Water Resources Data Puerto Rico and the U.S. Virgin Islands Water Year 1996

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U.S. GEOLOGICAL SURVEY WATER-DATA REPORT PR-96-1
Prepared in cooperation with the Commonwealth of Puerto Rico, the Government of the U.S. Virgin Islands and other agencies

CALENDAR FOR WATER YEAR 1996

1995

OCTOBER

S	M	T	W	T	F	S
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NOVEMBER

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1996

JANUARY

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SEPTEMBER

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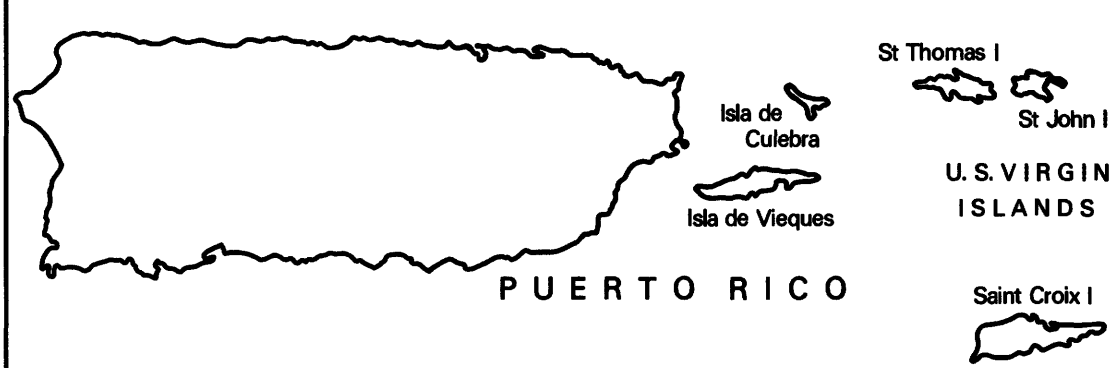
by P.L. Díaz, Z. Aquino, C. Figueroa-Alamo, R.J. Vachier, and A.V. Sánchez



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT PR-96-1
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U.S. DEPARTMENT OF THE INTERIOR
BRUCE BABBITT, Secretary

U.S. GEOLOGICAL SURVEY
Gordon P. Eaton, Director

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1997

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 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 Rafael W. Rodríguez, District Chief, Caribbean District, San Juan, Puerto Rico.

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Water resources data for surface-water, quality-of-water, and ground-water records for the 1996 water year for Puerto Rico and the U.S. Virgin Islands consists of records of discharge, water quality of streams, and water levels of wells. This report contains discharge records for 75 streamflow-gaging stations; stage only for 5 gaging stations, daily sediment records for 25 streamflow stations; 95 partial-record or miscellaneous streamflow stations; stage records for 15 reservoirs; water-quality records for 16 streamflow-gaging stations, 42 ungaged streamsites, 11 lake sites, 2 lagoons, and 1 bay; and water-level records for 67 observation wells. These data represent that part of the National Water Data System collected by the U.S. Geological Survey and cooperating local and federal agencies in Puerto Rico and the U.S. Virgin Islands.

14. SUBJECT TERMS

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

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RIO YAGUEZ BASIN		
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ST CROIX, US VIRGIN ISLANDS		
River Gut at Hwy 66 at Fairplanes (d)	50333700	529
Bethlehen Gut at Hwy 66 at Fairplanes (d)	50334500	530
Jolly Hill Gut at Jolly Hill (d)	50345000	531

GROUND-WATER WELLS, BY BASIN, FOR WHICH RECORDS ARE PUBLISHED

Page

RIO GUAJATACA BASIN
Well 182422067015100 Local number 165 464
Well 182647066552400 Local number 202 465

RIO GRANDE DE ARECIBO BASIN
Well 182737066370900 Local number 204 466
Well 182616066364100 Local number EN-1 467
Well 182209066340600 Local number FL-1 468
Well 182626066345100 Local number TI-1 469

RIO GRANDE DE MANATI BASIN
Well 182549066304300 Local number 166 470
Well 182757066325600 Local number 206 471
Well 182710066303700 Local number 207 472
Well 182308066260400 Local number 210 473
Well 182548066265700 Local number CS-7 474
Well 182506066280200 Local number HI-2 475

RIO CIBUCO BASIN
Well 182647066201700 Local number 70 476
Well 182615066235300 Local number 211 477
Well 182515066194000 Local number 212 478
Well 182330066185700 Local number 213 479
Well 182614066261500 Local number PA-2 480
Well 182712066251700 Local number TO-3 481

RIO DE LA PLATA BASIN
Well 182530066135400 Local number 216 482
Well 182655066142400 Local number 217 483
Well 182804066173500 Local number DA-1 484
Well 182620066163403 Local number HG-4 485
Well 182657066162700 Local number SA-1 486
Well 182657066162701 Local number SA-3 487
Well 182548066164401 Local number MA-2 488
Well 182526066165001 Local number SR-2 489
Well 182654066150600 Local number TB-1 490

RIO HONDO TO RIO PUERTO NUEVO BASINS
Well 182441066082600 Local number 219 491
Well 182511066045401 Local number PN-2 492
Well 182435066052701 Local number PN-5 493
Well 182445066043401 Local number PN-6 494
Well 182443066041502 Local number PN-8c 495
Well 182417066042700 Local number PN-10 496
Well 182349066032600 Local number PN-13 497
Well 182406066034700 Local number PN-19 498

GROUND-WATER WELLS, BY BASIN, FOR WHICH RECORDS ARE PUBLISHED--Continued

Page

RIO GRANDE DE LOIZA BASIN
Well 181550065593201 Local number 50 499
Well 182515065594100 Local number 222 500
Well 181513065554601 Local number CJ-TW3B 501
Well 181352066025300 Local number CJ-TW19A 502

RIO HERRERA TO RIO ANTON RUIZ BASINS
Well 181823065401900 Local number RF-04 503
Well 181917065382701 Local number RF-12 504
Well 182131065241100 Local number RP-04 505
Well 182138065431800 Local number RS-02 506

RIO HUMACAO TO RIO SECO BASINS
Well 175858066100200 Local number 6 507
Well 180415065513900 Local number 96 508
Well 175719066085500 Local number P-13 509

RIO SALINAS TO RIO JACAGUAS BASINS
Well 175829066232200 Local number 87 510
Well 180002066132200 Local number HW-TW-01 511
Well 180001066122002 Local number HW-TW-03C 512
Well 175947066130601 Local number HW-TW-05B 513
Well 175957066123400 Local number HW-TW-13 514
Well 175903066165000 Local number PG-07 515
Well 175943066224800 Local number PS-07 516
Well 180206066135500 Local number RM-05 517
Well 180104066152300 Local number RM-10 518

RIO INABON TO RIO LOCO BASINS
Well 180133066503300 Local number 132 519
Well 175900066354200 Local number 141 520
Well 180045066381600 Local number AN-1 521

RIO GUANAJIBO BASIN
Well 180132067033800 Local number 143 522
Well 180628067084300 Local number CR-TW-9A 523

RIO CULEBRINAS BASIN
Well 182442067091700 Local number 200 524

ST. CROIX, U.S. VIRGIN ISLANDS
Well 174225064472000 Local number 2 534
Well 174243064475100 Local number 3 535
Well 174316064480800 Local number 13 536

ST. THOMAS, U.S. VIRGIN ISLANDS
Well 182038064550300 Local number 6 537
Well 182038064580000 Local number 8 538

ST. JOHN, U.S. VIRGIN ISLANDS
Well 181956064464500 Local number 11 539

WATER RESOURCES DATA FOR PUERTO RICO AND THE U.S. VIRGIN ISLANDS, 1996
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 Guajatac	--	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
50016000	Río Camuy near Camuy	--	1969-73
50021000	Río Pellejas at Central Pellejas	5.46	1968-70
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
50029000	Río Grande de Arecibo at Central Cambalache	200	1969-83
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 Unibón 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
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
50059000	Río Piedras at Río Piedras	12.5	1971-82,1987-93
50061300	Río Canovanillas near Loíza	14.40	1968-73

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
50065700	Río Mameyes at Hwy 191 at Mameyes	11.80	1967-85
50072000	Río Fajardo at Fajardo	21.60	1960-63
50073200	Río Daguao at Daguao	2.26	1966-82
50073400	Quebrada Palma at Daguao	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 Ruíz 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	Caño 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 Jacaboa 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
50111700	Río Jacaguas near Juana Díaz	53.20	1966-68
50111750	Río Jacaguas below Quebrada Guanábana	56.30	1989
50112100	Río Jacaguas near Arús	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 Arús	30.20	1964-65

DISCONTINUED STREAMFLOW STATIONS--Continued

Station number	Station name	Drainage area (mi^2)	Period of record
50114400	Río Bucaná near Ponce	25.60	1965-81
50114700	Río Bucaná near Playa de Ponce	28.40	1964-67
50115900	Río Portugués at Hwy 14 at Ponce	--	1965-82
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 Confresí Tributary near Isabel II, Vieques	0.28	1991-93
50276000	Turpentine Run at Mariendal	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, V	0.09	1992-93
50332000	River Gut at River	1.42	1991-93
50333500	River Gut near Golden Grove	5.40	1990-93
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

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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 Geological Survey, the data are published annually in this report series entitled "Water Resources Data for Puerto Rico and the U.S. Virgin Islands, 1996."

This report includes records on both surface and ground water. Specifically, it contains: (1) Discharge records for 75 streamflow-gaging stations, stage only for 5 gaging stations, daily sediment records for 25 streamflow stations, 95 partial-record or miscellaneous streamflow stations, stage records for 15 reservoirs, and (2) water-quality records for 16 streamflow-gaging stations, and for 42 ungaged streamsites, 11 lake sites, 2 lagoons, and 1 bay; and (3) water-level records for 67 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 1975-76, 1977, 1978, 1979-80, 1981-82, 1983, 1984, 1985, 1986, 1987, 1988, 1989, 1990, 1991, 1992, 1993, 1994, and 1995 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 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-96-1." 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.

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 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 Department of Housing
Puerto Rico Highway Authority
Puerto Rico Department of Natural and Environmental Resources
Puerto Rico Department of Health
Puerto Rico Electric and Power Authority
Puerto Rico Solid Waste Management Authority
Puerto Rico Legislature
Puerto Rico Civil Defense
U.S. Virgin Islands Department of Planning and Natural Resources

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

SUMMARY OF HYDROLOGIC CONDITIONS

Rainfall

Rainfall throughout Puerto Rico during the water year 1996 (October 1995 to September 1996) averaged about 112 percent of normal. During the months of January, February, April, and June to September rainfall was above normal (table 1). Significant above normal rainfall conditions were recorded during January and September as rainfall averaged 234 and 202 percent of normal, respectively. During the month of October, November, December, March, and May rainfall was deficient with averages below normal fluctuating between 24 to 35 percent below. Rainfall averaged about 114 percent of normal in northern Puerto Rico, 103 percent of normal in southern Puerto Rico, 103 percent of normal in western Puerto Rico, and 130 percent of normal in eastern Puerto Rico. Monthly average rainfall islandwide for the 1996 water year and for the 30 year period 1961-1990 used to define normal rainfall, as reported by the National Oceanic and Atmospheric Administration, are listed in table 1.

Table 1. Islandwide monthly rainfall and annual averages for the 1996 water year and the 30-year reference period, 1961-1990

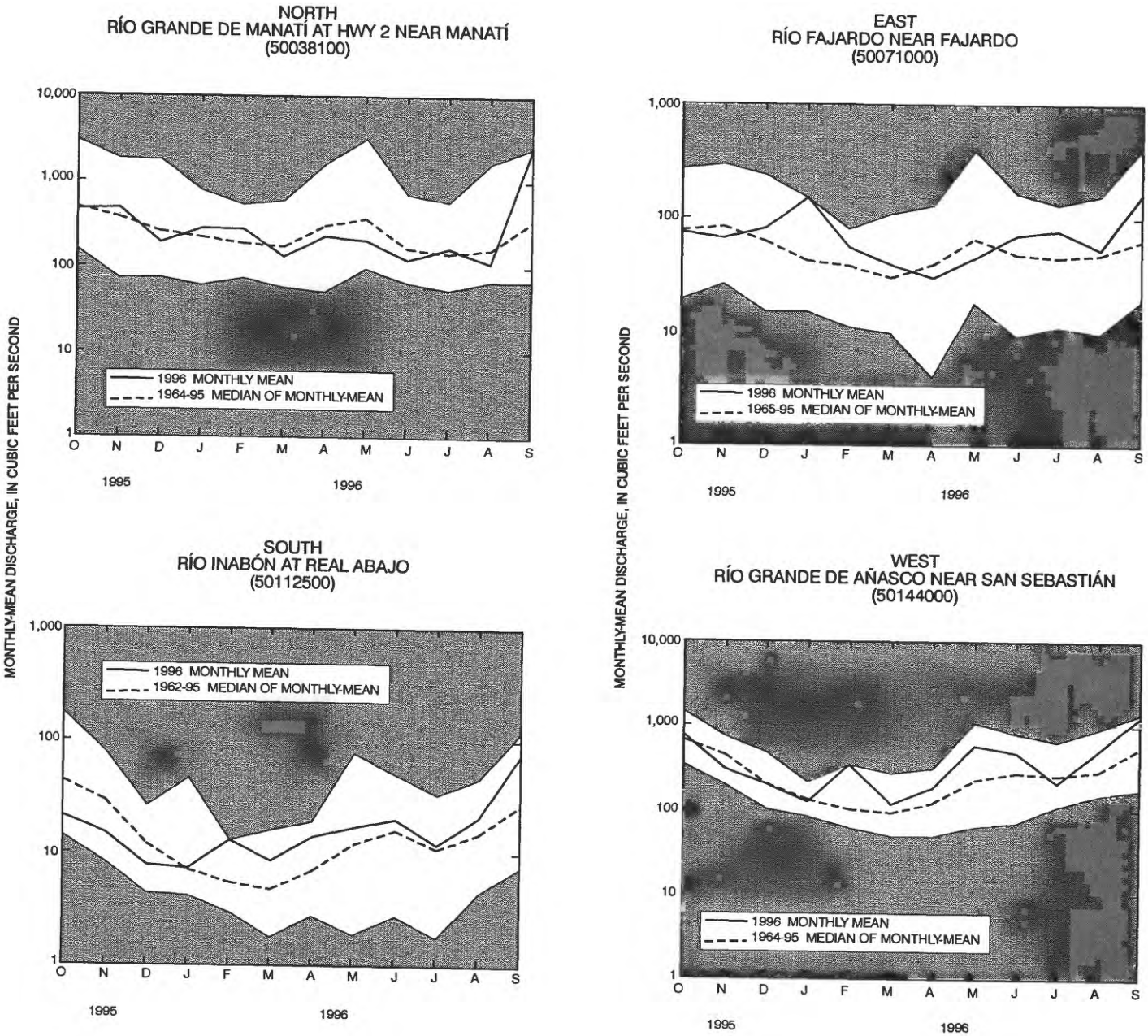
Month	1996 Water Year (inches)	30-year normal (inches)
October	5.52	8.29
November	4.24	6.55
December	3.23	4.38
January	6.68	2.86
February	4.16	2.52
March	2.29	3.01
April	5.65	4.46
May	4.66	6.96
June	6.20	4.99
July	6.73	5.08
August	7.22	6.89
September	14.42	7.14
TOTAL	71.00	63.13

Surface Water

Streamflow in Puerto Rico was, in general, above normal in water year 1996, based on the index stations with monthly-mean discharges largest than the long-term monthly median flow during several months. A monthly comparison of the monthly-mean flows during the 1996 water year, the long-term median of the monthly-mean flows, and the maximum and minimum monthly-mean flows for the period 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 maximum monthly-mean flows were recorded at the four stations.

In the northern area, the Río Grande de Manatí index station recorded historical maximum monthly-mean flow during September. During the rest of the year, the streamflow conditions at this index station were generally near normal.

In the eastern area, the index station on the Río Fajardo, recorded monthly-mean flows below the median of the monthly-mean flows for the months of October, November, April, and May. During January, the previous maximum monthly-mean flow was exceeded. A new historical maximum was recorded at this index station. The rest of the year, monthly-mean flows, were above the median of monthly-mean flows.



Unshaded area indicates range between highest and lowest monthly-mean discharges for the period of record to water year 1996.

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

In the southern area, the index station on the Río Inabón, recorded monthly-mean flows below the median of the monthly-mean flow only during the first quarter of the year (October, November, and December). During February, historical maximum monthly-mean flow was recorded at this index station. The rest of the year, monthly-mean flows were above the media of the monthly-mean flows.

In the western area, the index station on the Río Grande de Añasco, recorded historical maximum monthly-mean flow during February. Monthly-mean flows below the median of monthly mean flows were recorded during November, December, January, and July. During the rest of the year, the monthly-mean flows were well above the median of monthly mean flows.

The most important hydrologic event that happened during water year 1996 was the passage of Hurricane Hortense through the Caribbean area. During the early morning of September 10, 1996, Hurricane Hortense passed over the southwestern part of Puerto Rico. The eye of Hurricane Hortense moved over the towns of Guayanilla, Yauco, Guánica, Lajas, San Germán, Cabo Rojo, Hormigueros, and Mayagüez. Hurricane Hortense produced heavy rains over Puerto Rico, especially in the eastern half of the island. This heavy rain produced moderate to severe floods in more than 40 towns through the island. The most affected areas were the north and east. Floodwaters inundated downtown areas and neighborhoods, washing away homes, businesses, vehicles, bridges, and parts of roads. These floods resulted in 18 deaths, of which 15 drowned as floodwaters inundated their homes or swept away their vehicles when they attempted to cross flooded bridges and roads. The U.S. Geological Survey data network was highly affected with about 25 percent of the stations destroyed or severely damaged. High-water marks were surveyed shortly after the event to determine the peak stages at sites where recording instruments failed or were damaged during the flood. Historical maximum peak stages and flows were recorded during this event. Peak stages and discharges for 30 selected streamflow-gaging stations in Puerto Rico are listed in table 2.

Ground-Water Levels

Ground-water levels in most aquifers in Puerto Rico and the U.S. Virgin Islands followed seasonal fluctuations associated to rainfall patterns during water year 1996. Early and late into the water year, the ground-water levels increased in response to above normal rainfall associated to the passage of Hurricane Marilyn, September 1995, and Hortense, September 1996, through the area. Ground-water levels in Puerto Rico declined during the summer months, in response primarily to ground-water withdrawals for public and industrial use in the north coast and irrigation use in the south coast. Record-low and record-high water levels were recorded at several wells in Puerto Rico and the U.S. Virgin Islands (tables 3 and 4).

Ground-water levels in the north coast limestone aquifer of Puerto Rico fluctuated during the first half of water year 1996 in response to above normal rainfall in the area (fig. 2). From March to September the water levels declined in respond to less rainfall recharge and sustained ground-water withdrawals. At the Sabana Hoyos index well, the water levels declined about 2.00 ft. This declining trend was reversed by the rainfall produced by Hurricane Hortense in early September which caused the water levels to rise significantly.

At the south coast alluvial aquifer of Puerto Rico, the ground water levels decreased from October to May in response to below average rainfall in the area and sustained ground-water withdrawals for agricultural, public, and industrial use (fig. 2). By mid May, the water levels began to rise in response to aquifer recharge from above average rainfall and streamflow infiltration. A significant rise in water level was recorded during September when Hurricane Hortense affected the area. At the Alomar index well, water levels rose about 2.00 ft. during September 1996.

In the U.S. Virgin Islands, ground water levels followed similar fluctuations as those in Puerto Rico (fig. 2). The ground-water levels generally declined from October to June as rainfall diminished in the area.At the Guinea Gut index well in St. John, U.S. Virgin Islands, the water levels declined about 16.00 ft. for the same period of record. The declining trend was attenuated by various rainfall events which produced water level rises. After July, the ground-water levels increased as rainfall events became more frequent.

Table 2. Summary of peak stages and discharges prior to and during September 10, 1996, at selected U.S. Geological Survey streamflow-gaging stations in Puerto Rico

[mi^2, square miles; ft, feet; ft^3/s, cubic feet per second; >, greater than]

Station number	Station name	Drainage area (mi^2)	Period of record	Previous maximum discharge			Flood of September 10, 1996	
				Date	Peak stage (ft)	Maximum discharge (ft^3/s)	Peak stage (ft)	Peak discharge (ft^3/s)
50014600	Río Camuy at Tres Pueblos Sinkhole	--	1990-96	10/1991	12.42	1,030	19.58	3,650
50025155	Río Saliente at Coabey near Jayuya	9.25	1990-96	06/1994	13.92	5,900	19.29	14,500
50030460	Río Orocovis at Orocovis	5.03	1981-82 1989-96	01/1992	11.53	2,320	16.85	8,070
50031200	Río Grande de Manatí near Morovis	55.2	1965-96	05/1985	17.89	48,000	18.83	53,000
50034000	Río Bauta near Orocovis	16.7	1970-82 1989-96	10/1970	21.90	17,800	25.14	25,900
50035000	Río Grande de Manatí at Ciales	128	1946-53 1960-96	10/1970	24.00	125,000	25.20	128,000
50038100	Río Grande de Manatí at Hwy 2 near Manatí	197	1970-96	10/1985	33.79	97,500	36.36	>140,000
50039500	Río Cibuco at Vega Baja	99.1	1973-96	04/1987	19.10	34,000	18.74	29,400
50043800	Río de la Plata at Comerío	109	1989-96	01/1992	29.22	127,000	27.78	118,000
50045010	Río de la Plata below La Plata Dam	173	1989-96	01/1992	34.76	127,000	42.26	197,000
50046000	Río de la Plata at Hwy 2 near Toa Alta	208	1960-96	01/1992	26.39	118,000	27.40	>118,000
50047560	Río de Bayamón below Lago Cidra	8.32	1991-96	07/1993	16.56	2,090	27.34	15,000
50047850	Río de Bayamón near Bayamón	41.8	1965-70 1988-96	10/1970	20.20	28,000	29.07	65,000
50048770	Río Piedras at El Señorial	7.49	1988-96	08/1988	16.08	4,680	15.46	5,400
50050900	Río Grande de Loíza at Quebrada Arenas	6.00	1978-96	01/1992	17.52	18,200	25.93	>20,000
50051180	Quebrada Salvatierra near San Lorenzo	3.74	1984-96	05/1985	17.20	9,320	20.87	15,000
50051800	Río Grande de Loíza at Hwy 183 near San Lorenzo	25.0	1990-96	01/1992	31.37	40,700	35.62	56,800
50053025	Río Turabo above Borinquen	7.14	1990-96	01/1992	21.07	12,000	22.60	15,200
50055000	Río Grande de Loíza at Caguas	89.8	1960-96	09/1960	31.17	71,500	32.32	83,000
50055170	Río Cagüitas near Caguas	8.27	1992-96	09/1993	26.10	3,010	31.60	9,040
50055225	Río Cagüitas at Villa Blanca at Caguas	16.9	1991-96	01/1992	19.91	13,400	23.89	>20,000
50055390	Río Bairoa at Bairoa	5.08	1991-96	01/1992	12.32	1,580	18.16	7,200
50057000	Río Gurabo at Gurabo	60.2	1960-96	09/1960	27.70	74,600	31.44	62,100
50058350	Río Cañas at Río Cañas	7.53	1990-96	10/1990	20.55	3,830	24.60	7,500
50059050	Río Grande de Loíza below Damsite	209	1987-96	11/1987	39.57	124,000	49.31	223,000
50100200	Río Lapa near Rabo del Buey	9.92	1989-96	01/1992	17.82	15,700	18.65	18,100
50100450	Río Majada at La Plena	16.7	1989-96	01/1992	17.19	15,200	18.69	17,700
50106100	Río Coamo at Coamo	43.5	1987-96	01/1992	13.49	9,290	19.94	26,300
50110900	Río Toa Vaca above Lago Toa Vaca	7.64	1989-96	01/1992	13.24	8,700	18.65	>15,000
50113800	Río Cerrillos above Lago Cerrillos near Ponce	15.4	1989-96	01/1992	9.65	8,140	10.62	10,600

Table 3. Highest ground-water levels recorded during water year 1996 and previous highest ground-water levels at selected wells in Puerto Rico and the U.S. Virgin Islands

[PR, Puerto Rico; St.C, St. Croix; mm-dd-yy, month-day-year; ft-blsd, feet below land-surface datum; mm-yy, month-year; +, above land-surface datum]

Well name or number	Local number	Location	1996 Highest water level (ft-blsd)	Date (mm-dd-yy)	Previous highest water level (ft-blsd)	Date (mm-dd-yy)	Period of record (mm-yy)
Manatí 3	166	PR	22.43	09-20-96	22.90	03-03-83	02-82 to 09-96
Dorado Airport Well	DA-1	PR	56.67	09-11-96	57.62	06-06-95	02-95 to 09-96
Higuillar No. 4	HG-4	PR	31.84	09-11-96	4.03	09-17-95 09-18-95	01-95 to 09-96
Maguayo No. 2	MA-2	PR	24.89	09-18-96 09-19-96	27.58	09-26-95	06-95 to 09-96
San Antonio No. 1	SA-1	PR	13.97	09-11-96	17.13	09-16-95	10-94 to 09-96
San Antonio No. 3	SA-3	PR	13.95	09-11-96	16.76	09-16-95	10-94 to 09-96
Santa Rosa No. 2	SR-2	PR	60.42	09-20-96	62.79	09-30-95	02-95 to 09-96
Toa Baja TW-1	TB-1	PR	3.04	09-10-96	7.90	09-16-95	11-92 to 09-96
Luis Muñoz Marín 1C	PN-8c	PR	8.80	09-10-96	10.35	09-25-89	02-89 to 09-96
Jardín Botánico No. 1	PN-13	PR	6.96	09-10-96	8.75	09-18-89	03-89 to 09-96
Jardín Botánico No. 3	PN-19	PR	3.06	09-11-96	3.35	12-30-92	06-91 to 09-96
CJ-TW3B	CJ-TW3B	PR	10.64	09-11-96	13.40	06-13-92 06-14-92 12-03-92 12-04-92	09-91 to 09-96
CJ-TW19A	CJ-TW19A	PR	22.60	09-14-96	22.78	07-27-93	06-92 to 09-96
RF-04	RF-04	PR	10.92	09-10-96	11.74	09-18-95	08-93 to 09-96
RF-12	RF-12	PR	4.64	01-15-96	5.70	09-17-95 09-18-95	08-95 to 09-96
RS-02	RS-02	PR	1.39	09-10-96	3.10	09-17-95	08-95 to 09-96
RM # 5	RM # 5	PR	5.56	09-10-96	7.48	05-26-92	03-89 to 09-96
WAPA-17	13	ST.C	0.27	09-10-96	4.68	10-14-90	02-90 to 09-96

Table 4. Lowest ground-water levels recorded during water year 1996 and previous lowest 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 or number	Local number	Location	1996 Highest water level (ft-blsd)	Date (mm-dd-yy)	Previous highest water level (ft-blsd)	Date (mm-dd-yy)	Period of record (mm-yy)
RF-04	RF-04	PR	18.22	05-07-96 to 05-13-96	17.11	08-15-95	08-93 to 09-96
RF-12	RF-12	PR	10.45	07-07-96 07-08-96	8.14	08-17-95 08-18-95	08-95 to 09-96
RP-04	RP-04	PR	9.66	04-26-96	2.93	08-16-95 08-17-95	08-95 to 09-96
RS-02	RS-02	PR	6.95	04-02-96 04-03-96 04-04-96	6.22	09-05-95	08-95 to 09-96
HW-TW-01	HW-TW-01	PR	37.45	09-10-96	34.44	09-08-95 to 09-16-95	04-88 to 09-96
HW-TW-03C	HW-TW-03C	PR	59.82	03-01-96	59.10	09-28-95	12-88 to 09-96
HW-TW-05B	HW-TW-05B	PR	28.55	08-14-96 08-15-96	27.13	09-07-95	04-88 to 09-96
Godreau No. 7	PG-07	PR	34.87	09-03-96	34.58	08-18-95 to 08-21-95	09-91 to 09-96
Vivoni, Col. Amistad	143	PR	40.09	07-21-96 07-22-96 07-28-96	40.00	06-09-90 to 06-11-90 06-08-94	12-81 to 09-96

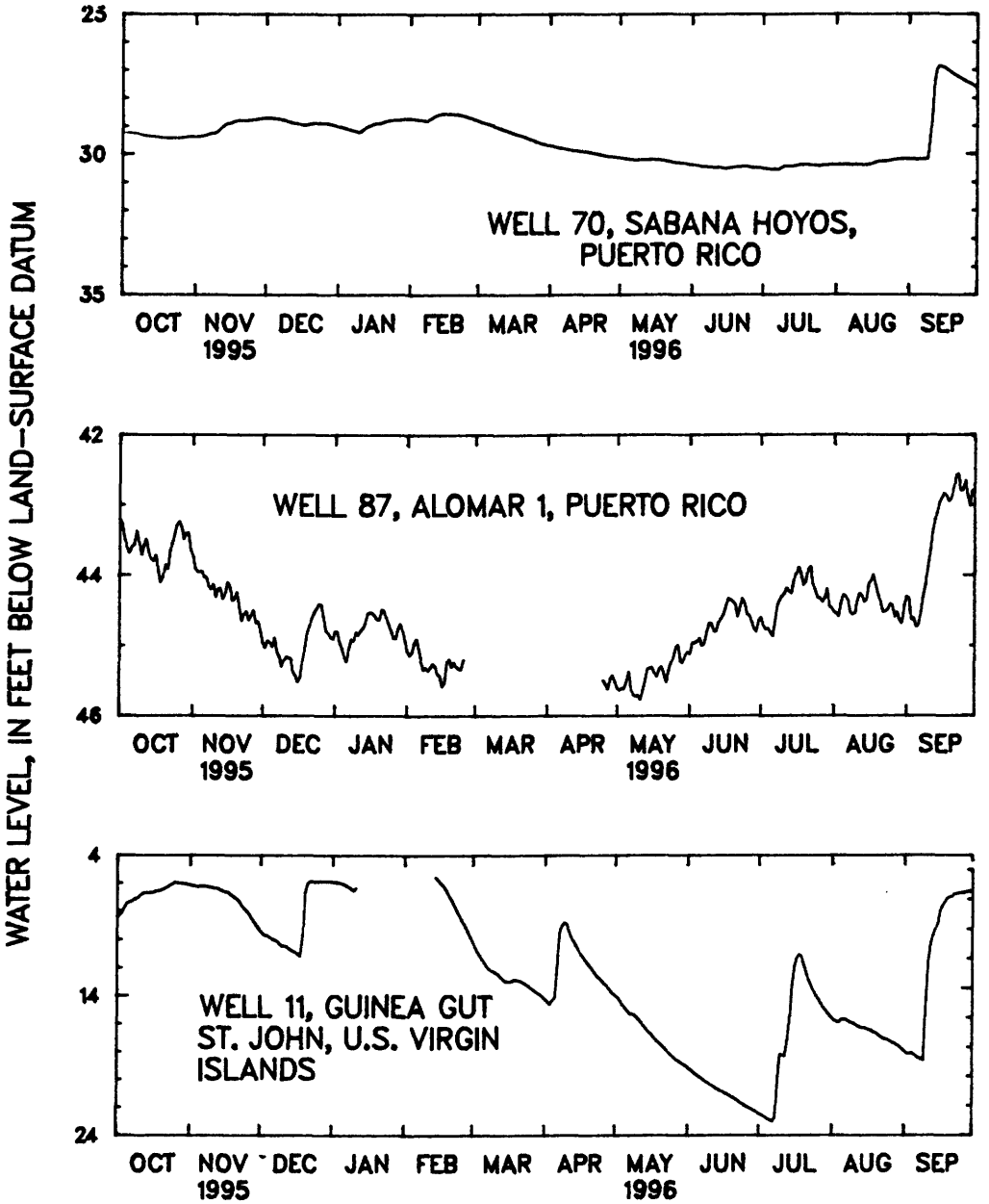


Figure 2.--Ground-water levels at selected wells in Puerto Rico and the U.S. Virgin Islands.

Water Quality

In water year 1996 the U.S. Geological Survey, in cooperation with several local government agencies, collected water-quality data at 83 surface-water stations in Puerto Rico. The water-quality data collected at these stations included the major chemical constituents and several constituents that are listed in table 5. The highest concentration of each of these constituents detected during water year 1996 and the station where it was detected are summarized in table 5.

Table 5. Surface-water quality stations in Puerto Rico with highest concentration of selected constituents during water year 1996

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

Station number	Station name	Constituent	Concentration
50049100	Río Piedras at Hato Rey	Sulfide	1.0
50116200	Río Portugues at Ponce	Boron	2.0
50049100	Río Piedras at Hato Rey	Manganese	8.5
50049100	Río Piedras at Hato Rey	Iron	16
50049100	Río Piedras at Hato Rey	Zinc	2.0
50055250	Río Cagüitas at Caguas	Cyanide	0.02
50055250	Río Cagüitas at Caguas	Phenols	0.08
50143000	Río Grande de Añasco near Lares	Phenols	0.08
50055250	Río Cagüitas at Caguas	MBAS	1.1

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 1996. The highest concentrations observed during this year were in stations 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 main sources of contamination in surface-water systems in Puerto Rico are discharges of liquid wastes from industrial and municipal sources. 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 25 stations in Puerto Rico during the 1996 water 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 water quality for drinking water and decrease the storage capacities of reservoirs used for water supply.

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 1996 water year that began October 1, 1995 and ended September 30, 1996. 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 11. 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.

Station Identification Numbers

Each data station, whether streamsite 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. 12).

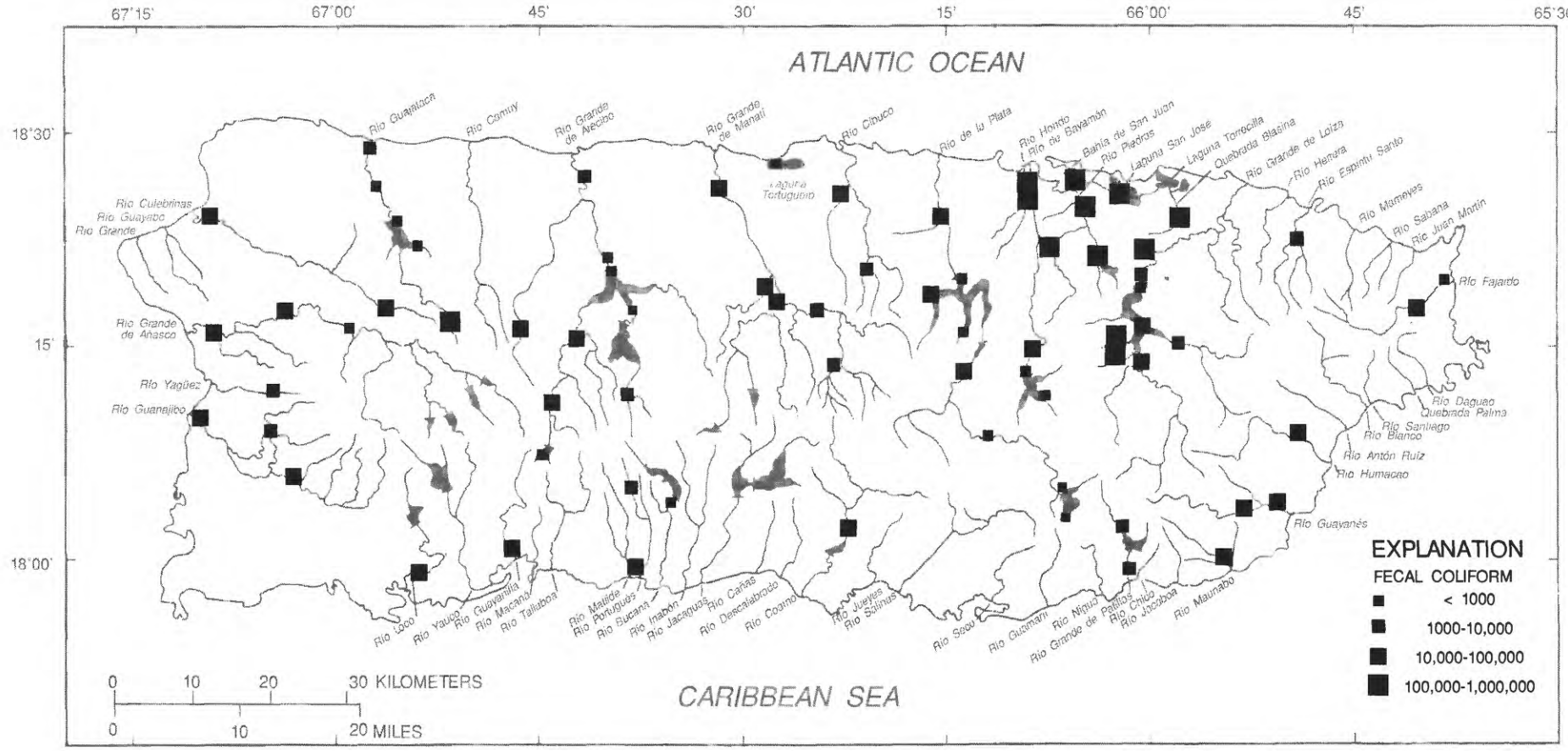


Figure 3.--Maximum concentration of fecal coliform bacteria at the water-quality sampling sites in Puerto Rico.

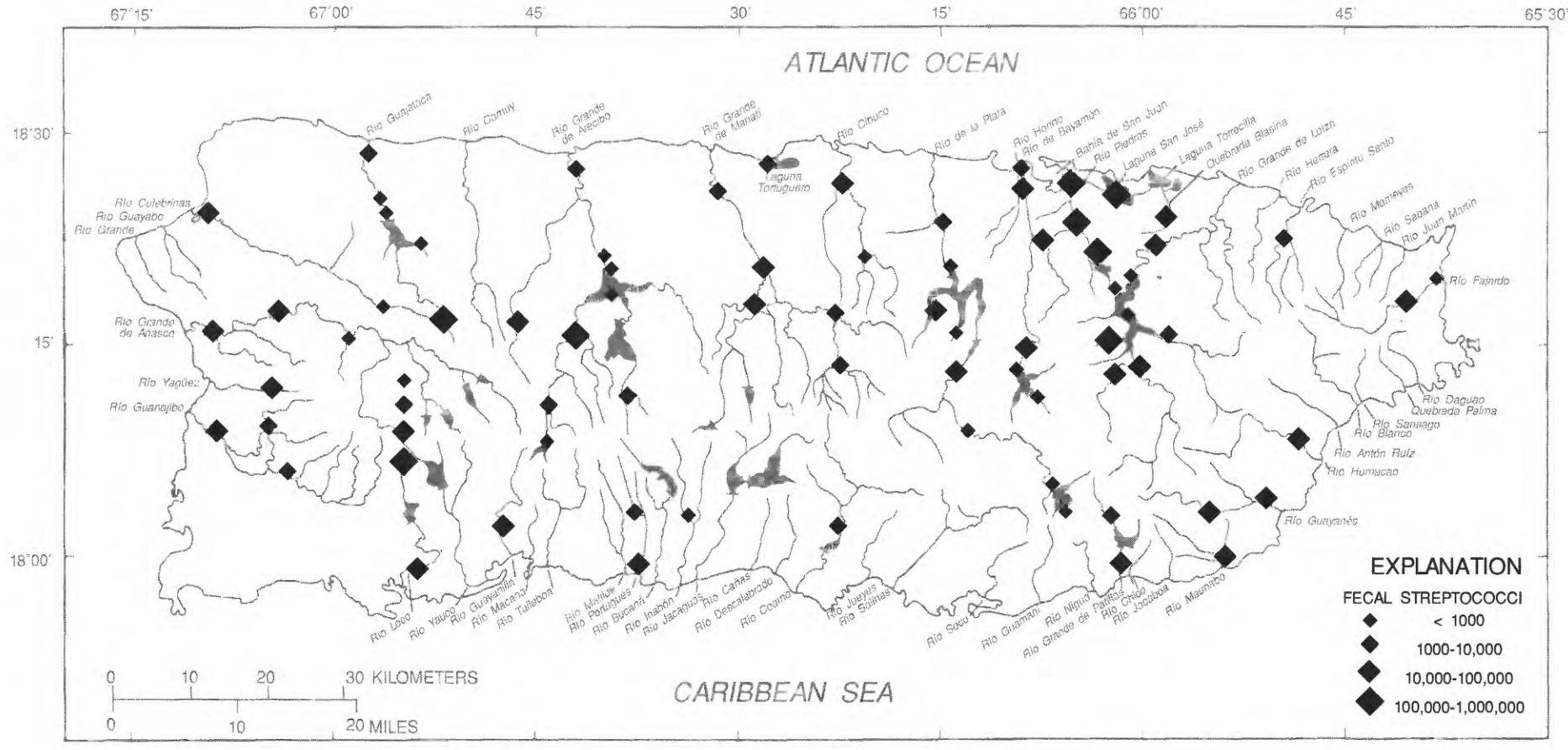


Figure 4.--Maximum concentration of fecal streptococci bacteria at the water-quality sampling sites in Puerto Rico.

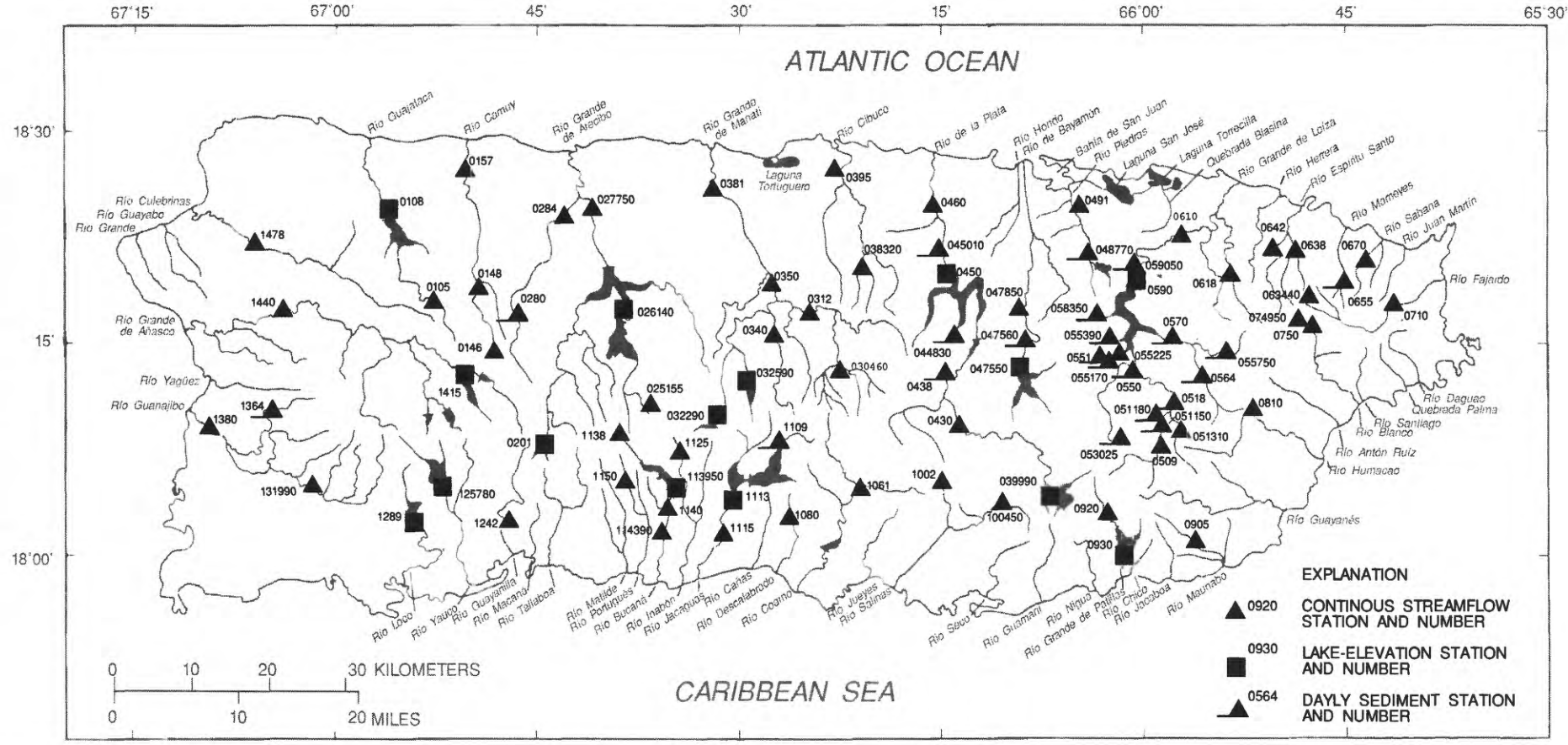


Figure 5.--Location of surface-water stations in Puerto Rico.

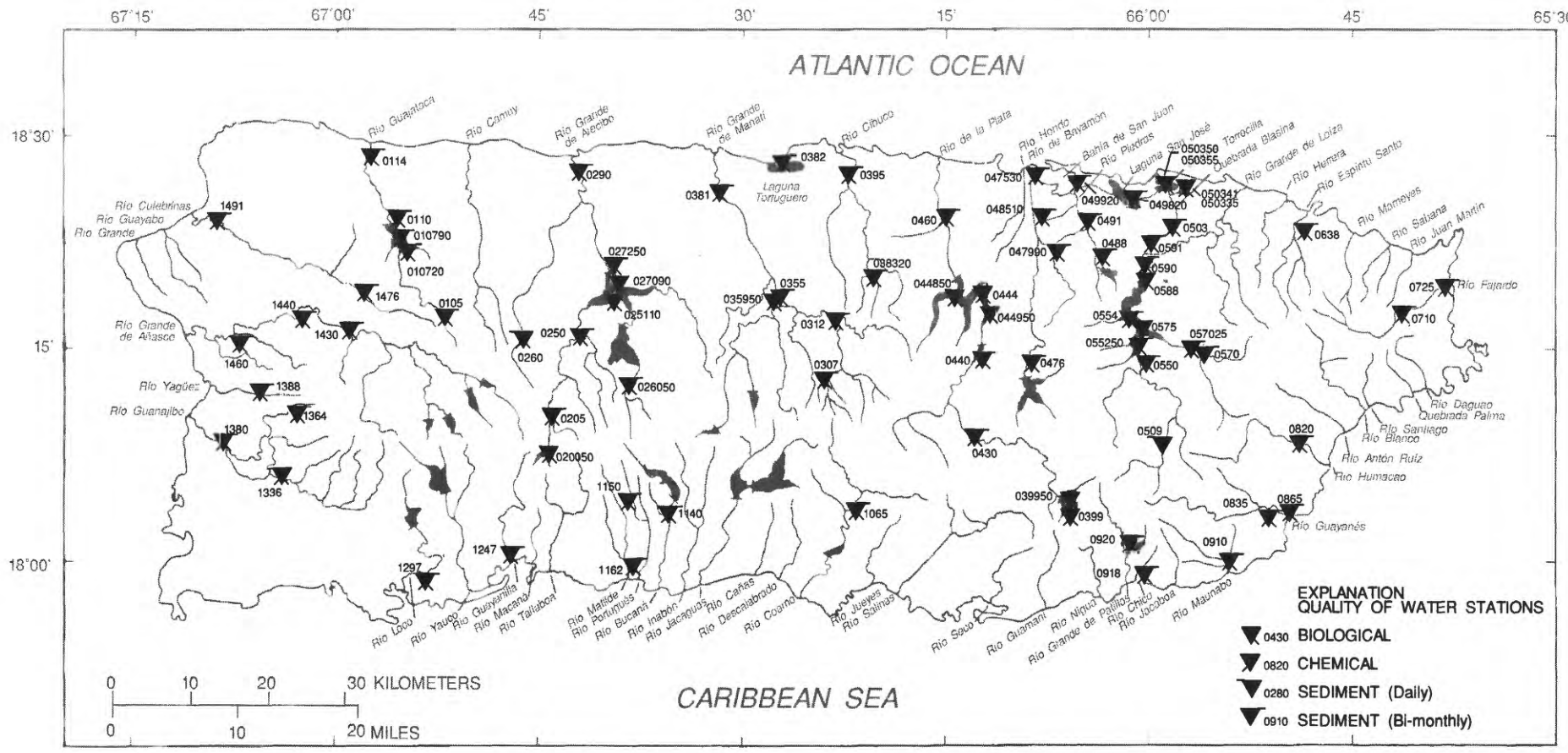


Figure 6.--Location of water-quality stations in Puerto Rico.

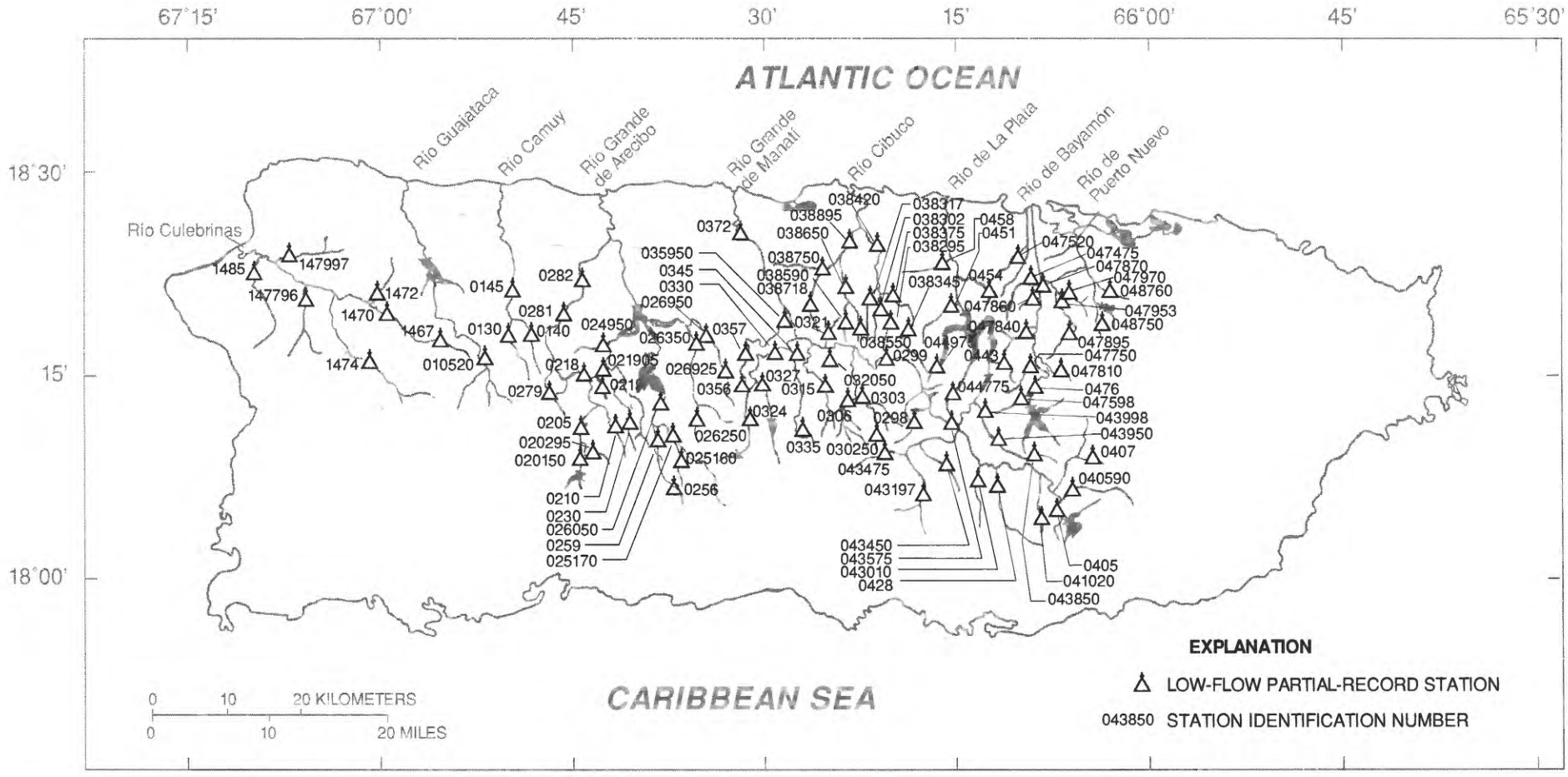


Figure 7.--Location of low-flow partial-record stations in northcentral Puerto Rico.

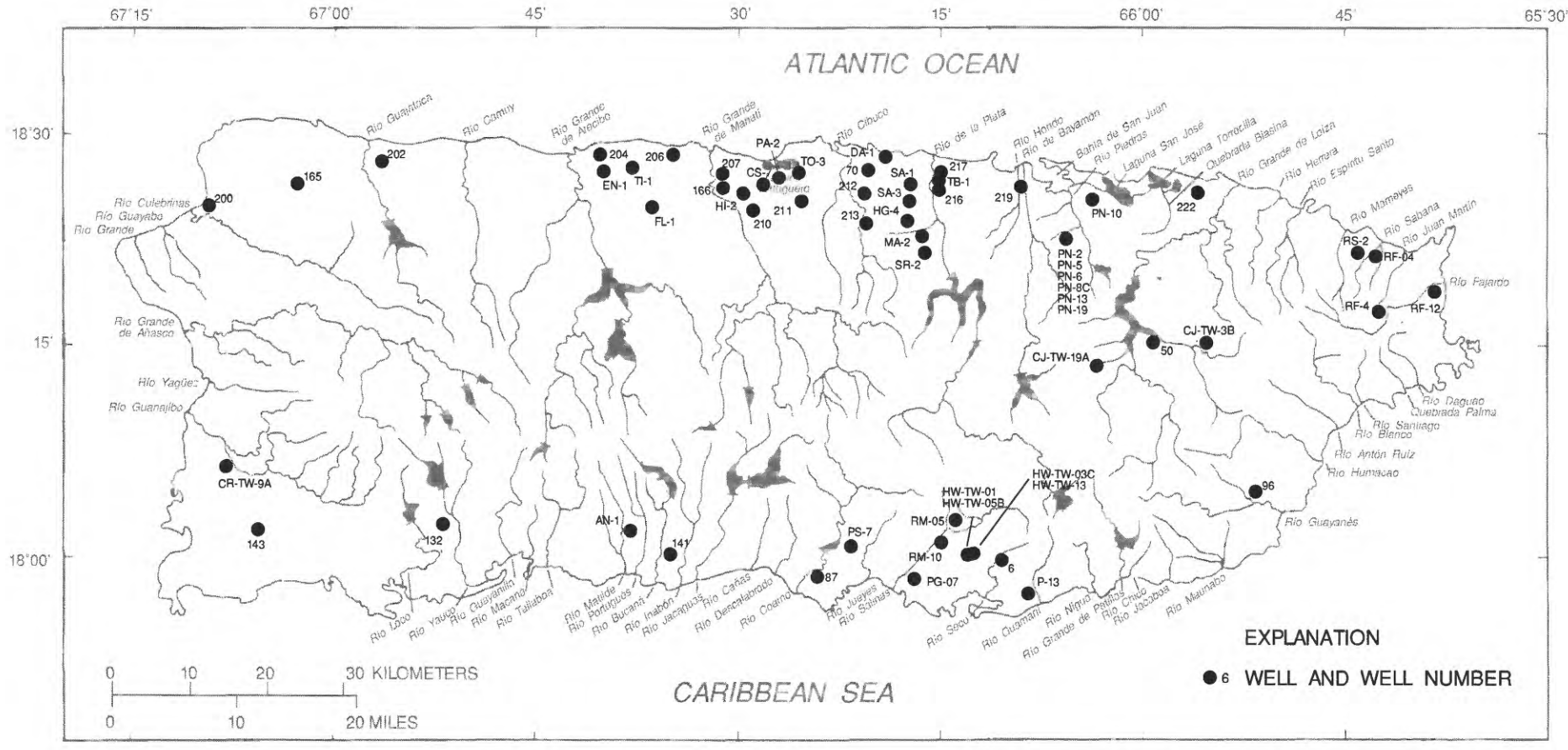


Figure 8.--Location of ground-water stations in Puerto Rico.

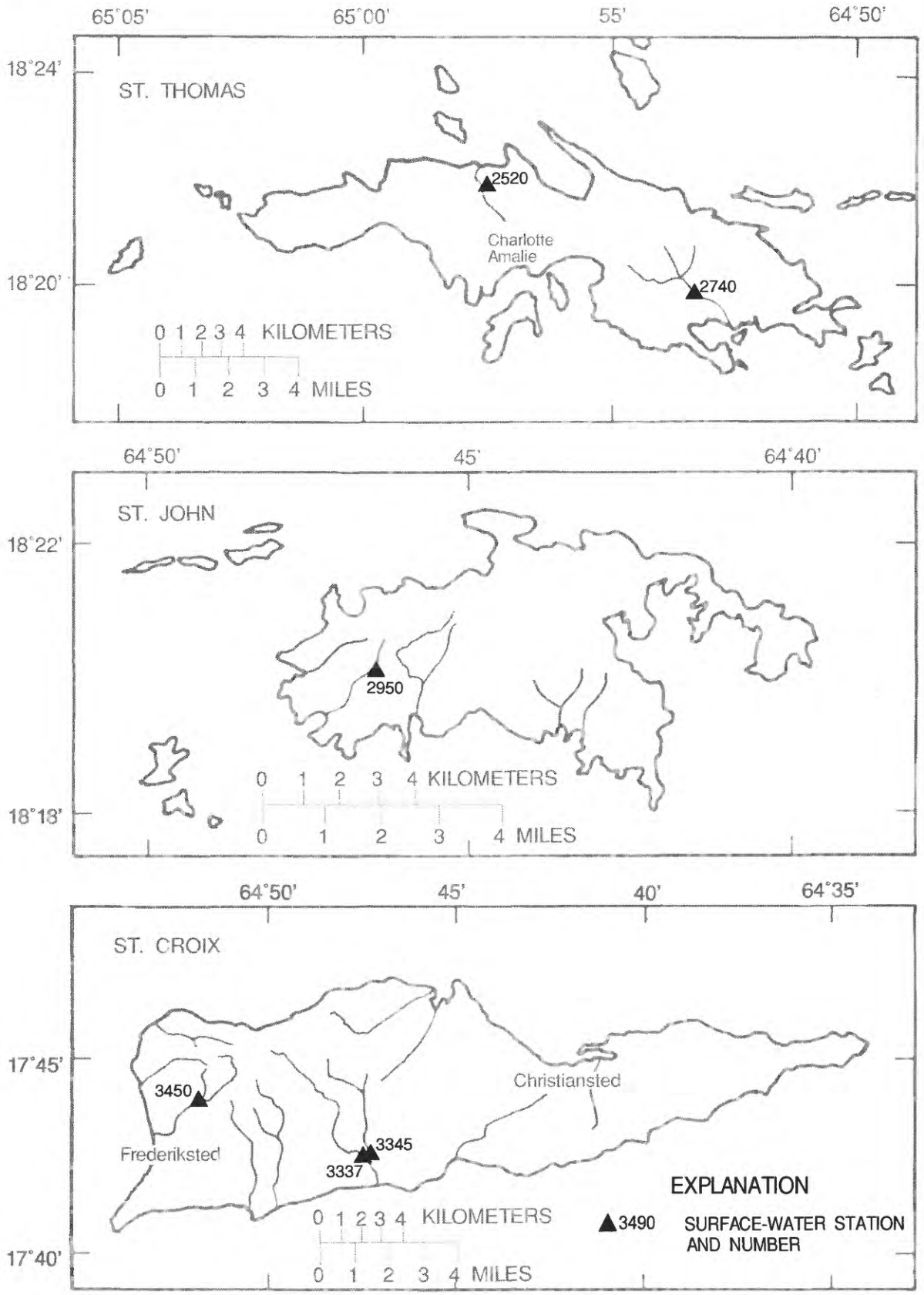


Figure 9.--Location of surface-water stations in the U.S. Virgin Islands.

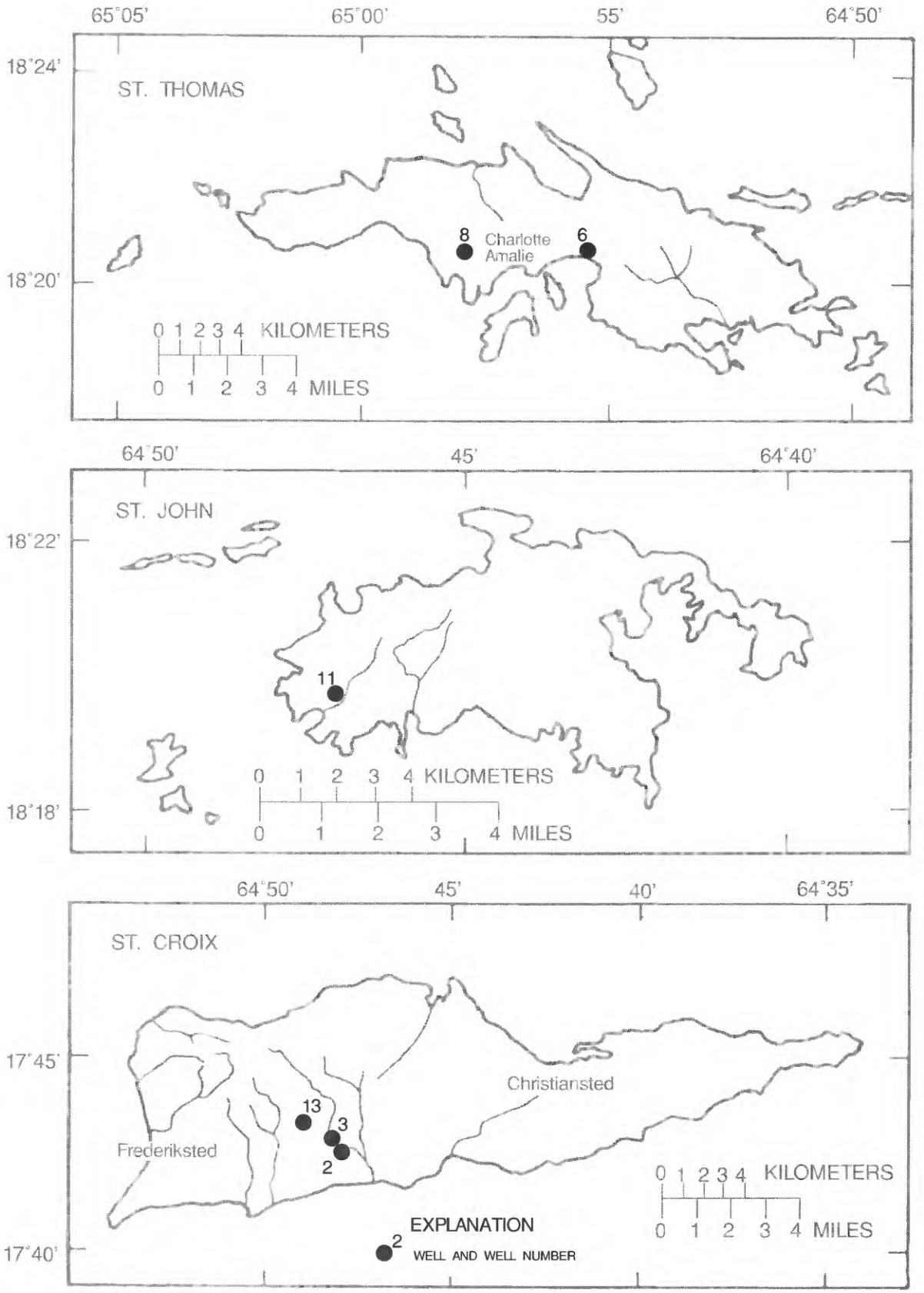


Figure 10.--Location of ground-water stations in the U.S. Virgin Islands.

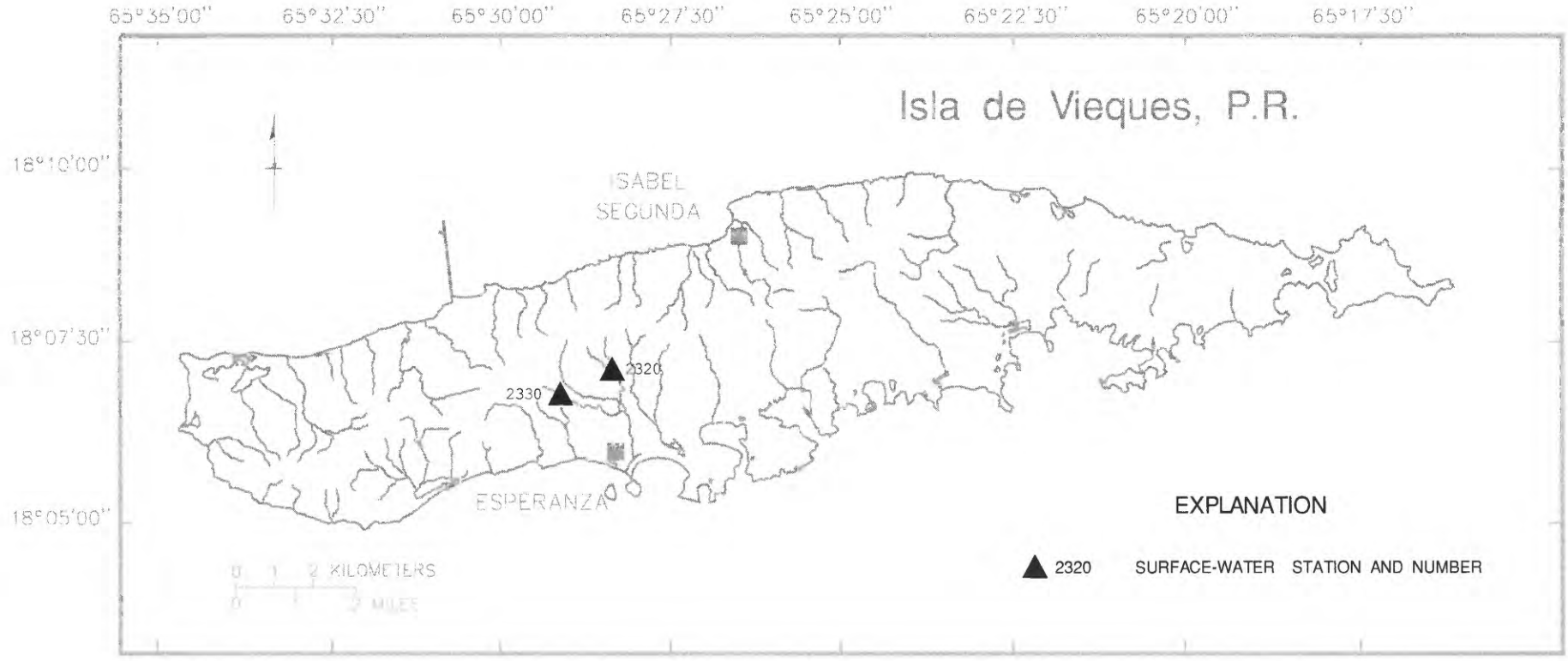


Figure 11.--Location of surface-water stations in Vieques Island.

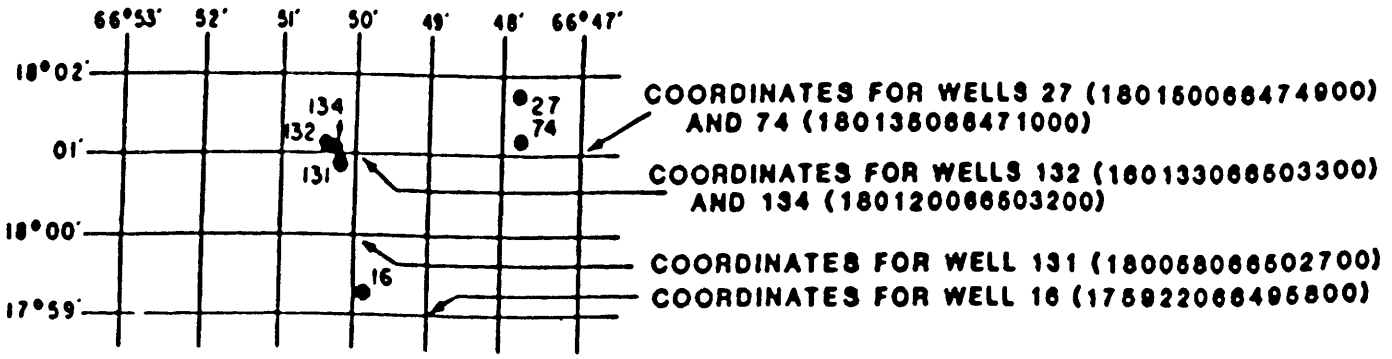


Figure 12.--Grid showing system for numbering wells and miscellaneous sites (latitude and longitude).

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.

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.

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.

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).

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 ft^3/s; to the nearest tenth between 1.0 and 10 ft^3/s; to whole numbers between 10 and 1,000 ft^3/s; and to 3 significant figures for more than 1,000 ft^3/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.

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.

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.

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.

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 local needs. 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.

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 geologic 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 measurment 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.

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 WATSTORE DATA

The U.S. Geological Survey is the principal Federal water-data agency and, as such, collects and disseminates about 70 percent of the water data currently being used by numerous State, local, private, and other Federal agencies to develop and manage our water resources. As part of the U.S. Geological Survey's program of releasing water data to the public, a large-scale computerized system has been developed for the storage and retrieval of water data collected through its activities. The National Water-Data Storage and Retrieval System (WATSTORE) was established in 1972 to provide an effective and efficient means for the processing and maintenance of water data collected through the activities of the U.S. Geological Survey and to facilitate release of the data to the public. A variety of useful products, ranging from data tables to complex statistical analyses such as Log Pearson Type III, can be produced using WATSTORE. The system resides on the central computer facilities of the U.S. Geological Survey at its National Center in Reston, Virginia, and consists of related files and data bases.

* Station Header File - Contains descriptive information on over 440,000 sites throughout the United States and its territories where the U.S. Geological Survey collects or has collected data.

* Daily Values Files - Contains over 220 million daily values of streamflow, stages, reservoir contents, water temperatures, specific conductances, sediment concentrations, sediment discharges, and ground-water level.

* Peak Flow File - Contains approximately 500,000 maximum (peak) streamflow and gage-height values at surface-water sites.

* Water-Quality Data - Contains approximately 2 million analyses of water samples that describe the chemical, physical, biological, and radio-chemicals characteristics of both surface and ground water.

* Ground-Water Site Inventory Data Base - Contains inventory data for over 900,000 wells, springs, and other sources of ground water. The data includes site location, geohydrologic characteristics, well-construction history, and one-time field measurements such as water temperature.

In 1976, the U.S. Geological Survey opened WATSTORE to the public for direct access. The signing of a Memorandum of Agreement with the Survey is required to obtain direct access to WATSTORE. The system can be accessed either synchronously or asynchronously. The requestor will be expected to pay all computer costs he/she incurs. Direct access may be obtained by contacting:

U.S. Geological Survey
National Water Data Exchange
421 USGS National Center
Reston, Virginia 22092

In addition to providing direct access to WATSTORE, data can be provided in various machine-readable formats on magnetic tape or 5-1/4 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's offices. (See address on the back of the title page).

DEFINITION OF TERMS

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

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 about 326,000 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 measure of ATP therefore provides a sensitive and rapid estimate of biomass. ATP is reported in micrograms per liter of the original water sample.

Algae 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 a stationary phase and is expressed as milligrams dry weight of algae produced per liter of sample.

Aquifer is a geologic formation, group of formations, or part of a formation that contains sufficient saturated permeable material to yield significant quantities of water to wells and springs.

Artesian means confined and is used to describe a well in which the water level stands above the top of the aquifer, tapped by the well. A flowing artesian well is one in which the water level is above the land surface.

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. They are characterized as aerobic or facultative anaerobic, gram-negative, nonspore-forming, rod-shaped bacteria which ferment lactose with gas formation within 48 hours at 35°C. In the laboratory these bacteria are defined as all the organisms which produce colonies with a golden-green metallic sheen within 24 hours when incubated at 35°C $\pm$ 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 intestines 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 which produce blue colonies within 24 hours when incubated at 44.5°C ± 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 also in intestines of warm-blooded animals. Their presence in water is considered to verify fecal pollution. They are characterized as Gram-positive, cocci bacteria which are capable of growth in brain-heart infusion broth. In the laboratory they are defined as all the organisms which produce red or pink colonies within 48 hours at 35°C ± 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.

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

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 the 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. The ash mass values of zooplankton and phytoplankton are expressed in grams per cubic meter (g/m^3), and periphyton and benthic organisms in grams per square meter (g/m^2).

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 values are 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 the ash mass and represents the actual matter. The organic mass is expressed in the same units as for ash and dry mass.

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

Bottom material: See Bed material.

Cells/volume refers to the number of cells of any organism which is counted by using a microscope and grid or counting cell. Many planktonic organisms are multicelled and are counted according to the number of contained cells per sample, usually milliliters (mL) or liters (L).

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 natural water color or with carbonaceous organic pollution from sewage or industrial wastes.

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

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

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.

Control designates a feature downstream from the gage that determines the stage-discharge relation at the gage. This feature may be a natural constriction of the channel, 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 salt water.

Cubic foot per second (ft^3/s) is the rate of discharge representing a volume of 1 cubic foot passing a given point during 1 second and is equivalent to 7.48 gallons per second or 448.8 gallons per minute or 0.02832 cubic meters per second.

Cubic foot per second-day ($ft^3/s/day$) 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, approximately 1.9835 acre-feet, about 646,000 gallons, or 2,445 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 that the runoff is distributed uniformly in time and area.

Discharge is the volume of water (or more broadly, volume of fluid plus suspended sediment), that passes a given point within a given period of time.

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.

Annual 7-day minimum is 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 statistic.)

Dissolved refers to that material in a representative water sample which passes through a 0.45 um 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.

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 the analytical determination of dissolved solids, the bicarbonate (generally a major dissolved component of water) is converted to carbonate. Therefore, in the mathematical calculations of dissolved-solids concentration, the bicarbonate value, in milligrams per liter, is multiplied by 0.492 to reflect the change.

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

$$\overline{d} = -\sum_{n}^{s} \frac{n_i}{n} \log_2 \frac{n_i}{n}$$

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 stream at a specified location is that area, measured in a horizontal plane, enclosed by a topographic divide from which direct surface runoff from precipitation normally drains by gravity into the stream above the specified point. Figures of drainage area given herein include all closed basins, or noncontribution areas, within the area unless otherwise noted.

Drainage basin is a part of the surface of the earth that is occupied by a drainage system, which consists of a surface stream or a body of impounded surface water together with all tributary surface streams and bodies of impounded surface water.

Gage height (G.H.) is the water-surface elevation referred to some arbitrary 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 particular site on a stream, canal, lake, or reservoir where systematic observations of hydrologic data are obtained.

Ground-water station is a well at which observations of ground-water level are made, either continuously by recorder, or periodically by hand. In addition, various chemical or physical parameters may be obtained, usually on a periodic basis.

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 equivalent calcium carbonate ($CaCO_3$).

Hydrologic Bench-Mark Network is a network 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.

Hydrologic unit is a geographic area representing part or all of a surface drainage basin or distinct hydrologic feature as delineated by the Office of Water Data Coordination on the State Hydrologic Unit Maps; each hydrologic unit is identified by an eight-digit number.

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

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

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) is a unit expressing the concentration of a chemical element as the mass (micrograms) of the element per unit mass (gram) of material analyzed.

Micrograms per liter (UG/L, ug/L) is a unit expressing the concentration of chemical constituents in solution as mass (micrograms) of solute per unit volume (liter) of water. One thousand micrograms per liter is equivalent to one milligram per liter.

Milligrams per liter (MG/L, mg/L) is a unit for expressing the concentration of chemical constituents in solution. Milligrams per liter represent the mass of solute per unit volume (liter) of water. Concentration of suspended sediment also is expressed in mg/L, and is based on the mass of sediment per liter of water-sediment mixture. Conversion of chemical concentrations in Mg/L to milliequivalents per liter can be done by using the factors in table 6.

Table 6. Factors for conversion of chemical constituents in milligrams per liter to milliequivalents per liter

Ion	Multiply by	Ion	Multiply by
Aluminum (Al+3)*	0.11119	Iodide (I-1	0.00788
Ammonia as NH4+1	.05544	Iron (Fe+3)	.05372
Barium (Ba+2)	.01456	Lead (Pb+2)	.00965
Bicarbonate (HCO3-1)	.01639	Lithium (Li+1)	.14411
Bromide (Br-1)	.01251	Magnesium (Mg+2)	.08226
Calcium (Ca+2)	.04990	Manganese (Mn+2)*	.03640
Carbonate (CO3-2)	.03333	Nickel (Ni+2)	.03406
Chloride (Cl-1)	.02821	Nitrate (N03-1)	.01613
Chromium (Cr+6)*	.11539	Nitrite (NO2-1)	.02174
Cobalt (Co+2)*	.03394	Phosphate (PO4-3)	.03159
Copper (Cu+2)*	.03148	Potassium (K+1)	.02557
Cyanide (CN-1)	.03844	Sodium (NA+1)	.04350
Fluoride (F-1)	.05264	Strontium (Sr+2)	.02283
Hydrogen (H+1)	.99209	Sulfate (SO4-2)	.02082
Hydroxide (OH-1)	.05880	Zinc (Zn+2)*	.03060

*Constituent reported in micrograms per liter; multiply by factor and divide results by 1,000.

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 in 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 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.

National Trends Network (NTN) is a 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).

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 unit area habitat, usually square meters (m^2), acres, 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 milliliters (mL) or liters (L). Numbers of planktonic organisms can beexpressed in these terms.

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

Parameter Code is a 5-digit number used in the U.S. Geological Survey computerized data system, WATSTORE, to uniquely identify a specific constituent. The codes used in WATSTORE are the same as those used in the U.S. Environmental Protection Agency data system, STORET. The Environmental Protection Agency assigns and approves all requests for new codes.

Partial-record station is a particular site where limited streamflow and/or water-quality data are collected systematically over a period of years for use in hydrologic analyses.

Particle-size is the diameter, in millimeters (mm), of a particle determined by either sieve or sedimentation methods. Sedimentation methods (pipet, bottom-withdrawal tube, visual-accumulation tube) 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).

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

Classification	Size (mm)	Method of analysis
Clay.....	0.00024 - 0.004	Sedimentation
Silt.....	.004 - .062	Sedimentation
Sand.....	.062 - 2.0	Sedimentation or sieve
Gravel....	2.0 - 64.0	Sieve

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.

Percent composition 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, mass or volume.

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.

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

Picocurie (PC, pCi) is one trillionth (1×10^{-12}) of the amount of ratioactivity 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.

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 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.

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.

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.

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 by the plants (carbon method).

Milligrams of carbon per area or volume per unit time [mg C/(m^2.time)] for periphyton and macrophytes and [mg C/(m^3.time)] for phytoplankton are units for expressing primary productivity. They define 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 hour or day, depending on the incubation period.

Milligrams of oxygen per area or volume per unit time [mg0 / (m^2.time)] for periphyton and macrophytes and [mg0 /(m^3.time)] for phytoplankton are the units for expressing primary productivity. They define 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.

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

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

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.

Return period is the average time interval between occurrences of a hydrological event of a given or greater magnitude, usually expressed in years. May also be called recurrence interval.

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

Sediment is solid material that originates mostly from disintegrated rocks and is transported by, suspended in, or deposited from water; it 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 the bed and very close to it. In this report, bed load is considered to consist of particles in transit within 0.25 ft of the streambed.

Bed load discharge (tons per day) is the quantity of bed load measured by dry weight that moves past a section as bed load in a given time.

Suspended sediment is the sediment that at any given time 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).

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

Suspended-sediment discharge (tons/day) is the rate at which dry mass of sediment passes a section of a stream or is the quantity of sediment, as measured by dry mass or volume, that passes a section in a given time. It is calculated in units of tons per day as follows: concentrations (mg/L) x discharge (ft^3/s) x 0.0027.

Suspended-sediment load is a general term that refers to material in suspension. It is not synonymous with either 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, as measured by dry mass or volume, that passes a section during a given time.

Total-sediment load or total load is a term which refers to the total sediment (bed load plus suspended-sediment load) that is in transport. It is not synonymous with total-sediment discharge.

7-day 10-year low flow (7Q10) is the discharge at the 10-year recurrence interval taken from a frequency curve of annual values of the lowest mean discharge for 7 consecutive days (the 7-day low flow).

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 electric 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 about 65 percent of the specific conductance (in micromhos). 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.

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

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.

Natural substrate refers to any naturally occurring emersed or submersed solid surface, such as a rock or tree, 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.

Surface area of a lake is that area outlined on the latest U.S.G.S. topographic map as the boundary of the lake and measured by a planimeter in acres. In localities not covered by topographic maps, the areas are computed from the best maps available at the time planimetered. All areas shown are those for the stage when the planimetered map was made.

Surficial bed material is that part (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 the total concentration 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 water-suspended sediment sample that is retained on a 0.45 um 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 representative water-suspended sediment sample that is retained on a 0.45 um membrane filter. 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 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.

Taxonomy is the division of biology concerned with the classification and naming of organisms. The classification of organisms is based upon a hierarchial 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.....Arthopoda
Class.....Insecta
Order.....Ephemeroptera
Family.....Ephemeridae
Genus.....Hexagenia
Species.....Hexagenia limbata

Thermograph is an instrument that continuously records variations of temperature on a chart. The more general term "temperature recorder" is used in the table heading and refers to any instrument that records temperature whether on a chart, a tape, or any other medium.

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 indicates 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) is the quantity of a substance in solution or suspension that passes a stream section during a 24-hour period.

Total is the total amount of a given constituent in a representative water-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 water-suspended sediment mixture and that the analytical method determined all of the constituent in the sample.)

Total discharge is the total quantity of any individual constituent, as measured by dry mass or volume, that passes through a stream cross-section per unit of time. This term needs to be qualified, such as "total sediment discharge," "total chloride discharge," and so on.

Total, recoverable is the amount of a given constituent that is in solution after a representative water-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.

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 precipitations stations. The purpose of the precipitation stations is to provide an estimate sufficient for hydrologic studies of the tritium input to the United States.

Water year in 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, 1980, is called the "1980 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.

WSP is used as an abbreviation for "Water-Supply Paper" in references to previously published reports.

PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS

The U.S. Geological Survey 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. Geological Survey, Branch of 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 sent by 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 "U.S. Geological Survey Techniques of Water-Resources Investigations."

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, Chapter D1. 1975. 65 pages.

1-D2. *Guidelines for collection and field analysis of ground-water samples for selected unstable constituents*, by W. W. Wood: USGS--TWRI Book 1, Chapter D2. 1976. 24 pages.

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, Chapter D1. 1974. 116 pages.

2-D2. *Application of seismic-refraction techniques to hydrologic studies*, by F. P. Haeni: USGS--TWRI Book 2, Chapter D2. 1988. 86 pages.

2-E1. *Application of borehole geophysics to water-resources investigations*, by W. S. Keys and L.M. MacCary: USGS--TWRI Book 2, Chapter E1. 1971. 126 pages.

2-E2. *Borehole geophysics applied to ground-water investigations*, by W. S. Keys: USGS--TWRI Book 2, Chapter E2. 1990. 150 pages.

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, Chapter F1. 1989. 97 pages.

3-A1. *General field and office procedures for indirect discharge measurements*, by M. A. Benson and Tate Dalrymple: USGS--TWRI Book 3, Chapter A1. 1967. 30 pages.

3-A2. *Measurement of peak discharge by the slope-area method*, by Tate Dalrymple and M. A. Benson: USGS--TWRI Book 3, Chapter A2. 1967. 12 pages.

3-A3. *Measurement of peak discharge at culverts by indirect methods*, by G. L. Bodhaine: USGS--TWRI Book 3, Chapter A3. 1968. 60 pages.

3-A4. *Measurement of peak discharge at width contractions by indirect methods*, by H. F. Matthai: USGS-TWRI Book 3, Chapter A4. 1967. 44 pages.

3-A5. *Measurement of peak discharge at dams by indirect methods*, by Harry Hulsing: USGS--TWRI Book 3. Chapter A5. 1967. 29 pages.

3-A6. *General procedure for gaging streams*, by R. W. Carter and Jacob Davidian: USGS--TWRI Book 3, Chapter A6. 1968. 13 pages.

3-A7. *Stage measurement at gaging stations*, by T. J. Buchanan and W. P. Somers: USGS--TWRI Book 3, Chapter A7. 1968. 28 pages.

3-A8. *Discharge measurements at gaging stations*, by T. J. Buchanan and W. P. Somers: USGS--TWRI Book 3, Chapter A8. 1969. 65 pages.

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, Chapter A9. 1989. 27 pages.

3-A10. *Discharge ratings at gaging stations*, by E. J. Kennedy: USGS--TWRI Book 3, Chapter A10. 1984. 59 pages.

3-A11. *Measurement of discharge by the moving-boat method,* by G. F. Smoot and C. E. Novak: USGS--TWRI Book 3, Chapter A11. 1969. 22 pages.

3-A12. *Fluorometric procedures for dye tracing,* Revised, by J. F. Wilson, Jr., E. D. Cobb, and F. A. Kilpatrick: USGS- -TWRI Book 3, Chapter A12. 1986. 34 pages.

3-A13. *Computation of continuous records of streamflow,* by E. J. Kennedy: USGS--TWRI Book 3, Chapter A13. 1983. 53 pages.

3-A14. *Use of flumes in measuring discharge,* by F. A. Kilpatrick and V. R. Schneider: USGS--TWRI Book 3, Chapter A14. 1983. 46 pages.

3-A15. *Computation of water-surface profiles in open channels,* by Jacob Davidian: USGS--TWRI Book 3, Chapter A15. 1984. 48 pages.

3-A16. *Measurement of discharge using tracers,* by F. A. Kilpatrick and E. D. Cobb: USGS--TWRI Book 3, Chapter A16. 1985. 52 pages.

3-A17. *Acoustic velocity meter systems,* by Antonius Laenen: USGS--TWRI Book 3, Chapter A17. 1985. 38 pages.

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, Chapter A18. 1989. 52 pages.

3-A19. *Levels at streamflow gaging stations,* by E.J. Kennedy: USGS--TWRI Book 3, Chapter A19. 1990. 31 pages.

3-A20. *Simulation of soluable waste transport and buildup in surface waters using tracers,* by F. A. Kilpatrick: USGS--TWRI Book 3, Chapter A20. 1993. 38 pages.

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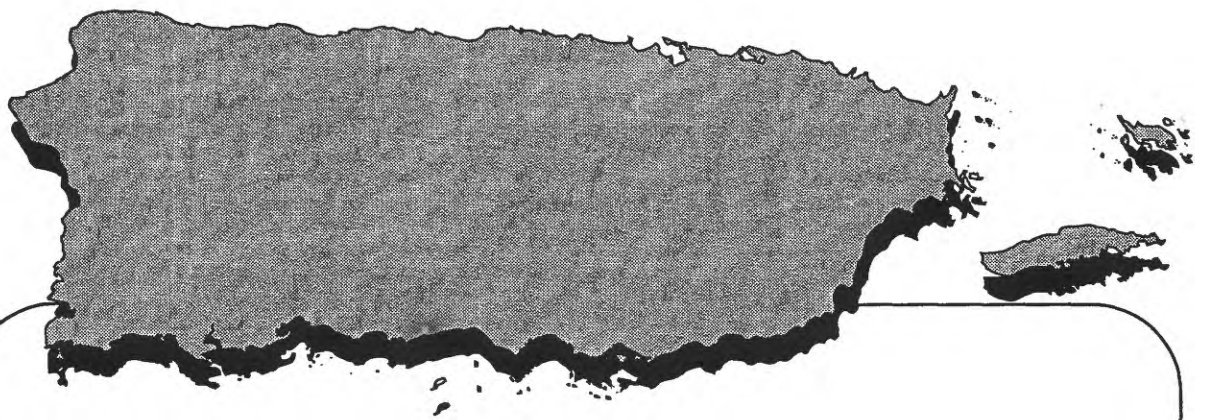

Surface and Quality-of-Water Records Puerto Rico

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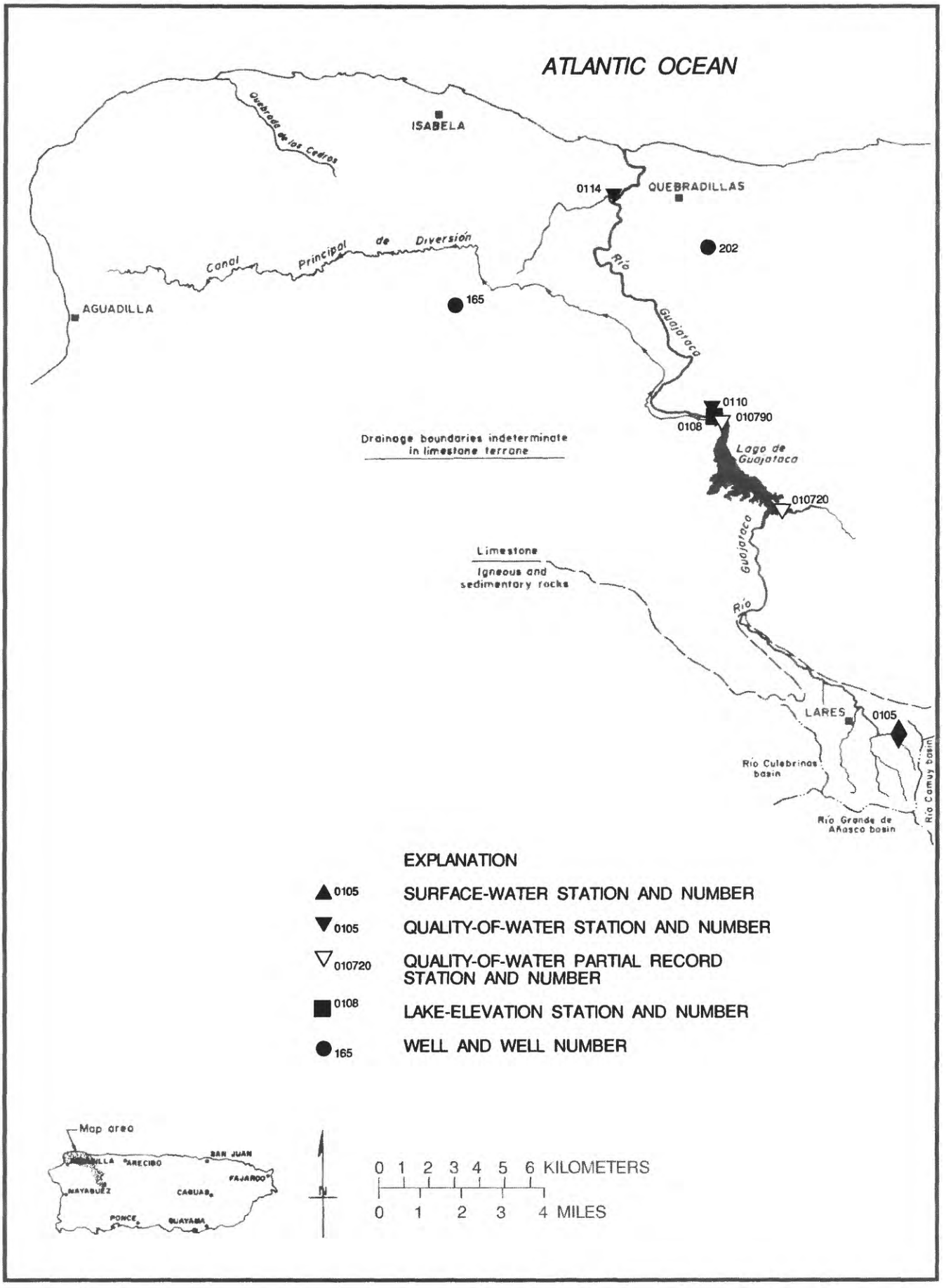

Figure 13.--Río Guajataca basin.

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 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35	11	5.6	2.1	2.1	2.5	14	2.1	34	4.1	5.6	11
2	37	10	4.7	2.0	2.0	2.7	2.8	1.8	11	3.5	18	11
3	46	9.7	4.3	1.8	2.0	2.6	1.8	2.3	6.3	3.9	10	12
4	36	8.5	4.2	1.7	2.1	2.4	2.6	1.6	13	3.0	5.5	43
5	25	7.5	4.1	1.7	2.3	2.3	19	1.6	12	4.3	4.7	63
6	19	8.0	4.0	1.7	2.3	2.4	11	2.9	11	3.3	5.0	24
7	14	8.3	3.7	1.6	5.8	2.3	4.2	1.9	7.0	3.2	5.0	11
8	13	26	3.7	1.4	4.7	2.2	2.9	1.6	7.2	19	6.3	20
9	11	11	3.8	1.5	11	2.0	3.3	1.5	5.3	17	5.4	14
10	11	8.6	5.9	1.5	20	2.0	3.1	1.4	4.8	4.9	12	129
11	9.1	6.8	5.6	1.5	4.7	2.0	2.9	11	4.2	9.6	27	46
12	13	6.2	4.1	1.3	2.2	2.1	3.5	5.4	3.7	13	19	28
13	24	5.6	3.4	1.2	2.1	2.2	3.0	1.6	8.1	5.9	7.3	20
14	8.7	5.1	3.1	4.0	2.0	6.5	2.6	7.5	4.3	4.4	16	17
15	30	7.0	3.8	4.7	1.8	9.7	2.7	2.7	5.1	4.0	4.7	16
16	43	5.5	3.0	4.0	1.9	2.5	2.5	2.2	3.9	3.8	4.6	14
17	56	4.9	2.9	2.0	1.9	2.0	2.7	9.9	4.6	4.4	4.8	30
18	36	4.7	3.6	1.4	5.0	1.6	2.9	2.9	4.4	3.7	22	21
19	27	4.4	3.2	1.5	2.0	2.3	12	3.7	4.3	6.9	7.4	13
20	22	4.1	2.9	2.2	4.9	2.5	4.0	3.2	5.4	4.1	10	11
21	49	4.3	3.1	1.5	11	2.4	2.6	2.2	5.4	3.6	4.8	12
22	32	3.9	2.9	1.4	27	1.8	2.6	2.0	5.1	3.2	7.7	8.8
23	27	3.6	3.2	1.4	27	2.4	2.5	1.9	4.5	2.8	5.8	8.8
24	27	10	3.1	1.4	31	2.4	2.5	1.8	16	3.0	33	15
25	40	4.0	3.9	2.3	11	2.1	2.3	1.9	5.2	2.9	12	30
26	20	29	2.9	2.3	6.4	2.3	2.8	26	3.9	2.8	8.7	41
27	18	10	2.6	2.4	5.8	2.3	2.4	13	20	2.7	8.4	19
28	17	6.2	2.5	2.4	3.9	2.4	2.0	24	8.0	2.8	32	15
29	13	5.5	2.4	3.0	3.3	2.4	2.6	9.0	4.6	3.1	12	11
30	12	8.7	2.3	1.7	---	2.3	1.9	40	4.2	3.5	11	27
31	11	---	2.1	1.5	---	11	---	17	---	6.2	9.8	---
TOTAL	781.8	248.1	110.6	62.1	209.2	90.6	127.7	207.6	236.5	162.6	345.5	741.6
MEAN	25.2	8.27	3.57	2.00	7.21	2.92	4.26	6.70	7.88	5.25	11.1	24.7
MAX	56	29	5.9	4.7	31	11	19	40	34	19	33	129
MIN	8.7	3.6	2.1	1.2	1.8	1.6	1.8	1.4	3.7	2.7	4.6	8.8
AC-FT	1550	492	219	123	415	180	253	412	469	323	685	1470
CFSM	7.98	2.62	1.13	.63	2.28	.92	1.35	2.12	2.49	1.66	3.53	7.82
IN.	9.20	2.92	1.30	.73	2.46	1.07	1.50	2.44	2.78	1.91	4.07	8.73

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1969 - 1996, BY WATER YEAR (WY)

MEAN	17.1	8.35	3.69	2.80	2.71	2.25	3.59	10.1	7.85	4.38	6.10	12.3
MAX	33.7	16.7	7.31	6.83	7.21	6.38	7.63	20.2	16.4	9.85	11.1	24.7
(WY)	1991	1971	1971	1971	1996	1971	1993	1995	1995	1969	1996	1996
MIN	8.52	3.75	1.35	.66	.93	.92	1.09	3.86	3.18	2.01	3.34	5.95
(WY)	1995	1995	1991	1991	1992	1994	1994	1992	1992	1994	1970	1993

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1969 - 1996	
ANNUAL TOTAL	3475.32		3323.9			
ANNUAL MEAN	9.52		9.08		6.53	
HIGHEST ANNUAL MEAN					9.08	1996
LOWEST ANNUAL MEAN					4.13	1994
HIGHEST DAILY MEAN	66	May 14	129	Sep 10	216	Oct 7 1990
LOWEST DAILY MEAN	.89	Apr 16	1.2	Jan 13	.47	Jan 13 1991
ANNUAL SEVEN-DAY MINIMUM	.97	Apr 19	1.4	Jan 7	.51	Jan 9 1991
INSTANTANEOUS PEAK FLOW			915	Sep 5	5300	Oct 7 1990
INSTANTANEOUS PEAK STAGE			12.52	Sep 5	21.30	Oct 7 1990
ANNUAL RUNOFF (AC-FT)	6890		6590		4730	
ANNUAL RUNOFF (CFSM)	3.01		2.87		2.07	
ANNUAL RUNOFF (INCHES)	40.91		39.13		28.08	
10 PERCENT EXCEEDS	26		24		15	
50 PERCENT EXCEEDS	5.5		4.4		3.6	
90 PERCENT EXCEEDS	1.3		1.9		.97	

RIO GUAJATACA BASIN

50010500 RIO GUAJATACA AT LARES, PR

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 Anon, 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 1995 TO SEPTEMBER 1996

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, 0.45 UM-MF (COLS./ 100 ML) (31616)	STREP-TOCOCCI FECAL, (COLS. PER 100 ML) (31679)
NOV 1995											
01...	1245	10	198	7.5	23.0	5.1	8.2	96	<10	K11000	29000
JAN 1996											
22...	0945	1.5	238	8.8	21.0	2.5	5.0	56	<10	K9000	3800
FEB											
13...	1210	2.5	270	7.8	21.0	3.7	7.2	83	16	2200	3200
APR											
09...	1145	3.6	242	7.6	22.5	7.3	7.3	86	13	3200	2800
JUN											
10...	1330	5.4	239	7.6	23.5	1.9	7.5	90	<10	5500	8200
AUG											
20...	1530	31	230	7.5	24.0	180	7.3	89	61	220000	230000

DATE	HARD-NESS TOTAL (MG/L AS CACO3) (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)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (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 1995										
01...	74	21	5.2	10	0.5	2.0	72	<0.5	5.0	11
JAN 1996										
22...	--	--	--	--	--	--	98	--	--	--
FEB										
13...	--	--	--	--	--	--	100	--	--	--
APR										
09...	97	29	6.0	11	0.5	2.8	90	<0.5	10	12
JUN										
10...	--	--	--	--	--	--	93	--	--	--
AUG										
20...	68	22	3.1	6.2	0.3	2.8	110	--	8.0	8.4

K = non-ideal count

RIO GUAJATACA BASIN

50010500 RIO GUAJATACA AT LARES, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DATE	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	SOLIDS, DISSOLVED (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 1995										
01...	<0.10	32	129	3.67	5	2.49	0.010	2.50	0.030	0.24
JAN 1996										
22...	--	--	--	--	9	2.19	0.010	2.20	0.040	<0.20
FEB										
13...	--	--	--	--	5	1.69	0.010	1.70	0.050	<0.20
APR										
09...	<0.10	27	152	1.48	13	1.59	0.010	1.60	0.030	<0.20
JUN										
10...	--	--	--	--	6	1.98	0.020	2.00	0.100	<0.20
AUG										
20...	<0.10	16	132	11.2	356	1.49	0.010	1.50	0.020	<0.20

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 1995										
01...	0.27	2.8	12	0.070	<1	<100	20	<1	<1	10
JAN 1996										
22...	<0.24	2.4	11	0.030	--	--	--	--	--	--
FEB										
13...	<0.20	1.9	8.3	0.080	--	--	--	--	--	--
APR										
09...	<0.20	1.8	7.9	0.070	1	<100	20	<1	<1	<10
JUN										
10...	<0.30	2.3	10	0.040	--	--	--	--	--	--
AUG										
20...	<0.26	2.1	1.6	0.020	--	--	--	--	--	--

DATE	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 (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)
NOV 1995										
01...	290	<1	40	<0.10	<1	<1	<10	<0.010	1	<0.02
JAN 1996										
22...	--	--	--	--	--	--	--	--	--	--
FEB										
13...	--	--	--	--	--	--	--	--	--	--
APR										
09...	370	<1	40	<0.10	<1	<1	<10	<0.010	<1	<0.02
JUN										
10...	--	--	--	--	--	--	--	--	--	--
AUG										
20...	--	--	--	--	--	--	--	--	--	--

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 Guajataca was completed in 1928. The dam is a semihydraulic earthfill structure about 123 ft (37 m) height, 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 lenght of 1,036 ft (316 m) and has a maximum storage capacity of 49,200 acre-feet (60.6 hm^3). The Guajataca 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.

EXTREMES OBSERVED FOR PERIOD OF RECORD.--Maximum elevation 645.48 ft (196.7 m), Oct. 18, 1995; minimum elevation, 620.43 ft (189.1 m) May 8, 1995.

EXTREMES OBSERVED FOR CURRENT YEAR.--Maximum elevation, 645.48 ft (196.7 m), Oct. 18; minimum elevation, 629.00 ft (191.7 m), May 26.

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
593	0	625	15,295
600	2,405	650	36,403

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	642.90	643.24	641.78	638.40	635.19	635.78	633.06	A	636.15	641.18	637.44	635.23
2	642.67	643.21	641.68	638.27	635.01	635.68	632.97	A	636.46	641.03	637.55	635.17
3	642.48	643.17	641.56	638.12	634.85	635.57	632.88	A	636.57	640.80	637.71	635.32
4	642.11	643.13	641.46	637.97	634.65	635.46	632.75	A	636.96	640.49	637.80	636.47
5	641.88	643.05	641.37	637.83	634.47	635.35	632.69	A	637.32	640.11	637.74	637.76
6	641.96	643.01	641.26	637.69	634.28	635.23	632.62	A	638.28	639.72	637.63	638.24
7	641.99	642.94	641.13	637.54	634.72	635.11	632.60	A	A	639.22	637.65	638.35
8	641.99	642.99	641.03	637.39	634.78	634.99	632.57	A	639.16	638.92	637.63	639.01
9	641.97	643.06	640.92	637.25	634.71	634.89	632.45	A	638.99	639.02	637.58	A
10	641.96	643.02	640.80	637.13	634.78	634.77	632.31	A	638.61	638.40	637.52	642.66
11	642.00	642.95	640.70	637.07	634.76	634.64	632.17	A	638.29	637.98	637.76	642.99
12	641.99	642.88	640.58	636.95	634.65	634.52	632.08	A	638.09	638.36	637.99	642.64
13	642.46	642.80	640.45	636.84	634.52	634.43	631.94	A	638.32	638.55	637.97	642.18
14	642.65	642.70	640.34	636.85	634.37	634.50	631.79	A	638.38	638.61	637.96	641.66
15	643.08	642.67	640.22	636.79	634.26	634.98	631.65	A	638.38	638.59	637.93	641.27
16	644.65	642.59	640.11	636.69	634.15	634.99	631.50	A	638.50	638.55	638.19	641.70
17	645.47	642.52	640.00	636.57	634.01	634.91	631.37	A	638.85	638.48	639.41	641.40
18	645.14	642.41	639.95	636.45	633.96	634.82	631.26	A	638.97	638.40	640.10	641.15
19	644.47	642.32	639.84	636.39	633.86	634.69	631.41	629.46	638.95	638.48	640.34	640.60
20	643.71	642.22	639.72	636.25	633.78	634.56	631.35	629.39	638.90	638.55	640.11	640.04
21	643.30	642.33	639.60	636.11	633.85	634.42	631.22	629.40	638.83	638.50	639.62	639.77
22	642.64	642.26	639.49	635.96	634.47	634.29	631.06	629.40	638.79	638.43	639.11	639.47
23	642.37	642.15	639.37	A	635.31	634.14	630.90	629.32	638.74	638.34	638.59	639.34
24	642.65	642.11	639.25	A	635.94	633.99	A	629.21	638.77	638.26	639.09	639.36
25	643.58	642.02	639.32	A	636.12	633.84	A	629.08	638.73	638.16	638.77	639.71
26	643.41	642.17	639.24	A	636.11	633.70	A	629.44	638.68	638.05	638.06	640.21
27	643.27	642.09	639.10	635.56	636.05	633.56	A	629.90	639.24	637.92	637.48	640.32
28	643.23	642.00	638.98	A	635.97	633.40	A	630.90	639.71	637.87	A	A
29	643.29	641.89	638.84	635.59	635.88	633.31	A	631.94	640.56	637.74	636.57	640.28
30	643.29	641.86	638.69	635.46	---	633.18	A	634.20	641.11	637.63	A	640.30
31	643.28	---	638.55	635.34	---	633.07	---	635.53	---	637.53	635.52	---
MAX	645.47	643.24	641.78	---	636.12	635.78	---	---	---	641.18	---	---
MIN	641.88	641.86	638.55	---	633.78	633.07	---	---	---	637.53	---	---

CAL YR 1995 MAX 645.47 MIN 620.53
WTR YR 1996 MAX 645.47 MIN 629.08

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 1995 TO SEPTEMBER 1996

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, 0.45 UM-MF (COLS./ 100 ML) (31616)	STREP-TOCOCCI FECAL, (COLS. PER 100 ML) (31679)
NOV 1995											
06...	1300	E65	270	6.8	25.0	1.6	--	--	<10	K10	K12
JAN 1996											
17...	1320	*65	265	7.5	25.0	0.70	2.6	32	<10	K4	240
FEB											
22...	1230	*65	290	7.6	25.0	0.50	1.7	21	<10	K2	28
APR											
15...	1445	*65	287	7.5	25.5	1.0	1.6	20	16	K6	K8
JUN											
05...	1400	*65	307	7.2	25.5	1.1	0.3	4	18	58	68
AUG											
21...	0630	*65	314	7.0	26.0	1.1	0.6	7	11	600	K140

DATE	HARD-NESS TOTAL (MG/L AS CACO3) (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)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (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 1995										
06...	140	50	3.7	5.3	0.2	2.3	130	<0.5	5.8	6.0
JAN 1996										
17...	--	--	--	--	--	--	140	--	--	--
FEB										
22...	--	--	--	--	--	--	130	--	--	--
APR										
15...	130	47	4.1	6.3	0.2	2.1	130	<0.5	8.3	8.2
JUN										
05...	--	--	--	--	--	--	150	--	--	--
AUG										
21...	150	53	3.2	5.1	0.2	2.0	150	--	6.5	8.1

E = estimate
K = non-ideal count
* = Discharge values provided by Puerto Rico Electric and Power Authority.

RIO GUAJATACA BASIN

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DATE	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	SOLIDS, DISSOLVED (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 1995										
06...	0.10	6.8	158	E28.2	<1	0.190	<0.010	0.190	0.030	0.35
JAN 1996										
17...	--	--	--	--	2	0.010	<0.010	<0.020	0.140	0.28
FEB										
22...	--	--	--	--	7	0.090	0.010	0.100	0.050	0.20
APR										
15...	0.10	7.7	162	28.4	5	<0.010	<0.010	<0.020	0.210	0.29
JUN										
05...	--	--	--	--	7	<0.010	<0.010	<0.020	0.240	0.31
AUG										
21...	<0.10	7.1	175	30.7	2	0.070	0.010	0.080	0.040	0.23

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 1995										
06...	0.38	0.57	2.5	0.020	1	<100	20	<1	<1	<10
JAN 1996										
17...	0.42	0.42	1.9	0.020	--	--	--	--	--	--
FEB										
22...	0.25	0.35	1.5	0.020	--	--	--	--	--	--
APR										
15...	0.50	0.41	1.3	0.020	<1	<100	20	<1	<1	<10
JUN										
05...	0.55	0.55	2.4	<0.020	--	--	--	--	--	--
AUG										
21...	0.23	0.39	2.1	<0.020	--	--	--	--	--	--

DATE	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 (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)
NOV 1995										
06...	50	<1	70	<0.10	<1	<1	<10	<0.010	<1	<0.02
JAN 1996										
17...	--	--	--	--	--	--	--	--	--	--
FEB										
22...	--	--	--	--	--	--	--	--	--	--
APR										
15...	80	2	140	<0.10	<1	<1	<10	<0.010	2	0.02
JUN										
05...	--	--	--	--	--	--	--	--	--	--
AUG										
21...	--	--	--	--	--	--	--	--	--	--

RIO GUAJATACA BASIN

50011400 RIO GUAJATACA ABOVE MOUTH NEAR QUEBRADILLAS, PR--Continued

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 1995 TO SEPTEMBER 1996

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, 0.45 UM-MF (COLS./ 100 ML) (31616)	STREP-TOCOCCI FECAL, (COLS. PER 100 ML) (31679)
NOV 1995											
07...	1330	E10	*970	7.6	26.5	1.6	4.2	51	16	450	390
JAN 1996											
17...	1430	15	*867	7.4	24.0	4.2	3.9	45	<10	580	3500
FEB											
23...	0950	13	426	7.6	23.0	4.7	5.9	68	14	K6000	310
APR											
17...	0820	5.8	561	7.4	24.0	0.40	5.0	59	<10	310	250
JUN											
05...	1610	34	363	7.6	26.0	7.0	6.0	73	10	K1100	2000
AUG											
30...	1130	E250	302	7.6	27.0	2.4	8.0	100	<10	480	370

DATE	HARD-NESS TOTAL (MG/L AS CACO3) (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)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (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 1995										
07...	250	71	17	99	3	4.9	180	<0.5	28	200
JAN 1996										
17...	--	--	--	--	--	--	210	--	--	--
FEB										
23...	--	--	--	--	--	--	190	--	--	--
APR										
17...	250	80	11	26	0.7	2.2	220	<0.5	8.0	43
JUN										
05...	--	--	--	--	--	--	180	--	--	--
AUG										
30...	150	53	3.7	5.5	0.2	2.0	190	--	7.6	8.7

E = estimate
* = Sample was collected at hwy #2, 2 miles donwstream of regular sampling site.
K = non-ideal count

RIO GUAJATACA BASIN

50011400 RIO GUAJATACA ABOVE MOUTH NEAR QUEBRADILLAS, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DATE	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	SOLIDS, DISSOLVED (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 1995										
07...	<0.10	6.4	534	E14.7	<1	1.49	0.010	1.50	0.030	<0.19
JAN 1996										
17...	--	--	--	--	12	1.39	0.010	1.40	0.020	0.36
FEB										
23...	--	--	--	--	9	1.59	0.010	1.60	0.040	<0.20
APR										
17...	<0.10	9.0	311	4.85	6	0.940	0.010	0.950	0.030	0.25
JUN										
05...	--	--	--	--	16	0.770	0.010	0.780	0.030	0.30
AUG										
30...	<0.10	6.7	201	E138	4	0.860	0.010	0.870	0.090	0.42

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)
NOV 1995										
07...	<0.22	1.7	7.6	<0.020	<1	<100	60	<1	1	<10
JAN 1996										
17...	0.38	1.8	7.9	<0.020	--	--	--	--	--	--
FEB										
23...	<0.24	1.8	7.8	0.020	--	--	--	--	--	--
APR										
17...	0.28	1.2	5.4	0.030	<1	<100	40	<1	2	<10
JUN										
05...	0.33	1.1	4.9	<0.020	--	--	--	--	--	--
AUG										
30...	0.51	1.4	6.1	0.130	--	--	--	--	--	--

DATE	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 (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)
NOV 1995										
07...	100	<1	30	<0.10	<1	<1	<10	<0.010	4	<0.02
JAN 1996										
17...	--	--	--	--	--	--	--	--	--	--
FEB										
23...	--	--	--	--	--	--	--	--	--	--
APR										
17...	70	<1	30	<0.10	<1	<1	<10	<0.010	3	0.02
JUN										
05...	--	--	--	--	--	--	--	--	--	--
AUG										
30...	--	--	--	--	--	--	--	--	--	--

E = estimate

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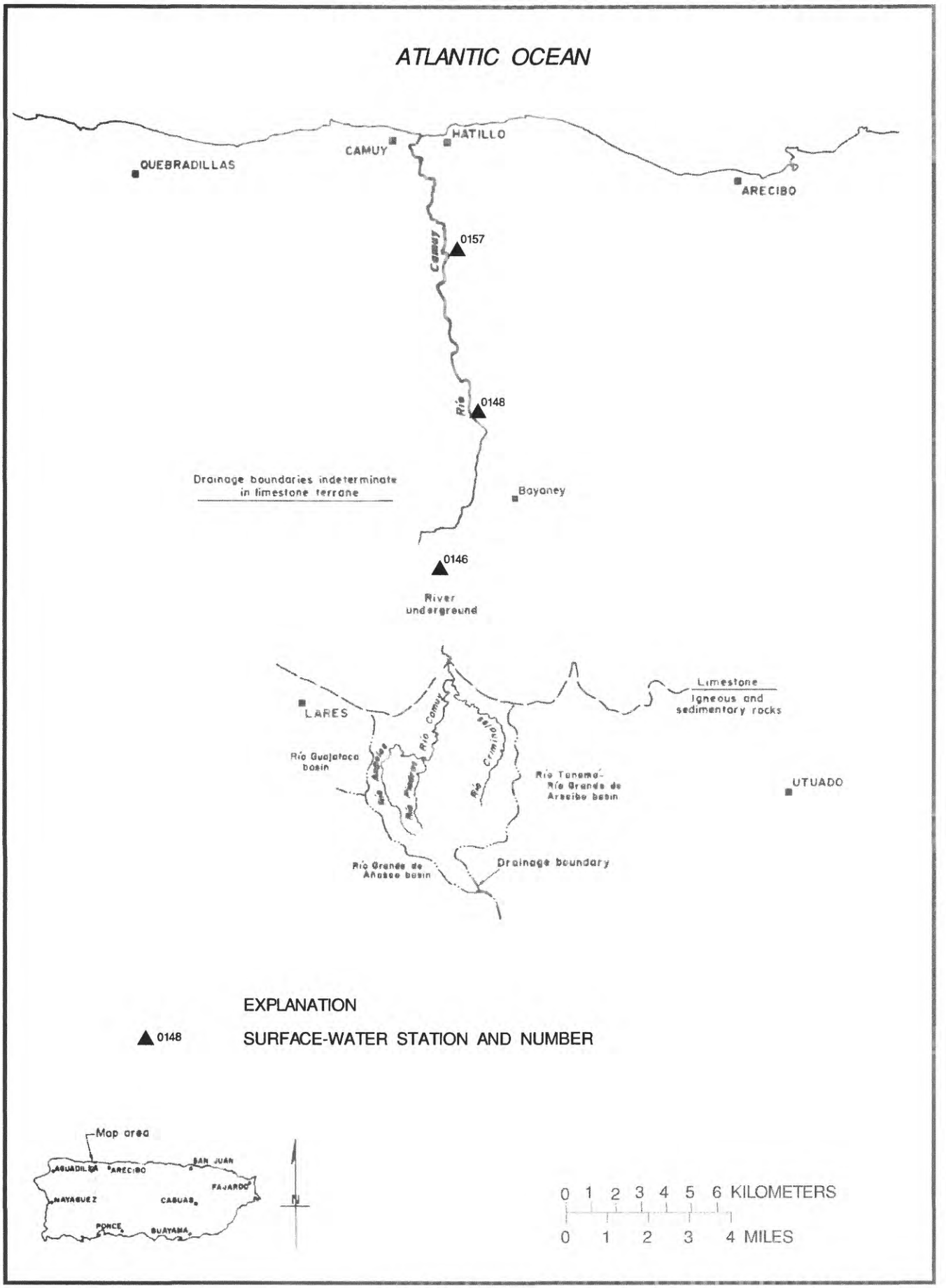

Figure 14.--Río Camuy basin.

RIO CAMUY BASIN

50014600 RIO CAMUY AT TRES PUEBLOS SINKHOLE, PR

LOCATION.--Lat 18°20'42", long 66°49'29", Hydrologic Unit 21010002, at Parque de las Cavernas del Río Camuy, 1.8 mi (2.9 km) southeast from Escuela Segunda Unidad de Santiago Palmer, 4.7 mi (7.6 km) west from Observatorio de Arecibo and 4.8 mi (7.7 km) northeast from Plaza de Lares.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--June 1990 to September 1996. (discontinued)

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 612.21 ft (186.602 m), above mean sea level.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	176	97	72	40	34	63	109	20	306	53	38	69
2	326	93	62	39	32	60	113	19	206	51	78	62
3	301	94	61	39	32	58	59	19	126	45	71	58
4	191	86	61	38	31	56	49	18	133	47	58	192
5	157	82	60	37	30	55	82	17	164	41	45	332
6	131	87	65	37	30	53	102	17	164	39	38	207
7	119	79	58	37	49	51	65	20	155	38	36	110
8	109	174	56	37	63	50	48	18	97	78	35	141
9	101	137	55	37	72	49	40	17	97	162	39	98
10	93	115	59	37	142	47	37	17	76	69	51	1300
11	97	90	62	37	125	44	35	78	70	51	102	462
12	136	84	65	37	56	42	37	128	62	80	213	278
13	163	80	54	36	42	41	37	51	64	77	129	204
14	155	77	52	38	38	42	33	61	74	52	87	172
15	111	118	51	62	35	95	32	84	65	47	65	166
16	208	102	51	48	36	76	30	41	62	43	54	133
17	351	82	50	50	33	48	29	64	62	41	69	150
18	229	78	53	38	46	44	50	53	56	40	96	116
19	156	73	53	36	44	41	45	42	50	58	153	108
20	135	70	51	37	36	39	53	53	50	49	138	99
21	223	69	47	39	73	38	32	48	45	39	103	91
22	178	67	47	36	190	38	28	42	43	36	73	88
23	125	65	47	35	219	37	26	33	42	35	75	83
24	118	70	47	34	208	36	25	30	95	34	155	80
25	219	64	46	37	137	34	24	28	67	35	127	155
26	157	99	45	41	94	34	24	98	50	34	76	208
27	181	79	45	47	81	34	32	182	85	32	65	144
28	192	64	45	50	73	33	25	165	106	31	97	93
29	136	60	42	51	67	32	23	135	70	33	170	83
30	116	65	41	40	---	34	21	294	64	31	153	144
31	105	---	40	36	---	73	---	239	---	30	80	---
TOTAL	5195	2600	1643	1243	2148	1477	1345	2131	2806	1531	2769	5626
MEAN	168	86.7	53.0	40.1	74.1	47.6	44.8	68.7	93.5	49.4	89.3	188
MAX	351	174	72	62	219	95	113	294	306	162	213	1300
MIN	93	60	40	34	30	32	21	17	42	30	35	58
AC-FT	10300	5160	3260	2470	4260	2930	2670	4230	5570	3040	5490	11160

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1996, BY WATER YEAR (WY)

MEAN	97.9	55.3	37.4	29.8	32.0	28.8	35.3	81.2	66.2	36.5	48.6	89.3
MAX	168	86.7	53.0	40.1	74.1	47.6	47.3	153	146	54.9	89.3	188
(WY)	1996	1996	1996	1996	1996	1996	1993	1995	1995	1995	1996	1996
MIN	64.5	41.4	29.8	21.6	15.4	12.9	12.5	36.1	32.1	18.4	24.7	44.6
(WY)	1993	1994	1991	1991	1994	1994	1994	1994	1991	1994	1993	1994

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1990 - 1996	
ANNUAL TOTAL	29380		30514			
ANNUAL MEAN	80.5		83.4		54.4	
HIGHEST ANNUAL MEAN					83.4	1996
LOWEST ANNUAL MEAN					30.4	1994
HIGHEST DAILY MEAN	437	May 14	1300	Sep 10	1300	Sep 10 1996
LOWEST DAILY MEAN	14	May 2	17	May 5	10	May 5 1994
ANNUAL SEVEN-DAY MINIMUM	15	Apr 28	18	May 4	11	Apr 29 1994
INSTANTANEOUS PEAK FLOW			3650	Sep 10	3650	Sep 10 1996
INSTANTANEOUS PEAK STAGE			19.58	Sep 10	19.58	Sep 10 1996
INSTANTANEOUS LOW FLOW			16	May 11	13	Mar 23 1993
ANNUAL RUNOFF (AC-FT)	58280		60520		39400	
10 PERCENT EXCEEDS	184		163		103	
50 PERCENT EXCEEDS	56		59		39	
90 PERCENT EXCEEDS	22		33		18	

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 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	238	137	104	e57	49	62	113	37	515	96	76	94
2	535	130	85	e57	45	59	149	36	293	73	121	110
3	484	130	81	e55	43	58	e66	36	173	62	101	85
4	289	117	78	e54	41	56	e56	35	166	62	86	333
5	221	110	76	e53	41	56	e88	35	236	55	e68	726
6	173	115	82	e54	40	55	e120	37	244	53	e56	376
7	150	105	75	e53	69	55	e78	41	e328	52	e54	185
8	135	369	72	e52	86	54	e56	36	e155	119	e52	313
9	125	259	72	e52	87	52	e50	36	139	258	e58	199
10	116	186	73	e53	175	52	49	35	102	107	e75	3310
11	154	144	78	e61	198	51	47	80	91	77	e150	1270
12	177	130	86	e54	71	50	48	210	81	104	e310	488
13	199	121	70	e52	55	50	51	79	79	113	e190	326
14	178	116	67	e58	50	51	49	76	94	83	e130	250
15	143	206	66	e149	47	214	47	117	79	70	e98	265
16	296	187	66	e83	49	135	44	59	77	62	e80	200
17	689	134	65	e69	45	72	42	75	77	58	e100	211
18	334	122	84	e58	57	63	57	77	73	56	e140	186
19	193	110	73	56	62	60	69	51	64	174	e220	154
20	159	104	69	54	48	57	73	73	63	114	239	133
21	290	100	e65	54	85	53	50	74	59	66	160	125
22	261	97	e65	53	275	51	47	58	58	57	107	118
23	171	95	e79	50	313	50	42	46	56	54	116	114
24	175	98	e66	48	278	48	40	43	117	52	281	122
25	428	97	e77	51	172	46	39	42	86	52	204	238
26	e455	133	e64	53	101	45	73	145	60	50	115	294
27	e314	116	e62	71	80	45	54	255	116	47	94	213
28	e288	92	e61	113	70	44	48	222	152	67	109	139
29	198	87	e60	81	65	42	42	164	152	59	262	119
30	161	89	e59	58	---	43	38	502	153	49	282	201
31	146	---	e58	53	---	76	---	454	---	47	113	---
TOTAL	7875	4036	2238	1919	2797	1905	1825	3266	4138	2448	4247	10897
MEAN	254	135	72.2	61.9	96.4	61.5	60.8	105	138	79.0	137	363
MAX	689	369	104	149	313	214	149	502	515	258	310	3310
MIN	116	87	58	48	40	42	38	35	56	47	52	85

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 1996, BY WATER YEAR (WY)

MEAN	204	116	67.8	50.3	49.4	47.3	93.9	182	114	76.1	91.0	171
MAX	427	244	97.4	80.9	96.4	66.0	202	624	235	109	137	363
(WY)	1986	1986	1988	1988	1996	1992	1986	1986	1995	1989	1996	1996
MIN	81.6	60.0	49.7	33.1	29.2	23.7	28.0	43.2	52.3	38.8	47.9	88.7
(WY)	1988	1995	1989	1991	1992	1994	1994	1989	1994	1994	1993	1994

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1984 - 1996	
ANNUAL TOTAL	46814		47591			
ANNUAL MEAN	128		130		105	
HIGHEST ANNUAL MEAN					179	1986
LOWEST ANNUAL MEAN					61.5	1994
HIGHEST DAILY MEAN	1270	Sep 16	3310	Sep 10	3820	Oct 7 1985
LOWEST DAILY MEAN	27	Apr 24	35	May 4	16	Mar 18 1994
ANNUAL SEVEN-DAY MINIMUM	28	Apr 28	36	Apr 30	17	Mar 16 1994
INSTANTANEOUS PEAK FLOW			4520	Sep 10	6450	Oct 7 1985
INSTANTANEOUS PEAK STAGE			15.67	Sep 10	17.66	Oct 7 1985
INSTANTANEOUS LOW FLOW			33	May 6	15	Mar 22 1994
10 PERCENT EXCEEDS	293		258		208	
50 PERCENT EXCEEDS	76		78		67	
90 PERCENT EXCEEDS	33		47		34	

e Estimated

RIO CAMUY BASIN

50015700 RIO CAMUY NEAR HATILLO, PR

LOCATION.--Lat 18°27'44", long 66°49'56", Hydrologic Unit 21010002, 1.8 mi (2.9 km) southwest of Hatillo plaza, 1.8 mi (2.9 km) southeast of Camuy plaza, 1.2 mi (1.9 km) south of Planta de Purificación, and 3.3 mi (5.5 km) upstream from Atlantic Ocean.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--June 1984 to September 1996 (discontinued).

GAGE.--Water-stage recorder. Elevation of gage is 13 ft (4 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 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	289	167	105	70	e74	e74	105	49	755	e120	e77	115
2	680	156	85	70	e66	e70	201	48	583	e87	e130	e140
3	909	157	82	69	e65	e68	70	47	199	e74	e132	160
4	564	139	79	68	e63	e66	59	46	160	e73	e119	e433
5	390	129	77	68	e62	e65	86	46	296	e66	e92	1020
6	231	134	e86	68	e59	e64	160	46	312	e63	e73	1120
7	183	125	e78	68	e95	e64	87	51	e461	e62	e66	247
8	163	499	e74	66	e149	e62	64	46	e234	e130	e81	711
9	148	562	e74	66	e200	e60	57	48	154	e300	e73	e316
10	135	219	e75	67	e460	e60	55	47	114	e149	e66	e7790
11	198	159	e80	128	e520	e60	55	51	e100	e90	e93	4720
12	174	139	e88	77	e120	e58	58	290	e90	e120	e447	1420
13	333	128	69	73	e88	e55	61	87	84	e130	e280	802
14	245	122	68	71	e76	69	56	79	102	e103	e200	e370
15	174	230	67	175	e71	594	54	116	86	e86	e150	e390
16	295	298	67	149	e75	247	51	68	83	e76	e120	e300
17	1230	163	68	96	e69	109	50	63	90	e69	e150	e310
18	842	140	106	79	e86	92	53	99	83	e66	e210	e280
19	265	121	90	69	e94	85	83	58	73	e237	e799	e230
20	191	113	81	67	e72	78	76	74	74	e265	555	e200
21	241	107	75	67	e120	72	57	e80	71	e89	e224	e190
22	552	103	74	65	e700	69	55	65	e68	e75	e130	e180
23	214	98	81	63	e800	66	51	e56	e66	e69	128	170
24	211	94	78	62	e720	64	49	51	e138	e65	492	170
25	1360	101	84	64	e210	62	48	49	e100	e66	381	328
26	1020	118	121	70	e130	61	90	129	e72	e62	146	443
27	719	149	78	83	e98	61	91	312	e130	e58	e119	380
28	487	93	75	152	e80	60	60	345	e170	e193	e111	e193
29	315	88	73	122	e76	60	54	203	e180	e98	e192	e163
30	207	87	71	e84	---	60	50	680	e180	e66	e619	200
31	182	---	71	e77	---	69	---	915	---	e61	e140	---
TOTAL	13147	4938	2480	2573	5498	2804	2146	4344	5308	3268	6595	23491
MEAN	424	165	80.0	83.0	190	90.5	71.5	140	177	105	213	783
MAX	1360	562	121	175	800	594	201	915	755	300	799	7790
MIN	135	87	67	62	59	55	48	46	66	58	66	115

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 1996, BY WATER YEAR (WY)

MEAN	336	170	87.3	64.2	73.4	66.0	166	348	160	99.3	119	269
MAX	735	439	176	131	190	90.5	411	1586	366	161	213	783
(WY)	1986	1986	1993	1988	1996	1996	1986	1986	1995	1990	1996	1996
MIN	116	66.6	51.4	46.2	34.1	33.1	30.7	59.5	58.5	44.0	54.8	117
(WY)	1988	1995	1992	1989	1992	1994	1994	1989	1994	1994	1993	1992

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1984 - 1996	
ANNUAL TOTAL	71260		76592			
ANNUAL MEAN	195		209		164	
HIGHEST ANNUAL MEAN					335	1986
LOWEST ANNUAL MEAN					76.7	1994
HIGHEST DAILY MEAN	3150	Sep 16	7790	Sep 10	8150	Oct 7 1985
LOWEST DAILY MEAN	28	May 3	46	May 4	25	May 30 1990
ANNUAL SEVEN-DAY MINIMUM	29	Apr 28	47	May 2	27	Apr 8 1994
INSTANTANEOUS PEAK FLOW			11400	Sep 10	11400	Sep 10 1996
INSTANTANEOUS PEAK STAGE			25.18	Sep 10	25.18	Sep 10 1996
INSTANTANEOUS LOW FLOW			43	May 6	25	May 6 1994
10 PERCENT EXCEEDS	480		436		312	
50 PERCENT EXCEEDS	81		90		79	
90 PERCENT EXCEEDS	35		60		40	

e Estimated

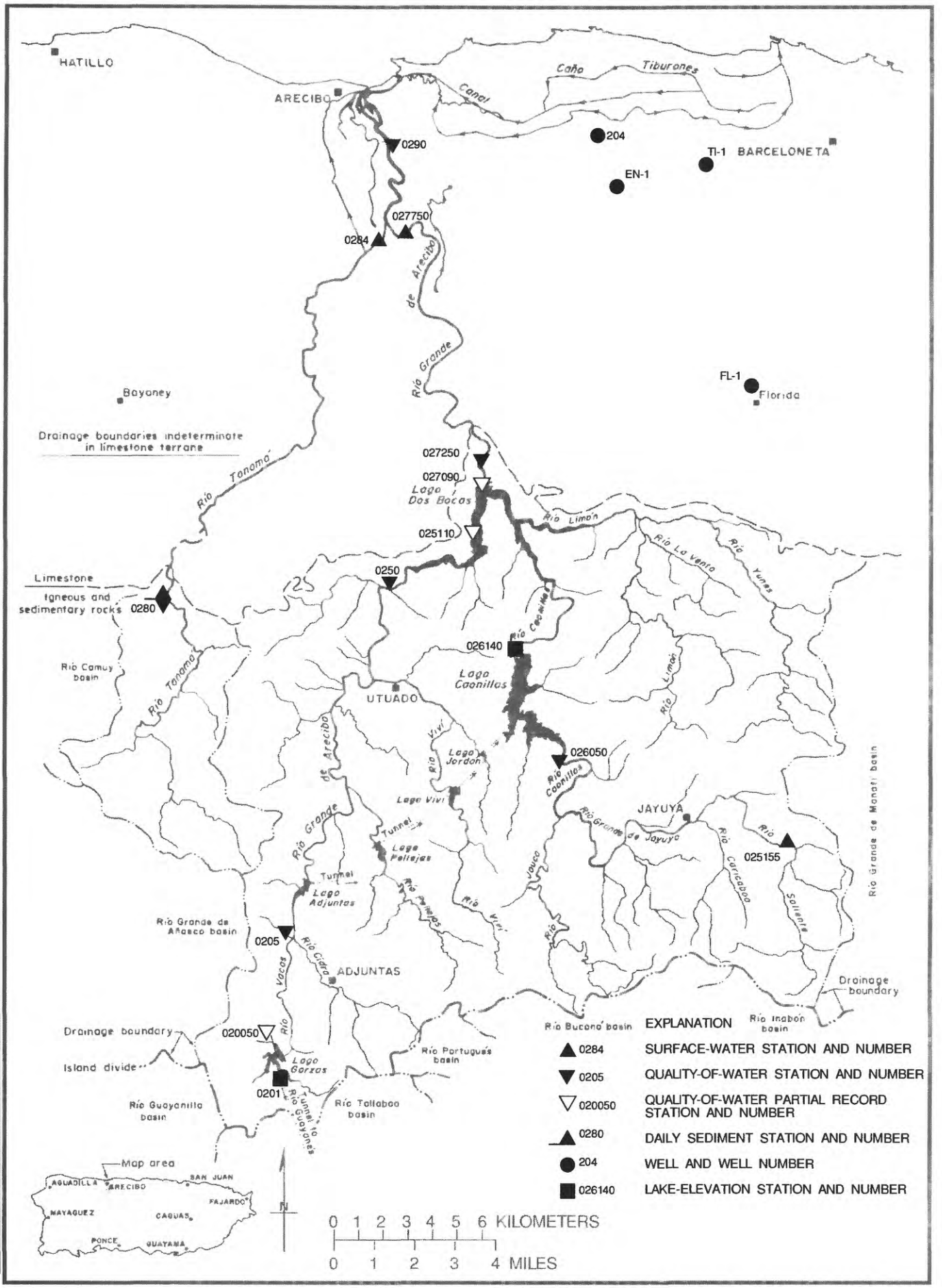

Figure 15.--Río Grande de Arecibo basin.

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 fro 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 Authorithy. Gage-height and precipitation satellite telemetry at station.

EXTREMES OBSERVED FOR PERIOD OF RECORD.--Maximum elevation 2,417.66 ft (736.903 m), May 27,1993; minimum elevation, 2,364.79 ft (720.788 m), Aug. 23, 1988.

EXTREMES OBSERVED FOR CURRENT YEAR.--Maximum elevation, 2,417.16 ft (736.750 m), Sept. 10; minimum elevation, 2,410.77 ft (734.803 m), Apr. 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
2,364	660	2,415	4,082
2,382	1,500	2,418	4,411
2,394	2,250		

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2414.40	2414.57	2414.46	2413.42	2411.75	2412.61	2410.92	2412.28	2414.53	2414.62	2414.74	2414.58
2	2414.39	2414.57	2414.42	2413.31	2411.65	2412.50	2410.81	2412.18	2414.49	2414.60	2414.76	2414.58
3	2414.70	2414.57	2414.40	2413.21	2411.54	2412.43	2411.30	2412.46	2414.42	2414.58	2414.74	2414.58
4	2414.68	2414.57	2414.38	2413.13	2411.44	2412.39	2412.70	2412.41	2414.77	2414.58	2414.68	2414.60
5	2414.67	2414.64	2414.31	2413.02	2411.48	2412.36	2412.79	2412.33	2414.77	2414.58	2414.64	2414.73
6	2414.66	2414.72	2414.66	2412.96	2411.40	2412.25	2412.84	2412.21	2414.67	2414.58	2414.62	2414.76
7	2414.65	2414.64	2414.58	2412.87	2411.30	2412.17	2412.82	2412.13	2414.63	2414.69	2414.66	2414.66
8	2414.64	2414.68	2414.54	2412.92	2411.18	2412.09	2412.76	2412.06	2414.59	2414.84	2414.62	2414.64
9	2414.63	2414.66	2414.48	2412.85	2411.09	2412.11	2412.70	2413.39	2414.59	2414.75	2414.60	2414.62
10	2414.62	2414.62	2414.44	2412.80	2412.09	2412.03	2412.62	2413.45	2414.59	2414.71	2414.60	2414.19
11	2414.60	2414.58	2414.45	2412.72	2412.10	2412.21	2412.59	2413.46	2414.57	2414.67	2414.62	2415.20
12	2414.60	2414.58	2414.42	2412.66	2412.02	2412.31	2412.57	2413.43	2414.61	2414.67	2414.58	2414.99
13	2414.60	2414.76	2414.38	2412.66	2411.90	2412.29	2412.49	2413.41	2414.67	2414.63	2414.53	2414.97
14	2414.60	2414.62	2414.30	2412.75	2411.83	2412.25	2412.47	2413.31	2414.65	2414.71	2414.62	2414.97
15	2414.61	2414.66	2414.24	2412.75	2411.73	2412.25	2412.47	2413.25	2414.74	2414.67	2414.75	2414.94
16	2414.61	2414.74	2414.17	2412.71	2411.65	2412.24	2412.41	2414.15	2414.67	2414.65	2414.65	2414.91
17	2414.69	2414.62	2414.12	2412.65	2411.78	2412.20	2412.32	2414.20	2414.64	2414.65	2414.63	2414.91
18	2414.75	2414.58	2414.08	2412.59	2411.70	2412.13	2412.21	2414.21	2414.62	2414.63	2414.83	2414.92
19	2414.69	2414.56	2414.06	2412.48	2411.62	2412.08	2412.57	2414.86	2414.88	2414.63	2414.69	2414.91
20	2414.73	2414.56	2414.02	2412.49	2411.90	2411.98	2412.57	2414.66	2414.70	2414.63	2414.69	2414.81
21	2414.69	2414.56	2413.97	2412.43	2412.80	2411.86	2412.52	2414.60	2414.66	2414.61	2414.65	2414.81
22	2414.68	2414.54	2413.90	2412.34	2412.90	2411.80	2412.83	2414.58	2414.66	2414.59	2414.61	2414.81
23	2414.68	2414.51	2413.88	2412.22	2412.95	2411.70	2412.83	2414.58	2414.64	2414.59	2414.65	2414.79
24	2414.68	2414.54	2413.80	2412.15	2412.94	2411.62	2412.79	2414.56	2414.62	2414.59	2414.63	2414.79
25	2414.66	2414.54	2413.74	2412.14	2412.90	2411.53	2412.72	2414.53	2414.62	2414.59	2414.60	2414.79
26	2414.66	2414.56	2413.80	2412.16	2412.85	2411.45	2412.67	2414.63	2414.74	2414.59	2414.60	2414.79
27	2414.54	2414.56	2413.76	2412.13	2412.79	2411.37	2412.61	2414.57	2414.66	2414.57	2414.58	2414.77
28	2414.68	2414.54	2413.72	2412.11	2412.71	2411.25	2412.57	2414.53	2414.64	2414.67	2414.58	2414.77
29	2414.63	2414.50	2413.68	2412.03	2412.65	2411.14	2412.46	2414.48	2414.64	2414.61	2414.58	2414.77
30	2414.61	2414.50	2413.58	2411.90	---	2411.06	2412.40	2414.59	2414.62	2414.61	2414.58	2414.87
31	2414.57	---	2413.50	2411.83	---	2411.01	---	2414.55	---	2414.69	2414.58	---
MAX	2414.75	2414.76	2414.66	2413.42	2412.95	2412.61	2412.84	2414.86	2414.88	2414.84	2414.83	2415.20
MIN	2414.39	2414.50	2413.50	2411.83	2411.09	2411.01	2410.81	2412.06	2414.42	2414.57	2414.53	2414.19

CAL YR 1995 MAX 2414.76 MIN 2380.02
WTR YR 1996 MAX 2415.20 MIN 2410.81

50020500 RIO GRANDE DE ARECIBO NEAR ADJUNTAS, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 18°10'54", long 66°44'12", at Highway 135 bridge, 1.0 mi (1.6 km) upstream 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.--Water years 1969-74, 1979 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

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, 0.45 UM-MF (COLS./ 100 ML) (31616)	STREP-TOCOCCI FECAL, (COLS. PER 100 ML) (31679)
NOV 1995											
27...	1210	26	291	7.8	23.0	2.3	8.2	98	12	22000	550
JAN 1996											
19...	1020	14	308	8.6	20.0	0.60	8.1	92	<10	K30	K200
FEB											
21...	1215	19	339	7.8	22.0	1.6	7.6	91	<10	6000	2200
APR											
23...	1350	17	306	7.4	24.0	0.80	7.8	97	12	340	K770
JUN											
26...	1010	30	288	7.5	22.5	0.30	7.9	95	24	K640	290
SEP											
12...	1115	E300	177	7.7	24.5	43	7.7	97	<10	5100	2400

DATE	HARD-NESS TOTAL (MG/L AS CACO3) (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)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (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 1995										
27...	110	30	9.3	18	0.7	2.0	110	0.6	8.5	26
JAN 1996										
19...	--	--	--	--	--	--	120	--	--	--
FEB										
21...	--	--	--	--	--	--	98	--	--	--
APR										
23...	120	31	9.5	19	0.8	2.2	100	<0.5	9.2	31
JUN										
26...	--	--	--	--	--	--	110	--	--	--
SEP										
12...	58	15	5.0	9.8	0.6	1.8	120	--	2.3	1.6

K = non-ideal count
E = estimate

RIO GRANDE DE ARECIBO BASIN

50020500 RIO GRANDE DE ARECIBO NR ADJUNTAS, PR--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DATE	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	SOLIDS, DISSOLVED (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 1995										
27...	<0.10	31	191	13.5	6	1.31	0.090	1.40	0.060	<0.20
JAN 1996										
19...	--	--	--	--	3	1.54	0.060	1.60	0.060	<0.16
FEB										
21...	--	--	--	--	11	1.21	0.090	1.30	0.300	0.23
APR										
23...	<0.10	30	192	8.64	5	1.18	0.020	1.20	0.030	0.25
JUN										
26...	--	--	--	--	3	0.830	0.010	0.840	0.010	<0.20
SEP										
12...	<0.10	0.90	108	E89.1	60	1.38	0.020	1.40	0.010	0.23

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) (u1002)	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 1995										
27...	<0.20	1.5	6.8	0.040	<1	<100	20	<1	<1	<10
JAN 1996										
19...	<0.22	1.8	8.1	0.080	--	--	--	--	--	--
FEB										
21...	0.53	1.8	8.1	0.120	--	--	--	--	--	--
APR										
23...	0.28	1.5	6.6	0.100	<1	<100	20	<1	<1	20
JUN										
26...	<0.20	0.94	4.2	0.060	--	--	--	--	--	--
SEP										
12...	0.24	1.6	7.3	0.040	--	--	--	--	--	--

DATE	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 (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)
NOV 1995										
27...	160	<1	40	<0.10	<1	<1	<10	<0.010	<1	<0.02
JAN 1996										
19...	--	--	--	--	--	--	--	--	--	--
FEB										
21...	--	--	--	--	--	--	--	--	--	--
APR										
23...	140	<1	70	<0.10	<1	<1	<10	<0.010	<1	<0.02
JUN										
26...	--	--	--	--	--	--	--	--	--	--
SEP										
12...	--	--	--	--	--	--	--	--	--	--

E = estimate

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 Guayanés in the Río Tallaboa basin.

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

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, 0.45 UM-MF (COLS./ 100 ML) (31616)	STREP-TOCOCCI FECAL, (COLS. PER 100 ML) (31679)
NOV 1995											
27...	1415	125	242	7.5	26.5	73	7.4	91	19	K65000	8400
JAN 1996											
19...	1145	53	283	7.9	23.5	22	7.6	89	<10	470	320
FEB											
15...	1035	56	289	7.8	21.5	43	8.4	95	<10	3500	270
APR											
12...	1040	120	245	7.5	24.0	490	7.7	91	44	K93000	K110000
JUN											
19...	1340	65	255	7.9	31.0	4.6	7.4	100	13	3500	K190
AUG											
22...	1130	75	277	7.7	28.0	39	7.1	90	<10	3700	K1100

DATE	HARD-NESS TOTAL (MG/L AS CACO3) (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)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (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 1995										
27...	65	17	5.4	9.1	0.5	1.0	74	0.8	11	16
JAN 1996										
19...	--	--	--	--	--	--	90	--	--	--
FEB										
15...	--	--	--	--	--	--	89	--	--	--
APR										
12...	93	26	6.9	13	0.6	2.4	190	0.6	24	13
JUN										
19...	--	--	--	--	--	--	97	--	--	--
AUG										
22...	100	29	7.6	12	0.5	2.7	110	--	23	13

K = non-ideal count

RIO GRANDE DE ARECIBO BASIN

50025000 RIO GRANDE DE ARECIBO NEAR UTUADO, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DATE	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	SOLIDS, DISSOLVED (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 1995										
27...	<0.10	24	128	43.2	100	1.74	0.060	1.80	0.070	0.29
JAN 1996										
19...	--	--	--	--	39	1.76	0.040	1.80	0.030	0.23
FEB										
15...	--	--	--	--	74	1.58	0.020	1.60	<0.010	0.33
APR										
12...	0.10	24	223	72.5	794	1.15	0.050	1.20	0.050	0.95
JUN										
19...	--	--	--	--	20	1.19	0.110	1.30	0.100	4.9
AUG										
22...	<0.10	27	180	36.3	88	1.50	0.100	1.60	0.180	3.8

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 1995										
27...	0.36	2.2	9.6	0.150	<1	<100	10	<1	2	20
JAN 1996										
19...	0.26	2.1	9.1	0.100	--	--	--	--	--	--
FEB										
15...	0.33	1.9	8.5	0.030	--	--	--	--	--	--
APR										
12...	1.0	2.2	9.7	0.580	<1	<100	10	<1	12	40
JUN										
19...	4.9	5.0	22	0.120	--	--	--	--	--	--
AUG										
22...	4.0	5.6	25	0.680	--	--	--	--	--	--

DATE	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 (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)
NOV 1995										
27...	2400	2	180	<0.10	<1	<1	20	<0.010	<1	<0.02
JAN 1996										
19...	--	--	--	--	--	--	--	--	--	--
FEB										
15...	--	--	--	--	--	--	--	--	--	--
APR										
12...	7500	9	540	<0.10	<1	<1	50	<0.010	<1	0.06
JUN										
19...	--	--	--	--	--	--	--	--	--	--
AUG										
22...	--	--	--	--	--	--	--	--	--	--

RIO GRANDE DE ARECIBO BASIN

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 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	56	34	16	6.0	20	20	7.9	10	29	11	137	13
2	34	33	15	5.7	17	18	6.2	9.6	21	10	66	12
3	34	33	16	5.5	15	16	327	9.5	17	9.8	30	223
4	217	27	15	5.3	13	15	200	8.6	75	10	19	90
5	73	25	15	5.1	12	15	89	8.0	50	10	14	63
6	41	38	14	5.6	12	13	54	8.0	38	9.6	12	37
7	35	31	14	5.2	72	12	32	8.0	23	9.8	13	28
8	29	28	13	6.8	28	11	24	8.1	20	485	11	58
9	25	66	12	7.0	16	41	20	8.3	17	372	10	55
10	30	58	12	5.4	46	31	18	8.3	16	97	22	e4700
11	106	34	12	4.9	34	44	17	8.1	14	38	39	e2240
12	148	27	12	4.7	15	32	75	8.6	12	27	26	e575
13	61	61	13	6.1	12	19	62	29	12	20	16	e257
14	36	29	11	235	10	16	37	14	10	45	13	e945
15	27	221	9.8	132	9.0	22	35	8.6	184	133	12	e511
16	66	74	9.5	29	8.3	21	28	66	35	36	12	e253
17	33	45	9.3	16	24	15	23	86	19	26	11	e111
18	45	35	19	13	16	12	21	31	71	21	22	e76
19	33	30	22	16	14	11	26	129	34	18	20	e50
20	313	26	13	20	12	10	23	430	27	16	36	e40
21	91	24	10	17	140	9.4	19	85	26	14	20	e45
22	64	22	8.8	12	170	8.6	17	30	22	12	13	e56
23	56	21	9.3	9.9	254	8.3	15	32	20	11	21	e78
24	106	21	9.5	12	127	7.7	14	20	17	10	119	e62
25	95	20	7.9	19	69	7.3	14	15	15	10	45	e65
26	82	18	13	39	42	7.2	13	17	15	9.5	26	e54
27	64	18	13	89	32	7.6	12	15	14	8.7	20	e53
28	82	16	12	78	26	7.3	12	13	13	56	20	e52
29	65	16	8.2	51	22	6.9	11	11	12	21	18	e50
30	47	17	6.9	34	---	6.8	11	224	12	11	15	e95
31	39	---	6.2	25	---	8.7	---	60	---	9.9	14	---
TOTAL	2233	1148	377.4	920.2	1287.3	479.8	1263.1	1418.7	890	1577.3	872	10947
MEAN	72.0	38.3	12.2	29.7	44.4	15.5	42.1	45.8	29.7	50.9	28.1	365
MAX	313	221	22	235	254	44	327	430	184	485	137	4700
MIN	25	16	6.2	4.7	8.3	6.8	6.2	8.0	10	8.7	10	12
AC-FT	4430	2280	749	1830	2550	952	2510	2810	1770	3130	1730	21710
CFSM	7.79	4.14	1.32	3.21	4.80	1.67	4.55	4.95	3.21	5.50	3.04	39.4
IN.	8.98	4.62	1.52	3.70	5.18	1.93	5.08	5.71	3.58	6.34	3.51	44.02

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1996, BY WATER YEAR (WY)

MEAN	42.2	24.8	12.2	18.3	16.1	11.1	22.4	41.8	24.2	18.4	22.1	99.2
MAX	72.0	40.0	22.7	48.1	44.4	15.5	46.4	98.6	35.4	50.9	49.0	365
(WY)	1996	1991	1993	1992	1996	1996	1993	1995	1994	1996	1995	1996
MIN	11.6	10.0	5.97	4.13	4.67	4.79	5.95	5.35	10.1	2.83	9.82	10.8
(WY)	1992	1994	1995	1995	1994	1994	1994	1990	1991	1994	1994	1994

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1989 - 1996	
ANNUAL TOTAL	17256.2		23413.8			
ANNUAL MEAN	47.3		64.0		29.3	
HIGHEST ANNUAL MEAN					64.0	1996
LOWEST ANNUAL MEAN					10.9	1994
HIGHEST DAILY MEAN	1800	Sep 16	4700	Sep 10	4700	Sep 10 1996
LOWEST DAILY MEAN	3.1	Feb 14	4.7	Jan 12	2.3	Jul 27 1994
ANNUAL SEVEN-DAY MINIMUM	3.3	Feb 12	5.5	Jan 1	2.5	Jul 23 1994
INSTANTANEOUS PEAK FLOW			14500	Sep 10	14500	Sep 10 1996
INSTANTANEOUS PEAK STAGE			19.29	Sep 10	19.29	Sep 10 1996
INSTANTANEOUS LOW FLOW			4.3	Jan 13	2.1	Jul 26 1994
ANNUAL RUNOFF (AC-FT)	34230		46440		21260	
ANNUAL RUNOFF (CFSM)	5.11		6.92		3.17	
ANNUAL RUNOFF (INCHES)	69.40		94.16		43.10	
10 PERCENT EXCEEDS	90		90		51	
50 PERCENT EXCEEDS	14		20		12	
90 PERCENT EXCEEDS	4.0		8.6		4.5	

e Estimated

RIO GRANDE DE ARECIBO BASIN

50026050 RIO CAONILLAS ABOVE LAGO CAONILLAS NEAR JAYUYA, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 18°13'26", long 66°38'22", 300 ft (91 m) off Highway 531, 700 ft (213 m) upstream from Lago Caonillas, 3.3 mi (5.3 km) northwest of Jayuya plaza.

DRAINAGE AREA.--40.4 mi² (104.6 km²).

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

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, 0.45 UM-MF (COLS./ 100 ML) (31616)	STREP-TOCOCCI FECAL, (COLS. PER 100 ML) (31679)
NOV 1995											
28...	1115	64	220	7.7	22.5	2.4	7.9	92	<10	200	K150
JAN 1996											
19...	0805	38	216	8.8	21.0	2.5	7.4	84	13	2800	4300
FEB											
21...	0930	37	212	8.0	20.5	0.70	8.9	101	<10	600	220
APR											
23...	1025	38	221	7.2	23.5	0.70	8.1	97	11	K660	430
JUN											
19...	1025	74	158	7.4	22.5	2.4	8.4	99	14	2300	510
SEP											
05...	1045	76	166	7.8	23.0	28	8.3	99	<10	K8800	5400

DATE	HARD-NESS TOTAL (MG/L AS CACO3) (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)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (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 1995										
28...	85	23	6.7	11	0.5	1.4	69	<0.5	15	12
JAN 1996										
19...	--	--	--	--	--	--	77	--	--	--
FEB										
21...	--	--	--	--	--	--	72	--	--	--
APR										
23...	87	23	7.1	12	0.6	1.6	70	<0.5	15	12
JUN										
19...	--	--	--	--	--	--	56	--	--	--
SEP										
05...	68	18	5.6	8.3	0.4	1.8	84	--	11	8.4

K = non-ideal count

50026050 RIO CAONILLAS ABOVE LAGO CAONILLAS NEAR JAYUYA, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DATE	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	SOLIDS, DISSOLVED (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 1995										
28...	<0.10	25	135	23.3	6	1.28	0.020	1.30	0.020	<0.20
JAN 1996										
19...	--	--	--	--	9	0.990	0.010	1.00	0.020	0.21
FEB										
21...	--	--	--	--	9	1.18	0.020	1.20	0.040	<0.20
APR										
23...	<0.10	25	138	14.2	7	1.09	0.010	1.10	0.030	0.34
JUN										
19...	--	--	--	--	3	0.540	0.010	0.550	0.010	0.28
SEP										
05...	<0.10	20	123	25.4	29	0.940	0.010	0.950	0.030	0.21

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 1995										
28...	0.20	1.4	6.2	0.030	<1	<100	30	<1	<1	<10
JAN 1996										
19...	0.23	1.2	5.4	0.060	--	--	--	--	--	--
FEB										
21...	0.20	1.3	5.9	0.090	--	--	--	--	--	--
APR										
23...	0.37	1.5	6.5	0.070	<1	<100	20	<1	<1	60
JUN										
19...	0.29	0.84	3.7	0.040	--	--	--	--	--	--
SEP										
05...	0.21	1.1	4.8	0.020	--	--	--	--	--	--

DATE	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 (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)
NOV 1995										
28...	270	<1	50	<0.10	<1	<1	<10	<0.010	<1	<0.02
JAN 1996										
19...	--	--	--	--	--	--	--	--	--	--
FEB										
21...	--	--	--	--	--	--	--	--	--	--
APR										
23...	270	<1	40	<0.10	<1	<1	<10	<0.010	<1	0.03
JUN										
19...	--	--	--	--	--	--	--	--	--	--
SEP										
05...	--	--	--	--	--	--	--	--	--	--

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 Río 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. 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.

EXTREMES OBSERVED FOR PERIOD OF RECORD.--Maximum elevation, 829.37 ft (252.79 m), Sept. 11, 1996; minimun elevation, 752.23 ft (229.27 m), Oct. 2, 1994.

EXTREMES OBSERVED FOR CURRENT YEAR.--Maximum elevation, 829.37 ft (252.79 m), Sept. 11; minimum elevation, 771.96 ft (235.29 m), July 7.

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
705	0	800	27,982
750	8,421	830	46,161

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	812.31	821.94	821.89	819.24	821.95	820.94	803.74	786.09	774.63	773.69	780.61	783.84
2	811.82	822.04	821.79	819.26	822.09	820.62	802.90	785.52	774.40	773.78	781.27	783.83
3	812.72	822.33	821.61	819.18	822.03	820.52	802.93	784.60	774.57	773.87	781.67	783.98
4	812.83	822.33	821.55	818.87	821.94	819.78	803.39	784.43	774.84	773.55	781.84	784.51
5	812.87	822.08	820.77	818.87	822.03	819.74	803.50	784.43	775.21	773.54	781.98	786.11
6	812.70	821.42	820.60	818.91	820.85	818.86	803.14	783.91	775.44	773.61	782.02	786.47
7	812.59	821.03	820.60	818.94	821.03	818.27	802.97	783.93	775.58	773.30	781.86	786.20
8	812.13	820.48	820.62	818.98	821.22	817.86	802.04	783.98	775.58	774.77	781.99	786.60
9	811.86	820.02	820.64	818.85	821.20	817.34	801.01	784.05	775.74	776.58	781.91	786.89
10	812.02	820.40	820.66	818.74	821.48	817.26	800.02	784.09	775.51	777.21	782.06	827.86
11	812.53	820.54	820.73	818.61	821.75	816.54	800.50	782.39	775.66	777.61	782.43	828.47
12	813.05	820.43	820.73	818.47	821.84	815.60	800.33	782.43	775.79	777.93	784.02	825.11
13	813.43	820.58	820.05	818.52	821.41	814.94	800.31	781.04	775.90	778.19	784.18	824.38
14	813.83	820.75	819.62	818.82	821.04	814.22	800.34	780.18	775.98	778.54	784.26	824.52
15	814.08	821.00	819.49	819.38	820.52	814.27	799.16	779.52	776.48	779.22	784.03	823.84
16	814.32	821.28	819.31	819.51	820.21	814.25	798.76	779.41	776.85	779.54	784.13	822.78
17	814.48	821.56	819.34	819.54	819.76	814.05	797.77	779.13	777.05	779.79	784.21	821.73
18	815.00	821.75	819.24	819.59	819.87	813.97	796.87	778.50	777.28	779.99	784.27	820.48
19	815.33	821.75	819.25	819.69	819.89	813.33	796.20	778.65	778.15	780.14	783.98	820.27
20	816.47	821.73	819.19	819.86	819.39	812.44	796.33	780.38	778.43	780.32	783.94	819.47
21	817.76	821.79	819.05	820.00	819.88	811.58	795.88	780.19	778.53	780.46	784.09	818.42
22	818.52	821.90	819.07	820.13	820.28	811.58	794.72	779.06	778.58	779.77	784.10	817.61
23	819.01	822.00	819.08	820.22	822.55	810.80	793.78	778.07	778.45	779.44	783.42	816.35
24	819.84	821.95	819.00	820.35	823.40	810.56	792.44	776.62	777.85	779.57	783.77	815.21
25	820.28	821.93	819.05	820.38	823.63	809.57	790.97	776.07	776.85	779.68	783.99	813.97
26	820.65	822.02	819.10	820.57	823.06	808.86	789.55	777.27	775.64	779.50	783.88	812.63
27	820.81	821.98	819.14	820.91	822.61	807.85	788.78	777.44	775.74	779.59	783.94	811.43
28	821.36	821.93	819.12	821.26	822.05	807.86	788.21	776.40	773.96	779.73	784.05	810.12
29	821.68	821.96	819.17	821.45	821.66	806.86	788.26	775.10	774.47	780.08	784.08	808.84
30	821.32	821.86	819.19	821.66	---	806.10	787.36	774.86	774.08	780.23	784.00	807.44
31	821.66	---	819.22	821.82	---	804.96	---	774.20	---	780.41	783.79	---
MAX	821.68	822.33	821.89	821.82	823.63	820.94	803.74	786.09	778.58	780.46	784.27	828.47
MIN	811.82	820.02	819.00	818.47	819.39	804.96	787.36	774.20	773.96	773.30	780.61	783.83

CAL YR 1995 MAX 2960.84 MIN 2931.51
WTR YR 1996 MAX 2961.05 MIN 2936.81

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 (10.6 km) 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 1995 TO SEPTEMBER 1996

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, 0.45 UM-MF (COLS./ 100 ML) (31616)	STREP-TOCOCCI FECAL, (COLS. PER 100 ML) (31679)
NOV 1995											
28...	0830	17	204	7.5	24.0	18	5.0	58	10	K230	420
JAN 1996											
24...	0830	24	206	7.6	23.5	0.70	5.4	62	<10	K30	K100
FEB											
15...	0835	30	218	7.5	23.0	24	5.7	66	<10	460	230
APR											
12...	0800	27	205	7.3	25.0	2.5	4.9	59	<10	330	270
JUN											
27...	0800	30	213	7.1	26.5	2.0	4.6	57	19	K40	K40
AUG											
29...	0815	32	226	7.5	27.0	2.8	4.6	57	12	80	K130

DATE	HARD-NESS TOTAL (MG/L AS CACO3) (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)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (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 1995										
28...	71	20	5.0	8.0	0.4	1.9	70	<0.5	12	9.9
JAN 1996										
24...	--	--	--	--	--	--	77	--	--	--
FEB										
15...	--	--	--	--	--	--	70	--	--	--
APR										
12...	80	22	6.1	11	0.5	2.5	77	<0.5	14	11
JUN										
27...	--	--	--	--	--	--	82	--	--	--
AUG										
29...	88	24	6.7	10	0.5	2.4	85	--	14	11

K = non-ideal count

RIO GRANDE DE ARECIBO BASIN

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DATE	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	SOLIDS, DISSOLVED (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 1995										
28...	<0.10	23	122	5.46	11	0.990	0.010	1.00	0.030	<0.20
JAN 1996										
24...	--	--	--	--	5	0.750	<0.010	0.750	0.040	0.28
FEB										
15...	--	--	--	--	14	0.930	<0.010	0.930	0.020	0.20
APR										
12...	<0.10	19	132	9.61	4	0.400	<0.010	0.400	0.050	0.23
JUN										
27...	--	--	--	--	8	0.310	0.030	0.340	0.070	0.31
AUG										
29...	<0.10	19	138	12.0	<1	0.760	0.020	0.780	0.020	0.28

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 1995										
28...	0.20	1.2	5.3	0.020	<1	<100	40	<1	<1	<10
JAN 1996										
24...	0.32	1.1	4.7	<0.020	--	--	--	--	--	--
FEB										
15...	0.22	1.1	5.1	0.040	--	--	--	--	--	--
APR										
12...	0.28	0.68	3.0	0.040	<1	<100	<10	<1	<1	<10
JUN										
27...	0.38	0.72	3.2	0.040	--	--	--	--	--	--
AUG										
29...	0.30	1.1	4.8	0.080	--	--	--	--	--	--

DATE	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 (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)
NOV 1995										
28...	450	<1	80	<0.10	<1	<1	<10	<0.010	1	<0.02
JAN 1996										
24...	--	--	--	--	--	--	--	--	--	--
FEB										
15...	--	--	--	--	--	--	--	--	--	--
APR										
12...	100	<1	50	<0.10	<1	<1	<10	<0.010	<1	<0.02
JUN										
27...	--	--	--	--	--	--	--	--	--	--
AUG										
29...	--	--	--	--	--	--	--	--	--	--

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 Río Tanamá, 3.6 mi (5.8 km) south of Arecibo and 4.9 mi (7.9 km) above mouth, and 6.2 mi (9.97 km) downstream from Lago Dos Bocas.

DRAINAGE AREA.--200 mi² (520 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 fair except those for estimated daily discharges, which are 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 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	431	484	295	89	222	498	288	301	107	225	127	119
2	769	488	95	181	174	308	244	82	101	85	69	47
3	700	390	175	211	170	101	277	213	219	68	143	45
4	494	187	271	169	124	302	169	127	186	e61	137	148
5	474	214	346	167	199	350	90	111	308	e58	146	266
6	487	377	418	140	375	344	300	58	168	e56	41	464
7	449	412	432	94	163	298	170	141	e158	e52	163	337
8	461	459	322	134	146	77	414	102	e140	106	372	398
9	461	423	211	293	145	189	444	287	128	144	258	371
10	429	745	103	219	135	72	482	141	224	e84	55	12300
11	272	490	97	316	100	157	452	352	222	270	167	8270
12	252	428	117	267	77	376	225	225	231	152	569	4200
13	154	385	193	174	327	218	104	189	61	e138	126	1880
14	277	389	373	147	377	299	99	217	53	e81	257	1450
15	303	384	394	103	262	185	333	160	129	e50	255	1700
16	508	372	308	141	410	129	223	62	64	e123	45	1180
17	666	285	207	296	172	112	75	138	236	e75	37	1110
18	726	129	272	299	152	184	182	61	236	e386	44	1160
19	478	106	131	e260	113	74	364	112	366	373	120	1020
20	336	293	307	e220	342	344	160	159	319	95	169	950
21	343	379	280	e190	164	232	71	230	264	143	66	772
22	601	322	166	e140	327	425	265	379	209	294	405	599
23	423	233	107	e120	983	391	236	404	211	276	464	703
24	448	201	106	e105	771	190	431	350	312	85	419	619
25	549	199	133	e93	493	235	540	477	161	71	79	783
26	607	275	145	95	509	133	372	128	277	108	354	811
27	801	231	179	105	545	80	84	365	65	50	274	678
28	595	230	309	86	424	80	132	473	165	88	101	766
29	541	194	374	132	310	230	142	349	117	41	65	610
30	473	210	239	373	---	331	217	576	156	33	453	627
31	384	---	157	261	---	184	---	468	---	30	98	---
TOTAL	14892	9914	7262	5620	8711	7128	7585	7437	5593	3901	6078	44383
MEAN	480	330	234	181	300	230	253	240	186	126	196	1479
MAX	801	745	432	373	983	498	540	576	366	386	569	12300
MIN	154	106	95	86	77	72	71	58	53	30	37	45
AC-FT	29540	19660	14400	11150	17280	14140	15040	14750	11090	7740	12060	88030
CFSM	2.40	1.65	1.17	.91	1.50	1.15	1.26	1.20	.93	.63	.98	7.40
IN.	2.77	1.84	1.35	1.05	1.62	1.33	1.41	1.38	1.04	.73	1.13	8.26

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1982 - 1996, BY WATER YEAR (WY)

MEAN	618	534	283	236	225	215	351	590	356	254	250	529
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	91.2	65.7	178	69.3	62.7	82.8	99.9
(WY)	1995	1995	1995	1995	1995	1994	1995	1994	1994	1994	1994	1994

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1982 - 1996	
ANNUAL TOTAL	96483		128504			
ANNUAL MEAN	264		351		370	
HIGHEST ANNUAL MEAN					729	1986
LOWEST ANNUAL MEAN					132	1994
HIGHEST DAILY MEAN	3620	Sep 16	12300	Sep 10	14800	May 18 1985
LOWEST DAILY MEAN	18	Sep 4	30	Jul 31	16	Apr 14 1994
ANNUAL SEVEN-DAY MINIMUM	33	Feb 14	60	Jul 25	22	Mar 30 1994
INSTANTANEOUS PEAK FLOW			24400	Sep 10	45800	May 18 1985
INSTANTANEOUS PEAK STAGE			17.12	Sep 10	18.22	May 18 1985
ANNUAL RUNOFF (AC-FT)	191400		254900		267900	
ANNUAL RUNOFF (CFSM)	1.32		1.76		1.85	
ANNUAL RUNOFF (INCHES)	17.95		23.90		25.12	
10 PERCENT EXCEEDS	567		542		757	
50 PERCENT EXCEEDS	187		227		239	
90 PERCENT EXCEEDS	43		80		55	

e Estimated

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 local observer and automatic sediment sampler.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATION: Maximum daily mean, 1,540 mg/L September 10, 1996; Minimum daily mean, 2 mg/L several days.

SEDIMENT LOADS: Maximum daily mean, 53,700 tons (48,700 tonnes) September 10, 1996; Minimum daily mean, 0.26 ton (0.23 tonne) August 17, 1996.

EXTREMES FOR CURRENT YEAR 1996.
SEDIMENT CONCENTRATION: Maximum daily mean, 1,540 mg/L September 10, 1996; Minimum daily mean, 2 mg/L several days.

SEDIMENT LOADS: Maximum daily mean, 53,700 tons (48,700 tonnes) September 10, 1996; Minimum daily mean, 0.26 ton (0.23 tonne) August 17, 1996.

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	431	22	40	484	21	32	295	24	20
2	769	51	114	488	21	32	95	9	3.4
3	700	48	94	390	24	29	175	10	5.9
4	494	18	30	187	13	7.9	271	22	17
5	474	35	58	214	13	9.0	346	21	25
6	487	22	34	377	16	20	418	41	47
7	449	35	54	412	18	24	432	26	34
8	461	18	27	459	27	45	322	18	15
9	461	34	51	423	19	27	211	17	9.0
10	429	17	24	745	47	95	103	16	4.6
11	272	21	18	490	19	30	97	16	4.1
12	252	26	23	428	25	33	117	12	3.9
13	154	17	9.9	385	46	47	193	13	9.0
14	277	25	21	389	22	29	373	22	27
15	303	19	20	384	19	24	394	27	30
16	508	31	68	372	64	62	308	17	16
17	666	41	97	285	53	38	207	16	10
18	726	49	98	129	13	5.4	272	21	19
19	478	16	26	106	5	2.1	131	9	3.3
20	336	66	89	293	16	15	307	16	15
21	343	99	94	379	22	27	280	19	16
22	601	33	60	322	35	30	166	7	4.4
23	423	19	27	233	17	13	107	3	.81
24	448	18	28	201	14	9.9	106	4	1.3
25	549	26	49	199	13	9.2	133	9	3.4
26	607	27	55	275	31	26	145	8	3.7
27	801	52	119	231	17	14	179	14	8.1
28	595	26	55	230	11	8.0	309	18	17
29	541	28	50	194	15	8.0	374	15	18
30	473	19	30	210	12	8.1	239	14	9.9
31	384	20	26	---	---	---	157	11	5.7
TOTAL	14892	---	1588.9	9914	---	759.6	7262	---	406.51

RIO GRANDE DE ARECIBO BASIN

50027750 RIO GRANDE DE ARECIBO ABOVE ARECIBO, 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)
		JANUARY			FEBRUARY			MARCH	
1	89	9	2.1	222	13	9.5	498	25	45
2	181	13	9.3	174	8	3.8	308	22	22
3	211	13	8.6	170	12	7.7	101	11	3.4
4	169	9	5.0	124	10	3.9	302	22	26
5	167	14	7.9	199	13	9.7	350	21	28
6	140	11	4.5	375	21	29	344	25	35
7	94	6	1.4	163	17	8.8	298	24	26
8	134	7	2.9	146	11	5.1	77	17	3.7
9	293	14	17	145	12	5.6	189	23	14
10	219	20	12	135	7	4.5	72	4	.84
11	316	19	19	100	6	2.1	157	13	13
12	267	14	12	77	4	.83	376	22	28
13	174	14	8.2	327	26	48	218	18	13
14	147	9	4.5	377	61	57	299	17	24
15	103	5	1.4	262	47	34	185	14	9.2
16	141	11	4.6	410	49	49	129	10	4.0
17	296	20	19	172	11	6.5	112	6	2.3
18	299	22	21	152	10	5.7	184	12	7.5
19	e260	29	e15	113	6	2.3	74	8	1.8
20	e220	19	e6.4	342	22	38	344	18	25
21	e190	13	e4.1	164	14	7.3	232	18	13
22	e140	10	e2.8	327	32	59	425	15	26
23	e120	11	e2.9	983	59	171	391	22	31
24	e105	14	e3.3	771	56	137	190	20	16
25	e93	16	e3.8	493	18	34	235	14	10
26	95	7	2.3	509	28	48	133	8	3.1
27	105	10	2.7	545	37	81	80	4	.97
28	86	5	1.3	424	24	36	80	4	.91
29	132	8	4.3	310	26	34	230	15	16
30	373	18	28	---	---	---	331	22	25
31	261	19	15	---	---	---	184	11	6.5
TOTAL	5620	---	252.3	8711	---	938.33	7128	---	480.22

e Estimated

RIO GRANDE DE ARECIBO BASIN

50027750 RIO GRANDE DE ARECIBO ABOVE ARECIBO, 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)
		APRIL			MAY			JUNE	
1	288	13	12	301	18	23	107	10	3.7
2	244	15	14	82	12	3.0	101	6	1.8
3	277	19	17	213	16	13	219	16	12
4	169	13	7.3	127	10	4.8	186	12	8.7
5	90	6	1.5	111	9	3.3	308	18	24
6	300	17	18	58	3	.47	168	12	7.1
7	170	14	9.0	141	9	5.5	e158	5	e1.0
8	414	24	38	102	6	2.1	e140	16	e20
9	444	14	20	287	17	20	128	12	5.4
10	482	18	21	141	13	6.4	224	13	9.9
11	452	19	33	352	12	20	222	10	7.5
12	225	16	12	225	26	28	231	14	9.1
13	104	8	2.6	189	12	10	61	8	1.3
14	99	8	2.3	217	13	11	53	6	.92
15	333	19	30	160	10	5.2	129	11	5.2
16	223	14	9.8	62	4	.64	64	4	.74
17	75	31	6.1	138	9	5.8	236	13	18
18	182	47	25	61	8	1.4	236	17	16
19	364	27	34	112	10	4.1	366	20	32
20	160	13	7.4	159	10	5.3	319	22	28
21	71	11	2.1	230	15	11	264	18	20
22	265	19	19	379	19	29	209	13	9.2
23	236	14	13	404	23	33	211	15	10
24	431	18	34	350	20	27	312	17	25
25	540	23	43	477	21	32	161	14	8.1
26	372	21	29	128	12	6.0	277	14	15
27	84	11	2.7	365	29	35	65	6	1.0
28	132	11	5.0	473	60	78	165	13	8.8
29	142	5	3.7	349	23	32	117	9	3.7
30	217	14	15	576	29	73	156	14	8.3
31	---	---	---	468	26	46	---	---	---
TOTAL	7585	---	486.5	7437	---	575.01	5593	---	321.46

e Estimated

RIO GRANDE DE ARECIBO BASIN

50027750 RIO GRANDE DE ARECIBO ABOVE ARECIBO, 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)
		JULY			AUGUST			SEPTEMBER	
1	225	15	13	127	8	6.3	119	13	4.3
2	85	8	1.9	69	5	1.3	47	19	2.5
3	68	3	.51	143	10	7.2	45	13	1.6
4	e61	2	e.33	137	13	7.6	148	16	7.9
5	e58	2	e.31	146	25	10	266	17	18
6	e56	2	e.30	41	6	.77	464	1340	3610
7	e52	2	e.28	163	8	8.0	337	295	593
8	106	4	1.4	372	13	21	398	619	1010
9	144	9	4.7	258	11	9.7	371	176	163
10	e84	5	e1.3	55	6	.98	12300	1540	53700
11	270	18	18	167	9	5.5	8270	550	12600
12	152	10	6.0	569	23	40	4200	1020	7550
13	e138	8	e5.2	126	11	5.3	1880	918	5100
14	e81	6	e1.6	257	11	20	1450	434	1700
15	e50	2	e.27	255	13	12	1700	393	1810
16	e123	7	e4.7	45	4	.44	1180	383	1210
17	e75	5	e.99	37	2	.26	1110	598	1820
18	e386	11	e20	44	4	.42	1160	788	2500
19	373	10	12	120	9	4.3	1020	282	770
20	95	8	2.3	169	12	7.2	950	160	415
21	143	14	6.6	66	16	3.0	772	107	210
22	294	8	15	405	20	34	599	82	159
23	276	21	25	464	20	34	703	115	223
24	85	7	1.9	419	17	25	619	71	157
25	71	8	1.6	79	3	.87	783	76	196
26	108	10	4.5	354	13	18	811	116	258
27	50	6	.84	274	11	8.1	678	62	120
28	88	5	1.3	101	5	1.4	766	77	179
29	41	3	.40	65	24	5.2	610	60	113
30	33	2	.18	453	18	21	627	68	158
31	30	2	.16	98	5	1.4	---	---	---
TOTAL	3901	---	152.57	6078	---	320.24	44383	---	96358.3
YEAR	128504		102639.94						

e Estimated

RIO GRANDE DE ARECIBO BASIN

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

PARTICLE-SIZE DISTRIBUTION 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. 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 1996							
06...	1755	979	9990	26400	41	58	74
07...	0120	983	1790	4760	64	82	87

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 1996							
06...	82	88	98	100	100	100	100
07...	90	92	100	100	100	100	100

RIO GRANDE DE ARECIBO BASIN

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

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 1995					
16...	2137	1310	92	325	82
20...	1815	433	231	270	97
NOV					
26...	1755	398	100	107	97
FEB 1996					
13...	2200	913	78	192	96
20...	1630	800	60	130	95
27...	1739	932	125	315	95
APR					
08...	1803	838	224	507	71
JUL					
22...	1930	728	31	61	50
SEP					
10...	0450	788	2690	5720	100

RIO GRANDE DE ARECIBO BASIN

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 (286.000 m) above mean sea level. Datum of gage was lowered 3.00 ft (0.914 m) on Oct. 1978. Prior to Nov. 17, 1966, non-recording gage and Nov. 17, 1966 to Sept. 30, 1978 recording gage, both at present site.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	70	79	e48	30	27	34	56	20	e74	23	31	25
2	74	76	41	30	26	33	34	20	e66	23	105	23
3	100	76	39	30	26	33	40	19	e41	22	43	22
4	78	69	38	29	26	34	48	19	e58	21	32	48
5	68	67	43	29	25	34	39	19	e53	21	27	176
6	63	74	e43	31	25	33	55	21	52	21	26	e71
7	70	68	e36	29	27	33	37	20	e37	21	26	57
8	81	95	e36	29	36	32	28	20	35	48	28	74
9	69	71	e36	29	44	32	26	20	33	46	32	e58
10	62	75	38	29	171	32	24	20	32	20	41	1390
11	69	63	55	28	e52	32	24	58	35	18	49	439
12	e179	59	43	28	e25	32	41	35	37	26	114	224
13	e82	64	37	28	e25	31	33	23	34	20	44	153
14	e68	60	36	47	e25	33	26	21	40	18	37	153
15	e68	60	35	48	e29	48	25	21	45	19	32	145
16	e198	56	34	33	28	33	23	26	38	17	31	117
17	e210	56	34	33	28	29	23	59	36	16	29	121
18	e133	53	39	30	29	28	33	31	34	22	39	e107
19	e78	51	39	33	27	27	52	33	38	19	63	92
20	e84	49	34	31	42	26	32	36	37	16	55	87
21	181	48	34	30	60	25	26	39	28	15	39	82
22	106	47	33	28	154	25	24	35	27	15	46	78
23	100	46	33	27	148	24	23	26	26	15	46	75
24	100	50	32	27	121	23	23	23	30	19	64	74
25	129	47	31	35	e68	22	22	29	26	20	41	139
26	101	66	36	35	e53	22	21	55	24	19	31	e97
27	131	53	36	36	e51	23	22	124	35	18	28	e75
28	127	44	36	50	e38	22	21	58	27	19	32	79
29	100	43	31	37	36	22	21	50	25	18	67	71
30	89	54	30	31	---	26	20	e106	24	17	39	108
31	83	---	29	28	---	43	---	e67	---	20	28	---
TOTAL	3151	1819	1145	998	1472	926	922	1153	1127	652	1345	4460
MEAN	102	60.6	36.9	32.2	50.8	29.9	30.7	37.2	37.6	21.0	43.4	149
MAX	210	95	55	50	171	48	56	124	74	48	114	1390
MIN	62	43	29	27	25	22	20	19	24	15	26	22
AC-FT	6250	3610	2270	1980	2920	1840	1830	2290	2240	1290	2670	8850
CFSM	5.52	3.30	2.01	1.75	2.76	1.62	1.67	2.02	2.04	1.14	2.36	8.08
IN.	6.37	3.68	2.31	2.02	2.98	1.87	1.86	2.33	2.28	1.32	2.72	9.02

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 1996, BY WATER YEAR (WY)

MEAN	79.3	67.4	42.3	28.9	25.6	24.7	36.3	57.6	42.6	36.1	45.6	75.3
MAX	195	159	121	50.1	50.8	71.2	142	193	116	65.7	110	177
(WY)	1990	1969	1966	1966	1996	1972	1969	1963	1979	1981	1979	1961
MIN	25.4	25.1	21.5	18.0	13.2	11.0	9.70	12.4	15.6	9.18	15.9	25.0
(WY)	1963	1995	1965	1974	1965	1984	1984	1977	1994	1994	1994	1994

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1960 - 1996	
ANNUAL TOTAL	17077		19170			
ANNUAL MEAN	46.8		52.4		46.9	
HIGHEST ANNUAL MEAN					71.1	1969
LOWEST ANNUAL MEAN					20.7	1994
HIGHEST DAILY MEAN	412	Sep 16	1390	Sep 10	2170	May 17 1963
LOWEST DAILY MEAN	13	Feb 9	15	Jul 21	5.4	Aug 4 1994
ANNUAL SEVEN-DAY MINIMUM	13	Feb 13	17	Jul 17	6.4	Jul 29 1994
INSTANTANEOUS PEAK FLOW			5440	Sep 10	12200	May 18 1985
INSTANTANEOUS PEAK STAGE			14.59	Sep 10	17.45	May 18 1985
INSTANTANEOUS LOW FLOW			15	Jul 21	5.4	Aug 4 1994
ANNUAL RUNOFF (AC-FT)	33870		38020		33940	
ANNUAL RUNOFF (CFSM)	2.54		2.85		2.55	
ANNUAL RUNOFF (INCHES)	34.53		38.76		34.60	
10 PERCENT EXCEEDS	84		93		82	
50 PERCENT EXCEEDS	36		35		33	
90 PERCENT EXCEEDS	16		21		16	

e Estimated

RIO GRANDE DE ARECIBO BASIN

50028000 RIO TANAMA NEAR UTUADO, PR--Continued

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.--USD-49 sediment sampler since October 1968. 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 a local observer and automatic sediment sampler.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATIONS: Maximum daily mean, 20,400 mg/L November 27, 1968; minimum daily mean, <1 mg/L during water year 1985.

