.56	37.75	---	41.58	---	39.70	39.56	39.22	39.10	---	---	---
25	39.48	37.70	---	40.53	---	39.53	39.69	39.24	38.95	---	---	---
26	39.39	37.48	---	40.55	---	39.52	39.78	39.40	38.90	---	---	---
27	39.34	37.44	---	40.29	---	39.42	39.82	39.40	39.01	---	---	---
28	39.35	37.49	---	---	---	39.57	39.85	39.20	39.09	---	---	---
29	39.42	---	---	---	---	39.68	39.79	39.04	39.23	---	---	---
30	39.56	---	37.58	---	---	39.43	39.63	38.93	39.23	---	---	---
31	39.69	---	37.61	---	---	39.46	---	38.84	---	---	---	---
MEAN	39.83	38.69	37.60	39.17	---	39.41	39.72	39.49	39.00	39.15	---	37.84
WTR YR 2000	MEAN 39.24	HIGHEST 37.00 SEPT. 22, 2000					LOWEST 41.98 JAN. 24, 2000					



GROUND-WATER LEVELS

RIO SALINAS TO RIO JACAGUAS BASINS--Continued

180020066261500. Local number, 1258.

LOCATION.--Lat 18°00'20", long 66°26'15", Hydrologic Unit 21010004, 1.04 mi north of the intersection of Hwy 536 with Hwy 1, 0.60 mi northwest of Central Cortada, and 0.10 mi west of Hwy 536. Owner: PR Land Authority, Name: Cabrera 1 Well.

AQUIFER.--Alluvium.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 18 in (0.46 m). Depth 80.0 ft (24.4 m).

INSTRUMENTATION.--Pressure transducer with integrated electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 65.6 ft (20.0 m), above mean sea level, from topographic map. Measuring point: Shelter floor on the top of 4 in (0.10 m) casing, 3.14 ft (0.95 m), above land-surface datum. Prior Oct. 4, 1999, 3.12 ft (0.95 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), installed on Mar. 1, 1997. Well level affected by nearby pumping well. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on July 22, 1998. Formerly published as local number CA-1.

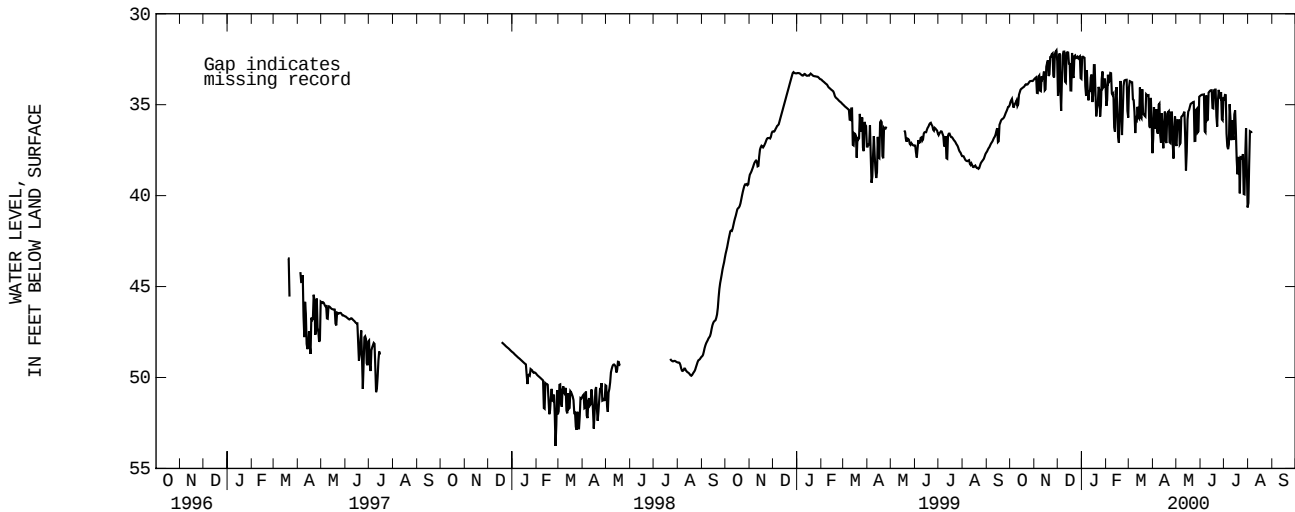
PERIOD OF RECORD.--March 18, 1997 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 31.93 ft (9.73 m), below land-surface datum, Dec. 1, 1999; lowest water level recorded, 55.0 ft (16.8 m), below land-surface datum, Apr. 14, 1998.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34.91	33.59	33.23	32.40	33.95	34.37	38.16	38.70	34.51	34.92	40.74	---
2	34.80	33.56	35.80	32.35	36.18	33.71	35.60	35.83	34.47	34.46	40.06	---
3	34.72	33.50	32.05	32.37	33.31	33.70	34.66	35.87	34.45	34.47	36.46	---
4	34.64	33.49	32.31	32.41	33.40	33.75	36.96	35.85	34.44	34.48	36.46	---
5	35.23	35.21	35.86	32.43	34.15	33.78	35.70	35.86	34.45	38.69	36.52	---
6	35.09	33.51	34.83	35.52	33.24	33.76	34.80	38.51	34.42	35.88	36.49	---
7	34.98	33.41	32.48	33.52	33.27	35.65	38.13	35.71	38.50	39.01	36.50	---
8	34.90	33.38	32.09	32.67	33.27	33.84	35.05	35.65	34.54	35.36	---	---
9	34.82	35.07	32.08	35.61	35.49	36.97	34.95	35.60	34.45	34.58	---	---
10	34.70	33.44	32.08	33.91	33.45	36.15	34.93	35.56	37.28	36.87	---	---
11	35.44	33.45	35.37	34.64	35.34	35.40	38.42	35.40	34.38	37.03	---	---
12	34.51	33.71	32.19	33.86	37.13	36.28	35.77	35.37	34.30	34.69	---	---
13	34.40	33.22	32.10	33.14	35.83	33.95	35.19	38.25	34.26	38.58	---	---
14	34.22	33.14	32.13	33.55	33.57	37.45	38.20	38.98	34.20	35.30	---	---
15	34.13	35.28	32.13	36.16	34.50	34.07	36.59	36.22	34.21	35.76	---	---
16	34.12	33.03	33.35	32.83	36.23	34.04	35.39	35.40	34.20	34.87	---	---
17	34.07	32.79	32.16	32.82	37.26	37.31	35.37	35.34	36.17	38.13	---	---
18	34.04	32.63	36.27	32.83	36.92	34.18	38.64	35.24	34.24	37.90	---	---
19	34.02	32.49	32.17	35.89	33.76	34.12	35.57	34.99	34.17	39.75	---	---
20	33.95	34.35	32.14	35.39	33.63	36.77	35.42	34.93	34.17	36.00	---	---
21	33.87	32.31	34.71	35.05	36.87	34.32	35.40	34.92	34.17	40.05	---	---
22	33.88	32.45	32.34	34.96	36.47	36.89	35.32	34.87	37.09	39.70	---	---
23	33.91	32.25	32.31	33.08	34.25	34.41	38.81	34.85	35.31	36.08	---	---
24	33.86	32.20	32.27	35.29	33.70	34.44	35.40	34.84	34.19	39.75	---	---
25	33.80	32.16	32.60	36.01	33.65	34.50	35.45	39.15	34.18	36.17	---	---
26	33.72	34.68	32.24	34.08	33.64	34.47	35.40	34.83	34.96	39.26	---	---
27	33.70	32.33	32.49	33.10	33.63	34.48	38.86	35.73	34.31	40.56	---	---
28	33.70	32.09	32.40	33.25	33.63	37.88	37.06	34.72	34.30	39.30	---	---
29	33.68	32.06	32.35	34.85	37.05	34.67	35.65	38.33	37.31	36.34	---	---
30	33.72	31.97	32.32	33.10	---	34.58	35.65	34.60	34.41	36.25	---	---
31	33.65	---	34.76	34.03	---	37.17	---	34.53	---	40.56	---	---
MEAN	34.30	33.22	33.02	33.91	34.72	35.07	36.22	35.96	34.87	37.12	37.60	---

WTR YR 2000 MEAN 34.90 HIGHEST 31.93 DEC. 1, 1999 LOWEST 40.74 AUG. 1, 2000



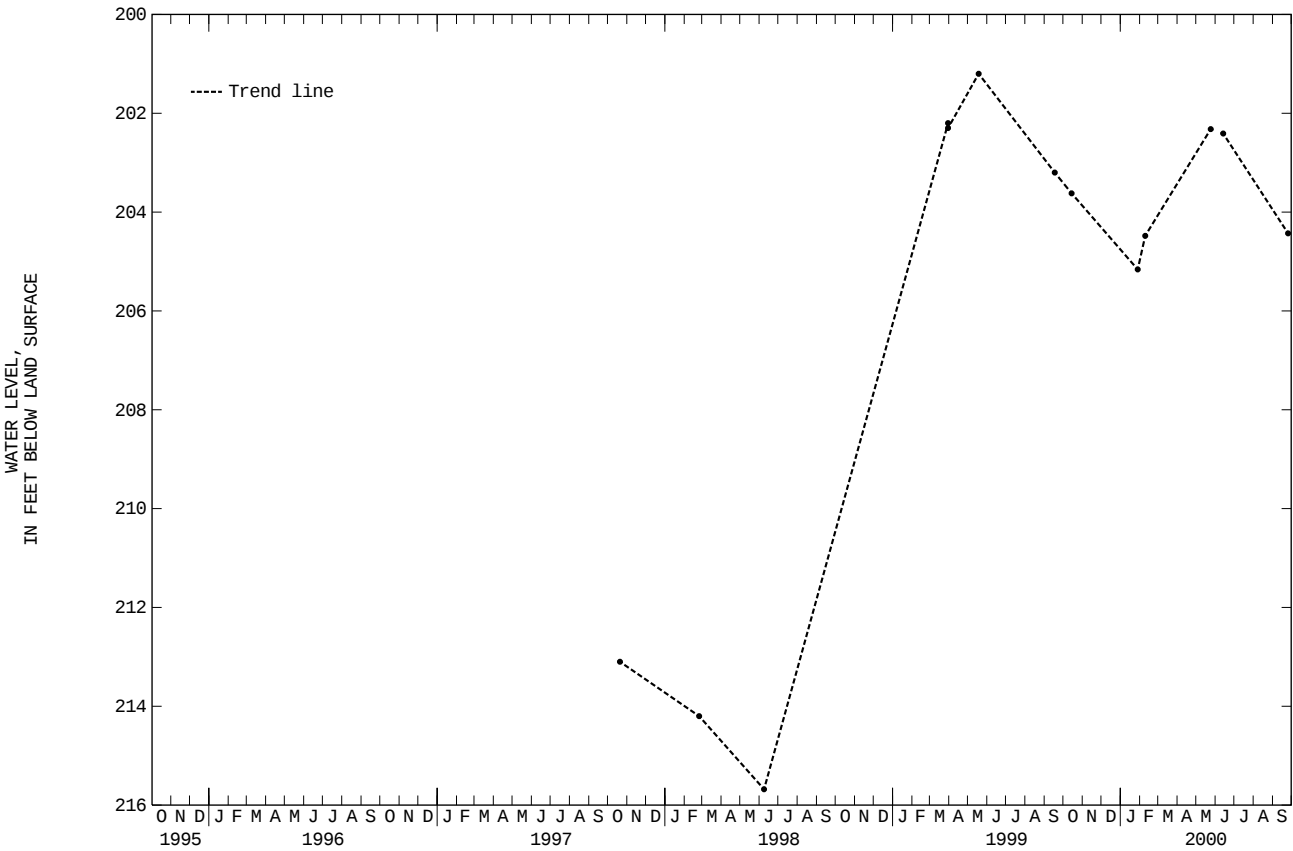
GROUND-WATER LEVELS

RIO SALINAS TO RIO JACAGUAS BASINS--Continued

180602066133100. Local number, 1260.
LOCATION.--Lat 18°06'02", long 66°13'31", Hydrologic Unit 21010004, 130 ft (39.62 m) north of Hwy 1 km. 68.9, 0.10 mi east of Hwy 162, and 4.0 mi west southwest of Cayey plaza. Owner: PR Aqueduct and Sewer Authority, Name: Bauzá 1 Well.
AQUIFER.--Fractured rock Limestone.
WELL CHARACTERISTICS.--Unused production well, diameter 10 in (0.25 m), open screen 220-320 ft (67.1-97.5 m). Depth 320 ft (97.5 m).
DATUM.--Elevation of land-surface datum is about 2,178 ft (664 m), above mean sea level, from topographic map. Measuring point: Top of access hole, 0.49 ft (0.15 m), above land-surface datum.
REMARKS.--Observation well.
PERIOD OF RECORD.--October 20, 1997 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 201.2 ft (61.32 m), below land-surface datum, May 18, 1999; lowest water level measured, 215.7 ft (65.74 m), below land-surface datum, June 8, 1998.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 14	203.62	JAN 28	205.16	FEB 09	204.48	MAY 24	202.32	JUN 13	202.41	SEP 25	204.43
WATER YEAR 2000		HIGHEST 202.32 MAY 24, 2000		LOWEST 205.16 JAN. 28, 2000							



GROUND-WATER LEVELS

RIO SALINAS TO RIO JACAGUAS BASINS--Continued

175833066145800. Local number, 1261.

LOCATION.--Lat 17°58'33", long 66°14'58", Hydrologic Unit 21010004, 0.30 mi north of Hwy 3, 1.30 mi west of Colegio Perpetuo Socorro, and 2.20 mi northwest of Central Aguirre. Owner: US Geological Survey, Name: Piezometer A RASA.

AQUIFER.--Alluvium.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 4 in (0.10 m), cased 0-154 ft (0-46.94 m). Depth 154 ft (46.94 m).

INTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 56 ft (17.07 m), above mean sea level, from topographic map. Measuring point: Top of shelter floor 3.83 ft (1.17 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), installed on Sept. 17, 1992, replaced by an Electronic Data Logger (EDL), installed on June 2, 1998.

PERIOD OF RECORD.--September 17, 1992 to May 17, 1994, discontinued, January 15, 1996 to September 30, 2000.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 36.75 ft (11.20 m), below land-surface datum, Jan. 20, 1999; lowest water level recorded, 69.07 ft (21.05 m), below land-surface datum, Jan. 16, 1996.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	53.29
19	---	---	---	---	---	---	---	---	---	---	---	53.29
20	---	---	---	---	---	---	---	---	---	---	---	53.24
21	---	---	---	---	---	---	---	---	---	---	---	53.21
22	---	---	---	---	---	---	---	---	---	---	---	53.15
23	---	---	---	---	---	---	---	---	---	---	---	53.10
24	---	---	---	---	---	---	---	---	---	---	---	53.06
25	---	---	---	---	---	---	---	---	---	---	---	53.02
26	---	---	---	---	---	---	---	---	---	---	---	52.99
27	---	---	---	---	---	---	---	---	---	---	---	52.96
28	---	---	---	---	---	---	---	---	---	---	---	52.96
29	---	---	---	---	---	---	---	---	---	---	---	52.97
30	---	---	---	---	---	---	---	---	---	---	---	53.00
31	---	---	---	---	---	---	---	---	---	---	---	---
MEAN	---	---	---	---	---	---	---	---	---	---	---	53.10

WTR YR 1992 MEAN 53.10 HIGHEST 52.94 SEPT. 27, 28, 1992 LOWEST 53.30 SEPT. 18, 19, 1992

GROUND-WATER LEVELS

RIO SALINAS TO RIO JACAGUAS BASINS--Continued

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	53.01	52.88	51.23	49.77	49.63	50.81	52.69	53.76	54.12	54.94	55.40	55.56
2	53.07	52.85	51.14	49.73	49.65	50.86	52.80	53.76	54.15	54.95	55.43	55.58
3	53.12	52.85	51.02	49.68	49.70	50.89	52.82	53.78	54.19	54.97	55.50	55.60
4	53.10	52.81	50.95	49.67	49.76	50.90	52.83	53.81	54.22	54.99	55.49	55.60
5	53.06	52.74	50.87	49.64	49.79	50.92	52.86	53.85	54.29	55.01	55.53	55.60
6	53.06	52.73	50.80	49.60	49.82	50.99	52.90	53.88	54.36	55.06	55.55	55.64
7	53.07	52.71	50.71	49.60	49.84	51.04	52.98	53.95	54.40	55.10	55.57	55.62
8	53.09	52.69	50.59	49.57	49.91	51.05	53.01	53.98	54.43	55.14	55.59	55.63
9	53.09	52.68	50.51	49.50	49.94	51.09	53.04	54.00	54.49	55.19	55.63	55.62
10	53.08	52.69	50.44	49.47	50.00	51.19	53.05	54.00	54.61	55.20	55.63	55.64
11	53.04	52.65	50.38	49.42	50.04	51.27	53.07	53.99	54.63	55.21	55.64	55.64
12	53.01	52.62	50.31	49.34	50.10	51.37	53.14	53.97	54.71	55.19	55.63	55.61
13	53.01	52.59	50.22	49.34	50.13	51.47	53.17	53.97	54.77	55.19	55.66	55.61
14	53.01	52.55	50.14	49.32	50.18	51.57	53.17	53.96	54.78	55.18	55.63	55.65
15	53.00	52.49	50.06	49.28	50.19	51.65	53.17	53.96	54.81	55.16	55.67	55.67
16	53.01	52.45	50.01	49.28	50.24	51.70	53.22	53.96	54.83	55.18	55.65	55.67
17	53.04	52.39	49.94	49.27	50.28	51.77	53.24	53.94	54.85	55.18	55.64	55.65
18	53.02	52.32	49.91	49.28	50.31	51.84	53.26	53.97	54.88	55.18	55.62	55.64
19	53.02	52.25	49.91	49.23	50.37	51.90	53.25	53.95	54.95	55.23	55.61	55.63
20	53.04	52.18	49.86	49.25	50.41	51.98	53.30	53.96	54.94	55.28	55.61	55.66
21	53.03	52.10	49.85	49.32	50.50	52.03	53.33	53.98	54.94	55.26	55.60	55.65
22	52.99	52.02	49.85	49.39	50.52	52.10	53.35	54.04	54.93	55.26	55.61	55.61
23	52.98	51.92	49.85	49.46	50.53	52.18	53.40	54.03	54.92	55.28	55.55	55.58
24	52.97	51.86	49.84	49.52	50.57	52.29	53.43	54.03	54.92	55.26	55.52	55.54
25	52.95	51.79	49.82	49.58	50.64	52.37	53.47	54.02	54.93	55.24	55.48	55.51
26	52.93	51.73	49.80	49.56	50.68	52.40	53.52	54.01	54.93	55.21	55.43	55.46
27	52.91	51.63	49.79	49.60	50.75	52.45	53.53	54.02	54.89	55.20	55.42	55.39
28	52.87	51.58	49.77	49.67	50.81	52.50	53.59	54.04	54.88	55.24	55.44	55.33
29	52.86	51.48	49.75	49.68	---	52.56	53.63	54.05	54.89	55.28	55.44	55.28
30	52.88	51.37	49.77	49.69	---	52.60	53.71	54.05	54.91	55.31	55.45	55.22
31	52.91	---	49.78	49.66	---	52.65	---	54.10	---	55.33	55.51	---
MEAN	53.01	52.32	50.22	49.50	50.19	51.69	53.20	53.96	54.69	55.17	55.55	55.57
WTR YR 1993	MEAN 52.93	HIGHEST 49.18		JAN. 19, 1993			LOWEST 55.68 SEPT. 14, 15, 1993					

GROUND-WATER LEVELS

RIO SALINAS TO RIO JACAGUAS BASINS--Continued

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	55.18	55.60	56.05	56.98	57.56	58.39	59.27	60.21	---	---	---	---
2	55.15	55.61	56.06	57.02	57.61	58.39	59.30	60.25	---	---	---	---
3	55.11	55.62	56.12	57.03	57.61	58.41	59.35	60.28	---	---	---	---
4	55.06	55.68	56.15	57.06	57.64	58.42	59.38	---	---	---	---	---
5	55.05	55.71	56.19	57.06	57.68	58.43	59.42	---	---	---	---	---
6	55.02	55.77	56.19	57.06	57.74	58.46	59.51	---	---	---	---	---
7	55.00	55.78	56.19	57.07	57.78	58.50	59.57	---	---	---	---	---
8	55.00	55.81	56.24	57.10	57.79	58.53	59.60	---	---	---	---	---
9	55.00	55.84	56.28	57.12	57.82	58.55	59.64	---	---	---	---	---
10	54.99	55.87	56.30	57.12	57.87	58.58	59.69	---	---	---	---	---
11	55.03	55.92	56.33	57.14	57.90	58.61	59.71	---	---	---	---	---
12	55.02	55.98	56.33	57.15	57.94	58.65	59.76	---	---	---	---	---
13	55.02	56.01	56.33	57.15	57.98	58.68	59.79	---	---	---	---	---
14	55.07	56.05	56.35	57.17	58.02	58.70	59.81	---	---	---	---	---
15	55.13	56.06	56.38	57.18	58.05	58.73	59.84	---	---	---	---	---
16	55.17	56.06	56.42	57.21	58.07	58.76	59.88	---	---	---	---	---
17	55.19	56.10	56.49	57.21	58.10	58.80	59.90	---	---	---	---	---
18	55.21	56.14	56.51	57.23	58.12	58.85	59.92	---	---	---	---	---
19	55.21	56.14	56.54	57.22	58.14	58.86	59.96	---	---	---	---	---
20	55.20	56.14	56.58	57.24	58.18	58.88	59.99	---	---	---	---	---
21	55.22	56.13	56.64	57.25	58.19	58.91	60.01	---	---	---	---	---
22	55.24	56.13	56.69	57.28	58.20	58.94	60.05	---	---	---	---	---
23	55.25	56.13	56.75	57.34	58.21	58.96	60.05	---	---	---	---	---
24	55.25	56.13	56.78	57.35	58.22	58.98	60.07	---	---	---	---	---
25	55.28	56.13	56.81	57.41	58.25	59.04	60.10	---	---	---	---	---
26	55.30	56.13	56.85	57.45	58.28	59.05	60.12	---	---	---	---	---
27	55.33	56.13	56.85	57.47	58.30	59.10	60.12	---	---	---	---	---
28	55.40	56.12	56.87	57.48	58.35	59.14	60.13	---	---	---	---	---
29	55.43	56.08	56.90	57.54	---	59.18	60.16	---	---	---	---	---
30	55.49	56.07	56.93	57.53	---	59.21	60.19	---	---	---	---	---
31	55.52	---	56.96	57.53	---	59.26	---	---	---	---	---	---
MEAN	55.18	55.97	56.49	57.23	57.99	58.77	59.81	60.25	---	---	---	---
WTR YR 1994	MEAN 57.37	HIGHEST 54.99	OCT. 9, 10, 1993	LOWEST 60.30	MAY 3, 1994							

GROUND-WATER LEVELS

RIO SALINAS TO RIO JACAGUAS BASINS--Continued

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	68.53	68.11	67.65	67.67	67.82	68.16	67.87	67.57
2	---	---	---	---	68.50	68.09	67.65	67.67	67.84	68.17	67.83	67.54
3	---	---	---	---	68.46	68.08	67.64	67.68	67.86	68.18	67.82	67.53
4	---	---	---	---	68.45	68.06	67.64	67.68	67.87	68.19	67.82	67.46
5	---	---	---	---	68.44	68.04	67.64	67.67	67.88	68.20	67.82	67.36
6	---	---	---	---	68.40	68.02	67.63	67.66	67.90	68.21	67.82	67.28
7	---	---	---	---	68.38	68.01	67.61	67.67	67.91	68.22	67.82	67.18
8	---	---	---	---	68.38	67.99	67.61	67.64	67.93	68.24	67.82	67.11
9	---	---	---	---	68.37	67.99	67.61	67.63	67.95	68.25	67.82	67.09
10	---	---	---	---	68.36	67.97	67.60	67.63	67.96	68.25	67.82	67.05
11	---	---	---	---	68.35	67.95	67.60	67.65	67.97	68.25	67.83	66.38
12	---	---	---	---	68.35	67.93	67.60	67.67	67.99	68.25	67.84	64.59
13	---	---	---	---	68.35	67.92	67.61	67.70	68.02	68.26	67.84	64.03
14	---	---	---	---	68.34	67.87	67.61	67.70	68.04	68.26	67.84	63.83
15	---	---	---	---	68.34	67.86	67.61	67.71	68.06	68.25	67.86	63.72
16	---	---	---	69.07	68.33	67.85	67.61	67.71	68.08	68.24	67.86	63.59
17	---	---	---	69.05	68.33	67.84	67.60	67.72	68.09	68.23	67.86	63.49
18	---	---	---	69.02	68.32	67.81	67.61	67.72	68.10	68.21	67.86	63.36
19	---	---	---	68.99	68.30	67.79	67.61	67.72	68.11	68.18	67.85	63.22
20	---	---	---	68.95	68.26	67.76	67.61	67.73	68.11	68.14	67.84	63.10
21	---	---	---	68.90	68.24	67.74	67.61	67.73	68.12	68.11	67.82	62.99
22	---	---	---	68.87	68.23	67.73	67.62	67.74	68.13	68.09	67.81	62.89
23	---	---	---	68.83	68.22	67.72	67.62	67.73	68.15	68.07	67.80	62.80
24	---	---	---	68.79	68.21	67.70	67.63	67.73	68.15	68.06	67.78	62.65
25	---	---	---	68.76	68.19	67.68	67.63	67.73	68.15	68.05	67.75	62.55
26	---	---	---	68.71	68.18	67.68	67.65	67.74	68.15	68.05	67.73	62.47
27	---	---	---	68.67	68.15	67.67	67.65	67.75	68.15	68.05	67.71	62.35
28	---	---	---	68.65	68.14	67.67	67.66	67.77	68.15	68.05	67.70	62.26
29	---	---	---	68.61	68.13	67.66	67.66	67.78	68.15	68.00	67.69	62.14
30	---	---	---	68.58	---	67.66	67.67	67.79	68.15	67.94	67.66	62.05
31	---	---	---	68.55	---	67.65	---	67.82	---	67.90	67.63	---
MEAN	---	---	---	68.81	68.32	67.85	67.62	67.71	68.03	68.15	67.80	64.59
WTR YR 1996	MEAN	67.59	HIGHEST	62.01	SEPT. 30, 1996	LOWEST	69.07	JAN. 16, 1996				

GROUND-WATER LEVELS

RIO SALINAS TO RIO JACAGUAS BASINS--Continued

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	61.96	60.36	59.51	59.34	59.44	---	---	61.63	62.77	63.63	64.66	65.79
2	61.88	60.36	59.46	59.31	59.43	---	---	61.68	62.81	63.67	64.70	65.82
3	61.72	60.36	59.44	59.31	59.43	---	---	61.73	62.84	63.71	64.75	65.86
4	61.65	60.34	59.41	59.31	59.46	---	---	61.77	62.85	63.74	64.79	65.90
5	61.56	60.34	59.40	59.31	59.47	---	---	61.81	62.88	63.77	64.84	65.93
6	61.50	60.33	59.37	59.31	59.46	---	---	61.86	62.91	63.83	64.88	65.95
7	61.47	60.32	59.35	59.31	59.46	---	---	61.90	62.93	63.85	64.92	65.97
8	61.39	60.30	59.35	59.32	59.46	---	---	61.95	62.96	63.87	64.97	66.02
9	61.33	60.27	59.34	59.32	59.45	---	60.72	61.96	63.00	63.94	65.03	66.05
10	61.24	60.24	59.34	59.33	59.45	---	60.74	61.99	63.04	63.99	65.07	66.08
11	61.18	60.22	59.33	59.33	59.43	---	60.76	62.07	63.06	64.03	65.10	66.12
12	61.08	60.20	59.32	59.34	---	---	60.78	62.10	63.07	64.08	65.12	66.18
13	60.95	60.16	59.32	59.34	---	---	60.81	62.13	63.12	64.14	65.17	66.24
14	60.92	60.14	59.33	59.39	---	---	60.86	62.17	63.14	64.22	65.26	66.30
15	60.90	60.12	59.32	59.38	---	---	60.89	62.19	63.16	64.25	65.31	66.36
16	60.77	60.10	59.29	59.37	---	---	60.91	62.23	63.17	64.29	65.36	66.39
17	60.62	60.09	59.29	59.37	---	---	60.96	62.26	63.19	64.32	65.46	66.43
18	60.60	60.07	59.30	59.36	---	---	61.00	62.30	63.22	64.35	65.51	66.47
19	60.49	60.05	59.30	59.36	---	---	61.04	62.34	63.26	64.40	65.59	66.49
20	60.41	60.02	59.31	59.36	---	---	61.09	62.36	63.29	64.45	65.64	66.50
21	60.43	59.98	59.32	59.36	---	---	61.13	62.41	63.32	64.49	65.69	66.55
22	60.45	59.93	59.32	59.36	---	---	61.15	62.42	63.37	64.50	65.74	66.61
23	60.46	59.89	59.32	59.35	---	---	61.23	62.45	63.41	64.50	65.76	66.65
24	60.45	59.88	59.30	59.35	---	---	61.28	62.49	63.44	64.50	65.77	66.68
25	60.45	59.83	59.31	59.37	---	---	61.33	62.53	63.47	64.50	65.77	66.71
26	60.37	59.78	59.31	59.40	---	---	61.37	62.57	63.50	64.50	65.77	66.75
27	60.37	59.74	59.32	59.40	---	---	61.42	62.60	63.52	64.51	65.77	66.78
28	60.36	59.71	59.33	59.43	---	---	61.47	62.64	63.56	64.54	65.77	66.81
29	60.36	59.64	59.33	59.44	---	---	61.52	62.67	63.60	64.57	65.77	66.83
30	60.37	59.56	59.34	59.43	---	---	61.56	62.71	63.62	64.59	65.78	66.85
31	60.36	---	59.34	59.43	---	---	---	62.73	---	64.63	65.78	---
MEAN	60.90	60.08	59.34	59.36	59.45	---	61.09	62.21	63.18	64.21	65.34	66.34
WTR YR 1997	MEAN 62.13		HIGHEST 59.29 DEC. 16, 17, 1996				LOWEST 66.85 SEPT. 30, 1997					