SEDIMENT LOADS: Maximum daily, 167,000 tons (152,000 tonnes) May 18, 1985, minimum daily, <0.01 ton (<0.01 tonne) several days during many years.

EXTREMES FOR CURRENT YEAR 1996.--
SEDIMENT CONCENTRATIONS: Maximum daily mean, 4,800 mg/L September 10, 1996; minimum daily mean, 3.0 mg/L March 7, 1996.
SEDIMENT LOADS: Maximum daily, 22,900 tons (20,800 tonnes) September 10,1996; minimum daily, 0.19 ton (0.17 tonne) May 1, 1996.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

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, 0.45 UM-MF (COLS./ 100 ML) (31616)	STREP-TOCOCCI FECAL, (COLS. PER 100 ML) (31679)
NOV 1995											
01...	1000	80	148	7.5	22.0	9.2	8.4	97	<10	300	3100
JAN 1996											
17...	1015	31	147	7.7	20.5	52	8.6	96	<10	2400	3600
FEB											
22...	1030	37	133	7.4	19.5	12	8.5	95	<10	49000	46000
APR											
15...	1200	25	165	7.4	23.5	1.6	8.0	96	12	K160	K170
JUN											
05...	1125	39	158	7.3	24.0	34	7.4	90	10	5900	K7000
AUG											
20...	1200	34	170	7.5	23.5	21	7.9	95	<10	2700	2000

DATE	HARD-NESS TOTAL (MG/L AS CACO3) (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)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (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 1995										
01...	58	14	5.5	7.6	0.4	1.7	48	<0.5	11	7.9
JAN 1996										
17...	--	--	--	--	--	--	44	--	--	--
FEB										
22...	--	--	--	--	--	--	33	--	--	--
APR										
15...	63	16	5.7	8.3	0.5	2.2	51	<0.5	11	8.3
JUN										
05...	--	--	--	--	--	--	61	--	--	--
AUG										
20...	68	18	5.6	7.8	0.4	2.7	62	--	12	8.6

K = non-ideal count

RIO GRANDE DE ARECIBO BASIN

50028000 RIO TANAMA NEAR UTUADO, PR--Continued

WATER-QUALITY DATA, WATER YEARS OCTOBER 1995 TO SEPTEMBER 1996

DATE	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	SOLIDS, DISSOLVED (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 1995										
01...	<0.10	25	101	21.9	8	1.10	<0.010	1.10	0.010	<0.20
JAN 1996										
17...	--	--	--	--	51	0.970	0.010	0.980	0.020	0.23
FEB										
22...	--	--	--	--	9	1.60	0.050	1.60	0.210	0.66
APR										
15...	<0.10	25	107	7.31	4	0.890	0.020	0.910	0.040	0.48
JUN										
05...	--	--	--	--	50	0.820	0.030	0.850	0.040	0.29
AUG										
20...	<0.10	22	114	10.6	16	1.07	0.030	1.10	0.150	0.47

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 1995										
01...	0.20	1.3	5.6	0.030	<1	<100	10	<1	<1	20
JAN 1996										
17...	0.25	1.2	5.4	0.020	--	--	--	--	--	--
FEB										
22...	0.87	0.87	11	0.140	--	--	--	--	--	--
APR										
15...	0.52	1.4	6.3	0.200	<1	<100	20	<1	<1	<10
JUN										
05...	0.33	1.2	5.2	0.040	--	--	--	--	--	--
AUG										
20...	0.62	1.7	7.6	0.400	--	--	--	--	--	--

DATE	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 (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)
NOV 1995										
01...	400	2	40	<0.10	<1	<1	<10	<0.010	<1	<0.02
JAN 1996										
17...	--	--	--	--	--	--	--	--	--	--
FEB										
22...	--	--	--	--	--	--	--	--	--	--
APR										
15...	220	<1	20	<0.10	<1	<1	<10	<0.010	3	<0.02
JUN										
05...	--	--	--	--	--	--	--	--	--	--
AUG										
20...	--	--	--	--	--	--	--	--	--	--

RIO GRANDE DE ARECIBO BASIN

50028000 RIO TANAMA NEAR UTUADO, 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	70	85	17	79	17	3.6	e48	43	e5.7
2	74	104	24	76	14	2.9	41	22	2.4
3	100	194	109	76	13	2.6	39	18	1.9
4	78	112	24	69	12	2.2	38	15	1.6
5	68	77	14	67	28	5.1	43	30	4.0
6	63	27	4.6	74	97	20	e43	39	e4.6
7	70	65	16	68	92	22	e36	25	e2.4
8	81	203	64	95	292	80	e36	18	e1.8
9	69	217	42	71	91	18	e36	20	e2.0
10	62	66	11	75	112	25	38	29	3.2
11	69	84	16	63	26	4.4	55	74	19
12	e179	934	e2380	59	22	3.5	43	39	4.7
13	e82	125	e33	64	45	9.5	37	25	2.5
14	e68	79	e14	60	116	19	36	19	1.8
15	e68	78	e14	60	72	12	35	15	1.4
16	e198	1670	e3990	56	61	9.2	34	12	1.1
17	e210	2020	e2550	56	58	8.8	34	11	1.0
18	e133	627	e483	53	39	5.6	39	14	1.5
19	e78	97	e21	51	21	2.9	39	19	2.0
20	e84	216	e72	49	12	1.6	34	25	2.3
21	181	1020	1570	48	11	1.5	34	27	2.5
22	106	183	53	47	11	1.3	33	30	2.7
23	100	102	28	46	10	1.2	33	29	2.6
24	100	49	13	50	29	4.6	32	20	1.7
25	129	514	341	47	44	5.6	31	13	1.1
26	101	164	45	66	103	26	36	31	4.5
27	131	406	304	53	53	7.8	36	30	3.1
28	127	361	217	44	27	3.2	36	54	5.2
29	100	112	31	43	16	1.9	31	52	4.3
30	89	28	6.7	54	44	9.6	30	33	2.7
31	83	21	4.6	---	---	---	29	19	1.5
TOTAL	3151	---	12511.9	1819	---	320.6	1145	---	98.8

e Estimated

RIO GRANDE DE ARECIBO BASIN

50028000 RIO TANAMA NEAR UTUADO, 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)
		JANUARY			FEBRUARY			MARCH	
1	30	11	.90	27	14	1.0	34	41	3.8
2	30	7	.57	26	12	.84	33	23	2.0
3	30	6	.46	26	10	.70	33	10	.91
4	29	5	.43	26	8	.58	34	5	.47
5	29	7	.53	25	7	.48	34	4	.38
6	31	7	.55	25	6	.41	33	4	.31
7	29	6	.50	27	6	.47	33	3	.28
8	29	6	.47	36	38	6.4	32	4	.33
9	29	6	.44	44	63	15	32	5	.42
10	29	5	.42	171	1430	4560	32	6	.50
11	28	5	.39	e52	58	e12	32	5	.44
12	28	5	.38	e25	20	e1.3	32	4	.38
13	28	5	.38	e25	19	e1.3	31	4	.34
14	47	33	8.0	e25	15	e1.1	33	8	.73
15	48	57	9.0	e29	12	e.94	48	44	6.1
16	33	22	2.0	28	10	.73	33	9	.89
17	33	18	1.6	28	10	.75	29	6	.48
18	30	13	1.1	29	11	.86	28	6	.45
19	33	21	1.9	27	12	.90	27	6	.44
20	31	14	1.2	42	49	15	26	6	.41
21	30	11	.88	60	100	35	25	6	.40
22	28	10	.74	154	876	1530	25	6	.40
23	27	10	.70	148	788	918	24	5	.35
24	27	12	.86	121	317	165	23	5	.29
25	35	24	2.5	e68	92	e19	22	4	.26
26	35	24	2.3	e53	36	e5.2	22	6	.37
27	36	27	2.6	e51	21	e2.9	23	9	.57
28	50	60	8.6	e38	24	e2.6	22	9	.52
29	37	62	6.5	36	33	3.2	22	13	.75
30	31	19	1.6	---	---	---	26	38	2.8
31	28	15	1.2	---	---	---	43	72	13
TOTAL	998	---	59.70	1472	---	7301.66	926	---	39.77

e Estimated

RIO GRANDE DE ARECIBO BASIN

50028000 RIO TANAMA NEAR UTUADO, 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)
		APRIL			MAY			JUNE	
1	56	91	25	20	4	.19	e74	97	e20
2	34	187	17	20	5	.28	e66	78	e15
3	40	158	18	19	9	.48	e41	52	e5.8
4	48	60	13	19	15	.76	e58	89	e17
5	39	33	3.7	19	13	.67	e53	119	e20
6	55	223	79	21	11	.59	52	60	11
7	37	201	24	20	9	.52	e37	31	e3.1
8	28	44	3.3	20	10	.55	35	28	2.6
9	26	42	2.9	20	12	.61	33	25	2.2
10	24	37	2.4	20	12	.66	32	22	1.9
11	24	25	1.6	58	691	512	35	22	2.1
12	41	36	4.5	35	35	3.9	37	32	3.9
13	33	27	2.5	23	21	1.3	34	26	2.4
14	26	16	1.2	21	16	.92	40	32	4.7
15	25	10	.71	21	13	.74	45	41	5.4
16	23	7	.46	26	17	1.2	38	29	3.1
17	23	8	.52	59	105	44	36	21	2.2
18	33	26	3.2	31	26	2.3	34	24	2.2
19	52	301	161	33	26	3.0	38	36	5.9
20	32	23	2.0	36	60	6.7	37	35	4.2
21	26	17	1.2	39	90	11	28	14	1.0
22	24	15	.93	35	27	2.9	27	11	.78
23	23	15	.95	26	15	1.0	26	10	.66
24	23	17	1.0	23	14	.87	30	20	2.1
25	22	19	1.1	29	22	3.0	26	11	.74
26	21	19	1.1	55	169	51	24	5	.34
27	22	19	1.1	124	664	822	35	35	6.2
28	21	18	1.0	58	70	12	27	16	1.2
29	21	11	.61	50	54	9.2	25	10	.64
30	20	6	.33	e106	608	e958	24	10	.64
31	---	---	---	e67	75	e15	---	---	---
TOTAL	922	---	375.31	1153	---	2467.34	1127	---	149.00

e Estimated

RIO GRANDE DE ARECIBO BASIN

50028000 RIO TANAMA NEAR UTUADO, 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)
		JULY			AUGUST			SEPTEMBER	
1	23	11	.70	31	58	7.6	25	21	1.4
2	23	11	.71	105	638	951	23	10	.62
3	22	10	.58	43	46	5.6	22	5	.28
4	21	8	.47	32	26	2.2	48	146	60
5	21	7	.42	27	20	1.5	176	1010	2850
6	21	9	.51	26	16	1.1	e71	84	e16
7	21	11	.61	26	13	.89	57	61	9.4
8	48	60	17	28	12	.88	74	96	20
9	46	53	10	32	11	.92	e58	39	6.2
10	20	9	.50	41	32	5.2	1390	4800	22900
11	18	6	.32	49	60	13	439	2580	3730
12	26	16	1.3	114	420	634	224	158	106
13	20	11	.57	44	52	6.6	153	82	34
14	18	10	.51	37	27	2.9	153	200	95
15	19	11	.57	32	23	2.0	145	371	192
16	17	13	.58	31	18	1.5	117	208	66
17	16	14	.61	29	17	1.3	121	237	81
18	22	24	1.9	39	102	20	e107	104	e31
19	19	29	1.5	63	279	97	92	46	11
20	16	26	1.1	55	65	14	87	24	5.7
21	15	19	.81	39	36	3.8	82	16	3.5
22	15	14	.56	46	61	17	78	21	4.5
23	15	11	.44	46	47	6.1	75	30	6.1
24	19	9	.47	64	146	39	74	45	8.9
25	20	8	.44	41	115	14	139	512	1040
26	19	8	.40	31	20	1.7	e97	97	26
27	18	12	.59	28	17	1.3	e75	40	8.2
28	19	19	.98	32	46	5.3	79	73	18
29	18	23	1.2	67	151	78	71	83	16
30	17	14	.62	39	58	6.3	108	417	299
31	20	17	1.2	28	43	3.3	---	---	---
TOTAL	652	---	48.17	1345	---	1944.99	4460	---	31645.80
YEAR	19170		56963.04						

e Estimated

RIO GRANDE DE ARECIBO BASIN

50028000 RIO TANAMA NEAR UTUADO, PR--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

PARTICLE-SIZE DISTRIBUTION 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. 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 1995							
17...	1903	787	17500	37200	23	34	43
FEB 1996							
10...	1845	1000	12400	33500	19	27	33
MAY							
11...	2005	284	18400	14100	9	14	16
SEP							
04...	1600	131	2090	738	66	84	86
10...	0120	213	29700	17100	7	9	11

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 1995							
17...	56	69	80	92	98	99	100
FEB 1996							
10...	44	55	67	81	90	97	100
MAY							
11...	22	31	43	73	97	99	100
SEP							
04...	88	90	100	100	100	100	100
10...	17	28	50	85	99	100	100

RIO GRANDE DE ARECIBO BASIN

50028000 RIO TANAMA NEAR UTUADO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

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 1995					
09...	0756	70	274	52	96
16...	1900	413	6180	6890	87
17...	1645	586	1430	2260	74
17...	1903	787	17500	37200	80
17...	2135	167	16700	7530	82
25...	2025	278	3070	2300	78
27...	1540	315	1920	1630	80
NOV					
08...	0836	75	439	88	99
JAN 1996					
29...	0841	38	85	8.7	92
FEB					
10...	1845	1000	12400	33500	67
10...	2055	402	5930	6440	81
22...	1610	820	2240	4960	83
23...	1640	961	6070	15700	76
23...	2025	225	4410	2680	67
24...	0920	85	126	29	92
APR					
07...	0855	37	266	27	97
MAY					
11...	2005	284	18400	14100	43
SEP					
04...	1600	131	2090	739	100
10...	0120	213	29700	17100	50

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 at 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.--57.6 mi² (149.2 km²).

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 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	186	e160	99	61	57	e75	85	55	121	e55	50	97
2	328	e150	78	59	55	e70	98	45	128	e52	137	86
3	240	e150	76	58	54	e68	57	45	102	e50	94	91
4	218	e140	74	58	53	e67	83	44	101	e49	60	118
5	210	e140	72	57	52	e66	86	44	123	e48	51	249
6	158	e150	83	58	51	e64	85	42	97	e47	46	241
7	134	e140	74	58	55	e62	93	43	78	e47	44	127
8	140	e230	72	57	60	e60	61	41	92	e80	50	172
9	144	e200	73	56	88	59	56	42	82	e110	48	e143
10	120	e150	70	57	231	59	56	41	72	61	45	e1360
11	126	e130	79	59	145	57	53	48	75	51	103	e852
12	222	e120	99	56	e75	57	63	108	70	56	e367	e673
13	226	e130	72	54	e65	55	75	61	79	59	284	e482
14	e145	e120	69	58	e61	59	55	46	71	49	101	e350
15	e140	e125	68	134	e59	116	55	45	85	50	87	339
16	e200	e115	67	81	e58	99	50	51	85	46	73	274
17	332	e110	68	65	e58	74	49	74	72	43	103	243
18	263	e105	91	59	e80	65	57	82	73	43	116	256
19	e190	e100	78	57	e70	56	81	53	67	75	169	225
20	e170	e96	71	64	e80	54	86	69	86	125	191	200
21	e220	e92	67	60	e100	54	55	64	65	59	158	179
22	e250	e88	67	56	e300	53	52	72	62	44	100	154
23	e150	86	66	55	e410	53	51	53	60	42	128	141
24	e160	85	74	53	e218	53	52	48	59	41	133	131
25	e140	90	70	61	e180	51	54	45	66	42	137	193
26	312	87	69	72	e110	50	61	69	58	41	92	158
27	380	117	75	78	e90	51	84	146	66	38	85	134
28	302	83	68	99	e80	47	64	123	e80	39	e82	e124
29	e240	81	62	94	e78	53	59	85	e65	54	e135	e121
30	e200	78	61	67	---	51	57	e248	e60	40	e340	155
31	e170	---	61	60	---	61	---	166	---	40	142	---
TOTAL	6416	3648	2273	2021	3073	1919	1973	2198	2400	1676	3751	8068
MEAN	207	122	73.3	65.2	106	61.9	65.8	70.9	80.0	54.1	121	269
MAX	380	230	99	134	410	116	98	248	128	125	367	1360
MIN	120	78	61	53	51	47	49	41	58	38	44	86
AC-FT	12730	7240	4510	4010	6.00	3810	3910	4360	4760	3320	7440	16000
CFSM	3.59	2.11	1.27	1.13	1.84	1.07	1.14	1.23	1.39	.94	2.10	4.67
IN.	4.14	2.36	1.47	1.31	1.98	1.24	1.27	1.42	1.55	1.08	2.42	5.21

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1969 - 1996, BY WATER YEAR (WY)

MEAN	164	134	78.7	54.4	49.3	42.1	68.0	132	90.6	64.6	75.1	126
MAX	335	260	219	90.8	106	70.0	141	371	196	120	125	269
(WY)	1990	1982	1982	1982	1996	1971	1986	1986	1995	1969	1991	1996
MIN	72.1	50.4	36.4	22.3	16.7	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 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1969 - 1996	
ANNUAL TOTAL	40450		39416			
ANNUAL MEAN	111		108		87.7	
HIGHEST ANNUAL MEAN					124	1986
LOWEST ANNUAL MEAN					46.9	1994
HIGHEST DAILY MEAN	1090	Sep 16	1360	Sep 10	2500	Oct 7 1985
LOWEST DAILY MEAN	27	Jan 11	38	Jul 27	4.2	May 28 1989
ANNUAL SEVEN-DAY MINIMUM	28	Feb 1	41	Jul 22	5.4	May 22 1989
INSTANTANEOUS PEAK FLOW			7380	Sep 10	15000	May 18 1985
INSTANTANEOUS PEAK STAGE			15.09	Sep 10	17.95	May 18 1985
ANNUAL RUNOFF (AC-FT)	80230		78180		63560	
ANNUAL RUNOFF (CFSM)	1.92		1.87		1.52	
ANNUAL RUNOFF (INCHES)	26.12		25.46		20.70	
10 PERCENT EXCEEDS	240		200		177	
50 PERCENT EXCEEDS	74		74		64	
90 PERCENT EXCEEDS	31		49		28	

e Estimated

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, 8.3 mi (13.4 km) downstream from Dos Bocas Reservoir, 1.9 mi (3.1 km) downstream from Río 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 1995 TO SEPTEMBER 1996

DATE	TIME	DISCHARGE, 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, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	OXYGEN DEMAND, CHEMICAL (HIGH LEVEL) (MG/L) (00340)	COLIFORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)	STREPTOCOCCI FECAL, (COLS. PER 100 ML) (31679)
NOV 1995											
08...	1000	E300	232	7.6	24.5	39	7.1	83	<10	K1700	K1300
JAN 1996											
24...	1025	165	260	8.0	23.0	0.80	7.2	82	<10	280	K140
FEB											
20...	1215	124	270	7.9	25.0	5.5	7.5	90	<10	570	310
APR											
11...	1115	201	245	7.4	25.0	1.1	7.1	85	<10	250	K100
JUN											
24...	1255	120	277	7.7	28.0	2.1	7.7	97	12	220	K50
SEP											
03...	1300	146	312	7.8	27.0	5.6	7.9	99	<10	K1100	230

DATE	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	SODIUM ADSORPTION RATIO (00931)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ALKALINITY WAT WH TOT FET FIELD MG/L AS CACO3 (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)
NOV 1995										
08...	130	39	6.9	20	0.8	2.2	97	<0.5	9.9	12
JAN 1996										
24...	--	--	--	--	--	--	110	--	--	--
FEB										
20...	--	--	--	--	--	--	130	--	--	--
APR										
11...	100	30	6.1	9.7	0.4	2.2	97	<0.5	12	11
JUN										
24...	--	--	--	--	--	--	110	--	--	--
SEP										
03...	150	53	5.2	7.1	0.2	1.8	110	--	11	10

DATE	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	SOLIDS, DISSOLVED (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 1995										
08...	<0.10	18	166	E140	24	0.910	0.010	0.920	0.020	0.32
JAN 1996										
24...	--	--	--	--	13	0.700	<0.010	0.700	0.040	<0.17
FEB										
20...	--	--	--	--	12	0.820	0.010	0.830	0.060	<0.20
APR										
11...	<0.10	17	146	79.2	6	0.530	<0.010	0.530	0.020	<0.18
JUN										
24...	--	--	--	--	8	0.550	0.010	0.560	0.020	<0.20
SEP										
03...	<0.10	13	167	65.9	15	0.890	0.010	0.900	0.010	<0.20

E = estimated
K = non-ideal count

RIO GRANDE DE ARECIBO BASIN

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

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 1995										
08...	0.34	1.3	5.6	0.060	<1	<100	20	<1	2	10
JAN 1996										
24...	<0.21	0.91	4.0	<0.020	--	--	--	--	--	--
FEB										
20...	<0.26	1.0	4.4	0.070	--	--	--	--	--	--
APR										
11...	<0.20	0.73	3.2	0.040	<1	<100	30	<1	<1	<10
JUN										
24...	<0.22	0.74	3.3	<0.020	--	--	--	--	--	--
SEP										
03...	<0.21	1.1	4.8	0.060	--	--	--	--	--	--

DATE	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 (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)
NOV 1995										
08...	880	<1	80	<0.10	<1	<1	<10	<0.010	<1	<0.02
JAN 1996										
24...	--	--	--	--	--	--	--	--	--	--
FEB										
20...	--	--	--	--	--	--	--	--	--	--
APR										
11...	220	<1	30	<0.10	<1	<1	<10	<0.010	<1	<0.02
JUN										
24...	--	--	--	--	--	--	--	--	--	--
SEP										
03...	--	--	--	--	--	--	--	--	--	--

PESTICIDE ANALYSES

DATE	TIME	PCB, TOTAL (UG/L) (39516)	ALDRIN, TOTAL (UG/L) (39330)	CHLORDANE, TECHNICAL TOTAL (UG/L) (39350)	P,P'-DDD UNFILT RECOVER (UG/L) (39360)	DDE, TOTAL (UG/L) (39365)	P,P'-DDT UNFILT RECOVER (UG/L) (39370)	DIAZINON, TOTAL (UG/L) (39570)	DIELDRIN TOTAL (UG/L) (39380)	ENDOSULFAN, I TOTAL (UG/L) (39388)
JUN 1996										
24...	1255	<0.100	<0.010	<0.100	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010

DATE	ENDRIN WATER UNFLTRD REC (UG/L) (39390)	ETHION, TOTAL (UG/L) (39398)	HEPTACHLOR, TOTAL (UG/L) (39410)	HEPTACHLOR EPOXIDE TOTAL (UG/L) (39420)	LINDANE TOTAL (UG/L) (39340)	MALATHION, TOTAL (UG/L) (39530)	METHOXYCHLOR, TOTAL (UG/L) (39480)	METHYL PARATHION, TOTAL (UG/L) (39600)	MIREX, TOTAL (UG/L) (39755)
JUN 1996									
24...	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010

DATE	PARATHION, TOTAL (UG/L) (39540)	PCNS UNFILT RECOVER (UG/L) (39250)	PERTHANE TOTAL (UG/L) (39034)	TOXAPHENE, TOTAL (UG/L) (39400)	TOTAL TRITHION (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)
JUN 1996									
24...	<0.010	<0.100	<0.100	<1.00	<0.010	0.050	<0.010	<0.010	<0.010

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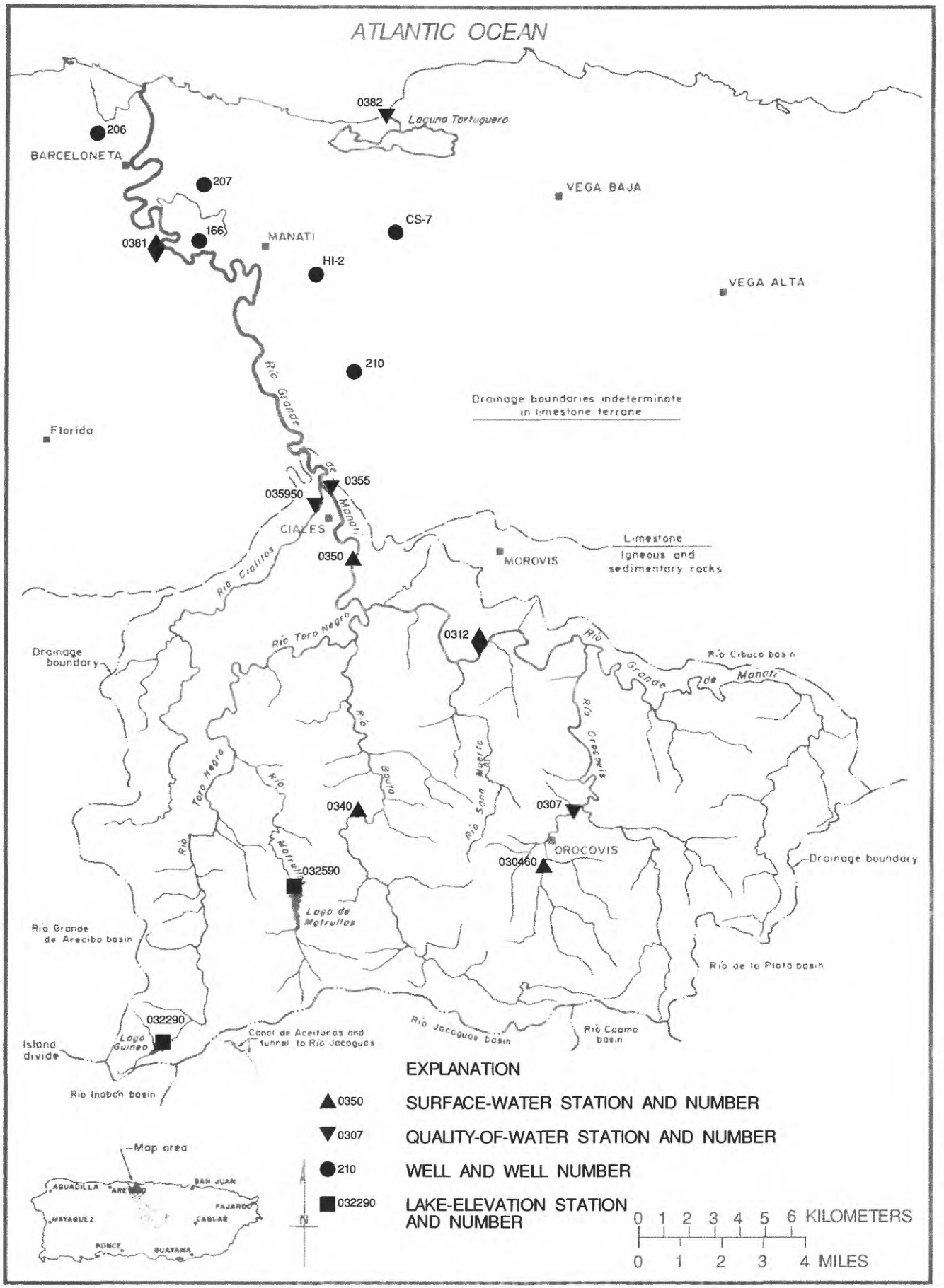

Figure 16.--Río Grande de Manatí basin.

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 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.4	3.5	3.8	e2.5	e3.2	e7.1	e1.5	e2.4	e2.6	e1.7	e1.5	e1.2
2	5.2	3.3	3.7	e2.7	e3.3	e5.9	e1.1	e2.3	e2.8	e1.7	e1.5	e1.5
3	4.6	5.3	3.7	e2.7	e3.1	e5.2	e3.2	e2.3	e2.9	e1.7	e1.5	e1.3
4	4.9	3.2	3.8	e2.5	e1.9	e4.8	e10	e2.2	e3.4	e1.6	e1.5	e5.2
5	4.0	2.7	3.5	e1.9	e2.2	e4.7	e8.6	e2.3	e2.3	e1.5	e1.5	e10
6	3.2	6.4	3.4	e3.0	e2.0	e4.3	e8.4	e2.2	e1.8	e1.6	e1.3	e4.3
7	2.7	12	2.6	e2.2	e2.8	e4.4	e7.8	e2.1	e1.6	e2.7	e1.3	e2.0
8	2.8	8.4	3.0	e2.4	e3.2	e3.6	e3.8	e2.2	e1.9	e100	e1.3	e3.0
9	2.5	4.2	2.9	e2.3	e2.9	e3.7	e2.3	e2.1	e2.6	e90	e1.3	e145
10	4.5	3.9	2.7	e2.3	e3.0	e2.9	e1.9	e2.1	e2.4	e14	e1.4	1570
11	4.7	3.0	2.4	e1.8	e2.5	e6.2	e1.8	e1.8	e1.9	e5.5	e1.6	292
12	3.0	2.3	2.5	e1.7	e2.5	e3.8	e1.9	e1.5	e2.2	e5.5	e1.6	54
13	2.0	33	2.9	e1.3	e3.4	e2.3	e10	e2.1	e2.3	e3.6	e1.3	21
14	1.6	11	2.5	e4.5	e1.9	e2.9	e11	e2.1	e2.1	e4.4	e1.3	12
15	1.6	58	2.7	e22	e1.8	e3.3	e10	e9.8	e5.7	e19	e1.3	7.1
16	3.5	36	2.6	e4.7	e1.9	e3.2	e4.4	e3.9	e3.5	e4.2	e1.5	5.7
17	4.5	16	3.8	e3.1	e2.4	e2.6	e3.1	e17	e2.9	e2.5	e1.5	5.7
18	14	11	11	e2.1	e2.5	e2.4	e3.0	e9.9	e3.5	e1.9	e1.3	4.0
19	8.3	7.9	e8.4	e2.2	e2.0	e2.3	e2.0	e14	e2.5	e1.5	e1.3	8.3
20	3.6	7.4	e3.9	e4.6	e1.6	e2.3	e2.5	e11	e2.7	e1.4	e2.1	4.9
21	29	10	e3.7	e3.8	e26	e1.9	e2.7	e2.6	e2.5	e1.4	e1.4	3.9
22	11	7.5	e3.6	e2.0	e22	e1.7	e3.1	e2.1	e2.5	e1.4	e1.6	3.2
23	9.2	5.9	e6.9	e1.4	e48	e1.8	e2.8	e4.0	e1.8	e1.4	e1.6	3.0
24	44	5.8	e5.0	e1.4	e169	e1.8	e2.9	e2.1	e1.7	e1.3	e1.4	2.8
25	21	5.0	e3.3	e4.9	e73	e1.6	e2.6	e2.1	e1.7	e1.4	e1.3	2.8
26	22	4.8	e2.9	e16	e31	e1.5	e2.4	e2.4	e1.7	e1.4	e1.3	2.9
27	14	4.5	e3.6	e48	e18	e1.4	e2.4	e2.9	e1.8	e1.3	e1.3	3.4
28	28	4.1	e4.0	e38	e9.6	e1.5	e2.9	e2.8	e1.8	e1.3	e1.3	4.1
29	12	4.0	e3.3	e28	e8.8	e1.7	e2.6	e3.3	e1.7	e1.4	e1.2	3.5
30	6.0	4.9	e2.6	e13	---	e1.3	e2.7	e2.7	e1.8	e1.4	e1.2	3.4
31	4.0	---	e2.3	e6.2	---	e1.1	---	e2.5	---	e1.4	e1.2	---
TOTAL	286.8	295.0	117.0	235.2	455.5	95.2	125.4	124.8	72.6	281.1	43.7	2191.2
MEAN	9.25	9.83	3.77	7.59	15.7	3.07	4.18	4.03	2.42	9.07	1.41	73.0
MAX	44	58	11	48	169	7.1	11	17	5.7	100	2.1	1570
MIN	1.6	2.3	2.3	1.3	1.6	1.1	1.1	1.5	1.6	1.3	1.2	1.2
AC-FT	569	585	232	467	903	189	249	248	144	558	87	4350
CFSM	1.84	1.95	.75	1.51	3.12	.61	.83	.80	.48	1.80	.28	14.5
IN.	2.12	2.18	.87	1.74	3.37	.70	.93	.92	.54	2.08	.32	16.21

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1981 - 1996, BY WATER YEAR (WY)

MEAN	17.3	6.79	5.03	6.39	3.65	1.83	5.65	15.3	4.71	3.77	3.68	21.3
MAX	58.0	15.2	15.8	34.3	15.7	3.07	21.0	45.9	15.2	9.07	12.3	73.0
(WY)	1990	1991	1982	1992	1996	1996	1993	1995	1992	1996	1989	1996
MIN	1.95	1.56	.65	.77	.96	.90	.93	1.42	.88	.88	1.03	.88
(WY)	1994	1995	1995	1995	1995	1994	1995	1989	1994	1994	1982	1994

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1981 - 1996	
ANNUAL TOTAL	4175.79		4323.5			
ANNUAL MEAN	11.4		11.8		7.84	
HIGHEST ANNUAL MEAN					11.8	1996
LOWEST ANNUAL MEAN					1.49	1994
HIGHEST DAILY MEAN	445	Sep 16	1570	Sep 10	1570	Sep 10 1996
LOWEST DAILY MEAN	.44	Mar 29	1.1	Mar 31	.20	Oct 4 1992
ANNUAL SEVEN-DAY MINIMUM	.46	Mar 29	1.2	Aug 26	.33	Oct 11 1992
INSTANTANEOUS PEAK FLOW			8890	Sep 10	8890	Sep 10 1996
INSTANTANEOUS PEAK STAGE			17.38	Sep 10	17.38	Sep 10 1996
ANNUAL RUNOFF (AC-FT)	8280		8580		5680	
ANNUAL RUNOFF (CFSM)	2.27		2.35		1.56	
ANNUAL RUNOFF (INCHES)	30.88		31.97		21.18	
10 PERCENT EXCEEDS	23		12		12	
50 PERCENT EXCEEDS	2.3		2.8		1.9	
90 PERCENT EXCEEDS	.61		1.4		.87	

e Estimated

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 1995 TO SEPTEMBER 1996

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, 0.45 UM-MF (COLS./ 100 ML) (31616)	STREP-TOCOCCI FECAL, (COLS. PER 100 ML) (31679)
NOV 1995											
02...	1440	14	275	8.0	24.0	4.0	7.5	92	<10	2700	860
JAN 1996											
12...	0835	8.9	294	8.3	20.5	2.2	8.1	92	<10	K1700	870
FEB											
12...	1300	8.0	313	8.0	21.0	2.1	8.1	96	<10	3800	K200
APR											
04...	0950	17	218	7.3	20.5	39	8.1	94	16	K10000	2800
JUN											
18...	0740	7.5	336	8.0	22.5	1.1	7.9	95	<10	<10	830
AUG											
27...	1140	5.5	333	8.0	24.5	2.7	7.9	99	<10	2000	390

DATE	HARD-NESS TOTAL (MG/L AS CACO3) (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)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (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 1995										
02...	120	30	11	12	0.5	1.7	110	<0.5	8.6	15
JAN 1996										
12...	--	--	--	--	--	--	130	--	--	--
FEB										
12...	--	--	--	--	--	--	140	--	--	--
APR										
04...	100	26	8.5	12	0.5	2.5	74	<0.5	10	14
JUN										
18...	--	--	--	--	--	--	150	--	--	--
AUG										
27...	150	37	13	14	0.5	2.0	150	--	8.7	17

K = non-ideal count

RIO GRANDE DE MANATI BASIN

50030700 RIO OROCOVIS NEAR OROCOVIS, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DATE	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	SOLIDS, DISSOLVED (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 1995										
02...	0.10	31	179	6.89	<1	0.840	0.010	0.850	0.030	0.21
JAN 1996										
12...	--	--	--	--	6	0.890	0.040	0.930	0.150	0.14
FEB										
12...	--	--	--	--	1	1.19	0.110	1.30	0.720	0.48
APR										
04...	<0.10	25	142	6.36	46	1.36	0.040	1.40	0.160	0.45
JUN										
18...	--	--	--	--	8	1.19	0.010	1.20	0.020	0.22
AUG										
27...	<0.10	35	213	3.22	2	1.11	0.090	1.20	0.200	0.51

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 1995										
02...	0.24	1.1	4.8	0.080	<1	100	40	<1	<1	<10
JAN 1996										
12...	0.29	1.2	5.4	0.090	--	--	--	--	--	--
FEB										
12...	1.2	2.5	11	0.760	--	--	--	--	--	--
APR										
04...	0.61	2.0	8.9	0.140	<1	<100	20	<1	3	30
JUN										
18...	0.24	1.4	6.4	0.100	--	--	--	--	--	--
AUG										
27...	0.71	1.9	8.5	0.190	--	--	--	--	--	--

DATE	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 (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)
NOV 1995										
02...	270	<1	40	<0.10	<1	<1	<10	<0.010	6	<0.02
JAN 1996										
12...	--	--	--	--	--	--	--	--	--	--
FEB										
12...	--	--	--	--	--	--	--	--	--	--
APR										
04...	2100	<1	100	<0.10	<1	<1	<10	<0.010	<1	<0.02
JUN										
18...	--	--	--	--	--	--	--	--	--	--
AUG										
27...	--	--	--	--	--	--	--	--	--	--

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 pumpage, about 300 ft (91 m) above the station, influences low-flow discharges. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	41	73	53	37	e52	e39	25	26	e62	16	21	49
2	75	93	52	36	e47	e37	22	24	e73	15	20	95
3	131	138	52	36	e42	e36	95	23	e40	15	21	26
4	60	105	47	34	e40	e36	150	22	e38	15	30	e103
5	42	94	48	33	e37	e37	154	21	e43	14	34	e300
6	34	179	46	54	e37	38	131	21	e42	13	25	e250
7	33	143	46	44	e37	32	70	23	e35	13	22	e74
8	35	114	48	43	e60	32	40	29	e32	e27	27	e88
9	29	315	52	47	e140	29	31	54	e30	e250	20	e100
10	28	e920	45	44	e96	27	26	34	e28	e50	20	7500
11	34	e200	45	37	e72	28	28	31	e28	e33	20	772
12	32	e140	44	47	e54	34	103	25	e27	e31	19	e450
13	28	e112	54	38	46	26	173	23	e27	e31	21	e390
14	28	e150	52	35	45	32	93	23	e28	e43	25	e350
15	24	e112	45	e200	44	38	88	74	e35	e49	35	e330
16	24	e200	46	e70	41	31	82	158	e50	e43	72	e370
17	96	e150	63	e50	41	27	63	64	e42	44	80	e300
18	52	e120	169	e43	51	25	49	95	e38	33	34	e210
19	46	e107	204	e56	47	24	49	44	41	27	26	e170
20	33	e88	101	e70	e45	24	48	77	30	24	23	e160
21	185	e86	69	e80	e80	23	37	40	24	22	24	e120
22	217	e100	57	e47	e110	22	36	28	22	20	22	e110
23	112	e82	57	e42	e140	22	36	26	21	19	22	e100
24	278	e70	53	e40	e170	21	34	24	19	19	62	83
25	246	e70	46	e54	e180	21	30	22	18	23	30	80
26	168	e66	49	e100	e70	22	27	e110	17	22	23	78
27	185	e64	49	e142	e50	27	26	e142	22	19	21	76
28	203	e62	55	e210	e45	23	26	e140	22	19	21	73
29	192	57	45	e130	e40	22	27	e66	18	20	22	81
30	109	57	43	e66	---	24	33	e78	17	20	21	70
31	87	---	38	e60	---	22	---	e90	---	21	20	---
TOTAL	2887	4267	1873	2025	1959	881	1832	1657	969	1010	883	12958
MEAN	93.1	142	60.4	65.3	67.6	28.4	61.1	53.5	32.3	32.6	28.5	432
MAX	278	920	204	210	180	39	173	158	73	250	80	7500
MIN	24	57	38	33	37	21	22	21	17	13	19	26
AC-FT	5730	8460	3720	4020	3890	1750	3630	3290	1920	2000	1750	25700
CFSM	1.69	2.58	1.09	1.18	1.22	.51	1.11	.97	.59	.59	.52	7.82
IN.	1.95	2.88	1.26	1.36	1.32	.59	1.23	1.12	.65	.68	.60	8.73

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 1996, BY WATER YEAR (WY)

MEAN	155	145	109	77.5	63.0	64.5	108	161	61.4	46.3	55.1	104
MAX	1037	491	522	191	179	226	412	915	173	157	435	432
(WY)	1971	1971	1966	1992	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 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1965 - 1996	
ANNUAL TOTAL	22210.1		33201			
ANNUAL MEAN	60.8		90.7		95.6	
HIGHEST ANNUAL MEAN					248	1971
LOWEST ANNUAL MEAN					24.2	1994
HIGHEST DAILY MEAN	1340	Sep 16	7500	Sep 10	17100	May 18 1985
LOWEST DAILY MEAN	3.5	May 1	13	Jul 6	3.5	May 1 1995
ANNUAL SEVEN-DAY MINIMUM	4.1	Apr 26	14	Jul 1	4.0	Jul 22 1994
INSTANTANEOUS PEAK FLOW			47700	Sep 10	48000	May 18 1985
INSTANTANEOUS PEAK STAGE			18.83	Sep 10	17.89	May 18 1985
ANNUAL RUNOFF (AC-FT)	44050		65850		69250	
ANNUAL RUNOFF (CFSM)	1.10		1.64		1.73	
ANNUAL RUNOFF (INCHES)	14.97		22.37		23.53	
10 PERCENT EXCEEDS	150		151		172	
50 PERCENT EXCEEDS	26		43		48	
90 PERCENT EXCEEDS	5.6		21		21	

e Estimated

RIO GRANDE DE MANATI BASIN

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

WATER-QUALITY RECORDS

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

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, 0.45 UM-MF (COLS./ 100 ML) (31616)	STREP-TOCOCCI FECAL, (COLS. PER 100 ML) (31679)
NOV 1995											
02...	1245	65	265	8.0	25.0	8.3	7.8	94	<10	570	260
JAN 1996											
12...	1025	47	270	8.3	23.0	7.2	8.4	97	<10	290	K160
FEB											
12...	1140	45	278	8.1	23.5	7.4	8.7	104	15	K720	220
APR											
08...	0930	42	240	7.6	24.0	77	7.0	84	16	3400	K1200
JUN											
18...	1025	40	235	7.8	26.0	64	7.4	92	15	K10	K1500
AUG											
27...	0940	21	265	8.1	26.0	2.1	7.9	98	<10	K130	200

DATE	HARD-NESS TOTAL (MG/L AS CACO3) (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)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (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 1995										
02...	100	26	9.2	11	0.5	2.2	110	<0.5	8.9	15
JAN 1996										
12...	--	--	--	--	--	--	110	--	--	--
FEB										
12...	--	--	--	--	--	--	110	--	--	--
APR										
08...	99	24	9.4	11	0.5	2.7	89	<0.5	9.9	15
JUN										
18...	--	--	--	--	--	--	89	--	--	--
AUG										
27...	120	28	11	12	0.5	2.0	130	--	8.2	15

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)	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 1995										
02...	0.20	26	164	28.8	4	0.790	0.010	0.800	0.020	0.28
JAN 1996										
12...	--	--	--	--	12	0.720	0.010	0.730	0.030	0.32
FEB										
12...	--	--	--	--	10	0.490	0.010	0.500	0.030	0.56
APR										
08...	0.10	25	150	17.0	74	1.17	0.030	1.20	0.080	0.46
JUN										
18...	--	--	--	--	47	0.890	0.040	0.930	0.070	0.51
AUG										
27...	0.10	25	179	10.2	5	0.450	0.010	0.460	0.050	0.32

K = non-ideal count

RIO GRANDE DE MANATI BASIN

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

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 1995										
02...	0.30	1.1	4.9	0.060	<1	<100	30	<1	1	<10
JAN 1996										
12...	0.35	1.1	4.8	0.040	--	--	--	--	--	--
FEB										
12...	0.59	1.1	4.7	0.050	--	--	--	--	--	--
APR										
08...	0.54	1.7	7.7	0.140	<1	100	20	<1	6	20
JUN										
18...	0.58	1.5	6.7	0.130	--	--	--	--	--	--
AUG										
27...	0.37	0.83	3.7	0.050	--	--	--	--	--	--

DATE	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 (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)
NOV 1995										
02...	470	<1	40	<0.10	<1	<1	<10	<0.010	2	<0.02
JAN 1996										
12...	--	--	--	--	--	--	--	--	--	--
FEB										
12...	--	--	--	--	--	--	--	--	--	--
APR										
08...	2800	1	130	<0.10	<1	<1	<10	<0.010	<1	<0.02
JUN										
18...	--	--	--	--	--	--	--	--	--	--
AUG										
27...	--	--	--	--	--	--	--	--	--	--

RIO GRANDE DE MANATI BASIN

50032290 LAGO EL GUINEO AT DAMSITE NEAR VILLALBA, PR

LOCATION.--Lat 18°09'41", long 66°31'36", Hydrologic Unit 21010001, at damsite on Rio 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 Rio Toro Negro and coveyed 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 2,966 ft (904 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 2,961.70 ft (902.73 m), Oct. 21, 1990; minimun elevation, 2,919.79 ft (899.95 m), May 27, 1988.

EXTREMES OBSERVED FOR CURRENT YEAR.--Maximum elevation, 2,961.39 ft (902.63 m), Sep. 10; minimun elevation, 2,936.59 ft (895.07 m), July 5.

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	2,943	1,029
2,919	361	2,950	1,308
2,925	491	2,961	1,852

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2959.58	A	A	2957.52	2958.91	2958.62	2954.85	2946.23	2943.17	2938.91	2943.23	2942.11
2	2959.35	A	A	2957.43	2958.67	2958.64	2954.28	2945.82	2943.38	2937.73	2943.62	2942.26
3	2959.54	A	A	2957.50	2958.76	2958.66	2955.55	2945.16	2943.39	2937.33	2943.96	2943.48
4	2960.14	A	A	2957.58	2958.82	2958.71	2956.32	2945.24	2943.67	2936.81	2944.22	2943.07
5	A	A	A	2957.64	2958.41	2958.73	2956.57	2945.32	2944.14	2936.85	2944.07	2942.54
6	A	A	A	2957.73	2957.78	2958.77	2956.75	2944.86	2944.33	2937.01	2943.71	2941.91
7	A	A	A	2957.81	2957.22	2958.85	2956.89	2943.79	2944.02	2937.18	2943.03	2942.08
8	A	A	A	2957.98	2956.58	2958.92	2956.19	2942.70	2943.40	2939.71	2943.16	2942.31
9	A	A	A	2957.86	2956.03	2959.08	2955.29	2941.90	2942.80	2941.41	2942.81	2941.61
10	A	A	A	2957.71	2956.50	2959.19	2954.38	2941.15	2942.39	2941.92	2943.08	2961.05
11	A	A	2959.75	2957.52	2956.64	2959.42	2953.95	2941.25	2942.59	2941.55	2943.56	2960.93
12	A	A	2959.34	2957.59	2956.20	2959.54	2953.47	2941.36	2941.91	2941.23	2942.90	2960.82
13	A	A	2959.02	2957.73	2955.60	2959.64	2953.60	2940.47	2941.90	2941.51	2942.83	2960.86
14	A	A	2958.65	2958.52	2955.19	2959.73	2953.76	2939.21	2941.90	2942.42	2942.72	2960.88
15	A	A	2958.57	2958.76	2954.79	2959.80	2953.87	2938.66	2944.01	2943.07	2942.35	2960.82
16	A	A	2958.64	2958.87	2954.44	2959.91	2953.37	2939.35	2944.34	2942.84	2942.15	2960.75
17	A	A	2958.74	2958.84	2954.79	2959.63	2952.81	2938.78	2944.39	2942.75	2942.34	2960.77
18	A	A	2958.22	2958.25	2955.04	2959.53	2952.21	2939.09	2944.97	2942.90	2942.59	2960.77
19	A	A	2957.89	2958.42	2955.24	2958.99	2951.28	2940.74	2945.15	2942.82	2942.44	2960.75
20	A	A	2957.83	2958.55	2955.36	2959.06	2951.39	2944.17	2945.27	2943.08	2942.56	2960.41
21	A	A	2957.79	2958.65	2956.86	2958.25	2951.49	2944.21	2945.32	2943.32	2942.43	2960.70
22	A	A	2957.76	2958.73	2957.89	2957.44	2950.75	2943.66	2945.56	2942.48	2942.42	2960.71
23	A	A	2957.86	2958.65	2958.10	2957.52	2949.98	2944.18	2945.77	2942.11	2942.20	2960.09
24	A	A	2957.95	2958.63	2958.31	2957.59	2949.19	2943.59	2945.79	2941.80	2942.48	2959.56
25	A	A	2958.03	2958.66	2958.41	2957.05	2948.85	2943.80	2945.12	2941.65	2942.68	2959.11
26	A	A	2958.01	2958.68	2958.46	2956.50	2948.03	2943.99	2944.33	2941.42	2942.85	2958.57
27	A	A	2958.10	2958.91	2958.52	2955.95	2948.13	2944.20	2943.54	2941.62	2942.90	2958.32
28	A	A	2957.89	2959.06	2958.55	2955.39	2948.21	2943.58	2942.69	2942.39	2942.56	2958.60
29	A	A	2957.31	2959.15	2958.59	2955.21	2947.57	2942.89	2941.37	2942.28	2942.30	2958.02
30	A	A	2957.39	2959.04	---	2955.29	2946.91	2943.03	2940.02	2941.93	2941.78	2957.29
31	A	---	2957.44	2959.00	---	2955.41	---	2942.94	---	2941.72	2941.95	---
MAX	---	---	---	2959.15	2958.91	2959.91	2956.89	2946.23	2945.79	2943.32	2944.22	2961.05
MIN	---	---	---	2957.43	2954.44	2955.21	2946.91	2938.66	2940.02	2936.81	2941.78	2941.61

A No gage-height record

RIO GRANDE DE MANATI BASIN

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 Díaz 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, 2,419.90 ft (737.58 m), Sept. 10; minimum elevation, 2,411.45 ft (735.01 m), May 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
2,338	2	2,399	1,845
2,360	302	2,420	3,331

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	A	A	A	A	2414.99	A	2411.94	A	2414.92	2412.99	A	2413.40
2	A	A	A	A	2414.89	2414.66	2411.71	A	A	2412.76	A	2413.53
3	A	A	A	A	2415.05	2414.82	2412.68	A	A	2412.54	A	2413.41
4	A	A	A	A	2415.20	2414.63	2412.79	A	A	2412.29	A	2413.39
5	A	A	A	A	2415.03	2414.41	2413.40	A	2414.65	2412.05	A	2413.19
6	A	A	A	A	2414.87	2414.23	2413.66	A	2414.48	2412.16	A	2412.95
7	A	A	2413.03	A	2414.72	2414.03	2413.84	A	2414.55	2412.29	A	2413.08
8	A	A	2413.06	A	2414.54	2413.88	2413.65	A	2414.67	2414.04	A	2413.31
9	A	A	2413.27	A	2414.37	2414.05	A	A	2414.47	2414.66	2413.51	2413.04
10	A	A	2413.48	A	2414.56	2414.21	A	A	2414.32	2414.70	2413.67	2416.52
11	A	A	2413.57	A	2414.71	2414.11	2413.43	A	2414.13	2414.66	2413.97	2416.09
12	A	A	2413.67	A	2414.52	2413.96	2413.83	A	2413.90	2414.62	2413.90	2415.69
13	A	A	2413.75	A	2414.35	2413.77	2414.15	A	2413.67	2414.83	2413.82	2415.86
14	A	A	2413.83	A	2414.17	2413.60	2414.40	2412.03	2413.48	2415.26	2413.74	2415.85
15	A	A	2413.69	A	2413.98	2413.47	A	2411.90	2413.96	2415.32	2413.70	A
16	A	A	2413.89	2415.28	2413.78	2413.62	2414.49	2411.68	2414.18	2415.19	2413.63	A
17	A	A	2414.12	2415.17	2414.07	2413.76	2414.33	2411.50	2414.03	2415.09	2413.76	A
18	A	A	2414.47	2415.01	2414.23	2413.60	2414.15	2412.09	2414.23	2414.97	2413.88	A
19	A	A	2414.68	2414.92	2414.40	2413.37	2414.23	2412.88	2414.14	2414.88	2413.79	A
20	A	A	2414.53	2415.11	2414.21	2413.19	A	2414.47	2413.99	2415.03	2413.86	A
21	A	A	2414.38	2415.26	2414.37	2412.96	A	2414.54	2413.86	A	2413.79	A
22	A	A	2414.24	2415.11	2414.38	2412.73	A	2414.71	2414.02	A	2413.73	A
23	A	A	2414.42	2415.02	2415.38	2412.85	A	2414.73	2414.15	A	2413.71	2415.51
24	A	A	2414.59	2414.92	2415.54	2412.96	A	2414.64	2413.94	A	2413.84	2415.46
25	A	A	2414.76	2414.93	2415.41	A	A	2414.78	2414.00	A	2413.95	2415.43
26	A	A	2414.63	2414.99	2415.12	2412.51	A	2414.95	2414.13	A	2413.77	2415.42
27	A	A	2414.54	2415.38	2414.91	2412.31	A	2415.09	2413.94	A	2413.62	2415.37
28	A	A	2414.45	2415.41	2414.77	2412.09	A	2414.96	2413.73	A	2413.41	A
29	A	A	2414.38	2415.27	2414.62	2411.92	A	2414.71	2413.50	A	2413.18	2415.40
30	A	A	A	2415.18	---	2412.05	A	2414.94	2413.21	A	2412.99	2415.36
31	A	---	A	2415.10	---	2412.17	---	2414.77	---	A	2413.10	---
MAX	---	---	---	---	2415.54	---	---	---	---	---	---	---
MIN	---	---	---	---	2413.78	---	---	---	---	---	---	---

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 (235.556 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 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	47	38	20	13	19	e27	10	14	e13	9.4	11	9.3
2	76	38	20	13	17	e25	10	14	e13	9.3	11	11
3	74	40	19	13	16	e23	102	13	e13	9.2	11	9.3
4	87	33	19	13	15	e21	74	13	e13	8.7	11	41
5	109	34	18	13	15	e19	72	14	e12	8.4	10	76
6	60	43	18	14	15	e17	66	14	e12	8.3	9.9	27
7	45	39	18	13	15	e15	32	14	e12	8.3	9.9	14
8	36	46	17	13	14	14	20	14	e12	106	9.7	21
9	32	35	17	15	14	14	16	14	e12	165	9.7	22
10	34	32	17	13	15	13	15	14	e12	63	10	e19500
11	39	29	17	13	14	15	16	14	e12	30	12	e7600
12	36	27	17	12	13	15	88	13	12	26	12	e3000
13	36	68	18	13	13	13	97	13	12	21	9.9	e1000
14	30	64	16	27	13	13	47	13	11	29	9.8	e350
15	28	106	16	107	13	13	36	17	13	83	10	e200
16	32	91	16	34	12	13	27	16	15	34	11	e120
17	41	57	18	21	13	13	23	14	14	19	11	94
18	49	43	29	17	14	12	22	58	13	14	9.9	98
19	63	35	28	15	13	12	39	73	14	12	9.3	98
20	182	31	19	17	13	11	38	189	11	11	13	102
21	140	28	17	18	141	11	24	88	11	11	16	96
22	85	30	16	15	89	11	20	e33	10	11	10	87
23	70	26	16	14	174	11	19	e24	9.8	11	13	82
24	164	25	19	14	179	10	18	e20	9.5	10	13	77
25	159	25	15	13	131	10	17	e17	9.5	11	10	73
26	112	24	15	20	63	11	16	e14	9.6	11	9.7	68
27	86	23	19	43	41	11	15	e14	10	10	9.4	67
28	90	22	17	91	30	11	15	e14	9.9	10	9.4	61
29	71	21	15	77	e29	11	15	e13	9.5	11	9.3	55
30	52	21	14	54	---	11	15	e13	9.9	11	9.0	52
31	43	---	13	26	---	11	---	e13	---	11	8.8	---
TOTAL	2208	1174	553	794	1163	437	1024	821	349.7	792.6	328.7	33110.6
MEAN	71.2	39.1	17.8	25.6	40.1	14.1	34.1	26.5	11.7	25.6	10.6	1104
MAX	182	106	29	107	179	27	102	189	15	165	16	19500
MIN	28	21	13	12	12	10	10	13	9.5	8.3	8.8	9.3
AC-FT	4380	2330	1100	1570	2310	867	2030	1630	694	1570	652	65670
CFSM	4.27	2.34	1.07	1.53	2.40	.84	2.04	1.59	.70	1.53	.63	66.1
IN.	4.92	2.62	1.23	1.77	2.59	.97	2.28	1.83	.78	1.77	.73	73.76

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1969 - 1996, BY WATER YEAR (WY)

MEAN	87.5	53.2	27.6	20.0	14.7	15.0	26.9	50.7	19.2	16.5	20.4	105
MAX	392	205	108	83.4	40.1	59.9	80.2	179	78.6	104	152	1104
(WY)	1971	1971	1971	1992	1996	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 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1969 - 1996	
ANNUAL TOTAL	13707.8		42755.6			
ANNUAL MEAN	37.6		117		38.1	
HIGHEST ANNUAL MEAN					117	1996
LOWEST ANNUAL MEAN					6.56	1994
HIGHEST DAILY MEAN	850	Sep 16	19500	Sep 10	19500	Sep 10 1996
LOWEST DAILY MEAN	3.0	Jan 6	8.3	Jul 6	2.8	Jul 23 1994
ANNUAL SEVEN-DAY MINIMUM	3.0	Jan 18	8.8	Jul 1	2.8	Jul 23 1994
INSTANTANEOUS PEAK FLOW			25900	Sep 10	25900	Sep 10 1996
INSTANTANEOUS PEAK STAGE			25.14	Sep 10	25.14	Sep 10 1996
INSTANTANEOUS LOW FLOW					2.6	Jul 26 1994
ANNUAL RUNOFF (AC-FT)	27190		84810		27570	
ANNUAL RUNOFF (CFSM)	2.25		7.00		2.28	
ANNUAL RUNOFF (INCHES)	30.53		95.24		30.96	
10 PERCENT EXCEEDS	85		87		65	
50 PERCENT EXCEEDS	14		16		13	
90 PERCENT EXCEEDS	3.3		10		5.3	

e Estimated

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 Vales, 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 de 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 Manatí 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 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	232	241	124	91	141	102	82	65	e162	69	65	94
2	261	236	124	90	124	95	70	60	e129	67	64	123
3	388	334	120	88	116	93	251	60	e91	67	65	74
4	347	263	115	84	111	92	417	60	e105	67	67	503
5	374	240	117	84	103	95	285	60	e115	67	66	770
6	236	409	113	102	102	104	318	58	e113	67	62	347
7	192	354	107	100	118	94	147	59	e88	68	63	184
8	173	307	107	88	206	87	100	63	e78	263	85	265
9	155	1750	110	132	307	84	84	88	e72	928	75	316
10	147	903	105	105	200	82	76	74	e77	287	73	e26400
11	175	346	106	91	125	82	83	68	e80	146	78	e1850
12	205	253	105	95	108	93	315	63	e70	116	93	e974
13	197	252	118	89	101	83	464	61	65	114	76	e824
14	155	355	109	102	101	85	201	63	64	105	59	e722
15	139	341	105	596	95	114	175	82	90	226	72	e676
16	242	452	102	254	91	91	152	e269	151	174	93	e790
17	299	291	108	156	89	82	124	e159	142	126	113	e610
18	215	255	270	121	139	77	114	e177	108	107	75	425
19	268	206	433	112	107	75	143	e176	148	94	65	383
20	332	185	178	180	92	73	222	449	103	88	68	343
21	784	216	133	228	165	72	125	326	88	84	107	287
22	654	190	116	141	284	71	106	140	83	77	78	261
23	335	158	113	117	340	71	91	118	80	73	76	242
24	969	152	111	107	475	69	82	108	74	71	130	219
25	976	151	103	113	498	69	74	106	73	72	102	208
26	651	141	102	149	210	69	70	382	71	71	80	198
27	727	138	109	444	145	78	67	418	75	65	74	187
28	576	132	115	573	122	75	67	e204	77	61	72	192
29	571	127	104	409	115	73	65	e123	73	66	78	201
30	318	128	97	238	---	79	69	e167	71	65	71	173
31	269	---	93	171	---	76	---	e142	---	63	66	---
TOTAL	11562	9506	3972	5450	4930	2585	4639	4448	2816	4014	2411	38841
MEAN	373	317	128	176	170	83.4	155	143	93.9	129	77.8	1295
MAX	976	1750	433	596	498	114	464	449	162	928	130	26400
MIN	139	127	93	84	89	69	65	58	64	61	59	74
AC-FT	22930	18860	7880	10810	9780	5130	9200	8820	5590	7960	4780	77040
CFSM	2.91	2.48	1.00	1.37	1.33	.65	1.21	1.12	.73	1.01	.61	10.1
IN.	3.36	2.76	1.15	1.58	1.43	.75	1.35	1.29	.82	1.17	.70	11.29

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 1996, BY WATER YEAR (WY)

MEAN	429	343	256	187	168	138	260	422	154	106	150	304
MAX	2422	1006	1296	678	1392	477	1174	2293	458	438	1212	1295
(WY)	1971	1971	1966	1952	1950	1969	1969	1985	1979	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

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1946 - 1996	
ANNUAL TOTAL	77457		95174			
ANNUAL MEAN	212		260		244	
HIGHEST ANNUAL MEAN					520	1971
LOWEST ANNUAL MEAN					47.3	1994
HIGHEST DAILY MEAN	6160	Sep 16	26400	Sep 10	42700	May 18 1985
LOWEST DAILY MEAN	11	Jan 25	58	May 6	8.5	Jul 28 1994
ANNUAL SEVEN-DAY MINIMUM	13	Jan 19	60	May 2	9.5	Jul 24 1994
INSTANTANEOUS PEAK FLOW			128000	Sep 10	128000	Sep 10 1996
INSTANTANEOUS PEAK STAGE			25.20	Sep 10	25.20	Sep 10 1996
INSTANTANEOUS LOW FLOW			54	Aug 14	11.00	Jan 24 1995
ANNUAL RUNOFF (AC-FT)	153600		188800		176800	
ANNUAL RUNOFF (CFSM)	1.66		2.03		1.91	
ANNUAL RUNOFF (INCHES)	22.51		27.66		25.90	
10 PERCENT EXCEEDS	431		384		440	
50 PERCENT EXCEEDS	84		113		113	
90 PERCENT EXCEEDS	21		68		51	

e Estimated

RIO GRANDE DE MANATI BASIN

50035500 RIO GRANDE DE MANATI AT HIGHWAY 149 AT CIALES, PR

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 1995 TO SEPTEMBER 1996

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, 0.45 UM-MF (COLS./ 100 ML) (31616)	STREP-TOCOCCI FECAL, (COLS. PER 100 ML) (31679)
OCT 1995											
11...	1000	196	220	8.0	25.0	9.3	8.4	100	<10	K950	K1100
JAN 1996											
11...	1040	136	239	8.0	23.0	1.0	8.1	92	<10	2600	2100
FEB											
09...	1005	226	212	7.5	22.0	160	7.8	89	35	46000	46000
APR											
08...	1205	133	216	7.5	26.0	61	7.9	97	12	2300	700
JUN											
20...	0935	105	233	7.6	26.5	1.5	8.1	100	17	26000	2800
AUG											
08...	1035	94	235	7.5	26.0	4.4	8.1	99	<10	2700	970

DATE	HARD-NESS TOTAL (MG/L AS CACO3) (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)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (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 1995										
11...	86	22	7.6	11	0.5	2.1	85	<0.5	8.7	13
JAN 1996										
11...	--	--	--	--	--	--	100	--	--	--
FEB										
09...	--	--	--	--	--	--	75	--	--	--
APR										
08...	84	21	7.6	10	0.5	2.2	75	<0.5	9.6	12
JUN										
20...	--	--	--	--	--	--	98	--	--	--
AUG										
08...	93	23	8.6	10	0.5	1.8	96	--	8.7	14

K = non-ideal count

RIO GRANDE DE MANATI BASIN

50035500 RIO GRANDE DE MANATI AT HIGHWAY 149 AT CIALES, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DATE	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	SOLIDS, DISSOLVED (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 1995										
11...	<0.10	24	139	73.8	14	0.380	0.010	0.390	0.030	<0.17
JAN 1996										
11...	--	--	--	--	5	0.640	0.010	0.650	0.030	<0.17
FEB										
09...	--	--	--	--	128	0.17	0.060	0.230	0.480	0.22
APR										
08...	0.10	23	130	46.7	40	0.930	0.030	0.960	0.080	0.35
JUN										
20...	--	--	--	--	8	0.400	0.010	0.410	0.070	0.33
AUG										
08...	0.10	22	146	37.1	15	1.49	0.010	1.50	0.020	0.18

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 1995										
11...	<0.20	0.59	2.6	0.060	1	<100	40	<1	<1	<10
JAN 1996										
11...	<0.20	0.85	3.8	0.070	--	--	--	--	--	--
FEB										
09...	0.70	0.93	4.1	0.090	--	--	--	--	--	--
APR										
08...	0.43	1.4	6.2	0.110	<1	100	10	<1	5	<10
JUN										
20...	0.40	0.81	3.6	0.060	--	--	--	--	--	--
AUG										
08...	0.20	1.7	7.5	0.130	--	--	--	--	--	--

DATE	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 (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 1995										
11...	510	2	60	<0.10	<1	<1	10	<0.010	1	<0.02
JAN 1996										
11...	--	--	--	--	--	--	--	--	--	--
FEB										
09...	--	--	--	--	--	--	--	--	--	--
APR										
08...	2700	1	110	<0.10	<1	<1	<10	<0.010	3	<0.02
JUN										
20...	--	--	--	--	--	--	--	--	--	--
AUG										
08...	--	--	--	--	--	--	--	--	--	--

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 1995 TO SEPTEMBER 1996

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, 0.45 UM-MF (COLS./ 100 ML) (31616)	STREP-TOCOCCI FECAL, (COLS. PER 100 ML) (31679)
OCT 1995											
11...	1130	24	207	8.4	24.5	3.2	8.4	99	<10	K840	370
JAN 1996											
10...	1130	14	241	8.0	22.5	3.5	8.7	98	<10	3100	2900
FEB											
09...	1110	55	203	7.4	21.5	150	8.2	93	35	57000	49000
APR											
04...	1200	20	234	7.9	23.0	1.9	8.5	98	<10	390	360
JUN											
20...	1115	12	240	7.8	25.0	1.3	8.6	103	11	K940	540
AUG											
08...	1245	15	242	7.8	26.5	4.7	8.1	100	<10	5400	2800

DATE	HARD-NESS TOTAL (MG/L AS CACO3) (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)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (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 1995										
11...	95	27	6.8	10	0.4	1.8	94	<0.5	6.1	11
JAN 1996										
10...	--	--	--	--	--	--	100	--	--	--
FEB										
09...	--	--	--	--	--	--	74	--	--	--
APR										
04...	96	27	7.0	11	0.5	1.7	97	<0.5	6.1	11
JUN										
20...	--	--	--	--	--	--	100	--	--	--
AUG										
08...	98	29	6.2	9.4	0.4	1.8	100	--	7.1	12

K = non-ideal count

RIO GRANDE DE MANATI BASIN

50035950 RIO CIALITOS AT HIGHWAY 649 AT CIALES, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DATE	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	SOLIDS, DISSOLVED (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 1995										
11...	<0.10	29	148	9.63	1	0.610	0.010	0.620	0.010	<0.20
JAN 1996										
10...	--	--	--	--	11	0.710	0.010	0.720	0.020	<0.19
FEB										
09...	--	--	--	--	140	0.920	0.010	0.930	0.010	0.22
APR										
04...	0.10	31	153	8.16	7	0.560	0.010	0.570	0.020	0.21
JUN										
20...	--	--	--	--	2	0.400	<0.010	0.400	0.010	<0.21
AUG										
08...	<0.10	25	150	5.91	18	0.540	<0.010	0.540	0.040	0.29

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 1995										
11...	<0.20	0.75	3.3	0.100	<1	<100	20	<1	<1	<10
JAN 1996										
10...	<0.21	0.93	4.1	0.070	--	--	--	--	--	--
FEB										
09...	0.23	1.1	5.1	0.030	--	--	--	--	--	--
APR										
04...	0.23	0.80	3.5	0.080	<1	100	<10	<1	<1	20
JUN										
20...	<0.21	0.61	2.7	0.080	--	--	--	--	--	--
AUG										
08...	0.33	0.87	3.9	0.090	--	--	--	--	--	--

DATE	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 (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 1995										
11...	150	1	10	<0.10	<1	<1	<10	<0.010	<1	<0.02
JAN 1996										
10...	--	--	--	--	--	--	--	--	--	--
FEB										
09...	--	--	--	--	--	--	--	--	--	--
APR										
04...	190	<1	30	<0.10	<1	<1	<10	<0.010	<1	0.02
JUN										
20...	--	--	--	--	--	--	--	--	--	--
AUG										
08...	--	--	--	--	--	--	--	--	--	--

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 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	249	306	e180	141	e240	173	e120	120	e213	81	92	81
2	322	281	e180	139	e210	164	e100	113	e262	78	84	144
3	426	404	e180	139	e190	160	e400	110	e151	75	98	123
4	285	339	e170	136	e180	156	e660	110	131	74	93	374
5	496	281	e180	135	e170	155	e460	107	152	71	97	1050
6	269	467	e170	144	e160	164	e510	106	147	70	92	851
7	208	440	e160	165	e190	149	e250	111	130	71	81	246
8	178	444	e160	142	e350	144	e160	116	113	120	121	284
9	158	1390	e170	154	e490	140	e140	137	104	e1300	123	338
10	148	3250	e160	194	e350	135	e120	137	98	e436	88	e42000
11	180	624	e150	184	e230	133	99	122	99	232	88	e17100
12	202	449	e151	164	e180	140	200	113	96	167	98	e1600
13	182	365	e161	152	e160	134	e619	117	93	158	101	e1400
14	154	502	e155	139	e160	128	e305	110	93	154	107	e1200
15	140	374	e151	e900	e150	163	233	109	98	222	103	e1100
16	204	689	e148	e400	e140	156	208	e290	e179	249	131	1300
17	339	413	e160	e250	e140	132	188	e181	e155	170	e184	e1110
18	387	389	e350	e190	e220	126	167	e303	130	140	e130	e709
19	276	313	e620	e180	e180	117	160	e226	155	123	101	e598
20	189	275	e260	e280	e150	111	e282	e286	124	113	91	554
21	589	285	e210	e360	e230	107	e195	e526	101	106	156	442
22	1210	336	e179	e230	e450	104	163	e200	93	98	110	382
23	386	241	168	e190	e520	100	153	153	88	92	104	340
24	1160	230	172	e170	e740	98	145	145	83	91	193	298
25	1070	227	159	e180	e780	95	134	127	79	96	150	281
26	1200	210	154	e240	e320	95	127	e284	74	92	113	266
27	1040	205	156	e700	238	e120	124	e504	79	84	97	246
28	826	193	171	e900	200	e110	122	e492	92	81	89	268
29	833	184	163	e700	185	e100	121	e227	100	82	105	267
30	454	184	150	e400	---	e120	124	e252	e94	86	99	237
31	356	---	145	e260	---	e110	---	e316	---	84	85	---
TOTAL	14116	14290	5843	8658	7903	4039	6789	6250	3606	5096	3404	75189
MEAN	455	476	188	279	273	130	226	202	120	164	110	2506
MAX	1210	3250	620	900	780	173	660	526	262	1300	193	42000
MIN	140	184	145	135	140	95	99	106	74	70	81	81
AC-FT	28000	28340	11590	17170	15680	8010	13470	12400	7150	10110	6750	149100
CFSM	2.31	2.42	.96	1.42	1.38	.66	1.15	1.02	.61	.83	.56	12.7
IN.	2.67	2.70	1.10	1.63	1.49	.76	1.28	1.18	.68	.96	.64	14.20
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1970 - 1996, BY WATER YEAR (WY)												
MEAN	738	543	361	247	201	186	361	674	236	158	212	525
MAX	2958	1803	1498	771	444	521	1037	3178	747	577	1644	2506
(WY)	1971	1971	1971	1992	1988	1972	1993	1985	1987	1979	1979	1996
MIN	154	71.0	71.8	59.1	72.0	56.2	49.9	93.7	63.8	53.0	67.9	67.4
(WY)	1995	1995	1995	1995	1994	1994	1995	1989	1994	1994	1984	1994

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1970 - 1996	
ANNUAL TOTAL	122560		155183			
ANNUAL MEAN	336		424		369	
HIGHEST ANNUAL MEAN					756	1971
LOWEST ANNUAL MEAN					96.5	1994
HIGHEST DAILY MEAN	14700	Sep 16	42000	Sep 10	55900	May 18 1985
LOWEST DAILY MEAN	31	Jan 24	70	Jul 6	31	Jan 24 1995
ANNUAL SEVEN-DAY MINIMUM	33	Jan 18	74	Jul 1	33	Jul 23 1994
INSTANTANEOUS PEAK FLOW			Not determined	Sep 10	Not determined	Sep 10 1996
INSTANTANEOUS PEAK STAGE			36.39	Sep 10	36.39	Sep 10 1996
INSTANTANEOUS LOW FLOW					28	Jan 23 1995
ANNUAL RUNOFF (AC-FT)	243100		307800		267100	
ANNUAL RUNOFF (CFSM)	1.70		2.15		1.87	
ANNUAL RUNOFF (INCHES)	23.14		29.30		25.43	
10 PERCENT EXCEEDS	648		522		646	
50 PERCENT EXCEEDS	142		164		166	
90 PERCENT EXCEEDS	38		95		85	

e Estimated

RIO GRANDE DE MANATI BASIN

50038100 RIO GRANDE DE MANATI AT HIGHWAY 2 NEAR MANATI, PR--Continued

WATER-QUALITY RECORDS

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

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, 0.45 UM-MF (COLS./ 100 ML) (31616)	STREP-TOCOCCI FECAL, (COLS. PER 100 ML) (31679)
OCT 1995											
31...	1130	360	218	7.7	25.5	55	7.2	86	16	3300	640
JAN 1996											
10...	0935	190	265	7.7	25.0	6.5	7.3	87	<10	4700	590
FEB											
26...	1305	305	189	7.4	24.0	200	7.1	83	24	K13000	5900
APR											
22...	1130	162	240	7.6	26.0	61	7.3	89	12	K1100	700
JUN											
27...	1130	84	316	7.6	28.5	1.1	6.5	83	26	33000	10000
AUG											
29...	1140	102	305	7.7	29.5	6.0	7.0	91	<10	3900	570

DATE	HARD-NESS TOTAL (MG/L AS CACO3) (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)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)
OCT 1995											
31...	94	26	7.0	10	0.4	2.1	87	<0.5	12	8.9	0.20
JAN 1996											
10...	--	--	--	--	--	--	120	--	--	--	--
FEB											
26...	--	--	--	--	--	--	68	--	--	--	--
APR											
22...	98	28	6.7	10	0.4	2.2	90	<0.5	12	8.6	0.10
JUN											
27...	--	--	--	--	--	--	140	--	--	--	--
AUG											
29...	120	37	7.9	11	0.4	2.0	120	--	13	8.7	0.10

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	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)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)
OCT 1995											
31...	22	156	142	141	--	1.09	0.010	1.10	0.340	0.42	0.76
JAN 1996											
10...	--	--	--	--	22	0.670	0.010	0.680	0.030	0.28	0.31
FEB											
26...	--	--	--	--	200	1.25	0.050	1.30	0.090	0.72	0.81
APR											
22...	21	--	143	62.5	32	0.14	0.010	0.150	0.120	0.57	0.69
JUN											
27...	--	--	--	--	14	0.440	0.010	0.450	0.420	1.2	1.6
AUG											
29...	21	--	173	47.4	13	0.460	0.070	0.530	0.340	1.6	1.9

K = non-ideal count

RIO GRANDE DE MANATI BASIN

50038100 RIO GRANDE DE MANATI AT HIGHWAY 2 NEAR MANATI, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DATE	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, DISSOLVED (UG/L AS BA) (01005)	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)	COBALT, DISSOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOVERABLE (UG/L AS CU) (01042)
OCT 1995											
31...	1.6	7.1	0.150	--	47	--	--	--	--	<3	--
JAN 1996											
10...	0.99	4.4	0.090	--	--	--	--	--	--	--	--
FEB											
26...	2.1	9.3	0.260	--	--	--	--	--	--	--	--
APR											
22...	0.84	3.7	0.060	<1	--	<100	30	<1	2	--	<10
JUN											
27...	2.0	8.9	0.460	--	--	--	--	--	--	--	--
AUG											
29...	2.4	11	1.0	--	--	--	--	--	--	--	--

DATE	IRON, TOTAL RECOVERABLE (UG/L AS FE) (01045)	IRON, DISSOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOVERABLE (UG/L AS PB) (01051)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN) (01055)	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MOLYBDENUM, DISSOLVED (UG/L AS MO) (01060)	NICKEL, DISSOLVED (UG/L AS NI) (01065)	SILVER, DISSOLVED (UG/L AS AG) (01075)	SILVER, TOTAL RECOVERABLE (UG/L AS AG) (01077)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)	VANADIUM, DISSOLVED (UG/L AS V) (01085)
OCT 1995											
31...	--	91	--	--	15	10	<1	<1.0	--	150	<6
JAN 1996											
10...	--	--	--	--	--	--	--	--	--	--	--
FEB											
26...	--	--	--	--	--	--	--	--	--	--	--
APR											
22...	1200	--	1	70	--	--	--	--	<1.0	--	--
JUN											
27...	--	--	--	--	--	--	--	--	--	--	--
AUG											
29...	--	--	--	--	--	--	--	--	--	--	--

DATE	ZINC, TOTAL RECOVERABLE (UG/L AS ZN) (01092)	ALUMINUM, DISSOLVED (UG/L AS AL) (01106)	LITHIUM DISSOLVED (UG/L AS LI) (01130)	SELENIUM, DISSOLVED (UG/L AS SE) (01145)	SELENIUM, TOTAL (UG/L AS SE) (01147)	MERCURY DISSOLVED (UG/L AS HG) (71890)	MERCURY TOTAL RECOVERABLE (UG/L AS HG) (71900)	CYANIDE TOTAL (MG/L AS CN) (00720)	PHENOLS TOTAL (UG/L) (32730)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L) (38260)
OCT 1995										
31...	--	50	<4	<1	--	<0.10	--	--	--	--
JAN 1996										
10...	--	--	--	--	--	--	--	--	--	--
FEB										
26...	--	--	--	--	--	--	--	--	--	--
APR										
22...	<10	--	--	--	<1	--	<0.10	<0.010	<1	<0.02
JUN										
27...	--	--	--	--	--	--	--	--	--	--
AUG										
29...	--	--	--	--	--	--	--	--	--	--

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 Manati, 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 1995 TO SEPTEMBER 1996

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)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)	STREP-TOCOCCI FECAL, (COLS. PER 100 ML) (31679)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (00410)
OCT 1995										
12...	0810	1330	7.4	27.5	5.4	67	36	K750	690	120
JAN 1996										
16...	0800	891	7.8	25.5	5.9	71	27	K40	K120	120
FEB										
08...	0900	1000	7.7	25.0	5.9	71	28	K32	80	130
APR										
03...	0730	1150	7.8	27.0	4.8	60	35	74	K1000	150
JUN										
17...	1400	1260	8.1	30.0	5.3	70	42	<4	K40	110
AUG										
14...	0700	1330	7.6	29.0	4.1	53	41	K120	K110	95

DATE	SULFIDE TOTAL (MG/L AS S) (00745)	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)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, TOTAL (MG/L AS NO3) (71887)
OCT 1995										
12...	<0.5	7	0.180	0.010	0.190	0.410	0.99	1.4	1.6	7.0
JAN 1996										
16...	--	9	0.220	0.010	0.230	0.220	0.98	1.2	1.4	6.3
FEB										
08...	--	2	0.190	0.010	0.200	0.150	0.75	0.90	1.1	4.9
APR										
03...	<0.5	11	0.210	0.010	0.220	1.10	0.90	2.0	2.2	9.8
JUN										
17...	--	4	0.350	0.010	0.360	0.140	1.3	1.4	1.8	7.8
AUG										
14...	--	<1	0.290	0.010	0.300	0.180	1.5	1.7	2.0	8.9

DATE	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	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 1995									
12...	0.020	80	<10	60	10	<10	<0.010	5	0.03
JAN 1996									
16...	<0.020	--	--	--	--	--	--	--	--
FEB									
08...	<0.020	--	--	--	--	--	--	--	--
APR									
03...	0.030	60	<10	150	<10	<10	<0.010	<1	0.05
JUN									
17...	<0.020	--	--	--	--	--	--	--	--
AUG									
14...	<0.020	--	--	--	--	--	--	--	--

K = non-ideal count

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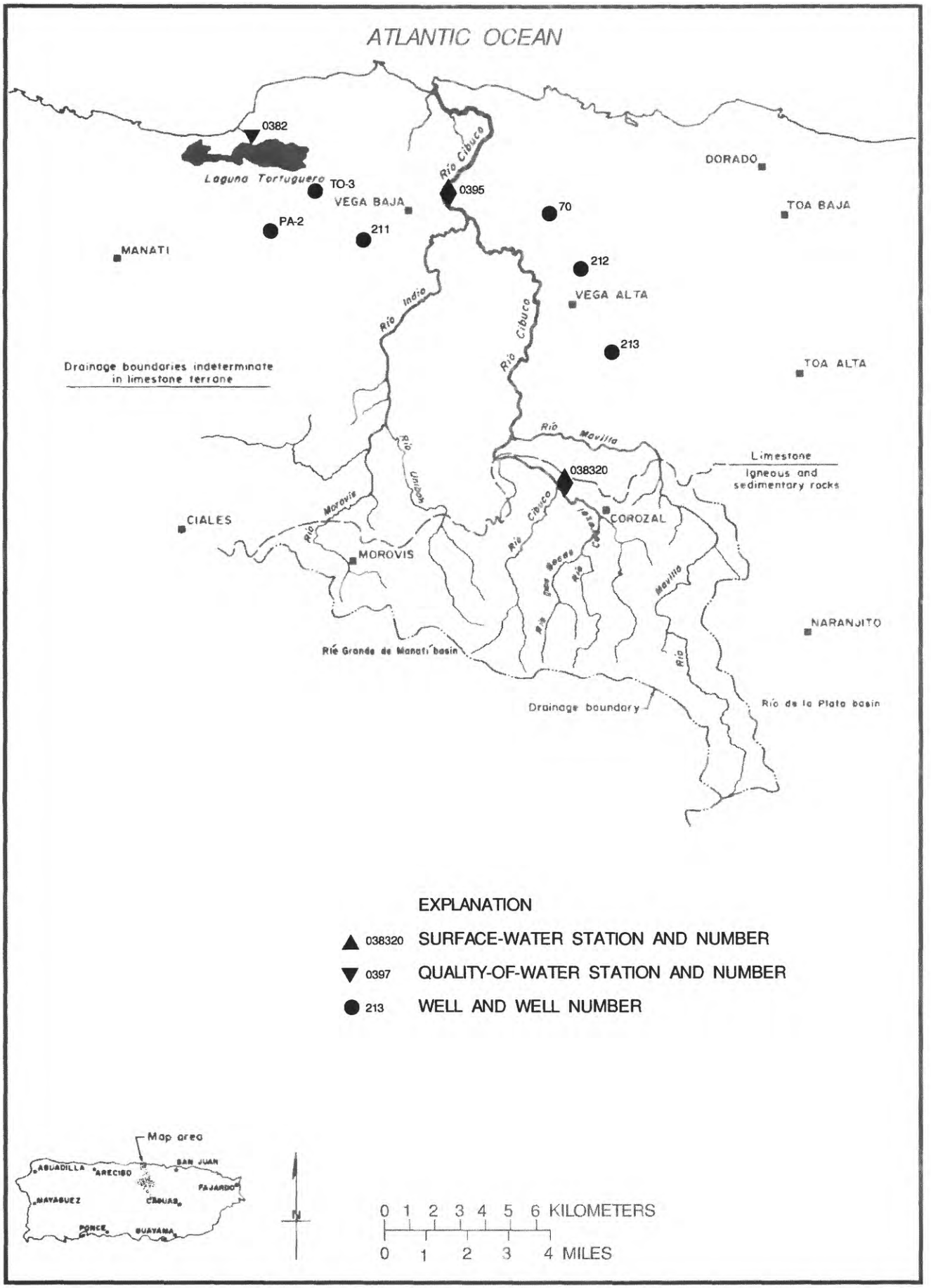

Figure 17.--Río Cibuco basin.

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 Río 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 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	34	19	e14	e20	10	9.7	6.0	6.9	4.9	44	9.0
2	24	37	21	e14	18	10	8.5	5.1	5.0	4.6	6.6	8.6
3	16	67	19	e13	18	10	11	5.3	4.8	6.1	4.3	6.7
4	13	39	18	e12	17	11	16	4.8	137	5.2	3.5	224
5	13	38	18	e12	16	18	17	4.9	e48	4.9	8.7	86
6	12	73	17	e20	17	14	17	6.2	e35	6.5	4.6	33
7	16	36	17	e14	15	10	10	134	e18	7.5	4.0	25
8	15	99	16	e16	15	10	8.6	22	9.6	73	8.9	89
9	15	2340	21	e15	128	9.5	8.9	59	8.4	35	4.4	168
10	25	321	18	e35	38	8.0	8.0	18	11	12	4.7	3070
11	25	123	e18	e25	22	9.6	10	11	9.2	7.2	6.5	191
12	18	80	e32	e21	20	8.8	60	9.0	11	8.4	4.2	120
13	14	57	e36	e15	17	8.8	29	11	10	6.2	15	219
14	12	40	e19	e41	17	14	13	8.0	8.3	11	41	125
15	12	e212	e18	e86	16	19	16	28	18	12	31	137
16	11	e75	e20	e30	14	13	15	35	18	6.1	153	123
17	86	90	e144	e18	14	9.7	11	9.8	16	5.7	58	131
18	27	47	e225	e13	78	9.4	11	8.1	9.2	7.1	16	118
19	21	33	e155	e61	25	9.2	9.8	7.0	10	5.6	11	102
20	17	30	e43	e78	17	9.9	9.8	8.9	8.2	4.9	9.8	88
21	44	e30	e28	e45	15	8.8	9.5	6.5	8.0	4.1	8.1	80
22	52	30	e20	e25	14	9.8	15	6.3	8.8	4.0	7.4	74
23	64	28	e121	e21	13	8.5	12	6.0	7.2	3.2	71	73
24	177	54	e30	e19	14	7.6	9.3	5.5	6.4	7.3	25	65
25	107	28	e22	e19	13	7.7	7.0	5.2	6.0	8.7	12	67
26	178	25	e19	e24	12	11	6.6	36	6.5	5.9	10	56
27	187	24	e18	e60	11	17	5.4	29	7.6	4.7	8.9	62
28	102	22	e17	e74	11	12	6.5	8.7	6.4	4.3	82	64
29	53	21	e16	e50	11	12	6.7	6.0	5.7	5.0	29	63
30	31	21	e15	e32	---	10	8.1	6.5	5.1	5.0	14	50
31	28	---	e14	e25	---	9.7	---	6.1	---	7.6	10	---
TOTAL	1429	4154	1214	947	656	336.0	385.4	522.9	469.3	293.7	716.6	5727.3
MEAN	46.1	138	39.2	30.5	22.6	10.8	12.8	16.9	15.6	9.47	23.1	191
MAX	187	2340	225	86	128	19	60	134	137	73	153	3070
MIN	11	21	14	12	11	7.6	5.4	4.8	4.8	3.2	3.5	6.7
AC-FT	2830	8240	2410	1880	1300	666	764	1040	931	583	1420	11360
CFSM	3.05	9.17	2.59	2.02	1.50	.72	.85	1.12	1.04	.63	1.53	12.6
IN.	3.52	10.23	2.99	2.33	1.62	.83	.95	1.29	1.16	.72	1.77	14.11

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1969 - 1996, BY WATER YEAR (WY)

MEAN	40.5	47.3	35.0	24.1	20.9	21.5	33.4	45.3	14.9	12.1	16.9	33.4
MAX	135	155	169	69.6	51.3	65.1	111	157	44.4	34.6	50.8	191
(WY)	1991	1971	1971	1992	1988	1981	1973	1986	1987	1979	1979	1996
MIN	8.05	8.15	4.14	6.93	7.75	4.36	3.32	3.20	1.63	2.19	3.44	3.88
(WY)	1979	1974	1995	1995	1994	1984	1984	1977	1994	1994	1978	1994

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1969 - 1996	
ANNUAL TOTAL	13107.76		16851.2			
ANNUAL MEAN	35.9		46.0		28.9	
HIGHEST ANNUAL MEAN					56.5	1971
LOWEST ANNUAL MEAN					7.47	1994
HIGHEST DAILY MEAN	2340	Nov 9	3070	Sep 10	3070	Sep 10 1996
LOWEST DAILY MEAN	.96	Apr 29	3.2	Jul 23	.91	Jul 17 1994
ANNUAL SEVEN-DAY MINIMUM	1.2	Apr 24	4.9	Jul 17	1.2	Jun 21 1994
INSTANTANEOUS PEAK FLOW			20400	Nov 9	20400	Nov 9 1995
INSTANTANEOUS PEAK STAGE			22.35	Nov 9	22.35	Nov 9 1995
ANNUAL RUNOFF (AC-FT)	26000		33420		20930	
ANNUAL RUNOFF (CFSM)	2.38		3.05		1.91	
ANNUAL RUNOFF (INCHES)	32.29		41.51		26.00	
10 PERCENT EXCEEDS	75		83		50	
50 PERCENT EXCEEDS	13		15		13	
90 PERCENT EXCEEDS	2.7		6.0		5.4	

e Estimated

RIO CIBUCO BASIN

50038320 RIO CIBUCO BELOW COROZAL, PR--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1969-76, 1979 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

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, 0.45 UM-MF (COLS./ 100 ML) (31616)	STREP-TOCOCCI FECAL, (COLS. PER 100 ML) (31679)
OCT 1995											
13...	1015	14	340	8.2	25.0	3.0	8.1	97	<10	K830	820
DEC											
11...	1110	17	337	8.2	24.0	0.60	7.4	86	<10	2000	250
FEB 1996											
07...	0855	16	358	8.1	21.5	3.8	8.2	93	23	2000	K890
APR											
02...	0920	9.1	350	7.7	23.5	0.40	7.9	92	<10	490	200
JUN											
11...	1115	11	381	7.6	25.5	4.2	8.1	98	12	580	200
AUG											
19...	0950	12	391	7.8	25.5	1.8	7.4	90	<10	2200	580

DATE	HARD-NESS TOTAL (MG/L AS CACO3) (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)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (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 1995										
13...	140	34	13	18	0.7	3.6	120	<0.5	15	25
DEC										
11...	--	--	--	--	--	--	120	--	--	--
FEB 1996										
07...	--	--	--	--	--	--	130	--	--	--
APR										
02...	140	35	12	21	0.8	3.3	130	<0.5	13	26
JUN										
11...	--	--	--	--	--	--	140	--	--	--
AUG										
19...	150	38	13	19	0.7	4.2	130	--	18	29

K = non-ideal count

RIO CIBUCO BASIN

50038320 RIO CIBUCO BELOW COROZAL, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DATE	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	SOLIDS, DISSOLVED (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 1995										
13...	<0.10	28	209	7.88	6	2.58	0.020	2.60	0.050	0.27
DEC										
11...	--	--	--	--	2	1.93	0.070	2.00	0.200	0.44
FEB 1996										
07...	--	--	--	--	9	1.67	0.030	1.70	0.080	0.20
APR										
02...	0.10	31	219	5.42	2	1.60	<0.010	1.61	0.100	0.30
JUN										
11...	--	--	--	--	9	2.09	0.010	2.10	0.050	0.32
AUG										
19...	0.10	27	226	7.53	8	2.47	0.030	2.50	0.070	0.29

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 1995										
13...	0.32	2.9	13	0.230	1	<100	30	<1	<1	<10
DEC										
11...	0.64	2.6	12	0.200	--	--	--	--	--	--
FEB 1996										
07...	0.28	2.0	8.8	0.180	--	--	--	--	--	--
APR										
02...	0.40	2.0	8.9	0.260	<1	<100	30	<1	<1	10
JUN										
11...	0.37	2.5	11	0.280	--	--	--	--	--	--
AUG										
19...	0.36	2.9	13	0.290	--	--	--	--	--	--

DATE	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 (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 1995										
13...	230	<1	40	<0.10	<1	<1	<10	<0.010	<1	0.03
DEC										
11...	--	--	--	--	--	--	--	--	--	--
FEB 1996										
07...	--	--	--	--	--	--	--	--	--	--
APR										
02...	110	<1	50	<0.10	<1	<1	<10	<0.010	<1	0.02
JUN										
11...	--	--	--	--	--	--	--	--	--	--
AUG										
19...	--	--	--	--	--	--	--	--	--	--

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 (2.374 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 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	185	89	62	113	54	38	35	32	21	60	36
2	215	197	87	62	98	52	36	29	38	21	73	38
3	166	321	89	59	89	51	33	27	28	20	35	36
4	39	218	76	59	86	53	43	27	195	19	31	368
5	29	193	75	57	77	60	72	25	126	18	39	395
6	26	375	72	85	78	73	90	27	137	19	35	137
7	25	263	69	74	74	52	44	129	60	21	25	72
8	31	352	66	62	66	49	36	173	40	57	39	228
9	27	1230	87	108	229	46	32	134	30	166	28	266
10	67	4750	82	206	295	44	31	124	37	47	24	12800
11	303	453	102	243	145	47	31	61	40	34	22	2130
12	201	288	87	253	101	58	81	43	29	36	28	625
13	56	220	139	102	89	54	137	60	31	28	22	594
14	35	183	74	72	82	50	56	53	27	61	54	441
15	29	591	64	246	77	93	51	40	59	66	115	310
16	25	659	72	142	75	78	52	114	50	41	181	382
17	287	340	122	132	70	51	43	46	69	33	262	311
18	251	320	465	133	149	45	38	39	42	34	74	199
19	108	218	648	150	191	43	36	34	36	44	54	170
20	88	187	264	229	102	42	33	38	30	29	49	146
21	68	167	139	148	81	40	32	33	26	26	78	127
22	343	165	106	69	72	39	37	29	29	24	42	112
23	179	142	258	60	68	38	52	27	27	23	158	97
24	641	205	225	57	66	39	47	27	23	23	347	86
25	406	189	119	56	67	39	38	27	22	44	90	103
26	722	135	106	69	62	40	34	30	22	72	58	117
27	826	118	91	162	60	165	33	81	23	27	49	85
28	550	120	87	450	56	47	31	63	26	24	46	e92
29	321	100	76	284	55	43	34	32	23	25	115	e107
30	200	97	68	176	---	40	41	30	21	24	64	79
31	171	---	63	134	---	39	---	41	---	29	44	---
TOTAL	6462	12981	4167	4201	2873	1664	1392	1678	1378	1156	2341	20689
MEAN	208	433	134	136	99.1	53.7	46.4	54.1	45.9	37.3	75.5	690
MAX	826	4750	648	450	295	165	137	173	195	166	347	12800
MIN	25	97	63	56	55	38	31	25	21	18	22	36
AC-FT	12820	25750	8270	8330	5700	3300	2760	3330	2730	2290	4640	41040
CFSM	2.10	4.37	1.36	1.37	1.00	.54	.47	.55	.46	.38	.76	6.96
IN.	2.43	4.87	1.56	1.58	1.08	.62	.52	.63	.52	.43	.88	7.77

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1973 - 1996, BY WATER YEAR (WY)

MEAN	158	190	170	92.8	87.1	84.0	155	196	72.1	52.3	80.4	145
MAX	559	523	1316	209	190	339	667	655	239	162	461	690
(WY)	1986	1980	1982	1988	1988	1990	1987	1985	1987	1979	1979	1996
MIN	45.9	40.0	25.1	30.2	27.2	20.5	16.2	24.7	12.5	14.0	21.2	26.7
(WY)	1974	1974	1995	1995	1994	1994	1984	1977	1994	1994	1978	1994

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1973 - 1996	
ANNUAL TOTAL	44067.2		60982			
ANNUAL MEAN	121		167		122	
HIGHEST ANNUAL MEAN					236	1982
LOWEST ANNUAL MEAN					38.5	1994
HIGHEST DAILY MEAN	4750	Nov 10	12800	Sep 10	14600	Dec 13 1981
LOWEST DAILY MEAN	7.2	May 3	18	Jul 5	7.2	May 3 1995
ANNUAL SEVEN-DAY MINIMUM	8.1	Apr 28	20	Jun 30	8.1	Apr 28 1995
INSTANTANEOUS PEAK FLOW			29400	Sep 10	34000	Apr 12 1987
INSTANTANEOUS PEAK STAGE			18.74	Sep 10	19.10	Apr 12 1987
INSTANTANEOUS LOW FLOW			17	Jul 5	7.2	May 2 1995
ANNUAL RUNOFF (AC-FT)	87410		121000		88330	
ANNUAL RUNOFF (CFSM)	1.22		1.68		1.23	
ANNUAL RUNOFF (INCHES)	16.54		22.89		16.72	
10 PERCENT EXCEEDS	294		271		225	
50 PERCENT EXCEEDS	38		66		58	
90 PERCENT EXCEEDS	14		27		22	

e Estimated

RIO CIBUCO BASIN

50039500 RIO CIBUCO AT VEGA BAJA, PR--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1972 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

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, 0.45 UM-MF (COLS./ 100 ML) (31616)	STREP-TOCOCCI FECAL, (COLS. PER 100 ML) (31679)
OCT 1995											
12...	1020	146	340	7.7	25.0	59	6.0	71	26	29000	40000
JAN 1996											
16...	0950	140	326	7.9	22.5	92	7.2	81	22	23000	K13000
FEB											
08...	1105	65	426	8.0	23.0	4.9	7.1	82	10	K1100	260
APR											
03...	1000	33	421	8.0	26.0	3.0	6.1	74	<10	K1300	490
JUN											
13...	0835	33	407	7.8	26.5	6.0	5.5	67	<10	K610	430
AUG											
14...	1030	68	428	7.4	27.5	2.6	5.3	66	<10	2500	K1200

DATE	HARD-NESS TOTAL (MG/L AS CACO3) (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)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (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 1995										
12...	150	52	5.7	9.8	0.3	5.9	140	<0.5	15	16
JAN 1996										
16...	--	--	--	--	--	--	130	--	--	--
FEB										
08...	--	--	--	--	--	--	180	--	--	--
APR										
03...	190	59	10	19	0.6	3.1	170	<0.5	13	26
JUN										
13...	--	--	--	--	--	--	180	--	--	--
AUG										
14...	180	57	10	18	0.6	4.0	180	--	14	24

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)	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 1995										
12...	<0.10	13	201	79.4	58	1.24	0.060	1.30	0.090	0.77
JAN 1996										
16...	--	--	--	--	124	1.23	0.070	1.30	0.110	0.99
FEB										
08...	--	--	--	--	7	1.48	0.020	1.50	0.050	0.35
APR										
03...	0.10	19	251	22.3	9	1.44	0.060	1.50	0.100	0.29
JUN										
13...	--	--	--	--	11	1.55	0.050	1.60	0.210	0.31
AUG										
14...	0.10	20	255	46.5	7	1.06	0.040	1.10	0.070	0.26

K = non-ideal count

RIO CIBUCO BASIN

50039500 RIO CIBUCO AT VEGA BAJA, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

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 1995										
12...	0.86	2.2	9.6	0.310	1	<100	20	<1	3	10
JAN 1996										
16...	1.1	2.4	11	0.310	--	--	--	--	--	--
FEB										
08...	0.40	1.9	8.4	0.190	--	--	--	--	--	--
APR										
03...	0.39	1.9	8.4	0.170	<1	<100	30	<1	1	<10
JUN										
13...	0.52	2.1	9.4	0.350	--	--	--	--	--	--
AUG										
14...	0.33	1.4	6.3	0.180	--	--	--	--	--	--

DATE	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 (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 1995										
12...	1700	2	100	<0.10	<1	<1	20	<0.010	1	<0.02
JAN 1996										
16...	--	--	--	--	--	--	--	--	--	--
FEB										
08...	--	--	--	--	--	--	--	--	--	--
APR										
03...	280	<1	40	<0.10	<1	<1	<10	<0.010	<1	0.03
JUN										
13...	--	--	--	--	--	--	--	--	--	--
AUG										
14...	--	--	--	--	--	--	--	--	--	--

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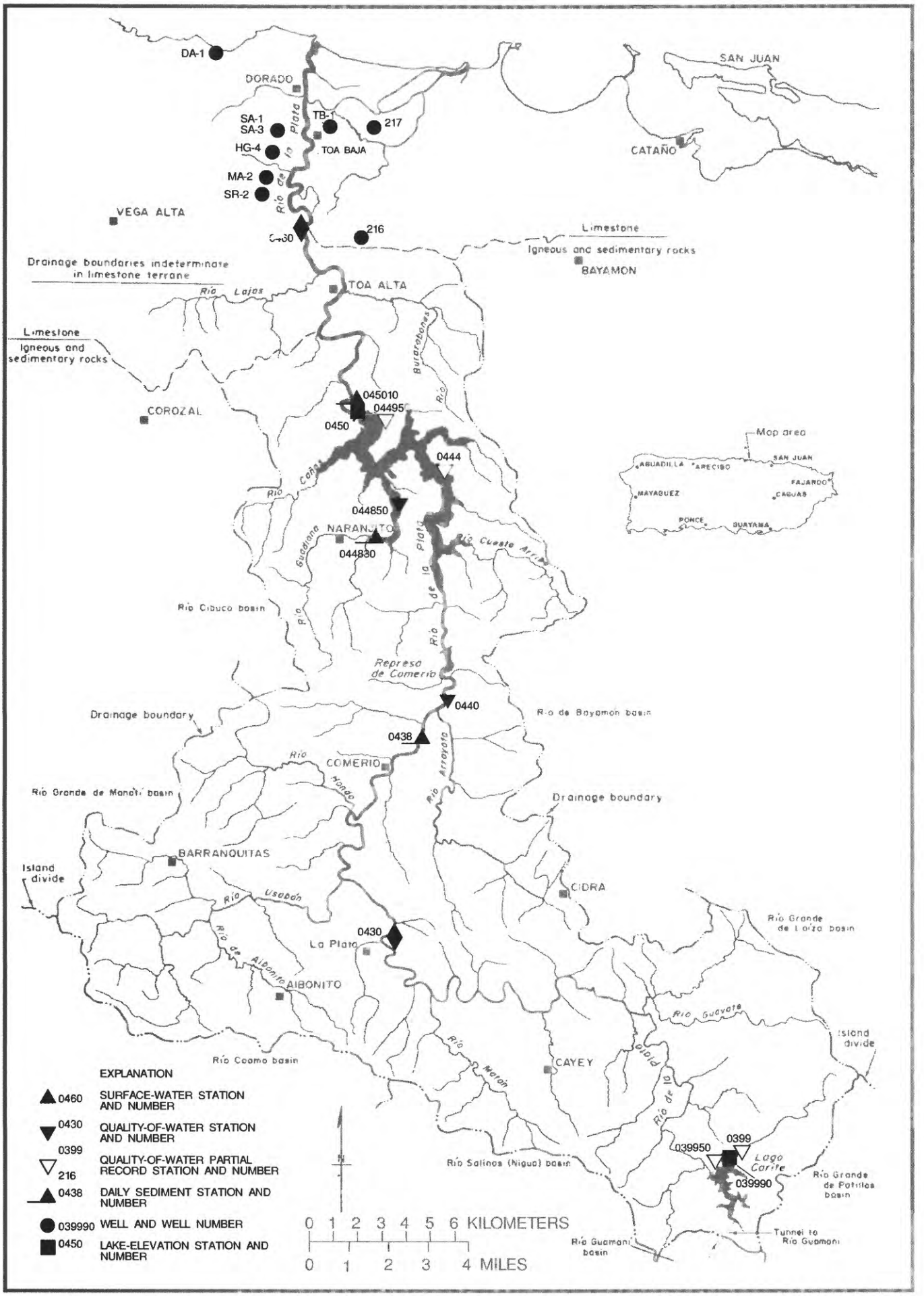

Figure 18.--Río de la Plata basin.

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 Hidroeléctrica 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 lenght 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 1,788.73 ft (545.20 m), Sep. 10, 1996; minimum elevation, 1,761.22 ft (536.81 m), May 28, 1995.

EXTREMES FOR CURRENT YEAR.--Maximum elevation 1,788.73 ft (545.20 m), Sept. 10; minimum elevation, 1,777.48 ft (541.78 m), Dec. 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
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 1995 TO SEPTEMBER 1996
DAILY OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1781.53	1780.55	1778.06	1779.49	1781.48	1781.15	1781.37	1781.27	1780.57	1781.46	1781.52	1781.28
2	1781.61	1780.50	1778.06	1779.47	1781.53	1781.16	1781.35	1781.25	1780.55	1781.46	1781.52	1781.29
3	1781.65	1780.44	1778.05	1779.41	1781.54	1781.16	1781.40	1781.24	1780.48	1781.44	1781.83	1781.33
4	1781.68	1780.36	1778.00	1779.35	1781.54	1781.17	1781.40	1781.19	1780.58	1781.42	1781.81	1781.58
5	1781.68	1780.31	1777.89	1779.31	1781.62	1781.17	1781.40	1781.13	1780.71	1781.41	1781.74	1781.59
6	1781.67	1780.24	1777.94	1779.32	1781.52	1781.19	1781.37	1781.12	1781.20	1781.38	1781.67	1781.51
7	1781.67	1780.17	1777.82	1779.35	1781.54	1781.15	1781.34	1781.10	1781.68	1781.35	1781.64	1781.49
8	1781.64	1780.08	1777.76	1779.76	1781.50	1781.17	1781.33	1781.11	1781.66	1781.71	1781.60	1781.46
9	1781.60	A	1777.67	1779.78	1781.51	1781.23	1781.32	1781.11	1781.60	1781.81	1781.59	A
10	1781.66	A	1777.65	1779.82	1781.51	1781.24	1781.31	1781.09	1781.55	1781.77	1781.58	A
11	1781.72	A	1777.64	1779.74	1781.46	1781.57	1781.33	1781.09	1781.54	1781.70	1781.55	A
12	1781.66	A	1777.67	1779.78	1781.49	1781.55	1781.34	1781.04	1781.63	1781.81	1781.53	A
13	1781.63	A	1777.72	1779.97	1781.48	1781.52	1781.29	1781.24	1781.66	1781.77	1781.65	A
14	1781.59	A	1777.67	1781.52	1781.47	1781.57	1781.33	1781.24	1781.62	1782.84	1781.97	A
15	1781.56	A	1777.66	1781.67	1781.37	1781.88	1781.32	1781.18	1782.27	1782.17	1782.00	A
16	1781.52	A	1777.54	1781.60	1781.41	1781.74	1781.30	1781.19	1782.09	1781.88	1782.05	A
17	A	A	1777.55	1781.59	1781.46	1781.64	1781.28	1781.15	1781.85	1781.76	1781.88	A
18	1781.39	A	1777.61	1781.59	1781.40	1781.59	1781.27	1781.15	1782.03	1781.70	1781.77	A
19	1781.33	A	1777.58	1781.91	1781.34	1781.54	1781.24	1781.11	1781.85	1781.68	1781.65	A
20	1781.24	A	1778.80	1781.95	1781.35	1781.53	1781.23	1781.09	1781.73	1781.69	1781.59	A
21	1781.19	1778.87	1778.83	1781.72	1781.40	1781.49	1781.23	1781.05	1781.70	1781.64	1781.56	A
22	1781.21	1778.76	1778.83	1781.63	1781.35	1781.49	1781.21	1780.98	1781.69	1781.59	1781.53	A
23	1781.14	1778.66	1778.77	1781.54	1781.27	1781.45	1781.27	1780.99	1781.64	1781.58	1781.54	A
24	1781.14	1778.63	1778.73	1781.54	1781.32	1781.44	1781.28	1780.94	1781.60	1781.56	1781.50	A
25	1781.06	1778.52	1778.73	1781.52	1781.29	1781.41	1781.31	1780.91	1781.55	1781.55	1781.50	A
26	1780.99	1778.43	1779.56	1781.55	1781.25	1781.43	1781.30	1780.87	1781.54	1781.54	1781.46	A
27	1780.92	1778.32	1779.70	1781.53	1781.25	1781.42	1781.29	1780.83	1781.55	1781.54	1781.41	A
28	1780.88	1778.21	1779.66	1781.59	1781.16	1781.41	1781.29	1780.77	1781.54	1781.58	1781.40	A
29	1780.82	1778.16	1779.61	1781.51	1781.12	1781.38	1781.27	1780.72	1781.51	1781.55	1781.34	A
30	1780.74	1778.09	1779.63	1781.52	---	1781.39	1781.31	1780.67	1781.48	1781.53	1781.31	A
31	1780.64	---	1779.51	1781.54	---	1781.38	---	1780.63	---	1781.52	1781.28	---
MAX	---	---	1779.70	1781.95	1781.62	1781.88	1781.40	1781.27	1782.27	1782.84	1782.05	---
MIN	---	---	1777.54	1779.31	1781.12	1781.15	1781.21	1780.63	1780.48	1781.35	1781.28	---

A No gage-height record

RIO DE LA PLATA BASIN

50043000 RIO DE LA PLATA AT PROYECTO LA PLATA, PR

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 Guamaní.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--1958 (occasional measurements only), February 1959 to March 1960 (monthly measurements only), April 1960 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 850 ft (259 m), from topographic map. Prior to Mar. 29, 1961, wire-weight gage read twice daily at same site and datum.

REMARKS.--Records poor. The Puerto Rico Aqueduct and Sewer Authority operates a pumping plant about 5 mi (8 km) upstream which can divert as much as 23 ft³/s (0.65 m³/s) into Cidra Reservoir. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e94	e54	e21	e16	e50	e14	e10	e16	e11	e26	e30	e23
2	e80	e50	e16	e15	e43	e13	e14	e14	e41	e24	e27	e34
3	e84	e64	e17	e17	e38	e12	e46	e13	e11	e19	e34	e40
4	e51	e51	e18	e18	e41	e15	e230	e13	e20	e16	e220	e280
5	e49	e47	e17	e19	e105	e20	e150	e11	e36	e15	e130	e130
6	e54	e68	e16	e20	e90	e18	e105	e9.8	e98	e15	e70	e58
7	e58	e82	e15	e21	e70	e16	e90	e9.8	e140	e14	e47	e41
8	e60	e54	e15	e74	e50	e15	e38	e13	e310	e150	e34	e68
9	e47	e84	e15	e52	e51	e12	e23	e17	e105	e660	e32	e100
10	e43	e200	e14	e25	e51	e12	e17	e23	e50	e350	e32	e28100
11	e98	e58	e14	e23	e35	e15	e14	e18	e28	e170	e28	e3500
12	e101	e40	e16	e34	e29	e66	e18	e14	e23	e130	e25	e1000
13	e61	e88	e16	e30	e27	e35	e60	e10	e135	e250	e22	e500
14	e55	e118	e23	e350	e25	e25	e39	e26	e74	e700	e350	e310
15	e46	e120	e21	e660	e23	e30	e47	e32	e700	e1350	e440	e290
16	e38	e90	e19	e150	e22	e270	e40	e23	e600	e500	e860	e320
17	e108	e115	e14	e42	e21	e100	e28	e18	e320	e250	e470	e215
18	e110	e70	e20	e26	e20	e58	e20	e58	e340	e150	e220	e160
19	e56	e52	e60	e28	e20	e36	e17	e16	e430	e100	e110	e140
20	e180	e44	e125	e310	e20	e28	e15	e110	e210	e90	e78	e120
21	e210	e40	e125	e290	e20	e22	e14	e26	e120	e92	e74	e240
22	e115	e36	e40	e100	e21	e18	e13	e12	e130	e68	e50	e132
23	e68	e34	e25	e54	e19	e16	e12	e11	e110	e56	e64	e110
24	e86	e33	e18	e40	e18	e14	e17	e11	e68	e45	e90	e96
25	e88	e66	e23	e37	e100	e13	e23	e10	e62	e43	e54	e88
26	e52	e54	e26	e50	e24	e12	e22	e14	e44	e40	e40	e84
27	e52	e46	e370	e105	e17	e16	e19	e50	e36	e37	e33	e86
28	e295	e38	e100	e230	e15	e14	e18	e23	e44	e34	e28	e98
29	e310	e29	e45	e235	e14	e14	e17	e11	e36	e47	e25	e90
30	e90	e29	e25	e118	---	e12	e16	e12	e30	e45	e24	e78
31	e62	---	e18	e69	---	e11	---	e12	---	e37	e20	---
TOTAL	2901	1954	1307	3258	1079	972	1192	656.6	4362	5523	3761	36531
MEAN	93.6	65.1	42.2	105	37.2	31.4	39.7	21.2	145	178	121	1218
MAX	310	200	370	660	105	270	230	110	700	1350	860	28100
MIN	38	29	14	15	14	11	10	9.8	11	14	20	23
AC-FT	5750	3880	2590	6460	2140	1930	2360	1300	8650	10950	7460	72460
CFSM	1.71	1.19	.77	1.92	.68	.57	.73	.39	2.65	3.25	2.21	22.2
IN.	1.97	1.33	.89	2.21	.73	.66	.81	.45	2.96	3.75	2.55	24.80

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 1996, BY WATER YEAR (WY)

MEAN	197	169	94.5	64.4	44.4	32.8	48.5	98.4	92.5	84.0	130	193
MAX	2164	831	565	519	195	120	323	594	629	489	642	1218
(WY)	1971	1978	1971	1992	1989	1972	1971	1985	1970	1961	1961	1996
MIN	7.82	12.1	9.16	7.78	7.65	4.72	6.61	6.66	4.93	5.30	9.45	11.9
(WY)	1969	1982	1990	1990	1990	1977	1977	1968	1977	1977	1967	1967

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1960 - 1996	
ANNUAL TOTAL	34983.6		63496.6			
ANNUAL MEAN	95.8		173		102	
HIGHEST ANNUAL MEAN					368	1971
LOWEST ANNUAL MEAN					19.3	1994
HIGHEST DAILY MEAN	4990	Sep 16	28100	Sep 10	28100	Sep 10 1996
LOWEST DAILY MEAN	4.3	Apr 29	9.8	May 6	2.6	Jul 25 1974
ANNUAL SEVEN-DAY MINIMUM	5.2	Apr 26	12	May 2	3.2	Jul 6 1977
INSTANTANEOUS PEAK FLOW			66000	Sep 10	73600	Jan 5 1992
INSTANTANEOUS PEAK STAGE			34.10	Sep 10	36.39	Jan 5 1992
ANNUAL RUNOFF (AC-FT)	69390		125900		74250	
ANNUAL RUNOFF (CFSM)	1.75		3.17		1.87	
ANNUAL RUNOFF (INCHES)	23.75		43.10		25.41	
10 PERCENT EXCEEDS	174		230		155	
50 PERCENT EXCEEDS	21		40		28	
90 PERCENT EXCEEDS	7.8		14		8.9	

e Estimated

RIO DE LA PLATA BASIN

50043000 RIO DE LA PLATA AT PROYECTO LA PLATA, PR--Continued

WATER-QUALITY RECORDS

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

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, 0.45 UM-MF (COLS./ 100 ML) (31616)	STREP-TOCOCCI FECAL, (COLS. PER 100 ML) (31679)
OCT 1995											
05...	1115	50	380	8.0	27.5	5.7	7.6	96	<10	K640	K110
DEC											
13...	0945	16	500	8.4	24.0	1.1	5.7	67	19	K140	K170
FEB 1996											
14...	1155	25	420	7.8	25.0	2.9	8.7	108	12	280	K70
APR											
01...	1310	11	465	8.3	28.5	1.9	7.2	95	19	320	K82
JUN											
12...	1035	21	301	7.2	26.5	5.1	5.7	72	20	410	340
AUG											
26...	1515	40	314	7.8	29.5	2.3	9.4	126	11	520	240

DATE	HARD-NESS TOTAL (MG/L AS CACO3) (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)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (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 1995										
05...	140	36	13	27	1	2.5	140	<0.5	16	28
DEC										
13...	--	--	--	--	--	--	180	--	--	--
FEB 1996										
14...	--	--	--	--	--	--	160	--	--	--
APR										
01...	170	42	15	38	1	4.1	170	<0.5	22	40
JUN										
12...	--	--	--	--	--	--	120	--	--	--
AUG										
26...	120	28	11	22	0.9	2.1	110	--	10	22

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)	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 1995										
05...	0.10	26	233	31.3	4	1.38	0.020	1.40	0.030	0.35
DEC										
13...	--	--	--	--	4	3.31	0.090	3.40	0.140	0.85
FEB 1996										
14...	--	--	--	--	4	2.30	0.100	2.40	0.080	0.44
APR										
01...	0.10	18	281	8.00	5	2.97	0.130	3.10	0.070	0.65
JUN										
12...	--	--	--	--	17	3.04	0.160	3.20	0.930	0.77
AUG										
26...	0.10	24	185	20.0	2	3.90	0.300	4.20	0.650	1.3

K = non-ideal count

50043000 RIO DE LA PLATA AT PROYECTO LA PLATA, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

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 1995										
05...	0.38	1.8	7.9	0.250	<1	<100	40	<1	<1	10
DEC										
13...	0.99	4.4	19	0.650	--	--	--	--	--	--
FEB 1996										
14...	0.52	2.9	13	0.330	--	--	--	--	--	--
APR										
01...	0.72	3.8	17	0.530	<1	<100	60	<1	<1	10
JUN										
12...	1.7	4.9	22	0.870	--	--	--	--	--	--
AUG										
26...	2.0	6.2	27	1.40	--	--	--	--	--	--

DATE	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 (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 1995										
05...	340	1	40	<0.10	<1	<1	<10	<0.010	<1	<0.02
DEC										
13...	--	--	--	--	--	--	--	--	--	--
FEB 1996										
14...	--	--	--	--	--	--	--	--	--	--
APR										
01...	230	<1	50	<0.10	<1	<1	<10	<0.010	<1	0.05
JUN										
12...	--	--	--	--	--	--	--	--	--	--
AUG										
26...	--	--	--	--	--	--	--	--	--	--

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 Comerío, 0.4 mi (0.6 km) southwest of Comerío High School, and 0.2 mi (0.3 km) northeast of Plaza de Comerío.

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 (184.160 m) above mean sea level.

REMARKS.--Records fair. Filtration plant more or less 1,000 feet upstream from station. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	153	88	38	30	98	25	29	17	17	22	46	47
2	127	80	30	28	83	22	25	16	62	20	41	87
3	137	104	33	33	73	22	84	16	16	18	53	126
4	88	85	34	35	78	24	434	14	30	17	353	330
5	78	76	31	36	207	27	251	13	55	15	224	190
6	85	111	30	39	180	28	188	13	148	15	112	69
7	94	137	29	40	139	28	159	14	210	14	76	47
8	99	86	29	145	95	26	60	17	491	270	52	88
9	77	128	28	127	98	21	40	21	156	1050	50	120
10	68	334	26	48	101	22	29	35	67	511	51	32400
11	162	91	27	44	70	28	25	23	41	261	45	4790
12	166	62	29	65	55	122	35	18	34	203	39	1140
13	98	143	34	57	51	60	86	15	210	360	33	574
14	92	195	43	693	49	41	52	40	108	1100	592	352
15	77	200	40	1310	43	35	67	48	1120	2190	735	317
16	60	144	36	313	42	513	57	29	915	783	1440	357
17	181	189	27	80	39	187	39	27	689	392	654	232
18	180	111	33	48	37	96	28	91	328	236	309	172
19	88	86	129	54	38	64	27	23	622	159	172	146
20	298	72	240	618	38	47	23	169	272	137	123	135
21	348	64	238	556	37	38	21	33	134	142	118	284
22	211	58	71	204	40	33	20	17	179	104	80	146
23	109	54	44	102	36	28	19	15	157	85	106	119
24	144	53	33	76	33	25	19	14	77	73	147	106
25	145	108	44	70	194	23	23	13	55	66	81	99
26	85	88	49	95	52	22	22	19	45	61	57	97
27	84	75	723	180	34	29	19	75	41	58	49	101
28	493	63	166	453	29	25	18	27	53	52	43	115
29	513	46	69	457	28	25	17	15	37	73	39	101
30	154	47	44	219	---	22	16	14	29	70	38	89
31	103	---	32	130	---	20	---	18	---	57	31	---
TOTAL	4797	3178	2459	6385	2097	1728	1932	919	6398	8614	5989	42976
MEAN	155	106	79.3	206	72.3	55.7	64.4	29.6	213	278	193	1433
MAX	513	334	723	1310	207	513	434	169	1120	2190	1440	32400
MIN	60	46	26	28	28	20	16	13	16	14	31	47
AC-FT	9510	6300	4880	12660	4160	3430	3830	1820	12690	17090	11880	85240
CFSM	1.43	.98	.73	1.90	.67	.51	.59	.27	1.97	2.56	1.78	13.2
IN.	1.64	1.09	.84	2.19	.72	.59	.66	.32	2.19	2.95	2.05	14.73

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1996, BY WATER YEAR (WY)

MEAN	207	87.2	52.9	152	82.3	41.0	54.2	95.2	84.2	106	79.6	427
MAX	866	166	112	732	247	75.7	162	263	213	291	193	1433
(WY)	1991	1993	1993	1992	1989	1989	1993	1992	1996	1993	1996	1996
MIN	40.6	19.0	17.1	21.3	24.4	20.6	22.3	19.7	13.2	10.4	12.7	51.2
(WY)	1992	1995	1995	1995	1990	1993	1991	1994	1994	1994	1994	1991

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1989 - 1996	
ANNUAL TOTAL	53582.3		87472			
ANNUAL MEAN	147		239		120	
HIGHEST ANNUAL MEAN					239	1996
LOWEST ANNUAL MEAN					35.3	1994
HIGHEST DAILY MEAN	6230	Sep 16	32400	Sep 10	32400	Sep 10 1996
LOWEST DAILY MEAN	8.3	Apr 29	13	May 5	5.8	Jun 25 1994
ANNUAL SEVEN-DAY MINIMUM	9.8	Apr 26	15	May 1	7.3	Jul 31 1994
INSTANTANEOUS PEAK FLOW			118000	Sep 10	127000	Jan 5 1992
INSTANTANEOUS PEAK STAGE			28.41	Sep 10	29.22	Jan 5 1992
ANNUAL RUNOFF (AC-FT)	106300		173500		87160	
ANNUAL RUNOFF (CFSM)	1.35		2.20		1.11	
ANNUAL RUNOFF (INCHES)	18.37		29.99		15.07	
10 PERCENT EXCEEDS	321		331		167	
50 PERCENT EXCEEDS	38		66		35	
90 PERCENT EXCEEDS	13		21		15	

RIO DE LA PLATA BASIN

50043800 RIO DE LA PLATA AT COMERIO, PR--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORDS.-- Water years 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 local observer and automatic sediment sampler.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATION: Maximum daily mean, 8,800 mg/L Jan. 05, 1992; Minimum daily mean, 1 mg/L November 28, 1994.

SEDIMENT LOADS: Maximum daily mean, 950,000 tons (862,000 tonnes) Jan. 05, 1992; Minimum daily mean, 0.04 tons (0.04 tonne) November 28, 1994.

EXTREMES FOR WATER YEARS 1996.--
SEDIMENT CONCENTRATION: Maximun daily mean, 6,950 mg/l September 10, 1996; Minimun daily mean, 4 mg/L several days.

SEDIMENT LOADS: Maximun daily mean, 728,000 tons (660,000 tonnes) September 10, 1996; Minimun daily mean .15 tons (.14 tonnes) May 31, 1996.

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	153	80	34	88	34	8.2	38	29	3.0
2	127	102	60	80	41	8.8	30	25	2.0
3	137	319	136	104	58	16	33	24	2.1
4	88	57	14	85	53	12	34	25	2.3
5	78	52	11	76	46	9.6	31	24	2.0
6	85	42	9.5	111	61	19	30	23	1.9
7	94	32	8.1	137	73	27	29	22	1.7
8	99	25	6.5	86	60	14	29	21	1.6
9	77	23	4.7	128	64	55	28	20	1.5
10	68	28	5.3	334	781	966	26	21	1.5
11	162	81	36	91	50	12	27	22	1.6
12	166	50	25	62	38	6.3	29	24	1.8
13	98	18	4.8	143	78	64	34	25	2.3
14	92	17	4.2	195	96	56	43	27	3.1
15	77	16	3.4	200	95	90	40	26	2.8
16	60	18	2.9	144	90	36	36	25	2.4
17	181	82	73	189	112	63	27	23	1.7
18	180	126	64	111	70	21	33	25	2.3
19	88	129	31	86	49	11	129	69	25
20	298	132	263	72	38	7.5	240	105	121
21	348	181	187	64	30	5.2	238	138	99.8
22	211	151	88	58	25	3.8	71	53	11
23	109	74	22	54	21	3.0	44	29	3.4
24	144	128	52	53	17	2.5	33	24	2.2
25	145	76	31	108	53	16	44	31	4.7
26	85	58	13	88	50	12	49	27	12
27	84	54	12	75	40	8.1	723	396	1040
28	493	429	1610	63	35	5.9	166	92	43
29	513	421	802	46	30	3.8	69	45	8.8
30	154	104	45	47	32	4.1	44	29	3.5
31	103	59	17	---	---	---	32	26	2.3
TOTAL	4797	---	3675.4	3178	---	1566.8	2459	---	1414.3

RIO DE LA PLATA BASIN

50043800 RIO DE LA PLATA AT COMERIO, 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)
		JANUARY			FEBRUARY			MARCH	
1	30	24	1.9	98	31	7.1	25	29	1.9
2	28	21	1.6	83	23	4.3	22	21	1.3
3	33	21	1.8	73	23	3.8	22	23	1.4
4	35	22	2.1	78	24	4.3	24	26	1.7
5	36	23	2.2	207	78	56	27	25	1.9
6	39	25	2.6	180	39	18	28	21	1.6
7	40	26	2.8	139	65	22	28	22	1.7
8	145	61	47	95	46	11	26	22	1.5
9	127	38	20	98	40	9.9	21	23	1.3
10	48	35	4.6	101	56	15	22	23	1.4
11	44	31	3.7	70	34	6.1	28	24	1.8
12	65	41	8.1	55	24	3.5	122	69	27
13	57	37	5.8	51	23	3.2	60	44	7.7
14	693	227	743	49	24	3.1	41	26	2.9
15	1310	428	1750	43	23	2.7	35	24	2.4
16	313	134	128	42	20	2.2	513	130	216
17	80	53	12	39	17	1.8	187	96	49
18	48	33	4.4	37	14	1.4	96	76	20
19	54	34	5.0	38	16	1.6	64	57	9.9
20	618	220	477	38	17	1.8	47	46	5.8
21	556	248	416	37	19	1.9	38	46	4.7
22	204	157	127	40	20	2.1	33	46	4.1
23	102	129	62	36	20	2.0	28	47	3.6
24	76	92	31	33	21	1.8	25	48	3.2
25	70	64	18	194	188	130	23	48	3.0
26	95	57	18	52	45	6.2	22	44	2.6
27	180	84	47	34	51	4.7	29	25	2.0
28	453	190	247	29	57	4.5	25	14	.94
29	457	215	280	28	44	3.3	25	14	.90
30	219	115	62	---	---	---	22	14	.82
31	130	76	24	---	---	---	20	15	.81
TOTAL	6385	---	4555.6	2097	---	335.3	1728	---	384.87

RIO DE LA PLATA BASIN

50043800 RIO DE LA PLATA AT COMERIO, 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)
		APRIL			MAY			JUNE	
1	29	31	2.6	17	25	1.1	17	18	1.1
2	25	33	2.3	16	25	1.1	62	39	7.9
3	84	53	38	16	25	1.1	16	22	.97
4	434	188	237	14	26	.97	30	22	2.0
5	251	115	83	13	26	.89	55	38	7.0
6	188	95	53	13	26	.92	148	67	32
7	159	99	44	14	26	.97	210	77	59
8	60	62	10	17	26	1.2	491	325	587
9	40	39	4.3	21	24	1.4	156	82	38
10	29	25	2.0	35	24	2.3	67	42	7.7
11	25	19	1.3	23	19	1.2	41	32	3.6
12	35	23	2.4	18	17	.81	34	26	2.4
13	86	57	14	15	18	.74	210	68	44
14	52	39	5.5	40	26	4.2	108	62	19
15	67	43	7.8	48	32	4.4	1120	600	2660
16	57	31	4.8	29	18	1.4	915	341	872
17	39	27	2.9	27	17	1.2	689	196	404
18	28	25	1.9	91	54	18	328	84	78
19	27	23	1.7	23	26	1.6	622	87	165
20	23	24	1.5	169	76	46	272	42	31
21	21	25	1.4	33	42	3.7	134	40	15
22	20	26	1.4	17	34	1.5	179	48	28
23	19	27	1.4	15	29	1.2	157	69	32
24	19	28	1.4	14	25	.97	77	28	6.0
25	23	29	1.7	13	19	.70	55	22	3.3
26	22	29	1.8	19	16	.93	45	18	2.2
27	19	29	1.5	75	84	45	41	19	2.2
28	18	27	1.3	27	119	8.7	53	32	4.6
29	17	25	1.2	15	10	.40	37	20	2.0
30	16	25	1.1	14	4	.15	29	13	1.0
31	---	---	---	18	11	.50	---	---	---
TOTAL	1932	---	534.2	919	---	155.25	6398	---	5117.97

RIO DE LA PLATA BASIN

50043800 RIO DE LA PLATA AT COMERIO, 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)
		JULY			AUGUST			SEPTEMBER	
1	22	12	.69	46	4	.50	47	30	4.3
2	20	11	.57	41	4	.44	87	50	15
3	18	10	.49	53	13	4.5	126	58	34
4	17	10	.47	353	160	160	330	146	273
5	15	10	.40	224	113	70	190	135	76
6	15	10	.40	112	67	21	69	61	12
7	14	11	.41	76	20	4.3	47	26	3.3
8	270	72	223	52	13	1.8	88	57	16
9	1050	230	711	50	10	1.3	120	76	26
10	511	193	266	51	7	1.0	32400	6950	728000
11	261	149	106	45	6	.75	4790	2740	43200
12	203	114	63	39	7	.71	1140	420	1440
13	360	102	100	33	7	.67	574	86	137
14	1100	452	2360	592	184	1060	352	74	70
15	2190	437	2810	735	458	1010	317	118	105
16	783	139	311	1440	428	2010	357	166	166
17	392	75	81	654	118	231	232	104	68
18	236	47	31	309	79	66	172	38	18
19	159	30	13	172	43	21	146	17	6.9
20	137	19	6.9	123	22	7.6	135	18	6.7
21	142	12	4.5	118	53	17	284	173	229
22	104	9	2.4	80	49	11	146	78	31
23	85	10	2.2	106	57	19	119	61	20
24	73	11	2.2	147	30	12	106	45	13
25	66	12	2.2	81	19	4.3	99	20	5.2
26	61	10	1.6	57	15	2.2	97	8	2.1
27	58	8	1.3	49	8	1.1	101	4	1.2
28	52	9	1.2	43	6	.65	115	5	1.7
29	73	12	2.7	39	8	.86	101	7	1.8
30	70	5	1.0	38	14	1.4	89	8	1.9
31	57	4	.61	31	21	1.8	---	---	---
TOTAL	8614	---	7107.24	5989	---	4743.88	42976	---	773984.1
YEAR	87472		803575.11						

RIO DE LA PLATA BASIN

50043800 RIO DE LA PLATA AT COMERIO, PR--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

PARTICLE-SIZE DISTRIBUTION 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. 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 1995							
10...	1556	173	595	276	88	90	91
14...	1536	141	557	212	74	81	86
JUN 1996							
15...	1045	2150	3660	21200	36	43	49
SEP							
11...	0630	5120	3490	48200	26	28	30

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 1995							
10...	93	94	99	99	100	100	100
14...	89	90	98	99	100	100	100
JUN 1996							
15...	59	68	85	96	100	100	100
SEP							
11...	34	36	44	62	76	90	97

RIO DE LA PLATA BASIN

50043800 RIO DE LA PLATA AT COMERIO, PR--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

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 1995					
03...	1118	118	397	126	95
22...	1228	259	161	112	98
28...	1925	1940	1980	10400	99
29...	0005	1360	1230	4530	98
29...	1515	336	212	192	96
FEB 1996					
25...	0830	213	296	170	99
MAR					
16...	0920	578	104	162	83
17...	1400	172	98	46	84
MAY					
28...	0710	24	192	12	100
JUN					
15...	1055	2980	1910	15400	93
15...	1255	2720	1030	7560	98
15...	1340	2480	1210	8110	98
JUL					
09...	0830	786	186	395	96
16...	1345	706	115	219	91
AUG					
15...	0745	794	622	1330	99
16...	1150	3180	794	6820	94

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 Comerío 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 Río Guamaní.

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DATE	TIME	DISCHARGE, 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, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	OXYGEN DEMAND, CHEMICAL (HIGH LEVEL) (MG/L) (00340)	COLIFORM, FECAL, 0.45 UM-MF (COLS./100 ML) (31616)	STREPTOCOCCI FECAL, (COLS. PER 100 ML) (31679)
OCT 1995											
04...	0950	92	372	8.0	26.0	87	7.5	90	15	53000	980
DEC											
07...	0930	35	411	8.1	23.0	4.6	7.0	81	<10	K1000	K240
FEB 1996											
05...	0945	101	402	8.2	23.5	3.2	8.0	95	<10	K1800	480
APR											
10...	1030	36	363	8.2	26.0	18	7.9	98	13	K1000	330
JUN											
04...	1015	221	275	7.8	25.0	160	7.9	96	60	52000	77000
AUG											
13...	1135	53	378	8.4	29.5	1.4	8.7	115	<10	K890	200

DATE	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	SODIUM ADSORPTION RATIO (00931)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ALKALINITY WAT WH TOT FET FIELD MG/L AS CACO3 (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)
OCT 1995										
04...	150	37	15	21	0.7	2.8	150	<0.5	17	25
DEC										
07...	--	--	--	--	--	--	170	--	--	--
FEB 1996										
05...	--	--	--	--	--	--	150	--	--	--
APR										
10...	140	34	13	22	0.8	3.0	130	<0.5	16	25
JUN										
04...	--	--	--	--	--	--	74	--	--	--
AUG										
13...	140	32	14	25	0.9	2.5	150	--	14	27

K = non-ideal count

RIO DE LA PLATA BASIN

50044000 RIO DE LA PLATA NEAR COMERIO, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DATE	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	SOLIDS, DISSOLVED (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 1995										
04...	0.10	27	235	58.4	73	0.920	0.050	0.970	0.060	0.35
DEC										
07...	--	--	--	--	3	1.49	0.010	1.50	0.030	0.25
FEB 1996										
05...	--	--	--	--	21	1.49	0.010	1.50	0.040	0.26
APR										
10...	0.20	26	217	21.1	19	1.79	0.010	1.80	0.020	0.27
JUN										
04...	--	--	--	--	296	1.72	0.080	1.80	0.150	2.0
AUG										
13...	0.10	27	232	33.0	<1	1.39	0.010	1.40	0.080	0.66

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 1995										
04...	0.41	1.4	6.1	0.210	1	<100	50	<1	4	10
DEC										
07...	0.28	1.8	7.9	0.180	--	--	--	--	--	--
FEB 1996										
05...	0.30	1.8	8.0	0.190	--	--	--	--	--	--
APR										
10...	0.29	2.1	9.3	0.160	<1	<100	40	<1	1	<10
JUN										
04...	2.2	4.0	18	0.560	--	--	--	--	--	--
AUG										
13...	0.74	2.1	9.5	0.190	--	--	--	--	--	--

DATE	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 (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 1995										
04...	2500	3	70	<0.10	<1	<1	10	<0.010	<1	<0.02
DEC										
07...	--	--	--	--	--	--	--	--	--	--
FEB 1996										
05...	--	--	--	--	--	--	--	--	--	--
APR										
10...	920	<1	70	<0.10	<1	<1	<10	<0.010	<1	<0.02
JUN										
04...	--	--	--	--	--	--	--	--	--	--
AUG										
13...	--	--	--	--	--	--	--	--	--	--

RIO DE LA PLATA BASIN

50044830 RIO GUADIANA AT GUADIANA, PR

LOCATION.--Lat 18°18'08", long 66°13'24", Hydrologic Unit 21010005, at left bank downstream side of river, 1.3 mi (2.1 km) East of Plaza de Naranjito, 0.9 mi (1.4 km) west from intersection of roads 167 and 164 at km 8.9 and 2.9 mi (4.7 km) northwest from Represa Comerio.

DRAINAGE AREA.--9.19 mi² (23.80 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1990 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 230 ft (70 m), from topographic map.

REMARKS.--Records fair. Mean daily discharge affected by domestic discharges near station. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.7	7.8	8.7	7.8	15	7.0	5.0	7.9	7.1	3.5	5.7	17
2	6.5	17	8.9	7.3	13	6.7	5.0	7.4	6.1	3.4	3.7	16
3	6.3	18	8.6	6.9	13	6.8	12	7.2	5.2	3.4	3.6	13
4	6.2	18	8.6	6.5	12	6.9	13	6.9	136	3.2	3.6	90
5	6.6	31	8.3	6.3	10	12	12	6.3	51	3.1	8.6	22
6	6.3	74	7.6	27	11	7.3	8.2	6.9	22	3.3	4.0	10
7	7.8	27	7.4	12	10	6.8	5.9	11	30	3.7	8.7	9.5
8	7.4	14	7.2	14	9.5	7.3	5.3	9.9	14	62	4.8	74
9	9.3	118	9.1	38	128	7.3	5.1	18	10	28	3.5	117
10	12	43	11	20	36	6.0	4.8	11	10	8.1	3.3	2400
11	14	17	12	13	20	8.5	4.9	9.1	9.3	6.1	4.4	52
12	8.5	11	12	18	14	7.6	31	7.4	11	6.6	3.8	42
13	7.9	9.2	13	11	11	6.4	21	7.7	9.0	6.5	4.8	49
14	7.0	7.9	13	17	10	8.3	8.5	6.9	8.6	53	33	83
15	6.5	31	10	42	10	17	8.3	10	19	28	44	64
16	6.3	16	12	23	11	10	12	9.4	24	10	85	60
17	14	15	59	15	10	7.9	7.4	7.3	19	11	15	24
18	9.2	10	192	13	9.8	7.4	6.6	7.2	11	6.9	7.8	19
19	9.0	8.5	76	65	10	7.3	6.2	7.6	8.0	5.8	6.5	14
20	8.0	7.7	28	61	8.8	7.4	6.3	8.5	6.3	5.7	5.9	11
21	20	7.3	19	28	8.3	6.9	6.4	6.3	6.0	4.5	5.5	11
22	18	7.8	15	17	8.1	6.8	19	6.0	8.7	4.1	4.6	11
23	11	7.4	14	14	8.0	5.6	15	5.7	5.4	4.0	8.4	12
24	53	12	13	17	7.9	4.7	14	5.3	5.1	5.3	6.8	13
25	20	12	15	17	7.0	5.1	9.6	7.6	4.3	5.7	5.7	14
26	15	11	12	18	6.5	5.7	8.5	44	4.2	4.2	6.1	11
27	63	9.4	11	53	6.3	8.4	8.4	15	4.9	3.9	6.2	8.7
28	15	8.4	15	81	6.6	6.2	7.7	7.6	4.3	3.7	55	15
29	8.9	8.9	9.3	43	7.3	6.2	11	5.7	4.0	4.0	20	12
30	7.5	8.2	9.0	24	---	5.4	9.6	29	3.6	3.8	16	18
31	5.7	---	8.9	17	---	5.2	---	10	---	6.1	15	---
TOTAL	402.6	593.5	653.6	752.8	438.1	228.1	297.7	315.8	467.1	310.6	409.0	3312.2
MEAN	13.0	19.8	21.1	24.3	15.1	7.36	9.92	10.2	15.6	10.0	13.2	110
MAX	63	118	192	81	128	17	31	44	136	62	85	2400
MIN	5.7	7.3	7.2	6.3	6.3	4.7	4.8	5.3	3.6	3.1	3.3	8.7
AC-FT	799	1180	1300	1490	869	452	590	626	926	616	811	6570
CFSM	1.41	2.15	2.29	2.64	1.64	.80	1.08	1.11	1.69	1.09	1.44	12.0
IN.	1.63	2.40	2.65	3.05	1.77	.92	1.21	1.28	1.89	1.26	1.66	13.41

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1996, BY WATER YEAR (WY)

MEAN	23.4	14.6	14.4	18.6	14.8	9.86	16.7	27.1	8.45	10.1	8.13	28.2
MAX	98.7	19.8	27.5	42.5	31.7	15.6	52.4	87.2	19.5	23.5	13.2	110
(WY)	1991	1996	1993	1992	1991	1995	1993	1993	1993	1993	1996	1996
MIN	4.51	7.32	5.62	5.70	6.39	3.96	4.26	2.16	1.49	1.45	3.35	3.57
(WY)	1992	1992	1995	1994	1992	1994	1995	1994	1994	1994	1994	1994

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1990 - 1996	
ANNUAL TOTAL	5683.7		8181.1			
ANNUAL MEAN	15.6		22.4		16.4	
HIGHEST ANNUAL MEAN					24.5	1993
LOWEST ANNUAL MEAN					5.96	1994
HIGHEST DAILY MEAN	417	Sep 16	2400	Sep 10	2400	Sep 10 1996
LOWEST DAILY MEAN	1.2	Jul 18	3.1	Jul 5	.97	Oct 6 1994
ANNUAL SEVEN-DAY MINIMUM	1.7	Jan 3	3.4	Jun 30	1.1	Jul 20 1994
INSTANTANEOUS PEAK FLOW			8930	Sep 10	8930	Sep 10 1996
INSTANTANEOUS PEAK STAGE			16.58	Sep 10	16.58	Sep 10 1996
ANNUAL RUNOFF (AC-FT)	11270		16230		11870	
ANNUAL RUNOFF (CFSM)	1.69		2.43		1.78	
ANNUAL RUNOFF (INCHES)	23.01		33.12		24.23	
10 PERCENT EXCEEDS	27		32		29	
50 PERCENT EXCEEDS	6.3		9.0		6.5	
90 PERCENT EXCEEDS	2.0		5.0		2.4	

RIO DE LA PLATA BASIN

50044830 RIO GUADIANA AT GUADIANA, PR--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORDS.-- Water years 1990 to current year.

PERIOD OF DAILY RECORD.--
SUSPENDED-SEDIMENT DISCHARGE: August 01, 1990 to current year.

INSTRUMENTATION.-- USDH-49 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 a local observe and automatic sediment sampler.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATION: Maximum daily mean, 9,200 mg/L September 10, 1996; Minimum daily mean, 1 mg/L few days.

SEDIMENT LOADS: Maximum daily mean, 105,200 tons (95,200 tonnes) September 10, 1996; Minimum daily mean, <0.01 ton (<0.01 tonne) several days.

EXTREMES FOR CURRENT YEAR 1996.--
SEDIMENT CONCENTRATION: Maximum daily mean, 9,200 mg/L September 10, 1996; Minimum daily mean, 3 mg/L several days.

SEDIMENT LOADS: Maximum daily mean, 105,000 tons (95,2000 tonnes) September 10, 1996; Minimum daily mean, 0.03 ton (0.02 tonne) several days.

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	6.7	19	.35	7.8	17	.37	8.7	10	.23
2	6.5	30	.54	17	69	4.9	8.9	10	.24
3	6.3	28	.48	18	51	2.5	8.6	10	.23
4	6.2	21	.35	18	48	2.5	8.6	11	.26
5	6.6	18	.31	31	115	17	8.3	13	.28
6	6.3	15	.26	74	1540	287	7.6	12	.24
7	7.8	35	.90	27	97	7.7	7.4	10	.21
8	7.4	66	1.3	14	33	1.3	7.2	10	.20
9	9.3	29	.92	118	576	815	9.1	18	.49
10	12	37	1.6	43	181	30	11	27	1.1
11	14	46	2.4	17	44	2.1	12	85	5.2
12	8.5	28	.64	11	24	.73	12	33	1.3
13	7.9	15	.31	9.2	16	.39	13	32	1.1
14	7.0	7	.14	7.9	18	.38	13	15	.52
15	6.5	8	.14	31	205	92	10	10	.28
16	6.3	11	.18	16	975	34	12	33	1.1
17	14	49	4.1	15	75	3.7	59	267	88
18	9.2	22	.55	10	26	.72	192	954	1020
19	9.0	25	.61	8.5	18	.42	76	352	89
20	8.0	12	.25	7.7	12	.25	28	81	6.5
21	20	72	14	7.3	8	.16	19	43	2.2
22	18	88	5.8	7.8	11	.23	15	29	1.1
23	11	28	.98	7.4	17	.34	14	22	.85
24	53	200	43	12	17	.52	13	17	.60
25	20	59	3.7	12	14	.47	15	37	2.3
26	15	55	2.2	11	9	.29	12	26	.89
27	63	765	601	9.4	6	.15	11	21	.64
28	15	30	1.4	8.4	10	.22	15	45	2.0
29	8.9	10	.25	8.9	15	.35	9.3	22	.56
30	7.5	7	.13	8.2	9	.19	9.0	19	.47
31	5.7	8	.12	---	---	---	8.9	16	.40
TOTAL	402.6	---	688.91	593.5	---	1305.88	653.6	---	1228.49

RIO DE LA PLATA BASIN

50044830 RIO GUADIANA AT GUADIANA, 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)
		JANUARY			FEBRUARY			MARCH	
1	7.8	13	.28	15	8	.30	7.0	10	.19
2	7.3	7	.14	13	7	.23	6.7	9	.16
3	6.9	4	.07	13	30	1.2	6.8	8	.15
4	6.5	3	.04	12	31	.99	6.9	8	.14
5	6.3	3	.06	10	27	.76	12	17	.86
6	27	105	11	11	32	.98	7.3	4	.07
7	12	41	1.3	10	36	.97	6.8	5	.09
8	14	21	.96	9.5	45	1.1	7.3	6	.12
9	38	294	147	128	1510	2820	7.3	5	.09
10	20	70	4.4	36	145	16	6.0	5	.09
11	13	38	1.4	20	44	2.4	8.5	6	.14
12	18	63	3.6	14	18	.68	7.6	6	.12
13	11	32	.95	11	12	.37	6.4	5	.09
14	17	56	5.1	10	10	.29	8.3	16	.66
15	42	169	23	10	10	.29	17	57	4.9
16	23	71	4.5	11	11	.33	10	28	.81
17	15	43	1.8	10	12	.33	7.9	17	.36
18	13	31	1.0	9.8	12	.32	7.4	14	.29
19	65	318	284	10	18	.51	7.3	12	.25
20	61	177	32	8.8	13	.31	7.4	11	.22
21	28	29	2.2	8.3	10	.22	6.9	9	.17
22	17	20	.89	8.1	9	.19	6.8	6	.11
23	14	14	.53	8.0	8	.17	5.6	4	.05
24	17	56	2.9	7.9	7	.15	4.7	4	.05
25	17	40	2.1	7.0	6	.12	5.1	6	.08
26	18	57	2.8	6.5	7	.13	5.7	6	.10
27	53	179	28	6.3	9	.15	8.4	23	.60
28	81	336	86	6.6	11	.20	6.2	12	.20
29	43	131	17	7.3	12	.24	6.2	9	.15
30	24	38	2.5	---	---	---	5.4	6	.09
31	17	12	.56	---	---	---	5.2	5	.06
TOTAL	752.8	---	668.08	438.1	---	2849.93	228.1	---	11.46

RIO DE LA PLATA BASIN

50044830 RIO GUADIANA AT GUADIANA, 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)
		APRIL			MAY			JUNE	
1	5.0	3	.05	7.9	5	.11	7.1	15	.29
2	5.0	6	.08	7.4	3	.07	6.1	12	.20
3	12	41	2.9	7.2	2	.04	5.2	10	.14
4	13	45	2.4	6.9	2	.04	136	683	534
5	12	36	1.4	6.3	2	.03	51	216	88
6	8.2	35	.81	6.9	2	.04	22	83	6.0
7	5.9	15	.25	11	52	2.5	30	129	16
8	5.3	7	.11	9.9	30	.80	14	18	.67
9	5.1	8	.11	18	84	7.6	10	10	.26
10	4.8	11	.15	11	26	.80	10	7	.20
11	4.9	13	.17	9.1	18	.45	9.3	7	.16
12	31	119	20	7.4	17	.34	11	6	.17
13	21	50	3.7	7.7	17	.35	9.0	5	.12
14	8.5	16	.36	6.9	17	.32	8.6	14	.35
15	8.3	10	.23	10	30	1.3	19	62	3.9
16	12	50	1.7	9.4	18	.51	24	86	9.7
17	7.4	41	.83	7.3	7	.13	19	53	3.9
18	6.6	18	.31	7.2	5	.09	11	33	1.1
19	6.2	17	.28	7.6	7	.18	8.0	22	.48
20	6.3	17	.29	8.5	42	.94	6.3	12	.21
21	6.4	16	.28	6.3	51	.86	6.0	6	.10
22	19	78	13	6.0	57	.93	8.7	24	.79
23	15	47	2.4	5.7	24	.36	5.4	9	.13
24	14	44	1.7	5.3	7	.10	5.1	6	.08
25	9.6	23	.59	7.6	16	.55	4.3	5	.06
26	8.5	18	.42	44	424	193	4.2	4	.04
27	8.4	17	.37	15	50	2.3	4.9	6	.10
28	7.7	16	.33	7.6	15	.33	4.3	7	.08
29	11	26	.88	5.7	7	.10	4.0	4	.04
30	9.6	15	.42	29	101	30	3.6	4	.04
31	---	---	---	10	29	.83	---	---	---
TOTAL	297.7	---	56.52	315.8	---	246.00	467.1	---	667.31

RIO DE LA PLATA BASIN

50044830 RIO GUADIANA AT GUADIANA, 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)
		JULY			AUGUST			SEPTEMBER	
1	3.5	5	.05	5.7	26	.68	17	39	2.4
2	3.4	5	.05	3.7	29	.29	16	33	1.5
3	3.4	6	.05	3.6	24	.23	13	8	.26
4	3.2	5	.04	3.6	13	.13	90	422	336
5	3.1	4	.04	8.6	42	1.4	22	124	6.9
6	3.3	5	.04	4.0	9	.10	10	20	.57
7	3.7	14	.16	8.7	26	1.3	9.5	20	.75
8	62	231	72	4.8	14	.19	74	292	64
9	28	117	15	3.5	9	.08	117	752	1850
10	8.1	26	.57	3.3	9	.08	2400	9200	105000
11	6.1	18	.29	4.4	24	.42	52	723	102
12	6.6	15	.27	3.8	34	.36	42	473	54
13	6.5	15	.26	4.8	15	.24	49	465	62
14	53	801	273	33	149	31	83	329	75
15	28	89	7.9	44	245	82	64	304	52
16	10	16	.44	85	268	91	60	298	48
17	11	28	1.2	15	28	1.3	24	118	8.0
18	6.9	10	.19	7.8	7	.15	19	56	2.8
19	5.8	15	.25	6.5	7	.13	14	44	1.6
20	5.7	13	.20	5.9	11	.17	11	34	.99
21	4.5	15	.18	5.5	8	.12	11	27	.78
22	4.1	27	.30	4.6	5	.06	11	21	.65
23	4.0	23	.25	8.4	23	.86	12	17	.56
24	5.3	18	.28	6.8	12	.24	13	14	.48
25	5.7	11	.18	5.7	7	.11	14	15	.54
26	4.2	10	.11	6.1	6	.10	11	15	.44
27	3.9	13	.13	6.2	8	.13	8.7	19	.50
28	3.7	5	.05	55	199	87	15	52	2.2
29	4.0	4	.04	20	69	3.8	12	38	1.3
30	3.8	3	.03	16	26	1.1	18	31	1.5
31	6.1	13	.28	15	8	.34	---	---	---
TOTAL	310.6	---	373.83	409.0	---	305.11	3312.2	---	107677.72
YEAR	8181.1		116079.24						

RIO DE LA PLATA BASIN

50044830 RIO GUADIANA AT GUADIANA, PR--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

PARTICLE-SIZE DISTRIBUTION 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. 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 1995							
10...	1650	25	2510	169	47	59	72
NOV							
06...	1200	55	4450	661	42	50	59
06...	1415	61	4010	660	40	47	53
FEB 1996							
09...	1527	868	25000	58600	18	29	34
09...	1557	1020	13200	36400	21	33	38
JUN							
04...	0632	407	3840	4220	26	42	52
04...	0732	412	3120	3470	36	49	57
AUG							
15...	1615	263	2690	1910	40	46	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)
OCT 1995							
10...	--	84	99	100	100	100	100
NOV							
06...	70	76	92	96	98	99	100
06...	64	76	89	93	95	97	98
FEB 1996							
09...	41	52	65	83	91	94	96
09...	48	60	72	90	95	98	99
JUN							
04...	67	78	86	96	99	100	100
04...	69	79	93	97	99	99	100
AUG							
15...	68	78	91	98	99	100	100

RIO DE LA PLATA BASIN

50044830 RIO GUADIANA AT GUADIANA, PR--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

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 1995					
11...	1550	39	2200	232	98
JAN 1996					
16...	1552	26	110	7.7	91
FEB					
09...	1647	412	3860	4290	90
MAY					
09...	1515	37	858	86	96
JUN					
04...	0702	399	3670	3950	92
04...	1157	279	1860	1400	96
AUG					
14...	1625	68	405	74	92
SEP					
05...	1300	18	139	6.8	90
14...	1745	74	284	57	97

RIO DE LA PLATA BASIN

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 1995 TO SEPTEMBER 1996

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, 0.45 UM-MF (COLS./ 100 ML) (31616)	STREP-TOCOCCI FECAL, (COLS. PER 100 ML) (31679)
OCT 1995											
04...	1200	8.0	350	7.4	27.0	1.8	6.9	85	25	330	K30
DEC											
07...	1040	7.4	304	8.0	23.5	2.5	7.4	85	<10	K10000	2500
FEB 1996											
05...	1125	13	343	7.6	23.0	2.5	7.9	91	<10	K6600	930
APR											
10...	0840	5.3	333	7.7	23.0	0.60	7.5	87	<10	2000	2100
JUN											
04...	1330	115	183	7.4	25.5	150	7.8	95	57	30000	37000
AUG											
26...	0950	6.0	381	7.6	25.5	0.50	7.3	89	<10	4000	3400

DATE	HARD-NESS TOTAL (MG/L AS CACO3) (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)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (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 1995										
04...	140	31	14	17	0.6	3.9	130	<0.5	13	23
DEC										
07...	--	--	--	--	--	--	170	--	--	--
FEB 1996										
05...	--	--	--	--	--	--	130	--	--	--
APR										
10...	150	35	15	17	0.6	2.4	130	<0.5	14	23
JUN										
04...	--	--	--	--	--	--	150	--	--	--
AUG										
26...	160	38	16	17	0.6	2.6	140	--	18	24

K = non-ideal count

RIO DE LA PLATA BASIN

50044850 RIO GUADIANA NEAR NARANJITO, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DATE	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	SOLIDS, DISSOLVED (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 1995										
04...	<0.10	26	206	4.45	6	0.130	0.020	0.150	0.070	0.20
DEC										
07...	--	--	--	--	12	2.49	0.010	2.50	0.030	0.25
FEB 1996										
05...	--	--	--	--	19	1.89	0.010	1.90	0.040	0.16
APR										
10...	0.20	25	210	2.99	2	1.28	0.020	1.30	0.020	0.52
JUN										
04...	--	--	--	--	564	1.54	0.060	1.60	0.180	2.1
AUG										
26...	0.10	0.10	200	3.24	<1	1.77	0.030	1.80	0.210	0.42

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 1995										
04...	0.27	0.22	0.97	0.180	2	<100	40	<1	<1	<10
DEC										
07...	0.28	2.8	12	0.250	--	--	--	--	--	--
FEB 1996										
05...	0.20	2.1	9.3	0.140	--	--	--	--	--	--
APR										
10...	0.54	1.8	8.1	0.210	2	<100	20	<1	<1	<10
JUN										
04...	2.3	3.9	17	0.880	--	--	--	--	--	--
AUG										
26...	0.63	2.4	11	0.330	--	--	--	--	--	--

DATE	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 (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 1995										
04...	190	2	100	<0.10	<1	<1	<10	<0.010	3	0.04
DEC										
07...	--	--	--	--	--	--	--	--	--	--
FEB 1996										
05...	--	--	--	--	--	--	--	--	--	--
APR										
10...	140	<1	50	<0.10	<1	<1	<10	<0.010	<1	<0.02
JUN										
04...	--	--	--	--	--	--	--	--	--	--
AUG										
26...	--	--	--	--	--	--	--	--	--	--

RIO DE LA PLATA BASIN

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 Río 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.

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, 170.90 ft (52.09 m), Sept. 10; minimum elevation, 159.07 ft (48.48 m), Jun. 4.

Capacity Table
(based on data from Puerto Rico Aqueduct and Sewer Authority)

Elevation, in feet	Contents, in acre-feet	Elevation, in feet	Contents, in acre-feet
98.43	2,760	164.05	28,550
131.24	11,360	170.61	33,160
154.60	22,720	175.52	37,040

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	163.73	164.53	164.43	A	165.81	165.10	162.97	162.30	159.39	163.72	164.87	165.47
2	163.80	164.58	164.38	A	165.81	164.99	162.84	162.15	159.27	163.57	164.79	165.47
3	163.62	164.34	164.32	A	165.84	164.91	162.94	161.99	159.09	163.41	164.72	165.46
4	163.71	164.54	164.25	A	165.85	164.84	163.69	161.81	159.63	163.24	165.01	165.98
5	163.61	164.41	164.20	A	165.82	164.87	164.02	161.64	159.73	163.09	165.28	165.81
6	163.70	164.35	164.12	A	165.85	164.78	164.23	161.48	159.85	162.91	165.33	165.83
7	163.89	164.55	164.05	A	165.85	164.69	164.30	161.45	160.09	162.30	165.33	165.81
8	163.90	164.47	163.99	A	165.82	164.61	164.26	161.34	160.73	160.50	165.27	164.46
9	164.00	164.48	163.93	164.97	165.89	164.48	164.15	161.29	160.88	162.35	165.17	162.73
10	164.05	164.41	163.89	165.19	165.84	164.37	164.01	161.25	160.92	162.97	165.10	160.81
11	164.09	164.45	A	165.25	165.90	164.30	163.89	161.15	160.85	163.24	165.05	164.11
12	164.09	164.42	A	165.39	165.88	164.31	164.00	161.01	160.82	163.37	164.95	164.02
13	164.20	164.25	A	165.42	165.80	164.29	164.03	160.88	160.95	163.67	164.90	164.94
14	164.02	164.58	163.59	165.43	165.78	164.30	163.99	160.72	161.01	165.26	165.81	165.43
15	164.10	164.39	A	165.44	165.76	164.27	163.97	160.68	162.95	164.86	165.76	165.36
16	A	164.48	A	165.26	165.55	164.81	163.95	160.57	164.07	164.90	165.76	165.47
17	A	164.53	A	165.54	165.52	164.93	163.89	160.46	164.07	165.13	165.80	165.61
18	A	164.50	A	165.49	165.48	164.65	163.79	160.42	164.09	164.85	165.81	165.37
19	164.65	164.44	A	165.67	165.46	164.59	163.66	160.33	164.07	164.96	165.91	165.53
20	164.82	164.47	A	165.67	165.44	164.50	163.50	160.40	164.09	165.03	166.01	165.78
21	164.50	164.52	A	165.63	165.40	164.40	163.37	160.30	164.16	165.10	165.69	165.76
22	164.37	164.48	A	165.59	165.38	164.29	163.31	160.15	164.34	165.11	165.70	166.19
23	164.51	164.49	A	165.76	165.35	164.16	163.29	160.00	164.42	165.10	165.73	165.68
24	164.39	164.57	A	165.72	165.31	164.02	163.22	159.82	164.40	165.14	165.75	165.91
25	164.39	164.67	A	165.80	165.43	163.87	163.09	159.66	164.34	165.02	165.79	166.12
26	164.70	164.58	A	165.85	165.40	163.76	162.98	159.70	164.25	164.94	165.76	166.30
27	164.48	164.61	A	165.84	165.33	163.63	162.84	159.95	164.17	164.88	165.73	165.74
28	164.77	164.55	A	165.82	165.25	163.52	162.68	159.98	164.11	164.87	A	A
29	164.48	164.54	A	165.84	165.19	163.39	162.56	159.82	164.01	164.84	165.73	166.30
30	164.56	164.52	A	165.81	---	163.24	162.45	159.72	163.87	164.81	A	166.18
31	164.65	---	165.05	165.76	---	163.11	---	159.56	---	164.88	165.52	---
MAX	---	164.67	---	---	165.90	165.10	164.30	162.30	164.42	165.26	---	---
MIN	---	164.25	---	---	165.19	163.11	162.45	159.56	159.09	160.50	---	---

A No gage-height record

RIO DE LA PLATA BASIN

50045010 RIO DE LA PLATA BELOW LA PLATA DAM, PR

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 Plaza de Corozal, 3.0 mi (4.8 km) northeast of Plaza de Naranjito.

DRAINAGE AREA.--173 mi² (448 km²).

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Elevation of gage is 164 ft (30 m), from topographic map.

REMARKS.--Records poor. Regulation at all stages by Puerto Rico Aqueduct and Sewer Authority reservoir upstream from gage. Gage-height satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	152	78	12	1.1	31	.82	.49	1.0	.65	.52	.85	1.6
2	25	34	1.2	1.0	34	.77	.51	1.0	.51	.45	.67	1.3
3	105	180	.94	32	20	.73	.70	1.0	.47	.45	.66	1.1
4	1.9	7.1	.92	20	23	1.4	1.0	1.0	.64	.40	.47	229
5	57	127	.91	1.8	74	1.2	.98	1.0	.76	.45	.51	201
6	1.3	265	.76	1.4	93	.80	.90	.96	.77	.57	.41	7.0
7	.97	51	.66	1.1	54	.73	.85	1.4	3.5	170	.57	5.9
8	50	71	.54	.90	103	.73	.85	.84	5.1	786	.59	741
9	1.6	249	.60	106	189	.65	.82	.80	3.7	43	10	1170
10	21	293	.46	2.0	112	.60	.67	.74	3.0	4.8	1.8	e141000
11	69	61	44	1.8	1.2	.60	.66	.60	1.8	4.5	1.2	e97700
12	85	60	1.7	1.2	6.2	.60	1.0	.60	1.9	4.4	1.1	e70
13	2.0	88	1.3	.92	28	.60	1.2	.60	1.6	4.0	1.2	e32
14	89	4.7	.86	247	.96	.69	1.0	.58	2.2	362	1.3	e17
15	2.5	159	.75	940	.66	.82	1.1	.48	2.2	1780	1720	e25
16	25	72	.84	297	57	.64	1.1	.45	115	462	1200	e21
17	3.4	85	1.2	3.2	1.5	.51	1.1	.45	377	111	332	e22
18	69	47	136	86	1.2	89	1.1	.45	119	258	156	e18
19	2.6	45	221	91	1.0	2.0	1.1	.50	258	2.1	29	e13
20	19	2.4	55	398	1.1	1.6	1.0	.60	84	1.6	1.7	e10
21	360	1.5	161	373	2.0	1.4	.97	.60	1.5	1.0	98	e4.8
22	145	33	18	186	1.6	1.3	.97	.64	1.2	.98	3.5	e15
23	20	.54	1.2	49	1.1	1.2	1.2	.66	.91	.99	168	e7.0
24	182	.34	.89	97	1.0	1.0	1.1	.51	.82	.99	117	e13
25	99	.13	.69	60	1.0	.84	1.1	.45	.80	42	2.0	e16
26	2.4	35	.63	75	.89	.77	.97	.46	.73	16	2.1	e7.9
27	181	2.3	56	242	.80	.67	.97	1.2	.73	.86	1.6	e12
28	154	23	184	440	.80	.60	.99	.89	.74	.71	47	e11
29	417	1.6	31	346	.85	.60	1.0	.71	.62	.68	98	e3.6
30	56	1.0	1.9	142	---	.53	1.1	.66	.57	.61	2.3	e4.5
31	18	---	1.4	105	---	.49	---	.72	---	.77	1.9	---
TOTAL	2416.67	2077.61	938.35	4348.42	841.86	114.89	28.50	22.55	990.42	4061.83	4001.43	241380.7
MEAN	78.0	69.3	30.3	140	29.0	3.71	.95	.73	33.0	131	129	8046
MAX	417	293	221	940	189	89	1.2	1.4	377	1780	1720	141000
MIN	.97	.13	.46	.90	.66	.49	.49	.45	.47	.40	.41	1.1
AC-FT	4790	4120	1860	8630	1670	228	57	45	1960	8060	7940	478800
CFSM	.45	.40	.18	.81	.17	.02	.01	.00	.19	.76	.75	46.6
IN.	.52	.45	.20	.94	.18	.02	.01	.00	.21	.87	.86	51.96

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1996, BY WATER YEAR (WY)

MEAN	212	79.2	42.1	275	42.0	20.1	39.6	140	49.0	83.1	33.4	1268
MAX	1107	225	161	1581	222	83.2	231	494	220	384	129	8046
(WY)	1991	1993	1993	1992	1991	1990	1993	1993	1993	1993	1996	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 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1989 - 1996	
ANNUAL TOTAL	31780.48		261223.23			
ANNUAL MEAN	87.1		714		193	
HIGHEST ANNUAL MEAN					714	1996
LOWEST ANNUAL MEAN					16.0	1994
HIGHEST DAILY MEAN	9990	Sep 16	141000	Sep 10	141000	Sep 10 1996
LOWEST DAILY MEAN	.00	Jan 1	.13	Nov 25	.00	Jul 14 1989
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 1	.49	Jun 30	.00	Jul 14 1989
INSTANTANEOUS PEAK FLOW			197000	Sep 10	197000	Sep 10 1996
INSTANTANEOUS PEAK STAGE			42.26	Sep 10	42.26	Sep 10 1996
ANNUAL RUNOFF (AC-FT)	63040		518100		139500	
ANNUAL RUNOFF (CFSM)	.50		4.13		1.11	
ANNUAL RUNOFF (INCHES)	6.84		56.24		15.14	
10 PERCENT EXCEEDS	131		173		184	
50 PERCENT EXCEEDS	.03		1.6		1.0	
90 PERCENT EXCEEDS	.00		.60		.00	

e Estimated

50045010 RIO DE LA PLATA AT 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, <.05 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 1996.--
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.

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	152	37	16	78	17	11	12	6	.94
2	25	23	1.7	34	5	1.2	1.2	5	.02
3	105	22	35	180	17	29	.94	4	.01
4	1.9	5	.03	7.1	5	.21	.92	3	.01
5	57	13	13	127	18	24	.91	3	.01
6	1.3	5	.02	265	36	58	.76	2	<.01
7	.97	4	.01	51	9	5.9	.66	2	<.01
8	50	11	8.9	71	13	14	.54	2	<.01
9	1.6	4	.02	249	29	73	.60	1	<.01
10	21	7	2.3	293	48	66	.46	1	<.01
11	69	16	11	61	27	4.4	44	8	8.1
12	85	24	14	60	24	3.9	1.7	6	.03
13	2.0	5	.03	88	23	16	1.3	5	.02
14	89	13	16	4.7	6	.08	.86	4	.01
15	2.5	4	.03	159	26	31	.75	4	.01
16	25	9	2.9	72	14	16	.84	3	.01
17	3.4	6	.06	85	15	14	1.2	3	.01
18	69	12	17	47	11	9.9	136	19	37
19	2.6	6	.04	45	9	10	221	37	38
20	19	7	3.9	2.4	5	.03	55	17	5.3
21	360	53	80	1.5	2	.01	161	27	28
22	145	22	39	33	10	4.7	18	11	1.2
23	20	8	1.2	.54	5	.01	1.2	5	.02
24	182	32	49	.34	3	.00	.89	4	.01
25	99	15	30	.13	2	.00	.69	3	.01
26	2.4	5	.03	35	6	6.0	.63	2	.00
27	181	32	36	2.3	4	.03	56	12	7.9
28	154	13	22	23	7	2.0	184	41	38
29	417	51	112	1.6	5	.02	31	8	5.3
30	56	12	9.9	1.0	3	.01	1.9	5	.03
31	18	6	1.6	---	---	---	1.4	4	.02
TOTAL	2416.67	---	522.67	2077.61	---	400.40	938.35	---	169.97

RIO DE LA PLATA BASIN

50045010 RIO DE LA PLATA BELOW LA PLATA DAM

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)
		JANUARY			FEBRUARY			MARCH	
1	1.1	3	.01	31	11	2.4	.82	4	.01
2	1.0	3	.01	34	7	5.1	.77	3	.01
3	32	7	5.8	20	8	2.3	.73	3	.01
4	20	9	2.6	23	9	2.6	1.4	3	.01
5	1.8	7	.03	74	14	11	1.2	3	.01
6	1.4	5	.02	93	19	11	.80	3	<.01
7	1.1	5	.01	54	12	7.4	.73	2	<.01
8	.90	4	.01	103	19	14	.73	2	<.01
9	106	13	23	189	30	44	.65	2	<.01
10	2.0	6	.03	112	23	16	.60	2	<.01
11	1.8	5	.02	1.2	4	.01	.60	2	<.01
12	1.2	4	.01	6.2	3	.20	.60	2	<.01
13	.92	3	.01	28	11	2.2	.60	1	<.01
14	247	33	59	.96	4	.01	.69	1	<.01
15	940	108	411	.66	3	.00	.82	1	<.01
16	297	51	49	57	8	11	.64	1	<.01
17	3.2	4	.09	1.5	6	.02	.51	1	<.01
18	86	18	11	1.2	6	.02	89	13	21
19	91	19	13	1.0	6	.02	2.0	12	.07
20	398	64	89	1.1	5	.02	1.6	12	.05
21	373	75	80	2.0	5	.03	1.4	11	.04
22	186	31	25	1.6	5	.02	1.3	11	.04
23	49	17	5.1	1.1	5	.02	1.2	10	.03
24	97	22	14	1.0	5	.01	1.0	10	.03
25	60	15	7.0	1.0	5	.01	.84	9	.02
26	75	16	7.3	.89	4	.01	.77	9	.02
27	242	50	35	.80	4	.01	.67	8	.02
28	440	67	86	.80	4	.01	.60	8	.01
29	346	64	61	.85	4	.01	.60	8	.01
30	142	29	20	---	---	---	.53	8	.01
31	105	26	11	---	---	---	.49	8	.01
TOTAL	4348.42	---	1015.05	841.86	---	129.43	114.89	---	21.41

RIO DE LA PLATA BASIN

50045010 RIO DE LA PLATA BELOW LA PLATA DAM

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)
		APRIL			MAY			JUNE	
1	.49	8	.01	1.0	5	.02	.65	4	.01
2	.51	8	.01	1.0	5	.02	.51	4	<.01
3	.70	7	.01	1.0	5	.01	.47	4	<.01
4	1.0	7	.02	1.0	5	.01	.64	3	.01
5	.98	7	.02	1.0	5	.01	.76	3	.01
6	.90	7	.02	.96	5	.01	.77	3	.01
7	.85	7	.02	1.4	5	.02	3.5	3	.03
8	.85	7	.02	.84	5	.01	5.1	3	.05
9	.82	7	.02	.80	5	.01	3.7	3	.03
10	.67	7	.01	.74	5	.01	3.0	3	.03
11	.66	7	.01	.60	5	.01	1.8	3	.02
12	1.0	7	.02	.60	5	.01	1.9	3	.02
13	1.2	7	.02	.60	5	.01	1.6	3	.01
14	1.0	6	.02	.58	5	.01	2.2	3	.02
15	1.1	6	.02	.48	4	.01	2.2	3	.02
16	1.1	6	.02	.45	4	<.01	115	13	36
17	1.1	6	.02	.45	4	<.01	377	48	142
18	1.1	6	.02	.45	4	<.01	119	11	24
19	1.1	6	.02	.50	4	.01	258	30	102
20	1.0	6	.02	.60	4	.01	84	12	19
21	.97	6	.02	.60	4	.01	1.5	6	.02
22	.97	6	.02	.64	4	.01	1.2	5	.02
23	1.2	6	.02	.66	4	.01	.91	5	.01
24	1.1	6	.02	.51	4	<.01	.82	5	.01
25	1.1	6	.02	.45	4	<.01	.80	4	.01
26	.97	6	.02	.46	4	<.01	.73	4	.01
27	.97	6	.02	1.2	4	.01	.73	4	.01
28	.99	5	.02	.89	4	.01	.74	4	.01
29	1.0	5	.02	.71	4	.01	.62	3	.01
30	1.1	5	.02	.66	4	.01	.57	3	<.01
31	---	---	---	.72	4	.01	---	---	---
TOTAL	28.50	---	0.55	22.55	---	0.28	990.42	---	323.38

RIO DE LA PLATA BASIN

50045010 RIO DE LA PLATA BELOW LA PLATA DAM

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)
		JULY			AUGUST			SEPTEMBER	
1	.52	3	<.01	.85	4	.01	1.6	6	.03
2	.45	3	<.01	.67	4	.01	1.3	5	.02
3	.45	3	<.01	.66	4	.01	1.1	4	.01
4	.40	2	<.01	.47	3	<.01	229	25	53
5	.45	2	<.01	.51	3	<.01	201	34	46
6	.57	2	<.01	.41	3	<.01	7.0	8	.15
7	170	20	61	.57	2	<.01	5.9	7	.11
8	786	91	249	.59	2	<.01	741	79	214
9	43	17	3.1	10	4	.57	1170	159	856
10	4.8	7	.09	1.8	5	.03	e141000	4390	1810000
11	4.5	6	.07	1.2	4	.01	e97700	4110	1030000
12	4.4	6	.07	1.1	3	.01	e6210	1470	e37700
13	4.0	5	.06	1.2	3	.01	e32	302	e54
14	362	41	119	1.3	2	.01	e17	121	e8.1
15	1780	174	921	1720	109	605	e25	49	e2.7
16	462	94	118	1200	138	731	e21	20	e1.2
17	111	22	17	332	61	57	e22	12	e.67
18	258	18	50	156	37	18	e18	11	e.59
19	2.1	6	.03	29	14	1.8	e13	10	e.43
20	1.6	5	.02	1.7	5	.02	e10	10	e.30
21	1.0	4	.01	98	14	28	e4.8	9	e.17
22	.98	4	.01	3.5	7	.07	e15	9	e.21
23	.99	3	.01	168	30	38	e7.0	8	e.23
24	.99	3	.01	117	29	19	e13	8	e.20
25	42	9	4.6	2.0	6	.03	e16	7	e.27
26	16	10	.84	2.1	5	.03	e7.9	7	e.21
27	.86	7	.02	1.6	3	.01	e12	6	e.16
28	.71	6	.01	47	9	7.0	e11	6	e.18
29	.68	6	.01	98	29	11	e3.6	5	e.10
30	.61	5	.01	2.3	10	.06	e4.5	5	e.06
31	.77	5	.01	1.9	8	.04	---	---	---
TOTAL	4061.83	---	1543.98	4001.43	---	1516.73	247520.7	---	2878939.10
YEAR	267363.23		2884582.95						

e Estimated

RIO DE LA PLATA BASIN

50045010 RIO DE LA PLATA BELOW LA PLATA DAM, PR--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

PARTICLE-SIZE DISTRIBUTION 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. 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 1996							
10...	0600	117000	3730	1180000	50	75	82
10...	1800	164000	5390	2390000	40	48	66

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 1996							
10...	88	91	99	100	100	100	100
10...	78	89	97	100	100	100	100

RIO DE LA PLATA BASIN

50045010 RIO DE LA PLATA BELOW LA PLATA DAM, PR--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

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 1995					
23...	1325	130	48	17	50
24...	1310	1010	58	158	78
JUN 1996					
18...	1345	171	193	89	86
SEP					
10...	1245	195000	5780	3040000	99

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 bridge construction about 1.0 mi (1.6 km) 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 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	314	84	24	35	120	25	14	20	25	24	88	36
2	139	163	34	32	46	24	20	e17	24	26	81	33
3	159	259	32	45	84	25	24	e17	25	28	58	32
4	94	236	74	62	50	25	47	16	47	27	51	35
5	83	84	33	50	55	35	39	16	57	30	67	400
6	65	505	25	50	181	33	27	20	42	32	46	e50
7	37	309	47	37	103	26	21	92	34	36	35	e32
8	154	90	36	39	281	24	18	117	29	1010	30	265
9	150	244	55	44	287	23	18	107	30	224	e27	e1060
10	65	618	40	152	330	24	20	43	45	65	39	68100
11	286	207	69	53	76	25	16	28	46	49	41	14500
12	241	115	73	83	53	24	47	24	36	56	42	2770
13	138	133	71	40	68	22	38	23	42	39	42	1170
14	119	72	33	89	49	26	26	15	39	162	72	506
15	81	337	27	1060	40	40	26	13	e78	2190	495	e764
16	44	346	28	394	40	33	21	13	77	745	1200	e647
17	70	136	95	115	90	29	24	13	459	294	548	673
18	110	140	257	84	37	85	19	26	418	248	299	551
19	91	118	478	150	33	57	18	44	302	125	126	409
20	45	116	178	323	59	28	21	30	161	47	85	352
21	391	52	157	467	73	23	22	23	e94	41	165	141
22	221	55	120	241	47	20	21	13	42	39	78	453
23	154	56	278	170	34	29	19	36	30	35	290	205
24	355	85	133	147	30	25	28	14	26	38	528	374
25	197	77	59	59	29	21	18	13	27	84	116	471
26	606	55	47	135	27	27	15	38	23	168	66	220
27	337	78	71	217	26	46	15	68	28	51	52	362
28	268	48	208	580	23	23	17	97	39	56	e65	e341
29	536	57	101	442	21	24	22	33	24	60	e175	e102
30	234	35	58	240	---	20	27	26	26	38	e61	e135
31	68	---	38	127	---	17	---	26	---	72	e40	---
TOTAL	5852	4910	2979	5762	2392	908	708	1081	2375	6139	5108	95189
MEAN	189	164	96.1	186	82.5	29.3	23.6	34.9	79.2	198	165	3173
MAX	606	618	478	1060	330	85	47	117	459	2190	1200	68100
MIN	37	35	24	32	21	17	14	13	23	24	27	32
AC-FT	11610	9740	5910	11430	4740	1800	1400	2140	4710	12180	10130	188800
CFSM	.94	.82	.48	.93	.41	.15	.12	.17	.40	.99	.82	15.9
IN.	1.09	.91	.55	1.07	.45	.17	.13	.20	.44	1.14	.95	17.72

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 1996, BY WATER YEAR (WY)

MEAN	467	425	319	184	126	99.8	186	348	164	149	247	409
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

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1960 - 1996	
ANNUAL TOTAL	50908.4		133403			
ANNUAL MEAN	139		364		258	
HIGHEST ANNUAL MEAN					824	1971
LOWEST ANNUAL MEAN					31.5	1994
HIGHEST DAILY MEAN	13500	Sep 16	68100	Sep 10	68100	Sep 10 1996
LOWEST DAILY MEAN	7.2	Feb 18	13	May 15	2.7	Apr 17 1984
ANNUAL SEVEN-DAY MINIMUM	9.1	Feb 13	18	May 12	2.9	Apr 15 1984
INSTANTANEOUS PEAK FLOW			Not determined	Sep 10	Not determined	Sep 10 1996
INSTANTANEOUS PEAK STAGE			27.33	Sep 10	27.33	Sep 10 1996
ANNUAL RUNOFF (AC-FT)	101000		264600		187000	
ANNUAL RUNOFF (CFSM)	.70		1.82		1.29	
ANNUAL RUNOFF (INCHES)	9.48		24.84		17.56	
10 PERCENT EXCEEDS	249		357		485	
50 PERCENT EXCEEDS	28		52		85	
90 PERCENT EXCEEDS	10		22		17	

e Estimated

RIO DE LA PLATA BASIN

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 1995 TO SEPTEMBER 1996

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, 0.45 UM-MF (COLS./ 100 ML) (31616)	STREP-TOCOCCI FECAL, (COLS. PER 100 ML) (31679)
OCT 1995											
10...	1115	55	432	7.4	28.0	7.1	5.8	73	12	6000	K740
DEC											
11...	1350	35	432	7.9	27.0	3.2	6.0	74	15	4200	270
FEB 1996											
07...	1100	94	370	7.9	25.0	7.3	6.3	76	16	K17000	4500
APR											
02...	1155	21	465	7.5	28.0	3.4	6.6	84	13	K610	K110
JUN											
11...	1530	37	460	7.4	29.0	3.5	5.4	70	17	3300	K470
AUG											
14...	1325	51	455	7.2	29.5	4.7	3.9	51	14	2600	K1200

DATE	HARD-NESS TOTAL (MG/L AS CACO3) (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)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)
OCT 1995											
10...	170	49	11	19	0.6	4.1	150	<0.5	29	18	<0.10
DEC											
11...	--	--	--	--	--	--	180	--	--	--	--
FEB 1996											
07...	--	--	--	--	--	--	150	--	--	--	--
APR											
02...	180	54	12	17	0.5	3.9	190	<0.5	34	15	0.10
JUN											
11...	--	--	--	--	--	--	190	--	--	--	--
AUG											
14...	200	61	11	22	0.7	3.2	190	--	30	14	0.10

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	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)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)
OCT 1995											
10...	18	253	238	37.3	--	0.500	0.040	0.540	0.130	0.28	0.41
DEC											
11...	--	--	--	--	4	0.780	0.060	0.840	0.190	0.45	0.64
FEB 1996											
07...	--	--	--	--	13	0.510	0.040	0.550	0.090	0.41	0.50
APR											
02...	17	--	247	14.2	11	0.550	0.050	0.600	0.080	0.45	0.53
JUN											
11...	--	--	--	--	17	0.740	0.040	0.780	0.080	0.50	0.58
AUG											
14...	18	--	273	37.7	13	0.740	0.070	0.810	0.150	0.39	0.54

K = non-ideal count

RIO DE LA PLATA BASIN

50046000 RIO DE LA PLATA AT HWY 2 NR TOA ALTA, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DATE	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, DISSOLVED (UG/L AS BA) (01005)	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)	COBALT, DISSOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOVERABLE (UG/L AS CU) (01042)
OCT 1995											
10...	0.95	4.2	0.040	--	65	--	--	--	--	<3	--
DEC											
11...	1.5	6.6	0.120	--	--	--	--	--	--	--	--
FEB 1996											
07...	1.0	4.6	0.080	--	--	--	--	--	--	--	--
APR											
02...	1.1	5.0	0.100	2	--	<100	50	<1	<1	--	20
JUN											
11...	1.4	6.0	0.080	--	--	--	--	--	--	--	--
AUG											
14...	1.3	6.0	0.080	--	--	--	--	--	--	--	--

DATE	IRON, TOTAL RECOVERABLE (UG/L AS FE) (01045)	IRON, DISSOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOVERABLE (UG/L AS PB) (01051)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN) (01055)	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MOLYBDENUM, DISSOLVED (UG/L AS MO) (01060)	NICKEL, DISSOLVED (UG/L AS NI) (01065)	SILVER, DISSOLVED (UG/L AS AG) (01075)	SILVER, TOTAL RECOVERABLE (UG/L AS AG) (01077)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)	VANADIUM, DISSOLVED (UG/L AS V) (01085)
OCT 1995											
10...	--	8	--	--	37	<10	<1	<1.0	--	200	6
DEC											
11...	--	--	--	--	--	--	--	--	--	--	--
FEB 1996											
07...	--	--	--	--	--	--	--	--	--	--	--
APR											
02...	260	--	<1	240	--	--	--	--	<1	--	--
JUN											
11...	--	--	--	--	--	--	--	--	--	--	--
AUG											
14...	--	--	--	--	--	--	--	--	--	--	--

DATE	ZINC, TOTAL RECOVERABLE (UG/L AS ZN) (01092)	ALUMINUM, DISSOLVED (UG/L AS AL) (01106)	LITHIUM DISSOLVED (UG/L AS LI) (01130)	SELENIUM, DISSOLVED (UG/L AS SE) (01145)	SELENIUM, TOTAL (UG/L AS SE) (01147)	MERCURY DISSOLVED (UG/L AS HG) (71890)	MERCURY TOTAL RECOVERABLE (UG/L AS HG) (71900)	CYANIDE TOTAL (MG/L AS CN) (00720)	PHENOLS TOTAL (UG/L) (32730)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L) (38260)
OCT 1995										
10...	--	10	<4	<1	--	<0.10	--	--	--	--
DEC										
11...	--	--	--	--	--	--	--	--	--	--
FEB 1996										
07...	--	--	--	--	--	--	--	--	--	--
APR										
02...	<10	--	--	--	<1	--	<0.10	<0.010	1	<0.02
JUN										
11...	--	--	--	--	--	--	--	--	--	--
AUG										
14...	--	--	--	--	--	--	--	--	--	--

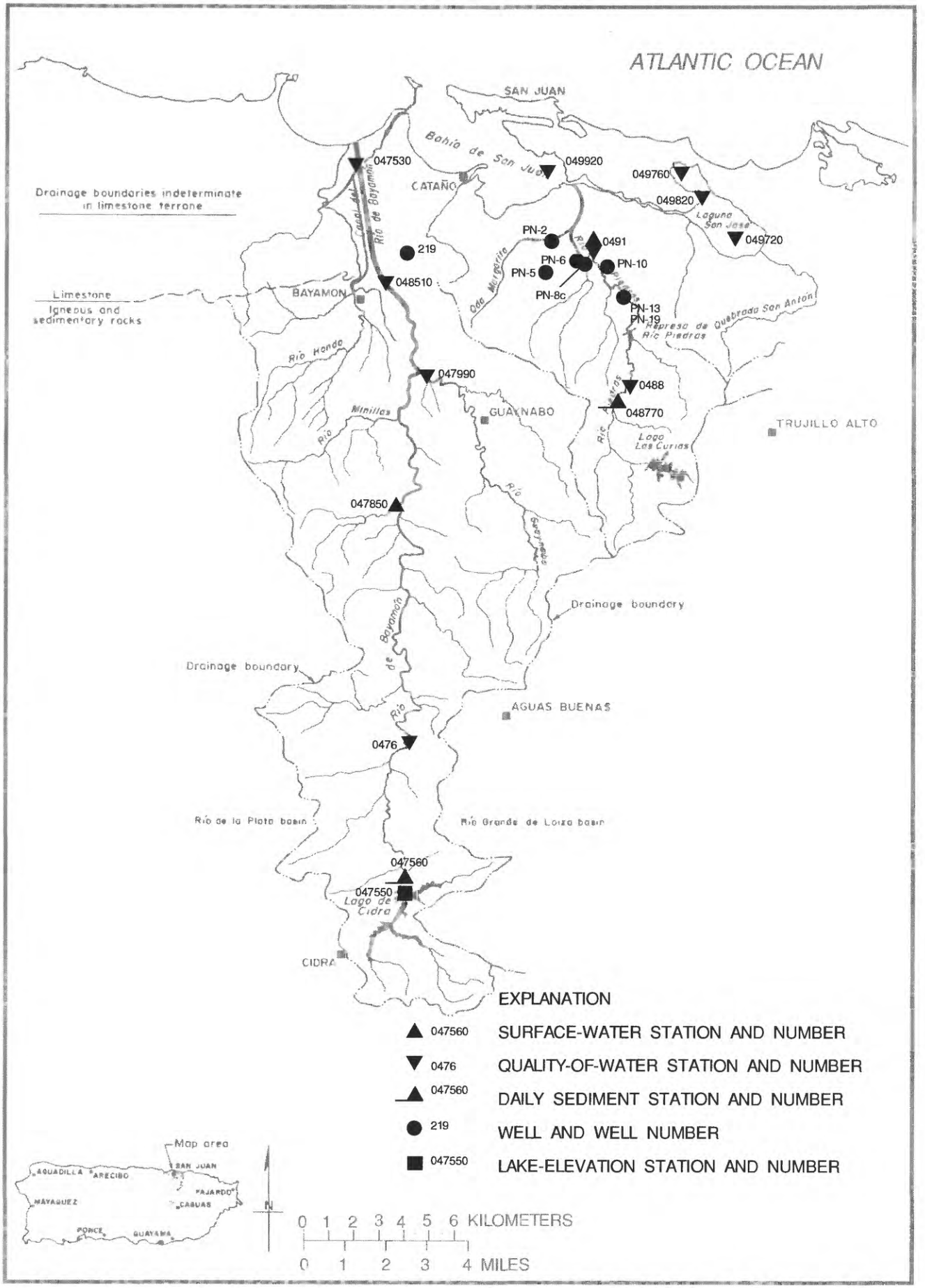

Figure 19.--Río Hondo to Río Puerto Nuevo basins.

RIO HONDO BASIN

50047530 RIO HONDO AT FLOOD CHANNEL NEAR CATANO, 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 1995 TO SEPTEMBER 1996

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, 0.45 UM-MF (COLS./ 100 ML) (31616)	STREP-TOCOCCI FECAL, (COLS. PER 100 ML) (31679)
NOV 1995										
09...	0745	9000	7.2	26.0	4.2	3.5	42	91	41000	540
JAN 1996										
18...	0830	46500	7.3	24.5	5.4	3.8	54	230	5300	2400
FEB										
27...	0850	26500	8.0	26.0	6.0	5.3	60	130	5400	2200
APR										
24...	0930	22500	7.3	26.0	33	4.8	62	220	K16000	K1500
JUN										
28...	1015	32000	7.5	32.0	25	6.5	98	360	2700	2000
AUG										
27...	0930	48000	7.1	29.0	21	4.5	57	160	8500	3200

DATE	HARD-NESS TOTAL (MG/L AS CACO3) (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)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (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 1995										
09...	1300	140	220	1600	20	62	170	<0.5	360	2700
JAN 1996										
18...	--	--	--	--	--	--	150	--	--	--
FEB										
27...	--	--	--	--	--	--	120	--	--	--
APR										
24...	1100	100	210	1700	22	69	130	<0.5	450	3400
JUN										
28...	--	--	--	--	--	--	180	--	--	--
AUG										
27...	1300	130	230	1900	23	72	140	--	480	3500

K = non-ideal count

RIO HONDO BASIN

50047530 RIO HONDO AT FLOOD CHANNEL NEAR CATANO, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DATE	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	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)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)
NOV 1995										
09...	0.30	15	5200	8	0.150	0.010	0.160	0.020	0.18	0.20
JAN 1996										
18...	--	--	--	25	0.190	0.010	0.200	0.020	0.20	0.22
FEB										
27...	--	--	--	39	0.390	0.110	0.500	0.480	0.72	1.2
APR										
24...	0.30	12	6030	68	0.080	0.070	0.150	1.00	1.0	2.0
JUN										
26...	--	--	--	65	0.050	0.050	0.100	0.450	2.1	2.6
AUG										
27...	0.30	12	6410	14	0.250	0.010	0.260	0.030	0.20	0.23

DATE	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)	IRON, TOTAL RECOVERABLE (UG/L AS FE) (01045)
NOV 1995										
09...	0.36	1.6	0.020	2	100	700	<1	<1	<10	360
JAN 1996										
18...	0.42	1.9	0.020	--	--	--	--	--	--	--
FEB										
27...	1.2	7.5	0.140	--	--	--	--	--	--	--
APR										
24...	2.2	9.5	0.280	1	100	830	<1	3	20	1700
JUN										
26...	2.7	12	0.320	--	--	--	--	--	--	--
AUG										
27...	0.26	1.2	0.030	--	--	--	--	--	--	--

DATE	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 (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)
NOV 1995									
09...	<1	390	<0.10	<1	<1	<10	<0.010	<1	0.10
JAN 1996									
18...	--	--	--	--	--	--	--	--	--
FEB									
27...	--	--	--	--	--	--	--	--	--
APR									
24...	<1	440	<0.10	<1	<1	30	<0.010	1	0.20
JUN									
28...	--	--	--	--	--	--	--	--	--
AUG									
27...	--	--	--	--	--	--	--	--	--

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 September 1996.

GAGE.--Water-stage recorder. Elevation of gage is 1,378 ft (420 m), from topographic map.

REMARKS.--Records poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e.24	.34	.11	.07	.07	.08	.07	.04	.10	.11	.19	.36
2	e.22	.25	.10	.07	.13	.08	.06	.03	.09	.11	.19	.31
3	e.21	.20	.10	.07	.08	.08	.32	.03	.08	.11	2.6	.33
4	e.20	.19	.10	.07	.10	.08	.19	.03	1.4	.11	1.7	.31
5	e.19	1.7	.10	.07	2.3	.09	.26	.05	1.7	.10	.57	.30
6	e.18	2.0	.09	.07	1.3	.09	.10	.06	2.2	.10	.27	.30
7	e.17	1.0	.09	.07	.48	.13	.07	.12	6.2	.11	.21	.31
8	e.18	.62	.09	.18	.29	.08	.06	.20	4.3	2.6	.18	.89
9	e.17	.41	.09	.17	.36	.09	.07	.35	.86	1.9	.17	18
10	e.20	.26	.09	.08	.26	.09	.06	.27	.17	.59	.17	141
11	e.19	.18	.09	1.3	.14	.14	.06	.20	.06	.32	.17	12
12	e.16	.15	.09	.57	.12	.09	.13	.18	1.3	4.7	.17	1.7
13	.18	.15	.26	.15	.12	.09	.10	.23	1.2	3.1	.31	.96
14	.30	.14	.32	3.8	.13	.09	.23	.21	.26	21	16	.75
15	.18	.13	.10	3.8	.15	1.3	.38	.22	8.9	8.3	6.1	1.4
16	.14	6.9	.10	.44	.12	.52	.25	.31	5.2	1.3	17	1.8
17	.14	1.6	.14	.23	.09	.15	.09	.19	2.7	.82	2.1	.75
18	.15	.81	.44	.19	.09	.11	.08	.16	2.3	.62	1.0	.66
19	.36	.52	.46	.37	.08	.12	.07	.15	1.8	.37	.84	.65
20	.23	.30	.65	.87	.08	.09	.27	.14	1.1	.31	.82	1.6
21	.16	.21	.21	.47	.08	.08	.15	.12	3.2	.24	.55	3.1
22	.15	.18	.11	.23	.08	.07	.08	.11	3.7	.21	.44	.74
23	.15	.14	.10	.15	.08	.06	.06	.18	2.0	.20	1.6	.59
24	1.0	.25	.10	.08	.08	.06	.08	.12	.95	.19	.90	.48
25	.44	.18	.11	.14	.08	.06	.08	.11	.38	.20	.46	.39
26	.26	.15	.14	.12	.08	.08	.06	.12	.35	.20	.39	.41
27	.19	.12	.15	.64	.08	.08	.08	.13	.67	.18	.38	.35
28	2.3	.12	.17	4.1	.08	.08	.05	.11	.24	.23	1.1	.34
29	1.1	.11	.08	.54	.08	.08	.04	.09	.15	.21	.55	.30
30	.54	.11	.08	.26	---	.07	.06	.09	.13	.20	.36	.27
31	.32	---	.07	.15	---	.10	---	.09	---	.20	.35	---
TOTAL	10.60	19.42	4.93	19.52	7.21	4.41	3.66	4.44	53.69	48.94	57.84	191.35
MEAN	.34	.65	.16	.63	.25	.14	.12	.14	1.79	1.58	1.87	6.38
MAX	2.3	6.9	.65	4.1	2.3	1.3	.38	.35	8.9	21	17	141
MIN	.14	.11	.07	.07	.07	.06	.04	.03	.06	.10	.17	.27
AC-FT	21	39	9.8	39	14	8.7	7.3	8.8	106	97	115	380
CFSM	.76	1.44	.35	1.40	.55	.32	.27	.32	3.98	3.51	4.15	14.2
IN.	.88	1.61	.41	1.61	.60	.36	.30	.37	4.44	4.05	4.78	15.82

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 1996, BY WATER YEAR (WY)

MEAN	.32	.97	.39	.63	.20	.12	.29	1.08	1.39	1.85	1.03	2.86
MAX	.34	1.30	.63	.63	.25	.14	.45	2.02	1.79	2.12	1.87	6.38
(WY)	1996	1993	1993	1996	1996	1996	1993	1993	1996	1993	1996	1996
MIN	.30	.65	.16	.62	.16	.097	.12	.14	.99	1.58	.46	.67
(WY)	1993	1996	1996	1993	1993	1993	1996	1996	1993	1996	1992	1993

SUMMARY STATISTICS	FOR 1996 WATER YEAR		WATER YEARS 1992 - 1996	
ANNUAL TOTAL	426.01			
ANNUAL MEAN	1.16		1.01	
HIGHEST ANNUAL MEAN			1.16	1996
LOWEST ANNUAL MEAN			.85	1993
HIGHEST DAILY MEAN	141	Sep 10	141	Sep 10 1996
LOWEST DAILY MEAN	.03	May 2	.03	May 2 1996
ANNUAL SEVEN-DAY MINIMUM	.04	Apr 28	.04	Apr 28 1996
INSTANTANEOUS PEAK FLOW	885	Sep 10	885	Sep 10 1996
INSTANTANEOUS PEAK STAGE	7.34	Sep 10	7.34	Sep 10 1996
INSTANTANEOUS LOW FLOW	.03	May 4	.03	May 4 1996
ANNUAL RUNOFF (AC-FT)	845		729	
ANNUAL RUNOFF (CFSM)	2.59		2.24	
ANNUAL RUNOFF (INCHES)	35.22		30.38	
10 PERCENT EXCEEDS	1.7		1.5	
50 PERCENT EXCEEDS	.18		.18	
90 PERCENT EXCEEDS	.08		.08	

e Estimated

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 September 1996.

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 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	e.49	e.44	e.46	.55	.38	.45	.31	.37	.63	.71	1.7
2	.97	e.50	e.45	e.46	.62	.38	.52	.33	.38	.62	.71	1.1
3	.92	e.48	e.46	e.46	.60	.39	1.5	.35	.41	.63	1.8	1.1
4	.90	e.51	e.44	e.48	.58	.37	.73	.35	1.4	.66	1.4	1.2
5	.84	e.48	e.44	e.46	2.2	.41	.66	.35	2.1	.65	.78	1.1
6	.82	e.49	e.46	e.54	.95	.41	.48	.34	.92	.67	.74	1.1
7	.79	e.47	e.41	e.47	.72	.38	.41	.42	1.9	.69	.71	1.1
8	.83	e.60	e.43	e.72	.64	.37	.38	.46	1.0	2.8	.71	2.7
9	.78	e.52	e.42	e.46	3.0	.38	.33	2.4	.46	1.3	.71	12
10	.88	e.52	e.46	e1.6	.87	.37	.32	.63	.40	.87	.72	401
11	.86	e.48	e.44	e.60	.63	.43	.24	.44	.42	.93	.71	43
12	e.74	e.47	e.60	e.45	.53	.34	.32	.39	.95	1.6	.71	3.6
13	e.72	e.54	e.51	e1.5	.48	.33	.27	.44	.69	1.7	.89	3.0
14	e.70	e.48	e.45	e3.4	.45	.31	.35	.38	.50	29	13	2.6
15	e.70	e.48	e.45	e1.3	.43	1.3	.34	.40	8.6	11	6.0	2.3
16	e.65	e17	e.46	e1.0	.43	.40	.25	.42	4.0	1.8	17	2.0
17	e.64	e.78	e.54	e.68	.41	.32	.24	.41	1.7	1.4	3.9	1.7
18	e.62	e.74	e.66	.55	.41	.32	.24	.42	1.0	1.2	1.6	1.6
19	e2.3	e.56	e.59	.69	.40	.32	.24	.46	.80	.94	1.2	1.5
20	e.68	e.53	e.56	1.1	.40	.32	.24	.39	.65	.89	1.0	1.6
21	e.66	e.50	e.49	.86	.39	.32	.25	.41	1.2	.84	.98	1.8
22	e.62	e.48	e.47	.62	.39	.34	.23	.40	1.0	.81	.93	1.4
23	e.62	e.45	e.48	.54	.39	.33	.24	.40	.73	.77	2.4	1.3
24	e.60	e.50	e.48	.52	.39	.33	.25	.42	.67	.76	1.3	1.3
25	e.56	e.45	e.48	.59	.38	.34	.26	.38	.66	.77	1.0	1.3
26	e.58	e.43	e.47	.67	.38	.35	.28	.40	.96	.74	.93	1.4
27	e.56	e.42	e.54	1.2	.38	.32	.27	.41	1.0	.75	.91	1.4
28	e.58	e.43	e.46	1.8	.40	.32	.35	.41	.69	.77	1.4	1.5
29	e.54	e.43	e.46	.95	.39	.33	.34	.43	.61	.72	.90	1.0
30	e.54	e.43	e.46	.71	---	.36	.33	.38	.61	.71	.90	1.0
31	e.52	---	e.46	.61	---	.47	---	.37	---	.71	.87	---
TOTAL	23.82	31.64	14.92	26.45	18.79	12.04	11.31	14.50	36.78	68.33	67.52	500.4
MEAN	.77	1.05	.48	.85	.65	.39	.38	.47	1.23	2.20	2.18	16.7
MAX	2.3	17	.66	3.4	3.0	1.3	1.5	2.4	8.6	29	17	401
MIN	.52	.42	.41	.45	.38	.31	.23	.31	.37	.62	.71	1.0
AC-FT	47	63	30	52	37	24	22	29	73	136	134	993
CFSM	.96	1.32	.60	1.07	.81	.49	.47	.58	1.53	2.76	2.72	20.8
IN.	1.11	1.47	.69	1.23	.87	.56	.53	.67	1.71	3.18	3.14	23.27

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 1996, BY WATER YEAR (WY)

MEAN	.81	1.31	.79	.79	.49	.27	.80	1.36	1.05	2.61	1.56	6.31
MAX	.86	1.56	1.11	.85	.65	.39	1.23	2.26	1.23	3.02	2.18	16.7
(WY)	1993	1993	1993	1996	1996	1996	1993	1993	1996	1993	1996	1996
MIN	.77	1.05	.48	.72	.33	.15	.38	.47	.87	2.20	.93	1.01
(WY)	1996	1996	1996	1993	1993	1993	1996	1996	1993	1996	1993	1993

SUMMARY STATISTICS	FOR 1996 WATER YEAR		WATER YEARS 1992 - 1996	
ANNUAL TOTAL	826.50			
ANNUAL MEAN	2.26		1.72	
HIGHEST ANNUAL MEAN			2.26	1996
LOWEST ANNUAL MEAN			1.18	1993
HIGHEST DAILY MEAN	401	Sep 10	401	Sep 10 1996
LOWEST DAILY MEAN	.23	Apr 22	.11	Mar 25 1993
ANNUAL SEVEN-DAY MINIMUM	.24	Apr 17	.12	Jun 6 1993
INSTANTANEOUS PEAK FLOW	2370	Sep 10	2370	Sep 10 1996
INSTANTANEOUS PEAK STAGE	12.02	Sep 10	12.02	Sep 10 1996
INSTANTANEOUS LOW FLOW	.21	Apr 21	.11	Mar 23 1993
ANNUAL RUNOFF (AC-FT)	1640		1240	
ANNUAL RUNOFF (CFSM)	2.82		2.15	
ANNUAL RUNOFF (INCHES)	38.43		29.18	
10 PERCENT EXCEEDS	1.6		1.6	
50 PERCENT EXCEEDS	.57		.48	
90 PERCENT EXCEEDS	.34		.17	

e Estimated

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.

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, 1,328.09 ft (404.80 m), Sept. 10; minimum elevation, 1,316.54 ft (401.12 m), June 6.

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
1,295	860	1,319	4,400
1,305	1,970	1,322	5,200
1,309	2,610	1,328	6,920
1,312	3,100		

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1321.25	1322.38	1321.40	1321.66	1322.38	1322.27	1321.62	1318.73	1316.78	1320.66	1321.77	1321.88
2	1321.38	1322.39	1321.37	1321.64	1322.39	1322.25	1321.53	1318.65	1316.66	1320.62	1321.70	1321.85
3	1321.46	1322.38	1321.33	1321.63	1322.39	1322.24	1321.57	1318.57	1316.56	1320.53	1321.77	1321.78
4	1321.53	1322.37	1321.30	1321.61	1322.39	1322.23	1321.48	1318.48	1316.73	1320.43	1321.85	1321.71
5	1321.57	1322.38	1321.29	1321.59	1322.47	1322.22	1321.39	1318.38	1317.01	1320.32	1321.83	1321.65
6	1321.59	1322.42	1321.30	1321.59	1322.47	1322.20	1321.25	1318.29	1317.25	1320.24	1321.79	1321.57
7	1321.63	1322.42	1321.28	1321.59	1322.43	1322.19	1321.10	1318.22	1317.58	1320.14	1321.76	1321.48
8	1321.65	1322.40	1321.24	1321.64	1322.43	1322.17	1320.97	1318.17	1317.81	1320.39	1321.76	1321.59
9	1321.69	1322.39	1321.20	1321.66	1322.46	1322.16	1320.85	1318.35	1317.85	1320.59	1321.74	1321.73
10	1321.73	1322.37	1321.17	1321.67	1322.43	1322.14	1320.71	1318.42	1317.89	1320.63	1321.65	1324.49
11	1321.78	1322.36	1321.17	1321.79	1322.39	1322.17	1320.60	1318.40	1317.94	1320.65	1321.55	A
12	1321.82	1322.36	1321.19	1321.84	1322.38	1322.16	1320.50	1318.40	1318.21	1320.81	1321.48	1322.59
13	1321.88	1322.33	1321.22	1321.84	1322.37	1322.14	1320.44	1318.38	1318.34	1320.91	1321.44	1322.50
14	1321.94	1322.24	1321.24	1322.08	1322.36	1322.12	1320.42	1318.30	1318.42	1321.35	1321.74	1322.47
15	1321.97	1322.16	1321.23	1322.38	1322.37	1322.25	1320.41	1318.18	1318.97	1321.81	1322.05	1322.46
16	1322.00	1322.15	1321.22	1322.37	1322.36	1322.32	1320.37	1318.11	1319.43	1322.11	1322.39	1322.48
17	1322.03	1322.15	1321.21	1322.37	1322.36	1322.32	1320.28	1318.04	1319.76	1322.33	A	1322.44
18	1322.05	1322.08	1321.31	1322.37	1322.36	1322.29	1320.18	1317.97	1319.94	1322.49	A	1322.43
19	1322.14	1322.03	1321.41	1322.42	1322.36	1322.28	1320.09	1317.92	1320.07	1322.61	1322.39	1322.42
20	1322.22	1321.95	1321.54	1322.47	1322.36	1322.27	1319.98	1317.83	1320.14	1322.70	1322.37	1322.43
21	1322.26	1321.87	1321.58	1322.45	1322.36	1322.25	1319.88	1317.74	1320.29	1322.68	1322.36	1322.48
22	1322.29	1321.80	1321.56	1322.41	1322.36	1322.24	1319.72	1317.64	1320.49	1322.54	1322.29	1322.43
23	1322.33	1321.71	1321.56	1322.40	1322.35	1322.22	1319.56	1317.58	1320.57	1322.40	1322.36	1322.42
24	1322.37	1321.65	1321.56	1322.39	1322.34	1322.20	1319.40	1317.53	1320.56	1322.37	1322.38	1322.40
25	1322.38	1321.59	1321.64	1322.41	1322.34	1322.17	1319.27	1317.45	1320.47	1322.35	1322.26	1322.37
26	1322.36	1321.52	1321.65	1322.41	1322.33	1322.14	1319.21	1317.39	1320.49	1322.30	1322.15	1322.31
27	1322.40	1321.44	1321.67	1322.47	1322.32	1322.09	1319.11	1317.31	1320.58	1322.16	1322.07	1322.23
28	1322.44	1321.44	1321.69	1322.52	1322.29	1321.94	1319.00	1317.21	1320.61	1322.05	1322.09	1322.16
29	1322.43	1321.43	1321.68	1322.46	1322.28	1321.86	1318.89	1317.08	1320.63	1321.97	1322.06	1322.12
30	1322.41	1321.44	1321.68	1322.42	---	1321.78	1318.82	1317.01	1320.64	1321.91	1321.97	1322.06
31	1322.38	---	1321.67	1322.39	---	1321.71	---	1316.91	---	1321.83	1321.88	---
MAX	1322.44	1322.42	1321.69	1322.52	1322.47	1322.32	1321.62	1318.73	1320.64	1322.70	---	---
MIN	1321.25	1321.43	1321.17	1321.59	1322.28	1321.71	1318.82	1316.91	1316.56	1320.14	---	---

A No gage-height record

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 Plaza de Cidra.

DRAINAGE AREA.--8.31 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 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.2	e14	14	14	17	13	29	15	21	14	19	17
2	9.1	e12	14	14	19	14	25	17	21	45	24	16
3	9.0	e11	14	14	23	14	26	18	16	62	34	17
4	8.7	e14	14	13	65	14	26	18	15	30	32	17
5	8.5	e12	15	13	45	14	27	19	17	29	28	17
6	8.3	e43	15	13	35	15	26	19	16	27	27	16
7	8.5	34	14	13	25	15	27	20	9.3	27	16	16
8	7.5	24	14	13	35	15	27	14	3.6	14	10	11
9	7.6	19	13	13	48	15	28	9.3	3.5	3.5	17	11
10	8.6	15	14	13	24	14	27	9.6	3.9	4.0	25	5420
11	7.5	14	14	14	17	15	26	9.2	4.1	4.1	24	985
12	7.0	14	14	14	15	15	26	9.5	5.4	16	12	123
13	6.7	12	14	15	15	15	20	9.6	4.2	16	20	37
14	7.4	12	14	17	14	15	18	18	4.1	15	14	23
15	7.0	12	14	23	13	16	19	21	7.5	15	8.8	20
16	7.2	12	14	23	13	16	19	19	4.9	21	184	24
17	7.4	11	13	19	13	16	19	19	4.5	17	102	17
18	7.5	11	10	17	13	16	20	19	6.0	14	32	14
19	8.0	11	3.9	23	13	16	20	19	5.3	13	17	13
20	7.4	11	3.8	48	14	17	20	20	4.8	25	10	13
21	7.9	11	14	37	14	17	29	20	5.0	37	8.9	28
22	7.6	11	17	22	13	17	38	19	5.9	37	16	16
23	8.5	11	14	17	13	17	39	20	5.3	34	44	13
24	21	11	14	16	13	17	39	20	33	3.4	42	12
25	19	11	13	19	13	17	23	20	46	3.8	30	15
26	18	12	13	53	14	18	11	20	20	13	22	16
27	16	11	13	40	14	43	24	20	8.9	36	18	16
28	62	15	13	28	13	28	24	19	7.5	35	18	16
29	66	15	14	20	13	30	20	16	7.3	18	17	13
30	e49	14	13	17	---	30	14	14	11	11	18	14
31	e14	---	14	16	---	30	---	16	---	18	17	---
TOTAL	447.1	440	407.7	631	596	564	736	526.2	327.0	657.8	906.7	6986
MEAN	14.4	14.7	13.2	20.4	20.6	18.2	24.5	17.0	10.9	21.2	29.2	233
MAX	66	43	17	53	65	43	39	21	46	62	184	5420
MIN	6.7	11	3.8	13	13	13	11	9.2	3.5	3.4	8.8	11
AC-FT	887	873	809	1250	1180	1120	1460	1040	649	1300	1800	13860
CFSM	1.73	1.76	1.58	2.45	2.47	2.19	2.95	2.04	1.31	2.55	3.52	28.0
IN.	2.00	1.97	1.82	2.82	2.66	2.52	3.29	2.35	1.46	2.94	4.05	31.24

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 1996, BY WATER YEAR (WY)

MEAN	13.0	22.2	14.1	19.5	17.8	16.5	14.4	10.3	10.8	16.0	14.4	47.4
MAX	20.5	41.2	30.4	59.6	36.5	23.7	24.5	17.0	17.8	39.6	29.2	233
(WY)	1992	1992	1992	1992	1991	1992	1996	1996	1992	1993	1996	1996
MIN	3.74	8.85	4.36	5.45	7.24	11.4	7.37	4.13	3.47	1.56	1.18	1.64
(WY)	1995	1995	1994	1995	1994	1994	1995	1993	1994	1994	1995	1994

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1991 - 1996	
ANNUAL TOTAL	3262.32		13225.5			
ANNUAL MEAN	8.94		36.1		17.9	
HIGHEST ANNUAL MEAN					36.1	1996
LOWEST ANNUAL MEAN					5.93	1994
HIGHEST DAILY MEAN	66	Oct 29	5420	Sep 10	5420	Sep 10 1996
LOWEST DAILY MEAN	.68	May 9	3.4	Jul 24	.60	Aug 6 1992
ANNUAL SEVEN-DAY MINIMUM	.80	May 1	4.1	Jun 8	.80	May 1 1995
INSTANTANEOUS PEAK FLOW			15000	Sep 10	15000	Sep 10 1996
INSTANTANEOUS PEAK STAGE			27.34	Sep 10	27.34	Sep 10 1996
ANNUAL RUNOFF (AC-FT)	6470		26230		12970	
ANNUAL RUNOFF (CFSM)	1.07		4.34		2.15	
ANNUAL RUNOFF (INCHES)	14.59		59.13		29.23	
10 PERCENT EXCEEDS	15		32		28	
50 PERCENT EXCEEDS	7.4		15		11	
90 PERCENT EXCEEDS	1.0		7.6		2.1	

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-49 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 a local observer and automatic sediment sampler.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATION: Maximum daily mean, 3,670 mg/L Jan. 05, 1992; Minimum daily mean, 3 mg/L November 27, 1993.

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 1996.--
SEDIMENT CONCENTRATION: Maximum daily mean, 2,400 mg/L September 10, 1996; Minimum daily mean, 7 mg/L May 14, 1996.

SEDIMENT LOADS: Maximum daily mean, 27,700 tons (25,100 tonnes) September 10, 1996; Minimum daily mean, 0.30 ton (0.27 tonne) June 09, 1996.

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	9.2	100	2.5	e14	62	e2.2	14	41	1.6
2	9.1	101	2.5	e12	75	e2.3	14	58	2.1
3	9.0	102	2.5	e11	87	e2.9	14	76	2.8
4	8.7	101	2.4	e14	88	e3.1	14	82	3.1
5	8.5	102	2.3	e12	88	e2.6	15	85	3.5
6	8.3	102	2.3	e43	83	e6.8	15	89	3.5
7	8.5	102	2.3	34	57	5.2	14	94	3.6
8	7.5	103	2.1	24	50	3.2	14	100	3.6
9	7.6	103	2.1	19	54	2.7	13	105	3.8
10	8.6	102	2.4	15	69	2.8	14	108	4.1
11	7.5	101	2.0	14	81	3.1	14	111	4.0
12	7.0	100	1.9	14	94	3.6	14	113	4.2
13	6.7	95	1.7	12	100	3.3	14	115	4.4
14	7.4	89	1.8	12	100	3.2	14	118	4.4
15	7.0	83	1.6	12	100	3.2	14	121	4.5
16	7.2	80	1.6	12	99	3.2	14	123	4.6
17	7.4	78	1.6	11	99	3.0	13	126	4.6
18	7.5	76	1.5	11	101	3.0	10	129	3.5
19	8.0	74	1.6	11	129	3.8	3.9	131	1.4
20	7.4	72	1.4	11	176	5.2	3.8	134	1.4
21	7.9	69	1.5	11	231	6.8	14	138	5.2
22	7.6	72	1.5	11	209	6.4	17	145	6.7
23	8.5	76	1.8	11	170	5.0	14	156	5.7
24	21	85	4.7	11	138	4.2	14	166	6.4
25	19	93	4.8	11	111	3.3	13	159	5.4
26	18	88	4.4	12	89	2.8	13	146	5.1
27	16	79	3.4	11	72	2.2	13	135	4.9
28	62	73	12	15	58	2.3	13	125	4.4
29	66	58	10	15	47	1.9	14	115	4.3
30	e49	54	e5.4	14	38	1.5	13	106	3.8
31	e14	53	e2.8	---	---	---	14	98	3.8
TOTAL	447.1	---	92.4	440	---	104.8	407.7	---	124.4

e Estimated

RIO DE BAYAMON BASIN

50047560 RIO DE BAYAMON BELOW LAGO CIDRA , 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)
		JANUARY			FEBRUARY			MARCH	
1	14	90	3.3	17	25	1.2	13	63	2.3
2	14	83	3.1	19	26	1.3	14	70	2.6
3	14	77	2.8	23	32	2.3	14	63	2.3
4	13	71	2.5	65	55	9.9	14	54	2.1
5	13	66	2.3	45	53	6.5	14	47	1.8
6	13	60	2.1	35	50	4.8	15	42	1.6
7	13	56	1.9	25	42	2.9	15	38	1.5
8	13	51	1.8	35	49	4.7	15	36	1.4
9	13	47	1.7	48	55	7.2	15	46	1.8
10	13	48	1.7	24	40	2.6	14	64	2.5
11	14	65	2.4	17	32	1.5	15	87	3.6
12	14	69	2.7	15	31	1.3	15	74	3.0
13	15	66	2.6	15	34	1.4	15	57	2.4
14	17	66	3.0	14	29	1.1	15	45	1.8
15	23	96	6.2	13	28	.99	16	44	1.9
16	23	158	9.4	13	28	1.0	16	43	1.9
17	19	241	12	13	30	1.1	16	43	1.9
18	17	197	9.0	13	38	1.4	16	47	2.1
19	23	134	7.9	13	48	1.7	16	55	2.4
20	48	93	12	14	50	1.9	17	63	2.8
21	37	76	7.8	14	50	1.8	17	63	2.8
22	22	65	3.9	13	49	1.8	17	63	2.9
23	17	56	2.5	13	49	1.8	17	62	2.9
24	16	57	2.4	13	49	1.8	17	61	2.8
25	19	61	3.1	13	49	1.8	17	61	2.8
26	53	62	8.8	14	48	1.8	18	60	2.8
27	40	45	4.9	14	48	1.8	43	60	6.9
28	28	29	2.3	13	49	1.8	28	59	8.4
29	20	18	1.0	13	55	1.9	30	58	4.7
30	17	20	.96	---	---	---	30	58	4.6
31	16	23	1.1	---	---	---	30	57	4.6
TOTAL	631	---	129.16	596	---	73.09	564	---	89.9

RIO DE BAYAMON BASIN

50047560 RIO DE BAYAMON BELOW LAGO CIDRA , 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)
		APRIL			MAY			JUNE	
1	29	57	4.4	15	28	1.2	21	29	1.7
2	25	56	3.8	17	33	1.6	21	28	1.6
3	26	56	3.9	18	39	1.9	16	28	1.2
4	26	55	3.9	18	48	2.3	15	30	1.2
5	27	51	3.7	19	52	2.6	17	32	1.6
6	26	48	3.4	19	32	1.6	16	32	1.5
7	27	45	3.2	20	20	1.1	9.3	32	.82
8	27	42	3.1	14	11	.46	3.6	31	.31
9	28	39	3.0	9.3	15	.44	3.5	31	.30
10	27	36	2.7	9.6	20	.54	3.9	32	.34
11	26	34	2.4	9.2	26	.65	4.1	57	.63
12	26	32	2.2	9.5	18	.49	5.4	118	1.7
13	20	30	1.7	9.6	13	.37	4.2	219	2.5
14	18	29	1.4	18	7	.41	4.1	158	1.7
15	19	25	1.3	21	8	.46	7.5	88	1.8
16	19	19	1.0	19	11	.58	4.9	51	.66
17	19	15	.80	19	13	.71	4.5	47	.56
18	20	19	1.1	19	13	.72	6.0	50	.81
19	20	16	.92	19	13	.72	5.3	52	.75
20	20	17	1.0	20	14	.83	4.8	44	.57
21	29	30	2.7	20	12	.65	5.0	34	.47
22	38	35	3.6	19	10	.53	5.9	28	.47
23	39	27	2.8	20	11	.67	5.3	22	.34
24	39	22	2.3	20	10	.57	33	37	4.1
25	23	18	1.2	20	13	.75	46	35	4.4
26	11	18	.61	20	15	.84	20	31	1.7
27	24	34	2.3	20	15	.84	8.9	31	.77
28	24	26	1.7	19	12	.65	7.5	32	.64
29	20	20	1.1	16	11	.50	7.3	31	.61
30	14	24	.96	14	11	.44	11	29	.87
31	---	---	---	16	21	1.0	---	---	---
TOTAL	736	---	68.19	526.2	---	27.12	327.0	---	36.62

RIO DE BAYAMON BASIN

50047560 RIO DE BAYAMON BELOW LAGO CIDRA , 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)
		JULY			AUGUST			SEPTEMBER	
1	14	33	1.3	19	21	1.1	17	31	1.4
2	45	44	6.4	24	28	2.0	16	28	1.2
3	62	40	6.9	34	42	3.8	17	29	1.4
4	30	29	2.4	32	38	3.3	17	33	1.5
5	29	26	2.1	28	34	2.6	17	33	1.5
6	27	24	1.8	27	32	2.4	16	37	1.7
7	27	25	1.9	16	29	1.3	16	43	1.9
8	14	36	1.2	10	28	.80	11	50	1.5
9	3.5	45	.43	17	25	1.2	11	373	79
10	4.0	59	.63	25	28	1.9	5420	2400	27700
11	4.1	52	.57	24	33	2.2	985	2120	6230
12	16	65	3.0	12	36	1.1	123	873	323
13	16	91	3.7	20	38	2.1	37	358	37
14	15	932	261	14	38	1.5	23	174	11
15	15	85	3.4	8.8	37	.88	20	169	9.3
16	21	89	5.0	184	2530	1800	24	175	11
17	17	92	4.2	102	521	200	17	181	8.2
18	14	95	3.5	32	50	4.4	14	187	7.0
19	13	97	3.4	17	33	1.5	13	193	6.6
20	25	87	5.8	10	30	.84	13	200	7.0
21	37	76	7.5	8.9	31	.74	28	207	15
22	37	66	6.6	16	35	1.6	16	214	9.0
23	34	57	5.2	44	47	6.3	13	219	7.6
24	3.4	50	.46	42	53	6.1	12	209	7.0
25	3.8	43	.44	30	48	3.9	15	196	7.7
26	13	40	1.6	22	44	2.6	16	200	8.5
27	36	41	3.9	18	41	2.0	16	208	9.0
28	35	37	3.5	18	39	1.9	16	216	9.2
29	18	32	1.5	17	37	1.8	13	222	7.8
30	11	31	1.0	18	37	1.8	14	227	8.9
31	18	26	1.3	17	33	1.5	---	---	---
TOTAL	657.8	---	351.63	906.7	---	2065.16	6986	---	34530.9
YEAR	13225.5		37693.37						

RIO DE BAYAMON BASIN

50047560 RIO DE BAYAMON BELOW LAGO CIDRA, PR--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM
JUL 1996							
14...	1230	74	7810	1560	41	55	69
SEP							
10...	0435	8430	1150	26200	61	75	83

DATE	SED. SUSP. FALL DIAM. % FINER THAN .016 MM	SED. SUSP. FALL DIAM. % FINER THAN .031 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM
JUL 1996							
14...	81	87	99	100	100	100	100
SEP							
10...	88	89	97	98	99	100	100

RIO DE BAYAMON BASIN

50047560 RIO DE BAYAMON BELOW LAGO CIDRA, PR--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT 1995					
09...	1702	6.7	103	1.9	98
NOV					
06...	1518	41	88	9.7	91
24...	1407	11	136	3.9	88
DEC					
06...	1412	15	89	3.6	74
24...	1710	14	169	6.4	90
JAN 1996					
17...	1518	21	272	15	86
FEB					
07...	1401	23	281	17	58
MAR					
20...	1306	17	64	2.9	90
JUN					
04...	1306	22	1030	61	65
SEP					
10...	0135	2410	2540	16500	100
10...	1105	14200	1910	73300	99

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 1995 TO SEPTEMBER 1996

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, 0.45 UM-MF (COLS./ 100 ML) (31616)	STREP-TOCOCCI FECAL, (COLS. PER 100 ML) (31679)
OCT 1995											
05...	1410	18	262	8.1	26.5	28	7.8	96	13	2000	2700
DEC											
08...	1125	17	262	7.7	22.5	21	7.9	92	14	590	510
FEB 1996											
14...	0730	22	283	7.9	21.5	4.1	7.8	91	10	220	420
APR											
10...	1220	34	265	8.0	24.0	9.2	8.3	101	11	250	320
JUN											
12...	1445	63	235	7.4	24.0	120	7.4	89	45	32000	25000
AUG											
26...	1210	37	252	7.5	24.5	18	7.7	94	12	3200	K1700

DATE	HARD-NESS TOTAL (MG/L AS CACO3) (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)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (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 1995										
05...	100	25	10	13	0.6	3.3	94	<0.5	13	18
DEC										
08...	--	--	--	--	--	--	100	--	--	--
FEB 1996										
14...	--	--	--	--	--	--	110	--	--	--
APR										
10...	110	26	10	18	0.8	2.9	100	<0.5	5.1	18
JUN										
12...	--	--	--	--	--	--	87	--	--	--
AUG										
26...	98	23	9.9	14	0.6	3.1	100	--	6.9	18

K = non-ideal count

RIO DE BAYAMON BASIN

50047600 RIO DE BAYAMON NEAR AGUAS BUENAS, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DATE	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	SOLIDS, DISSOLVED (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 1995										
05...	<0.10	23	162	7.90	14	0.690	0.010	0.700	0.020	0.36
DEC										
08...	--	--	--	--	4	1.09	0.010	1.10	0.020	0.32
FEB 1996										
14...	--	--	--	--	4	0.620	<0.010	0.620	0.020	0.24
APR										
10...	0.10	23	163	15.1	6	0.420	<0.010	0.420	0.020	0.43
JUN										
12...	--	--	--	--	162	0.640	0.020	0.660	0.050	1.2
AUG										
26...	<0.10	22	157	15.6	21	0.390	0.010	0.400	0.030	0.20

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 1995										
05...	0.38	1.1	4.8	0.040	1	<100	30	<1	1	<10
DEC										
08...	0.34	1.4	6.4	0.060	--	--	--	--	--	--
FEB 1996										
14...	0.26	0.88	3.9	0.040	--	--	--	--	--	--
APR										
10...	0.45	0.87	3.9	0.050	<1	<100	20	<1	<1	<10
JUN										
12...	1.3	2.0	8.7	0.170	--	--	--	--	--	--
AUG										
26...	0.23	0.63	2.8	0.060	--	--	--	--	--	--

DATE	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 (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 1995										
05...	970	<1	40	<0.10	<1	<1	<10	<0.010	2	<0.02
DEC										
08...	--	--	--	--	--	--	--	--	--	--
FEB 1996										
14...	--	--	--	--	--	--	--	--	--	--
APR										
10...	1400	<1	60	2.6	<1	<1	<10	<0.010	<1	0.03
JUN										
12...	--	--	--	--	--	--	--	--	--	--
AUG										
26...	--	--	--	--	--	--	--	--	--	--

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 (2.1 km) 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 topografic map.

REMARKS.--Records fair. 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 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	9.8	8.8	13	18	12	8.1	13	13	12	19	23
2	9.7	12	9.1	12	17	12	7.8	13	13	12	24	23
3	9.1	19	9.0	12	17	12	112	12	13	12	19	25
4	8.6	22	8.9	12	17	12	61	12	16	12	17	43
5	8.3	24	8.8	12	18	14	26	12	18	11	17	29
6	8.6	63	8.8	25	19	13	18	12	16	11	16	25
7	16	33	8.8	15	19	12	16	14	17	11	15	23
8	13	14	8.6	19	105	12	14	14	15	49	15	34
9	11	11	9.0	44	132	12	14	15	15	75	15	73
10	11	10	9.7	27	40	12	14	14	16	16	15	8640
11	13	9.8	10	22	19	13	14	14	15	14	15	622
12	10	9.7	10	34	16	12	20	12	21	14	14	257
13	9.3	9.5	11	19	14	11	17	12	18	14	14	138
14	9.2	9.2	9.5	90	14	11	14	12	14	139	44	113
15	9.0	9.1	9.2	160	14	15	14	12	e50	100	35	80
16	8.8	9.1	9.5	30	14	19	16	13	e40	24	287	e66
17	13	9.4	17	21	14	11	15	13	34	17	56	e49
18	15	9.4	85	19	14	11	14	13	e21	17	28	83
19	28	9.4	63	27	13	11	13	14	e17	15	20	46
20	12	9.2	20	108	15	10	13	14	e14	14	20	33
21	10	9.0	15	46	14	9.9	14	13	13	14	20	48
22	9.8	8.9	13	22	13	9.4	16	13	17	14	19	e36
23	11	8.8	82	19	13	9.3	23	23	14	14	74	e29
24	21	9.7	26	19	13	8.9	18	14	13	15	52	e27
25	15	9.5	48	20	13	9.0	14	14	13	15	27	29
26	12	9.3	43	19	12	9.3	13	16	13	14	24	29
27	28	9.0	15	28	13	10	13	30	12	14	23	44
28	20	9.0	17	95	12	9.0	13	21	13	20	43	e33
29	16	8.9	14	51	12	9.1	13	13	12	17	26	e34
30	11	9.4	13	24	---	8.6	13	13	12	15	23	e55
31	9.5	---	13	19	---	8.4	---	13	---	28	22	---
TOTAL	396.9	403.1	632.7	1083	664	347.9	590.9	443	528	769	1058	10789
MEAN	12.8	13.4	20.4	34.9	22.9	11.2	19.7	14.3	17.6	24.8	34.1	360
MAX	28	63	85	160	132	19	112	30	50	139	287	8640
MIN	8.3	8.8	8.6	12	12	8.4	7.8	12	12	11	14	23
AC-FT	787	800	1250	2150	1320	690	1170	879	1050	1530	2100	21400
CFSM	.31	.32	.49	.84	.55	.27	.47	.34	.42	.59	.82	8.60
IN.	.35	.36	.56	.96	.59	.31	.53	.39	.47	.68	.94	9.60

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 1996, BY WATER YEAR (WY)

MEAN	30.5	43.1	41.7	34.6	21.7	17.9	21.7	41.7	19.7	22.4	42.2	63.0
MAX	129	174	263	159	75.3	52.9	72.7	131	60.8	46.6	137	360
(WY)	1991	1970	1966	1969	1989	1990	1971	1966	1970	1970	1970	1996
MIN	4.30	7.91	5.19	5.30	4.75	3.58	5.36	4.85	3.68	4.01	7.47	6.02
(WY)	1969	1965	1968	1968	1965	1965	1965	1994	1994	1994	1994	1967

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1964 - 1996	
ANNUAL TOTAL	9091.9		17705.5			
ANNUAL MEAN	24.9		48.4		33.4	
HIGHEST ANNUAL MEAN					59.7	1966
LOWEST ANNUAL MEAN					10.9	1994
HIGHEST DAILY MEAN	823	Sep 6	8640	Sep 10	8640	Sep 10 1996
LOWEST DAILY MEAN	2.6	May 1	7.8	Apr 2	2.2	Apr 19 1965
ANNUAL SEVEN-DAY MINIMUM	3.2	Apr 29	8.7	Mar 27	2.4	Apr 14 1965
INSTANTANEOUS PEAK FLOW			65000	Sep 10	65000	Sep 10 1996
INSTANTANEOUS PEAK STAGE			29.07	Sep 10	29.07	Sep 10 1996
ANNUAL RUNOFF (AC-FT)	18030		35120		24210	
ANNUAL RUNOFF (CFSM)	.60		1.16		.80	
ANNUAL RUNOFF (INCHES)	8.09		15.76		10.86	
10 PERCENT EXCEEDS	44		46		56	
50 PERCENT EXCEEDS	10		14		13	
90 PERCENT EXCEEDS	5.0		9.3		4.8	

e Estimated

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 Río de Bayamón, and 2.3 mi (3.7 km) southeast of Bayamon plaza.

DRAINAGE AREA.--73.2 mi² (189.6 km²).

PERIOD OF RECORD.--Water years 1958, 1964, 1971-73, 1976, 1979 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DATE	TIME	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	TURBIDITY (NTU) (00076)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	OXYGEN DEMAND, CHEMICAL (HIGH LEVEL) (MG/L) (00340)	COLIFORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)	STREPTOCOCCI FECAL, (COLS. PER 100 ML) (31679)
OCT 1995										
06...	0840	438	7.4	26.0	4.5	6.4	78	12	21000	6600
DEC										
11...	0845	370	7.0	24.5	13	4.2	50	19	43000	23000
FEB 1996										
07...	0830	395	6.9	23.0	28	4.6	53	14	K660000	38000
APR										
10...	1000	444	7.2	25.5	2.5	4.2	50	12	260	K170
JUN										
03...	0915	490	7.1	27.0	3.5	4.3	54	33	K8300	650
AUG										
05...	0820	456	7.2	26.5	84	4.1	51	24	3000	520

DATE	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	SODIUM ADSORPTION RATIO (00931)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ALKALINITY WAT WH TOT FET FIELD MG/L AS CACO3 (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)
OCT 1995										
06...	170	47	13	28	0.9	3.4	160	<0.5	13	31
DEC										
11...	--	--	--	--	--	--	170	--	--	--
FEB 1996										
07...	--	--	--	--	--	--	170	--	--	--
APR										
10...	170	46	13	26	0.9	4.0	160	<0.5	15	35
JUN										
03...	--	--	--	--	--	--	200	--	--	--
AUG										
05...	94	26	7.0	17	0.8	2.9	110	--	8.4	20

K = non-ideal count.
Discharge measurement values not available due to ponded conditions.

RIO DE BAYAMON BASIN

50047990 RIO GUAYNABO NEAR BAYAMON, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DATE	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	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)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)
OCT 1995										
06...	<0.10	26	257	4	0.620	0.040	0.660	0.100	0.39	0.49
DEC										
11...	--	--	--	26	0.910	0.060	0.970	0.190	0.39	0.58
FEB 1996										
07...	--	--	--	58	0.730	0.070	0.800	0.120	0.44	0.56
APR										
10...	0.20	0.60	236	10	0.580	0.040	0.620	0.180	0.48	0.66
JUN										
03...	--	--	--	15	0.460	0.030	0.490	0.050	1.5	1.6
AUG										
05...	0.10	17	164	118	0.740	0.020	0.760	0.050	0.47	0.52

DATE	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)	IRON, TOTAL RECOVERABLE (UG/L AS FE) (01045)
OCT 1995										
06...	1.2	5.1	0.160	7	100	40	<1	<1	<10	320
DEC										
11...	1.6	6.9	0.240	--	--	--	--	--	--	--
FEB 1996										
07...	1.4	6.0	0.240	--	--	--	--	--	--	--
APR										
10...	1.3	5.7	0.150	<1	100	30	<1	<1	10	390
JUN										
03...	2.1	9.3	0.120	--	--	--	--	--	--	--
AUG										
05...	1.3	5.7	0.110	--	--	--	--	--	--	--

DATE	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 (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 1995									
06...	5	170	<0.10	<1	<1	20	<0.010	1	0.04
DEC									
11...	--	--	--	--	--	--	--	--	--
FEB 1996									
07...	--	--	--	--	--	--	--	--	--
APR									
10...	<1	210	<0.10	<1	<1	<10	<0.010	<1	0.05
JUN									
03...	--	--	--	--	--	--	--	--	--
AUG									
05...	--	--	--	--	--	--	--	--	--

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 1995 TO SEPTEMBER 1996

DATE	TIME	DISCHARGE, 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, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	OXYGEN DEMAND, CHEMICAL (HIGH LEVEL) (MG/L) (00340)	COLIFORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)	STREPTOCOCCI FECAL, (COLS. PER 100 ML) (31679)
OCT 1995											
06...	1005	13	465	7.4	27.5	5.2	6.8	86	10	37000	7400
DEC											
11...	1035	21	422	7.1	25.0	11	5.0	60	12	58000	4300
FEB 1996											
07...	1025	61	372	7.2	24.0	29	6.9	81	14	K60000	23000
APR											
10...	1125	37	425	7.5	28.0	4.6	7.0	87	10	41000	660
JUN											
03...	1045	16	460	7.3	27.5	4.4	7.7	97	<10	40000	59000
AUG											
05...	1140	127	294	7.5	27.5	160	5.7	71	31	45000	44000

DATE	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	SODIUM ADSORPTION RATIO (00931)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ALKALINITY WAT WH TOT FET FIELD MG/L AS CACO3 (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)
OCT 1995										
06...	180	48	14	25	0.8	3.0	170	<0.5	16	32
DEC										
11...	--	--	--	--	--	--	170	--	--	--
FEB 1996										
07...	--	--	--	--	--	--	140	--	--	--
APR										
10...	170	45	14	24	0.8	3.2	170	<0.5	15	32
JUN										
03...	--	--	--	--	--	--	180	--	--	--
AUG										
05...	110	28	8.6	18	0.8	3.5	120	--	9.9	20

DATE	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	SOLIDS, DISSOLVED (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 1995										
06...	<0.10	26	266	9.33	5	0.410	0.040	0.450	0.290	0.37
DEC										
11...	--	--	--	--	15	0.460	0.050	0.510	0.470	0.32
FEB 1996										
07...	--	--	--	--	32	0.630	0.050	0.680	0.250	0.37
APR										
10...	0.20	27	262	26.3	10	0.460	0.030	0.490	0.100	0.39
JUN										
03...	--	--	--	--	13	0.280	0.030	0.310	0.040	0.49
AUG										
05...	0.10	19	179	61.4	180	0.460	0.040	0.500	0.110	0.58

K = non-ideal count

RIO DE BAYAMON BASIN

50048510 RIO DE BAYAMON AT FLOOD CHANNEL AT BAYAMON, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

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 1995										
06...	0.66	1.1	4.9	0.120	1	<100	40	<1	<1	<10
DEC										
11...	0.79	1.3	5.8	0.180	--	--	--	--	--	--
FEB 1996										
07...	0.62	1.3	5.8	0.130	--	--	--	--	--	--
APR										
10...	0.49	0.98	4.3	0.090	<1	<100	30	<1	<1	10
JUN										
03...	0.53	0.84	3.7	0.060	--	--	--	--	--	--
AUG										
05...	0.69	1.2	5.3	0.240	--	--	--	--	--	--

DATE	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 (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 1995										
06...	500	2	350	<0.10	<1	<1	10	<0.010	2	0.03
DEC										
11...	--	--	--	--	--	--	--	--	--	--
FEB 1996										
07...	--	--	--	--	--	--	--	--	--	--
APR										
10...	420	<1	180	<0.10	<1	<1	<10	<0.010	<1	0.04
JUN										
03...	--	--	--	--	--	--	--	--	--	--
AUG										
05...	--	--	--	--	--	--	--	--	--	--

PESTICIDE ANALYSES

DATE	TIME	PCB, TOTAL (UG/L) (39516)	ALDRIN, TOTAL (UG/L) (39330)	CHLORDANE, TECHNICAL TOTAL (UG/L) (39350)	P,P'-DDD UNFILT RECOVER (UG/L) (39360)	DDE, TOTAL (UG/L) (39365)	P,P'-DDT UNFILT RECOVER (UG/L) (39370)	DIAZINON, TOTAL (UG/L) (39570)	DIELDRIN TOTAL (UG/L) (39380)	ENDOSULFAN, I TOTAL (UG/L) (39388)
JUN 1996										
03...	1045	<0.100	<0.010	<0.100	<0.010	<0.010	<0.010	0.010	<0.010	<0.010

DATE	ENDRIN WATER UNFLTRD REC (UG/L) (39390)	ETHION, TOTAL (UG/L) (39398)	HEPTACHLOR, TOTAL (UG/L) (39410)	HEPTACHLOR EPOXIDE TOTAL (UG/L) (39420)	LINDANE TOTAL (UG/L) (39340)	MALATHION, TOTAL (UG/L) (39530)	METHOXYCHLOR, TOTAL (UG/L) (39480)	METHYL PARATHION, TOTAL (UG/L) (39600)	MIREX, TOTAL (UG/L) (39755)
JUN 1996									
03...	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010

DATE	PARATHION, TOTAL (UG/L) (39540)	PCNS UNFILT RECOVER (UG/L) (39250)	PERTHANE TOTAL (UG/L) (39034)	TOXAPHENE, TOTAL (UG/L) (39400)	TOTAL TRITHION (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)
JUN 1996									
03...	<0.010	<0.100	<0.100	<1.00	<0.010	0.020	<0.010	<0.010	<0.010

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 area, 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 wastes water discharge 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 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.8	4.5	1.3	1.4	1.5	1.2	1.6	1.6	1.5	1.0	2.5	2.2
2	1.7	9.2	1.7	1.4	1.5	1.1	1.6	1.5	1.4	.97	58	2.1
3	9.8	15	1.7	1.3	1.6	1.2	102	1.7	1.3	.94	4.6	4.7
4	2.6	3.8	1.3	1.3	1.5	1.3	9.5	1.7	1.6	.92	2.3	9.4
5	2.2	15	1.3	1.5	1.4	3.0	6.9	1.8	2.6	.94	5.1	7.4
6	1.5	69	1.6	7.5	2.7	1.3	9.9	1.7	1.4	.95	1.6	3.1
7	1.7	6.3	1.3	1.8	1.2	1.2	3.0	11	1.3	1.4	1.8	2.7
8	3.1	3.0	1.3	23	1.3	1.3	2.5	5.4	1.3	27	1.8	3.8
9	2.9	2.3	1.3	26	9.6	1.4	2.4	11	1.1	2.6	1.7	39
10	5.4	2.2	3.9	74	1.6	1.2	2.3	2.5	3.1	1.7	17	1650
11	2.6	2.1	1.6	8.4	1.5	2.4	2.3	53	2.9	2.0	11	110
12	2.0	2.1	3.7	12	1.4	1.1	6.1	3.5	3.5	2.6	9.1	14
13	1.8	1.9	3.1	2.4	1.4	1.1	2.7	3.0	1.5	2.2	8.5	8.2
14	166	1.7	2.2	106	1.4	1.1	2.4	2.1	1.5	8.2	13	7.3
15	4.2	1.6	1.4	23	1.3	14	2.8	3.2	28	5.8	8.4	12
16	2.7	1.8	2.2	2.9	1.4	1.3	2.6	2.6	16	2.0	73	9.9
17	12	1.9	19	2.3	1.3	1.2	45	2.8	1.5	1.8	4.8	76
18	5.0	1.7	36	2.5	1.3	1.3	3.0	2.5	153	1.6	4.6	42
19	67	2.3	5.8	6.0	1.6	1.6	1.7	30	5.2	1.6	4.4	12
20	5.2	1.6	2.2	5.4	2.9	1.2	1.7	3.6	1.9	1.5	62	11
21	20	1.5	1.9	2.3	8.6	1.2	3.8	2.4	1.5	1.5	4.2	10
22	16	1.4	1.9	1.9	9.8	1.3	3.1	2.5	1.3	1.6	2.4	9.4
23	4.4	1.4	14	1.7	4.7	1.2	3.5	2.8	1.2	1.5	75	8.8
24	61	3.1	2.0	2.4	8.3	1.3	2.1	2.1	1.1	2.1	33	9.9
25	16	2.8	1.6	8.2	2.3	1.3	1.9	2.0	1.0	2.1	5.4	15
26	84	12	1.6	1.8	1.4	1.5	2.1	3.7	1.1	1.7	3.5	14
27	11	1.5	10	9.3	1.3	2.7	1.7	1.6	3.0	1.6	3.0	15
28	4.2	2.0	2.6	18	1.2	1.7	2.9	1.6	1.0	66	3.2	15
29	3.3	1.7	1.5	3.9	1.2	1.5	1.9	1.6	1.1	4.8	3.3	13
30	3.0	1.5	1.5	2.0	---	1.5	4.8	1.5	1.1	2.4	3.0	17
31	3.0	---	1.5	1.6	---	1.6	---	1.5	---	3.3	2.5	---
TOTAL	527.1	177.9	134.0	363.2	78.2	57.3	239.8	169.5	245.0	156.32	433.7	2153.9
MEAN	17.0	5.93	4.32	11.7	2.70	1.85	7.99	5.47	8.17	5.04	14.0	71.8
MAX	166	69	36	106	9.8	14	102	53	153	66	75	1650
MIN	1.5	1.4	1.3	1.3	1.2	1.1	1.6	1.5	1.0	.92	1.6	2.1
AC-FT	1050	353	266	720	155	114	476	336	486	310	860	4270
CFSM	2.27	.79	.58	1.56	.36	.25	1.07	.73	1.09	.67	1.87	9.59
IN.	2.62	.88	.67	1.80	.39	.28	1.19	.84	1.22	.78	2.15	10.70

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 1996, BY WATER YEAR (WY)

MEAN	23.3	20.8	14.1	14.1	12.1	10.7	12.4	15.3	12.1	15.1	21.5	28.9
MAX	57.3	59.8	40.5	24.4	23.6	19.5	23.9	47.2	24.8	38.0	66.9	71.8
(WY)	1991	1993	1993	1992	1991	1990	1993	1992	1989	1993	1992	1996
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 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1988 - 1996	
ANNUAL TOTAL	4166.91		4735.92			
ANNUAL MEAN	11.4		12.9		16.5	
HIGHEST ANNUAL MEAN					24.1	1993
LOWEST ANNUAL MEAN					7.76	1994
HIGHEST DAILY MEAN	321	Sep 6	1650	Sep 10	1650	Sep 10 1996
LOWEST DAILY MEAN	.84	Aug 13	.92	Jul 4	.84	Aug 13 1995
ANNUAL SEVEN-DAY MINIMUM	1.1	Aug 7	.97	Jun 30	.97	Jun 30 1996
INSTANTANEOUS PEAK FLOW			5390	Sep 10	5390	Sep 10 1996
INSTANTANEOUS PEAK STAGE			15.46	Sep 10	15.46	Sep 10 1996
ANNUAL RUNOFF (AC-FT)	8270		9390		11930	
ANNUAL RUNOFF (CFSM)	1.52		1.73		2.20	
ANNUAL RUNOFF (INCHES)	20.70		23.52		29.86	
10 PERCENT EXCEEDS	25		16		35	
50 PERCENT EXCEEDS	2.7		2.3		7.1	
90 PERCENT EXCEEDS	1.5		1.3		2.2	

RIO PUERTO NUEVO BASIN

50048770 RIO PIEDRAS AT EL SEÑORIAL, 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.-- Automatic sediment sampler since 1988.

REMARKS.-- During high flow sediment samples were collected by automatic sediment sampler.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATION: Maximum daily mean, 24,600 mg/L Sep. 18, 1989; Minimum daily mean, 2 mg/L November 18, 1988.

SEDIMENT LOADS: Maximum daily mean, e114,000tons (e103,000tonnes) Sep. 18, 1989; Minimum daily mean, 0.02 ton (0.02 tonne) June 9, 1994.

EXTREMES FOR CURRENT YEAR 1996.--
SEDIMENT CONCENTRATION: Maximum daily mean, 6,940 mg/L September 10, 1996; Minimum daily mean, 7 mg/l December 01, 1995.

SEDIMENT LOADS: Maximum daily mean, 34,800 tons (31,600 tonnes) September 10, 1996; Minimum daily mean, 0.03 ton (0.02 tonne) several days.

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	1.8	18	.08	4.5	57	1.9	1.3	7	.02
2	1.7	20	.09	9.2	109	7.2	1.7	20	.09
3	9.8	113	11	15	164	9.7	1.7	23	.12
4	2.6	31	.23	3.8	46	.49	1.3	19	.06
5	2.2	28	.22	15	173	26	1.3	17	.06
6	1.5	18	.07	69	697	460	1.6	25	.12
7	1.7	17	.08	6.3	56	1.1	1.3	23	.08
8	3.1	36	.57	3.0	21	.17	1.3	20	.07
9	2.9	34	.99	2.3	15	.10	1.3	18	.07
10	5.4	68	3.8	2.2	14	.09	3.9	44	.94
11	2.6	35	.36	2.1	14	.08	1.6	21	.09
12	2.0	25	.14	2.1	14	.08	3.7	42	1.3
13	1.8	22	.11	1.9	13	.07	3.1	37	.38
14	166	884	2190	1.7	13	.06	2.2	27	.24
15	4.2	50	.61	1.6	12	.05	1.4	18	.07
16	2.7	61	.61	1.8	20	.10	2.2	30	.20
17	12	142	18	1.9	19	.10	19	171	54
18	5.0	60	1.4	1.7	18	.08	36	360	139
19	67	610	542	2.3	27	.19	5.8	68	1.5
20	5.2	61	1.3	1.6	20	.08	2.2	27	.16
21	20	181	67	1.5	19	.08	1.9	23	.12
22	16	120	21	1.4	17	.07	1.9	21	.11
23	4.4	51	.66	1.4	16	.06	14	132	28
24	61	712	233	3.1	38	.48	2.0	25	.14
25	16	178	15	2.8	35	.36	1.6	20	.08
26	84	761	782	12	110	43	1.6	19	.08
27	11	123	5.1	1.5	26	.11	10	117	20
28	4.2	52	.60	2.0	25	.14	2.6	30	.35
29	3.3	40	.36	1.7	20	.09	1.5	19	.08
30	3.0	37	.30	1.5	11	.05	1.5	19	.07
31	3.0	37	.31	---	---	---	1.5	18	.07
TOTAL	527.1	---	3896.99	177.9	---	552.08	134.0	---	247.67

RIO PUERTO NUEVO BASIN

50048770 RIO PIEDRAS AT EL SEÑORIAL, 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)
		JANUARY			FEBRUARY			MARCH	
1	1.4	17	.06	1.5	19	.08	1.2	16	.05
2	1.4	16	.06	1.5	18	.08	1.1	15	.05
3	1.3	15	.05	1.6	18	.08	1.2	14	.05
4	1.3	14	.05	1.5	18	.07	1.3	13	.05
5	1.5	17	.07	1.4	17	.07	3.0	35	.62
6	7.5	87	3.3	2.7	35	.44	1.3	17	.06
7	1.8	24	.12	1.2	14	.05	1.2	16	.05
8	23	225	46	1.3	10	.04	1.3	15	.05
9	26	239	153	9.6	87	18	1.4	14	.05
10	74	664	1090	1.6	21	.09	1.2	14	.05
11	8.4	97	5.0	1.5	20	.08	2.4	27	.41
12	12	138	10	1.4	19	.07	1.1	14	.04
13	2.4	29	.19	1.4	18	.07	1.1	13	.04
14	106	1030	1160	1.4	18	.07	1.1	14	.04
15	23	236	43	1.3	17	.06	14	163	41
16	2.9	13	.10	1.4	17	.06	1.3	19	.06
17	2.3	7	.04	1.3	16	.05	1.2	18	.06
18	2.5	18	.17	1.3	16	.05	1.3	18	.06
19	6.0	62	6.8	1.6	20	.11	1.6	17	.08
20	5.4	64	2.2	2.9	31	.85	1.2	12	.04
21	2.3	28	.18	8.6	73	15	1.2	10	.03
22	1.9	24	.12	9.8	94	18	1.3	9	.03
23	1.7	20	.10	4.7	53	2.7	1.2	9	.03
24	2.4	29	.21	8.3	93	5.2	1.3	9	.03
25	8.2	93	6.2	2.3	28	.19	1.3	8	.03
26	1.8	24	.12	1.4	19	.07	1.5	16	.07
27	9.3	109	5.9	1.3	18	.06	2.7	70	.90
28	18	217	18	1.2	17	.06	1.7	42	.20
29	3.9	43	.72	1.2	16	.05	1.5	34	.13
30	2.0	23	.12	---	---	---	1.5	28	.11
31	1.6	19	.08	---	---	---	1.6	23	.09
TOTAL	363.2	---	2551.96	78.2	---	61.80	57.3	---	44.56

RIO PUERTO NUEVO BASIN

50048770 RIO PIEDRAS AT EL SEÑORIAL, 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)
		APRIL			MAY			JUNE	
1	1.6	18	.08	1.6	16	.07	1.5	10	.04
2	1.6	15	.07	1.5	12	.05	1.4	9	.03
3	102	1150	2500	1.7	10	.05	1.3	9	.03
4	9.5	110	8.9	1.7	9	.04	1.6	15	.10
5	6.9	79	4.1	1.8	9	.04	2.6	30	.40
6	9.9	115	26	1.7	8	.04	1.4	18	.07
7	3.0	32	.26	11	113	12	1.3	17	.06
8	2.5	21	.14	5.4	65	2.9	1.3	16	.05
9	2.4	14	.09	11	122	9.7	1.1	15	.05
10	2.3	10	.06	2.5	31	.21	3.1	37	1.3
11	2.3	9	.05	53	524	434	2.9	37	.96
12	6.1	67	1.5	3.5	42	.42	3.5	40	.57
13	2.7	35	.25	3.0	38	.40	1.5	19	.08
14	2.4	32	.21	2.1	23	.13	1.5	18	.15
15	2.8	34	.26	3.2	37	.47	28	834	488
16	2.6	31	.22	2.6	32	.23	16	178	34
17	45	480	405	2.8	34	.34	1.5	19	.09
18	3.0	23	.21	2.5	32	.21	153	1050	1740
19	1.7	11	.05	30	495	187	5.2	61	1.2
20	1.7	10	.05	3.6	42	.44	1.9	21	.11
21	3.8	42	.69	2.4	27	.18	1.5	18	.07
22	3.1	37	.36	2.5	22	.15	1.3	15	.05
23	3.5	41	.43	2.8	35	.29	1.2	12	.04
24	2.1	26	.14	2.1	30	.18	1.1	10	.03
25	1.9	23	.12	2.0	27	.14	1.0	9	.02
26	2.1	25	.15	3.7	44	1.7	1.1	11	.04
27	1.7	21	.10	1.6	18	.08	3.0	32	1.9
28	2.9	34	.43	1.6	14	.06	1.0	13	.04
29	1.9	25	.13	1.6	12	.05	1.1	12	.03
30	4.8	53	3.0	1.5	11	.05	1.1	11	.03
31	---	---	---	1.5	10	.04	---	---	---
TOTAL	239.8	---	2953.05	169.5	---	651.66	245.0	---	2269.54

RIO PUERTO NUEVO BASIN

50048770 RIO PIEDRAS AT EL SEÑORIAL, 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)
		JULY			AUGUST			SEPTEMBER	
1	1.0	11	.03	2.5	30	.20	2.2	29	.17
2	.97	11	.03	58	851	600	2.1	27	.16
3	.94	11	.03	4.6	53	.79	4.7	52	1.5
4	.92	11	.03	2.3	28	.19	9.4	110	12
5	.94	10	.03	5.1	55	2.9	7.4	85	2.8
6	.95	10	.03	1.6	15	.06	3.1	35	.30
7	1.4	19	.12	1.8	15	.10	2.7	33	.26
8	27	267	50	1.8	22	.11	3.8	45	.52
9	2.6	102	.79	1.7	20	.09	39	396	233
10	1.7	49	.22	17	242	72	1650	6940	34800
11	2.0	37	.20	11	122	6.4	110	1190	605
12	2.6	33	.47	9.1	105	14	14	160	6.6
13	2.2	27	.20	8.5	103	14	8.2	109	2.4
14	8.2	92	3.4	13	142	18	7.3	108	2.1
15	5.8	67	3.7	8.4	97	3.1	12	134	6.4
16	2.0	27	.14	73	686	424	9.9	103	2.9
17	1.8	26	.13	4.8	55	.76	76	644	753
18	1.6	24	.11	4.6	53	.82	42	460	155
19	1.6	23	.10	4.4	55	.78	12	145	4.8
20	1.5	22	.09	62	814	759	11	136	3.9
21	1.5	21	.08	4.2	51	.63	10	130	3.5
22	1.6	20	.08	2.4	33	.34	9.4	124	3.2
23	1.5	19	.08	75	980	634	8.8	119	2.8
24	2.1	25	.18	33	345	101	9.9	114	3.0
25	2.1	28	.22	5.4	61	.94	15	174	8.4
26	1.7	22	.10	3.5	40	.38	14	157	5.9
27	1.6	20	.08	3.0	37	.30	15	156	6.3
28	66	1000	889	3.2	35	.31	15	163	6.6
29	4.8	89	1.3	3.3	34	.30	13	144	5.2
30	2.4	50	.32	3.0	32	.24	17	179	9.3
31	3.3	43	.48	2.5	30	.21	---	---	---
TOTAL	156.32	---	951.77	433.7	---	2655.95	2153.9	---	36647.01
YEAR	4735.92		53484.04						

RIO PUERTO NUEVO BASIN

50048770 RIO PIEDRAS AT EL SEÑORIAL, PR--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

PARTICLE-SIZE DISTRIBUTION 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. 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)
APR 1996							
03...	1545	1600	14800	63900	28	34	42
JUN							
15...	1640	286	6320	4880	29	42	48
18...	1430	1040	8210	23100	20	28	36
AUG							
02...	1615	356	9660	9290	26	38	44
20...	1515	970	9890	25900	28	34	43

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)
APR 1996							
03...	56	66	80	88	94	99	100
JUN							
15...	66	76	95	98	99	100	100
18...	48	62	76	87	94	100	100
AUG							
02...	62	75	91	97	99	100	100
20...	51	60	77	87	94	98	99

RIO PUERTO NUEVO BASIN

50048770 RIO PIEDRAS AT EL SEÑORIAL, PR--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

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 1995					
14...	1615	2600	5110	35900	74
24...	1030	92	1400	348	98
APR 1996					
03...	1830	170	1230	565	82
JUN					
15...	1730	168	8030	3640	97
18...	1815	211	1110	632	88
AUG					
02...	1832	174	3120	1470	95
23...	1830	192	3060	1590	91

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 1995 TO SEPTEMBER 1996

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, 0.45 UM-MF (COLS./ 100 ML) (31616)	STREP-TOCOCCI FECAL, (COLS. PER 100 ML) (31679)
OCT 1995											
20...	0845	17	363	7.1	24.	4.0	6.8	81	95	340000	52000
JAN 1996											
12...	0745	E12	218	7.0	23.0	710	7.6	87	78	310000	66000
FEB											
22...	0825	6.8	455	7.3	21.5	1.0	5.5	61	31	K740000	K93000
APR											
15...	0835	5.6	452	6.9	22.5	1.0	4.2	48	24	K17000	4400
JUN											
03...	0800	4.4	485	7.0	25.0	0.60	2.4	29	24	63000	7100
AUG											
19...	1030	9.8	421	7.2	26.0	16	4.3	53	31	290000	K140000

DATE	HARD-NESS TOTAL (MG/L AS CACO3) (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)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (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 1995										
20...	140	35	12	24	0.9	4.0	120	<0.5	18	30
JAN 1996										
12...	--	--	--	--	--	--	80	--	--	--
FEB										
22...	--	--	--	--	--	--	160	--	--	--
APR										
15...	160	42	13	28	1	3.3	160	<0.5	16	34
JUN										
03...	--	--	--	--	--	--	160	--	--	--
AUG										
19...	140	36	12	27	1	3.6	160	--	18	31

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)	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 1995										
20...	<0.10	26	222	10.4	<1	0.850	0.050	0.900	2.20	0.80
JAN 1996										
12...	--	--	--	--	1370	0.720	0.070	0.790	0.570	2.9
FEB										
22...	--	--	--	--	20	0.750	0.060	0.810	4.40	0.70
APR										
15...	0.20	32	264	3.98	2	0.480	0.030	0.510	2.20	0.40
JUN										
03...	--	--	--	--	7	0.080	0.040	0.120	2.80	0.90
AUG										
19...	0.10	29	253	6.71	19	0.370	0.010	0.380	0.040	0.22

E = estimated
K = non-ideal count

RIO PUERTO NUEVO BASIN

50048800 RIO PIEDRAS NEAR RIO PIEDRAS, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

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 1995										
20...	3.0	3.9	17	0.300	1	100	50	<1	<1	10
JAN 1996										
12...	3.5	4.3	19	0.280	--	--	--	--	--	--
FEB										
22...	5.1	5.9	26	0.520	--	--	--	--	--	--
APR										
15...	2.6	3.1	14	0.280	2	<100	30	<1	<1	<10
JUN										
03...	3.7	3.8	17	0.500	--	--	--	--	--	--
AUG										
19...	0.26	0.64	2.8	0.100	--	--	--	--	--	--

DATE	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 (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 1995										
20...	540	2	70	<0.10	<1	<1	10	<0.010	<1	0.16
JAN 1996										
12...	--	--	--	--	--	--	--	--	--	--
FEB										
22...	--	--	--	--	--	--	--	--	--	--
APR										
15...	300	<1	300	<0.10	<1	<1	<10	<0.010	<1	0.02
JUN										
03...	--	--	--	--	--	--	--	--	--	--
AUG										
19...	--	--	--	--	--	--	--	--	--	--

PESTICIDE ANALYSES

DATE	TIME	PCB, TOTAL (UG/L) (39516)	ALDRIN, TOTAL (UG/L) (39330)	CHLORDANE, TECHNICAL TOTAL (UG/L) (39350)	P,P'-DDD UNFILT RECOVER (UG/L) (39360)	DDE, TOTAL (UG/L) (39365)	P,P'-DDT UNFILT RECOVER (UG/L) (39370)	DIAZINON, TOTAL (UG/L) (39570)	DIELDRIN TOTAL (UG/L) (39380)	ENDOSULFAN, I TOTAL (UG/L) (39388)
JUN 1996										
03...	0800	<0.100	<0.010	<0.100	<0.010	<0.010	<0.010	0.030	<0.010	<0.010

DATE	ENDRIN WATER UNFLTRD REC (UG/L) (39390)	ETHION, TOTAL (UG/L) (39398)	HEPTACHLOR, TOTAL (UG/L) (39410)	HEPTACHLOR EPOXIDE TOTAL (UG/L) (39420)	LINDANE TOTAL (UG/L) (39340)	MALATHION, TOTAL (UG/L) (39530)	METHOXYCHLOR, TOTAL (UG/L) (39480)	METHYL PARATHION, TOTAL (UG/L) (39600)	MIREX, TOTAL (UG/L) (39755)
JUN 1996									
03...	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010

DATE	PARATHION, TOTAL (UG/L) (39540)	PCNS UNFILT RECOVER (UG/L) (39250)	PERTHANE TOTAL (UG/L) (39034)	TOXAPHENE, TOTAL (UG/L) (39400)	TOTAL TRITHION (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)
JUN 1996									
03...	<0.010	<0.100	<0.100	<1.00	<0.010	0.020	<0.010	<0.010	<0.010

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.--15.4 mi² (39.9 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 ft^3/s (0.06 m^3/s)), 20 ft (6 m) upstream from gaging station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	57	54	16	11	e24	e11	e12	13	14	15	41	14
2	67	90	15	10	e23	e10	e9.5	12	17	14	124	13
3	76	122	19	10	e25	e11	e550	17	12	12	59	150
4	102	26	14	10	e25	e13	e248	13	17	12	24	99
5	71	128	14	17	e20	e27	e117	17	30	12	54	35
6	40	324	18	60	e30	e12	e127	25	27	12	16	17
7	36	61	14	16	e19	e11	e34	90	14	23	21	16
8	41	30	13	87	e21	e12	e25	148	13	215	18	39
9	42	26	33	194	e42	e13	e16	165	9.9	37	15	e128
10	84	21	26	432	21	e11	e14	51	29	19	83	e4550
11	40	21	15	137	17	e22	e16	305	87	12	51	e623
12	31	18	51	70	15	e10	e107	99	41	15	130	e226
13	27	15	39	37	13	e10	e19	152	16	19	66	e52
14	513	15	26	238	13	e10	e12	58	33	164	84	e47
15	93	13	16	142	13	e126	e13	47	121	41	81	e76
16	64	15	32	71	13	e20	11	42	135	13	222	e64
17	116	23	90	32	33	e12	153	61	25	17	57	e470
18	34	14	189	31	15	e14	59	30	300	32	23	e250
19	209	17	77	88	33	e21	12	111	64	31	53	e76
20	30	13	33	53	22	e23	10	56	27	13	285	e70
21	51	13	32	35	37	e12	25	30	21	12	65	e64
22	67	13	25	27	47	e11	25	30	18	12	34	e60
23	26	12	58	23	43	e9.7	36	51	18	13	314	e56
24	173	95	25	40	52	e12	27	26	17	24	136	e62
25	85	17	17	86	e20	e12	12	22	15	186	43	e94
26	369	159	14	36	e14	e34	13	28	22	59	31	e90
27	284	33	39	138	e13	e40	11	20	196	14	20	e96
28	49	34	46	e270	e12	e17	18	20	21	507	e21	e96
29	24	23	14	e80	e11	e14	21	16	29	91	e22	e82
30	19	37	13	e37	---	e14	59	14	16	38	e20	e110
31	20	---	12	e27	---	e14	---	13	---	40	e18	---
TOTAL	2940	1482	1045	2545	686	588.7	1811.5	1782	1404.9	1724	2231	7825
MEAN	94.8	49.4	33.7	82.1	23.7	19.0	60.4	57.5	46.8	55.6	72.0	261
MAX	513	324	189	432	52	126	550	305	300	507	314	4550
MIN	19	12	12	10	11	9.7	9.5	12	9.9	12	15	13
AC-FT	5830	2940	2070	5050	1360	1170	3590	3530	2790	3420	4430	15520
CFSM	6.24	3.25	2.22	5.40	1.56	1.25	3.97	3.78	3.08	3.66	4.73	17.2
IN.	7.20	3.63	2.56	6.23	1.68	1.44	4.43	4.36	3.44	4.22	5.46	19.15

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1972 - 1996, BY WATER YEAR (WY)

MEAN	67.4	74.1	48.7	45.3	39.9	38.2	60.3	46.3	44.1	47.8	54.9	92.2
MAX	134	235	168	97.4	86.9	78.5	150	97.5	81.9	97.4	84.2	261
(WY)	1991	1993	1993	1993	1995	1972	1972	1992	1995	1993	1988	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 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1972 - 1996	
ANNUAL TOTAL	23854.3		26065.1			
ANNUAL MEAN	65.4		71.2		54.1	
HIGHEST ANNUAL MEAN					84.0	1993
LOWEST ANNUAL MEAN					28.7	1994
HIGHEST DAILY MEAN	1170	Sep 6	4550	Sep 10	4550	Sep 10 1996
LOWEST DAILY MEAN	4.7	May 11	9.5	Apr 2	1.2	Jun 28 1972
ANNUAL SEVEN-DAY MINIMUM	6.7	Apr 28	11	Dec 29	1.2	Jul 5 1972
INSTANTANEOUS PEAK FLOW			10500	Sep 10	10500	Sep 10 1996
INSTANTANEOUS PEAK STAGE			22.11	Sep 10	22.11	Sep 10 1996
ANNUAL RUNOFF (AC-FT)	47310		51700		39180	
ANNUAL RUNOFF (CFSM)	4.30		4.69		3.56	
ANNUAL RUNOFF (INCHES)	58.38		63.79		48.34	
10 PERCENT EXCEEDS	133		137		121	
50 PERCENT EXCEEDS	23		27		22	
90 PERCENT EXCEEDS	7.6		12		9.4	

e Estimated

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 Piñiero at Expreso Las Américas, 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 1995 TO SEPTEMBER 1996

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, 0.45 UM-MF (COLS./ 100 ML) (31616)	STREP-TOCOCCI FECAL, (COLS. PER 100 ML) (31679)
OCT 1995											
27...	1410	24	408	7.3	28.0	230	6.8	83	24	580000	40000
JAN 1996											
12...	1045	55	275	6.8	24.0	370	6.8	79	39	390000	42000
FEB											
22...	0950	14	426	7.4	23.5	4.8	5.3	61	18	K150000	56000
APR											
15...	1030	12	480	7.1	25.0	1.3	5.4	64	23	43000	20000
JUN											
13...	1110	12	414	7.0	30.0	1.8	4.2	55	28	86000	35000
AUG											
19...	1240	23	341	7.5	29.5	19	5.4	70	30	440000	270000

DATE	HARD-NESS TOTAL (MG/L AS CACO3) (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)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (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 1995										
27...	130	36	8.8	21	0.8	3.8	140	<0.5	16	23
JAN 1996										
12...	--	--	--	--	--	--	100	--	--	--
FEB										
22...	--	--	--	--	--	--	150	--	--	--
APR										
15...	160	47	11	30	1	3.7	180	1.0	15	37
JUN										
13...	--	--	--	--	--	--	150	--	--	--
AUG										
19...	120	35	8.4	21	0.8	3.5	120	--	12	23

K = non-ideal count

RIO PUERTO NUEVO BASIN

50049100 RIO PIEDRAS AT HATO REY, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DATE	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	SOLIDS, DISSOLVED (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 1995										
27...	0.20	18	201	13.3	320	0.910	0.090	1.00	0.780	1.8
JAN 1996										
12...	--	--	--	--	468	0.690	0.090	0.780	0.560	1.5
FEB										
22...	--	--	--	--	19	0.910	0.190	1.10	0.980	0.42
APR										
15...	0.10	30	282	9.20	3	0.610	0.260	0.870	1.30	0.40
JUN										
13...	--	--	--	--	9	0.680	0.180	0.860	1.60	0.50
AUG										
19...	0.20	21	196	12.2	26	0.690	0.130	0.820	0.930	0.77

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 1995										
27...	2.6	3.6	16	0.520	2	200	40	<1	10	70
JAN 1996										
12...	2.1	2.9	13	0.230	--	--	--	--	--	--
FEB										
22...	1.4	2.5	11	0.240	--	--	--	--	--	--
APR										
15...	1.7	2.6	11	0.220	2	<100	50	<1	<1	<10
JUN										
13...	2.1	3.0	13	0.330	--	--	--	--	--	--
AUG										
19...	1.7	2.5	11	0.280	--	--	--	--	--	--

DATE	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 (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 1995										
27...	16000	46	850	<0.10	<1	2	200	<0.010	1	0.04
JAN 1996										
12...	--	--	--	--	--	--	--	--	--	--
FEB										
22...	--	--	--	--	--	--	--	--	--	--
APR										
15...	320	<1	240	<0.10	<1	<1	<10	<0.010	<1	0.20
JUN										
13...	--	--	--	--	--	--	--	--	--	--
AUG										
19...	--	--	--	--	--	--	--	--	--	--

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 1995 TO SEPTEMBER 1996

DATE	TIME	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	TRANSPARENCY (SECCHI DISK) (IN) (00077)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	COLIFORM, FECAL, 0.45 UM-MF (COLS./100 ML) (31616)	STREPTOCOCCI FECAL, (COLS. PER 100 ML) (31679)	ALKALINITY WAT WH TOT FET FIELD MG/L AS CACO3 (00410)	RESIDUE TOTAL AT 105 DEG. C, SUSPENDED (MG/L) (00530)
FEB 1996											
01...	0920	18700	7.1	24.5	36.0	3.4	43	2800	K130000	72	8
MAR											
04...	1000	27400	7.4	26.5	36.0	2.3	31	K7400	300	130	4
APR											
26...	1120	24200	8.1	28.0	21.0	8.2	112	K7300	410	130	27
JUN											
27...	0945	21500	7.4	29.5	35.0	5.1	66	5800	2400	86	14
AUG											
30...	1000	16500	8.3	31.0	18.0	6.9	97	3500	K20	67	11

DATE	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)	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)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
FEB 1996										
01...	0.030	0.030	0.060	0.960	0.84	1.8	1.9	8.2	0.100	6.5
MAR										
04...	<0.010	0.010	<0.020	0.830	0.77	1.6	1.6	7.1	0.210	7.4
APR										
26...	<0.010	0.010	<0.020	0.320	2.5	2.8	2.8	12	0.360	12
JUN										
27...	<0.010	<0.010	<0.020	1.20	1.5	2.7	2.7	12	0.310	8.9
AUG										
30...	0.010	0.090	0.100	0.82	1.1	1.9	2.0	8.9	0.180	8.3

K = non-ideal count

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 Constitución, 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 1995 TO SEPTEMBER 1996

DATE	TIME	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	TRANSPARENCY (SECCHI DISK) (IN) (00077)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	COLIFORM, FECAL, 0.45 UM-MF (COLS./100 ML) (31616)	STREPTOCOCCI FECAL, (COLS. PER 100 ML) (31679)	ALKALINITY WAT WH TOT FET FIELD MG/L AS CACO3 (00410)	RESIDUE TOTAL AT 105 DEG. C, SUSPENDED (MG/L) (00530)
NOV 1995											
09...	0855	48000	7.1	28.0	32.0	4.7	59	K630000	19000	150	37
JAN 1996											
18...	0950	39500	7.8	27.0	44.0	6.8	83	600000	380000	150	32
FEB											
27...	1015	44500	7.8	26.5	39.0	7.5	92	36000	28000	140	9
APR											
24...	1045	36500	7.8	27.0	32.0	4.8	67	39000	K1400	140	23
JUN											
26...	1120	32000	7.1	29.0	14.4	2.4	31	530000	310000	150	29
AUG											
27...	1045	50000	7.4	29.5	24.0	5.2	68	280000	2600	140	9

DATE	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)	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)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
NOV 1995										
09...	0.300	0.100	0.400	1.40	1.3	2.7	3.1	14	0.370	4.6
JAN 1996										
18...	<0.010	0.010	<0.020	3.00	1.4	4.4	4.4	20	0.410	8.6
FEB										
27...	<0.010	0.040	0.040	1.90	0.70	2.6	2.6	12	0.330	7.3
APR										
24...	0.100	0.070	0.170	1.30	0.70	2.0	2.2	9.6	0.920	5.9
JUN										
26...	0.040	0.060	0.100	0.99	0.80	0.50	0.60	2.7	0.300	8.4
AUG										
27...	0.060	0.040	0.100	1.1	0.30	1.4	1.5	6.6	0.340	7.2

k=non-ideal count

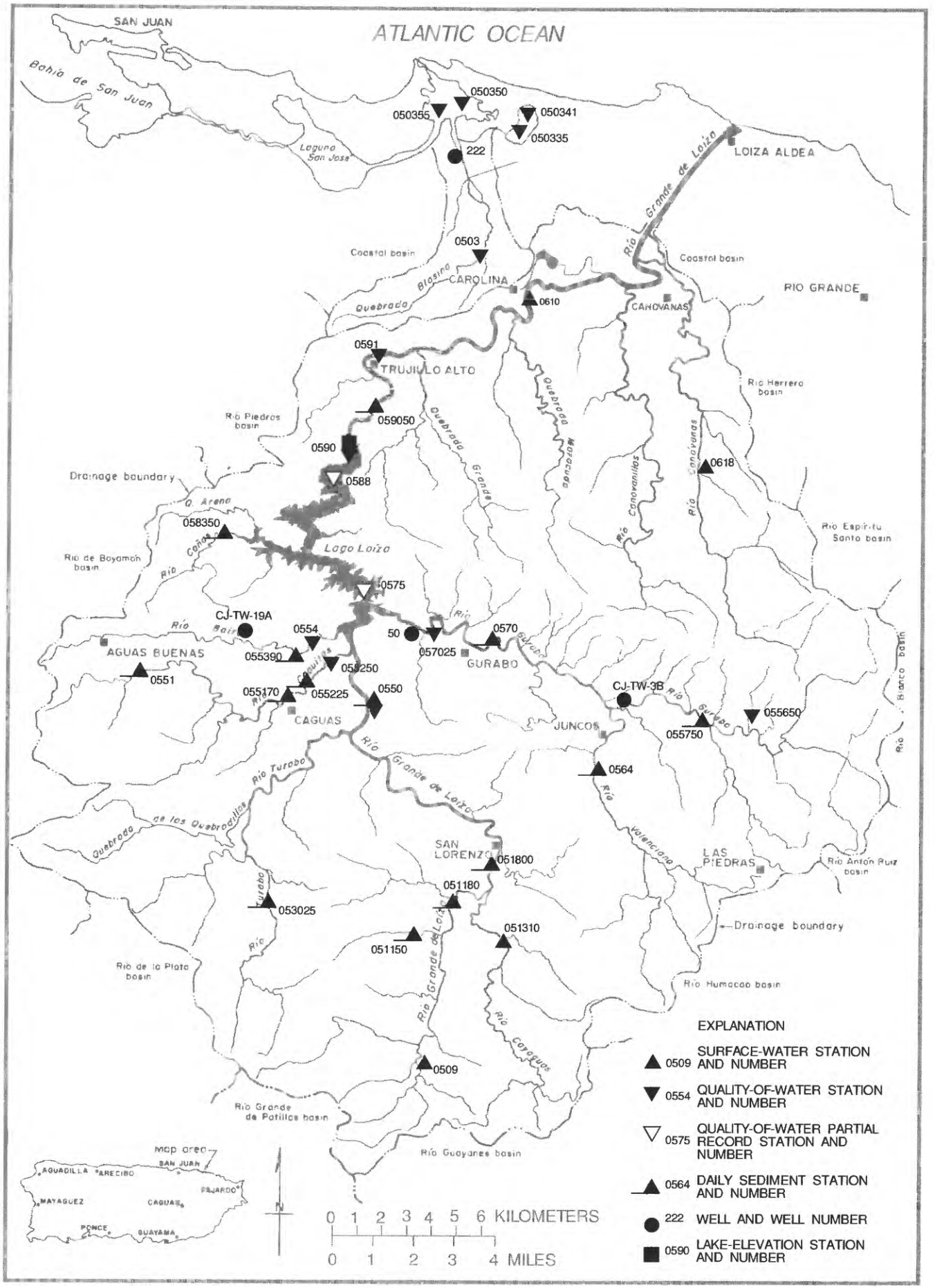

Figure 20.--Río Grande de Loíza basin.

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 1995 TO SEPTEMBER 1996

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, 0.45 UM-MF (COLS./ 100 ML) (31616)	STREP-TOCOCCI FECAL, (COLS. PER 100 ML) (31679)
OCT 1995											
11...	1215	7.3	482	6.6	27.0	1.7	3.2	40	14	45000	8800
JAN 1996											
24...	0930	8.3	410	7.2	23.0	2.4	5.0	57	15	37000	39000
FEB											
21...	1115	6.1	460	7.4	24.5	1.8	4.9	58	12	2900	3700
APR											
24...	1305	15	416	7.2	25.5	2.7	4.3	52	40	310000	47000
JUN											
17...	1130	5.6	433	7.0	23.5	1.7	3.7	43	26	28000	6200
AUG											
21...	1145	10	374	7.0	27.0	4.7	6.2	77	21	38000	24000

DATE	HARD-NESS TOTAL (MG/L AS CACO3) (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)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (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 1995										
11...	160	51	8.9	26	0.9	3.5	170	<0.5	9.8	32
JAN 1996										
24...	--	--	--	--	--	--	140	--	--	--
FEB										
21...	--	--	--	--	--	--	190	--	--	--
APR										
24...	150	46	7.9	26	0.9	3.1	150	<0.5	14	32
JUN										
17...	--	--	--	--	--	--	170	--	--	--
AUG										
04...	150	49	7.1	19	0.7	3.4	140	--	12	30

RIO GRANDE DE LOIZA BASIN

50050300 QUEBRADA BLASINA NEAR CAROLINA, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DATE	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	SOLIDS, DISSOLVED (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 1995										
11...	<0.10	23	256	5.03	11	1.03	0.170	1.20	0.600	0.50
JAN 1996										
24...	--	--	--	--	11	1.20	0.200	1.40	0.670	1.2
FEB										
21...	--	--	--	--	15	0.930	0.170	1.10	0.560	0.31
APR										
24...	0.10	22	241	9.76	18	0.720	0.160	0.880	0.960	0.54
JUN										
17...	--	--	--	--	2	0.690	0.160	0.850	1.00	1.7
AUG										
21...	0.10	18	222	6.11	15	1.09	0.110	1.20	0.380	0.23

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)
OCT 1995										
11...	1.1	2.3	10	0.170	5	<100	40	<1	<1	<10
JAN 1996										
24...	1.9	3.3	15	0.150	--	--	--	--	--	--
FEB										
21...	0.87	2.0	8.7	0.190	--	--	--	--	--	--
APR										
24...	1.5	2.4	11	0.300	<1	<100	60	<1	<1	<10
JUN										
17...	2.7	3.5	16	0.240	--	--	--	--	--	--
AUG										
21...	0.61	1.8	8.0	0.100	--	--	--	--	--	--

DATE	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 (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 1995										
11...	390	<1	160	<0.10	<1	<1	10	<0.010	<1	0.08
JAN 1996										
24...	--	--	--	--	--	--	--	--	--	--
FEB										
21...	--	--	--	--	--	--	--	--	--	--
APR										
24...	660	2	180	<0.10	<1	<1	20	<0.010	3	0.24
JUN										
17...	--	--	--	--	--	--	--	--	--	--
AUG										
21...	--	--	--	--	--	--	--	--	--	--

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 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28	13	14	14	16	13	17	18	24	33	31	30
2	25	13	16	14	16	14	16	16	12	30	47	21
3	24	13	16	13	30	16	16	15	11	29	216	33
4	24	14	16	13	28	17	21	14	72	26	122	31
5	26	17	15	13	36	19	17	13	49	25	52	26
6	24	24	14	14	21	19	16	13	96	24	42	19
7	47	17	13	15	19	20	15	16	157	23	42	17
8	27	14	13	108	16	22	60	20	65	86	66	17
9	21	14	13	21	38	87	22	19	32	85	41	266
10	68	13	13	14	21	32	17	15	24	49	38	3740
11	77	13	17	24	16	154	16	15	62	38	35	386
12	32	13	46	17	14	44	17	14	214	104	32	97
13	26	12	69	50	23	30	16	99	108	122	36	60
14	24	13	44	366	16	26	37	33	49	469	279	49
15	21	13	21	90	14	91	24	18	320	234	158	107
16	20	20	17	31	15	94	17	15	186	98	369	100
17	18	15	32	24	14	47	15	15	77	75	71	45
18	17	14	53	55	12	36	15	14	100	67	45	46
19	17	13	45	61	15	29	15	13	61	60	39	61
20	16	13	475	126	48	26	13	12	42	102	33	235
21	163	14	44	47	17	24	36	12	104	53	32	211
22	38	14	29	31	14	23	18	11	228	45	32	57
23	23	14	24	25	12	21	99	20	75	41	32	52
24	21	17	21	21	99	20	35	18	54	39	29	42
25	19	17	19	23	16	19	22	12	46	37	25	38
26	18	20	18	21	12	21	21	11	42	40	24	37
27	16	16	18	23	12	21	19	11	55	34	22	122
28	22	16	16	25	12	21	18	10	53	99	e22	e41
29	17	16	16	20	12	19	18	10	44	49	e20	e34
30	15	15	15	17	---	19	29	10	36	34	e19	32
31	14	---	14	16	---	21	---	10	---	32	18	---
TOTAL	948	450	1196	1352	634	1065	717	542	2498	2282	2069	6052
MEAN	30.6	15.0	38.6	43.6	21.9	34.4	23.9	17.5	83.3	73.6	66.7	202
MAX	163	24	475	366	99	154	99	99	320	469	369	3740
MIN	14	12	13	13	12	13	13	10	11	23	18	17
AC-FT	1880	893	2370	2680	1260	2110	1420	1080	4950	4530	4100	12000
CFSM	5.10	2.50	6.43	7.27	3.64	5.73	3.98	2.91	13.9	12.3	11.1	33.6
IN.	5.88	2.79	7.42	8.38	3.93	6.60	4.45	3.36	15.49	14.15	12.83	37.52

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1978 - 1996, BY WATER YEAR (WY)

MEAN	40.3	44.6	25.4	19.5	18.4	13.9	13.4	31.2	39.9	38.1	33.3	47.7
MAX	123	122	55.2	56.1	38.0	34.4	27.1	77.5	122	92.3	90.0	202
(WY)	1986	1988	1988	1992	1982	1996	1985	1985	1979	1993	1979	1996
MIN	13.1	8.34	6.65	8.16	6.36	5.07	4.64	9.56	11.3	12.5	9.30	11.8
(WY)	1990	1990	1990	1990	1979	1979	1979	1988	1985	1986	1991	1981

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1978 - 1996	
ANNUAL TOTAL	11052.4		19805			
ANNUAL MEAN	30.3		54.1		30.5	
HIGHEST ANNUAL MEAN					54.1	1996
LOWEST ANNUAL MEAN					14.5	1990
HIGHEST DAILY MEAN	510	Aug 19	3740	Sep 10	3740	Sep 10 1996
LOWEST DAILY MEAN	4.6	Jul 2	10	May 28	3.1	May 7 1979
ANNUAL SEVEN-DAY MINIMUM	4.9	Jun 27	11	May 25	3.6	May 1 1979
INSTANTANEOUS PEAK FLOW			Not determined	Sep 10	Not determined	Sep 10 1996
INSTANTANEOUS PEAK STAGE			25.93	Sep 10	25.93	Sep 10 1996
INSTANTANEOUS LOW FLOW			9.4	May 28	2.8	May 5 1979
ANNUAL RUNOFF (AC-FT)	21920		39280		22100	
ANNUAL RUNOFF (CFSM)	5.05		9.02		5.08	
ANNUAL RUNOFF (INCHES)	68.52		122.79		69.09	
10 PERCENT EXCEEDS	52		98		51	
50 PERCENT EXCEEDS	16		23		15	
90 PERCENT EXCEEDS	7.4		13		7.0	

e Estimated

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 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.9	4.7	2.1	2.2	3.3	1.5	1.4	1.9	2.2	6.8	3.3	6.2
2	3.3	6.0	2.6	2.2	3.3	1.6	1.3	1.7	1.9	6.4	3.4	4.9
3	5.3	4.9	2.3	2.2	3.6	2.2	2.6	1.5	1.8	6.2	32	10
4	3.2	4.0	2.1	2.1	4.1	2.2	16	1.5	5.0	6.4	21	22
5	3.5	11	2.1	2.0	31	1.9	6.2	1.4	12	6.0	11	8.2
6	2.7	8.1	2.1	2.3	9.9	1.7	2.7	1.4	16	5.2	7.4	7.0
7	2.8	5.7	2.2	2.6	8.7	2.0	2.1	1.6	17	5.1	5.9	5.7
8	2.5	4.5	2.4	15	4.6	3.8	13	2.5	5.5	26	4.8	4.9
9	2.3	3.9	2.4	3.6	3.7	11	5.7	2.3	2.5	18	4.4	19
10	9.2	3.5	2.4	2.9	3.0	4.2	2.7	3.1	2.1	11	5.2	e326
11	5.6	3.0	3.2	2.9	2.5	23	2.4	2.4	5.8	6.3	4.5	90
12	3.7	2.8	2.9	3.3	2.4	10	2.4	2.1	72	41	4.4	42
13	3.0	2.6	6.4	3.2	4.5	5.1	2.4	8.7	31	21	7.2	25
14	7.6	2.5	6.9	e56	2.3	3.5	2.2	4.3	8.1	61	e64	e18
15	3.1	2.3	4.2	32	1.9	16	2.2	2.5	53	50	53	e22
16	2.5	3.2	3.3	11	2.2	8.8	1.8	2.2	53	28	e79	e24
17	2.4	4.3	5.2	8.3	2.0	4.5	1.6	1.9	25	18	27	12
18	2.0	3.0	16	10	1.8	3.3	1.6	1.8	39	14	15	15
19	2.0	2.2	14	21	2.2	2.8	1.6	1.7	23	11	8.2	15
20	1.8	2.1	e42	25	4.5	2.3	1.5	1.7	12	11	7.7	16
21	31	2.4	17	14	2.3	1.9	1.4	1.5	12	8.3	5.3	37
22	15	2.7	10	8.9	2.0	1.9	1.4	1.4	17	7.2	4.8	19
23	9.5	1.9	6.6	6.0	1.9	1.7	2.6	10	11	6.0	8.4	14
24	14	3.7	4.4	4.3	2.0	1.7	3.1	3.6	12	5.7	6.0	9.9
25	8.1	7.3	2.8	8.7	2.2	1.5	2.0	2.4	9.8	5.7	4.9	8.8
26	6.1	12	2.5	5.7	1.8	1.7	2.3	2.1	9.1	5.5	4.7	8.2
27	4.9	4.1	2.6	11	1.6	1.6	2.1	2.0	8.5	4.3	4.8	9.1
28	25	3.1	2.5	9.5	1.6	1.6	1.6	1.8	12	17	5.8	9.5
29	13	2.6	2.5	6.3	1.5	1.7	1.6	1.7	8.5	6.2	5.2	13
30	7.6	2.3	2.4	4.3	---	1.5	2.5	1.6	7.4	3.9	5.1	9.3
31	5.6	---	2.2	3.7	---	1.5	---	1.6	---	3.5	5.2	---
TOTAL	212.2	126.4	182.3	292.2	118.4	129.7	94.0	77.9	495.2	431.7	428.6	830.7
MEAN	6.85	4.21	5.88	9.43	4.08	4.18	3.13	2.51	16.5	13.9	13.8	27.7
MAX	31	12	42	56	31	23	16	10	72	61	79	326
MIN	1.8	1.9	2.1	2.0	1.5	1.5	1.3	1.4	1.8	3.5	3.3	4.9
AC-FT	421	251	362	580	235	257	186	155	982	856	850	1650
CFSM	2.11	1.30	1.81	2.90	1.26	1.29	.96	.77	5.08	4.28	4.25	8.52
IN.	2.43	1.45	2.09	3.34	1.36	1.48	1.08	.89	5.67	4.94	4.91	9.51

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 1996, BY WATER YEAR (WY)

MEAN	10.1	15.1	6.82	4.81	3.94	4.01	2.24	7.04	6.53	6.47	6.93	9.86
MAX	47.8	36.9	30.1	9.94	8.21	20.7	4.88	31.5	21.3	15.0	20.2	27.7
(WY)	1986	1985	1988	1992	1989	1989	1989	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 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1984 - 1996	
ANNUAL TOTAL	1826.76		3419.3			
ANNUAL MEAN	5.00		9.34		7.00	
HIGHEST ANNUAL MEAN					12.3	1988
LOWEST ANNUAL MEAN					2.50	1990
HIGHEST DAILY MEAN	84	Sep 6	326	Sep 10	457	Dec 7 1987
LOWEST DAILY MEAN	.41	Jun 14	1.3	Apr 2	.33	May 20 1994
ANNUAL SEVEN-DAY MINIMUM	.61	Jun 8	1.5	Mar 27	.37	Apr 26 1994
INSTANTANEOUS PEAK FLOW			7610	Sep 10	7610	Sep 10 1996
INSTANTANEOUS PEAK STAGE			14.64	Sep 10	14.64	Sep 10 1996
INSTANTANEOUS LOW FLOW			1.2	Apr 2	.30	May 21 1994
ANNUAL RUNOFF (AC-FT)	3620		6780		5070	
ANNUAL RUNOFF (CFSM)	1.54		2.87		2.15	
ANNUAL RUNOFF (INCHES)	20.91		39.14		29.25	
10 PERCENT EXCEEDS	10		20		12	
50 PERCENT EXCEEDS	2.4		4.3		2.5	
90 PERCENT EXCEEDS	.80		1.7		1.0	

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-49 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 local observer and automatic sediment sampler.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATION: Maximum daily mean, 7,300 mg/L Oct. 06, 1985; Minimum daily mean, <1 mg/L several days in 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 1996.--
SEDIMENT CONCENTRATION: Maximum daily mean, 3,360 mg/L September 10, 1996; Minimum daily mean, <1 mg/L several days.

SEDIMENT LOADS: Maximum daily mean, 4,840 tons (4,390 tonnes) September 10, 1996; Minimum daily mean, <0.01 ton (<0.01 tonnes) several days.

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	3.9	15	.15	4.7	3	.04	2.1	4	.02
2	3.3	14	.12	6.0	13	.31	2.6	2	.02
3	5.3	13	.25	4.9	8	.11	2.3	2	.01
4	3.2	8	.07	4.0	6	.07	2.1	1	.01
5	3.5	10	.09	11	34	3.1	2.1	1	.01
6	2.7	5	.04	8.1	21	.50	2.1	1	.01
7	2.8	4	.03	5.7	16	.24	2.2	2	.01
8	2.5	4	.02	4.5	11	.14	2.4	3	.02
9	2.3	3	.02	3.9	7	.08	2.4	2	.01
10	9.2	35	1.8	3.5	5	.04	2.4	1	.01
11	5.6	19	.31	3.0	3	.03	3.2	1	.01
12	3.7	8	.08	2.8	4	.03	2.9	1	.01
13	3.0	6	.05	2.6	5	.04	6.4	15	.37
14	7.6	21	.88	2.5	8	.05	6.9	16	.33
15	3.1	8	.06	2.3	12	.07	4.2	2	.02
16	2.5	7	.05	3.2	17	.15	3.3	3	.02
17	2.4	7	.05	4.3	11	.18	5.2	14	.33
18	2.0	7	.04	3.0	9	.08	16	64	6.2
19	2.0	7	.04	2.2	7	.04	14	55	2.7
20	1.8	5	.03	2.1	5	.03	e42	210	e38
21	31	205	104	2.4	6	.05	17	48	2.4
22	15	55	2.5	2.7	8	.06	10	12	.33
23	9.5	15	.40	1.9	4	.02	6.6	8	.14
24	14	46	1.9	3.7	15	.19	4.4	6	.07
25	8.1	17	.38	7.3	26	1.1	2.8	5	.04
26	6.1	8	.13	12	47	2.5	2.5	5	.03
27	4.9	4	.06	4.1	18	.21	2.6	8	.05
28	25	131	38	3.1	14	.11	2.5	12	.08
29	13	48	1.8	2.6	10	.07	2.5	12	.08
30	7.6	12	.27	2.3	6	.04	2.4	12	.08
31	5.6	6	.09	---	---	---	2.2	12	.07
TOTAL	212.2	---	153.71	126.4	---	9.68	182.3	---	51.49

e Estimated

RIO GRANDE DE LOIZA BASIN

50051150 QUEBRADA BLANCA AT EL JAGUAL, 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)
		JANUARY			FEBRUARY			MARCH	
1	2.2	12	.07	3.3	7	.06	1.5	8	.03
2	2.2	12	.07	3.3	10	.09	1.6	9	.04
3	2.2	12	.07	3.6	10	.10	2.2	9	.05
4	2.1	11	.06	4.1	12	.16	2.2	7	.04
5	2.0	11	.06	31	159	28	1.9	8	.04
6	2.3	11	.07	9.9	33	1.2	1.7	9	.04
7	2.6	11	.08	8.7	54	2.0	2.0	14	.07
8	15	63	7.2	4.6	11	.13	3.8	22	.74
9	3.6	11	.11	3.7	10	.10	11	40	1.7
10	2.9	11	.08	3.0	8	.07	4.2	15	.18
11	2.9	12	.09	2.5	7	.05	23	51	6.3
12	3.3	14	.12	2.4	6	.04	10	25	.71
13	3.2	14	.12	4.5	17	.48	5.1	11	.16
14	e56	424	e195	2.3	15	.09	3.5	6	.05
15	32	141	17	1.9	8	.04	16	69	8.1
16	11	27	.79	2.2	5	.03	8.8	26	.69
17	8.3	20	.45	2.0	5	.03	4.5	17	.21
18	10	34	1.0	1.8	6	.03	3.3	9	.09
19	21	87	7.5	2.2	6	.03	2.8	<1	<.01
20	25	113	12	4.5	14	.25	2.3	<1	<.01
21	14	38	1.5	2.3	11	.07	1.9	<1	<.01
22	8.9	14	.33	2.0	5	.03	1.9	5	.03
23	6.0	9	.14	1.9	2	.01	1.7	6	.03
24	4.3	6	.07	2.0	3	.02	1.7	4	.02
25	8.7	70	2.3	2.2	4	.02	1.5	3	.01
26	5.7	57	.87	1.8	6	.03	1.7	3	.01
27	11	36	1.6	1.6	8	.03	1.6	3	.01
28	9.5	30	.82	1.6	10	.04	1.6	3	.01
29	6.3	6	.11	1.5	9	.04	1.7	3	.01
30	4.3	4	.05	---	---	---	1.5	3	.01
31	3.7	4	.04	---	---	---	1.5	2	.01
TOTAL	292.2	---	249.77	118.4	---	33.27	129.7	---	19.39

e Estimated

RIO GRANDE DE LOIZA BASIN

50051150 QUEBRADA BLANCA AT EL JAGUAL, 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)
		APRIL			MAY			JUNE	
1	1.4	2	.01	1.9	12	.06	2.2	1	.01
2	1.3	3	.01	1.7	6	.03	1.9	1	.00
3	2.6	9	.11	1.5	3	.01	1.8	1	.00
4	16	84	11	1.5	4	.02	5.0	14	.24
5	6.2	18	.36	1.4	5	.02	12	108	5.5
6	2.7	5	.04	1.4	6	.02	16	64	4.5
7	2.1	4	.02	1.6	11	.05	17	75	4.4
8	13	52	5.0	2.5	15	.09	5.5	16	.28
9	5.7	17	.30	2.3	5	.03	2.5	6	.04
10	2.7	8	.06	3.1	8	.08	2.1	6	.03
11	2.4	7	.05	2.4	7	.04	5.8	29	2.2
12	2.4	15	.10	2.1	6	.03	72	546	174
13	2.4	17	.11	8.7	32	1.4	31	135	24
14	2.2	21	.13	4.3	12	.15	8.1	19	.44
15	2.2	22	.13	2.5	9	.06	53	349	86
16	1.8	10	.05	2.2	6	.03	53	286	51
17	1.6	5	.02	1.9	3	.02	25	165	11
18	1.6	7	.03	1.8	2	.01	39	200	31
19	1.6	13	.05	1.7	3	.01	23	39	2.6
20	1.5	17	.07	1.7	4	.02	12	26	.87
21	1.4	8	.03	1.5	4	.02	12	39	1.5
22	1.4	3	.01	1.4	4	.02	17	68	4.6
23	2.6	6	.07	10	34	1.3	11	22	.64
24	3.1	7	.06	3.6	4	.04	12	13	.41
25	2.0	4	.02	2.4	2	.01	9.8	11	.30
26	2.3	5	.04	2.1	1	.01	9.1	11	.27
27	2.1	5	.03	2.0	1	.01	8.5	11	.25
28	1.6	4	.02	1.8	1	.00	12	40	1.5
29	1.6	4	.02	1.7	1	.00	8.5	29	.67
30	2.5	7	.05	1.6	1	.01	7.4	26	.53
31	---	---	---	1.6	1	.01	---	---	---
TOTAL	94.0	---	18.00	77.9	---	3.61	495.2	---	408.78

RIO GRANDE DE LOIZA BASIN

50051150 QUEBRADA BLANCA AT EL JAGUAL, 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)
		JULY			AUGUST			SEPTEMBER	
1	6.8	19	.35	3.3	6	.06	6.2	18	.44
2	6.4	10	.17	3.4	6	.05	4.9	5	.07
3	6.2	6	.10	32	174	24	10	32	2.5
4	6.4	3	.06	21	89	5.1	22	97	13
5	6.0	2	.03	11	53	1.6	8.2	14	.31
6	5.2	2	.03	7.4	49	.99	7.0	3	.05
7	5.1	2	.03	5.9	47	.75	5.7	5	.07
8	26	116	15	4.8	40	.52	4.9	10	.12
9	18	68	4.1	4.4	32	.38	19	120	31
10	11	31	1.1	5.2	18	.25	e326	3360	e4840
11	6.3	19	.35	4.5	10	.13	90	985	278
12	41	211	35	4.4	6	.07	42	122	15
13	21	89	5.6	7.2	26	2.1	25	26	1.8
14	61	365	94	e64	434	e178	e18	21	e1.0
15	50	99	16	53	323	68	e22	81	e5.4
16	28	16	1.3	e79	474	e228	e24	101	e8.6
17	18	9	.44	27	38	2.9	12	35	1.2
18	14	9	.35	15	16	.65	15	54	2.6
19	11	10	.30	8.2	7	.17	15	59	3.0
20	11	32	.98	7.7	15	.34	16	100	6.3
21	8.3	7	.15	5.3	3	.05	37	176	22
22	7.2	1	.03	4.8	4	.05	19	21	1.1
23	6.0	3	.05	8.4	25	1.3	14	4	.14
24	5.7	6	.10	6.0	17	.28	9.9	4	.09
25	5.7	10	.17	4.9	13	.18	8.8	4	.09
26	5.5	10	.17	4.7	11	.14	8.2	4	.09
27	4.3	6	.07	4.8	9	.11	9.1	4	.09
28	17	79	9.9	5.8	7	.11	9.5	19	.57
29	6.2	33	.62	5.2	6	.09	13	48	2.0
30	3.9	11	.12	5.1	5	.07	9.3	6	.15
31	3.5	7	.07	5.2	5	.07	---	---	---
TOTAL	431.7	---	186.74	428.6	---	516.51	830.7	---	5236.78
YEAR	3419.3		6887.73						

e Estimated

RIO GRANDE DE LOIZA BASIN

50051150 QUEBRADA BLANCA AT EL JAGUAL, PR--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

PARTICLE-SIZE DISTRIBUTION 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. 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 1995							
20...	0702	87	9830	2310	21	26	31
JAN 1996							
14...	1602	391	5590	5910	25	30	35
SEP							
10...	0245	369	3550	3540	32	38	42
10...	1430	310	7060	5910	17	23	31

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 1995							
20...	43	57	78	94	98	99	100
JAN 1996							
14...	46	56	74	89	97	99	100
SEP							
10...	54	63	81	91	96	99	100
10...	41	51	64	76	84	90	96

RIO GRANDE DE LOIZA BASIN

50051150 QUEBRADA BLANCA AT EL JAGUAL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

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 1995					
14...	1000	7.6	127	2.6	92
DEC					
20...	1040	59	238	38	97
JAN 1996					
14...	1552	262	3390	2400	85
26...	0910	7.0	102	1.9	88
JUN					
07...	1030	21	212	12	97
12...	1340	61	265	44	85
AUG					
16...	0420	239	4810	3100	76
SEP					
10...	0045	310	3570	2990	80
10...	0530	326	2720	2390	77
20...	1115	24	517	34	97

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 left downstream side of bridge on Highway 181, 0.2 mi (0.3 km) upstream from Río Grande de Loíza, 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 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.5	4.8	2.1	1.7	3.0	1.6	1.5	1.1	1.2	2.5	3.0	2.4
2	3.4	4.3	2.1	1.7	3.8	1.6	1.2	1.0	1.1	2.3	2.9	2.3
3	3.3	4.1	2.0	1.7	3.0	1.7	4.9	.98	1.0	2.2	14	16
4	3.1	3.8	2.0	1.7	3.2	1.7	16	.96	2.9	2.1	19	7.4
5	3.0	4.0	1.9	1.7	22	1.5	4.5	.93	9.2	2.0	7.2	3.0
6	2.7	4.8	1.9	1.8	11	1.4	2.3	.95	18	2.0	4.4	2.6
7	2.5	3.8	1.9	1.9	7.5	1.4	1.8	1.0	18	1.9	3.5	2.5
8	2.4	3.5	1.9	11	4.5	1.7	6.3	1.4	3.9	12	3.3	3.6
9	2.3	3.3	1.8	2.8	3.7	2.9	2.9	1.6	2.3	7.9	3.1	59
10	3.8	3.1	1.8	2.2	3.2	1.8	1.8	1.5	2.0	5.3	3.1	1750
11	3.3	3.0	2.4	2.2	3.0	4.6	1.7	1.4	2.5	6.1	2.9	191
12	2.6	2.9	2.4	2.4	2.7	2.4	2.1	1.3	88	51	2.5	41
13	2.4	3.0	2.9	2.5	2.5	1.7	1.9	1.8	49	23	2.4	22
14	2.6	2.9	3.5	87	2.4	1.5	1.5	1.7	8.5	113	61	16
15	2.2	2.9	2.5	29	2.3	5.4	1.5	1.2	61	52	59	19
16	2.3	5.4	2.1	8.5	2.5	3.5	1.4	1.2	99	14	198	31
17	2.7	4.6	2.5	5.2	2.3	2.0	1.3	1.2	29	7.9	13	11
18	2.4	3.4	4.9	4.3	2.3	1.7	1.3	1.2	47	5.7	6.3	13
19	2.8	2.7	4.7	9.5	2.1	1.6	1.2	1.1	19	4.6	4.5	10
20	2.4	2.6	8.7	16	2.6	1.5	1.2	1.1	8.8	4.6	4.1	11
21	46	2.5	3.1	9.2	2.2	1.4	1.1	1.1	8.5	3.8	3.3	19
22	8.7	2.5	2.5	5.5	2.0	1.3	1.1	.98	13	3.4	3.0	8.4
23	5.5	2.4	2.3	4.1	1.9	1.2	1.1	2.0	6.3	3.1	5.6	7.8
24	8.2	2.6	2.1	3.7	1.9	1.1	1.4	1.4	4.7	3.0	3.6	6.8
25	e5.2	3.2	1.9	4.4	1.9	1.1	1.2	1.1	3.8	3.0	2.9	6.7
26	e5.0	4.8	1.9	3.5	1.8	1.2	1.2	1.1	3.2	3.1	2.7	6.4
27	e4.5	2.7	1.9	6.4	1.7	1.2	1.4	1.1	3.1	2.8	2.6	6.7
28	e22	2.3	1.9	9.1	1.7	1.1	1.1	1.0	4.9	13	2.6	6.8
29	e10	2.3	1.8	5.8	1.7	1.3	1.1	1.0	3.3	5.6	2.4	6.0
30	e6.6	2.1	1.8	4.0	---	1.2	1.3	.96	2.7	3.4	2.5	5.5
31	e5.3	---	1.7	3.3	---	1.7	---	.99	---	3.1	2.4	---
TOTAL	182.7	100.3	78.9	253.8	106.4	57.0	70.3	37.35	524.9	369.4	450.8	2293.9
MEAN	5.89	3.34	2.55	8.19	3.67	1.84	2.34	1.20	17.5	11.9	14.5	76.5
MAX	46	5.4	8.7	87	22	5.4	16	2.0	99	113	198	1750
MIN	2.2	2.1	1.7	1.7	1.7	1.1	1.1	.93	1.0	1.9	2.4	2.3
AC-FT	362	199	156	503	211	113	139	74	1040	733	894	4550
CFSM	1.58	.89	.68	2.19	.98	.49	.63	.32	4.68	3.19	3.89	20.4
IN.	1.82	1.00	.78	2.52	1.06	.57	.70	.37	5.22	3.67	4.48	22.82

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 1996, BY WATER YEAR (WY)

MEAN	9.01	12.6	5.09	4.93	3.20	3.09	2.39	6.58	6.96	6.00	6.03	16.7
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	1.63	1.45	1.51	1.88
(WY)	1987	1990	1990	1990	1990	1992	1995	1995	1994	1994	1994	1990

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1984 - 1996	
ANNUAL TOTAL	1583.63		4525.75			
ANNUAL MEAN	4.34		12.4		6.89	
HIGHEST ANNUAL MEAN					12.4	1996
LOWEST ANNUAL MEAN					3.19	1990
HIGHEST DAILY MEAN	175	Sep 6	1750	Sep 10	1750	Sep 10 1996
LOWEST DAILY MEAN	.30	Jun 14	.93	May 5	.29	Sep 12 1990
ANNUAL SEVEN-DAY MINIMUM	.43	Apr 29	.99	May 1	.41	May 19 1990
INSTANTANEOUS PEAK FLOW			15000	Sep 10	15000	Sep 10 1996
INSTANTANEOUS PEAK STAGE			20.86	Sep 10	20.86	Sep 10 1996
INSTANTANEOUS LOW FLOW			.90	May 4	.26	May 30 1990
ANNUAL RUNOFF (AC-FT)	3140		8980		4990	
ANNUAL RUNOFF (CFSM)	1.16		3.31		1.84	
ANNUAL RUNOFF (INCHES)	15.75		45.02		25.02	
10 PERCENT EXCEEDS	6.8		13		10	
50 PERCENT EXCEEDS	1.8		2.7		2.0	
90 PERCENT EXCEEDS	.54		1.2		.93	

e Estimated

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-49 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 local observer and automatic sediment sampler.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATION: Maximum daily mean, 7,300 mg/L Oct. 06, 1985; Minimum daily mean, 1 mg/L several days.

SEDIMENT LOADS: Maximum daily mean, 33,000 tons (29,900 tonnes) Sep. 10, 1996; Minimum daily mean, 0.0 ton (0.0 tonne) several days.

EXTREMES FOR CURRENT YEAR 1996.--
SEDIMENT CONCENTRATION: Maximum daily mean, 5,090 mg/L Sep. 10, 1996; Minimum daily mean, 1.0 mg/L several days.

SEDIMENT LOADS: Maximum daily mean, 33,000 tons (29,900 tonnes) Sep. 10, 1996; Minimum daily mean, 0.01 ton (0.01 tonne) several days.

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	3.5	10	.09	4.8	8	.10	2.1	3	.02
2	3.4	10	.09	4.3	8	.09	2.1	3	.02
3	3.3	10	.09	4.1	9	.10	2.0	3	.02
4	3.1	10	.08	3.8	9	.10	2.0	4	.02
5	3.0	8	.06	4.0	12	.13	1.9	11	.06
6	2.7	6	.04	4.8	18	.25	1.9	24	.12
7	2.5	5	.03	3.8	6	.06	1.9	15	.07
8	2.4	4	.02	3.5	2	.02	1.9	9	.05
9	2.3	3	.02	3.3	3	.03	1.8	11	.05
10	3.8	12	.16	3.1	5	.04	1.8	15	.07
11	3.3	14	.12	3.0	6	.05	2.4	23	.16
12	2.6	10	.07	2.9	4	.03	2.4	9	.06
13	2.4	8	.05	3.0	7	.06	2.9	47	.38
14	2.6	9	.06	2.9	9	.07	3.5	27	.26
15	2.2	7	.04	2.9	7	.06	2.5	15	.10
16	2.3	7	.05	5.4	18	.46	2.1	10	.06
17	2.7	6	.05	4.6	19	.25	2.5	22	.22
18	2.4	5	.03	3.4	16	.16	4.9	60	.89
19	2.8	9	.08	2.7	8	.06	4.7	22	.32
20	2.4	7	.05	2.6	6	.05	8.7	91	6.0
21	46	360	333	2.5	5	.03	3.1	10	.09
22	8.7	31	.79	2.5	4	.03	2.5	8	.05
23	5.5	12	.18	2.4	3	.02	2.3	7	.04
24	8.2	28	.65	2.6	3	.02	2.1	6	.03
25	e5.2	11	e.15	3.2	6	.06	1.9	5	.02
26	e5.0	7	e.09	4.8	17	.25	1.9	4	.02
27	e4.5	5	e.07	2.7	6	.04	1.9	5	.02
28	e22	74	e3.0	2.3	6	.04	1.9	5	.03
29	e10	242	e30	2.3	7	.04	1.8	5	.03
30	e6.6	25	e3.3	2.1	5	.03	1.8	6	.03
31	e5.3	11	e.16	---	---	---	1.7	6	.03
TOTAL	182.7	---	372.67	100.3	---	2.73	78.9	---	9.34

e Estimated

RIO GRANDE DE LOIZA BASIN

50051180 QUEBRADA SALVATIERRA NEAR SAN LORENZO, 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)
		JANUARY			FEBRUARY			MARCH	
1	1.7	6	.03	3.0	10	.08	1.6	3	.01
2	1.7	6	.03	3.8	13	.14	1.6	3	.01
3	1.7	5	.02	3.0	10	.09	1.7	4	.02
4	1.7	5	.02	3.2	12	.10	1.7	4	.02
5	1.7	5	.02	22	133	14	1.5	3	.01
6	1.8	5	.02	11	41	1.6	1.4	3	.01
7	1.9	6	.03	7.5	33	.71	1.4	6	.02
8	11	51	2.6	4.5	14	.17	1.7	11	.06
9	2.8	10	.07	3.7	8	.08	2.9	13	.12
10	2.2	6	.03	3.2	7	.06	1.8	5	.03
11	2.2	7	.04	3.0	6	.05	4.6	17	.35
12	2.4	9	.06	2.7	6	.04	2.4	8	.05
13	2.5	9	.06	2.5	10	.07	1.7	5	.02
14	87	477	390	2.4	16	.11	1.5	4	.02
15	29	109	14	2.3	14	.08	5.4	27	.83
16	8.5	33	.79	2.5	11	.08	3.5	20	.20
17	5.2	19	.27	2.3	11	.07	2.0	13	.07
18	4.3	15	.17	2.3	11	.07	1.7	7	.03
19	9.5	45	1.7	2.1	11	.06	1.6	6	.03
20	16	61	3.4	2.6	10	.07	1.5	10	.04
21	9.2	33	.86	2.2	9	.05	1.4	14	.05
22	5.5	15	.22	2.0	5	.03	1.3	11	.04
23	4.1	10	.11	1.9	3	.02	1.2	6	.02
24	3.7	10	.10	1.9	4	.02	1.1	3	.01
25	4.4	18	.22	1.9	5	.02	1.1	2	.01
26	3.5	20	.19	1.8	6	.03	1.2	4	.01
27	6.4	23	.49	1.7	4	.02	1.2	6	.02
28	9.1	41	1.2	1.7	3	.01	1.1	7	.02
29	5.8	16	.26	1.7	3	.01	1.3	7	.02
30	4.0	15	.16	---	---	---	1.2	7	.02
31	3.3	15	.13	---	---	---	1.7	6	.03
TOTAL	253.8	---	417.30	106.4	---	17.94	57.0	---	2.20

RIO GRANDE DE LOIZA BASIN

50051180 QUEBRADA SALVATIERRA NEAR SAN LORENZO, 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)
		APRIL			MAY			JUNE	
1	1.5	6	.02	1.1	4	.01	1.2	8	.02
2	1.2	7	.02	1.0	4	.01	1.1	9	.03
3	4.9	22	.87	.98	4	.01	1.0	10	.03
4	16	199	33	.96	6	.02	2.9	14	.13
5	4.5	43	.66	.93	10	.02	9.2	111	4.4
6	2.3	9	.05	.95	13	.03	18	86	6.3
7	1.8	6	.03	1.0	10	.03	18	93	5.4
8	6.3	19	.62	1.4	8	.03	3.9	20	.21
9	2.9	20	.15	1.6	6	.02	2.3	18	.12
10	1.8	20	.10	1.5	4	.02	2.0	16	.08
11	1.7	10	.05	1.4	5	.02	2.5	10	.07
12	2.1	7	.04	1.3	5	.02	88	709	269
13	1.9	7	.04	1.8	7	.04	49	214	97
14	1.5	12	.05	1.7	6	.03	8.5	18	.43
15	1.5	17	.07	1.2	4	.02	61	275	115
16	1.4	10	.04	1.2	5	.02	99	385	216
17	1.3	6	.02	1.2	6	.02	29	50	4.5
18	1.3	7	.02	1.2	7	.02	47	166	54
19	1.2	10	.03	1.1	8	.03	19	28	1.6
20	1.2	12	.04	1.1	9	.03	8.8	17	.41
21	1.1	8	.02	1.1	6	.02	8.5	18	.42
22	1.1	5	.02	.98	4	.01	13	48	2.0
23	1.1	5	.02	2.0	7	.04	6.3	17	.30
24	1.4	5	.02	1.4	4	.02	4.7	6	.08
25	1.2	6	.02	1.1	4	.01	3.8	8	.08
26	1.2	6	.02	1.1	5	.01	3.2	11	.10
27	1.4	6	.02	1.1	5	.02	3.1	11	.10
28	1.1	5	.02	1.0	6	.02	4.9	27	.46
29	1.1	5	.02	1.0	6	.02	3.3	11	.10
30	1.3	4	.02	.96	5	.01	2.7	8	.06
31	---	---	---	.99	6	.02	---	---	---
TOTAL	70.3	---	36.12	37.35	---	0.65	524.9	---	778.43

RIO GRANDE DE LOIZA BASIN

50051180 QUEBRADA SALVATIERRA NEAR SAN LORENZO, 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)
		JULY			AUGUST			SEPTEMBER	
1	2.5	8	.05	3.0	4	.04	2.4	3	.02
2	2.3	7	.04	2.9	3	.02	2.3	4	.02
3	2.2	6	.03	14	63	4.1	16	224	77
4	2.1	3	.02	19	74	4.0	7.4	39	1.4
5	2.0	2	.01	7.2	12	.27	3.0	7	.06
6	2.0	3	.02	4.4	13	.15	2.6	3	.02
7	1.9	4	.02	3.5	17	.16	2.5	5	.03
8	12	48	3.5	3.3	8	.08	3.6	13	.14
9	7.9	32	.87	3.1	4	.04	59	308	382
10	5.3	12	.18	3.1	5	.04	1750	5090	33000
11	6.1	19	.38	2.9	5	.04	191	724	495
12	51	265	81	2.5	7	.05	41	105	13
13	23	112	8.1	2.4	11	.07	22	15	.91
14	113	411	317	61	285	133	16	10	.42
15	52	194	57	59	246	113	19	70	4.9
16	14	24	.96	198	744	1340	31	126	17
17	7.9	9	.19	13	50	1.9	11	15	.48
18	5.7	6	.10	6.3	18	.32	13	33	1.5
19	4.6	5	.06	4.5	16	.19	10	32	.90
20	4.6	5	.06	4.1	17	.19	11	50	1.8
21	3.8	5	.05	3.3	4	.04	19	84	6.0
22	3.4	5	.04	3.0	2	.02	8.4	17	.39
23	3.1	4	.03	5.6	16	.58	7.8	4	.08
24	3.0	3	.02	3.6	14	.14	6.8	1	.02
25	3.0	3	.02	2.9	9	.07	6.7	1	.02
26	3.1	3	.03	2.7	6	.04	6.4	1	.02
27	2.8	4	.03	2.6	3	.02	6.7	1	.03
28	13	55	4.7	2.6	1	.01	6.8	2	.03
29	5.6	19	.32	2.4	1	.01	6.0	2	.03
30	3.4	9	.09	2.5	2	.01	5.5	2	.02
31	3.1	7	.06	2.4	2	.02	---	---	---
TOTAL	369.4	---	474.98	450.8	---	1598.62	2293.9	---	34003.24
YEAR	4525.75		37714.22						

RIO GRANDE DE LOIZA BASIN

50051180 QUEBRADA SALVATIERRA NEAR SAN LORENZO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM
OCT 1995							
21...	1617	204	7380	4070	30	34	39
21...	1647	694	5020	9400	31	37	42
JUN 1996							
12...	0201	284	5210	4000	28	36	44
SEP							
03...	1720	236	5480	3490	26	34	41
10...	0415	1740	9150	43000	21	28	36

DATE	SED. SUSP. FALL DIAM. % FINER THAN .016 MM	SED. SUSP. FALL DIAM. % FINER THAN .031 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM
OCT 1995							
21...	52	64	85	95	99	100	100
21...	53	64	78	89	95	98	100
JUN 1996							
12...	58	69	84	96	99	99	100
SEP							
03...	50	63	81	91	95	98	99
10...	44	54	72	88	94	98	99

RIO GRANDE DE LOIZA BASIN

50051180 QUEBRADA SALVATIERRA NEAR SAN LORENZO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

SILT AND CLAY PERCENT OF SUSPENDED SEDIMENT

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT 1995					
21...	1737	382	1710	1760	87
DEC					
20...	1020	15	444	18	98
JAN 1996					
14...	1807	306	3460	2860	87
FEB					
05...	0935	16	288	12	95
JUN					
12...	1144	281	728	552	88
16...	0658	489	3690	4870	89
JUL					
12...	0645	161	935	406	91
AUG					
14...	1725	48	271	35	98
SEP					
10...	0045	1760	4250	20200	81

RIO GRANDE DE LOIZA BASIN

50051310 RIO CAYAGUAS AT CERRO GORDO, PR

LOCATION.--Lat 18°09'13", long 65°57'20", 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 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34	24	18	e21	e26	21	17	18	25	29	51	48
2	33	24	21	e22	e23	21	16	16	21	27	65	47
3	41	24	20	e21	e25	21	16	15	17	27	190	32
4	31	23	20	e20	e34	23	35	15	21	25	84	118
5	41	25	21	e19	e48	23	22	15	24	23	52	46
6	31	30	19	e21	e32	23	17	14	36	23	41	42
7	36	30	18	e21	e29	23	15	18	106	22	36	44
8	35	24	18	e80	e26	29	37	26	92	50	47	50
9	30	23	18	e35	e28	51	21	25	32	63	37	199
10	47	22	19	e29	e31	19	16	19	28	39	e41	e5120
11	51	21	28	e27	e22	47	17	17	35	31	e41	e500
12	36	21	34	e26	e22	22	18	21	244	137	e39	e250
13	30	21	93	e40	e23	18	17	24	125	57	46	e200
14	32	20	46	e250	e22	18	24	24	56	287	196	e170
15	27	23	30	e100	e21	31	23	19	222	221	187	e160
16	28	23	26	e54	23	39	17	18	214	91	641	e210
17	26	26	30	e40	23	29	16	18	68	76	e101	e140
18	29	23	36	e70	22	20	16	17	94	66	e68	e120
19	29	20	50	e68	23	20	16	17	47	63	e52	e140
20	25	19	506	86	32	19	15	17	33	63	46	e120
21	64	21	e45	47	28	19	17	16	39	55	49	e330
22	57	21	e38	36	24	18	16	16	58	50	43	e120
23	35	21	e35	30	22	18	26	19	45	46	43	e110
24	32	23	e32	e29	29	18	23	16	35	45	42	e92
25	27	29	e29	e30	29	18	18	15	32	45	37	e86
26	26	34	e29	e28	23	19	18	14	31	46	35	e94
27	25	22	e29	e27	22	19	18	14	35	41	35	e120
28	47	20	e27	e30	21	19	17	14	58	76	34	e88
29	32	19	e24	e27	21	18	17	13	44	63	33	e78
30	26	19	e23	e24	---	18	19	13	32	48	31	e70
31	25	---	e22	e26	---	17	---	13	---	51	29	---
TOTAL	1068	695	1404	1384	754	718	580	536	1949	1986	2472	8944
MEAN	34.5	23.2	45.3	44.6	26.0	23.2	19.3	17.3	65.0	64.1	79.7	298
MAX	64	34	506	250	48	51	37	26	244	287	641	5120
MIN	25	19	18	19	21	17	15	13	17	22	29	32
AC-FT	2120	1380	2780	2750	1500	1420	1150	1060	3870	3940	4900	17740
CFSM	3.38	2.27	4.44	4.38	2.55	2.27	1.90	1.70	6.37	6.28	7.82	29.2
IN.	3.90	2.53	5.12	5.05	2.75	2.62	2.12	1.95	7.11	7.24	9.02	32.62

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1977 - 1996, BY WATER YEAR (WY)

MEAN	59.6	68.6	45.3	30.2	27.0	21.9	19.9	44.6	47.0	43.9	46.5	68.4
MAX	176	196	163	50.0	67.5	45.4	46.0	155	140	118	202	298
(WY)	1986	1988	1988	1993	1984	1989	1985	1985	1979	1979	1979	1996
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 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1977 - 1996	
ANNUAL TOTAL	10122.8		22490			
ANNUAL MEAN	27.7		61.4		43.6	
HIGHEST ANNUAL MEAN					89.7	1979
LOWEST ANNUAL MEAN					18.6	1990
HIGHEST DAILY MEAN	506	Dec 20	5120	Sep 10	5120	Sep 10 1996
LOWEST DAILY MEAN	9.0	May 5	13	May 29	7.1	Feb 4 1981
ANNUAL SEVEN-DAY MINIMUM	9.4	Apr 30	14	May 25	8.5	Jun 19 1994
INSTANTANEOUS PEAK FLOW			12600	Sep 10	13200	Aug 31 1979
INSTANTANEOUS PEAK STAGE			23.26	Sep 10	9.44	Aug 31 1979
INSTANTANEOUS LOW FLOW			12	May 31		
ANNUAL RUNOFF (AC-FT)	20080		44610		31600	
ANNUAL RUNOFF (CFSM)	2.72		6.02		4.28	
ANNUAL RUNOFF (INCHES)	36.92		82.02		58.10	
10 PERCENT EXCEEDS	46		92		67	
50 PERCENT EXCEEDS	20		29		24	
90 PERCENT EXCEEDS	11		17		12	

e Estimated

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 Garcia 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 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	113	82	e48	49	82	50	45	44	46	76	96	117
2	105	79	e46	50	84	49	40	36	38	71	122	145
3	116	82	e52	49	93	53	43	34	33	70	277	133
4	96	78	e46	46	126	52	137	32	105	73	243	195
5	115	96	e49	44	204	52	80	30	92	65	151	115
6	105	114	45	50	141	50	53	30	206	64	123	101
7	119	100	40	50	127	50	43	33	437	63	108	93
8	114	79	40	211	96	48	135	61	203	135	135	93
9	94	73	39	82	95	190	71	70	87	195	107	625
10	151	67	38	62	104	79	48	52	68	125	101	e10000
11	183	62	53	67	81	198	46	42	90	97	96	e1100
12	131	62	57	71	74	111	50	44	448	307	95	e580
13	107	60	160	84	81	76	50	103	313	222	90	e450
14	114	58	108	906	81	63	54	74	177	761	445	e400
15	91	62	71	e329	70	123	69	42	449	462	378	e380
16	89	69	53	170	74	147	45	36	394	233	1330	e490
17	83	78	64	127	71	107	40	36	261	177	268	e310
18	84	61	91	196	68	71	39	34	290	146	204	e290
19	86	53	155	195	71	63	38	31	226	137	175	e310
20	81	52	858	291	104	57	35	29	150	162	159	e280
21	368	54	161	195	87	53	76	27	196	123	150	e780
22	194	57	100	141	67	51	56	26	280	109	139	e270
23	118	52	82	115	62	47	95	57	172	103	153	e240
24	130	60	74	102	116	46	85	41	123	98	145	e210
25	105	72	67	113	83	43	51	31	103	95	125	e200
26	92	104	67	102	57	49	45	28	94	109	118	e220
27	84	60	68	113	55	49	54	26	107	92	115	e280
28	183	e54	62	120	53	48	42	25	141	175	110	e200
29	140	e50	56	105	51	50	41	25	111	149	107	e180
30	98	e46	54	89	---	46	50	22	85	99	102	e150
31	90	---	51	86	---	47	---	26	---	93	97	---
TOTAL	3779	2076	2955	4410	2558	2218	1756	1227	5525	4886	6064	18937
MEAN	122	69.2	95.3	142	88.2	71.5	58.5	39.6	184	158	196	631
MAX	368	114	858	906	204	198	137	103	449	761	1330	10000
MIN	81	46	38	44	51	43	35	22	33	63	90	93
AC-FT	7500	4120	5860	8750	5070	4400	3480	2430	10960	9690	12030	37560
CFSM	4.88	2.77	3.81	5.69	3.53	2.86	2.34	1.58	7.37	6.30	7.82	25.2
IN.	5.62	3.09	4.40	6.56	3.81	3.30	2.61	1.83	8.22	7.27	9.02	28.18
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1996, BY WATER YEAR (WY)												
MEAN	118	123	89.6	105	67.4	49.4	32.6	65.3	126	106	106	214
MAX	266	222	110	192	102	76.5	58.5	186	290	208	196	631
(WY)	1991	1992	1993	1992	1994	1995	1996	1992	1992	1993	1996	1996
MIN	77.6	69.2	69.7	50.1	21.0	17.4	16.8	25.2	42.3	42.3	39.3	59.7
(WY)	1993	1996	1994	1995	1992	1992	1992	1995	1994	1994	1994	1990

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1990 - 1996	
ANNUAL TOTAL	30944		56391			
ANNUAL MEAN	84.8		154		104	
HIGHEST ANNUAL MEAN					154	1996
LOWEST ANNUAL MEAN					67.8	1994
HIGHEST DAILY MEAN	903	Sep 6	10000	Sep 10	10000	Sep 10 1996
LOWEST DAILY MEAN	12	May 4	22	May 30	6.3	Apr 29 1992
ANNUAL SEVEN-DAY MINIMUM	13	Apr 29	26	May 25	7.4	Apr 25 1992
INSTANTANEOUS PEAK FLOW			56800	Sep 10	56800	Sep 10 1996
INSTANTANEOUS PEAK STAGE			35.62	Sep 10	35.62	Sep 10 1996
ANNUAL RUNOFF (AC-FT)	61380		111900		75560	
ANNUAL RUNOFF (CFSM)	3.39		6.16		4.17	
ANNUAL RUNOFF (INCHES)	46.04		83.91		56.69	
10 PERCENT EXCEEDS	174		248		177	
50 PERCENT EXCEEDS	55		89		59	
90 PERCENT EXCEEDS	20		43		23	

e Estimated

RIO GRANDE DE LOIZA BASIN

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-49 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 a local observer and automatic sediment sampler.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATION: Maximum daily mean, 2,530 mg/L September 10, 1996; 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 05, 1992.

EXTREMES FOR CURRENT YEAR 1996--
SEDIMENT CONCENTRATION: Maximum daily mean, 2,530 mg/L September 10, 1996; Minimum daily mean, 7 mg/L November 20, 1995.

SEDIMENT LOADS: Maximum daily mean, 80,600 tons (73,100 tonnes) September 10, 1996; Minimum daily mean, 0.97 ton (0.88 tonne) November 20, 1995.

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	113	80	25	82	58	13	e48	62	e7.8
2	105	53	15	79	45	9.6	e46	65	e8.3
3	116	63	21	82	33	7.4	e52	65	e8.5
4	96	46	12	78	26	5.4	e46	59	e7.8
5	115	101	32	96	73	27	e49	38	e4.9
6	105	126	36	114	96	29	45	25	3.1
7	119	127	42	100	65	18	40	22	2.4
8	114	41	13	79	50	11	40	20	2.2
9	94	21	5.5	73	43	8.5	39	21	2.2
10	151	177	102	67	37	6.7	38	21	2.2
11	183	224	126	62	35	5.9	53	157	29
12	131	155	57	62	44	7.4	57	194	33
13	107	110	32	60	52	8.4	160	152	86
14	114	88	28	58	36	5.6	108	263	84
15	91	58	14	62	23	3.8	71	231	47
16	89	53	13	69	37	8.8	53	56	8.1
17	83	52	12	78	68	15	64	63	13
18	84	51	11	61	22	3.7	91	90	29
19	86	46	11	53	11	1.6	155	194	104
20	81	30	6.6	52	7	.97	858	1210	6790
21	368	402	1770	54	10	1.4	161	211	97
22	194	257	149	57	14	2.1	100	133	36
23	118	78	25	52	14	2.0	82	96	21
24	130	32	11	60	25	4.9	74	69	14
25	105	19	5.4	72	64	13	67	50	9.0
26	92	15	3.8	104	113	34	67	42	7.7
27	84	13	3.0	60	44	7.3	68	52	9.7
28	183	245	302	e54	22	e3.2	62	19	3.1
29	140	196	80	e50	15	e2.0	56	15	2.3
30	98	58	15	e46	31	e4.1	54	14	2.0
31	90	55	13	---	---	---	51	14	1.9
TOTAL	3779	---	2991.3	2076	---	270.77	2955	---	7476.2

e Estimated

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 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)
		JANUARY			FEBRUARY			MARCH	
1	49	13	1.7	82	57	13	50	54	7.2
2	50	13	1.7	84	94	21	49	33	4.4
3	49	12	1.6	93	121	31	53	20	2.8
4	46	12	1.5	126	140	49	52	14	2.0
5	44	12	1.4	204	393	241	52	22	3.1
6	50	11	1.6	141	217	87	50	31	4.1
7	50	12	1.7	127	196	67	50	20	2.6
8	211	318	228	96	123	32	48	32	4.3
9	82	96	22	95	97	27	190	250	146
10	62	76	13	104	103	30	79	79	17
11	67	77	15	81	46	10	198	312	223
12	71	72	14	74	21	4.1	111	112	35
13	84	90	39	81	37	11	76	52	11
14	906	777	5050	81	70	16	63	45	7.7
15	e329	423	e415	70	43	8.0	123	141	89
16	170	231	107	74	31	6.2	147	178	84
17	127	155	54	71	30	5.8	107	120	40
18	196	257	144	68	30	5.5	71	73	14
19	195	264	150	71	51	10	63	66	11
20	291	435	344	104	117	41	57	58	8.9
21	195	248	135	87	71	18	53	52	7.4
22	141	102	39	67	40	7.2	51	67	9.2
23	115	60	19	62	32	5.3	47	67	8.6
24	102	37	10	116	116	61	46	65	8.2
25	113	80	27	83	87	21	43	64	7.5
26	102	93	26	57	30	4.6	49	62	8.2
27	113	104	32	55	39	5.7	49	60	7.9
28	120	125	43	53	53	7.5	48	57	7.4
29	105	42	12	51	57	7.7	50	55	7.4
30	89	31	7.4	---	---	---	46	57	7.1
31	86	34	7.8	---	---	---	47	58	7.5
TOTAL	4410	---	6964.4	2558	---	853.6	2218	---	803.5

e Estimated

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 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)
		APRIL			MAY			JUNE	
1	45	60	7.2	44	60	7.3	46	31	4.5
2	40	58	6.3	36	93	9.1	38	40	4.0
3	43	59	7.2	34	75	6.8	33	33	2.9
4	137	199	135	32	59	5.1	105	115	49
5	80	77	18	30	47	3.8	92	100	40
6	53	42	6.1	30	35	2.8	206	272	172
7	43	32	3.8	33	28	2.9	437	1240	1730
8	135	355	257	61	145	24	203	260	164
9	71	83	16	70	121	23	87	55	14
10	48	60	7.8	52	99	14	68	14	2.6
11	46	54	6.7	42	120	13	90	72	32
12	50	49	6.6	44	151	18	448	780	1080
13	50	44	6.0	103	212	73	313	1460	1260
14	54	54	10	74	94	19	177	853	434
15	69	75	15	42	72	8.2	449	1220	2820
16	45	67	8.2	36	71	6.8	394	681	947
17	40	60	6.4	36	72	7.1	261	221	158
18	39	40	4.1	34	73	6.7	290	511	540
19	38	53	5.4	31	70	5.9	226	194	124
20	35	65	6.0	29	67	5.3	150	140	57
21	76	103	46	27	72	5.2	196	255	148
22	56	119	20	26	79	5.5	280	414	406
23	95	103	39	57	89	14	172	130	64
24	85	78	20	41	91	10	123	30	10
25	51	70	9.5	31	65	5.5	103	28	7.7
26	45	66	7.9	28	45	3.3	94	30	7.6
27	54	52	7.6	26	31	2.2	107	72	23
28	42	39	4.4	25	21	1.4	141	305	134
29	41	31	3.4	25	22	1.5	111	112	34
30	50	44	6.4	22	25	1.5	85	72	17
31	---	---	---	26	25	1.8	---	---	---
TOTAL	1756	---	703.0	1227	---	313.7	5525	---	10486.3

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 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)
		JULY			AUGUST			SEPTEMBER	
1	76	39	7.9	96	28	7.4	117	72	33
2	71	19	3.7	122	106	37	145	176	81
3	70	10	1.9	277	425	385	133	155	71
4	73	121	27	243	94	63	195	413	295
5	65	121	21	151	48	20	115	106	33
6	64	99	17	123	44	15	101	54	15
7	63	95	16	108	40	12	93	31	7.8
8	135	164	85	135	124	48	93	18	4.6
9	195	210	122	107	47	14	625	388	4870
10	125	44	15	101	42	11	e10000	2530	e80600
11	97	24	6.3	96	41	11	e1100	1180	e7300
12	307	469	599	95	41	10	e580	316	e739
13	222	304	188	90	40	9.9	e450	104	e143
14	761	1050	4190	445	755	1640	e400	150	e171
15	462	683	1450	378	542	753	e380	250	e262
16	233	78	52	1330	1240	13100	e490	374	e440
17	177	18	8.8	268	30	23	e310	354	e376
18	146	20	8.0	204	22	12	e290	318	e258
19	137	24	8.9	175	29	14	e310	295	e239
20	162	18	8.0	159	33	14	e280	400	e316
21	123	13	4.5	150	32	13	e780	309	e392
22	109	12	3.4	139	29	11	e270	176	e237
23	103	20	5.4	153	87	45	e240	100	e69
24	98	32	8.5	145	108	43	e210	63	e38
25	95	33	8.4	125	28	9.6	e200	71	e39
26	109	32	9.3	118	18	5.7	e220	68	e39
27	92	31	7.6	115	17	5.2	e280	61	e41
28	175	254	142	110	16	4.7	e200	47	e30
29	149	98	44	107	14	4.1	e180	36	e18
30	99	47	13	102	13	3.6	e150	30	e14
31	93	32	7.9	97	13	3.4	---	---	---
TOTAL	4886	---	7089.5	6064	---	16347.6	18937	---	97171.4
YEAR	56391		151471.27						

e Estimated

RIO GRANDE DE LOIZA BASIN

50051800 RIO GRANDE DE LOIZA AT HWY 183 NEAR SAN LORENZO, PR--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

PARTICLE-SIZE DISTRIBUTION 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. 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 1995							
20...	0815	4490	3570	43300	31	36	49
20...	1250	365	1110	1090	49	58	73
28...	1310	61	1080	177	45	58	73
JAN 1996							
14...	1645	4310	4720	54900	31	37	44
AUG							
16...	0500	11400	7060	217000	21	27	33
SEP							
10...	0515	11100	3840	115000	38	51	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)
DEC 1995							
20...	62	78	93	98	99	100	100
20...	83	86	97	99	100	100	100
28...	83	88	97	99	100	100	100
JAN 1996							
14...	55	70	88	94	97	99	100
AUG							
16...	46	54	71	88	95	98	99
SEP							
10...	78	82	97	98	99	100	100

RIO GRANDE DE LOIZA BASIN

50051800 RIO GRANDE DE LOIZA AT HWY 183 NEAR SAN LORENZO, PR--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

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 1995					
12...	0945	61	255	42	97
JAN 1996					
14...	1905	2350	1470	9330	82
FEB					
05...	0915	249	497	334	96
MAR					
11...	1000	341	1130	1040	99
JUN					
07...	1000	445	2000	2400	88
JUL					
15...	1000	295	448	357	99
SEP					
09...	2230	3780	3490	35600	85
10...	0230	43000	1080	125000	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, 1.2 mi (1.9 km) south of Villa Borinquen, 8.1 mi (13.0 km) upstream from Río Grande de Loíza.

DRAINAGE AREA.--7.14 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 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32	19	13	11	20	11	9.2	8.6	7.7	11	9.9	57
2	26	20	14	11	20	11	9.3	9.0	7.8	11	11	23
3	24	19	14	10	23	12	20	8.5	7.6	12	140	13
4	21	19	13	9.9	28	12	27	7.3	33	13	36	13
5	20	25	13	9.7	93	12	12	7.8	81	17	18	11
6	20	46	13	11	28	11	11	7.6	105	17	13	9.1
7	22	24	12	12	25	11	10	8.6	265	18	11	10
8	19	19	12	68	20	12	17	11	96	71	11	19
9	18	17	11	16	19	59	11	11	26	50	9.7	185
10	32	16	11	14	19	13	9.1	11	19	29	9.2	e1940
11	40	15	13	16	18	110	8.4	9.1	41	25	8.8	254
12	23	14	12	15	18	22	11	8.7	223	118	8.5	118
13	20	14	29	55	17	14	9.9	46	60	84	14	86
14	24	13	23	300	17	13	12	14	24	440	208	73
15	17	13	15	158	16	74	11	10	286	233	116	69
16	17	32	13	42	17	25	9.6	9.2	174	49	370	90
17	15	22	41	29	16	15	8.8	9.7	58	31	52	57
18	15	18	72	47	15	13	8.2	8.5	114	23	29	53
19	17	17	47	67	15	14	7.8	8.6	43	20	21	57
20	15	16	130	139	17	11	9.1	7.9	24	21	19	50
21	129	15	30	55	14	11	7.5	8.0	57	16	19	144
22	40	15	20	34	13	10	7.7	8.0	134	14	19	51
23	26	14	17	28	13	9.7	9.5	34	39	13	20	46
24	40	17	15	24	15	9.6	11	11	23	12	18	39
25	25	18	14	28	13	10	8.8	8.7	19	12	16	36
26	21	21	14	26	12	10	9.9	8.2	15	12	15	38
27	18	16	14	60	12	9.8	11	8.2	17	11	15	50
28	126	15	13	54	11	10	9.0	7.8	15	54	14	36
29	35	e14	12	33	11	9.7	7.9	7.5	13	18	12	33
30	22	e14	12	25	---	9.1	11	7.4	11	12	11	30
31	21	---	11	22	---	9.4	---	7.2	---	11	9.8	---
TOTAL	940	557	693	1429.6	575	583.3	324.7	338.1	2038.1	1478	1283.9	3690.1
MEAN	30.3	18.6	22.4	46.1	19.8	18.8	10.8	10.9	67.9	47.7	41.4	123
MAX	129	46	130	300	93	110	27	46	286	440	370	1940
MIN	15	13	11	9.7	11	9.1	7.5	7.2	7.6	11	8.5	9.1
MED	22	17	14	28	17	11	9.7	8.6	36	18	15	50
AC-FT	1860	1100	1370	2840	1140	1160	644	671	4040	2930	2550	7320
CFSM	4.25	2.60	3.13	6.46	2.78	2.64	1.52	1.53	9.51	6.68	5.80	17.2
IN.	4.90	2.90	3.61	7.45	3.00	3.04	1.69	1.76	10.62	7.70	6.69	19.23

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1996, BY WATER YEAR (WY)

MEAN	24.0	22.5	16.7	22.0	16.0	11.6	8.24	15.2	29.2	25.0	21.6	47.8
MAX	48.2	37.9	23.1	47.5	24.9	18.8	10.8	31.9	67.9	54.6	41.4	123
(WY)	1991	1992	1991	1992	1995	1996	1996	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 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1990 - 1996	
ANNUAL TOTAL	8743.1		13930.8			
ANNUAL MEAN	24.0		38.1		22.7	
HIGHEST ANNUAL MEAN					38.1	1996
LOWEST ANNUAL MEAN					12.1	1994
HIGHEST DAILY MEAN	730	Sep 6	1940	Sep 10	1940	Sep 10 1996
LOWEST DAILY MEAN	4.2	Jul 14	7.2	May 31	3.3	Aug 17 1994
ANNUAL SEVEN-DAY MINIMUM	5.1	Jul 9	7.6	May 28	3.8	Aug 11 1994
INSTANTANEOUS PEAK FLOW			15200	Sep 10	15200	Sep 10 1996
INSTANTANEOUS PEAK STAGE			22.60	Sep 10	22.60	Sep 10 1996
INSTANTANEOUS LOW FLOW					3.3	Aug 17 1994
ANNUAL RUNOFF (AC-FT)	17340		27630		16450	
ANNUAL RUNOFF (CFSM)	3.35		5.33		3.18	
ANNUAL RUNOFF (INCHES)	45.55		72.58		43.22	
10 PERCENT EXCEEDS	39		70		36	
50 PERCENT EXCEEDS	11		16		11	
90 PERCENT EXCEEDS	5.7		9.1		5.7	

e Estimated

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-49 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 local observer 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 1996.
SEDIMENT CONCENTRATION: Maximum daily mean, 9,230 mg/L September 10, 1996; Minimum daily mean, 2 mg/L September 3, 1996.

SEDIMENT LOADS: Maximum daily mean, 80,900 tons (73,400 tonnes) September 10, 1996; Minimum daily mean, 0.09 ton (0.08 tonne) September 02, 1996.