GROUND-WATER LEVELS

RIO SALINAS TO RIO JACAGUAS BASINS--Continued

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	66.86	65.73	63.97	62.92	61.81	60.98	60.72	60.52	61.14	---	62.78	62.71
2	66.85	65.73	63.96	62.88	61.77	60.98	60.71	60.55	61.17	---	62.82	62.62
3	66.85	65.74	63.92	62.85	61.74	60.98	60.68	60.61	61.17	---	62.85	62.54
4	66.85	65.75	63.88	62.81	61.71	60.97	60.65	60.65	61.17	---	62.89	62.46
5	66.85	65.75	63.84	62.77	61.68	60.95	60.63	60.68	61.20	---	62.95	62.36
6	66.84	65.75	63.79	62.74	61.66	60.92	60.61	60.70	61.21	---	63.00	62.25
7	66.85	65.75	63.77	62.69	61.62	60.90	60.56	60.71	61.22	---	63.06	62.13
8	66.84	65.75	63.74	62.66	61.58	60.89	60.55	60.72	61.24	---	63.13	62.03
9	66.84	65.76	63.70	62.63	61.53	60.87	60.51	60.74	61.25	---	63.17	61.92
10	66.86	65.76	63.69	62.58	61.52	60.86	60.47	60.74	61.27	---	63.19	61.82
11	66.87	65.71	63.67	62.53	61.50	60.87	60.45	60.74	61.28	---	63.21	61.72
12	66.90	65.42	63.67	62.47	61.46	60.88	60.41	60.74	---	---	63.22	61.62
13	66.92	65.19	63.65	62.44	61.44	60.89	60.38	60.77	---	---	63.22	61.52
14	66.93	65.00	63.62	62.39	61.40	60.90	60.35	60.80	---	---	63.24	61.45
15	66.86	64.89	63.59	62.35	61.37	60.90	60.32	60.83	---	---	63.28	61.37
16	66.64	64.79	63.57	62.31	61.33	60.87	60.32	60.86	---	---	63.33	61.33
17	66.46	64.72	63.54	62.29	61.30	60.86	60.30	60.90	---	---	63.39	61.28
18	66.32	64.65	63.51	62.26	61.24	60.86	60.26	60.89	---	---	63.40	61.20
19	66.19	64.58	63.48	62.21	61.20	60.86	60.25	60.90	---	---	63.42	61.13
20	66.08	64.50	63.45	62.18	61.16	60.87	60.22	60.95	---	---	63.42	61.09
21	66.02	64.44	63.42	62.14	61.13	60.87	60.22	60.97	---	---	63.42	61.04
22	65.95	64.36	63.40	62.14	61.11	60.87	60.22	61.00	---	62.35	63.45	60.99
23	65.89	64.30	63.36	62.11	61.08	60.85	60.23	61.03	---	62.37	63.45	59.89
24	65.87	64.25	63.30	62.08	61.05	60.84	60.26	61.06	---	62.41	63.42	59.19
25	65.85	64.20	63.26	62.05	61.05	60.84	60.31	61.07	---	62.46	63.39	58.62
26	65.82	64.14	63.18	62.01	61.02	60.85	60.33	61.12	---	62.49	63.30	58.07
27	65.79	64.09	63.13	61.96	60.99	60.83	60.39	61.15	---	62.53	63.20	57.48
28	65.77	64.04	63.10	61.93	60.98	60.82	60.44	61.15	---	62.60	63.12	56.95
29	65.75	64.00	63.06	61.90	---	60.79	60.48	61.15	---	62.62	63.02	56.43
30	65.73	63.98	63.02	61.88	---	60.77	60.52	61.13	---	62.68	62.91	55.88
31	65.73	---	62.96	61.83	---	60.74	---	61.12	---	62.73	62.81	---
MEAN	66.41	64.96	63.52	62.35	61.37	60.88	60.42	60.87	61.21	62.52	63.18	60.70
WTR YR 1998 MEAN 62.44 HIGHEST 55.65 SEPT. 30, 1998 LOWEST 66.93 OCT. 14, 15, 1997												

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 18	43.02	MAR 08	38.26	JUN 14	46.79	JUL 15	49.42	AUG 17	52.13	SEP 16	53.67
JAN 20	36.75										
WATER YEAR 1999		HIGHEST 36.75 JAN. 20, 1999				LOWEST 53.97 SEPT. 16, 1999					

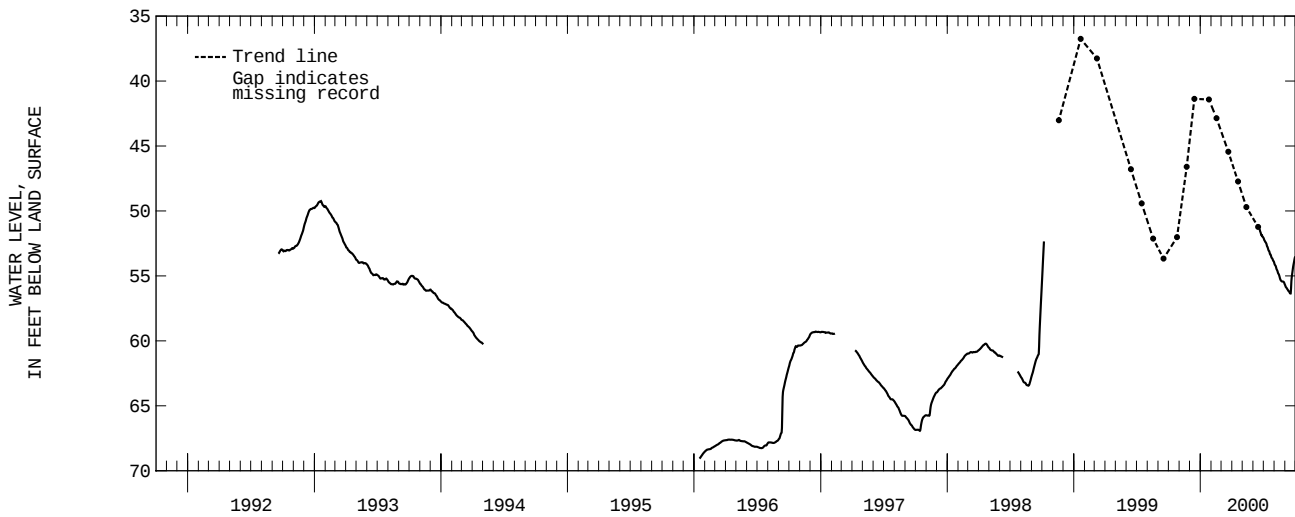
GROUND-WATER LEVELS

RIO SALINAS TO RIO JACAGUAS BASINS--Continued

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	52.08	53.99	55.69
2	---	---	---	---	---	---	---	---	---	52.11	54.11	55.74
3	---	---	---	---	---	---	---	---	---	52.24	54.15	55.84
4	---	---	---	---	---	---	---	---	---	52.27	54.19	55.88
5	---	---	---	---	---	---	---	---	---	52.31	54.23	55.90
6	---	---	---	---	---	---	---	---	---	52.39	54.28	55.94
7	---	---	---	---	---	---	---	---	---	52.40	54.43	55.99
8	---	---	---	---	---	---	---	---	---	52.44	54.50	56.03
9	---	---	---	---	---	---	---	---	---	52.51	54.54	56.06
10	---	---	---	---	---	---	---	---	---	52.55	54.60	56.12
11	---	---	---	---	---	---	---	---	---	52.72	54.67	56.16
12	---	---	---	---	---	---	---	---	---	52.75	54.80	56.18
13	---	---	---	---	---	---	---	---	---	52.78	54.83	56.20
14	---	---	---	---	---	---	---	---	---	52.90	54.86	56.26
15	---	---	---	---	---	---	---	---	---	52.98	54.94	56.32
16	---	---	---	---	---	---	---	---	---	53.07	55.02	56.35
17	---	---	---	---	---	---	---	---	---	53.08	55.13	56.36
18	---	---	---	---	---	---	---	---	---	53.11	55.23	56.34
19	---	---	---	---	---	---	---	---	51.39	53.25	55.30	55.62
20	---	---	---	---	---	---	---	---	51.39	53.35	55.34	55.20
21	---	---	---	---	---	---	---	---	51.54	53.35	55.38	55.00
22	---	---	---	---	---	---	---	---	51.63	53.37	55.40	54.80
23	---	---	---	---	---	---	---	---	51.65	53.49	55.43	54.60
24	---	---	---	---	---	---	---	---	51.82	53.59	55.43	54.39
25	---	---	---	---	---	---	---	---	51.89	53.62	55.43	54.22
26	---	---	---	---	---	---	---	---	51.87	53.65	55.44	54.08
27	---	---	---	---	---	---	---	---	51.87	53.68	55.44	53.95
28	---	---	---	---	---	---	---	---	51.99	53.77	55.45	53.79
29	---	---	---	---	---	---	---	---	51.99	53.84	55.49	53.65
30	---	---	---	---	---	---	---	---	52.03	53.86	55.54	53.54
31	---	---	---	---	---	---	---	---	---	53.90	55.63	---
MEAN	---	---	---	---	---	---	---	---	51.76	53.01	54.94	55.41

WTR YR 2000 MEAN 54.13 HIGHEST 41.37 DEC. 14, 1999 LOWEST 56.38 SEPT. 18, 2000



GROUND-WATER LEVELS

RIO SALINAS TO RIO JACAGUAS BASINS--Continued

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	52.02	DEC 14	41.37	FEB 16	42.86	APR 18	47.73	JUN 15	51.23	AUG 18	55.22
NOV 21	46.60	JAN 25	41.42	MAR 21	45.44	MAY 12	49.70	JUN 19	51.23		
WATER YEAR 2000		HIGHEST 41.37 DEC. 14, 1999		LOWEST 55.22 AUG. 18, 2000							

GROUND-WATER LEVELS

RIO SALINAS TO RIO JACAGUAS BASINS--Continued

175735066151800. Local number, 1262.

LOCATION.--Lat 17°57'35", long 66°15'18", Hydrologic Unit 21010004, 1.0 mi southeast of Salinas Speedway, 1.30 mi northeast of dock at Las Mareas, and 3.10 mi southeast of Salinas Plaza. Owner: US Geological Survey, Name: Piezometer C RASA.

AQUIFER.--Alluvium.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 4 in (0.10 m), screen cased 22-82 ft (6.70-24.99 m). Depth 82.0 ft (24.99 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 20 ft (6.10 m), above mean sea level, from topographic map. Measuring point:

Top of shelter floor, 4.15 in (0.10 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), installed on Sept. 24, 1991, replaced by an Electronic Data Logger (EDL), installed on June 2, 1998.

PERIOD OF RECORD.--September 24, 1991 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 6.36 ft (1.94 m), below land-surface datum, Nov. 22, 1999; lowest water level recorded, 14.58 ft (4.44 m), below land-surface datum, June 25, 1998.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	7.46
25	---	---	---	---	---	---	---	---	---	---	---	7.62
26	---	---	---	---	---	---	---	---	---	---	---	7.49
27	---	---	---	---	---	---	---	---	---	---	---	7.49
28	---	---	---	---	---	---	---	---	---	---	---	7.57
29	---	---	---	---	---	---	---	---	---	---	---	7.57
30	---	---	---	---	---	---	---	---	---	---	---	7.55
31	---	---	---	---	---	---	---	---	---	---	---	---
MEAN	---	---	---	---	---	---	---	---	---	---	---	7.54

WTR YR 1991 MEAN 7.54 HIGHEST 7.40 SEPT. 28, 29, 30, 1991 LOWEST 7.69 SEPT. 25, 1991

GROUND-WATER LEVELS

RIO SALINAS TO RIO JACAGUAS BASINS--Continued

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.56	10.85	8.03	9.57	10.63	10.93	11.16	10.96	7.65	---	10.86	9.93
2	7.58	10.54	8.08	10.54	10.64	10.95	11.20	10.77	7.64	---	10.83	10.02
3	7.52	10.45	8.04	10.71	10.59	10.97	11.26	8.94	---	---	11.03	10.77
4	7.75	10.55	8.06	10.74	10.65	11.01	9.92	9.65	---	---	10.28	9.86
5	7.50	10.99	8.09	10.69	10.70	10.99	8.91	9.31	---	---	10.85	10.13
6	7.43	11.10	8.08	8.96	10.81	11.05	10.64	9.71	---	---	9.28	8.50
7	7.50	10.19	8.09	8.61	10.82	10.88	11.09	9.19	---	---	8.58	9.77
8	7.49	8.72	8.14	8.51	10.72	9.14	11.13	9.25	---	---	8.24	9.59
9	7.71	8.22	8.18	8.35	9.02	10.47	11.19	8.95	---	---	8.25	10.41
10	8.76	8.11	8.36	8.41	10.36	10.88	11.22	8.54	---	---	10.29	10.48
11	9.44	8.12	8.39	8.31	10.79	10.87	10.79	8.58	---	---	10.56	9.89
12	8.08	8.17	8.48	8.27	10.33	10.99	8.94	8.81	---	---	9.90	10.37
13	7.84	8.05	10.12	8.29	10.86	10.88	9.77	9.11	---	---	10.66	8.58
14	8.90	8.01	8.61	8.21	10.83	10.82	10.91	9.81	---	---	10.87	9.71
15	9.75	8.07	8.26	8.20	10.73	10.83	11.23	10.68	---	---	10.83	9.85
16	9.94	8.19	9.98	8.26	9.03	10.87	9.32	9.87	---	---	10.71	9.52
17	10.09	8.15	10.44	8.36	9.41	10.15	8.77	8.70	7.73	---	10.58	9.66
18	10.04	8.66	10.43	8.29	10.45	10.86	9.53	9.55	7.64	---	10.99	9.39
19	8.40	9.73	10.36	8.36	9.77	10.92	9.64	10.59	7.69	---	10.99	9.38
20	8.10	9.91	10.63	8.84	9.74	10.86	8.87	10.82	7.63	---	10.95	8.18
21	8.90	10.26	9.85	9.47	10.79	10.60	8.69	11.08	7.51	---	10.89	7.86
22	10.11	10.34	8.82	10.39	10.67	10.47	8.46	11.07	7.49	10.85	10.57	7.81
23	10.28	10.35	10.21	9.97	9.02	10.61	8.36	10.07	7.51	11.01	9.16	7.68
24	10.57	10.29	9.08	8.96	10.37	10.93	8.63	8.70	7.47	10.83	10.45	7.58
25	10.80	10.34	9.17	8.61	10.79	11.06	8.48	8.30	7.53	10.68	10.80	7.49
26	10.13	10.43	10.24	8.52	10.50	10.88	8.30	8.04	---	10.82	10.76	7.51
27	8.87	9.51	10.42	8.52	10.94	11.12	9.87	7.85	---	11.00	10.97	7.52
28	10.24	8.47	10.66	8.59	10.98	9.95	9.88	7.82	---	10.98	11.01	7.55
29	10.65	8.16	10.72	10.14	11.02	9.12	10.81	7.80	---	11.02	10.40	7.56
30	10.84	8.11	10.58	9.68	---	10.52	10.95	7.71	---	11.05	8.76	7.68
31	10.93	---	10.82	9.75	---	10.94	---	7.70	---	11.20	9.52	---
MEAN	9.02	9.37	9.27	9.07	10.41	10.69	9.93	9.29	7.59	10.94	10.28	9.01
WTR YR 1992	MEAN 9.60		HIGHEST 7.37	JUNE 26, 1992	LOWEST 11.38	APR. 3, 1992						

GROUND-WATER LEVELS

RIO SALINAS TO RIO JACAGUAS BASINS--Continued

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.86	8.00	8.08	7.83	9.16	9.52	9.02	10.02	7.82	7.53	8.07	8.86
2	8.20	8.63	8.73	7.60	9.95	8.11	10.04	9.29	8.81	7.56	7.98	9.57
3	8.00	8.07	9.03	7.44	10.05	8.29	10.06	10.01	9.46	7.56	8.08	9.89
4	7.73	8.64	10.13	7.65	10.12	8.58	9.91	10.39	9.84	7.61	8.29	8.48
5	7.99	9.58	9.69	7.82	10.15	8.76	9.97	10.44	8.86	7.62	9.78	8.20
6	8.17	10.08	9.62	7.73	9.80	7.73	10.05	10.58	8.01	7.95	9.91	8.17
7	8.15	9.83	9.47	7.74	9.61	7.55	10.17	10.50	8.67	8.13	8.41	8.18
8	8.68	9.84	10.19	7.82	10.01	8.47	9.99	10.23	9.79	8.08	8.10	9.13
9	8.95	10.17	10.45	7.80	10.23	8.74	10.01	10.02	9.45	7.97	8.07	9.93
10	8.37	10.28	10.32	7.47	10.25	8.87	9.93	9.08	10.35	9.22	8.12	9.99
11	7.61	9.34	10.33	7.50	10.14	8.96	9.71	8.14	10.34	8.19	8.23	8.60
12	8.34	10.26	9.97	7.85	10.27	9.63	9.82	7.91	10.00	7.84	9.65	8.32
13	8.56	9.82	8.11	8.00	9.86	9.63	9.77	7.99	8.29	7.81	9.41	8.21
14	8.55	10.19	9.03	8.16	8.00	7.94	9.76	7.93	9.76	7.80	9.18	8.14
15	8.88	9.88	9.93	8.17	8.14	8.69	9.87	7.62	10.14	8.25	8.30	8.09
16	9.04	10.24	10.36	7.70	8.10	9.63	10.02	7.57	8.27	9.41	7.92	8.06
17	7.98	10.17	10.53	7.48	8.35	9.90	9.83	7.58	8.04	8.11	7.97	8.00
18	7.79	10.46	10.51	7.65	9.65	9.97	8.16	7.87	7.81	7.86	8.01	8.04
19	9.25	10.04	8.56	7.84	9.86	10.02	9.38	9.38	7.61	7.88	7.99	8.11
20	8.99	9.61	7.91	8.07	9.66	9.30	9.96	9.66	7.37	7.91	8.61	8.19
21	9.69	8.00	9.80	8.18	8.02	8.05	10.10	9.75	7.44	7.99	8.18	8.19
22	10.06	8.23	10.42	8.20	8.15	8.59	10.20	8.04	7.31	9.30	8.10	8.23
23	9.30	9.07	10.58	7.88	8.83	9.54	10.23	7.70	7.28	9.64	7.99	8.23
24	9.09	10.18	9.16	7.64	9.11	9.82	9.91	9.01	7.23	8.28	8.08	8.20
25	7.78	10.31	8.21	8.06	8.30	9.89	9.56	8.80	7.33	8.10	8.09	8.23
26	9.29	8.46	8.12	8.17	8.69	10.11	9.87	7.84	7.42	7.97	8.59	8.22
27	9.89	9.00	7.85	9.61	8.79	8.86	10.33	7.70	7.40	7.96	8.97	8.19
28	10.00	9.00	8.71	9.96	7.92	8.94	10.48	7.72	7.48	8.01	8.20	8.21
29	10.12	7.93	9.98	9.88	---	8.32	10.56	7.57	7.54	8.46	8.07	8.17
30	10.22	8.71	10.20	9.62	---	8.37	10.62	7.48	7.46	9.66	8.01	8.22
31	9.49	---	8.49	9.74	---	8.38	---	7.56	---	8.33	8.00	---
MEAN	8.77	9.40	9.43	8.14	9.26	8.94	9.91	8.75	8.42	8.19	8.40	8.48
WTR YR 1993	MEAN 8.84		HIGHEST 7.18	JUNE 24, 1993	LOWEST 10.72	APR. 30, 1993						

GROUND-WATER LEVELS

RIO SALINAS TO RIO JACAGUAS BASINS--Continued

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.22	8.46	9.19	8.97	9.47	9.60	10.31	10.18	10.39	10.40	10.53	10.92
2	8.23	8.52	9.24	9.11	9.41	9.63	10.20	10.18	10.38	10.48	10.70	10.94
3	8.28	8.58	9.04	8.93	9.46	9.56	10.05	10.11	10.53	10.68	10.59	10.89
4	8.28	8.51	8.97	8.97	9.20	9.53	9.94	10.10	10.38	10.81	10.59	10.80
5	8.24	8.45	8.91	9.04	9.22	9.55	9.86	10.07	10.32	10.73	10.68	10.79
6	8.30	8.42	9.00	8.98	9.37	9.58	9.99	10.12	10.25	10.67	10.48	10.70
7	8.40	8.43	9.19	9.23	9.55	9.65	10.07	10.10	10.25	10.77	10.51	10.73
8	8.32	8.33	9.23	9.23	9.44	9.78	---	10.15	10.37	10.68	10.48	10.74
9	8.40	8.36	9.22	9.30	9.44	9.79	---	10.15	10.49	10.75	10.76	10.66
10	8.38	8.34	9.30	9.42	9.34	9.75	---	9.96	10.41	10.74	10.75	10.66
11	8.27	8.30	9.02	9.46	9.40	9.85	---	10.09	10.46	10.82	10.80	10.51
12	8.23	8.33	8.96	9.22	9.49	9.85	---	10.03	10.52	10.73	10.90	10.75
13	8.18	8.39	9.03	9.24	9.46	9.78	---	9.98	10.45	10.86	10.78	10.74
14	8.21	8.48	9.11	9.43	9.33	9.85	---	10.04	10.30	10.80	10.84	10.73
15	8.22	8.55	9.29	9.27	9.52	9.70	---	9.99	10.25	10.93	10.90	10.60
16	8.23	8.54	9.35	9.28	9.44	9.86	---	10.03	10.30	10.85	10.98	10.55
17	8.29	8.55	9.20	9.32	9.37	9.93	---	10.04	10.33	10.87	11.00	10.59
18	8.41	8.68	9.03	9.33	9.59	9.85	---	10.02	10.36	10.66	10.88	10.59
19	8.40	8.66	8.84	9.40	9.62	9.89	---	9.97	10.43	10.78	10.94	10.62
20	8.43	8.63	8.93	9.21	9.65	9.88	---	9.99	10.50	10.69	10.81	10.39
21	8.40	8.59	9.12	9.51	9.54	10.02	---	10.00	10.50	10.77	10.80	10.47
22	8.42	8.54	9.22	9.44	9.40	10.07	---	10.04	10.45	10.64	10.78	10.52
23	8.41	8.57	9.19	9.49	9.42	9.97	---	10.10	10.48	10.76	10.83	10.49
24	8.41	8.68	9.32	9.36	9.61	10.08	---	10.08	10.37	10.63	10.90	10.46
25	8.39	8.81	9.06	9.34	9.61	10.04	---	10.10	10.32	10.67	10.93	10.52
26	8.31	8.88	9.02	9.56	9.56	10.02	10.21	10.07	10.56	10.68	10.94	10.51
27	8.37	8.91	9.01	9.63	9.75	10.13	10.15	10.07	10.38	10.70	11.07	10.50
28	8.40	8.87	9.01	9.51	9.56	10.16	10.26	10.06	10.39	10.73	10.98	10.52
29	8.47	8.90	8.98	9.38	---	10.20	10.25	10.06	10.45	10.83	10.99	10.50
30	8.42	9.18	8.94	9.50	---	10.21	10.40	10.18	10.35	10.74	10.95	10.50
31	8.44	---	9.07	9.58	---	10.27	---	10.40	---	10.60	10.92	---
MEAN	8.33	8.58	9.10	9.31	9.47	9.87	10.14	10.08	10.40	10.72	10.81	10.63
WTR YR 1994	MEAN 9.77		HIGHEST 8.10 OCT. 16, 1993		LOWEST 11.07 AUG. 27, 1994							

GROUND-WATER LEVELS

RIO SALINAS TO RIO JACAGUAS BASINS--Continued

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11.41	11.91	12.14	12.20	12.20	12.24	---	12.53	12.56	12.49	12.35	11.96
2	11.41	11.89	12.17	12.24	12.21	12.22	---	12.62	12.55	12.49	12.43	11.98
3	11.40	11.91	12.12	12.23	12.12	12.25	---	12.57	12.55	12.49	12.38	11.95
4	11.40	11.95	12.12	12.20	12.13	12.26	---	12.62	12.56	12.50	12.46	11.96
5	11.37	11.96	12.14	12.24	12.14	12.31	---	12.52	12.55	12.49	12.50	11.93
6	11.41	11.95	12.15	12.24	12.15	12.33	---	12.54	12.55	12.49	12.49	11.92
7	11.32	12.01	12.16	12.20	12.12	12.31	---	12.57	12.52	12.49	12.46	11.90
8	11.42	12.06	12.23	12.13	12.07	12.35	---	12.55	12.56	12.47	12.51	11.77
9	11.42	12.06	12.20	12.23	12.12	12.34	---	12.58	12.58	12.40	12.50	11.72
10	11.44	12.11	12.16	12.19	12.09	12.36	---	12.54	12.53	12.53	12.47	11.02
11	11.43	12.10	12.23	12.22	12.05	12.38	---	12.59	12.54	12.59	12.44	10.44
12	11.49	12.10	12.23	12.17	12.02	12.39	---	12.63	12.49	12.55	12.40	10.32
13	11.58	12.11	12.16	12.11	12.05	12.37	---	12.47	12.50	12.55	12.40	10.43
14	11.58	12.07	12.13	12.11	12.06	12.36	---	12.53	12.47	12.47	12.22	10.36
15	11.62	12.06	12.21	12.11	12.05	12.41	---	12.56	12.40	12.41	12.19	10.52
16	11.64	12.07	12.20	12.11	12.04	12.25	---	12.62	12.43	12.45	12.13	10.46
17	11.74	12.05	12.12	12.11	12.05	12.25	---	12.58	12.43	12.42	12.17	10.56
18	11.67	12.05	12.13	12.08	12.05	12.23	---	12.58	12.44	12.46	12.15	10.53
19	11.69	12.05	12.13	12.04	12.07	12.26	---	12.62	12.46	12.45	12.09	10.49
20	11.65	12.07	12.17	12.06	12.07	12.27	---	12.62	12.50	12.49	12.06	10.48
21	11.71	12.06	12.19	12.11	12.13	12.32	---	12.58	12.50	12.46	12.04	10.48
22	11.81	12.07	12.19	12.17	12.14	12.29	---	12.58	12.53	12.52	12.06	10.49
23	11.80	12.09	12.17	12.13	12.15	12.40	---	12.54	12.53	12.55	12.05	10.42
24	11.76	12.07	12.12	12.13	12.15	12.40	---	12.57	12.59	12.52	12.01	10.38
25	11.80	12.04	12.09	12.08	12.20	12.43	---	12.57	12.55	12.44	11.98	10.39
26	11.81	12.09	12.10	12.09	12.17	12.43	12.51	12.56	12.56	12.39	11.96	10.36
27	11.94	12.11	12.12	12.08	12.16	12.53	12.54	12.55	12.58	12.51	11.91	10.47
28	11.89	12.12	12.20	12.13	12.21	12.50	12.53	12.58	12.52	12.45	11.88	10.54
29	11.95	12.10	12.23	12.17	12.19	12.51	12.52	12.57	12.48	12.45	11.88	10.63
30	11.90	12.16	12.23	12.18	---	---	12.57	12.59	12.50	12.46	11.89	10.60
31	11.90	---	12.24	12.20	---	---	---	12.55	---	12.43	11.85	---
MEAN	11.62	12.05	12.17	12.15	12.12	12.34	12.53	12.57	12.52	12.48	12.20	10.92
WTR YR 1996	MEAN 12.11	HIGHEST 10.28	SEPT. 12, 1996	LOWEST 12.69	MAY 19, 1996							