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	32	10	.86	19	20	1.0	13	9	.32
2	26	10	.70	20	19	1.0	14	11	.42
3	24	11	.67	19	17	.90	14	12	.44
4	21	21	1.2	19	17	.84	13	9	.33
5	20	18	.99	25	28	3.1	13	7	.25
6	20	12	.68	46	77	18	13	5	.18
7	22	16	.94	24	23	1.5	12	5	.16
8	19	25	1.3	19	15	.79	12	5	.16
9	18	35	1.6	17	11	.51	11	5	.16
10	32	40	4.5	16	10	.41	11	6	.18
11	40	54	11	15	9	.37	13	7	.25
12	23	25	1.6	14	9	.35	12	9	.31
13	20	20	1.1	14	9	.32	29	34	4.3
14	24	35	2.4	13	8	.29	23	22	1.4
15	17	42	1.9	13	8	.29	15	10	.42
16	17	52	2.3	32	51	14	13	8	.28
17	15	43	1.8	22	23	1.4	41	79	22
18	15	32	1.3	18	18	.90	72	112	66
19	17	23	1.1	17	13	.57	47	77	16
20	15	17	.68	16	10	.41	130	239	144
21	129	392	650	15	8	.31	30	36	2.9
22	40	57	7.3	15	7	.29	20	33	1.8
23	26	24	1.7	14	8	.29	17	33	1.5
24	40	34	4.5	17	8	.37	15	32	1.3
25	25	7	.49	18	8	.39	14	32	1.2
26	21	7	.42	21	19	1.1	14	32	1.2
27	18	8	.38	16	10	.44	14	32	1.2
28	126	608	1080	15	6	.23	13	31	1.1
29	35	41	4.1	e14	6	e.23	12	31	1.0
30	22	25	1.5	e14	7	e.28	12	31	.98
31	21	22	1.3	---	---	---	11	28	.86
TOTAL	940	---	1790.31	557	---	50.88	693	---	272.60

e Estimated

RIO GRANDE DE LOIZA BASIN

50053025 RIO TURABO ABOVE BORINQUEN, 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)
		JANUARY			FEBRUARY			MARCH	
1	11	25	.74	20	21	1.1	11	9	.27
2	11	23	.65	20	15	.79	11	7	.19
3	10	21	.56	23	19	1.3	12	8	.25
4	9.9	18	.49	28	34	3.0	12	10	.31
5	9.7	17	.43	93	163	81	12	12	.40
6	11	15	.44	28	28	2.1	11	12	.35
7	12	15	.53	25	16	1.1	11	12	.36
8	68	141	50	20	9	.50	12	11	.34
9	16	19	.85	19	9	.47	59	320	177
10	14	16	.60	19	9	.45	13	13	.46
11	16	19	.87	18	9	.45	110	214	102
12	15	14	.57	18	10	.47	22	23	1.5
13	55	135	124	17	10	.46	14	11	.44
14	300	1090	2340	17	9	.43	13	7	.23
15	158	280	215	16	9	.38	74	126	89
16	42	51	5.9	17	8	.37	25	28	2.0
17	29	25	2.0	16	9	.39	15	13	.53
18	47	61	8.7	15	11	.45	13	11	.38
19	67	91	35	15	14	.56	14	11	.39
20	139	224	125	17	14	.67	11	10	.32
21	55	47	7.1	14	15	.58	11	10	.31
22	34	34	3.2	13	15	.56	10	10	.28
23	28	25	1.9	13	16	.58	9.7	10	.25
24	24	22	1.4	15	17	.69	9.6	10	.25
25	28	32	2.6	13	17	.59	10	9	.25
26	26	28	2.0	12	18	.57	10	9	.25
27	60	83	21	12	18	.58	9.8	9	.24
28	54	79	15	11	18	.56	10	9	.24
29	33	24	2.3	11	13	.39	9.7	8	.21
30	25	16	1.1	---	---	---	9.1	8	.19
31	22	19	1.1	---	---	---	9.4	7	.18
TOTAL	1429.6	---	2971.03	575	---	101.54	583.3	---	379.37

RIO GRANDE DE LOIZA BASIN

50053025 RIO TURABO ABOVE BORINQUEN, 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)
		APRIL			MAY			JUNE	
1	9.2	7	.17	8.6	10	.22	7.7	12	.25
2	9.3	6	.16	9.0	12	.28	7.8	13	.27
3	20	20	2.3	8.5	10	.24	7.6	12	.24
4	27	34	4.9	7.3	9	.18	33	69	9.7
5	12	11	.36	7.8	8	.17	81	329	253
6	11	9	.25	7.6	9	.18	105	174	180
7	10	7	.21	8.6	9	.22	265	633	1620
8	17	20	1.3	11	10	.29	96	159	76
9	11	8	.24	11	10	.29	26	28	2.0
10	9.1	7	.18	11	12	.34	19	18	.92
11	8.4	10	.22	9.1	11	.26	41	62	36
12	11	13	.40	8.7	9	.22	223	441	360
13	9.9	17	.45	46	71	27	60	79	19
14	12	11	.37	14	19	.73	24	24	1.5
15	11	15	.44	10	17	.48	286	626	792
16	9.6	23	.59	9.2	17	.41	174	212	144
17	8.8	32	.76	9.7	16	.41	58	45	6.9
18	8.2	26	.59	8.5	15	.34	114	206	157
19	7.8	18	.38	8.6	14	.32	43	54	6.8
20	9.1	13	.32	7.9	13	.28	24	30	2.0
21	7.5	13	.25	8.0	11	.24	57	56	10
22	7.7	13	.27	8.0	9	.19	134	230	217
23	9.5	14	.35	34	70	7.1	39	42	4.5
24	11	12	.36	11	52	1.5	23	24	1.5
25	8.8	10	.24	8.7	30	.71	19	20	1.0
26	9.9	10	.31	8.2	17	.39	15	18	.74
27	11	10	.32	8.2	15	.32	17	16	.71
28	9.0	8	.19	7.8	13	.28	15	14	.58
29	7.9	6	.14	7.5	11	.23	13	13	.47
30	11	8	.22	7.4	8	.15	11	13	.39
31	---	---	---	7.2	6	.12	---	---	---
TOTAL	324.7	---	17.24	338.1	---	44.09	2038.1	---	3904.47

RIO GRANDE DE LOIZA BASIN

50053025 RIO TURABO ABOVE BORINQUEN, 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)
		JULY			AUGUST			SEPTEMBER	
1	11	12	.36	9.9	6	.16	57	98	116
2	11	11	.33	11	6	.17	23	21	2.3
3	12	11	.34	140	251	221	13	2	.09
4	13	10	.36	36	44	5.0	13	3	.12
5	17	10	.45	18	18	.90	11	4	.12
6	17	10	.46	13	11	.40	9.1	6	.14
7	18	10	.49	11	10	.29	10	8	.21
8	71	75	24	11	9	.26	19	51	3.1
9	50	62	8.8	9.7	8	.21	185	240	973
10	29	34	2.7	9.2	9	.23	e1940	9230	e80900
11	25	27	2.1	8.8	11	.26	254	517	392
12	118	274	116	8.5	11	.26	118	207	67
13	84	102	52	14	13	1.2	86	140	33
14	440	1150	2900	208	499	1040	73	112	22
15	233	475	499	116	264	168	69	99	20
16	49	65	8.7	370	9870	47600	90	160	57
17	31	35	3.0	52	78	12	57	72	11
18	23	24	1.5	29	26	2.1	53	60	8.6
19	20	20	1.1	21	13	.81	57	57	8.9
20	21	15	.85	19	8	.42	50	60	8.1
21	16	9	.38	19	5	.24	144	314	297
22	14	6	.21	19	4	.21	51	70	9.7
23	13	5	.17	20	15	1.0	46	68	8.6
24	12	5	.16	18	9	.46	39	43	4.6
25	12	5	.16	16	5	.23	36	33	3.2
26	12	5	.17	15	6	.23	38	48	5.0
27	11	5	.15	15	6	.23	50	63	9.4
28	54	55	22	14	6	.23	36	30	2.9
29	18	32	1.6	12	6	.20	33	27	2.3
30	12	19	.64	11	6	.18	30	29	2.3
31	11	8	.25	9.8	6	.16	---	---	---
TOTAL	1478	---	3648.43	1283.9	---	49057.04	3690.1	---	82967.68
YEAR	13930.8		145204.68						

e Estimated

RIO GRANDE DE LOIZA BASIN

50053025 RIO TURABO ABOVE BORINQUEN,PR--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

PARTICLE-SIZE DISTRIBUTION OD SUSPENDED-SEDIMENT

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM
OCT 1995							
21...	1757	857	6980	16200	18	26	36
28...	1612	774	7900	16500	29	48	57
JAN 1996							
14...	1642	1300	10200	36100	19	22	29
SEP							
10...	0315	2330	23300	147000	16	23	29
10...	1130	2320	17800	112000	25	31	35

DATE	SED. SUSP. FALL DIAM. % FINER THAN .016 MM	SED. SUSP. FALL DIAM. % FINER THAN .031 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM
OCT 1995							
21...	51	67	85	98	99	100	100
28...	72	83	98	99	100	100	100
JAN 1996							
14...	44	63	88	97	99	100	100
SEP							
10...	39	49	63	74	84	93	98
10...	45	56	70	82	90	96	99

RIO GRANDE DE LOIZA BASIN

50053025 RIO TURABO ABOVE BORINQUEN, PR--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

SILT AND CLAY PERCENT OF SUSPENDED SEDIMENT

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT 1995					
21...	1812	674	5780	10500	93
JAN 1996					
13...	2142	557	1060	1590	98
14...	1812	663	835	1490	70
MAY					
23...	1736	15	306	12	81
JUN					
28...	1448	15	478	19	100
AUG					
15...	2130	702	684	1300	97
SEP					
10...	0600	984	2570	6830	90

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 Plaza de Caguas.

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 (43.672 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 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	155	132	68	64	123	60	59	59	42	95	116	128
2	140	129	66	66	121	60	49	44	50	87	138	277
3	146	130	76	63	125	66	148	42	37	84	903	219
4	123	127	67	62	183	68	373	40	137	85	589	412
5	163	134	69	57	514	71	161	38	136	74	259	160
6	165	215	69	61	256	68	79	36	489	73	171	124
7	140	180	71	64	221	62	62	41	877	73	141	108
8	165	122	62	472	152	62	201	61	904	251	165	203
9	124	109	62	177	126	287	104	97	149	449	131	281
10	173	102	61	107	164	118	67	66	95	213	116	e20000
11	256	94	99	84	117	407	61	61	116	146	109	e2100
12	192	92	108	135	108	172	69	55	1860	878	104	e1200
13	125	93	258	87	88	96	70	117	925	595	96	e860
14	150	85	172	2110	102	75	58	131	318	2240	1780	e770
15	109	97	124	1520	94	231	101	60	1800	2370	1620	e740
16	101	185	86	329	98	248	65	53	1740	467	4850	e960
17	94	167	85	210	101	173	51	49	699	277	665	e600
18	91	108	185	279	101	88	48	48	829	205	335	e590
19	119	87	362	408	89	79	46	42	510	194	234	e620
20	104	83	1900	775	123	68	44	40	223	223	199	e540
21	777	83	285	416	141	66	57	36	292	176	176	e1520
22	407	90	158	236	89	66	97	33	876	143	156	e460
23	168	80	121	188	79	61	83	92	308	134	217	e410
24	225	81	102	160	136	59	120	63	180	121	226	e400
25	168	115	147	175	124	55	68	46	146	115	155	e392
26	150	182	113	169	75	58	53	36	129	126	133	e460
27	124	95	95	198	69	63	67	34	140	114	133	e540
28	804	77	84	322	65	58	51	33	212	282	133	e390
29	325	70	76	218	61	64	48	32	153	280	128	e350
30	162	67	67	155	---	56	54	31	111	127	118	e330
31	143	---	67	131	---	59	---	30	---	111	117	---
TOTAL	6288	3411	5365	9498	3845	3224	2614	1646	14483	10808	14413	36144
MEAN	203	114	173	306	133	104	87.1	53.1	483	349	465	1205
MAX	804	215	1900	2110	514	407	373	131	1860	2370	4850	20000
MIN	91	67	61	57	61	55	44	30	37	73	96	108
AC-FT	12470	6770	10640	18840	7630	6390	5180	3260	28730	21440	28590	71690
CFSM	2.26	1.27	1.93	3.41	1.48	1.16	.97	.59	5.38	3.88	5.18	13.4
IN.	2.60	1.41	2.22	3.93	1.59	1.34	1.08	.68	6.00	4.48	5.97	14.97

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 1996, BY WATER YEAR (WY)

MEAN	356	314	225	147	109	91.6	89.0	235	251	229	258	291
MAX	1910	1131	714	559	291	306	355	863	1283	660	949	1205
(WY)	1971	1988	1988	1992	1984	1989	1978	1985	1979	1961	1979	1996
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 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1960 - 1996	
ANNUAL TOTAL	58308		111739			
ANNUAL MEAN	160		305		217	
HIGHEST ANNUAL MEAN					526	1979
LOWEST ANNUAL MEAN					82.3	1967
HIGHEST DAILY MEAN	3800	Sep 16	20000	Sep 10	20000	Sep 10 1996
LOWEST DAILY MEAN	19	Apr 29	30	May 31	11	Apr 8 1968
ANNUAL SEVEN-DAY MINIMUM	19	Apr 29	34	May 26	11	Apr 8 1968
INSTANTANEOUS PEAK FLOW			83000	Sep 10	83000	Sep 10 1996
INSTANTANEOUS PEAK STAGE			32.32	Sep 10	32.32	Sep 10 1996
INSTANTANEOUS LOW FLOW			29	May 31	17	Aug 18 1994
ANNUAL RUNOFF (AC-FT)	115700		221600		157100	
ANNUAL RUNOFF (CFSM)	1.78		3.40		2.41	
ANNUAL RUNOFF (INCHES)	24.15		46.29		32.81	
10 PERCENT EXCEEDS	280		555		360	
50 PERCENT EXCEEDS	76		123		106	
90 PERCENT EXCEEDS	28		57		39	

e Estimated

RIO GRANDE DE LOIZA BASIN

50055000 RIO GRANDE DE LOIZA AT CAGUAS, PR--Continued

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. Automatic sediment sampler since 1984.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATION: Maximum daily mean,14,500 mg/L Nov 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 1996.--
SEDIMENT CONCENTRATION: Maximum daily mean, 5,230 mg/L September 10, 1996 ; minimum daily mean, 14 mg/L July 3, 1996.
SEDIMENT LOADS: Maximum daily mean, 396,000 tons (359,000 tonnes) September 10, 1996; minimum daily 2.5 ton (2.3 tonnes) May 30-31,1996.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

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, 0.45 UM-MF (COLS./ 100 ML) (31616)	STREP-TOCOCCI FECAL, (COLS. PER 100 ML) (31679)
OCT 1995											
10...	1005	107	255	6.2	27.0	16	5.8	71	<10	23000	460
JAN 1996											
11...	0900	73	232	6.6	25.5	170	6.6	79	<10	27000	37000
FEB											
15...	0840	81	237	6.8	24.5	74	7.2	84	16	31000	K18000
APR											
18...	0855	51	254	7.0	26.5	31	6.7	83	19	2500	K1600
JUN											
24...	0905	162	205	7.3	28.0	8.1	6.4	81	19	K19000	2000
AUG											
12...	0850	98	244	7.2	28.5	22	5.4	69	<10	22000	420

DATE	HARD-NESS TOTAL (MG/L AS CACO3) (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)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (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 1995										
10...	76	19	6.9	19	0.9	2.1	72	<0.5	11	18
JAN 1996										
11...	--	--	--	--	--	--	84	--	--	--
FEB										
15...	--	--	--	--	--	--	75	--	--	--
APR										
18...	74	19	6.4	21	1	2.1	74	0.6	13	21
JUN										
24...	--	--	--	--	--	--	61	--	--	--
AUG										
12...	70	18	6.0	20	1	1.8	82	--	11	18

K = non-ideal count

RIO GRANDE DE LOIZA BASIN

50055000 RIO GRANDE DE LOIZA AT CAGUAS, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DATE	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	SOLIDS, DISSOLVED (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 1995										
10...	<0.10	34	153	44.3	16	0.480	0.030	0.510	0.070	0.30
JAN 1996										
11...	--	--	--	--	184	0.660	0.040	0.700	0.120	0.44
FEB										
15...	--	--	--	--	87	0.540	0.040	0.580	0.050	0.31
APR										
18...	0.10	31	158	21.5	42	0.470	0.010	0.480	0.140	0.29
JUN										
24...	--	--	--	--	25	0.500	0.020	0.520	0.040	0.34
AUG										
12...	<0.10	37	161	42.6	31	0.350	0.020	0.370	0.050	<0.20

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 1995										
10...	0.37	0.88	3.9	0.080	1	<100	30	<1	<1	<10
JAN 1996										
11...	0.56	1.3	5.6	0.140	--	--	--	--	--	--
FEB										
15...	0.36	0.94	4.2	0.180	--	--	--	--	--	--
APR										
18...	0.43	0.91	4.0	0.080	<1	<100	30	<1	<1	<10
JUN										
24...	0.38	0.90	4.0	0.070	--	--	--	--	--	--
AUG										
12...	<0.20	0.50	2.2	0.080	--	--	--	--	--	--

DATE	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 (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 1995										
10...	1100	1	180	<0.10	<1	<1	10	<0.010	2	<0.02
JAN 1996										
11...	--	--	--	--	--	--	--	--	--	--
FEB										
15...	--	--	--	--	--	--	--	--	--	--
APR										
18...	1800	<1	220	<0.10	<1	<1	<10	<0.010	3	<0.02
JUN										
24...	--	--	--	--	--	--	--	--	--	--
AUG										
12...	--	--	--	--	--	--	--	--	--	--

RIO GRANDE DE LOIZA BASIN

50055000 RIO GRANDE DE LOIZA AT CAGUAS, 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	155	68	29	132	95	34	68	50	9.2
2	140	37	14	129	98	34	66	74	13
3	146	99	40	130	99	35	76	110	22
4	123	111	37	127	105	37	67	159	29
5	163	125	57	134	106	40	69	176	33
6	165	137	63	215	108	67	69	182	34
7	140	121	46	180	145	72	71	182	35
8	165	130	58	122	96	32	62	130	22
9	124	57	20	109	66	20	62	82	14
10	173	82	58	102	74	20	61	52	8.6
11	256	206	151	94	93	24	99	60	21
12	192	175	92	92	117	29	108	90	27
13	125	103	35	93	144	36	258	173	148
14	150	116	48	85	125	29	172	115	54
15	109	75	22	97	93	24	124	103	35
16	101	44	12	185	117	98	86	77	18
17	94	39	10	167	128	59	85	73	18
18	91	40	9.7	108	78	23	185	87	48
19	119	56	19	87	54	13	362	218	262
20	104	57	16	83	37	8.3	1900	725	7880
21	777	318	2880	83	27	5.9	285	206	167
22	407	187	300	90	33	8.0	158	126	54
23	168	42	19	80	48	10	121	104	34
24	225	138	85	81	72	16	102	86	24
25	168	138	64	115	95	30	147	111	71
26	150	118	49	182	130	67	113	98	31
27	124	98	33	95	53	14	95	78	20
28	804	377	2160	77	43	8.9	84	73	17
29	325	189	194	70	39	7.3	76	67	14
30	162	63	27	67	37	6.6	67	63	11
31	143	91	35	---	---	---	67	62	11
TOTAL	6288	---	6682.7	3411	---	908.0	5365	---	9184.8

RIO GRANDE DE LOIZA BASIN

50055000 RIO GRANDE DE LOIZA AT CAGUAS, 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)
		JANUARY			FEBRUARY			MARCH	
1	64	60	10	123	40	13	60	208	34
2	66	57	10	121	37	12	60	203	33
3	63	55	9.5	125	39	13	66	198	35
4	62	53	8.8	183	130	65	68	195	36
5	57	51	7.9	514	1030	2550	71	198	38
6	61	56	9.2	256	182	133	68	201	37
7	64	62	11	221	168	105	62	192	32
8	472	288	556	152	80	34	62	102	17
9	177	181	93	126	60	20	287	279	239
10	107	180	54	164	125	57	118	209	70
11	84	80	18	117	95	30	407	391	662
12	135	115	43	108	68	20	172	647	300
13	87	107	25	88	66	16	96	562	148
14	2110	763	12100	102	92	26	75	262	53
15	1520	548	3710	94	65	16	231	185	195
16	329	176	156	98	61	16	248	181	149
17	210	153	87	101	65	18	173	92	51
18	279	230	184	101	69	19	88	82	19
19	408	288	451	89	77	19	79	125	26
20	775	430	957	123	103	35	68	144	27
21	416	222	271	141	142	55	66	124	22
22	236	66	43	89	98	24	66	141	25
23	188	48	24	79	79	17	61	161	26
24	160	45	20	136	110	56	59	183	29
25	175	43	20	124	109	38	55	207	31
26	169	42	19	75	78	16	58	215	34
27	198	75	45	69	104	19	63	218	37
28	322	228	225	65	146	26	58	219	34
29	218	120	74	61	200	33	64	206	36
30	155	70	29	---	---	---	56	191	29
31	131	53	19	---	---	---	59	177	28
TOTAL	9498	---	19289.4	3845	---	3501	3224	---	2532

RIO GRANDE DE LOIZA BASIN

50055000 RIO GRANDE DE LOIZA AT CAGUAS, 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)
		APRIL			MAY			JUNE	
1	59	169	27	59	63	9.9	42	42	5.0
2	49	193	26	44	57	6.9	50	56	7.7
3	148	222	118	42	71	8.0	37	44	4.4
4	373	272	492	40	91	9.7	137	101	48
5	161	283	147	38	112	11	136	108	43
6	79	61	13	36	118	12	489	299	464
7	62	41	6.8	41	120	13	877	465	1500
8	201	147	133	61	108	18	904	452	2070
9	104	143	41	97	164	43	149	118	49
10	67	155	28	66	172	31	95	73	19
11	61	176	29	61	194	32	116	47	15
12	69	137	26	55	218	32	1860	815	4870
13	70	97	18	117	251	85	925	390	1370
14	58	68	11	131	124	49	318	172	148
15	101	60	17	60	94	15	1800	772	5480
16	65	98	17	53	109	15	1740	610	2850
17	51	211	29	49	129	17	699	148	334
18	48	206	27	48	119	16	829	335	1280
19	46	163	20	42	104	12	510	130	215
20	44	100	12	40	93	10	223	83	58
21	57	64	13	36	83	8.1	292	196	199
22	97	117	36	33	72	6.4	876	392	1080
23	83	69	20	92	86	23	308	228	192
24	120	210	69	63	76	13	180	186	90
25	68	259	47	46	63	7.8	146	177	70
26	53	322	46	36	52	5.1	129	165	58
27	67	301	55	34	43	4.0	140	108	40
28	51	249	35	33	36	3.2	212	62	35
29	48	128	17	32	30	2.6	153	41	17
30	54	68	9.9	31	30	2.5	111	29	8.7
31	---	---	---	30	31	2.5	---	---	---
TOTAL	2614	---	1585.7	1646	---	523.7	14483	---	22619.8

RIO GRANDE DE LOIZA BASIN

50055000 RIO GRANDE DE LOIZA AT CAGUAS, 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)
		JULY			AUGUST			SEPTEMBER	
1	95	20	5.2	116	90	28	128	99	40
2	87	17	3.9	138	95	36	277	189	166
3	84	14	3.3	903	381	1320	219	154	129
4	85	59	15	589	336	547	412	261	370
5	74	187	38	259	96	72	160	134	60
6	73	132	26	171	60	28	124	97	32
7	73	96	19	141	53	20	108	97	28
8	251	107	89	165	111	52	203	146	83
9	449	167	197	131	55	20	281	189	883
10	213	140	81	116	40	13	e20000	5230	e396000
11	146	112	44	109	41	12	e2100	1230	e7000
12	878	430	1600	104	43	12	e1200	715	e3150
13	595	255	493	96	65	17	e860	525	e1450
14	2240	894	10800	1780	804	6510	e770	235	e522
15	2370	1000	10900	1620	701	4410	e740	225	e459
16	467	56	82	4850	1120	22600	e960	372	e856
17	277	22	17	665	215	397	e600	388	e806
18	205	21	12	335	123	113	e590	351	e563
19	194	20	11	234	81	51	e620	239	e389
20	223	130	84	199	158	85	e540	184	e286
21	176	107	54	176	350	165	e1520	491	e1350
22	143	52	21	156	387	163	e460	465	e1210
23	134	40	15	217	350	206	e410	187	e222
24	121	35	12	226	156	106	e400	79	e86
25	115	29	9.2	155	68	29	e392	65	e69
26	126	26	8.9	133	47	17	e460	66	e76
27	114	40	12	133	38	14	e540	66	e89
28	282	170	232	133	42	15	e390	66	e82
29	280	195	173	128	50	18	e350	66	e65
30	127	82	28	118	60	19	e330	65	e60
31	111	78	23	117	72	23	---	---	---
TOTAL	10808	---	25108.5	14413	---	37118	36144	---	416581
YEAR	111739		545634.6						

e Estimated

RIO GRANDE DE LOIZA BASIN

50055000 RIO GRANDE DE LOIZA AT CAGUAS, PR--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

PARTICLE-SIZE DISTRIBUTION 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. 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)
JUL 1996							
14...	1430	8010	2160	46700	30	53	61
AUG							
16...	0730	14700	2510	99600	39	49	58
16...	0750	12600	2400	81600	44	53	62
SEP							
10...	1131	49100	8390	1110000	24	28	33

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)
JUL 1996							
14...	72	85	98	100	100	100	100
AUG							
16...	71	77	96	99	100	100	100
16...	74	80	97	99	100	100	100
SEP							
10...	43	54	71	89	98	100	100

RIO GRANDE DE LOIZA BASIN

50055000 RIO GRANDE DE LOIZA AT CAGUAS--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

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 1995					
12...	1529	166	236	106	95
FEB 1996					
05...	1155	601	2040	3310	100
APR					
05...	0940	146	351	138	95
JUN					
15...	1445	1860	622	3120	99
16...	1128	2570	989	6860	98
22...	1210	1910	837	4320	99
JUL					
14...	1400	5520	2010	30000	98
AUG					
01...	1822	118	94	30	98
16...	0630	20000	2500	135000	97
16...	0710	17300	2340	109000	98

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 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.9	2.4	1.9	1.6	4.9	1.8	1.4	1.2	2.0	e1.8	3.7	14
2	2.6	2.4	1.9	1.6	4.4	1.8	1.4	1.2	1.9	1.7	2.8	3.1
3	2.5	3.9	1.9	1.5	4.2	1.8	13	1.2	1.9	1.7	7.8	3.1
4	2.5	29	1.9	1.4	3.8	1.8	2.6	1.2	5.0	1.6	6.9	3.6
5	2.6	8.4	1.9	1.4	3.9	2.0	1.9	1.2	3.5	1.6	3.1	2.6
6	2.7	8.3	2.7	1.6	4.6	1.8	2.8	1.2	3.6	1.6	2.7	2.4
7	2.5	4.7	2.0	1.5	3.6	1.8	1.9	3.5	9.9	1.7	2.6	2.5
8	2.4	3.7	1.8	10	4.5	1.8	1.7	2.3	2.9	16	2.4	3.4
9	2.3	2.9	1.7	5.4	6.4	1.9	1.7	2.7	2.6	5.6	2.4	13
10	2.4	2.6	1.9	2.4	5.6	1.6	1.6	3.8	2.4	2.8	2.4	1260
11	2.2	2.5	1.9	2.1	3.7	2.4	1.5	2.4	2.7	2.4	2.3	71
12	2.2	2.4	1.8	3.9	3.3	1.8	1.8	2.0	23	3.5	2.2	28
13	2.1	2.3	2.0	2.3	3.1	1.6	1.6	1.9	5.6	6.8	2.1	17
14	1.9	2.3	1.6	37	3.0	1.6	1.7	1.8	2.9	57	18	12
15	1.7	2.2	1.5	28	2.9	12	1.9	1.7	27	29	49	15
16	1.7	7.4	1.6	7.4	2.8	2.7	2.0	1.7	31	6.6	46	11
17	2.1	2.8	1.5	7.3	2.8	2.0	1.5	1.8	8.8	3.9	8.9	10
18	1.8	2.4	17	5.7	2.8	1.8	1.5	1.7	14	3.2	4.6	12
19	2.4	2.2	6.6	27	2.9	1.8	1.4	2.7	5.5	3.0	3.1	9.5
20	1.8	2.1	2.4	41	2.7	1.7	1.3	1.9	2.9	3.0	2.9	9.0
21	2.1	2.0	2.0	13	3.2	1.7	1.6	1.6	2.8	2.8	2.8	9.9
22	1.9	2.0	1.7	7.8	2.6	1.7	3.0	1.6	8.3	2.7	2.6	8.1
23	1.8	1.9	4.5	6.6	2.5	1.6	2.6	12	2.8	2.6	12	7.5
24	3.9	2.0	2.0	5.8	3.4	1.5	2.2	2.6	2.5	2.6	3.2	7.5
25	2.2	2.2	18	6.7	2.4	1.4	1.6	2.4	2.4	2.6	2.5	7.4
26	2.0	2.3	3.8	6.1	2.3	1.4	1.4	2.3	2.8	2.5	2.5	7.4
27	27	1.8	2.5	8.0	2.1	1.7	1.4	2.3	2.5	2.5	2.4	7.3
28	4.8	2.1	2.4	15	2.0	1.7	1.3	2.1	e2.0	5.9	2.4	11
29	2.6	2.8	1.9	9.2	1.9	1.6	1.4	2.0	e1.9	3.6	2.4	9.9
30	2.4	2.1	1.8	6.8	---	1.5	1.3	2.0	e1.8	2.8	2.3	9.8
31	2.3	---	1.7	5.6	---	1.5	---	2.0	---	2.6	2.3	---
TOTAL	98.3	118.1	99.8	280.7	98.3	64.8	64.0	72.0	188.9	187.7	213.3	1588.0
MEAN	3.17	3.94	3.22	9.05	3.39	2.09	2.13	2.32	6.30	6.05	6.88	52.9
MAX	27	29	18	41	6.4	12	13	12	31	57	49	1260
MIN	1.7	1.8	1.5	1.4	1.9	1.4	1.3	1.2	1.8	1.6	2.1	2.4
AC-FT	195	234	198	557	195	129	127	143	375	372	423	3150
CFSM	.60	.74	.61	1.71	.64	.39	.40	.44	1.19	1.14	1.30	9.99
IN.	.69	.83	.70	1.97	.69	.45	.45	.51	1.33	1.32	1.50	11.15

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1996, BY WATER YEAR (WY)

MEAN	8.05	7.23	6.60	8.41	4.78	4.78	4.94	5.83	4.57	6.41	6.42	14.4
MAX	20.9	12.3	13.4	16.7	8.00	8.87	13.1	18.0	8.05	18.6	11.2	52.9
(WY)	1991	1993	1993	1992	1991	1990	1993	1993	1993	1993	1993	1996
MIN	3.17	2.66	2.34	2.48	2.96	2.09	1.84	2.32	2.32	1.86	1.85	3.32
(WY)	1996	1995	1995	1995	1995	1996	1995	1996	1994	1994	1994	1994

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1990 - 1996	
ANNUAL TOTAL	1659.5		3073.9			
ANNUAL MEAN	4.55		8.40		7.08	
HIGHEST ANNUAL MEAN					11.1	1993
LOWEST ANNUAL MEAN					4.41	1995
HIGHEST DAILY MEAN	143	Sep 6	1260	Sep 10	1260	Sep 10 1996
LOWEST DAILY MEAN	1.3	Apr 30	1.2	May 1	1.2	May 1 1996
ANNUAL SEVEN-DAY MINIMUM	1.5	Apr 25	1.2	Apr 30	1.2	Apr 30 1996
INSTANTANEOUS PEAK FLOW			4990	Sep 10	4990	Sep 10 1996
INSTANTANEOUS PEAK STAGE			21.22	Sep 10	21.22	Sep 10 1996
INSTANTANEOUS LOW FLOW			1.1	May 4	1.1	May 4 1996
ANNUAL RUNOFF (AC-FT)	3290		6100		5130	
ANNUAL RUNOFF (CFSM)	.86		1.58		1.34	
ANNUAL RUNOFF (INCHES)	11.65		21.58		18.14	
10 PERCENT EXCEEDS	6.5		10		9.6	
50 PERCENT EXCEEDS	2.6		2.4		4.3	
90 PERCENT EXCEEDS	1.8		1.6		2.0	

e Estimated

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.-- USHD-49 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 local observer 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, 2 mg/L several days.

SEDIMENT LOADS: Maximum daily mean, 24,500 tons (22,200 tonnes) September 10, 1996; Minimum daily mean, 0.02 ton (0.02 tonne) several days.

EXTREMES FOR CURRENT YEAR 1996.--
SEDIMENT CONCENTRATION: Maximum daily mean, 5,300 mg/L September 10, 1996; Minimum daily mean, 3 mg/L May 26, 1996.

SEDIMENT LOADS: Maximum daily mean, 24,500 tons (22,200 tonnes) September 10, 1996; Minimum daily mean, 0.02 ton (0.02 tonne) several days.

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	2.9	33	.26	2.4	69	.45	1.9	16	.08
2	2.6	32	.23	2.4	40	.26	1.9	13	.07
3	2.5	32	.22	3.9	86	1.1	1.9	12	.06
4	2.5	41	.28	29	470	140	1.9	17	.09
5	2.6	32	.23	8.4	81	2.3	1.9	24	.12
6	2.7	31	.23	8.3	96	4.3	2.7	49	.58
7	2.5	30	.20	4.7	156	2.0	2.0	40	.22
8	2.4	23	.15	3.7	97	.99	1.8	38	.19
9	2.3	22	.13	2.9	59	.46	1.7	34	.16
10	2.4	20	.13	2.6	42	.30	1.9	24	.12
11	2.2	19	.12	2.5	31	.21	1.9	16	.08
12	2.2	21	.13	2.4	23	.15	1.8	11	.05
13	2.1	21	.12	2.3	21	.13	2.0	19	.11
14	1.9	17	.08	2.3	21	.13	1.6	13	.05
15	1.7	15	.07	2.2	20	.12	1.5	12	.05
16	1.7	14	.06	7.4	191	7.8	1.6	12	.05
17	2.1	23	.19	2.8	468	3.5	1.5	11	.05
18	1.8	16	.08	2.4	559	3.6	17	613	51
19	2.4	73	.68	2.2	512	3.1	6.6	96	2.6
20	1.8	17	.08	2.1	443	2.5	2.4	25	.17
21	2.1	19	.11	2.0	387	2.1	2.0	20	.11
22	1.9	26	.14	2.0	395	2.1	1.7	20	.09
23	1.8	21	.10	1.9	423	2.1	4.5	68	2.8
24	3.9	36	.40	2.0	448	2.4	2.0	20	.11
25	2.2	25	.15	2.2	426	2.5	18	688	196
26	2.0	18	.10	2.3	395	2.5	3.8	51	.65
27	27	1320	427	1.8	349	1.7	2.5	29	.21
28	4.8	167	2.2	2.1	114	.60	2.4	25	.17
29	2.6	145	1.0	2.8	51	.50	1.9	18	.09
30	2.4	126	.81	2.1	61	.36	1.8	17	.08
31	2.3	107	.67	---	---	---	1.7	17	.08
TOTAL	98.3	---	436.35	118.1	---	190.26	99.8	---	256.29

RIO GRANDE DE LOIZA BASIN

50055100 RIO CAGÜITAS NEAR AGUAS BUENAS , 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)
		JANUARY			FEBRUARY			MARCH	
1	1.6	16	.07	4.9	8	.11	1.8	8	.04
2	1.6	16	.06	4.4	11	.13	1.8	10	.05
3	1.5	15	.06	4.2	15	.17	1.8	10	.05
4	1.4	15	.05	3.8	21	.21	1.8	10	.05
5	1.4	14	.05	3.9	21	.22	2.0	10	.05
6	1.6	14	.06	4.6	50	.75	1.8	7	.03
7	1.5	14	.06	3.6	24	.24	1.8	4	.02
8	10	306	20	4.5	47	1.0	1.8	8	.04
9	5.4	118	7.7	6.4	98	2.0	1.9	13	.07
10	2.4	47	.32	5.6	65	1.4	1.6	13	.06
11	2.1	19	.11	3.7	45	.45	2.4	34	.25
12	3.9	49	.70	3.3	30	.27	1.8	18	.09
13	2.3	25	.16	3.1	23	.19	1.6	21	.09
14	37	871	488	3.0	23	.19	1.6	23	.10
15	28	632	123	2.9	26	.20	12	447	48
16	7.4	111	2.3	2.8	29	.22	2.7	46	.36
17	7.3	119	3.4	2.8	32	.25	2.0	13	.07
18	5.7	81	1.3	2.8	36	.27	1.8	8	.04
19	27	624	213	2.9	39	.30	1.8	6	.03
20	41	926	241	2.7	34	.25	1.7	6	.03
21	13	222	8.2	3.2	40	.43	1.7	8	.04
22	7.8	118	2.5	2.6	9	.07	1.7	7	.03
23	6.6	98	1.7	2.5	4	.03	1.6	5	.02
24	5.8	71	1.1	3.4	32	.95	1.5	5	.02
25	6.7	50	.89	2.4	9	.06	1.4	4	.02
26	6.1	36	.59	2.3	6	.03	1.4	4	.02
27	8.0	86	2.1	2.1	5	.03	1.7	6	.02
28	15	255	12	2.0	5	.03	1.7	8	.03
29	9.2	42	1.2	1.9	6	.03	1.6	10	.05
30	6.8	9	.17	---	---	---	1.5	11	.04
31	5.6	9	.13	---	---	---	1.5	11	.04
TOTAL	280.7	---	1131.98	98.3	---	10.48	64.8	---	49.85

RIO GRANDE DE LOIZA BASIN

50055100 RIO CAGÜITAS NEAR AGUAS BUENAS , 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)
		APRIL			MAY			JUNE	
1	1.4	10	.04	1.2	20	.06	2.0	9	.05
2	1.4	10	.04	1.2	21	.07	1.9	9	.05
3	13	1010	159	1.2	25	.08	1.9	8	.04
4	2.6	381	2.8	1.2	30	.09	5.0	59	1.2
5	1.9	68	.35	1.2	35	.11	3.5	46	.58
6	2.8	34	.50	1.2	32	.10	3.6	45	.59
7	1.9	24	.12	3.5	80	2.1	9.9	133	5.4
8	1.7	20	.09	2.3	46	.28	2.9	31	.26
9	1.7	17	.08	2.7	32	.25	2.6	32	.22
10	1.6	17	.07	3.8	56	.68	2.4	33	.22
11	1.5	47	.19	2.4	51	.34	2.7	32	.24
12	1.8	47	.22	2.0	36	.20	23	1140	100
13	1.6	34	.15	1.9	28	.14	5.6	60	1.0
14	1.7	30	.14	1.8	22	.11	2.9	30	.24
15	1.9	26	.14	1.7	19	.09	27	539	61
16	2.0	23	.12	1.7	17	.08	31	551	70
17	1.5	20	.08	1.8	16	.08	8.8	152	5.6
18	1.5	20	.08	1.7	14	.07	14	481	46
19	1.4	20	.08	2.7	33	.39	5.5	75	1.4
20	1.3	20	.07	1.9	14	.08	2.9	30	.24
21	1.6	15	.06	1.6	9	.04	2.8	28	.21
22	3.0	80	1.1	1.6	10	.04	8.3	200	11
23	2.6	152	1.1	12	624	52	2.8	29	.22
24	2.2	165	.98	2.6	8	.05	2.5	22	.15
25	1.6	145	.63	2.4	5	.03	2.4	17	.11
26	1.4	122	.47	2.3	3	.02	2.8	26	.25
27	1.4	71	.27	2.3	6	.03	2.5	24	.16
28	1.3	37	.13	2.1	11	.06	e2.0	19	e.11
29	1.4	21	.08	2.0	13	.07	e1.9	15	e.08
30	1.3	20	.07	2.0	10	.06	e1.8	12	e.06
31	---	---	---	2.0	10	.05	---	---	---
TOTAL	64.0	---	169.25	72.0	---	57.85	188.9	---	306.68

e Estimated

RIO GRANDE DE LOIZA BASIN

50055100 RIO CAGÜITAS NEAR AGUAS BUENAS , 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)
		JULY			AUGUST			SEPTEMBER	
1	e1.8	9	e.05	3.7	50	.62	14	719	123
2	1.7	8	.04	2.8	23	.18	3.1	17	.17
3	1.7	8	.03	7.8	91	4.1	3.1	25	.63
4	1.6	7	.03	6.9	103	2.9	3.6	52	.89
5	1.6	6	.03	3.1	38	.32	2.6	94	.67
6	1.6	6	.03	2.7	27	.19	2.4	34	.22
7	1.7	5	.02	2.6	19	.13	2.5	33	.22
8	16	333	39	2.4	13	.09	3.4	59	.61
9	5.6	55	1.8	2.4	10	.06	13	397	132
10	2.8	13	.10	2.4	13	.09	1260	5300	24500
11	2.4	24	.16	2.3	20	.12	71	1730	406
12	3.5	46	1.0	2.2	27	.16	28	585	45
13	6.8	105	3.1	2.1	25	.14	17	293	14
14	57	1440	580	18	536	59	12	125	4.1
15	29	619	85	49	1000	900	15	254	14
16	6.6	92	1.8	46	1110	204	11	179	5.5
17	3.9	63	.66	8.9	140	3.7	10	158	4.3
18	3.2	57	.50	4.6	42	.55	12	391	21
19	3.0	51	.41	3.1	17	.15	9.5	153	3.9
20	3.0	41	.33	2.9	10	.08	9.0	147	3.6
21	2.8	33	.25	2.8	13	.10	9.9	165	4.7
22	2.7	26	.19	2.6	12	.08	8.1	123	2.7
23	2.6	30	.21	12	741	70	7.5	119	2.4
24	2.6	36	.25	3.2	29	.29	7.5	114	2.3
25	2.6	42	.29	2.5	14	.09	7.4	110	2.2
26	2.5	38	.26	2.5	14	.09	7.4	109	2.2
27	2.5	32	.22	2.4	15	.10	7.3	110	2.2
28	5.9	105	3.0	2.4	16	.10	11	174	6.4
29	3.6	63	.60	2.4	17	.11	9.9	156	4.2
30	2.8	50	.38	2.3	19	.12	9.8	151	4.0
31	2.6	40	.28	2.3	20	.12	---	---	---
TOTAL	187.7	---	720.02	213.3	---	1247.78	1588.0	---	25313.11
YEAR	3073.9		29889.90						

e Estimated

RIO GRANDE DE LOIZA BASIN

50055100 RIO CAGÜITAS NEAR AGUAS BUENAS, PR--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

PARTICLE-SIZE DISTRIBUTION 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. 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 1995							
27...	1607	485	10100	13300	34	40	48
DEC							
18...	1857	33	13200	1180	49	64	77
25...	1717	138	9920	3700	39	53	70
JAN 1996							
08...	0832	36	2200	213	71	82	87
MAY							
23...	0615	33	5510	490	48	58	67
SEP							
10...	0915	3450	21700	202000	20	26	30

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 1995							
27...	63	78	87	92	95	99	100
DEC							
18...	83	84	99	99	100	100	100
25...	86	90	97	99	99	100	100
JAN 1996							
08...	90	91	99	99	99	100	100
MAY							
23...	75	85	98	99	100	100	100
SEP							
10...	35	41	52	61	71	82	91

RIO GRANDE DE LOIZA BASIN

50055100 RIO CAGÜITAS NEAR AGUAS BUENAS, PR--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

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 1995					
27...	1807	75	6590	1330	99
NOV					
16...	1532	37	585	58	92
APR 1996					
03...	1520	49	28400	3760	98
JUN					
18...	1730	62	3880	649	100
JUL					
14...	1500	198	4420	2360	96
AUG					
14...	1345	53	2670	382	99
23...	1745	27	14500	1060	79

RIO GRANDE DE LOIZA BASIN

50055170 RIO CAGÜITAS NEAR CAGUAS, PR

LOCATION.--Lat 18°13'59", long 66°02'53", Hydrologic Unit 21010005, on left bank, 0.9 mi (1.4 km) southwest from Plaza de Caguas, 0.6 mi (1.0 km) northeast from Escuela Bunker, and 1.2 mi (1.9 km) northwest from Escuela Antonio S. Pedreira.

DRAINAGE AREA.--8.27 mi² (21.42 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1992 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 216 ft (66 m), from topographic map.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.7	e5.2	e4.5	e4.2	8.7	4.8	4.6	3.3	3.8	5.4	13	21
2	3.9	e5.4	e4.2	e4.1	8.6	4.6	3.8	2.9	3.8	5.3	11	9.6
3	4.3	e12	e4.2	e4.0	8.2	4.6	74	3.2	3.7	5.1	26	13
4	5.8	e30	e4.2	e4.0	8.3	4.3	16	2.7	11	5.1	25	7.2
5	e6.2	e60	e4.2	e4.5	9.5	5.4	7.0	2.4	8.1	4.8	14	6.4
6	e6.2	e19	e4.8	e4.0	9.5	4.8	6.8	2.5	9.9	4.6	11	5.4
7	e6.0	e12	e5.8	e4.5	8.9	4.3	5.5	5.2	31	4.7	9.1	5.3
8	e5.6	e8.4	e4.6	42	7.1	6.3	4.9	6.5	7.2	25	8.3	12
9	e5.4	e6.6	e3.5	49	11	9.9	4.2	5.7	5.3	24	8.1	8.9
10	e5.4	e6.0	e4.0	18	12	6.4	3.4	7.0	4.5	10	7.6	e1320
11	e5.0	e5.6	e5.0	e5.2	7.8	10	3.5	5.1	6.5	7.3	7.2	e170
12	e5.0	e5.4	e4.8	e7.6	6.6	8.4	4.2	3.3	47	11	6.4	e84
13	e4.8	e5.4	e6.2	e5.4	6.2	7.6	4.2	4.5	18	28	5.3	e48
14	e4.5	e5.2	e4.7	71	6.0	7.6	4.1	4.1	9.7	130	37	e30
15	e4.0	e5.0	e3.5	70	5.5	45	5.2	3.7	48	95	95	e37
16	e4.0	e17	e3.8	e16	5.8	18	5.4	3.9	65	32	150	e27
17	e4.6	e8.0	e3.5	e16	7.7	10	3.6	3.8	33	22	22	e25
18	e5.6	e6.0	e37	e13	8.3	8.9	3.4	3.6	26	18	12	e30
19	e5.2	e5.0	e5.2	e22	8.5	8.2	3.3	4.5	23	15	8.4	e24
20	e4.1	e4.6	e4.8	e84	8.9	8.0	2.8	5.2	12	15	6.9	e23
21	e4.7	e4.5	e7.0	e22	8.7	7.5	3.8	3.0	13	12	5.9	e24
22	e4.4	e4.4	e5.4	e16	7.7	6.5	8.4	2.7	21	11	5.2	e20
23	e4.2	e4.4	13	e14	6.0	7.2	8.0	23	11	10	26	e19
24	e8.8	e4.3	32	e12	6.8	5.9	7.0	8.5	8.8	10	12	e18
25	e5.0	e4.5	33	e14	7.3	6.5	4.4	5.9	7.6	10	7.2	e18
26	e4.7	e4.8	51	e13	7.3	6.0	3.9	5.1	8.2	10	6.3	e18
27	e17	e5.0	e5.6	e22	5.6	5.6	3.4	5.1	7.4	9.6	5.5	e18
28	e56	e4.2	e5.4	e34	5.4	5.6	4.0	4.3	8.1	21	5.3	e27
29	e13	e5.2	e4.5	e16	5.4	7.1	4.8	4.0	6.4	15	5.3	e24
30	e5.6	e6.0	e4.2	e15	---	4.5	4.4	3.7	6.1	8.5	5.1	e24
31	e5.2	---	e4.2	e11	---	4.8	---	3.9	---	8.1	4.9	---
TOTAL	227.9	279.1	287.8	637.5	223.3	254.3	222.0	152.3	474.1	592.5	572.0	2116.8
MEAN	7.35	9.30	9.28	20.6	7.70	8.20	7.40	4.91	15.8	19.1	18.5	70.6
MAX	56	60	51	84	12	45	74	23	65	130	150	1320
MIN	3.7	4.2	3.5	4.0	5.4	4.3	2.8	2.4	3.7	4.6	4.9	5.3
AC-FT	452	554	571	1260	443	504	440	302	940	1180	1130	4200
CFSM	.89	1.12	1.12	2.49	.93	.99	.89	.59	1.91	2.31	2.23	8.53
IN.	1.03	1.26	1.29	2.87	1.00	1.14	1.00	.69	2.13	2.67	2.57	9.52

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 1996, BY WATER YEAR (WY)

MEAN	11.3	19.3	14.6	12.6	6.55	5.39	10.1	13.1	8.48	15.6	11.9	37.6
MAX	16.0	37.4	37.0	20.6	9.20	8.20	27.8	41.2	15.8	45.5	20.2	70.6
(WY)	1994	1993	1993	1996	1993	1996	1993	1993	1996	1993	1993	1996
MIN	7.35	5.14	4.17	1.90	2.45	1.75	1.16	2.31	1.71	2.65	4.63	12.3
(WY)	1996	1995	1995	1995	1995	1995	1995	1994	1994	1995	1995	1994

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1992 - 1996	
ANNUAL TOTAL	3300.37		6039.6			
ANNUAL MEAN	9.04		16.5		14.4	
HIGHEST ANNUAL MEAN					24.5	1993
LOWEST ANNUAL MEAN					8.33	1994
HIGHEST DAILY MEAN	508	Sep 6	1320	Sep 10	1320	Sep 10 1996
LOWEST DAILY MEAN	.72	Apr 30	2.4	May 5	.72	Apr 30 1995
ANNUAL SEVEN-DAY MINIMUM	.77	Apr 27	3.1	Apr 30	.77	Apr 27 1995
INSTANTANEOUS PEAK FLOW			9040	Sep 10	9040	Sep 10 1996
INSTANTANEOUS PEAK STAGE			31.60	Sep 10	31.60	Sep 10 1996
ANNUAL RUNOFF (AC-FT)	6550		11980		10450	
ANNUAL RUNOFF (CFSM)	1.09		2.00		1.74	
ANNUAL RUNOFF (INCHES)	14.85		27.17		23.71	
10 PERCENT EXCEEDS	10		26		23	
50 PERCENT EXCEEDS	2.7		6.5		6.6	
90 PERCENT EXCEEDS	.89		4.0		1.9	

e Estimated

RIO GRANDE DE LOIZA BASIN

50055170 RIO CAGÜITAS NEAR CAGUAS, PR--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORDS.-- Water years 1992 to current year.

PERIOD OF DAILY RECORD.--
SUSPENDED-SEDIMENT DISCHARGE: June 1992 to current year.

INSTRUMENTATION.-- US D-49 sediment sampler and automatic sediment sampler since 1992.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATION: Maximum daily mean, 3,820 mg/L September 10, 1996; Minimum daily mean, 1 mg/L July 18-19, 1994.

SEDIMENT LOADS: Maximum daily mean,19,100 tons (17,300 tonnes) September 10, 1996; Minimum daily mean, e0.01 ton (e0.01 tonne) several days.

EXTREMES FOR CURRENT YEAR 1996.--
SEDIMENT CONCENTRATION: Maximum daily mean, 3,820 mg/L September 10, 1996; Minimum daily mean, 5 mg/L April 16-17, 1996.

SEDIMENT LOADS: Maximum daily mean, 19,100 tons (17,300 tonnes) September 10, 1996; Minimum daily mean, 0.05 ton (0.04 tonne) April 17, 1996.

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	3.7	11	.11	e5.2	50	e.71	e4.5	25	e.35
2	3.9	12	.13	e5.4	59	e.84	e4.2	27	e.32
3	4.3	13	.15	e12	64	e1.4	e4.2	25	e.29
4	5.8	15	.25	e30	92	e5.3	e4.2	22	e.25
5	e6.2	15	e.33	e60	123	e15	e4.2	19	e.22
6	e6.2	12	e.20	e19	120	e12	e4.8	17	e.21
7	e6.0	28	e.47	e12	72	e3.0	e5.8	15	e.21
8	e5.6	29	e.46	e8.4	55	e1.5	e4.6	14	e.19
9	e5.4	29	e.44	e6.6	41	e.83	e3.5	15	e.16
10	e5.4	30	e.43	e6.0	31	e.50	e4.0	16	e.18
11	e5.0	30	e.40	e5.6	27	e.42	e5.0	15	e.19
12	e5.0	30	e.41	e5.4	26	e.38	e4.8	16	e.21
13	e4.8	30	e.40	e5.4	25	e.36	e6.2	16	e.24
14	e4.5	31	e.39	e5.2	24	e.35	e4.7	17	e.25
15	e4.0	31	e.36	e5.0	23	e.32	e3.5	17	e.19
16	e4.0	31	e.34	e17	69	e2.1	e3.8	18	e.18
17	e4.6	32	e.37	e8.0	89	e2.9	e3.5	19	e.18
18	e5.6	32	e.44	e6.0	41	e.78	e37	204	e8.6
19	e5.2	32	e.47	e5.0	19	e.29	e5.2	68	e3.8
20	e4.1	33	e.41	e4.6	21	e.27	e4.8	23	e.29
21	e4.7	31	e.40	e4.5	25	e.30	e7.0	22	e.34
22	e4.4	27	e.33	e4.4	30	e.36	e5.4	21	e.35
23	e4.2	31	e.36	e4.4	36	e.42	13	90	7.5
24	e8.8	25	e.42	e4.3	43	e.50	32	71	12
25	e5.0	30	e.54	e4.5	51	e.61	33	88	47
26	e4.7	35	e.46	e4.8	63	e.78	51	238	48
27	e17	34	e1.0	e5.0	33	e.44	e5.6	59	e2.4
28	e56	107	e11	e4.2	26	e.32	e5.4	24	e.36
29	e13	85	e8.4	e5.2	22	e.28	e4.5	20	e.27
30	e5.6	29	e.70	e6.0	22	e.36	e4.2	19	e.22
31	e5.2	21	e.31	---	---	---	e4.2	16	e.18
TOTAL	227.9	---	30.88	279.1	---	53.62	287.8	---	135.13

e Estimated

RIO GRANDE DE LOIZA BASIN

50055170 RIO CAGÜITAS NEAR CAGUAS, 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)
		JANUARY			FEBRUARY			MARCH	
1	e4.2	20	e.22	8.7	44	1.1	4.8	49	.64
2	e4.1	21	e.23	8.6	36	.84	4.6	54	.66
3	e4.0	20	e.22	8.2	29	.65	4.6	49	.61
4	e4.0	20	e.21	8.3	24	.53	4.3	22	.26
5	e4.5	17	e.19	9.5	19	.50	5.4	10	.15
6	e4.0	26	e.29	9.5	16	.40	4.8	10	.13
7	e4.5	30	e.35	8.9	13	.31	4.3	10	.12
8	42	159	22	7.1	11	.21	6.3	21	.90
9	49	197	51	11	53	1.9	9.9	40	1.1
10	18	77	4.2	12	63	2.2	6.4	12	.21
11	e5.2	32	e.63	7.8	40	.88	10	37	1.1
12	e7.6	29	e.50	6.6	30	.53	8.4	56	1.2
13	e5.4	29	e.51	6.2	28	.46	7.6	52	1.1
14	71	277	226	6.0	28	.45	7.6	45	.93
15	70	269	157	5.5	28	.43	45	177	43
16	e16	49	e1.5	5.8	24	.37	18	102	5.4
17	e16	70	e3.0	7.7	34	.83	10	46	1.3
18	e13	64	e2.5	8.3	44	1.0	8.9	30	.73
19	e22	75	e3.5	8.5	27	.64	8.2	21	.47
20	e84	195	e28	8.9	44	1.1	8.0	20	.44
21	e22	193	e27	8.7	41	.96	7.5	20	.40
22	e16	86	e4.4	7.7	32	.67	6.5	20	.36
23	e14	69	e2.8	6.0	21	.34	7.2	19	.36
24	e12	58	e2.0	6.8	27	.55	5.9	15	.26
25	e14	55	e1.9	7.3	35	.70	6.5	12	.21
26	e13	57	e2.1	7.3	35	.67	6.0	11	.17
27	e22	74	e3.5	5.6	38	.60	5.6	13	.19
28	e34	117	e8.8	5.4	42	.61	5.6	16	.24
29	e16	103	e6.9	5.4	45	.65	7.1	20	.35
30	e15	68	e2.8	---	---	---	4.5	23	.27
31	e11	57	e2.0	---	---	---	4.8	32	.47
TOTAL	637.5	---	566.25	223.3	---	21.08	254.3	---	63.73

e Estimated

RIO GRANDE DE LOIZA BASIN

50055170 RIO CAGÜITAS NEAR CAGUAS, 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)
		APRIL			MAY			JUNE	
1	4.6	23	.28	3.3	14	.12	3.8	20	.21
2	3.8	35	.36	2.9	8	.06	3.8	22	.23
3	74	291	246	3.2	10	.09	3.7	21	.21
4	16	80	3.8	2.7	16	.12	11	35	1.2
5	7.0	39	.74	2.4	21	.14	8.1	33	.79
6	6.8	36	.65	2.5	15	.10	9.9	44	1.2
7	5.5	29	.44	5.2	24	.50	31	82	5.4
8	4.9	27	.36	6.5	36	.67	7.2	37	.77
9	4.2	26	.30	5.7	33	.52	5.3	26	.37
10	3.4	41	.39	7.0	29	.57	4.5	21	.25
11	3.5	20	.19	5.1	21	.31	6.5	173	4.1
12	4.2	7	.08	3.3	10	.09	47	483	74
13	4.2	6	.07	4.5	29	.53	18	377	21
14	4.1	6	.07	4.1	20	.22	9.7	43	1.1
15	5.2	7	.09	3.7	20	.19	48	504	142
16	5.4	5	.07	3.9	20	.21	65	257	49
17	3.6	5	.05	3.8	19	.20	33	97	10
18	3.4	11	.10	3.6	19	.19	26	76	8.6
19	3.3	21	.19	4.5	26	.43	23	117	7.7
20	2.8	24	.18	5.2	64	.94	12	41	1.4
21	3.8	26	.27	3.0	30	.25	13	51	1.9
22	8.4	47	1.7	2.7	19	.14	21	89	5.9
23	8.0	39	.88	23	96	7.9	11	19	.61
24	7.0	33	.64	8.5	37	.83	8.8	15	.35
25	4.4	15	.18	5.9	26	.42	7.6	14	.29
26	3.9	7	.07	5.1	22	.31	8.2	14	.31
27	3.4	7	.06	5.1	18	.25	7.4	14	.28
28	4.0	8	.08	4.3	11	.13	8.1	43	1.1
29	4.8	12	.16	4.0	8	.08	6.4	15	.25
30	4.4	18	.22	3.7	11	.11	6.1	13	.22
31	---	---	---	3.9	15	.16	---	---	---
TOTAL	222.0	---	258.67	152.3	---	16.78	474.1	---	340.74

RIO GRANDE DE LOIZA BASIN

50055170 RIO CAGÜITAS NEAR CAGUAS, 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)
		JULY			AUGUST			SEPTEMBER	
1	5.4	14	.21	13	213	10	21	98	15
2	5.3	16	.24	11	403	12	9.6	46	1.3
3	5.1	19	.26	26	252	18	13	69	6.1
4	5.1	21	.29	25	97	6.8	7.2	34	.68
5	4.8	22	.28	14	51	2.1	6.4	28	.50
6	4.6	21	.26	11	26	.75	5.4	25	.36
7	4.7	20	.26	9.1	15	.37	5.3	24	.34
8	25	126	20	8.3	13	.29	12	60	2.3
9	24	268	23	8.1	13	.28	8.9	60	9.9
10	10	37	1.0	7.6	13	.26	e1320	3820	e19100
11	7.3	19	.38	7.2	12	.23	e170	1130	e966
12	11	55	2.0	6.4	11	.19	e84	489	e167
13	28	313	23	5.3	11	.15	e48	271	e48
14	130	896	701	37	209	26	e30	166	e17
15	95	436	127	95	545	638	e37	143	e14
16	32	282	24	150	473	303	e27	143	e12
17	22	242	14	22	26	1.7	e25	119	e8.3
18	18	92	4.4	12	12	.38	e30	118	e8.8
19	15	24	.98	8.4	10	.24	e24	116	e7.5
20	15	19	.75	6.9	9	.17	e23	104	e6.6
21	12	23	.73	5.9	9	.15	e24	104	e6.6
22	11	29	.85	5.2	10	.14	e20	102	e6.0
23	10	34	.96	26	107	17	e19	97	e5.1
24	10	18	.51	12	58	2.2	e18	93	e4.6
25	10	13	.36	7.2	32	.62	e18	89	e4.3
26	10	12	.32	6.3	27	.47	e18	85	e4.1
27	9.6	11	.29	5.5	26	.39	e18	81	e3.9
28	21	74	7.0	5.3	25	.36	e27	97	e5.9
29	15	72	2.8	5.3	24	.34	e24	113	e7.3
30	8.5	37	.86	5.1	23	.32	e24	107	e6.9
31	8.1	36	.77	4.9	22	.29	---	---	---
TOTAL	592.5	---	958.76	572.0	---	1043.19	2116.8	---	20446.38
YEAR	6039.6		23935.21						

e Estimated

RIO GRANDE DE LOIZA BASIN

50055170 RIO CAGÜITAS NR CAGUAS, PR--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

PARTICLE-SIZE DISTRIBUTION 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. 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)
JUN 1996							
11...	1525	7.0	1310	25	68	79	82
15...	1800	169	6490	2960	32	46	58
SEP							
10...	0930	3210	9360	81100	26	36	43

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)
JUN 1996							
11...	86	89	100	100	100	100	100
15...	75	88	96	98	99	100	100
SEP							
10...	57	73	82	95	97	98	100

RIO GRANDE DE LOIZA BASIN

50055170 RIO CAGÜITAS NEAR CAGUAS, PR--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

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 1995					
04...	1405	30	70	5.7	72
05...	1635	60	107	17	90
DEC					
07...	1645	5.8	169	2.6	88
FEB 1996					
21...	1605	8.2	48	1.1	72
MAR					
19...	0745	8.2	21	0.46	58
JUN					
11...	1525	7.0	1310	25	100
15...	1800	169	6490	2960	96
JUL					
14...	1630	364	2900	2850	99
AUG					
16...	0700	431	1110	1290	98
SEP					
10...	0245	1780	2380	11400	95
10...	0930	3210	9360	81100	82

RIO GRANDE DE LOIZA BASIN

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 C. 4 street Villa Blanca housing area at Caguas, 1.8 mi (2.9 km) upstream from Río Grande de Loíza, and 0.95 mi (1.53 km) northeast from Caguas Plaza.

DRAINAGE AREA.--11.71 mi² (30.33 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 discharge about 50 ft upstream from station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e14	e19	e12	e11	e16	e13	e17	e12	e8.4	e13	e27	e100
2	e12	e20	e13	e12	e16	e13	e16	e11	e8.4	e12	e21	e23
3	e12	e24	e13	e11	e15	e12	e165	e10	e9.0	e12	e56	e23
4	e11	e71	e11	e10	e15	e12	e39	e10	e27	e11	e50	e26
5	e16	e45	e13	e10	e18	e16	e18	e10	e23	e11	e28	e19
6	e18	e51	e19	e11	e19	e13	e14	e11	e25	e11	e20	e17
7	e12	e37	e16	e10	e16	e13	e26	e19	e70	e12	e19	e18
8	e19	e30	e12	e38	e14	e22	e17	e20	e32	e110	e18	e24
9	e14	e25	e14	e82	e19	e26	e16	e25	e20	e50	e18	e120
10	e18	e23	e16	e17	e20	e18	e16	e26	e17	e25	e18	e8600
11	e14	e22	e30	e11	e16	e30	e14	e18	e19	e18	e17	e450
12	e17	e20	e20	e28	e15	e22	e17	e15	e160	e20	e16	e200
13	e14	e18	e23	e13	e14	e20	e14	e22	e56	e45	e15	e120
14	e13	e18	e17	e101	e14	e20	e14	e14	e21	e400	e130	e88
15	e13	e16	e12	e147	e14	e77	e16	e12	e190	e220	e350	e110
16	e12	e34	e13	e25	e15	e36	e19	e15	e220	e50	e330	e80
17	e13	e26	e12	e19	e20	e25	e14	e12	e64	e31	e66	e72
18	e13	e18	e43	e18	e14	e23	e14	e11	e100	e24	e38	e86
19	e39	e18	e31	e56	e18	e24	e15	e12	e50	e22	e23	e70
20	e18	e16	e20	e89	e17	e23	e13	e14	e22	e22	e22	e64
21	e18	e15	e15	e38	e15	e21	e14	e10	e20	e21	e21	e72
22	e16	e14	e12	e24	e15	e20	e18	e9.3	e60	e20	e20	e58
23	e21	e13	e13	e19	e13	e20	e20	e32	e29	e19	e88	e54
24	e32	e13	e11	e19	e14	e19	e17	e13	e20	e19	e26	e54
25	e20	e17	e27	e24	e15	e19	e12	e10	e17	e19	e19	e52
26	e18	e27	e20	e22	e13	e20	e11	e10	e20	e18	e19	e52
27	e46	e14	e15	e35	e13	e18	e10	e9.5	e18	e18	e18	e52
28	e37	e11	e13	e42	e12	e17	e12	e9.1	e16	e43	e18	e80
29	e22	e17	e12	e30	e11	e19	e14	e8.1	e14	e27	e18	e74
30	e19	e15	e11	e21	---	e18	e14	e7.9	e13	e21	e17	e70
31	e20	---	e10	e19	---	e21	---	e7.5	---	e19	e17	---
TOTAL	581	707	519	1012	446	670	636	425.4	1368.8	1363	1563	10928
MEAN	18.7	23.6	16.7	32.6	15.4	21.6	21.2	13.7	45.6	44.0	50.4	364
MAX	46	71	43	147	20	77	165	32	220	400	350	8600
MIN	11	11	10	10	11	12	10	7.5	8.4	11	15	17
MED	17	18	13	21	15	20	15	12	21	20	20	70
AC-FT	1150	1400	1030	2010	885	1330	1260	844	2720	2700	3100	21680
CFSM	1.60	2.01	1.43	2.79	1.31	1.85	1.81	1.17	3.90	3.75	4.31	31.1
IN.	1.85	2.25	1.65	3.21	1.42	2.13	2.02	1.35	4.35	4.33	4.97	34.72

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 1996, BY WATER YEAR (WY)

MEAN	23.4	33.7	22.6	38.6	17.6	12.6	15.8	25.7	23.4	31.6	32.7	95.7
MAX	27.6	56.8	58.4	120	23.8	21.6	39.8	59.8	45.6	74.6	58.0	364
(WY)	1993	1993	1993	1992	1991	1996	1993	1993	1996	1993	1995	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 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1991 - 1996	
ANNUAL TOTAL	11181.1		20219.2			
ANNUAL MEAN	30.6		55.2		33.4	
HIGHEST ANNUAL MEAN					55.2	1996
LOWEST ANNUAL MEAN					11.9	1994
HIGHEST DAILY MEAN	1450	Sep 6	8600	Sep 10	8600	Sep 10 1996
LOWEST DAILY MEAN	4.6	Apr 6	7.5	May 31	1.3	Jun 8 1994
ANNUAL SEVEN-DAY MINIMUM	5.0	Mar 31	8.3	May 28	1.4	Jun 8 1994
INSTANTANEOUS PEAK FLOW			Not determined	Sep 10	Not determined	Sep 10 1996
INSTANTANEOUS PEAK STAGE			23.89	Sep 10	23.89	Sep 10 1996
ANNUAL RUNOFF (AC-FT)	22180		40100		24200	
ANNUAL RUNOFF (CFSM)	2.62		4.72		2.85	
ANNUAL RUNOFF (INCHES)	35.52		64.23		38.76	
10 PERCENT EXCEEDS	46		65		42	
50 PERCENT EXCEEDS	17		18		14	
90 PERCENT EXCEEDS	5.6		11		5.6	

e Estimated

RIO GRANDE DE LOIZA BASIN

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-49 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 local observer and automatic sediment sampler.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATION: Maximum daily mean, 1,5700 mg/L September 10, 1996; Minimum daily mean, 5 mg/L Several days.

SEDIMENT LOADS: Maximum daily mean, e34,700 tons (e31,500 tonnes) September 10, 1996; Minimum daily mean, e0.03 ton (e0.02 tonne) June 15, 1994.

EXTREMES FOR CURRENT YEAR 1996.--
SEDIMENT CONCENTRATION: Maximum daily mean, 1,570 mg/L September 10, 1996; Minimum daily mean, 11 mg/L several days.

SEDIMENT LOADS: Maximum daily mean, e34,700 tons (e31,500 tonnes) September 10, 1996; Minimum daily mean, e0.35 ton (e0.32 tonne) May 03, 1996.

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	e14	33	e1.3	e19	238	e12	e12	36	e1.2
2	e12	39	e1.3	e20	217	e12	e13	78	e2.7
3	e12	45	e1.4	e24	193	e12	e13	130	e4.6
4	e11	29	e.85	e71	352	e188	e11	86	e2.5
5	e16	47	e2.5	e45	82	e11	e13	51	e1.8
6	e18	51	e3.1	e51	85	e15	e19	55	e4.0
7	e12	37	e1.2	e37	112	e11	e16	54	e2.5
8	e19	54	e3.4	e30	58	e4.7	e12	43	e1.4
9	e14	46	e1.7	e25	30	e2.0	e14	37	e1.4
10	e18	53	e2.8	e23	23	e1.4	e16	36	e1.5
11	e14	43	e1.6	e22	34	e2.1	e30	92	e11
12	e17	57	e2.8	e20	30	e1.7	e20	128	e6.8
13	e14	67	e2.6	e18	30	e1.5	e23	66	e4.4
14	e13	65	e2.3	e18	43	e2.1	e17	71	e3.3
15	e13	62	e2.1	e16	60	e2.6	e12	61	e1.9
16	e12	55	e1.8	e34	90	e12	e13	51	e1.7
17	e13	48	e1.7	e26	76	e5.4	e12	45	e1.5
18	e13	42	e1.5	e18	64	e3.1	e43	98	e15
19	e39	163	e67	e18	60	e2.8	e31	84	e7.7
20	e18	22	e1.0	e16	63	e2.7	e20	52	e2.8
21	e18	36	e2.1	e15	64	e2.6	e15	44	e1.8
22	e16	46	e2.0	e14	54	e2.0	e12	33	e1.1
23	e21	56	e3.9	e13	41	e1.4	e13	40	e2.7
24	e32	160	e14	e13	53	e2.1	e11	33	e1.2
25	e20	106	e5.6	e17	51	e2.7	e27	65	e15
26	e18	54	e2.7	e27	106	e9.4	e20	58	e3.7
27	e46	125	e33	e14	90	e3.3	e15	41	e1.7
28	e37	148	e15	e11	76	e2.2	e13	40	e1.4
29	e22	65	e3.9	e17	49	e2.4	e12	39	e1.3
30	e19	54	e2.8	e15	34	e1.5	e11	39	e1.1
31	e20	118	e7.5	---	---	---	e10	38	e1.0
TOTAL	581	---	196.45	707	---	334.7	519	---	111.7

e Estimated

RIO GRANDE DE LOIZA BASIN

50055225 RIO CAGÜITAS AT VILLA BLANCA AT CAGUAS, 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)
		JANUARY			FEBRUARY			MARCH	
1	e11	37	e1.1	e16	24	e1.0	e13	109	e3.8
2	e12	36	e1.2	e16	24	e1.0	e13	118	e4.0
3	e11	35	e1.0	e15	28	e1.1	e12	66	e2.2
4	e10	35	e.93	e15	40	e1.8	e12	31	e1.0
5	e10	34	e.91	e18	54	e2.7	e16	16	e.67
6	e11	33	e.98	e19	57	e3.1	e13	15	e.54
7	e10	32	e.87	e16	40	e1.8	e13	16	e.56
8	e38	304	e51	e14	38	e1.5	e22	36	e6.5
9	e82	371	e565	e19	56	e3.1	e26	74	e5.6
10	e17	251	e12	e20	57	e3.3	e18	53	e2.6
11	e11	323	e9.4	e16	59	e2.6	e30	53	e5.1
12	e28	85	e7.3	e15	54	e2.1	e22	26	e1.5
13	e13	47	e1.7	e14	49	e1.9	e20	36	e2.0
14	e101	865	e805	e14	51	e1.9	e20	48	e2.6
15	e147	417	e413	e14	55	e2.1	e77	640	e581
16	e25	215	e15	e15	58	e2.3	e36	110	e11
17	e19	158	e8.1	e20	57	e3.5	e25	62	e4.2
18	e18	62	e3.1	e14	46	e1.8	e23	47	e3.0
19	e56	135	e56	e18	52	e2.6	e24	39	e2.5
20	e89	219	e69	e17	91	e4.2	e23	32	e2.0
21	e38	229	e23	e15	86	e3.4	e21	28	e1.6
22	e24	202	e13	e15	85	e3.4	e20	25	e1.4
23	e19	173	e9.1	e13	111	e3.8	e20	23	e1.2
24	e19	91	e4.8	e14	155	e5.8	e19	20	e1.1
25	e24	113	e8.6	e15	191	e7.7	e19	18	e.91
26	e22	105	e6.7	e13	148	e5.4	e20	16	e.86
27	e35	93	e9.1	e13	109	e3.7	e18	16	e.78
28	e42	110	e13	e12	83	e2.6	e17	15	e.71
29	e30	86	e7.0	e11	92	e2.8	e19	32	e1.7
30	e21	63	e3.6	---	---	---	e18	21	e1.1
31	e19	42	e2.1	---	---	---	e21	44	e2.8
TOTAL	1012	---	2122.59	446	---	84.0	670	---	656.53

e Estimated

RIO GRANDE DE LOIZA BASIN

50055225 RIO CAGÜITAS AT VILLA BLANCA AT CAGUAS, 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)
		APRIL			MAY			JUNE	
1	e17	45	e2.1	e12	19	e.62	e8.4	59	e1.3
2	e16	42	e1.8	e11	17	e.51	e8.4	50	e1.1
3	e165	260	e496	e10	12	e.35	e9.0	35	e.86
4	e39	71	e7.4	e10	14	e.41	e27	73	e7.3
5	e18	43	e2.1	e10	18	e.52	e23	72	e4.9
6	e14	35	e1.3	e11	17	e.52	e25	71	e5.2
7	e26	28	e1.8	e19	48	e3.8	e70	96	e12
8	e17	23	e1.1	e20	44	e2.5	e32	73	e9.5
9	e16	19	e.81	e25	72	e5.2	e20	76	e5.2
10	e16	15	e.67	e26	63	e4.6	e17	79	e3.9
11	e14	15	e.57	e18	56	e2.8	e19	64	e3.1
12	e17	30	e1.4	e15	43	e1.7	e160	214	e42
13	e14	21	e.76	e22	62	e5.1	e56	110	e32
14	e14	34	e1.4	e14	24	e.92	e21	42	e4.3
15	e16	47	e2.2	e12	17	e.54	e190	387	e81
16	e19	42	e2.2	e15	32	e1.7	e220	182	e99
17	e14	17	e.64	e12	39	e1.2	e64	119	e38
18	e14	14	e.55	e11	35	e1.0	e100	170	e36
19	e15	15	e.57	e12	41	e1.5	e50	125	e24
20	e13	15	e.50	e14	38	e1.5	e22	61	e5.6
21	e14	15	e.57	e10	28	e.79	e20	58	e3.3
22	e18	31	e2.2	e9.3	28	e.70	e60	102	e10
23	e20	51	e3.1	e32	57	e5.8	e29	75	e8.6
24	e17	63	e2.9	e13	24	e.86	e20	67	e4.4
25	e12	57	e1.8	e10	24	e.66	e17	60	e3.0
26	e11	50	e1.5	e10	29	e.86	e20	60	e3.0
27	e10	39	e1.1	e9.5	30	e.76	e18	66	e3.4
28	e12	30	e.94	e9.1	27	e.67	e16	73	e3.4
29	e14	23	e.85	e8.1	25	e.54	e14	81	e3.3
30	e14	21	e.79	e7.9	23	e.48	e13	90	e3.3
31	---	---	---	e7.5	27	e.54	---	---	---
TOTAL	636	---	541.62	425.4	---	49.65	1368.8	---	461.96

e Estimated

RIO GRANDE DE LOIZA BASIN

50055225 RIO CAGÜITAS AT VILLA BLANCA AT CAGUAS, 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)
		JULY			AUGUST			SEPTEMBER	
1	e13	95	e3.3	e27	16	e.98	e100	34	e3.8
2	e12	56	e1.9	e21	17	e1.1	e23	16	e2.4
3	e12	59	e1.9	e56	18	e1.8	e23	19	e1.2
4	e11	137	e4.2	e50	22	e3.1	e26	32	e2.1
5	e11	243	e7.2	e28	26	e2.6	e19	49	e2.9
6	e11	400	e12	e20	31	e2.0	e17	57	e2.7
7	e12	421	e13	e19	27	e1.4	e18	61	e2.9
8	e110	145	e19	e18	23	e1.2	e24	72	e4.1
9	e50	108	e22	e18	19	e.95	e120	155	e28
10	e25	80	e7.9	e18	17	e.84	e8600	1570	e34700
11	e18	59	e3.4	e17	16	e.74	e450	600	e1900
12	e20	43	e2.2	e16	14	e.63	e200	318	e272
13	e45	33	e2.7	e15	13	e.53	e120	193	e83
14	e400	396	e211	e130	25	e4.5	e88	118	e33
15	e220	248	e213	e350	55	e33	e110	76	e20
16	e50	37	e15	e330	329	e303	e80	64	e16
17	e31	11	e1.2	e66	115	e55	e72	56	e11
18	e24	11	e.81	e38	58	e8.2	e86	49	e10
19	e22	11	e.68	e23	30	e2.5	e70	43	e9.0
20	e22	11	e.67	e22	19	e1.1	e64	38	e6.8
21	e21	12	e.67	e21	81	e4.7	e72	33	e6.0
22	e20	12	e.66	e20	108	e6.0	e58	29	e5.0
23	e19	12	e.64	e88	98	e12	e54	25	e3.8
24	e19	13	e.64	e26	90	e12	e54	22	e3.2
25	e19	13	e.66	e19	109	e6.5	e52	20	e2.8
26	e18	13	e.66	e19	139	e7.1	e52	21	e2.9
27	e18	14	e.66	e18	174	e8.7	e52	23	e3.2
28	e43	14	e1.1	e18	169	e8.2	e80	25	e4.4
29	e27	14	e1.3	e18	151	e7.3	e74	27	e5.6
30	e21	15	e.94	e17	131	e6.2	e70	29	e5.6
31	e19	15	e.81	e17	73	e3.4	---	---	---
TOTAL	1363	---	551.80	1563	---	507.27	10928	---	37153.4
YEAR	20219.2		42771.67						

e Estimated

RIO GRANDE DE LOIZA BASIN

50055225 RIO CAGÜITAS AT VILLA BLANCA AT CAGUAS, PR--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

PARTICLE-SIZE DISTRIBUTION 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. 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 1995							
27...	1832	318	6370	5470	32	49	60
JAN 1996							
05...	1523	7.2	991	19	62	69	76
14...	2032	439	5270	6240	31	42	53
JUL							
14...	1730	e400	3280	e3540	51	58	66
28...	1615	e43	2390	e277	36	43	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)
OCT 1995							
27...	72	81	92	98	99	100	100
JAN 1996							
05...	81	82	98	99	100	100	100
14...	66	76	90	95	98	100	100
JUL							
14...	75	78	96	98	99	100	100
28...	61	70	90	98	99	100	100

e = estimate

RIO GRANDE DE LOIZA BASIN

50055225 RIO CAGÜITAS AT VILLA BLANCA AT CAGUAS, PR--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

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 1995					
31...	1637	19	256	13	94
NOV					
04...	1757	364	3320	3260	94
07...	1500	34	435	40	96
JAN 1996					
09...	1817	531	2490	3570	94
11...	1548	15	436	18	98
14...	2132	517	2250	3140	94
FEB					
25...	0943	13	207	7.3	98
JUL					
12...	1630	e400	3690	e3985	98
28...	1516	e43	494	e57	70
AUG					
15...	1116	e350	2580	e2438	74

RIO GRANDE DE LOIZA BASIN

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 1995 TO SEPTEMBER 1996

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, 0.45 UM-MF (COLS./ 100 ML) (31616)	STREP-TOCOCCI FECAL, (COLS. PER 100 ML) (31679)
OCT 1995											
10...	1210	37	550	6.3	28.0	6.5	3.0	38	80	450000	61000
JAN 1996											
11...	1010	29	560	7.1	26.0	3.5	3.3	40	60	K75000	K14000
FEB											
14...	0910	25	535	7.2	24.5	3.7	1.7	20	76	K60000	K13000
APR											
08...	0810	9.0	550	7.0	25.0	2.5	4.0	47	12	30000	3700
JUN											
05...	0900	14	461	6.9	27.0	1.6	2.9	36	23	240000	30000
AUG											
20...	0820	21	490	7.3	26.0	3.7	4.6	56	13	K62000	7100

DATE	HARD-NESS TOTAL (MG/L AS CACO3) (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)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (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 1995										
10...	120	32	10	37	1	6.1	140	0.6	27	50
JAN 1996										
11...	--	--	--	--	--	--	170	--	--	--
FEB										
14...	--	--	--	--	--	--	150	--	--	--
APR										
08...	190	53	15	34	1	3.8	170	<0.5	52	38
JUN										
05...	--	--	--	--	--	--	150	--	--	--
AUG										
20...	180	46	15	29	0.9	3.5	160	--	42	32

K = non-ideal count

RIO GRANDE DE LOIZA BASIN

50055250 RIO CAGÜITAS AT HIGHWAY 30 AT CAGUAS, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DATE	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	SOLIDS, DISSOLVED (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 1995										
10...	<0.10	24	270	26.8	24	0.340	0.200	0.540	11.0	1.0
JAN 1996										
11...	--	--	--	--	33	0.480	0.100	0.580	8.10	1.9
FEB										
14...	--	--	--	--	28	0.400	0.150	0.550	8.00	2.0
APR										
08...	0.20	32	330	8.02	11	0.490	0.100	0.590	1.20	0.40
JUN										
05...	--	--	--	--	12	0.430	0.110	0.540	1.20	0.90
AUG										
20...	0.10	34	298	16.6	31	0.890	0.110	1.00	0.690	<0.10

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 1995										
10...	12	13	56	1.70	2	<100	80	<1	4	30
JAN 1996										
11...	10	11	47	1.40	--	--	--	--	--	--
FEB										
14...	10	11	47	1.40	--	--	--	--	--	--
APR										
08...	1.6	2.2	9.7	0.310	1	100	50	<1	<1	20
JUN										
05...	2.1	2.6	12	0.390	--	--	--	--	--	--
AUG										
20...	<0.79	1.8	7.9	0.230	--	--	--	--	--	--

DATE	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 (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 1995										
10...	910	8	250	<0.10	<1	2	40	0.020	8	1.1
JAN 1996										
11...	--	--	--	--	--	--	--	--	--	--
FEB										
14...	--	--	--	--	--	--	--	--	--	--
APR										
08...	750	1	350	<0.10	<1	<1	<10	<0.010	3	0.13
JUN										
05...	--	--	--	--	--	--	--	--	--	--
AUG										
20...	--	--	--	--	--	--	--	--	--	--

RIO GRANDE DE LOIZA BASIN

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 Plaza de Caguas, 4.1 mi (6.6 km) east of Plaza de Aguas Buenas, 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.

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. Mean daily discharge affected by domestic discharges.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.7	7.2	3.3	6.4	4.3	3.8	3.9	5.7	3.4	3.1	49	8.0
2	5.9	3.7	2.9	6.1	4.2	3.8	3.8	5.2	3.4	3.1	9.1	7.1
3	5.7	22	2.7	6.6	4.1	3.8	e86	5.0	3.2	3.1	8.6	17
4	5.4	31	2.3	5.9	4.2	3.9	9.7	4.3	4.8	3.1	4.9	7.0
5	7.6	16	2.2	5.6	4.5	5.3	12	4.2	5.0	3.1	3.9	6.6
6	8.9	48	2.2	10	4.5	4.0	8.8	4.2	4.0	2.9	3.6	6.2
7	5.7	18	2.5	5.8	4.3	4.0	4.5	7.5	7.4	3.1	4.3	6.1
8	7.2	9.5	2.2	23	5.4	6.4	3.6	9.2	3.4	40	4.1	7.9
9	9.5	7.7	2.2	16	32	4.7	3.6	5.2	6.4	4.5	4.3	24
10	5.7	5.9	2.2	6.4	10	3.9	3.4	5.5	3.9	2.9	5.1	1700
11	7.4	5.1	2.3	4.9	5.5	7.5	3.3	4.9	5.6	3.1	4.3	e80
12	4.3	4.7	1.8	20	4.9	4.1	4.5	4.5	13	3.8	4.4	e41
13	4.0	4.1	2.8	7.1	4.7	4.0	3.6	7.5	3.9	5.0	4.2	e32
14	4.7	3.7	2.5	66	4.6	3.8	4.1	4.2	3.1	48	19	e28
15	4.2	3.6	2.0	69	4.5	40	6.7	3.9	27	20	86	e29
16	3.7	7.0	3.2	16	4.4	6.7	12	6.0	23	3.5	147	e34
17	13	5.7	2.0	8.6	4.6	4.6	3.4	4.0	5.1	15	13	e22
18	6.7	4.2	63	7.6	4.7	4.3	3.1	4.2	8.3	3.7	8.8	e20
19	11	4.5	18	14	5.6	4.2	3.1	17	4.3	3.4	7.6	e22
20	4.7	3.6	4.4	33	4.3	3.8	3.0	4.4	3.6	4.0	7.5	e19
21	4.4	3.3	4.9	11	4.7	3.9	3.5	3.4	4.3	3.7	7.0	e54
22	3.4	3.0	5.4	6.9	4.2	3.9	28	3.4	11	3.6	7.2	e19
23	7.6	2.7	26	5.9	4.1	3.8	12	19	4.4	3.4	19	e17
24	25	3.9	17	5.9	4.2	3.6	7.7	4.3	3.5	3.3	31	e15
25	10	3.3	27	8.6	4.4	3.6	6.1	3.8	3.2	3.1	15	e14
26	3.4	8.0	13	6.7	4.0	3.7	6.3	5.8	5.4	3.1	15	e15
27	45	2.8	7.6	15	3.9	4.4	6.3	3.6	3.3	3.1	14	e19
28	17	6.4	7.9	38	3.9	4.3	7.9	3.8	3.4	18	15	e14
29	5.6	21	7.2	10	3.8	4.5	6.5	3.7	3.3	3.4	8.8	e13
30	3.3	7.0	6.5	5.9	---	4.1	6.5	3.5	3.2	3.3	8.6	e11
31	3.7	---	6.1	4.6	---	5.0	---	3.4	---	3.6	8.0	---
TOTAL	260.4	276.6	255.3	456.5	162.5	171.4	276.9	174.3	186.8	230.0	547.3	2307.9
MEAN	8.40	9.22	8.24	14.7	5.60	5.53	9.23	5.62	6.23	7.42	17.7	76.9
MAX	45	48	63	69	32	40	86	19	27	48	147	1700
MIN	3.3	2.7	1.8	4.6	3.8	3.6	3.0	3.4	3.1	2.9	3.6	6.1
AC-FT	517	549	506	905	322	340	549	346	371	456	1090	4580
CFSM	1.65	1.81	1.62	2.90	1.10	1.09	1.82	1.11	1.23	1.46	3.48	15.1
IN.	1.91	2.03	1.87	3.34	1.19	1.26	2.03	1.28	1.37	1.68	4.01	16.90

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 1996, BY WATER YEAR (WY)

MEAN	9.79	9.94	8.95	9.02	5.11	4.18	4.77	6.15	5.16	8.39	8.25	22.8
MAX	25.3	22.2	19.7	14.7	8.60	5.53	9.23	12.5	8.64	16.5	17.7	76.9
(WY)	1991	1993	1993	1996	1991	1996	1996	1993	1993	1991	1996	1996
MIN	4.30	5.71	4.63	4.12	3.42	2.87	2.61	2.91	2.72	4.35	4.09	4.50
(WY)	1992	1995	1992	1995	1994	1994	1992	1994	1995	1994	1991	1991

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1991 - 1996	
ANNUAL TOTAL	2769.1		5305.9			
ANNUAL MEAN	7.59		14.5		8.55	
HIGHEST ANNUAL MEAN					14.5	1996
LOWEST ANNUAL MEAN					4.52	1994
HIGHEST DAILY MEAN	232	Sep 6	1700	Sep 10	1700	Sep 10 1996
LOWEST DAILY MEAN	1.3	Jul 2	1.8	Dec 12	1.3	Jul 2 1995
ANNUAL SEVEN-DAY MINIMUM	1.6	Jun 30	2.2	Dec 6	1.6	Jun 30 1995
INSTANTANEOUS PEAK FLOW			7200	Sep 10	7200	Sep 10 1996
INSTANTANEOUS PEAK STAGE			18.16	Sep 10	18.16	Sep 10 1996
ANNUAL RUNOFF (AC-FT)	5490		10520		6190	
ANNUAL RUNOFF (CFSM)	1.49		2.85		1.68	
ANNUAL RUNOFF (INCHES)	20.28		38.85		22.86	
10 PERCENT EXCEEDS	14		21		13	
50 PERCENT EXCEEDS	3.4		5.0		4.4	
90 PERCENT EXCEEDS	2.1		3.2		2.7	

e Estimated

RIO GRANDE DE LOIZA BASIN

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-49 sediment sampler and automatic sediment sampler since 1991.

REMARKS:-- Sediment samples were collected by a local observer on a weekly. During high flows events sediment samples were collected 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, 2 mg/L Several days.

SEDIMENT LOADS: Maximum daily mean, 37,900 tons (34,300 tonnes) September 10, 1996; Minimum daily mean, 0.02 ton (0.01 tonne) several days.

EXTREME FOR CURRENT YEAR 1996.--
SEDIMENT CONCENTRATION: Maximum daily mean, 7,040 mg/L September 10, 1996; Minimum daily mean, 4 mg/L Several days.

SEDIMENT LOADS: Maximum daily mean, 37,900 tons (34,300 tonnes) September 10, 1996; Minimum daily mean, 0.04 ton (0.03 tonne) several days.

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	6.7	28	.51	7.2	36	.95	3.3	40	.36
2	5.9	13	.21	3.7	17	.18	2.9	24	.19
3	5.7	10	.16	22	129	9.1	2.7	14	.10
4	5.4	10	.14	31	195	44	2.3	9	.06
5	7.6	30	.82	16	95	4.4	2.2	9	.05
6	8.9	65	1.9	48	304	70	2.2	11	.07
7	5.7	33	.51	18	120	6.4	2.5	13	.09
8	7.2	39	.92	9.5	36	.96	2.2	12	.07
9	9.5	54	2.0	7.7	12	.25	2.2	9	.05
10	5.7	35	.57	5.9	8	.12	2.2	7	.04
11	7.4	40	1.1	5.1	7	.09	2.3	9	.06
12	4.3	15	.17	4.7	7	.08	1.8	12	.06
13	4.0	10	.11	4.1	7	.07	2.8	14	.13
14	4.7	12	.15	3.7	6	.06	2.5	18	.13
15	4.2	14	.16	3.6	6	.06	2.0	12	.08
16	3.7	16	.16	7.0	31	1.1	3.2	17	.18
17	13	79	4.9	5.7	25	.40	2.0	12	.09
18	6.7	36	.80	4.2	10	.11	63	562	184
19	11	165	10	4.5	10	.12	18	108	7.7
20	4.7	24	.34	3.6	9	.09	4.4	22	.27
21	4.4	21	.30	3.3	9	.08	4.9	27	.57
22	3.4	20	.19	3.0	9	.07	5.4	31	.47
23	7.6	43	1.2	2.7	8	.06	26	180	55
24	25	228	27	3.9	19	.25	17	120	5.9
25	10	130	11	3.3	23	.21	27	192	52
26	3.4	19	.18	8.0	50	2.1	13	85	3.4
27	45	637	288	2.8	15	.11	7.6	50	1.0
28	17	109	7.3	6.4	35	1.4	7.9	41	.87
29	5.6	31	.50	21	130	22	7.2	39	.76
30	3.3	13	.11	7.0	75	1.6	6.5	38	.66
31	3.7	17	.22	---	---	---	6.1	37	.61
TOTAL	260.4	---	361.63	276.6	---	166.42	255.3	---	315.02

RIO GRANDE DE LOIZA BASIN

50055390 RIO BAIROA AT BAIROA, 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)
		JANUARY			FEBRUARY			MARCH	
1	6.4	35	.61	4.3	63	.73	3.8	6	.06
2	6.1	34	.56	4.2	42	.47	3.8	8	.08
3	6.6	33	.59	4.1	22	.25	3.8	11	.11
4	5.9	32	.51	4.2	12	.13	3.9	14	.15
5	5.6	32	.48	4.5	7	.08	5.3	28	.49
6	10	63	2.2	4.5	6	.07	4.0	16	.17
7	5.8	34	.57	4.3	5	.06	4.0	10	.10
8	23	148	15	5.4	12	.47	6.4	36	3.5
9	16	105	12	32	601	178	4.7	159	2.1
10	6.4	67	1.2	10	62	3.3	3.9	78	.81
11	4.9	44	.58	5.5	30	.44	7.5	56	1.7
12	20	130	12	4.9	19	.26	4.1	18	.20
13	7.1	33	.64	4.7	14	.18	4.0	10	.11
14	66	536	348	4.6	10	.12	3.8	9	.09
15	69	487	315	4.5	7	.09	40	263	86
16	16	101	7.0	4.4	7	.08	6.7	42	.84
17	8.6	48	1.1	4.6	7	.08	4.6	19	.23
18	7.6	42	.98	4.7	6	.08	4.3	14	.16
19	14	89	7.8	5.6	24	.43	4.2	10	.12
20	33	215	34	4.3	21	.25	3.8	9	.09
21	11	70	2.3	4.7	14	.18	3.9	6	.06
22	6.9	28	.53	4.2	10	.11	3.9	6	.06
23	5.9	20	.32	4.1	9	.10	3.8	6	.06
24	5.9	33	.57	4.2	8	.09	3.6	6	.06
25	8.6	113	3.2	4.4	15	.20	3.6	6	.06
26	6.7	47	.87	4.0	12	.13	3.7	8	.09
27	15	88	4.7	3.9	9	.09	4.4	38	.46
28	38	250	36	3.9	7	.07	4.3	31	.35
29	10	58	1.7	3.8	5	.05	4.5	27	.33
30	5.9	47	.73	---	---	---	4.1	26	.28
31	4.6	55	.69	---	---	---	5.0	66	.98
TOTAL	456.5	---	812.43	162.5	---	186.59	171.4	---	99.90

RIO GRANDE DE LOIZA BASIN

50055390 RIO BAIROA AT BAIROA, 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)
		APRIL			MAY			JUNE	
1	3.9	68	.71	5.7	13	.21	3.4	15	.13
2	3.8	36	.37	5.2	19	.26	3.4	36	.33
3	e86	705	e831	5.0	20	.28	3.2	32	.28
4	9.7	60	1.9	4.3	22	.25	4.8	26	.37
5	12	70	8.0	4.2	23	.26	5.0	36	.72
6	8.8	49	1.8	4.2	21	.25	4.0	38	.41
7	4.5	28	.35	7.5	46	1.7	7.4	44	1.6
8	3.6	20	.19	9.2	94	6.4	3.4	27	.25
9	3.6	15	.15	5.2	51	.73	6.4	40	5.0
10	3.4	14	.13	5.5	33	.50	3.9	22	.23
11	3.3	13	.12	4.9	26	.34	5.6	73	1.8
12	4.5	23	.32	4.5	25	.30	13	82	4.6
13	3.6	19	.19	7.5	85	4.9	3.9	19	.20
14	4.1	20	.23	4.2	16	.18	3.1	14	.12
15	6.7	27	2.4	3.9	11	.11	27	300	61
16	12	77	8.8	6.0	27	1.9	23	171	29
17	3.4	13	.12	4.0	15	.16	5.1	65	.92
18	3.1	15	.12	4.2	13	.15	8.3	51	2.3
19	3.1	21	.18	17	182	30	4.3	29	.34
20	3.0	16	.13	4.4	71	.91	3.6	24	.23
21	3.5	9	.09	3.4	18	.17	4.3	61	.82
22	28	170	72	3.4	17	.15	11	76	7.4
23	12	74	3.5	19	382	37	4.4	18	.21
24	7.7	108	2.5	4.3	63	.74	3.5	12	.12
25	6.1	37	.60	3.8	17	.18	3.2	11	.10
26	6.3	15	.25	5.8	35	2.9	5.4	43	3.0
27	6.3	11	.19	3.6	10	.10	3.3	16	.14
28	7.9	27	.77	3.8	9	.10	3.4	11	.10
29	6.5	29	.52	3.7	10	.10	3.3	10	.09
30	6.5	11	.19	3.5	8	.08	3.2	10	.09
31	---	---	---	3.4	7	.06	---	---	---
TOTAL	276.9	---	937.82	174.3	---	91.37	186.8	---	121.90

e Estimated

RIO GRANDE DE LOIZA BASIN

50055390 RIO BAIROA AT BAIROA, 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)
		JULY			AUGUST			SEPTEMBER	
1	3.1	10	.08	49	109	46	8.0	42	.90
2	3.1	9	.07	9.1	55	2.6	7.1	39	.74
3	3.1	7	.06	8.6	49	2.4	17	106	14
4	3.1	6	.05	4.9	28	.37	7.0	47	.87
5	3.1	5	.04	3.9	23	.24	6.6	42	.74
6	2.9	5	.04	3.6	20	.19	6.2	38	.63
7	3.1	4	.04	4.3	24	.28	6.1	34	.56
8	40	280	80	4.1	20	.23	7.9	50	1.2
9	4.5	127	2.3	4.3	18	.21	24	589	306
10	2.9	40	.30	5.1	26	.56	1700	7400	37900
11	3.1	19	.16	4.3	20	.24	e80	1660	e1430
12	3.8	15	.26	4.4	14	.16	e41	763	e231
13	5.0	65	1.0	4.2	12	.13	e32	672	e170
14	48	354	113	19	260	19	e28	542	e131
15	20	186	18	86	518	926	e29	384	e90
16	3.5	63	.60	147	732	566	e34	381	e86
17	15	122	30	13	18	.71	e22	378	e71
18	3.7	20	.20	8.8	8	.19	e20	346	e30
19	3.4	14	.13	7.6	8	.17	e22	109	e6.5
20	4.0	11	.12	7.5	9	.17	e19	23	e1.3
21	3.7	9	.09	7.0	9	.17	e54	12	e1.1
22	3.6	7	.07	7.2	23	.54	e19	10	e.90
23	3.4	6	.05	19	58	3.4	e17	8	e.38
24	3.3	5	.05	31	117	16	e15	6	e.26
25	3.1	4	.04	15	11	.46	e14	4	e.14
26	3.1	6	.05	15	13	.51	e15	2	e.09
27	3.1	9	.08	14	17	.64	e19	6	e.27
28	18	195	35	15	46	2.4	e14	16	e.69
29	3.4	22	.24	8.8	60	1.4	e13	18	e.65
30	3.3	9	.08	8.6	50	1.1	e11	18	e.58
31	3.6	9	.08	8.0	45	.98	---	---	---
TOTAL	230.0	---	282.28	547.3	---	1593.45	2307.9	---	40477.50
YEAR	5305.9		45446.31						

e Estimated

RIO GRANDE DE LOIZA BASIN

50055390 RIO BAIROA AT BAIROA, PR--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

PARTICLE-SIZE DISTRIBUTION 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. 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 1995							
27...	1740	253	9180	6270	28	39	51
DEC							
18...	1655	233	2310	1450	49	56	63
FEB 1996							
09...	1415	14	8330	315	26	29	42
09...	1740	190	7280	3730	34	36	51
APR							
03...	1645	520	8830	12400	29	41	54
JUL							
14...	1620	139	1760	660	47	63	79
AUG							
15...	2330	964	5090	13200	36	48	64
SEP							
09...	2315	224	8530	5160	32	42	56

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 1995							
27...	71	84	92	97	99	100	100
DEC							
18...	76	81	94	98	99	100	100
FEB 1996							
09...	54	66	75	83	85	86	91
09...	63	73	86	96	99	99	100
APR							
03...	69	79	88	96	99	100	100
JUL							
14...	85	88	97	99	99	100	100
AUG							
15...	76	81	93	98	99	100	100
SEP							
09...	70	80	90	97	99	100	100

RIO GRANDE DE LOIZA BASIN

50055390 RIO BAIROA AT BAIROA, PR--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

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 1995					
19...	1640	26	700	49	99
24...	0425	75	1990	403	99
DEC					
18...	1323	85	1430	328	100
18...	1345	78	1630	343	99
FEB 1996					
09...	1430	109	2360	694	97
09...	1900	98	3240	857	98
APR					
03...	1535	126	1630	554	85
JUN					
15...	1915	122	3140	1030	99
JUL					
14...	1605	164	1340	593	99
SEP					
10...	0230	1170	11700	37000	98

RIO GRANDE DE LOIZA BASIN

50055400 RIO BAIROA 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 Loíza, 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 1995 TO SEPTEMBER 1996

DATE	TIME	DISCHARGE, 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, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	OXYGEN DEMAND, CHEMICAL (HIGH LEVEL) (MG/L) (00340)	COLIFORM, FECAL, 0.45 UM-MF (COLS./100 ML) (31616)	STREPTOCOCCI FECAL, (COLS. PER 100 ML) (31679)
OCT 1995											
13...	0725	3.8	418	6.4	25.0	3.6	5.5	65	12	31000	440000
JAN 1996											
09...	1120	4.9	355	6.9	23.5	14	7.0	80	<10	K610000	470000
FEB											
14...	1040	5.0	425	7.6	22.5	0.90	3.2	36	<10	K14000	3600
APR											
08...	0945	3.9	394	7.2	24.5	3.3	5.7	67	<10	K73000	4200
JUN											
05...	1015	2.9	500	7.1	27.0	1.1	1.4	17	48	K680000	57000
AUG											
20...	1000	7.4	495	7.3	26.5	1.0	0.85	10	58	K620000	560000

DATE	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	SODIUM ADSORPTION RATIO (00931)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ALKALINITY WAT WH TOT FET FIELD MG/L AS CACO3 (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)
OCT 1995										
13...	150	36	14	23	0.8	4.6	120	<0.5	16	35
JAN 1996										
09...	--	--	--	--	--	--	120	--	--	--
FEB										
14...	--	--	--	--	--	--	150	--	--	--
APR										
08...	160	40	14	22	0.8	4.8	130	<0.5	15	29
JUN										
05...	--	--	--	--	--	--	160	--	--	--
AUG										
20...	160	38	15	29	1	6.3	180	--	19	39

K = non-ideal count

RIO GRANDE DE LOIZA BASIN

50055400 RIO BAIROA NEAR CAGUAS, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DATE	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	SOLIDS, DISSOLVED (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 1995										
13...	0.10	30	231	2.37	10	1.40	0.100	1.50	0.150	0.54
JAN 1996										
09...	--	--	--	--	60	1.65	0.050	1.70	0.090	0.36
FEB										
14...	--	--	--	--	7	1.89	0.110	2.00	0.150	0.22
APR										
08...	0.20	28	231	2.46	6	1.16	0.040	1.20	0.090	0.30
JUN										
05...	--	--	--	--	5	0.660	0.020	0.680	7.70	1.4
AUG										
20...	0.10	29	283	5.67	4	0.820	0.280	1.10	4.00	0.60

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 1995										
13...	0.69	2.2	9.7	0.390	3	100	50	<1	1	<10
JAN 1996										
09...	0.45	2.2	9.5	0.330	--	--	--	--	--	--
FEB										
14...	0.37	2.4	10	0.290	--	--	--	--	--	--
APR										
08...	0.39	1.6	7.0	0.250	2	100	40	<1	<1	20
JUN										
05...	9.1	9.8	43	1.10	--	--	--	--	--	--
AUG										
20...	4.6	5.7	25	1.10	--	--	--	--	--	--

DATE	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 (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 1995										
13...	500	1	120	<0.10	<1	<1	10	<0.010	3	0.04
JAN 1996										
09...	--	--	--	--	--	--	--	--	--	--
FEB										
14...	--	--	--	--	--	--	--	--	--	--
APR										
08...	340	<1	60	<0.10	<1	<1	<10	<0.010	<1	0.03
JUN										
05...	--	--	--	--	--	--	--	--	--	--
AUG										
20...	--	--	--	--	--	--	--	--	--	--

RIO GRANDE DE LOIZA BASIN

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 Plaza de Juncos, 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 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	11	6.6	4.9	e21	9.8	9.0	8.2	13	8.0	5.1	59
2	32	9.6	6.4	5.1	e23	8.9	8.2	6.1	9.5	6.8	6.2	17
3	28	15	5.7	4.9	e22	8.7	8.0	5.3	9.0	6.0	38	5.8
4	16	17	5.8	4.9	e20	8.5	8.5	4.9	7.6	6.3	48	142
5	84	15	6.1	4.9	e42	11	9.0	4.7	10	5.3	13	35
6	58	90	6.6	4.7	45	12	7.9	4.5	24	5.2	7.6	8.4
7	22	31	6.0	6.3	86	9.5	8.1	5.5	61	4.3	5.6	5.7
8	24	15	5.3	39	25	8.9	7.5	11	15	944	5.3	9.0
9	18	14	5.3	43	18	9.1	7.0	19	9.2	188	4.6	401
10	26	11	5.4	21	16	8.1	6.8	13	7.3	79	7.7	4040
11	20	10	6.5	28	16	17	8.5	11	22	55	17	191
12	14	9.0	7.0	113	15	11	8.2	7.4	242	195	5.3	19
13	24	8.7	18	67	14	8.0	14	106	39	395	4.1	7.2
14	18	8.6	25	1410	14	7.0	9.2	31	15	388	173	4.8
15	12	22	9.5	415	14	40	7.7	9.8	e100	598	279	115
16	16	11	6.7	58	14	17	13	7.3	e400	68	504	67
17	14	8.8	6.0	35	15	9.3	8.9	6.6	e200	35	266	10
18	14	7.7	19	32	17	8.1	7.2	6.2	e250	23	69	81
19	11	7.3	103	66	14	28	6.9	5.6	e130	17	25	112
20	35	7.3	59	400	15	e13	6.2	5.3	e42	e27	15	60
21	17	10	13	74	13	11	5.8	4.9	e12	e13	14	45
22	109	8.5	13	33	12	10	5.7	4.8	e28	e10	9.1	33
23	30	7.1	7.4	27	11	10	6.0	5.5	e14	e8.1	43	38
24	104	9.0	6.3	26	91	9.6	8.9	5.8	e7.2	e7.6	46	28
25	95	9.3	5.7	29	30	8.9	7.7	5.4	5.8	e7.6	12	24
26	41	7.6	42	30	15	9.0	6.6	5.2	5.2	e7.2	6.6	28
27	17	7.1	14	54	12	9.2	6.2	4.9	6.0	e6.4	5.3	24
28	15	6.5	6.5	78	11	9.0	5.7	4.6	44	e130	6.1	22
29	13	6.4	5.8	35	11	9.8	5.9	4.8	15	e140	6.6	22
30	10	6.5	5.3	25	---	9.4	9.3	4.7	9.7	e6.9	5.3	21
31	10	---	5.0	e22	---	9.4	---	7.4	---	5.8	4.2	---
TOTAL	963	407.0	442.9	3195.7	672	358.2	237.6	336.4	1752.5	3396.5	1656.7	5674.9
MEAN	31.1	13.6	14.3	103	23.2	11.6	7.92	10.9	58.4	110	53.4	189
MAX	109	90	103	1410	91	40	14	106	400	944	504	4040
MIN	10	6.4	5.0	4.7	11	7.0	5.7	4.5	5.2	4.3	4.1	4.8
AC-FT	1910	807	878	6340	1330	710	471	667	3480	6740	3290	11260
CFSM	1.39	.61	.64	4.62	1.04	.52	.36	.49	2.62	4.91	2.40	8.48
IN.	1.61	.68	.74	5.33	1.12	.60	.40	.56	2.92	5.67	2.76	9.47

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1996, BY WATER YEAR (WY)

MEAN	47.4	65.5	31.4	42.5	30.7	12.2	8.59	29.4	51.7	52.5	33.1	85.1
MAX	161	109	59.0	103	66.7	18.1	11.0	123	117	147	54.0	189
(WY)	1991	1992	1991	1996	1995	1991	1993	1992	1992	1993	1995	1996
MIN	4.01	13.6	12.0	6.34	10.4	5.63	5.29	4.83	14.7	6.74	10.2	34.9
(WY)	1993	1996	1994	1995	1993	1993	1995	1990	1991	1994	1993	1990

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1990 - 1996	
ANNUAL TOTAL	13697.2		19093.4			
ANNUAL MEAN	37.5		52.2		42.5	
HIGHEST ANNUAL MEAN					52.3	1992
LOWEST ANNUAL MEAN					22.0	1994
HIGHEST DAILY MEAN	1570	Sep 16	4040	Sep 10	4040	Sep 10 1996
LOWEST DAILY MEAN	1.9	May 15	4.1	Aug 13	1.1	Oct 27 1992
ANNUAL SEVEN-DAY MINIMUM	2.3	Apr 28	4.9	Dec 31	1.4	Oct 22 1992
INSTANTANEOUS PEAK FLOW			19100	Sep 10	19100	Sep 10 1996
INSTANTANEOUS PEAK STAGE			24.12	Sep 10	24.12	Sep 10 1996
ANNUAL RUNOFF (AC-FT)	27170		37870		30760	
ANNUAL RUNOFF (CFSM)	1.68		2.34		1.90	
ANNUAL RUNOFF (INCHES)	22.85		31.85		25.87	
10 PERCENT EXCEEDS	57		85		74	
50 PERCENT EXCEEDS	9.2		11		10	
90 PERCENT EXCEEDS	3.2		5.4		4.2	

e Estimated

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-49 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 a local observer and automatic sediment sampler.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATION: Maximum daily mean, 1,490 mg/L September 10, 1996; Minimum daily mean, 4 mg/L April 7,1991.

SEDIMENT LOADS: Maximum daily mean, 17,900 tons (16,200 tonnes) September 10, 1996; Minimum daily mean, 0.05 ton (0.3 tonne) several days.

EXTREMES FOR CURRENT YEAR 1996.--
SEDIMENT CONCENTRATION: Maximum daily mean, 1,490 mg/L September 10, 1996; Minimum daily mean, 6 mg/L July 6-7, 1996.
SEDIMENT LOADS: Maximum daily mean, 17,900 tons (16,200 tonnes) September 10, 1996; Minimum daily mean, 0.07 ton (0.06 tonne) July 7, 1996.

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	16	46	1.9	11	37	1.1	6.6	26	.46
2	32	63	9.7	9.6	36	.93	6.4	25	.43
3	28	74	6.3	15	45	2.0	5.7	23	.36
4	16	48	2.3	17	50	2.4	5.8	17	.27
5	84	132	35	15	46	2.0	6.1	12	.20
6	58	109	21	90	159	55	6.6	10	.17
7	22	59	3.6	31	119	12	6.0	12	.20
8	24	63	4.4	15	17	.70	5.3	14	.20
9	18	66	3.2	14	14	.51	5.3	22	.31
10	26	87	7.7	11	14	.41	5.4	38	.56
11	20	56	3.1	10	14	.37	6.5	49	.86
12	14	44	1.7	9.0	13	.33	7.0	52	.99
13	24	62	4.8	8.7	13	.31	18	51	2.8
14	18	52	2.6	8.6	13	.31	25	198	16
15	12	40	1.3	22	51	4.5	9.5	228	5.9
16	16	40	1.7	11	37	1.1	6.7	226	4.1
17	14	44	1.7	8.8	36	1.1	6.0	170	2.7
18	14	42	1.3	7.7	34	.81	19	45	2.4
19	11	73	9.2	7.3	32	.66	103	140	49
20	35	60	2.9	7.3	30	.58	59	119	26
21	17	160	148	10	36	1.1	13	99	3.4
22	109	76	7.0	8.5	37	.84	13	43	1.5
23	30	143	131	7.1	32	.62	7.4	62	1.3
24	104	197	100	9.0	31	.81	6.3	20	.35
25	95	124	62	9.3	35	.91	5.7	10	.16
26	41	85	11	7.6	31	.66	42	44	16
27	17	52	2.5	7.1	30	.58	14	112	4.6
28	15	44	1.7	6.5	29	.51	6.5	42	.74
29	13	41	1.4	6.4	28	.48	5.8	22	.35
30	10	39	1.1	6.5	27	.48	5.3	16	.23
31	10	38	1.0	---	---	---	5.0	12	.16
TOTAL	963	---	592.1	407.0	---	94.11	442.9	---	142.70

RIO GRANDE DE LOIZA BASIN

50055750 RIO GURABO BELOW EL MANGO, 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)
		JANUARY			FEBRUARY			MARCH	
1	4.9	11	.14	e21	58	3.3	9.8	15	.41
2	5.1	11	.15	e23	89	5.3	8.9	14	.33
3	4.9	11	.14	e22	151	9.2	8.7	13	.30
4	4.9	10	.14	e20	120	6.8	8.5	17	.39
5	4.9	10	.13	e42	86	5.3	11	25	.80
6	4.7	10	.14	45	92	14	12	30	.93
7	6.3	10	.17	86	122	43	9.5	31	.81
8	39	90	13	25	78	5.3	8.9	31	.75
9	43	83	17	18	80	3.9	9.1	30	.74
10	21	117	7.8	16	81	3.6	8.1	30	.65
11	28	67	8.1	16	83	3.6	17	43	2.6
12	113	177	99.6	15	87	3.5	11	39	1.2
13	67	108	28	14	92	3.5	8.0	32	.68
14	1410	800	5220	14	90	3.4	7.0	29	.55
15	415	343	625	14	65	2.4	40	67	16
16	58	102	16	14	66	2.5	17	55	2.8
17	35	136	13	15	77	3.1	9.3	41	1.0
18	32	203	18	17	81	3.7	8.1	33	.74
19	66	133	29	14	85	3.3	28	66	6.2
20	400	326	682	15	90	3.7	e13	36	e1.3
21	74	122	26	13	86	3.0	11	24	.72
22	33	77	6.9	12	16	.52	10	34	.95
23	27	70	5.1	11	9	.27	10	34	.91
24	26	70	4.9	91	122	89	9.6	29	.75
25	29	71	5.5	30	115	9.9	8.9	40	.96
26	30	71	5.7	15	68	2.7	9.0	65	1.6
27	54	102	16	12	76	2.5	9.2	80	2.0
28	78	127	31	11	30	.91	9.0	86	2.1
29	35	112	11	11	18	.51	9.8	56	1.5
30	25	112	7.6	---	---	---	9.4	31	.78
31	e22	84	5.2	---	---	---	9.4	36	.93
TOTAL	3195.7	---	6902.41	672	---	241.71	358.2	---	52.38

e Estimated

RIO GRANDE DE LOIZA BASIN

50055750 RIO GURABO BELOW EL MANGO, 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)
		APRIL			MAY			JUNE	
1	9.0	58	1.4	8.2	74	1.6	13	57	2.2
2	8.2	91	2.0	6.1	114	1.9	9.5	51	1.3
3	8.0	87	1.9	5.3	111	1.6	9.0	43	1.0
4	8.5	70	1.6	4.9	89	1.2	7.6	36	.74
5	9.0	62	1.5	4.7	55	.70	10	30	.81
6	7.9	58	1.2	4.5	32	.39	24	58	4.3
7	8.1	54	1.2	5.5	43	.65	61	94	18
8	7.5	51	1.0	11	73	2.4	15	53	2.5
9	7.0	71	1.4	19	67	3.6	9.2	36	.89
10	6.8	108	2.0	13	49	1.7	7.3	31	.62
11	8.5	53	1.2	11	37	1.1	22	49	4.7
12	8.2	16	.37	7.4	30	.60	242	279	298
13	14	21	.79	106	578	590	39	106	13
14	9.2	45	1.1	31	1180	124	15	26	1.1
15	7.7	45	.94	9.8	326	8.9	e100	457	e1040
16	13	35	1.2	7.3	103	2.1	e400	303	e517
17	8.9	55	1.3	6.6	55	.98	e200	53	e45
18	7.2	104	2.0	6.2	38	.63	e250	39	e24
19	6.9	86	1.6	5.6	34	.50	e130	50	e25
20	6.2	53	.88	5.3	33	.47	e42	47	e10
21	5.8	47	.74	4.9	29	.38	e12	42	e1.4
22	5.7	48	.75	4.8	25	.33	e28	35	e1.8
23	6.0	44	.71	5.5	26	.39	e14	29	e1.6
24	8.9	39	.93	5.8	30	.47	e7.2	30	e.67
25	7.7	40	.83	5.4	31	.46	5.8	35	.55
26	6.6	45	.79	5.2	32	.44	5.2	40	.57
27	6.2	46	.77	4.9	32	.42	6.0	37	.60
28	5.7	46	.70	4.6	32	.40	44	52	9.6
29	5.9	45	.72	4.8	35	.45	15	22	.84
30	9.3	49	1.2	4.7	39	.50	9.7	24	.62
31	---	---	---	7.4	37	.67	---	---	---
TOTAL	237.6	---	34.72	336.4	---	749.93	1752.5	---	2028.41

e Estimated

RIO GRANDE DE LOIZA BASIN

50055750 RIO GURABO BELOW EL MANGO, 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)
		JULY			AUGUST			SEPTEMBER	
1	8.0	26	.57	5.1	30	.42	59	73	28
2	6.8	27	.50	6.2	7	.11	17	50	2.9
3	6.0	27	.44	38	70	11	5.8	26	.41
4	6.3	16	.26	48	96	13	142	147	122
5	5.3	7	.11	13	44	1.6	35	76	9.5
6	5.2	6	.08	7.6	27	.56	8.4	32	.74
7	4.3	6	.07	5.6	19	.29	5.7	26	.39
8	944	335	2050	5.3	19	.27	9.0	32	.86
9	188	226	166	4.6	22	.27	401	259	1940
10	79	63	15	7.7	32	.94	4040	1490	17900
11	55	76	14	17	49	2.7	191	224	217
12	195	167	105	5.3	22	.32	19	51	2.9
13	395	343	598	4.1	13	.15	7.2	35	.65
14	388	304	616	173	196	147	4.8	42	.55
15	598	438	1160	279	356	559	115	120	98
16	68	120	23	504	419	805	67	93	24
17	35	77	7.4	266	188	126	10	41	1.2
18	23	62	3.9	69	106	21	81	120	50
19	17	55	2.5	25	61	4.3	112	127	56
20	e27	48	e3.4	15	47	1.9	60	39	6.3
21	e13	35	e1.2	14	39	1.5	45	38	4.6
22	e10	25	e.78	9.1	32	.79	33	37	3.3
23	e8.1	18	e1.6	43	66	21	38	37	3.8
24	e7.6	13	e.27	46	89	13	28	36	2.7
25	e7.6	13	e.27	12	42	1.4	24	36	2.3
26	e7.2	15	e.31	6.6	28	.50	28	56	4.5
27	e6.4	49	e.88	5.3	25	.36	24	65	4.2
28	e130	80	e5.0	6.1	27	.46	22	64	3.8
29	e140	22	e8.1	6.6	28	.52	22	61	3.7
30	e6.9	36	e2.2	5.3	23	.33	21	58	3.3
31	5.8	37	.57	4.2	21	.24	---	---	---
TOTAL	3396.5	---	4787.41	1656.7	---	1735.93	5674.9	---	20497.60
YEAR	19093.4		37859.81						

e Estimated

RIO GRANDE DE LOIZA BASIN

50055750 RIO GURABO BELOW EL MANGO, PR--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

PARTICLE-SIZE DISTRIBUTION 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. 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 1995							
21...	1734	514	2090	2900	55	61	66
SEP 1996							
09...	2212	3330	3490	31400	27	34	39
10...	1312	5610	2350	35600	39	47	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 1995							
21...	73	78	96	98	99	99	99
SEP 1996							
09...	48	54	64	73	83	93	99
10...	65	76	87	95	98	99	99

RIO GRANDE DE LOIZA BASIN

50055750 RIO GURABO BELOW EL MANGO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

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 1995					
10...	1530	42	343	39	96
DEC					
17...	1030	6.0	250	3.8	95
JAN 1996					
14...	0322	1340	794	2860	99
FEB					
24...	1822	481	351	456	99
JUN					
15...	1627	997	1150	3100	100
AUG					
14...	0529	64	166	26	96
17...	2030	434	95	111	98

RIO GRANDE DE LOIZA BASIN

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.

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 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	15	13	13	29	14	9.7	13	53	23	23	49
2	24	13	14	13	53	13	9.1	9.1	22	22	32	68
3	22	13	14	13	36	13	9.4	8.3	7.4	22	120	52
4	27	14	14	12	38	14	37	7.8	44	20	115	428
5	68	13	13	12	165	15	29	7.7	189	19	40	45
6	61	23	13	16	48	13	14	9.1	e232	18	28	33
7	32	21	12	14	65	14	12	8.2	273	17	23	29
8	55	13	12	128	29	11	15	15	46	126	24	27
9	32	12	11	69	24	19	12	26	23	112	21	264
10	46	11	10	43	22	14	8.9	22	16	70	22	e5000
11	42	10	26	36	21	28	68	17	41	96	21	e190
12	27	10	19	45	18	17	35	13	456	284	18	e86
13	27	10	39	57	17	13	17	13	189	208	16	e70
14	24	10	47	376	16	12	13	13	73	380	216	e66
15	21	76	22	277	12	20	13	7.5	442	412	497	e74
16	19	19	15	57	14	28	12	7.0	322	80	869	e72
17	17	15	14	36	13	16	11	10	171	56	155	e84
18	23	13	22	49	12	14	21	6.7	231	49	66	e84
19	24	13	52	228	13	29	17	5.6	118	41	55	e90
20	20	13	183	317	22	14	16	6.0	53	40	40	e60
21	154	21	32	89	16	12	13	5.0	46	33	48	e60
22	55	16	20	54	15	12	13	4.5	240	30	39	e48
23	42	13	17	44	13	11	16	10	59	28	47	e41
24	57	20	16	38	30	11	21	6.3	38	27	62	38
25	51	22	14	41	20	10	15	5.0	29	26	42	35
26	32	19	21	37	14	11	13	4.2	25	30	41	34
27	21	15	22	33	13	11	29	4.5	42	25	39	57
28	51	14	14	46	12	10	16	4.1	76	34	40	40
29	28	13	12	35	14	13	12	4.7	34	32	36	56
30	17	13	12	30	---	10	20	13	26	23	34	33
31	15	---	12	28	---	9.3	---	6.8	---	22	35	---
TOTAL	1159	503	757	2286	814	451.3	547.1	293.1	3616.4	2405	2864	7313
MEAN	37.4	16.8	24.4	73.7	28.1	14.6	18.2	9.45	121	77.6	92.4	244
MAX	154	76	183	376	165	29	68	26	456	412	869	5000
MIN	15	10	10	12	12	9.3	8.9	4.1	7.4	17	16	27
AC-FT	2300	998	1500	4530	1610	895	1090	581	7170	4770	5680	14510
CFSM	2.28	1.02	1.49	4.50	1.71	.89	1.11	.58	7.35	4.73	5.63	14.9
IN.	2.63	1.14	1.72	5.19	1.85	1.02	1.24	.66	8.20	5.46	6.50	16.59

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1971 - 1996, BY WATER YEAR (WY)

MEAN	73.2	86.7	54.0	24.9	18.9	18.9	15.0	48.6	53.1	48.1	60.9	85.6
MAX	293	461	550	77.0	47.9	39.7	41.7	268	188	163	231	255
(WY)	1986	1988	1988	1992	1984	1973	1985	1985	1979	1981	1979	1979
MIN	19.9	16.8	11.0	11.4	7.21	7.01	5.17	5.02	4.95	4.61	4.71	10.8
(WY)	1993	1996	1990	1976	1974	1977	1995	1990	1994	1994	1994	1987

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1971 - 1996	
ANNUAL TOTAL	13560.8		23008.9			
ANNUAL MEAN	37.2		62.9		49.2	
HIGHEST ANNUAL MEAN					121	1988
LOWEST ANNUAL MEAN					17.1	1990
HIGHEST DAILY MEAN	870	Sep 16	5000	Sep 10	9100	Dec 8 1987
LOWEST DAILY MEAN	1.8	May 2	4.1	May 28	1.4	Jul 15 1994
ANNUAL SEVEN-DAY MINIMUM	2.0	Apr 28	5.5	May 22	1.7	Jul 10 1994
INSTANTANEOUS PEAK FLOW			24900	Sep 10	40000	Dec 8 1987
INSTANTANEOUS PEAK STAGE			22.95	Sep 10	25.63	Dec 8 1987
INSTANTANEOUS LOW FLOW					1.4	Apr 21 1988
ANNUAL RUNOFF (AC-FT)	26900		45640		35640	
ANNUAL RUNOFF (CFSM)	2.27		3.83		3.00	
ANNUAL RUNOFF (INCHES)	30.76		52.19		40.75	
10 PERCENT EXCEEDS	60		92		72	
50 PERCENT EXCEEDS	15		22		18	
90 PERCENT EXCEEDS	4.5		11		6.9	

e Estimated

RIO GRANDE DE LOIZA BASIN

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.-- Automatic sediment sampler since 1984.

REMARKS:-- Sediment samples were collected by a local observer on a weekly basis. During high flow events sediment samples were collected by a local observer 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 1996.--
SEDIMENT CONCENTRATION: Maximum daily mean, 8,340 mg/L September 10, 1996; Minimum daily mean, 2 mg/L December 5, 1995.

SEDIMENT LOADS: Maximum daily mean, 263,000 tons (238,000 tonnes) September 10, 1996; Minimum daily mean, 0.08 tons (0.07 tonne) several days.

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	25	10	.67	15	30	1.2	13	8	.28
2	24	10	.64	13	26	.90	14	9	.32
3	22	10	.60	13	22	.76	14	8	.29
4	27	27	3.5	14	19	.69	14	4	.15
5	68	119	32	13	16	.54	13	2	.09
6	61	107	20	23	26	2.0	13	6	.20
7	32	55	4.9	21	13	.81	12	6	.21
8	55	93	21	13	8	.28	12	6	.20
9	32	60	5.4	12	8	.25	11	7	.21
10	46	73	11	11	8	.23	10	7	.21
11	42	76	9.1	10	7	.21	26	54	6.6
12	27	49	3.7	10	7	.21	19	25	1.4
13	27	44	3.3	10	7	.20	39	62	8.1
14	24	39	2.5	10	7	.20	47	82	12
15	21	35	2.0	76	144	63	22	37	2.3
16	19	31	1.6	19	43	2.2	15	13	.53
17	17	28	1.3	15	31	1.2	14	23	1.1
18	23	35	2.4	13	25	.93	22	20	1.2
19	24	39	3.0	13	21	.72	52	80	16
20	20	35	1.9	13	17	.58	183	595	683
21	154	430	735	21	31	2.2	32	136	13
22	55	119	23	16	25	1.1	20	32	1.7
23	42	103	18	13	20	.72	17	10	.45
24	57	101	21	20	28	2.0	16	13	.56
25	51	180	63	22	38	2.4	14	18	.69
26	32	58	5.4	19	22	1.1	21	29	2.7
27	21	36	2.0	15	13	.52	22	50	3.3
28	51	80	25	14	8	.31	14	28	1.1
29	28	56	4.7	13	8	.28	12	19	.62
30	17	42	2.0	13	8	.29	12	11	.37
31	15	36	1.5	---	---	---	12	8	.25
TOTAL	1159	---	1031.11	503	---	88.03	757	---	759.13

RIO GRANDE DE LOIZA BASIN

50056400 RIO VALENCIANO NEAR JUNCOS, 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)
		JANUARY			FEBRUARY			MARCH	
1	13	31	1.1	29	15	1.2	14	5	.17
2	13	14	.49	53	95	21	13	5	.18
3	13	12	.41	36	61	5.9	13	5	.19
4	12	15	.49	38	55	5.7	14	6	.23
5	12	12	.38	165	394	282	15	11	.45
6	16	10	.43	48	95	13	13	22	.75
7	14	14	.55	65	187	40	14	21	.75
8	128	314	167	29	58	4.8	11	15	.48
9	69	123	68	24	15	.95	19	26	1.5
10	43	113	16	22	14	.81	14	18	.69
11	36	55	6.5	21	14	.82	28	39	3.8
12	45	113	16	18	14	.68	17	25	1.2
13	57	93	19	17	8	.38	13	9	.33
14	376	673	1160	16	5	.20	12	6	.20
15	277	495	816	12	6	.18	20	20	1.8
16	57	95	15	14	8	.30	28	44	3.5
17	36	63	6.2	13	7	.26	16	19	.89
18	49	82	11	12	5	.17	14	6	.22
19	228	445	601	13	5	.18	29	48	4.2
20	317	544	820	22	29	1.8	14	17	.67
21	89	58	16	16	24	1.1	12	6	.19
22	54	28	4.1	15	40	2.2	12	5	.15
23	44	27	3.2	13	19	.67	11	4	.13
24	38	32	3.3	30	43	6.4	11	4	.12
25	41	40	4.5	20	20	1.3	10	4	.10
26	37	50	5.0	14	8	.29	11	3	.10
27	33	61	5.5	13	6	.18	11	3	.09
28	46	86	11	12	4	.14	10	5	.13
29	35	58	5.7	14	4	.16	13	9	.32
30	30	27	2.2	---	---	---	10	16	.42
31	28	18	1.3	---	---	---	9.3	19	.48
TOTAL	2286	---	3787.35	814	---	392.77	451.3	---	24.43

RIO GRANDE DE LOIZA BASIN

50056400 RIO VALENCIANO NEAR JUNCOS, 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)
		APRIL			MAY			JUNE	
1	9.7	21	.55	13	24	.82	53	54	13
2	9.1	19	.46	9.1	21	.52	22	77	7.2
3	9.4	16	.42	8.3	20	.45	7.4	7	.15
4	37	53	10	7.8	27	.57	44	63	15
5	29	34	3.0	7.7	37	.76	189	303	302
6	14	19	.70	9.1	38	.93	e232	407	e366
7	12	16	.52	8.2	38	.83	273	509	579
8	15	23	1.1	15	37	1.6	46	58	7.6
9	12	26	.82	26	37	3.3	23	29	1.8
10	8.9	22	.53	22	32	3.0	16	21	1.7
11	68	174	65	17	44	2.1	41	216	28
12	35	61	6.7	13	22	.72	456	794	1530
13	17	42	2.0	13	17	.66	189	336	292
14	13	38	1.3	13	13	.48	73	125	29
15	13	33	1.1	7.5	10	.21	442	819	1370
16	12	23	.76	7.0	10	.18	322	559	651
17	11	15	.45	10	9	.26	171	235	133
18	21	26	2.3	6.7	10	.18	231	277	244
19	17	25	1.4	5.6	10	.16	118	207	78
20	16	18	.78	6.0	8	.13	53	64	9.5
21	13	16	.58	5.0	6	.08	46	29	3.5
22	13	14	.50	4.5	6	.08	240	457	578
23	16	16	.67	10	7	.19	59	99	16
24	21	44	2.5	6.3	7	.12	38	35	3.7
25	15	46	1.8	5.0	7	.10	29	19	1.4
26	13	43	1.6	4.2	8	.09	25	23	1.5
27	29	45	4.4	4.5	8	.09	42	56	8.3
28	16	20	.85	4.1	8	.09	76	125	31
29	12	15	.50	4.7	8	.10	34	24	2.3
30	20	26	1.5	13	21	1.8	26	28	2.0
31	---	---	---	6.8	10	.18	---	---	---
TOTAL	547.1	---	114.79	293.1	---	20.78	3616.4	---	6305.65

e Estimated

RIO GRANDE DE LOIZA BASIN

50056400 RIO VALENCIANO NEAR JUNCOS, 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)
		JULY			AUGUST			SEPTEMBER	
1	23	40	2.5	23	26	1.6	49	44	12
2	22	71	4.2	32	52	5.0	68	121	29
3	22	116	6.9	120	1070	677	52	89	13
4	20	88	4.8	115	346	119	428	1830	7810
5	19	56	2.9	40	74	8.0	45	82	10
6	18	38	1.8	28	62	4.6	33	59	5.2
7	17	25	1.1	23	59	3.7	29	63	4.9
8	126	486	425	24	55	3.6	27	55	4.0
9	112	314	106	21	52	3.0	264	1380	8910
10	70	119	24	22	49	2.9	e5000	8340	e263000
11	96	169	73	21	47	2.7	e190	2570	e9570
12	284	979	936	18	54	2.7	e86	381	e152
13	208	385	336	16	65	2.9	e70	166	e35
14	380	722	1460	216	458	419	e66	157	e29
15	412	767	1720	497	1570	5850	e74	271	e51
16	80	43	9.6	869	2020	9020	e72	254	e50
17	56	36	5.4	155	325	154	e84	215	e45
18	49	36	4.7	66	94	17	e84	182	e41
19	41	35	3.9	55	46	6.9	e90	155	e36
20	40	35	3.8	40	23	2.5	e60	131	e26
21	33	35	3.1	48	95	13	e60	111	e18
22	30	35	2.8	39	80	8.4	e48	94	e14
23	28	23	1.8	47	75	10	e41	80	e9.1
24	27	14	1.0	62	51	8.3	38	69	7.1
25	26	14	.97	42	96	11	35	68	6.4
26	30	13	1.1	41	72	7.9	34	63	5.9
27	25	8	.55	39	28	3.0	57	95	17
28	34	19	2.5	40	9	.99	40	28	3.0
29	32	50	4.6	36	9	.88	56	67	13
30	23	22	1.4	34	10	.88	33	25	2.3
31	22	21	1.3	35	11	1.1	---	---	---
TOTAL	2405	---	5152.72	2864	---	16371.55	7313	---	289928.9
YEAR	23008.9		323977.21						

e Estimated

RIO GRANDE DE LOIZA BASIN

50056400 RIO VALENCIANO NEAR JUNCOS, PR--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

PARTICLE-SIZE DISTRIBUTION 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. 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 1995							
25...	1645	182	21300	10500	25	32	39
DEC							
20...	0905	1080	2420	7070	43	52	57
JAN 1996							
28...	1226	43	2100	244	43	51	57
JUL							
08...	1930	273	3780	2790	36	44	50
AUG							
03...	1617	248	3760	2510	38	60	68
15...	1615	103	2740	762	50	61	67
SEP							
04...	0615	557	9380	14100	22	26	32
10...	0845	10700	7160	207000	37	50	59
10...	1240	13400	3670	133000	41	46	48

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 1995							
25...	50	62	77	94	99	100	100
DEC							
20...	65	73	90	96	99	100	100
JAN 1996							
28...	72	80	98	99	100	100	100
JUL							
08...	60	76	98	100	100	100	100
AUG							
03...	77	84	99	100	100	100	100
15...	74	81	99	100	100	100	100
SEP							
04...	43	58	66	81	92	98	99
10...	74	85	99	100	100	109	100
10...	57	68	90	98	100	100	100

RIO GRANDE DE LOIZA BASIN

50056400 RIO VALENCIANO NEAR JUNCOS, PR--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

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 1995					
20...	0800	333	2310	2080	100
JAN 1996					
14...	0630	473	549	701	99
FEB					
02...	1420	113	329	100	98
APR					
11...	0655	206	347	193	99
JUN					
18...	1345	366	418	413	99
JUL					
12...	1000	662	1070	1910	99
AUG					
03...	2015	229	2850	1760	100
15...	1815	153	3090	1280	100
SEP					
10...	1300	14200	7250	278000	98
10...	1445	8660	4090	95600	86

RIO GRANDE DE LOIZA BASIN

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 (40.106 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 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	48	28	9.8	12	23	22	12	13	38	16	155	30
2	42	26	9.3	12	26	20	11	8.0	32	14	31	63
3	69	28	9.2	12	25	19	12	6.6	20	12	82	38
4	45	34	8.4	11	22	20	26	6.0	23	12	146	308
5	133	30	11	10	89	29	52	5.5	69	11	52	94
6	133	72	12	13	47	30	18	5.8	158	9.5	26	26
7	85	70	12	14	96	23	13	6.6	222	9.0	19	17
8	79	27	10	106	36	21	12	9.5	80	510	17	31
9	84	21	9.6	96	23	25	13	39	33	295	14	40
10	77	18	12	94	49	24	9.6	21	21	106	16	26200
11	92	15	16	25	34	37	54	24	34	72	27	2190
12	68	13	21	101	27	52	47	11	414	231	15	353
13	65	16	33	86	24	24	24	22	176	e398	12	232
14	71	12	42	1420	23	18	20	94	82	e374	205	190
15	51	56	26	817	20	48	13	17	456	e679	260	506
16	48	41	14	87	21	90	16	35	1870	125	2090	601
17	51	23	16	44	23	36	15	12	e900	74	278	260
18	41	16	35	39	27	23	12	7.5	e1200	56	161	305
19	55	13	103	128	22	60	11	6.8	e680	44	70	341
20	61	11	136	493	30	31	8.0	6.0	e170	45	45	224
21	131	12	42	143	23	19	7.3	5.1	55	38	39	166
22	138	17	24	57	25	16	6.7	4.9	126	28	26	131
23	64	11	16	39	25	14	7.5	6.2	61	23	48	121
24	189	12	12	32	75	13	16	9.3	34	21	96	102
25	89	22	14	36	96	12	12	5.2	24	21	33	91
26	103	15	13	42	40	11	7.8	5.1	19	20	22	94
27	54	15	57	57	28	12	12	3.7	18	18	18	105
28	57	12	23	93	24	12	9.5	4.2	67	50	16	93
29	61	13	16	59	22	13	7.1	4.4	41	55	18	104
30	33	11	14	32	---	14	8.7	6.3	21	22	15	83
31	28	---	13	25	---	13	---	7.3	---	16	13	---
TOTAL	2345	710	789.3	4235	1045	801	493.2	418.0	7144	3404.5	4065	33139
MEAN	75.6	23.7	25.5	137	36.0	25.8	16.4	13.5	238	110	131	1105
MAX	189	72	136	1420	96	90	54	94	1870	679	2090	26200
MIN	28	11	8.4	10	20	11	6.7	3.7	18	9.0	12	17
AC-FT	4650	1410	1570	8400	2070	1590	978	829	14170	6750	8060	65730
CFSM	1.26	.39	.42	2.27	.60	.43	.27	.22	3.96	1.82	2.18	18.3
IN.	1.45	.44	.49	2.62	.65	.49	.30	.26	4.41	2.10	2.51	20.48

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 1996, BY WATER YEAR (WY)

MEAN	215	210	150	62.0	46.4	39.1	41.8	144	133	115	164	240
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	20.7	24.8	8.76
(WY)	1968	1996	1968	1968	1968	1965	1995	1990	1972	1994	1967	1967

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1960 - 1996	
ANNUAL TOTAL	22565.9		58589.0			
ANNUAL MEAN	61.8		160		130	
HIGHEST ANNUAL MEAN					286	1979
LOWEST ANNUAL MEAN					42.2	1967
HIGHEST DAILY MEAN	2580	Sep 16	26200	Sep 10	26200	Sep 10 1996
LOWEST DAILY MEAN	4.5	May 19	3.7	May 27	3.7	May 27 1996
ANNUAL SEVEN-DAY MINIMUM	5.8	Apr 21	5.2	May 25	5.2	May 25 1996
INSTANTANEOUS PEAK FLOW			62100	Sep 10	62100	Sep 10 1996
INSTANTANEOUS PEAK STAGE			31.44	Sep 10	31.44	Sep 10 1996
ANNUAL RUNOFF (AC-FT)	44760		116200		94540	
ANNUAL RUNOFF (CFSM)	1.03		2.66		2.17	
ANNUAL RUNOFF (INCHES)	13.94		36.20		29.45	
10 PERCENT EXCEEDS	103		162		205	
50 PERCENT EXCEEDS	19		26		48	
90 PERCENT EXCEEDS	8.6		9.7		17	

e Estimated

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-49 and USD-77 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 events sediments samples were collected by local observer and automatic sediment sampler.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATION: Maximum daily mean, 9,220 mg/L Nov 27, 1987; Minimum daily mean, 3 mg/L August 09, 1994.
SEDIMENT LOADS: Maximum daily mean, 686,000 tons (622,340 tonnes) Nov 27, 1987; Minimum daily mean, 0.08 tons (0.07 tonne) August 09, 1994.

EXTREMES FOR CURRENT YEAR 1996.--
SEDIMENT CONCENTRATION: Maximum daily mean, 4,050 mg/L September 10, 1996; minimum daily mean, 4 mg/L September 26, 1996.
SEDIMENT LOADS: Maximum daily mean, 267,000 tons (242,000 tonnes) September 10, 1996; minimum daily 0.09 tons (0.08 tonne) May 29, 1996.

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	48	46	6.0	28	19	1.5	9.8	13	.35
2	42	30	3.5	26	14	.97	9.3	12	.32
3	69	67	13	28	28	2.2	9.2	12	.29
4	45	49	6.0	34	36	3.3	8.4	11	.25
5	133	108	46	30	28	2.2	11	11	.31
6	133	119	45	72	49	14	12	10	.35
7	85	85	20	70	68	14	12	10	.32
8	79	75	17	27	31	2.3	10	10	.28
9	84	46	11	21	23	1.3	9.6	10	.27
10	77	44	10	18	18	.86	12	11	.36
11	92	72	18	15	15	.59	16	11	.50
12	68	37	6.8	13	12	.41	21	25	1.4
13	65	42	7.8	16	14	.68	33	37	3.7
14	71	64	12	12	17	.58	42	38	4.8
15	51	40	5.6	56	100	21	26	32	2.5
16	48	35	4.6	41	98	10	14	18	.67
17	51	52	7.2	23	28	2.0	16	20	1.2
18	41	30	3.3	16	19	.79	35	32	3.1
19	55	24	4.5	13	15	.51	103	93	29
20	61	65	11	11	12	.35	136	102	57
21	131	121	114	12	12	.42	42	45	5.6
22	138	140	71	17	25	1.2	24	25	1.6
23	64	70	13	11	19	.58	16	20	.87
24	189	148	83	12	23	.80	12	16	.53
25	89	102	32	22	32	1.9	14	19	.79
26	103	275	82	15	19	.74	13	18	.65
27	54	72	11	15	15	.60	57	55	9.4
28	57	56	10	12	14	.49	23	28	1.7
29	61	64	11	13	16	.57	16	22	.96
30	33	45	4.1	11	15	.43	14	19	.71
31	28	30	2.3	---	---	---	13	17	.61
TOTAL	2345	---	691.7	710	---	87.27	789.3	---	130.39

RIO GRANDE DE LOIZA BASIN

50057000 RIO GURABO AT GURABO--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)
		JANUARY			FEBRUARY			MARCH	
1	12	17	.55	23	11	.68	22	16	.94
2	12	16	.54	26	17	1.4	20	13	.68
3	12	16	.49	25	29	2.0	19	10	.50
4	11	15	.45	22	26	1.6	20	9	.47
5	10	14	.40	89	72	24	29	28	2.3
6	13	17	.59	47	51	7.7	30	25	2.1
7	14	19	.72	96	118	33	23	14	.89
8	106	99	37	36	106	10	21	12	.70
9	96	130	52	23	53	3.5	25	19	1.3
10	94	145	51	49	50	9.4	24	12	.80
11	25	29	2.1	34	32	3.0	37	22	3.6
12	101	107	34	27	17	1.2	52	50	7.7
13	86	152	34	24	12	.75	24	18	1.1
14	1420	637	6070	23	9	.53	18	15	.70
15	817	412	1580	20	6	.34	48	43	9.7
16	87	84	20	21	6	.31	90	81	22
17	44	45	5.5	23	15	1.0	36	36	3.6
18	39	28	2.8	27	31	2.2	23	28	1.8
19	128	153	152	22	17	1.0	60	60	11
20	493	379	776	30	25	2.1	31	30	2.7
21	143	118	49	23	22	1.4	19	18	.93
22	57	53	8.1	25	22	1.7	16	14	.60
23	39	31	3.3	25	28	1.9	14	11	.40
24	32	20	1.7	75	64	25	13	8	.28
25	36	13	1.2	96	95	27	12	6	.21
26	42	11	1.2	40	44	4.9	11	8	.25
27	57	32	5.7	28	32	2.5	12	11	.37
28	93	81	22	24	26	1.7	12	15	.48
29	59	51	8.7	22	20	1.2	13	14	.50
30	32	26	2.3	---	---	---	14	13	.48
31	25	17	1.1	---	---	---	13	11	.38
TOTAL	4235	---	8924.44	1045	---	173.01	801	---	79.46

RIO GRANDE DE LOIZA BASIN

50057000 RIO GURABO AT GURABO--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)
		APRIL			MAY			JUNE	
1	12	10	.33	13	16	.59	38	33	5.5
2	11	11	.33	8.0	10	.22	32	28	2.6
3	12	14	.48	6.6	9	.15	20	15	.80
4	26	22	2.2	6.0	8	.13	23	22	2.0
5	52	40	6.2	5.5	8	.12	69	64	20
6	18	33	1.6	5.8	8	.12	158	196	89
7	13	35	1.2	6.6	10	.18	222	168	110
8	12	33	1.0	9.5	13	.38	80	87	20
9	13	28	.96	39	24	2.7	33	49	4.6
10	9.6	16	.41	21	11	.65	21	28	1.6
11	54	31	5.6	24	25	1.6	34	26	2.9
12	47	23	2.9	11	15	.47	414	294	460
13	24	23	1.5	22	19	4.9	176	247	124
14	20	30	1.6	94	159	41	82	94	21
15	13	26	.91	17	96	4.6	456	366	714
16	16	19	.84	35	64	10	1870	827	4410
17	15	15	.63	12	89	3.2	e900	211	e164
18	12	17	.61	7.5	64	1.3	e1200	100	e39
19	11	17	.53	6.8	50	.88	e680	61	e17
20	8.0	9	.19	6.0	35	.57	e170	37	e7.6
21	7.3	10	.19	5.1	24	.33	55	25	3.7
22	6.7	11	.20	4.9	14	.18	126	98	43
23	7.5	11	.22	6.2	8	.13	61	74	12
24	16	20	.88	9.3	12	.31	34	55	5.1
25	12	18	.60	5.2	9	.13	24	31	2.0
26	7.8	15	.32	5.1	8	.11	19	18	.90
27	12	15	.52	3.7	10	.11	18	19	.89
28	9.5	13	.33	4.2	9	.10	67	42	9.4
29	7.1	10	.19	4.4	7	.09	41	45	5.4
30	8.7	12	.29	6.3	7	.13	21	28	1.6
31	---	---	---	7.3	10	.19	---	---	---
TOTAL	493.2	---	33.76	418.0	---	75.57	7144	---	6299.59

e Estimated

RIO GRANDE DE LOIZA BASIN

50057000 RIO GURABO AT GURABO--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)
		JULY			AUGUST			SEPTEMBER	
1	16	24	1.0	155	431	576	30	24	4.7
2	14	15	.57	31	34	3.1	63	61	14
3	12	9	.30	82	105	31	38	37	5.2
4	12	8	.26	146	158	62	308	321	567
5	11	8	.24	52	132	20	94	87	27
6	9.5	9	.24	26	86	6.0	26	30	2.2
7	9.0	11	.27	19	54	2.8	17	22	1.0
8	510	147	700	17	29	1.3	31	59	5.8
9	295	140	145	14	15	.58	40	180	214
10	106	88	25	16	17	.73	26200	4050	267000
11	72	76	15	27	30	2.3	2190	772	6240
12	231	189	140	15	13	.54	353	284	271
13	e398	283	e351	12	13	.40	232	238	150
14	e374	282	e481	205	134	116	190	194	99.7
15	e679	458	e1070	260	238	1050	506	345	721
16	125	66	24	2090	760	5940	601	355	757
17	74	25	5.0	278	206	158	260	175	125
18	56	16	2.4	161	134	70	305	212	219
19	44	15	1.8	70	39	7.5	341	280	276
20	45	17	2.0	45	35	4.3	224	139	86
21	38	18	1.9	39	42	4.5	166	51	23
22	28	19	1.4	26	32	2.2	131	25	8.8
23	23	16	.98	48	46	9.7	121	12	3.9
24	21	12	.66	96	87	25	102	6	1.6
25	21	10	.56	33	46	4.2	91	5	1.1
26	20	9	.51	22	26	1.5	94	4	1.1
27	18	10	.51	18	14	.70	105	6	1.8
28	50	48	12	16	12	.55	93	9	2.4
29	55	59	9.8	18	13	.63	104	10	2.8
30	22	17	1.0	15	14	.54	83	10	2.3
31	16	15	.63	13	14	.48	---	---	---
TOTAL	3404.5	---	2995.03	4065	---	8102.55	33139	---	276834.4
YEAR	58589.0		304427.47						

e Estimated

RIO GRANDE DE LOIZA BASIN

50057000 RIO GURABO AT GURABO, PR--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM
JAN 1996							
19...	2216	533	1710	2460	63	72	83
JUL							
08...	2030	2280	1280	7860	64	73	76
AUG							
01...	1410	383	2440	2520	63	74	81
15...	2400	3680	3460	34400	42	53	71
SEP							
10...	0100	2640	5070	36100	30	43	56

DATE	SED. SUSP. FALL DIAM. % FINER THAN .016 MM	SED. SUSP. FALL DIAM. % FINER THAN .031 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM
JAN 1996							
19...	90	93	98	99	100	100	100
JUL							
08...	82	85	99	100	100	100	100
AUG							
01...	88	92	100	100	100	100	100
15...	85	90	97	99	99	100	100
SEP							
10...	74	84	95	99	100	100	100

RIO GRANDE DE LOIZA BASIN

50057000 RIO GURABO AT GURABO, PR--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

SILT AND CLAY PERCENT OF SUSPENDED SEDIMENT

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT 1995					
21...	2100	625	310	523	95
21...	2300	576	523	813	98
26...	1520	70	259	49	98
JAN 1996					
13...	1430	55	142	21	99
19...	2101	531	494	708	88
MAR					
20...	1346	29	26	2.0	99
JUN					
15...	1630	952	956	2460	99
JUL					
14...	1230	950	249	639	98
AUG					
01...	1720	298	2570	2070	78
16...	0445	4680	821	10400	99
16...	0745	3560	1080	10400	98
SEP					
04...	0930	1370	1260	4670	99
10...	0445	9530	5050	130000	90
10...	1045	37500	4790	485000	99

RIO GRANDE DE LOIZA BASIN

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 1995 TO SEPTEMBER 1996

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, 0.45 UM-MF (COLS./ 100 ML) (31616)
OCT 1995										
10...	0825	E77	315	6.6	28.0	17	4.0	50	24	3800
DEC										
12...	0805	E21	440	7.0	25.0	5.5	4.5	53	14	K8400
FEB 1996										
14...	0745	E23	386	6.9	25.5	7.8	3.0	36	18	6000
APR										
10...	0805	E10	385	6.9	27.5	3.5	3.1	38	18	540
JUN										
05...	0815	E69	331	6.8	29.0	2.5	3.7	48	48	K7100
AUG										
12...	1010	E15	382	7.0	30.0	13	4.0	53	21	K9000

DATE	STREP-TOCOCCI FECAL, (COLS. PER 100 ML) (31679)	HARD-NESS TOTAL (MG/L AS CACO3) (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)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)
OCT 1995										
10...	720	110	26	11	26	1	4.8	110	<0.5	12
DEC										
12...	450	--	--	--	--	--	--	170	--	--
FEB 1996										
14...	K1600	--	--	--	--	--	--	130	--	--
APR										
10...	300	120	28	12	32	1	5.2	110	<0.5	19
JUN										
05...	860	--	--	--	--	--	--	98	--	--
AUG										
12...	4000	120	27	13	30	1	4.3	140	--	16

E = estimated
K = non-ideal count

RIO GRANDE DE LOIZA BASIN

50057025 RIO GURABO NEAR GURABO, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DATE	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	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 1995										
10...	30	<0.10	30	206	14	1.33	0.070	1.40	0.180	0.71
DEC										
12...	--	--	--	--	11	1.77	0.030	1.80	0.210	0.42
FEB 1996										
14...	--	--	--	--	16	0.770	0.040	0.810	0.250	0.45
APR										
10...	40	0.20	29	231	12	1.09	0.010	1.10	0.020	0.32
JUN										
05...	--	--	--	--	28	0.940	0.060	1.00	0.120	2.1
AUG										
12...	31	0.10	35	240	28	0.690	0.010	0.700	0.020	0.36

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 1995										
10...	0.89	2.3	10	0.350	1	<100	40	<1	<1	<10
DEC										
12...	0.63	2.4	11	0.330	--	--	--	--	--	--
FEB 1996										
14...	0.70	1.5	6.7	0.180	--	--	--	--	--	--
APR										
10...	0.34	1.4	6.4	0.060	1	<100	30	<1	<1	<10
JUN										
05...	2.2	3.2	14	0.500	--	--	--	--	--	--
AUG										
12...	0.38	1.1	4.8	0.040	--	--	--	--	--	--

DATE	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 (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 1995										
10...	1100	1	270	<0.10	<1	<1	10	<0.010	<1	0.03
DEC										
12...	--	--	--	--	--	--	--	--	--	--
FEB 1996										
14...	--	--	--	--	--	--	--	--	--	--
APR										
10...	380	<1	400	<0.10	<1	<1	<10	<0.010	<1	0.04
JUN										
05...	--	--	--	--	--	--	--	--	--	--
AUG										
12...	--	--	--	--	--	--	--	--	--	--

RIO GRANDE DE LOIZA BASIN

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.

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 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.2	6.6	4.9	5.2	6.5	3.5	3.5	4.7	4.5	3.5	52	e12
2	7.2	19	5.7	5.3	6.1	3.5	3.3	4.4	4.3	3.7	297	e12
3	7.5	29	5.8	5.2	6.4	3.8	46	4.5	3.9	3.7	31	23
4	7.2	14	5.4	5.0	5.6	4.4	8.8	4.4	4.1	3.7	16	18
5	7.2	27	5.3	5.0	6.1	7.0	32	4.1	4.2	4.0	15	18
6	7.2	83	5.0	21	4.6	4.3	11	4.8	4.4	4.2	11	15
7	48	21	5.0	5.2	4.4	3.6	5.1	7.4	4.4	4.7	13	14
8	29	11	5.0	21	4.4	3.2	4.4	5.6	4.1	24	10	21
9	17	8.3	5.1	6.9	35	5.2	3.5	5.4	4.0	8.6	9.2	36
10	8.4	7.1	5.9	13	15	3.2	3.3	6.5	4.7	5.8	9.1	e1670
11	14	6.6	14	10	5.7	5.1	3.3	5.2	4.8	6.0	18	e227
12	7.3	6.2	5.1	35	4.4	3.3	5.2	4.9	18	5.6	9.3	e82
13	5.7	6.2	6.3	8.7	4.4	3.0	3.9	6.7	4.7	5.7	12	e37
14	5.3	5.8	5.0	74	4.1	3.0	3.3	6.4	6.3	19	52	e28
15	5.3	5.5	5.0	44	4.0	14	3.7	7.0	38	20	46	e21
16	7.4	7.7	5.9	14	4.0	5.6	7.2	7.8	10	4.6	126	e16
17	67	6.1	5.2	6.3	3.9	4.0	3.5	4.8	6.1	3.7	24	15
18	28	5.6	42	5.3	3.7	3.7	3.3	4.3	e66	4.9	19	21
19	53	7.0	13	5.0	3.8	4.8	2.1	30	e4.9	4.1	13	15
20	10	5.3	5.2	41	21	3.6	3.1	8.4	e4.0	4.1	11	13
21	9.6	4.7	6.3	9.2	6.6	3.5	8.1	4.7	e3.9	4.0	12	12
22	9.1	4.7	4.8	5.7	5.4	3.5	9.2	3.9	e6.0	3.8	12	11
23	7.4	4.7	57	4.5	5.0	3.3	34	11	e4.7	4.1	36	10
24	66	6.1	11	5.4	4.9	3.2	8.8	5.2	e3.3	5.6	e150	8.4
25	11	5.6	17	9.3	4.7	3.1	5.8	5.2	3.3	5.5	e28	8.2
26	15	5.6	8.3	5.8	4.6	4.8	4.9	15	3.5	4.2	e16	7.1
27	31	5.3	6.5	18	4.0	4.2	4.8	5.4	3.5	4.0	e13	8.9
28	11	5.0	6.2	66	4.0	3.1	4.5	4.6	3.7	12	e12	7.3
29	8.0	5.6	5.8	15	3.9	3.3	4.2	4.2	3.7	5.8	e43	6.0
30	6.7	5.6	5.4	8.7	---	2.6	4.7	4.2	3.7	4.4	e13	55
31	6.5	---	5.2	7.8	---	3.1	---	4.4	---	13	e11	---
TOTAL	530.2	340.9	293.3	491.5	196.2	129.5	248.5	205.1	244.7	210.0	1139.6	2447.9
MEAN	17.1	11.4	9.46	15.9	6.77	4.18	8.28	6.62	8.16	6.77	36.8	81.6
MAX	67	83	57	74	35	14	46	30	66	24	297	1670
MIN	5.3	4.7	4.8	4.5	3.7	2.6	2.1	3.9	3.3	3.5	9.1	6.0
AC-FT	1050	676	582	975	389	257	493	407	485	417	2260	4860
CFSM	2.27	1.51	1.26	2.11	.90	.55	1.10	.88	1.08	.90	4.88	10.8
IN.	2.62	1.68	1.45	2.43	.97	.64	1.23	1.01	1.21	1.04	5.63	12.09

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1996, BY WATER YEAR (WY)

MEAN	15.8	13.8	11.7	11.2	9.79	4.81	5.70	9.42	8.22	9.36	15.0	25.0
MAX	39.4	36.2	29.9	24.5	18.8	6.02	11.1	19.5	20.0	24.9	36.8	81.6
(WY)	1991	1993	1993	1992	1995	1995	1993	1992	1993	1993	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	4.74
(WY)	1992	1991	1994	1994	1994	1994	1995	1994	1994	1990	1990	1994

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1990 - 1996	
ANNUAL TOTAL	4961.8		6477.4			
ANNUAL MEAN	13.6		17.7		12.3	
HIGHEST ANNUAL MEAN					17.7	1996
LOWEST ANNUAL MEAN					5.77	1994
HIGHEST DAILY MEAN	467	Sep 6	1670	Sep 10	1670	Sep 10 1996
LOWEST DAILY MEAN	1.2	Jan 8	2.1	Apr 19	1.1	Jun 8 1994
ANNUAL SEVEN-DAY MINIMUM	1.5	Jan 2	3.3	Mar 27	1.2	Jun 8 1994
INSTANTANEOUS PEAK FLOW			7500	Sep 10	7500	Sep 10 1996
INSTANTANEOUS PEAK STAGE			24.60	Sep 10	24.60	Sep 10 1996
INSTANTANEOUS LOW FLOW			2.4	Mar 30	1.0	Jun 21 1994
ANNUAL RUNOFF (AC-FT)	9840		12850		8920	
ANNUAL RUNOFF (CFSM)	1.81		2.35		1.64	
ANNUAL RUNOFF (INCHES)	24.51		32.00		22.23	
10 PERCENT EXCEEDS	29		29		19	
50 PERCENT EXCEEDS	5.0		5.8		5.0	
90 PERCENT EXCEEDS	1.7		3.7		2.4	

e Estimated

RIO GRANDE DE LOIZA BASIN

50058350 RIO CAÑAS AT RIO 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 local observer 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 September 11,1991 and 1996 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) January 08, 1995.

EXTREMES FOR CURRENT YEAR 1996.--
SEDIMENT CONCENTRATION: Maximum daily mean, 12,900 mg/L September 10, 1996; Minimum daily mean, 1 mg/L October 1,2,3, 1996.

SEDIMENT LOADS: Maximum daily mean, 95,000 tons (86,200 tonnes) September 10, 1996; Minimum daily mean, 0.02 ton (0.02 tonne) October 01-02, 1996.

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	7.2	1	.02	6.6	33	.58	4.9	9	.12
2	7.2	1	.02	19	471	90	5.7	28	.52
3	7.5	1	.03	29	993	108	5.8	19	.30
4	7.2	2	.04	14	135	6.0	5.4	15	.21
5	7.2	3	.05	27	716	155	5.3	11	.16
6	7.2	3	.06	83	2020	753	5.0	9	.12
7	48	1830	677	21	231	17	5.0	7	.10
8	29	871	187	11	30	.93	5.0	7	.09
9	17	234	18	8.3	17	.39	5.1	7	.10
10	8.4	49	1.1	7.1	16	.30	5.9	22	.46
11	14	331	31	6.6	17	.31	14	367	39
12	7.3	37	.74	6.2	18	.31	5.1	27	.37
13	5.7	28	.43	6.2	20	.33	6.3	20	.34
14	5.3	25	.35	5.8	21	.33	5.0	15	.20
15	5.3	23	.32	5.5	23	.34	5.0	13	.18
16	7.4	101	3.6	7.7	191	7.9	5.9	12	.19
17	67	1410	1140	6.1	29	.48	5.2	11	.15
18	28	742	158	5.6	25	.37	42	1160	326
19	53	1310	757	7.0	38	.88	13	327	24
20	10	63	1.8	5.3	22	.31	5.2	24	.34
21	9.6	59	2.2	4.7	17	.22	6.3	142	8.4
22	9.1	60	1.8	4.7	16	.21	4.8	21	.28
23	7.4	61	1.2	4.7	17	.21	57	1740	1720
24	66	2450	860	6.1	26	.48	11	170	7.2
25	11	71	2.3	5.6	24	.37	17	422	58
26	15	351	24	5.6	18	.27	8.3	59	1.5
27	31	928	256	5.3	14	.20	6.5	31	.55
28	11	129	4.7	5.0	12	.16	6.2	29	.48
29	8.0	64	1.4	5.6	17	.30	5.8	26	.41
30	6.7	50	.91	5.6	16	.25	5.4	25	.36
31	6.5	40	.71	---	---	---	5.2	24	.34
TOTAL	530.2	---	4131.78	340.9	---	1145.43	293.3	---	2190.47

RIO GRANDE DE LOIZA BASIN

50058350 RIO CAÑAS AT RIO CAÑAS, 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)
		JANUARY			FEBRUARY			MARCH	
1	5.2	24	.34	6.5	17	.30	3.5	9	.09
2	5.3	23	.34	6.1	10	.16	3.5	7	.07
3	5.2	23	.32	6.4	8	.14	3.8	5	.05
4	5.0	23	.30	5.6	7	.11	4.4	4	.05
5	5.0	22	.30	6.1	19	.51	7.0	46	1.0
6	21	494	103	4.6	18	.22	4.3	15	.18
7	5.2	23	.33	4.4	11	.14	3.6	8	.08
8	21	593	88	4.4	8	.09	3.2	7	.06
9	6.9	28	.58	35	973	420	5.2	19	.35
10	13	265	46	15	340	36	3.2	6	.05
11	10	61	2.0	5.7	32	.51	5.1	4	.06
12	35	941	208	4.4	15	.17	3.3	4	.04
13	8.7	32	.75	4.4	14	.17	3.0	4	.03
14	74	2220	1660	4.1	17	.18	3.0	3	.03
15	44	935	316	4.0	19	.21	14	100	10
16	14	87	4.6	4.0	19	.20	5.6	27	.46
17	6.3	32	.54	3.9	17	.18	4.0	9	.09
18	5.3	22	.32	3.7	16	.16	3.7	5	.05
19	5.0	21	.29	3.8	14	.15	4.8	3	.04
20	41	1070	369	21	512	132	3.6	3	.03
21	9.2	93	2.7	6.6	27	.49	3.5	5	.05
22	5.7	32	.50	5.4	16	.24	3.5	6	.05
23	4.5	21	.26	5.0	13	.18	3.3	7	.06
24	5.4	27	.47	4.9	12	.16	3.2	8	.07
25	9.3	69	2.5	4.7	10	.13	3.1	10	.08
26	5.8	24	.37	4.6	9	.11	4.8	20	.46
27	18	452	32	4.0	10	.11	4.2	23	.27
28	66	2120	532	4.0	11	.11	3.1	18	.15
29	15	145	7.0	3.9	12	.12	3.3	14	.12
30	8.7	45	1.1	---	---	---	2.6	10	.07
31	7.8	35	.73	---	---	---	3.1	7	.06
TOTAL	491.5	---	3380.64	196.2	---	593.25	129.5	---	14.25

RIO GRANDE DE LOIZA BASIN

50058350 RIO CAÑAS AT RIO CAÑAS, 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)
		APRIL			MAY			JUNE	
1	3.5	6	.05	4.7	4	.06	4.5	24	.29
2	3.3	9	.08	4.4	4	.04	4.3	9	.10
3	46	1950	1450	4.5	8	.09	3.9	12	.12
4	8.8	66	1.9	4.4	18	.21	4.1	18	.20
5	32	1000	403	4.1	35	.38	4.2	11	.12
6	11	178	14	4.8	29	.38	4.4	5	.06
7	5.1	32	.44	7.4	52	1.3	4.4	6	.07
8	4.4	33	.39	5.6	39	.60	4.1	8	.09
9	3.5	38	.36	5.4	25	.37	4.0	12	.13
10	3.3	38	.34	6.5	32	.61	4.7	18	.24
11	3.3	37	.33	5.2	23	.32	4.8	26	.34
12	5.2	34	.48	4.9	20	.26	18	145	14
13	3.9	31	.33	6.7	27	.67	4.7	20	.25
14	3.3	28	.25	6.4	42	.75	6.3	34	.79
15	3.7	26	.26	7.0	36	.87	38	805	265
16	7.2	127	3.1	7.8	62	2.1	10	64	1.8
17	3.5	88	.82	4.8	105	1.4	6.1	34	.58
18	3.3	45	.41	4.3	21	.25	e66	1800	e1220
19	2.1	21	.18	30	898	223	e4.9	144	e2.4
20	3.1	14	.12	8.4	109	6.8	e4.0	23	e.25
21	8.1	207	16	4.7	20	.25	e3.9	15	e.16
22	9.2	269	24	3.9	17	.18	e6.0	11	e.18
23	34	1140	233	11	351	19	e4.7	9	e.12
24	8.8	185	5.9	5.2	39	.54	e3.3	9	e.08
25	5.8	31	.49	5.2	27	.37	3.3	8	.07
26	4.9	17	.23	15	341	66	3.5	7	.07
27	4.8	12	.16	5.4	26	.38	3.5	12	.11
28	4.5	9	.11	4.6	15	.19	3.7	19	.19
29	4.2	8	.10	4.2	11	.13	3.7	15	.15
30	4.7	7	.09	4.2	22	.25	3.7	9	.09
31	---	---	---	4.4	45	.55	---	---	---
TOTAL	248.5	---	2156.92	205.1	---	328.30	244.7	---	1508.05

e Estimated

RIO GRANDE DE LOIZA BASIN

50058350 RIO CAÑAS AT RIO CAÑAS, 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)
		JULY			AUGUST			SEPTEMBER	
1	3.5	6	.05	52	1780	855	e12	21	e.61
2	3.7	6	.06	297	2720	6410	e12	21	e.61
3	3.7	7	.07	31	890	81	23	449	68
4	3.7	6	.06	16	130	6.0	18	295	15
5	4.0	4	.05	15	74	3.3	18	128	6.4
6	4.2	4	.05	11	49	1.4	15	100	3.8
7	4.7	4	.05	13	64	2.6	14	90	3.3
8	24	569	85	10	43	1.2	21	160	8.6
9	8.6	51	1.6	9.2	11	.29	36	1110	152
10	5.8	29	.44	9.1	8	.20	e1670	12900	e95000
11	6.0	26	.44	18	427	48	e227	1380	e847
12	5.6	14	.21	9.3	30	.79	e82	536	e119
13	5.7	7	.11	12	52	4.0	e37	500	e50
14	19	593	61	52	1630	377	e28	467	e41
15	20	612	55	46	774	584	e21	139	e7.9
16	4.6	22	.28	126	3530	1840	e16	35	e1.5
17	3.7	15	.15	24	382	26	15	30	1.2
18	4.9	13	.18	19	125	6.1	21	207	18
19	4.1	11	.12	13	24	.79	15	41	1.6
20	4.1	10	.11	11	9	.24	13	12	.43
21	4.0	8	.09	12	4	.11	12	10	.28
22	3.8	7	.07	12	3	.09	11	9	.25
23	4.1	6	.06	36	712	197	10	9	.22
24	5.6	12	.36	e150	2400	e3820	8.4	8	.18
25	5.5	27	.42	e28	158	e12	8.2	6	.13
26	4.2	11	.12	e16	22	e.87	7.1	4	.08
27	4.0	18	.19	e13	14	e.45	8.9	33	1.7
28	12	96	6.6	e12	11	e.35	7.3	9	.16
29	5.8	30	.51	e43	764	e283	6.0	6	.09
30	4.4	10	.12	e13	22	e.72	55	2030	1710
31	13	286	41	e11	22	e.62	---	---	---
TOTAL	210.0	---	254.57	1139.6	---	14563.12	2447.9	---	98059.04
YEAR	6477.4		128325.82						

e Estimated

RIO GRANDE DE LOIZA BASIN

50058350 RIO CAÑAS AT CAÑAS, PR--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

PARTICLE-SIZE DISTRIBUTION 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. 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 1995							
17...	1237	725	14600	28600	30	33	43
DEC							
23...	1707	563	19300	29300	22	27	34
JAN 1996							
14...	2317	561	13200	20000	16	20	26
FEB							
09...	1630	256	13200	9100	21	26	33
APR							
03...	1630	573	21500	33300	22	29	34
JUN							
15...	1050	26	8300	583	--	35	47
JUL							
14...	1740	40	1880	203	47	60	70
AUG							
24...	1530	389	9770	10300	22	25	30

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 1995							
17...	54	65	80	89	94	98	100
DEC							
23...	45	59	73	88	97	99	100
JAN 1996							
14...	34	43	58	75	90	97	99
FEB							
09...	46	56	71	86	96	99	100
APR							
03...	43	53	64	76	87	94	98
JUN							
15...	56	68	84	93	98	99	100
JUL							
14...	80	82	98	99	100	100	100
AUG							
24...	35	43	54	65	77	88	96

50058350 RIO CAÑAS AT CAÑAS, PR--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

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 1995					
26...	1600	48	1410	183	97
27...	1732	23	5160	320	86
NOV					
16...	1625	14	1850	70	99
DEC					
23...	1737	656	14900	26400	79
JAN 1996					
20...	1517	261	4500	3170	79
APR					
03...	1745	215	10200	5920	95
JUL					
14...	1500	26	1050	74	100
AUG					
01...	1745	175	9080	4290	81
14...	1645	43	1340	156	97
24...	1330	1310	10100	35600	66

RIO GRANDE DE LOIZA BASIN

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 Loíza 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 sluice gates, and concrete spillway with eight radial gates. Lake is used for municipal water supply and intermittent power generation. Gage-height satellite telemetry at station.

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 135.44 ft (41.82 m), Jan. 14; but could have been highter on Sept. 10-11 during Hurricane Hortense event; minimum elevation, 130.01 ft (39.62 m), June 4.

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
98.4	5,000	128.6	18,000
111.5	8,900	137.8	26,000
120.4	13,000	147.6	35,000

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	134.79	134.52	134.20	134.20	134.56	134.32	133.36	133.08	130.36	134.93	134.54	A
2	134.33	134.68	134.12	134.10	134.70	134.22	133.20	132.87	130.26	134.92	134.46	A
3	134.61	134.46	134.04	134.02	134.50	134.14	133.99	132.68	130.07	134.88	134.46	A
4	134.77	134.72	133.96	133.88	134.72	134.06	134.60	132.46	130.16	134.85	134.86	A
5	134.73	134.72	133.84	133.78	134.74	134.06	134.84	132.26	130.42	134.77	134.40	A
6	134.49	134.56	133.74	133.84	134.68	134.00	134.85	132.05	131.66	134.70	134.60	A
7	134.85	134.48	133.62	133.78	134.68	133.92	134.73	132.02	133.72	134.62	134.74	134.61
8	134.55	134.64	133.48	134.46	134.48	133.84	134.83	131.95	134.84	132.76	134.88	133.96
9	134.23	134.70	133.36	134.50	134.39	134.20	134.80	132.06	134.92	134.66	134.94	A
10	134.55	134.74	133.28	134.44	134.38	134.22	134.68	132.08	134.92	134.60	135.00	A
11	134.41	134.74	133.28	134.50	134.52	134.88	134.70	132.06	134.94	134.88	134.78	A
12	134.76	134.72	133.32	134.70	134.58	134.84	134.72	131.93	134.32	134.74	134.82	A
13	134.34	134.70	133.68	134.56	134.60	134.82	134.65	131.98	134.74	134.88	134.88	A
14	134.56	134.66	133.92	134.68	134.65	134.74	134.56	132.22	134.72	134.54	133.90	A
15	134.68	134.76	133.98	134.46	134.66	134.66	134.58	132.14	134.59	134.80	133.80	A
16	134.76	134.64	133.96	134.46	134.66	134.64	134.56	132.14	134.09	134.86	133.68	A
17	134.32	134.84	133.93	134.79	134.72	134.82	134.44	132.00	134.75	134.96	134.52	134.50
18	134.44	134.40	134.77	134.58	134.76	134.80	134.28	131.85	134.26	134.94	134.66	133.98
19	134.82	134.40	134.58	134.58	134.79	134.85	134.16	132.46	135.02	134.72	134.34	134.20
20	134.34	134.36	134.44	134.06	134.58	134.79	133.97	132.36	134.98	135.08	134.78	133.94
21	133.84	134.30	134.78	134.56	134.72	134.68	133.84	132.16	134.61	134.68	134.58	133.90
22	134.24	134.28	134.42	134.34	134.72	134.59	133.86	131.92	134.54	134.82	134.84	134.70
23	134.60	134.22	134.62	134.67	134.68	134.48	133.88	132.00	134.60	134.92	A	134.60
24	134.10	134.18	134.64	134.44	134.74	134.34	134.00	131.92	134.86	135.04	A	134.53
25	134.50	134.24	134.84	134.78	134.68	134.20	133.90	131.75	134.98	134.54	A	134.86
26	134.64	134.48	134.36	134.56	134.65	134.08	133.76	A	134.94	134.64	A	134.64
27	134.52	134.46	134.52	134.66	134.58	134.00	133.63	A	134.90	134.68	A	134.50
28	134.48	134.38	134.52	134.52	134.50	133.86	133.48	A	134.88	134.56	A	A
29	134.58	134.36	134.46	134.50	134.42	133.76	133.32	A	135.06	134.58	A	134.68
30	134.74	134.28	134.38	134.76	---	133.62	133.22	130.72	134.92	134.68	A	134.26
31	134.52	---	134.28	134.42	---	133.50	---	130.50	---	134.78	A	---
MAX	134.85	134.84	134.84	134.79	134.79	134.88	134.85	---	135.06	135.08	---	---
MIN	133.84	134.18	133.28	133.78	134.38	133.50	133.20	---	130.07	132.76	---	---

A No gage-height record

RIO GRANDE DE LOIZA BASIN

50059000 LAGO LOIZA AT DAMSITE, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 18°19'49", long 66°01'00", at pumphouse at damsite, and 1.9 mi (3.1 km) south of Trujillo Alto plaza.

DRAINAGE AREA.--208 mi² (539 km²).

PERIOD OF RECORD.--Water years 1974 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DATE	TIME	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	OXYGEN DEMAND, CHEMICAL (HIGH LEVEL) (MG/L) (00340)	COLIFORM, FECAL, 0.45 UM-MF (COLS./100 ML) (31616)	STREPTOCOCCI FECAL, (COLS. PER 100 ML) (31679)	ALKALINITY WAT WH TOT FET FIELD MG/L AS CACO3 (00410)
JAN 1996										
11...	1100	295	6.9	25.5	2.3	28	11	26	K13	85
FEB										
15...	1015	283	7.0	24.5	1.2	14	<10	K11	40	92
APR										
08...	1120	331	7.3	26.0	0.2	2	14	K17	K2	120
JUN										
05...	1110	337	6.4	29.5	2.0	26	22	46	72	110
AUG										
12...	1130	235	7.0	28.0	0.4	5	<10	200	250	79

DATE	SULFIDE TOTAL (MG/L AS S) (00745)	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)	NITROGEN,AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITROGEN, TOTAL (MG/L AS N) (00600)	NITROGEN, TOTAL (MG/L AS NO3) (71887)
JAN 1996										
11...	<0.5	10	--	0.010	<0.020	0.420	0.36	0.78	0.78	3.5
FEB										
15...	--	19	0.070	0.030	0.100	0.240	0.560	0.80	0.90	4.0
APR										
08...	<0.5	9	<0.010	<0.010	<0.020	1.10	<0.20	1.3	1.3	5.8
JUN										
05...	--	6	<0.010	0.010	<0.020	0.510	0.69	1.2	1.2	5.4
AUG										
12...	--	16	0.060	0.040	0.100	0.310	2.1	2.4	2.5	11

DATE	PHOSPHORUS TOTAL (MG/L AS P) (00665)	BORON, TOTAL RECOVERABLE (UG/L AS B) (01022)	COPPER, TOTAL RECOVERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECOVERABLE (UG/L AS FE) (01045)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN) (01055)	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)
JAN 1996									
11...	0.100	--	--	--	--	--	--	--	--
FEB									
15...	0.240	--	--	--	--	--	--	--	--
APR									
08...	0.490	20	<10	3600	930	40	<0.010	<1	0.03
JUN									
05...	0.160	--	--	--	--	--	--	--	--
AUG									
12...	1.40	--	--	--	--	--	--	--	--

K = non-ideal count

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 Loíza 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 Loíza Dam. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.2	e68	4.3	e5.1	5.0	4.5	4.9	4.1	e1.3	2.4	626	2.4
2	195	e6.6	4.5	e4.9	5.1	4.2	4.9	4.3	e1.3	2.3	624	130
3	22	e147	4.8	e4.8	103	4.5	5.8	4.4	e1.3	2.1	530	199
4	4.1	e5.9	4.7	e4.8	5.3	4.6	6.3	4.1	e1.3	2.0	286	321
5	170	e136	4.7	e4.9	297	5.0	5.7	3.9	e1.2	2.0	295	e221
6	230	e348	4.6	e5.0	150	4.5	13	3.4	e1.2	1.9	3.3	2.6
7	3.6	e168	4.5	e5.0	183	4.5	6.4	3.8	e1.2	1.9	3.3	2.5
8	204	e4.8	4.0	e4.9	124	4.7	5.4	e3.7	148	e1260	3.3	313
9	182	e4.8	4.2	e4.9	66	4.5	5.4	e4.0	1.6	e2.9	3.3	47
10	4.1	e4.9	3.9	e5.3	220	4.7	4.8	e4.1	1.5	e111	3.8	e110000
11	192	e4.9	3.9	5.4	6.0	4.8	4.7	e4.0	1.6	e3.1	153	5950
12	3.6	e5.0	4.1	153	5.6	77	5.5	e3.8	1480	e434	4.1	1120
13	e16	e4.9	4.6	124	5.4	4.9	6.1	e3.8	327	e671	3.8	678
14	e6.2	e4.7	4.2	3060	5.6	4.8	6.1	e3.5	147	e2120	1590	464
15	e3.1	e4.7	4.5	2110	6.1	223	4.9	e3.5	1920	e2330	1210	780
16	e3.3	e14	4.5	248	5.4	155	4.2	e3.3	1420	e250	7010	997
17	e227	e4.8	4.4	43	5.0	5.6	5.8	e3.3	378	e155	378	636
18	7.8	e140	10	191	5.0	5.6	5.5	e3.1	923	e108	239	e817
19	18	e5.2	e309	268	5.1	5.3	4.8	e3.0	142	e127	275	e614
20	197	e4.5	e1110	1130	102	5.5	4.3	e2.9	142	e2.7	5.6	e618
21	714	e4.4	e32	204	5.7	5.6	7.8	e2.7	247	e152	157	e1100
22	e253	e4.2	e155	197	9.8	5.3	5.6	e2.5	569	e2.1	5.0	179
23	e5.9	3.8	e5.5	4.8	6.7	5.5	4.4	e2.3	127	e1.9	398	380
24	e488	4.5	e5.7	130	20	5.5	4.4	e2.2	5.3	e1.9	462	268
25	e10	4.6	e5.8	4.9	126	5.4	4.4	e2.0	2.4	e140	5.0	215
26	e116	4.1	e174	158	5.2	5.5	4.2	e1.8	52	1.8	4.0	322
27	e188	4.4	e5.7	170	4.9	5.6	4.3	e1.7	50	1.6	3.6	440
28	e444	4.0	e5.3	401	4.7	5.8	16	e1.5	122	e389	3.3	e174
29	e145	3.9	e5.5	169	4.6	5.7	4.4	e1.4	2.6	163	3.3	e160
30	e5.1	4.2	e5.5	4.9	---	5.2	5.0	e1.4	62	2.1	2.9	500
31	e71	---	e5.5	140	---	4.9	---	e1.4	---	2.0	150	---
TOTAL	4132.0	1128.8	1908.9	8965.6	1497.2	597.2	175.0	94.9	8279.8	8446.7	14440.6	127650.5
MEAN	133	37.6	61.6	289	51.6	19.3	5.83	3.06	276	272	466	4255
MAX	714	348	1110	3060	297	223	16	4.4	1920	2330	7010	110000
MIN	3.1	3.8	3.9	4.8	4.6	4.2	4.2	1.4	1.2	1.6	2.9	2.4
AC-FT	8200	2240	3790	17780	2970	1180	347	188	16420	16750	28640	253200
CFSM	.64	.18	.29	1.38	.25	.09	.03	.01	1.32	1.30	2.23	20.4
IN.	.74	.20	.34	1.60	.27	.11	.03	.02	1.47	1.50	2.57	22.72

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 1996, BY WATER YEAR (WY)

MEAN	236	513	375	166	75.5	48.9	31.8	93.3	188	176	202	792
MAX	842	2732	2603	733	242	299	112	367	784	672	718	4255
(WY)	1991	1988	1988	1992	1989	1989	1987	1992	1987	1993	1988	1996
MIN	44.7	37.6	17.2	2.49	4.52	6.45	1.20	1.03	1.96	1.62	2.21	29.7
(WY)	1992	1996	1994	1995	1990	1990	1995	1995	1994	1994	1994	1990

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1987 - 1996	
ANNUAL TOTAL	39943.80		177317.2			
ANNUAL MEAN	109		484		242	
HIGHEST ANNUAL MEAN					652	1988
LOWEST ANNUAL MEAN					37.8	1994
HIGHEST DAILY MEAN	5090	Sep 6	110000	Sep 10	110000	Sep 10 1996
LOWEST DAILY MEAN	.42	May 13	1.2	Jun 5	.42	May 13 1995
ANNUAL SEVEN-DAY MINIMUM	.61	May 9	1.3	Jun 1	.49	Aug 11 1994
INSTANTANEOUS PEAK FLOW			223000	Sep 10	223000	Sep 10 1996
INSTANTANEOUS PEAK STAGE			49.31	Sep 10	49.31	Sep 10 1996
ANNUAL RUNOFF (AC-FT)	79230		351700		175600	
ANNUAL RUNOFF (CFSM)	.52		2.32		1.16	
ANNUAL RUNOFF (INCHES)	7.11		31.56		15.76	
10 PERCENT EXCEEDS	208		441		383	
50 PERCENT EXCEEDS	2.2		5.4		8.3	
90 PERCENT EXCEEDS	.83		2.5		2.2	

e Estimated

RIO GRANDE DE LOIZA BASIN

50059050 RIO GRANDE DE LOIZA BELOW DAM SITE 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 1995.--
SEDIMENT CONCENTRATION: Maximum daily mean, 4,290 mg/L September 10, 1996; minimum daily mean, 4 mg/L November 22, 1995.
SEDIMENT LOADS: Maximum daily mean, 1,500,000 tons (1,360,000 tonnes) September 10, 1996; minimum daily 0.03 tons (0.02 tonne) June 7, 1996.

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	3.2	19	.16	e68	37	16	4.3	24	.28
2	195	31	50	e6.6	28	.50	4.5	24	.29
3	22	28	3.5	e147	34	e39	4.8	24	.31
4	4.1	22	.25	e5.9	25	e.39	4.7	24	.30
5	170	33	46	e136	39	e45	4.7	24	.30
6	230	34	59	e348	51	e111	4.6	24	.29
7	3.6	21	.20	e168	37	e61	4.5	24	.28
8	204	36	55	e4.8	19	e.25	4.0	23	.25
9	182	31	46	e4.8	15	e.20	4.2	23	.26
10	4.1	23	.25	e4.9	14	e.19	3.9	23	.24
11	192	31	52	e4.9	13	e.18	3.9	23	.24
12	3.6	6	.05	e5.0	13	e.17	4.1	23	.26
13	e16	18	e1.9	e4.9	12	e.16	4.6	23	.29
14	e6.2	24	e.42	e4.7	11	e.15	4.2	23	.26
15	e3.1	22	e.19	e4.7	11	e.13	4.5	23	.28
16	e3.3	21	e.19	e14	16	e1.5	4.5	23	.28
17	e227	32	e66	e4.8	21	e.28	4.4	23	.27
18	7.8	25	.69	e140	32	e35	10	26	.91
19	18	30	2.2	e5.2	15	e.21	e309	53	e103
20	197	35	48	e4.5	10	e.12	e1110	66	e615
21	714	41	335	e4.4	6	e.08	e32	29	e4.0
22	e253	54	e74	e4.2	4	e.05	e155	34	e43
23	e5.9	25	e.41	3.8	5	.06	e5.5	26	e.39
24	e488	55	e172	4.5	7	.09	e5.7	25	e.39
25	e10	27	e.83	4.6	10	.12	e5.8	25	e.39
26	e116	36	e31	4.1	14	.15	e174	36	e50
27	e188	38	e52	4.4	18	.22	e5.7	23	e.36
28	e444	44	e162	4.0	23	.25	e5.3	21	e.31
29	e145	43	e50	3.9	24	.25	e5.5	19	e.28
30	e5.1	25	e.34	4.2	24	.27	e5.5	17	e.26
31	e71	25	e22	---	---	---	e5.5	16	e.23
TOTAL	4132.0	---	1331.58	1128.8	---	312.97	1908.9	---	823.20

e Estimated

RIO GRANDE DE LOIZA BASIN

50059050 RIO GRANDE DE LOIZA BELOW DAM SITE LOIZA, 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)
		JANUARY			FEBRUARY			MARCH	
1	e5.1	14	e.20	5.0	23	.31	4.5	25	.30
2	e4.9	13	e.17	5.1	22	.31	4.2	24	.27
3	e4.8	12	e.15	103	34	34	4.5	24	.29
4	e4.8	11	e.14	5.3	25	.36	4.6	24	.30
5	e4.9	10	e.13	297	45	112	5.0	24	.32
6	e5.0	9	e.12	150	37	49	4.5	23	.29
7	e5.0	8	e.11	183	39	72	4.5	23	.28
8	e4.9	7	e.10	124	31	42	4.7	23	.29
9	e4.9	7	e.09	66	26	27	4.5	23	.28
10	e5.3	6	e.09	220	44	74	4.7	22	.29
11	5.4	5	.08	6.0	24	.38	4.8	22	.29
12	153	24	42	5.6	20	.30	77	33	23
13	124	30	36	5.4	16	.23	4.9	25	.33
14	3060	53	718	5.6	13	.19	4.8	24	.31
15	2110	115	1030	6.1	11	.17	223	37	88
16	248	34	88	5.4	12	.17	155	34	45
17	43	30	7.4	5.0	14	.19	5.6	20	.30
18	191	39	70	5.0	16	.22	5.6	16	.24
19	268	42	105	5.1	20	.27	5.3	12	.18
20	1130	85	490	102	33	28	5.5	10	.15
21	204	39	78	5.7	25	.39	5.6	8	.12
22	197	39	69	9.8	27	.92	5.3	8	.11
23	4.8	25	.32	6.7	25	.46	5.5	8	.11
24	130	33	44	20	30	2.5	5.5	7	.11
25	4.9	23	.30	126	35	33	5.4	7	.11
26	158	37	60	5.2	26	.36	5.5	7	.11
27	170	36	66	4.9	25	.34	5.6	7	.11
28	401	52	149	4.7	25	.32	5.8	8	.12
29	169	39	64	4.6	25	.31	5.7	9	.14
30	4.9	25	.33	---	---	---	5.2	10	.14
31	140	34	48	---	---	---	4.9	12	.16
TOTAL	8965.6	---	3166.73	1497.2	---	479.70	597.2	---	162.05

e Estimated

RIO GRANDE DE LOIZA BASIN

50059050 RIO GRANDE DE LOIZA BELOW DAM SITE LOIZA, 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)
		APRIL			MAY			JUNE	
1	4.9	13	.18	4.1	37	.41	e1.3	31	e.11
2	4.9	15	.20	4.3	44	.51	e1.3	25	e.09
3	5.8	17	.28	4.4	41	.49	e1.3	21	e.07
4	6.3	20	.34	4.1	33	.37	e1.3	17	e.06
5	5.7	23	.35	3.9	33	.34	e1.2	14	e.05
6	13	38	1.6	3.4	32	.30	e1.2	12	e.04
7	6.4	52	.90	3.8	32	.33	e1.2	9	e.03
8	5.4	46	.67	e3.7	32	e.32	148	35	88
9	5.4	40	.58	e4.0	32	e.35	1.6	20	.09
10	4.8	35	.46	e4.1	33	e.36	1.5	16	.07
11	4.7	35	.44	e4.0	34	e.37	1.6	13	.06
12	5.5	35	.51	e3.8	35	e.36	1480	92	482
13	6.1	34	.56	e3.8	36	e.36	327	56	107
14	6.1	34	.56	e3.5	37	e.35	147	33	44
15	4.9	34	.44	e3.5	38	e.36	1920	94	952
16	4.2	34	.38	e3.3	39	e.35	1420	93	630
17	5.8	33	.52	e3.3	40	e.35	378	55	131
18	5.5	33	.50	e3.1	41	e.34	923	99	523
19	4.8	33	.43	e3.0	42	e.34	142	36	44
20	4.3	32	.38	e2.9	43	e.34	142	34	39
21	7.8	30	.70	e2.7	44	e.32	247	36	63
22	5.6	27	.42	e2.5	45	e.30	569	61	211
23	4.4	26	.31	e2.3	47	e.29	127	28	33
24	4.4	24	.29	e2.2	48	e.29	5.3	33	.49
25	4.4	23	.27	e2.0	49	e.27	2.4	26	.17
26	4.2	22	.25	e1.8	51	e.25	52	29	14
27	4.3	21	.24	e1.7	52	e.24	50	26	8.2
28	16	22	.26	e1.5	54	e.22	122	26	19
29	4.4	26	.31	e1.4	53	e.20	2.6	20	.15
30	5.0	31	.42	e1.4	45	e.17	62	28	15
31	---	---	---	e1.4	37	e.14	---	---	---
TOTAL	175.0	---	13.75	94.9	---	9.99	8279.8	---	3404.68

e Estimated

RIO GRANDE DE LOIZA BASIN

50059050 RIO GRANDE DE LOIZA BELOW DAM SITE LOIZA, 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)
		JULY			AUGUST			SEPTEMBER	
1	2.4	21	.14	626	62	242	2.4	19	.12
2	2.3	20	.12	624	59	234	130	30	41
3	2.1	19	.11	530	51	162	199	29	61
4	2.0	18	.10	286	37	90	321	213	705
5	2.0	17	.09	295	41	94	e221	85	e304
6	1.9	16	.08	3.3	36	.33	2.6	24	.17
7	1.9	15	.08	3.3	36	.31	2.5	21	.14
8	e1260	92	e501	3.3	49	.43	313	113	576
9	e2.9	57	.47	3.3	57	.50	47	40	97
10	e111	32	e25	3.8	35	.36	e110000	4290	1500000
11	e3.1	26	.21	153	53	39	5950	2070	43100
12	e434	56	e141	4.1	68	.75	1120	450	1410
13	e671	66	e246	3.8	54	.54	678	311	536
14	e2120	87	e1020	1590	90	929	464	248	293
15	e2330	105	e1540	1210	53	895	780	197	402
16	e250	43	e81	7010	224	6290	997	157	428
17	e155	31	e51	378	45	133	636	124	220
18	e108	30	e25	239	42	82	e817	112	e271
19	e127	34	e45	275	44	92	e614	98	e211
20	e2.7	19	e.14	5.6	32	.48	e618	89	e239
21	e152	31	e50	157	45	99	e1100	112	e449
22	e2.1	23	e.13	5.0	36	.47	179	75	36
23	e1.9	19	e.10	398	55	170	380	80	125
24	e1.9	15	e.08	462	53	171	268	74	78
25	e140	31	e40	5.0	28	.38	215	97	55
26	1.8	21	.10	4.0	26	.28	322	88	106
27	1.6	17	.07	3.6	24	.23	440	89	152
28	e389	40	170	3.3	22	.20	e174	71	e33
29	163	36	62	3.3	20	.18	e160	69	e30
30	2.1	23	.13	2.9	19	.15	500	82	186
31	2.0	20	.11	150	48	125	---	---	---
TOTAL	8446.7	---	3999.26	14440.6	---	9852.59	127650.5	---	1550144.43
YEAR	177317.2		1573700.93						

e Estimated

50059050 RIO GRANDE DE LOIZA BELOW DAMSITE LOIZA, PR--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

PARTICLE-SIZE DISTRIBUTION 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. 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 1996							
10...	0430	95500	4020	1040000	34	40	43

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 1996							
10...	53	63	81	95	97	98	100

RIO GRANDE DE LOIZA BASIN

50059050 RIO GRANDE DE LOIZA BELOW DAMSITE LOIZA, PR--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

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)
JAN 1996					
15...	0020	21	174	9.9	94
JUN					
08...	0920	2370	630	4030	95
12...	1000	2680	160	1160	95
18...	1545	2260	755	4610	97
18...	1615	4150	443	4960	93
JUL					
21...	1141	2120	150	859	96
AUG					
23...	1645	1750	219	1030	98
SEP					
03...	2300	1650	115	512	95

RIO GRANDE DE LOIZA BASIN

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 Loíza 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 1995 TO SEPTEMBER 1996

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, 0.45 UM-MF (COLS./ 100 ML) (31616)	STREP-TOCOCCI FECAL, (COLS. PER 100 ML) (31679)
OCT 1995											
13...	0850	E16	402	6.4	27.0	1.1	2.5	31	12	510	210
JAN 1996											
24...	1030	E130	255	7.1	23.5	49	7.0	81	22	K110000	63000
FEB											
15...	1120	E6.1	346	7.5	25.5	1.5	4.6	56	17	4400	620
APR											
18...	1045	5.0	334	7.3	25.5	15	5.1	62	31	30000	25000
JUN											
13...	1005	E3.3	300	6.7	28.5	8.3	4.9	63	36	2200	600
AUG											
20...	1125	29	267	7.3	29.0	71	4.3	56	30	44000	49000

DATE	HARD-NESS TOTAL (MG/L AS CACO3) (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)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (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 1995										
13...	130	32	13	26	1	3.1	130	<0.5	18	26
JAN 1996										
24...	--	--	--	--	--	--	79	--	--	--
FEB										
15...	--	--	--	--	--	--	110	--	--	--
APR										
18...	110	27	11	25	1	3.0	110	<0.5	14	25
JUN										
13...	--	--	--	--	--	--	90	--	--	--
AUG										
20...	88	22	8.1	17	0.8	3.2	100	--	12	16

E = estimate
K = non-ideal count

50059100 RIO GRANDE DE LOIZA BELOW TRUJILLO ALTO, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DATE	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	SOLIDS, DISSOLVED (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 1995										
13...	<0.10	30	226	E10	5	0.810	0.010	0.820	0.050	0.37
JAN 1996										
24...	--	--	--	--	50	1.39	0.010	1.40	0.080	0.66
FEB										
15...	--	--	--	--	4	0.740	0.010	0.750	0.150	0.35
APR										
18...	0.10	24	195	2.63	20	0.320	<0.010	0.320	0.030	<0.20
JUN										
13...	--	--	--	--	--	0.720	0.020	0.740	0.280	0.64
AUG										
20...	<0.10	20	158	12.4	40	1.02	0.080	1.10	0.150	0.57

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 1995										
13...	0.42	1.2	5.5	0.120	1	<100	50	<1	<1	<10
JAN 1996										
24...	0.74	2.1	9.5	0.190	--	--	--	--	--	--
FEB										
15...	0.50	1.2	5.5	0.130	--	--	--	--	--	--
APR										
18...	<0.23	0.42	1.9	<0.020	<1	<100	50	<1	<1	<10
JUN										
13...	0.92	1.7	7.3	0.110	--	--	--	--	--	--
AUG										
20...	0.72	1.8	8.1	0.170	--	--	--	--	--	--

DATE	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 (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 1995										
13...	130	<1	30	<0.10	<1	<1	<10	<0.010	<1	0.04
JAN 1996										
24...	--	--	--	--	--	--	--	--	--	--
FEB										
15...	--	--	--	--	--	--	--	--	--	--
APR										
18...	810	<1	210	0.10	<1	<1	10	<0.010	2	0.03
JUN										
13...	--	--	--	--	--	--	--	--	--	--
AUG										
20...	--	--	--	--	--	--	--	--	--	--

E = estimated

RIO GRANDE DE LOIZA BASIN

50061000 RIO GRANDE DE LOIZA AT CAROLINA, PR

LOCATION.--Lat 18°22'39", long 65°57'08", Hydrologic Unit 21010005, on upstream right bank of Highway 3 bridge, at km 11.5, 0.5 mi (0.8 km) southeast of Carolina Plaza, 3.3 mi (5.3 km) west of Canóvanas Plaza and 2.5 mi (4.0 km) soughwest of Cerro San José, and 8.8 mi (14.2 km) downstream fro Rio Grande de Loíza mouth.

DRAINAGE AREA.--243 mi² (629 km²).

WATER-STAGE RECORDS

PERIOD OF RECORD.--January 1991 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 32.8 ft (10.0 m), from topographic map.

REMARKS.--Flow regulated by Lago Loíza Dam and also by tidal changes. Gage-height and precipitation satellite telemetry at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage-height, 43.66 ft (13.307 m), Sept. 10, 1996; minimum, 3.91 ft (1.192 m), Aug. 6, 1991.

EXTREMES FOR CURRENT YEAR.--Maximum gage-height, 43.66 ft (13.307 m), Sept. 10; minimum 4.20 ft (1.280 m), July 25.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.92	5.74	5.17	4.98	4.88	5.53	5.03	5.17	5.95	4.79	6.33	A
2	5.72	5.16	5.04	5.03	4.90	5.78	5.04	5.30	6.08	4.81	7.13	A
3	5.39	5.49	5.11	5.01	5.44	6.01	5.38	5.49	5.90	A	7.12	A
4	5.13	5.67	5.18	4.94	4.95	6.21	5.73	5.69	4.90	A	6.73	A
5	5.56	5.98	5.20	4.92	5.97	6.00	5.22	5.86	4.80	A	6.19	A
6	5.77	7.23	5.22	5.09	5.67	5.10	4.95	6.05	4.82	A	5.19	A
7	5.13	6.49	5.18	5.07	5.95	5.02	4.94	6.29	4.88	A	5.24	A
8	5.75	5.13	5.16	5.80	5.72	5.14	4.84	6.32	5.58	A	5.16	A
9	5.44	4.90	5.27	5.84	4.97	5.18	4.82	5.23	5.01	A	5.13	A
10	5.60	4.86	5.29	6.45	6.10	5.29	4.88	5.03	4.97	A	5.02	36.50
11	5.76	4.88	5.13	5.71	5.10	5.47	4.90	4.85	4.95	A	5.62	16.19
12	5.07	4.97	5.21	6.14	4.94	6.31	5.03	4.88	8.12	A	4.99	8.95
13	5.67	4.97	5.38	5.71	4.95	6.54	5.31	4.95	7.32	A	4.93	8.08
14	5.31	5.07	5.52	8.00	5.04	6.72	5.29	5.02	A	A	7.82	7.73
15	5.05	4.94	5.37	11.06	5.16	7.15	5.18	5.04	A	A	6.94	7.50
16	5.70	5.39	5.39	6.52	5.49	6.26	5.12	5.08	A	A	14.23	8.47
17	6.53	5.23	5.44	5.90	5.83	5.01	5.04	5.17	A	A	6.51	7.49
18	5.64	5.76	6.39	5.98	6.18	4.94	5.08	5.22	A	A	6.22	7.02
19	6.35	5.05	7.14	5.73	6.52	4.93	5.29	5.40	A	A	A	7.80
20	6.40	5.03	7.39	8.13	6.74	4.85	5.51	5.56	5.65	A	A	6.54
21	5.73	5.02	6.23	6.74	4.84	4.82	5.90	5.18	5.39	A	A	A
22	7.01	5.00	5.78	A	4.99	4.79	6.30	5.05	7.04	A	A	A
23	5.95	5.08	5.24	A	4.89	4.89	6.25	5.09	5.26	A	A	6.35
24	7.05	5.18	5.23	A	4.88	4.82	4.81	5.08	5.34	A	A	5.82
25	5.84	5.08	5.16	A	5.57	4.79	4.81	5.05	4.82	5.31	A	A
26	6.00	5.01	5.69	A	4.93	4.85	4.93	5.17	4.97	4.92	A	A
27	5.79	5.07	5.11	A	4.93	4.82	4.94	5.33	4.94	4.91	A	6.72
28	6.19	5.12	5.14	A	5.06	4.71	5.07	5.50	5.25	A	A	A
29	6.45	5.06	5.04	A	5.27	4.77	5.15	5.62	4.98	5.79	A	A
30	5.12	5.02	5.00	A	---	4.80	5.18	5.72	5.00	5.11	A	6.90
31	5.03	---	4.92	A	---	4.91	---	5.82	---	4.97	---	---
MAX	7.05	7.23	7.39	---	6.74	7.15	6.30	6.32	---	---	---	---
MIN	4.92	4.86	4.92	---	4.84	4.71	4.81	4.85	---	---	---	---

A No gage-height record

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 and Dec. 19 to Jan. 3, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	14	12	e9.8	25	10	5.7	7.0	7.4	6.8	11	e8.8
2	15	26	14	e9.6	22	9.9	5.7	6.1	6.6	6.2	11	e8.4
3	19	38	11	e9.2	21	9.9	5.4	5.9	6.3	6.3	13	e8.4
4	12	32	12	e8.8	22	10	7.0	5.9	6.6	6.5	22	e25
5	32	23	10	e14	19	15	7.7	6.1	e6.4	6.5	14	e30
6	19	71	10	e19	28	13	6.2	6.4	e8.2	6.7	13	e41
7	16	53	10	e16	34	11	5.9	7.2	e22	7.0	11	44
8	15	36	10	e22	23	10	5.7	8.4	e12	353	9.7	71
9	15	22	10	e40	23	9.2	5.8	14	7.0	72	9.3	230
10	16	18	11	16	18	8.7	5.7	11	6.3	25	9.7	4230
11	14	17	9.9	13	18	21	6.1	8.3	e7.0	15	12	356
12	13	18	9.4	40	15	13	8.3	6.8	17	26	11	78
13	16	35	11	44	15	9.0	14	7.1	11	28	16	54
14	17	22	12	712	14	7.6	7.2	11	7.5	68	86	44
15	12	18	8.7	239	13	29	7.3	7.5	56	116	65	133
16	13	20	8.6	39	e13	18	15	7.2	47	21	112	e95
17	53	19	45	28	e14	9.9	9.0	6.6	22	15	30	46
18	19	18	69	32	e13	7.9	7.6	6.3	9.1	14	21	45
19	22	14	29	47	e13	14	7.2	6.4	7.4	13	10	41
20	17	12	e15	79	e13	8.7	7.0	6.0	6.6	14	9.1	43
21	24	12	e17	49	12	7.3	7.0	5.8	7.4	13	9.1	33
22	19	13	e16	30	12	6.7	7.7	6.1	9.4	11	e9.5	29
23	75	13	e14	e23	11	6.8	9.9	7.4	9.1	11	e40	28
24	121	15	e13	e22	17	7.2	11	7.7	7.6	11	e110	25
25	54	16	e12	e34	21	6.8	8.0	7.9	7.0	14	e15	23
26	36	14	e11	41	13	6.6	7.6	7.4	7.0	15	e13	22
27	21	13	e15	81	11	7.3	7.0	6.9	7.3	12	e12	22
28	21	13	e19	92	10	6.8	6.9	6.4	8.0	44	e11	27
29	19	14	e13	50	10	6.5	7.4	6.3	9.2	22	e11	22
30	15	13	e10	34	---	6.1	8.9	6.2	8.3	13	e10	19
31	14	---	e9.8	27	---	5.9	---	6.7	---	12	e9.4	---
TOTAL	787	662	477.4	1920.4	493	318.8	230.9	226.0	359.7	1004.0	745.8	5881.6
MEAN	25.4	22.1	15.4	61.9	17.0	10.3	7.70	7.29	12.0	32.4	24.1	196
MAX	121	71	69	712	34	29	15	14	56	353	112	4230
MIN	12	12	8.6	8.8	10	5.9	5.4	5.8	6.3	6.2	9.1	8.4
AC-FT	1560	1310	947	3810	978	632	458	448	713	1990	1480	11670
CFSM	2.58	2.24	1.57	6.30	1.73	1.05	.78	.74	1.22	3.29	2.44	19.9
IN.	2.98	2.50	1.80	7.26	1.86	1.21	.87	.85	1.36	3.80	2.82	22.24

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 1996, BY WATER YEAR (WY)

MEAN	41.2	44.2	32.4	24.8	19.2	14.0	15.1	28.2	18.4	19.3	25.4	38.9
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 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1967 - 1996	
ANNUAL TOTAL	8407.9		13106.6			
ANNUAL MEAN	23.0		35.8		27.1	
HIGHEST ANNUAL MEAN					58.0	1971
LOWEST ANNUAL MEAN					10.5	1994
HIGHEST DAILY MEAN	859	Sep 16	4230	Sep 10	4230	Sep 10 1996
LOWEST DAILY MEAN	2.9	Jun 26	5.4	Apr 3	.80	Jul 24 1977
ANNUAL SEVEN-DAY MINIMUM	3.5	Jun 20	6.0	Mar 28	1.5	Jul 18 1977
INSTANTANEOUS PEAK FLOW			10100	Sep 10	15000	Sep 13 1982
INSTANTANEOUS PEAK STAGE			13.58	Sep 10	13.10	Sep 13 1982
INSTANTANEOUS LOW FLOW					.80	Jul 24 1977
ANNUAL RUNOFF (AC-FT)	16680		26000		19600	
ANNUAL RUNOFF (CFSM)	2.34		3.64		2.75	
ANNUAL RUNOFF (INCHES)	31.79		49.55		37.36	
10 PERCENT EXCEEDS	37		44		43	
50 PERCENT EXCEEDS	11		13		12	
90 PERCENT EXCEEDS	4.7		6.6		5.1	

e Estimated

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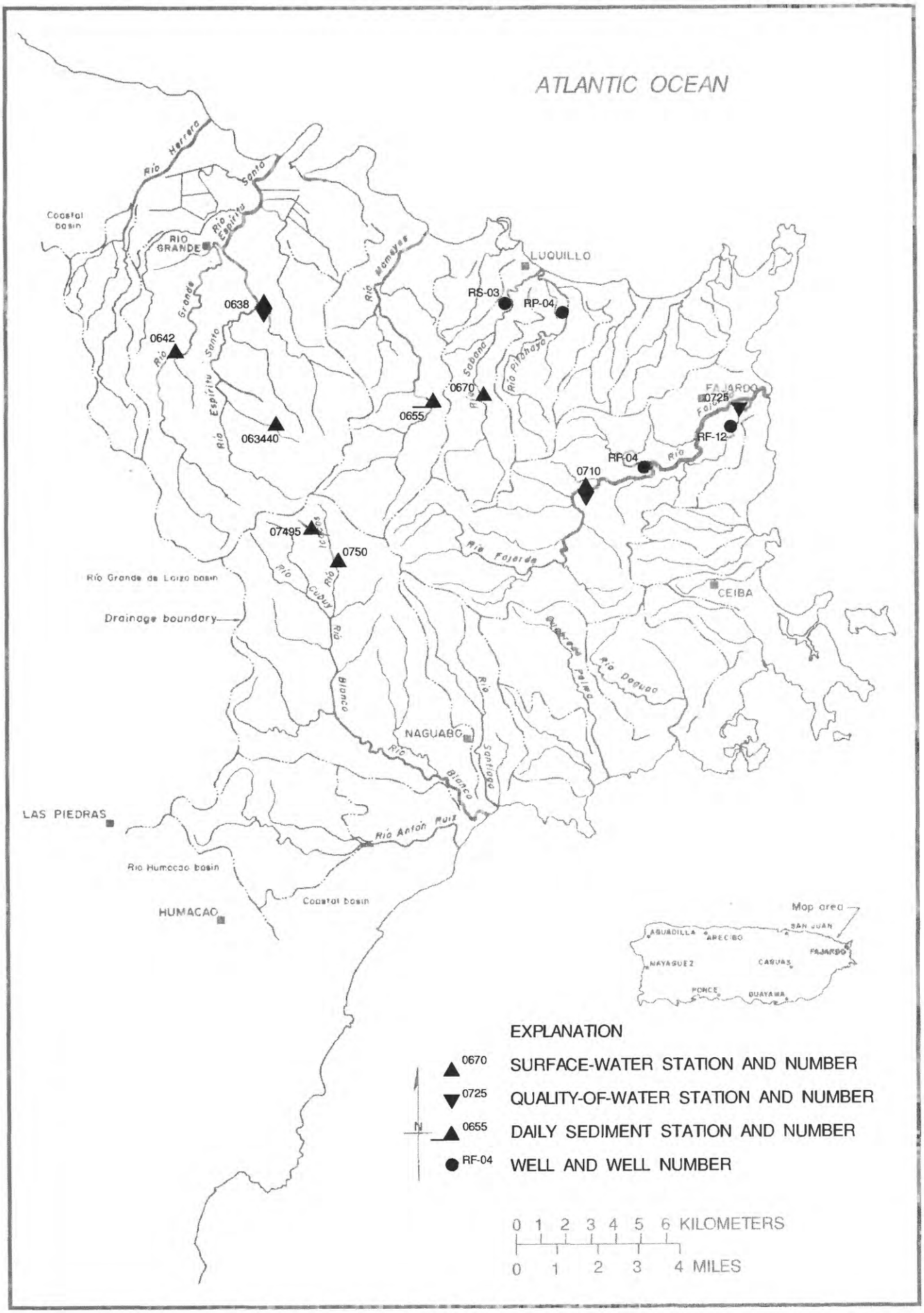

Figure 21.--Northeastern river basins the Río Herrera to Río Antón Ruíz basins.

RIO ESPIRITU SANTO BASIN

50063500 QUEBRADA TORONJA AT EL VERDE, PR

LOCATION.--Lat 18°19'43", long 65°49'14", Hydrologic Unit 21010005, in Caribbean National Forest, at downstream side of culvert on Highway 186, 0.2 mi (0.3 km) upstream from Río Espíritu Santo, and about 0.9 mi (1.4 km) south of El Verde.

DRAINAGE AREA.--0.064 mi² (0.166 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1983 to current year.

GAGE.--Water-stage recorder, crest-stage gage and concrete broad-V-notch crested weir. Elevation of gage is 876 ft (267 m), from topographic map.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e.10	e.11	e.08	e.16	e.25	e.05	e.02	e.11	e.05	e.11	e.88	e.21
2	e.11	e1.3	e.08	e.16	e.30	e.04	e.03	e.08	e.05	e.14	e.53	e.18
3	e.10	e1.3	e.05	e.16	e.46	e.03	e.04	e.08	e.04	e.14	e3.4	e.20
4	e.08	e.54	e.05	e.16	e.38	e.04	e6.0	e.06	e.32	e.15	e2.4	e.20
5	e.45	e.52	e.05	e.20	e.26	e.15	e.44	e.09	e.11	e.15	e2.3	e.49
6	e.66	e1.8	e.06	e.45	e2.9	e.06	e.10	e.57	e.78	e.16	e1.6	e.34
7	e.34	e.32	e.04	e1.6	e.40	e.04	e.07	e5.4	e.24	e.21	e.93	e.29
8	e.66	e.30	e.05	e1.5	e.23	e.06	e.06	e1.9	e.06	e6.4	e.80	e3.9
9	e.32	e.16	e.10	e.24	e.17	e.10	e.05	e5.6	e.03	e1.3	e.44	e5.0
10	e.60	e.16	e.10	e.14	e.12	e.04	e.04	e1.5	e.03	e.42	e.34	e28
11	e.13	e.13	e.06	e.29	e.11	e.07	e.04	e.41	e.79	e.28	e.35	e18
12	e.10	e.13	e.06	e1.5	e.10	e.02	e.46	e.30	e1.5	e.88	e.34	e8.1
13	e.56	e.20	e.50	e.26	e.10	e.02	e.19	e2.6	e.17	e.94	e3.5	e3.9
14	e.12	e.14	e.66	e4.9	e.09	e.03	e.24	e.46	e.79	e12	e12	e2.2
15	e.06	e.12	e.12	e2.6	e.08	e.03	e.15	e.27	e4.4	e3.8	e2.3	e2.7
16	e.54	e.15	e.15	e2.3	e.06	e.03	e.22	e.21	e4.0	e.96	e3.0	e5.2
17	e.17	e.14	e2.7	e.52	e.07	e.02	e.08	e.18	e.42	e.78	e.81	e1.3
18	e.25	e.11	e13	e.80	e.07	e.02	e.06	e.16	e.38	e.73	e.59	e1.4
19	e.43	e.12	e1.9	e2.1	e.07	e.03	e.04	e.14	e.26	e.62	e.51	e.92
20	e.09	e.08	e.36	e5.4	e.05	e.03	e.03	e.14	e.15	e3.3	e.41	e.82
21	e.06	e.08	e.32	e1.5	e.05	e.03	e.05	e.13	e.19	e.60	e.38	e.99
22	e.07	e.07	e.25	e.97	e.04	e.03	e.08	e.12	e.31	e.50	e.35	e.84
23	e2.0	e.07	e.21	e.70	e.04	e.04	e2.7	e.14	e.19	e.49	e4.9	e.75
24	e1.5	e.26	e.18	e1.0	e.27	e.03	e.57	e.11	e.12	e.67	e2.1	e.83
25	e.20	e.10	e.19	e.51	e.09	e.03	e.11	e.06	e.13	e1.7	e.55	e.65
26	e.18	e.10	e.17	e.32	e.05	e.05	e.39	e.06	e.13	e1.9	e.44	e.78
27	e.09	e.06	e.19	e.56	e.05	e.06	e.14	e.06	e.13	e.62	e.39	e1.8
28	e.07	e.11	e.42	e4.0	e.06	e.05	e.07	e.04	e.17	e2.0	e.38	e7.4
29	e.06	e.21	e.20	e.57	e.05	e.05	e.08	e.04	e.13	e.68	e.29	e2.0
30	e.05	e.09	e.19	e.31	---	e.03	e.98	e.04	e.12	e.52	e.24	e.80
31	e.08	---	e.18	e.33	---	e.03	---	e.07	---	e.35	e.24	---
TOTAL	10.23	8.98	22.67	36.21	6.97	1.34	13.53	21.13	16.19	43.50	47.69	100.19
MEAN	.33	.30	.73	1.17	.24	.043	.45	.68	.54	1.40	1.54	3.34
MAX	2.0	1.8	13	5.4	2.9	.15	6.0	5.6	4.4	12	12	28
MIN	.05	.06	.04	.14	.04	.02	.02	.04	.03	.11	.24	.18
AC-FT	20	18	45	72	14	2.7	27	42	32	86	95	199
CFSM	5.50	4.99	12.2	19.5	4.01	.72	7.52	11.4	8.99	23.4	25.6	55.7
IN.	6.34	5.57	14.06	22.45	4.32	.83	8.39	13.10	10.04	26.97	29.57	62.12

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1983 - 1996, BY WATER YEAR (WY)

MEAN	.29	.64	.54	.44	.33	.21	.23	.39	.29	.43	.36	.53
MAX	1.35	1.56	1.55	1.39	1.15	.63	.61	1.17	.61	1.70	1.54	3.34
(WY)	1986	1993	1993	1993	1995	1990	1987	1993	1987	1993	1996	1996
MIN	.059	.15	.091	.14	.092	.016	.035	.080	.056	.046	.054	.060
(WY)	1992	1991	1990	1986	1987	1994	1984	1994	1991	1991	1993	1991

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1983 - 1996	
ANNUAL TOTAL	158.80		328.63			
ANNUAL MEAN	.44		.90		.39	
HIGHEST ANNUAL MEAN					.90	1996
LOWEST ANNUAL MEAN					.17	1984
HIGHEST DAILY MEAN	13	Dec 18	28	Sep 10	28	Sep 10 1996
LOWEST DAILY MEAN	.03	May 1	.02	Mar 12	.00	Mar 13 1994
ANNUAL SEVEN-DAY MINIMUM	.04	Apr 27	.02	Mar 12	.00	Mar 30 1994
INSTANTANEOUS PEAK FLOW			36	May 7	101	Aug 13 1990
INSTANTANEOUS PEAK STAGE			1.98	May 7	2.61	Aug 13 1990
INSTANTANEOUS LOW FLOW					.00	Apr 10 1983
ANNUAL RUNOFF (AC-FT)	315		652		284	
ANNUAL RUNOFF (CFSM)	7.25		15.0		6.52	
ANNUAL RUNOFF (INCHES)	98.46		203.75		88.65	
10 PERCENT EXCEEDS	.65		2.2		.78	
50 PERCENT EXCEEDS	.16		.20		.15	
90 PERCENT EXCEEDS	.05		.04		.05	

e Estimated

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 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 Río 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.

REVISIONS.--The maximum discharge for period of record has been revised to 21,200 ft³/s (600 m³/s), Aug. 13, 1990, gage-height, 16.62 ft (5.06 m).

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	26	7.7	6.6	58	9.0	4.2	36	20	17	e40	e13
2	21	125	10	6.2	45	8.0	3.6	24	32	16	e52	e13
3	22	126	8.6	5.9	61	7.4	3.7	21	30	17	e90	e13
4	27	51	8.8	5.8	96	6.8	890	20	86	e17	e160	e35
5	62	49	7.4	5.8	55	37	31	17	33	e15	e89	e54
6	85	169	8.2	25	227	15	7.1	52	105	e18	e50	e36
7	52	35	7.5	12	102	10	5.2	203	77	e23	e34	e24
8	78	28	5.9	185	52	10	4.5	110	38	e743	e28	e31
9	74	15	13	24	46	21	4.4	167	20	e145	e27	e180
10	86	15	31	12	36	8.6	4.6	108	22	e45	e27	e2000
11	44	12	13	9.9	31	12	4.4	51	86	e40	e30	e310
12	35	12	11	e34	29	10	54	48	158	e150	e23	e120
13	60	19	55	e20	27	7.1	43	238	60	e160	e100	e100
14	45	13	74	e419	27	6.5	15	72	56	e350	e300	e80
15	32	11	14	e150	23	6.6	33	37	423	e190	e220	e110
16	63	12	15	e74	23	8.9	82	32	273	e74	e240	e92
17	53	11	162	e55	26	7.8	14	27	73	e58	e57	e70
18	65	11	624	e56	23	6.8	12	25	63	e50	e40	e78
19	69	10	85	e74	23	6.5	13	23	48	e47	e39	e62
20	34	e8.4	25	e186	22	6.1	11	24	31	e120	e31	e66
21	27	e8.0	16	e64	20	5.9	11	25	40	e47	e29	e42
22	27	e7.8	14	38	19	5.4	14	28	78	e36	e28	e33
23	134	e7.6	12	29	18	5.1	207	33	48	e35	e250	e30
24	173	e12	9.9	64	81	5.0	94	37	31	e38	e73	e26
25	49	e22	9.0	92	36	5.0	32	23	22	e102	e34	e24
26	49	e18	8.2	72	17	6.3	33	21	19	e162	e20	e30
27	29	e11	8.6	113	14	11	40	18	25	e45	e19	e67
28	24	e12	15	340	12	12	30	16	49	e70	e18	126
29	23	19	8.7	89	11	18	48	15	22	e64	e17	76
30	21	16	7.5	58	---	5.9	120	15	18	e29	e16	61
31	22	---	7.1	55	---	4.8	---	18	---	e29	e15	---
TOTAL	1608	891.8	1302.1	2380.2	1260	295.5	1868.7	1584	2086	2952	2196	4002
MEAN	51.9	29.7	42.0	76.8	43.4	9.53	62.3	51.1	69.5	95.2	70.8	133
MAX	173	169	624	419	227	37	890	238	423	743	300	2000
MIN	21	7.6	5.9	5.8	11	4.8	3.6	15	18	15	15	13
AC-FT	3190	1770	2580	4720	2500	586	3710	3140	4140	5860	4360	7940
CFSM	6.02	3.45	4.87	8.91	5.04	1.11	7.23	5.93	8.07	11.0	8.22	15.5
IN.	6.94	3.85	5.62	10.27	5.44	1.28	8.06	6.84	9.00	12.74	9.48	17.27

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1996, BY WATER YEAR (WY)

MEAN	60.2	83.0	72.1	53.3	49.9	38.6	43.8	66.7	46.1	52.1	59.5	59.0
MAX	202	196	179	119	117	153	119	185	120	114	123	191
(WY)	1971	1985	1971	1969	1982	1990	1981	1979	1970	1983	1988	1989
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 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1966 - 1996	
ANNUAL TOTAL	14894.5		22426.3			
ANNUAL MEAN	40.8		61.3		57.1	
HIGHEST ANNUAL MEAN					98.6	1979
LOWEST ANNUAL MEAN					21.6	1994
HIGHEST DAILY MEAN	624	Dec 18	2000	Sep 10	2600	Dec 7 1987
LOWEST DAILY MEAN	4.8	Jun 10	3.6	Apr 2	3.6	Apr 2 1996
ANNUAL SEVEN-DAY MINIMUM	6.9	Jun 21	5.5	Mar 20	4.4	Jun 30 1975
INSTANTANEOUS PEAK FLOW			13100	Sep 10	21200	Aug 13 1990
INSTANTANEOUS PEAK STAGE			12.66	Sep 10	16.62	Aug 13 1990
ANNUAL RUNOFF (AC-FT)	29540		44480		41380	
ANNUAL RUNOFF (CFSM)	4.73		7.11		6.63	
ANNUAL RUNOFF (INCHES)	64.28		96.78		90.02	
10 PERCENT EXCEEDS	85		125		122	
50 PERCENT EXCEEDS	18		29		25	
90 PERCENT EXCEEDS	8.0		7.7		10	

e Estimated

RIO ESPIRITU SANTO BASIN

50063800 RIO ESPIRITU SANTO NEAR RIO GRANDE, PR--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1958, 1961-66, 1968 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

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, 0.45 UM-MF (COLS./ 100 ML) (31616)	STREP-TOCOCCI FECAL, (COLS. PER 100 ML) (31679)
OCT 1995											
11...	0950	38	80	6.3	25.0	7.2	7.7	91	10	430	710
JAN 1996											
24...	0755	127	75	6.4	20.5	8.2	8.2	89	<10	2200	4400
FEB											
21...	0915	19	113	7.0	22.5	1.2	8.0	90	<10	K70	440
APR											
24...	1000	69	61	6.3	22.0	4.2	8.4	95	25	3500	5900
JUN											
17...	0925	71	64	6.6	23.0	8.5	8.2	95	<10	K680	470
AUG											
21...	0920	30	112	7.1	25.0	0.90	8.3	99	15	210	680

DATE	HARD-NESS TOTAL (MG/L AS CACO3) (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)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (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 1995										
11...	25	5.6	2.7	6.7	0.6	0.50	21	<0.5	1.9	8.5
JAN 1996										
24...	--	--	--	--	--	--	18	--	--	--
FEB										
21...	--	--	--	--	--	--	36	--	--	--
APR										
24...	16	3.5	1.8	5.5	0.6	0.50	13	<0.5	2.1	8.4
JUN										
17...	--	--	--	--	--	--	10	--	--	--
AUG										
21...	34	7.3	3.9	7.9	0.6	0.70	54	--	1.6	10

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)	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 1995										
11...	<0.10	14	52	5.44	1	0.090	<0.010	0.090	0.010	0.24
JAN 1996										
24...	--	--	--	--	20	0.090	<0.010	0.090	0.030	<0.19
FEB										
21...	--	--	--	--	11	0.070	<0.010	0.070	0.010	<0.20
APR										
24...	<0.10	8.8	38	7.11	9	0.070	0.010	0.080	0.030	0.37
JUN										
17...	--	--	--	--	7	0.060	0.010	0.070	0.020	0.25
AUG										
21...	<0.10	19	83	6.79	6	0.060	<0.010	0.060	0.010	<0.20

K = non-ideal count

RIO ESPIRITU SANTO BASIN

50063800 RIO ESPIRITU SANTO NEAR RIO GRANDE, PR--Continued

WATER-QUALITY RECORDS

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 1995										
11...	0.25	0.34	1.5	<0.020	<1	100	20	<1	<1	<10
JAN 1996										
24...	0.22	0.31	1.4	<0.020	--	--	--	--	--	--
FEB										
21...	<0.21	<0.20	0.58	0.040	--	--	--	--	--	--
APR										
24...	0.40	0.48	2.1	0.040	<1	<100	20	<1	1	<10
JUN										
17...	0.27	0.34	1.5	<0.020	--	--	--	--	--	--
AUG										
21...	<0.20	<0.20	0.82	<0.020	--	--	--	--	--	--

DATE	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 (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 1995										
11...	370	1	10	<0.10	<1	<1	10	<0.010	2	<0.02
JAN 1996										
24...	--	--	--	--	--	--	--	--	--	--
FEB										
21...	--	--	--	--	--	--	--	--	--	--
APR										
24...	460	<1	20	<0.10	<1	<1	<10	<0.010	<1	<0.02
JUN										
17...	--	--	--	--	--	--	--	--	--	--
AUG										
21...	--	--	--	--	--	--	--	--	--	--

50064200 RIO GRANDE NEAR EL VERDE, PR

LOCATION.--Lat 18°20'42", long 65°50'30", Hydrologic Unit 21010005, on left bank 250 ft (7.6 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 Río Grande.

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. Elevation of gage is 131 ft (40 m), from topographic map.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	14	8.5	7.8	28	e9.4	6.2	13	7.2	8.0	e23	e12
2	11	62	7.8	7.7	25	e9.0	5.7	7.0	5.3	7.5	27	e12
3	12	93	6.9	7.3	40	e8.4	5.6	5.9	7.9	8.1	40	e12
4	13	45	6.9	6.9	27	e8.0	38	5.4	14	7.5	72	e17
5	34	45	6.7	8.0	46	e32	10	5.2	8.9	6.6	37	e29
6	33	109	6.5	29	101	e14	7.0	9.8	40	6.1	29	e18
7	16	33	5.9	24	30	e9.0	7.2	40	35	8.0	19	e13
8	19	45	5.7	99	22	e9.0	6.2	47	13	362	16	e17
9	33	23	8.4	29	19	e19	6.1	85	7.4	91	15	e100
10	38	18	19	18	18	e8.0	5.9	46	7.8	36	15	e1100
11	21	17	10	13	e17	e11	5.6	18	49	21	17	e170
12	17	15	10	67	e15	e9.0	23	12	73	67	13	e64
13	21	18	41	21	e15	e6.6	36	29	31	71	52	e58
14	17	16	43	429	e15	e6.0	e8.0	27	22	155	177	e45
15	11	13	14	157	e15	e6.0	e18	10	171	104	128	e58
16	17	17	13	49	e13	e8.2	e42	8.1	132	35	137	e50
17	23	18	75	29	e13	e7.0	e7.4	7.4	52	27	54	e39
18	21	15	173	43	e15	e6.2	e6.4	6.8	24	22	e36	e42
19	31	13	63	90	e13	e6.0	e6.8	6.2	19	21	e26	33
20	16	11	22	148	e13	e5.6	e5.8	6.1	14	53	e22	35
21	18	9.6	15	65	e12	e5.4	e5.8	6.7	13	22	e19	23
22	11	9.2	13	41	e11	e4.9	e7.2	6.5	39	16	e17	18
23	81	8.9	11	30	e11	e4.7	50	11	24	15	e140	16
24	112	11	10	38	e45	e4.6	44	8.4	13	17	e52	14
25	54	15	9.3	49	e24	e4.6	12	5.9	10	43	e25	13
26	32	12	9.0	62	e18	e6.4	6.7	5.3	9.5	73	e18	15
27	17	9.1	12	102	e15	e10	9.1	6.1	13	22	e17	19
28	13	11	13	134	e13	e11	6.5	5.2	26	30	e16	43
29	14	12	10	49	e11	e16	29	4.9	13	26	e15	25
30	12	15	8.3	33	---	7.2	39	4.6	9.0	16	e14	17
31	11	---	7.8	32	---	7.6	---	7.8	---	16	e13	---
TOTAL	791	752.8	664.7	1917.7	660	279.8	466.2	467.3	903.0	1412.8	1301	2127
MEAN	25.5	25.1	21.4	61.9	22.8	9.03	15.5	15.1	30.1	45.6	42.0	70.9
MAX	112	109	173	429	101	32	50	85	171	362	177	1100
MIN	11	8.9	5.7	6.9	11	4.6	5.6	4.6	5.3	6.1	13	12
AC-FT	1570	1490	1320	3800	1310	555	925	927	1790	2800	2580	4220
CFSM	3.49	3.43	2.93	8.46	3.11	1.23	2.13	2.06	4.12	6.23	5.74	9.70
IN.	4.03	3.83	3.38	9.76	3.36	1.42	2.37	2.38	4.60	7.19	6.62	10.82

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 1996, BY WATER YEAR (WY)

MEAN	57.4	67.7	47.5	43.0	30.5	20.9	27.8	52.1	31.3	37.3	42.3	49.3
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	13.8	10.1	5.80	4.50	6.29	10.2	6.22	8.66	7.39	12.4
(WY)	1969	1981	1968	1977	1977	1977	1995	1974	1975	1994	1991	1967

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1967 - 1996	
ANNUAL TOTAL	9159.2		11743.3			
ANNUAL MEAN	25.1		32.1		40.5	
HIGHEST ANNUAL MEAN					87.1	1969
LOWEST ANNUAL MEAN					17.3	1994
HIGHEST DAILY MEAN	439	Sep 16	1100	Sep 10	3470	May 21 1969
LOWEST DAILY MEAN	3.5	Apr 29	4.6	Mar 24	2.2	Aug 15 1991
ANNUAL SEVEN-DAY MINIMUM	3.6	Apr 28	5.1	Mar 19	2.5	Aug 10 1991
INSTANTANEOUS PEAK FLOW			6430	Jan 14	17400	Sep 16 1975
INSTANTANEOUS PEAK STAGE			14.11	Jan 14	15.50	Sep 16 1975
INSTANTANEOUS LOW FLOW			3.7	May 30	1.6	Mar 13 1977
ANNUAL RUNOFF (AC-FT)	18170		23290		29360	
ANNUAL RUNOFF (CFSM)	3.43		4.39		5.54	
ANNUAL RUNOFF (INCHES)	46.61		59.76		75.31	
10 PERCENT EXCEEDS	53		63		80	
50 PERCENT EXCEEDS	13		16		17	
90 PERCENT EXCEEDS	4.6		6.5		6.6	

e Estimated

RIO MAMEYES BASIN

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 Río 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 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	34	24	20	e26	e20	e16	e31	e58	e16	e45	e27
2	56	50	33	19	e24	e19	e16	e26	e79	e15	e35	e26
3	35	67	28	19	e33	e19	e17	e24	e27	e15	e80	e28
4	36	48	30	21	e37	e20	e357	e23	e93	e17	e62	e37
5	52	63	23	20	e28	e78	e71	e24	e40	e15	e35	e77
6	e49	149	28	46	e53	e33	e30	e50	e69	e14	e22	e39
7	e49	65	22	35	e51	e27	e24	e111	e56	e30	e18	e31
8	e61	62	21	94	e28	e32	e23	e108	e17	e452	e16	e61
9	e48	44	27	30	e28	e45	e21	e86	e13	e53	e20	e271
10	e45	41	48	23	e23	e26	e19	e79	e16	e20	e17	e2140
11	e34	38	33	36	e23	e28	e18	e45	e86	e14	e18	e276
12	e36	38	29	82	e21	e23	e84	e47	e113	e46	e19	e92
13	e104	34	70	48	e28	e20	e49	e613	e20	e34	e21	e61
14	46	29	88	e838	e28	e20	e26	e66	e32	e762	e30	e61
15	39	31	33	e100	e29	e20	e42	e36	e134	e69	e56	e145
16	55	34	36	e110	e31	e27	e45	e27	e136	e40	e125	e106
17	46	31	122	e43	e25	e23	e25	e23	e32	e23	e89	e54
18	41	27	277	e40	e22	e21	e40	e19	e48	e20	e43	e60
19	76	25	97	e71	e34	e19	e41	e17	e20	e23	e43	e56
20	40	22	59	e115	e23	e18	e22	e17	e14	e33	e35	e84
21	35	23	40	e42	e21	e17	e23	e18	e20	e17	e30	e79
22	33	22	35	e32	e20	e17	e28	e22	e36	e16	e27	e48
23	80	21	31	e26	e20	e16	e114	e28	e15	e15	e123	e37
24	90	26	28	e38	e100	e16	e60	e32	e14	e14	e91	e33
25	72	26	26	e69	e38	e15	e30	e15	e14	e25	e49	e29
26	82	37	26	e55	e27	e16	e37	e16	e15	e29	e44	e30
27	44	22	25	e62	e24	e18	e31	e15	e19	e20	e45	e38
28	40	23	40	e113	e23	e32	e40	e12	e47	e20	e50	e156
29	36	44	24	e40	e22	e35	e35	e12	e20	e23	e39	e41
30	34	33	22	e26	---	e19	e67	e18	e18	e27	e39	e53
31	35	---	21	e28	---	e17	---	e20	---	e30	e37	---
TOTAL	1558	1209	1446	2341	890	756	1451	1680	1321	1947	1403	4276
MEAN	50.3	40.3	46.6	75.5	30.7	24.4	48.4	54.2	44.0	62.8	45.3	143
MAX	104	149	277	838	100	78	357	613	136	762	125	2140
MIN	29	21	21	19	20	15	16	12	13	14	16	26
AC-FT	3090	2400	2870	4640	1770	1500	2880	3330	2620	3860	2780	8480
CFSM	7.30	5.86	6.78	11.0	4.46	3.54	7.03	7.88	6.40	9.13	6.58	20.7
IN.	8.42	6.54	7.82	12.66	4.81	4.09	7.85	9.08	7.14	10.53	7.59	23.12

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 1996, BY WATER YEAR (WY)

MEAN	64.7	79.3	59.9	54.7	41.8	37.6	40.3	65.2	55.5	50.2	52.5	60.1
MAX	240	191	164	105	68.0	79.7	83.1	147	112	93.4	81.4	166
(WY)	1971	1985	1971	1969	1988	1990	1973	1970	1970	1969	1988	1989
MIN	20.3	36.3	16.6	25.0	21.7	18.1	14.5	18.7	12.4	20.3	20.4	26.6
(WY)	1969	1974	1990	1985	1968	1968	1984	1973	1985	1994	1994	1986

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1967 - 1996	
ANNUAL TOTAL	16915		20278			
ANNUAL MEAN	46.3		55.4		55.8	
HIGHEST ANNUAL MEAN					78.0	1971
LOWEST ANNUAL MEAN					33.1	1994
HIGHEST DAILY MEAN	326	Sep 16	2140	Sep 10	2780	Sep 18 1989
LOWEST DAILY MEAN	11	May 3	12	May 28	6.9	Apr 20 1970
ANNUAL SEVEN-DAY MINIMUM	13	Apr 27	15	May 25	9.4	Jun 12 1985
INSTANTANEOUS PEAK FLOW			12800	Sep 10	20500	Sep 18 1989
INSTANTANEOUS PEAK STAGE			11.09	Sep 10	13.91	Sep 18 1989
INSTANTANEOUS LOW FLOW					5.1	Apr 8 1970
ANNUAL RUNOFF (AC-FT)	33550		40220		40410	
ANNUAL RUNOFF (CFSM)	6.74		8.05		8.11	
ANNUAL RUNOFF (INCHES)	91.46		109.64		110.15	
10 PERCENT EXCEEDS	86		87		100	
50 PERCENT EXCEEDS	35		32		33	
90 PERCENT EXCEEDS	19		17		16	

e Estimated

RIO MAMEYES BASIN

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-49 sediment sampler and automatic sediment sampler, since 1993.

REMARKS:-- Sediment samples were collected by a local observer on a weekly basis and during high flow events.

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, e4,290 tons (e3,891 tonnes) September 10, 1996; Minimum daily mean, 0.03 tons (0.02 tonne) October 05, 1994.

EXTREMES FOR CURRENT YEAR 1996.--
SEDIMENT CONCENTRATION: Maximum daily mean, 484 mg/L September 10, 1996; Minimum daily mean, 1 mg/L several days.
SEDIMENT LOADS: Maximum daily mean, e4,290 tons (e3,891 tonnes) September 10, 1996; Minimum daily mean, e0.05 tons (e0.04 tonne) March 19, 1996.

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	29	17	1.3	34	4	.33	24	6	.41
2	56	15	3.6	50	6	.94	33	5	.44
3	35	3	.27	67	15	2.9	28	4	.30
4	36	2	.19	48	20	2.6	30	3	.25
5	52	9	1.5	63	19	3.2	23	3	.19
6	e49	7	e.89	149	48	30	28	3	.22
7	e49	9	e1.4	65	19	3.5	22	3	.18
8	e61	13	e2.2	62	14	2.4	21	3	.17
9	e48	11	e1.4	44	11	1.3	27	4	.30
10	e45	25	e3.5	41	8	.87	48	9	1.2
11	e34	11	e1.0	38	6	.60	33	6	.54
12	e36	8	e.73	38	4	.44	29	5	.37
13	e104	18	e7.6	34	3	.30	70	15	3.7
14	46	13	1.6	29	5	.35	88	19	5.2
15	39	11	1.2	31	8	.66	33	8	.74
16	55	17	3.7	34	13	1.2	36	6	.57
17	46	8	1.0	31	21	1.8	122	25	20
18	41	6	.71	27	19	1.4	277	91	108
19	76	41	14	25	14	.93	97	12	3.6
20	40	33	3.6	22	10	.61	59	6	1.0
21	35	31	2.9	23	7	.45	40	4	.48
22	33	30	2.6	22	6	.34	35	4	.38
23	80	30	6.6	21	5	.27	31	4	.33
24	90	19	5.0	26	4	.31	28	4	.30
25	72	16	10	26	4	.30	26	4	.29
26	82	28	10	37	7	.77	26	5	.34
27	44	6	.77	22	4	.24	25	6	.40
28	40	4	.40	23	4	.25	40	8	.99
29	36	7	.71	44	14	2.8	24	5	.30
30	34	6	.51	33	9	.83	22	4	.26
31	35	3	.33	---	---	---	21	5	.29
TOTAL	1558	---	91.21	1209	---	62.89	1446	---	151.74

e Estimated

RIO MAMEYES BASIN

50065500 RIO MAMEYES NEAR SABANA,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)
		JANUARY			FEBRUARY			MARCH	
1	20	6	.33	e26	38	e2.7	e20	5	e.26
2	19	8	.39	e24	32	e2.1	e19	4	e.19
3	19	9	.49	e33	26	e2.2	e19	3	e.15
4	21	11	.64	e37	6	e.71	e20	6	e.37
5	20	15	.79	e28	2	e.19	e78	8	e2.3
6	46	10	1.2	e53	24	e6.7	e33	6	e.48
7	35	4	2.0	e51	12	e2.0	e27	15	e1.1
8	94	24	8.1	e28	5	e.34	e32	23	e2.0
9	30	5	.37	e28	3	e.23	e45	13	e1.7
10	23	4	.23	e23	2	e.15	e26	6	e.40
11	36	4	.42	e23	2	e.14	e28	3	e.19
12	82	14	4.0	e21	5	e.31	e23	3	e.20
13	48	7	1.1	e28	13	e1.0	e20	5	e.27
14	e838	233	e931	e28	14	e1.0	e20	3	e.16
15	e100	34	e50	e29	11	e.88	e20	1	e.07
16	e110	6	e1.8	e31	8	e.71	e27	1	e.07
17	e43	7	e.80	e25	6	e.38	e23	1	e.06
18	e40	8	e.87	e22	4	e.24	e21	1	e.06
19	e71	19	e4.7	e34	8	e.79	e19	1	e.05
20	e115	26	e12	e23	5	e.34	e18	2	e.08
21	e42	9	e1.0	e21	3	e.15	e17	3	e.13
22	e32	7	e.62	e20	4	e.20	e17	3	e.16
23	e26	4	e.30	e20	8	e.42	e16	4	e.18
24	e38	2	e.25	e100	22	e11	e16	5	e.21
25	e69	21	e4.5	e38	4	e.44	e15	6	e.24
26	e55	27	e4.0	e27	4	e.25	e16	7	e.31
27	e62	11	e2.3	e24	3	e.20	e18	8	e.40
28	e113	60	e22	e23	3	e.21	e32	12	e1.3
29	e40	64	e6.9	e22	4	e.24	e35	5	e.63
30	e26	54	e4.1	---	---	---	e19	1	e.08
31	e28	45	e3.4	---	---	---	e17	3	e.12
TOTAL	2341	---	1070.60	890	---	36.22	756	---	13.92

e Estimated

RIO MAMEYES BASIN

50065500 RIO MAMEYES NEAR SABANA,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)
		APRIL			MAY			JUNE	
1	e16	4	e.19	e31	12	e1.0	e58	14	e6.1
2	e16	5	e.23	e26	10	e.67	e79	21	e12
3	e17	6	e.27	e24	7	e.44	e27	7	e.54
4	e357	193	e463	e23	5	e.30	e93	17	e8.8
5	e71	41	e10	e24	4	e.27	e40	11	e1.8
6	e30	19	e1.6	e50	9	e1.7	e69	23	e8.4
7	e24	15	e1.0	e111	23	e13	e56	13	e2.6
8	e23	12	e.73	e108	29	e16	e17	6	e.29
9	e21	9	e.53	e86	17	e4.1	e13	5	e.18
10	e19	9	e.44	e79	17	e4.1	e16	4	e.17
11	e18	8	e.41	e45	11	e1.3	e86	20	e11
12	e84	25	e9.4	e47	10	e1.2	e113	23	e15
13	e49	11	e1.8	e613	167	e1010	e20	3	e.23
14	e26	7	e.46	e66	16	e2.9	e32	7	e2.3
15	e42	8	e1.3	e36	13	e1.2	e134	42	e56
16	e45	9	e1.3	e27	18	e1.3	e136	25	e17
17	e25	3	e.20	e23	26	e1.6	e32	5	e.43
18	e40	5	e1.6	e19	20	e1.1	e48	6	e.87
19	e41	8	e1.2	e17	15	e.71	e20	6	e.32
20	e22	3	e.20	e17	10	e.46	e14	4	e.15
21	e23	3	e.16	e18	7	e.31	e20	6	e.34
22	e28	4	e.39	e22	4	e.24	e36	8	e.94
23	e114	35	e42	e28	7	e.56	e15	3	e.12
24	e60	14	e2.7	e32	9	e.92	e14	3	e.11
25	e30	7	e.53	e15	5	e.22	e14	3	e.10
26	e37	8	e1.0	e16	4	e.17	e15	2	e.09
27	e31	6	e.53	e15	3	e.12	e19	4	e.20
28	e40	8	e1.2	e12	2	e.07	e47	12	e1.3
29	e35	8	e.72	e12	1	e.05	e20	5	e.25
30	e67	15	e3.4	e18	1	e.05	e18	4	e.22
31	---	---	---	e20	1	e.05	---	---	---
TOTAL	1451	---	548.49	1680	---	1066.11	1321	---	147.85

e Estimated

RIO MAMEYES BASIN

50065500 RIO MAMEYES NEAR SABANA,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)
		JULY			AUGUST			SEPTEMBER	
1	e16	4	e.17	e45	5	e1.1	e27	6	e.44
2	e15	3	e.12	e35	7	e.65	e26	6	e.40
3	e15	2	e.10	e80	12	e4.0	e28	5	e.40
4	e17	2	e.09	e62	12	e2.3	e37	6	e.70
5	e15	2	e.07	e35	7	e.69	e77	17	e7.6
6	e14	1	e.06	e22	5	e.35	e39	9	e.96
7	e30	1	e.07	e18	3	e.18	e31	6	e.47
8	e452	45	e190	e16	4	e.18	e61	13	e2.6
9	e53	7	e1.1	e20	6	e.30	e271	32	e111
10	e20	6	e.31	e17	5	e.25	e2140	484	e4290
11	e14	8	e.28	e18	3	e.16	e276	64	e55
12	e46	12	e3.7	e19	2	e.11	e92	20	e5.2
13	e34	5	e.79	e21	4	e.20	e61	11	e1.7
14	e762	85	e257	e30	7	e.60	e61	16	e3.0
15	e69	17	e4.2	e56	12	e1.8	e145	17	e7.2
16	e40	7	e.69	e125	27	e15	e106	25	e8.5
17	e23	4	e.30	e89	21	e7.0	e54	27	e3.9
18	e20	3	e.17	e43	9	e1.1	e60	26	e4.0
19	e23	2	e.13	e43	7	e.82	e56	12	e2.0
20	e33	5	e.63	e35	6	e.58	e84	11	e2.5
21	e17	3	e.12	e30	5	e.42	e79	21	e5.6
22	e16	2	e.10	e27	5	e.33	e48	16	e2.1
23	e15	2	e.08	e123	31	e44	e37	14	e1.4
24	e14	2	e.06	e91	19	e5.2	e33	9	e.82
25	e25	5	e.99	e49	10	e1.3	e29	5	e.43
26	e29	6	e.52	e44	9	e1.1	e30	3	e.28
27	e20	4	e.23	e45	10	e1.2	e38	5	e.59
28	e20	4	e.19	e50	11	e1.5	e156	26	e8.6
29	e23	3	e.18	e39	8	e.88	e41	4	e.47
30	e27	3	e.18	e39	8	e.79	e53	10	e1.7
31	e30	2	e.17	e37	7	e.64	---	---	---
TOTAL	1947	---	462.80	1403	---	94.73	4276	---	4529.56
YEAR	20278		8276.12						

e Estimated

RIO MAMEYES BASIN

50065500 RIO MAMEYES NR SABANA, PR--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

PARTICLE-SIZE DISTRIBUTION 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. 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)
APR 1996							
04...	1300	1860	1670	8390	17	26	36
23...	2105	425	979	2000	31	38	49
MAY							
13...	1125	1030	2140	5940	37	47	56
13...	1210	1850	1210	6060	26	41	50
JUL							
08...	1635	2520	559	3800	22	27	33
AUG 1996							
23...	1725	900	597	1450	34	40	52
SEP							
09...	2247	2000	479	2590	48	53	60

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)
APR 1996							
04...	54	69	76	92	96	98	99
23...	66	76	84	95	99	99	100
MAY							
13...	71	80	86	93	97	99	99
13...	64	74	82	91	96	98	99
JUL							
08...	53	67	75	89	96	98	99
AUG 1996							
23...	67	77	87	95	98	99	100
SEP							
09...	72	76	86	93	97	99	100

RIO MAMEYES BASIN

50065500 RIO MAMEYES NEAR SABANA, PR--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

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)
JAN 1996					
14...	1505	1120	814	2460	88
14...	1655	1560	619	2610	82
14...	1745	2730	580	4280	73
APR					
04...	1325	1820	1170	5750	86
04...	1355	1520	999	4100	88
04...	1410	1030	743	2070	91
04...	1455	1520	417	1710	85
04...	1515	1240	590	1980	81
04...	1535	1190	383	1230	87
04...	1555	938	460	1160	93
04...	1600	764	550	1130	93
23...	2117	651	305	536	88
MAY					
13...	1245	764	386	796	91
13...	1445	1360	590	2170	86
13...	1450	1360	513	1880	90
13...	1517	724	275	538	93
JUL					
08...	1710	2220	268	1610	85
08...	1725	2270	226	1390	89
08...	1755	2630	287	2040	80
08...	1835	2100	229	1300	83
AUG					
23...	1750	934	363	915	90
SEP					
09...	2215	1660	286	1280	79
10...	0245	2500	244	1650	85
10...	0405	4190	563	6370	74
10...	0525	3410	923	8500	76

RIO SABANA BASIN

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 except those for estimated daily discharges, which are poor. 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 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	e15	13	20	21	5.5	2.8	4.3	e24	12	17	12
2	51	e50	16	20	19	5.8	2.6	3.6	e35	13	19	12
3	26	e82	11	18	21	7.9	15	2.6	e13	18	56	12
4	26	e48	9.9	18	22	7.6	e36	2.7	e42	15	27	18
5	23	e70	9.5	19	17	31	13	2.8	e25	15	20	30
6	19	e170	14	28	18	11	3.9	6.3	e70	15	18	21
7	19	e35	11	22	26	6.4	3.1	e60	e46	16	18	13
8	41	e29	11	e60	19	12	3.4	e76	e9.0	166	17	17
9	24	e23	11	e17	24	19	4.0	24	e5.0	59	20	139
10	18	e21	13	12	18	9.6	2.8	13	e4.2	30	17	1100
11	15	e17	14	135	17	9.2	2.5	5.7	e35	19	18	138
12	16	e15	15	76	13	7.4	44	3.3	e120	23	19	65
13	229	e37	43	45	11	4.9	18	472	e17	29	e37	59
14	50	e18	65	275	8.4	3.4	3.9	e30	25	345	e145	45
15	49	e13	24	73	10	4.3	3.0	e12	69	68	e21	59
16	23	e25	22	79	14	7.2	4.1	e8.2	146	23	66	51
17	32	e18	42	37	9.1	4.3	2.8	e6.0	31	17	26	40
18	24	e14	271	35	8.3	3.7	5.7	e4.6	40	15	14	42
19	53	e11	113	49	18	4.5	6.5	e4.0	24	17	15	35
20	28	e10	64	83	9.6	3.1	2.8	e3.5	18	24	13	60
21	46	11	28	45	7.7	2.9	2.4	e4.8	20	14	14	39
22	36	11	23	30	8.4	2.8	2.6	e4.8	24	14	15	26
23	e58	11	21	26	7.8	2.9	42	e8.2	23	15	148	24
24	e70	14	19	26	29	2.8	24	e5.0	16	16	54	22
25	e90	15	67	27	9.8	2.5	4.2	e3.2	15	18	23	20
26	e50	21	36	22	8.3	2.8	3.5	e2.7	15	21	18	20
27	e19	15	27	37	7.1	3.2	3.8	e3.1	15	13	17	24
28	e17	15	42	93	6.0	4.2	4.8	e2.6	14	16	16	34
29	e13	21	21	32	6.1	6.8	4.5	e2.2	13	16	15	25
30	e11	18	19	24	---	3.5	11	e8.0	13	17	14	23
31	e13	---	19	21	---	3.3	---	e18	---	17	13	---
TOTAL	1205	873	1114.4	1504	413.6	205.5	282.7	807.2	966.2	1116	950	2225
MEAN	38.9	29.1	35.9	48.5	14.3	6.63	9.42	26.0	32.2	36.0	30.6	74.2
MAX	229	170	271	275	29	31	44	472	146	345	148	1100
MIN	11	10	9.5	12	6.0	2.5	2.4	2.2	4.2	12	13	12
AC-FT	2390	1730	2210	2980	820	408	561	1600	1920	2210	1880	4410
CFSM	9.82	7.35	9.08	12.3	3.60	1.67	2.38	6.58	8.13	9.09	7.74	18.7
IN.	11.32	8.20	10.47	14.13	3.89	1.93	2.66	7.58	9.08	10.48	8.92	20.90

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 1996, BY WATER YEAR (WY)

MEAN	22.4	31.2	25.2	14.9	12.4	11.3	11.6	32.1	21.4	16.7	18.3	23.3
MAX	66.4	79.7	64.1	48.5	22.2	36.0	33.5	63.9	50.6	36.0	39.9	74.2
(WY)	1986	1988	1982	1996	1988	1987	1990	1982	1987	1996	1995	1996
MIN	6.48	8.15	3.92	6.12	2.94	2.71	2.20	4.65	4.70	5.84	3.09	7.23
(WY)	1983	1981	1990	1986	1983	1994	1984	1994	1985	1986	1994	1987

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1980 - 1996	
ANNUAL TOTAL	10170.3		11662.6			
ANNUAL MEAN	27.9		31.9		20.1	
HIGHEST ANNUAL MEAN					31.9	1996
LOWEST ANNUAL MEAN					7.85	1994
HIGHEST DAILY MEAN	553	Sep 16	1100	Sep 10	1100	Sep 10 1996
LOWEST DAILY MEAN	2.4	Feb 13	2.2	May 29	.96	Apr 10 1983
ANNUAL SEVEN-DAY MINIMUM	2.5	Apr 18	2.8	Mar 20	1.0	Apr 6 1983
INSTANTANEOUS PEAK FLOW			4350	May 13	9600	Jan 5 1992
INSTANTANEOUS PEAK STAGE			15.64	May 13	19.74	Jan 5 1992
INSTANTANEOUS LOW FLOW					.86	Apr 17 1983
ANNUAL RUNOFF (AC-FT)	20170		23130		14570	
ANNUAL RUNOFF (CFSM)	7.04		8.05		5.08	
ANNUAL RUNOFF (INCHES)	95.54		109.56		69.00	
10 PERCENT EXCEEDS	63		60		38	
50 PERCENT EXCEEDS	14		18		8.7	
90 PERCENT EXCEEDS	3.0		3.9		2.7	

e Estimated

RIO FAJARDO BASIN

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 Paraíso, 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 400 m 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 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	32	25	e26	32	22	14	12	44	12	7.8	40
2	38	110	23	e25	35	24	12	7.1	75	10	13	19
3	29	172	23	e25	32	23	11	6.6	27	20	19	14
4	52	99	20	e28	47	26	15	6.8	89	9.3	27	32
5	59	139	19	e26	30	130	64	5.6	51	7.8	8.8	90
6	41	344	26	e60	47	83	36	5.3	148	7.3	6.8	48
7	29	89	20	e46	92	52	14	117	99	7.1	6.5	20
8	63	75	18	e120	47	44	12	163	20	629	5.7	49
9	62	59	27	35	167	88	12	115	12	214	9.6	263
10	61	54	39	65	67	65	9.6	88	8.6	89	8.7	e2610
11	59	43	24	484	60	47	11	36	42	47	6.2	464
12	56	39	22	318	36	35	115	23	266	59	8.7	131
13	544	95	169	291	78	24	88	511	32	83	26	141
14	122	46	225	1240	47	21	21	94	24	625	312	187
15	101	34	47	310	58	41	21	27	246	247	126	205
16	49	65	58	143	64	131	28	19	256	86	253	141
17	51	47	175	90	38	38	15	14	93	55	128	43
18	35	34	499	111	33	35	80	10	98	30	59	50
19	35	29	245	131	96	27	67	8.5	100	20	48	36
20	28	26	356	197	42	20	15	7.1	48	40	29	117
21	26	27	88	121	28	18	10	9.9	48	16	24	54
22	23	26	e46	64	26	16	15	10	55	12	21	18
23	70	25	e40	46	26	15	46	17	48	10	168	19
24	150	28	e37	52	173	14	50	12	22	9.3	128	13
25	190	30	e34	59	76	13	11	6.9	18	10	50	9.9
26	133	61	e34	43	38	15	7.3	5.5	15	31	28	10
27	40	28	e33	130	33	13	12	6.4	33	8.2	23	12
28	36	29	e52	209	25	19	36	5.5	77	8.0	26	19
29	29	42	e31	77	26	61	26	4.6	18	8.5	21	17
30	23	41	e29	48	---	23	34	11	14	6.5	19	53
31	28	---	e27	38	---	33	---	36	---	6.2	16	---
TOTAL	2285	1968	2511	4658	1599	1216	907.9	1400.8	2126.6	2423.2	1632.8	4924.9
MEAN	73.7	65.6	81.0	150	55.1	39.2	30.3	45.2	70.9	78.2	52.7	164
MAX	544	344	499	1240	173	131	115	511	266	629	312	2610
MIN	23	25	18	25	25	13	7.3	4.6	8.6	6.2	5.7	9.9
AC-FT	4530	3900	4980	9240	3170	2410	1800	2780	4220	4810	3240	9770
CFSM	4.95	4.40	5.44	10.1	3.70	2.63	2.03	3.03	4.76	5.25	3.53	11.0
IN.	5.70	4.91	6.27	11.63	3.99	3.04	2.27	3.50	5.31	6.05	4.08	12.30

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 1996, BY WATER YEAR (WY)

MEAN	92.5	103	80.2	47.3	37.9	35.2	43.6	91.6	60.2	51.0	56.3	88.4
MAX	260	295	237	150	80.4	109	129	399	166	132	159	421
(WY)	1971	1975	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	11.4	9.70	18.9
(WY)	1969	1994	1990	1977	1983	1977	1984	1973	1985	1994	1994	1994

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1961 - 1996	
ANNUAL TOTAL	21801.9		27653.2			
ANNUAL MEAN	59.7		75.6		66.0	
HIGHEST ANNUAL MEAN					140	1979
LOWEST ANNUAL MEAN					19.0	1994
HIGHEST DAILY MEAN	915	Sep 16	2610	Sep 10	8800	Sep 18 1989
LOWEST DAILY MEAN	3.8	Apr 29	4.6	May 29	1.0	May 6 1984
ANNUAL SEVEN-DAY MINIMUM	4.4	Apr 27	7.4	May 24	1.5	Apr 18 1984
INSTANTANEOUS PEAK FLOW			7310	Jan 14	23500	Sep 18 1989
INSTANTANEOUS PEAK STAGE			10.27	Jan 14	20.00	Sep 18 1989
INSTANTANEOUS LOW FLOW					.86	May 3 1984
ANNUAL RUNOFF (AC-FT)	43240		54850		47820	
ANNUAL RUNOFF (CFSM)	4.01		5.07		4.43	
ANNUAL RUNOFF (INCHES)	54.43		69.04		60.19	
10 PERCENT EXCEEDS	150		154		128	
50 PERCENT EXCEEDS	28		35		32	
90 PERCENT EXCEEDS	7.5		10		10	

e Estimated

RIO FAJARDO BASIN

50071000 RIO FAJARDO NEAR FAJARDO, PR--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1960 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DATE	TIME	DISCHARGE, 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, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	OXYGEN DEMAND, CHEMICAL (HIGH LEVEL) (MG/L) (00340)	COLIFORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)	STREPTOCOCCI FECAL, (COLS. PER 100 ML) (31679)
NOV 1995											
01...	0945	30	138	6.0	25.0	2.8	7.0	84	<10	K800	240
JAN 1996											
23...	0915	51	105	6.4	22.0	2.0	7.9	89	<10	K110	700
FEB											
23...	0835	24	130	6.6	23.0	1.3	8.0	91	<10	K190	310
APR											
23...	0900	17	125	6.8	25.0	0.50	8.2	97	<10	K130	220
JUN											
18...	0845	98	100	6.9	25.0	5.6	7.5	90	39	49000	37000
AUG											
22...	0915	22	120	7.2	27.0	0.50	8.4	104	<10	53	380

DATE	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	SODIUM ADSORPTION RATIO (00931)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ALKALINITY WAT WH TOT FET FIELD MG/L AS CACO3 (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)
NOV 1995										
01...	51	12	5.2	14	0.8	1.8	25	<0.5	4.0	14
JAN 1996										
23...	--	--	--	--	--	--	31	--	--	--
FEB										
23...	--	--	--	--	--	--	39	--	--	--
APR										
23...	35	8.0	3.6	12	0.9	1.3	28	<0.5	3.7	13
JUN										
18...	--	--	--	--	--	--	26	--	--	--
AUG										
22...	30	6.7	3.3	10	0.8	1.3	31	--	3.4	12

DATE	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	SOLIDS, DISSOLVED (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 1995										
01...	<0.10	24	101	--	<1	0.130	0.010	0.140	0.040	0.26
JAN 1996										
23...	--	--	--	--	5	0.320	<0.010	0.320	0.030	<0.20
FEB										
23...	--	--	--	--	7	0.200	0.010	0.210	<0.010	0.20
APR										
23...	<0.10	26	84	3.78	2	0.690	0.160	0.850	1.00	1.7
JUN										
18...	--	--	--	--	9	0.190	0.010	0.200	0.010	<0.20
AUG										
22...	<0.10	24	79	4.69	5	0.100	<0.010	0.100	<0.010	<0.20

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 1995										
01...	0.30	0.44	1.9	0.050	<1	<100	30	<1	<1	<10
JAN 1996										
23...	<0.20	0.52	2.3	<0.020	--	--	--	--	--	--
FEB										
23...	0.20	0.41	1.8	0.120	--	--	--	--	--	--
APR										
23...	2.7	3.5	16	0.240	<1	<100	20	<1	<1	<10
JUN										
18...	0.21	0.41	1.8	<0.020	--	--	--	--	--	--
AUG										
22...	<0.20	<0.20	0.53	<0.020	--	--	--	--	--	--

K = non-ideal count

RIO FAJARDO BASIN

50071000 RIO FAJARDO NEAR FAJARDO, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

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 1995										
01...	750	2	60	<0.10	<1	<1	<10	<0.010	<1	<0.02
JAN 1996										
23...	--	--	--	--	--	--	--	--	--	--
FEB										
23...	--	--	--	--	--	--	--	--	--	--
APR										
23...	140	<1	<10	<0.10	<1	<1	<10	<0.010	<1	<0.02
JUN										
18...	--	--	--	--	--	--	--	--	--	--
AUG										
22...	--	--	--	--	--	--	--	--	--	--

PESTICIDE ANALYSES

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)	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)	ENDO-SULFAN, I TOTAL (UG/L) (39388)
JUN 1996										
18...	0845	<0.100	<0.010	<0.100	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010

DATE	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)	MIREX, TOTAL (UG/L) (39755)
JUN 1996									
18...	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010

DATE	PARA-THION, TOTAL (UG/L) (39540)	PCNS UNFILT RECOVER (UG/L) (39250)	PER-THANE TOTAL (UG/L) (39034)	TOX-APHENE, TOTAL (UG/L) (39400)	TOTAL TRI-THION (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)
JUN 1996									
18...	<0.010	<0.100	<0.100	<1.00	<0.010	0.020	<0.010	<0.010	<0.010

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-49 sediment sampler and automatic sediment sampler since 1995.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATION: Maximum daily mean, 2,210 mg/L October 6, 1985; Minimum daily mean, 1 mg/L several days, 1996.
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.

EXTREMES FOR CURRENT YEAR 1996.--
SEDIMENT CONCENTRATION: Maximum daily mean, 1,620 mg/L September 10, 1996 ; minimum daily mean, 1 mg/L several days.
SEDIMENT LOADS: Maximum daily mean, 14,800 tons (13,400 tonnes) September 10, 1996; minimum daily mean 0.01 tons (0.01 tonnes) May 06,1996.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

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, 0.45 UM-MF (COLS./ 100 ML) (31616)	STREP-TOCOCCI FECAL, (COLS. PER 100 ML) (31679)
NOV 1995											
01...	0945	30	138	6.0	25.0	2.8	7.0	84	<10	K800	240
JAN 1996											
23...	0915	51	105	6.4	22.0	2.0	7.9	89	<10	K110	700
FEB											
23...	0835	24	130	6.6	23.0	1.3	8.0	91	<10	K190	310
APR											
23...	0900	17	125	6.8	25.0	0.50	8.2	97	<10	K130	220
JUN											
18...	0845	98	100	6.9	25.0	5.6	7.5	90	39	49000	37000
AUG											
22...	0915	22	120	7.2	27.0	0.50	8.4	104	<10	53	380

DATE	HARD-NESS TOTAL (MG/L AS CACO3) (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)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (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 1995										
01...	51	12	5.2	14	0.8	1.8	25	<0.5	4.0	14
JAN 1996										
23...	--	--	--	--	--	--	31	--	--	--
FEB										
23...	--	--	--	--	--	--	39	--	--	--
APR										
23...	35	8.0	3.6	12	0.9	1.3	28	<0.5	3.7	13
JUN										
18...	--	--	--	--	--	--	26	--	--	--
AUG										
22...	30	6.7	3.3	10	0.8	1.3	31	--	3.4	12

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)	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 1995										
01...	<0.10	24	101	--	<1	0.130	0.010	0.140	0.040	0.26
JAN 1996										
23...	--	--	--	--	5	0.320	<0.010	0.320	0.030	<0.20
FEB										
23...	--	--	--	--	7	0.200	0.010	0.210	<0.010	0.20
APR										
23...	<0.10	26	84	3.78	2	0.690	0.160	0.850	1.00	1.7
JUN										
18...	--	--	--	--	9	0.190	0.010	0.200	0.010	<0.20
AUG										
22...	<0.10	24	79	4.69	5	0.100	<0.010	0.100	<0.010	<0.20

K = non-ideal count

RIO FAJARDO BASIN

50071000 RIO FAJARDO NEAR FAJARDO, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

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 1995										
01...	0.30	0.44	1.9	0.050	<1	<100	30	<1	<1	<10
JAN 1996										
23...	<0.20	0.52	2.3	<0.020	--	--	--	--	--	--
FEB										
23...	0.20	0.41	1.8	0.120	--	--	--	--	--	--
APR										
23...	2.7	3.5	16	0.240	<1	<100	20	<1	<1	<10
JUN										
18...	0.21	0.41	1.8	<0.020	--	--	--	--	--	--
AUG										
22...	<0.20	<0.20	0.53	<0.020	--	--	--	--	--	--

DATE	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 (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)
NOV 1995										
01...	750	2	60	<0.10	<1	<1	<10	<0.010	<1	<0.02
JAN 1996										
23...	--	--	--	--	--	--	--	--	--	--
FEB										
23...	--	--	--	--	--	--	--	--	--	--
APR										
23...	140	<1	<10	<0.10	<1	<1	<10	<0.010	<1	<0.02
JUN										
18...	--	--	--	--	--	--	--	--	--	--
AUG										
22...	--	--	--	--	--	--	--	--	--	--

RIO FAJARDO BASIN

50071000 RIO FAJARDO NR FAJARDO, P.R.--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	23	23	1.5	32	5	.47	25	7	.47
2	38	11	1.6	110	27	9.0	23	4	.24
3	29	6	.46	172	385	187	23	2	.13
4	52	11	2.6	99	36	12	20	1	.07
5	59	13	2.5	139	33	14	19	1	.05
6	41	5	.59	344	131	227	26	1	.07
7	29	2	.20	89	9	2.6	20	1	.07
8	63	18	3.9	75	2	.38	18	2	.09
9	62	14	2.6	59	1	.17	27	6	.43
10	61	16	3.4	54	16	2.5	39	6	.76
11	59	24	9.4	43	9	1.0	24	3	.21
12	56	15	2.8	39	7	.70	22	6	.35
13	544	238	523	95	26	15	169	51	40
14	122	33	13	46	10	1.4	225	63	46
15	101	28	11	34	4	.38	47	8	1.2
16	49	11	1.5	65	15	3.3	58	15	3.1
17	51	10	1.6	47	3	.38	175	79	184
18	35	4	.35	34	3	.23	499	169	276
19	35	6	.64	29	6	.44	245	71	57
20	28	7	.55	26	4	.31	356	141	406
21	26	6	.39	27	2	.17	88	1	.36
22	23	5	.32	26	2	.11	e46	1	e.17
23	70	17	3.8	25	1	.07	e40	3	e.31
24	150	50	23	28	1	.08	e37	7	e.70
25	190	59	58	30	1	.09	e34	14	e1.3
26	133	40	21	61	15	2.9	e34	25	e2.3
27	40	14	1.5	28	2	.20	e33	18	e1.7
28	36	9	.86	29	1	.08	e52	10	e1.1
29	29	4	.35	42	4	.76	e31	5	e.54
30	23	2	.15	41	11	1.3	e29	2	e.20
31	28	3	.24	---	---	---	e27	3	e.20
TOTAL	2285	---	692.80	1968	---	484.02	2511	---	1025.12

e Estimated

RIO FAJARDO BASIN

50071000 RIO FAJARDO NR FAJARDO, P.R.--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)
		JANUARY			FEBRUARY			MARCH	
1	e26	4	e.26	32	9	.79	22	7	.39
2	e25	4	e.27	35	10	.93	24	70	4.0
3	e25	4	e.27	32	9	.74	23	149	9.2
4	e28	4	e.31	47	19	2.5	26	147	10
5	e26	5	e.35	30	15	1.3	130	70	24
6	e60	5	e.55	47	10	1.6	83	19	4.9
7	e46	5	e.71	92	23	6.9	52	13	2.0
8	e120	5	e.77	47	11	1.6	44	9	1.7
9	35	6	.61	167	97	58	88	21	5.6
10	65	16	2.9	67	16	3.0	65	12	2.4
11	484	162	318	60	15	2.7	47	13	1.7
12	318	97	93	36	8	.74	35	11	1.1
13	291	66	80	78	20	10	24	7	.44
14	1240	1000	8560	47	11	1.5	21	4	.20
15	310	103	109	58	14	3.9	41	10	5.7
16	143	29	13	64	16	3.1	131	34	16
17	90	22	5.5	38	6	.66	38	6	.56
18	111	35	13	33	6	.49	35	7	.63
19	131	38	15	96	23	6.9	27	5	.36
20	197	56	35	42	9	1.1	20	5	.27
21	121	30	11	28	5	.40	18	8	.40
22	64	8	1.4	26	4	.29	16	14	.63
23	46	7	.86	26	3	.22	15	11	.44
24	52	43	7.2	173	51	31	14	6	.23
25	59	15	2.6	76	23	5.0	13	4	.12
26	43	30	3.8	38	10	1.0	15	6	.24
27	130	34	15	33	4	.36	13	13	.45
28	209	43	29	25	4	.25	19	13	.76
29	77	5	.97	26	5	.36	61	17	3.9
30	48	3	.44	---	---	---	23	5	.45
31	38	5	.50	---	---	---	33	6	.70
TOTAL	4658	---	9321.27	1599	---	147.33	1216	---	99.47

e Estimated

RIO FAJARDO BASIN

50071000 RIO FAJARDO NR FAJARDO, P.R.--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)
		APRIL			MAY			JUNE	
1	14	5	.20	12	28	.84	44	9	2.6
2	12	10	.30	7.1	38	.72	75	19	9.6
3	11	5	.15	6.6	5	.08	27	22	2.0
4	15	2	.23	6.8	1	.02	89	25	13
5	64	18	3.0	5.6	1	.02	51	17	15
6	36	7	.76	5.3	1	.01	148	51	33
7	14	4	.17	117	39	56	99	21	8.4
8	12	3	.10	163	46	45	20	3	.13
9	12	2	.06	115	15	4.9	12	4	.13
10	9.6	1	.03	88	2	.42	8.6	2	.05
11	11	1	.03	36	1	.10	42	9	4.3
12	115	21	8.4	23	1	.06	266	83	117
13	88	25	7.9	511	282	1490	32	5	.49
14	21	2	.14	94	11	4.2	24	6	1.6
15	21	3	.21	27	2	.13	246	77	73
16	28	5	.42	19	3	.17	256	81	88
17	15	3	.14	14	4	.17	93	23	6.7
18	80	22	15	10	5	.13	98	2	.42
19	67	14	3.3	8.5	3	.06	100	16	4.6
20	15	2	.08	7.1	1	.03	48	6	.77
21	10	1	.03	9.9	3	.07	48	3	.44
22	15	2	.08	10	2	.07	55	9	2.4
23	46	11	2.0	17	4	.18	48	22	2.9
24	50	57	9.0	12	2	.05	22	18	1.0
25	11	33	.98	6.9	1	.02	18	17	.80
26	7.3	21	.40	5.5	1	.02	15	16	.65
27	12	6	.22	6.4	1	.02	33	12	1.1
28	36	6	1.5	5.5	1	.02	77	19	8.6
29	26	5	.54	4.6	3	.03	18	8	.37
30	34	15	1.4	11	9	.68	14	12	.45
31	---	---	---	36	8	1.2	---	---	---
TOTAL	907.9	---	56.77	1400.8	---	1605.42	2126.6	---	399.50

RIO FAJARDO BASIN

50071000 RIO FAJARDO NR FAJARDO, P.R.--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)
		JULY			AUGUST			SEPTEMBER	
1	12	5	.17	7.8	5	.11	40	10	2.6
2	10	1	.04	13	4	.17	19	24	1.3
3	20	6	.40	19	8	.62	14	15	.59
4	9.3	8	.21	27	15	1.3	32	8	.90
5	7.8	8	.16	8.8	18	.42	90	27	13
6	7.3	7	.14	6.8	17	.31	48	18	2.8
7	7.1	7	.14	6.5	15	.26	20	8	.40
8	629	327	1760	5.7	12	.18	49	11	2.0
9	214	33	30	9.6	4	.09	263	161	789
10	89	7	1.8	8.7	3	.08	e2610	1620	e14800
11	47	7	.90	6.2	3	.05	464	154	220
12	59	7	1.1	8.7	7	.17	131	27	12
13	83	23	7.2	26	7	4.5	141	35	34
14	625	413	1350	312	82	95	187	17	23
15	247	84	68	126	37	15	205	61	47
16	86	12	3.8	253	92	93	141	27	18
17	55	8	1.4	128	39	18	43	4	.45
18	30	3	.31	59	10	1.7	50	7	1.6
19	20	1	.05	48	10	1.2	36	9	.90
20	40	9	1.1	29	15	1.2	117	27	23
21	16	8	.34	24	7	.47	54	22	4.6
22	12	6	.19	21	3	.15	18	5	.25
23	10	8	.21	168	54	80	19	3	.13
24	9.3	11	.28	128	25	11	13	2	.07
25	10	6	.15	50	3	.43	9.9	2	.05
26	31	8	1.3	28	2	.17	10	2	.05
27	8.2	3	.06	23	2	.15	12	1	.05
28	8.0	2	.05	26	3	.20	19	1	.06
29	8.5	4	.10	21	3	.14	17	2	.07
30	6.5	10	.18	19	2	.10	53	13	3.4
31	6.2	9	.15	16	2	.09	---	---	---
TOTAL	2423.2	---	3229.93	1632.8	---	326.26	4924.9	---	16001.27
YEAR	27653.2		33389.16						

e Estimated

RIO FAJARDO BASIN

50071000 RIO FAJARDO NR FAJARDO, P.R.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

PARTICLE-SIZE DISTRIBUTION 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. 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 1995							
13...	1020	1140	1460	4510	36	52	66
JAN 1996							
14...	1750	6360	5200	89300	12	18	28
14...	1800	7050	4130	78600	19	28	36
14...	1940	2910	4360	34300	15	23	33
JUL							
14...	1120	793	2640	5660	27	36	50
14...	1630	463	2760	3450	31	40	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)
OCT 1995							
13...	77	85	96	99	100	100	100
JAN 1996							
14...	37	48	55	72	87	97	99
14...	47	59	75	89	97	99	99
14...	42	50	61	83	92	98	99
JUL							
14...	65	72	91	97	99	99	100
14...	63	74	92	98	100	100	100

RIO FAJARDO BASIN

50071000 --RIO FAJARDO NR FAJARDO, P.R.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

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 1995					
13...	0815	194	2890	1510	74
13...	0915	1840	428	2130	98
13...	1350	972	258	677	75
JAN 1996					
14...	1820	7310	3650	72000	85
14...	2000	1960	4310	22800	72
FEB					
09...	1630	150	267	108	99
JUL					
14...	1100	554	718	1070	87
14...	1610	498	755	1020	92
SEP					
10...	1440	1643	285	1260	82

RIO FAJARDO BASIN

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 1995 TO SEPTEMBER 1996

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, 0.45 UM-MF (COLS./ 100 ML) (31616)	STREP-TOCOCCI FECAL, (COLS. PER 100 ML) (31679)
NOV 1995											
01...	1215	23	144	7.0	28.5	2.6	6.5	82	<10	250	K1200
JAN 1996											
23...	1035	E75	125	6.3	23.0	2.4	7.4	85	<10	K140	260
FEB											
23...	1015	35	142	6.8	26.0	1.4	7.6	92	<10	K10	K120
APR											
23...	1045	17	142	7.2	27.5	0.70	8.6	108	<10	K170	300
JUN											
18...	0955	81	108	6.8	26.0	2.3	7.0	85	<10	310	230
AUG											
22...	1050	25	124	7.3	29.0	0.50	7.5	97	<10	210	180

DATE	HARD-NESS TOTAL (MG/L AS CACO3) (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)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (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 1995										
01...	34	7.7	3.5	11	0.8	1.2	44	<0.5	3.2	12
JAN 1996										
23...	--	--	--	--	--	--	41	--	--	--
FEB										
23...	--	--	--	--	--	--	44	--	--	--
APR										
23...	37	8.1	4.0	13	0.9	1.3	43	<0.5	4.3	15
JUN										
18...	--	--	--	--	--	--	31	--	--	--
AUG										
22...	31	6.6	3.5	11	0.9	1.1	34	--	3.8	13

E= estimated
K = non-ideal count

RIO FAJARDO BASIN

50072500 RIO FAJARDO BELOW FAJARDO, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DATE	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	SOLIDS, DISSOLVED (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 1995										
01...	<0.10	27	89	5.63	6	0.170	<0.010	0.170	0.020	0.20
JAN 1996										
23...	--	--	--	--	12	0.340	<0.010	0.340	0.030	1.2
FEB										
23...	--	--	--	--	8	0.120	0.010	0.130	0.030	<0.20
APR										
23...	<0.10	23	94	4.44	1	0.620	0.040	0.660	0.100	0.39
JUN										
18...	--	--	--	--	5	0.150	<0.010	0.150	0.010	<0.20
AUG										
22...	<0.10	22	81	5.41	3	0.580	0.040	0.620	0.180	0.48

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 1995										
01...	0.22	0.39	1.7	0.020	<1	<100	10	<1	<1	<10
JAN 1996										
23...	1.2	1.5	6.8	<0.020	--	--	--	--	--	--
FEB										
23...	<0.20	0.23	1.0	<0.020	--	--	--	--	--	--
APR										
23...	0.49	1.2	5.1	0.160	<1	<100	20	<1	<1	<10
JUN										
18...	<0.20	0.30	1.3	<0.020	--	--	--	--	--	--
AUG										
22...	0.66	1.3	5.7	0.150	--	--	--	--	--	--

DATE	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 (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)
NOV 1995										
01...	550	<1	30	<0.10	<1	<1	10	<0.010	1	<0.02
JAN 1996										
23...	--	--	--	--	--	--	--	--	--	--
FEB										
23...	--	--	--	--	--	--	--	--	--	--
APR										
23...	170	<1	10	<0.10	<1	<1	<10	<0.010	<1	<0.02
JUN										
18...	--	--	--	--	--	--	--	--	--	--
AUG										
22...	--	--	--	--	--	--	--	--	--	--

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 Río Grande Plaza.

DRAINAGE AREA.--0.05 mi² (0.13 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 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.38	.20	.32	.14	.30	.28	.17	.34	.14	.23	.30	e.50
2	.35	.30	.33	.15	.30	.25	.16	.31	.22	.21	.23	e.45
3	.34	.65	.33	.14	.37	.25	.13	.30	.13	.22	.26	e.47
4	.37	.34	.32	.14	.35	.28	.27	.27	.58	.21	.37	e.89
5	.59	.47	.31	.15	.39	.63	.19	.24	.55	.21	.22	e.90
6	.42	1.0	.32	.34	.82	.33	.17	.25	.61	.20	.23	e.67
7	.32	.31	.26	.44	.51	.31	.16	.38	.35	.20	.19	.51
8	.41	.32	.25	.35	.37	.33	.13	.72	.18	6.0	.17	.70
9	.36	.28	.28	.20	.35	.38	.11	.49	.17	.47	.18	3.7
10	.43	.29	.32	.17	.33	.42	.10	.39	.20	.29	.20	23
11	.30	.28	.23	.22	.29	.36	.10	.24	.51	.27	.15	1.3
12	.29	.26	.23	.33	.27	.30	.81	.22	.92	.61	.18	.66
13	.52	.27	.45	.18	.30	.27	.34	e2.7	.50	.43	.41	.57
14	.36	.27	.45	5.9	.29	.28	.24	e.40	.55	2.0	1.1	.64
15	.25	.35	.19	.84	.27	.32	.88	.25	2.5	.75	.65	1.4
16	.29	.62	.17	.39	.24	.30	.31	.21	1.7	.45	.74	.86
17	.42	.57	.85	.35	.24	.27	.20	.19	.58	.47	.78	.49
18	.27	.43	.76	.55	.23	.33	.26	.16	.49	.43	.66	.68
19	.39	.41	.36	e.74	.24	.27	.23	.16	.35	.38	.60	.53
20	.27	.38	.24	e1.3	.22	.24	.17	.16	.41	.58	.57	.41
21	.23	.34	.23	.37	.17	.24	.17	.18	.37	.34	.56	.40
22	.22	.33	.22	.33	.21	.21	.24	.18	.33	.30	.54	.35
23	e.62	.35	.17	.30	.19	.21	1.0	.14	.24	.32	1.5	.31
24	e.72	.43	.16	.35	2.2	.16	.37	.13	.27	.32	.91	.29
25	.32	.38	.16	.37	.47	.16	.22	.14	.25	.38	.68	.28
26	.30	.38	.17	.40	.27	.22	.29	.13	.27	.34	.64	.32
27	.26	.34	.15	.42	.24	.27	.33	.15	.41	.26	.71	.32
28	.29	.40	.15	.73	.24	.30	.54	.13	.61	.25	e.73	.48
29	.23	.39	.13	.41	.26	.23	.65	.12	.26	.21	e.55	.31
30	.25	.38	.14	.31	---	.20	.70	.12	.24	.24	e.53	.33
31	.22	---	.13	.30	---	.18	---	.14	---	.23	e.50	---
TOTAL	10.99	11.72	8.78	17.31	10.93	8.78	9.64	9.94	14.89	17.80	16.04	42.72
MEAN	.35	.39	.28	.56	.38	.28	.32	.32	.50	.57	.52	1.42
MAX	.72	1.0	.85	5.9	2.2	.63	1.0	2.7	2.5	6.0	1.5	23
MIN	.22	.20	.13	.14	.17	.16	.10	.12	.13	.20	.15	.28
AC-FT	22	23	17	34	22	17	19	20	30	35	32	85
CFSM	2.95	3.26	2.36	4.65	3.14	2.36	2.68	2.67	4.14	4.78	4.31	11.9
IN.	3.41	3.63	2.72	5.37	3.39	2.72	2.99	3.08	4.62	5.52	4.97	13.24

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 1996, BY WATER YEAR (WY)

MEAN	.33	.46	.36	.42	.43	.27	.30	.40	.38	.58	.36	.61
MAX	.41	.76	.61	.56	.60	.30	.33	.61	.50	1.18	.56	1.42
(WY)	1994	1993	1993	1996	1994	1995	1994	1993	1996	1992	1992	1996
MIN	.25	.32	.22	.28	.32	.23	.21	.32	.32	.22	.19	.34
(WY)	1993	1995	1994	1994	1993	1994	1995	1996	1993	1994	1993	1993

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1992 - 1996	
ANNUAL TOTAL	126.67		179.54			
ANNUAL MEAN	.35		.49		.40	
HIGHEST ANNUAL MEAN					.49	1996
LOWEST ANNUAL MEAN					.32	1994
HIGHEST DAILY MEAN	3.2	Sep 16	23	Sep 10	23	Sep 10 1996
LOWEST DAILY MEAN	.11	Feb 22	.10	Apr 10	.09	Apr 4 1994
ANNUAL SEVEN-DAY MINIMUM	.14	Jan 19	.13	May 24	.12	Mar 30 1994
INSTANTANEOUS PEAK FLOW			102	Sep 10	102	Sep 10 1996
INSTANTANEOUS PEAK STAGE			10.74	Sep 10	10.74	Sep 10 1996
ANNUAL RUNOFF (AC-FT)	251		356		288	
ANNUAL RUNOFF (CFSM)	2.89		4.09		3.31	
ANNUAL RUNOFF (INCHES)	39.27		55.66		44.95	
10 PERCENT EXCEEDS	.58		.70		.71	
50 PERCENT EXCEEDS	.27		.31		.27	
90 PERCENT EXCEEDS	.17		.17		.16	

e Estimated

RIO BLANCO BASIN

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).

WATER-DISCHARGE RECORDS

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. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	7.3	13	9.0	15	9.6	4.4	6.3	7.0	8.0	16	15
2	11	20	13	8.0	13	8.9	4.2	6.0	17	7.4	11	13
3	10	40	13	8.0	18	8.8	3.9	6.5	8.4	8.9	18	14
4	17	18	12	8.0	17	10	18	6.4	35	7.2	23	29
5	26	25	12	8.0	18	28	7.4	7.5	28	6.3	12	29
6	18	48	14	24	30	13	4.5	9.4	33	6.5	11	21
7	16	14	12	17	22	14	4.2	20	19	7.4	9.8	20
8	21	18	10	33	15	12	4.3	32	12	213	8.9	29
9	21	13	12	13	15	16	3.6	28	10	30	11	108
10	19	13	17	11	16	11	3.2	26	11	15	11	737
11	14	13	12	15	15	12	3.3	13	31	11	8.5	52
12	14	13	11	29	13	8.6	31	14	64	28	11	28
13	26	12	28	15	15	7.1	13	95	26	19	27	24
14	13	12	30	253	13	6.7	8.9	17	29	86	71	32
15	11	21	9.3	47	13	8.8	23	9.7	97	30	48	62
16	14	24	11	17	13	9.0	12	8.2	78	13	44	43
17	14	19	55	15	13	7.4	6.2	7.6	26	12	33	23
18	10	16	69	20	12	8.3	11	7.2	21	11	27	28
19	20	14	24	33	15	5.8	9.1	6.4	15	11	26	25
20	9.0	14	14	56	13	5.7	6.2	6.4	12	23	24	23
21	7.7	13	11	23	12	5.5	8.0	8.5	13	10	23	24
22	6.5	13	11	16	11	5.4	15	8.5	21	9.8	21	18
23	26	12	10	14	11	5.3	44	7.5	12	9.3	47	18
24	24	16	9.2	16	61	5.1	17	6.6	10	11	32	16
25	12	15	9.8	22	15	4.8	6.9	5.9	9.3	18	20	15
26	10	15	9.3	20	12	4.8	8.9	5.7	9.2	15	17	17
27	8.0	13	9.0	33	11	6.7	6.5	5.1	15	8.8	17	17
28	7.3	14	12	47	11	11	12	5.1	25	9.1	21	31
29	8.1	18	8.8	18	10	7.1	12	4.9	9.8	8.3	17	18
30	7.4	15	8.0	15	---	5.7	15	5.7	8.7	9.0	16	23
31	7.5	---	8.1	17	---	4.4	---	6.2	---	8.9	15	---
TOTAL	439.5	518.3	497.5	880.0	468	276.5	326.7	402.3	712.4	670.9	697.2	1552
MEAN	14.2	17.3	16.0	28.4	16.1	8.92	10.9	13.0	23.7	21.6	22.5	51.7
MAX	26	48	69	253	61	28	44	95	97	213	71	737
MIN	6.5	7.3	8.0	8.0	10	4.4	3.2	4.9	7.0	6.3	8.5	13
AC-FT	872	1030	987	1750	928	548	648	798	1410	1330	1380	3080
CFSM	11.3	13.7	12.7	22.5	12.8	7.08	8.64	10.3	18.8	17.2	17.8	41.1
IN.	12.98	15.30	14.69	25.98	13.82	8.16	9.65	11.88	21.03	19.81	20.58	45.82

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1945 - 1996, BY WATER YEAR (WY)

MEAN	15.2	18.3	15.4	13.4	13.7	10.5	12.2	16.6	12.6	13.9	14.4	18.1
MAX	32.1	46.8	31.3	28.4	44.0	26.1	34.4	26.3	23.7	38.8	24.5	51.7
(WY)	1986	1951	1988	1996	1950	1949	1950	1948	1996	1952	1945	1996
MIN	4.78	8.00	4.99	6.65	4.86	3.90	4.77	6.84	5.19	7.21	5.91	7.03
(WY)	1993	1948	1990	1994	1983	1951	1984	1994	1985	1994	1993	1986

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1945 - 1996	
ANNUAL TOTAL	5163.4		7441.3			
ANNUAL MEAN	14.1		20.3		14.5	
HIGHEST ANNUAL MEAN					21.0	1952
LOWEST ANNUAL MEAN					8.00	1994
HIGHEST DAILY MEAN	139	Sep 16	737	Sep 10	737	Sep 10 1996
LOWEST DAILY MEAN	4.5	May 3	3.2	Apr 10	1.5	Mar 22 1946
ANNUAL SEVEN-DAY MINIMUM	5.2	Apr 5	4.4	Apr 5	2.0	Apr 7 1946
INSTANTANEOUS PEAK FLOW			1900	Sep 10	2860	Apr 21 1983
INSTANTANEOUS PEAK STAGE			7.76	Sep 10	8.96	Apr 21 1983
INSTANTANEOUS LOW FLOW			2.8	Apr 11	2.8	Apr 11 1996
ANNUAL RUNOFF (AC-FT)	10240		14760		10510	
ANNUAL RUNOFF (CFSM)	11.2		16.1		11.5	
ANNUAL RUNOFF (INCHES)	152.44		219.70		156.43	
10 PERCENT EXCEEDS	25		31		29	
50 PERCENT EXCEEDS	10		13		8.2	
90 PERCENT EXCEEDS	5.7		6.5		4.5	

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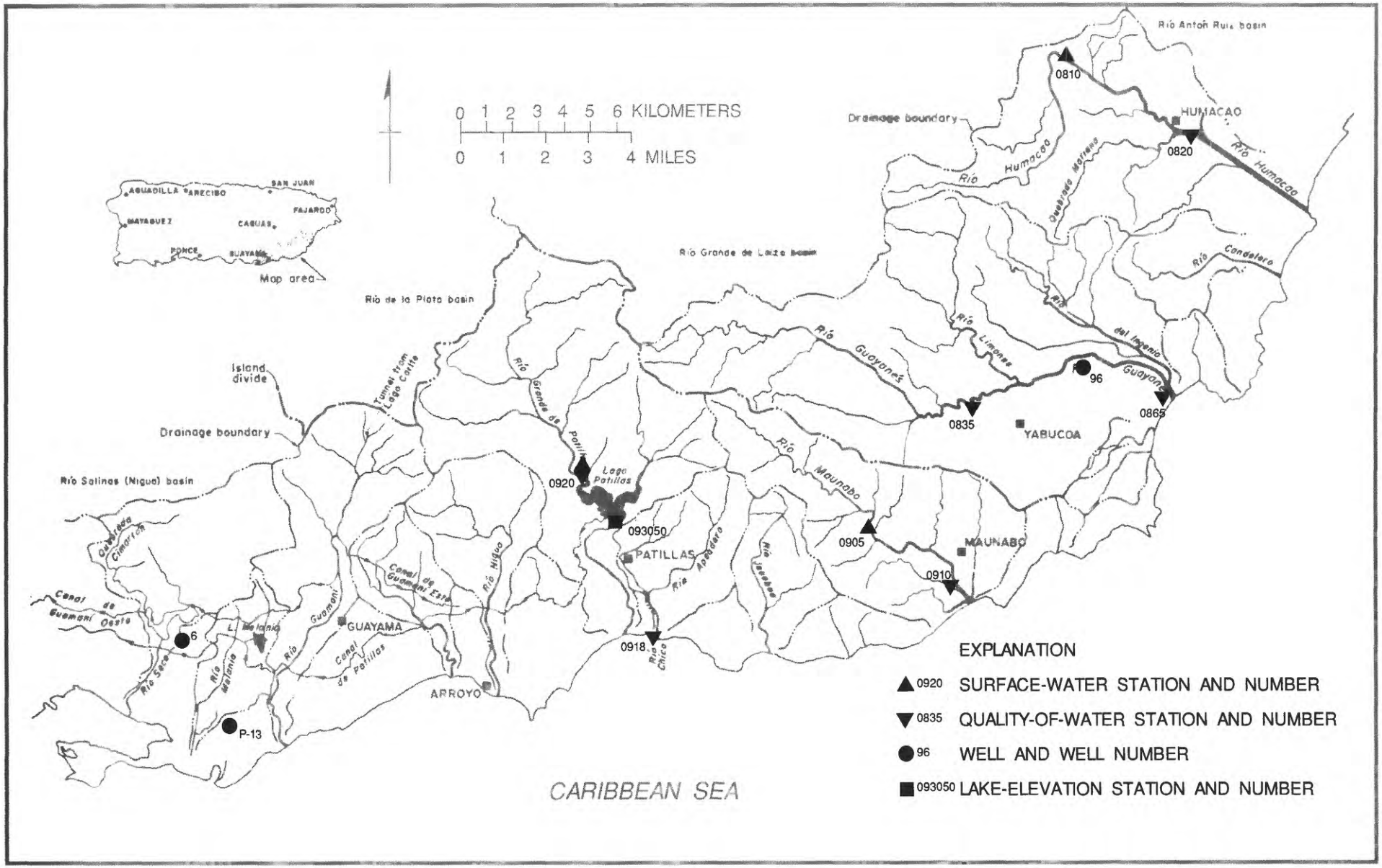

Figure 22.--Southeastern river basins the Río Humacao to Río Seco basins.

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 for estimated daily discharges, and 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 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	14	12	e13	11	e8.4	7.7	7.7	33	e18	12	24
2	17	13	13	e14	11	e8.4	7.3	6.9	28	e16	36	25
3	18	14	14	e13	11	e9.2	7.7	6.7	10	e16	54	20
4	17	12	13	e12	13	e9.2	7.8	6.4	18	e15	23	187
5	17	15	13	e11	48	e9.2	11	6.2	32	e14	16	21
6	18	22	12	e13	18	e8.4	7.8	6.2	e45	e14	14	18
7	16	15	e11	e13	24	8.3	7.2	7.8	e60	e13	13	16
8	18	13	e11	e48	16	8.4	13	18	e53	e31	13	15
9	16	12	e11	e21	14	9.8	8.8	17	e20	e38	13	120
10	21	12	e12	e18	14	9.0	7.7	12	e17	e23	14	e2010
11	23	12	e17	e16	14	11	10	9.4	e21	e19	13	162
12	18	12	e21	e15	13	9.2	9.4	11	e150	e82	13	69
13	16	11	e56	e25	13	8.4	7.8	12	e70	25	14	56
14	16	11	e27	e150	12	8.1	7.7	9.9	e34	167	108	54
15	15	21	e18	e60	12	9.5	8.0	8.7	e130	96	152	63
16	14	17	e16	e32	13	11	7.5	8.2	e120	28	249	60
17	16	13	e19	e24	11	8.6	7.4	8.1	e41	21	33	72
18	24	12	e22	e43	11	9.3	7.8	7.9	e56	18	25	74
19	31	11	e30	e41	e11	10	7.4	8.1	e28	17	32	80
20	33	11	e300	e52	e13	9.2	7.1	7.6	e20	15	23	54
21	22	12	e28	e28	e11	8.4	6.8	9.2	e24	14	41	53
22	32	11	e23	e21	e10	8.4	6.8	7.5	e35	14	20	44
23	25	13	e21	e17	e10	8.1	7.7	11	e27	13	18	40
24	23	15	e19	e16	e11	7.8	10	7.6	e21	13	20	39
25	18	14	e18	13	e10	7.9	7.8	7.2	e19	13	17	37
26	15	16	e18	14	e9.2	9.2	9.2	7.0	e18	13	16	38
27	15	13	e18	14	e9.2	8.2	12	6.9	e21	12	15	61
28	16	12	e17	14	e8.6	8.6	7.5	7.0	e35	24	16	e44
29	15	12	e15	13	e8.4	8.2	7.7	6.6	e26	17	15	e38
30	14	12	e14	12	---	9.6	13	6.9	e20	12	14	35
31	13	---	e13	12	---	8.0	---	9.3	---	12	14	---
TOTAL	589	403	852	808	390.4	275.0	254.6	272.0	1232	843	1076	3629
MEAN	19.0	13.4	27.5	26.1	13.5	8.87	8.49	8.77	41.1	27.2	34.7	121
MAX	33	22	300	150	48	11	13	18	150	167	249	2010
MIN	13	11	11	11	8.4	7.8	6.8	6.2	10	12	12	15
AC-FT	1170	799	1690	1600	774	545	505	540	2440	1670	2130	7200
CFSM	2.86	2.02	4.13	3.92	2.02	1.33	1.28	1.32	6.18	4.09	5.22	18.2
IN.	3.29	2.25	4.77	4.52	2.18	1.54	1.42	1.52	6.89	4.72	6.02	20.30

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 - 1996, BY WATER YEAR (WY)

MEAN	28.6	36.2	30.8	19.2	15.3	11.3	9.15	14.1	18.1	19.5	19.6	37.7
MAX	74.9	126	112	34.1	22.1	16.4	13.1	42.2	41.1	38.1	34.7	121
(WY)	1975	1988	1988	1992	1994	1989	1976	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 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1974 - 1996	
ANNUAL TOTAL	6309.6		10624.0			
ANNUAL MEAN	17.3		29.0		21.8	
HIGHEST ANNUAL MEAN					37.6	1988
LOWEST ANNUAL MEAN					12.1	1990
HIGHEST DAILY MEAN	300	Dec 20	2010	Sep 10	2010	Sep 10 1996
LOWEST DAILY MEAN	5.5	May 13	6.2	May 5	2.2	Jul 15 1974
ANNUAL SEVEN-DAY MINIMUM	5.6	May 12	6.8	May 1	2.8	Jul 19 1974
INSTANTANEOUS PEAK FLOW			5320	Sep 10	20800	Sep 6 1960
INSTANTANEOUS PEAK STAGE			10.42	Sep 10	34.40	Sep 6 1960
ANNUAL RUNOFF (AC-FT)	12520		21070		15770	
ANNUAL RUNOFF (CFSM)	2.60		4.37		3.27	
ANNUAL RUNOFF (INCHES)	35.30		59.43		44.48	
10 PERCENT EXCEEDS	25		46		32	
50 PERCENT EXCEEDS	12		14		13	
90 PERCENT EXCEEDS	7.7		7.8		7.0	

e Estimated

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 1995 TO SEPTEMBER 1996

DATE	TIME	DISCHARGE, 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, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	OXYGEN DEMAND, CHEMICAL (HIGH LEVEL) (MG/L) (00340)	COLIFORM, FECAL, 0.45 UM-MF (COLS./100 ML) (31616)	STREPTOCOCCI FECAL, (COLS. PER 100 ML) (31679)
OCT 1995											
12...	1040	27	270	6.2	27.0	28	7.0	86	15	K8500	94000
JAN 1996											
09...	0940	27	290	6.8	23.5	25	7.4	85	18	54000	K14000
FEB											
09...	1030	24	278	6.9	24.5	5.7	7.8	91	<10	5200	3500
APR											
09...	1035	14	308	6.8	26.5	6.5	7.4	90	14	K71000	64000
JUN											
11...	1045	33	267	6.6	25.5	56	5.6	68	19	29000	5700
AUG											
07...	1110	22	293	7.3	27.0	4.0	6.6	82	<10	6000	K1800

DATE	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	SODIUM ADSORPTION RATIO (00931)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ALKALINITY WAT WH TOT FET FIELD MG/L AS CACO3 (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)
OCT 1995										
12...	75	20	6.0	20	1	2.6	100	<0.5	7.4	23
JAN 1996										
09...	--	--	--	--	--	--	90	--	--	--
FEB										
09...	--	--	--	--	--	--	100	--	--	--
APR										
09...	88	25	6.2	24	1	2.1	87	<0.5	9.7	35
JUN										
11...	--	--	--	--	--	--	79	--	--	--
AUG										
07...	84	23	6.4	23	1	1.9	98	--	8.2	29

K = non-ideal count

RIO HUMACAO BASIN

50082000 RIO HUMACAO AT HIGHWAY 3 AT HUMACAO, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DATE	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	SOLIDS, DISSOLVED (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 1995										
12...	<0.10	37	176	13.0	22	0.500	0.020	0.520	0.200	0.05
JAN 1996										
09...	--	--	--	--	33	0.710	0.010	0.720	0.290	0.44
FEB										
09...	--	--	--	--	17	0.790	0.010	0.800	0.020	0.28
APR										
09...	0.10	38	192	7.27	11	0.470	0.010	0.480	0.140	0.29
JUN										
11...	--	--	--	--	66	0.340	0.020	0.360	0.030	0.50
AUG										
07...	<0.10	38	188	10.9	16	0.440	<0.010	0.440	0.040	0.25

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 1995										
12...	0.25	0.57	2.5	0.120	<1	<100	30	<1	<1	<10
JAN 1996										
09...	0.73	1.5	6.4	0.250	--	--	--	--	--	--
FEB										
09...	0.30	1.1	4.9	0.060	--	--	--	--	--	--
APR										
09...	0.43	0.91	4.0	0.080	<1	<100	20	<1	<1	<10
JUN										
11...	0.53	0.89	3.9	0.080	--	--	--	--	--	--
AUG										
07...	0.29	0.73	3.2	0.040	--	--	--	--	--	--

DATE	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 (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 1995										
12...	1300	1	190	<0.10	<1	<1	10	<0.010	2	<0.02
JAN 1996										
09...	--	--	--	--	--	--	--	--	--	--
FEB										
09...	--	--	--	--	--	--	--	--	--	--
APR										
09...	780	<1	130	<0.10	<1	<1	<10	<0.010	<1	0.06
JUN										
11...	--	--	--	--	--	--	--	--	--	--
AUG										
07...	--	--	--	--	--	--	--	--	--	--

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 1995 TO SEPTEMBER 1996

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, 0.45 UM-MF (COLS./ 100 ML) (31616)	STREP-TOCOCCI FECAL, (COLS. PER 100 ML) (31679)
OCT 1995											
04...	0820	47	168	6.5	25.5	16	5.2	62	<10	3500	3600
DEC											
12...	1015	34	170	6.5	23.0	27	7.2	74	<10	K7400	2500
FEB 1996											
08...	1040	39	151	6.3	23.0	9.6	6.6	76	10	2100	K1800
APR											
03...	1035	26	175	7.1	24.0	18	6.3	73	<10	3300	630
JUN											
04...	1030	E250	125	6.6	25.0	150	6.8	80	120	38000	49000
AUG											
06...	0900	55	165	6.6	25.0	23	5.5	66	16	4200	3900

DATE	HARD-NESS TOTAL (MG/L AS CACO3) (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)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (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 1995										
04...	55	14	4.9	14	0.8	1.5	57	<0.5	3.6	13
DEC										
12...	--	--	--	--	--	--	62	--	--	--
FEB 1996										
08...	--	--	--	--	--	--	64	--	--	--
APR										
03...	55	14	4.8	16	0.9	1.6	76	<0.5	4.2	14
JUN										
04...	--	--	--	--	--	--	43	--	--	--
AUG										
06...	47	12	4.2	14	0.9	1.8	52	--	3.7	12

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)	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 1995										
04...	<0.10	38	123	15.6	26	0.790	0.010	0.800	0.020	0.28
DEC										
12...	--	--	--	--	38	0.500	0.010	0.510	0.040	0.24
FEB 1996										
08...	--	--	--	--	21	0.720	0.010	0.730	0.030	0.32
APR										
03...	0.10	39	139	9.70	31	0.370	0.010	0.380	0.040	0.22
JUN										
04...	--	--	--	--	824	1.17	0.030	1.20	0.080	0.46
AUG										
06...	0.10	35	114	16.8	42	0.890	0.040	0.930	0.070	0.51

K = non-ideal count
E = estimate

RIO GUAYANES BASIN

50083500 RIO GUAYANES AT YABUCOA, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

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 1995										
04...	0.30	1.1	4.9	0.060	<1	<100	20	<1	<1	<10
DEC										
12...	0.28	0.79	3.5	0.100	--	--	--	--	--	--
FEB 1996										
08...	0.35	1.1	4.8	0.040	--	--	--	--	--	--
APR										
03...	0.26	0.64	2.8	0.070	<1	<100	20	<1	<1	<10
JUN										
04...	0.54	1.7	7.7	0.140	--	--	--	--	--	--
AUG										
06...	0.58	1.5	6.7	0.130	--	--	--	--	--	--

DATE	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 (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 1995										
04...	1700	1	80	<0.10	<1	<1	<10	<0.010	<1	<0.02
DEC										
12...	--	--	--	--	--	--	--	--	--	--
FEB 1996										
08...	--	--	--	--	--	--	--	--	--	--
APR										
03...	1300	<1	80	<0.10	<1	<1	<10	<0.010	3	<0.02
JUN										
04...	--	--	--	--	--	--	--	--	--	--
AUG										
06...	--	--	--	--	--	--	--	--	--	--

PESTICIDE ANALYSES

DATE	TIME	PCB, TOTAL (UG/L) (39516)	ALDRIN, TOTAL (UG/L) (39330)	CHLORDANE, TECHNICAL TOTAL (UG/L) (39350)	P,P'-DDD UNFILT RECOVER (UG/L) (39360)	DDE, TOTAL (UG/L) (39365)	P,P'-DDT UNFILT RECOVER (UG/L) (39370)	DIAZINON, TOTAL (UG/L) (39570)	DIELDRIN TOTAL (UG/L) (39380)	ENDOSULFAN, I TOTAL (UG/L) (39388)
JUN 1996										
04...	1030	<0.100	<0.010	<0.100	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010

DATE	ENDRIN WATER UNFLTRD REC (UG/L) (39390)	ETHION, TOTAL (UG/L) (39398)	HEPTACHLOR, TOTAL (UG/L) (39410)	HEPTACHLOR EPOXIDE TOTAL (UG/L) (39420)	LINDANE TOTAL (UG/L) (39340)	MALATHION, TOTAL (UG/L) (39530)	METHOXYCHLOR, TOTAL (UG/L) (39480)	METHYL PARATHION, TOTAL (UG/L) (39600)	MIREX, TOTAL (UG/L) (39755)
JUN 1996									
04...	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010

DATE	PARATHION, TOTAL (UG/L) (39540)	PCNS UNFILT RECOVER (UG/L) (39250)	PERTHANE TOTAL (UG/L) (39034)	TOXAPHENE, TOTAL (UG/L) (39400)	TOTAL TRITHION (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)
JUN 1996									
04...	<0.010	<0.100	<0.100	<1.00	<0.010	0.020	<0.010	<0.010	<0.010

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 1995 TO SEPTEMBER 1996

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, 0.45 UM-MF (COLS./ 100 ML) (31616)	STREP-TOCOCCI FECAL, (COLS. PER 100 ML) (31679)
OCT 1995											
12...	0840	104	142	6.6	25.5	83	8.2	98	19	K18000	27000
JAN 1996											
09...	0815	71	144	6.4	23.0	62	7.3	84	<10	K18000	K19000
FEB											
09...	0835	62	196	7.0	23.5	19	7.2	83	11	2200	2900
APR											
09...	0835	43	162	6.8	25.0	70	6.8	81	16	48000	9400
JUN											
11...	0845	51	175	6.8	25.0	29	7.1	85	22	4100	2700
AUG											
07...	0910	66	178	6.6	25.5	20	6.9	83	<10	2300	4000

DATE	HARD-NESS TOTAL (MG/L AS CACO3) (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)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (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 1995										
12...	44	12	3.3	12	0.8	2.2	40	<0.5	5.2	12
JAN 1996										
09...	--	--	--	--	--	--	40	--	--	--
FEB										
09...	--	--	--	--	--	--	94	--	--	--
APR										
09...	44	11	3.9	14	0.9	2.3	48	<0.5	5.4	14
JUN										
11...	--	--	--	--	--	--	61	--	--	--
AUG										
07...	48	12	4.4	15	0.9	2.0	62	--	5.5	15

K = non-ideal count

RIO GUAYANES BASIN

50086500 RIO GUAYANES ABOVE MOUTH AT PLAYA DE GUAYANES, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DATE	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	SOLIDS, DISSOLVED (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 1995										
12...	<0.10	27	98	27.4	72	0.460	0.030	0.490	0.050	1.5
JAN 1996										
09...	--	--	--	--	87	0.740	0.020	0.760	0.050	0.47
FEB										
09...	--	--	--	--	20	0.400	0.010	0.410	0.070	0.33
APR										
09...	0.10	32	111	12.8	62	0.280	0.030	0.310	0.040	0.49
JUN										
11...	--	--	--	--	46	0.380	0.010	0.390	0.030	0.35
AUG										
07...	<0.10	36	127	22.7	44	0.440	0.010	0.450	0.030	0.37

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 1995										
12...	1.6	2.1	9.3	0.120	1	100	30	<1	<1	<10
JAN 1996										
09...	0.52	1.3	5.7	0.110	--	--	--	--	--	--
FEB										
09...	0.40	0.81	3.6	0.060	--	--	--	--	--	--
APR										
09...	0.53	0.84	3.7	0.100	<1	<100	10	<1	<1	<10
JUN										
11...	0.38	0.77	3.4	0.050	--	--	--	--	--	--
AUG										
07...	0.40	0.85	3.8	0.060	--	--	--	--	--	--

DATE	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 (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 1995										
12...	4400	2	150	<0.10	<1	<1	20	<0.010	<1	<0.02
JAN 1996										
09...	--	--	--	--	--	--	--	--	--	--
FEB										
09...	--	--	--	--	--	--	--	--	--	--
APR										
09...	3100	<1	100	<0.10	<1	<1	<10	<0.010	<1	<0.02
JUN										
11...	--	--	--	--	--	--	--	--	--	--
AUG										
07...	--	--	--	--	--	--	--	--	--	--

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 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	12	8.6	e7.8	14	12	13	8.4	7.2	17	17	13
2	24	12	9.9	e8.0	14	11	e10	7.4	12	17	17	13
3	22	16	e11	e7.6	14	11	e9.2	6.9	9.6	16	31	15
4	23	14	e8.4	e7.4	16	11	e8.9	6.7	21	16	34	17
5	36	15	e8.8	e6.8	19	12	e10	6.3	30	17	19	13
6	24	24	e8.8	e7.2	31	11	e8.5	6.6	51	17	20	14
7	29	16	e9.0	e7.6	25	13	e7.5	8.2	113	18	19	14
8	28	18	e8.0	e29	15	12	e7.9	13	32	26	18	15
9	39	27	e7.7	e23	17	18	7.7	13	26	e22	20	167
10	32	16	e7.7	e13	15	12	7.1	10	23	e22	19	e1280
11	31	13	e11	e10	14	40	11	10	24	20	e19	141
12	24	12	e12	e16	13	16	11	10	40	73	e18	69
13	22	11	e16	e11	12	13	8.0	31	52	40	e19	52
14	20	11	e12	e130	12	12	17	16	27	113	46	57
15	19	12	e10	e98	12	24	15	9.9	214	77	31	100
16	16	11	e9.0	e40	13	19	9.5	8.6	54	30	107	58
17	15	13	e8.8	e18	14	15	7.8	9.6	41	24	41	53
18	21	11	e20	e23	12	15	13	7.7	152	23	22	91
19	19	9.7	e39	e33	12	12	15	10	53	22	21	81
20	17	9.4	e120	e48	14	11	8.6	7.7	36	32	19	69
21	16	11	e35	e36	12	10	7.6	6.9	35	21	19	77
22	16	12	e21	e21	12	9.8	8.5	6.8	89	20	17	59
23	15	9.7	e16	e17	12	9.1	25	9.2	34	19	17	54
24	14	13	e12	e16	86	9.2	13	8.4	29	19	17	50
25	14	11	e18	17	23	9.0	9.4	6.6	27	18	16	47
26	14	11	e14	15	16	11	8.7	6.3	25	18	15	45
27	13	9.5	e12	15	14	18	8.6	6.0	36	17	15	48
28	16	e12	e10	17	13	11	8.1	6.4	30	21	e16	e45
29	14	e9.0	e9.2	15	12	9.7	11	5.8	20	18	e14	e40
30	12	e8.7	e8.2	13	---	16	11	5.7	18	17	e14	40
31	12	---	e8.0	15	---	30	---	13	---	17	e14	---
TOTAL	643	390.0	509.1	741.4	508	442.8	316.6	288.1	1360.8	847	731	2837
MEAN	20.7	13.0	16.4	23.9	17.5	14.3	10.6	9.29	45.4	27.3	23.6	94.6
MAX	39	27	120	130	86	40	25	31	214	113	107	1280
MIN	12	8.7	7.7	6.8	12	9.0	7.1	5.7	7.2	16	14	13
AC-FT	1280	774	1010	1470	1010	878	628	571	2700	1680	1450	5630
CFSM	3.86	2.42	3.05	4.45	3.26	2.65	1.96	1.73	8.43	5.08	4.38	17.6
IN.	4.45	2.70	3.52	5.13	3.51	3.06	2.19	1.99	9.41	5.86	5.05	19.62

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1971 - 1996, BY WATER YEAR (WY)

MEAN	26.7	31.3	18.2	13.2	12.2	9.84	7.16	13.0	18.5	17.8	22.9	29.2
MAX	52.6	88.9	35.2	27.1	24.5	18.9	10.8	25.1	47.1	40.2	131	94.6
(WY)	1979	1978	1978	1992	1982	1976	1976	1979	1979	1993	1979	1996
MIN	10.4	7.46	8.74	7.79	6.10	4.32	3.92	5.13	4.40	3.70	6.18	7.99
(WY)	1994	1982	1994	1981	1979	1979	1979	1974	1974	1974	1974	1980

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1971 - 1996	
ANNUAL TOTAL	5489.8		9614.8			
ANNUAL MEAN	15.0		26.3		18.4	
HIGHEST ANNUAL MEAN					36.7	1979
LOWEST ANNUAL MEAN					10.8	1994
HIGHEST DAILY MEAN	188	Feb 28	1280	Sep 10	2480	Aug 31 1979
LOWEST DAILY MEAN	3.9	May 13	5.7	May 30	2.2	Jul 16 1974
ANNUAL SEVEN-DAY MINIMUM	4.3	Apr 27	6.5	May 24	2.8	Jul 11 1974
INSTANTANEOUS PEAK FLOW			8950	Sep 10	9950	Sep 20 1994
INSTANTANEOUS PEAK STAGE			16.69	Sep 10	17.46	Sep 20 1994
ANNUAL RUNOFF (AC-FT)	10890		19070		13350	
ANNUAL RUNOFF (CFSM)	2.80		4.88		3.43	
ANNUAL RUNOFF (INCHES)	37.96		66.48		46.55	
10 PERCENT EXCEEDS	29		45		33	
50 PERCENT EXCEEDS	9.9		15		11	
90 PERCENT EXCEEDS	5.3		8.2		5.2	

e Estimated

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 1995 TO SEPTEMBER 1996

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, 0.45 UM-MF (COLS./ 100 ML) (31616)	STREP-TOCOCCI FECAL, (COLS. PER 100 ML) (31679)
OCT 1995											
04...	1020	32	258	6.1	27.0	3.2	5.6	68	<10	K17000	2000
DEC											
13...	0905	58	145	6.4	23.0	45	7.3	83	25	K9400	K18000
FEB 1996											
08...	0905	33	210	6.9	22.5	8.1	6.7	76	16	2400	3700
APR											
03...	0845	14	245	7.2	24.0	2.1	7.6	88	<10	4800	980
JUN											
04...	0905	11	235	6.9	26.0	2.0	6.7	81	24	K1700	740
AUG											
06...	1050	25	216	6.8	27.0	3.1	5.8	72	<10	3200	2600

DATE	HARD-NESS TOTAL (MG/L AS CACO3) (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)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (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 1995										
04...	74	18	7.1	19	1	1.5	79	<0.5	9.7	19
DEC										
13...	--	--	--	--	--	--	44	--	--	--
FEB 1996										
08...	--	--	--	--	--	--	70	--	--	--
APR										
03...	78	19	7.5	20	1	1.3	82	<0.5	9.4	19
JUN										
04...	--	--	--	--	--	--	82	--	--	--
AUG										
06...	65	16	6.1	17	0.9	1.3	76	--	7.2	16

K = non-ideal count

RIO MAUNABO BASIN

50091000 RIO MAUNABO AT MAUNABO, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DATE	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	SOLIDS, DISSOLVED (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 1995										
04...	<0.10	38	160	13.6	6	0.600	0.010	0.610	0.020	0.18
DEC										
13...	--	--	--	--	72	1.30	0.020	1.30	0.050	0.84
FEB 1996										
08...	--	--	--	--	22	0.610	0.010	0.620	0.010	<0.20
APR										
03...	0.10	38	163	6.31	11	0.390	0.010	0.400	0.030	0.20
JUN										
04...	--	--	--	--	5	0.710	0.010	0.720	0.020	<0.20
AUG										
06...	0.10	37	146	9.91	8	0.560	0.010	0.570	0.020	0.21

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 1995										
04...	0.20	0.81	3.6	0.030	<1	<100	30	<1	<1	<10
DEC										
13...	0.89	2.2	9.7	0.130	--	--	--	--	--	--
FEB 1996										
08...	<0.20	0.75	3.3	0.100	--	--	--	--	--	--
APR										
03...	0.23	0.63	2.8	0.060	<1	<100	20	<1	<1	<10
JUN										
04...	0.21	0.93	4.1	0.070	--	--	--	--	--	--
AUG										
06...	0.23	0.80	3.5	0.080	--	--	--	--	--	--

DATE	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 (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 1995										
04...	530	<1	70	<0.10	<1	<1	<10	<0.010	<1	<0.02
DEC										
13...	--	--	--	--	--	--	--	--	--	--
FEB 1996										
08...	--	--	--	--	--	--	--	--	--	--
APR										
03...	480	<1	40	<0.10	<1	<1	<10	<0.010	<1	0.05
JUN										
04...	--	--	--	--	--	--	--	--	--	--
AUG										
06...	--	--	--	--	--	--	--	--	--	--

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 1995 TO SEPTEMBER 1996

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, 0.45 UM-MF (COLS./ 100 ML) (31616)	STREP-TOCOCCI FECAL, (COLS. PER 100 ML) (31679)
OCT 1995											
05...	0850	5.9	330	6.7	26.5	7.6	5.4	66	14	2300	K17000
JAN 1996											
10...	0840	2.0	395	7.0	25.5	3.3	5.2	62	16	K1700	710
FEB											
13...	0900	3.0	398	7.3	24.0	2.2	6.6	77	21	K91	360
APR											
16...	0905	2.6	340	6.9	25.0	1.3	5.0	60	26	K1600	K1700
JUN											
10...	0910	3.7	295	6.9	25.0	3.2	6.0	72	19	2500	2400
AUG											
13...	1110	2.7	344	7.2	28.5	2.0	5.1	65	21	2100	470

DATE	HARD-NESS TOTAL (MG/L AS CACO3) (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)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (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 1995										
05...	89	21	8.9	31	1	3.2	95	<0.5	14	27
JAN 1996										
10...	--	--	--	--	--	--	100	--	--	--
FEB										
13...	--	--	--	--	--	--	130	--	--	--
APR										
16...	80	19	7.8	34	2	3.8	82	<0.5	21	30
JUN										
10...	--	--	--	--	--	-	77	--	--	--
AUG										
13...	80	19	7.9	34	2	3.7	92	--	15	33

K = non-ideal count

RIO CHICO BASIN

50091800 RIO CHICO AT PROVIDENCIA, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DATE	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	SOLIDS, DISSOLVED (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 1995										
05...	<0.10	28	190	3.00	8	1.62	0.080	1.70	0.100	0.51
JAN 1996										
10...	--	--	--	--	9	3.90	0.300	4.20	0.650	1.3
FEB										
13...	--	--	--	--	3	3.04	0.160	3.20	0.930	0.77
APR										
16...	0.20	24	189	1.32	4	2.58	0.020	2.60	0.050	0.27
JUN										
10...	--	--	--	--	13	1.96	0.040	2.00	0.090	0.77
AUG										
13...	0.10	24	192	1.40	9	3.11	0.090	3.20	0.110	0.89

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 1995										
05...	0.61	2.3	10	0.610	<1	<100	50	<1	<1	<10
JAN 1996										
10...	2.0	6.2	27	1.40	--	--	--	--	--	--
FEB										
13...	1.7	4.9	22	0.870	--	--	--	--	--	--
APR										
16...	0.32	2.9	13	0.230	<1	<100	80	<1	<1	<10
JUN										
10...	0.86	2.9	13	0.670	--	--	--	--	--	--
AUG										
13...	1.0	4.2	19	1.10	--	--	--	--	--	--

DATE	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 (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 1995										
05...	80	2	40	<0.10	<1	<1	10	<0.010	1	0.04
JAN 1996										
10...	--	--	--	--	--	--	--	--	--	--
FEB										
13...	--	--	--	--	--	--	--	--	--	--
APR										
16...	110	<1	30	<0.10	<1	<1	10	<0.010	2	0.08
JUN										
10...	--	--	--	--	--	--	--	--	--	--
AUG										
13...	--	--	--	--	--	--	--	--	--	--

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, at foot bridge, 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 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	70	32	15	24	e35	22	24	24	23	32	31	28
2	60	31	15	24	e35	21	23	20	23	31	31	27
3	53	35	17	23	e40	22	22	19	25	31	82	29
4	51	33	16	23	e50	24	22	19	54	34	85	63
5	60	32	15	22	e55	25	22	18	51	31	47	34
6	69	40	15	23	e47	24	22	18	112	32	42	30
7	84	34	14	23	e44	23	21	18	183	31	37	29
8	70	30	14	74	e37	23	24	20	101	66	39	30
9	60	33	13	38	e55	e130	23	25	42	92	36	128
10	71	28	13	31	54	e54	21	21	33	70	36	e1770
11	106	26	17	34	40	e180	20	21	32	51	36	e564
12	68	25	22	34	35	e90	20	20	86	103	36	e416
13	55	24	58	41	42	e45	21	38	74	146	39	e407
14	51	23	27	248	39	e34	25	33	52	238	149	e335
15	45	24	20	157	32	e100	25	23	349	258	98	e414
16	41	23	17	68	31	e110	20	21	182	106	212	e323
17	40	24	16	48	30	e80	19	21	103	72	87	e252
18	38	22	18	53	29	e40	19	21	126	59	56	e219
19	37	20	37	69	28	e36	20	22	114	52	47	e216
20	36	19	474	186	35	e31	18	22	71	78	38	e201
21	76	18	81	96	33	e30	21	22	75	50	36	e319
22	60	19	50	66	27	e30	24	22	107	43	33	e157
23	46	18	39	52	26	e28	43	29	57	40	35	e144
24	46	23	34	44	45	e27	36	28	47	37	36	e132
25	42	20	31	43	34	e25	24	22	42	35	33	e120
26	40	19	39	39	27	e26	22	21	39	36	32	e109
27	38	17	38	e39	25	e29	22	21	45	33	32	e105
28	39	16	31	e38	24	e27	22	20	42	53	31	e91
29	37	16	28	e38	23	e29	22	20	38	57	30	e80
30	34	15	26	e37	---	23	26	20	34	36	29	e73
31	33	---	25	e36	---	24	---	21	---	32	29	---
TOTAL	1656	739	1275	1771	1057	1412	693	690	2362	2065	1620	6845
MEAN	53.4	24.6	41.1	57.1	36.4	45.5	23.1	22.3	78.7	66.6	52.3	228
MAX	106	40	474	248	55	180	43	38	349	258	212	1770
MIN	33	15	13	22	23	21	18	18	23	31	29	27
AC-FT	3280	1470	2530	3510	2100	2800	1370	1370	4690	4100	3210	13580
CFSM	2.92	1.35	2.25	3.12	1.99	2.49	1.26	1.22	4.30	3.64	2.86	12.5
IN.	3.37	1.50	2.59	3.60	2.15	2.87	1.41	1.40	4.80	4.20	3.29	13.91

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1996, BY WATER YEAR (WY)

MEAN	97.4	89.8	50.9	34.5	28.4	24.6	21.8	51.3	65.5	65.2	69.7	89.2
MAX	593	393	152	125	94.6	45.5	43.4	172	200	164	231	314
(WY)	1971	1978	1971	1992	1982	1996	1976	1969	1979	1979	1979	1979
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 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1966 - 1996	
ANNUAL TOTAL	13530.8		22185			
ANNUAL MEAN	37.1		60.6		56.8	
HIGHEST ANNUAL MEAN					117	1979
LOWEST ANNUAL MEAN					19.8	1994
HIGHEST DAILY MEAN	478	Sep 16	1770	Sep 10	4780	Sep 16 1975
LOWEST DAILY MEAN	6.0	May 3	13	Dec 9	4.8	May 9 1968
ANNUAL SEVEN-DAY MINIMUM	6.3	Apr 29	14	Dec 4	5.0	Apr 10 1968
INSTANTANEOUS PEAK FLOW			22400	Sep 10	30900	Jan 5 1992
INSTANTANEOUS PEAK STAGE			22.55	Sep 10		
INSTANTANEOUS LOW FLOW			13	Dec 9	4.6	May 13 1968
ANNUAL RUNOFF (AC-FT)	26840		44000		41180	
ANNUAL RUNOFF (CFSM)	2.03		3.31		3.11	
ANNUAL RUNOFF (INCHES)	27.51		45.10		42.21	
10 PERCENT EXCEEDS	70		108		97	
50 PERCENT EXCEEDS	23		34		28	
90 PERCENT EXCEEDS	11		20		12	

e Estimated

RIO GRANDE DE PATILLAS BASIN

50092000 RIO GRANDE DE PATILLAS NEAR PATILLAS, PR--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1960 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

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, 0.45 UM-MF (COLS./ 100 ML) (31616)	STREP-TOCOCCI FECAL, (COLS. PER 100 ML) (31679)
OCT 1995											
05...	1020	60	152	6.4	26.0	3.4	7.6	92	<10	3000	K1700
JAN 1996											
10...	1050	31	142	7.4	24.0	1.7	8.3	97	<10	K780	360
FEB											
13...	1030	33	158	7.2	23.0	0.40	8.2	93	<10	210	460
APR											
16...	1115	20	158	7.5	25.5	0.30	8.2	99	16	K82	K170
JUN											
10...	1050	33	145	6.9	25.0	0.40	8.0	94	<10	410	440
AUG											
13...	0930	35	162	7.3	25.0	0.40	7.9	95	<10	260	240

DATE	HARD-NESS TOTAL (MG/L AS CACO3) (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)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (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 1995										
05...	44	10	4.6	12	0.8	0.50	44	<0.5	8.8	12
JAN 1996										
10...	--	--	--	--	--	--	59	--	--	--
FEB										
13...	--	--	--	--	--	--	57	--	--	--
APR										
16...	47	11	4.8	13	0.8	0.50	56	0.6	9.3	11
JUN										
10...	--	--	--	--	--	--	39	--	--	--
AUG										
13...	45	10	4.8	13	0.8	0.90	46	--	9.0	11

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)	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 1995										
05...	<0.10	24	98	15.9	<1	0.150	0.010	0.160	0.020	<0.18
JAN 1996										
10...	--	--	--	--	7	0.190	0.010	0.200	0.020	<0.20
FEB										
13...	--	--	--	--	1	0.190	<0.010	0.190	0.030	<0.20
APR										
16...	0.10	24	107	5.76	5	0.400	<0.010	0.400	0.010	0.20
JUN										
10...	--	--	--	--	5	0.200	<0.010	0.200	0.010	<0.20
AUG										
13...	<0.10	25	101	9.65	2	0.090	<0.010	0.090	0.020	0.22

K = non-ideal count

RIO GRANDE DE PATILLAS BASIN

50092000 RIO GRANDE DE PATILLAS NEAR PATILLAS, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

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 1995										
05...	0.20	0.36	1.6	0.020	<1	<100	30	<1	<1	<10
JAN 1996										
10...	<0.20	0.38	1.7	<0.020	--	--	--	--	--	--
FEB										
13...	<0.20	0.26	1.2	0.030	--	--	--	--	--	--
APR										
16...	0.21	0.61	2.7	0.080	<1	<100	40	<1	<1	<10
JUN										
10...	<0.20	0.34	1.5	<0.020	--	--	--	--	--	--
AUG										
13...	0.24	0.33	1.5	<0.020	--	--	--	--	--	--

DATE	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 (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 1995										
05...	170	<1	20	<0.10	<1	<1	<10	<0.010	<1	<0.02
JAN 1996										
10...	--	--	--	--	--	--	--	--	--	--
FEB										
13...	--	--	--	--	--	--	--	--	--	--
APR										
16...	80	<1	20	<0.10	<1	<1	10	<0.010	3	0.04
JUN										
10...	--	--	--	--	--	--	--	--	--	--
AUG										
13...	--	--	--	--	--	--	--	--	--	--

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.--25.2 mi² (65.3 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 lenght 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.

EXTREMES OBSERVED FOR PERIOD OF RECORD.--Maximum elevation, 225.92 ft (68.86 m) Sept. 10, 1996; minimum 211.19 ft (64.37 m), May 29, 1995.

EXTREMES OBSERVED FOR CURRENT YEAR.--Maximun elevation, 225.92 ft (68.86 m), Sept. 10; minimum elevation, 216.01 ft (65.84 m), July 7.

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
143	0	200	7,752
190	5,492	225	15,005
		226	15,348

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	A	219.51	219.75	220.96	221.20	220.89	220.77	219.54	217.78	221.79	221.35	221.44
2	A	219.40	219.69	220.91	221.19	220.84	220.73	219.49	217.68	221.73	221.34	221.37
3	220.99	219.33	219.63	220.85	221.25	220.81	220.68	219.35	217.62	221.65	221.96	221.49
4	221.00	219.23	219.47	220.77	221.42	220.76	220.64	219.26	217.92	221.57	221.70	221.85
5	221.20	219.18	219.39	220.70	221.65	220.73	220.58	219.12	218.18	221.47	220.99	221.42
6	221.33	219.31	219.33	220.66	221.79	220.66	220.53	219.02	219.51	221.40	220.87	221.08
7	221.65	219.27	219.21	220.63	221.80	220.69	220.47	218.94	A	216.02	221.01	220.94
8	221.74	219.20	219.11	221.21	221.67	220.65	220.41	218.89	221.41	216.60	221.24	219.18
9	221.61	219.16	219.04	221.30	221.92	221.11	220.33	218.85	221.02	217.38	221.43	A
10	221.57	219.06	218.94	221.31	221.79	221.17	220.24	218.83	220.80	217.90	221.56	223.60
11	221.61	218.95	218.92	221.39	221.55	222.04	220.15	218.75	220.82	218.18	221.65	222.86
12	220.99	219.00	219.02	221.43	221.31	221.89	220.06	218.67	221.43	219.55	221.71	221.14
13	220.62	219.13	219.43	221.55	221.22	221.59	219.97	218.94	221.94	220.92	221.88	221.73
14	220.52	219.29	219.51	221.35	221.14	221.35	219.99	219.05	221.75	222.25	221.94	219.77
15	220.43	219.49	219.48	221.00	221.04	221.81	219.94	218.99	221.15	221.02	221.23	221.42
16	220.36	219.55	219.42	220.93	220.98	222.02	219.83	218.88	221.79	221.10	221.64	222.15
17	220.31	219.83	219.35	220.96	220.96	221.89	219.73	218.82	221.58	221.13	220.98	222.08
18	220.26	220.00	219.37	221.22	220.91	221.66	219.63	218.78	221.98	221.02	221.00	222.09
19	220.22	220.16	219.50	221.77	220.89	221.49	219.63	218.76	221.17	221.17	220.97	221.92
20	220.21	220.31	221.17	221.25	220.99	221.34	219.55	218.74	220.94	221.78	221.06	221.64
21	220.42	220.28	221.06	220.99	220.95	221.24	219.54	218.63	221.04	221.92	221.26	221.55
22	220.56	220.22	221.14	221.08	220.91	221.16	219.51	218.49	221.50	221.86	221.41	221.12
23	220.52	220.14	221.18	221.15	220.87	221.08	219.68	218.52	221.38	221.74	221.57	221.07
24	220.48	220.18	221.17	221.17	221.19	221.03	219.74	218.61	221.18	221.63	221.68	221.11
25	220.40	220.12	221.14	221.20	221.25	220.96	219.71	218.43	221.12	221.53	221.74	221.38
26	220.31	220.06	221.19	221.20	221.21	220.90	219.63	218.35	221.25	221.45	221.77	221.76
27	220.21	220.00	221.22	221.20	221.13	220.90	219.57	218.25	221.52	221.39	221.76	222.06
28	220.17	219.95	221.19	221.23	221.03	220.91	219.50	218.14	221.71	221.49	A	A
29	220.08	219.91	221.14	221.24	220.97	220.87	219.53	218.02	221.81	221.51	221.68	221.55
30	219.91	219.84	221.08	221.21	---	220.87	219.59	217.95	221.84	221.46	A	221.48
31	219.70	---	221.01	221.20	---	220.83	---	217.84	---	221.41	221.53	---
MAX	---	220.31	221.22	221.77	221.92	222.04	220.77	219.54	---	222.25	---	---
MIN	---	218.95	218.92	220.63	220.87	220.65	219.50	217.84	---	216.02	---	---

A No gage-height record

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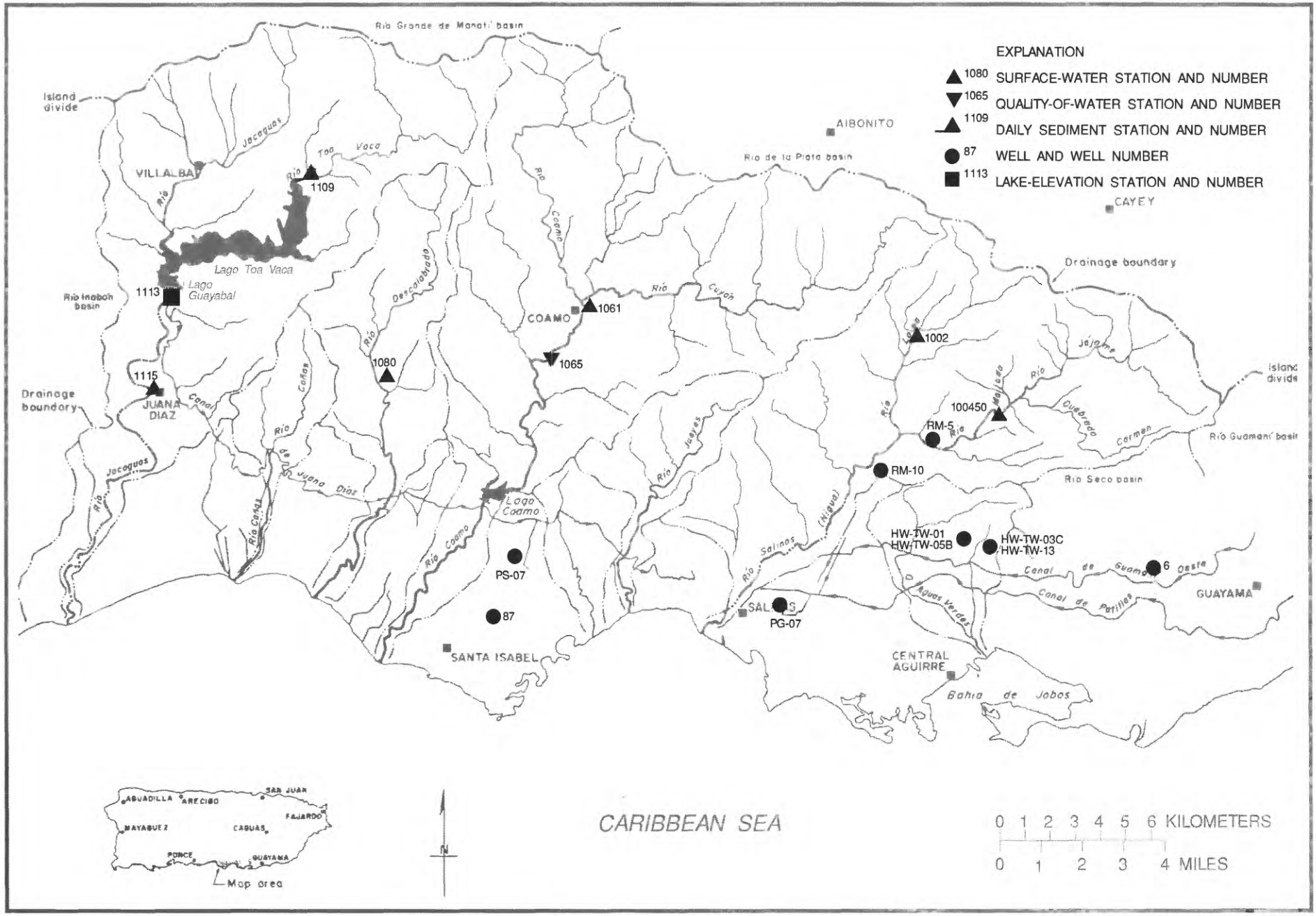


Figure 23.--South coast river basins the Río Salinas to Río Jacaguas basins.