GROUND-WATER LEVELS

RIO SALINAS TO RIO JACAGUAS BASINS--Continued

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10.79	11.29	11.40	11.47	11.55	11.57	11.74	11.57	11.75	11.94	11.95	12.01
2	10.79	11.22	11.40	11.47	11.56	11.59	11.70	11.61	11.75	11.94	11.92	12.00
3	10.75	11.22	11.37	11.42	11.58	11.63	11.75	11.58	11.77	11.95	11.88	12.09
4	10.82	11.30	11.37	11.51	11.60	11.56	11.66	11.49	11.76	11.94	11.84	12.01
5	10.90	11.27	11.37	11.53	11.64	11.62	11.67	11.56	11.76	11.89	11.85	12.08
6	10.99	11.23	11.42	11.52	11.68	11.61	11.64	11.49	11.73	11.85	11.81	12.08
7	10.98	11.31	11.41	11.49	11.64	11.64	11.64	11.47	11.76	11.83	11.85	12.06
8	11.03	11.24	11.39	11.48	11.59	11.61	11.63	11.59	11.80	11.92	11.87	12.05
9	11.07	11.25	11.35	11.49	11.61	11.63	11.60	11.61	11.82	11.94	11.96	12.14
10	11.07	11.21	11.39	11.49	11.61	11.63	11.57	11.52	11.86	11.97	11.95	12.10
11	11.10	11.32	11.51	11.46	11.63	11.64	11.57	11.55	11.89	11.98	12.00	12.14
12	11.09	11.35	11.45	11.42	11.63	11.59	11.63	11.60	11.87	11.96	12.00	12.68
13	11.17	11.35	11.41	11.41	11.53	11.60	11.62	11.62	11.90	11.95	11.96	12.22
14	11.21	11.34	11.40	11.42	11.49	11.59	11.63	11.58	11.84	11.97	11.95	12.13
15	11.26	11.32	11.38	11.40	11.55	11.58	11.68	11.60	11.85	11.99	11.98	12.06
16	11.28	11.34	11.38	11.39	11.57	11.58	11.66	11.62	11.88	12.00	11.95	12.08
17	11.30	11.36	11.36	11.46	11.63	11.55	11.62	11.67	11.89	11.98	11.96	12.11
18	11.27	11.37	11.35	11.45	11.69	11.58	11.58	11.67	11.88	11.98	11.91	12.06
19	11.20	11.33	11.38	11.49	11.66	11.61	11.58	11.68	11.88	11.89	11.91	12.12
20	11.21	11.33	11.41	11.49	11.65	11.62	11.59	11.70	11.87	11.80	11.96	12.15
21	11.21	11.29	11.40	11.50	11.63	11.64	11.61	11.72	11.83	11.83	11.96	12.14
22	11.19	11.33	11.41	11.44	11.63	11.75	11.63	11.64	11.92	11.87	11.95	12.12
23	11.29	11.35	11.43	11.51	11.66	11.75	11.53	11.66	11.90	11.85	11.95	12.17
24	11.21	11.41	11.43	11.56	11.65	11.71	11.58	11.64	11.89	11.88	12.00	12.19
25	11.23	11.42	11.43	11.54	11.63	11.68	11.52	11.61	11.90	11.87	12.05	12.25
26	11.23	11.44	11.46	11.56	11.58	11.75	11.53	11.61	11.89	11.86	12.04	12.12
27	11.25	11.43	11.47	11.52	11.62	11.71	11.59	11.65	11.91	11.91	12.04	12.19
28	11.22	11.44	11.46	11.56	11.61	11.62	11.50	11.73	11.94	11.94	12.09	12.17
29	11.31	11.52	11.47	11.59	---	11.70	11.57	11.71	11.90	12.00	12.09	12.17
30	11.23	11.49	11.46	11.61	---	11.76	11.61	11.73	11.89	11.96	12.06	12.17
31	11.30	---	11.48	11.56	---	11.76	---	11.74	---	11.96	12.01	---
MEAN	11.13	11.34	11.41	11.49	11.61	11.64	11.61	11.62	11.85	11.92	11.96	12.14
WTR YR 1997	MEAN 11.64		HIGHEST 10.66	OCT. 1 1996		LOWEST 12.69	SEPT. 12, 1997					

GROUND-WATER LEVELS

RIO SALINAS TO RIO JACAGUAS BASINS--Continued

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12.16	12.03	11.99	11.96	11.56	11.58	11.74	12.23	13.12	14.02	13.01	---
2	12.11	12.04	12.04	11.87	11.58	11.59	11.76	12.31	13.20	13.27	12.94	---
3	12.09	12.02	12.08	11.80	11.56	11.60	11.75	12.73	13.16	13.89	12.71	---
4	12.13	12.09	12.02	11.76	11.54	11.59	11.80	13.01	12.99	14.03	13.58	---
5	12.18	12.09	12.02	11.75	11.43	11.67	11.81	12.87	12.87	14.26	12.72	---
6	12.19	12.08	11.95	11.71	11.59	11.66	11.81	13.03	14.07	14.28	12.57	---
7	12.20	12.07	11.97	11.75	11.50	11.64	11.79	13.07	14.32	14.31	12.59	---
8	12.21	12.07	11.92	11.78	11.54	11.64	11.79	12.45	14.40	13.14	13.72	---
9	13.04	12.01	11.99	11.75	11.62	11.70	11.79	12.52	13.71	12.98	13.98	---
10	12.39	11.90	11.93	11.72	11.65	11.77	11.81	13.04	14.38	12.87	14.10	---
11	12.21	11.97	11.91	11.76	11.64	11.79	11.79	12.33	14.47	13.59	14.12	---
12	12.14	11.95	11.85	11.79	11.62	11.77	11.70	12.08	13.41	14.10	13.88	---
13	12.08	11.92	11.93	11.79	11.60	11.77	11.71	12.02	13.17	14.26	13.10	---
14	11.91	11.90	11.99	11.75	11.61	11.76	11.79	12.78	13.00	13.26	12.76	---
15	11.92	11.94	12.00	11.72	11.59	11.79	11.81	12.87	13.86	12.97	13.55	---
16	11.99	12.01	12.05	11.65	11.61	11.81	11.75	12.61	13.64	12.87	13.92	11.67
17	12.03	11.91	12.01	11.73	11.63	11.82	11.73	12.62	14.33	12.94	14.05	11.87
18	11.99	11.95	11.92	11.74	11.64	11.84	11.74	13.03	14.44	13.04	13.58	11.88
19	12.05	11.92	11.95	11.64	11.60	11.85	11.72	13.06	14.32	13.94	13.94	11.68
20	12.01	11.93	11.97	11.63	11.70	11.85	11.75	13.11	13.37	14.11	14.17	11.63
21	12.04	11.90	11.97	11.64	11.66	11.84	12.21	13.31	13.11	13.26	---	11.59
22	12.02	11.89	11.90	11.58	11.64	11.86	12.11	13.35	13.50	13.12	---	10.34
23	12.03	11.93	11.93	11.60	11.59	11.85	12.74	12.56	14.27	13.98	---	9.69
24	12.04	11.87	12.00	11.59	11.63	11.85	12.55	12.91	14.39	14.08	---	9.58
25	12.03	11.90	11.94	11.65	11.64	11.82	12.33	13.08	14.53	13.08	---	9.61
26	12.04	11.89	11.89	11.68	11.67	11.84	12.07	12.23	13.54	12.85	---	9.62
27	11.99	11.85	11.95	11.60	11.62	11.84	12.67	11.97	13.30	12.77	---	9.69
28	12.00	11.84	11.97	11.67	11.57	11.77	12.70	12.65	13.28	12.76	---	9.70
29	12.04	11.90	11.84	11.63	---	11.76	12.87	13.18	13.20	12.90	---	9.65
30	12.04	11.93	11.98	11.60	---	11.82	12.81	13.35	13.14	12.74	---	9.68
31	12.01	---	11.97	11.62	---	11.72	---	13.05	---	13.09	---	---
MEAN	12.11	11.96	11.96	11.71	11.60	11.76	12.01	12.76	13.68	13.44	13.45	10.53
WTR YR 1998	MEAN 12.29	HIGHEST 9.58	SEPT. 22, 23, 1998	LOWEST 14.58	JUNE 25, 1998							

GROUND-WATER LEVELS

RIO SALINAS TO RIO JACAGUAS BASINS--Continued

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.65	8.78	8.57	8.71	8.47	7.27	8.51	8.40	9.42	9.52	8.48	9.19
2	9.64	8.71	8.48	8.66	8.54	8.33	8.64	8.90	9.48	9.44	8.37	9.02
3	9.51	8.74	7.88	8.65	9.58	8.48	8.71	8.28	9.52	8.50	9.73	10.05
4	9.56	8.70	8.43	8.69	8.64	8.50	8.62	9.07	9.65	8.43	10.15	10.38
5	9.57	8.71	8.50	8.71	8.98	8.30	8.57	9.25	8.68	8.25	10.20	10.54
6	9.52	8.74	8.59	8.65	9.32	8.40	8.78	9.28	9.54	9.20	10.31	10.64
7	9.49	8.72	8.58	8.66	9.48	7.26	8.91	8.24	9.52	8.56	10.33	10.62
8	9.59	8.76	8.63	8.65	9.13	7.00	8.97	9.14	9.46	8.58	10.29	10.64
9	9.57	8.71	8.62	8.69	8.26	6.96	8.76	9.30	9.52	8.20	9.01	10.68
10	9.66	8.67	8.67	8.67	8.07	7.94	7.61	9.32	9.60	8.42	10.11	10.05
11	9.58	8.56	7.74	8.68	8.80	6.95	8.20	8.00	9.66	8.22	9.39	9.58
12	9.45	8.61	7.63	8.69	8.65	6.86	7.95	8.91	9.72	8.38	10.19	9.84
13	9.42	8.46	7.30	8.74	7.83	7.20	8.23	8.23	9.74	9.11	10.13	10.01
14	9.35	8.48	7.15	8.79	8.89	6.90	8.77	8.00	9.62	8.23	9.58	9.11
15	9.39	8.50	8.22	8.71	9.12	6.89	8.90	8.20	8.76	8.39	10.04	9.19
16	9.32	8.52	8.53	8.72	8.29	8.06	8.99	9.04	9.18	8.40	10.02	9.05
17	9.33	8.43	8.49	8.73	8.34	8.31	8.21	9.24	8.11	8.22	10.10	9.00
18	9.30	8.40	8.50	8.77	8.39	8.34	8.55	9.24	7.95	8.18	10.15	9.08
19	9.31	8.32	8.55	8.79	8.12	8.39	8.54	9.36	7.98	8.26	9.97	9.01
20	9.28	8.29	8.64	9.00	7.58	8.39	8.87	9.44	8.12	9.49	9.23	9.11
21	9.28	8.29	8.62	10.12	7.42	8.20	9.11	9.48	9.23	8.54	9.21	8.88
22	9.26	8.27	8.58	10.28	8.07	8.21	9.07	8.36	9.34	8.33	10.24	8.76
23	9.20	8.34	8.53	9.12	8.60	7.56	7.90	9.28	9.53	9.64	10.41	8.73
24	9.11	8.30	8.51	8.71	8.81	8.31	8.90	8.96	9.18	9.85	9.29	8.65
25	9.15	8.37	8.52	8.60	8.69	8.41	9.12	8.28	9.26	9.82	9.01	8.60
26	9.03	8.35	8.53	9.66	7.77	7.35	7.79	8.97	9.59	8.71	9.88	8.61
27	8.98	8.40	8.53	8.98	7.62	8.20	8.28	9.35	9.48	9.09	10.35	9.22
28	8.98	8.47	8.54	9.53	8.23	8.39	8.96	9.16	9.50	9.97	10.51	9.50
29	8.90	8.49	8.68	9.49	---	8.41	9.03	9.41	9.64	10.06	10.62	8.85
30	8.85	8.53	8.70	8.95	---	7.72	9.04	9.65	9.27	9.66	10.33	8.68
31	8.82	---	8.72	9.66	---	7.95	---	8.64	---	8.69	9.40	---
MEAN	9.32	8.52	8.39	8.95	8.49	7.85	8.62	8.92	9.24	8.85	9.84	9.44
WTR YR 1999	MEAN	8.87	HIGHEST	6.82 MAR. 15, 1999	LOWEST	10.69 SEPT. 9, 1999						

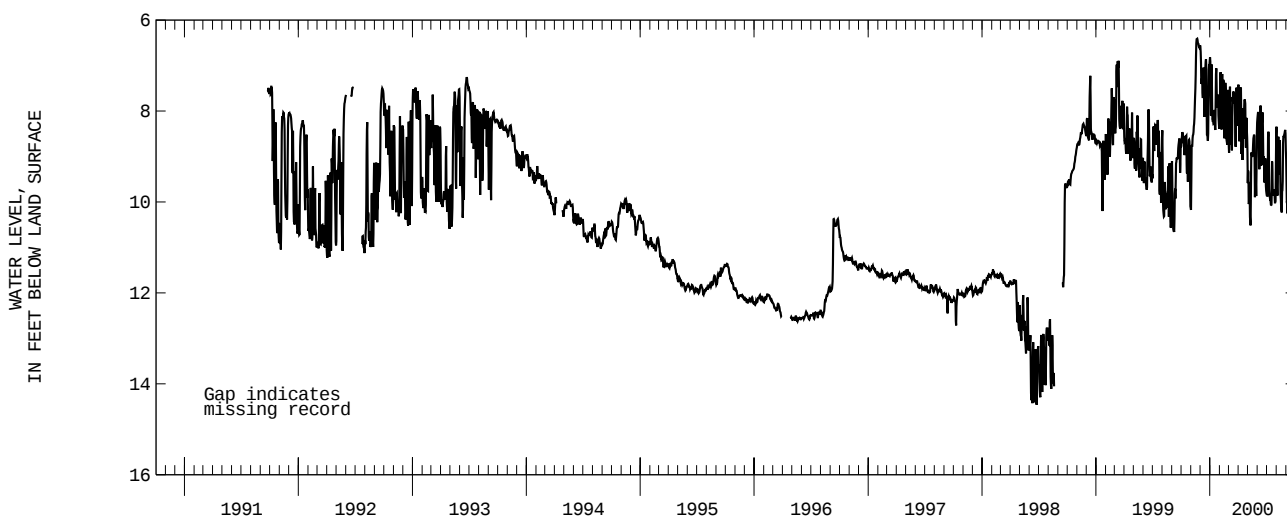
GROUND-WATER LEVELS

RIO SALINAS TO RIO JACAGUAS BASINS--Continued

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.91	10.17	6.54	6.83	8.36	8.61	7.43	9.35	8.18	9.83	8.39	9.17
2	8.62	10.18	6.61	6.81	7.97	8.89	7.41	9.82	8.13	9.89	8.30	8.97
3	8.61	8.90	6.80	7.02	7.26	8.95	7.74	8.80	8.04	9.84	9.51	9.97
4	8.50	8.64	7.09	8.19	7.19	7.85	8.66	9.91	8.00	9.89	9.82	9.93
5	8.43	8.89	7.72	8.01	7.10	7.46	8.67	10.18	8.18	8.79	9.90	10.18
6	8.54	8.64	6.99	7.10	8.07	7.47	7.68	9.86	8.88	8.35	9.20	10.30
7	8.50	8.56	7.59	6.85	8.57	8.62	7.49	9.26	9.11	8.56	8.61	10.20
8	8.62	8.51	6.98	8.01	8.24	8.66	7.49	10.29	9.45	8.52	8.52	8.96
9	8.77	8.53	8.22	8.18	7.22	8.81	7.54	10.37	8.53	9.60	9.79	8.72
10	8.63	8.39	7.21	8.18	7.15	8.43	7.43	10.53	8.08	9.83	9.02	8.62
11	8.81	8.29	7.08	8.16	8.40	8.77	8.81	10.50	7.91	9.89	9.13	8.55
12	9.13	8.27	7.01	8.29	8.29	8.96	9.08	9.12	7.85	9.94	8.64	8.54
13	8.60	8.03	7.15	8.28	7.34	7.88	8.14	8.94	9.06	9.87	8.65	8.56
14	8.57	7.79	8.32	8.28	7.33	7.50	8.98	8.88	9.34	10.06	9.84	8.56
15	8.57	7.61	7.94	8.29	7.34	7.99	9.17	9.07	8.37	10.06	9.81	9.82
16	8.59	7.40	7.16	7.70	8.49	7.66	8.10	8.95	8.24	10.07	10.07	10.06
17	8.52	7.01	7.13	8.26	8.71	7.48	7.79	8.99	8.15	10.05	10.18	10.13
18	8.57	6.59	6.97	8.50	8.35	7.78	9.02	8.86	7.91	9.34	10.21	8.62
19	9.75	6.42	6.85	8.33	7.42	7.88	8.21	8.62	8.25	8.88	10.25	8.27
20	8.99	6.42	6.87	7.25	7.34	7.44	7.85	8.58	8.97	9.82	9.29	8.14
21	8.64	6.41	7.18	7.12	7.74	7.96	7.74	8.55	9.39	9.85	10.20	8.13
22	9.84	6.41	8.45	7.00	8.56	8.08	7.75	8.49	8.61	9.87	8.89	8.08
23	9.27	6.47	8.60	7.75	8.62	8.65	7.81	8.61	9.50	9.80	8.55	7.96
24	8.95	6.54	8.48	7.98	8.66	8.92	7.87	9.77	9.64	9.76	8.59	7.96
25	8.65	6.49	8.64	7.71	8.71	7.72	9.23	10.02	9.36	9.77	8.55	7.95
26	8.63	6.56	8.67	8.14	8.77	7.53	8.38	8.88	9.36	9.68	8.53	7.95
27	8.63	6.59	8.32	7.27	7.69	7.44	8.17	9.33	8.72	10.05	8.50	7.91
28	8.71	6.60	7.25	8.01	7.38	7.71	8.13	9.85	9.58	9.97	8.47	7.84
29	8.99	6.62	6.94	8.19	8.50	8.82	8.72	9.89	9.71	10.05	8.41	7.89
30	10.10	6.57	7.07	8.28	---	7.82	8.47	8.73	9.80	9.92	8.42	7.93
31	10.09	---	6.95	8.42	---	7.53	---	8.32	---	8.64	8.57	---
MEAN	8.86	7.62	7.44	7.82	7.96	8.11	8.17	9.33	8.74	9.63	9.12	8.80

WTR YR 2000 MEAN 8.47 HIGHEST 6.36 NOV. 22, 1999 LOWEST 10.63 MAY 11, 2000



GROUND-WATER LEVELS

RIO INABON TO RIO LOCO BASINS

175950066354200. Local number, 141.

LOCATION.--Lat 17°59'50", long 66°35'42", Hydrologic Unit 21010004, 1.71 mi southeast of Plaza Degetau at Ponce, 1.31 mi southeast of the intersection between Hwy 10 and Hwy 2, and 2.60 mi northeast of Muelle de Ponce. Owner: PR Aqueduct and Sewer Authority, Name: Restaurada 8A Well.

WELL CHARACTERISTICS.--Alluvium of Quaternary Age.

WELL CHARACTERISTICS.--Drilled unused public supply well, diameter 16-10 in (0.41-0.25 m), cased 16 in (0.41 m) 2.00-20.0 ft (0.6-6.1 m), perforated 20-130 ft (6.10-39.6 m), 10 in (0.25 m) 128-165 ft (39.0-50.3 m), perforated. Depth 165 ft (50.3 m). INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 24.0 ft (7.30 m), above mean sea level, from topographic map. Measuring point:

Bottom edge of hole on side of casing 1.90 ft (0.58 m), above land-surface datum, 26.2 ft (7.67 m), above mean sea level.

REMARKS.--Recording observation well. Discontinued on Nov. 8, 1994 due to apparent collapsed casing, repair on August 7, 1996.

Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on February 12, 1998.

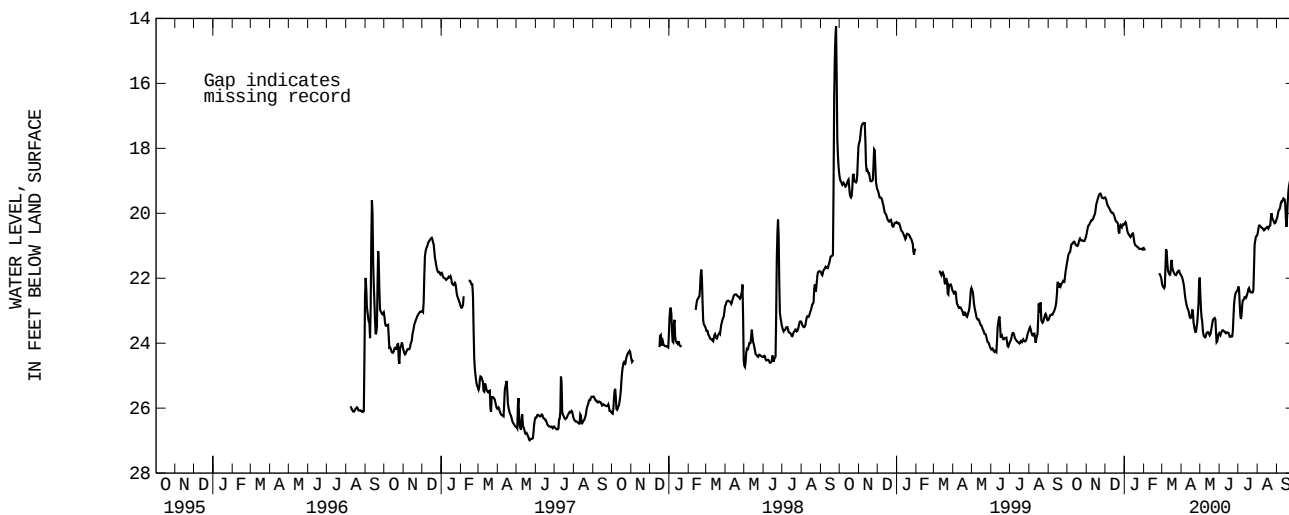
PERIOD OF RECORD.--October 1981 to March 1, 1986, discontinued, November 18, 1991 to November 8, 1994, discontinued, August 7, 1996 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 11.2 ft (3.41 m), below land-surface datum, Oct. 9, 1985; lowest water level recorded, 28.6 ft (8.71 m), below land-surface datum, July 9, 1982.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21.52	20.65	19.52	20.34	21.10	22.19	21.93	22.46	23.69	22.31	20.65	20.17
2	21.36	20.53	19.55	20.28	21.13	22.23	21.96	22.64	23.79	22.20	20.56	20.13
3	21.27	20.45	19.62	20.27	21.09	22.27	22.01	23.31	23.74	22.49	20.39	19.97
4	21.23	20.35	19.72	20.37	21.11	22.31	22.13	23.13	23.67	23.05	20.37	19.92
5	21.19	20.38	19.76	20.51	---	22.31	22.19	23.54	23.62	23.21	20.38	19.88
6	21.20	20.32	19.80	20.59	---	22.20	22.38	23.70	23.60	23.30	20.41	19.87
7	21.01	20.28	19.82	20.63	---	21.15	22.57	23.77	23.60	22.97	20.43	19.74
8	20.94	20.24	19.87	20.66	---	21.06	22.68	23.81	23.65	22.70	20.45	19.63
9	20.94	20.20	19.90	20.69	---	21.30	22.79	23.82	23.62	22.66	20.45	19.65
10	20.93	20.24	19.95	20.73	---	21.73	22.88	23.82	23.66	22.68	20.49	19.64
11	20.88	20.16	19.98	20.74	---	21.80	22.93	23.70	23.70	22.60	20.51	19.55
12	20.87	20.17	19.99	20.66	---	21.84	22.97	23.68	23.69	22.56	20.54	19.54
13	20.88	20.06	19.97	20.64	---	21.90	23.03	23.66	23.66	22.59	20.48	19.59
14	20.95	20.06	20.02	20.61	---	21.89	23.17	23.65	23.67	22.62	20.46	19.55
15	20.98	19.99	20.06	20.63	---	21.84	23.22	23.69	23.68	22.52	20.46	19.85
16	21.00	19.80	20.11	20.84	---	21.25	23.23	23.75	23.68	22.46	20.43	20.41
17	20.99	19.69	20.19	20.92	---	21.62	23.20	23.77	23.78	22.40	20.40	20.42
18	21.02	19.63	20.24	20.99	---	21.74	23.13	23.68	23.82	22.26	20.44	19.83
19	20.93	19.56	20.26	20.99	---	21.78	22.79	23.59	23.79	22.34	20.49	19.48
20	20.86	19.49	20.27	21.01	---	21.82	23.29	23.46	23.80	22.40	20.36	19.23
21	20.77	19.43	20.30	21.03	---	21.87	23.41	23.33	23.79	22.44	20.42	19.11
22	20.79	19.41	20.36	21.04	---	21.90	23.55	23.26	23.79	22.43	20.33	19.02
23	20.86	19.39	20.78	21.06	---	21.90	23.62	23.25	23.48	22.43	19.94	18.92
24	20.82	19.40	20.46	21.09	---	21.91	23.69	23.23	22.94	22.45	20.06	18.84
25	20.84	19.48	20.33	21.10	21.84	21.82	23.61	23.22	22.68	22.42	20.18	18.78
26	20.84	19.54	20.40	21.09	21.85	21.80	23.39	23.32	22.55	22.28	20.21	18.73
27	20.85	19.52	20.43	21.10	21.91	21.79	23.36	23.96	22.44	21.02	20.23	18.60
28	20.86	19.54	20.45	21.09	21.94	21.74	22.83	23.98	22.43	20.89	20.32	18.49
29	20.85	19.54	20.33	21.11	22.00	21.80	22.74	23.90	22.39	20.78	20.30	18.42
30	20.79	19.50	20.35	21.12	---	21.90	21.50	23.76	22.38	20.68	20.30	18.32
31	20.73	---	20.35	21.03	---	21.86	---	23.70	---	20.71	20.20	---
MEAN	20.97	19.90	20.10	20.81	21.55	21.82	22.87	23.53	23.43	22.29	20.38	19.44

WTR YR 2000 MEAN 21.42 HIGHEST 18.29 SEPT. 30, 2000 LOWEST 23.98 MAY 27, 28, 2000



GROUND-WATER LEVELS

RIO INABON TO RIO LOCO BASINS--Continued

175934066364800. Local number, 1276.

LOCATION.--Lat 17°59'34", long 66°36'48", Hydrologic Unit 21010004, 0.35 mi southeast of the intersection of Hwy 10 with Hwy 2, 0.32 mi south of Hwy 2, 0.10 mi southwest of Plaza del Caribe Mall, and 1.90 mi north of Punta Carenero. Owner: Plaza del Caribe, Name: Constanca 3 Well.

AQUIFER.--Alluvium.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 13 in (0.33 m). Depth 84 ft (25.6 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is 16.0 ft (4.90 m), above mean sea level, from topographic map. Measuring point: Shelter floor on the top of 4 in (0.10 m) casing, 3.12 ft (0.95 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), installed on May 30, 1996, replaced by an Electronic Data Logger (EDL,) installed during Mar. 19 to April 9, 1997. Automated Digital Recorder (ADR), re-installed on April 9, 1997, replaced by an Electronic Data Logger (EDL), installed on June 4, 1998. Formerly published as local number CO-3.

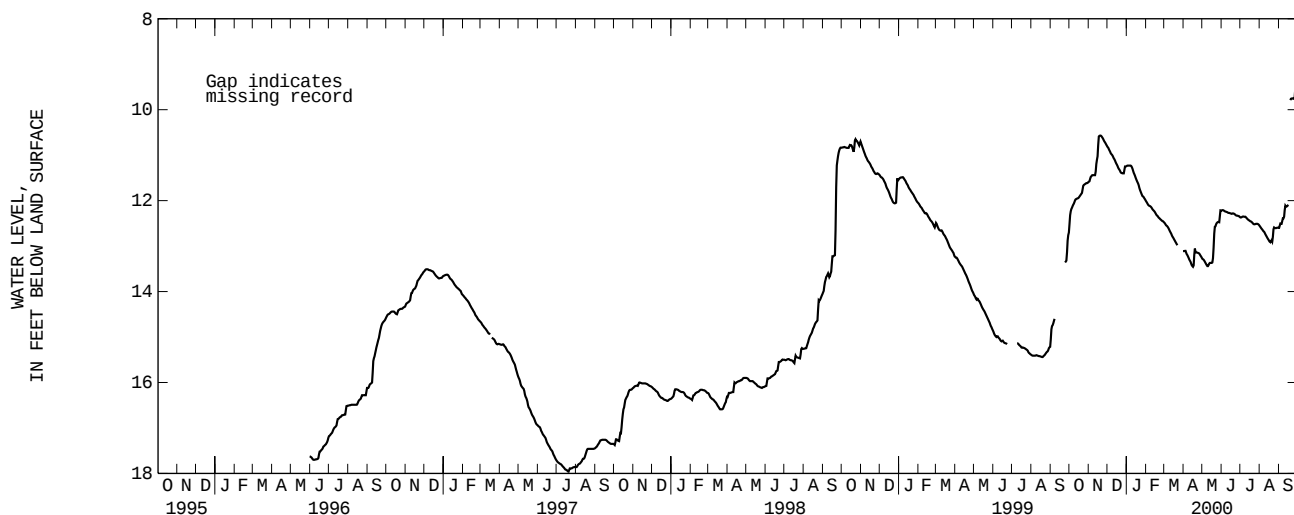
PERIOD OF RECORD.--May 30, 1996 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 9.13 ft (2.78 m), below land-surface datum, Sept. 28, 29, 2000; lowest water level recorded, 17.96 ft (5.47 m), below land-surface datum, July 19, 20, 21, 1997.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12.67	11.59	10.81	11.24	12.01	12.48	13.11	13.27	12.22	12.37	12.55	12.60
2	12.37	11.58	10.83	11.23	12.03	12.49	13.11	13.29	12.21	12.37	12.57	12.60
3	12.27	11.57	10.84	11.23	12.05	12.51	13.11	13.29	12.21	12.37	12.59	12.50
4	12.20	11.48	10.89	11.23	12.08	12.54	13.10	13.31	12.21	12.36	12.61	12.51
5	12.17	11.48	10.90	11.23	12.10	12.55	13.11	13.33	12.22	12.35	12.63	12.51
6	12.14	11.45	10.94	11.23	12.11	12.56	13.18	13.36	12.23	12.35	12.64	12.51
7	12.10	11.44	10.97	11.23	12.12	12.58	13.18	13.38	12.24	12.35	12.67	12.39
8	12.08	11.44	10.98	11.23	12.12	12.60	13.22	13.41	12.24	12.36	12.68	12.39
9	12.05	11.44	11.00	11.25	12.14	12.63	13.24	13.43	12.25	12.35	12.69	12.39
10	12.01	11.44	11.02	11.28	12.15	12.66	13.28	13.45	12.25	12.36	12.73	12.32
11	11.97	11.44	11.06	11.32	12.18	12.69	13.31	13.43	12.26	12.38	12.75	12.09
12	11.97	11.44	11.08	11.37	12.20	12.71	13.33	13.40	12.27	12.39	12.78	12.13
13	11.96	11.28	11.10	11.41	12.21	12.74	13.36	13.37	12.27	12.41	12.80	12.13
14	11.95	11.11	11.14	11.43	12.23	12.78	13.41	13.37	12.27	12.42	12.83	12.13
15	11.95	11.09	11.17	11.48	12.24	12.80	13.43	13.37	12.28	12.43	12.85	12.11
16	11.94	10.96	11.20	11.51	12.27	12.82	13.45	13.37	12.28	12.44	12.87	12.10
17	11.92	10.60	11.22	11.55	12.29	12.85	13.46	13.37	12.29	12.45	12.90	12.09
18	11.90	10.58	11.26	11.58	12.32	12.87	13.39	13.35	12.29	12.46	12.91	---
19	11.88	10.57	11.29	11.61	12.33	12.90	13.00	13.18	12.28	12.46	12.92	9.82
20	11.86	10.57	11.31	11.64	12.34	12.92	13.11	12.89	12.28	12.48	12.85	9.76
21	11.84	10.57	11.33	11.69	12.37	12.95	13.14	12.56	12.29	12.49	12.89	9.76
22	11.82	10.59	11.36	11.75	12.38	12.97	13.14	12.59	12.29	12.51	12.91	9.75
23	11.69	10.61	11.39	11.78	12.39	12.99	13.14	12.54	12.31	12.52	12.68	9.75
24	11.66	10.63	11.39	11.82	12.41	---	13.15	12.50	12.32	12.52	12.58	9.76
25	11.65	10.66	11.40	11.85	12.42	---	13.15	12.49	12.33	12.52	12.60	9.76
26	11.64	10.69	11.40	11.89	12.43	---	13.16	12.47	12.33	12.51	12.60	9.76
27	11.63	10.71	11.40	11.91	12.45	---	13.17	12.47	12.33	12.51	12.61	9.68
28	11.62	10.73	11.40	11.91	12.45	---	13.20	12.47	12.34	12.51	12.60	9.35
29	11.61	10.76	11.25	11.94	12.46	---	13.22	12.48	12.34	12.51	12.60	9.14
30	11.62	10.78	11.25	11.96	---	---	13.24	12.21	12.35	12.52	12.59	9.16
31	11.60	---	11.25	11.98	---	13.11	---	12.22	---	12.53	12.60	---
MEAN	11.93	11.04	11.16	11.54	12.25	12.74	13.22	13.02	12.28	12.44	12.71	11.21

WTR YR 2000 MEAN 12.12 HIGHEST 9.13 SEPT. 28, 29, 2000 LOWEST 13.48 APR. 17, 18, 2000



GROUND-WATER LEVELS

RIO INABON TO RIO LOCO BASIN

180045066381600. Local number 1277.

LOCATION.--Lat 18°00'45", long 66°38'16", Hydrologic Unit 21010004, 0.27 mi east of the intersection of Hwy 10 with Hwy 132, 0.60 mi northwest of Parque Paquito Montaner, and 0.04 mi south of Hwy 132. Owner: Albergue de Niños de Ponce, Name: Albergue de Niños Well.