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 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e2.1	1.8	1.8	2.1	1.4	.49	.28	.37	.06	.21	1.4	3.5
2	e2.6	1.6	1.8	2.1	1.3	.49	.27	.32	.05	.14	.90	2.1
3	e2.3	1.5	1.8	1.9	1.2	.48	7.6	.29	.04	.12	.85	1.2
4	e1.5	1.5	1.8	2.0	1.1	.44	6.3	.22	.05	.10	.54	4.7
5	e1.3	1.4	1.8	1.8	1.2	.42	.99	.18	.07	.08	.37	2.6
6	e1.4	1.5	1.7	1.8	1.1	.41	.86	.13	.09	.10	.34	2.0
7	e1.7	1.5	1.7	1.8	.99	.39	.75	.15	.15	.07	.26	.75
8	e1.5	1.5	1.7	1.9	1.0	.41	.70	.18	.16	1.1	.29	3.8
9	e1.4	1.5	1.5	1.9	3.6	.45	.65	.12	.16	5.5	.23	2.3
10	e1.7	1.5	1.5	2.1	1.7	.39	.70	.12	.13	3.6	.21	e1900
11	e3.5	1.5	1.5	2.1	1.3	.57	.70	.11	.10	1.8	.19	e250
12	e3.0	1.5	1.7	2.1	1.1	.45	.70	.11	.21	1.5	.14	e37
13	e1.7	38	1.8	2.1	1.4	.41	.75	.10	.10	1.2	.12	e22
14	e1.6	4.1	1.7	2.3	.93	.39	.86	.09	.06	15	4.0	e18
15	e1.5	2.7	1.5	2.3	.88	5.6	.86	.09	.81	62	4.8	e16
16	1.7	2.4	1.4	2.5	.86	.87	.92	.09	1.0	8.1	47	18
17	4.3	2.3	1.4	2.8	.87	.55	.99	.08	.74	3.3	9.5	17
18	2.4	2.4	1.5	2.4	.86	.46	1.1	.08	1.2	1.9	2.7	15
19	1.9	2.2	1.7	2.4	.83	.44	1.1	.07	2.1	1.3	1.4	14
20	301	2.0	29	2.4	.72	.41	1.1	.07	1.1	1.0	2.5	13
21	40	2.0	6.2	2.2	.74	.39	1.1	.06	.89	1.0	2.1	11
22	8.9	2.0	4.3	2.1	.70	.38	1.1	.05	.81	.89	1.8	11
23	4.1	1.9	3.6	1.9	.66	.35	1.1	.05	.75	.81	1.5	11
24	3.1	2.1	2.9	1.7	.65	.33	1.1	.04	.63	.69	1.0	11
25	2.6	2.0	3.0	1.6	.64	.30	1.1	.03	.56	.57	1.1	10
26	2.3	2.3	3.2	1.6	.57	.31	1.0	.04	.35	.64	.97	8.8
27	2.1	2.0	3.7	1.7	.55	.29	1.0	1.3	.26	.56	.87	8.8
28	16	1.8	3.4	3.8	.52	.28	.65	.06	.22	.57	17	7.9
29	3.8	1.8	2.9	3.5	.51	.27	.55	.04	.21	.58	11	6.8
30	2.2	1.8	2.3	2.2	---	.31	.44	.04	.22	.64	24	6.0
31	1.9	---	2.1	1.7	---	.31	---	.04	---	.57	11	---
TOTAL	427.1	94.1	97.9	66.8	29.88	18.04	37.32	4.72	13.28	115.64	150.08	2435.25
MEAN	13.8	3.14	3.16	2.15	1.03	.58	1.24	.15	.44	3.73	4.84	81.2
MAX	301	38	29	3.8	3.6	5.6	7.6	1.3	2.1	62	47	1900
MIN	1.3	1.4	1.4	1.6	.51	.27	.27	.03	.04	.07	.12	.75
AC-FT	847	187	194	132	59	36	74	9.4	26	229	298	4830
CFSM	1.38	.31	.32	.22	.10	.06	.12	.02	.04	.37	.48	8.12
IN.	1.59	.35	.36	.25	.11	.07	.14	.02	.05	.43	.56	9.06

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 1996, BY WATER YEAR (WY)

MEAN	14.5	5.67	2.07	9.84	2.94	.97	1.11	5.24	2.60	2.16	2.63	20.2
MAX	76.1	28.4	6.09	68.8	12.4	2.08	3.07	36.6	10.4	7.80	6.06	81.2
(WY)	1991	1991	1991	1992	1991	1992	1992	1992	1993	1993	1990	1996
MIN	1.46	1.07	.75	.47	.49	.44	.28	.086	.036	.009	.001	.11
(WY)	1992	1994	1995	1994	1990	1990	1990	1994	1994	1994	1994	1994

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1988 - 1996	
ANNUAL TOTAL	2093.52		3490.11			
ANNUAL MEAN	5.74		9.54		5.83	
HIGHEST ANNUAL MEAN					11.2	1991
LOWEST ANNUAL MEAN					.57	1994
HIGHEST DAILY MEAN	387	Sep 17	1900	Sep 10	1900	Sep 10 1996
LOWEST DAILY MEAN	.26	Sep 30	.03	May 25	.00	Jun 24 1994
ANNUAL SEVEN-DAY MINIMUM	.28	Feb 14	.05	May 29	.00	Jul 21 1994
INSTANTANEOUS PEAK FLOW			18100	Sep 10	18100	Sep 10 1996
INSTANTANEOUS PEAK STAGE			18.65	Sep 10	18.65	Sep 10 1996
INSTANTANEOUS LOW FLOW					.00	Jun 22 1994
ANNUAL RUNOFF (AC-FT)	4150		6920		4220	
ANNUAL RUNOFF (CFSM)	.57		.95		.58	
ANNUAL RUNOFF (INCHES)	7.79		12.98		7.92	
10 PERCENT EXCEEDS	2.9		6.4		5.7	
50 PERCENT EXCEEDS	1.4		1.3		1.1	
90 PERCENT EXCEEDS	.41		.12		.15	

e Estimated

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 (montly 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 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.0	1.7	e1.6	e5.0	2.7	e1.5	1.9	.94	1.2	.89	1.2	2.2
2	3.8	1.7	e1.6	e4.7	2.7	e1.5	1.8	.85	2.3	.87	1.2	1.8
3	3.3	2.2	e1.6	e4.5	2.5	e1.4	3.1	.75	3.3	.89	1.6	1.5
4	2.2	2.3	e1.6	e4.5	2.4	e1.4	4.0	.77	1.8	.87	2.4	4.1
5	1.8	2.1	e1.6	e3.9	3.9	e1.3	2.5	.79	1.9	.73	1.4	2.5
6	1.8	2.5	e1.5	e3.9	2.8	e1.3	2.0	.80	1.9	.73	1.3	1.5
7	2.5	2.7	e1.5	e3.9	2.7	e1.2	2.3	.66	2.9	.75	1.2	1.3
8	2.2	2.2	e1.5	e4.5	2.4	e1.2	2.1	.54	2.9	2.3	1.1	1.5
9	2.0	2.0	e1.4	e4.0	3.4	e1.3	1.7	.64	1.8	8.2	1.3	2.4
10	2.7	1.9	e1.4	e4.4	e4.0	e1.2	2.1	.73	1.6	7.0	1.3	2270
11	5.1	1.7	e1.3	e4.6	e4.0	e1.2	1.5	.69	1.4	4.1	1.3	e288
12	4.4	1.7	e1.5	e4.6	e3.8	e1.6	1.6	.78	1.9	10	1.1	e99
13	2.4	1.8	e1.6	e4.6	e2.9	e2.2	2.2	6.1	2.7	8.9	.97	e57
14	2.3	2.4	e1.5	e4.8	e3.6	1.8	2.4	3.3	2.5	36	3.0	e45
15	2.1	2.2	e1.4	e4.8	e3.0	29	2.9	1.4	14	69	3.8	e38
16	2.1	2.0	e1.3	e5.3	e2.8	15	1.8	1.1	4.1	12	20	e45
17	2.7	2.2	e1.3	e6.0	e2.8	6.7	1.9	.97	2.9	6.1	8.2	41
18	4.0	2.1	e1.4	e5.2	e2.8	4.5	e1.7	.83	8.6	3.7	4.1	37
19	3.3	1.9	e1.6	e5.4	e2.7	4.0	e1.3	.62	15	2.6	2.9	37
20	18	1.9	e15	e5.4	e2.4	3.5	e1.5	.60	4.8	2.2	2.5	36
21	5.9	e1.7	e13	e5.0	e2.4	2.3	e1.4	.59	3.2	2.0	2.2	39
22	4.9	e1.7	e11	e4.8	e2.3	2.5	e1.2	.51	2.6	1.7	1.8	29
23	4.3	e1.7	e9.0	e4.5	e2.2	2.4	e.91	.91	2.3	1.6	1.4	26
24	4.5	e1.8	e7.4	e3.9	e2.1	2.1	.95	.91	2.1	1.5	1.6	24
25	3.5	e1.8	e7.0	3.6	e2.1	2.4	.94	.77	1.6	1.3	1.6	22
26	2.6	e1.9	e7.4	4.0	e2.0	2.4	.89	.85	1.7	1.3	1.4	25
27	2.5	e1.8	e8.8	4.8	e1.8	2.7	.83	.97	1.7	1.3	1.4	22
28	4.7	e1.7	e8.0	5.2	e1.7	2.8	.82	.97	1.3	1.3	1.8	21
29	3.2	e1.6	e7.0	5.8	e1.6	2.2	.83	.95	.97	1.5	2.1	19
30	2.4	e1.6	e6.0	3.9	---	1.8	.89	.99	.91	1.3	4.0	17
31	1.9	---	e5.0	2.8	---	2.1	---	1.3	---	1.2	2.7	---
TOTAL	112.1	58.5	132.8	142.3	78.5	108.5	51.96	33.58	97.88	193.83	83.87	3255.8
MEAN	3.62	1.95	4.28	4.59	2.71	3.50	1.73	1.08	3.26	6.25	2.71	109
MAX	18	2.7	15	6.0	4.0	29	4.0	6.1	15	69	20	2270
MIN	1.8	1.6	1.3	2.8	1.6	1.2	.82	.51	.91	.73	.97	1.3
AC-FT	222	116	263	282	156	215	103	67	194	384	166	6460
CFSM	.22	.12	.26	.27	.16	.21	.10	.06	.20	.37	.16	6.50
IN.	.25	.13	.30	.32	.17	.24	.12	.07	.22	.43	.19	7.25

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1973 - 1996, BY WATER YEAR (WY)

MEAN	13.2	6.77	3.47	10.9	3.35	1.99	1.53	4.16	3.56	3.61	2.43	22.4
MAX	76.4	25.2	9.67	68.8	12.1	3.92	3.69	25.5	12.1	12.9	7.74	109
(WY)	1991	1991	1991	1992	1991	1991	1992	1992	1992	1993	1992	1996
MIN	1.43	1.53	.62	.37	.63	.59	.30	.21	.042	.17	.010	.16
(WY)	1992	1994	1995	1995	1990	1990	1995	1994	1994	1994	1994	1994

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1973 - 1996	
ANNUAL TOTAL	1074.25		4349.62			
ANNUAL MEAN	2.94		11.9		6.45	
HIGHEST ANNUAL MEAN					12.1	1992
LOWEST ANNUAL MEAN					.81	1994
HIGHEST DAILY MEAN	173	Sep 16	2270	Sep 10	2270	Sep 10 1996
LOWEST DAILY MEAN	.00	May 1	.51	May 22	.00	Oct 3 1994
ANNUAL SEVEN-DAY MINIMUM	.00	Jul 1	.69	May 6	.00	Oct 8 1994
INSTANTANEOUS PEAK FLOW			17700	Sep 10	17700	Sep 10 1996
INSTANTANEOUS PEAK STAGE			19.69	Sep 10	19.69	Sep 10 1996
INSTANTANEOUS LOW FLOW			.45	May 7		
ANNUAL RUNOFF (AC-FT)	2130		8630		4670	
ANNUAL RUNOFF (CFSM)	.18		.71		.39	
ANNUAL RUNOFF (INCHES)	2.39		9.69		5.24	
10 PERCENT EXCEEDS	4.6		8.8		8.1	
50 PERCENT EXCEEDS	.58		2.2		1.8	
90 PERCENT EXCEEDS	.11		.95		.23	

e Estimated

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.--3.5 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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	23	9.0	8.5	6.1	7.4	8.3	5.6	6.7	1.9	3.8	9.8
2	31	21	9.0	8.1	6.4	7.3	6.7	5.1	6.6	1.7	4.0	8.1
3	34	20	9.3	7.4	6.1	7.2	31	4.8	5.7	1.5	4.1	5.4
4	30	20	9.1	7.2	6.3	7.1	81	4.9	5.9	1.5	4.1	4.7
5	25	19	9.3	7.0	6.6	7.1	84	5.6	6.3	1.7	4.2	4.4
6	21	19	8.7	7.3	6.2	7.1	43	5.5	6.2	1.3	3.4	4.6
7	20	29	8.6	6.8	6.4	6.6	28	5.2	5.4	1.9	3.5	4.4
8	18	23	8.7	13	6.3	6.3	20	5.5	4.9	12	3.8	4.5
9	17	19	8.5	13	19	6.3	15	6.2	5.4	37	2.9	5.6
10	16	17	8.6	9.5	11	6.3	12	5.9	4.6	17	3.2	1440
11	19	16	9.0	7.6	7.6	8.1	12	5.8	3.6	8.8	5.2	351
12	18	15	9.0	6.9	7.0	8.6	13	5.8	3.8	6.5	3.6	178
13	17	28	9.7	7.7	6.9	7.2	14	7.8	3.7	4.8	3.0	101
14	15	21	9.6	75	7.6	6.8	13	7.2	3.2	14	3.0	77
15	14	18	9.7	49	6.6	19	11	5.8	13	56	4.0	60
16	46	17	9.5	17	6.3	21	9.3	5.4	9.1	17	6.6	51
17	45	15	9.7	10	8.5	9.1	8.9	21	5.8	12	5.9	60
18	32	14	9.8	9.3	8.4	7.5	8.8	21	6.1	8.9	4.9	45
19	22	14	11	8.6	7.6	6.8	8.4	69	8.6	7.2	3.6	42
20	164	13	16	8.3	7.1	6.3	8.5	39	4.6	7.0	16	39
21	92	12	14	8.2	11	6.6	8.1	18	4.1	6.6	15	35
22	66	12	11	7.4	10	6.4	7.3	14	4.0	6.0	5.9	32
23	48	12	11	6.5	24	6.3	7.2	22	3.6	5.6	4.7	30
24	41	12	12	6.1	36	6.3	7.2	11	3.6	5.0	5.1	29
25	35	12	11	6.2	34	6.0	6.7	9.2	3.4	5.3	4.9	29
26	32	13	34	6.6	12	6.0	6.6	12	2.6	4.8	4.3	28
27	32	12	26	6.7	9.6	6.2	6.4	19	2.2	4.4	3.9	27
28	73	11	14	7.4	8.4	6.0	6.7	13	2.0	6.2	6.1	27
29	44	9.6	11	9.1	7.8	6.3	6.6	8.4	1.9	5.6	6.1	25
30	29	8.8	9.6	8.1	---	7.0	5.7	7.3	1.8	4.8	99	25
31	25	---	8.7	6.9	---	9.2	---	6.4	---	4.0	13	---
TOTAL	1143	495.4	354.1	366.4	306.8	241.4	504.4	382.4	148.4	278.0	260.8	2782.5
MEAN	36.9	16.5	11.4	11.8	10.6	7.79	16.8	12.3	4.95	8.97	8.41	92.7
MAX	164	29	34	75	36	21	84	69	13	56	99	1440
MIN	14	8.8	8.5	6.1	6.1	6.0	5.7	4.8	1.8	1.3	2.9	4.4
AC-FT	2270	983	702	727	609	479	1000	758	294	551	517	5520
CFSM	.85	.38	.26	.27	.24	.18	.39	.28	.11	.21	.19	2.13
IN.	.98	.42	.30	.31	.26	.21	.43	.33	.13	.24	.22	2.38

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 1996, BY WATER YEAR (WY)

MEAN	58.4	26.6	18.1	19.3	9.52	5.92	11.0	17.0	15.4	7.74	9.15	31.4
MAX	274	62.9	83.8	79.0	17.0	9.79	27.6	69.6	76.1	15.5	23.3	92.7
(WY)	1991	1988	1988	1992	1988	1988	1987	1992	1987	1988	1990	1996
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 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1987 - 1996	
ANNUAL TOTAL	4599.5		7263.6			
ANNUAL MEAN	12.6		19.8		18.6	
HIGHEST ANNUAL MEAN					36.8	1991
LOWEST ANNUAL MEAN					4.52	1994
HIGHEST DAILY MEAN	199	Sep 16	1440	Sep 10	1580	Jan 5 1992
LOWEST DAILY MEAN	1.7	Apr 6	1.3	Jul 6	.67	Aug 2 1989
ANNUAL SEVEN-DAY MINIMUM	1.8	Apr 3	1.6	Jun 30	.70	Jul 27 1989
INSTANTANEOUS PEAK FLOW			26300	Sep 10	51600	Jan 8 1992
INSTANTANEOUS PEAK STAGE			19.94	Sep 10	25.67	Jan 8 1992
ANNUAL RUNOFF (AC-FT)	9120		14410		13490	
ANNUAL RUNOFF (CFSM)	.29		.46		.43	
ANNUAL RUNOFF (INCHES)	3.93		6.21		5.82	
10 PERCENT EXCEEDS	29		33		35	
50 PERCENT EXCEEDS	6.2		8.5		6.9	
90 PERCENT EXCEEDS	2.6		4.1		2.2	

RIO COAMO BASIN

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 RECORDS, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

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, 0.45 UM-MF (COLS./ 100 ML) (31616)	STREP-TOCOCCI FECAL, (COLS. PER 100 ML) (31679)
OCT 1995											
17...	1230	64	422	7.0	27.0	1.2	5.2	64	<10	32000	2300
DEC											
14...	0945	8.9	590	7.5	25.0	0.10	8.5	103	<10	410	320
FEB 1996											
12...	0825	9.2	546	7.5	22.5	0.30	6.8	78	<10	3300	2700
APR											
12...	1100	15	559	7.7	26.0	0.30	7.1	87	<10	49000	8700
JUN											
06...	0915	7.7	555	7.4	28.0	0.30	8.4	107	<10	K770	430
AUG											
23...	1115	5.4	543	7.4	29.0	0.40	7.2	93	<10	470	380

DATE	HARD-NESS TOTAL (MG/L AS CACO3) (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)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (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 1995										
17...	180	49	15	24	0.8	2.4	130	<0.5	27	26
DEC										
14...	--	--	--	--	--	--	180	--	--	--
FEB 1996										
12...	--	--	--	--	--	--	230	--	--	--
APR										
12...	210	56	17	28	0.8	2.8	190	<0.5	31	30
JUN										
06...	--	--	--	--	--	--	220	--	--	--
AUG										
23...	220	57	18	32	0.9	2.5	200	--	31	34

K = non-ideal count

RIO COAMO BASIN

50106500 RIO COAMO NEAR COAMO, PR--Continued

WATER-QUALITY RECORDS, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DATE	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	SOLIDS, DISSOLVED (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 1995										
17...	0.20	30	284	50	7	1.48	0.020	1.50	0.050	0.35
DEC										
14...	--	--	--	--	<1	1.78	0.020	1.80	0.010	<0.20
FEB 1996										
12...	--	--	--	--	2	1.54	0.060	1.60	0.060	0.16
APR										
12...	0.20	30	309	12.3	7	1.79	0.010	1.80	0.190	0.20
JUN										
06...	--	--	--	--	5	1.26	0.140	1.40	0.280	0.25
AUG										
23...	0.20	31	326	4.76	4	1.21	0.090	1.30	0.300	0.23

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)
OCT 1995										
17...	0.40	1.9	8.4	0.190	1	100	60	<1	<1	10
DEC										
14...	<0.20	2.0	8.8	0.140	--	--	--	--	--	--
FEB 1996										
12...	0.22	1.8	7.8	0.080	--	--	--	--	--	--
APR										
12...	0.39	2.2	9.7	0.160	<1	<100	60	<1	<1	<10
JUN										
06...	0.53	1.9	8.4	0.120	--	--	--	--	--	--
AUG										
23...	0.53	1.8	7.8	0.060	--	--	--	--	--	--

DATE	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 (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 1995										
17...	380	2	40	<0.10	<1	<1	10	<0.010	<1	0.04
DEC										
14...	--	--	--	--	--	--	--	--	--	--
FEB 1996										
12...	--	--	--	--	--	--	--	--	--	--
APR										
12...	100	<1	20	<0.10	<1	<1	<10	<0.010	<1	0.04
JUN										
06...	--	--	--	--	--	--	--	--	--	--
AUG										
23...	--	--	--	--	--	--	--	--	--	--

RIO DESCALABRADO BASIN

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 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.6	13	1.8	.37	.70	.52	15	e3.4	5.3	1.6	2.3	23
2	2.0	9.0	1.6	.38	.62	.68	3.6	e3.3	4.4	1.6	2.7	8.4
3	31	6.9	1.9	.37	.57	.69	33	e3.4	3.9	1.3	7.7	3.6
4	17	5.7	1.7	.39	.48	.66	18	e3.3	5.0	1.1	2.6	3.1
5	11	5.7	1.9	.43	.51	.71	157	e3.0	5.2	1.2	1.3	14
6	4.6	5.1	1.7	.57	.54	.68	49	e3.1	7.8	1.1	.70	2.8
7	3.5	9.2	1.4	.39	.56	.53	11	e3.0	4.4	1.1	.61	.96
8	3.6	8.5	1.3	.59	.44	.52	5.5	e3.0	2.3	2.6	.52	.65
9	2.7	6.2	1.0	3.0	.52	1.3	3.2	e3.0	2.9	20	.52	3.0
10	4.3	5.7	1.2	6.2	13	1.0	2.3	e2.6	3.7	12	5.8	e10000
11	6.7	5.7	1.3	.78	3.5	1.4	2.0	e2.7	1.8	6.7	104	e1200
12	13	5.7	2.0	.66	.86	1.2	2.3	e3.2	1.9	5.4	27	e70
13	7.0	5.5	2.9	.90	.78	.67	1.9	e7.0	1.9	4.0	9.8	47
14	3.2	5.2	1.3	72	.64	5.8	2.1	e5.4	1.2	56	11	103
15	2.3	6.6	.85	17	.52	93	1.9	e3.7	54	143	9.3	56
16	19	5.7	.76	3.7	.44	88	1.5	7.1	5.2	4.3	24	23
17	47	4.1	.78	1.5	4.9	15	1.1	53	1.4	1.6	6.9	e60
18	18	3.8	.79	.87	1.4	5.3	5.1	55	7.6	.98	6.1	e50
19	11	3.3	1.0	1.2	1.3	4.7	.74	196	5.0	.91	5.3	e24
20	41	3.2	5.2	1.7	.84	3.9	146	69	1.7	1.2	3.6	e16
21	30	3.3	1.4	.86	1.0	3.3	e10	20	1.6	1.0	2.6	e16
22	25	3.0	.98	.46	2.6	3.3	e4.1	10	1.7	1.0	2.1	e15
23	13	2.9	.95	.40	113	2.8	e4.0	71	1.7	.92	1.9	e14
24	7.6	3.0	.80	.34	27	2.7	e3.6	12	1.4	.95	1.1	e13
25	4.6	2.2	.72	.38	15	2.3	e3.7	9.3	1.1	.77	.99	e13
26	3.3	3.4	.84	.38	2.6	2.3	e3.7	20	1.0	.93	.61	e12
27	2.1	1.6	1.7	.34	1.1	2.3	e3.4	47	1.3	.77	.56	e12
28	117	1.6	.93	.35	.68	2.3	e3.4	23	1.4	3.6	.38	e13
29	123	1.5	.76	.75	.61	2.3	e3.4	6.5	1.2	11	.65	e13
30	30	1.4	.53	1.1	---	14	e3.5	5.4	1.3	1.9	145	e12
31	20	---	.42	.94	---	13	---	5.4	---	1.1	20	---
TOTAL	626.1	147.7	42.41	119.30	196.71	276.86	505.04	662.8	140.3	291.63	407.64	11841.51
MEAN	20.2	4.92	1.37	3.85	6.78	8.93	16.8	21.4	4.68	9.41	13.1	395
MAX	123	13	5.2	72	113	93	157	196	54	143	145	10000
MIN	2.0	1.4	.42	.34	.44	.52	.74	2.6	1.0	.77	.38	.65
AC-FT	1240	293	84	237	390	549	1000	1310	278	578	809	23490
CFSM	1.57	.38	.11	.30	.53	.69	1.31	1.66	.36	.73	1.02	30.6
IN.	1.81	.43	.12	.34	.57	.80	1.46	1.91	.40	.84	1.18	34.15

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1996, BY WATER YEAR (WY)

MEAN	27.5	14.5	4.97	4.89	3.76	2.05	4.44	15.7	5.26	2.84	4.17	36.7
MAX	117	41.0	24.5	36.4	23.9	8.93	18.8	62.2	25.2	10.5	13.1	395
(WY)	1986	1985	1988	1992	1995	1996	1985	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 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1966 - 1996	
ANNUAL TOTAL	3879.70		15258.00			
ANNUAL MEAN	10.6		41.7		11.3	
HIGHEST ANNUAL MEAN					41.7	1996
LOWEST ANNUAL MEAN					1.69	1994
HIGHEST DAILY MEAN	384	Feb 25	10000	Sep 10	10000	Sep 10 1996
LOWEST DAILY MEAN	.01	Apr 30	.34	Jan 24	.00	Jun 22 1966
ANNUAL SEVEN-DAY MINIMUM	.01	Apr 27	.38	Jan 22	.00	Jun 22 1966
INSTANTANEOUS PEAK FLOW			Not determined	Sep 10	Not determined	Sep 10 1996
INSTANTANEOUS PEAK STAGE			19.49	Sep 10	19.49	Sep 10 1996
ANNUAL RUNOFF (AC-FT)	7700		30260		8160	
ANNUAL RUNOFF (CFSM)	.82		3.23		.87	
ANNUAL RUNOFF (INCHES)	11.19		44.00		11.87	
10 PERCENT EXCEEDS	25		26		14	
50 PERCENT EXCEEDS	1.2		3.0		1.4	
90 PERCENT EXCEEDS	.17		.62		.05	

e Estimated

RIO JACAGUAS BASIN

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.--7.64 mi² (19.79 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 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34	22	6.9	4.1	4.2	7.3	4.5	6.9	9.9	3.0	2.9	3.6
2	57	18	6.7	4.0	4.2	6.3	3.9	6.8	12	3.0	3.6	3.7
3	103	17	7.1	3.8	3.9	5.9	8.8	6.3	12	3.0	3.6	4.4
4	168	17	7.5	3.7	3.7	6.7	27	6.3	12	2.7	3.3	5.6
5	100	16	5.4	3.6	3.8	6.6	73	6.3	14	2.5	2.5	5.4
6	51	15	6.0	3.5	5.0	6.2	17	6.4	14	2.5	2.5	4.8
7	42	28	5.9	3.4	5.5	5.7	7.9	6.2	11	2.6	2.5	4.3
8	35	22	5.9	5.8	5.3	5.5	5.8	5.9	10	14	2.4	4.5
9	30	15	5.8	22	27	6.5	3.9	5.7	9.6	30	2.2	5.4
10	28	15	5.3	5.1	36	4.7	3.9	5.4	8.9	13	3.5	2050
11	46	14	5.1	3.4	8.6	5.1	3.8	5.8	8.4	5.5	5.7	e152
12	39	13	5.1	3.0	6.3	4.8	3.9	6.6	8.2	3.8	4.2	e53
13	29	21	5.3	3.1	6.2	3.9	10	8.3	8.9	3.1	3.1	e51
14	37	16	5.0	55	5.5	4.1	9.8	9.1	8.5	11	2.7	e40
15	27	29	5.0	17	5.1	11	8.5	6.7	15	48	2.8	e35
16	97	23	5.0	7.3	5.0	11	7.1	26	6.2	17	3.7	e30
17	44	15	4.9	5.6	8.6	5.0	7.1	22	5.0	10	3.1	e81
18	85	13	4.4	4.5	8.8	3.7	7.5	20	9.8	6.4	2.5	e72
19	53	12	4.5	4.1	6.2	4.2	5.8	48	5.7	5.3	2.4	e28
20	274	11	4.5	4.0	5.5	3.2	71	28	4.2	4.4	36	e22
21	94	9.7	4.3	4.3	43	3.1	12	17	3.8	3.5	13	e21
22	52	9.4	4.0	4.2	27	3.2	7.8	10	3.6	3.6	5.3	e20
23	37	9.8	4.1	4.5	26	3.5	7.4	17	3.5	6.4	4.1	e19
24	33	10	4.2	4.5	32	3.4	7.3	11	3.3	9.9	4.0	e18
25	29	9.1	4.0	4.9	30	3.4	7.5	9.3	3.5	10	3.5	e17
26	26	9.5	25	5.5	16	3.4	7.6	13	3.5	6.8	2.7	e16
27	27	8.4	10	5.0	10	3.5	6.4	20	3.2	4.2	2.8	e17
28	85	9.2	5.0	3.5	8.8	3.2	6.5	18	3.3	4.9	2.7	e18
29	44	7.8	4.6	3.2	7.9	3.1	6.7	14	3.3	3.9	3.7	e18
30	32	6.6	4.3	3.5	---	3.3	7.1	13	3.2	3.0	4.0	e17
31	26	---	4.3	4.4	---	4.7	---	12	---	2.8	4.6	---
TOTAL	1864	441.5	185.1	213.5	365.1	155.2	366.5	397.0	227.5	249.8	145.6	2836.7
MEAN	60.1	14.7	5.97	6.89	12.6	5.01	12.2	12.8	7.58	8.06	4.70	94.6
MAX	274	29	25	55	43	11	73	48	15	48	36	2050
MIN	26	6.6	4.0	3.0	3.7	3.1	3.8	5.4	3.2	2.5	2.2	3.6
AC-FT	3700	876	367	423	724	308	727	787	451	495	289	5630
CFSM	4.23	1.04	.42	.49	.89	.35	.86	.90	.53	.57	.33	6.66
IN.	4.88	1.16	.48	.56	.96	.41	.96	1.04	.60	.65	.38	7.43

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1996, BY WATER YEAR (WY)

MEAN	45.1	15.0	6.40	10.3	5.69	3.60	8.81	21.8	11.3	7.38	7.27	35.8
MAX	109	40.1	12.4	43.1	12.6	5.01	26.3	76.1	35.4	14.4	11.9	94.6
(WY)	1991	1991	1993	1992	1996	1996	1993	1995	1992	1992	1989	1996
MIN	4.61	2.19	1.42	1.79	2.37	1.67	1.46	1.42	1.23	.71	2.74	3.21
(WY)	1992	1992	1992	1995	1990	1990	1990	1990	1990	1990	1990	1994

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1989 - 1996	
ANNUAL TOTAL	8486.6		7447.5			
ANNUAL MEAN	23.3		20.3		15.1	
HIGHEST ANNUAL MEAN					20.3	1996
LOWEST ANNUAL MEAN					4.02	1994
HIGHEST DAILY MEAN	447	Sep 16	2050	Sep 10	2050	Sep 10 1996
LOWEST DAILY MEAN	1.5	Jan 22	2.2	Aug 9	.45	Aug 7 1990
ANNUAL SEVEN-DAY MINIMUM	1.6	Jan 27	2.7	Aug 4	.61	Jul 9 1990
INSTANTANEOUS PEAK FLOW			Not determined	Sep 10	Not determined	Sep 10 1996
INSTANTANEOUS PEAK STAGE			18.65	Sep 10	18.65	Sep 10 1996
ANNUAL RUNOFF (AC-FT)	16830		14770		10930	
ANNUAL RUNOFF (CFSM)	1.64		1.43		1.06	
ANNUAL RUNOFF (INCHES)	22.23		19.51		14.44	
10 PERCENT EXCEEDS	53		34		33	
50 PERCENT EXCEEDS	6.0		6.4		4.2	
90 PERCENT EXCEEDS	1.7		3.3		1.4	

e Estimated

RIO JACAGUAS BASIN

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-49 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 a local observer and automatic sediment sampler.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATION: Maximum daily mean, 10,200 mg/L September 10, 1996; Minimum daily mean, 1 mg/L several days.

SEDIMENT LOADS: Maximum daily mean, 75,700 tons (68,600 tonnes) September 10, 1996; Minimum daily mean, <0.01 ton (<0.01 tonne) several days.

EXTREMES FOR CURRENT YEAR 1996.--
SEDIMENT CONCENTRATION: Maximum daily mean, 10,200 mg/L September 10, 1996; Minimum daily mean, 1 mg/L August 13, 1996.

SEDIMENT LOADS: Maximum daily mean, 75,700 tons (68,600 tonnes) September 10, 1996; Minimum daily mean, 0.01 ton (0.01 tonne) August 13, 1996.

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	34	142	14	20	28	1.5	6.9	5	.09
2	57	175	56	17	27	1.2	6.7	4	.08
3	103	384	349	16	26	1.1	7.1	5	.09
4	166	1220	1660	16	25	1.1	7.5	5	.10
5	91	346	100	16	24	1.0	5.4	7	.10
6	46	53	6.8	15	23	.97	6.0	10	.16
7	39	30	3.2	28	87	20	5.9	12	.19
8	34	29	2.7	22	57	4.2	5.9	13	.22
9	31	28	2.3	15	16	.67	5.8	12	.19
10	31	28	2.3	15	14	.59	5.3	11	.15
11	48	150	36	14	13	.49	5.1	9	.13
12	38	159	20	13	13	.43	5.1	9	.12
13	29	62	4.9	21	72	7.3	5.3	8	.12
14	36	110	19	16	69	3.1	5.0	8	.11
15	25	54	3.7	29	136	20	5.0	9	.12
16	95	464	390	23	102	6.7	5.0	11	.14
17	41	195	23	15	61	2.6	4.9	13	.18
18	84	469	290	13	34	1.2	4.4	17	.20
19	53	175	29	12	18	.57	4.5	26	.32
20	274	1430	5630	11	9	.27	4.5	41	.51
21	93	325	89	9.7	5	.14	4.3	41	.47
22	50	118	16	9.4	3	.09	4.0	35	.38
23	34	45	4.2	9.8	4	.11	4.1	26	.28
24	31	37	3.1	10	6	.16	4.2	18	.21
25	26	40	2.9	9.1	8	.21	4.0	13	.14
26	24	35	2.2	9.5	12	.30	25	101	33
27	23	27	1.7	8.4	27	.61	10	172	4.8
28	81	501	399	9.2	67	1.4	5.0	156	2.1
29	40	202	60	7.8	24	.47	4.6	142	1.8
30	29	47	3.6	6.6	11	.20	4.3	129	1.5
31	24	30	1.9	---	---	---	4.3	117	1.4
TOTAL	1810	---	9225.5	436.5	---	78.68	185.1	---	49.40

RIO JACAGUAS BASIN

50110900 RIO TOA VACA ABOVE LAGO TOA VACA, 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)
		JANUARY			FEBRUARY			MARCH	
1	4.1	107	1.2	4.9	65	.87	7.3	9	.18
2	4.0	106	1.1	4.9	68	.89	6.7	11	.19
3	3.8	107	1.1	4.6	61	.75	6.4	13	.22
4	3.7	102	1.0	4.3	53	.61	6.8	15	.28
5	3.6	97	.95	4.4	46	.55	6.1	17	.29
6	3.5	105	.98	5.0	59	.80	5.7	19	.29
7	3.4	117	1.1	4.3	82	.94	5.6	21	.31
8	5.8	131	2.1	4.2	73	.82	5.5	22	.33
9	24	137	13	26	129	16	6.8	24	.56
10	6.4	57	.99	35	172	109	5.9	33	.53
11	4.2	59	.67	8.6	32	.77	6.5	29	.50
12	3.8	69	.71	6.3	22	.38	6.4	27	.46
13	3.9	71	.75	6.2	21	.39	5.5	25	.37
14	57	273	139	5.5	22	.32	5.7	23	.36
15	17	70	3.3	5.1	18	.25	13	48	2.3
16	7.3	63	1.2	5.0	15	.20	13	50	2.9
17	5.6	66	1.0	8.6	28	.77	6.2	22	.39
18	4.5	69	.83	8.8	31	1.0	4.6	13	.17
19	4.1	71	.79	6.2	21	.36	5.4	19	.27
20	4.0	65	.70	5.5	17	.25	4.2	37	.43
21	4.3	57	.67	43	185	57	4.2	39	.45
22	4.3	59	.69	27	104	8.1	4.6	32	.39
23	4.5	66	.79	26	95	12	5.0	18	.23
24	4.5	56	.68	32	128	18	5.0	19	.25
25	4.1	61	.68	30	103	9.6	3.9	34	.36
26	3.8	71	.73	16	15	.70	3.7	29	.29
27	6.4	66	1.1	10	11	.31	3.8	14	.15
28	7.9	58	1.2	8.8	12	.27	3.3	10	.09
29	7.2	52	1.0	7.9	9	.19	3.4	8	.08
30	5.9	55	.88	---	---	---	3.6	8	.08
31	5.1	62	.85	---	---	---	4.8	11	.17
TOTAL	231.7	---	181.74	364.1	---	242.09	178.6	---	13.87

RIO JACAGUAS BASIN

50110900 RIO TOA VACA ABOVE LAGO TOA VACA, 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)
		APRIL			MAY			JUNE	
1	3.8	7	.08	3.9	38	.40	3.3	45	.39
2	3.2	6	.05	3.9	34	.36	4.2	27	.31
3	8.0	25	1.1	3.9	31	.33	4.2	17	.19
4	26	104	19	3.8	28	.29	4.4	19	.22
5	73	456	479	3.5	26	.25	6.3	25	.44
6	18	81	4.6	3.6	23	.23	6.9	32	.58
7	9.1	34	.85	3.5	21	.20	5.0	39	.52
8	6.8	22	.40	3.4	19	.18	4.5	38	.46
9	4.9	23	.31	3.5	18	.16	4.0	35	.37
10	5.0	29	.39	3.0	16	.13	3.5	31	.30
11	5.2	20	.29	3.2	15	.13	3.3	26	.23
12	5.4	13	.19	3.7	13	.13	3.1	21	.18
13	7.1	19	.35	8.3	12	.16	3.5	20	.19
14	5.7	34	.53	5.7	11	.17	3.3	19	.17
15	5.4	58	.83	4.0	10	.11	10	43	2.3
16	4.4	37	.44	25	105	58	3.9	25	.27
17	4.5	18	.22	22	86	12	3.7	22	.21
18	4.7	24	.29	20	81	5.9	9.2	40	1.5
19	3.5	36	.35	48	249	75	5.7	16	.26
20	69	419	1110	28	114	9.2	4.2	11	.13
21	8.3	70	1.6	17	65	3.0	3.8	10	.10
22	4.8	51	.67	10	42	1.2	3.6	8	.08
23	4.6	49	.61	17	48	2.7	3.5	6	.05
24	4.2	53	.59	10	18	.51	3.3	4	.04
25	4.3	56	.65	6.9	16	.29	3.1	15	.11
26	4.3	59	.69	9.9	34	2.1	2.7	23	.17
27	3.9	55	.59	16	70	13	2.6	18	.13
28	4.0	50	.54	8.9	55	1.3	2.6	15	.10
29	3.9	46	.48	6.0	37	.60	2.7	11	.08
30	4.0	42	.45	4.9	45	.59	2.8	8	.06
31	---	---	---	4.2	61	.69	---	---	---
TOTAL	319.0	---	1626.14	314.7	---	189.31	126.9	---	10.14

RIO JACAGUAS BASIN

50110900 RIO TOA VACA ABOVE LAGO TOA VACA, 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)
		JULY			AUGUST			SEPTEMBER	
1	2.7	7	.05	4.0	15	.16	3.6	40	.39
2	2.7	8	.06	5.0	12	.16	3.7	25	.25
3	2.7	11	.08	5.0	10	.13	4.4	25	.30
4	2.3	15	.10	4.6	8	.10	5.6	28	.43
5	2.2	21	.13	3.6	6	.06	5.4	33	.48
6	2.3	18	.11	3.6	5	.05	4.8	36	.47
7	2.5	13	.09	3.6	4	.04	4.3	32	.37
8	14	44	5.2	3.3	3	.03	4.5	26	.31
9	33	116	10	3.1	3	.02	5.4	24	.36
10	19	70	3.7	4.8	2	.03	2050	10200	75700
11	11	47	1.4	7.2	2	.04	e152	189	e109
12	9.3	36	.92	4.2	2	.02	e53	14	e2.6
13	8.2	28	.62	3.1	1	.01	e51	173	e60
14	16	80	5.5	2.7	4	.03	e40	232	e36
15	47	229	67	2.8	17	.13	e35	200	e29
16	16	90	4.0	3.7	27	.27	e30	25	e3.0
17	10	86	2.4	3.1	37	.31	e81	427	e269
18	6.4	83	1.4	2.5	36	.25	e72	132	e29
19	5.2	80	1.1	2.4	31	.20	e28	21	e2.5
20	4.1	77	.85	36	283	121	e22	13	e1.2
21	3.5	74	.70	13	95	3.2	e21	12	e1.1
22	3.6	69	.67	5.3	91	1.3	e20	13	e1.2
23	6.4	50	.85	4.1	88	.98	e19	15	e1.3
24	9.9	35	.92	4.0	84	.91	e18	17	e1.4
25	12	57	2.1	3.5	81	.77	e17	19	e1.5
26	8.9	68	1.7	2.7	78	.57	e16	21	e1.6
27	5.8	51	.80	2.8	75	.57	e17	16	e1.3
28	6.5	38	.64	2.7	72	.55	e18	11	e.92
29	5.4	28	.42	3.7	69	.65	e18	5	e.44
30	4.2	22	.25	4.0	66	.72	e17	2	e.18
31	3.9	18	.19	4.6	61	.77	---	---	---
TOTAL	286.7	---	113.95	158.7	---	134.03	2836.7	---	76255.60
YEAR	7248.7		88120.45						

e Estimated

RIO JACAGUAS BASIN

50110900 RIO TOA VACA ABOVE LAGO TOA VACA, PR--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM
OCT 1995							
16...	1640	406	3780	4140	31	37	46
20...	1600	1710	26800	124000	7	8	10
20...	1610	1680	10900	49400	18	21	22
20...	1625	1930	7260	37900	24	27	33
28...	1355	572	8230	12700	19	27	33
SEP 1996							
10...	0245	541	53600	78300	7	8	--
10...	1530	1180	3110	9910	37	42	45
17...	1600	306	4020	3320	28	33	37

DATE	SED. SUSP. FALL DIAM. % FINER THAN .016 MM	SED. SUSP. FALL DIAM. % FINER THAN .031 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM
OCT 1995							
16...	60	73	92	98	100	100	100
20...	13	18	28	49	84	98	99
20...	30	37	48	69	91	99	100
20...	41	49	58	73	90	98	99
28...	42	51	67	86	98	100	100
SEP 1996							
10...	11	13	17	39	82	97	99
10...	54	65	80	91	97	100	100
17...	44	50	61	69	81	93	99

RIO JACAGUAS BASIN

50110900 RIO TOA VACA ABOVE LAGO TOA VACA, PR--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

SILT AND CLAY PERCENT OF SUSPENDED SEDIMENT

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT 1995					
16...	1600	504	3540	4820	89
20...	1830	424	982	1120	93
28...	1435	345	3740	3480	64
28...	1450	453	3470	4240	72
28...	1530	465	3760	4720	68
FEB 1996					
19...	1610	581	261	409	97
21...	1558	107	257	74	89
AUG					
20...	1700	139	2540	953	95
SEP					
10...	0320	1420	9770	37500	99
10...	0650	1880	9270	47100	83

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.--21.0 mi² (54.4 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, flatslab and buttress-type structure about 130 ft (40 m) height, a net crest lenght 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 Diaz Canal. Gage-height and precipitation satellite telemetry at station.

EXTREMES OBSERVED FOR PERIOD OF RECORD.--Maximum elevation, 341.55 ft (104.10 m), Sept. 10, 1996; minimum elevation, 334.67 ft (102.0 m), May 3, 1995.

EXTREMES OBSERVED FOR CURRENT YEAR.--Maximum elevation, 341.55 ft (104.10 m), Sept. 10; minimum elevation, 339.37 ft (103.4 m), Jan. 9.

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	366	330	3,885
321	2,010	341	7,360

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	340.81	340.71	340.50	339.79	339.91	A	340.88	A	340.79	340.62	340.90	340.39
2	340.80	340.54	340.55	339.76	339.91	A	340.88	A	340.67	A	340.98	340.25
3	340.87	340.37	340.55	339.72	339.79	A	341.10	A	340.74	A	340.85	340.55
4	340.92	340.44	340.59	339.69	339.69	A	340.98	340.72	340.78	A	340.77	340.75
5	340.83	340.49	340.60	339.65	339.77	A	341.06	340.62	340.83	A	340.84	340.79
6	340.77	340.47	340.61	339.51	339.90	A	340.96	340.51	340.81	A	340.86	340.78
7	340.75	340.36	340.64	339.42	339.97	A	340.84	340.79	A	340.60	340.85	340.64
8	340.78	340.38	340.66	339.38	340.07	A	340.95	340.86	340.75	340.92	340.86	340.61
9	340.77	340.70	340.52	339.67	340.22	A	340.92	340.87	340.82	A	340.86	A
10	340.80	340.72	A	339.72	341.00	A	340.93	340.88	340.79	A	340.79	340.92
11	340.85	340.71	A	339.73	340.81	A	340.93	340.59	340.67	A	340.95	340.80
12	340.84	340.71	A	339.71	340.85	A	340.93	340.62	340.81	A	340.96	340.95
13	340.81	340.85	A	339.61	340.85	A	340.80	340.87	340.76	A	340.89	340.94
14	340.80	340.72	A	339.81	340.81	A	340.75	340.91	340.74	A	340.92	341.00
15	340.77	340.75	340.56	339.94	340.78	A	A	A	340.90	A	340.89	340.87
16	340.85	340.79	340.46	339.99	340.79	A	A	340.91	A	A	340.88	340.93
17	340.81	340.55	340.35	340.06	340.87	A	A	340.87	340.77	340.90	340.77	340.94
18	340.96	340.59	340.38	340.30	340.80	A	A	340.98	340.52	340.88	340.72	340.95
19	340.81	340.64	340.39	340.29	340.80	A	A	341.08	340.80	340.89	340.77	340.88
20	340.82	340.68	340.41	340.19	340.80	A	340.93	A	340.78	340.80	340.99	340.93
21	340.82	340.70	340.41	340.11	340.99	A	340.72	A	340.70	340.76	340.87	340.81
22	340.78	340.70	340.39	340.09	340.84	A	340.67	A	340.65	340.88	340.83	340.81
23	340.78	340.70	340.26	340.08	340.81	A	340.97	A	A	340.88	340.86	340.89
24	340.80	340.70	340.17	340.03	340.85	A	340.86	A	340.67	340.89	340.78	340.81
25	340.78	340.67	340.11	340.03	340.81	A	340.70	A	A	340.82	340.72	340.84
26	340.78	340.67	340.11	340.02	A	A	340.72	A	340.71	340.85	340.74	340.82
27	340.77	340.67	340.07	339.99	A	A	340.64	A	340.78	340.73	340.71	340.78
28	340.78	340.65	340.11	339.92	A	A	340.54	340.84	340.80	340.84	A	A
29	340.73	340.66	340.15	339.95	A	340.65	A	340.45	340.84	340.87	340.79	340.80
30	340.73	340.46	340.00	339.95	---	340.66	A	340.88	340.84	340.85	A	340.86
31	340.71	---	339.87	339.93	---	340.73	---	340.84	---	340.86	340.55	---
MAX	340.96	340.85	---	340.30	---	---	---	---	---	---	---	---
MIN	340.71	340.36	---	339.38	---	---	---	---	---	---	---	---

A No gage-height record

RIO JACAGUAS BASIN

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 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

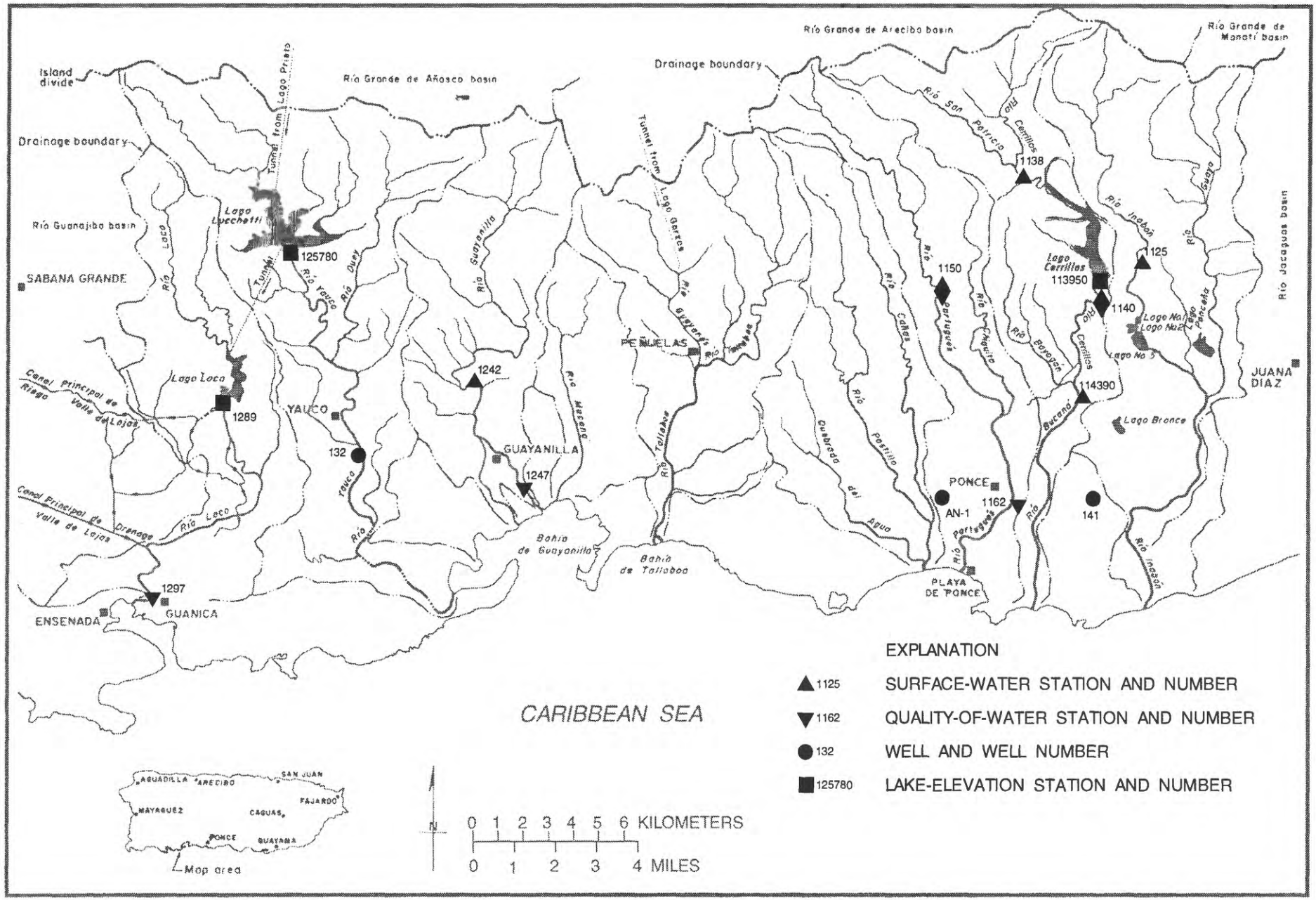
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e64	e29	e17	e4.8	e2.3	e6.0	e30	9.0	30	46	e29	27
2	e62	e29	e12	e4.9	e2.2	e6.8	e15	e15	11	36	75	24
3	e64	e31	e12	e3.9	e2.2	e9.0	e100	14	7.6	32	73	22
4	e70	e34	e12	e4.1	e2.0	e10	e70	15	12	25	e22	24
5	e68	e35	e11	e4.2	e2.1	e9.0	e41	5.0	18	27	e11	28
6	e60	e35	e13	e4.3	e2.4	e9.4	e100	4.2	34	15	15	29
7	e54	e35	e10	e4.9	e2.8	e10	e42	4.3	e24	5.9	20	24
8	e54	e37	e8.4	e4.9	e3.2	e10	e43	5.7	e16	6.8	19	21
9	e54	e39	e8.2	e4.9	e5.8	e19	e41	15	18	156	18	e21
10	e58	e40	e8.4	e7.0	e11	e12	40	15	33	126	18	e1100
11	e64	e34	e8.2	e3.4	e6.2	e8.6	38	14	22	46	21	568
12	e76	e36	e8.4	e2.8	e3.3	e9.2	33	4.8	14	e37	64	245
13	e68	e50	e8.4	e3.0	e2.7	e8.8	35	5.2	24	20	59	e209
14	e58	e36	e7.8	e8.8	e2.5	e9.4	19	26	16	15	e34	228
15	e58	e70	e7.2	e8.9	e2.3	e10	15	30	103	168	35	182
16	e90	e48	e7.6	e4.4	e2.3	e10	13	172	77	68	29	e145
17	e98	e29	e7.8	e3.3	e9.8	e7.3	13	89	30	e35	21	152
18	e92	e21	e7.8	e3.0	e8.8	e6.6	13	46	e31	26	8.3	158
19	e86	e19	e8.8	e2.9	e8.2	e6.0	20	124	46	24	5.9	141
20	e110	e21	e7.6	e4.1	e8.2	e5.2	50	177	e32	22	30	e122
21	e110	e21	e6.6	e3.7	e25	e5.2	55	90	23	8.1	76	e110
22	e68	e20	e6.2	e2.9	e68	e4.3	18	47	17	6.9	27	90
23	e56	e19	e6.6	e2.6	e29	e4.3	e25	70	8.1	24	17	96
24	e50	e21	e6.8	e2.6	e14	e4.6	e30	48	6.5	21	18	97
25	e49	e19	e6.4	e3.0	e12	e4.2	28	e39	6.2	18	8.8	e77
26	e50	e18	e8.2	e3.2	e10	e4.4	24	17	6.0	9.5	5.6	79
27	e52	e17	e9.2	e3.6	e9.0	e4.2	26	22	e6.7	11	5.9	70
28	e88	e14	e5.8	e3.2	e8.4	e4.6	9.0	16	e22	11	e6.4	e64
29	e44	e14	e4.6	e2.6	e8.4	e5.4	6.8	30	30	24	e6.1	e39
30	e34	e16	e4.6	e2.4	---	e13	6.1	e36	43	23	e88	46
31	e32	---	e4.9	e2.4	---	e30	---	46	---	18	e54	---
TOTAL	2041	887	261.5	124.7	274.1	266.5	998.9	1251.2	767.1	1111.2	920.0	4238
MEAN	65.8	29.6	8.44	4.02	9.45	8.60	33.3	40.4	25.6	35.8	29.7	141
MAX	110	70	17	8.9	68	30	100	177	103	168	88	1100
MIN	32	14	4.6	2.4	2.0	4.2	6.1	4.2	6.0	5.9	5.6	21
AC-FT	4050	1760	519	247	544	529	1980	2480	1520	2200	1820	8410
CFSM	1.32	.59	.17	.08	.19	.17	.67	.81	.51	.72	.60	2.84
IN.	1.52	.66	.20	.09	.20	.20	.75	.93	.57	.83	.69	3.17

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 1996, BY WATER YEAR (WY)

MEAN	123	89.4	35.4	24.3	8.47	4.97	11.4	70.3	41.0	23.5	20.4	43.0
MAX	445	287	151	144	16.9	8.60	34.7	215	198	82.4	41.1	164
(WY)	1986	1988	1988	1992	1991	1996	1992	1985	1987	1987	1985	1985
MIN	4.31	7.57	7.31	3.77	1.97	1.95	1.84	1.46	.93	1.04	1.59	1.07
(WY)	1995	1995	1995	1995	1994	1994	1994	1994	1994	1994	1994	1994

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1984 - 1996	
ANNUAL TOTAL	7242.7		13141.2			
ANNUAL MEAN	19.8		35.9		42.5	
HIGHEST ANNUAL MEAN					80.9	1986
LOWEST ANNUAL MEAN					6.23	1994
HIGHEST DAILY MEAN	387	May 27	1100	Sep 10	4530	Nov 27 1987
LOWEST DAILY MEAN	1.1	Feb 20	2.0	Feb 4	.24	Jan 3 1992
ANNUAL SEVEN-DAY MINIMUM	1.3	Feb 14	2.2	Jan 30	.61	Jun 29 1994
INSTANTANEOUS PEAK FLOW			18700	Sep 10	40000	Oct 7 1985
INSTANTANEOUS PEAK STAGE			22.00	Sep 10	29.42	Oct 7 1985
ANNUAL RUNOFF (AC-FT)	14370		26070		30780	
ANNUAL RUNOFF (CFSM)	.40		.72		.85	
ANNUAL RUNOFF (INCHES)	5.41		9.82		11.59	
10 PERCENT EXCEEDS	54		77		92	
50 PERCENT EXCEEDS	7.1		18		8.2	
90 PERCENT EXCEEDS	2.2		4.2		2.5	

e Estimated


Island divide
Drainage boundary
Río Guanajibo basin
SABANA GRANDE
Río Grande de Añasco basin
Tunnel from Lago Prieto
Lago Lucchetti
125780
Río Loco
Río Yauco
Río Duey
Río Guayanilla
Tunnel from Lago Garzas
Río Gavilanes
PEÑUELAS
Río Tanamá
Río Grande de Arecibo basin
Drainage boundary
Río San Patricio
Río Cerrillos
1138
Río Inabón
Río Saliente
Lago Cerrillos
113950
1125
1150
Río Portugués
Río Bauta
Río Baboa
Río Cañas
1140
Lago No 3
Lago No 2
Lago Pancella
Río Jacaguas basin
JUANA DIAZ
114390
Lago Bronce
Río Bucaná
Río Portugués
Río Chaguita
Río Baboa
Río Cañas
Río Portugués
Quebrada del Agua
Río Portugués
Río Inabón
Río Bucaná
Río Portugués
Río Inabón
Río Portugués
Río Chaguita
Río Baboa
Río Cañas
Río Portugués
Río Inabón
Río Bucaná

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 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	14	9.9	6.7	4.5	7.0	e14	11	28	8.5	91	12
2	18	14	8.7	6.8	4.3	7.5	6.8	9.4	20	7.7	87	9.5
3	19	14	8.7	6.0	4.3	9.5	47	8.7	21	8.6	52	9.5
4	21	15	8.6	6.4	4.1	11	e34	7.3	147	9.8	13	9.9
5	20	16	8.2	6.4	4.1	10	19	6.7	67	10	8.5	9.5
6	17	16	9.0	6.7	4.7	9.8	e47	6.5	33	9.1	6.7	8.1
7	16	16	8.7	7.4	5.3	11	19	6.0	17	8.5	7.3	7.4
8	16	16	7.4	7.5	6.2	11	10	e7.3	13	29	7.7	6.8
9	16	18	7.2	7.5	10	21	11	7.4	14	28	7.1	6.7
10	17	18	7.5	11	24	14	9.1	7.3	12	15	15	e754
11	19	16	7.9	6.1	14	9.4	9.0	7.7	11	11	32	e317
12	23	16	8.0	5.6	6.8	10	15	7.6	11	8.2	24	e163
13	20	22	7.9	5.9	5.5	9.6	13	16	10	6.9	18	e131
14	17	16	7.2	18	4.9	10	9.5	14	10	19	23	e135
15	17	33	6.9	18	4.6	11	10	9.7	26	27	13	e93
16	26	26	7.0	8.7	4.6	11	8.2	e49	11	10	9.6	e59
17	28	16	7.3	6.6	12	8.1	7.5	e25	11	7.9	7.5	e45
18	26	12	7.4	6.2	11	7.3	8.3	11	17	6.7	11	e46
19	25	11	8.3	6.1	9.9	6.7	6.5	24	11	8.1	8.7	e38
20	32	12	7.9	8.4	10	5.7	11	e57	9.7	8.6	47	35
21	32	12	7.1	7.5	30	5.7	10	36	11	8.5	14	32
22	25	11	7.1	5.5	85	4.6	6.9	25	12	8.6	7.5	31
23	21	11	6.9	5.1	38	4.6	5.0	26	13	7.7	6.7	31
24	19	12	7.2	5.1	21	5.0	7.1	17	11	7.3	16	30
25	18	11	7.1	5.5	13	4.5	9.4	14	10	7.2	14	34
26	18	10	8.5	6.3	11	4.7	7.4	11	11	7.8	14	29
27	19	9.3	10	7.2	9.6	4.6	9.1	8.4	12	7.3	13	28
28	33	8.1	7.1	6.5	9.6	4.9	11	8.7	11	32	13	28
29	20	8.2	6.6	5.8	8.3	5.4	12	9.3	9.7	16	11	27
30	16	9.3	6.6	5.0	---	e7.5	11	40	8.6	7.1	e33	90
31	15	---	6.8	4.8	---	e14	---	35	---	7.2	16	---
TOTAL	648	438.9	240.7	226.3	380.3	266.1	403.8	529.0	609.0	364.3	647.3	2255.4
MEAN	20.9	14.6	7.76	7.30	13.1	8.58	13.5	17.1	20.3	11.8	20.9	75.2
MAX	33	33	10	18	85	21	47	57	147	32	91	754
MIN	15	8.1	6.6	4.8	4.1	4.5	5.0	6.0	8.6	6.7	6.7	6.7
AC-FT	1290	871	477	449	754	528	801	1050	1210	723	1280	4470
CFSM	2.15	1.51	.80	.75	1.35	.88	1.39	1.76	2.09	1.21	2.15	7.75
IN.	2.49	1.68	.92	.87	1.46	1.02	1.55	2.03	2.34	1.40	2.48	8.65

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 1996, BY WATER YEAR (WY)

MEAN	45.9	33.4	12.3	8.52	5.75	5.77	8.23	19.6	16.1	11.9	17.1	33.7
MAX	148	77.9	26.5	45.5	13.1	16.4	19.2	76.7	49.8	32.7	46.1	119
(WY)	1986	1978	1966	1992	1996	1972	1992	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	7.70
(WY)	1994	1977	1977	1989	1977	1977	1975	1967	1967	1990	1974	1986

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1964 - 1996	
ANNUAL TOTAL	4504.7		7009.1			
ANNUAL MEAN	12.3		19.2		18.1	
HIGHEST ANNUAL MEAN					30.9	1969
LOWEST ANNUAL MEAN					7.44	1994
HIGHEST DAILY MEAN	183	Sep 16	754	Sep 10	2500	Sep 16 1975
LOWEST DAILY MEAN	3.2	Jan 6	4.1	Feb 4	.80	Jul 23 1977
ANNUAL SEVEN-DAY MINIMUM	3.4	Jan 1	4.4	Jan 31	1.1	Mar 31 1977
INSTANTANEOUS PEAK FLOW			3870	Sep 10	19000	Oct 7 1985
INSTANTANEOUS PEAK STAGE			18.37	Sep 10	25.30	Oct 7 1985
ANNUAL RUNOFF (AC-FT)	8940		13900		13090	
ANNUAL RUNOFF (CFSM)	1.27		1.97		1.86	
ANNUAL RUNOFF (INCHES)	17.28		26.88		25.30	
10 PERCENT EXCEEDS	24		32		40	
50 PERCENT EXCEEDS	7.1		10		9.0	
90 PERCENT EXCEEDS	4.4		6.2		3.2	

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 Mayagüez.

DRAINAGE AREA.-- 15.4 mi² (39.9 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. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30	16	14	8.2	8.2	11	10	8.3	26	11	147	20
2	27	15	13	7.8	7.9	11	8.6	7.7	21	9.5	182	20
3	43	15	13	7.8	7.8	11	82	26	17	9.3	102	20
4	37	14	12	8.0	7.7	9.7	48	11	344	9.2	58	27
5	30	16	12	7.7	7.5	9.7	47	8.2	122	8.8	37	23
6	25	25	18	7.7	26	9.1	57	7.4	77	8.4	29	31
7	23	16	14	7.4	27	8.7	19	7.1	47	9.0	26	21
8	27	21	13	9.5	13	8.3	12	6.6	38	75	23	20
9	22	15	12	11	13	25	11	6.8	34	65	21	20
10	25	14	12	10	33	21	12	6.9	30	34	62	1580
11	42	12	13	8.1	24	19	13	6.7	27	24	51	388
12	37	11	12	7.4	11	17	28	6.9	26	21	47	191
13	29	28	11	22	12	14	19	18	24	17	33	135
14	22	14	11	39	12	13	15	10	22	52	42	145
15	19	28	11	34	9.3	16	14	11	58	85	33	119
16	20	67	10	14	8.7	29	12	70	35	39	26	94
17	32	40	11	11	41	17	13	32	28	27	22	117
18	54	28	11	9.6	17	12	13	22	29	22	56	116
19	36	23	12	11	15	11	12	102	159	19	46	92
20	61	21	14	11	14	10	27	106	63	17	85	72
21	39	22	11	11	126	9.4	18	51	27	16	66	60
22	30	20	9.6	9.0	92	9.1	13	21	21	14	41	50
23	24	19	9.6	7.9	60	9.2	12	21	18	14	38	43
24	25	20	9.6	7.6	65	9.0	11	15	16	13	37	43
25	55	18	9.1	11	39	8.5	10	13	15	12	29	54
26	40	17	21	14	21	8.6	9.8	13	18	12	25	38
27	27	16	14	15	15	8.5	9.9	14	13	11	23	33
28	34	15	11	13	13	8.4	9.7	14	13	40	22	39
29	27	14	9.7	11	12	8.3	9.7	12	12	18	22	29
30	20	14	9.1	9.5	---	8.3	8.7	77	12	12	21	141
31	18	---	8.4	8.7	---	9.8	---	42	---	18	21	---
TOTAL	980	614	371.1	369.9	758.1	379.6	584.4	773.6	1392	742.2	1473	3781
MEAN	31.6	20.5	12.0	11.9	26.1	12.2	19.5	25.0	46.4	23.9	47.5	126
MAX	61	67	21	39	126	29	82	106	344	85	182	1580
MIN	18	11	8.4	7.4	7.5	8.3	8.6	6.6	12	8.4	21	20
AC-FT	1940	1220	736	734	1500	753	1160	1530	2760	1470	2920	7500
CFSM	2.66	1.72	1.01	1.00	2.20	1.03	1.64	2.10	3.90	2.01	3.99	10.6
IN.	3.06	1.92	1.16	1.16	2.37	1.19	1.83	2.42	4.35	2.32	4.60	11.82

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1996, BY WATER YEAR (WY)

MEAN	69.0	30.5	15.0	16.8	12.5	11.6	14.8	26.3	24.9	15.7	29.9	60.4
MAX	154	59.3	26.2	59.0	26.1	27.5	24.3	68.2	46.4	26.7	53.1	126
(WY)	1991	1993	1993	1992	1996	1989	1989	1993	1996	1991	1991	1996
MIN	24.6	9.77	8.10	6.59	6.34	4.77	6.38	4.58	6.37	3.37	11.3	16.9
(WY)	1992	1994	1995	1995	1990	1990	1990	1990	1990	1994	1994	1994

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1989 - 1996	
ANNUAL TOTAL	9093.7		12218.9			
ANNUAL MEAN	24.9		33.4		27.0	
HIGHEST ANNUAL MEAN					35.7	1993
LOWEST ANNUAL MEAN					9.94	1994
HIGHEST DAILY MEAN	517	Sep 16	1580	Sep 10	1580	Sep 10 1996
LOWEST DAILY MEAN	4.1	Apr 29	6.6	May 8	3.0	Jul 6 1994
ANNUAL SEVEN-DAY MINIMUM	4.3	Apr 26	6.9	May 6	3.2	Jul 27 1994
INSTANTANEOUS PEAK FLOW			10600	Sep 10	10600	Sep 10 1996
INSTANTANEOUS PEAK STAGE			10.62	Sep 10	10.62	Sep 10 1996
INSTANTANEOUS LOW FLOW			6.2	May 11		
ANNUAL RUNOFF (AC-FT)	18040		24240		19540	
ANNUAL RUNOFF (CFSM)	2.09		2.81		2.27	
ANNUAL RUNOFF (INCHES)	28.43		38.20		30.80	
10 PERCENT EXCEEDS	55		60		59	
50 PERCENT EXCEEDS	13		18		14	
90 PERCENT EXCEEDS	5.1		8.7		4.9	

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 lenght 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, 574.57 ft (175.13 m), Sept. 30, 1996; Minimum elevation, 416.63 ft (126.99 m), Oct. 1, 1992, (Revised).

EXTREMES OBSERVED FOR WATER YEAR 1993 (Revised).--Maximum elevation, 523.07 ft (159.43 m), Sept. 30; minimum elevation, 416.63 ft (126.99 m), Oct. 1.

EXTREMES OBSERVED FOR WATER YEAR 1994 (Revised).--Maximum elevation, 536.33 ft (163.47 m), Sept. 30; minimum elevation, 522.16 ft (159.15 m), Oct. 6.

EXTREMES OBSERVED FOR WATER YEAR 1995.--Maximum elevation, 560.79 ft (170.93 m), Sept. 30; minimum elevation, 536.55 ft (163.54 m), Oct. 1.

EXTREMES OBSERVED FOR CURRENT YEAR.--Maximum elevation, 574.57 ft (175.13 m), Sept. 30; minimum elevation, 541.17 ft (164.95 m), June 4.

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 1992 TO SEPTEMBER 1993
DAILY OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	418.40	475.51	493.44	498.43	504.53	506.63	507.61	516.29	519.50	520.02	519.06	517.31
2	419.95	476.08	493.57	498.59	504.70	506.66	507.62	518.56	519.48	520.12	519.05	517.42
3	420.52	476.57	493.53	498.81	504.84	506.70	507.74	519.49	519.86	519.32	519.13	517.65
4	421.57	476.43	493.68	498.99	504.92	506.71	507.77	519.81	520.13	519.30	519.16	517.86
5	422.49	476.41	494.03	499.15	505.02	506.75	507.77	520.04	519.14	519.43	519.18	517.96
6	425.12	480.08	494.40	499.31	505.09	506.79	507.78	520.12	519.37	519.54	519.22	518.05
7	429.75	480.63	494.60	499.49	505.19	506.81	507.79	519.85	519.55	519.72	519.30	518.11
8	433.55	481.10	494.34	499.61	505.25	506.80	507.84	519.25	519.54	519.88	519.32	518.14
9	436.38	481.59	493.82	499.79	505.32	506.86	507.93	520.35	519.16	519.97	519.34	518.25
10	438.85	482.03	493.66	499.93	505.38	506.90	507.96	519.37	519.37	519.02	519.46	519.17
11	441.59	482.47	493.94	500.08	505.43	506.93	508.17	519.38	519.57	519.23	519.48	519.48
12	443.49	483.33	494.23	500.23	505.51	506.95	508.37	519.54	519.76	519.52	519.53	519.58
13	445.08	484.11	494.49	500.38	505.59	506.99	509.03	519.70	519.95	519.73	519.57	519.71
14	446.98	484.69	494.79	500.48	505.66	507.03	509.31	519.18	519.70	519.95	519.60	519.75
15	448.53	485.32	495.08	500.59	505.71	507.16	509.57	519.99	519.43	519.75	516.98	519.86
16	449.29	486.89	495.26	500.66	505.88	507.18	509.77	520.27	519.64	519.63	517.76	519.89
17	450.92	488.47	495.37	500.77	505.96	507.19	509.85	520.50	519.76	519.73	517.90	519.99
18	451.41	489.35	495.55	500.83	506.01	507.20	509.96	520.21	520.51	A	517.95	520.24
19	452.13	489.89	495.72	500.90	506.16	507.22	510.04	519.17	519.47	A	518.06	520.35
20	453.24	492.19	495.72	501.00	506.23	507.22	510.18	519.38	519.43	A	518.12	520.67
21	454.15	492.12	495.89	501.06	506.28	507.24	510.24	521.04	519.67	519.76	518.24	520.84
22	455.03	492.30	496.07	501.13	506.33	507.26	510.31	519.50	519.89	519.24	518.49	520.96
23	463.42	492.25	496.27	501.21	506.38	507.26	510.36	519.55	520.02	519.32	517.34	521.17
24	463.93	492.60	496.47	501.28	506.41	507.34	510.50	519.97	520.01	519.48	516.64	521.36
25	463.99	492.53	496.62	501.35	506.44	507.40	510.58	519.66	520.03	519.55	516.63	521.47
26	466.37	492.76	496.89	501.40	506.46	507.43	510.62	520.35	520.12	519.69	516.66	521.76
27	467.90	493.14	497.11	501.51	506.52	507.46	510.69	521.14	519.22	519.78	516.87	521.94
28	469.05	492.96	497.31	502.19	506.60	507.50	510.97	520.27	519.53	519.88	517.03	522.50
29	471.75	493.02	497.76	503.81	---	507.54	513.42	519.51	519.72	519.93	517.10	522.54
30	473.29	493.26	498.00	504.17	---	507.54	515.09	519.58	519.92	519.99	517.09	522.92
31	474.47	---	498.25	504.35	---	507.60	---	519.63	---	520.03	517.21	---
MAX	474.47	493.26	498.25	504.35	506.60	507.60	515.09	521.14	520.51	---	519.60	522.92
MIN	418.40	475.51	493.44	498.43	504.53	506.63	507.61	516.29	519.14	---	516.63	517.31

A No gage-height record

RIO BUCANA BASIN

50113950 LAGO CERRILLOS AT DAMSITE NEAR PONCE, PR--Continued

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	522.42	526.33	527.90	529.22	529.83	530.40	530.48	530.75	531.33	531.52	530.89	A
2	522.62	526.40	527.91	529.23	529.82	530.51	530.48	530.73	531.64	531.50	530.87	A
3	522.39	526.51	527.93	529.23	529.81	530.53	530.48	530.70	531.77	531.54	530.84	A
4	522.49	526.61	527.95	529.23	529.81	530.54	530.48	530.68	531.79	531.50	530.86	A
5	522.38	526.65	527.97	529.24	529.80	530.55	530.48	530.66	531.80	531.49	530.82	A
6	522.41	526.71	527.99	529.24	529.75	530.56	530.48	530.70	531.77	531.46	530.83	A
7	522.47	526.76	528.01	529.24	529.76	530.57	530.62	530.70	531.77	531.43	530.82	A
8	522.36	526.79	528.01	529.23	529.77	530.57	530.65	530.69	531.76	531.41	530.91	A
9	522.64	526.82	528.04	529.23	529.75	530.57	530.64	530.67	531.76	531.37	531.01	A
10	522.84	526.90	528.02	529.23	529.74	530.57	530.64	531.00	531.73	531.34	531.00	A
11	523.03	526.94	528.06	529.24	529.74	530.58	530.68	531.13	531.72	531.32	A	A
12	523.15	526.99	528.07	529.22	529.73	530.59	530.68	531.18	531.70	531.30	A	A
13	523.25	527.01	528.13	529.23	529.72	530.61	530.68	531.20	531.67	531.30	A	A
14	523.41	527.04	528.38	529.22	529.73	530.62	530.67	531.31	531.65	531.21	A	533.10
15	523.48	527.08	528.34	529.22	529.73	530.65	530.65	531.39	531.70	531.28	A	533.08
16	523.87	527.16	528.41	529.22	529.73	530.67	530.63	531.39	531.70	531.21	A	533.08
17	524.26	527.23	528.43	529.22	529.72	530.66	530.62	531.47	531.76	531.18	A	533.16
18	524.47	527.29	528.45	529.21	529.71	530.66	530.62	531.51	531.76	531.20	A	533.31
19	524.68	527.33	528.46	529.24	529.68	530.65	530.56	531.53	531.75	531.19	A	533.30
20	524.80	527.36	528.83	A	529.69	530.63	530.55	531.53	531.74	531.17	A	533.84
21	524.91	527.41	528.88	529.22	529.68	530.64	530.55	531.53	531.71	531.14	A	534.17
22	525.01	527.43	528.90	529.23	529.67	530.64	530.53	531.53	531.69	531.11	A	534.25
23	525.13	527.48	528.97	529.67	529.69	530.63	530.52	531.52	531.67	531.10	A	534.85
24	525.36	527.51	528.98	529.75	529.71	530.56	530.51	531.49	531.65	531.03	A	535.69
25	525.48	527.53	528.98	529.79	529.68	530.55	530.50	531.43	531.63	531.09	A	535.91
26	525.57	527.58	528.99	529.80	529.65	530.55	530.66	531.43	531.61	531.05	A	536.03
27	525.67	527.62	529.19	529.81	529.64	530.54	530.73	531.41	531.60	531.03	A	536.07
28	525.95	527.80	529.20	529.81	530.23	530.52	530.76	531.39	531.59	531.02	A	536.07
29	526.08	527.84	529.20	529.81	---	530.52	530.76	531.38	531.56	530.98	A	536.15
30	526.20	527.85	529.21	529.81	---	530.50	530.76	531.35	531.54	530.93	A	536.33
31	526.25	---	529.22	529.80	---	530.48	---	531.36	---	530.92	A	---
MAX	526.25	527.85	529.22	---	530.23	530.67	530.76	531.53	531.80	531.54	---	---
MIN	522.36	526.33	527.90	---	529.64	530.40	530.48	530.66	531.33	530.92	---	---

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995
DAILY OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	536.55	544.94	548.07	548.21	547.02	550.91	551.22	548.97	551.58	550.39	548.13	550.94
2	536.65	545.41	548.10	548.21	546.91	551.17	551.12	548.85	551.56	550.30	548.08	550.85
3	536.75	545.77	548.13	548.22	546.93	551.37	550.98	548.75	551.59	550.18	547.99	550.80
4	536.78	545.96	548.17	548.23	546.90	551.57	550.87	548.72	551.66	550.04	547.88	550.71
5	536.81	546.07	548.16	548.24	546.93	551.70	550.73	549.07	551.88	549.92	547.79	550.67
6	536.84	546.19	548.16	548.23	546.94	551.79	550.61	549.27	552.02	549.82	547.68	551.09
7	536.91	546.31	548.16	548.22	546.98	551.86	550.51	549.50	552.07	549.74	547.58	551.77
8	538.34	546.37	548.16	548.23	547.01	551.91	550.38	550.11	552.05	549.63	547.48	552.03
9	538.77	546.57	548.15	548.23	547.08	551.96	550.26	550.37	552.00	549.49	547.36	552.11
10	538.98	546.73	548.12	548.23	547.12	552.15	550.14	550.47	552.09	549.37	547.27	552.15
11	539.12	546.84	548.11	548.26	547.11	552.38	550.13	550.47	552.09	549.22	547.17	552.56
12	539.23	546.90	548.13	548.24	547.12	552.48	550.08	550.39	552.00	549.10	547.03	552.77
13	539.26	546.98	548.12	548.19	547.14	552.55	549.96	550.31	551.93	549.02	546.88	552.84
14	539.35	547.10	548.10	548.11	547.15	552.59	549.85	550.22	551.82	548.91	546.79	552.85
15	539.39	547.16	548.11	548.12	547.18	552.65	549.73	550.50	551.77	549.04	546.69	553.04
16	539.42	547.23	548.10	548.09	547.21	552.69	549.66	550.59	551.70	549.13	547.13	556.26
17	539.62	547.32	548.10	548.07	547.22	552.64	550.34	550.54	551.62	549.04	547.18	557.41
18	539.90	547.40	548.08	548.01	547.23	552.60	550.41	550.48	551.54	548.94	548.17	557.94
19	540.06	547.45	548.07	547.96	547.23	552.51	550.34	550.42	551.40	548.83	549.84	558.63
20	540.15	547.55	548.06	547.89	547.25	552.47	550.23	550.45	551.31	548.67	550.36	559.01
21	540.56	547.59	548.07	547.82	547.57	552.41	550.14	550.41	551.21	548.55	550.58	559.27
22	541.23	547.65	548.07	547.76	547.65	552.33	550.02	550.33	551.12	548.46	550.66	559.49
23	541.90	547.70	548.11	547.67	548.05	552.30	549.91	550.22	551.02	548.35	550.70	559.90
24	542.98	547.71	548.15	547.62	548.17	552.14	549.78	550.15	550.89	548.25	550.70	560.14
25	543.96	547.81	548.16	547.55	548.61	552.05	549.68	550.27	550.78	548.10	550.66	560.30
26	544.25	547.90	548.17	547.49	550.01	551.91	549.58	550.36	550.67	547.99	550.57	560.40
27	544.45	547.98	548.19	547.43	550.38	551.80	549.45	550.92	550.74	547.87	550.51	560.53
28	544.59	548.02	548.23	547.35	550.66	551.69	549.34	551.31	550.68	547.87	550.87	560.66
29	544.69	548.03	548.22	547.28	---	551.57	549.22	551.33	550.63	547.83	551.01	560.75
30	544.74	548.07	548.21	547.19	---	551.47	549.09	551.47	550.52	548.15	551.02	560.78
31	544.82	---	548.21	547.12	---	551.35	---	551.55	---	548.22	551.00	---
MAX	544.82	548.07	548.23	548.26	550.66	552.69	551.22	551.55	552.09	550.39	551.02	560.78
MIN	536.55	544.94	548.06	547.12	546.90	550.91	549.09	548.72	550.52	547.83	546.69	550.67

A No gage-height record

RIO BUCANA BASIN

50113950 LAGO CERRILLOS AT DAMSITE NEAR PONCE, PR--Continued

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	560.81	561.85	560.46	556.29	551.96	550.82	546.66	543.83	541.49	544.18	550.59	559.14
2	560.81	561.79	560.37	556.11	551.76	550.70	546.51	543.55	541.39	544.09	552.05	559.19
3	560.88	561.75	560.27	555.96	551.62	550.56	546.68	543.40	541.26	544.14	552.76	559.27
4	560.92	561.66	560.15	555.80	551.46	550.40	546.66	543.27	543.55	544.21	553.09	559.43
5	560.92	561.65	560.07	555.61	551.31	550.28	546.66	543.09	544.12	544.25	553.30	559.53
6	560.92	561.63	559.97	555.48	551.26	550.14	547.06	542.92	544.32	544.28	553.41	559.64
7	560.91	561.57	559.85	555.31	551.12	549.97	546.97	542.75	544.35	544.36	553.48	559.73
8	560.90	561.58	559.70	555.14	551.03	549.82	546.87	542.60	544.28	544.97	553.59	559.78
9	560.88	561.57	559.56	555.00	551.13	549.73	546.72	542.48	544.24	545.49	553.69	A
10	560.90	561.53	559.43	554.93	551.22	549.61	546.56	542.28	544.19	545.77	554.15	572.60
11	561.01	561.46	559.30	554.73	551.12	549.53	546.47	542.11	544.12	545.92	554.53	573.20
12	561.09	561.36	559.17	554.58	551.04	549.45	546.40	541.94	544.08	546.03	554.81	572.87
13	561.13	561.36	559.00	554.50	550.91	549.33	546.28	541.99	543.98	546.14	555.01	572.94
14	561.13	561.34	558.87	554.50	550.78	549.21	546.16	541.86	543.88	546.61	555.36	573.42
15	561.09	561.30	558.72	554.45	550.62	549.10	546.06	541.72	544.12	547.17	555.41	573.72
16	561.05	561.56	558.58	554.29	550.46	549.08	545.83	541.88	544.11	547.37	555.67	573.41
17	561.14	561.58	558.44	554.13	550.63	548.97	545.72	541.87	544.05	547.48	555.91	573.05
18	561.26	561.53	558.32	554.02	550.56	548.84	545.58	541.78	543.98	547.59	556.18	572.68
19	561.30	561.45	558.17	553.88	550.46	548.69	545.45	542.14	544.93	547.68	556.45	572.56
20	561.46	561.38	558.07	553.76	550.39	548.53	545.43	542.35	545.14	547.79	557.15	572.58
21	561.52	561.30	557.91	553.63	550.86	548.37	545.34	542.37	545.17	547.85	557.52	572.66
22	561.53	561.22	557.74	553.48	551.19	548.22	545.25	542.25	545.16	547.92	557.71	572.73
23	561.55	561.16	557.60	553.30	551.26	548.05	545.11	542.22	545.08	547.99	557.89	572.80
24	561.55	561.10	557.46	553.15	551.38	547.90	544.96	542.09	545.01	548.03	558.15	572.89
25	561.65	561.02	557.30	552.99	551.37	547.73	544.81	541.93	544.93	548.09	558.29	573.11
26	561.70	560.94	557.16	552.83	551.29	547.58	544.65	541.81	544.87	548.12	558.41	573.31
27	561.73	560.83	557.06	552.73	551.16	547.40	544.47	541.70	544.76	548.17	558.51	573.39
28	561.86	560.73	556.93	552.58	551.07	547.25	544.32	541.58	544.61	548.64	558.66	A
29	561.93	560.66	556.77	552.44	550.94	547.06	544.16	541.43	544.47	548.80	558.72	573.55
30	561.93	560.56	556.61	552.26	---	546.96	543.98	541.57	544.32	548.88	558.98	574.57
31	561.90	---	556.44	552.11	---	546.84	---	541.57	---	549.09	559.04	---
MAX	561.93	561.85	560.46	556.29	551.96	550.82	547.06	543.83	545.17	549.09	559.04	---
MIN	560.81	560.56	556.44	552.11	550.39	546.84	543.98	541.43	541.26	544.09	550.59	---

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 upstrream. Maximum discharge prior to regulation, 22,400 ft³/s (6.34 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 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.4	e6.2	e4.0	e4.1	6.4	4.9	e5.8	e5.5	e6.6	e6.1	e10	e5.9
2	4.2	5.8	e3.7	e4.3	6.1	5.0	e6.1	e5.4	e6.2	e6.0	e11	e5.5
3	4.0	5.5	e3.6	e4.5	6.3	4.9	e7.1	e5.8	e5.4	e6.0	e8.6	e5.3
4	4.0	6.1	e3.6	e4.6	6.3	4.9	e8.2	e6.1	e5.8	e5.4	e5.2	e6.0
5	4.1	6.1	e3.6	e4.5	6.4	5.1	e6.1	e5.0	e6.2	e4.9	e5.7	e5.7
6	3.8	5.2	e3.8	e4.7	6.5	5.4	e7.4	e4.9	e5.6	e5.0	e16	e5.4
7	3.8	5.1	e4.5	e4.9	17	e4.7	e6.0	e5.1	e5.4	e4.6	e5.9	e5.6
8	3.7	5.0	e4.4	e5.3	6.2	e10	e6.3	e4.7	e5.6	e4.5	e5.5	9.4
9	3.7	5.9	e4.2	e4.9	7.2	e7.4	e6.5	4.9	e6.8	e4.6	e4.4	12
10	3.9	5.5	e6.0	e4.7	9.5	e6.3	e6.1	5.8	e7.2	e4.2	e4.6	450
11	3.9	5.3	e7.6	e4.3	6.5	e6.0	e5.8	e6.6	e6.4	e4.1	e5.1	536
12	4.1	4.7	e6.5	e4.8	6.0	e6.3	e5.1	e6.6	e6.8	e4.1	e4.3	368
13	4.2	4.6	e6.3	e4.7	6.3	e6.1	e5.1	e5.9	e6.4	e3.9	e5.2	154
14	4.2	4.8	e5.8	e4.7	6.2	e6.3	e6.0	e5.7	e6.2	e4.4	e4.6	67
15	4.1	4.5	e5.3	e4.6	6.2	e5.3	e6.3	e5.5	e10	e4.6	e4.8	64
16	4.1	5.1	e5.0	5.3	5.1	e8.2	e6.2	e5.4	e8.0	e3.7	e6.4	175
17	5.1	e5.6	e4.7	5.4	7.7	e5.6	e5.6	e5.2	e6.8	e4.1	e5.7	235
18	4.5	e5.4	e4.6	5.4	5.4	e6.4	e5.9	e5.1	e7.2	e4.2	e4.7	239
19	4.9	e5.4	e4.9	5.8	5.0	e7.4	e5.1	e4.9	e6.6	e4.1	e4.4	144
20	4.9	e5.2	e8.4	6.4	4.8	e6.7	e5.6	e4.8	e8.0	e4.0	e4.6	90
21	5.1	e5.0	e5.8	6.2	5.2	e6.6	e3.9	e4.6	e7.7	e3.9	e5.2	94
22	5.5	e4.9	e5.5	6.3	8.1	e5.4	e4.3	e4.5	e7.0	e4.0	e5.2	98
23	5.6	e4.8	e5.2	6.5	5.0	e5.2	e4.6	e4.4	e6.5	e3.9	e5.0	41
24	5.6	e5.2	e4.7	6.1	5.1	e5.0	e4.8	e4.2	e6.3	e4.0	e6.3	5.6
25	5.6	e5.2	e4.3	6.3	5.0	e4.6	e5.4	e4.5	e6.2	e3.8	e6.6	6.1
26	5.4	e5.2	e4.4	5.8	4.8	e5.8	e5.3	e4.4	e6.4	e3.7	e5.1	7.1
27	e5.3	e4.9	e4.3	5.7	4.7	e5.1	e4.7	e4.5	e6.5	e3.5	e5.1	28
28	e9.6	e5.2	e4.3	5.6	4.7	e5.1	e5.1	e4.6	e6.3	e12	e4.8	53
29	e8.0	e4.4	e4.4	5.6	4.8	e4.8	e5.7	e4.8	e6.0	e9.0	e4.8	56
30	e7.0	e4.4	e3.9	5.6	---	e5.2	e5.4	e4.5	e6.4	e5.4	e4.8	56
31	e6.4	---	e4.0	5.9	---	e5.4	---	e6.6	---	e5.0	e8.6	---
TOTAL	152.7	156.2	151.3	163.5	184.5	181.1	171.5	160.5	198.5	150.7	188.2	3027.6
MEAN	4.93	5.21	4.88	5.27	6.36	5.84	5.72	5.18	6.62	4.86	6.07	101
MAX	9.6	6.2	8.4	6.5	17	10	8.2	6.6	10	12	16	536
MIN	3.7	4.4	3.6	4.1	4.7	4.6	3.9	4.2	5.4	3.5	4.3	5.3
AC-FT	303	310	300	324	366	359	340	318	394	299	373	6010
CFSM	.28	.29	.27	.30	.36	.33	.32	.29	.37	.27	.34	5.67
IN.	.32	.33	.32	.34	.39	.38	.36	.34	.41	.31	.39	6.33

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 1996, BY WATER YEAR (WY)

MEAN	71.0	54.5	21.9	14.7	9.79	9.75	15.7	38.4	27.1	24.2	32.5	61.8
MAX	202	124	49.1	74.2	20.0	20.3	106	221	88.9	71.1	82.4	256
(WY)	1971	1978	1966	1992	1969	1969	1985	1985	1969	1968	1968	1975
MIN	4.93	5.21	4.81	4.52	4.37	5.07	4.93	4.14	3.69	4.75	5.26	6.65
(WY)	1996	1996	1995	1993	1993	1995	1979	1967	1995	1995	1995	1995

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1964 - 1996	
ANNUAL TOTAL	1910.7		4886.3			
ANNUAL MEAN	5.23		13.4		31.3	
HIGHEST ANNUAL MEAN					53.9	1969
LOWEST ANNUAL MEAN					5.35	1995
HIGHEST DAILY MEAN	40	Sep 16	536	Sep 11	11500	Oct 7 1985
LOWEST DAILY MEAN	3.1	Jun 17	3.5	Jul 27	.64	Aug 19 1992
ANNUAL SEVEN-DAY MINIMUM	3.1	Jun 16	3.8	Nov 30	1.7	Aug 24 1992
INSTANTANEOUS PEAK FLOW			1320	Sep 10	1320	Sep 10 1996
INSTANTANEOUS PEAK STAGE			7.74	Sep 10	7.74	Sep 10 1996
ANNUAL RUNOFF (AC-FT)	3790		9690		22650	
ANNUAL RUNOFF (CFSM)	.29		.75		1.76	
ANNUAL RUNOFF (INCHES)	3.99		10.21		23.86	
10 PERCENT EXCEEDS	6.2		8.0		74	
50 PERCENT EXCEEDS	5.1		5.4		14	
90 PERCENT EXCEEDS	3.9		4.2		5.1	

50114000 RIO CERRILLOS NEAR PONCE, PR--Continued

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)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1964 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

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, 0.45 UM-MF (COLS./ 100 ML) (31616)	STREP-TOCOCCI FECAL, (COLS. PER 100 ML) (31679)
NOV 1995											
02...	0950	5.6	376	6.4	26.0	1.5	6.6	81	<10	K170	300
JAN 1996											
16...	1010	5.1	352	7.2	24.5	0.50	8.0	95	11	220	K190
FEB											
16...	0925	5.1	345	7.2	24.5	0.50	7.5	88	<10	K170	K130
APR											
17...	1010	5.2	355	7.3	25.0	0.30	7.9	96	11	64	200
JUN											
25...	1130	6.0	349	7.5	26.5	0.30	6.2	77	14	200	220
AUG											
08...	1045	5.0	376	7.1	25.5	0.30	6.1	74	<10	K120	270

DATE	HARD-NESS TOTAL (MG/L AS CACO3) (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)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (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 1995										
02...	150	52	6.0	16	0.6	0.90	150	<0.5	34	7.2
JAN 1996										
16...	--	--	--	--	--	--	140	--	--	--
FEB										
16...	--	--	--	--	--	--	150	--	--	--
APR										
17...	160	54	5.6	16	0.6	1.9	160	<0.5	29	7.1
JUN										
25...	--	--	--	--	--	--	140	--	--	--
AUG										
08...	150	51	5.7	14	0.5	0.90	150	--	32	8.2

K = non-ideal count

RIO BUCANA BASIN

50114000 RIO CERRILLOS NEAR PONCE, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DATE	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	SOLIDS, DISSOLVED (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 1995										
02...	0.30	24	230	3.50	1	0.200	<0.010	0.200	0.020	<0.20
JAN 1996										
16...	--	--	--	--	8	0.130	<0.010	0.130	0.010	<0.20
FEB										
16...	--	--	--	--	6	0.120	<0.010	0.120	0.020	<0.20
APR										
17...	0.30	23	233	3.28	1	0.090	0.010	0.100	0.050	0.20
JUN										
25...	--	--	--	--	3	0.070	<0.010	0.070	<0.010	<0.20
AUG										
08...	0.20	23	225	3.03	<1	0.130	<0.010	0.130	0.010	1.1

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 1995										
02...	<0.20	0.36	1.6	0.020	<1	<100	30	<1	<1	20
JAN 1996										
16...	<0.20	0.25	1.1	<0.020	--	--	--	--	--	--
FEB										
16...	<0.20	<0.20	0.62	0.050	--	--	--	--	--	--
APR										
17...	0.25	0.35	1.5	0.020	<1	<100	40	<1	<1	<10
JUN										
25...	<0.20	<0.20	0.71	0.040	--	--	--	--	--	--
AUG										
08...	1.1	1.2	5.4	<0.020	--	--	--	--	--	--

DATE	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 (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)
NOV 1995										
02...	160	<1	30	<0.10	<1	<1	<10	<0.010	<1	<0.02
JAN 1996										
16...	--	--	--	--	--	--	--	--	--	--
FEB										
16...	--	--	--	--	--	--	--	--	--	--
APR										
17...	40	<1	20	<0.10	<1	<1	<10	<0.010	3	0.03
JUN										
25...	--	--	--	--	--	--	--	--	--	--
AUG										
08...	--	--	--	--	--	--	--	--	--	--

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 "Río 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 (35.500 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 0.4 mi upstream. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.5	7.7	e4.1	4.2	e7.4	7.6	9.4	7.0	6.6	5.9	8.3	5.2
2	6.2	6.5	e3.9	4.4	e6.2	7.2	7.8	6.8	6.1	5.9	9.2	4.8
3	5.3	5.7	e3.6	4.6	e5.8	7.0	7.8	6.6	5.3	5.8	6.7	4.6
4	5.0	5.7	e3.6	e4.7	e7.2	7.3	8.2	6.8	5.7	5.1	4.3	5.3
5	4.8	6.0	e3.6	4.6	5.2	7.4	8.5	6.6	6.2	4.6	4.1	5.0
6	4.9	5.9	e3.9	4.8	5.1	7.1	7.8	7.1	5.4	3.9	4.1	4.7
7	5.1	5.6	e4.6	4.9	7.8	7.1	8.5	6.7	5.4	4.5	5.7	4.9
8	5.3	5.0	4.6	5.4	5.7	7.1	7.3	6.9	5.5	5.0	4.3	4.9
9	5.1	5.5	4.4	5.1	4.9	7.1	6.8	7.3	6.7	5.0	4.2	5.4
10	5.6	6.6	6.1	4.9	6.5	6.6	6.8	7.5	7.0	4.5	3.9	1420
11	5.8	5.9	8.0	4.4	7.8	6.9	7.0	6.8	6.1	4.3	4.3	1430
12	e5.7	5.7	6.8	4.9	5.4	6.7	7.1	6.5	6.6	4.1	4.5	819
13	e6.3	6.1	6.5	4.8	5.5	6.5	7.0	6.8	6.2	3.7	4.1	273
14	e5.7	5.8	6.1	4.8	5.9	6.3	6.8	7.2	6.0	6.3	4.1	80
15	e5.3	5.6	e5.5	4.7	6.0	6.8	7.0	6.7	10	7.7	4.5	52
16	e5.5	5.7	e5.3	e5.1	5.9	26	6.7	e6.5	7.8	5.4	5.5	155
17	e6.3	5.7	4.9	e5.9	16	14	6.6	5.9	6.5	5.4	5.0	342
18	e6.3	5.8	e4.7	e5.7	8.3	8.7	6.5	5.8	7.0	5.1	4.0	351
19	e10	5.7	e5.0	6.0	7.9	8.3	7.8	7.7	6.4	4.4	3.8	214
20	e7.4	5.5	e8.7	13	7.5	8.6	7.9	8.3	8.0	4.2	4.0	77
21	e6.8	5.2	e6.1	6.9	6.9	9.0	8.3	7.3	7.4	4.0	4.5	72
22	6.6	5.1	e5.7	5.0	31	8.5	7.5	6.9	6.7	3.7	4.5	66
23	7.3	5.0	e5.4	4.6	28	8.5	7.6	e9.7	6.1	3.4	4.3	52
24	e6.3	5.3	4.9	4.9	8.6	8.3	7.5	8.0	6.0	3.2	5.5	9.6
25	e6.6	5.4	4.4	e5.0	10	8.1	7.8	7.6	6.1	3.2	5.7	8.3
26	e5.9	e5.4	e4.5	e5.5	9.6	8.1	7.6	7.0	6.3	3.2	4.4	7.5
27	e6.3	e5.1	4.3	e5.8	9.0	7.8	6.8	7.2	6.3	2.8	4.4	9.3
28	e7.7	e5.3	e4.3	e6.3	8.6	7.7	6.8	7.6	6.1	10	4.2	40
29	e8.7	e4.6	e4.4	e6.4	7.9	7.8	7.1	7.3	5.9	7.6	4.2	43
30	8.1	e4.6	4.0	e6.5	---	8.1	6.9	6.6	6.2	4.3	4.2	34
31	7.1	---	4.0	e5.9	---	8.8	---	6.6	---	4.1	7.6	---
TOTAL	196.5	168.7	155.9	169.7	257.6	261.0	223.2	219.3	193.6	150.3	152.1	5599.5
MEAN	6.34	5.62	5.03	5.47	8.88	8.42	7.44	7.07	6.45	4.85	4.91	187
MAX	10	7.7	8.7	13	31	26	9.4	9.7	10	10	9.2	1430
MIN	4.8	4.6	3.6	4.2	4.9	6.3	6.5	5.8	5.3	2.8	3.8	4.6
AC-FT	390	335	309	337	511	518	443	435	384	298	302	11110
CFSM	.25	.23	.20	.22	.36	.34	.30	.28	.26	.19	.20	7.50
IN.	.29	.25	.23	.25	.38	.39	.33	.33	.29	.22	.23	8.37

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 1996, BY WATER YEAR (WY)

MEAN	127	58.8	16.2	46.6	10.5	12.7	14.8	26.3	25.9	18.7	44.0	80.5
MAX	527	222	49.1	337	19.3	48.0	42.5	94.9	80.5	51.4	169	265
(WY)	1991	1988	1988	1992	1995	1989	1992	1992	1989	1991	1988	1989
MIN	6.34	5.09	5.03	4.51	4.10	4.49	4.74	4.29	4.90	4.37	4.06	7.12
(WY)	1996	1994	1996	1994	1994	1994	1994	1994	1994	1994	1994	1993

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1987 - 1996	
ANNUAL TOTAL	3346.8		7747.4			
ANNUAL MEAN	9.17		21.2		41.1	
HIGHEST ANNUAL MEAN					78.0	1991
LOWEST ANNUAL MEAN					7.43	1994
HIGHEST DAILY MEAN	238	Feb 26	1430	Sep 11	4340	Jan 6 1992
LOWEST DAILY MEAN	3.2	Aug 15	2.8	Jul 27	2.5	Sep 28 1992
ANNUAL SEVEN-DAY MINIMUM	3.8	Aug 9	3.4	Jul 21	2.8	Sep 23 1992
INSTANTANEOUS PEAK FLOW			4130	Sep 10	17400	Oct 7 1985
INSTANTANEOUS PEAK STAGE			13.47	Sep 10	13.48	Oct 7 1985
ANNUAL RUNOFF (AC-FT)	6640		15370		29750	
ANNUAL RUNOFF (CFSM)	.37		.85		1.65	
ANNUAL RUNOFF (INCHES)	5.00		11.57		22.41	
10 PERCENT EXCEEDS	11		8.7		73	
50 PERCENT EXCEEDS	6.0		6.2		9.6	
90 PERCENT EXCEEDS	4.6		4.3		4.6	

e Estimated

RIO PORTUGUES BASIN

50115000 RIO PORTUGUES NEAR PONCE, PR

LOCATION.--Lat 18°04'45", long 66°38'01", Hydrologic Unit 21010004, on right bank 30 ft (9 m) upstream from bridge on Highway 504, 0.2 mi (0.3 km) upstream from small unnamed tributary, 4.4 mi (7.1 km) upstream from Río Chiquito, and 4.7 mi (7.6 km) north of Plaza Degetau in Ponce.

DRAINAGE AREA.--8.82 mi² (22.84 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February to June 1964 (monthly measurements only), July 1964 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 470 ft (143 m), from topographic map. Prior to Dec. 4, 1964, non-recording gage at same site and datum.

REMARKS.--Records poor. Some low-flow regulation due to unknown activity upstream. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	21	e10	e6.2	e5.6	4.9	e4.5	4.0	4.4	11	200	7.5
2	10	23	e10	e6.0	e5.1	4.5	e3.8	3.8	4.2	10	693	7.0
3	50	e17	e9.6	e6.2	e4.9	4.3	e35	18	3.7	11	130	11
4	44	e11	e9.2	e6.0	e4.5	4.7	e25	11	236	10	57	18
5	22	e15	e14	e6.0	e3.9	5.3	e21	4.6	e79	11	27	49
6	18	e18	e11	e5.8	e21	3.8	22	4.2	e26	13	18	106
7	17	e12	e10	e7.0	e9.6	3.5	11	3.5	11	21	16	26
8	16	e9.3	e9.2	e8.4	e5.5	3.4	6.9	3.8	7.9	e150	13	8.3
9	16	e13	e9.4	e8.0	e3.9	3.6	6.2	6.1	6.8	e700	9.8	6.0
10	17	e19	e9.8	e7.0	e51	7.8	5.1	8.5	4.6	e200	62	1470
11	25	e20	e9.2	e6.0	e18	11	4.7	4.4	4.6	e60	33	728
12	17	e21	e8.6	e11	e7.6	8.9	9.2	3.9	5.7	20	22	220
13	16	e42	e8.4	e29	e5.5	6.5	6.9	3.3	4.8	14	19	32
14	14	e23	e8.4	e27	e5.9	5.4	4.8	3.0	4.0	40	50	49
15	12	21	e8.0	e12	e4.4	5.7	5.7	3.0	35	88	51	9.8
16	12	51	e8.4	e10	e4.2	e13	4.8	40	23	52	37	5.0
17	97	29	e8.4	e7.8	e9.7	e11	4.8	10	16	41	22	96
18	98	14	e8.8	e8.0	e7.2	e6.0	5.4	5.6	14	23	125	112
19	66	14	e11	e8.6	e4.9	e5.0	4.7	100	244	10	116	51
20	61	18	e9.4	e8.6	e10	e4.6	7.4	40	e40	14	63	22
21	52	25	e7.4	e4.8	c74	e4.4	8.4	9.7	e30	18	42	15
22	41	e17	e7.4	e4.6	62	e4.2	5.4	6.3	e23	17	20	11
23	31	e15	e7.4	e5.0	22	e4.0	7.1	8.4	e19	17	21	8.6
24	28	e15	e7.2	e5.4	28	e4.0	4.6	5.5	e17	20	34	7.1
25	24	e14	e16	e9.8	17	e3.8	4.5	4.9	e14	25	16	25
26	33	e13	e11	e12	9.1	e4.0	4.2	4.9	e18	29	12	8.2
27	29	e12	e9.0	e11	e6.7	e3.6	4.1	12	19	30	10	5.7
28	38	e11	e7.4	e8.9	5.9	e3.6	3.9	9.6	13	35	8.8	31
29	23	e11	e7.0	e7.5	5.4	e3.4	4.2	5.9	12	e17	8.7	7.0
30	19	e10	e6.6	e6.4	---	e3.7	4.0	5.0	11	e13	16	104
31	21	---	e6.4	e6.0	---	e4.3	---	5.8	---	309	9.1	---
TOTAL	977	554.3	283.6	276.0	422.5	165.9	249.3	358.7	950.7	2029	1961.4	3256.2
MEAN	31.5	18.5	9.15	8.90	14.6	5.35	8.31	11.6	31.7	65.5	63.3	109
MAX	98	51	16	29	74	13	35	100	244	700	693	1470
MIN	10	9.3	6.4	4.6	3.9	3.4	3.8	3.0	3.7	10	8.7	5.0
AC-FT	1940	1100	563	547	838	329	494	711	1890	4020	3890	6460
CFSM	3.57	2.09	1.04	1.01	1.65	.61	.94	1.31	3.59	7.42	7.17	12.3
IN.	4.12	2.34	1.20	1.16	1.78	.70	1.05	1.51	4.01	8.56	8.27	13.73

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 1996, BY WATER YEAR (WY)

MEAN	46.0	31.5	12.1	8.73	6.51	5.72	7.50	19.7	15.5	15.7	21.6	36.8
MAX	120	80.1	27.3	45.5	14.6	13.4	27.1	72.9	48.3	65.5	87.5	132
(WY)	1986	1988	1988	1992	1996	1976	1983	1985	1979	1996	1979	1975
MIN	11.9	5.82	2.71	3.65	2.62	2.08	2.45	1.65	2.33	1.49	4.20	7.22
(WY)	1992	1994	1992	1989	1989	1977	1974	1973	1974	1994	1972	1991

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1964 - 1996	
ANNUAL TOTAL	7005.6		11484.6			
ANNUAL MEAN	19.2		31.4		19.0	
HIGHEST ANNUAL MEAN					38.0	1979
LOWEST ANNUAL MEAN					7.04	1994
HIGHEST DAILY MEAN	402	Sep 16	1470	Sep 10	2440	Sep 16 1975
LOWEST DAILY MEAN	2.3	Feb 3	3.0	May 14	.61	Jul 29 1994
ANNUAL SEVEN-DAY MINIMUM	2.4	Feb 13	3.7	Mar 24	1.0	Jul 9 1994
INSTANTANEOUS PEAK FLOW			3070	Sep 10	21000	Oct 7 1985
INSTANTANEOUS PEAK STAGE			9.90	Sep 10	20.20	Oct 7 1985
ANNUAL RUNOFF (AC-FT)	13900		22780		13790	
ANNUAL RUNOFF (CFSM)	2.18		3.56		2.16	
ANNUAL RUNOFF (INCHES)	29.55		48.44		29.32	
10 PERCENT EXCEEDS	45		51		40	
50 PERCENT EXCEEDS	8.4		10		8.1	
90 PERCENT EXCEEDS	2.7		4.4		3.0	

e Estimated

RIO PORTUGUES BASIN

50115000 RIO PORTUGUES NEAR PONCE, PR--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1964 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

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, 0.45 UM-MF (COLS./ 100 ML) (31616)	STREP-TOCOCCI FECAL, (COLS. PER 100 ML) (31679)
NOV 1995											
08...	0945	9.8	290	6.8	23.0	7.0	8.5	99	<10	3600	K1800
JAN 1996											
22...	0930	4.6	314	7.4	20.0	4.9	8.8	96	<10	340	2900
FEB											
20...	1005	11	308	7.6	21.0	580	8.4	94	32	3800	9400
APR											
19...	0945	5.0	321	7.7	21.5	29	8.9	101	11	K1600	3400
JUN											
25...	0910	14	302	7.7	23.0	4.2	8.0	94	11	480	690
AUG											
08...	0900	15	304	7.7	22.5	7.1	8.0	93	<10	2100	2400

DATE	HARD-NESS TOTAL (MG/L AS CACO3) (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)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (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 1995										
08...	140	43	8.1	10	0.4	2.2	130	<0.5	6.4	7.7
JAN 1996										
22...	--	--	--	--	--	--	160	--	--	--
FEB										
20...	--	--	--	--	--	--	130	--	--	--
APR										
19...	150	46	8.1	11	0.4	1.6	150	0.6	8.6	8.8
JUN										
25...	--	--	--	--	--	--	130	--	--	--
AUG										
08...	130	41	7.3	8.2	0.3	1.4	130	--	8.9	8.6

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)	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 1995										
08...	<0.10	22	177	4.71	8	0.920	<0.010	0.920	0.010	0.22
JAN 1996										
22...	--	--	--	--	9	0.070	0.010	0.080	0.070	0.41
FEB										
20...	--	--	--	--	736	1.10	<0.010	1.10	0.020	1.1
APR										
19...	<0.10	20	194	2.62	48	1.69	0.010	1.70	0.050	<0.20
JUN										
25...	--	--	--	--	6	1.20	<0.010	1.20	0.010	<0.20
AUG										
08...	<0.10	20	173	6.79	30	1.40	<0.010	1.40	0.010	<0.20

K = non-ideal count

RIO PORTUGUES BASIN

50115000 RIO PORTUGUES NEAR PONCE, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

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 1995										
08...	0.23	1.1	5.1	0.030	<1	<100	20	<1	<1	<10
JAN 1996										
22...	0.48	0.56	2.5	0.040	--	--	--	--	--	--
FEB										
20...	1.1	2.2	9.7	0.400	--	--	--	--	--	--
APR										
19...	<0.20	1.9	8.3	0.080	<1	<100	20	<1	<1	<10
JUN										
25...	<0.20	1.3	5.9	0.040	--	--	--	--	--	--
AUG										
08...	<0.20	1.4	6.2	0.040	--	--	--	--	--	--

DATE	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 (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)
NOV 1995										
08...	480	<1	20	<0.10	<1	<1	<10	<0.010	<1	<0.02
JAN 1996										
22...	--	--	--	--	--	--	--	--	--	--
FEB										
20...	--	--	--	--	--	--	--	--	--	--
APR										
19...	1200	<1	80	<0.10	<1	<1	<10	<0.010	2	<0.02
JUN										
25...	--	--	--	--	--	--	--	--	--	--
AUG										
08...	--	--	--	--	--	--	--	--	--	--

RIO PORTUGUES BASIN

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 Américas 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 1995 TO SEPTEMBER 1996

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, 0.45 UM-MF (COLS./ 100 ML) (31616)	STREP-TOCOCCI FECAL, (COLS. PER 100 ML) (31679)
OCT 1995											
17...	0950	9.5	382	6.9	26.0	2.3	7.6	93	<10	45000	2900
DEC											
14...	0750	5.5	412	6.6	23.0	1.0	3.9	45	<10	6000	2200
FEB 1996											
12...	1020	11	359	7.4	23.0	24	7.8	89	24	3500	5100
APR											
12...	0905	9.3	500	7.1	25.0	5.0	6.4	77	110	43000	K17000
JUN											
06...	1045	50	245	7.0	25.0	210	7.5	89	<10	28000	26000
AUG											
23...	0900	19	374	7.2	24.5	6.7	7.9	94	<10	34000	42000

DATE	HARD-NESS TOTAL (MG/L AS CACO3) (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)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (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 1995										
17...	160	42	12	36	2	2.4	140	<0.5	52	34
DEC										
14...	--	--	--	--	--	--	180	--	--	--
FEB 1996										
12...	--	--	--	--	--	--	150	--	--	--
APR										
12...	180	52	11	35	1	2.7	160	<0.5	57	32
JUN										
06...	--	--	--	--	--	--	92	--	--	--
AUG										
23...	150	45	8.3	16	0.6	1.7	140	--	18	14

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)	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 1995										
17...	0.10	16	239	6.24	38	1.24	0.060	1.30	0.090	0.77
DEC										
14...	--	--	--	--	10	0.170	0.060	0.230	0.480	0.22
FEB 1996										
12...	--	--	--	--	26	1.23	0.070	1.30	0.110	0.99
APR										
12...	0.10	15	301	7.56	21	0.060	0.020	0.080	0.370	0.43
JUN										
06...	--	--	--	--	302	1.49	0.010	1.50	0.020	<0.18
AUG										
23...	0.10	20	207	10.7	31	1.44	0.060	1.50	0.100	0.29

K = non-ideal count

RIO PORTUGUES BASIN

50116200 RIO PORTUGUES AT PONCE, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

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 1995										
17...	0.86	2.2	9.6	0.310	<1	<100	200	<1	<1	20
DEC										
14...	0.70	0.93	4.1	0.090	--	--	--	--	--	--
FEB 1996										
12...	1.1	2.4	11	0.310	--	--	--	--	--	--
APR										
12...	0.80	0.88	3.9	0.080	<1	<100	100	<1	<1	<10
JUN										
06...	0.20	1.7	7.5	0.130	--	--	--	--	--	--
AUG										
23...	0.39	1.9	8.4	0.170	--	--	--	--	--	--

DATE	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 (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 1995										
17...	400	<1	30	<0.10	<1	<1	<10	<0.010	<1	0.06
DEC										
14...	--	--	--	--	--	--	--	--	--	--
FEB 1996										
12...	--	--	--	--	--	--	--	--	--	--
APR										
12...	590	<1	50	<0.10	<1	<1	<10	<0.010	<1	0.08
JUN										
06...	--	--	--	--	--	--	--	--	--	--
AUG										
23...	--	--	--	--	--	--	--	--	--	--

PESTICIDE ANALYSES

DATE	TIME	PCB, TOTAL (UG/L) (39516)	ALDRIN, TOTAL (UG/L) (39330)	CHLORDANE, TECHNICAL TOTAL (UG/L) (39350)	P,P'-DDD UNFILT RECOVER (UG/L) (39360)	DDE, TOTAL (UG/L) (39365)	P,P'-DDT UNFILT RECOVER (UG/L) (39370)	DIAZINON, TOTAL (UG/L) (39570)	DIELDRIN TOTAL (UG/L) (39380)	ENDOSULFAN, I TOTAL (UG/L) (39388)
JUN 1996										
06...	1045	<0.100	<0.010	<0.100	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010

DATE	ENDRIN WATER UNFLTRD REC (UG/L) (39390)	ETHION, TOTAL (UG/L) (39398)	HEPTACHLOR, TOTAL (UG/L) (39410)	HEPTACHLOR EPOXIDE TOTAL (UG/L) (39420)	LINDANE TOTAL (UG/L) (39340)	MALATHION, TOTAL (UG/L) (39530)	METHOXYCHLOR, TOTAL (UG/L) (39480)	METHYL PARATHION, TOTAL (UG/L) (39600)	MIREX, TOTAL (UG/L) (39755)
JUN 1996									
06...	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010

DATE	PARATHION, TOTAL (UG/L) (39540)	PCNS UNFILT RECOVER (UG/L) (39250)	PERTHANE TOTAL (UG/L) (39034)	TOXAPHENE, TOTAL (UG/L) (39400)	TOTAL TRITHION (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)
JUN 1996									
06...	<0.010	<0.100	<0.100	<1.00	<0.010	0.040	<0.010	<0.010	<0.010

RIO GUAYANILLA BASIN

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 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e23	e17	e18	e7.0	5.0	7.0	7.8	e5.8	e6.8	13	23	20
2	e26	e18	e16	e6.6	4.9	6.6	6.1	e5.8	e5.8	12	20	15
3	e30	e21	e15	e6.4	4.9	6.2	10	e5.0	e5.4	11	31	11
4	e26	e24	e14	e6.2	4.9	6.0	24	e4.5	e5.0	9.6	29	11
5	e17	e24	e13	e7.0	5.8	6.6	21	e3.8	e5.2	9.8	16	24
6	e12	e24	e16	e7.4	12	6.1	17	3.0	e5.0	9.5	13	18
7	e12	e25	e20	e7.0	5.7	5.4	11	2.8	e4.6	35	20	14
8	e28	e30	e13	e6.6	5.3	5.3	7.9	2.8	e4.4	12	26	11
9	e60	e80	e12	e6.6	5.5	6.3	e9.0	4.7	e5.2	48	13	9.6
10	e50	e30	e20	e6.4	32	10	e7.1	6.2	e9.8	33	12	922
11	e23	e29	e40	5.6	23	9.9	e7.0	4.1	e7.8	18	13	244
12	e17	e31	e45	5.7	7.6	14	e11	3.2	e5.8	13	37	172
13	e14	e20	e21	8.0	e6.2	12	e10	3.1	e5.0	11	26	89
14	e12	e18	e18	8.8	e5.8	8.6	e7.5	3.2	e6.4	18	28	96
15	e12	e23	e16	7.5	e5.8	8.2	e7.0	2.9	e7.6	24	24	83
16	e54	e31	e14	6.2	e5.0	29	e5.0	3.6	e8.8	15	22	73
17	e72	e31	e13	5.9	e4.8	22	5.5	4.6	e9.8	57	15	67
18	e96	e28	e12	5.8	e4.6	11	6.6	3.9	e7.2	53	31	65
19	e110	e31	e11	5.9	e5.0	9.2	5.9	28	66	27	46	58
20	e64	e22	e10	6.5	6.8	8.4	9.8	43	93	22	63	49
21	e62	e19	e10	7.6	57	7.9	7.0	e11	29	18	44	58
22	e48	e17	e9.6	5.7	35	7.7	e4.0	e9.8	20	16	28	44
23	e40	e16	e9.2	5.8	15	7.9	e3.5	e9.6	15	14	23	39
24	e32	e15	e9.0	5.7	19	7.7	e4.2	e9.4	13	13	21	36
25	e30	e14	e8.6	6.7	15	7.3	e5.0	e9.2	11	12	16	45
26	e26	e37	e8.4	7.7	12	7.2	e4.1	e11	54	12	14	40
27	e26	e48	e8.6	7.3	8.8	7.6	e4.7	e11	49	12	12	33
28	e25	e24	e8.6	6.6	7.6	6.7	e5.4	e8.8	23	12	11	40
29	e38	e24	e7.9	6.3	7.3	6.6	e6.0	e7.2	18	15	11	43
30	e22	e22	e7.6	5.5	---	7.2	e6.4	e6.4	15	15	e56	53
31	e19	---	e7.2	5.0	---	8.0	---	e6.4	---	21	24	---
TOTAL	1126	793	451.7	203.0	337.3	279.6	246.5	243.8	521.6	610.9	768	2482.6
MEAN	36.3	26.4	14.6	6.55	11.6	9.02	8.22	7.86	17.4	19.7	24.8	82.8
MAX	110	80	45	8.8	57	29	24	43	93	57	63	922
MIN	12	14	7.2	5.0	4.6	5.3	3.5	2.8	4.4	9.5	11	9.6
AC-FT	2230	1570	896	403	669	555	489	484	1030	1210	1520	4920
CFSM	1.92	1.40	.77	.35	.62	.48	.43	.42	.92	1.04	1.31	4.38
IN.	2.22	1.56	.89	.40	.66	.55	.49	.48	1.03	1.20	1.51	4.89

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1981 - 1996, BY WATER YEAR (WY)

MEAN	60.2	47.9	18.4	10.1	7.46	6.25	10.2	27.0	14.8	12.3	17.8	41.6
MAX	167	110	41.9	27.5	11.6	13.2	26.6	80.4	41.0	25.9	48.5	102
(WY)	1986	1988	1988	1992	1996	1989	1983	1985	1987	1986	1988	1981
MIN	16.0	17.0	6.72	4.21	3.10	2.85	2.76	2.33	3.28	2.45	6.24	7.46
(WY)	1983	1994	1994	1994	1990	1981	1995	1994	1991	1994	1994	1983

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1981 - 1996	
ANNUAL TOTAL	5513.5		8064.0			
ANNUAL MEAN	15.1		22.0		22.5	
HIGHEST ANNUAL MEAN					33.1	1986
LOWEST ANNUAL MEAN					8.94	1994
HIGHEST DAILY MEAN	170	Sep 16	922	Sep 10	1500	Oct 7 1985
LOWEST DAILY MEAN	1.4	May 3	2.8	May 7	.77	Jul 30 1994
ANNUAL SEVEN-DAY MINIMUM	1.7	Apr 28	3.5	May 12	1.1	Sep 4 1994
INSTANTANEOUS PEAK FLOW			4260	Sep 10	14700	Sep 12 1982
INSTANTANEOUS PEAK STAGE			14.08	Sep 10	20.40	Sep 12 1982
INSTANTANEOUS LOW FLOW			2.1	May 7	.70	Apr 19 1995
ANNUAL RUNOFF (AC-FT)	10940		15990		16290	
ANNUAL RUNOFF (CFSM)	.80		1.17		1.19	
ANNUAL RUNOFF (INCHES)	10.85		15.87		16.17	
10 PERCENT EXCEEDS	32		45		49	
50 PERCENT EXCEEDS	8.4		12		9.8	
90 PERCENT EXCEEDS	2.3		5.1		3.4	

e Estimated

RIO GUAYANILLA BASIN

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 1995 TO SEPTEMBER 1996

DATE	TIME	DISCHARGE, 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, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	OXYGEN DEMAND, CHEMICAL (HIGH LEVEL) (MG/L) (00340)	COLIFORM, FECAL, 0.45 UM-MF (COLS./100 ML) (31616)	STREPTOCOCCI FECAL, (COLS. PER 100 ML) (31679)
NOV 1995											
07...	0910	19	400	6.6	25.0	47	7.1	84	15	21000	43000
JAN 1996											
19...	0935	4.7	550	7.7	23.5	3.5	6.8	79	<10	370	960
FEB											
28...	1000	5.5	462	7.3	22.0	2.5	4.6	52	<10	2900	510
APR											
30...	1130	3.2	490	7.7	25.5	1.2	3.2	39	25	K730	2400
JUN											
20...	1100	77	316	7.3	24.0	25	7.1	84	17	47000	58000
AUG											
16...	1100	21	369	7.2	26.5	7.0	8.0	99	<10	4200	620

DATE	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	SODIUM ADSORPTION RATIO (00931)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ALKALINITY WAT WH TOT FET FIELD MG/L AS CACO3 (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)
NOV 1995										
07...	180	42	18	15	0.5	2.2	140	<0.5	34	17
JAN 1996										
19...	--	--	--	--	--	--	180	--	--	--
FEB										
28...	--	--	--	--	--	--	160	--	--	--
APR										
30...	190	48	16	26	0.8	2.3	160	<0.5	50	26
JUN										
20...	--	--	--	--	--	--	87	--	--	--
AUG										
16...	160	46	12	13	0.4	1.9	140	--	34	13

DATE	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	SOLIDS, DISSOLVED (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 1995										
07...	0.10	18	230	11.7	64	1.36	0.040	1.40	0.350	0.51
JAN 1996										
19...	--	--	--	--	4	4.49	0.110	4.60	0.090	0.45
FEB										
28...	--	--	--	--	7	2.47	0.030	2.50	0.070	0.29
APR										
30...	<0.10	19	283	2.45	2	2.49	0.010	2.50	0.030	0.24
JUN										
20...	--	--	--	--	31	3.48	0.020	3.50	0.050	0.52
AUG										
16...	<0.10	18	222	12.5	15	1.38	0.020	1.40	0.050	0.27

K = non-ideal count

RIO GUAYANILLA BASIN

50124700 RIO GUAYANILLA AT CENTRAL RUFINA, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

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 1995										
07...	0.86	2.3	10	0.260	5	<100	40	<1	5	10
JAN 1996										
19...	0.54	5.1	23	0.810	--	--	--	--	--	--
FEB										
28...	0.36	2.9	13	0.290	--	--	--	--	--	--
APR										
30...	0.27	2.8	8.3	0.080	1	<100	60	<1	<1	<10
JUN										
20...	0.57	4.1	18	0.130	--	--	--	--	--	--
AUG										
16...	0.32	1.7	7.6	0.170	--	--	--	--	--	--

DATE	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 (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)
NOV 1995										
07...	3400	2	140	<0.10	<1	2	10	<0.010	1	<0.02
JAN 1996										
19...	--	--	--	--	--	--	--	--	--	--
FEB										
28...	--	--	--	--	--	--	--	--	--	--
APR										
30...	190	<1	20	<0.10	<1	<1	<10	<0.010	<1	0.02
JUN										
20...	--	--	--	--	--	--	--	--	--	--
AUG										
16...	--	--	--	--	--	--	--	--	--	--

PESTICIDE ANALYSES

DATE	TIME	PCB, TOTAL (UG/L) (39516)	ALDRIN, TOTAL (UG/L) (39330)	CHLORDANE, TECHNICAL TOTAL (UG/L) (39350)	P,P'-DDD UNFILT RECOVER (UG/L) (39360)	DDE, TOTAL (UG/L) (39365)	P,P'-DDT UNFILT RECOVER (UG/L) (39370)	DIAZINON, TOTAL (UG/L) (39570)	DIELDRIN TOTAL (UG/L) (39380)	ENDOSULFAN, I TOTAL (UG/L) (39388)
JUN 1996										
20...	1100	<0.100	<0.010	<0.100	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010

DATE	ENDRIN WATER UNFLTRD REC (UG/L) (39390)	ETHION, TOTAL (UG/L) (39398)	HEPTACHLOR, TOTAL (UG/L) (39410)	HEPTACHLOR EPOXIDE TOTAL (UG/L) (39420)	LINDANE TOTAL (UG/L) (39340)	MALATHION, TOTAL (UG/L) (39530)	METHOXYCHLOR, TOTAL (UG/L) (39480)	METHYL PARATHION, TOTAL (UG/L) (39600)	MIREX, TOTAL (UG/L) (39755)
JUN 1996									
20...	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010

DATE	PARATHION, TOTAL (UG/L) (39540)	PCNS UNFILT RECOVER (UG/L) (39250)	PERTHANE TOTAL (UG/L) (39034)	TOXAPHENE, TOTAL (UG/L) (39400)	TOTAL TRITHION (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)
JUN 1996									
20...	<0.010	<0.100	<0.100	<1.00	<0.010	0.140	<0.010	<0.010	<0.010

RIO YAUCO BASIN

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.

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 hm^3) 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 ft^3/s (1,778 m^3/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, 572.19 ft (174.40 m), May 27, 1993; minimum elevation, 512.09 ft (156.08 m), Sept. 9, 1994.

EXTREMES OBSERVED FOR CURRENT YEAR.--Maximum elevation, 571.37 ft (174.15 m), Sept. 11, minimum elevation, 531.79 ft (162.09 m), Oct. 10.

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

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	538.22	568.74	562.97	562.61	561.11	566.85	565.02	568.01	570.27	560.64	564.63	562.05
2	538.70	570.08	562.57	562.26	561.06	566.78	565.48	567.67	568.67	560.66	564.45	562.10
3	537.77	569.49	561.97	562.46	560.84	566.73	566.10	567.97	568.67	560.67	563.81	562.16
4	537.57	568.90	561.06	562.43	560.53	566.94	566.42	567.77	569.31	560.67	564.07	562.27
5	536.35	568.70	560.90	562.37	560.48	566.89	566.38	567.66	566.96	559.17	564.11	562.10
6	534.76	568.37	561.52	562.36	560.43	567.78	566.63	567.74	567.53	559.18	564.02	562.23
7	533.83	567.84	561.71	562.23	560.37	568.41	567.07	566.94	562.38	559.37	564.82	561.14
8	533.36	567.45	561.68	562.22	560.34	568.70	567.04	566.40	561.19	558.97	565.04	559.45
9	532.65	566.74	561.68	560.79	560.93	568.81	566.97	566.01	561.23	560.27	563.65	A
10	531.87	565.24	561.68	560.29	561.50	569.12	567.24	566.15	559.84	561.10	562.82	A
11	532.82	564.03	561.78	559.26	561.98	569.05	567.05	566.08	557.44	561.19	562.41	570.83
12	534.50	563.90	561.83	558.96	562.09	568.96	566.92	566.02	559.94	561.25	562.21	569.86
13	536.03	563.30	562.08	559.67	560.57	568.90	566.89	566.36	A	561.31	561.88	567.79
14	537.61	562.04	561.94	559.67	558.91	568.41	566.20	566.24	A	561.45	560.76	A
15	538.02	560.79	562.17	560.15	559.19	567.81	566.03	566.25	A	561.55	560.15	A
16	538.84	560.72	562.45	560.49	559.12	567.63	565.96	566.32	A	561.55	559.35	564.81
17	540.43	560.87	562.46	561.30	559.17	567.57	565.91	566.65	A	562.94	558.48	563.69
18	542.22	560.93	563.41	562.09	559.12	567.77	565.89	566.75	A	563.10	558.66	A
19	543.63	561.27	563.40	562.50	559.06	568.25	565.46	568.70	A	563.40	559.63	563.97
20	547.58	561.71	562.46	562.82	559.94	568.16	565.76	569.42	A	563.97	561.70	564.15
21	549.07	561.73	563.05	563.02	560.82	568.10	565.87	569.63	A	564.05	562.07	564.08
22	551.10	561.74	563.62	563.19	562.36	568.04	567.03	569.71	A	563.94	561.37	563.25
23	552.51	561.75	563.60	562.30	563.20	566.98	567.02	569.87	A	563.77	560.75	563.39
24	554.07	561.58	563.57	562.36	563.70	566.51	567.27	570.23	559.45	563.62	560.78	563.81
25	556.05	561.86	563.49	561.63	564.18	565.76	567.85	570.09	559.71	563.69	561.45	563.66
26	558.26	562.50	563.30	560.24	A	565.64	567.63	570.09	560.03	563.57	560.78	563.73
27	559.17	562.92	563.27	560.46	565.00	565.57	567.82	570.01	560.86	563.61	A	563.77
28	561.25	562.92	563.08	560.96	566.04	565.52	568.09	570.05	560.80	563.64	A	A
29	563.01	562.99	563.06	561.05	567.00	564.12	568.19	569.89	561.11	563.59	560.54	565.95
30	564.97	562.97	562.70	561.77	---	564.67	568.00	570.56	561.15	563.68	A	567.08
31	567.01	---	562.66	561.15	---	565.08	---	570.34	---	563.74	561.75	---
MAX	567.01	570.08	563.62	563.19	---	569.12	568.19	570.56	---	564.05	---	---
MIN	531.87	560.72	560.90	558.96	---	564.12	565.02	566.01	---	558.97	---	---

A No gage-height record.

RIO LOCO BASIN

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 Susua Alta.

DRAINAGE AREA.--8.40 mi² (21.8 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 lenght 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 hm^3) as for May 4, 1979. The Loco Dam is owned by the Puerto Rico Electric Power Authority (P.R.E.P.A) and its 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, 231.76 ft (70.6 m), Sept. 14, 1996; minimum elevation, 219.87 ft (67.0 m), Feb. 13, 1996.

EXTREMES OBSERVED FOR CURRENT YEAR.--Maximum elevation, 231.76 ft (70.6 m), Sept. 14; minimum elevation, 219.87 ft (67.0 m), Feb. 13.

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 1995 TO SEPTEMBER 1996
DAILY OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	230.45	226.23	229.84	229.80	228.49	230.06	229.49	228.29	229.07	227.09	226.36	228.81
2	230.46	224.32	230.26	229.99	227.75	230.00	228.01	227.00	229.16	225.50	225.90	228.67
3	230.63	230.21	230.43	229.29	230.21	230.20	228.45	226.59	228.42	223.70	226.45	228.04
4	230.46	230.73	230.21	230.10	230.35	229.92	228.24	226.11	227.33	221.43	225.59	226.78
5	230.47	230.41	230.51	229.66	229.14	229.73	228.00	225.62	226.21	226.93	225.98	226.91
6	230.51	230.25	229.94	229.55	227.48	229.18	229.37	224.12	228.93	226.10	225.66	228.84
7	230.54	230.20	229.61	229.89	225.74	228.71	229.17	225.05	A	227.16	225.91	230.91
8	230.53	230.25	230.09	229.82	224.45	228.46	230.32	225.58	228.93	227.06	225.84	230.37
9	230.46	230.31	230.01	230.14	223.38	230.15	230.41	226.02	228.82	226.71	226.08	A
10	230.28	230.39	230.03	230.19	222.86	230.16	230.00	225.17	228.51	227.26	225.83	230.86
11	229.89	230.42	229.67	230.22	222.29	229.94	229.80	229.32	228.79	227.05	226.04	230.75
12	228.86	230.31	229.19	230.30	220.71	230.15	229.21	229.19	228.69	227.10	225.90	230.98
13	228.27	230.23	230.43	229.97	227.84	229.92	229.37	230.27	228.60	227.27	225.84	230.97
14	227.88	230.21	230.17	229.91	230.16	230.04	230.08	229.28	228.59	226.49	226.82	231.09
15	228.13	230.23	230.00	230.17	229.47	230.38	230.15	226.93	228.59	226.15	226.85	230.99
16	228.79	230.01	230.00	229.35	229.04	230.15	229.09	224.69	228.17	227.34	227.32	230.86
17	227.35	229.78	230.02	228.90	228.61	230.40	227.65	226.20	228.50	226.92	228.46	230.96
18	226.18	229.93	229.72	228.49	228.17	229.77	226.07	226.13	228.36	226.81	228.95	230.94
19	225.31	230.06	229.26	230.14	227.72	229.82	228.49	230.24	228.26	226.59	229.34	230.92
20	224.95	230.21	230.21	230.26	227.07	230.16	228.52	229.71	227.28	226.59	229.77	230.94
21	230.44	230.03	229.64	230.09	226.40	229.85	229.08	229.62	227.93	225.82	230.32	230.94
22	230.17	229.98	229.48	230.03	225.91	230.17	229.66	229.52	227.83	227.02	230.88	230.94
23	229.93	230.02	230.16	230.08	225.61	230.18	229.89	229.56	227.72	226.95	230.48	230.53
24	230.14	230.09	230.12	228.58	225.80	230.42	230.04	229.40	227.81	226.90	230.29	230.91
25	229.34	230.07	230.32	230.12	225.79	230.15	229.93	229.66	228.09	226.24	230.13	230.33
26	228.50	230.09	229.75	230.21	230.27	229.76	230.15	229.30	228.24	226.28	230.31	230.35
27	230.14	230.02	230.13	229.84	229.96	228.64	230.73	229.32	227.35	226.78	230.12	230.94
28	230.06	229.79	229.91	229.33	229.86	227.15	229.88	229.26	228.01	225.91	A	A
29	230.00	229.54	229.65	229.41	229.77	230.40	229.52	228.63	227.90	226.05	229.37	230.95
30	229.18	229.90	230.21	227.99	---	230.60	229.55	229.05	227.45	226.32	A	230.39
31	227.80	---	229.92	229.89	---	230.55	---	229.28	---	226.17	228.89	---
MAX	230.63	230.73	230.51	230.30	230.35	230.60	230.73	230.27	---	227.34	---	---
MIN	224.95	224.32	229.19	227.99	220.71	227.15	226.07	224.12	---	221.43	---	---

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 Guánica 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 1995 TO SEPTEMBER 1996

DATE	TIME	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	TURBIDITY (NTU) (00076)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	OXYGEN DEMAND, CHEMICAL (HIGH LEVEL) (MG/L) (00340)	COLIFORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)	STREPTOCOCCI FECAL, (COLS. PER 100 ML) (31679)
NOV 1995										
06...	0950	460	6.3	25.0	5.3	3.8	45	14	5300	2200
JAN 1996										
19...	0820	35000*	7.0	26.0	0.60	2.8	33	330	K110	44000
FEB										
27...	0930	44000*	7.2	24.0	7.4	5.1	60	23	2300	24000
APR										
25...	1045	14400*	7.0	27.5	2.0	1.4	18	340	470	620
JUN										
20...	1000	317	7.3	25.5	3.0	4.6	56	16	410	K1300
AUG										
16...	0930	412	7.0	26.0	2.5	3.7	45	18	53000	580

DATE	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	SODIUM ADSORPTION RATIO (00931)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ALKALINITY WAT WH TOT FET FIELD MG/L AS CACO3 (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)
NOV 1995										
06...	160	37	16	37	1	3.7	100	<0.5	21	39
JAN 1996										
19...	--	--	--	--	--	--	190	--	--	--
FEB										
27...	--	--	--	--	--	--	130	--	--	--
APR										
25...	150	120	290	2400	27	100	170	<0.5	710	5100
JUN										
20...	--	--	--	--	--	--	120	--	--	--
AUG										
16...	150	34	15	28	1	3.3	170	--	18	26

DATE	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	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)	NITROGEN,AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)
NOV 1995										
06...	0.20	21	235	9	0.490	0.010	0.500	0.030	0.53	0.56
JAN 1996										
19...	--	--	--	4	0.400	0.010	0.410	0.070	0.33	0.40
FEB										
27...	--	--	--	18	0.140	0.010	0.150	0.060	0.62	0.68
APR										
25...	0.40	14	8840	10	<0.010	<0.010	<0.020	0.150	0.53	0.68
JUN										
20...	--	--	--	12	0.450	0.010	0.460	0.050	0.32	0.37
AUG										
16...	0.10	25	251	18	0.380	<0.010	0.380	0.060	0.39	0.45

* = Saline water wedge effect
K = Non-ideal count

RIO LOCO BASIN

50129700 RIO LOCO AT GUANICA, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

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 TOTAL RECOV-ERABLE (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 1995										
06...	1.1	4.7	0.050	1	100	60	<1	2	<10	380
JAN 1996										
19...	0.81	3.6	0.060	--	--	--	--	--	--	--
FEB										
27...	0.83	3.7	0.270	--	--	--	--	--	--	--
APR										
25...	0.68	3.0	0.270	1	<100	1300	<1	2	10	260
JUN										
20...	0.83	3.7	0.050	--	--	--	--	--	--	--
AUG										
16...	0.83	3.7	0.100	--	--	--	--	--	--	--

DATE	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 1995									
06...	5	30	<0.10	<1	<1	10	<0.010	2	0.02
JAN 1996									
19...	--	--	--	--	--	--	--	--	--
FEB									
27...	--	--	--	--	--	--	--	--	--
APR									
25...	<1	270	<0.10	<1	<1	<10	<0.010	<1	0.06
JUN									
20...	--	--	--	--	--	--	--	--	--
AUG									
16...	--	--	--	--	--	--	--	--	--

PESTICIDE ANALYSES

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)	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)	ENDO-SULFAN, I TOTAL (UG/L) (39388)
JUN 1996										
20...	1000	<0.100	<0.010	<0.100	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010

DATE	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)	MIREX, TOTAL (UG/L) (39755)
JUN 1996									
20...	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010

DATE	PARA-THION, TOTAL (UG/L) (39540)	PCNS UNFILT RECOVER (UG/L) (39250)	PER-THANE TOTAL (UG/L) (39034)	TOX-APHENE, TOTAL (UG/L) (39400)	TOTAL TRI-THION (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)
JUN 1996									
20...	<0.010	<0.100	<0.100	<1.00	<0.010	0.060	<0.010	<0.010	<0.010

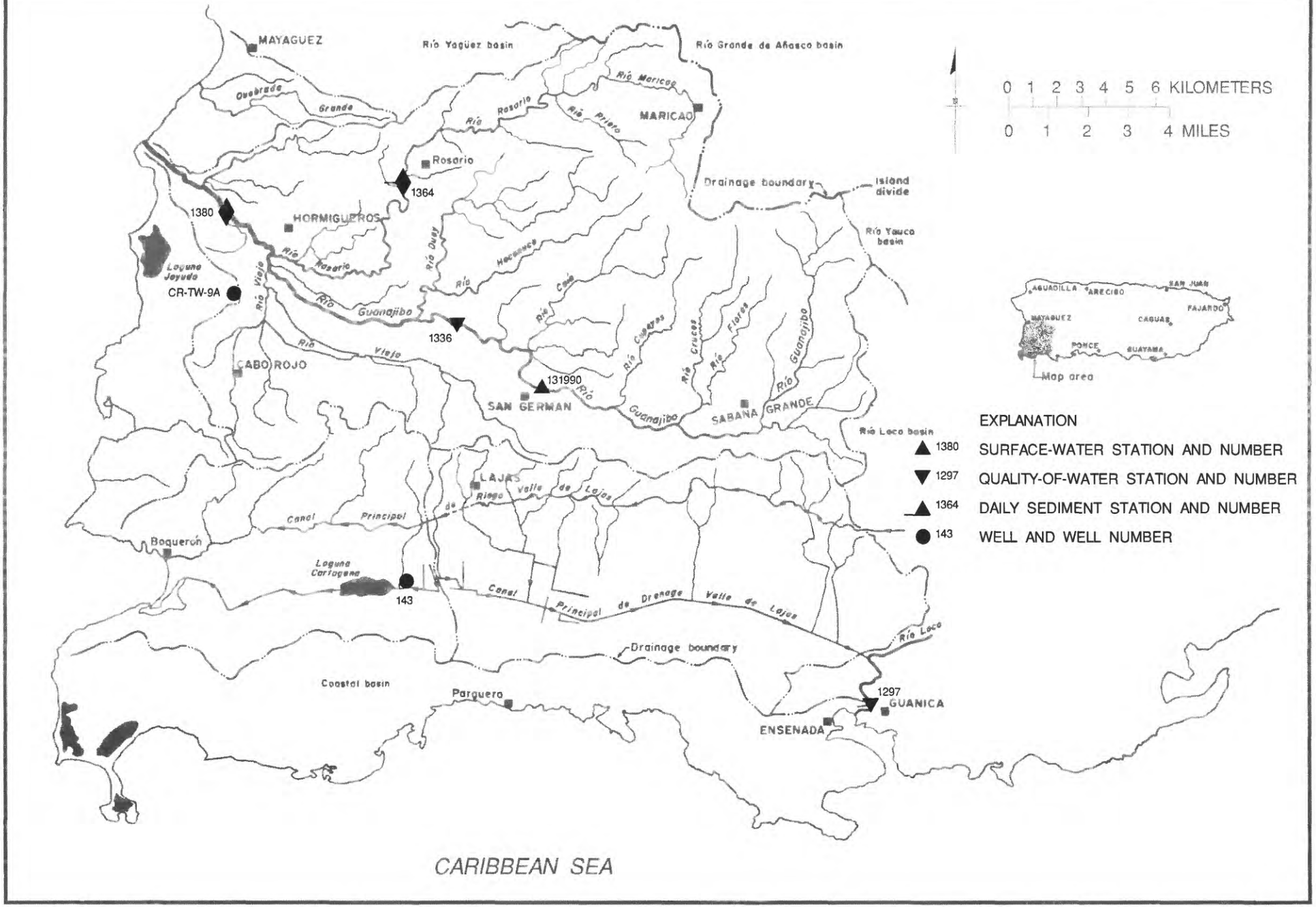


Figure 25.--Río Guanajibo basin.

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 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36	28	14	9.2	e5.9	9.5	6.9	10	51	23	111	e19
2	34	27	15	e8.4	e6.1	9.0	6.7	11	25	21	82	e19
3	30	28	15	8.1	e6.7	9.0	94	10	18	18	61	e18
4	31	48	14	8.2	e6.2	7.5	130	12	17	18	33	e19
5	30	e29	13	8.8	e8.5	7.4	297	9.4	16	16	26	e21
6	27	39	e15	12	e9.5	6.3	223	8.1	15	16	22	e23
7	26	31	22	9.2	e7.3	6.8	64	7.7	14	15	374	24
8	25	64	15	8.9	e6.4	e7.6	37	7.9	14	17	171	21
9	39	30	14	e12	11	e8.5	30	8.1	14	62	39	20
10	39	e23	13	e8.4	104	e5.8	28	30	16	46	30	659
11	30	103	15	e8.9	17	e6.5	e21	19	14	27	72	487
12	27	29	22	e8.9	7.3	e9.4	e14	12	12	21	94	211
13	25	23	16	e8.0	5.9	e10	12	9.1	14	19	130	91
14	22	e24	17	e9.2	5.8	e5.9	11	8.0	13	21	55	302
15	20	e24	e15	e13	5.3	7.8	10	7.5	36	22	41	227
16	23	121	14	e7.3	5.1	35	10	79	38	16	35	86
17	119	e49	13	13	4.9	23	10	44	22	32	28	58
18	308	36	13	17	10	7.5	11	73	17	50	31	89
19	340	24	e13	8.2	9.2	6.5	12	427	57	29	34	63
20	216	22	e12	8.3	5.8	6.6	17	320	103	22	26	46
21	171	18	e13	17	69	6.5	230	69	34	18	25	40
22	164	e20	e12	12	28	6.4	167	41	26	15	24	35
23	103	e19	e11	9.6	24	6.1	102	34	21	14	e38	32
24	60	e19	9.8	e8.6	157	6.4	32	31	17	13	179	30
25	47	19	9.9	e8.8	53	5.5	23	e22	20	13	82	29
26	40	27	e12	e9.7	20	e6.3	19	e22	329	12	43	30
27	41	29	e12	e10	14	e6.3	17	e36	190	12	37	44
28	42	17	9.9	e12	13	e7.3	15	e29	51	14	34	70
29	69	14	9.6	e8.8	11	5.2	14	e26	35	15	32	150
30	31	18	10	e7.7	---	6.8	12	e18	28	34	e44	165
31	30	---	9.8	e6.9	---	8.4	---	21	---	19	e23	---
TOTAL	2245	1002	419.0	306.1	636.9	266.8	1675.6	1461.8	1277	690	2056	3128
MEAN	72.4	33.4	13.5	9.87	22.0	8.61	55.9	47.2	42.6	22.3	66.3	104
MAX	340	121	22	17	157	35	297	427	329	62	374	659
MIN	20	14	9.6	6.9	4.9	5.2	6.7	7.5	12	12	22	18
MED	36	27	13	8.9	9.2	6.8	18	21	20	18	38	42
AC-FT	4450	1990	831	607	1260	529	3320	2900	2530	1370	4080	6200
CFSM	2.09	.97	.39	.29	.63	.25	1.61	1.36	1.23	.64	1.92	3.01
IN.	2.41	1.08	.45	.33	.68	.29	1.80	1.57	1.37	.74	2.21	3.36

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 1996, BY WATER YEAR (WY)

MEAN	90.3	61.2	25.0	20.0	19.2	11.8	24.3	45.4	20.9	19.7	43.2	62.4
MAX	205	123	52.2	37.3	36.5	25.8	55.9	72.0	46.3	37.6	109	119
(WY)	1993	1993	1993	1992	1995	1995	1996	1995	1993	1995	1995	1995
MIN	20.4	15.8	8.21	9.87	4.32	3.52	8.63	5.11	3.91	6.68	17.2	12.9
(WY)	1992	1992	1992	1996	1992	1992	1995	1994	1994	1994	1994	1991

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1991 - 1996	
ANNUAL TOTAL	16961.0		15164.2			
ANNUAL MEAN	46.5		41.4		38.7	
HIGHEST ANNUAL MEAN					58.6	1995
LOWEST ANNUAL MEAN					16.6	1994
HIGHEST DAILY MEAN	913	Sep 16	659	Sep 10	913	Sep 16 1995
LOWEST DAILY MEAN	5.3	Apr 26	4.9	Feb 17	1.5	May 9 1992
ANNUAL SEVEN-DAY MINIMUM	5.6	Apr 26	6.2	Mar 23	1.8	May 6 1992
INSTANTANEOUS PEAK FLOW			2460	Sep 10	6610	Jan 6 1992
INSTANTANEOUS PEAK STAGE			10.09	Sep 10	13.23	Jan 6 1992
ANNUAL RUNOFF (AC-FT)	33640		30080		28070	
ANNUAL RUNOFF (CFSM)	1.34		1.20		1.12	
ANNUAL RUNOFF (INCHES)	18.24		16.30		15.21	
10 PERCENT EXCEEDS	101		92		87	
50 PERCENT EXCEEDS	15		19		15	
90 PERCENT EXCEEDS	7.2		7.5		5.0	

e Estimated

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 Germán.

DRAINAGE AREA.--45.5 mi² (117.8 km²).

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

WATER QUALITY DATA, WATER YEARS OCTOBER 1995 TO SEPTEMBER 1996

DATE	TIME	DISCHARGE, 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, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	OXYGEN DEMAND, CHEMICAL (HIGH LEVEL) (MG/L) (00340)	COLIFORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)	STREPTOCOCCI FECAL, (COLS. PER 100 ML) (31679)
NOV 1995											
07...	0730	55	422	6.7	24.0	9.6	6.7	78	12	27000	3500
JAN 1996											
19...	0730	15	510	7.6	22.5	0.70	5.0	56	10	K950	2700
FEB											
27...	1100	27	494	7.7	23.0	3.7	5.2	60	28	K1400	990
APR											
30...	0935	18	656	7.8	24.5	1.9	5.5	65	22	280	3100
JUN											
19...	0945	18	490	7.3	26.0	1.4	5.4	66	15	K810	210
AUG											
15...	1005	51	475	7.4	25.5	4.6	6.7	81	<10	2200	510

DATE	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	SODIUM ADSORPTION RATIO (00931)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ALKALINITY WAT WH TOT FET FIELD MG/L AS CACO3 (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)
NOV 1995										
07...	200	23	34	16	0.5	2.7	200	<0.5	15	20
JAN 1996										
19...	--	--	--	--	--	--	200	--	--	--
FEB										
27...	--	--	--	--	--	--	230	--	--	--
APR										
30...	260	28	46	34	0.9	3.4	170	<0.5	30	44
JUN										
19...	--	--	--	--	--	--	210	--	--	--
AUG										
15...	210	22	38	17	0.5	3.4	220	--	19	20

K = non-ideal count

RIO GUANAJIBO BASIN

50133600 RIO GUANAJIBO NEAR SAN GERMAN, PR--Continued

WATER QUALITY DATA, WATER YEARS OCTOBER 1995 SEPTEMBER 1996

DATE	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	SOLIDS, DISSOLVED (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 1995										
07...	0.10	33	264	38.8	12	1.11	0.090	1.20	0.200	0.51
JAN 1996										
19...	--	--	--	--	6	1.19	0.110	1.30	0.720	0.48
FEB										
27...	--	--	--	--	7	1.43	0.070	1.50	0.180	0.43
APR										
30...	0.10	35	322	15.4	6	1.77	0.230	2.00	0.250	0.46
JUN										
19...	--	--	--	--	1	1.22	0.080	1.30	0.360	0.52
AUG										
15...	<0.10	34	285	39.4	13	0.930	0.070	1.00	0.210	0.34

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 1995										
07...	0.71	1.9	8.5	0.190	<1	<100	80	<1	7	<10
JAN 1996										
19...	1.2	2.5	11	0.760	--	--	--	--	--	--
FEB										
27...	0.61	2.1	9.3	0.320	--	--	--	--	--	--
APR										
30...	0.71	2.7	12	0.520	<1	<100	140	<1	4	<10
JUN										
19...	0.88	2.2	9.6	0.530	--	--	--	--	--	--
AUG										
15...	0.55	1.5	6.9	0.260	--	--	--	--	--	--

DATE	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 (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)
NOV 1995										
07...	560	2	30	<0.10	<1	<1	10	<0.010	<1	<0.02
JAN 1996										
19...	--	--	--	--	--	--	--	--	--	--
FEB										
27...	--	--	--	--	--	--	--	--	--	--
APR										
30...	260	4	60	<0.10	<1	<1	<10	<0.010	3	0.04
JUN										
19...	--	--	--	--	--	--	--	--	--	--
AUG										
15...	--	--	--	--	--	--	--	--	--	--

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 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	39	35	35	22	16	17	e10	16	31	31	137	41
2	61	34	33	20	16	15	e20	16	28	30	235	42
3	97	35	33	19	15	15	e54	16	29	29	127	39
4	63	35	30	18	16	14	e100	23	29	28	66	37
5	45	33	29	18	16	13	e150	16	25	26	50	38
6	37	69	62	20	19	13	e110	16	25	51	43	38
7	35	45	51	20	37	13	e45	22	24	87	114	36
8	70	90	36	19	24	12	e42	24	23	67	106	34
9	281	118	32	17	16	12	e40	80	97	154	56	31
10	124	59	32	18	23	11	e37	67	52	71	57	214
11	76	62	61	23	31	11	e29	18	38	48	49	156
12	56	48	47	17	18	11	e19	19	29	42	51	88
13	47	37	32	18	17	9.8	e17	18	47	38	44	61
14	42	34	29	22	16	11	e16	17	61	36	39	76
15	45	45	28	29	15	19	e15	17	91	34	48	60
16	76	39	27	24	15	14	e15	19	69	34	42	48
17	180	33	27	27	15	11	e15	56	71	142	36	71
18	130	62	26	20	25	11	e18	60	106	136	53	65
19	96	46	25	19	25	11	28	262	132	97	41	44
20	96	34	24	22	25	9.7	27	158	109	57	39	40
21	88	30	23	27	56	9.8	22	65	60	44	34	36
22	66	28	23	20	42	9.3	116	44	48	39	113	34
23	53	26	22	18	32	e9.2	88	35	41	35	109	34
24	46	26	26	17	30	e9.4	48	32	38	34	175	49
25	44	26	23	17	56	e8.6	24	34	44	33	117	43
26	46	71	23	19	35	e9.4	19	103	53	36	68	35
27	69	65	22	18	24	e9.6	19	73	43	37	55	47
28	78	38	22	18	20	e10	18	50	36	41	52	110
29	56	37	22	17	18	e9.0	16	47	35	119	50	186
30	42	40	22	16	---	e11	17	42	32	111	48	131
31	38	---	21	16	---	e12	---	41	---	73	44	---
TOTAL	2322	1380	948	615	713	360.8	1194	1506	1546	1840	2298	1964
MEAN	74.9	46.0	30.6	19.8	24.6	11.6	39.8	48.6	51.5	59.4	74.1	65.5
MAX	281	118	62	29	56	19	150	262	132	154	235	214
MIN	35	26	21	16	15	8.6	10	16	23	26	34	31
AC-FT	4610	2740	1880	1220	1410	716	2370	2990	3070	3650	4560	3900
CFSM	4.09	2.51	1.67	1.08	1.34	.64	2.17	2.65	2.82	3.24	4.05	3.58
IN.	4.72	2.81	1.93	1.25	1.45	.73	2.43	3.06	3.14	3.74	4.67	3.99

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 1996, BY WATER YEAR (WY)

MEAN	105	69.2	31.8	21.6	19.3	22.4	25.2	47.2	44.3	43.3	60.3	91.8
MAX	206	117	53.7	34.4	37.8	77.0	57.7	122	91.1	75.2	102	157
(WY)	1986	1990	1995	1995	1995	1989	1989	1993	1993	1989	1989	1993
MIN	33.2	16.1	9.92	15.1	8.55	10.1	11.9	15.8	12.0	23.2	25.1	32.7
(WY)	1992	1992	1992	1994	1992	1992	1991	1990	1992	1990	1991	1986

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1986 - 1996	
ANNUAL TOTAL	15641		16686.8			
ANNUAL MEAN	42.9		45.6		48.6	
HIGHEST ANNUAL MEAN					70.6	1993
LOWEST ANNUAL MEAN					30.8	1992
HIGHEST DAILY MEAN	520	Aug 22	281	Oct 9	1550	Oct 7 1985
LOWEST DAILY MEAN	12	Jun 23	8.6	Mar 25	3.9	May 9 1992
ANNUAL SEVEN-DAY MINIMUM	13	Jun 20	9.3	Mar 23	4.2	May 6 1992
INSTANTANEOUS PEAK FLOW			3040	Oct 9	7480	Aug 24 1988
INSTANTANEOUS PEAK STAGE			10.05	Oct 9	13.64	Aug 24 1988
INSTANTANEOUS LOW FLOW					3.7	May 9 1992
ANNUAL RUNOFF (AC-FT)	31020		33100		35200	
ANNUAL RUNOFF (CFSM)	2.34		2.49		2.66	
ANNUAL RUNOFF (INCHES)	31.79		33.92		36.08	
10 PERCENT EXCEEDS	87		97		113	
50 PERCENT EXCEEDS	27		35		28	
90 PERCENT EXCEEDS	17		15		11	

e Estimated

RIO GUANAJIBO BASIN

50136400 RIO ROSARIO NEAR HORMIGUEROS, PR--Continued

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.--US D-49 sediment sampler since October 1985. Automatic sediment sampler since 1986.

REMARKS.--sediment samples were collected by a local observer once daily during low flow. During high flow events sediments samples were collected by a local observer and automatic sediment sampler.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATIONS: Maximum daily mean, 8,150 mg/L October 7, 1985; Minimum daily mean, 1.0 mg/L several days.
SEDIMENT LOADS: Maximum daily, 74,700 tons (67,800 tonnes) October 7, 1985; Minimum daily, 0.05 ton (0.04 Tonne) several days.

EXTREMES FOR CURRENT YEAR 1996.--
SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,230 mg/L October 9, 1995; Minimum daily mean, 3.0 mg/L several days.
SEDIMENT LOADS: Maximum daily, 3,750 tons (3,400 tonnes) October 9, 1995; Minimum daily 0.14 ton (0.13 tonne) May 15, 1996.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

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, 0.45 UM-MF (COLS./ 100 ML) (31616)	STREP-TOCOCCI FECAL, (COLS. PER 100 ML) (31679)
NOV 1995											
06...	1140	32	275	6.9	27.0	1.9	8.3	102	<10	K1700	300
JAN 1996											
18...	1035	20	290	7.9	21.5	1.2	8.6	95	<10	K700	6100
FEB											
27...	1215	23	262	7.8	23.0	7.2	8.2	93	<10	370	410
APR											
29...	1050	16	280	7.7	24.0	1.6	8.2	97	15	220	K160
JUN											
19...	1145	54	302	7.4	23.0	23	7.2	84	64	2600	3500
AUG											
15...	1115	37	280	7.5	25.0	0.50	8.0	96	<10	2100	2700

DATE	HARD-NESS TOTAL (MG/L AS CACO3) (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)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (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 1995										
06...	120	25	14	9.6	0.4	2.0	160	<0.5	4.8	7.8
JAN 1996										
18...	--	--	--	--	--	--	130	--	--	--
FEB										
27...	--	--	--	--	--	--	120	--	--	--
APR										
29...	130	25	17	20	0.8	2.3	110	<0.5	8.2	17
JUN										
19...	--	--	--	--	--	--	120	--	--	--
AUG										
15...	130	23	18	6.7	0.3	1.5	150	--	7.0	8.2

K = non-ideal count

RIO GUANAJIBO BASIN

50136400 RIO ROSARIO NEAR HORMIGUEROS, PR--Continued

WATER QUALITY DATA, WATER YEARS OCTOBER 1995 TO SEPTEMBER 1996

DATE	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	SOLIDS, DISSOLVED (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 1995										
06...	<0.10	30	189	16.3	<1	0.890	<0.010	0.890	0.010	<0.20
JAN 1996										
18...	--	--	--	--	3	0.710	0.010	0.720	0.290	0.44
FEB										
27...	--	--	--	--	11	0.880	0.010	0.890	0.030	<0.20
APR										
29...	<0.10	29	184	7.87	2	0.810	<0.010	0.810	0.030	<0.20
JUN										
19...	--	--	--	--	19	0.960	0.010	0.970	0.010	0.30
AUG										
15...	<0.10	30	184	18.2	<1	0.850	<0.010	0.850	0.010	<0.20

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 1995										
06...	<0.20	1.1	4.8	0.060	<1	<100	20	<1	5	<10
JAN 1996										
18...	0.73	1.5	6.4	0.250	--	--	--	--	--	--
FEB										
27...	<0.20	1.1	4.7	0.070	--	--	--	--	--	--
APR										
29...	<0.20	0.97	4.3	0.050	<1	<100	20	<1	3	<10
JUN										
19...	0.31	1.3	5.7	0.030	--	--	--	--	--	--
AUG										
15...	<0.20	0.99	4.4	<0.020	--	--	--	--	--	--

DATE	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 (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)
NOV 1995										
06...	100	<1	<10	<0.10	<1	<1	<10	<0.010	2	<0.02
JAN 1996										
18...	--	--	--	--	--	--	--	--	--	--
FEB										
27...	--	--	--	--	--	--	--	--	--	--
APR										
29...	140	<1	10	<0.10	<1	<1	<10	<0.010	<1	<0.02
JUN										
19...	--	--	--	--	--	--	--	--	--	--
AUG										
15...	--	--	--	--	--	--	--	--	--	--

RIO GUANAJIBO BASIN

50136400 RIO ROSARIO NEAR HORMIGUEROS, 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	39	5	.52	35	18	1.7	35	40	3.8
2	61	44	18	34	14	1.2	33	36	3.2
3	97	155	76	35	10	.98	33	16	1.5
4	63	42	7.8	35	7	.66	30	6	.48
5	45	15	1.9	33	4	.39	29	3	.26
6	37	12	1.2	69	69	30	62	68	30
7	35	11	1.0	45	37	4.7	51	45	7.6
8	70	68	31	90	155	125	36	11	1.1
9	281	1230	3750	118	131	49	32	8	.69
10	124	116	44	59	50	8.2	32	7	.68
11	76	22	4.7	62	52	15	61	63	20
12	56	12	1.9	48	53	7.4	47	56	8.1
13	47	8	1.0	37	16	1.6	32	28	2.5
14	42	9	.99	34	14	1.2	29	17	1.3
15	45	20	3.5	45	32	7.5	28	9	.71
16	76	96	42	39	41	4.3	27	7	.51
17	180	460	757	33	29	2.6	27	6	.43
18	130	87	32	62	57	22	26	5	.36
19	96	29	8.4	46	52	7.3	25	5	.34
20	96	119	72	34	20	1.9	24	5	.33
21	88	76	19	30	21	1.8	23	7	.42
22	66	55	9.7	28	17	1.3	23	9	.57
23	53	44	6.3	26	19	1.4	22	9	.51
24	46	26	3.3	26	21	1.4	26	7	.50
25	44	14	1.7	26	13	.93	23	7	.40
26	46	18	2.8	71	133	107	23	6	.37
27	69	58	20	65	61	13	22	6	.36
28	78	100	44	38	17	1.8	22	6	.35
29	56	66	11	37	14	1.6	22	6	.35
30	42	30	3.4	40	41	4.5	22	6	.36
31	38	23	2.4	---	---	---	21	6	.34
TOTAL	2322	---	4978.51	1380	---	427.36	948	---	88.42

RIO GUANAJIBO BASIN

50136400 RIO ROSARIO NEAR HORMIGUEROS, 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)
		JANUARY			FEBRUARY			MARCH	
1	22	6	.36	16	10	.42	17	14	.66
2	20	6	.33	16	10	.40	15	15	.61
3	19	7	.34	15	9	.38	15	22	.92
4	18	8	.37	16	9	.37	14	35	1.3
5	18	7	.31	16	8	.35	13	30	1.0
6	20	9	.49	19	11	.82	13	22	.78
7	20	15	.84	37	25	4.5	13	16	.54
8	19	32	1.7	24	16	1.1	12	13	.41
9	17	46	2.1	16	6	.26	12	16	.50
10	18	26	1.3	23	12	1.2	11	20	.61
11	23	16	.98	31	24	2.3	11	24	.72
12	17	16	.71	18	13	.67	11	20	.56
13	18	13	.61	17	12	.57	9.8	14	.38
14	22	13	.81	16	19	.79	11	11	.31
15	29	18	1.6	15	23	.96	19	11	.63
16	24	11	.80	15	22	.91	14	8	.33
17	27	27	2.0	15	21	.87	11	7	.19
18	20	23	1.2	25	90	11	11	6	.18
19	19	22	1.2	25	137	10	11	12	.33
20	22	27	1.8	25	21	1.7	9.7	22	.57
21	27	22	1.7	56	52	10	9.8	17	.45
22	20	8	.41	42	40	5.5	9.3	10	.26
23	18	7	.35	32	92	8.7	e9.4	7	e.17
24	17	8	.38	30	47	8.1	e9.2	7	e.17
25	17	10	.47	56	251	41	e9.2	8	e.20
26	19	10	.52	35	69	7.0	e9.2	13	e.31
27	18	9	.46	24	22	1.4	e9.5	20	e.51
28	18	9	.41	20	17	.90	e9.0	18	e.45
29	17	8	.38	18	15	.74	e8.8	13	e.32
30	16	8	.35	---	---	---	e11	9	e.22
31	16	9	.38	---	---	---	e11	7	e.18
TOTAL	615	---	25.66	713	---	122.91	358.9	---	14.77

e Estimated

RIO GUANAJIBO BASIN

50136400 RIO ROSARIO NEAR HORMIGUEROS, 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)
		APRIL			MAY			JUNE	
1	e11	8	e.24	16	7	.28	31	15	1.2
2	e9.8	11	e.31	16	5	.22	28	11	.80
3	e12	16	e.46	16	5	.22	29	8	.61
4	e100	25	e3.1	23	5	.30	29	6	.44
5	e110	40	e11	16	5	.22	25	4	.30
6	e130	51	e16	16	5	.22	25	5	.36
7	e60	20	e5.1	22	12	1.0	24	7	.48
8	e43	7	e.93	24	9	.61	23	10	.59
9	e31	4	e.43	80	90	39	97	134	74
10	e26	3	e.25	67	59	15	52	50	7.5
11	e21	4	e.23	18	9	.44	38	16	1.8
12	e19	5	e.25	19	6	.31	29	8	.66
13	e17	6	e.29	18	5	.24	47	42	10
14	e15	8	e.33	17	4	.18	61	52	10
15	e15	10	e.43	17	3	.14	91	118	37
16	e14	22	e.85	19	3	.15	69	62	12
17	e13	39	e1.4	56	71	37	71	69	21
18	e18	28	e1.0	60	57	11	106	124	53
19	28	30	3.1	262	652	2310	132	413	344
20	27	13	1.1	158	277	154	109	87	29
21	22	14	.83	65	12	2.5	60	35	5.8
22	116	326	330	44	4	.47	48	17	2.3
23	88	108	32	35	2	.22	41	9	.99
24	48	50	7.5	32	2	.21	38	5	.47
25	24	30	2.0	34	16	2.7	44	17	2.5
26	19	24	1.2	103	196	124	53	41	11
27	19	19	.93	73	59	13	43	20	2.3
28	18	14	.72	50	55	7.4	36	11	1.1
29	16	11	.49	47	43	5.9	35	7	.63
30	17	9	.40	42	32	3.6	32	6	.52
31	---	---	---	41	21	2.3	---	---	---
TOTAL	1106.8	---	422.87	1506	---	2732.83	1546	---	632.35

e Estimated

RIO GUANAJIBO BASIN

50136400 RIO ROSARIO NEAR HORMIGUEROS, 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)
		JULY			AUGUST			SEPTEMBER	
1	31	6	.51	137	609	684	41	7	.81
2	30	7	.52	235	925	1240	42	5	.61
3	29	7	.56	127	152	58	39	4	.46
4	28	8	.57	66	49	8.9	37	5	.54
5	26	6	.43	50	22	3.0	38	7	.77
6	51	41	12	43	8	.88	38	10	1.0
7	87	102	37	114	221	181	36	12	1.1
8	67	92	17	106	65	25	34	13	1.2
9	154	145	67	56	17	2.6	31	13	1.2
10	71	24	5.0	57	35	6.7	214	566	468
11	48	12	1.5	49	37	5.1	156	252	115
12	42	9	.98	51	45	6.6	88	77	19
13	38	7	.66	44	24	3.0	61	26	4.3
14	36	6	.58	39	8	.79	76	80	27
15	34	6	.56	48	27	5.6	60	172	28
16	34	6	.54	42	35	4.2	48	139	18
17	142	394	500	36	14	1.4	71	151	40
18	136	317	188	53	44	11	65	62	13
19	97	100	29	41	32	3.7	44	12	1.4
20	57	25	4.0	39	27	3.1	40	7	.75
21	44	13	1.6	34	18	1.7	36	6	.61
22	39	10	1.1	113	514	499	34	7	.61
23	35	8	.75	109	219	117	34	7	.67
24	34	6	.57	175	473	421	49	29	6.3
25	33	6	.54	117	140	49	43	28	3.2
26	36	6	.58	68	23	4.3	35	11	1.1
27	37	6	.59	55	9	1.4	47	44	8.8
28	41	10	1.3	52	7	.94	110	278	222
29	119	384	442	50	9	1.2	186	580	964
30	111	76	26	48	13	1.6	131	175	68
31	73	18	3.5	44	10	1.2	---	---	---
TOTAL	1840	---	1344.94	2298	---	3352.91	1964	---	2017.43
YEAR	16597.7		16160.96						

RIO GUANAJIBO BASIN

50136400 RIO ROSARIO NEAR HORMIGUEROS, PR--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

PARTICLE-SIZE DISTRIBUTION 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. 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 1995							
17...	1627	900	11400	27700	18	22	24
AUG 1996							
24...	1744	302	2940	2400	35	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)
OCT 1995							
17...	29	32	40	47	54	65	82
AUG 1996							
24...	44	56	58	60	62	71	85

RIO GUANAJIBO BASIN

50136400 RIO ROSARIO NEAR HORMIGUEROS , PR--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

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 1995					
17...	1627	900	11400	27700	40
FEB 1996					
19...	0906	24	212	14	97
25...	0900	59	276	44	98
MAY					
07...	1435	16	991	43	99
AUG					
24...	1744	302	2940	2400	58
29...	1625	807	5680	12400	30

RIO GUANAJIBO BASIN

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 (2.243 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 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	145	115	118	44	40	113	35	46	87	68	311	79
2	140	108	102	42	39	101	30	42	70	64	740	75
3	182	114	97	41	38	91	36	41	59	59	430	71
4	165	148	89	40	38	83	330	45	57	55	208	67
5	119	146	80	40	39	81	336	39	59	51	146	79
6	108	149	84	48	53	70	397	36	51	51	115	85
7	101	151	126	48	58	61	187	43	47	82	403	81
8	117	303	81	41	67	53	121	42	44	84	731	68
9	368	511	75	42	45	46	95	81	108	160	285	64
10	334	191	79	40	106	42	76	149	104	116	222	498
11	170	168	248	41	148	40	65	91	65	74	203	966
12	139	199	287	37	64	37	58	59	55	62	241	482
13	120	126	142	35	56	34	52	47	70	60	221	314
14	110	115	117	38	56	33	46	41	90	58	218	329
15	103	112	104	50	50	40	45	38	98	58	183	457
16	147	193	93	105	46	52	44	48	116	51	169	239
17	411	196	86	79	44	73	40	120	80	150	131	181
18	583	181	78	83	97	40	59	184	129	197	118	248
19	677	202	73	63	85	34	60	278	169	145	126	183
20	402	139	68	106	94	31	85	1260	237	85	119	147
21	382	124	65	95	235	29	239	428	137	68	98	126
22	307	109	61	64	208	29	304	289	104	59	149	111
23	265	100	59	55	201	29	262	211	83	54	183	101
24	201	92	58	49	400	28	148	164	68	51	332	96
25	203	86	55	47	380	28	95	134	134	51	272	118
26	170	209	53	50	290	28	75	171	347	48	144	101
27	166	307	54	50	191	29	63	170	359	46	118	123
28	163	156	54	54	150	28	61	119	134	48	107	243
29	245	143	49	50	128	27	53	88	94	114	100	316
30	153	149	50	45	---	27	51	82	78	110	89	478
31	126	---	46	42	---	35	---	83	---	80	95	---
TOTAL	7022	5042	2831	1664	3446	1472	3548	4669	3333	2459	7007	6526
MEAN	227	168	91.3	53.7	119	47.5	118	151	111	79.3	226	218
MAX	677	511	287	106	400	113	397	1260	359	197	740	966
MIN	101	86	46	35	38	27	30	36	44	46	89	64
AC-FT	13930	10000	5620	3300	6840	2920	7040	9260	6610	4880	13900	12940
CFSM	1.89	1.40	.76	.45	.99	.40	.99	1.26	.93	.66	1.88	1.81
IN.	2.18	1.56	.88	.52	1.07	.46	1.10	1.45	1.03	.76	2.17	2.02

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1973 - 1996, BY WATER YEAR (WY)

MEAN	471	408	129	58.7	51.0	47.1	71.4	174	107	101	220	464
MAX	1254	1518	422	110	119	244	316	636	504	240	757	2075
(WY)	1986	1978	1976	1993	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	95.4
(WY)	1992	1992	1992	1973	1977	1977	1977	1977	1977	1976	1976	1991

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1973 - 1996	
ANNUAL TOTAL	42985		49019			
ANNUAL MEAN	118		134		194	
HIGHEST ANNUAL MEAN					402	1979
LOWEST ANNUAL MEAN					69.6	1994
HIGHEST DAILY MEAN	909	Aug 23	1260	May 20	35000	Sep 16 1975
LOWEST DAILY MEAN	22	Mar 30	27	Mar 29	5.0	Jun 18 1977
ANNUAL SEVEN-DAY MINIMUM	22	Mar 28	28	Mar 24	5.5	Jun 17 1977
INSTANTANEOUS PEAK FLOW			1860	May 20	128000	Sep 16 1975
INSTANTANEOUS PEAK STAGE			19.21	May 20	28.50	Sep 16 1975
INSTANTANEOUS LOW FLOW					4.6	Jun 22 1977
ANNUAL RUNOFF (AC-FT)	85260		97230		140500	
ANNUAL RUNOFF (CFSM)	.98		1.12		1.62	
ANNUAL RUNOFF (INCHES)	13.33		15.20		21.96	
10 PERCENT EXCEEDS	258		289		420	
50 PERCENT EXCEEDS	78		92		77	
90 PERCENT EXCEEDS	31		40		21	

RIO GUANAJIBO BASIN

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 1995 TO SEPTEMBER 1996

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, 0.45 UM-MF (COLS./ 100 ML) (31616)	STREP-TOCOCCI FECAL, (COLS. PER 100 ML) (31679)
NOV 1995											
06...	1325	116	392	6.8	25.0	30	7.3	87	14	K9800	2400
JAN 1996											
18...	1220	74	445	7.7	24.0	27	6.8	79	13	K7500	8700
FEB											
29...	0930	131	350	7.5	23.5	12	4.2	49	32	3200	K1700
APR											
29...	1255	53	485	7.8	25.5	6.4	6.8	83	31	4200	420
JUN											
20...	0720	286	283	7.0	23.5	120	6.3	73	38	53000	67000
AUG											
16...	0715	176	386	7.0	25.5	7.0	5.4	65	18	5600	2700

DATE	HARD-NESS TOTAL (MG/L AS CACO3) (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)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (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 1995										
06...	170	26	25	12	0.4	2.8	170	<0.5	13	14
JAN 1996										
18...	--	--	--	--	--	--	180	--	--	--
FEB										
29...	--	--	--	--	--	--	150	--	--	--
APR										
29...	230	32	37	18	0.5	2.7	200	<0.5	20	21
JUN										
20...	--	--	--	--	--	--	120	--	--	--
AUG										
16...	180	27	28	11	0.4	2.5	180	--	16	13

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)	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 1995										
06...	0.10	29	224	70.1	39	0.890	0.020	0.910	0.040	0.48
JAN 1996										
18...	--	--	--	--	34	1.07	0.030	1.10	0.150	0.47
FEB										
29...	--	--	--	--	34	0.410	0.020	0.430	0.040	0.61
APR										
29...	0.10	32	283	40.4	11	0.850	0.010	0.860	0.040	0.25
JUN										
20...	--	--	--	--	280	0.820	0.020	0.840	0.050	1.5
AUG										
16...	<0.10	30	235	112	32	0.690	0.020	0.710	0.040	0.44

K = non-ideal count

RIO GUANAJIBO BASIN

50138000 RIO GUANAJIBO NEAR HORMIGUEROS, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

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 1995										
06...	0.52	1.4	6.3	0.200	<1	100	60	<1	9	<10
JAN 1996										
18...	0.62	1.7	7.6	0.400	--	--	--	--	--	--
FEB										
29...	0.65	1.1	4.8	0.430	--	--	--	--	--	--
APR										
29...	0.29	1.2	5.1	0.230	<1	<100	80	<1	4	<10
JUN										
20...	1.6	2.4	11	0.420	--	--	--	--	--	--
AUG										
16...	0.48	1.2	5.3	0.230	--	--	--	--	--	--

DATE	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 (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)
NOV 1995										
06...	1500	7	80	<0.10	<1	<1	10	<0.010	2	0.03
JAN 1996										
18...	--	--	--	--	--	--	--	--	--	--
FEB										
29...	--	--	--	--	--	--	--	--	--	--
APR										
29...	480	2	80	<0.10	<1	<1	<10	<0.010	<1	<0.02
JUN										
20...	--	--	--	--	--	--	--	--	--	--
AUG										
16...	--	--	--	--	--	--	--	--	--	--

PESTICIDE ANALYSES

DATE	TIME	PCB, TOTAL (UG/L) (39516)	ALDRIN, TOTAL (UG/L) (39330)	CHLORDANE, TECHNICAL TOTAL (UG/L) (39350)	P,P'-DDD UNFILT RECOVER (UG/L) (39360)	DDE, TOTAL (UG/L) (39365)	P,P'-DDT UNFILT RECOVER (UG/L) (39370)	DIAZINON, TOTAL (UG/L) (39570)	DIELDRIN TOTAL (UG/L) (39380)	ENDOSULFAN, I TOTAL (UG/L) (39388)
JUN 1996										
20...	0720	<0.100	<0.010	<0.100	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010

DATE	ENDRIN WATER UNFLTRD REC (UG/L) (39390)	ETHION, TOTAL (UG/L) (39398)	HEPTACHLOR, TOTAL (UG/L) (39410)	HEPTACHLOR EPOXIDE TOTAL (UG/L) (39420)	LINDANE TOTAL (UG/L) (39340)	MALATHION, TOTAL (UG/L) (39530)	METHOXYCHLOR, TOTAL (UG/L) (39480)	METHYL PARATHION, TOTAL (UG/L) (39600)	MIREX, TOTAL (UG/L) (39755)
JUN 1996									
20...	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010

DATE	PARATHION, TOTAL (UG/L) (39540)	PCNS UNFILT RECOVER (UG/L) (39250)	PERTHANE TOTAL (UG/L) (39034)	TOXAPHENE, TOTAL (UG/L) (39400)	TOTAL TRITHION (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)
JUN 1996									
20...	<0.010	<0.100	<0.100	<1.00	<0.010	0.440	<0.010	<0.010	<0.010

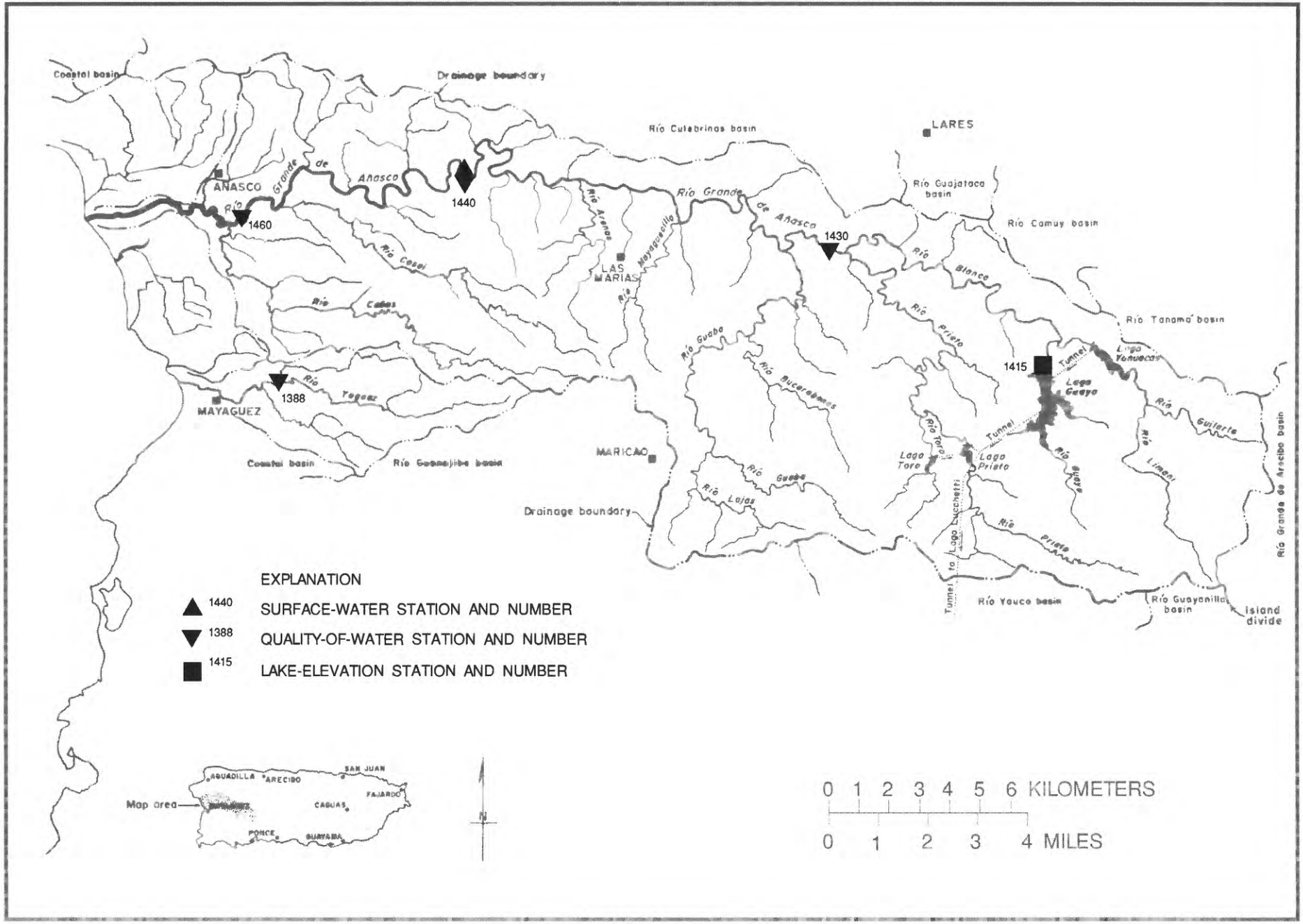


Figure 26.--Río Yagüez and Río Grande de Añasco basins.

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 1995 TO SEPTEMBER 1996

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, 0.45 UM-MF (COLS./ 100 ML) (31616)	STREP-TOCOCCI FECAL, (COLS. PER 100 ML) (31679)
NOV 1995											
06...	1530	11	320	6.5	25.0	4.2	7.3	87	<10	2400	4200
JAN 1996											
18...	1335	3.4	300	7.8	23.0	2.0	8.0	92	<10	K960	31000
FEB											
27...	1335	2.9	299	7.8	23.5	3.6	7.6	87	<10	470	2700
APR											
30...	0720	8.5	262	7.3	21.5	52	7.8	88	14	4300	21000
JUN											
19...	1250	18	222	7.4	24.5	59	7.8	93	16	5300	5100
AUG											
15...	1300	7.4	322	7.8	25.5	0.40	7.2	87	<10	K640	720

DATE	HARD-NESS TOTAL (MG/L AS CACO3) (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)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (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 1995										
06...	130	31	13	11	0.4	2.7	120	<0.5	5.8	9.4
JAN 1996										
18...	--	--	--	--	--	--	110	--	--	--
FEB										
27...	--	--	--	--	--	--	110	--	--	--
APR										
30...	110	30	9.0	9.5	0.4	2.8	100	<0.5	9.2	9.8
JUN										
19...	--	--	--	--	--	--	90	--	--	--
AUG										
15...	140	38	10	11	0.4	2.6	150	--	7.1	10

K = non-ideal count

RIO YAGÜEZ BASIN

50138800 RIO YAGÜEZ NEAR MAYAGÜEZ, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DATE	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	SOLIDS, DISSOLVED (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 1995										
06...	<0.10	30	175	5.19	<1	0.930	<0.010	0.930	0.020	0.20
JAN 1996										
18...	--	--	--	--	4	0.850	0.050	0.900	2.20	0.80
FEB										
27...	--	--	--	--	5	0.720	0.070	0.790	0.570	2.9
APR										
30...	<0.10	25	155	3.55	30	0.760	0.020	0.780	0.020	0.28
JUN										
19...	--	--	--	--	32	1.18	0.020	1.20	0.020	0.44
AUG										
15...	0.10	32	201	3.99	<1	0.830	<0.010	0.830	0.020	<0.20

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 1995										
06...	0.22	1.1	5.1	0.040	<1	100	30	<1	<1	<10
JAN 1996										
18...	3.0	3.9	17	0.300	--	--	--	--	--	--
FEB										
27...	3.5	4.3	19	0.280	--	--	--	--	--	--
APR										
30...	0.30	1.1	4.8	0.080	<1	100	50	<1	1	<10
JUN										
19...	0.46	1.7	7.3	0.080	--	--	--	--	--	--
AUG										
15...	<0.20	0.98	4.4	0.040	--	--	--	--	--	--

DATE	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 (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)
NOV 1995										
06...	200	14	10	<0.10	<1	<1	<10	<0.010	1	<0.02
JAN 1996										
18...	--	--	--	--	--	--	--	--	--	--
FEB										
27...	--	--	--	--	--	--	--	--	--	--
APR										
30...	870	1	40	<0.10	<1	<1	<10	<0.010	4	<0.02
JUN										
19...	--	--	--	--	--	--	--	--	--	--
AUG										
15...	--	--	--	--	--	--	--	--	--	--

RIO GRANDE DE AÑASCO BASIN

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 hm^3) 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 60.00 ft (18.29 m) and a crest length of 220 ft (67 m) was designed to pass a maximum flood of 30,200 ft^3/s (855 m^3/s) at a reservoir elevation of 70.00 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

EXTREMES OBSERVED FOR PERIOD OF RECORD.--Maximum elevation, 1462.43 ft (445.75 m), May 27, 1980; minimum elevation recorded, 1415.43 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, 1460.75 ft (445.23 m), Jun. 19; minimum elevation recorded 1439.07 ft (438.28 m), Aug. 31.

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
1415	3,960	1460	13,550
1449	10,660	1465	15,000

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1452.99	1450.58	1456.76	1458.92	1453.29	1450.05	A	A	1460.21	1458.32	1448.20	1439.41
2	1451.90	1449.72	1457.12	1458.62	1453.52	1450.08	A	A	1460.18	1458.64	1447.98	1439.74
3	1451.50	1449.43	1457.34	1458.57	1452.52	1449.96	A	A	1460.16	1458.92	1447.38	1439.89
4	1451.03	1448.75	1457.52	1458.33	1452.39	1449.76	A	A	1460.10	1459.19	1447.07	1440.08
5	1450.80	1448.64	1456.48	1458.57	1452.57	1449.88	A	A	1460.28	1459.44	1445.56	1441.47
6	1450.56	1448.59	1457.09	1458.79	1452.81	1449.06	A	A	1460.21	A	1444.32	A
7	1450.06	1448.43	1457.80	1459.01	1453.03	1448.49	A	A	1460.17	A	1444.46	1442.23
8	1449.60	1448.04	1458.10	A	1453.10	A	A	A	1459.98	1460.43	1443.82	1441.64
9	1449.22	1448.08	1458.45	A	1452.74	A	A	A	1459.87	A	1443.95	A
10	1448.91	1448.82	1458.78	A	1453.16	A	A	A	1459.81	1459.89	1443.56	1455.66
11	1448.82	1449.29	1459.27	A	1453.09	A	A	A	1460.09	1459.12	1443.37	1457.33
12	1448.84	1449.20	1459.68	1457.74	1453.15	A	A	A	1460.15	1458.67	1442.70	1458.25
13	1448.57	1449.92	1458.81	1457.34	1453.36	A	A	A	1460.24	1458.67	1441.90	1458.96
14	1448.13	1450.87	1458.27	1457.74	1453.54	A	A	1447.94	1460.20	1459.13	1441.63	1460.28
15	1448.20	1451.36	1458.34	1457.56	1453.46	A	A	1448.44	1460.48	1459.56	1441.65	1460.27
16	1450.51	1451.67	1458.38	1457.54	1453.65	A	A	1448.98	1460.26	1459.13	1442.49	1460.23
17	1452.89	1452.34	1458.68	1456.84	1453.77	A	A	1449.40	1460.20	1458.90	1442.22	1459.37
18	1453.45	1452.82	1458.14	1456.09	1453.97	A	A	A	1460.17	1458.67	1442.44	1458.33
19	1453.41	1453.04	1458.45	1455.24	1454.16	A	A	1454.32	1460.75	1457.78	1441.87	1457.23
20	1455.13	1452.89	1458.62	1454.74	1453.59	A	A	1456.93	1460.31	1457.53	1441.98	1455.36
21	1455.89	1453.25	1458.37	1454.69	1453.72	A	A	1457.91	1460.14	1457.90	1441.82	1454.69
22	1456.42	1453.66	1458.12	1453.69	1452.86	A	A	1458.55	1460.18	1456.63	1441.55	1453.93
23	1456.46	1454.05	1458.13	1453.43	1452.77	A	A	1458.63	1460.17	1455.24	1441.26	A
24	1455.81	1454.45	1458.26	1453.55	1453.40	A	A	1458.47	1459.16	1454.07	1440.91	1451.12
25	1455.92	1454.53	1458.14	1453.63	1453.64	A	A	1457.79	1458.33	1453.72	1440.86	1450.34
26	1455.17	1454.88	1458.33	1453.86	1452.71	A	A	1458.97	1457.78	1452.63	1440.41	1449.31
27	1454.45	1455.14	1458.31	1453.91	1452.05	A	A	1459.71	A	1451.72	1440.45	1448.16
28	1454.51	1455.56	1458.27	1453.83	1451.18	A	A	1459.81	A	1451.69	A	A
29	1454.08	1455.95	1458.52	1453.74	1450.38	A	A	1460.09	A	1450.77	1439.68	1446.53
30	1453.10	1456.35	1458.42	1453.28	---	A	A	1460.30	1457.97	1449.59	A	1445.08
31	1451.76	---	1458.67	1453.06	---	A	---	1460.30	---	1448.95	1439.10	---
MAX	1456.46	1456.35	1459.68	---	1454.16	---	---	---	---	---	---	---
MIN	1448.13	1448.04	1456.48	---	1450.38	---	---	---	---	---	---	---

A No gage-height record

RIO GRANDE DE AÑASCO BASIN

50143000 RIO GRANDE DE AÑASCO 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 1995 TO SEPTEMBER 1996

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, 0.45 UM-MF (COLS./ 100 ML) (31616)	STREP-TOCOCCI FECAL, (COLS. PER 100 ML) (31679)
NOV 1995											
06...	1130	72	275	7.6	25.0	9.0	8.0	96	<10	460	820
JAN 1996											
18...	1345	28	294	8.5	23.5	7.9	8.2	96	13	230	K890
FEB											
13...	0950	29	289	8.0	21.5	5.4	8.2	93	11	520	580
APR											
09...	0930	23	296	7.6	23.0	2.2	8.9	104	<10	K140	310
JUN											
10...	1030	41	290	8.2	25.0	0.30	8.3	101	<10	K120	K100
AUG											
09...	1030	31	292	7.9	25.5	2.1	8.1	99	<10	390	500

DATE	HARD-NESS TOTAL (MG/L AS CACO3) (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)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (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 1995										
07...	110	28	9.2	9.2	0.4	1.7	110	<0.5	7.6	7.3
JAN 1996										
18...	--	--	--	--	--	--	110	--	--	--
FEB										
13...	--	--	--	--	--	--	110	--	--	--
APR										
09...	130	36	10	12	0.5	1.8	120	<0.5	20	11
JUN										
10...	--	--	--	--	--	--	110	--	--	--
AUG										
09...	130	33	11	33	1	2.9	110	--	24	11

K = non-ideal count

RIO GRANDE DE AÑASCO BASIN

50143000 RIO GRANDE DE AÑASCO NEAR LARES, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DATE	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	SOLIDS, DISSOLVED (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 1995										
07...	<0.10	29	155	31	24	1.09	0.010	1.10	0.010	0.23
JAN 1996										
18...	--	--	--	--	22	1.59	0.010	1.60	0.040	0.42
FEB										
13...	--	--	--	--	6	2.09	0.010	2.10	0.040	<0.20
APR										
09...	<0.10	29	192	11.8	3	0.940	<0.010	0.940	0.030	<0.20
JUN										
10...	--	--	--	--	6	1.20	<0.010	1.20	0.010	<0.20
AUG										
09...	<0.10	33	214	17.9	6	1.00	<0.010	1.00	0.030	<0.20

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 1995										
07...	0.24	1.3	5.9	0.040	<1	<100	10	<1	1	10
JAN 1996										
18...	0.46	2.1	9.1	0.050	--	--	--	--	--	--
FEB										
13...	<0.20	2.3	10	0.080	--	--	--	--	--	--
APR										
09...	<0.20	1.1	4.8	0.050	<1	<100	20	<1	<1	<10
JUN										
10...	<0.20	1.4	6.1	<0.020	--	--	--	--	--	--
AUG										
09...	<0.20	1.1	4.9	<0.020	--	--	--	--	--	--

DATE	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 (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)
NOV 1995										
07...	830	3	80	<0.10	<1	<1	<10	<0.010	8	<0.02
JAN 1996										
18...	--	--	--	--	--	--	--	--	--	--
FEB										
13...	--	--	--	--	--	--	--	--	--	--
APR										
09...	180	<1	30	<0.10	<1	<1	<10	<0.010	<1	0.02
JUN										
10...	--	--	--	--	--	--	--	--	--	--
AUG										
09...	--	--	--	--	--	--	--	--	--	--

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 Marías, 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.

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 dischages, 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 hm³). 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 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	482	258	292	136	106	147	239	102	798	179	242	e150
2	980	243	218	134	104	141	116	100	671	205	562	e145
3	1880	233	185	132	102	136	101	186	390	176	352	e150
4	669	223	179	129	103	131	228	241	510	170	209	436
5	290	208	238	126	103	129	239	119	618	165	e150	547
6	229	211	265	125	118	128	174	125	475	160	e140	656
7	221	424	432	124	139	125	171	132	340	160	e130	332
8	384	738	211	123	173	122	116	122	316	226	e170	271
9	379	883	190	122	115	119	103	120	233	698	e240	220
10	318	325	318	130	1120	117	99	152	235	532	e150	15700
11	232	253	313	131	492	116	100	259	250	261	e360	5570
12	1240	259	344	120	147	114	118	179	221	380	e700	2160
13	823	235	206	117	123	112	103	135	391	197	e270	1010
14	1100	289	186	119	118	138	97	114	756	171	e490	1360
15	684	235	177	185	110	149	96	112	562	179	e240	1260
16	952	237	172	132	108	119	99	313	652	184	e440	669
17	3140	209	167	147	107	101	93	354	811	157	e2500	1230
18	1330	199	166	120	107	98	108	531	1350	207	e690	733
19	623	201	164	118	114	96	130	4970	854	267	e4200	507
20	1510	190	162	114	347	96	213	2250	1270	183	e1300	410
21	943	190	177	128	913	93	205	500	506	159	e430	380
22	701	182	159	115	1970	92	436	382	333	152	e350	348
23	407	180	153	111	762	92	1090	261	306	146	e310	322
24	345	182	153	109	857	90	332	215	318	142	e240	439
25	704	190	148	109	732	88	160	191	274	140	e250	1050
26	654	1000	152	123	276	88	129	477	218	145	e190	852
27	662	523	147	126	200	87	117	1040	265	147	e180	455
28	576	223	147	121	170	87	111	999	212	134	e170	528
29	609	194	142	118	157	89	106	1120	213	155	e190	648
30	331	202	139	110	---	89	103	1460	192	248	e180	858
31	283	---	137	108	---	314	---	922	---	155	e160	---
TOTAL	23681	9119	6239	3862	9993	3643	5532	18183	14540	6580	16185	39396
MEAN	764	304	201	125	345	118	184	587	485	212	522	1313
MAX	3140	1000	432	185	1970	314	1090	4970	1350	698	4200	15700
MIN	221	180	137	108	102	87	93	100	192	134	130	145
AC-FT	46970	18090	12380	7660	19820	7230	10970	36070	28840	13050	32100	78140
CFSM	8.10	3.22	2.13	1.32	3.65	1.25	1.96	6.22	5.14	2.25	5.54	13.9
IN.	9.34	3.60	2.46	1.52	3.94	1.44	2.18	7.17	5.74	2.60	6.38	15.54

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 1996, BY WATER YEAR (WY)

MEAN	667	432	225	139	114	104	146	379	293	271	359	620
MAX	1467	746	482	215	345	271	313	1084	815	657	936	1422
(WY)	1993	1982	1966	1970	1996	1972	1971	1986	1979	1979	1979	1984
MIN	344	197	103	83.6	62.3	54.4	49.3	63.7	71.2	111	152	206
(WY)	1983	1994	1992	1965	1992	1965	1968	1967	1977	1990	1967	1983

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1963 - 1996	
ANNUAL TOTAL	116077		156953			
ANNUAL MEAN	318		429		312	
HIGHEST ANNUAL MEAN					460	1979
LOWEST ANNUAL MEAN					189	1967
HIGHEST DAILY MEAN	3830	Sep 16	15700	Sep 10	19400	Sep 16 1975
LOWEST DAILY MEAN	58	May 2	87	Mar 27	32	Apr 18 1965
ANNUAL SEVEN-DAY MINIMUM	66	Apr 28	88	Mar 24	35	Apr 14 1965
INSTANTANEOUS PEAK FLOW			51200	Sep 10	140000	Sep 16 1975
INSTANTANEOUS PEAK STAGE			21.33	Sep 10	33.90	Sep 16 1975
INSTANTANEOUS LOW FLOW			86	Mar 26	31	Apr 19 1965
ANNUAL RUNOFF (AC-FT)	230200		311300		226200	
ANNUAL RUNOFF (CFSM)	3.37		4.55		3.31	
ANNUAL RUNOFF (INCHES)	45.79		61.92		44.98	
10 PERCENT EXCEEDS	680		857		658	
50 PERCENT EXCEEDS	185		200		185	

RIO GRANDE DE AÑASCO BASIN

50144000 RIO GRANDE DE AÑASCO NEAR SAN SEBASTIAN, PR--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1963 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

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, 0.45 UM-MF (COLS./ 100 ML) (31616)	STREP-TOCOCCI FECAL, (COLS. PER 100 ML) (31679)
NOV 1995											
09...	1030	512	165	7.6	23.5	45	7.7	89	<10	K13000	K28000
JAN 1996											
23...	1025	109	249	7.8	22.0	2.9	8.1	91	<10	K170	K150
FEB											
06...	1115	101	260	7.9	23.0	3.1	8.8	102	<10	K82	K120
APR											
19...	1015	124	219	7.8	24.0	40	8.2	96	11	K6300	6800
JUN											
25...	1100	240	220	7.6	25.0	38	8.1	97	25	2000	4400
SEP											
04...	1300	172	235	8.0	28.0	52	8.1	103	<10	K1500	610

DATE	HARD-NESS TOTAL (MG/L AS CACO3) (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)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (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 1995										
09...	81	22	7.6	8.4	0.4	1.6	64	<0.5	10	7.5
JAN 1996										
23...	--	--	--	--	--	--	110	--	--	--
FEB										
06...	--	--	--	--	--	--	110	--	--	--
APR										
19...	93	24	8.1	8.9	0.4	1.9	90	<0.5	10	7.7
JUN										
25...	--	--	--	--	--	--	92	--	--	--
SEP										
04...	100	27	8.9	8.9	0.4	1.8	110	--	10	7.1

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)	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 1995										
09...	<0.10	24	121	170	5	1.28	0.020	1.30	0.020	0.52
JAN 1996										
23...	--	--	--	--	7	0.870	<0.010	0.870	0.030	<0.20
FEB										
06...	--	--	--	--	4	0.730	<0.010	0.730	0.030	<0.20
APR										
19...	<0.10	26	141	47.1	46	1.54	0.060	1.60	0.180	2.1
JUN										
25...	--	--	--	--	54	1.89	0.010	1.90	0.040	<0.16
SEP										
04...	<0.10	29	159	70.6	56	2.49	0.010	2.50	0.030	0.25

K = non-ideal count

RIO GRANDE DE AÑASCO BASIN

50144000 RIO GRANDE DE AÑASCO NEAR SAN SEBASTIAN, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

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 1995										
09...	0.54	1.8	8.1	0.210	<1	<100	40	<1	1	<10
JAN 1996										
23...	<0.20	1.1	4.7	0.020	--	--	--	--	--	--
FEB										
06...	<0.20	0.86	3.8	0.020	--	--	--	--	--	--
APR										
19...	2.3	3.9	17	0.880	<1	<100	20	<1	1	<10
JUN										
25...	0.20	2.1	9.3	0.140	--	--	--	--	--	--
SEP										
04...	0.28	2.8	12	0.250	--	--	--	--	--	--

DATE	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 (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)
NOV 1995										
09...	1300	<1	110	<0.10	<1	<1	<10	<0.010	6	0.03
JAN 1996										
23...	--	--	--	--	--	--	--	--	--	--
FEB										
06...	--	--	--	--	--	--	--	--	--	--
APR										
19...	910	<1	80	<0.10	<1	<1	<10	<0.010	4	0.04
JUN										
25...	--	--	--	--	--	--	--	--	--	--
SEP										
04...	--	--	--	--	--	--	--	--	--	--

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 1995 TO SEPTEMBER 1996

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, 0.45 UM-MF (COLS./ 100 ML) (31616)	STREP-TOCOCCI FECAL, (COLS. PER 100 ML) (31679)
NOV 1995											
07...	0800	355	232	7.3	24.5	1.4	7.5	88	<10	410	490
JAN 1996											
18...	1005	163	239	7.7	23.0	4.1	7.6	87	<10	330	K110
FEB											
23...	0700	E550	124	6.5	21.0	740	7.4	82	68	K60000	51000
APR											
16...	0900	113	237	7.7	24.5	2.6	7.2	85	15	240	K100
JUN											
25...	1340	354	235	7.2	27.0	44	6.8	84	24	K7200	K2000
AUG											
30...	0930	277	235	7.3	27.0	23	6.8	85	<10	K1500	640

DATE	HARD-NESS TOTAL (MG/L AS CACO3) (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)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (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 1995										
06...	130	35	10	12	0.5	1.9	100	<0.5	19	10
JAN 1996										
18...	--	--	--	--	--	--	100	--	--	--
FEB										
23...	--	--	--	--	--	--	43	--	--	--
APR										
16...	110	28	9.5	9.9	0.4	1.7	110	<0.5	11	7.7
JUN										
25...	--	--	--	--	--	--	100	--	--	--
AUG										
30...	100	27	8.9	9.0	0.4	2.0	110	--	9.4	7.5

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)	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 1995										
06...	0.10	36	192	187	<1	1.58	0.020	1.60	<0.010	0.33
JAN 1996										
18...	--	--	--	--	15	0.890	0.010	0.900	0.030	<0.20
FEB										
23...	--	--	--	--	1180	1.50	0.100	1.60	0.180	3.8
APR										
16...	<0.10	29	163	49.6	11	0.910	0.060	0.970	0.190	0.39
JUN										
25...	--	--	--	--	104	0.930	0.010	0.940	0.020	0.38
AUG										
30...	<0.10	30	160	120	42	0.730	0.070	0.800	0.120	0.44

K = non-ideal count
E = estimated

RIO GRANDE DE AÑASCO BASIN

50146000 RIO GRANDE DE AÑASCO NEAR AÑASCO, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

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 1995										
06...	0.33	1.9	8.5	0.030	<1	<100	20	<1	<1	<10
JAN 1996										
18...	<0.20	1.1	4.7	0.020	--	--	--	--	--	--
FEB										
23...	4.0	5.6	25	0.680	--	--	--	--	--	--
APR										
16...	0.58	1.6	6.9	0.240	<1	<100	20	<1	<1	<10
JUN										
25...	0.40	1.3	5.9	0.100	--	--	--	--	--	--
AUG										
30...	0.56	1.5	6.0	0.150	--	--	--	--	--	--

DATE	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 (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)
NOV 1995										
06...	170	<1	20	<0.10	<1	<1	<10	<0.010	<1	<0.02
JAN 1996										
18...	--	--	--	--	--	--	--	--	--	--
FEB										
23...	--	--	--	--	--	--	--	--	--	--
APR										
16...	430	<1	70	0.10	<1	<1	<10	<0.010	2	<0.02
JUN										
25...	--	--	--	--	--	--	--	--	--	--
AUG										
30...	--	--	--	--	--	--	--	--	--	--

PESTICIDE ANALYSES

DATE	TIME	PCB, TOTAL (UG/L) (39516)	ALDRIN, TOTAL (UG/L) (39330)	CHLORDANE, TECHNICAL TOTAL (UG/L) (39350)	P,P'-DDD UNFILT RECOVER (UG/L) (39360)	DDE, TOTAL (UG/L) (39365)	P,P'-DDT UNFILT RECOVER (UG/L) (39370)	DIAZINON, TOTAL (UG/L) (39570)	DIELDRIN TOTAL (UG/L) (39380)	ENDOSULFAN, I TOTAL (UG/L) (39388)
JUN 1996										
25...	1340	<0.100	<0.010	<0.100	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010

DATE	ENDRIN WATER UNFLTRD REC (UG/L) (39390)	ETHION, TOTAL (UG/L) (39398)	HEPTACHLOR, TOTAL (UG/L) (39410)	HEPTACHLOR EPOXIDE TOTAL (UG/L) (39420)	LINDANE TOTAL (UG/L) (39340)	MALATHION, TOTAL (UG/L) (39530)	METHOXYCHLOR, TOTAL (UG/L) (39480)	METHYL PARATHION, TOTAL (UG/L) (39600)	MIREX, TOTAL (UG/L) (39755)
JUN 1996									
25...	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010

DATE	PARATHION, TOTAL (UG/L) (39540)	PCNS UNFILT RECOVER (UG/L) (39250)	PERTHANE TOTAL (UG/L) (39034)	TOXAPHENE, TOTAL (UG/L) (39400)	TOTAL TRITHION (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)
JUN 1996									
25...	<0.010	<0.100	<0.100	<1.00	<0.010	0.060	<0.010	<0.010	<0.010

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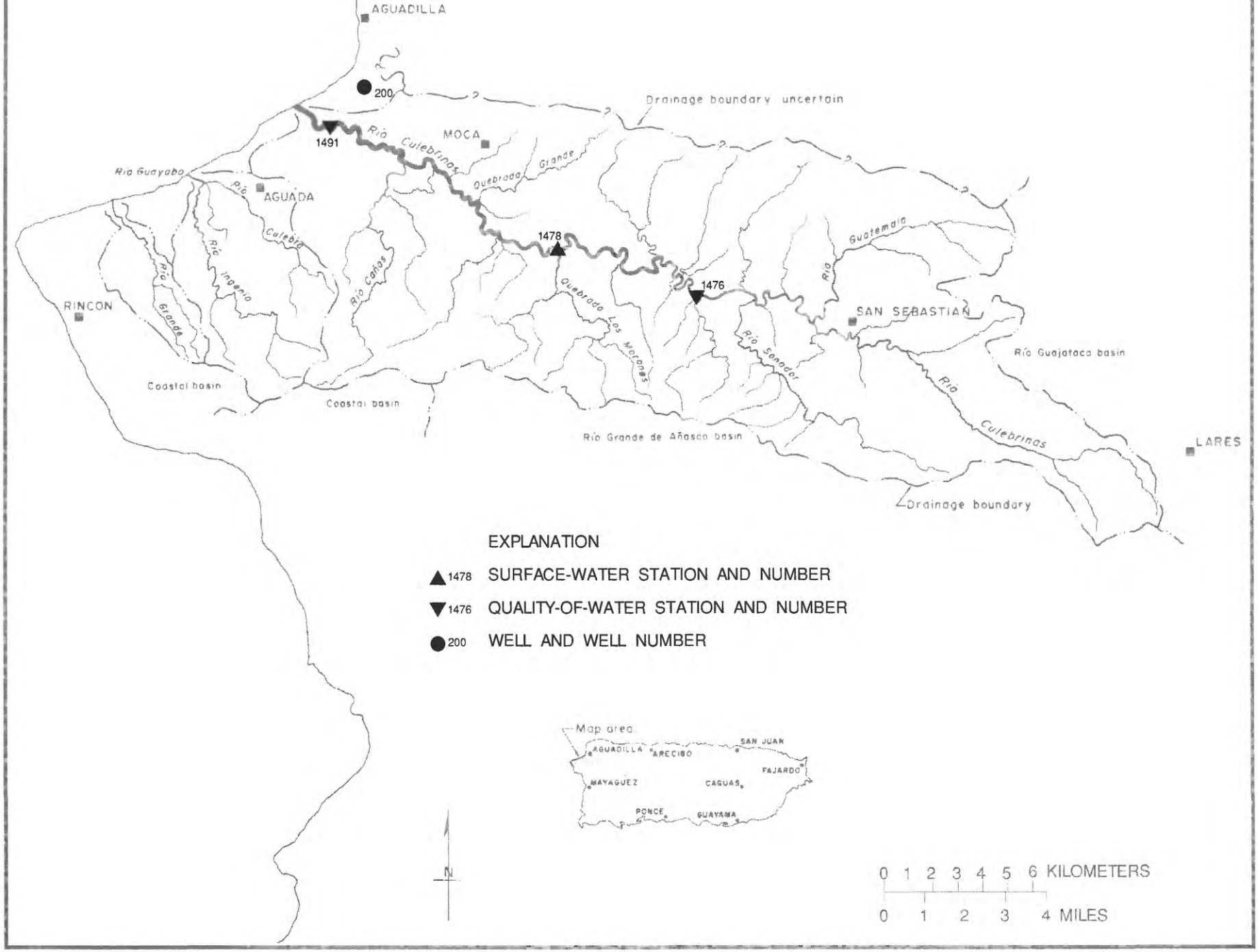


Figure 27.--Río Culebrinas basin.

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 1995 TO SEPTEMBER 1996

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, 0.45 UM-MF (COLS./ 100 ML) (31616)	STREP-TOCOCCI FECAL, (COLS. PER 100 ML) (31679)
NOV 1995											
07...	1030	98	250	7.5	25.0	3.2	8.5	101	<10	3000	380
JAN 1996											
18...	1145	41	275	8.0	24.0	5.0	8.4	98	<10	570	290
FEB											
22...	1430	128	276	7.8	23.0	150	7.9	92	20	56000	6500
APR											
16...	1310	35	276	8.1	27.5	3.1	9.5	119	11	2200	K54
JUN											
06...	0925	181	296	7.8	24.0	45	7.7	90	66	5900	9800
AUG											
21...	1140	228	273	7.5	24.5	89	7.5	89	11	5600	5700

DATE	HARD-NESS TOTAL (MG/L AS CACO3) (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)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (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 1995										
07...	110	33	5.8	10	0.4	2.0	98	<0.5	5.8	9.4
JAN 1996										
18...	--	--	--	--	--	--	110	--	--	--
FEB										
22...	--	--	--	--	--	--	110	--	--	--
APR										
16...	110	35	5.7	14	0.6	0.90	110	<0.5	9.3	13
JUN										
06...	--	--	--	--	--	--	130	--	--	--
AUG										
21...	130	43	4.4	8.8	0.3	3.1	120	--	12	9.5

K = non-ideal count

RIO CULEBRINAS BASIN

50147600 RIO CULEBRINAS NEAR SAN SEBASTIAN, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DATE	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	SOLIDS, DISSOLVED (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 1995										
07...	0.10	36	161	42.4	<1	1.38	0.020	1.40	0.010	0.23
JAN 1996										
18...	--	--	--	--	9	1.28	0.020	1.30	0.040	0.26
FEB										
22...	--	--	--	--	154	1.54	0.060	1.60	0.060	<0.16
APR										
16...	0.10	33	177	16.6	9	1.21	0.090	1.30	0.300	0.23
JUN										
06...	--	--	--	--	78	1.17	0.030	1.20	0.050	0.35
AUG										
21...	<0.10	19	172	106	86	0.830	0.010	0.840	0.010	<0.20

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 1995										
07...	0.24	1.6	7.3	0.040	<1	<100	40	<1	<1	<10
JAN 1996										
18...	0.30	1.6	7.1	0.110	--	--	--	--	--	--
FEB										
22...	0.22	1.8	8.1	0.080	--	--	--	--	--	--
APR										
16...	0.53	1.5	7.9	0.120	<1	<100	40	<1	<1	<10
JUN										
06...	0.40	1.6	7.1	0.040	--	--	--	--	--	--
AUG										
21...	<0.20	0.94	4.2	0.060	--	--	--	--	--	--

DATE	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 (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)
NOV 1995										
07...	250	2	20	<0.10	<1	<1	<10	<0.010	3	<0.02
JAN 1996										
18...	--	--	--	--	--	--	--	--	--	--
FEB										
22...	--	--	--	--	--	--	--	--	--	--
APR										
16...	260	<1	40	<0.10	<1	<1	<10	<0.010	3	0.02
JUN										
06...	--	--	--	--	--	--	--	--	--	--
AUG										
21...	--	--	--	--	--	--	--	--	--	--

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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	577	169	89	59	55	129	112	47	582	253	132	141
2	1060	160	82	59	50	121	89	47	638	194	201	138
3	1010	157	79	59	49	116	64	45	405	174	211	140
4	1470	147	76	56	48	111	61	63	375	171	191	723
5	910	140	83	57	46	105	66	42	386	166	141	323
6	334	135	94	57	111	101	96	1280	1990	155	129	259
7	265	130	76	55	351	98	74	273	521	147	123	196
8	235	239	72	56	135	94	70	98	1420	255	159	255
9	207	203	72	56	90	115	60	86	446	374	214	188
10	186	151	134	65	238	124	57	70	300	193	138	e1270
11	260	119	128	e138	321	95	56	384	301	205	325	699
12	266	115	108	e74	119	86	124	507	252	1360	632	319
13	781	112	75	e69	87	86	72	452	1030	325	240	262
14	2970	108	71	e67	77	119	60	249	435	238	427	285
15	1120	160	70	e65	72	1100	59	127	320	200	217	306
16	2390	129	70	e65	69	187	54	204	764	183	399	1760
17	3500	108	67	e64	66	129	53	133	433	170	2240	1060
18	908	105	71	e63	236	121	105	150	711	162	599	1720
19	444	98	76	e102	194	113	82	450	298	266	3750	433
20	376	95	76	105	347	105	95	226	237	267	1080	450
21	323	183	193	75	560	99	59	162	212	169	378	341
22	357	133	119	66	3490	94	77	162	213	153	310	275
23	247	99	76	62	1830	90	101	133	188	146	278	247
24	231	108	71	59	1030	89	153	120	171	140	220	547
25	443	122	68	59	397	85	93	114	162	140	230	538
26	978	156	68	69	225	74	116	225	153	134	176	562
27	367	144	63	102	183	66	69	337	179	136	160	301
28	275	90	63	92	156	63	57	1010	447	136	152	223
29	236	85	62	82	141	72	51	1250	1790	134	176	205
30	190	85	60	67	---	78	46	2800	442	128	162	201
31	179	---	58	60	---	64	---	1360	---	130	144	---
TOTAL	23095	3985	2570	2184	10773	4129	2331	12606	15801	7004	13934	14367
MEAN	745	133	82.9	70.5	371	133	77.7	407	527	226	449	479
MAX	3500	239	193	138	3490	1100	153	2800	1990	1360	3750	1760
MIN	179	85	58	55	46	63	46	42	153	128	123	138
AC-FT	45810	7900	5100	4330	21370	8190	4620	25000	31340	13890	27640	28500
CFSM	10.5	1.87	1.16	.99	5.22	1.87	1.09	5.71	7.40	3.17	6.31	6.73
IN.	12.07	2.08	1.34	1.14	5.63	2.16	1.22	6.59	8.26	3.66	7.28	7.51

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 1996, BY WATER YEAR (WY)

MEAN	631	329	145	77.1	80.0	71.2	134	474	392	298	331	514
MAX	1086	799	424	151	371	319	621	2054	769	847	831	1350
(WY)	1973	1982	1982	1971	1996	1981	1986	1986	1984	1979	1979	1978
MIN	231	108	72.1	51.2	37.0	30.4	26.4	96.7	82.7	66.7	119	145
(WY)	1968	1979	1992	1979	1992	1979	1970	1973	1974	1994	1970	1986

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1967 - 1996	
ANNUAL TOTAL	111818		112779			
ANNUAL MEAN	306		308		292	
HIGHEST ANNUAL MEAN					457	1986
LOWEST ANNUAL MEAN					179	1977
HIGHEST DAILY MEAN	4750	May 28	3750	Aug 19	13300	Oct 21 1972
LOWEST DAILY MEAN	30	May 3	42	May 5	19	Apr 16 1979
ANNUAL SEVEN-DAY MINIMUM	34	Apr 29	49	Apr 29	20	Apr 13 1979
INSTANTANEOUS PEAK FLOW			24500	Sep 10	69000	Sep 16 1975
INSTANTANEOUS PEAK STAGE			27.41	Sep 10	36.60	Sep 16 1975
INSTANTANEOUS LOW FLOW			39	May 6	16	Apr 17 1979
ANNUAL RUNOFF (AC-FT)	221800		223700		211300	
ANNUAL RUNOFF (CFSM)	4.30		4.33		4.10	
ANNUAL RUNOFF (INCHES)	58.42		58.92		55.65	
10 PERCENT EXCEEDS	779		656		600	
50 PERCENT EXCEEDS	128		144		135	
90 PERCENT EXCEEDS	46		62		43	

e Estimated

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, and 2.3 mi (3.7 km) northeast of Aguada plaza.

DRAINAGE AREA.--97.0 mi² (251.2 km²).

PERIOD OF RECORD.--Water years 1958, 1970 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

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, 0.45 UM-MF (COLS./ 100 ML) (31616)
NOV 1995										
07...	1200	E350	284	7.4	26.0	18	7.5	90	<10	K1300
JAN 1996										
17...	1600	E65	300	7.9	25.0	16	7.0	83	<10	2700
FEB										
22...	1540	E271	255	7.6	23.0	370	7.3	85	53	K85000
APR										
17...	1015	E51	314	7.7	26.0	8.5	6.4	78	28	2000
JUN										
06...	0645	E275	300	7.6	25.0	120	6.7	80	37	K13000
AUG										
21...	0915	E368	252	7.1	24.5	340	5.2	61	52	20000

DATE	STREP-TOCOCCI FECAL, (COLS. PER 100 ML) (31679)	HARD-NESS TOTAL (MG/L AS CACO3) (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)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)
NOV 1995										
07...	260	130	43	5.8	11	0.4	2.2	120	<0.5	5.7
JAN 1996										
17...	330	--	--	--	--	--	--	130	--	--
FEB										
22...	6700	--	--	--	--	--	--	100	--	--
APR										
17...	5100	140	46	6.3	15	0.6	2.7	130	<0.5	8.1
JUN										
06...	25000	--	--	--	--	--	--	140	--	--
AUG										
21...	37000	110	38	3.6	6.6	0.3	3.0	110	--	9.5

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)	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 1995										
07...	12	0.10	35	187	14	0.940	0.010	0.950	0.030	0.25
JAN 1996										
17...	--	--	--	--	23	0.860	0.010	0.870	0.090	0.42
FEB										
22...	--	--	--	--	490	0.770	0.050	0.820	0.120	1.6
APR										
17...	15	0.10	33	204	29	0.820	0.010	0.830	0.060	<0.20
JUN										
06...	--	--	--	--	300	0.790	0.080	0.870	0.090	1.0
AUG										
21...	8.3	<0.10	14	149	480	0.820	0.010	0.830	0.060	<0.20

E = estimated
K = non-ideal count

RIO CULEBRINAS BASIN

50149100 RIO CULEBRINAS NEAR AGUADA, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

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 1995										
07...	0.28	1.2	5.4	0.030	<1	<100	30	<1	<1	<10
JAN 1996										
17...	0.51	1.4	6.1	0.130	--	--	--	--	--	--
FEB										
22...	1.7	2.5	11	0.310	--	--	--	--	--	--
APR										
17...	0.34	1.3	5.6	0.060	<1	<100	30	<1	<1	<10
JUN										
06...	1.1	2.0	8.7	0.180	--	--	--	--	--	--
AUG										
21...	<0.20	1.0	4.4	0.070	--	--	--	--	--	--

DATE	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 (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)
NOV 1995										
07...	650	<1	60	<0.10	<1	<1	<10	<0.010	<1	<0.02
JAN 1996										
17...	--	--	--	--	--	--	--	--	--	--
FEB										
22...	--	--	--	--	--	--	--	--	--	--
APR										
17...	690	1	80	<0.10	<1	<1	<10	<0.010	2	0.03
JUN										
06...	--	--	--	--	--	--	--	--	--	--
AUG										
21...	--	--	--	--	--	--	--	--	--	--

PESTICIDE ANALYSES

DATE	TIME	PCB, TOTAL (UG/L) (39516)	ALDRIN, TOTAL (UG/L) (39330)	CHLORDANE, TECHNICAL TOTAL (UG/L) (39350)	P,P'-DDD UNFILT RECOVER (UG/L) (39360)	DDE, TOTAL (UG/L) (39365)	P,P'-DDT UNFILT RECOVER (UG/L) (39370)	DIAZINON, TOTAL (UG/L) (39570)	DIELDRIN TOTAL (UG/L) (39380)	ENDOSULFAN, I TOTAL (UG/L) (39388)
JUN 1996										
06...	0645	<0.100	<0.010	<0.100	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010

DATE	ENDRIN WATER UNFLTRD REC (UG/L) (39390)	ETHION, TOTAL (UG/L) (39398)	HEPTACHLOR, TOTAL (UG/L) (39410)	HEPTACHLOR EPOXIDE TOTAL (UG/L) (39420)	LINDANE TOTAL (UG/L) (39340)	MALATHION, TOTAL (UG/L) (39530)	METHOXYCHLOR, TOTAL (UG/L) (39480)	METHYL PARATHION, TOTAL (UG/L) (39600)	MIREX, TOTAL (UG/L) (39755)
JUN 1996									
06...	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010

DATE	PARATHION, TOTAL (UG/L) (39540)	PCNS UNFILT RECOVER (UG/L) (39250)	PERTHANE TOTAL (UG/L) (39034)	TOXAPHENE, TOTAL (UG/L) (39400)	TOTAL TRITHION (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)
JUN 1996									
06...	<0.010	<0.100	<0.100	<1.00	<0.010	0.560	<0.010	<0.010	<0.010

VIEQUES, PR

50232000 QUEBRADA LA MINA NEAR ESPERANZA, VIEQUES, PR

LOCATION.--Lat 18°06'54", long 65°28'15", Hydrologic Unit 21010006, on left bank 300 ft (91 m), west from state road 996, 1.4 mi (2.2 km) south of Cerro Martineau, 0.7 mi (1.1 km) east-northeast of Colonia Puerto Real on road 201 and 1.2 mi (1.9 km) north of Esperanza.

DRAINAGE AREA.--0.68 mi² (1.76 km²).

WATER-STAGE RECORDS

PERIOD OF RECORD.--July 1991 to March 1996. (discontinued)

GAGE.--Water-stage recorder. Elevation of gage is 98 ft (30 m), from topographic map.

REMARKS.--Gage-height and precipitation satellite telemetry at station. All gage-heights of 9.20 ft or lower are considered zero flow.

EXTREMES OBSERVED FOR PERIOD OF RECORD.--Maximum gage-height, 9.90 ft (3.018 m), June 29, 30, 1993; minimum, 8.76 ft (2.670 m), May 18-24, 1994.

EXTREMES FOR CURRENT YEAR.--Maximum gage-height, 8.82 ft (2.688 m), Oct. 1; minimum, 8.82 ft (2.688 m), Oct. 1.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.82	8.82	8.82	8.82	8.82	8.82						
2	8.82	8.82	8.82	8.82	8.82	8.82						
3	8.82	8.82	8.82	8.82	8.82	8.82						
4	8.82	8.82	8.82	8.82	8.82	8.82						
5	8.82	8.82	8.82	8.82	8.82	8.82						
6	8.82	8.82	8.82	8.82	8.82	8.82						
7	8.82	8.82	8.82	8.82	8.82	8.82						
8	8.82	8.82	8.82	8.82	8.82	8.82						
9	8.82	8.82	8.82	8.82	8.82	8.82						
10	8.82	8.82	8.82	8.82	8.82	8.82						
11	8.82	8.82	8.82	8.82	8.82	8.82						
12	8.82	8.82	8.82	8.82	8.82	8.82						
13	8.82	8.82	8.82	8.82	8.82	8.82						
14	8.82	8.82	8.82	8.82	8.82	8.82						
15	8.82	8.82	8.82	8.82	8.82	8.82						
16	8.82	8.82	8.82	8.82	8.82	8.82						
17	8.82	8.82	8.82	8.82	8.82	8.82						
18	8.82	8.82	8.82	8.82	8.82	8.82						
19	8.82	8.82	8.82	8.82	8.82	8.82						
20	8.82	8.82	8.82	8.82	8.82	8.82						
21	8.82	8.82	8.82	8.82	8.82							
22	8.82	8.82	8.82	8.82	8.82							
23	8.82	8.82	8.82	8.82	8.82							
24	8.82	8.82	8.82	8.82	8.82							
25	8.82	8.82	8.82	8.82	8.82							
26	8.82	8.82	8.82	8.82	8.82							
27	8.82	8.82	8.82	8.82	8.82							
28	8.82	8.82	8.82	8.82	8.82							
29	8.82	8.82	8.82	8.82	8.82							
30	8.82	8.82	8.82	8.82	---							
31	8.82	---	8.82	8.82	---							
MAX	8.82	8.82	8.82	8.82	8.82	---						
MIN	8.82	8.82	8.82	8.82	8.82	---						

CAL YR 1995 MEAN 8.82 MAX 8.89 MIN 8.79 MED 8.82

VIEQUES, PR

50233000 QUEBRADA PILON AT COLONIA PUERTO REAL, VIEQUES, PR

LOCATION.--Lat 18°06'37", long 65°28'51", Hydrologic Unit 21010006, on left bank, 1.2 mi (1.9 km), southeast of Cerro Sonadora, 1.2 mi (1.9 km) northwest of Esperanza, 0.4 mi (0.6 km) south of junction of Highways 895 and 201.

DRAINAGE AREA.--0.67 mi² (1.74 km²).

WATER-STAGE RECORDS

PERIOD OF RECORD.--July 1991 to March 1996. (discontinued)

GAGE.--Water-stage recorder. Elevation of gage is 131 ft (40 m), from topographic map.

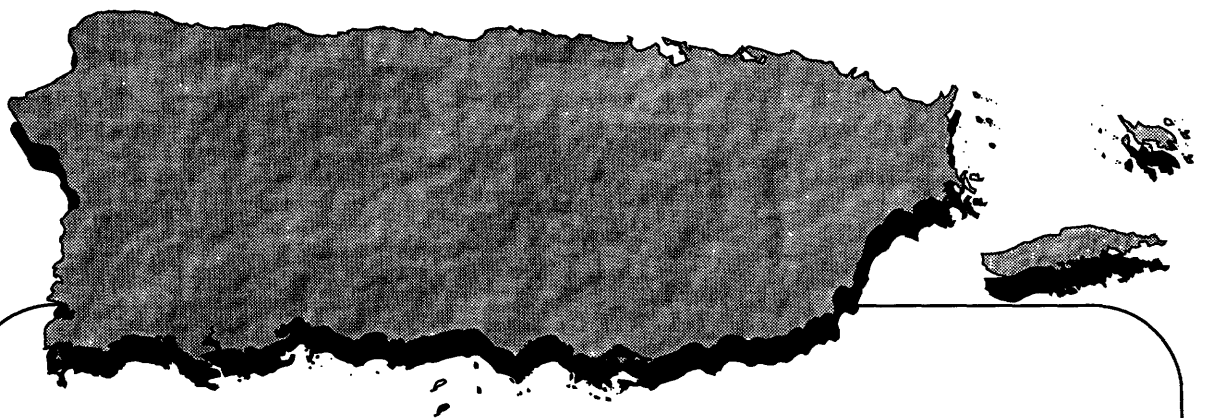
REMARKS.--Gage-height and precipitation satellite telemetry at station. All gage-heights of 8.36 ft or lower are considered zero flow.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage-height, 9.13 ft (2.783 m), July 23, 1993; minimum, 6.68 ft (2.036 m), Sept. 14, 15, 1993.

EXTREMES FOR CURRENT YEAR.--Maximum gage-height, 7.41 ft (2.258 m), Oct. 18; minimum, 7.24 ft (2.206 m), Dec. 24.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.25	7.25	7.25	7.26	7.26	7.25						
2	7.25	7.25	7.25	7.26	7.26	7.25						
3	7.25	7.25	7.25	7.26	7.26	7.25						
4	7.25	7.25	7.25	7.26	7.26	7.25						
5	7.25	7.25	7.25	7.26	7.26	7.25						
6	7.25	7.25	7.25	7.26	7.26	7.25						
7	7.25	7.25	7.25	7.26	7.26	7.25						
8	7.25	7.25	7.25	7.26	7.26	7.25						
9	7.25	7.25	7.25	7.26	7.26	7.25						
10	7.26	7.25	7.25	7.25	7.26	7.25						
11	7.25	7.25	7.25	7.25	7.26	7.25						
12	7.25	7.25	7.25	7.25	7.26	7.25						
13	7.25	7.25	7.25	7.25	7.26	7.25						
14	7.25	7.25	7.25	7.25	7.26	7.25						
15	7.25	7.25	7.25	7.25	7.26	7.25						
16	7.25	7.25	7.25	7.25	7.26	7.25						
17	7.25	7.25	7.25	7.26	7.26	7.25						
18	7.26	7.25	7.25	7.26	7.26	7.25						
19	7.25	7.25	7.25	7.26	7.26	7.25						
20	7.25	7.25	7.25	7.25	7.26							
21	7.25	7.25	7.25	7.26	7.26							
22	7.25	7.25	7.25	7.26	7.26							
23	7.25	7.25	7.25	7.26	7.26							
24	7.25	7.25	7.24	7.26	7.26							
25	7.25	7.25	7.25	7.26	7.25							
26	7.25	7.25	7.25	7.26	7.25							
27	7.25	7.25	7.25	7.26	7.25							
28	7.25	7.25	7.25	7.26	7.25							
29	7.25	7.25	7.25	7.26	7.25							
30	7.25	7.25	7.25	7.26	---							
31	7.25	---	7.26	7.26	---							
MAX	7.26	7.25	7.26	7.26	7.26							
MIN	7.25	7.25	7.24	7.25	7.25							



Discharge at Parcial-Record Stations in 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 1996

PUBLICATION RECORD

STATION NUMBER	STATION NAME	LOCATION AND BASIN	DRAINAGE AREA mi² (km²)	DATE	TIME	STREAMFLOW cfs (cms)
		Río Guajataca basin				
50010520	Río Guajataca above sewage plant at Lares, PR	Lat 18°18'13", long 66°52'34", Hydrologic Unit 21010001, at barrio Pueblo, 0.5 mi (0.8 km) downstream from Highway 111, 1.5 mi (2.4 km) northwest from Cerro Palma, and 0.5 mi (0.8 km) north of Lares plaza.	5.40 (14.0)	3/25/96 5/06/96	1330 1345	4.31 (0.122) 5.63 (0.159)
		Río Camuy basin				
50013000	Río Camuy near Lares, PR	Lat 18°17'49", long 66°49'31", Hydrologic Unit 21010001, at bridge on Highway 111, 1.1 mi (1.8 km) upstream from Río Criminales, 1.8 mi (2.9 km) downstream from Río Angeles and Río Piedras confluence, and 3.5 mi (5.6 km) east of Lares.	7.62 (19.7)	3/25/96 5/06/96	1100 1115	9.73 (0.276) 9.25 (0.262)
50014000	Río Criminales near Lares, PR	Lat 18°17'57", long 66°49'22", Hydrologic Unit 21010001, at bridge on Highway 111, 0.7 mi (1.1 km) upstream from Río Camuy, and 3.7 mi (5.6 km) east of Lares.	4.68 (12.1)	3/25/96 5/06/96	1145 1200	6.18 (0.175) 5.55 (0.157)
50014500	Río Camuy off Highway 129 near Lares, PR	Lat 18°19'01", long 66°49'38", Hydrologic Unit 21010002, at barrio Callejones, 1.1 mi (1.8 km) downstream from Río Criminales, 1.9 mi (3.1 km) east from Cueva Pajita, and 4.0 mi (6.4 km) northeast from Lares.	13.6 (35.2)	3/25/96 5/06/96	1000 1030	16.1 (0.456) 13.6 (0.385)
		Río Grande de Arecibo basin				
50020150	Río Vacas near Adjuntas, PR	Lat 18°10'29", long 66°44'16", Hydrologic Unit 21010001, at barrio Garzas on Highway 522, 0.6 mi (1.0 km) upstream from Highway 135, 2.2 mi (3.5 km) north of Lago Garzas, and 1.2 mi (1.9 km) northwest of Adjuntas plaza.	3.10 (8.03)	3/20/96 5/02/96	1330 1230	3.57 (0.101) 3.96 (0.112)
50020295	Río Cidra at Adjuntas, PR	Lat 18°09'58", long 66°43'37", Hydrologic Unit 21010001, at Adjuntas, 0.1 mi (0.2 km) downstream from Highway 10, 1.9 mi (3.1 km) northeast of Lago Garzas, and 0.3 mi (0.5 km) northwest of Adjuntas plaza.	6.67 (17.3)	3/20/96 5/02/96	1245 1315	5.96 (0.169) 5.86 (0.166)
50020500	Río Grande de Arecibo near Adjuntas, PR	Lat 18°10'54", long 66°44'12", Hydrologic Unit 21010001, at bridge on Highway 135, 1.0 mi (1.6 km) upstream from Lago Adjuntas, and 1.5 mi (2.4 km) northwest of Adjuntas plaza.	12.7 (32.9)	3/20/96 5/02/96	1130 1130	11.3 (0.320) 12.5 (0.354)

DISCHARGE AT PARTIAL-RECORD STATIONS

Low-flow partial-record stations--Continued

STATION NUMBER	STATION NAME	LOCATION AND BASIN	DRAINAGE AREA mi² (km²)	DATE	TIME	STREAM FLOWS cfs (cms)
		Río Grande de Arecibo basin				
50021000	Río Pellejas at Central Pellejas, PR	Lat 18°12'07", long 66°42'16", Hydrologic Unit 21010001, at barrio Pellejas near Highway 524, 0.1 mi (0.2 km) upstream from unnamed tributary and diversion tunnel, 1.0 mi (1.6 km) upstream from Lago Pellejas, and 2.9 mi (4.7 km) northeast of Adjuntas plaza.	5.46 (14.1)	3/20/96 5/02/96	1030 1030	5.78 (0.164) 4.97 (0.141)
50021800	Río Guaónica near Utuado, PR	Lat 18°15'18", long 66°43'47", Hydrologic Unit 21010001, at barrio Guaónica 50 ft (15 m) off Highway 603, 0.5 mi (0.8 km) upstream from Río Grande de Arecibo, 0.4 mi (0.6 km) downstream from Río Roncador, and 2.2 mi (3.5 km) southwest of Utuado plaza.	6.10 (15.8)	3/19/96 5/01/96	1130 1000	9.52 (0.270) 7.32 (0.207)
50021900	Quebrada Arenas near Utuado, PR	Lat 18°15'40", long 66°43'19", Hydrologic Unit 21010001, at barrio Arenas on Highway 10, 200 ft (61 m) upstream from Río Grande de Arecibo, and 1.5 mi (2.4 km) southwest of Utuado plaza.	2.59 (6.71)	3/19/96 5/01/96	1015 1045	2.30 (0.065) 2.10 (0.059)
50021905	Río Grande de Arecibo near Utuado, PR	Lat 18°15'46", long 66°43'15", Hydrologic Unit 21010001, at barrio Arenas, 200 ft (61 m) off Highway 10, 0.1 mi (0.2 km) downstream from Quebrada Arenas, 1.7 mi (2.7 km) upstream from Río Viví, and 1.4 (2.2 km) southwest from Utuado plaza.	39.9 (103)	3/19/96 5/01/96	1045 1115	18.6 (0.526) 15.1 (0.428)
50023000	Río Viví near Central Pellejas , PR	Lat 18°12'52", long 66°40'25", Hydrologic Unit 21010001, at barrio Viví Arriba on Highway 605, 2.0 mi (3.2 km) upstream from Lago Viví, 2.1 mi (3.4 km) northeast from Lago Pellejas, and 1.3 mi (2.1 km) northwest from Cerro Prieto.	5.66 (14.6)	3/19/96 5/01/96	1230 1245	7.48 (0.212) 6.30 (0.178)
50024995	Río Caguana on Highway 10 near Utuado, PR	Lat 18°18'09", long 66°42'20" Hydrologic Unit 21010001, at barrio Sabana Grande, 3.4 mi (5.5 km) southwest of Lago Dos Bocas spillway, 2.2 mi (3.5 km) northeast from Parcelas Cayuco, and 2.4 mi (3.9 km) north of Utuado plaza.	4.49 (11.3)	3/19/96 5/01/96	1345 1345	4.04 (0.114) 3.10 (0.088)
50025165	Río Caricaboa at Jayuya, PR	Lat 18°13'10", long 66°35'12", Hydrologic Unit 21010001, at barrio Veguitas on Highway 144, 0.4 mi (0.6 km) upstream from Río Grande de Jayuya, 1.6 mi (2.6 km) northwest of Hacienda Gripiñas, and 0.5 mi (0.8 km) east of Jayuya plaza.	4.22 (10.9)	3/14/96 5/03/96	1245 1115	5.62 (0.159) 3.23 (0.091)
50025175	Río Grande de Jayuya at Jayuya, PR	Lat 18°13'01", long 66°36'28", Hydrologic Unit 21010001, 1.5 mi (2.4 km) downstream from Río Caricaboa, 1.4 (2.2 km) upstream from Río Zamas, 1.0 mi (1.6 km) southwest from Jayuya plaza.	18.8 (48.7)	3/14/96 5/03/96	1145 1200	24.5 (0.694) 14.6 (0.413)
50025600	Río Jauca near Jayuya, PR	Lat 18°11'16", long 66°38'25", Hydrologic Unit 21010001, at barrio Jauca on Highway 140, 1.7 mi (2.7 km) southeast from Cerro Prieto, 4.6 mi (7.4 km) southeast from Lago Pellejas, and 3.8 mi (6.1 km) southwest of Jayuya.	4.44 (11.5)	3/14/96 5/03/96	1045 1345	6.78 (0.192) 4.19 (0.119)

DISCHARGE AT PARTIAL-RECORD STATIONS

Low-flow partial-record stations--Continued

STATION NUMBER	STATION NAME	LOCATION AND BASIN	DRAINAGE AREA mi² (km²)	DATE	TIME	STREAM FLOWS cfs (cms)
		Río Grande de Arecibo basin				
50025900	Río Jauca at mouth near Jayuya, PR	Lat 18°13'08", long 66°38'35", Hydrologic Unit 21010001, at barrio Paso Palma on Highway 140, 0.2 mi (0.3 km) upstream from Río Grande de Jayuya, 2.5 mi (4.0 km) southeast from Lago Viví, and 2.0 mi (3.2 km) south of Lago Caonillas.	7.14 (18.5)	3/14/96 5/03/96	0945 1300	9.27 (0.262) 6.68 (0.189)
50026050	Río Caonillas above Lago Caonillas, PR	Lat 18°14'26", long 66°38'22", Hydrologic Unit 21010001, at barrio Caonillas Arriba, 300 feet (91 m) off Highway 531, 700 ft (213 m) upstream from Lago Caonillas, and 3.3 mi (5.3 km) northwest of Jayuya plaza.	40.4 (105)	3/13/96 4/23/96	1315 1315	49.0 (1.388) 41.0 (1.161)
50026250	Río Limón on Highway 613 near Tetuán, PR	Lat 18°16'57", long 66°35'52", Hydrologic Unit 21010001, at barrio Tetuán on Highway 613, 0.4 mi (0.6 km) upstream from Río Naranjito, 1.3 mi (2.1 km) northwest from Cerro Magoyo, and 1.3 (2.1 km) from Escuela Segunda Unidad de Mameyes.	5.55 (14.4)	3/13/96 4/23/96	1200 1200	14.1 (0.399) 9.17 (0.260)
50026350	Río Limón above confluence with Río Yunes, PR	Lat 18°19'26", long 66°36'42", Hydrologic Unit 21010001, 3.4 mi (5.5 km) upstream from Lago Caonillas, 100 ft (30 m) upstream from Río Yunes, and 4.0 mi (6.4 km) southwest of Florida plaza.	16.7 (43.2)	3/13/96 4/23/96	1000 1015	28.6 (0.802) 21.6 (0.612)
50026925	Río Yunes at Frontón, PR	Lat 18°18'11", long 66°34'09", Hydrologic Unit 21010001, at barrio Frontón, 0.9 mi (1.4 km) southwest from Escuela Segunda Unidad de Frontón, 2.9 mi (4.7 km) northeast fron Cerro Magoyo, and 4.2 mi (6.8 km) of Florida Plaza.	9.63 (24.9)	3/13/96 4/23/96	0845 0915	17.6 (0.498) 13.1 (0.371)
50026950	Río Yunes at mouth near Mameyes Abajo, PR	Lat 18°19'30", long 66°36'39", Hydrologic Unit 21010001, 3.4 mi (5.5 km) upstream from Lago Caonillas, 100 ft (30 m) upstream from Río Limón, 1.5 mi (2.4 km) northwest from Hacienda Piedra Gorda, and 4.0 mi (6.4 km) southwest of Florida plaza.	13.5 (35.0)	3/13/96 4/23/96	1045 1100	17.6 (0.498) 13.2 (0.374)
50027900	Río Tanamá near Caguana, PR	Lat 18°15'42", long 66°46'55", Hydrologic Unit 21010001, near barrio Caguana, 4.4 mi (7.1 km) upstream from Highway 111, 2.5 mi (4.0 km) south of Parque Ceremonial Indígena Caguana, and 2.1 mi (3.4 km) southeast of comunidad Angeles.	10.8 (30.0)	3/21/96 4/30/96	1245 1300	17.5 (0.496) 13.6 (0.385)
50028100	Río Tanamá above Observatorio de Arecibo, PR	Lat 18°20'22", long 66°45'25", Hydrologic Unit 21010002, at barrio Esperanza, 0.5 mi (0.8 km) southwest from the Observatorio de Arecibo, 3.2 mi (5.1 km) southeast of comunidad Bayaney, and 3.2 mi (5.1 km) northeast of Parque Ceremonial Indígena Caguana.	Indeterminate	3/21/96 4/30/96	1000 1000	37.2 (1.054) 31.8 (0.900)
50028200	Río Tanamá at Esperanza, PR	Lat 18°22'45", long 66°44'02", Hydrologic Unit 21010002, at barrio Esperanza, 0.9 mi (1.4 km) upstream from Highway 623, 200 ft upstream of AAA intake, 3.2 mi (5.1 km) west from Río Grande de Arecibo, and 6.7 mi (11 km) southwest from Arecibo plaza.	Indeterminate	3/21/96 4/30/96	0845 0845	55.4 (1.569) 51.0 (1.444)

DISCHARGE AT PARTIAL-RECORD STATIONS

Low-flow partial-record stations--Continued

STATION NUMBER	STATION NAME	LOCATION AND BASIN	DRAINAGE AREA mi² (km²)	DATE	TIME	STREAM FLOWS cfs (cms)
		Río Grande de Manatí basin				
50029800	Río Grande de Manatí near Barranquitas, PR	Lat 18°14'00", long 66°18'53", Hydrologic Unit 21010001, at barrio Barrancas, 300 ft (91 m) east of Highway 771, 2.4 mi (3.9 km) northeast from Cerro La Torrecilla, 0.7 mi (1.1 km) southwest of Cerro El Farallón, and 3.1 mi (5.0 km) from Barranquitas plaza.	3.81 (9.87)	2/27/96 4/29/96	1300 1300	3.09 (0.088) 2.41 (0.068)
50029900	Río Grande de Manatí near Corozal, PR	Lat 18°16'48", long 66°20'03", Hydrologic Unit 21010001, at barrio Negros on Highway 568, 0.2 mi (0.3 km) upstream from Highway 568, 1.7 mi (2.7 km) northeast of El Salto Grande, and 4.4 mi (7.1 km) southwest of Corozal plaza.	13.2 (34.2)	2/27/96 4/26/96	1200 1130	14.5 (0.411) 11.1 (0.314)
50030250	Río Botijas near Carro, PR	Lat 18°11'45", long 66°21'09", Hydrologic Unit 21010001, at barrio Palo Hincado, 200 ft (61 m) upstream from Highway 156, 100 ft (30 m) upstream from pumping station intake, 1.4 mi (2.2 km) southwest from Cerro La Torrecilla, and 3.1 mi (5.0 km) west of Barranquitas plaza.	3.82 (9.89)	2/28/96 4/29/96	0830 1115	2.38 (0.067) 1.79 (0.051)
50030300	Río Botijas near Botijas, PR	Lat 18°14'15", long 66°22'36", Hydrologic Unit 21010001, at barrio Botijas on Highway 548, 0.5 mi (0.8 km) upstream from Río Orocovis, 0.8 mi (1.3 km) north from Highway 156, and 1.1 mi (1.8 km) northeast of Orocovis plaza.	12.5 (32.4)	2/28/96 4/29/96	0945 1015	8.05 (0.228) 6.74 (0.191)
50030600	Río Orocovis at Orocovis, PR	Lat 18°13'58", long 66°23'23", Hydrologic Unit 21010001, at Orocovis, 0.5 mi (0.8 km) downstream from Quebrada Los Saltos, 1.3 mi (21 km) upstream from Río Botijas, and 0.3 mi (0.5 km) northeast of Orocovis plaza.	8.78 (22.7)	2/28/96 4/29/96	1045 0930	9.60 (0.272) 5.92 (0.168)
50031500	Río Sana Muerto near Orocovis, PR	Lat 18°16'14", long 66°24'47", Hydrologic Unit 21010001, at barrio Pesas, 2.5 mi (4.0 km) southwest from Cerro Magueyes, 2.5 mi (4.0 km) upstream from Río Grande de Manatí, and 4.0 mi (6.4 km) south of Morovis plaza.	3.68 (9.53)	3/08/96 4/24/96	1130 1330	4.23 (0.120) 3.90 (0.110)
50032050	Quebrada Riachuelo at mouth, PR	Lat 18°18'18", long 66°26'15". Hydrologic Unit 21010001, at barrio San Lorenzo, 50 ft (15 m) off Highway 567, 0.2 (0.3 km) upstream from Río Grande de Manatí, 1.0 mi (1.6 km) north from Cerro Avispa, and 2.5 mi (4.0 km) southwest of Morovis plaza.	1.69 (4.38)	2/27/96 4/26/96	0915 0915	1.98 (0.056) 1.30 (0.037)
50032100	Quebrada Grande near Morovis, PR	Lat 18°18'45", long 66°26'40", Hydrologic Unit 21010001, at barrio San Lorenzo, 50 ft (15 m) off Highway 567, 0.6 mi (1.0 km) upstream from Río Grande de Manatí, 2.3 mi (3.7 km) southeast from Ciales, and 2.6 (4.2 km) southwest from Morovis plaza.	2.63 (6.81)	2/27/96 4/26/96	0830 0845	2.16 (0.061) 1.71 (0.043)
50032400	Río Toro Negro on Highway 157 at Cacaos, PR	Lat 18°13'57", long 66°30'46", Hydrologic Unit 21010001, at barrio Cacaos on Highway 157, 0.5 mi (0.8 km) upstream from Quebrada Palma, 2.2 mi (3.5 km) northeast of Los Tres Picachos, and 5.3 mi (8.5 km) northeast of Jayuya plaza.	11.8 (30.6)	3/05/96 4/24/96	1230 1200	10.6 (0.300) 9.12 (0.258)

DISCHARGE AT PARTIAL-RECORD STATIONS

Low-flow partial-record stations--Continued

STATION NUMBER	STATION NAME	LOCATION AND BASIN	DRAINAGE AREA mi² (km²)	DATE	TIME	STREAM FLOWS cfs (cms)
		Río Grande de Manatí basin				
50032700	Río Matrullas at mouth, PR	Lat 18°15'29", long 66°30'04", Hydrologic Unit 21010001 at barrio Cacaos, 100 ft (30 m) upstream from Río Toro Negro, 0.8 mi (1.3 km) east from Cerro Vista Alegre, and 2.6 mi (4.2 km) south from Cerro Gordo.	3.66 (9.48)	3/05/96 4/24/96	1115 1100	5.80 (0.164) 5.90 (0.167)
50033000	Río Toro Negro near Ciales, PR	Lat 18°17'20", long 66°29'06", Hydrologic Unit 21010001, at barrio Toro Negro on Highway 615, 0.6 mi (1.0 km) south from Escuela Segunda Unidad de Pesas, 2.3 mi (3.7 km) northwest from Cerro Cedro, and 3.7 mi (6.0 km) southwest from Ciales plaza.	25.2 (65.3)	3/05/96 4/24/96	1000 1000	22.9 (0.648) 24.3 (0.688)
50033500	Río Bauta near Divisoria, PR	Lat 18°11'45", long 66°26'30", Hydrologic Unit 21010001, at barrio Bauta Abajo, 2.6 mi (4.2 km) southeast from Lago Matrullas, 1.9 mi (3.1 km) northeast from Cerro El Malo, 4.0 mi (6.4 km) southwest of Orocovis plaza.	8.60 (22.3)	3/06/96 4/22/96	0945 0930	8.79 (0.249) 5.79 (0.164)
50034500	Río Bauta at Pozas, PR	Lat 18°17'47", long 66°27'35", Hydrologic Unit 21010001, at barrio Pozas, 100 ft (30 m) upstream from Río Toro Negro, 4.0 mi (6.4 km) southwest of Morovis, and 2.9 mi (4.7 km) southeast of Ciales plaza.	28.2 (73.0)	3/06/96 4/22/96	1300 1330	23.5 (0.666) 33.1 (0.937)
50035600	Río Cialitos at Cialitos, PR	Lat 18°14'29", long 66°31'30", Hydrologic Unit 21010001, at barrio Cialitos, 0.3 mi (0.5 km) north of Highways 149 and 566 intersection, 2.0 mi (3.2 km) northeast from Los Tres Picachos, and 4.7 mi (7.6 km) northeast of Jayuya plaza.	3.18 (8.24)	3/11/96 4/25/96	1200 1230	6.07 (0.172) 4.90 (0.139)
50035700	Río Cialitos on Highway 614 near Ciales, PR	Lat 18°17'13", long 66°30'53", Hydrologic Unit 21010001, at barrio Pesas on Highway 614, 1.0 mi (1.6 km) southwest from Cerro Gordo, 1.8 mi (2.9 km) north of Cerro Vista Alegre, and 6.4 mi (10 km) southeast of Florida plaza.	6.66 (17.2)	3/11/96 4/25/96	1330 1330	7.42 (0.210) 7.44 (0.211)
50035950	Río Cialitos on Highway 649 at Ciales, PR	Lat 18°20'18", long 66°28'28", Hydrologic Unit 21010001, at Ciales, 100 ft (30 m) upstream from bridge on Highway 649, 0.7 mi (1.1 km) upstream from Río Grande de Manatí, and 0.4 mi (0.6 km) west of Ciales plaza.	17.0 (44.0)	3/11/96 4/25/96	1030 1000	14.8 (0.419) 12.3 (0.348)
50037200	Río Grande de Manatí near Manatí, PR	Lat 18°24'52", long 66°29'37", Hydrologic Unit 21010002, at barrio Río Arriba Poniente, 100 ft (30 m) off Highway 149, 1.2 mi (1.9 km) southwest of comunidad Sabana Seca, 5.1 mi (8.2 km) upstream from Highway 2, and 1.0 mi (1.6 km) south of Manatí plaza.	Indeterminate	3/11/96 4/25/96	0915 0845	110 (2.832) 123 (3.483)
		Río Cibuco basin				
50038295	Río de Los Negros at mouth at Corozal, PR	Lat 18°20'29", long 66°19'08", Hydrologic Unit 21010001, at Corozal, 100 ft (30 m) upstream from Río Corozal, 0.3 mi (0.5 km) upstream from Highway 159, and 0.1 mi (0.2 km) southwest of Corozal plaza.	4.04 (10.5)	2/20/96 4/19/96	0945 0815	3.55 (0.100) 1.79 (0.051)

DISCHARGE AT PARTIAL-RECORD STATIONS

Low-flow partial-record stations--Continued

STATION NUMBER	STATION NAME	LOCATION AND BASIN	DRAINAGE AREA mi² (km²)	DATE	TIME	STREAM FLOWS cfs (cms)
		Río Cibuco basin				
50038302	Río Corozal above sewage plant at Corozal, PR	Lat 18°20'52", long 66°19'43", Hydrologic Unit 21010001, at barrio Cibuco, 0.8 mi (1.3 km) upstream from Río Cibuco, 0.7 mi (1.1 km) downstream from Highway 159, and 0.8 mi (1.3 km) northwest of Corozal plaza.	9.75 (25.2)	2/20/96 4/19/96	1145 1000	9.17 (0.260) 6.86 (0.194)
50038317	Río Cibuco at Cibuco, PR	Lat 18°20'54", long 66°20'09", Hydrologic Unit 21010001, at barrio Cibuco, 0.3 mi (0.5 km) upstream from Río Corozal, 1.8 mi (2.9 km) southeast from Escuela Cienegueta, and 1.3 mi (2.1 km) northwest of Corozal plaza.	5.05 (13.1)	2/20/96 4/19/96	1100 0915	6.72 (0.190) 3.63 (0.103)
50038345	Río Mavilla on Highway 164 near Corozal, PR	Lat 18°19'07", long 66°17'21", Hydrologic Unit 21010001, at barrio Palmarejo on Highway 164, 0.6 mi (1.0 km) southwest from Escuela Segunda Unidad de Palmarejo, 1.3 mi (2.1 km) downstream from Quebrada La Jacinta, and 2.5 mi (4.0 km) southeast of Corozal plaza.	7.78 (20.2)	2/20/96 4/16/96	0845 0945	13.6 (0.385) 13.4 (0.379)
50038375	Río Mavilla on Highway 821 near Maricao, PR	Lat 18°22'11", long 66°20'02", Hydrologic Unit 21010002, at barrio Abras on Highway 821, 1.4 mi (2.2 km) upstream from Río Cibuco, 1.3 mi (2.1 km) southwest from Cerro Santa Bárbara, and 2.2 mi (3.5 km) northwest of Corozal plaza.	16.5 (42.7)	2/20/96 4/17/96	1330 1245	19.6 (0.555) 14.1 (0.399)
50038420	Río Cibuco on Highway 620 near Vega Alta, PR	Lat 18°24'08", long 66°20'39", Hydrologic Unit 21010001, at barrio Candelaria on Highway 620, 3.6 mi (5.8 km) downstream from Río Mavilla, 6.2 mi (10 km) northwest from Toa Alta, and 1.2 mi (1.9 km) southwest of Vega Alta plaza.	38.8 (100)	2/21/96 4/17/96	1000 1345	45.1 (1.277) 31.2 (0.884)
50038550	Río Unibón above sewage plant at Unibón, PR	Lat 18°20'00", long 66°22'18", Hydrologic Unit 21010001, at barrio Unibón, 0.7 mi (1.1 km) upstream from Río Las Carreras, 2.5 mi (4.0 km) northeast from Morovis, and 3.6 mi (5.8 km) southwest of Corozal plaza.	1.63 (4.22)	2/21/96 4/18/96	1230 1100	2.64 (0.075) 1.23 (0.035)
50038590	Río Las Carreras at Unibón near Morovis, PR	Lat 18°19'36", long 66°22'47", Hydrologic Unit 21010001, at barrio Unibón, 1.3 mi (2.1 km) upstream from Highway 159, 2.8 mi (4.5 km) northeast of Cerro Quirós, and 1.9 mi (3.1 km) east of Morovis plaza.	2.65 (6.86)	2/21/96 4/18/96	1315 1200	3.88 (0.110) 1.89 (0.054)
50038650	Río Unibón off Highway 160 near Almirante Sur, PR	Lat 18°21'05", long 66°23'12", Hydrologic Unit 21010002, at barrio Almirante Sur, 0.4 mi (0.6 km) downstream from Quebrada Monte Llano, 1.9 mi (3.1 km) upstream from Río Morovis, and 2.2 mi (3.5 km) northeast of Morovis plaza.	7.52 (19.5)	2/22/96 4/18/96	1100 1015	7.77 (0.220) 3.83 (0.108)
50038718	Río Morovis above sewage plant near Morovis, PR	Lat 18°20'12", long 66°25'15", Hydrologic Unit 21010002, at barrio Morovis Norte, 0.3 mi (0.5 km) upstream of Highway 155, 3.1 mi (5.0 km) east of Ciales, and 1.0 mi (1.6 km) northwest of Morovis plaza.	2.72 (7.04)	2/22/96 4/18/96	1200 1245	3.99 (0.113) 3.48 (0.098)
50038750	Quebrada Grande de Morovis on Highway 634 near Morovis, PR	Lat 18°21'33", long 66°24'39", Hydrologic Unit 21010002, at barrio Franquez, 0.8 mi (1.3 km) upstream from Río Morovis, 4.1 mi (6.6 km) northeast from Ciales, and 2.2 mi (3.5 km) north of Morovis plaza.	7.41 (19.2)	2/22/96 4/17/96	1330 1345	2.71 (0.077) 0.71 (0.020)

DISCHARGE AT PARTIAL-RECORD STATIONS

Low-flow partial-record stations--Continued

STATION NUMBER	STATION NAME	LOCATION AND BASIN	DRAINAGE AREA mi² (km²)	DATE	TIME	STREAM FLOWS cfs (cms)
		Río Cibuco basin				
50038895	Río Indio on Highway 22 at Río Abajo, PR	Lat 18°25'47", long 66°22'55", Hydrologic Unit 21010002, at barrio Río Abajo on Highway 22, 1.2 mi (1.9 km) south from Highway 2, 7.2 mi (12 km) east of Manatí, and 3.6 mi (5.8 km) northwest of Vega Alta plaza.	Indeter-minate	2/22/96 4/18/96	0945 0900	25.2 (0.714) 12.4 (0.351)
		Río de La Plata basin				
50040500	Río de La Plata on Highway 738 near Cayey, PR	Lat 18°07'25", long 66°07'56", Hydrologic Unit 21010005, at barrio Monte Llano on Highway 738, 100 ft (30 m) upstream from pumping station intake, 0.5 mi (0.8 km) southwest of Central Cayey, and 2.6 mi (4.2 km) northeast of Cayey plaza.	13.4 (34.7)	2/08/96 4/02/96	0930 1045	21.2 (0.600) 8.18 (0.232)
50040590	Río Guavate on Highway 52 near Cayey, PR	Lat 18°07'51", long 66°07'04", Hydrologic Unit 21010005, at barrio Vegas, 1.2 mi (1.9 km) upstream from Río de La Plata, 2.9 mi (4.7 km) southwest from Cerro Las Piñas, and 4.3 mi (6.9 km) southeast of Cidra plaza.	6.62 (17.1)	2/08/96 4/02/96	0745 1315	11.2 (0.317) 3.67 (0.104)
50040700	Quebrada Beatriz on Highway 1 near Cayey, PR	Lat 18°08'30", long 66°06'57", Hydrologic Unit 21010005, at barrio Beatriz on Highway 1, 2.2 mi (3.5 km) upstream from Río de La Plata, 2.5 mi (4.0 km) southwest from Cerro Las Piñas, and 3.9 mi (6.3 km) southeast of Cidra plaza.	3.42 (8.86)	2/08/96 4/02/96	1030 1215	5.28 (0.150) 2.03 (0.057)
50041020	Quebrada Santo Domingo at Cayey, PR	Lat 18°06'22", long 66°09'55", Hydrologic Unit 21010005, at Cayey on Highway 1, 3.2 mi (5.1 km) northeast from Cerro Planada, 1.7 mi (2.7 km) northeast from Monte El Gato, and 0.5 mi (0.8 km) southeast of Cayey plaza.	0.84 (2.18)	2/08/96 4/02/96	0845 1000	1.15 (0.032) 0.48 (0.014)
50042800	Río Matón on Highway 14 at Matón Abajo, PR	Lat 18°08'29", long 66°12'40", Hydrologic Unit 21010005, at barrio Matón Abajo on Highway 14, 250 ft (76 m) upstream of Río de La Plata, 1.0 mi (1.6 km) south of Cerro Plana, and 4.1 mi (6.6 km) southwest of Cidra plaza.	6.63 (17.2)	2/08/96 4/02/96	1200 0900	3.52 (0.100) 1.97 (0.056)
50043010	Quebrada Honda at mouth at Proyecto La Plata, PR	Lat 18°09'36", long 66°13'48", Hydrologic Unit 21010005, at barrio Plata, 100 ft (30 m) upstream from Río de La Plata, 1.3 mi (2.1 km) northwest from Cerro Plana, 0.9 mi (1.4 km) from Cerro Amoldadero, and 4.7 mi (7.6 km) southwest of Cidra plaza.	2.66 (6.89)	2/08/96 4/02/96	1415 0800	2.10 (0.059) 0.68 (0.019)
50043197	Río Usabón on Highway 162 near Barranquitas, PR	Lat 18°09'41", long 66°18'26", Hydrologic Unit 21010005, at barrio Helechal on Highway 162, 2.1 mi (3.4 km) northeast from Cerro Pulguillas, 3.0 mi (4.8 km) northwest from Aibonito, and 1.8 mi (2.9 km) south of Barranquitas plaza.	8.56 (22.2)	2/14/96 4/10/96	1145 1200	1.44 (0.041) 3.34 (0.094)
50043450	Río Aibonito at Llanos near Aibonito, PR	Lat 18°09'19", long 66°17'07", Hydrologic Unit 21010005, at barrio Llanos, 2.1 mi (3.4 km) southeast from Cañón de San Cristóbal, 2.7 mi (4.3 km) southeast from Barranquitas, and 1.5 mi (2.4 km) northwest of Aibonito plaza.	6.48 (16.8)	2/14/96 4/10/96	1245 1300	4.35 (0.123) 3.63 (0.103)

DISCHARGE AT PARTIAL-RECORD STATIONS

Low-flow partial-record stations--Continued

STATION NUMBER	STATION NAME	LOCATION AND BASIN	DRAINAGE AREA mi² (km²)	DATE	TIME	STREAM FLOWS cfs (cms)
		Río de La Plata basin				
50043475	Río Barranquitas at Barranquitas, PR	Lat 18°11'19", long 66°18'15", Hydrologic Unit 21010005, at Barranquitas, 0.1 mi (0.2 km) upstream from Highway 156, 2.1 mi (3.4 km) southeast from Cerro La Torrecilla, 1.6 mi (2.6 km) northwest from Cañón de San Cristóbal, and 0.2 mi (0.3 km) east of Barrranquitas.	3.75 (9.71)	2/14/96 4/10/96	1100 1100	1.33 (0.038) 0.97 (0.027)
50043575	Río Hondo on Highway 776 at Río Hondo, PR	Lat 18°13'18", long 66°15'07" Hydrologic Unit 21010005, at barrio Río Hondo on Highway 776, 0.4 mi (0.6 km) north of Escuela Segunda Unidad de Río Hondo, 4.3 mi (6.9 km) northeast of Barranquitas, and 4.4 mi (7.1 km) northeast of Cañón de San Cristóbal.	9.07 (23.5)	2/14/96 4/10/96	1000 0915	7.82 (0.221) 6.14 (0.174)
50043850	Río Arroyata on Highway 171 at Cidra, PR	Lat 18°10'16", long 66°09'44", Hydrologic Unit 21010005, at barrio Sud on Highway 171, 0.8 mi (1.3 km) southwest from Lago Cidra, 2.8 mi (4.5 km) northeast from Cerro Gordo, and 0.5 mi (0.8 km) south of Cidra plaza.	0.70 (1.81)	2/06/96 4/03/96	1300 1030	0.76 (0.022) 0.12 (0.003)
50043950	Río Arroyata on Highway 775 near Cidra, PR	Lat 18°12'04", long 66°12'34", Hydrologic Unit 21010004, at barrio Vega Redonda on Highway 775, 1.5 mi (2.4 km) of Cerro Almirante, 1.6 mi (2.6 km) north of Cerro Viento Caliente, and 1.8 mi (2.9 km) southeast of Comerío plaza.	9.42 (24.4)	2/06/96 4/03/96	1200 0930	4.76 (0.135) 1.59 (0.045)
50043998	Río Arroyata at mouth near Comerío, PR	Lat 18°14'26", long 66°12'32", Hydrologic Unit 21010005, at barrio Naranjo on Highway 156, 150 ft (46 m) upstream from Río de La Plata, 1.6 mi (2.6 km) southwest from Cerro La Tiza, 1.8 mi (2.9 km) northeast of Comerío plaza.	16.2 (42.0)	2/06/96 4/03/96	1115 0830	7.92 (0.224) 2.90 (0.082)
50044300	Río Cuesta Arriba on Highway 816 at Nuevo, PR	Lat 18°17'56", long 66°12'24", Hydrologic Unit 21010005, at barrio Nuevo on Highway 816, 0.3 mi (0.5 km) upstream from Río de La Plata, 1.3 mi (2.1 km) northeast of Cerro Avispa, and 2.6 mi (4.2 km) southeast of Naranjito plaza.	5.51 (14.3)	2/06/96 4/03/96	0845 0630	5.08 (0.144) 2.74 (0.078)
50044775	Río Guadiana above sewage plant at Naranjito, PR	Lat 18°18'08", long 66°14'18", Hydrologic Unit 21010005, at barrio Guadiana, 0.2 mi (0.3 km) upstream from Quebrada Anones, 1.7 mi (2.7 km) from Cerro Avispa, and 0.6 mi (1.0 km) east of Naranjito plaza.	5.42 (14.2)	2/23/96 4/16/96	1045 1130	5.54 (0.157) 6.03 (0.171
50044975	Río Cañas at Achiote near Naranjito, PR	Lat 18°19'21", long 66°15'14", Hydrologic Unit 21010005, at barrio Achiote, 1.7 mi (2.7 km) upstream from Lago La Plata, 1.5 mi (2.4 km) northwest from Naranjito plaza, and 4.5 mi (7.2 km) southeast of Corozal plaza.	3.14 (8.13)	2/23/96 4/16/96	1145 1045	2.42 (0.068) 2.11 (0.060)
50045100	Quebrada Cruz on Highway 824 near Toa Alta, PR	Lat 18°21'26", long 66°14'50", Hydrologic Unit 21010005, at barrio Quebrada Cruz on Highway 824, 0.3 mi (0.5 km) upstream from Río de La Plata, 1.1 mi (1.8 km) northwest from Lago La Plata spillway, and 3.7 mi (6.0 km) north of Naranjito plaza.	2.13 (5.52)	2/26/96 4/17/96	1145 0930	1.76 (0.050) 1.09 (0.031)

DISCHARGE AT PARTIAL-RECORD STATIONS

Low-flow partial-record stations--Continued

STATION NUMBER	STATION NAME	LOCATION AND BASIN	DRAINAGE AREA mi² (km²)	DATE	TIME	STREAM FLOWS cfs (cms)
		Río de La Plata basin				
50045400	Río Bucarabones near Toa Alta, PR	Lat 18°21'49", long 66°12'54", Hydrologic unit 21010005, at barrio Ortiz, 4.7 mi (7.6 km) northeast from Naranjito, 3.1 mi (5.0 km) northwest from Cerro Gordo Arriba, and 2.8 mi (4.5 km) southeast of Toa Alta plaza.	1.23 (3.19)	2/23/96 4/17/96	0830 0830	1.02 (0.029) 0.93 (0.026)
50045800	Río Lajas at Toa Alta, PR	Lat 18°23'39", long 66°15'16", Hydrologic Unit 21010005, at Toa Alta on Highway 165, 0.2 mi (0.3 km) upstream from Río de La Plata, 1.8 mi (2.9 km) downstream of Quebrada Arenas, and 0.3 mi (0.5 km) northwest of Toa Alta plaza.	8.60 (22.3)	2/26/96 4/17/96	1045 0745	4.34 (0.123) 2.54 (0.072)
		Río Bayamón basin				
50047475	Quebrada Cerro Gordo at La Aldea at Bayamón, PR	Lat 18°22'38", long 66°10'31", Hydrologic Unit 21010005, at barrio Cerro Gordo on Highway 840, 1.2 mi (1.9 km) upstream of Río Hondo, 4.9 mi (7.9 km), southeast from Toa Alta, and 2.0 mi (3.2 km) southwest of Bayamón plaza.	2.15 (5.57)	2/16/96 4/11/96	0900 0845	1.09 (0.031) 1.00 (0.028)
50047520	Río Hondo II at Sabana Seca, PR	Lat 18°25'24", long 66°11'07" Hydrologic Unit 21010005, at barrio Sabana Seca, 1.2 mi (1.9 km) northwest from Puerto Rico National Cemetery, 4.7 mi (7.6 km) northeast of Toa Alta, and 2.5 mi (4.0 km) northwest of Bayamón plaza.	2.59 (6.71)	2/16/96 4/11/96	0745 0800	0.98 (0.028) 0.43 (0.012)
50047598	Quebrada Vicente at mouth, PR	Lat 18°14'36", long 66°08'41', Hydrologic Unit 21010005, at barrio Bayamoncito off Highway 156, 100 ft (30 m) upstream from Río Bayamón, 1.2 mi (1.9 km) northeast from Cerro Santa Bárbara, and 4.6 mi (7.4 km) northeast of Cidra plaza.	2.21 (5.72)	2/07/96 4/15/96	1215 1315	1.56 (0.044) 1.22 (0.034)
50047600	Río Bayamón near Aguas Buenas, PR	Lat 18°14'39", long 66°08'39", Hydrologic Unit 21010005, at barrio Bayamoncito on Highway 156, 1.3 mi (2.1 km) southwest from Cerro Santa Bárbara, 2.7 mi (4.3 km) east from Cerro La Tiza, and 4.7 mi (7.6 km) northeast of Cidra plaza.	10.2 (26.4)	2/07/96 4/15/96	1300 1230	36.6 (1.036) 27.4 (0.776)
50047750	Quebrada Grande near Aguas Buenas, PR	Lat 18°16'02", long 66°08'33", Hydrologic Unit 21010005, at barrio Juan Asencio, 0.2 mi (0.3 km) upstream from Río Bayamón, 0.7 mi (1.1 km) southeast from Cerro Mula, 1.0 mi (1.6 km) southwest from Cerro del Chícharo, and 2.6 mi (4.2 km) northwest of Aguas Buenas plaza.	4.08 (10.6)	2/07/96 4/15/96	1100 1115	4.20 (0.119) 3.14 (0.089)
50047810	Quebrada Sonadora at Sonadora, PR	Lat 18°17'47", long 66°07'58", Hydrologic Unit 21010005, at barrio Sonadora, 0.7 mi (1.1 km) upstream from Río Bayamón, 1.4 mi (2.2 km) northeast from Cerro La Peña, 1.2 mi (1.9 km) north from Cerro del Chícharo, and 3.2 mi (5.1 km) northwest of Aguas Buenas plaza.	2.60 (6.73)	2/07/96 4/15/96	1000 1000	4.07 (0.115) 3.12 (0.088)
50047840	Quebrada Santa Olaya on Highway 174 near Bayamón, PR	Lat 18°19'46", long 66°08'35", Hydrologic Unit 21010005, at barrio Guaraguao Abajo on Highway 174, 0.1 mi (0.2 km) upstream from Río Bayamón, 1.2 mi (1.9 km) northeast of Cerro de Vergara, and 2.9 mi (4.7 km) southwest of Guaynabo plaza.	4.10 (10.6)	2/07/96 4/11/96	0915 1215	2.86 (0.081) 1.97 (0.056)

DISCHARGE AT PARTIAL-RECORD STATIONS

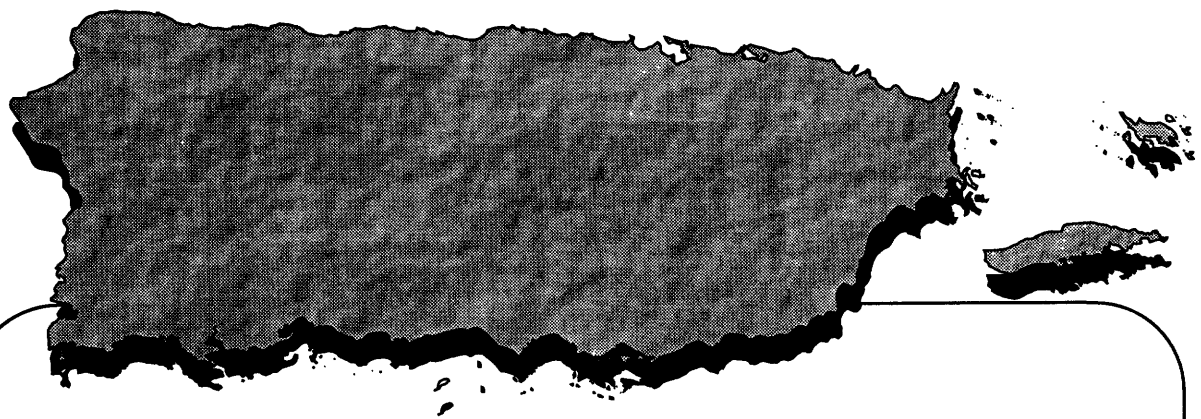
Low-flow partial-record stations--Continued

STATION NUMBER	STATION NAME	LOCATION AND BASIN	DRAINAGE AREA mi² (km²)	DATE	TIME	STREAM FLOWS cfs (cms)
		Río Bayamón basin				
50047860	Río Minillas on Highway 174 near Minillas, PR	Lat 18°21'34", long 66°08'38", Hydrologic Unit 21010005, at barrio Minillas on Highway 174, 0.1 mi (0.2 km) upstream from Río Bayamón, 2.1 mi (3.4 km) northeast from Cerro Gordo Arriba, and 2.9 mi (4.7 km) southeast of Bayamón plaza.	4.80 (12.4)	2/15/96 4/11/96	1300 1030	3.77 (0.107) 2.89 (0.082
50047870	Río Bayamón near Minillas, PR	Lat 18°21'53", long 66°08'30", Hydrologic Unit 21010005, at barrio Minillas, 1.3 mi (2.1 km) upstream from Río Guaynabo, 2.4 mi (3.9 km) northeast from Cerro Gordo Arriba, and 2.6 mi (4.2 km) southeast of Bayamón plaza.	40.8 (106)	2/15/96 4/11/96	1345 0945	20.6 (0.583) 14.0 (0.396)
50047895	Río Guaynabo at Highway 836 near Guaynabo, PR	Lat 18°20'05", long 66°06'10", Hydrologic Unit 21010005, at barrio Mamey on Highway 836, 0.6 mi (1.0 km) southwest of Cerro Magueyes, 3.7 mi (6.0 km) from Cerro Marquesa, and 1.8 mi (2.9 km) southeast of Guaynabo plaza.	8.44 (21.9)	2/15/96 4/11/96	1100 1330	8.81 (0.249) 6.78 (0.192)
50047953	Río Guaynabo below Guaynabo, PR	Lat 18°22'00", long 66°07'09", Hydrologic Unit 21010005, at barrio Santa Rosa, 0.4 mi (0.6 km) upstream from Quebrada Frailes, 3.1 mi (5.0 km) northwest from Cerro Magueyes, and 0.7 mi (1.1 km) northwest from Guaynabo plaza.	12.8 (33.2)	2/15/96 4/15/96	1000 0800	12.0 (0.340) 11.0 (0.312)
50047970	Quebrada Frailes on Highway 169 at Guaynabo, PR	Lat 18°22'07", long 66°06'42", Hydrologic Unit 21010005, at Guaynabo on Highway 169, 1.9 mi (3.1 km) northwest from Cerro Magueyes, 1.2 mi (1.9 km) upstream from Río Guaynabo, and 0.6 mi (1.0 km) north from Guaynabo plaza.	3.48 (9.01)	2/15/96 4/15/96	0900 0730	5.24 (0.148) 6.89 (0.195)
		Río Piedras basin				
50048750	Quebrada Las Curías Tributary near Caimito, PR	Lat 18°20'19", long 66°03'33", Hydrologic Unit 21010005, at barrio Caimito, 0.7 mi (1.1 km) upstream from Quebrada Las Curías, 0.7 mi (1.1 km) southwest from Aljibe Las Curías, and 2.9 mi (4.7 km) northwest of Lago Carraízo spillway.	1.73 (4.48)	2/05/96 4/01/96	1215 1245	1.68 (0.048) 0.92 (0.026)
50048760	Quebrada Los Guanos near Río Piedras, PR	Lat 18°21'24", long 66°03'20", Hydrologic Unit 21010005, at barrio Cupey, 0.8 mi (1.3 km) upstream from Río Piedras, 3.2 mi (5.1 km) northwest from Lago Carraízo spillway, and 3.1 mi (5.0 km) west of Trujillo Alto plaza.	0.76 (1.97)	2/05/96 4/01/96	1115 1115	0.74 (0.021) 0.53 (0.015)
		Río Culebrinas basin				
50146700	Río Culebrinas at Perchas No. 1, PR	Lat 18°18'09", long 66°56'49", Hydrologic Unit 21010003, at barrio Perchas No. 1, 1.4 mi (2.2 km) upstream of Quebrada Lajas, 1.2 mi (1.9 km) downstream from Quebrada Grande, and 3.8 mi (6.1 km) southeast of San Sebastián plaza.	6.82 (17.7)	3/26/96 5/10/96	0915 0945	8.15 (0.231) 6.72 (0.190)
50147000	Río Culebrinas at San Sebastián, PR	Lat 18°20'08", long 66°59'46", Hydrologic Unit 21010003, at San Sebastián on Highway 109, 0.9 mi (1.4 km) upstream from Río Guatemala, 200 ft (61 m) upstream from sewage plant discharge point, and 0.4 mi (0.6 km) southwest from San Sebastián plaza.	16.7 (43.2)	3/26/96 5/10/96	1015 1045	11.1 (0.314) 11.1 (0.314)

DISCHARGE AT PARTIAL-RECORD STATIONS

Low-flow partial-record stations--Continued

STATION NUMBER	STATION NAME	LOCATION AND BASIN	DRAINAGE AREA mi² (km²)	DATE	TIME	STREAM FLOWS cfs (cms)
		Río Culebrinas basin				
50147200	Río Guatemala at San Sebastián, PR	Lat 18°20'42', long 67°00'00", Hydrologic Unit 21010003, at San Sebastián on Highway 111, 1.2 mi (1.9 km) upstream from Río Culebrinas, 0.9 mi (1.4 km) southeast of Central La Plata, and 0.7 mi (1.1 km) northeast of San Sebastián plaza.	10.3 (26.7)	3/26/96 5/09/96	1200 1315	4.74 (0.134) 1.54 (0.043)
50147400	Río Sonador near San Sebastián, PR	Lat 18°18'49", long 67°00'29", Hydrologic Unit 21010003, at barrio Culebrinas on Highway 109, 1.3 mi (2.1 km) northeast from Cerro Yaitini, 2.1 mi (3.4 km) northeast from Cerro Cascajillo, and 2.0 mi (3.2 km) southwest from San Sebastián plaza.	6.09 (15.8)	3/26/96 5/10/96	1100 1130	8.53 (0.242) 12.7 (0.360)
50147796	Quebrada Los Morones near Moca, PR	Lat 18°21'24", long 67°05'23", Hydrologic Unit 21010003, at barrio Cerro Gordo, 0.6 mi (1.0 km) upstream from Río Culebrinas, 3.6 mi (5.8 km) northwest from Cerro Pichón, 2.8 mi (4.5 km) northeast from Cerro Pelao, and 5.1 mi (8.2 km) northwest of Cental La Plata.	7.18 (18.6)	3/27/96 5/09/96	1030 1115	12.7 (0.360) 13.3 (0.377)
50147997	Quebrada Grande near Moca, PR	Lat 18°22'50", long 67°06'49", Hydroloigc unit 21010003, at barrio Cruz, 0.2 mi (0.3 km) upstream from Río Culebrinas, 2.6 mi (4.2 km) southwest from Monte El Ojo, and 1.0 mi (1.6 km) south of Moca plaza.	4.72 (12.2)	3/27/96 5/09/96	1130 1015	2.55 (0.072) 4.64 (0.131)
50148500	Río Cañas near Aguada, PR	Lat 18°22'19", long 67°09'06", Hydrologic Unit 21010003, at barrio Naranjo on Highway 417, 2.4 mi (3.9 km) northwest from Cerro Gordo, 4.5 mi (7.2 km) northeast of Cerro Canta Gallo, and 6.1 mi (9.8 km) north of Añasco plaza.	5.14 (13.3)	3/27/96 5/09/96	1300 0915	3.05 (0.086 3.67 (0.104)



Water-Quality at Parcial-Record Stations in Puerto Rico

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 systematically over a period of years for use in hydrological analysis. The data are collected usually less than quarterly.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DATE	TIME	SAMPLING DEPTH (FEET) (00003)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	THANSPARENCY (SECCHI DISK) (IN) (00077)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	COLIFORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)
RIO GUAJATACA BASIN									
50010720	LAGO GUAJATACA NO.3 NR MOUTH NR QUEBRADILLAS,PR (LAT 18°22'05" N LONG 66°54'36" W)								
DEC 1995									
05...	0905	1.00	317	7.6	26.5	64.0	6.4	80	K150
MAR 1996									
20...	0805	1.00	297	8.2	26.5	56.4	9.6	120	K7
JUL									
19...	0840	1.00	280	7.3	28.0	78.0	7.2	91	K95
RIO GRANDE DE ARECIBO BASIN									
50025110	LAGO DOS BOCAS NO.3 AT WEST BRANCH NR UTUADO,PR (LAT 18°19'15" N LONG 66°40'11" W)								
NOV 1995									
30...	0950	1.00	269	8.2	27.0	18.0	8.6	107	450
MAR 1996									
21...	0920	1.00	264	9.2	26.5	28.0	10.5	131	K36
JUL									
24...	0850	1.00	249	7.0	29.5	24.0	8.1	106	40
RIO DE LA PLATA BASIN									
50039900	LAGO CARITE NO.3 ON RIO DE LA PLATA NR CAYEY,PR (LAT 18°05'04" N LONG 66°06'03" W)								
NOV 1995									
27...	0940	1.00	121	6.8	25.0	40.0	6.6	83	K4
MAR 1996									
14...	1000	1.00	114	7.6	24.5	44.4	8.4	106	K29
JUL									
23...	0910	1.00	119	8.2	26.0	53.0	8.2	106	420
50044400	LAGO LA PLATA NO.5 NR MOUTH NR NARANJITO, PR (LAT 18°19'33" N LONG 66°12'28" W)								
NOV 1995									
22...	0955	1.00	386	8.2	26.5	38.0	8.1	100	48
MAR 1996									
01...	0845	1.00	392	6.6	24.5	90.0	7.0	83	44
JUL									
12...	0920	1.00	331	7.3	28.5	25.0	6.3	81	40
RIO DE BAYAMON BASIN									
50047537	LAGO DE CIDRA NR RIO BAYAMON MOUTH (LAT 18°11'02" N LONG 66°08'06" W)								
NOV 1995									
29...	0945	1.00	242	6.8	26.0	50.0	4.4	55	K80
MAR 1996									
15...	0935	1.00	259	7.2	25.0	39.6	5.9	74	K34
JUL									
10...	1005	1.00	254	6.8	27.0	38.0	4.6	59	K54
RIO GRANDE DE LOIZA BASIN									
50057500	LAGO LOIZA NO.4 NR MOUTH NR CAGUAS, PR (LAT 18°16'51" N LONG 66°00'35" W)								
NOV 1995									
21...	0940	1.00	338	7.4	28.0	20.0	8.9	112	K19000
MAR 1996									
13...	1005	1.00	306	7.3	26.5	13.2	2.7	33	5200
JUL									
11...	1005	1.00	215	7.0	27.0	11.0	3.7	46	2100

K = non-ideal count

MISCELLANEOUS STATION ANALYSES

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATION

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DATE	STREP-TOCOCCI FECAL, (COLS. PER 100 ML) (31679)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (00410)	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)
RIO GUAJATACA BASIN--Continued									
50010720 LAGO GUAJATACA NO.3 NR MOUTH NR QUEBRADILLAS,PR (LAT 18°22'05" N LONG 66°54'36" W)									
DEC 1995									
05...	K10	130	4	--	<0.010	<0.020	<0.020	0.038	0.40
MAR 1996									
20...	K18	120	5	<0.010	0.010	<0.020	0.040	0.52	0.56
JUL									
19...	69	120	5	--	<0.010	<0.020	0.020	0.58	0.60
RIO GRANDE DE ARECIBO BASIN--Continued									
50025110 LAGO DOS BOCAS NO.3 AT WEST BRANCH NR UTUADO,PR (LAT 18°19'15" N LONG 66°40'11" W)									
NOV 1995									
30...	--	92	5	0.670	0.030	0.700	0.040	0.41	0.45
MAR 1996									
21...	K20	84	4	0.340	0.020	0.360	0.040	0.43	0.47
JUL									
24...	84	100	2	0.780	0.020	0.800	0.010	0.29	0.30
RIO DE LA PLATA BASIN--Continued									
50039900 LAGO CARITE NO.3 ON RIO DE LA PLATA NR CAYEY,PR (LAT 18°05'04" N LONG 66°06'03" W)									
NOV 1995									
27...	K4	36	2	<0.010	<0.010	<0.020	0.020	0.26	0.28
MAR 1996									
14...	72	39	6	0.010	<0.010	<0.020	0.040	0.35	0.39
JUL									
23...	K21	41	4	<0.010	<0.010	<0.020	0.090	0.81	0.90
50044400 LAGO LA PLATA NO.5 NR MOUTH NR NARANJITO, PR (LAT 18°19'33" N LONG 66°12'28" W)									
NOV 1995									
22...	K15	130	5	0.580	0.060	0.640	0.030	0.60	0.63
MAR 1996									
01...	K24	130	6	0.020	0.010	0.030	0.070	0.68	0.75
JUL									
12...	370	120	<1	0.380	0.020	0.040	0.010	0.39	0.40
RIO DE BAYAMON BASIN--Continued									
50047537 LAGO DE CIDRA NR RIO BAYAMON MOUTH (LAT 18°11'02" N LONG 66°08'06" W)									
NOV 1995									
29...	40	79	2	<0.010	<0.010	<0.020	0.030	0.45	0.48
MAR 1996									
15...	K15	94	6	<0.010	0.010	<0.020	0.050	0.63	0.68
JUL									
10...	870	89	7	0.010	<0.010	<0.020	0.080	0.39	0.47
RIO GRANDE DE LOIZA BASIN--Continued									
50057500 LAGO LOIZA NO.4 NR MOUTH NR CAGUAS, PR (LAT 18°16'51" N LONG 66°00'35" W)									
NOV 1995									
21...	K20	97	7	0.310	0.010	0.320	0.060	1.1	1.2
MAR 1996									
13...	350	92	28	0.420	0.080	0.500	1.20	0.50	1.7
JUL									
11...	520	51	35	0.590	0.110	0.700	1.30	0.25	0.80

MISCELLANEOUS STATION ANALYSES

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATION

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DATE	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, NITRATE TOTAL (MG/L AS NO3) (71850)	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)
RIO GUAJATACA BASIN--Continued								
50010720 LAGO GUAJATACA NO.3 NR MOUTH NR QUEBRADILLAS,PR (LAT 18°22'05" N LONG 66°54'36" W)								
DEC 1995								
05...	0.40	2.3	1.8	0.030	5.10	0.400	260	260
MAR 1996								
20...	0.56	1.2	2.5	<0.020	13.0	0.300	260	260
JUL								
19...	0.60	0.90	1.7	0.080	4.00	0.300	250	260
RIO GRANDE DE ARECIBO BASIN--Continued								
50025110 LAGO DOS BOCAS NO.3 AT WEST BRANCH NR UTUADO,PR (LAT 18°19'15" N LONG 66°40'11" W)								
NOV 1995								
30...	1.2	3.0	5.1	0.070	13.0	0.100	320	330
MAR 1996								
21...	0.83	1.5	3.7	0.020	11.0	0.300	250	250
JUL								
24...	1.1	2.6	4.9	0.050	5.40	<0.100	370	380
RIO DE LA PLATA BASIN--Continued								
50039900 LAGO CARITE NO.3 ON RIO DE LA PLATA NR CAYEY,PR (LAT 18°05'04" N LONG 66°06'03" W)								
NOV 1995								
27...	0.28	4.3	1.2	<0.020	3.80	0.700	270	280
MAR 1996								
14...	0.39	1.8	1.8	<0.020	6.10	1.00	520	530
JUL								
23...	1.1	2.7	4.9	<0.020	2.40	0.300	450	460
50044400 LAGO LA PLATA NO.5 NR MOUTH NR NARANJITO, PR (LAT 18°19'33" N LONG 66°12'28" W)								
NOV 1995								
22...	1.3	2.6	5.6	0.100	16.0	3.90	260	260
MAR 1996								
01...	0.78	1.6	3.5	0.070	15.0	1.60	250	260
JUL								
12...	0.80	1.7	3.5	0.130	12.0	1.30	260	260
RIO DE BAYAMON BASIN--Continued								
50047537 LAGO DE CIDRA NR RIO BAYAMON MOUTH (LAT 18°11'02" N LONG 66°08'06" W)								
NOV 1995								
29...	0.48	1.7	2.1	<0.020	4.10	0.400	270	270
MAR 1996								
15...	0.68	1.5	3.0	0.040	11.0	2.00	260	270
JUL								
10...	0.48	1.4	2.1	0.050	3.80	0.400	260	260
RIO GRANDE DE LOIZA BASIN--Continued								
50057500 LAGO LOIZA NO.4 NR MOUTH NR CAGUAS, PR (LAT 18°16'51" N LONG 66°00'35" W)								
NOV 1995								
21...	1.5	1.4	6.7	0.120	35.0	1.60	370	380
MAR 1996								
13...	2.2	1.9	9.7	0.240	5.10	0.300	450	460
JUL								
11...	1.5	1.3	6.6	0.520	1.10	0.200	850	860

MISCELLANEOUS STATION ANALYSES

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATION

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DATE	TIME	SAMPLING DEPTH (FEET) (00003)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	TRANSPARENCY (SECCHI DISK) (IN) (00077)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	COLIFORM, FECAL, 0.45 UM-MF (COLS./100 ML) (31616)	STREPTOCOCCI FECAL, (COLS. PER 100 ML) (31679)
RIO GUAJATACA BASIN										
50010790	LAGO GUAJATACA NO.1 NR DAM NR QUEBRADILLAS,PR (LAT 18°23'56" N LONG 66°55'23" W)									
DEC 1995										
05...	0940	1.00	315	7.8	26.5	114	6.7	83	<2	<2
05...	0930	49.0	316	6.9	25.0	--	0.6	7	--	--
MAR 1996										
20...	0835	1.00	298	8.6	26.0	75.6	9.3	116	K13	K2
20...	0830	63.0	323	7.5	24.0	--	0.1	1	--	--
JUL										
19...	0920	1.00	274	7.8	28.0	100	7.6	96	62	78
19...	0910	75.0	365	7.3	25.0	--	0.2	2	--	--
RIO GRANDE DE ARECIBO BASIN										
50020050	LAGO GARZAS NO.1 NR DAM NR ADJUNTAS,PR (LAT 18°08'21" N LONG 66°44'35" W)									
DEC 1995										
04...	1410	1.00	174	6.8	23.5	42.0	5.4	69	46	600
04...	1400	79.0	216	6.5	21.0	--	0.6	7	--	--
MAR 1996										
19...	1010	1.00	181	8.4	23.0	72.0	9.5	121	K2	K2
19...	1000	69.0	187	7.0	20.5	--	--	--	--	--
JUL										
18...	1100	1.00	163	6.7	24.0	66.0	9.4	121	K2	K120
18...	1050	82.0	159	6.2	21.0	--	0.2	2	--	--
50027090	LAGO DOS BOCAS NO.1 NR DAM NR UTUADO,PR (LAT 18°20'09" N LONG 66°40'04" W)									
NOV 1995										
30...	1030	1.00	242	8.7	27.0	51.0	10.1	126	56	K20
30...	1020	75.0	213	6.7	24.5	--	0.8	10	--	--
MAR 1996										
21...	0950	1.00	254	9.6	27.0	56.0	11.6	145	K2	K2
21...	1000	63.0	237	7.5	23.5	--	0.7	9	--	--
JUL										
24...	0915	1.00	233	8.5	29.0	59.0	9.2	119	K2	K15
24...	0910	62.0	229	7.4	26.5	--	--	--	--	--
RIO DE LA PLATA BASIN										
50039950	LAGO CARITE NO.1 NR DAM NR CAYEY, P.R. (LAT 18°04'39" N LONG 66°06'19" W)									
NOV 1995										
27...	1005	1.00	120	7.0	25.0	46.0	6.7	84	K12	K20
27...	1000	62.0	198	6.4	23.0	--	0.6	8	--	--
MAR 1996										
14...	1025	1.00	113	7.6	24.0	45.6	8.1	102	K29	K140
14...	1020	60.0	132	6.7	22.0	--	--	--	--	--
JUL										
23...	0935	1.00	114	8.0	26.0	52.0	7.8	101	350	K12
23...	0930	66.0	156	7.1	22.5	--	--	--	--	--

K = non-ideal count

MISCELLANEOUS STATION ANALYSES

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATION

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DATE	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	SODIUM ADSORPTION RATIO (00931)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ALKALINITY WAT WH TOT FET FIELD MG/L AS CACO3 (00410)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)
RIO GUAJATACA BASIN--Continued									
50010790 LAGO GUAJATACA NO.1 NR DAM NR QUEBRADILLAS,PR (LAT 18°23'56" N LONG 66°55'23" W)									
DEC 1995									
05...	140	49	3.4	5.2	0.2	1.9	140	4.3	6.3
05...	140	49	3.4	5.0	0.2	1.8	130	4.6	9.5
MAR 1996									
20...	140	51	3.8	5.3	0.2	2.1	140	8.0	7.4
20...	130	47	3.5	5.4	0.2	2.0	120	7.0	7.3
JUL									
19...	120	42	3.3	5.4	0.2	2.3	120	8.3	8.1
19...	130	40	3.1	5.1	0.2	2.2	160	8.5	8.0
RIO GRANDE DE ARECIBO BASIN--Continued									
50020050 LAGO GARZAS NO.1 NR DAM NR ADJUNTAS,PR (LAT 18°08'21" N LONG 66°44'35" W)									
DEC 1995									
04...	69	19	5.3	6.7	0.4	1.9	82	0.70	6.2
04...	62	17	4.8	6.2	0.3	1.7	66	0.90	5.7
MAR 1996									
19...	72	20	5.3	6.5	0.3	1.5	77	2.6	5.7
19...	69	19	5.2	6.3	0.3	1.5	72	2.3	6.0
JUL									
18...	61	17	4.5	6.1	0.3	1.4	87	3.4	6.1
18...	53	15	3.8	5.3	0.3	1.3	77	2.0	2.8
50027090 LAGO DOS BOCAS NO.1 NR DAM NR UTUADO,PR (LAT 18°20'09" N LONG 66°40'04" W)									
NOV 1995									
30...	83	23	6.3	9.7	0.5	2.2	74	15	11
30...	74	20	5.8	9.2	0.5	2.4	69	8.7	9.8
MAR 1996									
21...	94	26	7.1	11	0.5	2.3	84	17	12
21...	85	23	6.7	10	0.5	2.4	75	13	11
JUL									
24...	84	23	6.5	11	0.5	2.6	100	11	11
24...	88	24	6.8	11	0.5	2.2	94	15	11
RIO DE LA PLATA BASIN--Continued									
50039950 LAGO CARITE NO.1 NR DAM NR CAYEY, P.R. (LAT 18°04'39" N LONG 66°06'19" W)									
NOV 1995									
27...	30	6.1	3.7	8.3	0.7	0.90	36	2.4	9.2
27...	38	8.4	4.1	8.1	0.6	1.3	66	0.30	8.8
MAR 1996									
14...	32	6.6	3.7	8.1	0.6	1.0	38	2.1	9.7
14...	31	6.2	3.7	8.2	0.6	1.0	34	2.0	9.1
JUL									
23...	32	6.9	3.5	8.2	0.6	1.0	39	2.6	10
23...	34	7.2	3.8	8.0	0.6	0.90	41	0.30	9.3

MISCELLANEOUS STATION ANALYSES

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATION

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DATE	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	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)
RIO GUAJATACA BASIN--Continued									
50010790 LAGO GUAJATACA NO.1 NR DAM NR QUEBRADILLAS,PR (LAT 18°23'56" N LONG 66°55'23" W)									
DEC 1995									
05...	<0.10	6.5	158	<1	--	<0.010	<0.020	0.020	0.28
05...	<0.10	8.0	162	--	--	--	--	--	--
MAR 1996									
20...	0.10	6.9	151	2	<0.010	0.010	<0.020	0.030	0.28
20...	0.10	7.7	169	--	--	--	--	--	--
JUL									
19...	<0.10	5.6	147	7	--	<0.010	<0.020	0.020	0.39
19...	<0.10	4.6	159	--	--	--	--	--	--
RIO GRANDE DE ARECIBO BASIN--Continued									
50020050 LAGO GARZAS NO.1 NR DAM NR ADJUNTAS,PR (LAT 18°08'21" N LONG 66°44'35" W)									
DEC 1995									
04...	<0.10	20	96	<1	--	<0.010	<0.020	0.020	<0.20
04...	<0.10	21	110	--	--	--	--	--	--
MAR 1996									
19...	<0.10	21	104	3	<0.010	0.010	<0.020	0.030	0.24
19...	<0.10	21	109	--	--	--	--	--	--
JUL									
18...	<0.10	18	109	8	--	<0.010	<0.020	0.020	0.030
18...	<0.10	19	86	--	--	--	--	--	--
50027090 LAGO DOS BOCAS NO.1 NR DAM NR UTUADO,PR (LAT 18°20'09" N LONG 66°40'04" W)									
NOV 1995									
30...	<0.10	23	135	2	0.410	0.010	0.420	0.020	0.37
30...	<0.10	23	120	--	--	--	--	--	--
MAR 1996									
21...	0.10	14	140	5	0.280	0.020	0.300	0.020	0.28
21...	<0.10	21	132	--	--	--	--	--	--
JUL									
24...	0.10	17	143	1	0.680	0.020	0.700	<0.010	0.15
24...	0.10	20	145	--	--	--	--	--	--
RIO DE LA PLATA BASIN--Continued									
50039950 LAGO CARITE NO.1 NR DAM NR CAYEY, P.R. (LAT 18°04'39" N LONG 66°06'19" W)									
NOV 1995									
27...	<0.10	17	69	2	<0.010	<0.010	<0.020	0.010	0.19
27...	<0.10	18	89	--	--	--	--	--	--
MAR 1996									
14...	<0.10	17	68	4	<0.010	<0.010	<0.020	0.030	0.35
14...	<0.10	19	73	--	--	--	--	--	--
JUL									
23...	<0.10	17	73	5	<0.010	<0.010	<0.020	0.020	0.25
23...	<0.10	19	73	--	--	--	--	--	--

MISCELLANEOUS STATION ANALYSES

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATION

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DATE	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITROGEN, TOTAL (MG/L AS N) (00600)	NITROGEN, NITRATE TOTAL (MG/L AS NO3) (71850)	NITROGEN, TOTAL (MG/L AS NO3) (71887)	PHOSPHORUS TOTAL (MG/L AS P) (00665)	CHLOR-A PHYTOPLANKTON CHROMO FLUOROM (UG/L) (70953)	CHLOR-B PHYTOPLANKTON CHROMO FLUOROM (UG/L) (70954)	PLANKTON BIOMASS ASH WT (MG/L) (81353)	PLANKTON BIOMASS DRY WT (MG/L) (81354)
RIO GUAJATACA BASIN--Continued									
50010790 LAGO GUAJATACA NO.1 NR DAM NR QUEBRADILLAS,PR (LAT 18°23'56" N LONG 66°55'23" W)									
DEC 1995									
05...	0.30	0.30	--	1.3	0.070	3.20	0.300	260	260
05...	--	--	--	--	--	--	--	--	--
MAR 1996									
20...	0.31	0.31	--	1.4	0.020	4.40	0.100	240	250
20...	--	--	--	--	--	--	--	--	--
JUL									
19...	0.40	0.40	--	1.7	0.010	2.50	0.400	270	490
19...	--	--	--	--	--	--	--	--	--
RIO GRANDE DE ARECIBO BASIN--Continued									
50020050 LAGO GARZAS NO.1 NR DAM NR ADJUNTAS,PR (LAT 18°08'21" N LONG 66°44'35" W)									
DEC 1995									
04...	<0.20	<0.20	--	0.75	0.020	5.20	0.300	250	250
04...	--	--	--	--	--	--	--	--	--
MAR 1996									
19...	0.27	0.27	--	1.2	0.030	6.10	0.600	260	260
19...	--	--	--	--	--	--	--	--	--
JUL									
18...	<0.20	<0.20	--	0.60	0.030	3.00	0.500	420	420
18...	--	--	--	--	--	--	--	--	--
50027090 LAGO DOS BOCAS NO.1 NR DAM NR UTUADO,PR (LAT 18°20'09" N LONG 66°40'04" W)									
NOV 1995									
30...	0.39	0.81	1.8	3.6	0.030	12.0	0.200	370	370
30...	--	--	--	--	--	--	--	--	--
MAR 1996									
21...	0.30	0.60	1.5	2.7	0.020	13.0	0.400	240	250
21...	--	--	--	--	--	--	--	--	--
JUL									
24...	0.30	1.0	2.1	4.4	0.020	5.50	0.200	270	270
24...	--	--	--	--	--	--	--	--	--
RIO DE LA PLATA BASIN--Continued									
50039950 LAGO CARITE NO.1 NR DAM NR CAYEY, P.R. (LAT 18°04'39" N LONG 66°06'19" W)									
NOV 1995									
27...	0.20	0.20	--	0.89	<0.020	3.60	0.700	270	270
27...	--	--	--	--	--	--	--	--	--
MAR 1996									
14...	0.38	0.38	--	1.7	<0.020	5.60	0.800	520	520
14...	--	--	--	--	--	--	--	--	--
JUL									
23...	0.35	0.35	--	1.2	<0.020	2.00	0.300	510	520
23...	--	--	--	--	--	--	--	--	--

MISCELLANEOUS STATION ANALYSES

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATION

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DATE	TIME	SAMPLING DEPTH (FEET) (00003)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	TRANSPARENCY (SECCHI DISK) (IN) (00077)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	COLIFORM, FECAL, 0.45 UM-MF (COLS./100 ML) (31616)	STREPTOCOCCI FECAL, (COLS. PER 100 ML) (31679)
RIO DE LA PLATA BASIN										
50044950	LAGO LA PLATA NO.3 NR DAM NR NARANJITO, PR (LAT 18°20'18" N LONG 66°14'01" W)									
NOV 1995										
22...	0920	1.00	207	7.6	27.0	54.0	7.0	88	K24	K4
22...	0915	62.0	351	6.5	24.5	--	0.6	8	--	--
MAR 1996										
06...	0915	1.00	465	7.6	26.5	96.0	6.7	82	K19	K12
06...	0910	90.0	440	7.2	23.5	--	0	0	--	--
JUL										
12...	0850	1.00	334	6.8	28.5	64.0	5.0	64	K1	770
12...	0845	79.0	355	6.6	24.0	--	0.2	2	--	--
RIO DE BAYAMON BASIN										
50047549	LAGO DE CIDRA NR DAM (LAT 18°11'52" N LONG 66°08'24" W)									
NOV 1995										
29...	1015	1.00	180	7.0	26.0	36.0	4.7	59	48	K71
29...	1010	49.0	236	6.3	24.0	--	0.6	8	--	--
MAR 1996										
15...	1000	1.00	254	7.8	25.0	55.2	7.0	88	K16	K5
15...	0955	48.0	265	7.0	23.0	--	0.0	0	--	--
JUL										
10...	1050	1.00	246	7.1	27.5	42.0	5.4	70	K120	K26
10...	1035	75.0	318	6.6	23.5	--	0.0	0	--	--
RIO GRANDE DE LOIZA BASIN										
50058800	LAGO LOIZA NO.7 NR DAM NR TRUJILLO ALTO, PR (LAT 18°19'29" N LONG 66°00'47" W)									
NOV 1995										
21...	0910	1.00	331	6.4	27.5	40.0	2.7	34	K140	K8
21...	0905	26.0	347	6.6	27.0	--	0.6	8	--	--
MAR 1996										
13...	0900	1.00	340	7.4	27.5	60.0	7.9	99	K13	K34
13...	0915	24.0	341	6.9	26.0	--	0.1	1	--	--
JUL										
11...	0900	1.00	253	6.4	28.5	49.0	1.6	21	K12	K240
11...	0845	33.0	240	6.6	26.0	--	1.4	18	--	--

K = non-ideal count

MISCELLANEOUS STATION ANALYSES

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATION

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DATE	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	SODIUM ADSORPTION RATIO (00931)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ALKALINITY WAT WH TOT FET FIELD MG/L AS CACO3 (00410)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)
RIO DE LA PLATA BASIN--Continued									
50044950 LAGO LA PLATA NO.3 NR DAM NR NARANJITO, PR (LAT 18°20'18" N LONG 66°14'01" W)									
NOV 1995									
22...	110	27	11	19	0.8	3.2	120	12	21
22...	61	15	5.7	11	0.6	3.3	57	9.5	14
MAR 1996									
06...	120	30	12	19	0.7	3.1	120	11	21
06...	120	28	12	18	0.7	2.8	110	11	19
JUL									
12...	120	28	12	19	0.8	2.2	120	11	22
12...	130	31	12	18	0.7	3.1	140	7.0	20
RIO DE BAYAMON BASIN--Continued									
50047549 LAGO DE CIDRA NR DAM (LAT 18°11'52" N LONG 66°08'24" W)									
NOV 1995									
29...	65	15	6.7	15	0.8	4.0	77	4.6	16
29...	39	8.9	4.1	10	0.7	4.6	51	6.9	11
MAR 1996									
15...	75	17	7.8	17	0.9	3.6	92	2.7	17
15...	76	17	8.1	18	0.9	3.4	90	3.7	17
JUL									
10...	72	16	7.8	18	0.9	2.7	84	5.3	18
10...	81	19	8.2	17	0.8	3.4	113	0.10	17
RIO GRANDE DE LOIZA BASIN--Continued									
50058800 LAGO LOIZA NO.7 NR DAM NR TRUJILLO ALTO, PR (LAT 18°19'29" N LONG 66°00'47" W)									
NOV 1995									
21...	97	23	9.5	26	1	3.6	110	14	33
21...	94	23	8.8	22	1	3.2	98	13	24
MAR 1996									
13...	100	25	9.6	25	1	2.5	210	13	24
13...	100	25	9.7	25	1	2.5	100	--	--
JUL									
11...	64	16	5.9	18	1	3.0	62	10	22
11...	73	18	6.7	18	0.9	2.7	70	11	19

MISCELLANEOUS STATION ANALYSES

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATION

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DATE	FLUORIDE, 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)
RIO DE LA PLATA BASIN--Continued									
50044950 LAGO LA PLATA NO.3 NR DAM NR NARANJITO, PR (LAT 18°20'18" N LONG 66°14'01" W)									
NOV 1995									
22...	0.10	20	185	1	<0.010	<0.010	<0.020	0.020	0.38
22...	0.10	17	110	--	--	--	--	--	--
MAR 1996									
06...	0.20	21	178	3	<0.010	<0.010	<0.020	0.030	0.37
06...	0.20	23	191	--	--	--	--	--	--
JUL									
12...	0.10	19	185	1	<0.010	<0.010	<0.020	0.020	0.61
12...	0.10	22	197	--	--	--	--	--	--
RIO DE BAYAMON BASIN--Continued									
50047549 LAGO DE CIDRA NR DAM (LAT 18°11'52" N LONG 66°08'24" W)									
NOV 1995									
29...	0.20	18	126	2	0.010	<0.010	<0.020	0.020	0.43
29...	<0.10	13	89	--	--	--	--	--	--
MAR 1996									
15...	<0.10	18	139	5	<0.010	<0.010	<0.020	0.040	0.50
15...	<0.10	19	139	--	--	--	--	--	--
JUL									
10...	<0.10	12	130	1	<0.010	<0.010	<0.020	0.020	0.39
10...	<0.10	21	153	--	--	--	--	--	--
RIO GRANDE DE LOIZA BASIN--Continued									
50058800 LAGO LOIZA NO.7 NR DAM NR TRUJILLO ALTO, PR (LAT 18°19'29" N LONG 66°00'47" W)									
NOV 1995									
21...	0.10	27	180	6	0.460	<0.010	0.460	0.180	0.50
21...	0.10	28	203	--	--	--	--	--	--
MAR 1996									
13...	0.10	29	239	2	0.230	0.020	0.250	0.070	0.79
13...	0.10	29	254	--	--	--	--	--	--
JUL									
11...	<0.10	19	131	<1	0.260	0.090	0.350	0.060	0.39
11...	0.10	25	142	--	--	--	--	--	--

MISCELLANEOUS STATION ANALYSES

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATION

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DATE	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITROGEN, TOTAL (MG/L AS N) (00600)	NITROGEN, NITRATE TOTAL (MG/L AS NO3) (71850)	NITROGEN, TOTAL (MG/L AS NO3) (71887)	PHOSPHORUS TOTAL (MG/L AS P) (00665)	CHLOR-A PHYTOPLANKTON CHROMO FLUOROM (UG/L) (70953)	CHLOR-B PHYTOPLANKTON CHROMO FLUOROM (UG/L) (70954)	PLANKTON BIOMASS ASH WT (MG/L) (81353)	PLANKTON BIOMASS DRY WT (MG/L) (81354)
RIO DE LA PLATA BASIN--Continued									
50044950 LAGO LA PLATA NO.3 NR DAM NR NARANJITO, PR (LAT 18°20'18"N LONG 66°14'01" W)									
NOV 1995									
22...	0.40	0.40	--	1.8	0.030	5.20	1.20	260	260
22...	--	--	--	--	--	--	--	--	--
MAR 1996									
06...	0.40	0.40	--	1.8	0.070	3.10	0.300	250	260
06...	--	--	--	--	--	--	--	--	--
JUL									
12...	0.63	0.63	--	2.8	0.080	3.00	0.300	250	260
12...	--	--	--	--	--	--	--	--	--
RIO DE BAYAMON BASIN--Continued									
50047549 LAGO DE CIDRA NR DAM (LAT 18°11'52" N LONG 66°08'24" W)									
NOV 1995									
29...	0.45	0.45	--	2.0	<0.020	6.20	0.500	260	260
29...	--	--	--	--	--	--	--	--	--
MAR 1996									
15...	0.54	0.54	--	2.4	0.020	5.90	0.500	260	260
15...	--	--	--	--	--	--	--	--	--
JUL									
10...	0.41	0.41	--	1.8	<0.020	3.40	<0.100	260	260
10...	--	--	--	--	--	--	--	--	--
RIO GRANDE DE LOIZA BASIN--Continued									
50058800 LAGO LOIZA NO.7 NR DAM NR TRUJILLO ALTO, PR (LAT 18°19'29" N LONG 66°00'47" W)									
NOV 1995									
21...	0.68	1.1	2.0	5.0	0.100	9.20	1.30	280	280
21...	--	--	--	--	--	--	--	--	--
MAR 1996									
13...	0.86	1.1	1.0	4.9	0.060	2.5	2.00	260	270
13...	--	--	--	--	--	--	--	--	--
JUL									
11...	0.45	0.80	1.2	3.5	0.060	3.20	0.300	270	270
11...	--	--	--	--	--	--	--	--	--

PESTICIDE ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL RECORDS STATIONS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DATE	TIME	PCB, TOTAL (UG/L) (39516)	ALDRIN, TOTAL (UG/L) (39330)	CHLORDANE, TECHNICAL TOTAL (UG/L) (39350)	P,P'-DDD UNFILT RECOVER (UG/L) (39360)	DDE, TOTAL (UG/L) (39365)	P,P'-DDT UNFILT RECOVER (UG/L) (39370)	DIAZINON, TOTAL (UG/L) (39570)	DIELDRIN TOTAL (UG/L) (39380)	ENDOSULFAN, I TOTAL (UG/L) (39388)
					RIO GUAJATACA BASIN--Continued					
50010790		LAGO GUAJATACA NO.1 NR DAM NR QUEBRADILLAS,PR (LAT 18°23'56" N LONG 66°55'23" W)								
JUL 1996 19...	0920	<0.100	<0.010	<0.100	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
					RIO GRANDE DE ARECIBO BASIN--Continued					
50020050		LAGO GARZAS NO.1 NR DAM NR ADJUNTAS,PR (LAT 18°08'21" N LONG 66°44'35" W)								
JUL 1996 18...	1100	<0.100	<0.010	<0.100	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
50027090		LAGO DOS BOCAS NO.1 NR DAM NR UTUADO,PR (LAT 18°20'09" N LONG 66°40'04" W)								
JUL 1996 24...	0915	<0.100	<0.010	<0.100	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
					RIO DE LA PLATA BASIN--Continued					
50039950		LAGO CARITE NO.1 NR DAM NR CAYEY, P.R. (LAT 18°04'39" N LONG 66°06'19" W)								
JUL 1996 23...	0955	<0.100	<0.010	<0.100	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
50044950		LAGO LA PLATA NO.3 NR DAM NR NARANJITO, PR (LAT 18°20'18" N LONG 66°14'01" W)								
JUL 1996 12...	0850	<0.100	<0.010	<0.100	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
					RIO DE BAYAMON BASIN--Continued					
50047549		LAGO DE CIDRA NR DAM (LAT 18°11'52" N LONG 66°08'24" W)								
JUL 1996 10...	1050	<0.100	<0.010	<0.100	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
					RIO GRANDE DE LOIZA BASIN--Continued					
50058800		LAGO LOIZA NO.7 NR DAM NR TRUJILLO ALTO, PR (LAT 18°19'29" N LONG 66°00'47" W)								
JUL 1996 11...	0900	<0.100	<0.010	<0.100	<0.010	<0.010	<0.010	0.010	<0.010	<0.010

PESTICIDE ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL RECORDS STATIONS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DATE	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)	MIREX, TOTAL (UG/L) (39755)
RIO GUAJATACA BASIN--Continued									
50010790 LAGO GUAJATACA NO.1 NR DAM NR QUEBRADILLAS,PR (LAT 18°23'56" N LONG 66°55'23" W)									
JUL 1996 19...	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
RIO GRANDE DE ARECIBO BASIN--Continued									
50020050 LAGO GARZAS NO.1 NR DAM NR ADJUNTAS,PR (LAT 18°08'21" N LONG 66°44'35" W)									
JUL 1996 18...	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
50027090 LAGO DOS BOCAS NO.1 NR DAM NR UTUADO,PR (LAT 18°20'09" N LONG 66°40'04" W)									
JUL 1996 24...	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
RIO DE LA PLATA BASIN--Continued									
50039950 LAGO CARITE NO.1 NR DAM NR CAYEY, P.R. (LAT 18°04'39" N LONG 66°06'19" W)									
JUL 1996 23...	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
50044950 LAGO LA PLATA NO.3 NR DAM NR NARANJITO, PR (LAT 18°20'18" N LONG 66°14'01" W)									
JUL 1996 12...	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
RIO DE BAYAMON BASIN--Continued									
50047549 LAGO DE CIDRA NR DAM (LAT 18°11'52" N LONG 66°08'24" W)									
JUL 1996 10...	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
RIO GRANDE DE LOIZA BASIN--Continued									
50058800 LAGO LOIZA NO.7 NR DAM NR TRUJILLO ALTO, PR (LAT 18°19'29" N LONG 66°00'47" W)									
JUL 1996 11...	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010

PESTICIDE ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL RECORDS STATIONS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DATE	PARA-THION, TOTAL (UG/L) (39540)	PCNS UNFILT RECOVER (UG/L) (39250)	PER-THANE TOTAL (UG/L) (39034)	TOX-APHENE, TOTAL (UG/L) (39400)	TOTAL TRI-THION (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)
RIO GUAJATACA BASIN--Continued									
50010790 LAGO GUAJATACA NO.1 NR DAM NR QUEBRADILLAS,PR (LAT 18°23'56" N LONG 66°55'23" W)									
JUL 1996 19...	<0.010	<0.100	<0.100	<1.00	<0.010	0.120	<0.010	<0.010	<0.010
RIO GRANDE DE ARECIBO BASIN--Continued									
50020050 LAGO GARZAS NO.1 NR DAM NR ADJUNTAS,PR (LAT 18°08'21" N LONG 66°44'35" W)									
JUL 1996 18...	<0.010	<0.100	<0.100	<1.00	<0.010	<0.010	<0.010	<0.010	<0.010
50027090 LAGO DOS BOCAS NO.1 NR DAM NR UTUADO,PR (LAT 18°20'09" N LONG 66°40'04" W)									
JUL 1996 24...	<0.010	<0.100	<0.100	<1.00	<0.010	0.040	<0.010	<0.010	<0.010
RIO DE LA PLATA BASIN--Continued									
50039950 LAGO CARITE NO.1 NR DAM NR CAYEY, P.R. (LAT 18°04'39" N LONG 66°06'19" W)									
JUL 1996 23...	<0.010	<0.100	<0.100	<1.00	<0.010	<0.010	<0.010	<0.010	<0.010
50044950 LAGO LA PLATA NO.3 NR DAM NR NARANJITO, PR (LAT 18°20'18" N LONG 66°14'01" W)									
JUL 1996 12...	<0.010	<0.100	<0.100	<1.00	<0.010	<0.010	<0.010	<0.010	<0.010
RIO DE BAYAMON BASIN--Continued									
50047549 LAGO DE CIDRA NR DAM (LAT 18°11'52" N LONG 66°08'24" W)									
JUL 1996 10...	<0.010	<0.100	<0.100	<1.00	<0.010	<0.010	<0.010	<0.010	<0.010
RIO GRANDE DE LOIZA BASIN--Continued									
50058800 LAGO LOIZA NO.7 NR DAM NR TRUJILLO ALTO, PR (LAT 18°19'29" N LONG 66°00'47" W)									
JUL 1996 11...	<0.010	<0.100	<0.100	<1.00	<0.010	0.050	<0.010	<0.010	<0.010

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 systematically over a period of years for use in hydrological analysis.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

RIO PUERTO NUEVO BASIN

50049720 LAGUNA SAN JOSE NO. 3 AT SAN JUAN, PR (LAT 18°26'40" N LONG 66° 02'26" W)

DATE	TIME	SAMPLING DEPTH (FEET) (00003)	TEMPERATURE WATER (DEG C) (00010)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	TRANSPARENCY (SECCHI DISK) (IN) (00077)	COLOR (PLATINUM-COBALT UNITS) (00080)	COLIFORM, FECAL, 0.45 UM-MF (COLS./100 ML) (31616)	STREPTOCOCCI FECAL, (COLS. PER 100 ML) (31679)	NITROGEN, TOTAL (MG/L AS N) (00600)
DEC 1995												
01...	1040	1.0	28.0	27800	7.6	4.2	50	47.0	14	5800	730	1.2
01...	1035	3.2	27.5	29000	7.3	0.3	4	--	--	--	--	0.90
FEB 1996												
01...	0900	1.0	25.0	21700	7.9	7.8	100	43.2	23	K120	780	1.1
01...	0910	4.9	25.0	21700	7.8	6.0	71	--	--	--	--	1.2
MAR												
04...	1005	1.0	26.5	25500	8.4	10.8	145	31.2	26	K740	K170	1.3
04...	1010	6.6	26.0	26400	7.9	3.3	40	--	--	--	--	1.4
APR												
26...	1135	1.0	28.0	25500	8.1	7.2	99	33.6	40	4800	K20	1.8
26...	1140	3.3	28.0	25400	8.0	7.1	89	--	--	--	--	1.8
JUN												
27...	0905	1.0	29.8	20500	7.9	9.1	118	23.0	38	3800	2300	1.9
27...	1910	6.6	28.5	20500	7.5	4.0	51	--	--	--	--	--
AUG												
30...	0950	1.0	30.5	19700	8.2	6.3	89	24.1	20	5200	K10	1.6
30...	0955	9.9	30.5	23000	7.4	0.6	9	--	--	--	--	1.3

DATE	NITROGEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITROGEN, NITRITE TOTAL (MG/L AS N) (00615)	NITROGEN, NITRATE TOTAL (MG/L AS N) (00620)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOSPHORUS TOTAL (MG/L AS P) (00665)	NITROGEN, TOTAL (MG/L AS NO3) (71887)	CHLOR-A PHYTOPLANKTON CHROMO FLUOROM (UG/L) (70953)	CHLOR-B PHYTOPLANKTON CHROMO FLUOROM (UG/L) (70954)	PLANKTON BIOMASS ASH WT (MG/L) (81353)	PLANKTON BIOMASS DRY WT (MG/L) (81354)
DEC 1995											
01...	0.85	0.95	0.010	0.010	1.8	0.370	8.1	2.60	0.200	290	300
01...	0.87	0.97	0.010	0.010	1.9	0.400	8.2	--	--	--	--
FEB 1996											
01...	0.84	0.260	0.010	0.010	1.1	0.090	5.0	20.0	2.90	280	280
01...	0.89	0.310	0.010	0.010	1.2	0.100	5.4	--	--	--	--
MAR											
04...	1.2	0.070	0.010	0.010	1.3	0.140	5.8	11.0	0.400	270	280
04...	1.3	0.110	0.010	0.010	1.4	0.140	6.2	--	--	--	--
APR											
26...	1.6	0.170	<0.010	<0.010	1.8	0.260	8.0	13.0	0.200	260	280
26...	1.6	0.160	0.010	<0.010	1.8	0.250	8.0	--	--	--	--
JUN											
27...	3.4	0.590	0.010	0.010	1.5	0.340	8.4	11.0	1.30	440	450
27...	3.2	0.570	0.010	0.010	1.6	0.300	8.1	--	--	--	--
AUG											
30...	1.2	0.430	<0.010	<0.010	1.6	0.160	7.2	22.0	<0.100	950	970
30...	1.2	0.130	<0.010	<0.010	1.3	0.110	5.9	--	--	--	--

K = non-ideal count

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 systematically over a period of years for use in hydrological analysis.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

RIO PUERTO NUEVO BASIN

50049760 LAGUNA SAN JOSE NO. 1 AT SAN JUAN, PR (LAT 18°25'03" N LONG 66°00'53" W)

DATE	TIME	SAMPLING DEPTH (FEET) (00003)	TEMPERATURE WATER (DEG C) (00010)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	TRANSPARENCY (SECCHI DISK) (IN) (00077)	COLOR (PLATINUM-COBALT UNITS) (00080)	COLIFORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)	STREPTOCOCCI FECAL, (COLS. PER 100 ML) (31679)	NITROGEN, TOTAL (MG/L AS N) (00600)
DEC 1995												
01...	1015	1.0	26.5	27800	7.9	8.1	99	31.5	17	430	90	0.97
01...	1020	6.6	25.0	35000	7.5	0.9	2	--	--	--	--	3.4
FEB 1996												
01...	0930	1.0	25.0	22100	7.7	8.5	110	49.2	22	K120	K100000	0.86
01...	0940	8.2	26.5	31900	7.4	0.3	4	--	--	--	--	0.84
MAR												
04...	0950	1.0	27.5	28300	8.1	10.6	143	36.0	20	K10	630	0.89
04...	0955	8.2	26.0	40900	7.1	0.3	4	--	--	--	--	0.89
APR												
26...	1100	1.0	28.0	28200	8.1	7.4	103	20.4	70	K54	K30	1.7
26...	1110	3.3	28.0	28800	7.8	2.7	34	--	--	--	--	1.2
JUN												
27...	1015	1.0	30.0	23000	7.5	6.1	88	41.0	29	67000	2900	1.3
27...	1010	6.6	30.0	34000	6.1	0.2	2	--	--	--	--	0.90
AUG												
30...	1010	1.0	30.0	19200	7.7	1.6	22	29.0	30	520	60	1.5
30...	1015	9.8	30.0	17400	8.3	6.7	93	--	--	--	--	1.4

DATE	NITROGEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITROGEN, NITRITE TOTAL (MG/L AS N) (00615)	NITROGEN, NITRATE TOTAL (MG/L AS N) (00620)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOSPHORUS TOTAL (MG/L AS P) (00665)	NITROGEN, TOTAL (MG/L AS NO3) (71887)	CHLOR-A PHYTOPLANKTON CHROMO FLUOROM (UG/L) (70953)	CHLOR-B PHYTOPLANKTON CHROMO FLUOROM (UG/L) (70954)	PLANKTON BIOMASS ASH WT (MG/L) (81353)	PLANKTON BIOMASS DRY WT (MG/L) (81354)
DEC 1995											
01...	0.68	0.290	0.020	0.070	0.97	0.170	4.7	12.0	0.300	270	280
01...	0.40	3.00	0.020	<0.010	3.4	0.600	15	--	--	--	--
FEB 1996											
01...	0.70	0.140	0.010	0.010	0.84	0.040	3.8	13.0	2.20	280	280
01...	0.68	0.160	0.010	<0.010	0.84	0.050	3.8	--	--	--	--
MAR											
04...	0.85	0.040	0.010	0.010	0.89	0.110	3.9	7.00	0.200	270	280
04...	1.7	0.170	0.010	0.010	0.89	0.260	8.4	--	--	--	--
APR											
26...	1.6	0.070	<0.010	<0.010	1.7	0.220	7.5	20.0	<0.100	300	310
26...	1.3	0.040	<0.010	<0.010	1.4	0.200	6.9	--	--	--	--
JUN											
27...	1.2	0.110	0.020	0.050	1.3	0.130	6.1	9.10	<0.100	270	280
27...	1.1	0.100	0.010	0.040	1.2	0.120	5.7	--	--	--	--
AUG											
30...	1.2	0.270	<0.010	<0.010	1.5	0.140	6.8	13.0	0.300	530	540
30...	1.2	0.270	<0.010	<0.010	1.4	0.090	6.3	--	--	--	--

K = non-ideal count

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 systematically over a period of years for use in hydrological analysis.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

RIO GRANDE DE LOIZA BASIN

50050335 LAGUNA PIÑONES NO. 3 NR CAROLINA, PR (LAT 18°26'39" N LONG 65°57'23" W)

DATE	TIME	SAMPLING DEPTH (FEET) (00003)	TEMPERATURE WATER (DEG C) (00010)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	TRANSPARENCY (SECCHI DISK) (IN) (00077)	COLOR (PLATINUM-COBALT UNITS) (00080)	COLIFORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)	STREPTOCOCCI FECAL, (COLS. PER 100 ML) (31679)	NITROGEN, TOTAL (MG/L AS N) (00600)
DEC 1995												
01...	0900	1.0	30.0	44000	8.2	4.5	69	17.0	86	K10	K10	1.1
JAN 1996												
30...	0940	1.0	24.5	34500	7.1	5.6	75	21.6	140	K30	K40	1.2
MAR												
04...	0800	1.0	25.5	44500	8.1	7.1	101	15.6	58	K10	K30	1.2
APR												
26...	0945	1.0	27.5	43300	8.1	6.5	95	15.6	55	K10	K18	1.6
JUN												
27...	1115	1.0	30.0	40000	8.0	6.6	86	21.6	40	K10	K20	1.7
AUG												
30...	0830	1.0	30.0	32000	7.1	1.8	26	18.0	420	430	520	2.9

DATE	NITROGEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITROGEN, NITRITE TOTAL (MG/L AS N) (00615)	NITROGEN, NITRATE TOTAL (MG/L AS N) (00620)	NITROGEN,AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOSPHORUS TOTAL (MG/L AS P) (00665)	NITROGEN, TOTAL (MG/L AS NO3) (71887)	CHLOR-A PHYTOPLANKTON CHROMO FLUOROM (UG/L) (70953)	CHLOR-B PHYTOPLANKTON CHROMO FLUOROM (UG/L) (70954)	PLANKTON BIOMASS ASH WT (MG/L) (81353)	PLANKTON BIOMASS DRY WT (MG/L) (81354)
DEC 1995											
01...	1.1	0.030	0.010	0.010	1.1	0.090	4.9	28.0	<0.100	570	580
JAN 1996											
30...	1.2	0.040	0.010	0.010	1.2	0.040	5.3	10.0	1.60	290	300
MAR											
04...	1.2	0.050	0.010	0.010	1.2	0.090	5.4	14.0	0.300	480	490
APR											
26...	1.6	0.040	0.010	0.010	1.6	0.110	7.1	25.0	0.700	720	750
JUN											
27...	1.5	0.030	0.010	0.010	1.5	0.100	6.8	15.0	0.700	280	290
AUG											
30...	2.3	0.620	0.020	0.010	2.9	0.140	13	15.0	0.700	570	580

K = non-ideal count

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 systematically over a period of years for use in hydrological analysis.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

RIO GRANDE DE LOIZA BASIN

50050341 LAGUNA PIÑONES NO. 1 NR CAROLINA PR (LAT 18°26'08" N LONG 65°57'25" W)

DATE	TIME	SAMPLING DEPTH (FEET) (00003)	TEMPERATURE WATER (DEG C) (00010)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	TRANSPARENCY (SECCHI DISK) (IN) (00077)	COLOR (PLATINUM-COBALT UNITS) (00080)	COLIFORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)	STREPTOCOCCI FECAL, (COLS. PER 100 ML) (31679)	NITROGEN, TOTAL (MG/L AS N) (00600)
DEC 1995												
01...	0915	1.0	29.0	34200	7.0	4.4	53	17.8	63	K10	K10	1.3
JAN 1996												
30...	0910	1.0	23.5	30200	7.4	6.4	83	21.6	160	K10	K120	1.3
MAR												
04...	0815	1.0	25.5	46000	7.7	3.7	53	24.0	57	K10	390	1.1
APR												
26...	1000	1.0	28.0	42700	7.8	6.1	90	18.0	30	K10	K20	1.3
JUN												
27...	1130	1.0	30.0	41000	7.8	6.9	91	23.0	55	K10	K10	1.5
AUG												
30...	0850	1.0	30.5	24100	7.3	1.9	27	0.8	360	510	40	2.8

DATE	NITROGEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITROGEN, NITRITE TOTAL (MG/L AS N) (00615)	NITROGEN, NITRATE TOTAL (MG/L AS N) (00620)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOSPHORUS TOTAL (MG/L AS P) (00665)	NITROGEN, TOTAL (MG/L AS NO3) (71887)	CHLOR-A PHYTOPLANKTON CHROMO FLUOROM (UG/L) (70953)	CHLOR-B PHYTOPLANKTON CHROMO FLUOROM (UG/L) (70954)	PLANKTON BIOMASS ASH WT (MG/L) (81353)	PLANKTON BIOMASS DRY WT (MG/L) (81354)
DEC 1995											
01...	1.2	0.030	0.010	<0.010	1.2	0.030	5.6	8.60	<0.100	290	300
JAN 1996											
30...	1.3	0.040	0.010	<0.010	1.3	0.040	5.8	12.0	1.40	350	360
MAR											
04...	0.93	0.170	0.010	<0.010	1.1	0.090	4.9	8.80	0.200	420	420
APR											
26...	1.3	0.040	<0.010	<0.010	1.3	0.120	5.8	25.0	0.800	430	450
JUN											
27...	0.90	0.020	0.010	<0.010	0.90	0.110	4.3	18.0	0.500	280	290
AUG											
30...	2.0	0.770	0.020	<0.010	2.8	0.170	12	11.0	0.400	400	410

K = non-ideal count

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 systematically over a period of years for use in hydrological analysis.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

RIO GRANDE DE LOIZA BASIN

50050350 LAGUNA TORRECILLA NO. 4 NR CAROLINA, PR (LAT 18°26'38" N LONG 65°58'17" W)

DATE	TIME	SAMPLING DEPTH (FEET) (00003)	TEMPERATURE WATER (DEG C) (00010)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	TRANSPARENCY (SECCHI DISK) (IN) (00077)	COLOR (PLATINUM-COBALT UNITS) (00080)	COLIFORM, FECAL, 0.45 UM-MF (COLS./100 ML) (31616)	STREPTOCOCCI FECAL, (COLS. PER 100 ML) (31679)	NITROGEN, TOTAL (MG/L AS N) (00600)
DEC 1995												
01...	0945	1.0	26.5	41600	7.4	4.8	60	20.4	27	K1200	K160	0.63
01...	0950	9.0	25.5	48800	7.1	0.2	2	--	--	--	--	9.4
JAN 1996												
30...	1015	1.0	25.5	38200	7.6	7.3	102	36.0	37	K910	K170	0.90
30...	1020	9.2	24.0	<50000	7.0	0	0	--	--	--	--	1.5
MAR												
04...	0845	1.0	26.5	57300	7.4	5.8	83	33.6	24	6000	2700	0.88
04...	0850	9.8	25.5	45300	7.5	0.2	2	--	--	--	--	1.3
APR												
26...	1020	1.0	29.0	48300	7.9	7.6	116	32.4	20	330	K10	0.88
26...	1030	4.9	28.0	50800	7.6	0.0	0	--	--	--	--	1.4
JUN												
27...	1220	1.0	31.0	39500	7.6	5.6	73	40.8	25	4600	320	1.1
27...	1230	6.6	29.6	49000	7.5	4.9	65	--	--	--	--	1.3
AUG												
30...	0910	1.0	29.5	50800	7.6	2.8	41	21.5	100	3700	K160	1.0
30...	0915	9.8	30.5	31600	7.4	0.1	2	--	--	--	--	1.5

DATE	NITROGEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITROGEN, NITRITE TOTAL (MG/L AS N) (00615)	NITROGEN, NITRATE TOTAL (MG/L AS N) (00620)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOSPHORUS TOTAL (MG/L AS P) (00665)	NITROGEN, TOTAL (MG/L AS NO3) (71887)	CHLOR-A PHYTOPLANKTON CHROMO FLUOROM (UG/L) (70953)	CHLOR-B PHYTOPLANKTON CHROMO FLUOROM (UG/L) (70954)	PLANKTON BIOMASS ASH WT (MG/L) (81353)	PLANKTON BIOMASS DRY WT (MG/L) (81354)
DEC 1995											
01...	0.55	0.060	0.010	0.010	0.61	0.080	2.8	10.0	<0.100	310	310
01...	8.7	0.660	0.010	0.010	9.4	1.60	4.2	--	--	--	--
JAN 1996											
30...	0.58	0.230	0.020	0.070	0.81	0.050	4.0	9.80	1.60	270	280
30...	1.2	0.320	0.010	0.010	1.5	0.190	6.7	--	--	--	--
MAR											
04...	0.39	0.910	0.010	0.010	1.3	0.180	5.8	11.0	0.200	280	290
04...	0.67	0.190	0.010	0.010	0.86	0.090	3.9	--	--	--	--
APR											
26...	0.72	0.160	0.010	<0.010	0.88	0.110	3.9	24.0	0.400	300	310
26...	1.1	0.300	0.010	<0.010	1.4	0.170	6.2	--	--	--	--
JUN											
27...	1.0	0.090	<0.010	<0.010	1.1	0.110	4.9	8.10	0.200	280	280
27...	1.1	0.100	<0.010	<0.010	0.98	0.120	5.2	--	--	--	--
AUG											
30...	0.64	0.36	<0.010	<0.010	1.0	0.130	4.5	3.40	0.100	870	890
30...	0.94	0.38	<0.010	<0.010	1.3	0.100	6.8	--	--	--	--

K = non-ideal count

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 systematically over a period of years for use in hydrological analysis.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

RIO GRANDE DE LOIZA BASIN

50050355 LAGUNA TORRECILLA NO. 3 NR CAROLINA, PR (LAT 18°26'37" N LONG 65°58'51" W)

DATE	TIME	SAMPLING DEPTH (FEET) (00003)	TEMPERATURE WATER (DEG C) (00010)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	TRANSPARENCY (SECCHI DISK) (IN) (00077)	COLOR (PLATINUM-COBALT UNITS) (00080)	COLIFORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)	STREPTOCOCCI FECAL, (COLS. PER 100 ML) (31679)	NITROGEN, TOTAL (MG/L AS N) (00600)
DEC 1995												
01...	1000	1.0	30.0	42800	7.9	5.9	94	22.8	17	K1600	68	0.74
01...	1005	8.2	29.5	53000	7.8	4.1	54	--	--	--	--	3.6
JAN 1996												
30...	1105	1.0	25.5	38500	7.5	6.7	93	31.2	23	530	1000	0.62
30...	1110	9.8	25.0	49300	7.5	4.7	56	--	--	--	--	0.51
MAR												
04...	0910	1.0	26.5	52600	7.7	5.0	60	25.2	24	28000	760	0.79
04...	0915	6.6	25.5	38500	7.3	4.9	68	--	--	--	--	0.92
APR												
26...	1040	1.0	28.0	42800	7.7	5.0	73	21.6	20	270	400	1.0
26...	1045	6.6	27.0	51300	7.8	4.2	53	--	--	--	--	0.47
JUN												
27...	1200	1.0	30.5	44000	7.6	5.0	65	35.0	51	2500	260	1.6
27...	1205	6.6	29.3	50500	7.3	0.4	4	--	--	--	--	1.2
AUG												
30...	0925	1.0	30.5	31200	7.8	5.4	79	31.0	30	3800	K130	0.90
30...	0930	9.8	30.0	46000	7.8	2.7	42	--	--	--	--	1.2

DATE	NITROGEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITROGEN, NITRITE TOTAL (MG/L AS N) (00615)	NITROGEN, NITRATE TOTAL (MG/L AS N) (00620)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOSPHORUS TOTAL (MG/L AS P) (00665)	NITROGEN, TOTAL (MG/L AS NO3) (71887)	CHLOR-A PHYTOPLANKTON CHROMO FLUOROM (UG/L) (70953)	CHLOR-B PHYTOPLANKTON CHROMO FLUOROM (UG/L) (70954)	PLANKTON BIOMASS ASH WT (MG/L) (81353)	PLANKTON BIOMASS DRY WT (MG/L) (81354)
DEC 1995											
01...	0.50	0.220	0.010	0.010	0.72	0.110	3.3	11.0	0.200	290	290
01...	3.5	0.110	0.010	0.010	3.6	0.620	16	--	--	--	--
JAN 1996											
30...	0.58	0.040	0.010	<0.010	0.62	0.050	2.8	9.90	2.00	280	300
30...	0.41	0.080	0.010	0.010	0.49	0.040	2.3	--	--	--	--
MAR											
04...	0.72	0.070	0.010	<0.010	0.79	0.160	3.5	12.0	0.100	290	290
04...	0.72	0.230	0.010	0.010	0.95	0.190	4.2	--	--	--	--
APR											
26...	0.92	0.080	<0.010	<0.010	1.0	0.120	4.4	25.0	0.800	290	300
26...	0.36	0.110	0.010	<0.010	0.47	0.070	2.1	--	--	--	--
JUN											
27...	0.85	0.120	<0.010	<0.010	1.4	0.090	3.7	20.0	<0.100	280	290
27...	0.72	0.070	<0.010	<0.010	1.1	0.087	2.9	--	--	--	--
AUG											
30...	0.83	0.310	<0.010	<0.010	1.10	0.100	5.2	7.10	<0.100	580	580
30...	0.77	0.100	<0.010	<0.010	0.87	0.100	4.0	--	--	--	--

K = non-ideal count

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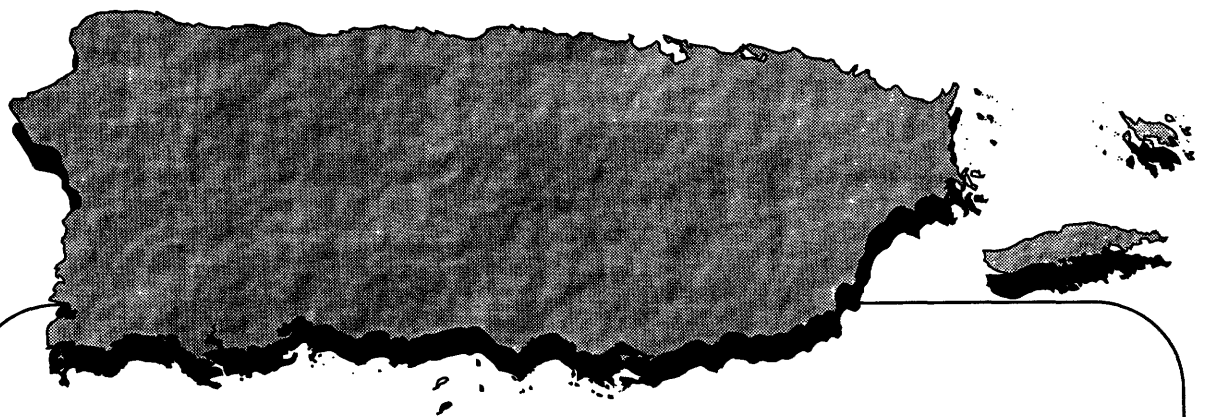


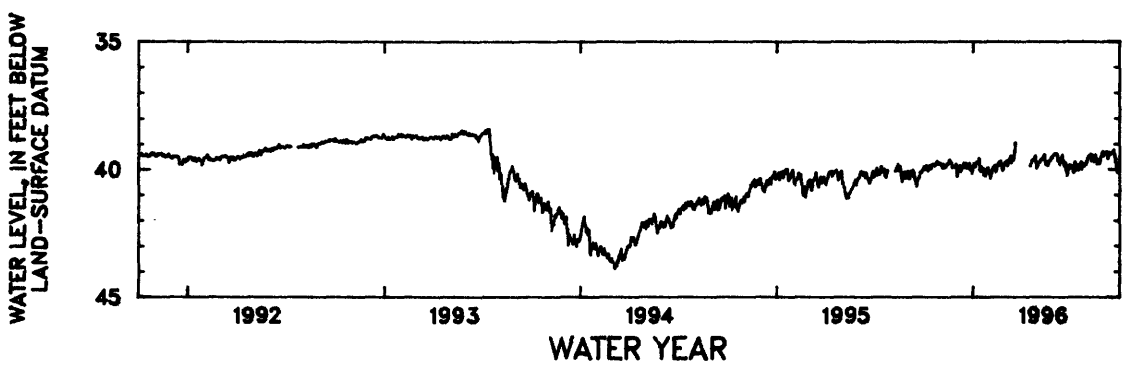
Ground-Water Records for Puerto Rico

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 U.S. Naval Reservation radio antenna, and 1.63 mi northwest of La Virgen del Rosario Church. Owner: P.R. Aqueduct and Sewer Authority, Name: Saltos # 1 (Mateo Perez).
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 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.--Digital water level recorder--60-minute punch.
DATUM.--Elevation of land-surface datum is 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. 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, 38.36 ft (11.7 m) below land-surface datum, July 12, 1993; lowest water level measured, 70.60 ft (21.52 m) below land-surface datum, June 18, 1982.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
INSTANTANEOUS OBSERVATION AT 1200

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	39.92	39.75	39.83	39.87	40.06	39.71	---	39.79	39.38	39.92	39.56	39.42
2	39.88	39.78	40.30	39.83	40.36	39.69	---	39.72	39.39	39.84	39.48	39.39
3	39.96	39.79	40.27	39.76	40.27	39.70	---	39.71	39.36	39.96	39.48	39.37
4	40.01	39.96	40.06	39.77	40.14	39.65	---	39.71	39.39	39.94	39.47	39.31
5	39.93	39.88	40.02	39.89	40.10	39.84	---	39.65	39.40	39.93	39.43	39.31
6	39.83	39.78	39.92	39.78	39.98	39.76	---	39.60	39.67	40.12	39.41	39.30
7	39.89	39.95	39.84	39.72	39.94	39.70	---	39.59	39.56	39.93	39.38	39.44
8	39.89	39.82	39.91	39.69	39.89	39.60	---	39.60	39.57	39.70	39.66	39.60
9	40.07	39.80	40.08	39.70	39.87	39.55	---	39.61	39.56	39.74	39.55	39.47
10	39.96	39.92	40.01	39.68	39.86	39.53	---	39.51	39.80	40.05	39.48	39.32
11	39.88	39.90	39.91	39.67	39.83	39.45	---	39.45	39.66	39.96	39.45	39.42
12	39.84	39.87	39.90	39.55	40.09	39.75	---	39.41	39.64	39.86	39.45	39.39
13	39.88	39.80	39.84	40.02	40.03	39.65	---	39.45	39.59	39.82	39.69	39.40
14	39.97	39.76	39.80	40.06	39.94	39.58	---	39.68	39.50	40.01	39.56	39.34
15	39.89	39.80	39.74	40.01	39.85	39.45	---	39.81	39.43	40.02	39.46	39.32
16	39.81	39.75	39.92	39.87	39.81	39.65	39.87	39.72	39.74	39.92	39.42	39.32
17	39.79	39.67	39.85	40.07	39.78	39.45	39.79	39.68	39.65	39.86	39.65	39.32
18	39.78	39.62	39.82	40.02	39.71	39.30	39.73	39.84	39.85	39.81	39.56	39.30
19	39.78	39.69	39.75	39.99	39.77	39.13	39.66	39.83	39.81	39.75	39.80	39.22
20	39.79	39.74	39.96	39.95	39.76	38.95	39.64	39.75	39.72	39.70	39.69	39.47
21	39.85	39.73	39.90	40.23	39.66	---	39.63	39.69	39.77	40.00	39.63	39.43
22	39.82	39.80	39.85	40.04	39.85	---	39.61	39.66	40.06	39.91	39.59	39.72
23	39.78	39.94	39.85	39.98	39.81	---	39.61	39.64	40.06	39.83	39.62	39.57
24	39.72	39.89	39.78	40.25	39.82	---	39.52	39.61	40.24	39.77	39.77	39.79
25	39.67	39.88	39.76	40.10	40.05	---	39.49	39.54	40.13	39.78	39.64	39.95
26	39.70	39.87	40.00	40.06	39.98	---	39.46	39.50	40.00	39.85	39.50	40.12
27	39.71	39.87	39.91	39.99	39.86	---	39.75	39.52	39.89	39.82	39.45	40.00
28	39.78	39.87	39.90	39.93	39.81	---	39.98	39.45	39.82	39.80	39.37	39.88
29	39.74	39.93	39.91	39.94	39.78	---	39.89	39.43	39.94	39.79	39.30	39.79
30	39.74	39.78	40.16	40.13	---	---	39.84	39.41	39.93	39.71	39.28	39.77
31	39.79	---	40.00	40.06	---	---	---	39.38	---	39.64	39.48	---
MEAN	39.84	39.82	39.93	39.92	39.92	39.55	39.70	39.61	39.72	39.86	39.52	39.51

WTR YR 1996 MEAN 39.75 HIGHEST 38.89 MAR. 20, 1996 LOWEST 40.40 FEB. 2, 1996

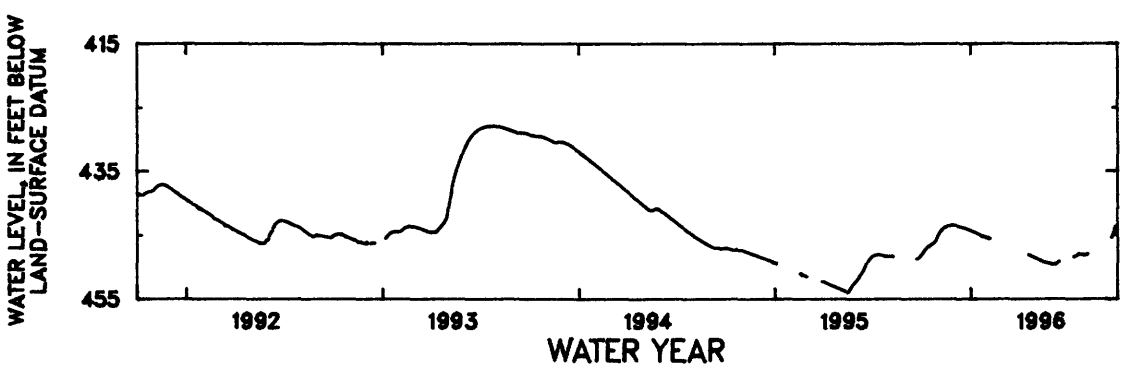


182647066552400. Local number, 202.
LOCATION.--Lat 18°26'47", long 66°55'24", Hydrologic Unit 21010002, 2.22 mi southeast of Quebradillas plaza, 1.29 mi north of Escuela José de Diego, and 1.99 mi northwest of El Calvario Church. Owner: P.R. Aqueduct and Sewer Authority, Name: Carmelo Barreto Garcia 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 (0-167.6 m), perforated 270-529 ft (82.3-161.2 m). Depth 550 ft (167.6 m).
INSTRUMENTATION.--Digital water level recorder--60-minute punch.
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.
PERIOD OF RECORD.--November 1985 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 409.17 ft (124.71 m) below land-surface datum, Sept. 25, 1986; lowest water level recorded, 453.96 ft (138.37 m) below land-surface datum, May 14, 15, 16, 1995.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
INSTANTANEOUS OBSERVATION AT 1200

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	448.03	445.04	443.47	444.28	445.49	---	---	448.64	449.61	---	448.12	---
2	447.92	444.89	443.49	444.35	445.51	---	---	448.70	449.61	---	448.10	---
3	447.80	444.74	443.51	444.39	445.52	---	---	448.75	449.59	---	448.14	---
4	447.68	444.61	443.50	444.44	445.54	---	---	448.79	449.59	---	448.08	---
5	447.57	444.48	443.53	444.48	445.55	---	---	448.82	449.56	---	447.97	---
6	447.44	444.36	443.56	444.49	445.57	---	---	448.85	449.53	---	---	---
7	447.34	444.27	443.57	444.52	---	---	---	448.90	449.49	---	---	---
8	447.24	444.16	443.65	444.58	---	---	---	448.96	449.46	---	---	---
9	447.12	444.09	443.67	444.63	---	---	---	449.00	449.41	---	---	---
10	447.05	444.02	443.67	444.69	---	---	---	449.01	449.35	---	---	---
11	446.95	443.93	443.69	444.70	---	---	---	449.05	449.27	448.37	---	---
12	446.86	443.86	443.74	444.73	---	---	---	449.08	449.23	448.34	---	---
13	446.80	443.81	443.76	444.75	---	---	---	449.14	449.15	448.30	---	---
14	446.78	443.78	443.77	444.85	---	---	---	449.16	---	448.26	---	---
15	446.70	443.76	443.79	444.85	---	---	---	449.20	---	448.23	---	---
16	446.66	443.70	443.81	444.87	---	---	---	449.23	---	448.17	---	---
17	446.58	443.67	443.87	444.92	---	---	448.12	449.27	---	448.14	---	---
18	446.54	443.61	443.90	444.95	---	---	448.16	449.29	---	448.09	---	---
19	446.46	443.57	443.91	445.06	---	---	448.19	449.31	---	448.06	---	445.40
20	446.42	443.55	443.92	445.13	---	---	448.22	449.33	---	447.93	---	445.19
21	446.39	443.50	443.95	445.13	---	---	448.28	449.36	---	447.98	---	444.98
22	446.32	443.53	444.00	445.13	---	---	448.31	449.39	---	447.98	---	444.77
23	446.26	443.53	444.03	445.16	---	---	448.36	449.40	---	448.01	---	444.58
24	446.19	443.48	444.04	445.19	---	---	448.39	449.41	---	448.03	---	444.39
25	446.15	443.46	444.08	445.23	---	---	448.42	449.43	---	448.03	---	444.22
26	446.09	443.42	444.12	445.28	---	---	448.47	449.45	---	448.07	---	444.06
27	445.96	443.47	444.15	445.30	---	---	448.50	449.49	---	448.06	---	443.91
28	445.77	443.48	444.18	445.34	---	---	448.55	449.50	---	448.08	---	443.76
29	445.56	443.47	444.24	445.38	---	---	448.59	449.54	---	448.09	---	443.63
30	445.40	443.45	444.29	445.39	---	---	448.62	449.55	---	448.11	---	443.53
31	445.20	---	444.26	445.44	---	---	---	449.57	---	448.11	---	---
MEAN	446.68	443.89	443.84	444.89	445.53	---	448.37	449.18	449.45	448.12	448.08	444.37

WTR YR 1996 MEAN 446.29 HIGHEST 443.40 NOV. 26, 30, 1995 LOWEST 449.64 JUNE 1, 2, 1996

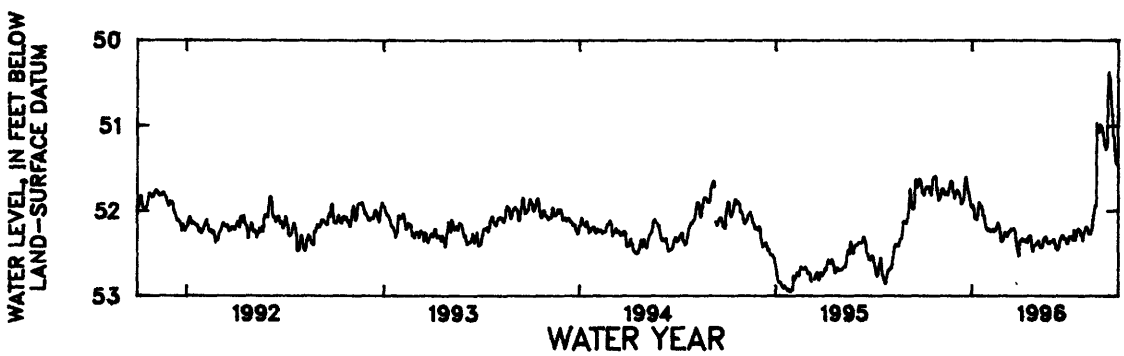


182737066370900. Local number, 204.
LOCATION.--Lat 18°27'37", long 66°37'09", Hydrologic Unit 21010002, 5.26 mi west of Barceloneta plaza, 1.58 mi north of Hwy 2 km 63.7, and 3.67 mi southwest of Escuela Agustín Balseiro. Owner: Sucesión Marquez, Name: Gilberto Rivera well.
AQUIFER.--Aymamón Limestone.
WELL CHARACTERISTICS.--Abandoned unused water-table well, diameter 6 in (0.15 m), cased 6 in (0.15 m).
INSTRUMENTATION.--Digital water level recorder--60-minute punch.
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.
PERIOD OF RECORD.--October 1985 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 50.00 ft (15.24 m) below land-surface datum, May 14, 1986; lowest water level recorded, 53.10 ft (16.2 m) below land-surface datum, Jan. 29, 1995.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
INSTANTANEOUS OBSERVATION AT 1200

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	51.79	51.87	51.80	51.96	52.23	52.30	52.34	52.38	52.33	52.31	52.19	51.05
2	51.81	51.86	51.80	51.94	52.22	52.26	52.35	52.38	52.34	52.31	52.19	51.09
3	51.81	51.84	51.78	51.93	52.21	52.25	52.34	52.36	52.36	52.30	52.19	51.17
4	51.80	51.82	51.77	51.95	52.23	52.26	52.32	52.35	52.39	52.30	52.21	51.23
5	51.78	51.79	51.75	51.99	52.24	52.27	52.33	52.36	52.40	52.30	52.23	51.22
6	51.76	51.75	51.76	52.06	52.23	52.27	52.34	52.40	52.44	52.31	52.27	51.25
7	51.74	51.74	51.77	52.09	52.22	52.30	52.35	52.42	52.45	52.34	52.25	51.28
8	51.72	51.75	51.78	52.09	52.22	52.29	52.34	52.43	52.45	52.30	52.25	51.24
9	51.71	51.74	51.81	52.08	52.21	52.26	52.36	52.43	52.46	52.22	52.27	51.24
10	51.73	51.76	51.85	52.08	52.22	52.24	52.35	52.41	52.45	52.24	52.25	51.08
11	51.73	51.80	51.87	52.10	52.24	52.25	52.35	52.43	52.43	52.29	52.23	50.64
12	51.71	51.81	51.92	52.05	52.23	52.24	52.33	52.41	52.40	52.34	52.20	50.40
13	51.71	51.80	51.91	51.98	52.22	52.22	52.37	52.36	52.34	52.30	52.16	50.37
14	51.73	51.78	51.90	51.90	52.22	52.21	52.37	52.33	52.34	52.24	52.10	50.42
15	51.76	51.78	51.87	51.90	52.22	52.22	52.33	52.32	52.32	52.23	52.08	50.48
16	51.79	51.81	51.87	51.93	52.19	52.22	52.30	52.33	52.30	52.22	52.04	50.60
17	51.81	51.81	51.83	51.95	52.17	52.22	52.31	52.30	52.29	52.21	51.98	50.69
18	51.79	51.79	51.78	51.95	52.16	52.22	52.32	52.30	52.29	52.24	51.93	50.77
19	51.74	51.76	51.63	51.94	52.14	52.20	52.29	52.33	52.29	52.24	51.94	50.87
20	51.64	51.74	51.60	51.97	52.16	52.22	52.31	52.35	52.31	52.22	51.94	50.95
21	51.60	51.72	51.60	51.99	52.20	52.23	52.35	52.37	52.33	52.24	50.96	51.11
22	51.62	51.66	51.63	52.05	52.21	52.26	52.42	52.37	52.33	52.28	51.00	51.13
23	51.61	51.65	51.67	52.05	52.25	52.32	52.46	52.38	52.32	52.27	51.06	51.20
24	51.61	51.65	51.71	52.05	52.31	52.36	52.48	52.38	52.34	52.26	51.07	51.28
25	51.59	51.66	51.75	52.09	52.36	52.41	52.44	52.38	52.36	52.32	51.07	51.35
26	51.59	51.70	51.78	52.14	52.36	52.42	52.42	52.36	52.38	52.35	51.07	51.42
27	51.63	51.74	51.83	52.19	52.35	52.49	52.40	52.36	52.38	52.29	51.05	51.44
28	51.72	51.78	51.86	52.21	52.34	52.53	52.40	52.36	52.38	52.26	50.98	51.44
29	51.76	51.85	51.90	52.20	52.32	52.52	52.40	52.36	52.35	52.24	51.00	51.45
30	51.81	51.85	51.92	52.20	---	52.44	52.39	52.36	52.30	52.22	51.00	51.47
31	51.87	---	51.95	52.23	---	52.36	---	52.34	---	52.20	51.02	---
MEAN	51.72	51.77	51.80	52.04	52.24	52.30	52.36	52.37	52.36	52.27	51.75	51.04

WTR YR 1996 MEAN 52.00 HIGHEST 50.37 SEPT. 12, 13, 1996 LOWEST 52.58 MAR. 28, 29, 1996

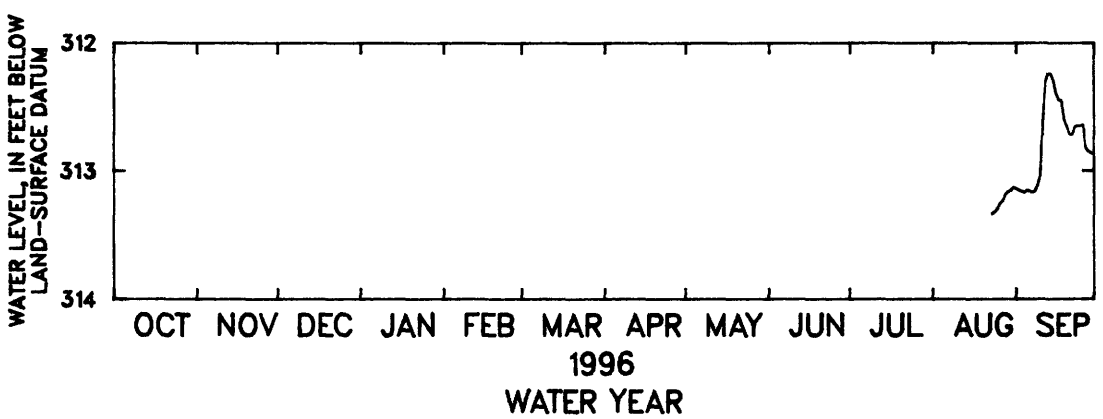


182616066364100. Local number, EN-1.
LOCATION.--Lat 18°26'16", long 66°36'41", Hydrologic Unit 21010002, 3.00 west of the intersection of Hwy 140 with Hwy 2 (Cruce Davila), 0.32 mi southwest of Hwy 22, 0.15 mi north of Hwy 2, and 0.22 mi northeast of the intersection of Hwy 2 with Hwy 639. Owner: Puerto Rico Aqueduct and Sewer Authority, Name: Encantada 1.
AQUIFER.--Tertiary Limestone.
WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 20 in (0.51 m).
INSTRUMENTATION.--Digital water level recorder--60-minute punch.
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. Automatic Digital Recorder (ADR) installed on Aug. 23, 1996.
PERIOD OF RECORD.--August 23, 1996 to September 30, 1996.
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 312.23 ft (95.17 m) below land-surface datum, Sept. 13, 14, 1996; lowest water level recorded, 313.34 ft (95.51 m) below land-surface datum, Aug.. 23, 1996.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
INSTANTANEOUS OBSERVATION AT 1200