AQUIFER.--Alluvium.

WELL CHARACTERISTICS.--Drilled unused water-table well.

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 49.0 ft (14.90 m), above mean sea level, from topographic map. Measuring point: Shelter floor on top of 4 in (0.10 m) casing, 5.42 ft (1.65 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on February 12, 1998. Formerly published as local number AN-1.

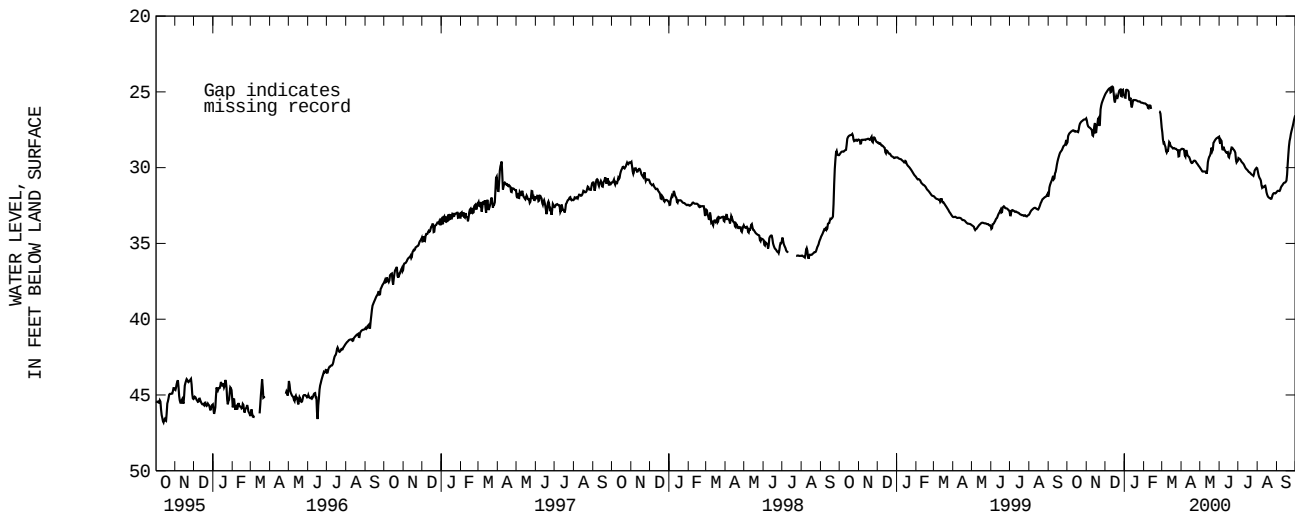
PERIOD OF RECORD.--March 30, 1992 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 24.62 ft (7.50 m), below land-surface datum, Dec. 13, 1999; lowest water level recorded, 51.88 ft (15.81 m), below land-surface datum, Aug. 30, 1994.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28.68	26.72	25.17	24.88	25.76	27.56	28.78	30.02	27.93	29.36	30.08	31.60
2	27.97	27.05	25.07	25.87	25.76	27.79	28.74	30.07	28.68	29.38	30.37	31.54
3	27.87	27.22	25.02	24.90	25.76	28.49	28.77	30.14	28.16	29.42	30.52	31.52
4	27.76	27.30	24.97	24.85	25.79	28.27	28.78	30.21	28.20	29.43	30.66	31.53
5	27.72	27.33	24.88	24.87	25.84	28.44	28.77	30.27	28.29	29.50	30.72	31.55
6	27.68	27.36	24.85	24.88	25.86	28.60	28.92	30.25	29.14	29.58	30.79	31.53
7	27.63	27.39	24.78	24.93	25.88	28.64	29.46	30.25	28.56	29.64	30.94	31.38
8	27.60	27.44	24.77	25.05	26.24	29.14	29.08	30.26	28.68	29.68	31.40	31.26
9	27.58	27.49	24.73	25.97	25.93	28.86	28.71	30.26	28.82	29.72	31.24	31.21
10	27.53	27.52	25.33	25.07	25.88	28.93	29.08	30.27	28.88	29.78	31.30	31.16
11	27.54	28.20	24.67	25.70	25.91	28.86	29.18	30.23	28.94	29.86	31.28	31.08
12	27.55	27.60	24.66	25.97	25.92	28.37	29.26	30.58	29.03	29.96	31.23	31.03
13	27.66	27.64	24.64	26.08	26.33	28.25	29.27	29.73	29.01	30.03	31.18	30.98
14	27.58	26.85	24.75	25.60	---	28.49	29.33	29.55	28.98	30.09	31.20	31.00
15	27.60	27.26	25.38	25.51	---	28.58	29.47	29.34	28.97	30.12	31.54	30.95
16	27.62	28.09	25.69	25.56	---	28.63	29.59	29.26	29.59	30.17	31.71	30.90
17	27.61	27.23	25.70	25.53	---	28.64	29.69	29.20	29.06	30.21	31.84	30.81
18	27.67	27.24	25.20	25.54	---	28.72	29.70	29.05	29.10	30.29	31.92	30.11
19	27.64	26.96	25.36	25.55	---	28.75	29.68	28.75	29.01	30.30	31.97	29.40
20	27.34	26.61	25.45	25.56	---	28.70	29.60	28.61	28.68	30.33	31.99	28.86
21	27.13	26.82	25.37	25.58	---	28.72	29.54	29.18	28.66	30.38	32.02	28.32
22	27.06	27.68	25.19	25.62	---	28.75	29.54	28.39	28.70	30.43	32.05	28.17
23	27.00	26.31	24.95	25.63	---	28.76	29.54	28.34	28.77	30.46	32.07	27.91
24	26.94	26.01	24.89	25.63	---	28.76	29.59	28.26	28.82	30.49	32.02	27.67
25	26.93	25.80	24.84	25.62	26.29	28.85	29.66	28.18	28.86	30.51	31.81	27.52
26	26.88	25.67	24.85	25.65	26.30	28.83	29.73	28.13	28.96	30.57	31.74	27.35
27	26.85	25.57	25.70	25.71	26.31	28.87	29.76	28.08	29.06	30.25	31.68	27.19
28	26.82	25.44	24.89	25.71	26.57	29.65	29.84	28.04	29.87	30.14	31.68	26.97
29	26.82	25.37	24.88	25.72	27.17	28.84	29.90	28.03	29.44	30.10	31.69	26.78
30	26.82	25.24	24.84	25.72	---	28.86	29.94	27.98	29.74	30.02	31.71	26.63
31	26.78	---	25.57	25.75	---	28.81	---	27.98	---	30.00	31.64	---
MEAN	27.41	26.88	25.07	25.49	26.08	28.66	29.36	29.25	28.89	30.01	31.42	29.80

WTR YR 2000 MEAN 28.26 HIGHEST 24.62 DEC. 13, 1999 LOWEST 32.15 AUG. 23, 2000



GROUND-WATER LEVELS

RIO INABON TO RIO LOCO BASINS--Continued

180156066434000. Local number, 1278.

LOCATION.--Lat 18°01'56", long 66°43'40", Hydrologic Unit 21010004, 1.23 mi north of Hwy 2, 0.10 mi west of Hwy 385, and 0.14 mi east of Rio Tallaboa. Owner: CORCO, Name: Luciano Ventura Well.

AQUIFER.--Alluvium.

WELL CHARACTERISTICS.--Drilled unused water-table well. Depth 66.4 ft (20.2 m).

INSTRUMENTATION.--Pressure transducer with integrated electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 66.0 ft (20.1 m), above mean sea level, from topographic map.. Measuring point: Top of shelter floor, 3.00 ft (0.91 m), above land-surface datum.

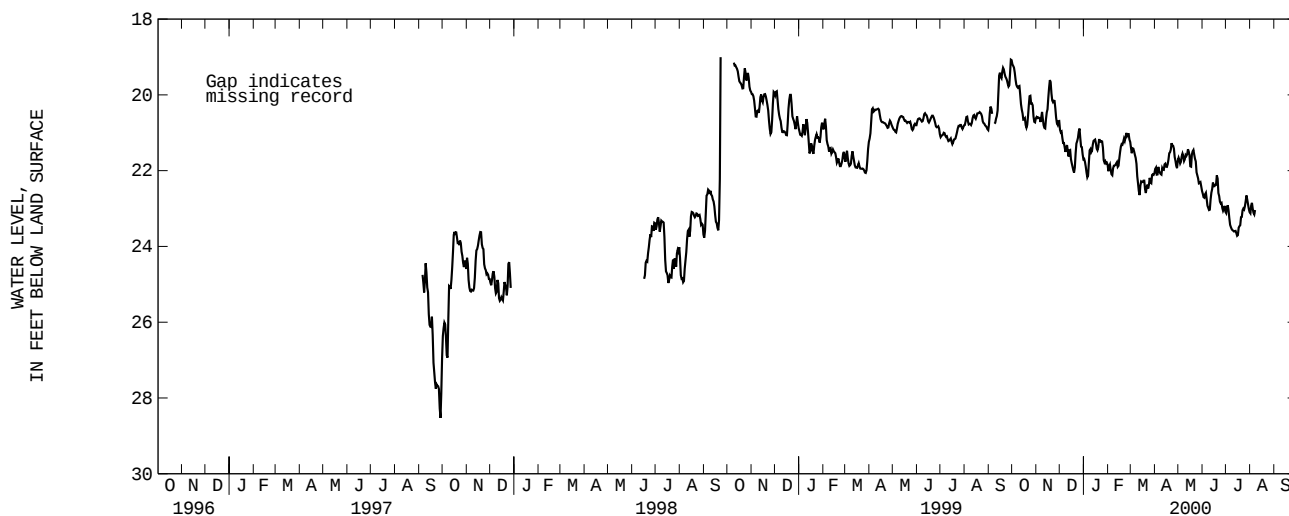
REMARKS.--Recording observation well. Automated Digital Recorder (ADR), installed on September 5, 1997. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on September 7, 1999. Formerly published as local number LV-1.

PERIOD OF RECORD.--September 5, 1997 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 16.65 ft (5.07 m), below land-surface datum, Sept. 23, 1998; lowest water level recorded, 28.87 ft (8.80 m), below land-surface datum, Sept. 28, 1997.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19.17	20.52	20.77	21.67	21.94	21.28	22.02	21.55	22.55	23.16	23.13	---
2	19.22	20.65	21.07	21.71	22.09	21.53	21.89	21.77	22.67	23.08	23.12	---
3	19.25	20.57	20.91	21.83	21.69	21.55	21.95	21.67	22.73	22.86	22.72	---
4	19.31	20.62	21.03	21.96	21.99	21.27	22.26	21.95	22.70	22.97	22.98	---
5	19.51	20.59	21.24	22.14	21.98	21.57	21.94	21.57	22.55	23.12	23.03	---
6	19.68	20.65	21.30	22.21	22.21	21.42	21.86	21.67	22.62	23.38	23.20	---
7	19.78	20.78	21.24	22.04	22.03	21.75	22.17	21.43	22.88	23.48	23.11	---
8	19.79	20.40	21.53	21.52	21.85	21.58	21.93	21.81	22.97	23.50	22.97	---
9	19.83	20.50	21.48	21.41	21.89	22.06	22.25	21.68	22.99	23.58	---	---
10	19.72	20.78	21.29	21.45	21.84	22.24	21.96	21.71	23.09	23.56	---	---
11	19.81	20.82	21.36	21.58	21.86	22.43	21.90	21.46	22.97	23.61	---	---
12	20.18	20.92	21.61	21.37	21.76	22.64	22.05	21.76	22.56	23.60	---	---
13	20.31	20.85	21.64	21.26	21.79	22.65	21.91	21.37	22.60	23.59	---	---
14	20.47	20.43	21.29	21.17	22.01	22.14	21.76	21.50	22.37	23.59	---	---
15	20.51	20.50	21.62	21.22	21.73	22.43	21.87	21.49	22.26	23.71	---	---
16	20.80	20.26	21.77	21.14	21.63	22.17	21.92	21.70	22.56	23.73	---	---
17	20.50	19.90	21.83	21.41	21.39	22.43	21.88	22.07	22.26	23.67	---	---
18	20.74	19.72	21.95	21.43	21.34	22.10	21.78	21.72	22.48	23.34	---	---
19	20.85	19.50	22.02	21.49	21.26	22.43	21.64	21.43	22.26	23.59	---	---
20	20.88	19.82	22.08	21.28	21.37	22.55	21.44	21.55	21.99	23.29	---	---
21	20.71	20.10	21.76	21.10	21.12	22.63	21.59	21.36	22.43	23.17	---	---
22	20.41	20.19	21.33	21.28	21.19	22.27	21.30	21.79	22.75	23.27	---	---
23	20.15	20.19	21.24	21.19	21.24	22.47	21.25	21.58	22.59	22.82	---	---
24	19.92	20.12	21.20	21.26	21.00	22.47	21.44	21.93	23.05	23.18	---	---
25	20.13	20.20	21.07	21.20	21.01	22.27	21.25	22.16	22.68	22.87	---	---
26	20.33	20.51	20.87	21.59	21.15	22.11	21.59	22.09	23.02	23.00	---	---
27	20.12	20.69	20.91	21.85	20.92	22.51	21.69	22.32	22.95	22.60	---	---
28	20.43	20.80	21.38	21.72	21.15	22.15	21.80	22.35	23.17	22.71	---	---
29	20.70	20.78	21.35	21.78	21.21	22.08	21.95	22.30	22.85	22.82	---	---
30	20.72	20.61	21.41	21.84	---	22.11	21.92	22.31	23.01	22.96	---	---
31	20.73	---	21.73	21.74	---	22.11	---	22.52	---	23.06	---	---
MEAN	20.15	20.43	21.40	21.54	21.57	22.11	21.81	21.79	22.69	23.25	23.03	---
WTR YR 2000	MEAN 21.71	HIGHEST 19.05	OCT. 1, 1999	LOWEST 23.75	JULY 15, 16, 2000							



GROUND-WATER LEVELS

RIO INABON TO RIO LOCO BASINS--Continued

180133066503300. Local number, 132.

LOCATION.--Lat 18°01'33", long 66°50'33", Hydrologic Unit 21010004, 0.90 mi southeast of Yauco plaza, 3.46 mi west of Guayanilla plaza, and 1.32 mi north of Escuela Segunda Unidad Barinas. Owner: Pittsburg Plate Glass, Name: Pittsburg Plate Glass 4, Yauco 2 Well.

AQUIFER.--Limestone of Tertiary Age.

WELL CHARACTERISTICS.--Drilled observation well, cased 20 in (0.51 m) 0-20.0 ft (0-6.10 m), 12 in (0.30 m) perforated pipe 20-84.0 ft (6.10-25.6 m), 10 in (0.25 m) perforated pipe 84-190 ft (25.6-57.9 m). Depth 190 ft (57.9 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 75.0 ft (22.9 m), above mean sea level, from topographic map. Measuring point: Top of shelter floor, 2.35 ft (0.72 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on February 17, 1998. [+ , above land-surface datum].

PERIOD OF RECORD.--July 1972 to current year.

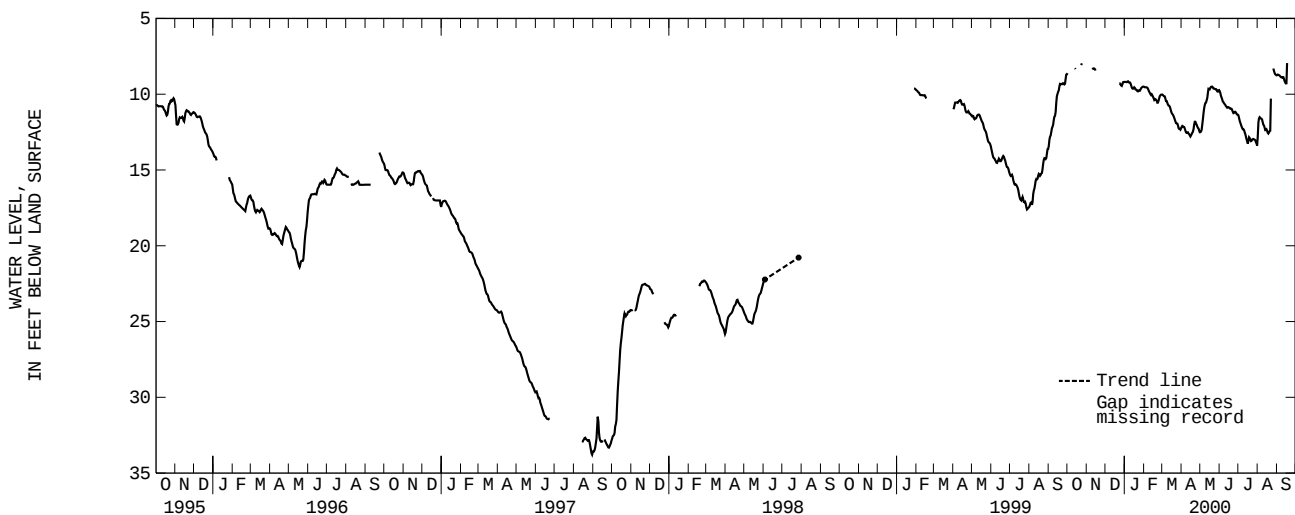
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, +0.12 ft (0.04 m), above land-surface datum, July 19, 1979; lowest water level recorded, 36.91 ft (11.25 m), below land-surface datum, June 27, 1974.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.70	---	---	9.19	9.50	10.02	12.20	12.54	9.75	11.34	13.52	8.79
2	8.52	---	---	9.18	9.53	10.03	12.12	12.47	9.84	11.45	12.08	8.69
3	---	---	---	9.20	9.55	10.08	12.06	12.45	10.01	11.69	11.66	8.72
4	---	---	---	9.18	9.54	10.14	12.17	12.26	10.21	11.82	11.52	8.72
5	---	---	---	9.23	9.55	10.13	12.13	11.80	10.22	11.94	11.51	8.76
6	---	---	---	9.12	9.55	10.17	12.20	11.51	10.47	12.07	11.61	8.79
7	---	---	---	9.18	9.59	10.45	12.33	11.04	10.50	12.18	11.59	8.85
8	---	---	---	9.25	9.70	10.45	12.48	10.85	10.56	12.28	11.65	8.88
9	---	---	---	9.20	9.78	10.46	12.56	10.59	10.65	12.34	11.72	8.90
10	---	8.38	---	9.25	9.90	10.66	12.54	10.58	10.66	12.28	12.00	8.91
11	---	8.36	---	9.32	9.92	10.72	12.51	10.52	10.76	12.46	12.04	8.83
12	---	8.25	---	9.50	10.08	10.77	12.52	10.30	10.82	12.56	12.10	8.92
13	8.25	8.35	---	9.60	10.03	10.75	12.67	10.22	10.85	12.70	12.32	9.06
14	8.32	8.26	---	9.64	9.98	10.90	12.61	9.65	10.93	12.89	12.42	9.20
15	8.36	8.44	---	9.64	10.18	11.02	12.81	9.62	10.81	13.04	12.30	9.26
16	---	8.44	---	9.57	10.14	11.21	12.77	9.68	10.90	13.19	12.34	9.32
17	---	---	---	9.52	10.38	11.27	12.67	9.67	10.87	13.33	12.50	9.24
18	---	7.80	---	9.66	10.36	11.33	12.59	9.52	10.96	12.83	12.60	6.65
19	---	---	---	9.72	10.27	11.39	12.50	9.51	10.96	12.85	12.59	---
20	---	---	---	9.68	10.38	11.49	12.46	9.50	10.94	12.93	12.46	---
21	---	---	---	9.76	10.38	11.61	12.17	9.50	10.99	13.04	12.41	---
22	---	---	---	9.84	10.48	11.74	11.87	9.61	11.11	13.15	12.41	---
23	8.21	---	9.30	9.78	10.64	11.85	11.77	9.64	11.22	13.01	8.17	---
24	7.95	---	9.27	9.73	10.47	11.96	11.87	9.61	11.28	12.98	---	---
25	7.98	---	9.31	9.80	10.38	11.89	11.98	9.68	11.18	12.95	---	---
26	---	---	9.40	9.74	10.14	11.99	12.05	9.67	11.15	12.96	8.20	---
27	---	---	9.45	9.65	10.11	12.10	12.19	9.66	11.17	13.01	8.41	---
28	---	---	9.46	9.56	10.03	12.36	12.24	9.75	11.26	12.99	8.53	---
29	---	---	9.23	9.56	10.03	12.22	12.29	9.87	11.33	13.08	8.66	---
30	---	---	9.19	9.50	---	12.35	12.48	9.79	11.36	13.25	8.71	---
31	---	---	9.20	9.50	---	12.33	---	9.71	---	13.26	8.72	---
MEAN	8.29	8.28	9.31	9.49	10.02	11.16	12.33	10.35	10.79	12.64	11.27	8.81

WTR YR 2000 MEAN 10.66 HIGHEST 6.35 OCT. 25, 1999 LOWEST 13.54 AUG. 1, 2000

+ above land-surface datum



GROUND-WATER LEVELS

RIO INABON TO RIO LOCO BASINS--Continued

175840066494100. Local number, 1279.

LOCATION.--Lat 17°58'40", long 66°49'41", Hydrologic Unit 21010004, 0.60 mi southwest of Central San Francisco, 1.50 mi northwest of Punta Ventana, and 0.80 mi south southeast of Escuela Arturo Lluberias. Owner: Tropical Fruit Corp., Name: Criollo 3 Well.

AQUIFER.--Limestone.

WELL CHARACTERISTICS.--Abandoned production well, diameter 12 in (0.30 m). Depth 93.0 ft (28.3 m).

DATUM.--Elevation of land-surface datum is about 80.0 ft (24.38 m), above mean sea level, from topographic map. Measuring point: Top of steel pipe, 2.00 ft (0.61 m), above land-surface datum.

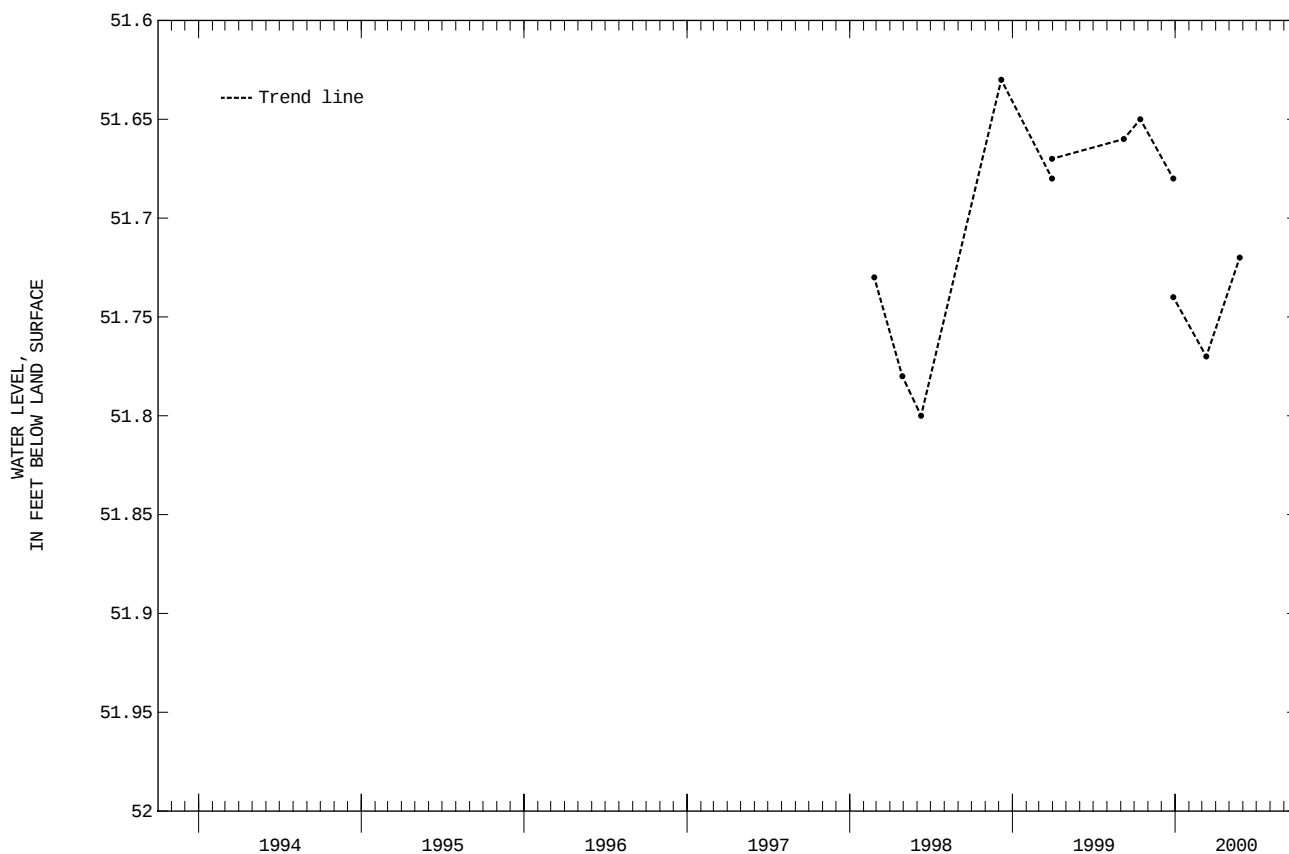
REMARKS.--Observation well.

PERIOD OF RECORD.--February 24, 1998 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 51.63 ft (15.74 m), below land-surface datum, Dec. 8, 1998; lowest water level measured, 51.80 ft (15.79 m), below land-surface datum, June 9, 1998.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 14	51.65	DEC 27	51.68	DEC 27	51.76	DEC 27	51.74	MAR 10	51.77	MAY 24	51.72
WATER YEAR 2000		HIGHEST 51.65 OCT. 14, 1999				LOWEST 51.77 MAR. 10, 2000					



GROUND-WATER LEVELS

RIO GUANAJIBO BASIN--Continued

180542067084000. Local number, 1301.

LOCATION.--Lat 18°05'42", long 67°08'40", Hydrologic Unit 21010003, 0.35 mi east of Hwy 311, 0.30 mi north of Hwy 102 in Central Cabo Rojo, and 0.50 mi northwest of the intersection of Hwy 102 with Hwy 103. Owner: PR Aqueduct and Sewer Authority, Name: PRASA 1, Cabo Rojo Well.

yAQUIFER.--Coquí Limestone.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 12 in (0.30 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 18.9 ft (12.0 m), above mean sea level, from topographic map. Measuring point: Hole in the side of the 12.0 in (0.30 m) casing, 1.30 ft (0.40 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), installed on May 25, 1996. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on April 9, 1999. Formerly published as local number CR-1.

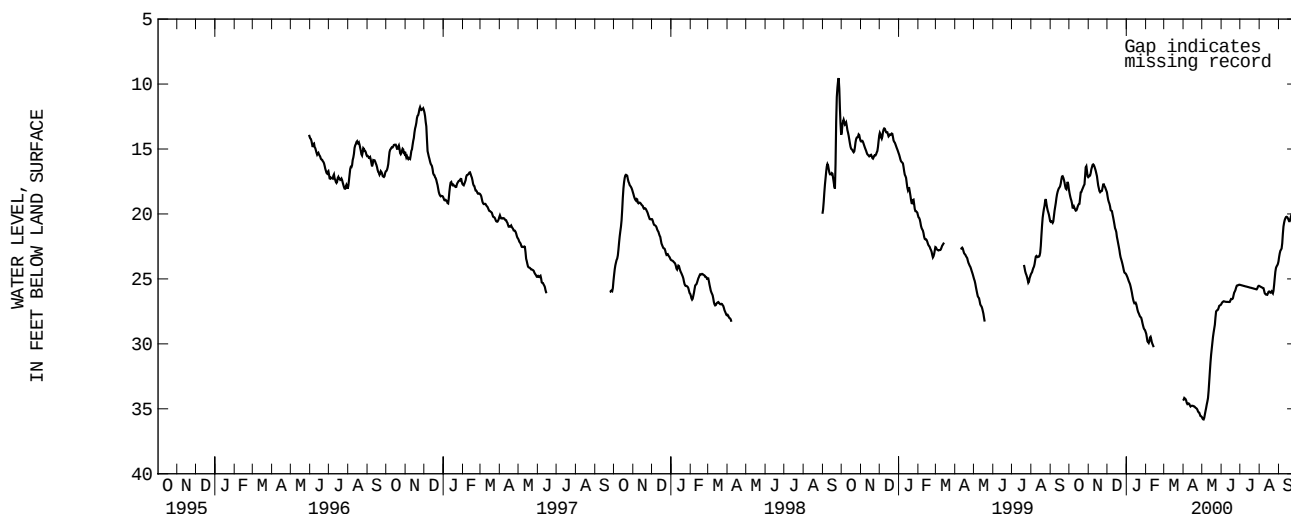
PERIOD OF RECORD.--May 25, 1996 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 9.37 ft (2.86 m), below land-surface datum, Sept. 27, 1998; lowest water level recorded, 35.91 ft (10.94 m) below land-surface datum, May 3, 4, 2000.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18.27	17.14	18.46	24.72	29.18	---	34.43	35.67	26.95	25.46	25.55	23.51
2	18.49	17.11	18.81	24.83	29.28	---	34.17	35.79	26.80	25.47	25.58	23.13
3	18.76	16.98	19.01	24.95	29.77	---	34.16	35.82	26.80	25.49	25.61	22.94
4	18.88	17.10	19.15	25.11	29.84	---	34.25	35.82	26.72	25.50	25.63	22.74
5	19.06	16.60	19.27	25.24	29.90	---	34.26	35.58	26.73	25.51	25.66	22.77
6	19.33	16.53	19.56	25.33	29.97	---	34.46	35.27	26.73	25.53	25.69	22.55
7	19.70	16.28	19.85	25.48	29.62	---	34.64	35.09	26.76	25.54	25.70	21.96
8	19.34	16.17	19.65	25.72	29.40	---	34.64	34.80	26.76	25.55	25.73	21.12
9	19.50	16.20	19.91	25.92	29.51	---	34.59	34.54	26.77	25.57	26.09	20.82
10	19.58	16.27	20.15	26.20	29.78	---	34.58	34.35	26.77	25.58	26.11	20.53
11	19.74	16.44	20.39	26.48	29.98	---	34.67	34.00	26.77	25.59	26.22	20.41
12	19.75	16.57	20.66	26.67	30.05	---	34.81	33.24	26.77	25.60	26.20	20.26
13	19.70	16.78	20.93	26.85	30.21	---	34.83	32.49	26.78	25.62	26.23	20.22
14	19.54	16.98	21.26	26.91	30.30	---	34.73	31.77	26.78	25.63	26.22	20.22
15	19.36	17.21	21.17	26.83	---	---	34.80	31.09	26.76	25.64	26.02	20.27
16	19.28	17.70	21.62	26.84	---	---	34.73	30.57	26.54	25.66	25.97	20.38
17	19.20	17.90	21.91	27.05	---	---	34.82	30.20	26.55	25.67	25.96	20.49
18	19.24	18.14	22.11	27.27	---	---	34.80	29.67	26.55	25.68	26.02	20.62
19	18.31	18.33	22.42	27.49	---	---	34.83	29.27	26.55	25.69	26.10	20.49
20	18.37	18.30	22.61	27.61	---	---	34.89	28.99	26.41	25.71	25.97	20.27
21	18.25	18.19	22.96	27.69	---	---	34.94	28.65	26.10	25.72	25.95	20.09
22	18.08	18.31	23.26	27.85	---	---	34.96	28.41	26.01	25.73	26.15	19.97
23	18.03	18.13	23.44	27.94	---	---	35.02	27.53	25.92	25.75	26.09	19.85
24	17.84	17.83	23.58	27.93	---	---	35.12	27.48	25.79	25.76	25.73	19.68
25	17.79	17.63	23.78	28.06	---	---	35.28	27.42	25.58	25.77	25.21	19.56
26	17.66	17.81	23.98	28.31	---	---	35.26	27.37	25.50	25.79	24.65	19.45
27	16.53	17.91	24.20	28.51	---	---	35.33	27.37	25.49	25.80	24.25	19.45
28	16.29	17.96	24.46	28.72	---	---	35.53	27.11	25.50	25.81	24.05	19.42
29	16.36	18.18	24.55	28.86	---	---	35.59	27.04	25.44	25.66	24.02	19.49
30	17.00	18.21	24.56	28.91	---	---	35.57	27.04	25.45	25.55	23.90	19.60
31	17.20	---	24.61	28.98	---	34.30	---	26.99	---	25.52	23.80	---
MEAN	18.53	17.36	21.69	26.94	29.77	34.30	34.82	31.18	26.37	25.63	25.55	20.74

WTR YR 2000 MEAN 25.12 HIGHEST 16.11 NOV. 8, 1999 LOWEST 35.91 MAY 3, 4, 2000



GROUND-WATER LEVELS

RIO GUANAJIBO BASIN--Continued

180628067084300. Local number, 1302.

LOCATION.--Lat 18°06'28", long 67°08'43", Hydrologic Unit 21010003, 1.29 mi north of Cabo Rojo plaza, 1.54 mi northwest of Escuela Segunda Unidad Antonio Acarón Correa, and 1.23 mi southeast of Escuela Sabana Alta. Owner: US Geological Survey, WRD, Name: Piezometer Cabo Rojo 9A Well.

AQUIFER.--Sandy and clay.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 4 in (0.10 m), cased 4 in (0.10 m), 0-24.0 ft (0-7.32 m), screened 19-24 ft (5.79-7.32 m). Depth 24.0 ft (7.32 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 33.2 ft (10.1 m), above mean sea level, from topographic map. Measuring point:

Hole on shelter floor, 4.51 ft (1.37 m), above land-surface datum.

REMARKS.--Recording observation well. Drilled on Mar. 25, 1992. Automatic Digital Recorder (ADR), re-installed on May 29, 1996.

Automatic Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on Jan. 27, 1999. Formerly published as local number and name CR-TW-9A. Well dry below 21.76 ft (6.63 m).

PERIOD OF RECORD.--July 1992 to January 1994, discontinued, May 27, 1996 to current year.

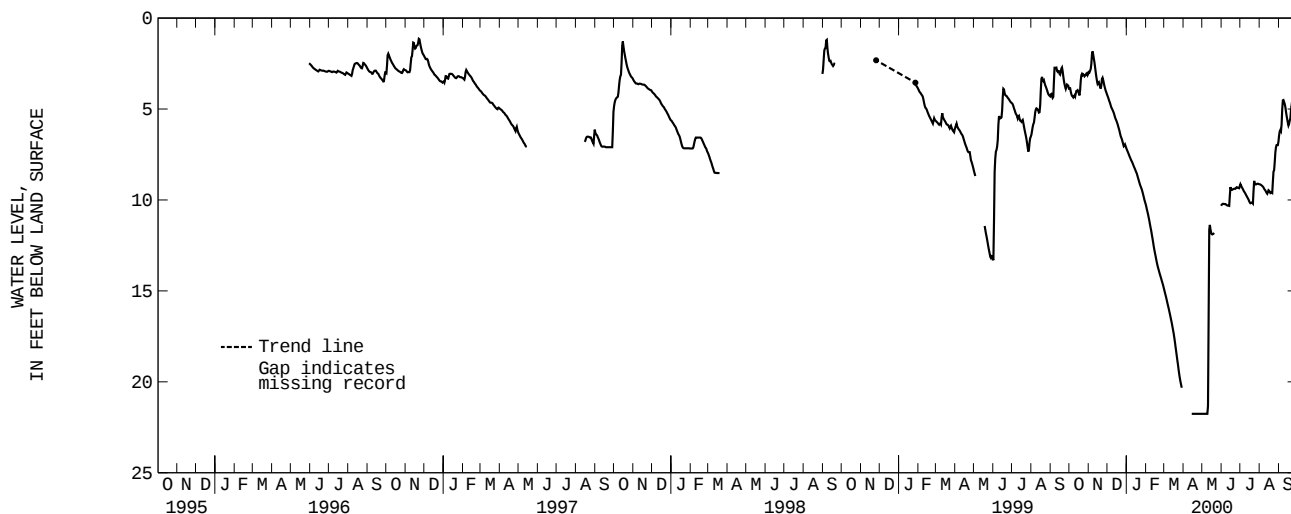
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, +0.24 ft (+0.07 m), below land-surface datum, Oct. 12, 1992; lowest water level recorded, 21.76 ft (6.63 m), below land-surface datum, May 9, 10, 2000.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.96	2.97	4.24	7.19	10.27	14.89	---	> 21.76	10.27	9.10	9.14	6.60
2	3.75	2.96	4.32	7.28	10.44	15.03	---	> 21.76	10.25	9.16	9.14	6.30
3	3.96	3.01	4.42	7.36	10.59	15.17	---	> 21.76	10.21	9.25	9.16	6.15
4	4.11	2.79	4.54	7.44	10.72	15.30	---	> 21.76	10.21	9.32	9.19	6.15
5	4.26	2.80	4.63	7.54	10.89	15.44	---	> 21.76	10.22	9.37	9.21	6.28
6	4.29	2.25	4.72	7.62	11.06	15.61	---	> 21.76	10.23	9.45	9.26	5.42
7	4.33	1.76	4.87	7.70	11.24	15.75	---	> 21.76	10.22	9.52	9.27	4.59
8	4.39	1.90	4.94	7.79	11.44	15.89	---	> 21.76	10.23	9.57	9.36	4.45
9	4.20	2.11	5.01	7.86	11.60	16.05	---	> 21.76	10.27	9.62	9.41	4.56
10	4.30	2.33	5.09	7.92	11.80	16.20	---	> 21.76	10.30	9.69	9.46	4.67
11	4.34	2.54	5.17	8.01	12.01	16.37	---	20.89	10.31	9.76	9.50	4.77
12	3.96	2.85	5.26	8.10	12.21	16.53	---	12.05	10.31	9.81	9.59	5.01
13	4.06	3.10	5.40	8.19	12.43	16.69	---	11.22	10.32	9.89	9.64	5.27
14	3.93	3.35	5.51	8.26	12.65	16.87	> 21.76	11.52	10.33	9.94	9.68	5.46
15	4.00	3.54	5.59	8.34	12.83	17.06	> 21.76	11.72	9.22	10.02	9.45	5.66
16	4.09	3.67	5.67	8.45	13.00	17.25	> 21.76	11.86	9.37	10.11	9.48	5.85
17	4.19	3.42	5.77	8.50	13.18	17.44	> 21.76	11.90	9.43	10.17	9.51	5.96
18	4.31	3.61	5.88	8.62	13.35	17.69	> 21.76	11.89	9.45	10.19	9.60	5.66
19	3.64	3.73	6.01	8.75	13.52	17.94	> 21.76	11.86	9.43	10.14	9.64	5.63
20	3.28	3.80	6.12	8.86	13.67	18.21	> 21.76	11.84	9.40	10.15	9.55	5.41
21	3.00	3.95	6.26	8.98	13.79	18.46	> 21.76	11.80	9.39	10.17	9.61	4.77
22	3.14	3.47	6.42	9.10	13.92	18.72	> 21.76	---	9.38	10.23	9.61	4.85
23	3.13	3.22	6.54	9.21	14.04	18.96	> 21.76	---	9.38	8.82	8.37	4.91
24	3.05	3.34	6.61	9.29	14.16	19.22	> 21.76	---	9.39	9.08	8.51	4.99
25	3.20	3.48	6.72	9.38	14.27	19.50	> 21.76	---	9.30	9.13	8.23	4.47
26	3.20	3.66	6.86	9.49	14.38	19.73	> 21.76	---	9.30	9.16	7.59	4.73
27	3.12	3.80	6.99	9.63	14.52	19.92	> 21.76	---	9.32	9.13	7.18	4.50
28	3.15	3.94	7.11	9.76	14.61	20.10	> 21.76	---	9.34	9.12	7.00	4.57
29	2.95	4.04	6.92	9.91	14.76	20.26	> 21.76	---	9.35	9.10	6.96	4.88
30	3.10	4.13	6.98	10.05	---	20.39	> 21.76	---	9.36	9.11	7.00	5.12
31	3.17	---	7.11	10.16	---	---	---	10.37	---	9.13	6.96	---
MEAN	3.73	3.18	5.73	8.54	12.67	17.42	21.76	16.66	9.78	9.56	8.88	5.25

WTR YR 2000 MEAN 9.63 HIGHEST 1.73 NOV. 7, 1999 LOWEST 21.76 MAY 9, 10, 2000

> Actual value is known to be greater than the value shown



RIO GUANAJIBO BASIN--Continued

180628067084301. Local number, 1303.

LOCATION: --Lat 18°06'28", long 67°08'43", Hydrologic Unit 21010003, 1.29 mi north of Cabo Rojo plaza, 1.54 mi northwest of Escuela Segunda Unidad Antonio Acarón Correa, and 1.23 mi southeast of Escuela Sabana Alta. Owner: US Geological Survey, WRD, Name: Piezometer Cabo Rojo 9B Well.

yAQUIFER.--Cotu Limestone.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 4 in (0.10 m), cased 4 in (0.10 m), 0-109 ft (0-33.2m), screened 104-109 ft (31.7-33.2 m). Depth 109 ft (33.2 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 33.2 ft (10.1 m), above mean sea level, from topographic map. Measuring point: Shelter floor on top of 4 in (0.10 m) casing, 4.73 ft (1.44 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), installed on May 29, 1996. Automatic Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on Jan. 27, 1999. Formerly published as local number and name CR-TW-9B.

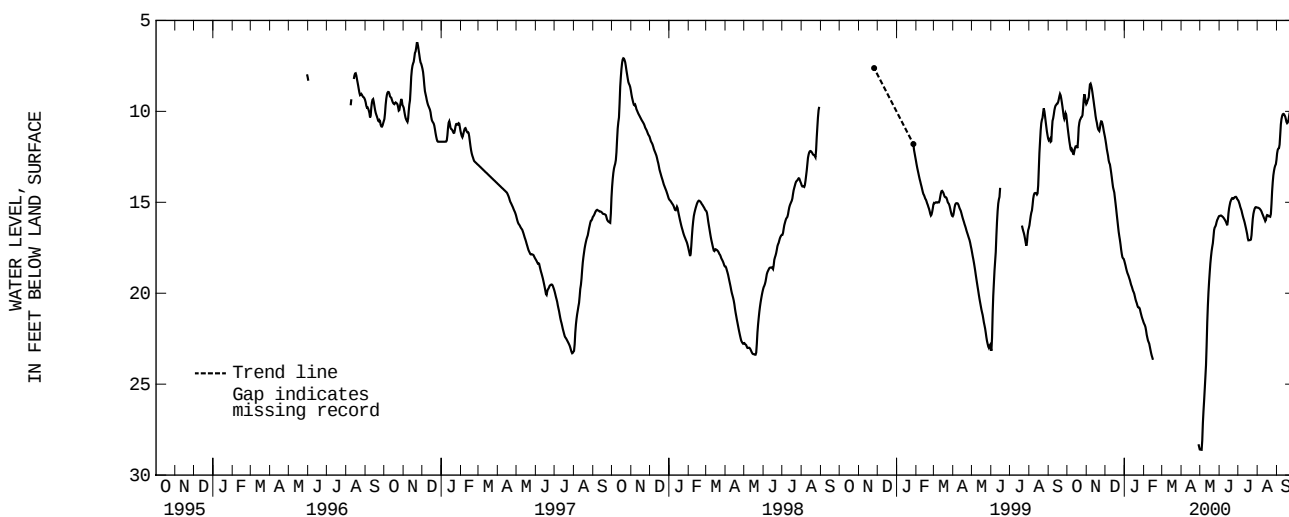
PERIOD OF RECORD.--May 29, 1996 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 6.18 ft (1.88 m), below land-surface datum, Nov. 23, 1996; lowest water level recorded, 28.61 ft (8.72 m), below land-surface datum, May 3, 4, 2000.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10.66	9.55	11.51	18.28	21.66	---	---	28.60	15.75	14.86	15.30	12.46
2	10.97	9.54	11.69	18.40	21.72	---	---	28.60	15.75	14.97	15.29	12.17
3	11.25	9.32	11.96	18.56	21.80	---	---	28.61	15.72	15.06	15.32	12.06
4	11.52	9.35	12.18	18.70	21.93	---	---	28.61	15.73	15.18	15.33	12.03
5	11.77	9.12	12.33	18.84	22.19	---	---	27.61	15.76	15.33	15.37	12.02
6	11.97	8.61	12.56	18.93	22.38	---	---	26.66	15.79	15.38	15.42	11.63
7	12.20	8.42	12.83	19.01	22.52	---	---	26.29	15.82	15.54	15.46	10.91
8	12.09	8.53	12.83	19.12	22.68	---	---	25.53	15.87	15.69	15.56	10.52
9	12.05	8.65	13.00	19.23	22.69	---	---	25.00	15.92	15.81	15.65	10.34
10	12.23	8.84	13.26	19.33	22.86	---	---	24.27	15.98	15.94	15.72	10.18
11	12.45	9.10	13.49	19.49	23.03	---	---	23.66	16.04	16.04	15.83	10.15
12	12.25	9.34	13.78	19.59	23.21	---	---	22.13	16.12	16.19	15.90	10.13
13	12.10	9.60	14.04	19.67	23.36	---	---	21.06	16.22	16.34	15.98	10.18
14	11.94	9.86	14.31	19.82	23.49	---	---	20.30	16.31	16.50	16.09	10.25
15	11.91	10.10	14.32	19.91	23.59	---	---	19.59	15.80	16.66	15.85	10.33
16	11.93	10.41	14.61	19.96	23.73	---	---	19.10	15.43	16.85	15.71	10.52
17	11.97	10.51	14.91	20.10	---	---	---	18.58	15.25	17.10	15.69	10.64
18	12.07	10.72	15.21	20.26	---	---	---	18.16	15.05	17.08	15.73	10.66
19	11.04	10.93	15.51	20.40	---	---	---	17.83	14.93	17.08	15.80	10.57
20	10.72	11.01	15.85	20.50	---	---	---	17.55	14.87	17.09	15.75	10.47
21	10.51	11.07	16.14	20.59	---	---	---	17.35	14.77	17.05	15.78	10.17
22	10.44	11.09	16.47	20.75	---	---	---	17.15	14.77	17.05	15.79	10.05
23	10.39	10.73	16.75	20.78	---	---	---	16.65	14.79	16.57	15.49	9.99
24	10.26	10.58	16.96	20.79	---	---	---	16.40	14.81	16.09	14.68	9.97
25	10.34	10.52	17.17	20.79	---	---	---	16.37	14.72	15.73	14.12	9.89
26	10.08	10.61	17.47	20.95	---	---	---	16.29	14.72	15.54	13.66	9.89
27	9.56	10.75	17.73	21.09	---	---	---	16.18	14.69	15.41	13.37	9.85
28	9.11	10.94	17.95	21.23	---	---	28.30	16.00	14.71	15.30	13.17	9.79
29	9.01	11.16	18.08	21.35	---	---	28.31	15.94	14.77	15.27	13.02	9.81
30	9.33	11.29	18.08	21.45	---	---	28.58	15.87	14.87	15.26	12.94	9.91
31	9.66	---	18.14	21.55	---	---	---	15.77	---	15.29	12.87	---
MEAN	11.09	10.01	14.87	19.98	22.68	---	28.40	20.89	15.39	15.98	15.09	10.58

WTR YR 2000 MEAN 15.47 HIGHEST 8.41 NOV. 7, 1999 LOWEST 28.61 MAY 3, 4, 2000



GROUND-WATER LEVELS

RIO GUANAJIBO BASIN--Continued

180802067073300. Local number, 1304.

LOCATION.--Lat 18°08'02", long 67°07'33", Hydrologic Unit 21010003, on west side of Hwy 319, 0.30 mi south of Hwy 3, and 0.60 mi south southeast of Hormigueros plaza. Owner: PR Aqueduct and Sewer Authority, Name: Hormigueros Well.

AQUIFER.--Sandy and clay.

WELL CHARACTERISTICS.--Abandoned production well.

DATUM.--Elevation of land-surface datum is about 31.0 ft (9.45 m), above mean sea level, from topographic map. Measuring point: Access hole in steel covering, 0.50 ft (0.15 m), above land-surface datum.

REMARKS.--Observation well.

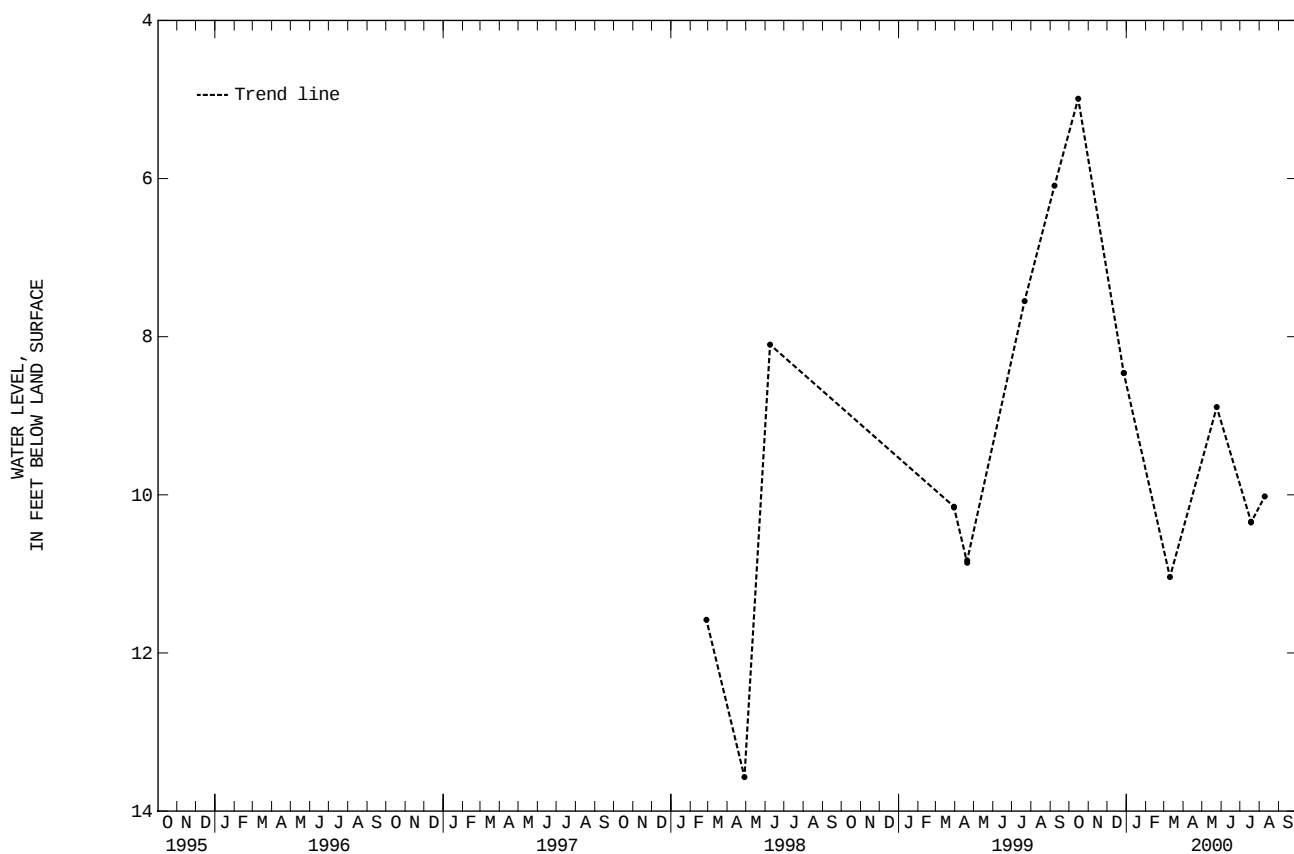
PERIOD OF RECORD.--February 26, 1998 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.99 ft (1.52 m), below land-surface datum, Oct. 15, 1999; lowest water level measured, 13.57 ft (4.14 m), below land-surface datum, Apr. 28, 1998.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15	4.99	DEC 27	8.46	MAY 24	8.89	JUL 18	10.33	JUL 18	10.35	AUG 09	10.03
DEC 27	8.46	MAR 10	11.04	JUL 18	10.34	JUL 18	10.35	AUG 09	10.02		

WATER YEAR 2000 HIGHEST 4.99 OCT. 15, 1999 LOWEST 11.04 MAR. 10, 2000



GROUND-WATER LEVELS

RIO YAGÜEZ AND RIO GRANDE AÑASCO BASINS

181232067083700. Local number, 1326.

LOCATION.--Lat 18°12'32", long 67°08'37", Hydrologic Unit 21010003, 0.10 mi east of Hwy 2, 0.92 mi southeast of the intersection of Hwy 104 with Hwy 2, and 0.20 mi southwest of the University of Puerto Rico, Mayaguez Campus. Owner: Cerveceria India Inc., Name: Cerveceria India 4 Well.

AQUIFER.--Alluvium.

WELL CHARACTERISTICS.--Drilled emergency use water-table well, diameter 20 in (0.51 m), cased 20 in (0.51 m), 0-100 ft (0-30.5 m), perforated 85-95.0 ft (25.9-28.9 m). Depth 100 ft (30.5 m).

INSTRUMENTATION.--Pressure transducer with integrated electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 10.0 ft (3.05 m), above mean sea level. Measuring point: Top of shelter floor, 2.80 ft (0.85 m), above land-surface datum. Prior to Nov. 20, 1992, hole on side of casing, 2.00 ft (0.61 m), above land-surface datum.

REMARKS.--Recording observation well. Electronic Data Logger (EDL), installed on August 29, 1997. Water level affected by nearby pumping well. Formerly published as local number CI-1.

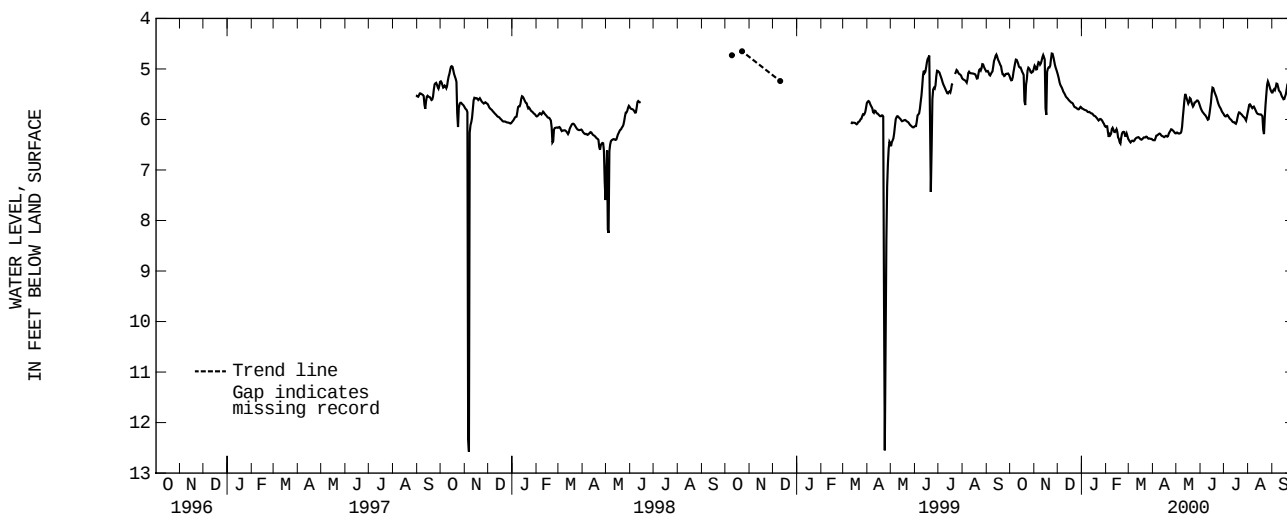
PERIOD OF RECORD.--August 29, 1997 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 4.65 ft (1.42 m), below land-surface datum, Nov. 24, 1999; lowest water level recorded, 18.86 ft (5.75 m), below land-surface datum, Apr. 24, 1999.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.16	4.93	5.10	5.78	6.13	6.41	6.41	6.27	5.76	5.90	5.87	5.48
2	5.23	4.94	5.15	5.79	6.14	6.41	6.41	6.25	5.80	5.93	5.72	5.45
3	5.22	4.98	5.23	5.79	6.13	6.46	6.41	6.27	5.83	5.94	5.70	5.39
4	5.22	5.04	5.30	5.81	6.37	6.45	6.41	6.28	5.86	5.94	5.70	5.41
5	5.11	4.97	5.33	5.81	6.32	6.42	6.33	6.28	5.87	5.90	5.74	5.43
6	5.00	4.87	5.36	5.82	6.26	6.42	6.31	6.27	5.90	5.92	5.77	5.30
7	4.94	4.86	5.39	5.82	6.36	6.42	6.32	6.27	5.91	5.94	5.78	5.28
8	4.83	4.89	5.44	5.84	6.20	6.44	6.29	6.22	5.93	5.97	5.73	5.31
9	4.80	4.94	5.47	5.86	6.18	6.39	6.29	6.08	5.96	5.99	5.76	5.39
10	4.84	4.84	5.49	5.85	6.15	6.38	6.27	5.83	5.99	6.00	5.79	5.45
11	4.87	4.83	5.53	5.85	6.25	6.36	6.30	5.75	6.02	6.02	5.83	5.44
12	4.93	4.71	5.56	5.87	6.24	6.36	6.32	5.49	5.97	6.04	5.86	5.48
13	4.98	4.74	5.57	5.88	6.26	6.35	6.33	5.50	5.83	6.06	5.89	5.53
14	4.96	4.79	5.59	5.88	6.20	6.35	6.33	5.57	5.74	6.05	5.89	5.56
15	4.98	4.84	5.61	5.89	6.19	6.37	6.35	5.61	5.59	6.06	5.90	5.58
16	5.04	6.71	5.63	5.92	6.30	6.39	6.35	5.66	5.39	6.09	5.90	5.62
17	5.07	5.11	5.64	5.93	6.41	6.40	6.33	5.71	5.35	6.08	5.90	5.57
18	5.10	5.01	5.66	5.93	6.36	6.40	6.32	5.59	5.41	6.01	5.90	5.52
19	5.14	4.98	5.67	5.95	6.54	6.38	6.33	5.56	5.45	5.93	5.93	5.48
20	6.13	4.96	5.67	5.97	6.41	6.36	6.35	5.62	5.50	5.87	5.94	5.34
21	5.30	4.98	5.70	5.98	6.31	6.35	6.31	5.69	5.53	5.85	6.46	5.27
22	5.33	4.89	5.74	6.02	6.25	6.36	6.25	5.72	5.58	5.88	6.12	5.30
23	5.09	4.72	5.76	6.02	6.25	6.35	6.25	5.77	5.64	5.89	5.79	5.31
24	4.97	4.67	5.76	5.99	6.24	6.33	6.20	5.67	5.69	5.90	5.62	5.28
25	4.98	4.73	5.77	5.99	6.26	6.36	6.19	5.66	5.73	5.93	5.39	5.12
26	5.00	4.79	5.79	6.00	6.39	6.38	6.21	5.66	5.76	5.94	5.23	5.13
27	5.04	4.88	5.79	6.02	6.26	6.38	6.22	5.63	5.78	5.96	5.26	5.07
28	5.09	4.95	5.81	6.05	6.30	6.37	6.24	5.62	5.82	5.97	5.31	5.07
29	5.06	5.00	5.78	6.08	6.36	6.39	6.26	5.63	5.86	6.01	5.37	5.12
30	5.04	5.04	5.75	6.10	---	6.38	6.28	5.66	5.87	6.03	5.42	5.21
31	5.06	---	5.75	6.16	---	6.39	---	5.71	---	5.87	5.45	---
MEAN	5.08	4.95	5.57	5.92	6.28	6.39	6.31	5.82	5.74	5.96	5.74	5.36

WTR YR 2000 MEAN 5.76 HIGHEST 4.65 NOV. 24, 1999 LOWEST 18.77 OCT. 20, 1999



GROUND-WATER LEVELS

RIO CULEBRINAS BASIN

182017067143300. Local number, 1352.

LOCATION: --Lat 18°20'17", long 67°14'33", Hydrologic Unit 21010003, 0.63 mi southeast of the intersection of Hwy 412 with Hwy 115, 1.13 mi south of the intersection of Hwy 413 with Hwy 115, and 0.01 mi north of Hwy 411. Owner: PR Aqueduct and Sewer Authority, Name: Rincón 4 Well.

AQUIFER. -- Alluvium.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 12 in (0.30 m), cased 0-69.0 ft (0-21.0 m). Depth 64.0 ft (21.0 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 39.0 ft (11.9 m), above mean sea level, from topographic map. Measuring point:

Shelter floor on top of the 4 in (0.10 m) casing, 3.53 ft (1.08 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), installed on May 30, 1996. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on February 18, 1999. Formerly published as local number R-4.

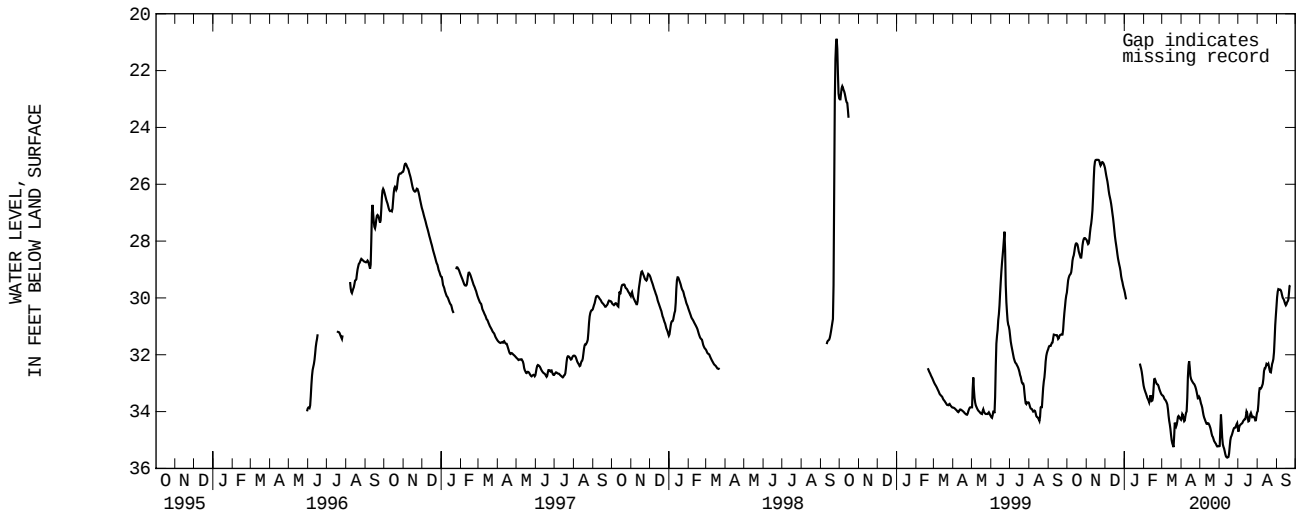
PERIOD OF RECORD.--May 30, 1996 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 20.80 ft (6.34 m), below land-surface datum, Sept. 27, 1998; lowest water level recorded, 35.62 ft (10.86 m), below land-surface datum, July 12-15, 2000.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29.76	27.94	25.46	29.76	33.15	33.42	34.30	33.56	35.22	34.77	34.02	30.11
2	29.43	28.01	25.63	29.88	33.22	33.44	34.15	33.68	35.20	34.64	33.96	29.85
3	29.33	28.09	25.73	30.01	33.29	33.44	34.02	33.76	34.01	34.51	33.50	29.70
4	29.24	28.12	25.85	30.09	33.35	33.51	34.22	33.80	34.20	34.48	33.22	29.68
5	29.20	28.04	25.95	---	33.41	33.56	34.30	33.93	34.77	34.46	33.13	29.72
6	29.16	27.84	26.15	---	33.49	33.59	34.38	34.07	35.07	34.43	33.21	29.71
7	29.15	27.59	26.29	---	33.55	33.60	34.25	34.17	35.23	34.42	33.16	29.71
8	29.03	27.45	26.43	---	33.58	33.67	34.07	34.24	35.25	34.40	33.14	29.76
9	28.81	27.32	26.50	---	33.65	33.70	34.02	34.29	35.35	34.33	33.04	29.85
10	28.57	27.06	26.63	---	33.71	33.80	33.97	34.36	35.44	34.31	33.01	29.97
11	28.57	26.77	26.76	---	33.46	34.03	33.06	34.41	35.56	34.28	32.69	30.02
12	28.44	26.15	26.94	---	33.39	34.25	32.50	34.45	35.59	34.25	32.47	30.04
13	28.30	25.54	27.10	---	33.60	34.39	32.25	34.41	35.62	34.28	32.49	30.11
14	28.14	25.25	27.27	---	33.65	34.52	32.20	34.41	35.62	34.03	32.46	30.18
15	28.08	25.16	27.50	---	33.57	34.71	32.68	34.42	35.60	33.96	32.36	30.25
16	28.08	25.14	27.71	---	33.44	34.95	32.82	34.49	35.59	34.13	32.28	30.27
17	28.10	25.14	27.93	---	32.89	35.07	32.87	34.53	35.37	34.32	32.40	30.18
18	28.15	25.14	28.06	---	32.83	35.16	32.93	34.62	35.10	34.37	32.31	30.12
19	28.31	25.14	28.22	---	32.87	35.21	32.95	34.72	34.93	34.29	32.33	30.12
20	28.41	25.14	28.36	---	32.94	35.29	33.00	34.83	34.87	34.14	32.52	30.00
21	28.47	25.15	28.57	---	33.01	34.41	33.02	34.89	34.83	34.05	32.56	29.66
22	28.55	25.22	28.66	---	33.04	34.37	33.04	34.90	34.74	34.04	32.66	29.50
23	28.61	25.32	28.79	---	33.04	34.59	33.11	35.02	34.67	34.18	32.58	29.61
24	28.55	25.36	28.88	---	33.07	34.47	33.15	35.05	34.59	34.22	32.36	---
25	28.25	25.24	28.98	32.24	33.15	34.46	33.26	35.09	34.57	34.17	32.29	---
26	28.06	25.22	29.14	32.38	33.23	34.23	33.35	35.13	34.57	34.19	32.21	---
27	27.96	25.22	29.33	32.43	33.28	34.15	33.48	35.15	34.56	34.20	32.09	---
28	27.90	25.26	29.38	32.55	33.35	34.16	33.59	35.24	34.46	34.26	31.73	---
29	27.89	25.30	29.50	32.65	33.39	34.20	33.47	35.21	34.43	34.36	31.19	---
30	27.90	25.38	29.61	32.85	---	34.25	33.49	35.22	34.38	34.25	30.73	---
31	27.94	---	29.69	33.02	---	34.28	---	35.22	---	34.03	30.49	---
MEAN	28.53	26.16	27.65	31.62	33.30	34.22	33.40	34.56	34.98	34.28	32.54	29

WTR YR 2000 MEAN 31.81 HIGHEST 25.13 NOV. 20, 1999 LOWEST 35.62 JUNE 12-15, 2000



GROUND-WATER LEVELS

R10 CULEBRINAS BASIN--Continued

182442067091700. Local number, 200.

LOCATION: -Lat 18°24'42", long 67°09'17", Hydrologic Unit 21010002, 1.40 mi south of Aguadilla plaza, 3.04 mi northeast of Aguada plaza, and 0.20 mi north of Hwy 2 km 146.4. Owner: Carmelo Sánchez, Name: Aguadilla Cement North Well.

AQUIFER.--Alluvial deposits.

WELL CHARACTERISTICS. --Abandoned water-table industrial well, diameter 4 in (0.10 m), cased 0-20.0 ft (0-6.10 m), perforated 11.0-20.0 ft (3.35-6.10 m). Depth 20.0 ft (6.10 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 10.0 ft (3.05 m), above mean sea level, from topographic map. Measuring point: Shelter floor on top of 4 in (0.10 m) casing, 3.25 ft (0.99 m), above land-surface datum.

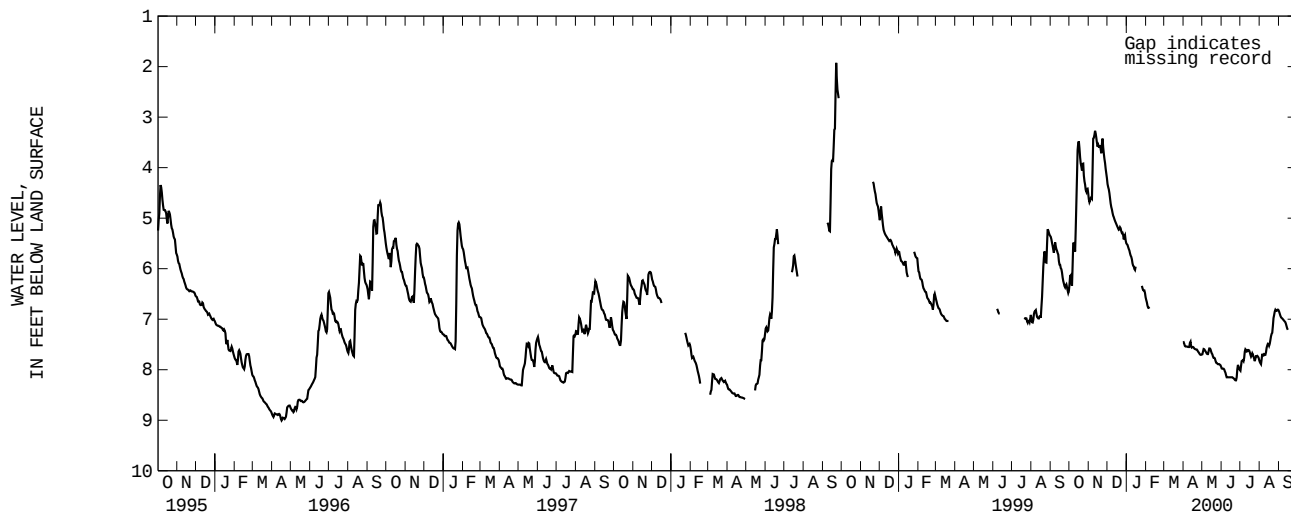
REMARKS.--Recording observation well. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on February 18, 1998. Water levels affected by nearby pumping well.

PERIOD OF RECORD.--October 1985 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 1.61 ft (0.49 m), below land-surface datum, Sept. 22, 1998; lowest water level recorded, 9.60 ft (2.93 m), below land-surface datum, Feb. 20, 1992.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.37	4.58	4.28	5.50	6.60	---	7.45	7.70	7.97	8.02	7.83	6.83
2	6.25	4.67	4.37	5.53	6.64	---	7.46	7.69	7.98	8.02	7.86	6.87
3	6.04	4.70	4.40	5.53	6.69	---	7.52	7.59	7.98	7.82	7.88	6.91
4	6.22	4.61	4.46	5.61	6.77	---	7.54	7.59	7.98	7.84	7.90	6.95
5	6.30	4.60	4.55	5.61	6.77	---	7.54	7.60	7.98	7.80	7.68	6.97
6	6.38	4.57	4.67	5.67	6.77	---	7.54	7.63	8.01	7.82	7.69	6.98
7	5.50	4.64	4.75	5.72	6.81	---	7.54	7.64	8.05	7.84	7.75	6.99
8	5.50	3.45	4.81	5.76	---	---	7.55	7.67	8.07	7.69	7.69	7.01
9	5.49	3.40	4.85	5.77	---	---	7.55	7.69	8.15	7.59	7.70	7.02
10	5.59	3.42	4.94	5.86	---	---	7.55	7.69	8.15	7.60	7.71	7.04
11	5.73	3.28	4.96	5.93	---	---	7.55	7.69	8.15	7.62	7.70	7.05
12	4.70	3.26	5.00	5.95	---	---	7.39	7.58	8.15	7.66	7.61	7.07
13	4.67	3.39	5.04	5.96	---	---	7.50	7.58	8.15	7.61	7.52	7.12
14	3.70	3.43	5.07	6.05	---	---	7.57	7.58	8.15	7.61	7.52	7.16
15	3.61	3.59	5.10	6.00	---	---	7.55	7.61	8.15	7.61	7.45	7.21
16	3.41	3.58	5.13	5.92	---	---	7.55	7.67	8.15	7.63	7.53	7.21
17	3.55	3.52	5.16	---	---	---	7.55	7.68	8.15	7.68	7.52	---
18	3.68	3.66	5.19	---	---	---	7.57	7.71	8.15	7.72	7.45	---
19	3.91	3.52	5.22	---	---	---	7.59	7.77	8.15	7.76	7.38	---
20	3.92	3.59	5.24	---	---	---	7.59	7.76	8.17	7.67	7.30	---
21	4.04	3.68	5.20	---	---	---	7.60	7.77	8.17	7.68	7.28	---
22	4.07	3.75	5.16	---	---	---	7.60	7.78	8.19	7.72	7.26	---
23	3.78	3.30	5.24	---	---	---	7.60	7.86	8.21	7.76	7.01	---
24	4.06	3.55	5.28	---	---	---	7.63	7.86	8.21	7.81	6.95	---
25	4.25	3.65	5.31	6.33	---	---	7.65	7.87	8.21	7.85	6.89	---
26	4.29	3.79	5.27	6.35	---	---	7.66	7.89	8.09	7.71	6.81	---
27	4.38	3.86	5.40	6.42	---	---	7.69	7.89	7.90	7.75	6.82	---
28	4.50	3.96	5.44	6.43	---	---	7.70	7.89	7.91	7.71	6.85	---
29	4.45	4.09	5.28	6.43	---	---	7.71	7.89	7.97	7.74	6.82	---
30	4.39	4.14	5.39	6.43	---	---	7.70	7.91	7.99	7.74	6.81	---
31	4.44	---	5.49	6.53	---	7.47	---	7.91	---	7.78	6.81	---
MEAN	4.75	3.84	5.02	5.97	6.72	7.47	7.57	7.73	8.09	7.74	7.39	7.02
WTR YR 2000	MEAN 6.51	HIGHEST 2.84 OCT. 13, 1999				LOWEST 8.23 JUNE 23, 2000						





**Surface-Water Records
for U.S. Virgin Islands**

ST. THOMAS, U.S. VIRGIN ISLANDS

50252000 BONNE RESOLUTION GUT AT BONNE RESOLUTION, ST. THOMAS, VI

LOCATION.--Lat 18°21'57", long 64°57'34", Hydrologic Unit 21020001, on right bank near Hull Bay Road, 0.5 mi (0.8 km) upstream from mouth, and 2.5 mi (4.0 km) northwest of Fort Christian, Charlotte Amalie.

DRAINAGE AREA.--0.49 mi² (1.27 km²).

PERIOD OF RECORD.--December 1962 to February 1967, March 1979 to April 1981, May 1982 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 280 ft (85 m), from topographic map. December 1962 to February 1967 and March 1979 to April 1981 at site about 100 ft (30 m) upstream at different datum.

REMARKS.--Records poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.03	.06	.05	.04	.03	.05	.04	.04	.04	.03	.03	.03
2	.02	.07	3.1	.04	.03	.04	.04	.05	.03	.03	.03	.01
3	.03	.06	.58	.04	.03	.04	.04	.05	.03	.03	.03	.01
4	.03	.07	.13	.04	.03	.05	.05	.05	.03	.03	.03	.01
5	.02	.07	7.0	.06	.03	.05	.05	.05	.03	.03	.04	.02
6	e.02	.09	2.9	.05	.04	.05	.05	.05	.03	.03	.04	.01
7	e.02	.15	1.2	.04	.04	.05	.05	.04	.03	.03	.04	.01
8	e.02	.09	.39	.04	.03	.05	.05	.04	.03	.04	.03	.01
9	e.03	.09	.21	.03	.03	.04	.06	.04	.03	.04	.03	.01
10	.03	.11	.16	.03	.03	.04	.06	.04	.03	.03	.03	.01
11	.03	.17	.12	.03	.03	.04	.06	.04	.03	.03	.04	.01
12	.04	.54	.10	.03	.03	.04	.05	.31	.04	.04	.04	.01
13	.47	.83	.08	.03	.03	.04	.06	.08	.03	.04	.04	.01
14	.07	.29	.07	.03	.03	.04	.08	.05	.02	.04	.04	.01
15	.24	.21	.06	.02	.03	.04	.08	.04	.03	.04	.04	.01
16	.07	1.2	.06	.03	.03	.04	.07	.05	.03	.04	.05	.01
17	.04	13	.06	.03	.05	.04	.08	.05	.04	.04	.04	.02
18	.04	1.0	.06	.03	.08	.05	.08	.06	.03	.04	.03	.02
19	.05	.42	.06	.03	.07	.04	.05	.05	.03	.05	.04	.02
20	.74	.19	.07	.03	.07	.04	.05	.05	.03	.05	.05	.02
21	.45	.13	.07	.03	.08	.05	.05	.04	.03	.05	.05	.01
22	.36	.10	.07	.03	.08	.06	.05	.04	.02	.05	.11	.01
23	.20	.09	.06	.03	.11	.05	.05	.05	.02	.05	.18	.01
24	.11	.18	.06	.03	.09	.05	.04	.03	.02	.05	.07	.01
25	.09	.08	.06	.03	.07	.05	.04	.04	.02	.05	.06	.01
26	.11	.08	.05	.03	.06	.05	.04	.03	.02	.05	.06	.01
27	.13	.06	.05	.03	.05	.05	.04	.02	.03	.05	.06	.01
28	.09	.05	.05	.03	.05	.05	.04	.02	.03	.04	.05	.03
29	.08	.06	.04	.03	.05	.06	.05	.08	.03	.07	.06	.02
30	.07	.06	.04	.03	---	.03	.05	.51	.03	.05	.05	.06
31	.07	---	.04	.03	---	.03	---	.05	---	.03	.05	---
TOTAL	3.80	19.60	17.05	1.03	1.41	1.40	1.60	2.14	0.87	1.27	1.54	0.45
MEAN	.12	.65	.55	.033	.049	.045	.053	.069	.029	.041	.050	.015
MAX	.74	13	7.0	.06	.11	.06	.08	.51	.04	.07	.18	.06
MIN	.02	.05	.04	.02	.03	.03	.04	.02	.02	.03	.03	.01
AC-FT	7.5	39	34	2.0	2.8	2.8	3.2	4.2	1.7	2.5	3.1	.9
CFSM	.25	1.33	1.12	.07	.10	.09	.11	.14	.06	.08	.10	.03
IN.	.29	1.49	1.29	.08	.11	.11	.12	.16	.07	.10	.12	.03

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 2000, BY WATER YEAR (WY)

MEAN	.48	.67	.13	.068	.059	.050	.061	.28	.11	.044	.061	.82
MAX	3.09	4.22	.67	.35	.38	.31	.34	2.06	.89	.18	.23	8.91
(WY)	1986	1988	1999	1992	1992	1987	1986	1987	1987	1988	1988	1989
MIN	.011	.011	.002	.016	.005	.001	.000	.002	.004	.010	.010	.009
(WY)	1997	1995	1995	1986	1995	1995	1995	1995	1995	1994	1994	1994

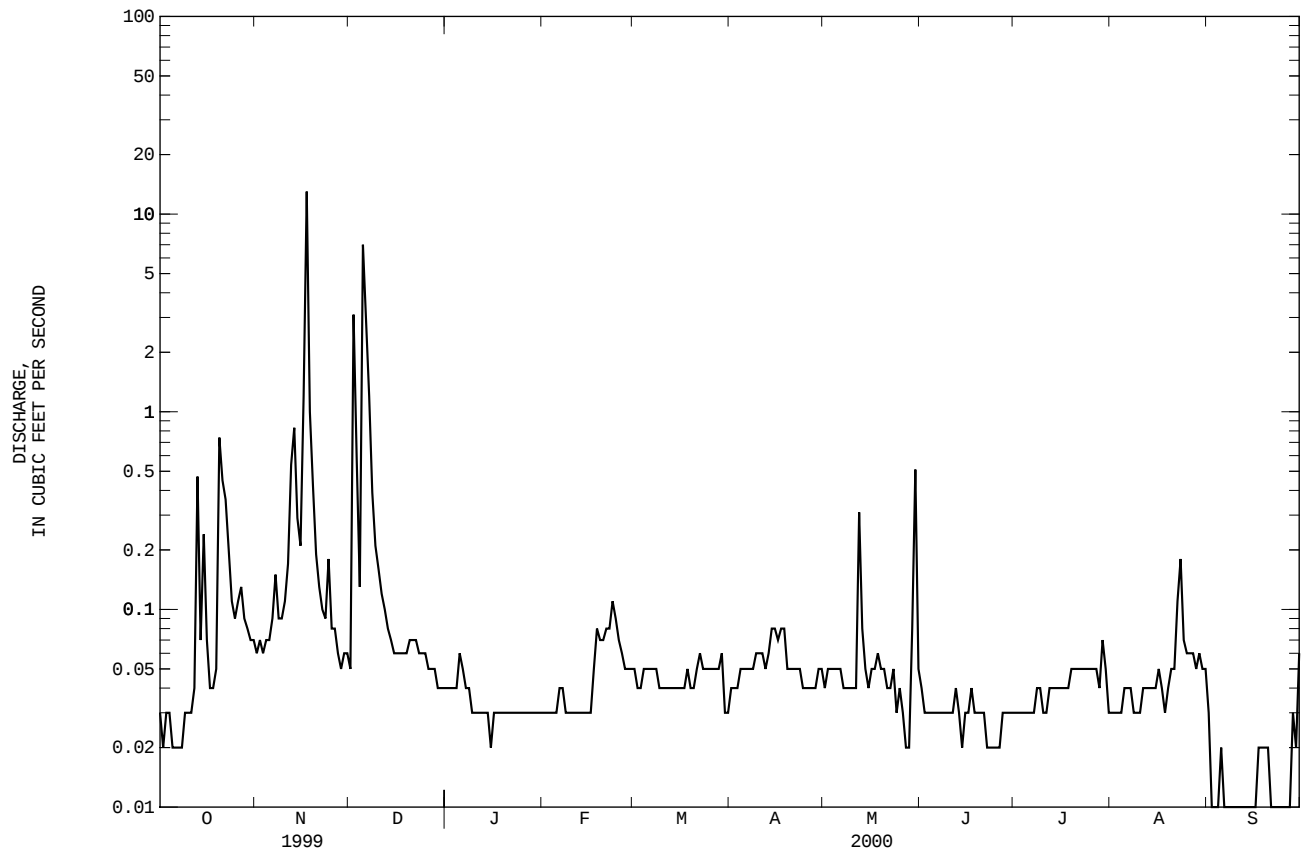
SUMMARY STATISTICS FOR 1999 CALENDAR YEAR FOR 2000 WATER YEAR WATER YEARS 1964 - 2000

ANNUAL TOTAL	59.11	52.16	
ANNUAL MEAN	.16	.14	
HIGHEST ANNUAL MEAN			.24
LOWEST ANNUAL MEAN			.77
HIGHEST DAILY MEAN	13	Nov 17	.026
LOWEST DAILY MEAN	.01	Jul 10	.00
ANNUAL SEVEN-DAY MINIMUM	.01	Sep 16	.00
INSTANTANEOUS PEAK FLOW			.00
INSTANTANEOUS PEAK STAGE			.00
ANNUAL RUNOFF (AC-FT)	117	103	7.00
ANNUAL RUNOFF (CFSM)	.33	.29	.28
ANNUAL RUNOFF (INCHES)	4.49	3.96	6.65
10 PERCENT EXCEEDS	.15	.11	.11
50 PERCENT EXCEEDS	.07	.04	.03
90 PERCENT EXCEEDS	.02	.02	.01

e Estimated

ST. THOMAS, U.S. VIRGIN ISLANDS

50252000 BONNE RESOLUTION GUT AT BONNE RESOLUTION, ST. THOMAS, VI--Continued



50274000 TURPENTINE RUN AT MOUNT ZION, ST. THOMAS, VI

LOCATION.--Lat 18°19'55", long 64°53'20", Hydrologic Unit 21020001, on left bank at Mount Zion, 0.6 mi (0.9 km) east southeast from Donoe School, 0.5 mi (0.8 km) northwest from Mariendal, and 0.4 mi (0.6 km) southeast from conjunction of roads 38 and 32.

DRAINAGE AREA.--2.33 mi² (6.03 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1963 to December 1969, October 1992 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 120 ft (36 m), from topographic map. Datum of gage for period of October 1992 to current year is 1.62 ft (0.49 m), higher than previous record.

REMARKS.--Records poor. Flow affected by three sewage treatment plants, Donoe, Old Tutu and New Tutu that discharges to a retention pond located 0.80 mi upstream from station. Gage-height and precipitation satellite telemetry at station. Prior to October 1992, maximum discharge 5,028 ft³/s (142.39 m³/s), May 23, 1969, gage-height 5.00 ft, (1.524 m); minimum discharge prior to October 1992 0.00 ft³/s (0.00 m³/s) Nov. 6, 1963 gage-height 0.005 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.3	1.7	e1.4	e1.5	e.87	.81	.71	e.57	.53	.23	e.50	e.41
2	1.9	1.7	e1.7	e1.4	e.87	.81	1.1	e1.1	.57	.36	e.51	e.41
3	.65	1.7	e2.4	e1.4	e.86	.90	.80	e.83	.50	.49	e.69	.44
4	.69	1.7	e1.7	e1.5	e.84	.97	.74	e.80	.39	.45	e.40	.49
5	.80	2.6	e1.9	e1.3	e.84	.89	.60	e.70	.32	.38	e.31	.53
6	.63	3.6	e6.3	e1.2	e.82	.96	.52	e.91	.33	.32	e.32	.56
7	.53	2.9	e3.7	e1.2	e.82	.93	e.44	e1.5	.28	.25	e.21	.49
8	.68	1.6	e2.3	e1.2	e.80	.86	.48	e1.6	.28	.60	e.26	e.45
9	.50	1.5	e1.9	e1.2	e.79	.77	.35	1.7	.37	.26	e.37	e.41
10	.73	2.0	e1.7	e1.2	e.78	.78	.56	1.1	.43	.38	e.79	e.45
11	.61	6.1	e1.7	e1.2	e.77	.80	.48	1.6	.57	.32	e.53	e.44
12	.57	5.1	e1.7	e1.1	e.77	.85	.58	e.94	1.2	e.29	e.41	e.48
13	7.6	3.6	e1.6	e1.1	e.75	.83	.48	e.47	.52	e.23	e.34	.56
14	1.3	2.6	e1.6	e1.1	e.75	.69	.44	e.32	.54	.25	e.96	.68
15	.77	e2.1	e1.6	e1.1	e.73	.64	.54	e.22	.34	.30	e.34	.64
16	.64	e4.4	e1.6	e1.1	e.71	.62	.71	.17	.38	e.30	e.76	e.64
17	.70	e1.20	e1.6	e1.1	e.77	.67	.86	.33	.35	.28	e.38	e1.4
18	.64	e2.8	e1.7	e1.1	e.78	.78	.83	.55	.32	.35	e.26	e.64
19	3.0	e2.0	e1.7	e1.1	.74	.61	.56	.55	.30	.34	e1.5	e.60
20	9.5	e1.6	e1.9	e1.1	.71	.58	.45	.31	.28	.36	e.56	e.74
21	4.9	e1.5	e1.9	e1.0	.73	.65	e.36	.28	.24	e.35	.43	e.52
22	3.1	e1.4	e1.8	e1.0	.69	.80	e.31	4.2	.22	e.37	e.45	e.52
23	1.8	e1.5	e1.8	e1.0	29	.68	e.25	.85	.22	.40	e.87	e.49
24	1.4	e1.6	e1.7	e1.0	2.0	.56	e.29	.35	.27	.67	.55	e.66
25	12	e1.4	e1.7	e.98	1.3	.57	e.36	.60	.25	.31	e.44	e3.4
26	6.0	e1.5	e1.7	e.98	.99	.54	e.50	.44	.25	.34	e.75	e1.5
27	3.0	e1.4	e1.6	e.96	1.5	.54	e.40	.44	.27	e.36	e.63	1.0
28	2.4	e1.3	e1.6	e.95	.92	.95	e.69	.44	.23	e.30	.61	2.7
29	2.0	e1.4	e1.5	e.94	.90	1.0	e1.1	6.8	.21	e3.4	e.44	1.2
30	1.8	e1.4	e1.5	e.92	---	.73	e.61	2.1	.28	e.95	e.42	4.9
31	1.9	---	e1.5	e.92	---	.64	---	.64	---	e.49	e.48	---
TOTAL	75.04	185.7	92.4	34.85	53.80	23.41	17.10	33.41	11.24	14.68	16.47	28.35
MEAN	2.42	6.19	2.98	1.12	1.86	.76	.57	1.08	.37	.47	.53	.94
MAX	12	120	19	1.5	29	1.0	1.1	6.8	1.2	3.4	1.5	4.9
MIN	.50	1.3	1.4	.92	.69	.54	.25	.17	.21	.23	.21	.41
AC-FT	149	368	183	69	107	46	34	66	22	29	33	56
CFSM	1.04	2.66	1.28	.48	.80	.32	.24	.46	.16	.20	.23	.41
IN.	1.20	2.96	1.48	.56	.86	.37	.27	.53	.18	.23	.26	.45

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1993 - 2000, BY WATER YEAR (WY)

	1993	1994	1995	1996	1997	1998	1999	2000
MEAN	1.63	2.92	1.99	.72	.60	.39	.44	.45
MAX	3.58	6.49	4.79	1.12	1.86	.76	.92	1.08
(WY)	1999	1993	1993	2000	2000	2000	1993	2000
MIN	.33	.37	.23	.16	.13	.076	.025	.15
(WY)	1994	1996	1994	1994	1994	1995	1995	1994

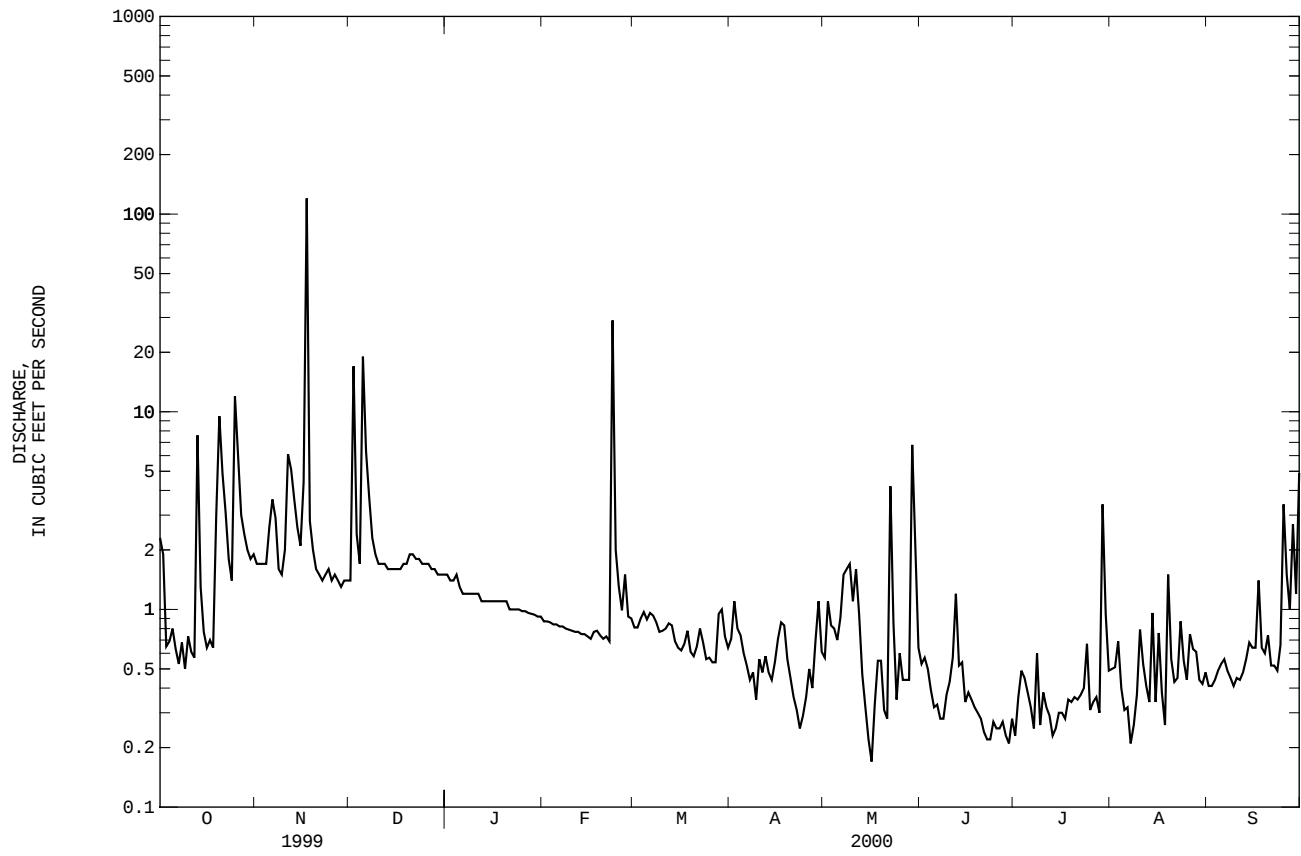
SUMMARY STATISTICS FOR 1999 CALENDAR YEAR FOR 2000 WATER YEAR WATER YEARS 1993 - 2000

	1999	2000	1993-2000
ANNUAL TOTAL	531.48	586.45	
ANNUAL MEAN	1.46	1.60	1.47
HIGHEST ANNUAL MEAN			3.43
LOWEST ANNUAL MEAN			.50
HIGHEST DAILY MEAN	120	Nov 17	802
LOWEST DAILY MEAN	.12	Aug 9	.01
ANNUAL SEVEN-DAY MINIMUM	.15	Aug 7	.01
INSTANTANEOUS PEAK FLOW			3430
INSTANTANEOUS PEAK STAGE			6.30
ANNUAL RUNOFF (AC-FT)	1050	1160	1060
ANNUAL RUNOFF (CFSM)	.62	.69	.63
ANNUAL RUNOFF (INCHES)	8.49	9.36	8.57
10 PERCENT EXCEEDS	1.9	2.0	1.5
50 PERCENT EXCEEDS	.55	.75	.39
90 PERCENT EXCEEDS	.21	.32	.12

e Estimated

ST. THOMAS, U.S. VIRGIN ISLANDS

50274000 TURPENTINE RUN AT MOUNT ZION, ST. THOMAS, VI--Continued



50295000 GUINEA GUT AT BETHANY, ST. JOHN, VI

LOCATION.--Lat 18°19'55", long 64°46'50", Hydrologic Unit 21020001, 600 ft (183 m) southeast of Bethany Church, and 1.0 mi (1.6 km) east of Government House at Cruz Bay.

DRAINAGE AREA.--0.37 mi² (0.96 km²).

PERIOD OF RECORD.--January 1963 to October 1967, September 1982 to current year.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 260 ft (79 m), from topographic map. Prior to September 1982, at datum 1.00 ft (0.30 m) higher.

REMARKS.--Records poor. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.01	.01	.14	.12	e.11	.09	.02	.02	.02	.01	.01	.02
2	.01	.02	.78	.12	e.11	.09	.02	.02	.02	.01	.02	.01
3	.01	.01	.27	.12	e.11	.08	.02	.02	.02	.02	.02	.01
4	.01	.01	.17	.15	e.11	.06	.02	.02	.02	.02	.02	.01
5	.01	.01	5.0	.13	e.11	.06	.02	.02	.02	.02	.01	.01
6	.01	.03	3.2	.11	e.12	.07	.03	.02	.02	.02	.01	.01
7	.01	.10	1.7	.11	e.12	.06	.02	.02	.03	.02	.02	.01
8	.01	.06	.83	.10	e.11	.06	.02	.02	.02	.02	.02	.01
9	.01	.04	.56	.09	e.11	.06	.02	.02	.02	.02	.01	.02
10	.01	.62	.50	.09	e.11	.06	.02	.02	.02	.02	.01	.02
11	.01	2.5	.42	.09	e.11	.06	.02	.02	.03	.03	.01	.02
12	.01	2.0	.35	.10	e.11	.05	.02	.02	.03	.03	.01	.02
13	.02	e.96	.32	.12	e.11	.04	.02	.02	.03	.03	.01	.02
14	.01	.62	.29	.12	e.11	.05	.02	.02	.03	.02	.01	.01
15	.01	.36	.27	.12	e.11	.04	.02	.02	.03	.02	.01	.01
16	.01	1.8	.25	e.11	e.11	.05	.02	.02	.03	.03	.01	.01
17	.01	21	.24	e.11	.12	.05	.02	.02	.02	.03	.01	.02
18	.01	5.9	.23	e.13	.12	.05	.02	.02	.02	.03	.01	.01
19	.01	2.2	.25	e.13	.13	.05	.02	.03	.02	.02	.01	.01
20	.01	1.2	.22	e.13	.11	.05	.02	.02	.02	.02	.01	.01
21	.01	.54	.21	e.14	.11	.05	.02	.02	.02	.02	.01	.01
22	.01	.36	.18	e.14	.12	.05	.02	.02	.02	.02	.02	.01
23	.48	.39	.19	e.13	.15	.05	.02	.02	.02	.01	.02	.01
24	.05	.27	.16	e.14	.13	.04	.02	.02	.02	.01	.01	.01
25	.03	.22	.17	e.14	.13	.03	.02	.02	.02	.01	.01	.01
26	.03	.18	.16	e.14	.13	.03	.02	.02	.01	.01	.01	.01
27	.02	.17	.15	e.13	.11	.03	.02	.02	.01	.01	.02	.02
28	.01	.15	.14	e.13	.11	.03	.02	.02	.01	.01	.02	.02
29	.01	.15	.14	e.13	.09	.03	.02	.05	.01	.04	.02	.01
30	.01	.13	.14	e.12	---	.03	.02	.03	.02	.02	.02	.02
31	.01	---	.14	e.12	---	.02	---	.02	---	.01	.01	---
TOTAL	0.88	42.01	17.77	3.76	3.34	1.57	0.61	0.67	0.63	0.60	0.42	0.40
MEAN	.028	1.40	.57	.12	.12	.051	.020	.022	.021	.019	.014	.013
MAX	.48	21	5.0	.15	.15	.09	.03	.05	.03	.04	.02	.02
MIN	.01	.01	.14	.09	.09	.02	.02	.02	.01	.01	.01	.01
AC-FT	1.7	83	35	7.5	6.6	3.1	1.2	1.3	1.2	1.2	.8	.8
CFSM	.08	3.78	1.55	.33	.31	.14	.05	.06	.06	.05	.04	.04
IN.	.09	4.22	1.79	.38	.34	.16	.06	.07	.06	.06	.04	.04

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1983 - 2000, BY WATER YEAR (WY)

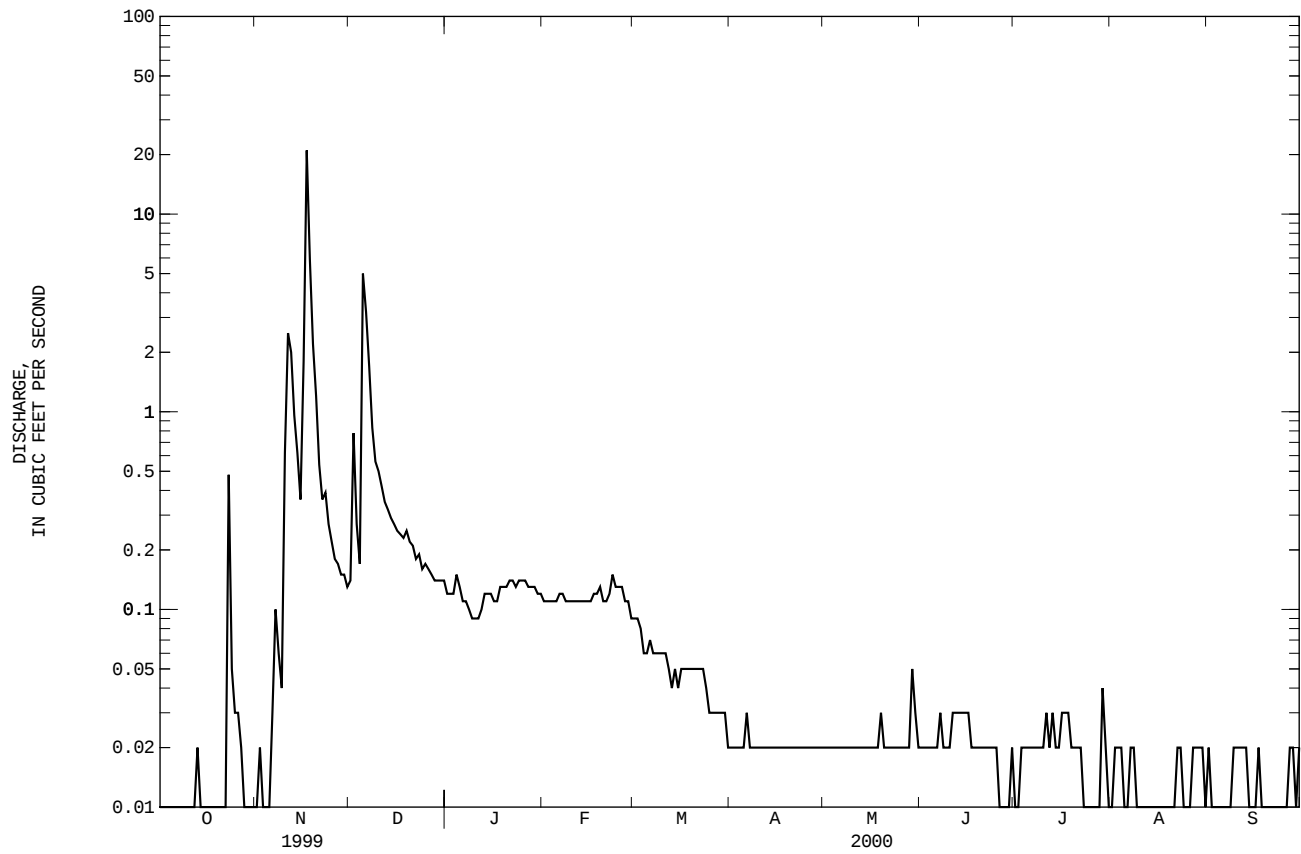
MEAN	.082	.39	.084	.025	.017	.010	.24	.078	.012	.012	.014	.28
MAX	.42	2.52	.57	.12	.12	.051	4.03	.89	.036	.041	.082	2.35
(WY)	1998	1985	2000	2000	2000	2000	1983	1986	1999	1996	1983	1989
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1992	1992	1987	1992	1992	1986	1995	1994	1991	1987	1991	1991

SUMMARY STATISTICS	FOR 1999 CALENDAR YEAR	FOR 2000 WATER YEAR	WATER YEARS 1964 - 2000
ANNUAL TOTAL	70.79	72.66	
ANNUAL MEAN	.19	.20	.086
HIGHEST ANNUAL MEAN			.35
LOWEST ANNUAL MEAN			.00
HIGHEST DAILY MEAN	21	21	110
LOWEST DAILY MEAN	.00	.01	.00
ANNUAL SEVEN-DAY MINIMUM	.00	.01	.00
INSTANTANEOUS PEAK FLOW		200	946
INSTANTANEOUS PEAK STAGE		3.26	5.33
ANNUAL RUNOFF (AC-FT)	140	144	62
ANNUAL RUNOFF (CFSM)	.52	.54	3.16
ANNUAL RUNOFF (INCHES)	7.12	7.31	3.80
10 PERCENT EXCEEDS	.20	.20	.05
50 PERCENT EXCEEDS	.04	.02	.01
90 PERCENT EXCEEDS	.01	.01	.00

e Estimated

ST. JOHN, U.S. VIRGIN ISLANDS

50295000 GUINEA GUT AT BETHANY, ST. JOHN, VI--Continued



ST. CROIX, U.S. VIRGIN ISLANDS

50345000 JOLLY HILL GUT AT JOLLY HILL, ST. CROIX, VI

LOCATION.--Lat 17°44'00", long 64°51'47", Hydrologic Unit 21020002, on Mahogany Road at Jolly Hill, 1.8 mi (2.9 km) northeast of Frederiksted.

DRAINAGE AREA.--2.10 mi² (5.44 km²).

PERIOD OF RECORD.--January 1963 to December 1968. Monthly measurements, 1962- 69. October 1982 to current year.

GAGE.--Water-stage recorder, crest-stage gage and sharp-crested concrete control. Elevation of gage is 140 ft (43 m), from topographic map.

REMARKS.--Records poor. Low-water diversions upstream from station. Gage- height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e.16	.79	4.9	e3.0	e1.1	e.41	e.12	e.04	e.05	e.03	e.02	e.01
2	e.12	.90	5.0	e3.0	e1.1	e.37	e.12	e.05	e.05	e.03	e.03	e.00
3	e.11	.89	4.9	e3.0	e1.0	e.35	e.14	e.05	e.05	e.04	e.02	e.01
4	e.11	.82	4.6	e3.5	e.96	e.33	e.15	e.05	e.07	e.04	e.02	e.01
5	e.11	.81	11	e3.3	e1.0	e.32	e.16	e.05	e.05	e.04	e.02	e.01
6	e.11	.78	13	e3.2	e.96	e.35	e.15	e.05	e.04	e.04	e.02	e.01
7	e.11	.78	12	e2.9	e.96	e.34	e.14	e.04	e.04	e.05	e.02	e.01
8	e.10	.79	12	e2.7	e.95	e.33	e.16	e.04	e.03	e.05	e.02	e.01
9	e.12	.80	11	e2.8	e.93	e.35	e.14	e.03	e.02	e.05	e.01	e.01
10	e.11	.80	10	e2.5	e.91	e.34	e.13	e.03	e.01	e.05	e.01	e.02
11	e.11	.81	10	e2.3	e.91	e.32	e.14	e.03	e.01	e.05	e.02	e.02
12	e.10	.85	e8.8	e2.4	e.89	e.29	e.14	e.03	e.01	e.04	e.01	e.02
13	e.21	.83	e7.9	e2.2	e.87	e.28	e.15	e.04	e.01	e.04	e.01	e.02
14	e.12	.82	e7.1	e2.1	e.84	e.27	e.13	e.04	e.01	e.04	e.01	e.02
15	e.10	.85	e6.7	e2.0	e.90	e.26	e.13	e.05	e.02	e.03	e.01	e.02
16	e.10	1.5	e6.2	e1.8	e.92	e.25	e.14	e.04	e.03	e.04	e.01	e.02
17	e.09	e79	e6.0	e1.7	e.93	e.24	e.12	e.04	e.03	e.04	e.01	e.03
18	e.09	e47	e5.8	e1.6	e.90	e.24	e.11	e.05	e.04	e.04	e.01	e.03
19	e.09	e17	e6.2	e1.6	e.95	e.23	e.11	e.04	e.04	e.03	e.01	e.03
20	e.10	9.9	e5.6	e1.6	e.82	e.22	e.08	e.04	e.05	e.02	e.01	e.03
21	e.09	6.6	e5.2	e1.5	e.76	e.22	e.08	e.04	e.05	e.02	e.01	e.03
22	e.07	5.7	e4.5	e1.5	e.62	e.20	e.09	e.05	e.04	e.02	e.02	e.04
23	e2.6	5.3	e4.8	e1.4	e.62	e.19	e.08	e.04	e.04	e.02	e.02	e.04
24	e1.2	5.1	e4.0	e1.4	e.63	e.19	e.09	e.04	e.05	e.02	e.01	e.04
25	e.94	5.2	e4.3	e1.3	e.54	e.18	e.08	e.05	e.04	e.02	e.01	e.04
26	e.93	5.0	e4.0	e1.2	e.53	e.19	e.05	e.05	e.04	e.02	e.01	e.05
27	e1.3	5.5	e3.8	e1.2	e.47	e.23	e.06	e.05	e.03	e.02	e.01	e.06
28	1.0	5.3	e3.5	e1.2	e.42	e.22	e.06	e.04	e.03	e.02	e.01	e.05
29	.91	5.0	e3.5	e1.1	e.43	e.18	e.06	e.06	e.03	e.04	e.01	e.02
30	.84	4.9	e3.5	e1.1	---	e.17	e.09	e.06	e.03	e.02	e.01	e.05
31	.80	---	e3.5	e1.1	---	e.17	---	e.05	---	e.02	e.01	---
TOTAL	12.95	220.32	203.3	63.2	23.82	8.23	3.40	1.36	1.04	1.03	0.43	0.76
MEAN	.42	7.34	6.56	2.04	.82	.27	.11	.044	.035	.033	.014	.025
MAX	2.6	79	13	3.5	1.1	.41	.16	.06	.07	.05	.03	.06
MIN	.07	.78	3.5	1.1	.42	.17	.05	.03	.01	.02	.01	.00
AC-FT	26	437	403	125	47	16	6.7	2.7	2.1	2.0	.9	1.5
CFSM	.20	3.50	3.12	.97	.39	.13	.05	.02	.02	.02	.01	.01
IN.	.23	3.90	3.60	1.12	.42	.15	.06	.02	.02	.02	.01	.01

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 2000, BY WATER YEAR (WY)

	MEAN	.94	1.25	1.20	.44	.24	.11	.068	.084	.14	.070	.025	.62
MAX	5.92	7.34	6.56	2.04	.82	.34	.23	.46	1.43	.52	.18	3.80	
(WY)	1996	2000	2000	2000	2000	1990	1990	1992	1987	1987	1987	1995	
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	
(WY)	1987	1992	1992	1992	1992	1989	1989	1989	1989	1989	1989	1991	

SUMMARY STATISTICS

FOR 1999 CALENDAR YEAR

FOR 2000 WATER YEAR

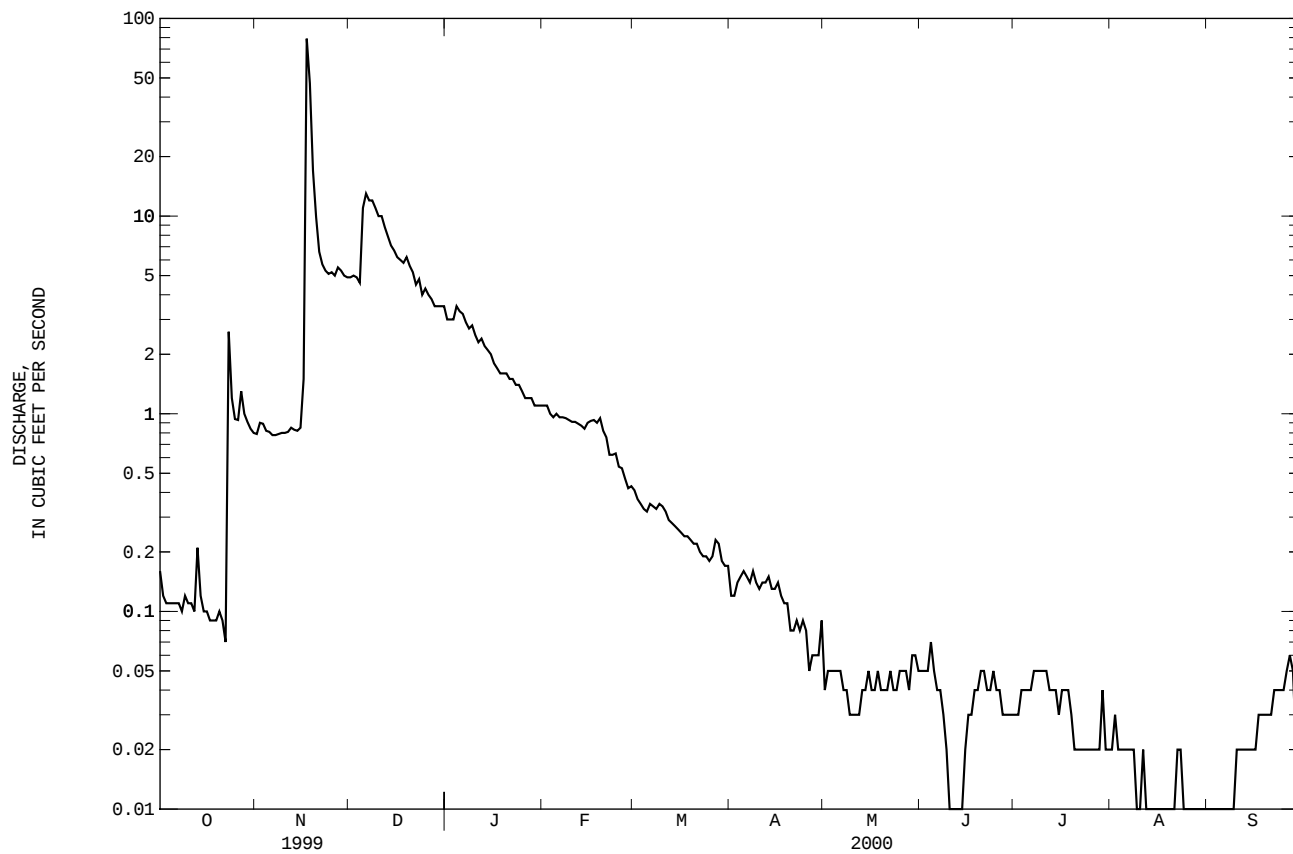
WATER YEARS 1986 - 2000

ANNUAL TOTAL	498.38	539.84	
ANNUAL MEAN	1.37	1.47	
HIGHEST ANNUAL MEAN			.43
LOWEST ANNUAL MEAN			1.47
HIGHEST DAILY MEAN	79	79	.037
LOWEST DAILY MEAN	.00	.00	.00
ANNUAL SEVEN-DAY MINIMUM	.00	.01	.00
INSTANTANEOUS PEAK FLOW		180	937
INSTANTANEOUS PEAK STAGE		3.12	5.38
ANNUAL RUNOFF (AC-FT)	989	1070	314
ANNUAL RUNOFF (CFSM)	.65	.70	.21
ANNUAL RUNOFF (INCHES)	8.83	9.56	2.80
10 PERCENT EXCEEDS	4.5	4.5	.84
50 PERCENT EXCEEDS	.10	.11	.04
90 PERCENT EXCEEDS	.01	.02	.00

e Estimated

ST. CROIX, U.S. VIRGIN ISLANDS

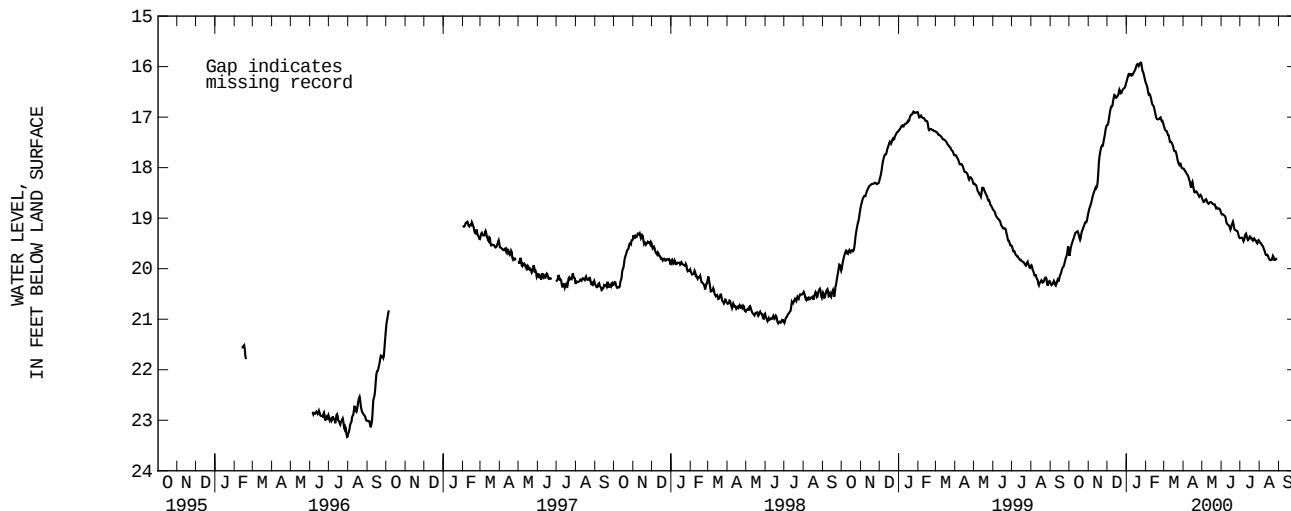
50345000 JOLLY HILL GUT AT JOLLY HILL, ST. CROIX, VI--Continued

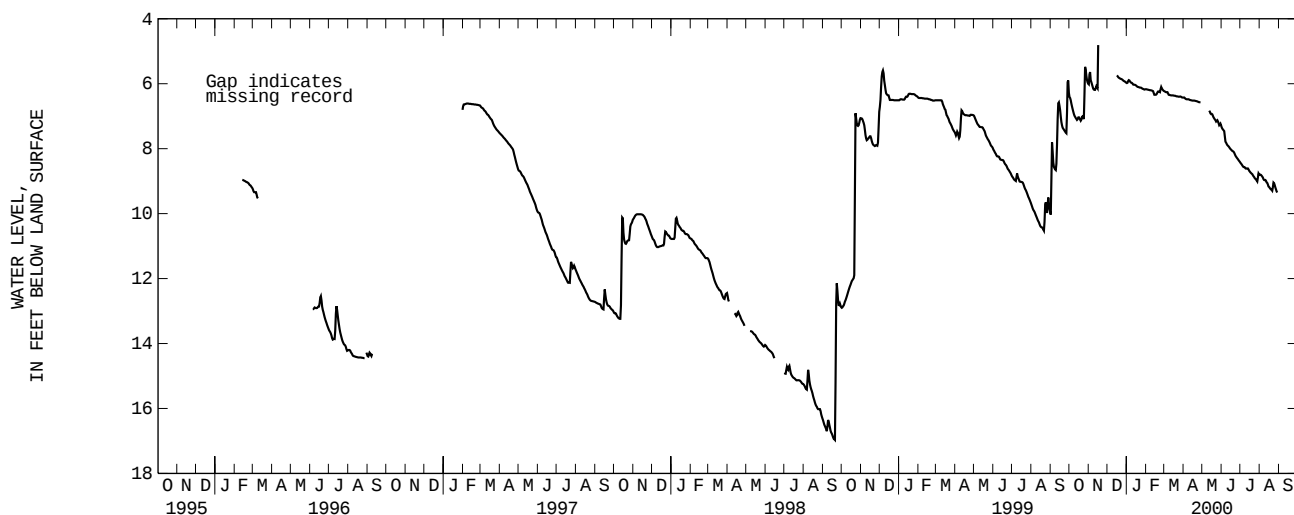


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**Ground-Water Records
for U.S. Virgin Islands**





GROUND-WATER LEVELS

ST. THOMAS, U.S. VIRGIN ISLANDS--Continued

182038064550300. Local number, 6.

LOCATION.--Lat 18°20'38", long 64°55'03", Hydrologic Unit 21020001, 1.12 mi east of Charlotte Amalie, 0.75 mi southwest of Winterberg Peak, and 1.08 mi southeast of Canaan. Owner: US Virgin Islands Government, Name: Grade School 3 Well.

AQUIFER.--Volcanic breccia.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in (0.15 m), cased 6 in (0.15 m). Depth 70.0 ft (21.3 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes punch.

DATUM.--Elevation of land-surface datum is about 52.0 ft (15.8 m), above mean sea level, from topographic map. Prior to June 30, 1999, is about 60.0 ft (18.3 m), above mean sea level. Measuring point: Top of 0.5 in (0.01 m) hole at 6 in (0.15 m) casing, 3.30 ft (1.00 m), above land-surface datum. Prior to June 30, 1999, top of 0.5 in (0.01 m) hole at 6 in (0.15 m) casing, 1.30 ft (0.40 m), above land-surface datum. Prior to June 27, 1983, top of 6 in (0.15 m) casing, 2.90 ft (0.88 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on Oct. 28, 1999. A datum correction was required after land-surface elevation in the area changed from 60.0 ft (18.3 m) to 52.0 ft (15.8 m) in June 29, 1999.

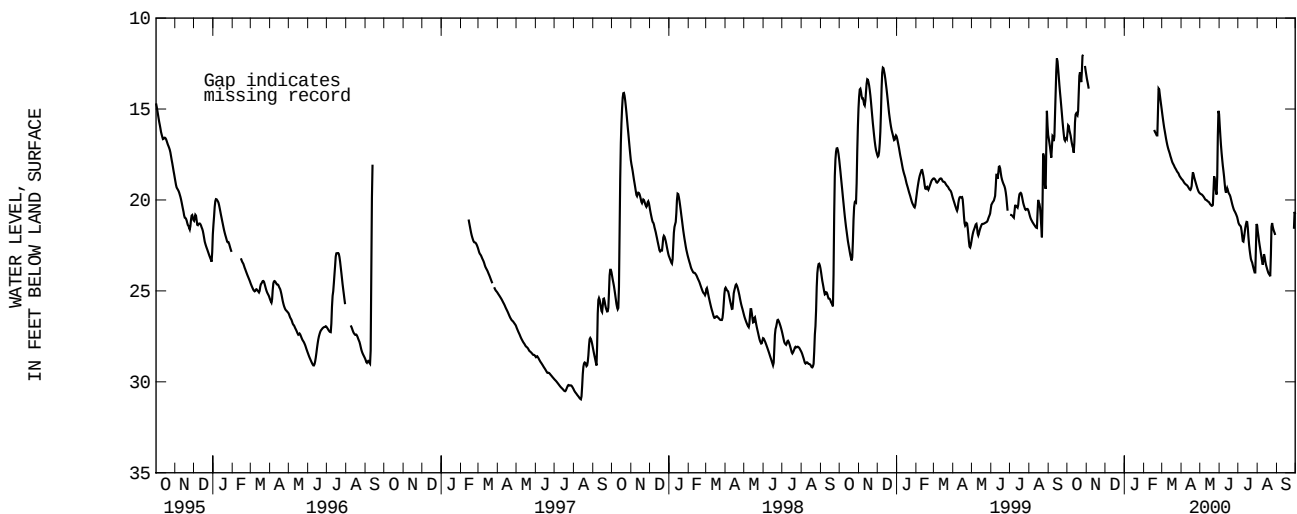
PERIOD OF RECORD.--March 1982 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 1.53 ft (0.47 m), below land-surface datum, Oct. 1, 1989; lowest water level recorded, 35.38 ft (10.8 m), below land-surface datum, July 21, 1982.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16.63	13.20	---	---	---	15.16	18.83	19.64	15.59	21.20	21.60	---
2	15.96	13.43	---	---	---	15.42	18.87	19.68	16.18	21.30	21.84	---
3	15.83	13.56	---	---	---	15.67	18.90	19.68	16.75	21.37	22.11	---
4	16.05	13.78	---	---	---	15.93	18.96	19.71	17.20	21.41	22.39	---
5	16.26	13.98	---	---	---	16.13	19.02	19.74	17.60	21.41	22.60	---
6	16.36	---	---	---	---	16.33	19.07	19.79	17.96	21.55	22.82	---
7	16.56	---	---	---	---	16.53	19.11	19.83	18.28	21.81	23.06	---
8	16.79	---	---	---	---	16.73	19.14	19.89	18.55	22.15	23.29	---
9	16.98	---	---	---	---	16.90	19.17	19.96	18.89	22.38	23.47	---
10	17.11	---	---	---	---	17.06	19.19	20.00	19.31	22.20	23.65	---
11	17.22	---	---	---	---	17.19	19.23	19.99	19.58	21.92	22.95	---
12	17.58	---	---	---	---	17.30	19.29	20.03	19.62	21.67	23.01	---
13	16.07	---	---	---	---	17.39	19.35	20.07	19.34	21.41	23.25	---
14	15.40	---	---	---	---	17.53	19.40	20.09	19.37	21.26	23.47	---
15	15.21	---	---	---	---	17.65	19.46	20.11	19.54	21.15	23.62	---
16	15.27	---	---	---	---	17.75	19.44	20.15	19.64	21.28	23.73	---
17	15.35	---	---	---	16.09	17.88	19.32	20.24	19.68	21.76	23.86	---
18	15.36	---	---	---	16.21	17.96	19.13	20.25	19.75	22.26	23.96	---
19	14.87	---	---	---	16.27	18.03	18.48	20.30	19.86	22.62	24.07	---
20	13.42	---	---	---	16.34	18.08	18.48	20.34	20.02	22.89	24.08	---
21	12.93	---	---	---	16.41	18.18	18.67	20.29	20.15	23.15	24.17	---
22	13.04	---	---	---	16.49	18.24	18.81	20.26	20.30	23.34	24.22	---
23	13.37	---	---	---	16.41	18.29	18.93	18.79	20.41	23.37	21.82	---
24	13.67	---	---	---	13.96	18.36	19.05	18.61	20.52	23.51	21.14	---
25	12.28	---	---	---	13.78	18.43	19.16	19.05	20.60	23.67	21.40	---
26	11.88	---	---	---	14.06	18.48	19.29	19.42	20.65	23.80	21.54	---
27	12.14	---	---	---	14.36	18.51	19.39	19.62	20.73	23.93	21.68	---
28	---	---	---	---	14.62	18.58	19.49	19.78	20.81	24.04	21.77	22.56
29	12.49	---	---	---	14.88	18.69	19.57	17.68	20.90	23.93	21.85	20.61
30	12.77	---	---	---	---	18.72	19.61	15.24	20.99	21.47	22.00	20.70
31	12.99	---	---	---	---	18.78	---	14.96	---	21.18	---	---
MEAN	14.93	13.59	---	---	15.38	17.48	19.13	19.46	19.29	22.27	22.81	21.29

WTR YR 2000 MEAN 19.03 HIGHEST 11.85 OCT. 26, 1999 LOWEST 24.24 AUG. 22, 2000



GROUND-WATER LEVELS

ST. THOMAS, U.S. VIRGIN ISLANDS--Continued

182038064580000. Local number, 8.

LOCATION: --Lat 18°20'38", long 64°58'00", Hydrologic Unit 21020001, 2.08 mi northwest of Charlotte Amalie, 0.50 mi northeast of Harry S. Truman Airport entrance on Hwy 362, and 1.15 mi southwest of Dorothea. Owner: US Virgin Islands Water and Power Authority. Name: Kirwan Terrace. VIE0-6 well.

AQUIFER.--Alluvial deposits, volcanic rock.

WELL CHARACTERISTICS.--Drilled observation well, diameter 4 in (0.10 m), cased 0-56.0 ft (0-17.1 m), screened 56.0-76.0 ft (17.1-23.2 m). Depth 76.0 ft (23.2 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes punch.

DATUM.--Elevation of land-surface datum is about 35.0 ft (10.7 m), above mean sea level, from topographic map. Measuring point:

Top of shelter floor, 3.00 ft (0.91 m), above land-surface datum.

REMARKS.--Recording observation well. Drilled on July 1, 1991. Automated Digital Recorder (ADR), replaced by an Electronic Data

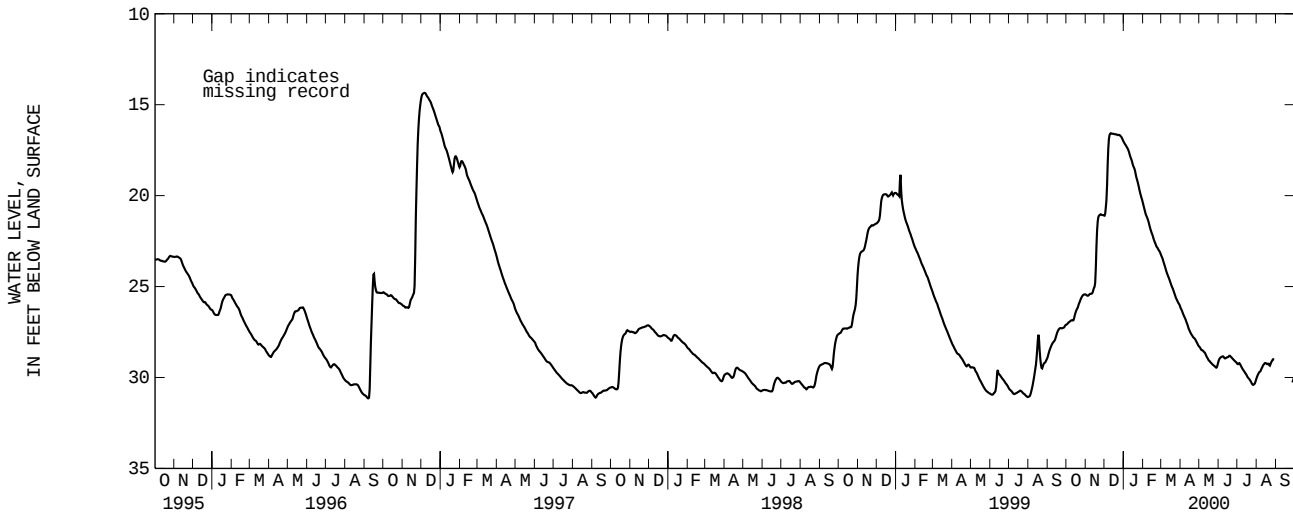
Logger (EDL), installed on Oct. 29, 1999.

PERIOD OF RECORD.--October 2, 1991 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 14.3 ft (4.37 m), below land-surface datum, Dec. 6, 7, 1996; lowest water level recorded, 32.7 ft (9.96 m), below land-surface datum, July 27, 1995.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27.09	25.43	21.09	17.03	20.41	23.26	26.15	28.29	29.12	29.24	30.06	---
2	27.09	25.45	21.11	17.09	20.55	23.35	26.22	28.33	29.02	29.27	29.95	---
3	27.05	25.49	20.88	17.16	20.69	23.41	26.28	28.38	28.95	29.26	29.87	---
4	27.00	25.50	20.43	17.20	20.81	23.52	26.37	28.45	28.92	29.19	29.80	---
5	26.98	25.51	20.12	17.26	20.97	23.65	26.47	28.50	28.88	29.23	29.73	---
6	26.94	25.48	18.79	17.32	21.07	23.75	26.55	28.50	28.88	29.28	29.69	---
7	26.92	25.44	17.79	17.38	21.15	23.86	26.63	28.51	28.84	29.35	29.68	---
8	26.89	25.40	17.04	17.44	21.22	23.97	26.71	28.56	28.84	29.42	29.61	---
9	26.86	25.40	16.72	17.53	21.33	24.10	26.77	28.61	28.84	29.49	29.52	---
10	26.85	25.40	16.63	17.64	21.43	24.21	26.87	28.61	28.90	29.54	29.46	---
11	26.86	25.39	16.57	17.77	21.57	24.31	26.98	28.69	28.95	29.60	29.38	---
12	26.87	25.36	16.57	17.88	21.72	24.39	27.06	28.76	28.95	29.64	29.30	---
13	26.84	25.27	16.59	17.97	21.83	24.49	27.15	28.85	28.94	29.70	29.28	---
14	26.69	25.11	16.60	18.05	21.95	24.56	27.29	28.90	28.90	29.76	29.22	---
15	26.55	25.04	16.60	18.19	22.06	24.67	27.37	28.96	28.89	29.80	29.20	---
16	26.43	24.98	16.60	18.33	22.12	24.77	27.44	29.03	28.88	29.85	29.21	---
17	26.33	24.60	16.61	18.41	22.25	24.87	27.52	29.09	28.87	29.93	29.23	---
18	26.25	23.33	16.63	18.48	22.36	24.97	27.59	29.09	28.82	29.99	29.28	---
19	26.19	22.29	16.63	18.58	22.47	25.05	27.65	29.15	28.79	30.03	29.25	---
20	26.13	21.61	16.63	18.74	22.55	25.12	27.68	29.20	28.83	30.07	29.23	---
21	25.96	21.26	16.63	18.93	22.64	25.23	27.76	29.22	28.86	30.11	29.27	---
22	25.91	21.13	16.67	19.06	22.73	25.32	27.80	29.26	28.90	30.17	29.37	---
23	25.81	21.08	16.67	19.17	22.83	25.43	27.83	29.30	28.94	30.22	29.33	---
24	25.71	21.06	16.67	19.31	22.84	25.52	27.86	29.32	28.97	30.29	29.21	---
25	25.65	21.02	16.65	19.45	22.91	25.64	27.91	29.36	29.02	30.36	29.14	---
26	25.56	21.03	16.68	19.61	22.98	25.70	27.98	29.37	29.04	30.40	29.09	---
27	25.52	21.07	16.73	19.78	23.04	25.77	28.05	29.42	29.09	30.41	29.01	30.29
28	25.47	21.06	16.75	19.91	23.07	25.85	28.11	29.45	29.12	30.38	28.99	30.25
29	25.44	21.08	16.81	20.04	23.17	25.92	28.18	29.47	29.14	30.36	29.01	30.13
30	25.44	21.08	16.87	20.15	---	25.96	28.26	29.40	29.18	30.28	28.99	30.02
31	25.43	---	16.97	20.27	---	26.02	---	29.26	---	30.16	---	---
MEAN	26.35	23.61	17.44	18.42	21.96	24.73	27.28	28.94	28.94	29.83	29.38	30



GROUND-WATER LEVELS

ST. JOHN, U.S. VIRGIN ISLANDS

181956064464500. Local number, 11.

LOCATION.--Lat 18°19'56", long 64°46'45", Hydrologic Unit 21020001, 1.05 mi southeast of Cruz Bay plaza, 0.25 mi southeast of Bethany Church, and 0.48 mi southeast of Margaret Hill. Owner: US Virgin Islands Government, Name: Guinea Gut Well.

AQUIFER.--Louisenhoj Formation (Donnelly, 1959).

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in (0.15 m), cased 6 in (0.15 m). Depth 85.0 ft (25.9 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes punch.

DATUM.--Elevation of land-surface datum is about 280 ft (85.36 m), above mean sea level, from topographic map. Measuring point:

Bottom of 0.5 in (0.01 m) hole at 6 in (0.15 m) casing, 1.50 ft (0.46 m), above land-surface datum. Prior to June 28, 1983, top of 6 in (0.15 m) casing, 1.80 ft (0.55 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on Feb. 17, 2000.

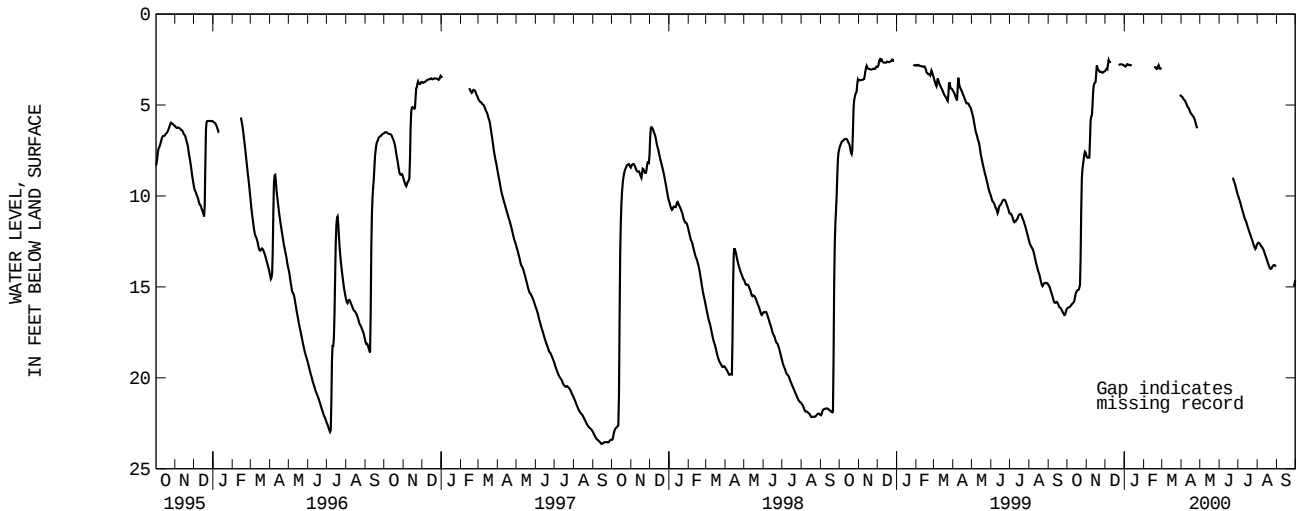
PERIOD OF RECORD.--March 1982 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 2.34 ft (0.71 m), below land-surface datum, Dec. 7, 1998; lowest water level recorded, 34.18 ft (10.4 m), below land-surface datum, Sept. 6, 1995.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16.19	7.80	3.13	2.83	---	---	4.52	---	---	10.00	12.62	---
2	16.15	7.93	3.08	2.88	---	---	4.53	---	---	10.08	12.57	---
3	16.13	7.85	2.96	2.89	---	---	4.58	---	---	10.22	12.57	---
4	16.13	7.90	3.04	2.81	---	---	4.65	---	---	10.29	12.59	---
5	16.11	7.90	3.02	2.73	---	---	4.71	---	---	10.43	12.63	---
6	16.06	7.88	2.42	2.78	---	---	4.71	---	---	10.58	12.72	---
7	16.02	6.11	2.63	2.80	---	---	4.78	---	---	10.69	12.76	---
8	15.98	5.65	2.60	2.79	---	---	4.85	---	---	10.80	12.79	---
9	15.93	5.59	2.65	2.78	---	---	4.92	---	---	10.93	12.85	---
10	15.90	5.59	2.71	2.82	---	---	5.02	---	---	11.04	12.91	---
11	15.86	4.59	---	2.82	---	---	5.10	---	---	11.18	12.98	---
12	15.81	4.09	---	2.79	---	---	5.14	---	---	11.26	13.08	---
13	15.72	3.80	---	2.81	---	---	5.18	---	---	11.35	13.20	---
14	15.45	3.84	---	---	---	---	5.27	---	---	11.42	13.29	---
15	15.33	3.70	---	---	---	---	5.36	---	---	11.54	13.39	---
16	15.25	3.76	---	---	---	---	5.46	---	---	11.67	13.50	---
17	15.20	2.79	---	---	2.94	---	5.49	---	---	11.76	13.60	---
18	15.17	2.84	---	---	2.93	---	5.53	---	---	11.87	13.71	---
19	15.18	3.05	---	---	2.92	---	5.58	---	---	11.99	13.80	---
20	15.13	3.06	---	---	2.92	---	5.63	---	---	12.06	13.89	---
21	14.93	3.10	---	---	3.03	---	5.68	---	---	12.17	14.00	---
22	14.86	3.19	2.82	---	3.01	---	5.76	---	8.94	12.28	14.00	---
23	12.10	3.17	2.80	---	3.00	---	5.86	---	9.05	12.37	14.02	---
24	9.45	3.17	2.77	---	2.80	---	6.00	---	9.15	12.47	13.95	---
25	8.65	3.18	2.77	---	2.83	---	6.15	---	9.24	12.58	13.88	---
26	8.36	3.22	2.76	---	2.99	---	6.23	---	9.34	12.70	13.83	---
27	8.12	3.22	2.76	---	2.98	---	6.32	---	9.49	12.80	13.81	---
28	7.82	3.19	2.77	---	2.97	---	---	---	9.62	12.88	13.79	15.05
29	7.59	3.17	2.77	---	3.12	4.44	---	---	9.75	12.95	13.81	14.89
30	7.53	3.14	2.82	---	---	4.45	---	---	9.89	12.77	13.87	14.74
31	7.67	---	2.83	---	---	4.49	---	---	---	12.70	13.90	---
MEAN	13.61	4.58	2.81	2.81	2.96	4.46	5.30	---	9.39	11.61	13.36	14.89

WTR YR 2000 MEAN 8.29 HIGHEST 2.37 DEC. 6, 1999 LOWEST 16.22 OCT. 1, 1999



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Well 1130 - Piezometer Higuillar USGS 4	559	Salinas to Río Jacaguas Basins, Río	
Well 1131 - Piezometer San Antonio USGS 1	560	Well 1252 - Piezometer RM 5	614
Well 1132 - Piezometer San Antonio USGS 3	561	Well 1256 - Piezometer RM 10	615
Well 1133 - Piezometer USGS 1 Toa Baja	562	Well 1258 - Cabrera 1	621
Well 216 - Campanilla Navy Well	563	Well 1260 - Bauzá 1	622
Well 217 - Piezometer Monserrate 2	564	Yagüez and Río Grande de Añasco Basins, Río,	
Salinas to Río Jacaguas Basins, Río		Well 1326 - Cervecería India 4	652
Well 1251 - Coqui Battery 1	613	Wet mass, definition of	31
Well 1254 - Piezometer USGS D	616	Wet weight, definition of	41
Well 1256 - Godreau 7	617	WSP, definition of	41
Well 1257 - Paso Seco 7	619		
Well 1261 - Piezometer A RASA	623	Y	
Well 1262 - Piezometer C RASA	631	Yabucoa, Río Guayanés at	386
Well 87 - Alomar 1	620	Yagüez near Mayagüez, Río	478
Wells - U.S. Virgin Islands		Yauco, Lago Loco at Damsite near	457
St. Croix		Yauco, Lago Lucchetti at Damsite near	455
Well 13 - WAPA-17	668	Yunes at Hwy 140 near Florida, Río	102
Well 2 - USGS-10, Fairplains 2	666		
Well 3 - Golden Grove 6	667	Z	
St. John		Zooplankton, definition of	37
Well 11- Guinea Gut	671		
St. Thomas			
Well 6 - Grade School 3	669		
Well 8 - Kirwan Terrace, VIEO-6	670		
Wells Puerto Rico- Continued:			
Culebrinas Basin, Río			
Well 1352 - Rincón 4	653		
Well 200 - Aguadilla Cement North	654		
Grande de Loíza Basin, Río			
Well 1176 - Piezometer CJ 19A	576		
Well 1177 - Piezometer Caguas-Juncos 11	577		
Well 1178 - Piezometer Caguas-Juncos 20	578		
Well 1179 - Piezometer Caguas-Juncos 15	579		
Well 1180 - Piezometer Caguas-Juncos 18	583		
Well 1181 - Piezometer CJ 3B	584		
Well 222 - Piezometer Campo Rico TW-1	581		
Well 50 - Piezometer USGS 50 Gurabo	580		
Guanajibo Basin, Río			
Well 1301 - PRASA 1 Cabo Rojo	648		
Well 1302 - Piezometer Cabo Rojo 9A	649		
Well 1303 - Piezometer Cabo Rojo 9B	650		

CONVERSION FACTORS AND VERTICAL DATUM

Multiply	By	To obtain
<i>Length</i>		
inch (in.)	2.54×10^1	millimeter
	2.54×10^{-2}	meter
foot (ft)	3.048×10^{-1}	meter
mile (mi)	1.609×10^0	kilometer
<i>Area</i>		
acre	4.047×10^3	square meter
	4.047×10^{-1}	square hectometer
	4.047×10^{-3}	square kilometer
square mile (mi ²)	2.590×10^0	square kilometer
<i>Volume</i>		
gallon (gal)	3.785×10^0	liter
	3.785×10^0	cubic decimeter
	3.785×10^{-3}	cubic meter
million gallons (Mgal)	3.785×10^3	cubic meter
	3.785×10^{-3}	cubic hectometer
cubic foot (ft ³)	2.832×10^1	cubic decimeter
	2.832×10^{-2}	cubic meter
cubic-foot-per-second day [(ft ³ /s) d]	2.447×10^3	cubic meter
	2.447×10^{-3}	cubic hectometer
acre-foot (acre-ft)	1.233×10^3	cubic meter
	1.233×10^{-3}	cubic hectometer
	1.233×10^{-6}	cubic kilometer
<i>Flow</i>		
cubic foot per second (ft ³ /s)	2.832×10^1	liter per second
	2.832×10^1	cubic decimeter per second
	2.832×10^{-2}	cubic meter per second
gallon per minute (gal/min)	6.309×10^{-2}	liter per second
	6.309×10^{-2}	cubic decimeter per second
	6.309×10^{-5}	cubic meter per second
million gallons per day (Mgal/d)	4.381×10^1	cubic decimeter per second
	4.381×10^{-2}	cubic meter per second
<i>Mass</i>		
ton (short)	9.072×10^{-1}	megagram or metric ton

Sea level: In this report “sea level” refers to the National Geodetic Vertical Datum of 1929 (NGVD of 1929)—a geodetic datum derived from a general adjustment for the first-order level nets of both the United States and Canada, formerly called Sea Level Datum of 1929.

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