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	---	313.14
2	---	---	---	---	---	---	---	---	---	---	---	313.15
3	---	---	---	---	---	---	---	---	---	---	---	313.16
4	---	---	---	---	---	---	---	---	---	---	---	313.17
5	---	---	---	---	---	---	---	---	---	---	---	313.15
6	---	---	---	---	---	---	---	---	---	---	---	313.16
7	---	---	---	---	---	---	---	---	---	---	---	313.17
8	---	---	---	---	---	---	---	---	---	---	---	313.16
9	---	---	---	---	---	---	---	---	---	---	---	313.11
10	---	---	---	---	---	---	---	---	---	---	---	313.04
11	---	---	---	---	---	---	---	---	---	---	---	312.60
12	---	---	---	---	---	---	---	---	---	---	---	312.30
13	---	---	---	---	---	---	---	---	---	---	---	312.24
14	---	---	---	---	---	---	---	---	---	---	---	312.24
15	---	---	---	---	---	---	---	---	---	---	---	312.30
16	---	---	---	---	---	---	---	---	---	---	---	312.40
17	---	---	---	---	---	---	---	---	---	---	---	312.45
18	---	---	---	---	---	---	---	---	---	---	---	312.45
19	---	---	---	---	---	---	---	---	---	---	---	312.61
20	---	---	---	---	---	---	---	---	---	---	---	312.66
21	---	---	---	---	---	---	---	---	---	---	---	312.72
22	---	---	---	---	---	---	---	---	---	---	---	312.72
23	---	---	---	---	---	---	---	---	---	---	313.33	312.65
24	---	---	---	---	---	---	---	---	---	---	313.32	312.65
25	---	---	---	---	---	---	---	---	---	---	313.29	312.65
26	---	---	---	---	---	---	---	---	---	---	313.25	312.64
27	---	---	---	---	---	---	---	---	---	---	313.23	312.82
28	---	---	---	---	---	---	---	---	---	---	313.18	312.85
29	---	---	---	---	---	---	---	---	---	---	313.16	312.86
30	---	---	---	---	---	---	---	---	---	---	313.15	312.87
31	---	---	---	---	---	---	---	---	---	---	313.13	---
MEAN	---	---	---	---	---	---	---	---	---	---	313.23	312.77

WTR YR 1996 MEAN 312.88 HIGHEST 312.23 SEPT. 13, 14, 1996 LOWEST 313.34 AUG. 23, 1996

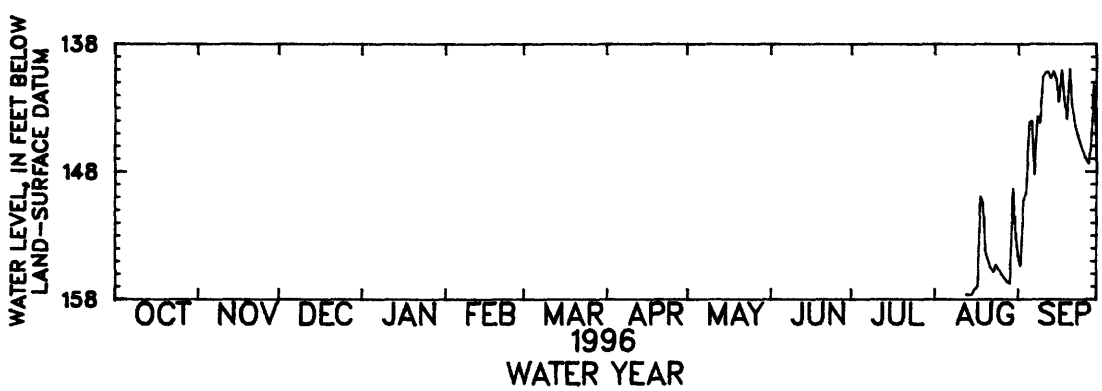


182209066340600. Local number, FL-1.
LOCATION.--Lat 18°22'09", long 66°34'06", Hydrologic Unit 21010002, 0.20 north of the intersection of Hwy 140 with Hwy 642, 1.15 mi south of the intersection of Hwy 140 with Hwy 641, and approximately 100 ft west of Hwy 140. Owner: Puerto Rico Aqueduct and Sewer Authority, Name: Florida 1.
AQUIFER.--Cibao Formation.
WELL CHARACTERISTICS.--Drilled water-table well, diameter 12 in (0.30 m), Depth 200 ft (61.0 m).
INSTRUMENTATION.--Pressure transducer with data logger set at 60-minute interval.
DATUM.--Elevation of land-surface datum is about 607.0 ft (185.0 m) above mean sea level from topographic map. Measuring point: Shelter floor 4.00 ft (1.22 m) above land-surface datum.
REMARKS.--Recording observation well. Data Logger installed on August 12, 1996.
PERIOD OF RECORD.--August 12, 1996 to September 30, 1996.
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 139.90 ft (42.64 m) below land-surface datum, Sept. 20, 1996; lowest water level recorded, 157.63 ft (48.04 m) below land-surface datum, Aug. 14, 1996.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
INSTANTANEOUS OBSERVATION AT 1200

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	---	154.70
2	---	---	---	---	---	---	---	---	---	---	---	155.40
3	---	---	---	---	---	---	---	---	---	---	---	150.19
4	---	---	---	---	---	---	---	---	---	---	---	149.75
5	---	---	---	---	---	---	---	---	---	---	---	144.05
6	---	---	---	---	---	---	---	---	---	---	---	144.01
7	---	---	---	---	---	---	---	---	---	---	---	148.27
8	---	---	---	---	---	---	---	---	---	---	---	143.63
9	---	---	---	---	---	---	---	---	---	---	---	144.22
10	---	---	---	---	---	---	---	---	---	---	---	140.51
11	---	---	---	---	---	---	---	---	---	---	---	140.19
12	---	---	---	---	---	---	---	---	---	---	---	140.16
13	---	---	---	---	---	---	---	---	---	---	157.60	140.71
14	---	---	---	---	---	---	---	---	---	---	157.62	140.09
15	---	---	---	---	---	---	---	---	---	---	157.62	140.78
16	---	---	---	---	---	---	---	---	---	---	157.16	142.57
17	---	---	---	---	---	---	---	---	---	---	156.97	140.02
18	---	---	---	---	---	---	---	---	---	---	149.90	142.18
19	---	---	---	---	---	---	---	---	---	---	150.42	143.93
20	---	---	---	---	---	---	---	---	---	---	154.27	139.91
21	---	---	---	---	---	---	---	---	---	---	154.94	142.98
22	---	---	---	---	---	---	---	---	---	---	155.57	144.39
23	---	---	---	---	---	---	---	---	---	---	155.89	145.11
24	---	---	---	---	---	---	---	---	---	---	155.25	145.78
25	---	---	---	---	---	---	---	---	---	---	155.69	146.41
26	---	---	---	---	---	---	---	---	---	---	156.08	146.95
27	---	---	---	---	---	---	---	---	---	---	156.38	147.39
28	---	---	---	---	---	---	---	---	---	---	156.63	146.19
29	---	---	---	---	---	---	---	---	---	---	156.80	141.18
30	---	---	---	---	---	---	---	---	---	---	149.31	146.02
31	---	---	---	---	---	---	---	---	---	---	152.89	---
MEAN	---	---	---	---	---	---	---	---	---	---	155.10	144.59

WTR YR 1996 MEAN 148.67 HIGHEST 139.90 SEPT. 20, 1996 LOWEST 157.63 AUG. 14, 1996

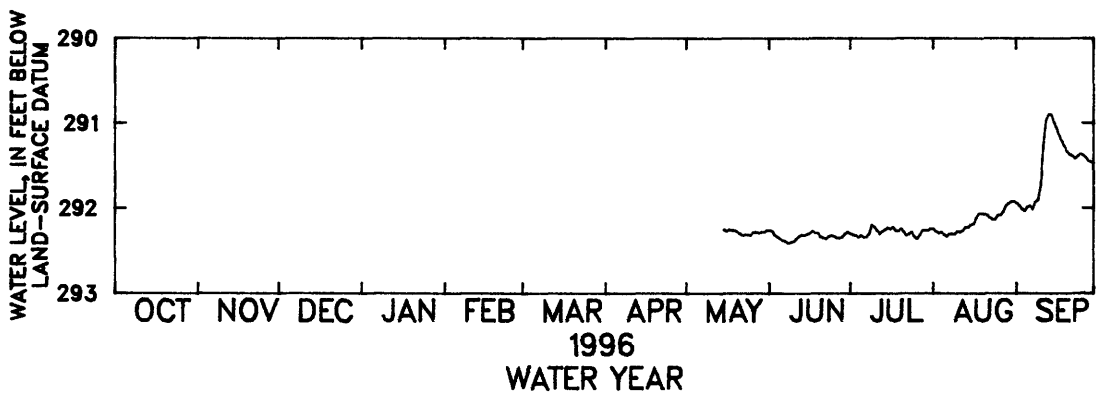


182626066345100. Local number, TI-1.
LOCATION.--Lat 18°26'26", long 66°34'51", Hydrologic Unit 21010002, 1.45 mi south of Hwy 682, 1.15 mi northwest of the intersection of Hwy 140 with Hwy 2 (Cruce Davila), 0.48 mi north of Hwy 2, and approximately 100 feet south of Hwy 22. Owner: Puerto Rico Aqueduct and Sewer Authority, Name: Tiburones 1.
AQUIFER.--Aymamón Limestone.
WELL CHARACTERISTICS.--Drilled water-table well, diameter 12 in (0.30 m). Depth 320 ft (97.5 m).
INSTRUMENTATION.--Pressure Transducer with data logger--60-minute interval.
DATUM.--Elevation of land-surface datum is about 295 ft (89.9 m) above mean sea level, from topographic map. Measuring point: Top of 4 in (0.10 m) PVC cap, above shelter floor, 3.40 ft (1.04 m) above land-surface datum.
REMARKS.--Recording observation well. Data logger installed on May 14, 1996.
PERIOD OF RECORD.--May 14, 1996 to September 30, 1996.
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 290.88 ft (88.66 m) below land-surface datum, Sept. 13, 14, 1996; lowest water level recorded, 292.44 ft (89.14 m) below land-surface datum, June 5, 1996.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
INSTANTANEOUS OBSERVATION AT 1200

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	292.26	292.30	292.24	291.94
2	---	---	---	---	---	---	---	---	292.27	292.31	292.27	291.97
3	---	---	---	---	---	---	---	---	292.32	292.32	292.29	292.01
4	---	---	---	---	---	---	---	---	292.34	292.34	292.28	292.03
5	---	---	---	---	---	---	---	---	292.36	292.32	292.31	291.98
6	---	---	---	---	---	---	---	---	292.38	292.34	292.33	291.97
7	---	---	---	---	---	---	---	---	292.39	292.34	292.30	292.01
8	---	---	---	---	---	---	---	---	292.41	292.30	292.30	291.92
9	---	---	---	---	---	---	---	---	292.40	292.19	292.30	291.90
10	---	---	---	---	---	---	---	---	292.39	292.22	292.27	291.72
11	---	---	---	---	---	---	---	---	292.36	292.26	292.28	291.26
12	---	---	---	---	---	---	---	---	292.33	292.30	292.26	290.96
13	---	---	---	---	---	---	---	---	292.31	292.27	292.22	290.89
14	---	---	---	---	---	---	---	---	292.32	292.25	292.22	290.90
15	---	---	---	---	---	---	---	292.25	292.30	292.23	292.19	290.99
16	---	---	---	---	---	---	---	292.27	292.29	292.24	292.18	291.06
17	---	---	---	---	---	---	---	292.25	292.27	292.22	292.11	291.14
18	---	---	---	---	---	---	---	292.26	292.29	292.26	292.06	291.21
19	---	---	---	---	---	---	---	292.26	292.29	292.27	292.06	291.27
20	---	---	---	---	---	---	---	292.28	292.34	292.24	292.07	291.34
21	---	---	---	---	---	---	---	292.30	292.35	292.28	292.08	291.37
22	---	---	---	---	---	---	---	292.32	292.36	292.32	292.11	291.39
23	---	---	---	---	---	---	---	292.31	292.33	292.30	292.13	291.42
24	---	---	---	---	---	---	---	292.31	292.32	292.28	292.13	291.39
25	---	---	---	---	---	---	---	292.32	292.33	292.34	292.08	291.36
26	---	---	---	---	---	---	---	292.28	292.35	292.36	292.08	291.38
27	---	---	---	---	---	---	---	292.28	292.35	292.31	292.04	291.41
28	---	---	---	---	---	---	---	292.29	292.34	292.26	291.97	291.45
29	---	---	---	---	---	---	---	292.28	292.30	292.26	291.94	291.46
30	---	---	---	---	---	---	---	292.28	292.28	292.26	291.92	291.48
31	---	---	---	---	---	---	---	292.26	---	292.24	291.92	---
MEAN	---	---	---	---	---	---	---	292.28	292.33	292.28	292.16	291.49

WTR YR 1996 MEAN 292.09 HIGHEST 290.88 SEPT. 13, 14, 1996 LOWEST 292.44 JUNE 5, 1996

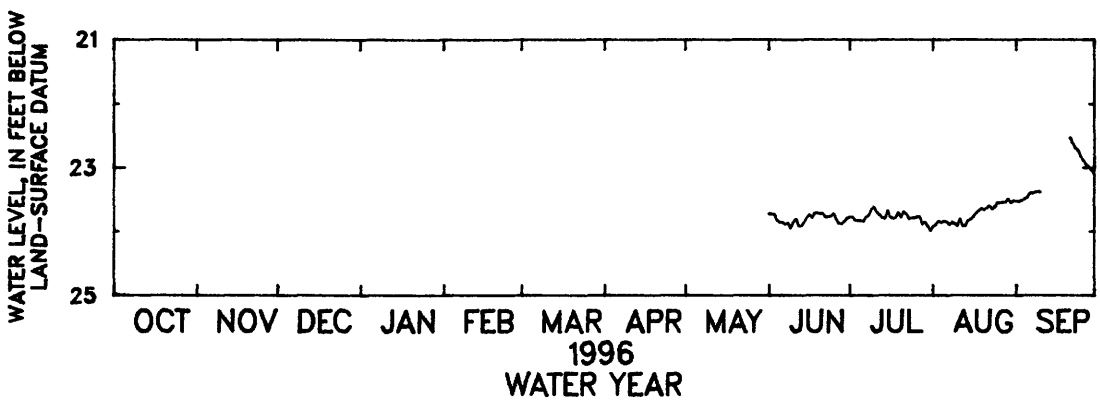


182549066304300. Local number 166.
LOCATION.--Lat 18°25'49", long 66°30'43", Hydrologic Unit 21010002, 0.95 mi east of the Rio Grande de Manatí Hwy 2 bridge, 0.40 mi southwest of Central Monserrate, 1.07 mi east of the intersection of Hwy 666 with Hwy 2, 1.20 mi west of the intersection of Hwy 685 with Hwy 2, 0.01 mi north of Hwy 2. Owner: Puerto Rico Aqueduct and Sewer Authority, Name: Manatí 3.
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 (0-42.68 m), slotted 80-90 ft (24.39-27.44 m), and 130-140 ft (39.63-42.68 m). Depth 140 ft (42.68 m).
INSTRUMENTATION.--Digital water level recorder--60-minute punch.
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.
PERIOD OF RECORD.--January 1982 to December 1984, discontinued, May 31, 1996 to September 30, 1996.
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 22.43 ft (6.84 m) below land-surface datum, Sept. 20, 1996; lowest water level measured, 26.36 ft (8.04 m) below land-surface datum, Feb. 3, 1983.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
INSTANTANEOUS OBSERVATION AT 1200

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	23.72	23.77	23.92	23.52
2	---	---	---	---	---	---	---	---	23.73	23.77	23.89	23.53
3	---	---	---	---	---	---	---	---	23.73	23.83	23.84	23.51
4	---	---	---	---	---	---	---	---	23.83	23.83	23.86	23.49
5	---	---	---	---	---	---	---	---	23.86	23.83	23.84	23.47
6	---	---	---	---	---	---	---	---	23.86	23.84	23.85	23.40
7	---	---	---	---	---	---	---	---	23.89	23.77	23.89	23.40
8	---	---	---	---	---	---	---	---	23.87	23.74	23.86	23.38
9	---	---	---	---	---	---	---	---	23.95	23.64	23.88	23.37
10	---	---	---	---	---	---	---	---	23.85	23.61	23.91	23.39
11	---	---	---	---	---	---	---	---	23.80	23.70	23.80	---
12	---	---	---	---	---	---	---	---	23.92	23.74	23.92	---
13	---	---	---	---	---	---	---	---	23.91	23.79	23.91	---
14	---	---	---	---	---	---	---	---	23.85	23.80	23.83	---
15	---	---	---	---	---	---	---	---	23.78	23.67	23.81	---
16	---	---	---	---	---	---	---	---	23.74	23.78	23.77	---
17	---	---	---	---	---	---	---	---	23.79	23.80	23.71	---
18	---	---	---	---	---	---	---	---	23.71	23.78	23.67	---
19	---	---	---	---	---	---	---	---	23.71	23.70	23.64	---
20	---	---	---	---	---	---	---	---	23.72	23.78	23.66	---
21	---	---	---	---	---	---	---	---	23.72	23.69	23.63	22.53
22	---	---	---	---	---	---	---	---	23.78	23.73	23.60	22.62
23	---	---	---	---	---	---	---	---	23.77	23.80	23.65	22.69
24	---	---	---	---	---	---	---	---	23.76	23.79	23.61	22.73
25	---	---	---	---	---	---	---	---	23.72	23.79	23.55	22.83
26	---	---	---	---	---	---	---	---	23.82	23.77	23.55	22.89
27	---	---	---	---	---	---	---	---	23.88	23.77	23.54	22.95
28	---	---	---	---	---	---	---	---	23.88	23.89	23.54	22.99
29	---	---	---	---	---	---	---	---	23.84	23.85	23.49	23.04
30	---	---	---	---	---	---	---	---	23.79	23.92	23.55	23.09
31	---	---	---	---	---	---	---	---	---	23.99	23.52	---
MEAN	---	---	---	---	---	---	---	---	23.81	23.78	23.73	23.14

WTR YR 1996 MEAN 23.66 HIGHEST 22.43 SEPT. 20, 1996 LOWEST 24.03 JULY 31, 1996



GROUND-WATER LEVELS

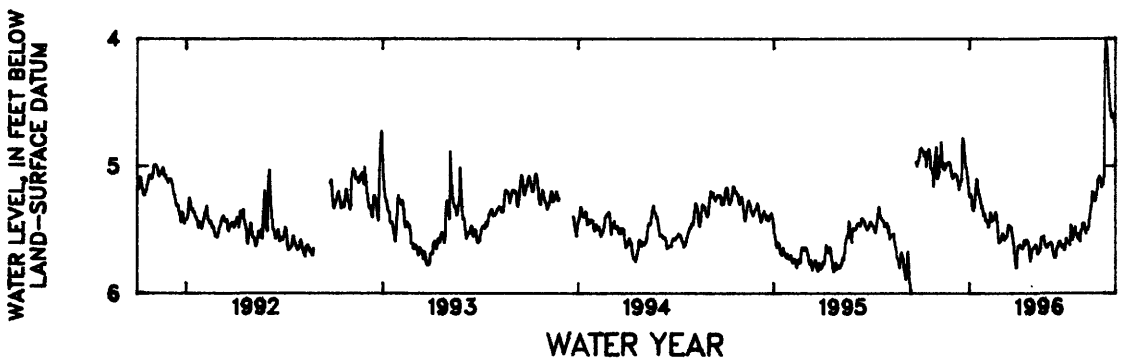
RIO GRANDE DE MANATI BASIN

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 Agustín Balseiro. Owner: P.R. Department of Agriculture. Name: Plazuela No. 2.
AQUIFER.--Aymamón Limestone.
WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 16 in (0.41 m), cased 16 in (0.41 m) 0-85 ft (0-25.9 m), open hole 85-101 ft (25.9-30.8 m). Depth 101 ft (30.8 m).
INSTRUMENTATION.--Digital water level recorder--60-minute punch.
DATUM.--Elevation of land-surface datum is about 7.0 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.
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.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
INSTANTANEOUS OBSERVATION AT 1200

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.87	5.10	5.07	5.24	5.42	5.56	5.63	5.64	5.60	5.57	5.45	5.09
2	4.87	5.10	5.08	5.22	5.42	5.54	5.63	5.63	5.61	5.59	5.45	5.10
3	4.86	5.09	5.07	5.22	5.43	5.53	5.64	5.62	5.64	5.60	5.45	5.13
4	4.87	5.06	5.06	5.24	5.45	5.53	5.62	5.62	5.67	5.60	5.49	5.17
5	4.88	5.05	5.06	5.27	5.48	5.55	5.62	5.63	5.68	5.60	5.51	5.12
6	4.88	4.92	5.07	5.31	5.47	5.55	5.63	5.66	5.70	5.61	5.53	5.13
7	4.90	4.94	5.07	5.34	5.44	5.58	5.64	5.69	5.72	5.62	5.50	5.15
8	4.92	4.98	5.08	5.35	5.44	5.57	5.64	5.69	5.71	5.57	5.49	5.10
9	4.92	4.81	5.10	5.33	5.36	5.56	5.65	5.68	5.72	5.46	5.50	5.08
10	4.90	4.90	5.12	5.32	5.37	5.55	5.65	5.66	5.70	5.48	5.49	4.17
11	4.89	4.97	5.15	5.27	5.41	5.55	5.62	5.67	5.68	5.53	5.47	4.14
12	5.01	5.01	5.19	5.20	5.43	5.53	5.58	5.65	5.65	5.58	5.44	3.99
13	4.96	5.02	5.16	5.16	5.42	5.49	5.62	5.60	5.63	5.56	5.41	4.01
14	4.93	5.02	5.15	5.10	5.42	5.46	5.62	5.56	5.64	5.53	5.38	4.06
15	4.90	5.03	5.12	5.11	5.42	5.47	5.59	5.56	5.60	5.50	5.34	4.13
16	4.88	4.98	5.12	5.16	5.40	5.48	5.58	5.57	5.60	5.49	5.31	4.24
17	4.87	5.01	5.10	5.19	5.39	5.47	5.58	5.56	5.59	5.48	5.27	4.31
18	4.88	5.00	4.85	5.22	5.38	5.50	5.60	5.55	5.59	5.54	5.20	4.40
19	4.93	4.99	4.78	5.22	5.36	5.48	5.59	5.58	5.60	5.53	5.21	4.46
20	4.99	4.98	4.79	5.24	5.38	5.52	5.60	5.60	5.61	5.53	5.21	4.52
21	5.02	4.98	4.82	5.26	5.42	5.53	5.63	5.62	5.63	5.55	5.24	4.57
22	5.02	4.97	4.89	5.29	5.44	5.57	5.70	5.63	5.64	5.57	5.25	4.59
23	5.03	4.97	4.95	5.33	5.50	5.61	5.74	5.64	5.62	5.55	5.28	4.62
24	5.03	4.97	4.98	5.31	5.57	5.64	5.75	5.64	5.62	5.53	5.27	4.62
25	5.16	4.98	5.01	5.32	5.60	5.69	5.72	5.64	5.64	5.58	5.25	4.59
26	5.16	5.00	5.01	5.35	5.60	5.70	5.68	5.62	5.66	5.59	5.22	4.60
27	5.05	5.02	5.05	5.39	5.59	5.76	5.66	5.62	5.66	5.53	5.18	4.63
28	4.98	5.06	5.09	5.37	5.59	5.80	5.65	5.61	5.64	5.50	5.11	4.66
29	4.92	5.08	5.13	5.37	5.58	5.80	5.65	5.61	5.60	5.50	5.10	4.68
30	4.88	5.10	5.17	5.39	---	5.73	5.64	5.61	5.57	5.48	5.09	4.70
31	4.85	---	5.21	5.43	---	5.66	---	5.60	---	5.45	5.08	---
MEAN	4.94	5.00	5.05	5.27	5.45	5.58	5.64	5.62	5.64	5.54	5.33	4.63

WTR YR 1996 MEAN 5.31 HIGHEST 3.99 SEPT. 12, 13, 1996 LOWEST 5.85 MAR. 28, 29, 1996

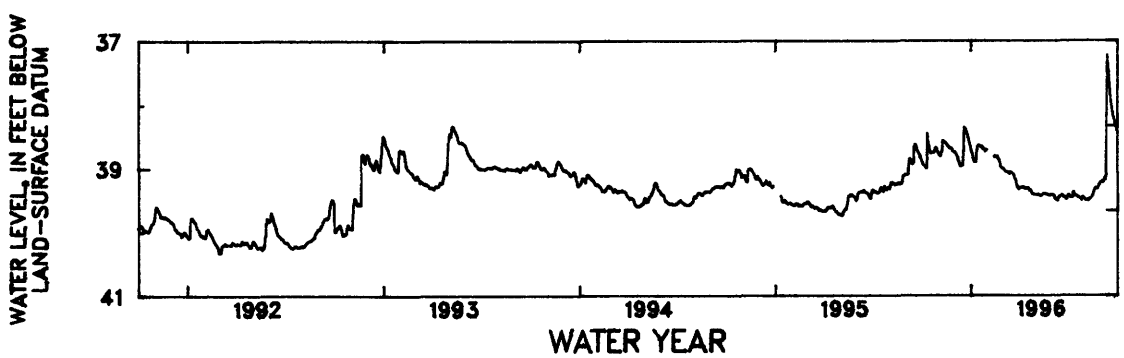


182710066303700. Local number, 207.
LOCATION.--Lat 18°27'10", long 66°30'37", Hydrologic Unit 21010002, 1.92 mi east of Barceloneta plaza, 1.35 mi north of Central Monserrate, and 2.68 mi northeast of Escuela José Cordero. Owner: P.R. Aqueduct and Sewer Authority, Name: Cantito La Luisa.
AQUIFER.--Aymamón Limestone.
WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 20 in (0.51 m), cased 20 in (0.51 m) 0-30 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.--Digital water level recorder--60-minute 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 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.
PERIOD OF RECORD.--October 1985 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 36.38 ft (11.09 m) below land-surface datum, May 15, 1986; lowest water level recorded, 89.83 ft (27.38 m) below land-surface datum, Oct. 5, 1985.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
INSTANTANEOUS OBSERVATION AT 1200

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38.88	38.76	38.74	38.72	---	39.00	39.30	39.42	39.42	39.42	39.50	39.21
2	38.90	38.77	38.74	38.74	---	39.01	39.30	39.42	39.43	39.43	39.51	39.21
3	38.92	38.78	38.76	38.76	---	39.02	39.30	39.42	39.43	39.45	39.50	39.22
4	38.94	38.79	38.77	38.78	---	39.04	39.30	39.41	39.46	39.46	39.50	39.20
5	38.95	38.81	38.79	38.84	---	39.05	39.30	39.42	39.48	39.45	39.50	39.18
6	38.96	38.78	38.81	38.88	---	39.06	39.29	39.42	39.49	39.45	39.51	39.15
7	38.96	38.74	38.83	38.89	---	39.06	39.30	39.43	39.50	39.46	39.51	39.18
8	38.97	38.73	38.87	38.90	---	39.06	39.30	39.44	39.50	39.45	39.48	39.12
9	38.98	38.58	38.89	38.90	---	39.06	39.32	39.44	39.51	39.37	39.48	39.09
10	39.00	38.56	38.91	38.89	---	39.07	39.32	39.43	39.50	39.37	39.48	38.17
11	39.00	38.57	38.94	38.84	---	39.08	39.32	39.42	39.47	39.40	39.47	37.22
12	38.44	38.59	38.97	38.70	---	39.09	39.31	39.42	39.45	39.43	39.46	37.37
13	38.56	38.59	38.97	38.65	---	39.08	39.31	39.41	39.44	39.44	39.45	37.46
14	38.61	38.59	38.96	38.64	38.81	39.06	39.32	39.40	39.45	39.44	39.43	37.56
15	38.65	38.59	38.94	38.63	38.82	39.06	39.31	39.40	39.44	39.43	39.42	37.66
16	38.70	38.61	38.94	38.63	38.81	39.07	39.31	39.40	39.43	39.44	39.38	37.76
17	38.75	38.62	38.95	38.64	38.81	39.07	39.33	39.41	39.43	39.44	39.36	37.86
18	38.76	38.63	38.72	38.65	38.82	39.08	39.35	39.40	39.42	39.46	39.33	37.95
19	38.76	38.65	38.34	38.66	38.82	39.09	39.34	39.41	39.43	39.46	39.32	38.01
20	38.75	38.65	38.36	38.66	38.81	39.11	39.34	39.41	39.44	39.46	39.31	38.06
21	38.75	38.66	38.36	38.65	38.85	39.13	39.35	39.41	39.45	39.47	39.31	38.12
22	38.75	38.68	38.39	38.67	38.87	39.17	39.37	39.42	39.46	39.48	39.31	38.17
23	38.75	38.68	38.41	38.69	38.88	39.18	39.40	39.42	39.45	39.47	39.32	38.20
24	38.75	38.68	38.44	38.69	38.93	39.20	39.41	39.43	39.45	39.47	39.31	38.24
25	38.73	38.68	38.46	38.69	38.96	39.25	39.41	39.43	39.47	39.51	39.28	38.27
26	38.69	38.69	38.49	38.69	38.98	39.27	39.41	39.43	39.49	39.47	39.26	38.30
27	38.67	38.71	38.52	38.72	38.99	39.29	39.41	39.42	39.49	39.45	39.25	38.33
28	38.67	38.73	38.56	38.73	39.00	39.32	39.42	39.42	39.46	39.45	39.23	38.36
29	38.68	38.73	38.60	38.71	39.00	39.33	39.42	39.42	39.44	39.47	39.22	38.39
30	38.70	38.74	38.62	38.71	---	39.32	39.42	39.42	39.43	39.48	39.22	38.42
31	38.74	---	38.66	---	---	39.30	---	39.42	---	39.48	39.21	---
MEAN	38.78	38.68	38.70	38.73	38.88	39.13	39.34	39.42	39.46	39.45	39.38	38.35

WTR YR 1996 MEAN 39.03 HIGHEST 37.22 SEPT. 11, 1996 LOWEST 39.53 JULY 25, 30, 1996

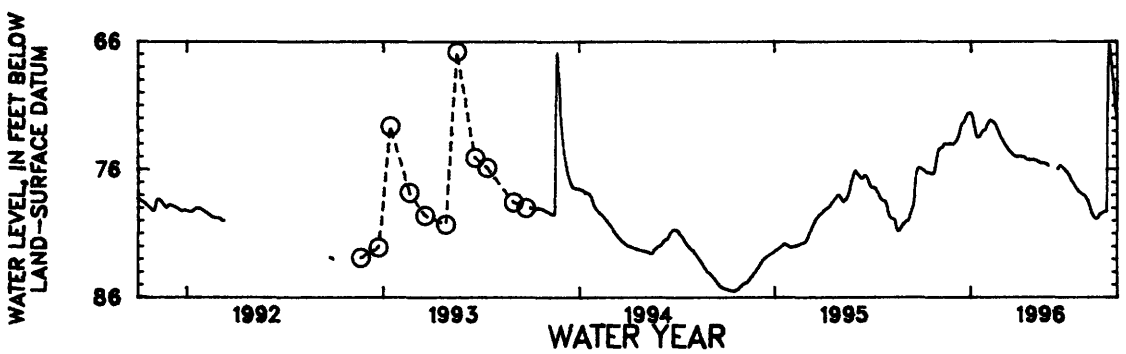


182308066260400. Local number, 210.
LOCATION.--Lat 18°23'08", long 66°26'04", Hydrologic Unit 21010002, 4.88 mi southeast of Manati plaza, 5.24 mi southwest of Vega Baja plaza, and 2.25 mi west of Escuela Evaristo Camacho. Owner: Gelo Martínez, Name: Gelo Martínez well.
AQUIFER.--Lares Limestone.
WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 8 in (0.20 m), cased 8 in (0.20 m).
INSTRUMENTATION.--Digital water level recorder--60-minute punch.
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.
PERIOD OF RECORD.--October 1985 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 40.56 ft (12.36 m) below land-surface datum, May 22, 1986; lowest water level recorded, 85.50 ft (26.06 m) below land-surface datum, Oct. 14, 15, 1994.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
INSTANTANEOUS OBSERVATION AT 1200

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	75.95	74.61	73.97	71.58	72.48	73.82	74.99	75.32	---	76.43	78.10	79.40
2	75.98	74.52	73.93	71.64	72.40	73.87	75.00	75.34	---	76.49	78.18	79.38
3	76.01	74.44	73.88	71.74	72.31	73.96	75.00	75.36	---	76.57	78.25	79.35
4	76.04	74.38	73.84	71.89	72.24	74.03	75.01	75.38	---	76.65	78.32	79.33
5	76.08	74.35	73.78	72.08	72.19	74.10	75.02	75.41	---	76.74	78.40	79.31
6	76.12	74.33	73.70	72.32	72.15	74.17	75.02	75.43	---	76.83	78.46	79.30
7	76.15	74.31	73.62	72.53	72.15	74.23	75.02	75.46	---	76.90	78.50	79.29
8	76.18	74.30	73.52	72.69	72.18	74.29	75.03	75.49	---	76.96	78.73	79.28
9	76.22	74.29	73.43	72.94	72.22	74.34	75.03	75.51	---	77.01	78.85	79.28
10	76.25	74.23	73.27	73.16	72.25	74.41	75.06	75.51	---	77.09	79.00	79.19
11	76.26	74.13	73.10	73.34	72.27	74.46	75.12	75.51	75.96	77.19	79.12	77.54
12	76.27	74.05	72.93	73.46	72.31	74.51	75.17	75.51	75.92	77.27	79.26	72.01
13	76.27	74.01	72.77	73.49	72.35	74.56	75.20	75.51	75.86	77.33	79.38	68.22
14	76.27	74.00	72.61	73.49	72.40	74.61	75.22	75.51	75.78	77.39	79.47	66.55
15	76.28	74.01	72.49	73.48	72.45	74.66	75.24	75.52	75.72	77.46	79.56	66.20
16	76.29	74.02	72.41	73.50	72.51	74.70	75.25	75.53	75.71	77.51	79.64	66.31
17	76.30	74.01	72.37	73.46	72.59	74.74	75.25	75.54	75.74	77.57	79.71	66.66
18	76.32	74.00	72.34	73.40	72.69	74.78	75.25	75.57	75.78	77.63	79.76	67.11
19	76.34	74.00	72.32	73.34	72.82	74.86	75.24	75.57	75.81	77.67	79.81	67.66
20	76.35	74.01	72.24	73.26	72.89	74.89	75.29	75.58	75.86	77.71	79.84	68.21
21	76.36	74.01	72.12	73.18	73.02	74.91	75.25	75.61	75.90	77.76	79.85	68.68
22	76.37	74.01	71.99	73.11	73.11	74.94	75.25	75.65	75.95	77.80	79.85	69.01
23	76.36	74.00	71.88	73.03	73.20	74.97	75.26	75.67	75.99	77.83	79.85	69.49
24	76.33	74.00	71.78	72.99	73.31	74.99	75.26	75.72	76.03	77.88	79.81	70.03
25	76.24	74.00	71.70	72.97	73.41	75.01	75.26	75.75	76.09	77.90	79.74	70.46
26	76.07	74.00	71.64	72.96	73.51	75.01	75.25	---	76.13	77.92	79.65	70.88
27	75.88	74.02	71.62	72.95	73.59	75.01	75.26	---	76.18	77.95	79.58	71.22
28	75.58	74.05	71.61	72.94	73.68	75.02	75.27	---	76.22	77.98	79.52	71.50
29	75.25	74.06	71.60	72.86	73.74	75.01	75.28	---	76.28	78.02	79.49	71.82
30	75.00	74.02	71.59	72.76	---	75.00	75.31	---	76.33	78.04	79.46	72.12
31	74.79	---	71.58	72.57	---	74.99	---	---	---	78.06	79.43	---
MEAN	76.07	74.14	72.63	72.87	72.70	74.61	75.17	75.52	75.96	77.40	79.24	72.83

WTR YR 1996 MEAN 74.91 HIGHEST 66.19 SEPT. 15, 1996 LOWEST 79.85 AUG. 21, 22, 23, 1996

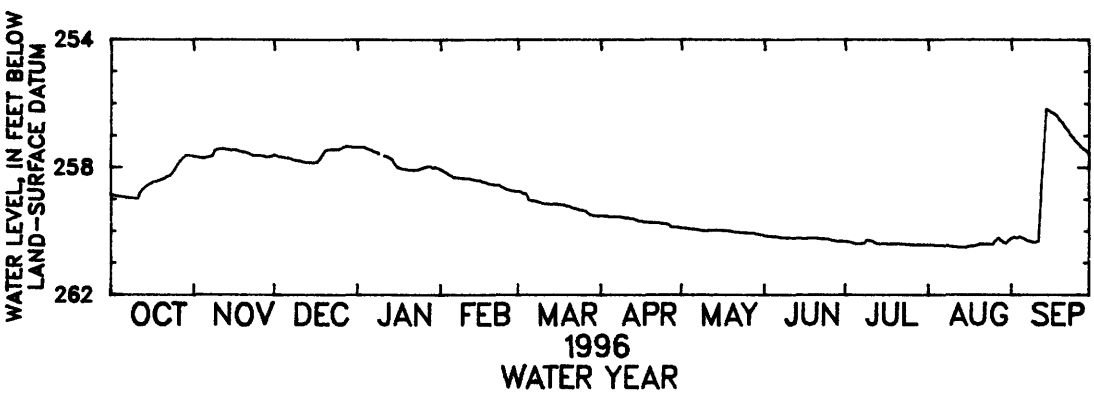


182548066265700. Local number CS-7
LOCATION.Lat 18°25'48", long 66°26'57", Hydrologic Unit 21010002, 0.92 mi east of the intersection of Hwy 686 with Hwy 670, 0.79 mi south of Hwy 2, 0.27 mi east of the intersection of Hwy 672 with Hwy 670, and 0.01 mi south of Hwy 670. Owner: Puerto Rico Aqueduct and Sewer Authority, Name: Cotto Sur No. 7.
AQUIFER.--Tertiary Limestone.
WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 20 in (0.51 m).
INSTRUMENTATION.--Digital water level recorder--60-minute punch.
DATUM.--Elevation of land-surface datum is about 270.0 ft (82.3 m) above mean sea level, from topographic map. Measuring point: Top of 20 in (0.51 m) casing, 2.30 ft (0.70 m) above land-surface datum.
REMARKS.--Observation well. Automated Digital Recorded (ADR) installed on July 11, 1994.
PERIOD OF RECORD.--July 11, 1994 to September 30, 1996.
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 254.41 ft (77.54 m) below land-surface datum, Sept. 15, 1996; lowest water level recorded, 260.63 ft (79.44 m) below land-surface datum, Aug. 14, 15, 1996.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
INSTANTANEOUS OBSERVATION AT 1200

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	258.86	257.65	257.60	257.36	258.07	258.76	259.52	259.91	260.15	260.33	260.44	260.22
2	258.88	257.67	257.64	257.36	258.11	258.77	259.53	259.91	260.16	260.34	260.44	260.19
3	258.90	257.69	257.67	257.36	258.16	258.82	259.53	259.92	260.17	260.36	260.45	260.23
4	258.91	257.70	257.68	257.39	258.21	258.83	259.55	259.94	260.18	260.39	260.46	260.18
5	258.92	257.70	257.70	257.43	258.26	259.04	259.55	259.94	260.18	260.40	260.46	260.22
6	258.93	257.68	257.70	257.45	258.31	259.05	259.55	259.95	260.19	260.40	260.46	260.26
7	258.95	257.66	257.72	257.50	258.32	259.06	259.55	259.96	260.21	260.40	260.47	260.31
8	258.96	257.63	257.76	257.53	258.33	259.08	259.56	259.98	260.22	260.39	260.46	260.32
9	258.96	257.46	257.78	257.57	258.34	259.11	259.57	259.99	260.22	260.29	260.48	260.35
10	258.97	257.42	257.79	---	258.35	259.13	259.59	259.99	260.22	260.30	260.50	260.35
11	258.98	257.41	257.80	257.64	258.35	259.14	259.59	259.98	260.22	260.32	260.50	260.31
12	258.78	257.41	257.83	257.66	258.36	259.15	259.61	259.97	260.23	260.37	260.51	258.82
13	258.68	257.42	257.84	257.71	258.38	259.16	259.62	259.98	260.23	260.40	260.51	257.53
14	258.62	257.44	257.85	257.76	258.40	259.15	259.65	259.97	260.23	260.41	260.51	256.15
15	258.55	257.46	257.85	257.91	258.41	259.15	259.68	259.98	260.24	260.40	260.52	256.21
16	258.50	257.44	257.85	258.00	258.42	259.16	259.69	259.98	260.24	260.40	260.49	256.27
17	258.45	257.46	257.83	258.03	258.46	259.17	259.71	259.99	260.23	260.41	260.47	256.32
18	258.44	257.49	257.74	258.06	258.47	259.18	259.73	259.99	260.23	260.41	260.47	256.38
19	258.41	257.51	257.60	258.06	258.51	259.21	259.74	260.00	260.23	260.41	260.45	256.51
20	258.38	257.52	257.47	258.08	258.53	259.22	259.74	260.02	260.23	260.40	260.42	256.59
21	258.35	257.55	257.44	258.08	258.54	259.27	259.74	260.03	260.24	260.41	260.41	256.72
22	258.29	257.58	257.43	258.08	258.56	259.29	259.75	260.04	260.25	260.42	260.41	256.83
23	258.26	257.62	257.43	258.08	258.56	259.31	259.76	260.05	260.25	260.42	260.42	256.97
24	258.17	257.62	257.43	258.06	258.62	259.34	259.77	260.05	260.25	260.43	260.42	257.06
25	258.05	257.62	257.43	258.03	258.66	259.35	259.78	260.06	260.27	260.43	260.42	257.17
26	257.90	257.63	257.39	258.00	258.70	259.37	259.80	260.06	260.30	260.44	260.30	257.25
27	257.79	257.65	257.34	257.97	258.72	259.44	259.87	260.07	260.31	260.44	260.22	257.34
28	257.69	257.67	257.33	257.96	258.74	259.49	259.87	260.07	260.32	260.43	260.30	257.42
29	257.62	257.66	257.34	258.01	258.75	259.51	259.88	260.09	260.32	260.44	260.36	257.47
30	257.61	257.64	257.36	258.00	---	259.52	259.89	260.11	260.32	260.44	260.39	257.57
31	257.63	---	257.36	258.03	---	259.53	---	260.12	---	260.44	260.29	---
MEAN	258.46	257.57	257.61	257.81	258.43	259.19	259.68	260.00	260.23	260.40	260.43	258.18

WTR YR 1996 MEAN 259.01 HIGHEST 256.13 SEPT. 13, 14, 1996 LOWEST 260.52 AUG. 12-15, 1996



GROUND-WATER LEVELS

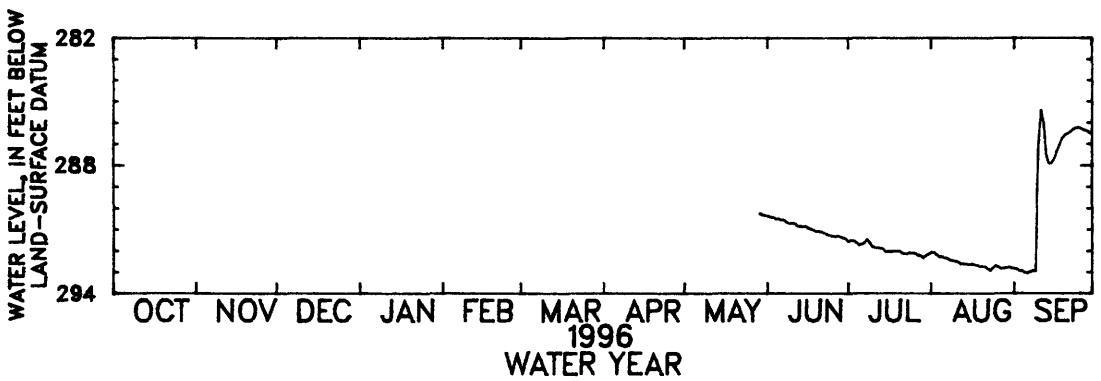
RIO GRANDE DE MANATI BASIN

182506066280200. Local number, HI-2.
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: U.S. Geological Survey, WRD, Name: USGS Hill 2.
AQUIFER.--Aymamón Limestone.
WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 4 in (0.10 m), screened 360-410 ft (109.7-125.0 m). Depth 410 ft (125.0 m).
INSTRUMENTATION.--Pressure transducer with Data Logger.
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. Data Logger installed on May 28, 1996.
PERIOD OF RECORD.--May 28, 1996 to September 30, 1996.
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 282.62 ft (86.14 m) below land-surface datum, Sept. 10, 1996; lowest water level recorded, 293.09 ft (89.33 m) below land-surface datum, Sept. 5, 6, 1996.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
INSTANTANEOUS OBSERVATION AT 1200

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	290.37	291.56	292.07	292.83
2	---	---	---	---	---	---	---	---	290.42	291.49	292.07	292.86
3	---	---	---	---	---	---	---	---	290.43	291.53	292.17	292.94
4	---	---	---	---	---	---	---	---	290.50	291.62	292.28	292.95
5	---	---	---	---	---	---	---	---	290.49	291.73	292.26	293.03
6	---	---	---	---	---	---	---	---	290.55	291.68	292.32	293.05
7	---	---	---	---	---	---	---	---	290.55	291.64	292.35	292.98
8	---	---	---	---	---	---	---	---	290.66	291.46	292.43	292.93
9	---	---	---	---	---	---	---	---	290.72	291.61	292.46	292.95
10	---	---	---	---	---	---	---	---	290.70	291.81	292.48	287.09
11	---	---	---	---	---	---	---	---	290.72	291.85	292.52	285.39
12	---	---	---	---	---	---	---	---	290.83	291.85	292.61	286.02
13	---	---	---	---	---	---	---	---	290.85	291.88	292.61	287.54
14	---	---	---	---	---	---	---	---	290.86	291.91	292.61	287.93
15	---	---	---	---	---	---	---	---	290.84	292.04	292.64	287.90
16	---	---	---	---	---	---	---	---	290.93	292.03	292.63	287.67
17	---	---	---	---	---	---	---	---	290.98	292.03	292.64	287.30
18	---	---	---	---	---	---	---	---	291.03	292.02	292.68	287.00
19	---	---	---	---	---	---	---	---	291.09	292.01	292.74	286.70
20	---	---	---	---	---	---	---	---	291.08	292.00	292.73	286.57
21	---	---	---	---	---	---	---	---	291.11	292.10	292.75	286.51
22	---	---	---	---	---	---	---	---	291.16	292.14	292.85	286.42
23	---	---	---	---	---	---	---	---	291.22	292.13	292.92	286.30
24	---	---	---	---	---	---	---	---	291.27	292.08	292.78	286.24
25	---	---	---	---	---	---	---	---	291.31	292.10	292.71	286.23
26	---	---	---	---	---	---	---	---	291.32	292.12	292.76	286.27
27	---	---	---	---	---	---	---	---	291.29	292.20	292.83	286.35
28	---	---	---	---	---	---	---	---	291.34	292.23	292.82	286.38
29	---	---	---	---	---	---	---	290.25	291.39	292.32	292.79	286.46
30	---	---	---	---	---	---	---	290.31	291.43	292.21	292.77	286.56
31	---	---	---	---	---	---	---	290.34	---	292.14	292.81	---
MEAN	---	---	---	---	---	---	---	290.30	290.91	291.92	292.58	288.58

WTR YR 1996 MEAN 291.00 HIGHEST 282.62 SEPT. 10, 1996 LOWEST 293.09 SEPT. 5, 6, 1996

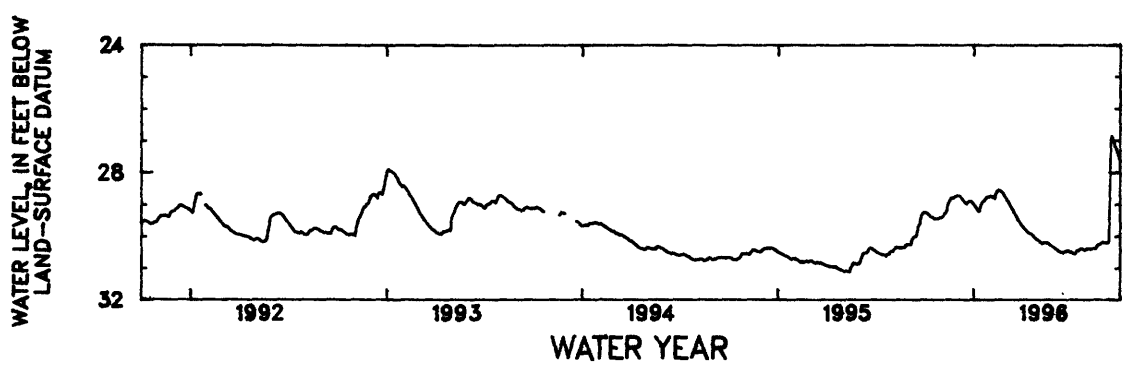


182647066201700. Local number, 70.
LOCATION.--Lat 18°26'47", long 66°20'17", Hydrologic Unit 21010002, 1.52 mi north of Vega Alta plaza, 4.78 mi southwest of Dorado plaza, and 2.01 mi northwest of Escuela Industrial para Mujeres. Owner: P.R. Aqueduct and Sewer Authority, Name: Sabana Hoyos.
AQUIFER.--Limestone of Tertiary Age.
WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 8 in (0.20 m), cased 0-90 ft (0-27.43 m), perforated. Depth 90 ft (27.43 m).
INSTRUMENTATION.--Digital water level recorder--60-minute punch.
DATUM.--Elevation of land-surface datum is about 49 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.
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 LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
INSTANTANEOUS OBSERVATION AT 1200

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29.23	29.39	28.71	29.01	28.73	28.81	29.70	30.13	30.39	30.50	30.38	30.18
2	29.24	29.39	28.71	29.03	28.73	28.85	29.72	30.14	30.40	30.51	30.38	30.18
3	29.24	29.38	28.71	29.05	28.74	28.88	29.74	30.16	30.41	30.53	30.38	30.19
4	29.24	29.36	28.72	29.08	28.76	28.90	29.76	30.17	30.43	30.54	30.37	30.20
5	29.25	29.34	28.73	29.10	28.77	28.93	29.78	30.19	30.45	30.54	30.37	30.19
6	29.26	29.32	28.74	29.13	28.78	28.95	29.79	30.19	30.45	30.55	30.37	30.18
7	29.28	29.29	28.76	29.15	28.79	28.98	29.81	30.21	30.46	30.55	30.37	30.19
8	29.30	29.27	28.78	29.17	28.81	29.01	29.83	30.22	30.47	30.54	30.37	30.18
9	29.32	29.26	28.80	29.20	28.76	29.04	29.85	30.20	30.47	30.48	30.36	30.17
10	29.34	29.24	28.83	29.21	28.70	29.07	29.86	30.20	30.49	30.44	30.37	29.44
11	29.36	29.18	28.85	29.19	28.65	29.10	29.88	30.20	30.49	30.44	30.37	28.42
12	29.37	29.08	28.88	29.11	28.61	29.13	29.88	30.20	30.49	30.44	30.38	27.36
13	29.37	29.00	28.90	29.04	28.58	29.16	29.89	30.20	30.49	30.44	30.38	26.93
14	29.38	28.94	28.91	28.99	28.56	29.19	29.91	30.19	30.51	30.43	30.38	26.83
15	29.39	28.91	28.93	28.96	28.55	29.22	29.91	30.20	30.52	30.41	30.37	26.87
16	29.40	28.88	28.95	28.92	28.54	29.25	29.91	30.20	30.50	30.40	30.35	26.90
17	29.42	28.84	28.96	28.90	28.55	29.28	29.92	30.21	30.49	30.38	30.32	26.96
18	29.43	28.81	28.97	28.89	28.55	29.31	29.94	30.21	30.48	30.38	30.29	27.02
19	29.44	28.79	28.95	28.88	28.56	29.33	29.96	30.22	30.46	30.38	30.26	27.08
20	29.44	28.78	28.92	28.86	28.57	29.36	29.97	30.23	30.45	30.38	30.26	27.14
21	29.44	28.78	28.91	28.82	28.58	29.39	29.99	30.25	30.45	30.39	30.25	27.19
22	29.44	28.79	28.90	28.80	28.60	29.43	30.01	30.27	30.44	30.40	30.24	27.24
23	29.43	28.80	28.90	28.78	28.61	29.46	30.03	30.28	30.44	30.41	30.25	27.29
24	29.44	28.77	28.90	28.77	28.64	29.49	30.05	30.29	30.44	30.42	30.23	27.34
25	29.44	28.76	28.90	28.76	28.66	29.52	30.06	30.30	30.47	30.43	30.21	27.39
26	29.43	28.75	28.90	28.76	28.70	29.56	30.08	30.32	30.48	30.40	30.20	27.44
27	29.42	28.74	28.91	28.76	28.72	29.59	30.09	30.32	30.49	30.39	30.19	27.48
28	29.40	28.73	28.93	28.75	28.76	29.62	30.10	30.33	30.49	30.39	30.18	27.53
29	29.39	28.72	28.95	28.74	28.78	29.64	30.11	30.34	30.50	30.38	30.17	27.58
30	29.39	28.71	28.97	28.73	---	29.66	30.12	30.36	30.49	30.37	30.17	27.62
31	29.39	---	28.99	28.72	---	29.69	---	30.38	---	30.38	30.18	---
MEAN	29.36	29.00	28.87	28.94	28.67	29.25	29.92	30.24	30.47	30.44	30.30	28.22

WTR YR 1996 MEAN 29.48 HIGHEST 26.82 SEPT. 14, 1996 LOWEST 30.56 JULY 7, 8, 1996



GROUND-WATER LEVELS

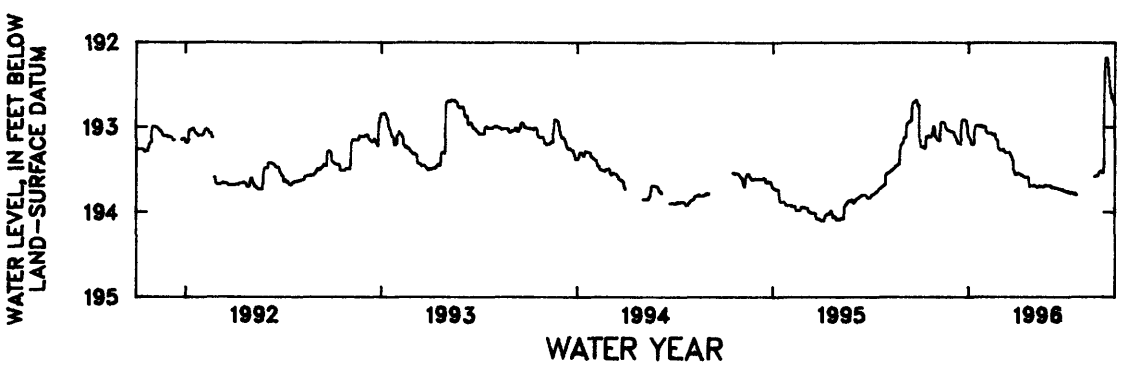
RIO CIBUCO BASIN

182615066235300. Local number, 211.
LOCATION.--Lat 18°26'15", long 66°23'53", Hydrologic Unit 21010002, 4.46 mi southeast of Manatí plaza, 5.48 mi southwest of Vega Baja plaza, and 1.22 mi east of Hwy 155 km 58.3. Owner: P.R. Aqueduct and Sewer Authority, Name: Rosario No. 2.
AQUIFER.--Aguada Limestone.
WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 14 in (0.36 m) 0-200 ft (0-61.0 m), diameter 12 in (0.30 m) 200-250 ft (61.0-76.2 m), cased 12 in (0.30 m) 0-250 ft (0-76.2 m), perforated 210-250 ft (64.0-76.2 m), diameter 10 in (0.25 m) 250-270 ft (76.2-82.3 m), open hole; concrete sealed 0-200 ft (0-61.0 m). Depth 270 ft (82.3 m).
INSTRUMENTATION.--Digital water level recorder--60-minute punch.
DATUM.--Elevation of land-surface datum is about 215 ft (65.5 m) above mean sea level, from topographic map. Measuring point: Top of shelter floor, 3.10 ft (0.94 m) above land-surface datum. Prior to April 11, 1994, hole on side of casing, 1.15 ft (0.35 m) above land-surface datum.
REMARKS.--Recording observation well.
PERIOD OF RECORD.--October 1985 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 191.29 ft (58.30 m) below land-surface datum, May 16, 1986; lowest water level recorded, 194.1 ft (59.16 m) below land-surface datum, Mar. 31, Apr. 1 to 7, 1995.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
INSTANTANEOUS OBSERVATION AT 1200

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	193.15	193.11	193.05	193.11	192.99	193.27	193.54	193.69	193.69	193.76	---	193.53
2	193.16	193.14	193.05	193.11	193.00	193.27	193.55	193.68	193.70	193.76	---	193.52
3	193.23	193.15	193.06	193.13	193.05	193.27	193.54	193.68	193.69	193.76	---	193.52
4	193.23	193.15	193.06	193.15	193.05	193.27	193.55	193.69	193.71	193.76	---	193.52
5	193.23	193.15	193.07	193.18	193.07	193.27	193.55	193.70	193.71	193.77	---	193.52
6	193.23	193.15	193.10	193.20	193.07	193.26	193.55	193.70	193.71	193.76	---	193.53
7	193.24	193.16	193.10	193.20	193.07	193.28	193.56	193.70	193.71	193.77	---	193.53
8	193.23	193.15	193.12	193.20	193.07	193.29	193.56	193.71	193.71	193.77	---	193.53
9	193.24	193.04	193.14	193.20	193.07	193.30	193.57	193.70	193.71	193.77	---	193.53
10	193.25	192.95	193.16	193.20	193.07	193.30	193.57	193.70	193.72	193.78	---	193.42
11	193.25	192.94	193.18	193.19	193.07	193.30	193.57	193.70	193.72	193.78	---	192.42
12	193.22	192.94	193.19	193.07	193.07	193.30	193.58	193.69	193.72	193.77	---	192.20
13	193.13	192.94	193.19	193.02	193.07	193.30	193.58	193.69	193.72	193.78	---	192.18
14	193.11	192.94	193.19	192.99	193.07	193.30	193.59	193.70	193.72	193.78	---	192.18
15	193.11	192.94	193.19	192.98	193.09	193.30	193.59	193.70	193.72	193.79	---	192.18
16	193.11	192.95	193.19	192.98	193.09	193.30	193.59	193.70	193.73	193.79	---	192.18
17	193.11	192.95	193.20	192.98	193.09	193.30	193.59	193.70	193.73	193.79	---	192.22
18	193.10	192.96	193.12	192.98	193.09	193.31	193.59	193.70	193.73	193.78	---	192.30
19	193.11	192.99	192.97	192.98	193.09	193.33	193.59	193.70	193.73	193.79	---	192.39
20	193.11	193.01	192.92	192.98	193.08	193.34	193.59	193.70	193.73	193.80	---	192.46
21	193.11	193.02	192.91	192.99	193.14	193.35	193.59	193.69	193.74	193.80	---	192.53
22	193.11	193.03	192.91	192.99	193.14	193.37	193.61	193.69	193.74	---	---	192.56
23	193.11	193.03	192.91	192.99	193.15	193.39	193.68	193.68	193.74	---	193.58	192.60
24	193.10	193.04	192.91	192.99	193.17	193.40	193.70	193.69	193.73	---	193.58	192.62
25	193.07	193.04	192.91	192.98	193.25	193.51	193.69	193.69	193.74	---	193.58	192.66
26	193.05	193.04	192.92	192.98	193.25	193.52	193.69	193.69	193.75	---	193.57	192.67
27	192.99	193.04	192.92	192.99	193.26	193.54	193.69	193.69	193.75	---	193.57	192.68
28	192.99	193.05	192.93	193.00	193.27	193.56	193.69	193.69	193.75	---	193.57	192.69
29	193.02	193.05	192.97	192.99	193.27	193.56	193.69	193.69	193.75	---	193.57	192.72
30	193.09	193.05	192.99	192.99	---	193.56	193.69	193.69	193.76	---	193.56	192.74
31	193.11	---	193.07	192.99	---	193.56	---	193.69	---	---	193.54	---
MEAN	193.14	193.04	193.05	193.06	193.11	193.36	193.60	193.69	193.73	193.78	193.57	192.81

WTR YR 1996 MEAN 193.30 HIGHEST 192.17 SEPT. 13, 14, 1996 LOWEST 193.80 JULY 19-22, 1996



GROUND-WATER LEVELS

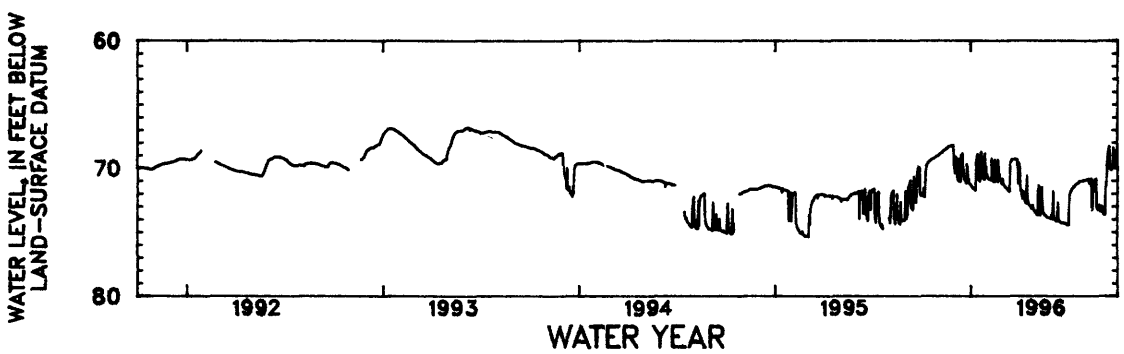
RIO CIBUCO BASIN

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: U.S. Geological Survey, WRD, Name: Ponderosa TW-1.
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.--Digital water level recorder--60-minute punch.
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. Water levels affected by nearby pumping well.
PERIOD OF RECORD.--October 1985 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 63.05 ft (19.22 m) below land-surface datum, July 15, 1987; lowest water level recorded, 75.33 ft (22.96 m) below land-surface datum, Feb. 27, Mar. 4, 5, 6, 1995

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
INSTANTANEOUS OBSERVATION AT 1200

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	72.13	68.99	69.53	71.31	70.74	71.21	69.95	73.50	73.97	74.46	70.93	72.95
2	72.15	68.96	70.46	71.39	70.82	71.29	71.80	73.53	71.76	72.62	70.93	73.35
3	72.18	68.91	69.05	71.49	70.86	71.35	71.77	73.64	73.62	72.00	70.92	73.45
4	72.20	68.87	70.29	71.51	70.87	71.41	71.71	73.66	73.90	71.88	70.90	73.52
5	71.54	68.84	69.10	71.53	70.89	71.49	72.07	71.75	73.96	71.78	70.89	73.60
6	72.14	68.81	70.33	71.63	70.90	71.50	72.24	71.31	74.04	71.71	70.86	73.62
7	72.26	68.77	70.80	71.63	70.91	71.53	72.39	73.42	74.08	71.62	70.85	73.63
8	70.38	68.74	70.94	71.66	70.95	71.60	71.81	73.63	74.13	71.56	71.19	71.39
9	69.99	68.71	71.02	71.72	69.22	71.65	72.01	73.67	74.13	71.51	70.88	71.27
10	69.85	68.67	69.27	71.73	70.88	71.68	72.43	73.43	74.14	71.45	70.86	70.56
11	69.74	68.62	70.59	69.85	70.93	71.76	72.57	71.95	72.66	71.43	70.84	69.61
12	69.65	68.62	71.12	69.31	71.02	71.80	72.72	71.44	73.84	71.42	70.84	69.09
13	69.59	68.56	71.06	69.07	71.07	71.84	72.76	73.00	74.08	71.33	72.99	68.74
14	69.50	68.55	68.95	68.88	71.08	69.96	70.55	73.37	74.14	71.30	73.30	68.54
15	69.44	68.53	70.44	70.01	69.31	69.57	72.56	73.48	74.19	71.24	71.80	68.27
16	69.44	68.47	69.23	70.84	70.89	69.49	72.51	73.56	74.24	71.20	71.21	69.90
17	69.41	68.43	68.80	70.97	70.93	69.38	72.77	73.65	74.25	71.18	71.04	70.13
18	69.39	68.42	70.04	71.03	70.94	69.31	72.86	73.67	74.26	71.16	70.97	70.14
19	69.32	68.38	70.76	69.61	71.03	69.31	72.91	73.71	74.27	71.15	70.90	70.14
20	69.29	68.36	70.88	68.85	71.08	69.31	72.98	73.76	74.27	71.10	70.87	69.74
21	69.28	68.30	70.95	68.69	69.28	69.30	73.00	73.79	74.27	71.03	70.84	69.97
22	69.25	68.28	71.03	70.22	70.46	69.30	73.06	73.85	74.29	71.02	72.67	69.98
23	69.24	68.28	71.15	70.56	70.49	69.28	73.14	73.86	74.29	71.02	73.02	68.36
24	69.21	68.28	71.17	70.80	70.88	69.28	73.14	73.87	74.29	71.02	73.20	69.54
25	69.20	68.24	69.63	70.86	71.01	69.31	72.87	73.88	74.30	71.02	73.25	69.83
26	69.16	68.22	70.59	70.90	71.05	69.31	73.14	73.90	74.34	71.01	73.27	69.90
27	69.12	68.22	71.04	69.12	71.19	69.31	73.25	73.91	74.38	71.00	72.88	69.92
28	69.06	68.21	70.87	68.81	71.23	69.37	73.34	73.94	74.41	70.99	73.19	69.92
29	69.03	68.21	71.20	70.03	70.82	71.26	73.41	73.95	74.43	70.97	73.21	68.52
30	69.02	68.19	71.24	70.47	---	69.68	73.47	73.64	74.44	70.96	73.30	69.55
31	69.00	---	71.26	70.62	---	69.56	---	73.91	---	70.96	73.40	---
MEAN	70.01	68.52	70.41	70.49	70.75	70.37	72.51	73.41	74.05	71.42	71.81	70.57

WTR YR 1996 MEAN 71.19 HIGHEST 67.82 SEPT. 24, 1996 LOWEST 74.46 JULY 1, 2, 1996



GROUND-WATER LEVELS

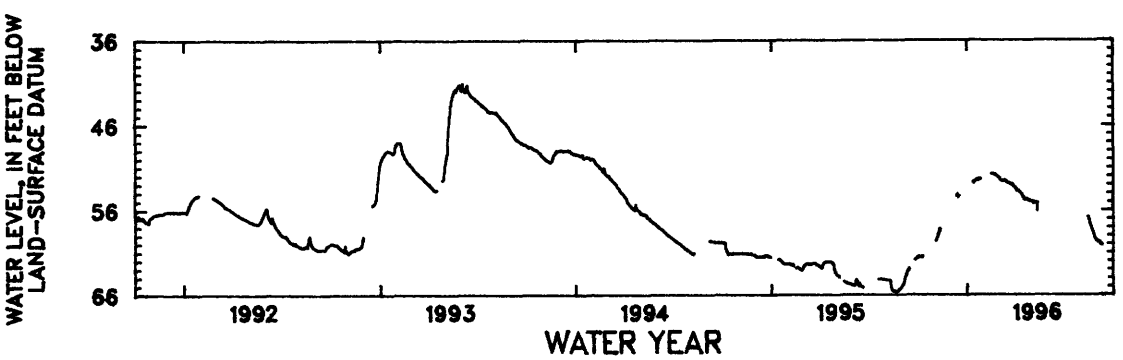
RIO CIBUCO BASIN

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: P.R. Aqueduct and Sewer Authority, Name: Pampano No. 2.
AQUIFER.--Rio 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 (67.6-100.6 m). Depth 330 ft (100.6 m).
INSTRUMENTATION.--Digital water level recorder--60-minute punch.
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.
PERIOD OF RECORD.--October 1985 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 34.40 ft (10.50 m) below land-surface datum, Dec. 6, 1985; lowest water level recorded, 65.68 ft (20.02 m) below land-surface datum, Aug. 20, 1995.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
INSTANTANEOUS OBSERVATION AT 1200

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	61.52	---	---	---	---	52.20	53.49	54.97	---	---	---	59.74
2	61.55	---	---	---	---	52.35	53.51	54.95	---	---	---	59.76
3	61.53	---	---	---	---	52.51	53.76	55.06	---	---	---	59.77
4	61.53	59.60	---	---	---	52.55	53.70	55.16	---	---	---	59.81
5	61.51	59.42	---	---	---	52.57	53.71	55.20	---	---	---	59.82
6	61.48	59.22	---	---	---	52.58	53.74	55.11	---	---	---	60.04
7	61.50	59.01	---	---	---	52.64	53.82	55.10	---	---	---	60.04
8	61.50	58.79	---	---	---	52.53	53.89	55.15	---	---	---	60.04
9	61.47	58.61	---	---	---	52.58	53.92	55.14	---	---	---	60.08
10	61.46	58.45	---	---	---	52.59	54.04	55.15	---	---	---	---
11	61.44	58.17	---	52.86	---	52.51	54.11	55.17	---	---	---	---
12	---	---	---	---	---	52.62	54.14	56.10	---	---	---	---
13	---	---	54.28	52.69	---	52.60	54.30	---	---	---	---	---
14	---	---	54.23	52.70	---	52.59	54.40	---	---	---	56.84	---
15	---	---	54.31	52.62	---	52.77	54.53	---	---	---	57.02	---
16	---	---	54.32	52.52	51.77	52.78	54.52	---	---	---	57.20	---
17	---	---	54.36	52.52	51.77	52.83	54.78	---	---	---	57.51	---
18	---	---	---	52.49	51.76	52.85	54.68	---	---	---	57.73	---
19	---	---	---	52.48	51.81	52.86	54.65	---	---	---	57.90	---
20	---	---	---	52.50	51.88	52.88	54.76	---	---	---	58.06	---
21	---	---	---	52.49	51.82	52.87	54.76	---	---	---	58.23	---
22	---	---	---	52.37	51.81	52.98	54.85	---	---	---	58.40	---
23	---	---	---	52.36	51.92	53.00	54.70	---	---	---	58.57	---
24	---	---	---	52.36	51.96	53.00	54.84	---	---	---	58.73	---
25	---	---	---	52.33	51.98	52.99	54.95	---	---	---	58.93	---
26	---	---	---	52.37	52.00	52.93	54.86	---	---	---	59.18	---
27	---	---	---	---	52.09	53.04	54.89	---	---	---	59.42	---
28	---	---	---	---	52.13	53.28	54.97	---	---	---	59.47	---
29	---	---	---	---	52.18	53.28	54.98	---	---	---	59.55	---
30	---	---	---	---	---	53.31	54.93	---	---	---	59.63	---
31	---	---	---	---	---	53.44	---	---	---	---	59.67	---
MEAN	61.50	58.91	54.30	52.51	51.92	52.79	54.37	55.19	---	---	58.45	59.90

WTR YR 1996 MEAN 55.26 HIGHEST 48.88 SEPT. 10, 1996 LOWEST 61.60 OCT. 1, 1995



GROUND-WATER LEVELS

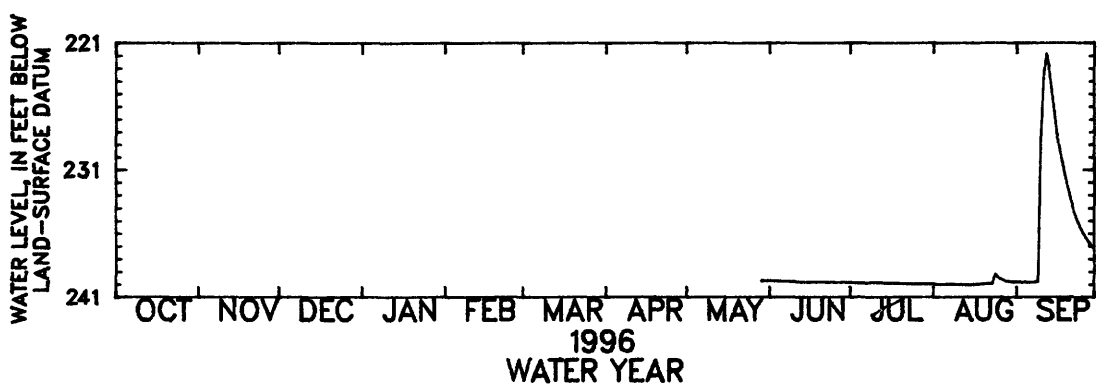
RIO CIBUCO BASIN

182614066261500. Local number, PA-2.
LOCATION.--Lat 18°26'14", long 66°26'15", Hydrologic Unit 21010002, 1.80 mi east of the intersection of Hwy 686 with Hwy 670, 0.30 mi south of Hwy 2, 0.70 mi northeast of Escuela Ramirez de Arellano, and 0.32 mi north of Hwy 670.
Owner: U.S. Geological Survey, WRD, Name: Palo Alto 2.
AQUIFER.--Aymamón Limestone.
WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 4 in (0.10 m), screened 265-310 ft (80.8-94.5 m). Depth 310 ft (94.5 m).
INSTRUMENTATION.-Pressure transducer with Data Collector Platform (DCP).
DATUM.--Elevation of land-surface datum is 245.5 ft (74.8 m) above mean sea level, from topographic survey.
Measuring point: Shelter floor on top of 4 in (0.10 m) casing, 3.79 ft (1.16 m) above land-surface datum.
REMARKS.--Recording observation well. Data Logger installed on May 28, 1996.
PERIOD OF RECORD.--May 28, 1996 to September 30, 1996.
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 221.78 ft (67.60 m) below land-surface datum, Sept. 12, 1996; lowest water level recorded, 240.04 ft (73.16 m) below land-surface datum, Aug. 12-15, 1996.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
INSTANTANEOUS OBSERVATION AT 1200

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	239.68	239.85	239.97	239.79
2	---	---	---	---	---	---	---	---	239.69	239.86	239.98	239.79
3	---	---	---	---	---	---	---	---	239.70	239.86	239.99	239.80
4	---	---	---	---	---	---	---	---	239.71	239.88	240.00	239.80
5	---	---	---	---	---	---	---	---	239.73	239.88	239.99	239.80
6	---	---	---	---	---	---	---	---	239.74	239.88	239.99	239.81
7	---	---	---	---	---	---	---	---	239.75	239.88	239.99	239.81
8	---	---	---	---	---	---	---	---	239.76	239.85	239.99	239.81
9	---	---	---	---	---	---	---	---	239.77	239.84	240.00	239.75
10	---	---	---	---	---	---	---	---	239.77	239.83	240.00	228.41
11	---	---	---	---	---	---	---	---	239.78	239.83	240.00	223.80
12	---	---	---	---	---	---	---	---	239.79	239.85	240.02	221.79
13	---	---	---	---	---	---	---	---	239.80	239.88	240.02	222.83
14	---	---	---	---	---	---	---	---	239.80	239.88	240.03	224.64
15	---	---	---	---	---	---	---	---	239.80	239.89	240.01	226.40
16	---	---	---	---	---	---	---	---	239.80	239.89	240.01	228.21
17	---	---	---	---	---	---	---	---	239.80	239.90	239.99	229.11
18	---	---	---	---	---	---	---	---	239.81	239.91	239.97	230.36
19	---	---	---	---	---	---	---	---	239.81	239.91	239.95	231.35
20	---	---	---	---	---	---	---	---	239.80	239.92	239.94	232.31
21	---	---	---	---	---	---	---	---	239.82	239.93	239.93	233.19
22	---	---	---	---	---	---	---	---	239.82	239.94	239.92	233.94
23	---	---	---	---	---	---	---	---	239.83	239.94	239.92	234.58
24	---	---	---	---	---	---	---	---	239.82	239.95	239.14	235.13
25	---	---	---	---	---	---	---	---	239.83	239.96	239.42	235.61
26	---	---	---	---	---	---	---	---	239.84	239.96	239.56	236.04
27	---	---	---	---	---	---	---	---	239.84	239.96	239.65	236.40
28	---	---	---	---	---	---	---	---	239.82	239.96	239.71	236.71
29	---	---	---	---	---	---	---	239.69	239.84	239.96	239.75	236.98
30	---	---	---	---	---	---	---	239.68	239.85	239.96	239.77	237.21
31	---	---	---	---	---	---	---	239.69	---	239.97	239.79	---
MEAN	---	---	---	---	---	---	---	239.69	239.79	239.90	239.88	233.77

WTR YR 1996 MEAN 238.39 HIGHEST 221.78 SEPT. 12, 1996 LOWEST 240.04 AUG. 12-15, 1996

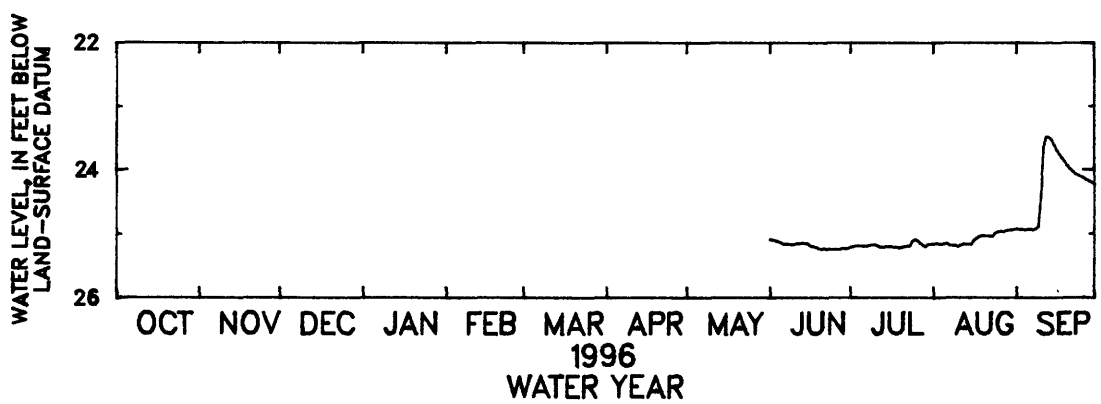


182712066251700. Local number TO-3.
LOCATION.--Lat 18°27'12", long 66°25'17", Hydrologic Unit 21010002, 0.60 mi north of the intersection of Hwy 687 with Hwy 2, 0.55 mi southeast of the eastern shoreline of Laguna Tortuguero, 0.32 mi east of Laguna Rica, and 0.12 mi west of Hwy 687. Owner: U.S. Geological Survey WRD, Name: USGS Tortuguero TW-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.--Digital water level recorder--60-minute punch.
DATUM.--Elevation of land-surface datum is about 30 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) installed on May 31, 1996.
PERIOD OF RECORD.--May 31, 1996 to September 30, 1996.
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 23.48 ft (7.16 m) below land-surface datum, Sept. 12, 13, 1996; lowest water level recorded, 25.26 ft (7.70 m) below land-surface datum, JUNE 21, 22, 23, 1996.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
INSTANTANEOUS OBSERVATION AT 1200

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	25.09	25.21	25.16	24.92
2	---	---	---	---	---	---	---	---	25.10	25.20	25.15	24.93
3	---	---	---	---	---	---	---	---	25.11	25.19	25.16	24.93
4	---	---	---	---	---	---	---	---	25.12	25.19	25.16	24.94
5	---	---	---	---	---	---	---	---	25.14	25.19	25.15	24.93
6	---	---	---	---	---	---	---	---	25.16	25.19	25.15	24.93
7	---	---	---	---	---	---	---	---	25.16	25.19	25.18	24.94
8	---	---	---	---	---	---	---	---	25.16	25.18	25.18	24.92
9	---	---	---	---	---	---	---	---	25.17	25.17	25.18	24.89
10	---	---	---	---	---	---	---	---	25.16	25.17	25.20	24.42
11	---	---	---	---	---	---	---	---	25.15	25.19	25.18	23.63
12	---	---	---	---	---	---	---	---	25.15	25.21	25.16	23.48
13	---	---	---	---	---	---	---	---	25.14	25.21	25.16	23.49
14	---	---	---	---	---	---	---	---	25.15	25.20	25.16	23.53
15	---	---	---	---	---	---	---	---	25.15	25.20	25.16	23.62
16	---	---	---	---	---	---	---	---	25.19	25.20	25.10	23.70
17	---	---	---	---	---	---	---	---	25.20	25.21	25.07	23.76
18	---	---	---	---	---	---	---	---	25.21	25.21	25.04	23.82
19	---	---	---	---	---	---	---	---	25.23	25.22	25.03	23.88
20	---	---	---	---	---	---	---	---	25.24	25.21	25.03	23.94
21	---	---	---	---	---	---	---	---	25.23	25.20	25.03	23.99
22	---	---	---	---	---	---	---	---	25.24	25.19	25.04	24.03
23	---	---	---	---	---	---	---	---	25.24	25.19	25.04	24.07
24	---	---	---	---	---	---	---	---	25.24	25.11	24.99	24.09
25	---	---	---	---	---	---	---	---	25.24	25.09	24.97	24.11
26	---	---	---	---	---	---	---	---	25.24	25.11	24.96	24.13
27	---	---	---	---	---	---	---	---	25.24	25.15	24.97	24.16
28	---	---	---	---	---	---	---	---	25.23	25.18	24.95	24.18
29	---	---	---	---	---	---	---	---	25.23	25.20	24.94	24.20
30	---	---	---	---	---	---	---	---	25.23	25.16	24.94	24.23
31	---	---	---	---	---	---	---	---	---	25.16	24.93	---
MEAN	---	---	---	---	---	---	---	---	25.18	25.18	25.08	24.23

WTR YR 1996 MEAN 24.92 HIGHEST 23.48 SEPT. 12, 13, 1996 LOWEST 25.26 JUNE 21, 22, 23, 1996

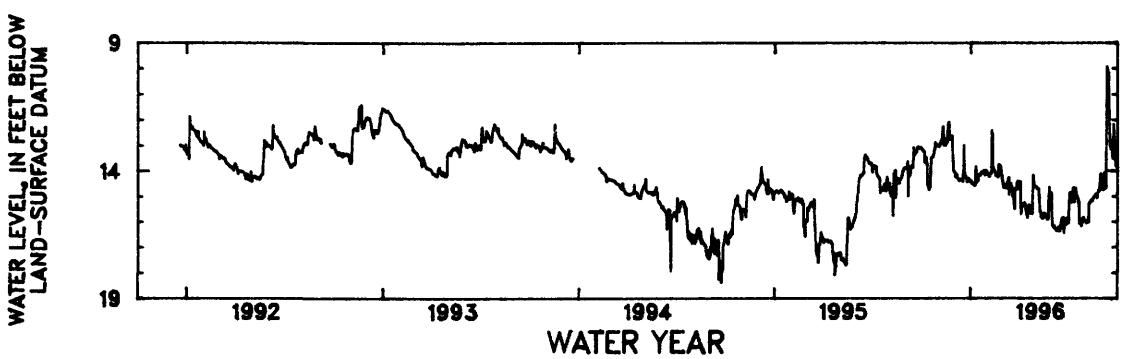


182530066135400. Local number, 216.
LOCATION.--Lat 18°25'30", long 66°13'54", Hydrologic Unit 21010005, 2.61 mi northeast of Toa Alta plaza, 2.73 mi southwest of Sabana Seca U.S. Naval Radio Station, and 1.76 mi southeast of Hwy 2 km 17.7. Owner: P.R. Aqueduct and Sewer Authority, Name: Pozo Navy-Campanillas.
AQUIFER.--Aguada Limestone.
WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 16 in (0.41 m) 0-106 ft (0-32.3 m), cased 16 in (0.41 m) 0-20 ft (0-6.10 m), cased 12 in (0.30 m) 0-106 ft (0-32.3 m), perforated 20-106 ft (6.10-32.3 m), diameter 10 in (10.25 m) 106-140 ft (32.3-42.7 m), cased 10 in (0.25 m) 106-140 ft (32.3-42.7 m), perforated 106-140 ft (32.3-42.7 m). Depth 140 ft (42.7 m).
INSTRUMENTATION.--Digital water level recorder--60-minute punch.
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 side of casing, 1.80 ft (0.55 m) above land-surface datum.
REMARKS.--Recording observation well. Water levels affected by nearby pumping well.
PERIOD OF RECORD.--October 1985 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 9.38 ft (2.86 m) below land-surface datum, June 23, 1987; lowest water level recorded, 18.4 ft (5.61 m) below land-surface datum, Sept. 24, 1994.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
INSTANTANEOUS OBSERVATION AT 1200

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13.12	13.00	14.02	14.38	14.15	14.57	14.41	14.62	16.17	15.92	15.96	14.63
2	13.16	13.04	14.07	14.44	14.10	14.64	14.43	14.67	16.22	14.91	15.96	14.70
3	13.20	13.04	14.23	14.50	14.16	14.60	15.72	14.64	16.16	14.84	16.04	14.74
4	13.18	12.95	14.13	14.50	14.23	14.55	15.53	14.70	16.16	14.85	15.98	14.73
5	13.22	12.93	14.14	14.50	14.17	14.53	15.35	14.72	16.27	14.89	15.95	14.40
6	13.27	12.85	14.14	14.51	14.13	14.62	15.34	14.72	16.29	15.26	15.96	14.06
7	13.69	12.81	14.29	14.56	14.09	14.67	15.37	14.93	16.32	14.96	16.02	14.67
8	13.53	12.80	14.30	14.58	14.09	14.65	15.34	15.61	16.35	14.85	15.30	14.70
9	13.47	12.30	14.37	14.52	12.37	14.42	15.24	15.57	16.31	14.65	15.26	14.62
10	13.49	12.26	14.38	13.81	12.72	14.44	15.27	15.63	16.34	14.66	15.23	11.48
11	13.76	12.80	14.38	14.47	13.89	14.25	15.34	15.84	16.28	15.24	15.19	9.89
12	14.61	12.99	14.33	14.33	13.93	14.96	15.40	15.74	16.21	15.19	15.14	10.95
13	14.55	12.84	14.33	14.37	13.98	14.74	15.66	15.89	16.35	14.96	15.17	10.12
14	14.64	12.77	14.32	14.39	14.00	14.47	15.74	15.76	16.36	14.66	15.16	11.07
15	14.73	12.99	14.36	14.19	14.07	14.49	15.83	15.85	16.26	14.86	15.16	11.69
16	14.66	12.72	14.40	14.13	14.17	14.61	15.49	15.64	16.15	14.95	15.06	12.88
17	14.63	12.85	14.40	14.16	14.19	14.63	15.40	15.75	16.06	14.98	15.02	13.06
18	14.18	12.88	14.15	14.16	14.19	14.73	15.33	15.81	15.89	15.06	15.01	13.16
19	13.49	12.45	12.97	14.17	14.22	15.00	15.44	15.81	15.86	15.14	14.96	12.95
20	13.46	12.15	14.10	14.04	14.24	14.93	15.59	15.71	15.84	15.25	14.95	12.81
21	13.46	12.09	14.17	14.09	14.09	15.32	15.65	15.80	15.83	15.90	14.90	13.48
22	13.45	12.68	14.22	14.04	13.75	15.48	15.62	15.91	16.46	16.09	14.99	13.54
23	13.36	12.77	14.32	14.07	13.77	14.73	15.67	15.90	16.18	16.05	15.04	12.16
24	13.22	12.71	14.29	14.09	13.81	14.69	15.68	15.86	15.93	15.93	14.87	12.73
25	13.21	12.67	14.42	13.97	13.81	14.73	14.66	15.00	16.07	16.18	14.81	13.43
26	13.08	12.64	14.29	14.05	13.92	14.67	14.14	14.61	16.10	15.88	14.74	13.52
27	12.86	12.62	14.30	14.17	14.18	14.45	14.56	15.41	15.86	16.03	14.80	13.60
28	13.00	13.40	14.32	14.01	14.34	14.41	14.61	15.19	15.86	15.91	14.72	13.78
29	12.99	13.82	14.36	13.98	14.40	14.71	14.61	14.84	15.90	15.83	14.29	13.87
30	13.00	14.04	14.40	14.00	---	14.56	14.61	14.87	16.05	15.95	14.10	13.86
31	12.99	---	14.43	14.11	---	14.46	---	16.10	---	15.93	14.44	---
MEAN	13.57	12.83	14.24	14.24	13.97	14.67	15.23	15.39	16.14	15.35	15.17	13.18

WTR YR 1996 MEAN 14.50 HIGHEST 9.76 SEPT. 11, 1996 LOWEST 16.64 JUNE 22, 1996

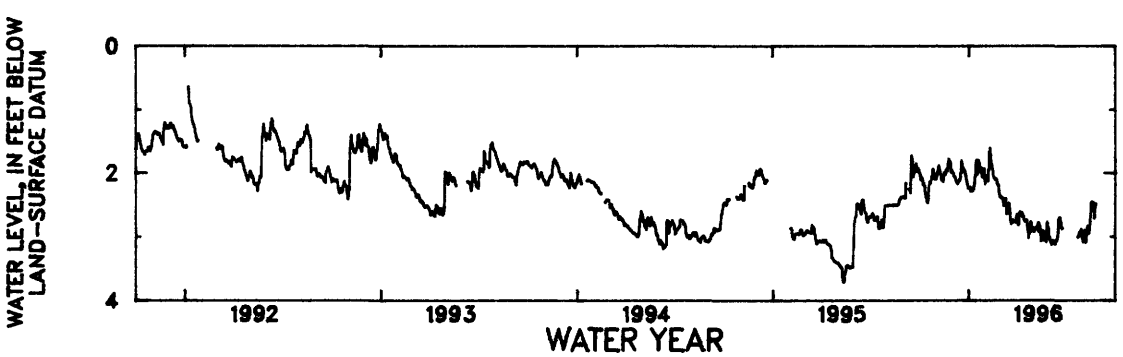


182655066142400. Local number, 217.
LOCATION.--Lat 18°26'55", long 66°14'24", Hydrologic Unit 21010005, 4.00 mi northeast of Toa Alta plaza, 3.40 mi northwest of Hwy 2 km 17.7, and 3.49 mi northwest of Sabana Seca U.S. Naval Radio Station. Owner: U.S. Geological Survey, WRD, Name: Monserrate TW-2.
AQUIFER.-Alluvial Deposits.
WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 4 in (0.10 m), cased 4 in (0.10 m) 0-80 ft (0-24.4 m), perforated 10-80 ft (3.05-24.4 m). Depth 80 ft (24.4 m).
INSTRUMENTATION.--Digital water level recorder--60-minute punch.
DATUM.--Elevation of land-surface datum is about 3.30 ft (1.00 m) above mean sea level, from topographic map. Measuring point: Top of shelter floor, 3.50 ft (1.07 m) above land-surface datum.
REMARKS.--Recording observation well. Instrument flooded during Hurricane Hortense.
PERIOD OF RECORD.--November 1985 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 0.02 ft (0.006 m) below land-surface datum, May 16, 1986; lowest water level recorded, 3.72 ft (1.13 m) below land-surface datum, May 13, 1995.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
INSTANTANEOUS OBSERVATION AT 1200

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.99	2.08	1.95	2.24	2.19	2.36	2.65	2.90	3.06	---	3.04	---
2	2.01	2.10	1.98	2.24	2.09	2.39	2.65	2.92	3.08	---	3.09	---
3	2.03	2.05	2.00	2.23	2.05	2.38	2.83	2.91	3.10	---	3.01	---
4	2.11	1.99	2.01	2.22	2.05	2.39	2.79	2.89	3.13	---	2.91	---
5	2.09	1.98	2.05	2.29	2.10	2.40	2.62	2.86	3.06	---	2.90	---
6	2.07	1.92	2.05	2.27	2.13	2.45	2.61	2.86	3.07	---	3.03	---
7	2.11	1.88	2.07	2.29	1.96	2.52	2.62	2.88	3.08	---	3.10	---
8	2.18	1.95	2.11	2.28	1.95	2.46	2.62	2.84	3.11	---	3.03	---
9	2.16	2.01	2.13	2.28	1.69	2.44	2.65	2.81	3.12	---	2.88	---
10	2.21	2.01	2.13	2.22	1.60	2.40	2.62	2.78	3.12	---	2.86	---
11	2.21	2.05	2.16	2.25	1.71	2.40	2.69	2.93	3.11	---	2.83	---
12	2.30	2.12	2.17	2.15	1.81	2.65	2.67	2.79	3.05	---	2.84	---
13	2.34	2.11	2.12	2.06	1.86	2.64	2.70	2.86	3.06	---	2.96	---
14	2.39	2.10	2.12	2.04	1.90	2.49	2.74	2.89	3.06	---	2.82	---
15	2.42	2.14	2.11	1.80	1.94	2.53	2.76	3.08	3.01	---	2.78	---
16	2.46	2.01	2.12	1.79	2.00	2.47	2.75	2.89	2.94	---	2.58	---
17	2.47	1.99	2.08	1.86	2.06	2.48	2.74	2.96	2.77	---	2.46	---
18	2.42	2.00	2.00	2.03	2.08	2.55	2.74	2.96	2.70	---	2.45	---
19	2.25	2.03	1.79	1.92	2.09	2.70	2.75	2.91	2.70	---	2.49	---
20	2.16	1.97	1.86	1.79	2.11	2.78	2.88	3.07	2.71	---	2.48	---
21	2.14	1.95	1.90	1.85	2.11	2.81	2.88	3.04	2.77	---	2.46	---
22	2.18	1.95	1.96	1.92	2.09	2.76	3.03	3.02	2.83	---	2.55	---
23	2.16	1.97	1.98	1.98	2.11	2.77	2.96	3.00	2.87	3.01	2.72	---
24	2.09	1.86	1.94	1.97	2.17	2.73	2.94	2.97	2.87	2.98	2.54	---
25	2.06	1.77	1.97	1.92	2.18	2.78	2.81	3.09	---	2.95	2.49	---
26	2.01	1.81	2.01	2.01	2.19	2.76	2.76	2.79	---	2.93	2.48	---
27	1.93	1.84	2.05	2.07	2.27	2.76	2.79	2.77	---	2.93	---	---
28	1.99	1.82	2.09	2.03	2.38	2.77	2.92	2.85	---	2.92	---	---
29	2.02	1.93	2.14	1.99	2.36	2.76	2.85	2.88	---	2.88	---	---
30	2.08	1.99	2.17	1.93	---	2.78	2.88	3.00	---	3.02	---	---
31	2.10	---	2.23	2.04	---	2.66	---	3.01	---	2.99	---	---
MEAN	2.17	1.98	2.05	2.06	2.04	2.59	2.76	2.92	2.97	2.96	2.76	---

WTR YR 1996 MEAN 2.43 HIGHEST 1.58 FEB. 10, 1996 LOWEST 3.18 MAY 22, 1996

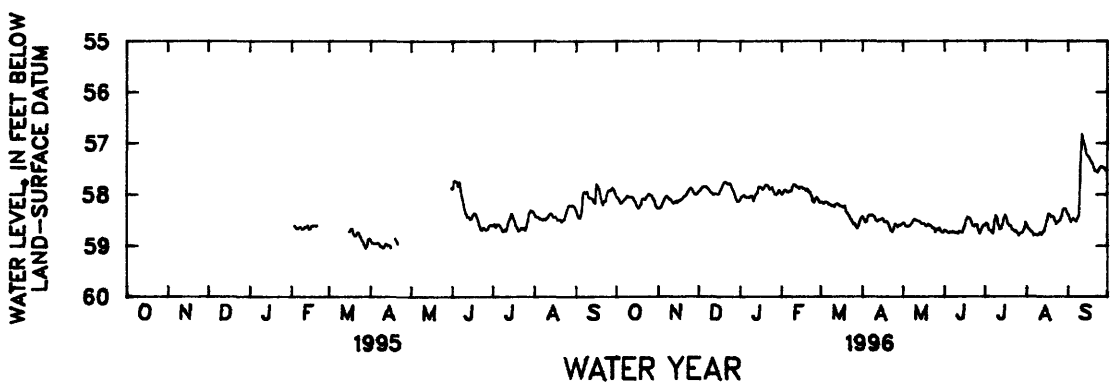


182804066173500. Local number, DA-1.
LOCATION.--Lat 18°28'04", long 66°17'35", Hydrologic Unit 21010005, 2.04 mi west of Dorado plaza, 1.15 mi north of Hwy 696, and 0.03 mi south of Hwy 693. Owner: Dorado Airport, Name: Dorado Airport Well.
AQUIFER.--Aymamón Limestone.
WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 4 in (0.10 m). Depth 98 ft (29.9 m).
INSTRUMENTATION.--Digital water level recorder--60-minute punch.
DATUM.--Elevation of land-surface datum is 62.15 ft (18.9 m) above mean sea level, from topographic survey. Measuring point: Shelter floor on top of 4 in (0.10 m) casing, 3.88 ft (1.18 m) above land-surface datum.
REMARKS.--Recording observation well. Water levels affected by nearby pumping well.
PERIOD OF RECORD.--February 2, 1995 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 56.67 ft (17.27 m) below land-surface datum, Sept. 11, 1996; lowest water level recorded, 59.21 ft (18.05 m) below land-surface datum Apr. 16, 1995.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
INSTANTANEOUS OBSERVATION AT 1200

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	58.05	58.26	57.94	58.09	58.00	58.16	58.43	58.56	58.69	58.60	58.60	58.39
2	58.07	58.27	57.92	58.04	57.96	58.15	58.49	58.55	58.71	58.56	58.66	58.47
3	58.11	58.24	57.89	58.03	57.91	58.18	58.54	58.61	58.73	58.58	58.68	58.54
4	58.17	58.18	57.85	58.01	57.91	58.15	58.53	58.62	58.75	58.69	58.72	58.49
5	58.15	58.12	57.85	58.05	57.95	58.15	58.42	58.62	58.73	58.70	58.74	58.47
6	58.12	58.07	57.85	58.06	57.95	58.16	58.40	58.61	58.74	58.73	58.79	58.51
7	58.09	58.03	57.85	58.05	57.93	58.20	58.41	58.58	58.72	58.76	58.78	58.52
8	58.07	58.06	57.89	58.05	57.93	58.20	58.40	58.54	58.74	58.52	58.79	58.46
9	58.03	58.09	57.92	58.03	57.85	58.22	58.42	58.50	58.75	58.41	58.79	58.41
10	58.05	58.09	57.96	58.03	57.80	58.21	58.45	58.48	58.74	58.47	58.77	57.59
11	58.05	58.14	57.98	58.12	57.82	58.24	58.51	58.51	58.76	58.60	58.74	56.81
12	58.05	58.17	58.01	58.04	57.84	58.19	58.52	58.52	58.72	58.68	58.78	56.95
13	58.06	58.16	57.99	57.99	57.86	58.18	58.49	58.52	58.73	58.66	58.73	57.04
14	58.11	58.13	57.99	57.96	57.88	58.20	58.49	58.54	58.74	58.59	58.71	57.14
15	58.15	58.16	57.99	57.84	57.85	58.22	58.47	58.57	58.67	58.47	58.60	57.24
16	58.22	58.12	57.99	57.85	57.85	58.23	58.47	58.57	58.60	58.40	58.50	57.26
17	58.26	58.12	57.93	57.87	57.88	58.24	58.53	58.57	58.49	58.47	58.37	57.30
18	58.24	58.10	57.88	57.90	57.89	58.25	58.53	58.61	58.44	58.58	58.37	57.36
19	58.19	58.08	57.82	57.87	57.92	58.23	58.52	58.60	58.45	58.61	58.43	57.40
20	58.08	58.04	57.76	57.81	57.89	58.35	58.56	58.58	58.48	58.61	58.42	57.48
21	58.08	58.03	57.75	57.81	57.95	58.38	58.63	58.60	58.54	58.68	58.44	57.55
22	58.10	58.00	57.78	57.84	57.95	58.42	58.71	58.62	58.61	58.69	58.51	57.55
23	58.06	57.94	57.80	57.90	58.03	58.48	58.72	58.65	58.62	58.72	58.58	57.57
24	58.02	57.90	57.78	57.89	58.13	58.52	58.65	58.65	58.59	58.71	58.53	57.51
25	57.99	57.87	57.81	57.86	58.15	58.58	58.57	58.73	58.59	58.76	58.52	57.47
26	58.01	57.90	57.89	57.94	58.08	58.56	58.60	58.67	58.69	58.80	58.49	57.46
27	58.02	57.95	57.94	58.00	58.05	58.62	58.63	58.69	58.76	58.76	58.42	57.48
28	58.08	57.99	58.01	58.00	58.10	58.66	58.59	58.65	58.69	58.75	58.29	57.49
29	58.13	58.00	58.09	57.97	58.15	58.61	58.60	58.71	58.64	58.73	58.27	57.53
30	58.22	57.98	58.14	57.91	---	58.52	58.58	58.74	58.59	58.67	58.28	57.52
31	58.26	---	58.13	57.96	---	58.46	---	58.74	---	58.54	58.35	---
MEAN	58.11	58.07	57.92	57.96	57.95	58.32	58.53	58.60	58.66	58.63	58.57	57.70

WTR YR 1996 MEAN 58.25 HIGHEST 56.67 SEPT. 11, 1996 LOWEST 58.86 JUNE 3, 1996

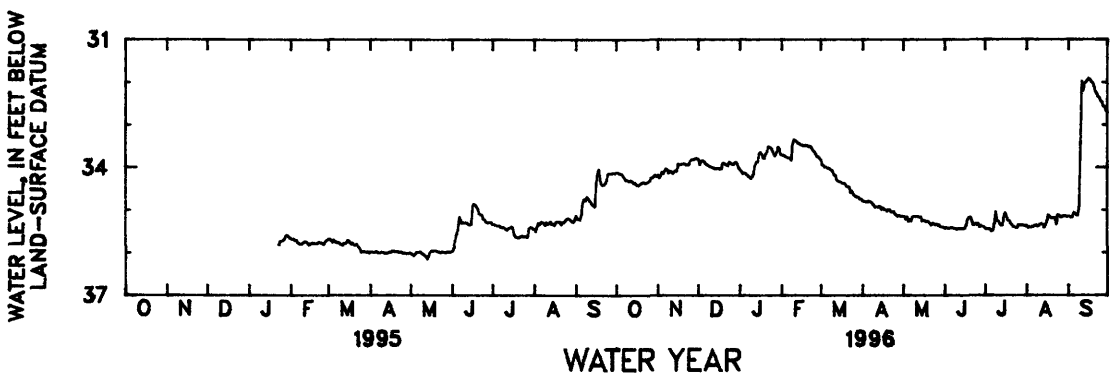


182620066163403. Local number, HG-4.
LOCATION.--Lat 18°26'20", long 66°16'34", Hydrologic Unit 21010005, 1.85 mi south of Dorado plaza, 0.70 mi southwest of Laboratorio Dorado, 0.65 mi northwest of the intersection of Hwy 695 with Hwy 693, and 0.09 mi north of Hwy 695. Owner: U.S. Geological Survey, WRD, Name: Higuillar No. 4.
AQUIFER.--Aguada Limestone.
WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 4 in (0.10 m), cased 4 in (0.10 m) 0-100 ft (0-30.5 m), screened 80-90 ft (24.4-27.4 m). Depth 100 ft (30.5 m).
INSTRUMENTATION.--Digital water level recorder--60-minute punch.
DATUM.--Elevation of land-surface datum is about 49.2 ft (15.0 m) above mean sea level, from topographic map. Measuring point: 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.
PERIOD OF RECORD.--January 23, 1995 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 31.84 ft (9.70 m) below land-surface datum, Sept. 11, 1996; lowest water level recorded, 36.15 ft (11.02 m) below land-surface datum, May 1, 11, 13, 1995.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
INSTANTANEOUS OBSERVATION AT 1200

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34.12	34.18	33.81	34.05	33.71	33.83	34.79	35.15	35.44	35.43	35.37	35.15
2	34.12	34.25	33.94	34.09	33.71	33.95	34.80	35.16	35.41	35.45	35.42	35.16
3	34.14	34.19	33.85	34.15	33.73	33.96	34.81	35.22	35.43	35.45	35.40	35.18
4	34.15	34.10	33.84	34.13	33.75	34.00	34.82	35.16	35.43	35.44	35.41	35.17
5	34.16	34.15	33.86	34.14	33.77	34.00	34.80	35.27	35.42	35.48	35.39	35.06
6	34.20	34.07	33.90	34.17	33.78	34.02	34.80	35.22	35.41	35.50	35.40	35.08
7	34.24	34.03	33.93	34.21	33.78	34.02	34.82	35.26	35.42	35.47	35.37	35.13
8	34.30	34.06	33.95	34.23	33.83	34.05	34.85	35.16	35.43	35.32	35.36	35.13
9	34.30	34.14	33.97	34.26	33.45	34.07	34.88	35.15	35.44	35.03	35.39	34.97
10	34.32	34.08	33.99	34.22	33.34	34.11	34.93	35.15	35.45	35.27	35.37	33.46
11	34.33	34.10	34.00	34.15	33.37	34.19	34.93	35.15	35.44	35.27	35.34	31.96
12	34.31	34.15	34.01	33.96	33.39	34.19	34.93	35.16	35.44	35.34	35.33	32.21
13	34.33	34.11	34.03	33.87	33.43	34.31	34.92	35.17	35.44	35.37	35.35	32.01
14	34.37	34.07	34.03	33.87	33.45	31.33	34.92	35.16	35.44	35.36	35.42	31.99
15	34.36	34.09	34.02	33.67	33.47	34.34	34.99	35.26	35.44	35.16	35.36	31.95
16	34.40	33.90	34.03	33.64	33.48	34.35	34.95	35.25	35.42	35.06	35.26	31.91
17	34.42	33.94	34.04	33.69	33.49	34.38	34.99	35.26	35.35	35.16	35.11	31.94
18	34.42	33.93	34.03	33.77	33.49	34.37	35.00	35.27	35.21	35.26	35.17	31.99
19	34.39	33.92	33.89	33.79	33.48	34.39	35.03	35.27	35.18	35.26	35.19	32.01
20	34.36	33.91	33.90	33.67	33.50	34.45	34.99	35.28	35.18	35.32	35.19	32.10
21	34.35	33.92	33.93	33.62	33.51	34.46	34.99	35.32	35.26	35.35	35.19	32.22
22	34.36	33.95	33.94	33.50	33.50	34.46	35.05	35.36	35.35	35.40	35.19	32.26
23	34.37	33.93	33.96	33.53	33.54	34.60	35.05	35.31	35.35	35.41	35.34	32.34
24	34.35	33.94	33.87	33.56	33.60	34.55	35.03	35.33	35.32	35.42	35.11	32.37
25	34.33	33.84	33.91	33.63	33.64	34.63	35.10	35.35	35.35	35.42	35.13	32.45
26	34.33	33.82	33.92	33.69	33.68	34.67	35.13	35.33	35.32	35.34	35.17	32.47
27	34.24	33.81	33.93	33.73	33.74	34.69	35.15	35.36	35.40	35.36	35.17	32.57
28	34.24	33.81	33.89	33.64	33.75	34.70	35.13	35.35	35.37	35.37	35.15	32.59
29	34.21	33.79	33.88	33.52	33.79	34.71	35.15	35.40	35.39	35.36	35.14	32.67
30	34.17	33.79	33.92	33.55	---	34.75	35.15	35.40	35.40	35.37	35.15	32.73
31	34.22	---	34.01	33.69	---	34.75	---	35.41	---	35.38	35.16	---
MEAN	34.29	34.00	33.94	33.85	33.59	34.33	34.96	35.26	35.38	35.34	35.27	33.14

WTR YR 1996 MEAN 34.45 HIGHEST 31.84 SEPT. 11, 1996 LOWEST 35.50 JULY 6, 1996

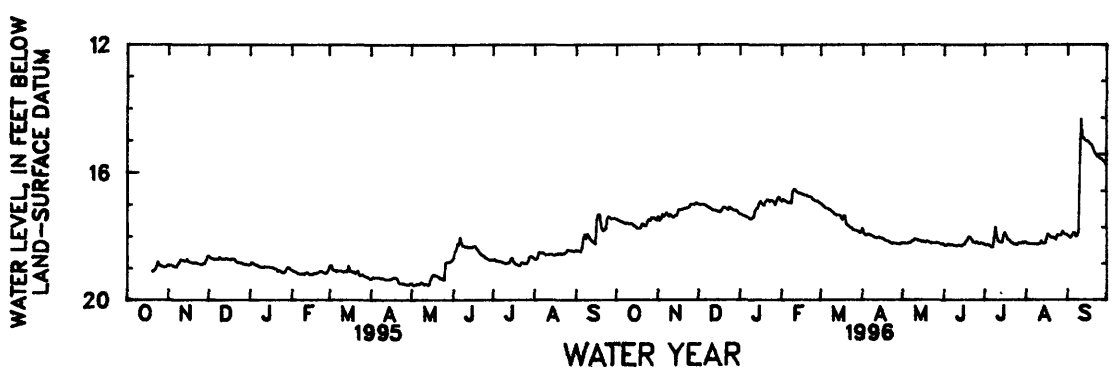


182657066162700. Local number, SA-1.
LOCATION.--Lat 18°26'57", long 66°16'27", Hydrologic Unit 21010005, 1.16 mi south of Dorado plaza, 0.45 mi west of Laboratorio Dorado, 1.79 mi southeast of Dorado airport main gate, and 0.19 mi west of the Puerto Rico Aqueduct and Sewer Authority San Antonio public supply well (San Antonio No. 3). Owner: U.S. Geological Survey, WRD, Name: San Antonio No. 1.
AQUIFER.--Aguada 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.--Digital water level recorder--60-minute punch.
DATUM.--Elevation of land-surface datum is about 19.6 ft (6.0 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.
PERIOD OF RECORD.--October 19, 1994 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 13.97 ft (4.26 m) below land-surface datum, Sept. 11, 1996; lowest water level recorded, 19.56 ft (5.96 m) below land-surface datum, May 3, 4, 1995.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
INSTANTANEOUS OBSERVATION AT 1200

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17.45	17.37	16.98	17.30	16.89	16.96	17.74	18.20	18.28	18.26	18.19	17.98
2	17.48	17.50	17.00	17.31	16.83	17.00	17.90	18.21	18.28	18.27	18.22	18.01
3	17.50	17.43	16.99	17.34	16.87	17.05	17.95	18.22	18.26	18.25	18.23	18.04
4	17.53	17.30	16.99	17.35	16.89	17.09	17.96	18.22	18.24	18.27	18.23	17.98
5	17.54	17.37	17.00	17.38	16.92	17.11	17.93	18.20	18.26	18.30	18.23	17.87
6	17.55	17.30	17.01	17.39	16.94	17.11	17.93	18.19	18.25	18.33	18.23	17.89
7	17.58	17.25	17.04	17.41	16.92	17.15	17.95	18.18	18.27	18.32	18.23	18.00
8	17.59	17.33	17.07	17.44	16.94	17.16	17.98	18.14	18.28	18.03	18.24	17.99
9	17.57	17.37	17.10	17.45	16.57	17.21	18.00	18.11	18.29	17.69	18.24	17.85
10	17.60	17.31	17.13	17.41	16.51	17.22	18.03	18.07	18.30	18.03	18.23	15.72
11	17.60	17.37	17.16	17.38	16.54	17.29	18.04	18.09	18.28	18.13	18.22	14.31
12	17.59	17.40	17.18	17.19	16.59	17.30	18.04	18.10	18.28	18.17	18.14	14.94
13	17.62	17.37	17.18	17.11	16.62	17.33	18.02	18.13	18.28	18.18	18.20	14.89
14	17.67	17.33	17.19	17.10	16.63	17.33	18.04	18.13	18.30	18.17	18.22	14.99
15	17.68	17.33	17.21	16.94	16.64	17.33	18.06	18.16	18.25	17.95	18.19	15.01
16	17.73	17.15	17.22	16.88	16.66	17.40	18.06	18.15	18.23	17.87	18.06	15.00
17	17.75	17.16	17.23	16.96	16.68	17.47	18.09	18.17	18.14	17.98	17.91	15.06
18	17.74	17.15	17.18	17.00	16.70	17.35	18.13	18.18	18.10	18.08	17.97	15.11
19	17.71	17.14	17.10	17.01	16.70	17.35	18.14	18.15	18.01	18.10	18.02	15.14
20	17.60	17.12	17.08	16.89	16.73	17.62	18.15	18.16	18.02	18.15	18.03	15.24
21	17.62	17.11	17.10	16.84	16.74	17.65	18.18	18.19	18.09	18.19	18.03	15.36
22	17.66	17.10	17.13	16.85	16.74	17.68	18.21	18.21	18.17	18.22	18.06	15.43
23	17.65	17.10	17.16	16.90	16.77	17.72	18.23	18.20	18.18	18.25	18.09	15.50
24	17.52	17.08	17.07	16.87	16.83	17.73	18.20	18.21	18.20	18.24	17.94	15.51
25	17.46	16.99	17.12	16.87	16.86	17.79	18.22	18.20	18.17	18.26	17.95	15.56
26	17.50	16.99	17.15	16.92	16.88	17.80	18.22	18.20	18.21	18.20	17.97	15.57
27	17.40	16.99	17.18	17.00	16.89	17.81	18.24	18.21	18.23	18.20	17.95	15.61
28	17.42	16.99	17.18	16.87	16.89	17.83	18.24	18.20	18.20	18.20	17.83	15.65
29	17.41	16.94	17.18	16.77	16.94	17.84	18.24	18.24	18.21	18.18	17.91	15.70
30	17.46	16.98	17.22	16.76	---	17.88	18.21	18.24	18.22	18.20	17.93	15.78
31	17.48	---	17.28	16.86	---	17.83	---	18.23	---	18.17	17.94	---
MEAN	17.57	17.21	17.12	17.09	16.77	17.43	18.08	18.18	18.22	18.16	18.09	16.09

WTR YR 1996 MEAN 17.51 HIGHEST 13.97 SEPT. 11, 1996 LOWEST 18.33 JULY 6, 7, 8, 1996

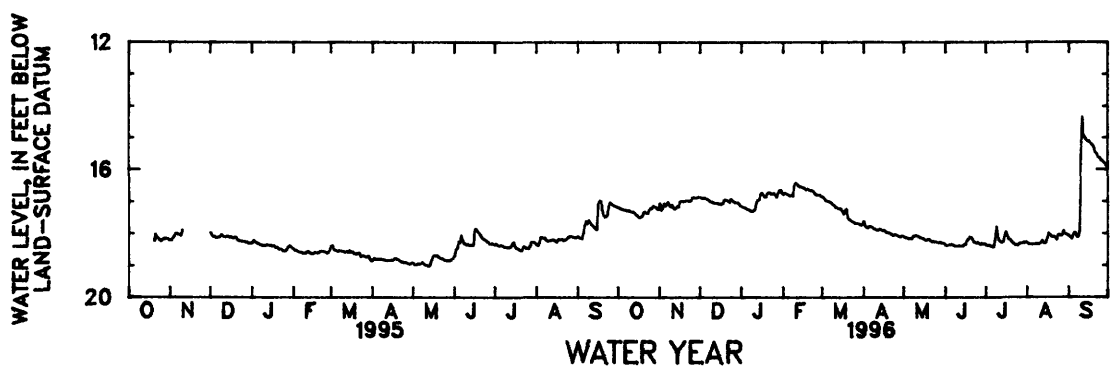


182657066162701. Local number, SA-3.
LOCATION.--Lat 18°26'57", long 66°16'27", Hydrologic Unit 21010005, 20 ft north of San Antonio USGS # 1. Owner: U.S. Geological Survey, WRD, Name: San Antonio No. 3.
AQUIFER.--Aymamón Limestone.
WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 4 in (0.10 m), cased 4 in (0.10 m), 0-80 ft (0-24.4 m), screened 65-75 ft (19.8-22.9 m). Depth 80 ft (24.4 m).
INSTRUMENTATION.--Digital water level recorder--60-minute punch.
DATUM.--Elevation of land-surface datum is about 19.6 ft (6.0 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.
PERIOD OF RECORD.--October 19, 1994 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 13.95 ft (4.25 m) below land-surface datum, Sept. 11, 1996; lowest water level recorded, 19.03 ft (5.80 m) below land-surface datum, May 13, 1995.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
INSTANTANEOUS OBSERVATION AT 1200

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17.19	17.04	16.86	17.15	16.77	16.85	17.61	18.10	18.37	18.36	18.29	18.09
2	17.21	17.27	16.89	17.17	16.72	16.89	17.77	18.12	18.37	18.37	18.33	18.11
3	17.22	17.21	16.89	17.19	16.75	16.95	17.81	18.14	18.36	18.36	18.34	18.16
4	17.25	17.06	16.88	17.21	16.77	16.98	17.82	18.16	18.34	18.38	18.33	18.08
5	17.26	17.14	16.90	17.24	16.80	16.99	17.78	18.15	18.35	18.40	18.33	17.97
6	17.26	17.07	16.92	17.25	16.82	17.00	17.78	18.15	18.34	18.42	18.34	17.99
7	17.27	17.02	16.94	17.28	16.80	17.03	17.80	18.16	18.37	18.42	18.32	18.11
8	17.30	17.12	16.98	17.30	16.83	17.05	17.84	18.08	18.39	18.15	18.33	18.10
9	17.27	17.16	17.00	17.31	16.47	17.10	17.86	18.08	18.39	17.77	18.33	17.94
10	17.31	17.10	17.02	17.28	16.42	17.12	17.89	18.06	18.39	18.13	18.32	15.71
11	17.33	17.19	17.04	17.24	16.46	17.18	17.89	18.08	18.39	18.22	18.30	14.33
12	17.32	17.23	17.05	17.02	16.50	17.19	17.89	18.10	18.39	18.26	18.22	15.03
13	17.35	17.20	17.05	16.95	16.53	17.22	17.86	18.13	18.39	18.27	18.29	14.97
14	17.41	17.15	17.06	16.94	16.54	17.23	17.88	18.13	18.39	18.26	18.31	15.08
15	17.44	17.16	17.07	16.76	16.55	17.23	17.90	18.16	18.34	18.06	18.27	15.12
16	17.49	16.98	17.08	16.73	16.57	17.31	17.90	18.18	18.33	17.95	18.14	15.11
17	17.50	16.99	17.08	16.79	16.60	17.39	17.93	18.20	18.22	18.09	17.99	15.17
18	17.48	16.98	17.04	16.85	16.62	17.27	17.97	18.22	18.17	18.18	18.05	15.22
19	17.44	16.98	16.94	16.86	16.61	17.24	17.98	18.18	18.11	18.19	18.10	15.26
20	17.33	16.97	16.93	16.74	16.64	17.52	17.99	18.19	18.12	18.25	18.11	15.34
21	17.32	16.97	16.96	16.71	16.65	17.56	18.01	18.24	18.18	18.29	18.11	15.48
22	17.36	16.97	16.98	16.72	16.65	17.59	18.04	18.26	18.27	18.33	18.14	15.53
23	17.36	16.98	17.02	16.77	16.68	17.62	18.06	18.25	18.28	18.36	18.19	15.63
24	17.26	16.96	16.92	16.75	16.74	17.64	18.03	18.27	18.31	18.35	18.04	15.64
25	17.20	16.87	16.97	16.74	16.78	17.67	18.05	18.27	18.28	18.37	18.05	15.71
26	17.22	16.87	17.00	16.79	16.79	17.69	18.06	18.28	18.31	18.31	18.07	15.74
27	17.13	16.88	17.03	16.87	16.79	17.69	18.09	18.29	18.34	18.31	18.05	15.79
28	17.17	16.88	17.03	16.73	16.79	17.70	18.10	18.27	18.31	18.31	17.91	15.82
29	17.18	16.87	17.03	16.64	16.84	17.72	18.09	18.31	18.32	18.28	18.01	15.88
30	17.23	16.86	17.07	16.64	---	17.74	18.07	18.30	18.32	18.29	18.03	15.95
31	17.25	---	17.13	16.74	---	17.70	---	18.31	---	18.27	18.05	---
MEAN	17.30	17.04	16.99	16.95	16.67	17.32	17.92	18.19	18.31	18.26	18.18	16.20

WTR YR 1996 MEAN 17.45 HIGHEST 13.95 SEPT. 11, 1996 LOWEST 18.42 JUNE 10, 1996



GROUND-WATER LEVELS

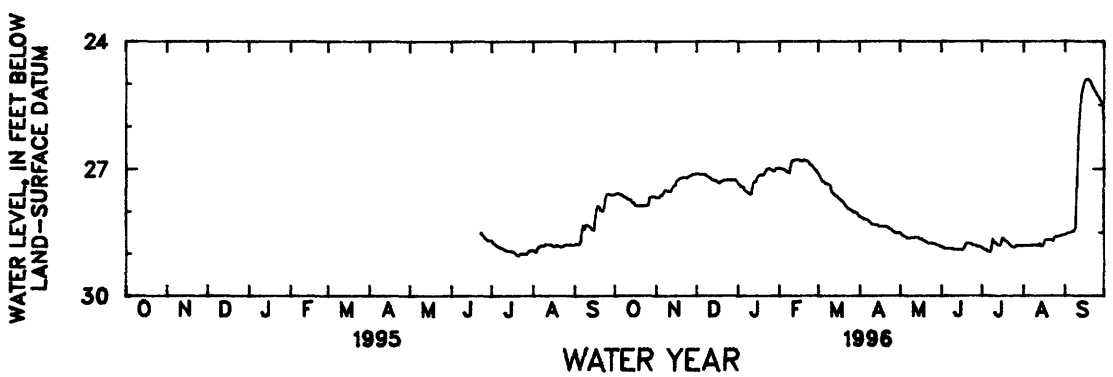
RIO DE LA PLATA BASIN

182548066164401. Local number MA-2
LOCATION.--Lat 18°25'48", long 66°16'44", Hydrologic Unit 21010005, 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: U.S. Geological Survey WRD, Name: Maguayo USGS No. 2
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.--Digital water level recorder--60-minute punch.
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.
PERIOD OF RECORD.--June 22, 1995 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 24.89 ft (7.59 m) below land-surface datum, Sept. 18, 19, 1996; lowest water level recorded, 29.05 ft (8.85 m) below land-surface datum, July 20, 21, 22, 1995.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
INSTANTANEOUS OBSERVATION AT 1200

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27.59	27.67	27.11	27.34	26.98	27.13	28.13	28.51	28.84	28.87	28.81	28.54
2	27.58	27.67	27.11	27.37	26.99	27.19	28.14	28.56	28.85	28.89	28.81	28.53
3	27.57	27.67	27.12	27.41	27.00	27.25	28.16	28.58	28.88	28.91	28.81	28.51
4	27.58	27.62	27.12	27.41	27.01	27.29	28.18	28.59	28.88	28.91	28.81	28.51
5	27.59	27.62	27.12	27.43	27.03	27.30	28.19	28.60	28.88	28.94	28.81	28.50
6	27.61	27.58	27.12	27.50	27.06	27.34	28.19	28.63	28.88	28.95	28.81	28.49
7	27.62	27.51	27.13	27.52	27.06	27.34	28.22	28.63	28.88	28.95	28.80	28.47
8	27.66	27.49	27.15	27.54	27.09	27.35	28.25	28.63	28.88	28.87	28.80	28.46
9	27.66	27.52	27.17	27.57	26.91	27.37	28.28	28.62	28.88	28.64	28.80	28.37
10	27.69	27.52	27.19	27.59	26.80	27.43	28.31	28.62	28.90	28.73	28.80	27.24
11	27.71	27.52	27.21	27.57	26.80	27.54	28.31	28.61	28.90	28.75	28.80	26.19
12	27.71	27.52	27.24	27.31	26.79	27.57	28.32	28.61	28.90	28.78	28.80	25.75
13	27.73	27.43	27.26	27.29	26.78	27.61	28.32	28.61	28.90	28.80	28.77	25.27
14	27.79	27.38	27.26	27.28	26.78	27.63	28.32	28.61	28.90	28.81	28.82	25.10
15	27.79	27.38	27.28	27.19	26.78	27.64	28.36	28.64	28.91	28.77	28.82	24.98
16	27.85	27.27	27.29	27.15	26.80	27.69	28.36	28.65	28.91	28.62	28.77	24.91
17	27.86	27.25	27.32	27.14	26.81	27.71	28.36	28.65	28.89	28.64	28.67	24.90
18	27.87	27.22	27.32	27.14	26.81	27.74	28.36	28.68	28.84	28.69	28.67	24.89
19	27.87	27.20	27.29	27.14	26.79	27.76	28.36	28.69	28.76	28.70	28.67	24.92
20	27.86	27.20	27.28	27.12	26.80	27.81	28.36	28.72	28.75	28.73	28.67	24.97
21	27.86	27.19	27.26	27.07	26.81	27.86	28.36	28.72	28.75	28.77	28.67	25.05
22	27.86	27.19	27.26	27.00	26.82	27.89	28.39	28.75	28.76	28.80	28.67	25.10
23	27.86	27.20	27.26	26.99	26.88	27.94	28.41	28.75	28.77	28.83	28.70	25.17
24	27.86	27.20	27.25	26.99	26.90	27.94	28.42	28.75	28.80	28.85	28.61	25.21
25	27.85	27.17	27.25	27.00	26.93	27.96	28.46	28.76	28.80	28.85	28.60	25.28
26	27.85	27.15	27.25	27.02	26.97	27.98	28.48	28.76	28.80	28.82	28.60	25.32
27	27.67	27.14	27.26	27.04	27.01	28.02	28.51	28.77	28.83	28.81	28.59	25.39
28	27.66	27.12	27.26	27.04	27.04	28.01	28.51	28.78	28.83	28.81	28.58	25.43
29	27.65	27.12	27.25	26.98	27.09	28.02	28.51	28.80	28.83	28.81	28.57	25.50
30	27.64	27.11	27.26	26.98	---	28.05	28.51	28.81	28.85	28.81	28.56	25.83
31	27.65	---	27.30	26.98	---	28.10	---	28.83	---	28.81	28.55	---
MEAN	27.73	27.36	27.22	27.23	26.91	27.66	28.33	28.67	28.85	28.80	28.72	26.29

WTR YR 1996 MEAN 27.82 HIGHEST 24.89 SEPT. 18, 19, 1996 LOWEST 28.95 JULY 6, 7, 1996



GROUND-WATER LEVELS

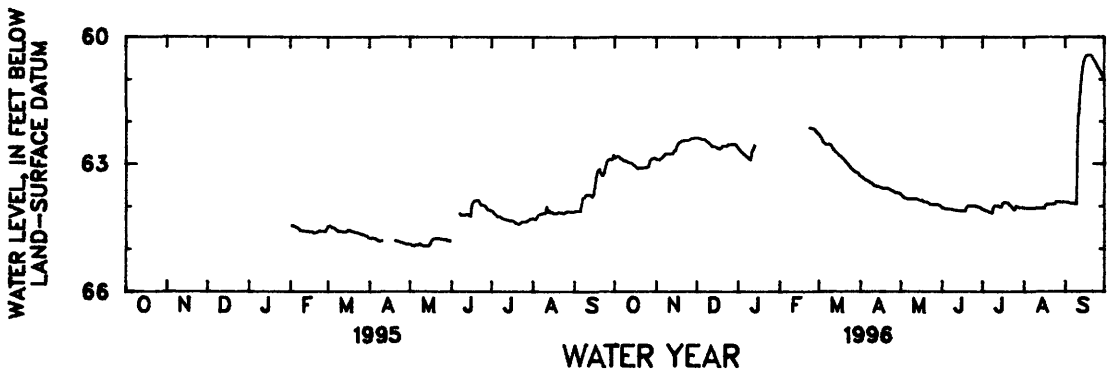
RIO DE LA PLATA BASIN

182526066165001. Local number, SR-2.
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: U.S. Geological Survey, WRD, Name: Santa Rosa USGS No. 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.--Digital water level recorder--60-minute punch.
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.
PERIOD OF RECORD.--February 2, 1995 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 60.42 ft (18.42 m) below land-surface datum, Sept. 20, 1995; lowest water level recorded, 64.93 ft (19.79 m) below land-surface datum, May 2-5, 10-15, 1995.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
INSTANTANEOUS OBSERVATION AT 1200

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	62.86	62.90	62.38	62.63	---	62.31	63.30	63.73	64.04	64.07	64.04	63.90
2	62.83	62.90	62.39	62.67	---	62.36	63.31	63.76	64.04	64.08	64.04	63.91
3	62.82	62.90	62.39	62.71	---	62.42	63.34	63.79	64.06	64.10	64.04	63.91
4	62.83	62.87	62.42	62.74	---	62.48	63.36	63.81	64.06	64.11	64.04	63.92
5	62.87	62.85	62.42	62.78	---	62.51	63.38	63.82	64.07	64.12	64.04	63.93
6	62.88	62.82	62.42	62.80	---	62.54	63.39	63.83	64.07	64.14	64.04	63.94
7	62.91	62.78	62.43	62.83	---	62.54	63.41	63.83	64.07	64.15	64.04	63.93
8	62.93	62.76	62.46	62.85	---	62.54	63.44	63.83	64.07	64.16	64.04	63.94
9	62.93	62.76	62.49	62.88	---	62.54	63.45	63.83	64.08	64.03	64.04	63.95
10	62.95	62.76	62.51	62.90	---	62.57	63.48	63.83	64.09	63.99	64.04	61.94
11	62.97	62.76	62.54	62.70	---	62.63	63.51	63.83	64.10	63.99	64.04	61.73
12	62.98	62.76	62.59	62.64	---	62.67	63.52	63.83	64.10	63.99	64.04	61.28
13	62.98	62.75	62.59	62.56	---	62.71	63.53	63.83	64.10	64.00	64.04	60.94
14	63.00	62.69	62.59	---	---	62.74	63.53	63.84	64.10	64.01	64.04	60.70
15	63.03	62.68	62.60	---	---	62.78	63.55	63.85	64.11	64.01	64.04	60.56
16	63.06	62.58	62.63	---	---	62.81	63.56	63.87	64.11	63.92	64.05	60.46
17	63.09	62.52	62.64	---	---	62.82	63.57	63.86	64.11	63.91	63.97	60.44
18	63.11	62.49	62.65	---	---	62.86	63.58	63.89	64.11	63.91	63.95	60.43
19	63.10	62.47	62.62	---	---	62.88	63.58	63.90	64.02	63.91	63.95	60.43
20	63.10	62.45	62.58	---	---	62.92	63.58	63.90	63.99	63.92	63.95	60.43
21	63.10	62.45	62.58	---	---	62.96	63.58	63.91	63.99	63.97	63.95	60.46
22	63.09	62.44	62.58	---	---	62.99	63.59	63.93	63.99	63.99	63.95	60.53
23	63.09	62.44	62.58	---	62.14	63.03	63.61	63.96	63.99	64.03	63.95	60.59
24	63.09	62.45	62.54	---	62.15	63.07	63.63	63.96	63.99	64.07	63.94	60.64
25	63.07	62.43	62.54	---	62.16	63.11	63.64	63.96	63.99	64.08	63.89	60.71
26	63.06	62.41	62.54	---	62.16	63.14	63.67	63.96	64.00	63.99	63.89	60.76
27	62.92	62.39	62.54	---	62.19	63.17	63.68	63.96	64.01	64.00	63.89	60.82
28	62.89	62.39	62.54	---	62.25	63.19	63.68	63.96	64.02	64.03	63.90	60.88
29	62.87	62.38	62.54	---	62.28	63.20	63.69	63.97	64.03	64.03	63.90	60.94
30	62.86	62.38	62.54	---	---	63.22	63.69	63.98	64.05	64.03	63.90	61.01
31	62.87	---	62.59	---	---	63.27	---	64.01	---	64.03	63.90	---
MEAN	62.97	62.62	62.53	62.75	62.19	62.81	63.53	63.88	64.05	64.02	63.98	61.73

WTR YR 1996 MEAN 63.18 HIGHEST 60.42 SEPT. 20, 1996 LOWEST 64.16 JULY 7, 8, 1996



GROUND-WATER LEVELS

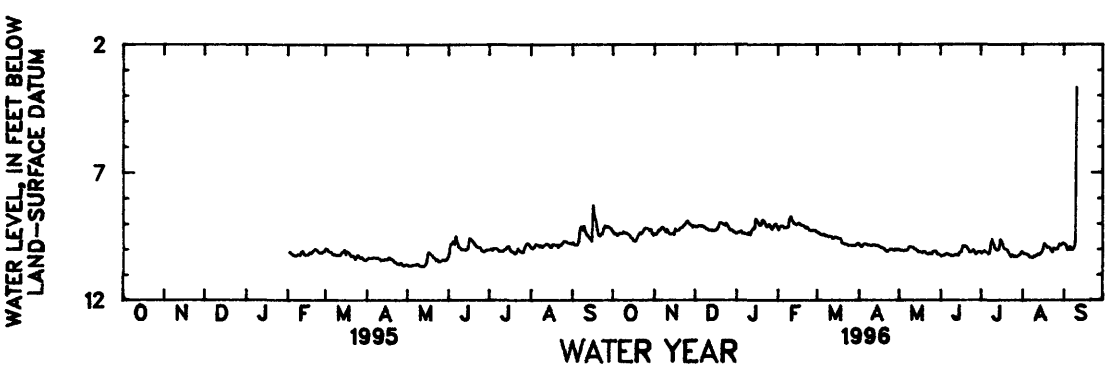
RIO DE LA PLATA BASIN

182654066150600. Local number, TB-1.
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: U.S. Geological Survey, WRD, Name: Toa Baja TW-1.
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.--Digital water level recorder--60-minute punch.
DATUM.--Elevation of land-surface datum is about 7.0 ft (2.1 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. Water levels affected by nearby pumping well.
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.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
INSTANTANEOUS OBSERVATION AT 1200

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.33	9.38	9.10	9.34	9.22	9.32	9.82	10.01	10.26	10.15	10.13	9.78
2	9.38	9.41	9.11	9.31	9.09	9.35	9.88	10.04	10.23	10.10	10.17	9.84
3	9.37	9.32	9.07	9.31	9.07	9.39	9.87	10.04	10.22	10.06	10.17	10.00
4	9.44	9.22	9.06	9.27	9.06	9.42	9.78	10.05	10.17	10.10	10.19	10.01
5	9.38	9.25	9.08	9.36	9.14	9.41	9.77	10.03	10.16	10.12	10.22	9.88
6	9.35	9.11	9.07	9.36	9.14	9.40	9.79	10.03	10.18	10.17	10.30	10.00
7	9.36	9.12	9.10	9.38	9.11	9.48	9.81	10.01	10.21	10.15	10.30	9.99
8	9.35	9.23	9.14	9.39	9.10	9.45	9.82	9.89	10.24	9.73	10.32	9.92
9	9.29	9.32	9.19	9.38	8.76	9.49	9.83	9.90	10.23	9.57	10.25	9.73
10	9.34	9.20	9.21	9.33	8.70	9.48	9.84	9.90	10.24	9.79	10.26	3.66
11	9.36	9.34	9.25	9.41	8.85	9.49	9.82	9.91	10.22	9.95	10.22	---
12	9.39	9.39	9.25	9.24	8.95	9.56	9.81	9.97	10.20	10.01	10.18	---
13	9.44	9.39	9.25	9.18	8.99	9.55	9.84	9.99	10.21	10.04	10.19	---
14	9.53	9.37	9.24	9.16	9.01	9.50	9.85	10.04	10.21	9.97	10.16	---
15	9.55	9.42	9.26	8.78	8.98	9.52	9.85	10.09	10.11	9.58	10.10	---
16	9.65	9.17	9.24	8.87	8.96	9.56	9.89	10.09	10.08	9.67	9.97	---
17	9.67	9.26	9.19	8.96	9.00	9.56	9.93	10.10	9.85	9.83	9.76	---
18	9.63	9.25	9.10	9.04	9.05	9.57	9.93	10.13	9.88	9.98	9.83	---
19	9.51	9.23	8.94	9.02	9.04	9.76	9.96	10.08	9.87	9.99	9.91	---
20	9.40	9.14	8.95	8.84	9.09	9.76	10.02	10.10	9.90	10.02	9.91	---
21	9.33	9.13	8.98	8.87	9.14	9.78	10.07	10.16	10.00	10.10	9.94	---
22	9.37	9.08	9.02	8.97	9.11	9.79	10.08	10.18	10.10	10.20	10.03	---
23	9.31	9.02	9.04	9.09	9.17	9.80	10.02	10.15	10.11	10.28	10.10	---
24	9.21	8.94	8.97	9.08	9.25	9.84	9.99	10.16	10.06	10.20	9.94	---
25	9.16	8.88	9.06	9.01	9.25	9.83	9.98	10.17	10.02	10.28	9.99	---
26	9.17	8.97	9.17	9.11	9.24	9.84	10.01	10.07	10.12	10.26	9.99	---
27	9.18	9.02	9.23	9.20	9.24	9.85	10.03	10.07	10.18	10.28	9.96	---
28	9.25	9.05	9.23	9.11	9.24	9.83	9.97	10.06	10.10	10.25	9.78	---
29	9.21	9.13	9.28	9.02	9.30	9.84	10.02	10.17	10.09	10.22	9.83	---
30	9.38	9.07	9.32	8.99	---	9.78	9.98	10.19	10.09	10.17	9.78	---
31	9.45	---	9.36	9.12	---	9.74	---	10.22	---	10.07	9.75	---
MEAN	9.38	9.19	9.14	9.15	9.08	9.61	9.91	10.06	10.12	10.04	10.05	9.28

WTR YR 1996 MEAN 9.60 HIGHEST 3.04 SEPT. 10, 1996 LOWEST 10.32 AUG. 8, 1996



GROUND-WATER LEVELS

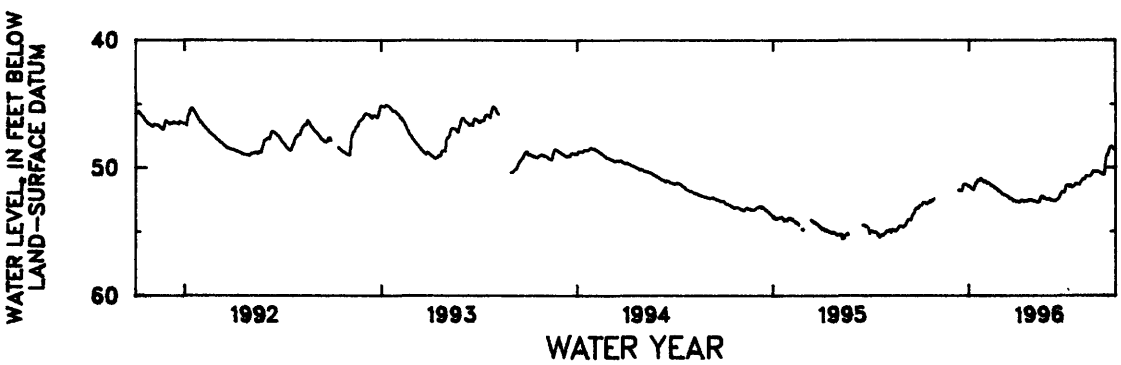
RIO HONDO TO RIO PUERTO NUEVO BASINS

182441066082600. Local number, 219.
LOCATION.--Lat 18°24'41", long 66°08'26", Hydrologic Unit 21010005, 0.47 mi west of Fort Buchanan Military Res. main gate, 1.74 mi northeast of Bayamón plaza, and 1.88 mi southwest of P.R. National Cementery. Owner: U.S. Department of Defense, Name: Ft. Buchanan No. 1, Buchanan Park 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.--Digital water level recorder--60-minute punch.
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.
PERIOD OF RECORD.--December 1985 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 34.97 ft (10.66 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.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
INSTANTANEOUS OBSERVATION AT 1200

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	52.96	---	---	51.44	51.11	51.96	52.68	52.59	52.55	51.41	50.91	50.38
2	52.95	---	---	51.49	51.15	52.05	52.69	52.62	52.54	51.37	50.92	50.43
3	52.94	---	---	51.54	51.25	52.08	52.72	52.62	52.52	51.38	50.91	50.47
4	52.94	---	---	51.61	51.17	52.07	52.68	52.65	52.53	51.43	50.84	50.48
5	52.87	---	---	51.64	51.18	52.08	52.63	52.69	52.57	51.48	50.73	50.53
6	52.75	---	---	51.65	51.17	52.10	52.59	52.66	52.56	51.49	50.67	50.55
7	52.72	---	---	51.69	51.21	52.16	52.55	52.69	52.56	51.46	50.64	50.53
8	52.70	---	---	51.69	51.26	52.15	52.60	52.70	52.58	51.35	50.65	50.51
9	52.70	---	---	51.73	51.30	52.17	52.57	52.69	52.56	51.50	50.66	50.55
10	52.72	---	---	51.59	51.39	52.20	52.55	52.61	52.59	51.55	50.68	50.24
11	52.74	---	---	51.45	51.40	52.22	52.57	52.66	52.53	51.52	50.68	49.65
12	52.76	---	---	51.32	51.40	52.25	52.59	52.43	52.53	51.50	50.68	49.29
13	52.78	---	51.77	51.20	51.41	52.25	52.66	52.30	52.48	51.49	50.66	49.13
14	52.83	---	51.79	51.21	51.43	52.29	52.62	52.28	52.45	51.44	50.65	49.03
15	52.79	---	51.79	51.12	51.45	52.31	52.60	52.22	52.40	51.40	50.62	48.99
16	52.73	---	51.78	51.03	51.50	52.42	52.64	52.22	52.39	51.31	50.55	48.88
17	52.72	---	51.79	50.98	51.62	52.44	52.64	52.24	52.30	51.26	50.45	48.78
18	52.70	---	51.80	50.95	51.53	52.40	52.60	52.40	52.22	51.26	50.35	48.63
19	52.66	---	51.69	50.93	51.62	52.44	52.54	52.40	52.10	51.30	50.28	48.44
20	52.63	---	51.47	51.01	51.66	52.44	52.59	52.31	51.99	51.28	50.27	48.38
21	52.64	---	51.35	50.97	51.65	52.45	52.59	52.36	51.94	51.29	50.26	48.37
22	52.65	---	51.31	50.84	51.67	52.54	52.51	52.41	51.90	51.30	50.29	48.38
23	52.62	---	51.29	50.85	51.71	52.64	52.51	52.44	51.92	51.29	50.33	48.37
24	52.58	---	51.29	50.90	51.84	52.56	52.51	52.47	51.92	51.28	50.31	48.40
25	52.51	---	51.30	50.99	51.80	52.57	52.49	52.46	51.91	51.30	50.30	48.43
26	52.47	---	51.31	51.03	51.83	52.59	52.52	52.42	51.92	51.21	50.29	48.51
27	52.47	---	51.33	51.06	51.87	52.62	52.59	52.47	51.90	51.10	50.29	48.56
28	52.46	---	51.37	51.14	51.88	52.65	52.57	52.43	51.63	51.05	50.30	48.56
29	---	---	51.42	51.04	51.94	52.69	52.60	52.41	51.47	51.02	50.31	48.60
30	---	---	51.45	51.05	---	52.61	52.64	52.43	51.40	50.94	50.34	48.64
31	---	---	51.43	51.04	---	52.65	---	52.44	---	50.91	50.36	---
MEAN	52.71	---	51.51	51.23	51.50	52.36	52.59	52.47	52.23	51.32	50.52	49.29

WTR YR 1996 MEAN 51.61 HIGHEST 48.35 SEPT. 20-23, 1996 LOWEST 52.99 OCT. 1, 1995



GROUND-WATER LEVELS

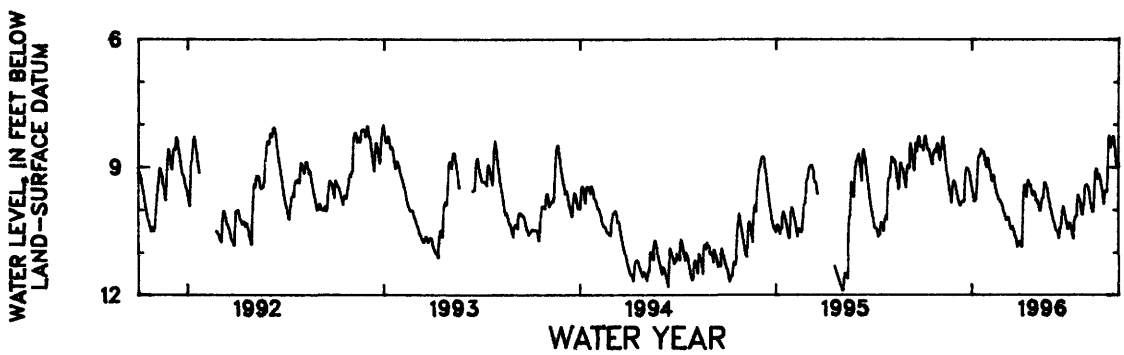
RIO HONDO TO RIO PUERTO NUEVO BASINS

182511066045401. Local number, PN-2.
LOCATION.--Lat 18°25'11, long 66°04'54", Hydrologic Unit 21010005, 1.58 mi northeast of Fort Buchannan Military Res. main gate, 2.95 mi southeast of Cataño plaza, and 2.45 mi southeast of U.S. Naval Reservation in Miramar.
Owner: U.S. Geological Survey, WRD, Name: La Esperanza No. 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 ft (12.2 m).
INSTRUMENTATION.--Digital water level recorder--15-minute punch.
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.
PERIOD OF RECORD.--July 1989 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 8.01 ft (2.44 m) below land-surface datum, Dec. 30, 31, 1992; lowest water level recorded, 11.90 ft (3.63 m) below land-surface datum, July 15, 16, 1991.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
INSTANTANEOUS OBSERVATION AT 1200

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.55	8.77	9.39	9.49	8.91	10.06	10.80	9.75	10.26	10.32	9.42	9.66
2	8.60	8.83	9.46	9.57	9.03	10.08	10.84	9.78	10.29	10.31	9.40	9.75
3	8.47	8.75	9.54	9.63	9.06	10.15	10.87	9.84	10.36	10.37	9.43	9.85
4	8.34	8.59	9.60	9.70	9.11	10.21	10.62	9.86	10.39	10.43	9.44	9.65
5	8.27	8.56	9.66	9.79	9.21	10.23	10.01	9.94	10.46	10.49	9.48	9.56
6	8.27	8.41	9.71	9.79	9.28	10.19	9.58	10.00	10.48	10.56	9.56	9.55
7	8.35	8.30	9.78	9.78	9.32	10.17	9.41	10.01	10.49	10.61	9.64	9.54
8	8.43	8.28	9.82	9.76	9.28	10.18	9.40	10.01	10.49	10.67	9.73	9.57
9	8.54	8.36	9.87	9.68	9.20	10.17	9.44	9.86	10.53	10.33	9.84	9.56
10	8.58	8.48	9.89	9.49	9.18	10.23	9.52	9.76	10.64	10.23	9.89	9.15
11	8.58	8.60	9.88	9.16	9.22	10.32	9.62	9.70	10.65	10.17	9.95	8.39
12	8.60	8.73	9.82	8.93	9.34	10.36	9.70	9.70	10.54	10.15	10.03	8.25
13	8.59	8.85	9.82	8.77	9.42	10.40	9.38	9.70	10.41	10.15	10.04	8.26
14	8.69	8.96	9.80	8.74	9.49	10.44	9.31	9.46	10.42	10.12	10.04	8.38
15	8.74	9.09	9.79	8.73	9.55	10.45	9.30	9.35	10.31	9.79	9.94	8.53
16	8.80	9.17	9.79	8.68	9.60	10.41	9.37	9.35	10.18	9.65	9.70	8.47
17	8.88	9.24	9.80	8.60	9.63	10.38	9.45	9.40	10.02	9.64	9.32	8.38
18	8.91	9.32	9.75	8.57	9.66	10.45	9.45	9.41	10.01	9.72	9.10	8.35
19	8.93	9.41	9.40	8.67	9.72	10.47	9.40	9.46	9.91	9.74	9.03	8.33
20	8.75	9.51	9.16	8.67	9.74	10.54	9.46	9.49	9.95	9.78	9.03	8.27
21	8.67	9.59	9.04	8.63	9.76	10.61	9.55	9.58	10.04	9.83	9.04	8.28
22	8.65	9.65	9.01	8.63	9.76	10.61	9.63	9.66	10.10	9.93	9.16	8.38
23	8.60	9.76	9.04	8.70	9.81	10.67	9.65	9.74	10.14	10.01	9.28	8.53
24	8.58	9.84	9.03	8.77	9.81	10.71	9.65	9.79	10.24	10.09	9.22	8.64
25	8.58	9.58	9.03	8.85	9.84	10.81	9.56	9.84	10.29	10.10	9.15	8.77
26	8.64	9.44	9.09	8.91	9.87	10.87	9.58	9.93	10.35	9.99	9.22	8.86
27	8.51	9.34	9.12	8.95	9.89	10.84	9.59	9.99	10.44	9.86	9.26	8.94
28	8.45	9.31	9.19	8.99	9.96	10.77	9.65	10.05	10.40	9.87	9.33	8.90
29	8.44	9.33	9.27	8.84	10.02	10.77	9.77	10.10	10.42	9.54	9.41	8.87
30	8.53	9.37	9.34	8.78	---	10.73	9.78	10.15	10.30	9.42	9.50	8.95
31	8.65	---	9.42	8.82	---	10.74	---	10.22	---	9.41	9.55	---
MEAN	8.59	9.05	9.49	9.07	9.51	10.45	9.71	9.77	10.32	10.04	9.49	8.89

WTR YR 1996 MEAN 9.53 HIGHEST 8.19 SEPT. 12, 1996 LOWEST 10.87 MAR. 26, APR. 3, 1996



GROUND-WATER LEVELS

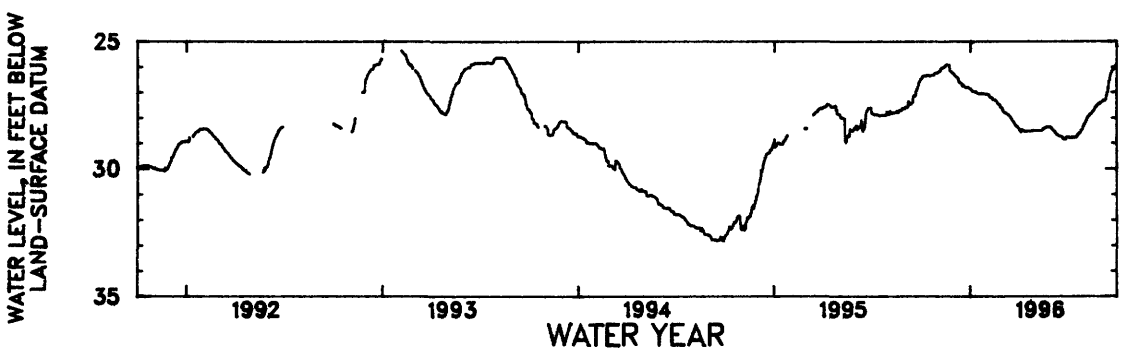
RIO HONDO TO RIO PUERTO NUEVO BASINS

182435066052700. Local number, PN-5.
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 anthena. Owner: U.S. Geological Survey, WRD, Name: Salud Mental No. 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 ft (0-25.3 m), perforated 73-83 ft (22.2-25.3 m). Depth 83 ft (25.3 m).
INSTRUMENTATION.--Digital water level recorder--15-minute punch.
DATUM.--Elevation of land-surface datum is about 85 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.
PERIOD OF RECORD.--April 1989 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 25.37 ft (7.73 m) below land-surface datum, Feb. 5, 1993; lowest water level recorded, 32.82 ft (10.0 m) below land-surface datum, Sept. 25-28, 1994.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
INSTANTANEOUS OBSERVATION AT 1200

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26.47	26.22	26.29	26.88	27.09	27.70	28.46	28.50	28.42	28.76	28.25	27.39
2	26.42	26.22	26.32	26.89	27.09	27.75	28.50	28.50	28.45	28.77	28.19	27.39
3	26.40	26.17	26.34	26.92	27.10	27.76	28.55	28.50	28.47	28.77	28.15	27.39
4	26.35	26.16	26.37	26.95	27.10	27.79	28.56	28.50	28.50	28.77	28.09	27.33
5	26.35	26.16	26.38	26.97	27.16	27.81	28.47	28.50	28.53	28.79	28.04	27.33
6	26.35	26.13	26.40	26.97	27.19	27.82	28.47	28.50	28.54	28.79	28.00	27.33
7	26.34	26.06	26.41	26.97	27.20	27.82	28.47	28.50	28.56	28.79	27.98	27.33
8	26.34	26.04	26.42	26.97	27.20	27.82	28.50	28.50	28.59	28.79	27.96	27.33
9	26.34	26.03	26.46	26.99	27.20	27.85	28.52	28.50	28.62	28.76	27.93	27.33
10	26.34	26.03	26.56	26.98	27.23	27.86	28.53	28.50	28.64	28.77	27.90	27.28
11	26.34	26.03	26.61	26.98	27.23	27.87	28.54	28.50	28.66	28.77	27.86	27.16
12	26.33	26.01	26.64	27.02	27.29	27.90	28.54	28.50	28.66	28.77	27.85	27.08
13	26.33	25.99	26.61	27.02	27.29	27.91	28.54	28.50	28.69	28.78	27.85	26.99
14	26.33	25.97	26.63	27.04	27.30	27.94	28.53	28.46	28.71	28.78	27.83	26.90
15	26.33	25.95	26.66	27.05	27.30	27.96	28.53	28.46	28.71	28.77	27.78	26.78
16	26.34	25.94	26.69	27.06	27.32	28.01	28.53	28.41	28.72	28.77	27.76	26.57
17	26.34	25.92	26.76	27.06	27.33	28.03	28.53	28.40	28.73	28.77	27.74	26.51
18	26.34	25.91	26.71	27.06	27.35	28.06	28.52	28.40	28.74	28.73	27.72	26.36
19	26.34	25.92	26.71	27.05	27.37	28.09	28.52	28.38	28.74	28.70	27.68	26.29
20	26.33	25.92	26.75	27.05	27.40	28.13	28.52	28.36	28.75	28.65	27.64	26.24
21	26.33	25.92	26.79	27.05	27.44	28.16	28.52	28.36	28.76	28.64	27.59	26.20
22	26.32	25.93	26.80	27.05	27.47	28.19	28.52	28.36	28.82	28.61	27.56	26.16
23	26.32	25.96	26.81	27.05	27.49	28.23	28.52	28.35	28.82	28.58	27.58	26.11
24	26.32	26.18	26.81	27.05	27.49	28.26	28.52	28.35	28.85	28.57	27.54	26.07
25	26.32	26.18	26.81	27.06	27.51	28.29	28.51	28.35	28.85	28.55	27.49	26.05
26	26.25	26.19	26.81	27.06	27.59	28.33	28.50	28.35	28.85	28.49	27.47	26.04
27	26.24	26.22	26.81	27.07	27.61	28.33	28.50	28.35	28.85	28.46	27.46	26.01
28	26.24	26.24	26.81	27.07	27.61	28.34	28.50	28.36	28.76	28.45	27.45	25.95
29	26.24	26.25	26.84	27.08	27.64	28.37	28.50	28.36	28.76	28.37	27.41	25.94
30	26.24	26.27	26.86	27.08	---	28.39	28.50	28.37	28.76	28.34	27.41	25.94
31	26.24	---	26.86	27.08	---	28.42	---	28.40	---	28.30	27.40	---
MEAN	26.33	26.07	26.64	27.02	27.33	28.04	28.51	28.43	28.68	28.66	27.76	26.69

WTR YR 1996 MEAN 27.52 HIGHEST 25.90 NOV. 17, 1995 LOWEST 28.85 JUNE 24-27, 1996

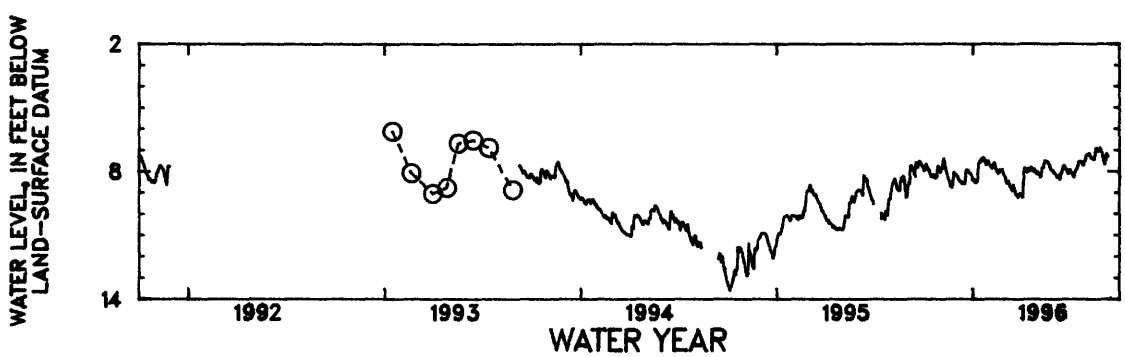


182445066043401. Local number, PN-6.
LOCATION.--Lat 18°24'45", long 66°04'34", Hydrologic Unit 21010005, 0.28 mi northeast of Escuela Dr. Pedreira, 3.52 mi southeast of Cataño plaza, and 0.53 mi south of Hiram Bithorn Stadium main gate. Owner: U.S. Geological Survey, WRD, Name: Alsacia No. 2.
AQUIFER.--Alluvium.
WELL CHARACTERISTICS.--Drilled observation well, diameter 4 in (0.10 m), cased 4 in (0.10 m), 0-27 ft (0-8.23 m), perforated 21-27 ft (6.40-8.23 m). Depth 27 ft (8.23 m).
INSTRUMENTATION.--Digital water level recorder--15-minute punch.
DATUM.--Elevation of land-surface datum is about 10 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.
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, 3.11 ft (0.95 m) below land-surface datum, Sept. 18, 1989; lowest water level recorded, 13.65 ft (4.16 m) below land-surface datum, Oct. 6, 7, 1994.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
INSTANTANEOUS OBSERVATION AT 1200

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.90	8.00	8.14	8.42	7.69	8.38	9.12	8.02	8.09	8.00	7.20	7.53
2	7.98	8.05	8.20	8.41	7.74	8.43	9.18	8.08	8.10	8.03	7.19	7.65
3	7.90	7.91	8.20	8.36	7.74	8.53	9.23	8.12	8.15	8.05	7.18	7.66
4	7.79	7.86	8.30	8.48	7.78	8.56	8.52	8.19	8.21	8.14	7.15	7.44
5	7.70	7.85	8.39	8.53	7.84	8.54	8.13	8.27	8.27	8.22	7.19	7.29
6	7.66	7.62	8.38	8.39	7.85	8.45	7.87	8.23	8.18	8.25	7.26	7.16
7	7.75	7.39	8.44	8.52	7.83	8.54	7.84	8.20	8.23	8.27	7.33	7.25
8	7.83	7.45	8.48	8.44	7.66	8.58	7.86	8.03	8.25	8.18	7.38	7.28
9	7.90	7.55	8.52	8.45	7.63	8.64	7.93	7.85	8.33	8.03	7.37	7.30
10	7.93	7.69	8.53	8.33	7.59	8.75	8.00	7.81	8.37	8.00	7.39	---
11	7.89	7.84	8.48	7.86	7.67	8.75	8.05	7.82	8.36	7.93	7.40	---
12	7.97	7.92	8.58	7.60	7.84	8.80	8.01	7.70	8.15	7.89	7.42	---
13	8.10	8.06	8.54	7.54	7.90	8.87	7.86	7.64	8.08	7.86	7.44	---
14	8.25	8.11	8.55	7.56	7.92	8.92	7.89	7.50	8.14	7.75	7.42	---
15	8.16	8.33	8.55	7.52	8.02	8.80	7.88	7.55	8.01	7.58	7.26	---
16	8.22	8.33	8.57	7.43	8.06	8.63	7.95	7.54	7.87	7.54	7.08	---
17	8.28	8.41	8.58	7.37	8.11	8.75	7.97	7.54	7.79	7.54	6.92	---
18	8.15	8.49	8.31	7.40	8.01	8.86	7.81	7.53	7.81	7.53	6.90	---
19	8.16	8.64	8.07	7.49	8.07	8.88	7.81	7.56	7.71	7.53	6.92	---
20	8.15	8.70	7.93	7.35	7.92	9.01	7.88	7.58	7.79	7.52	6.94	---
21	8.26	8.72	7.96	7.37	7.95	9.07	7.95	7.63	7.84	7.56	6.93	---
22	8.31	8.70	7.92	7.47	7.94	9.10	7.95	7.70	7.90	7.65	7.05	---
23	8.32	8.76	7.98	7.45	7.97	9.11	8.00	7.74	7.90	7.67	7.04	---
24	8.26	8.64	7.96	7.60	7.97	9.13	7.88	7.83	8.00	7.70	6.92	---
25	8.26	8.39	8.06	7.62	7.91	9.22	7.90	7.91	8.04	7.70	6.91	---
26	8.15	8.23	8.07	7.69	8.04	9.19	7.98	7.94	8.11	7.53	6.99	---
27	7.90	8.03	8.07	7.66	8.13	9.06	8.00	7.95	8.12	7.48	7.06	---
28	7.74	8.06	8.08	7.51	8.22	9.11	8.04	7.97	7.93	7.48	7.11	---
29	7.76	8.11	8.12	7.51	8.26	9.03	8.12	7.95	7.97	7.28	7.15	---
30	7.87	8.14	8.29	7.54	---	9.07	8.04	8.05	7.92	7.25	7.30	---
31	7.95	---	8.39	7.63	---	9.08	---	8.05	---	7.24	7.40	---
MEAN	8.01	8.13	8.28	7.82	7.91	8.83	8.09	7.85	8.05	7.75	7.17	7.40

WTR YR 1996 MEAN 7.98 HIGHEST 3.90 SEPT. 10, 1996 LOWEST 9.40 MAR. 25, 1996



GROUND-WATER LEVELS

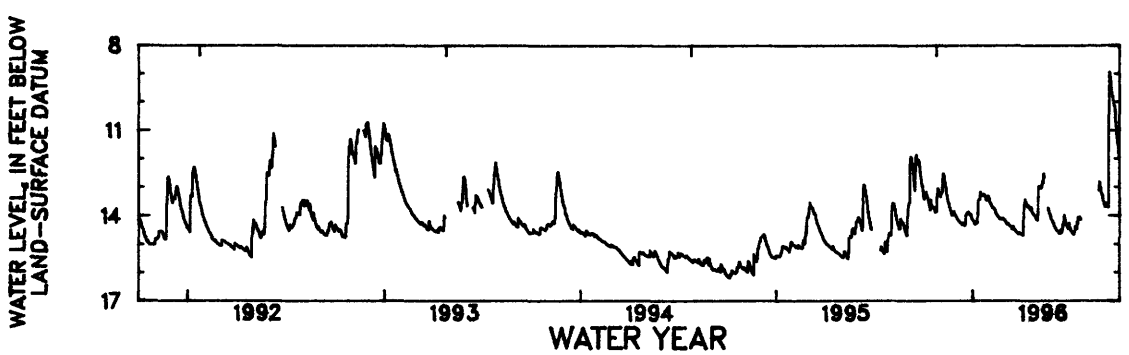
RIO HONDO TO RIO PUERTO NUEVO BASINS

182443066041502. Local number, PN-8c.
LOCATION.--Lat 18°24'43", long 66°04'15", Hydrologic Unit 21010005, 2.29 mi east of Fort Buchannan Military Res. main gate, 3.83 mi southeast of Cataño plaza, and 0.16 mi southwest of Hospital del Maestro. Owner: U.S. Geological Survey, WRD, Name: Parque Luis Muñoz Marin 1C.
AQUIFER.--Alluvium.
WELL CHARACTERISTICS.--Drilled observation well, diameter 4 in (0.10 m), cased 4 in (0.10), 0-33 ft (0-10.1 m), perforated 33-40 ft (10.1-12.2 m). Depth 40 ft (12.2 m).
INSTRUMENTATION.--Digital water level recorder--15-minute punch.
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, 3.66 ft (1.12 m) above land-surface datum.
REMARKS.--Recording observation well.
PERIOD OF RECORD.--February 1989 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 8.80 ft (2.68 m) below land-surface datum, Sept. 10, 1996; lowest water level recorded, 16.18 ft (4.93 m) below land-surface datum, Oct. 5, 6, 7, 1994.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
INSTANTANEOUS OBSERVATION AT 1200

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13.31	13.28	14.04	14.16	13.44	14.19	14.65	13.95	14.40	14.53	---	13.57
2	13.41	13.33	14.08	14.20	13.53	14.24	14.67	12.96	14.43	14.55	---	13.65
3	13.41	13.23	14.11	14.22	13.58	14.28	14.69	12.97	14.45	14.57	---	13.70
4	13.30	13.22	14.14	14.27	13.62	14.29	14.09	13.00	14.50	14.61	---	13.56
5	13.20	13.17	14.17	14.31	13.67	14.31	13.74	13.01	14.53	14.64	---	13.56
6	13.17	12.75	14.18	14.25	13.70	14.28	13.58	13.02	14.53	14.65	---	13.62
7	13.26	12.52	14.21	14.28	13.73	14.31	13.42	13.04	14.55	14.66	---	13.67
8	13.32	12.59	14.26	14.20	13.72	14.33	13.49	12.99	14.59	14.58	---	13.67
9	13.37	12.68	14.26	14.25	13.75	14.35	13.55	12.85	14.61	14.37	---	13.71
10	13.45	12.79	14.27	13.94	13.76	14.37	13.63	12.78	14.62	14.45	---	10.15
11	13.56	12.92	14.28	13.47	13.80	14.38	13.68	12.80	14.62	14.46	---	8.92
12	13.62	13.03	14.33	13.44	13.86	14.40	13.70	12.53	14.51	14.45	---	8.94
13	13.71	13.14	14.26	13.42	13.93	14.44	13.64	12.67	14.55	14.45	---	9.15
14	13.80	13.28	14.29	13.43	13.96	14.47	13.69	---	14.57	14.25	---	9.42
15	13.43	13.41	14.32	13.15	14.00	14.47	13.74	---	14.46	14.05	---	9.72
16	13.63	13.54	14.33	13.30	14.01	14.39	13.76	---	14.38	14.05	---	9.69
17	13.71	13.56	14.35	13.28	14.05	14.47	13.80	---	14.24	14.05	---	9.83
18	13.72	13.62	14.22	13.28	14.05	14.50	13.70	---	14.26	14.07	---	9.95
19	13.72	13.71	13.99	13.30	14.12	14.50	13.76	---	13.97	14.09	---	10.08
20	13.70	13.75	13.96	13.27	14.11	14.53	13.85	13.74	14.13	14.13	---	10.13
21	13.77	13.84	13.92	13.25	14.11	14.55	13.91	13.81	14.23	---	---	10.26
22	13.75	13.92	13.89	13.26	14.11	14.59	13.92	13.91	14.28	---	---	10.46
23	13.87	14.00	13.89	13.32	14.11	14.61	13.98	13.94	14.33	---	13.10	10.67
24	13.73	13.93	13.87	13.33	14.13	14.62	13.98	14.01	14.38	---	12.79	10.89
25	13.85	13.93	13.92	13.36	14.10	14.63	14.00	14.08	14.43	---	12.97	11.11
26	13.68	13.98	13.96	13.45	14.10	14.65	14.03	14.13	14.46	---	13.06	11.32
27	13.26	13.86	13.99	13.46	14.12	14.61	14.08	14.16	14.46	---	13.19	11.48
28	13.04	13.92	13.96	13.32	14.14	14.63	14.13	14.23	14.26	---	13.27	11.58
29	13.07	13.98	14.05	13.31	14.17	14.63	14.15	14.25	14.41	---	13.27	11.84
30	13.13	14.01	14.12	13.34	---	14.64	14.15	14.28	14.46	---	13.40	11.96
31	13.22	---	14.14	13.37	---	14.64	---	14.33	---	---	13.51	---
MEAN	13.49	13.43	14.12	13.62	13.91	14.46	13.91	13.50	14.42	14.38	13.17	11.34

WTR YR 1996 MEAN 13.66 HIGHEST 8.80 SEPT. 10, 1996 LOWEST 14.69 APR. 1, 2, 1996



GROUND-WATER LEVELS

RIO HONDO TO RIO PUERTO NUEVO BASINS

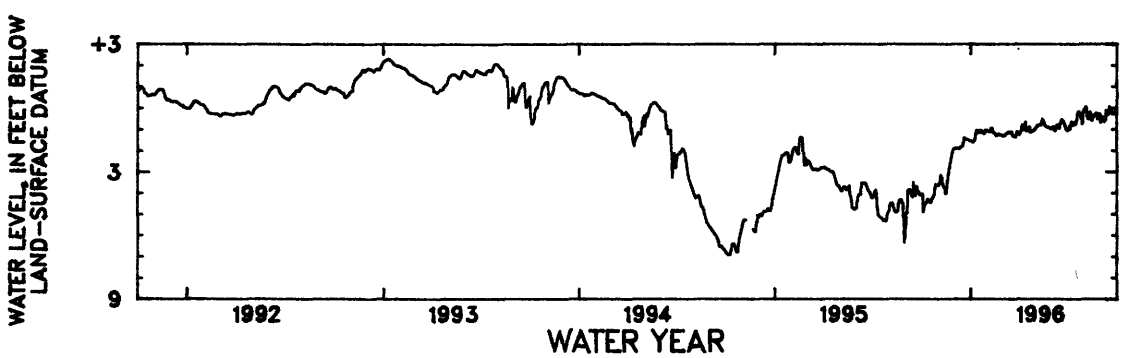
182417066042700. Local number, PN-10.
LOCATION.--Lat 18°24'17", long 66°04'27", Hydrologic Unit 21010005, 3.96 mi southeast of Cataño plaza, 1.00 mi southwest of Escuela J.J. Osuna, and 2.26 mi east of WAPA TV radio anthena. Owner: U.S. Geological Survey, WRD, Name: Las Américas No. 1.
AQUIFER.--Alluvium.
WELL CHARACTERISTICS.--Drilled observation well, cased 4.0 in (0.10 m), 0-80 ft (0-24.39 m), 4.0 in (0.10 m), perforated pipe 80-90 ft (24.39-27.43 m). Depth 90 ft (27.43 m).
INSTRUMENTATION.--Digital water level recorder--15-minute punch.
DATUM.--Elevation of land-surface datum is about 16 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. Well affected by pumping during June 1994. [+, above land-surface datum].
PERIOD OF RECORD.--October 1989 to current year.
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.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
INSTANTANEOUS OBSERVATION AT 1200

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.05	3.63	1.92	1.54	1.06	1.29	1.27	.93	.90	1.02	.06	.60
2	4.05	3.63	1.89	1.54	1.08	1.30	1.16	.90	.90	1.01	+.01	.60
3	4.04	3.58	1.89	1.54	1.07	1.30	1.16	.90	.87	.98	+.05	.53
4	4.59	3.53	1.89	1.56	1.09	1.27	1.05	.79	.90	.82	.08	.40
5	4.91	3.48	1.89	1.61	1.10	1.28	.89	.84	1.03	.97	.23	.52
6	4.73	3.15	1.89	1.57	1.10	1.22	.78	.81	1.04	.83	.38	.59
7	4.58	3.23	1.88	1.54	1.09	1.21	.78	.79	1.06	.63	.49	.64
8	4.51	3.27	1.88	1.52	.93	1.17	1.01	.79	.94	.73	.46	.57
9	4.45	3.44	1.89	1.50	.94	1.17	.95	.78	.82	.67	.49	.55
10	4.45	3.56	1.89	1.29	.94	1.16	.77	.80	.78	.79	.27	.08
11	4.42	3.65	1.89	1.13	1.11	1.13	.73	.79	.88	.73	.19	.15
12	4.32	3.70	1.90	1.03	1.15	1.15	.65	.71	.88	.69	.24	.26
13	4.28	3.72	1.85	1.11	1.16	1.15	1.07	.60	.90	.65	.54	.31
14	4.31	3.76	1.83	1.16	1.16	1.14	1.08	.52	.95	.76	.57	.29
15	4.41	3.91	1.82	1.06	1.17	1.14	1.06	.59	.73	.70	.58	.23
16	4.41	4.02	1.80	1.07	1.23	1.11	1.06	.60	.73	.70	.35	+.09
17	4.41	4.00	1.80	1.04	1.29	1.11	1.03	.74	.68	.55	.40	+.01
18	4.44	3.72	1.71	1.09	1.28	1.14	.91	.76	.57	.31	.38	.13
19	4.44	3.45	1.57	1.15	1.27	1.31	.89	.84	.52	.18	.30	.15
20	4.32	3.23	1.38	1.04	1.23	1.31	.89	.85	.62	.17	.32	.17
21	4.27	3.02	1.41	1.04	1.24	1.30	1.14	.86	.60	.17	.30	.22
22	4.22	2.86	1.42	1.09	1.23	1.30	1.13	.90	.60	.22	.24	.27
23	4.18	2.74	1.44	1.12	1.21	1.32	1.11	.90	.67	.27	.23	.28
24	4.09	2.56	1.46	1.16	1.23	1.33	1.09	.89	.74	.32	.26	.22
25	4.06	2.40	1.46	1.18	1.26	1.36	1.07	.88	.83	.47	.52	.27
26	3.80	2.29	1.47	1.18	1.27	1.30	1.06	.90	.90	.35	.42	.25
27	3.66	2.12	1.48	1.19	1.27	1.10	1.06	.91	1.00	.77	.26	.20
28	3.59	2.09	1.49	1.04	1.26	1.12	1.01	.97	1.00	.67	.32	.09
29	3.61	2.02	1.51	1.02	1.30	1.15	1.05	.98	1.05	.23	.29	.09
30	3.62	1.95	1.53	1.02	---	1.16	1.01	.98	1.04	.12	.29	.12
31	3.62	---	1.54	1.03	---	1.14	---	.95	---	.06	.70	---
MEAN	4.22	3.19	1.70	1.23	1.16	1.21	1.00	.82	.84	.57	.33	.29

WTR YR 1996 MEAN 1.38 HIGHEST +0.09 SEPT. 16, 1996 LOWEST 4.91 OCT. 4, 5, 1995

+ above land-surface datum



GROUND-WATER LEVELS

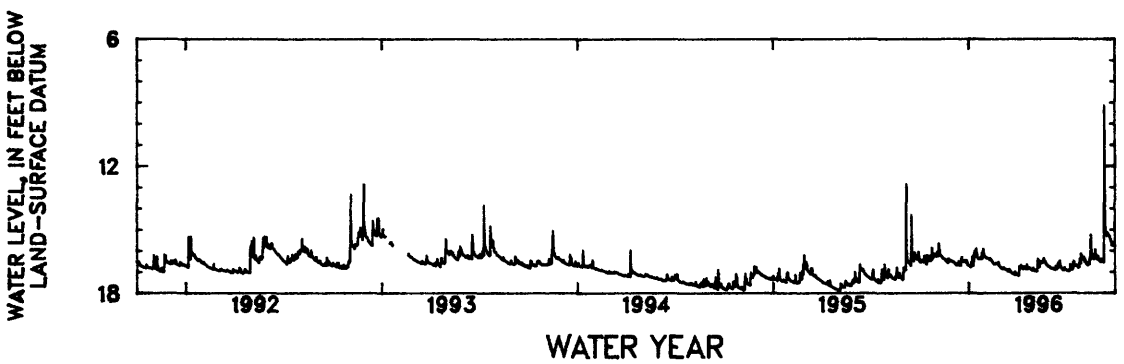
RIO HONDO TO RIO PUERTO NUEVO BASINS

182349066032600. Local number, PN-13.
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: U.S. Geological Survey, WRD, Name: Jardín Botánico No. 1.
AQUIFER.--Alluvium.
WELL CHARACTERISTICS.--Drilled water-table well, diameter 4 in (0.10 m) cased 4.0 in (0.10 m), 0-45 ft (0-13.72 m), perforated 35-45 ft (10.67-13.72 m). Depth 45 ft (13.72 m).
INSTRUMENTATION.--Digital water level recorder--15-minute punch.
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.
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.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
INSTANTANEOUS OBSERVATION AT 1200

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16.48	16.23	16.50	16.71	16.30	16.79	17.16	16.93	16.80	16.93	16.36	16.47
2	16.53	16.26	16.52	16.72	16.31	16.83	17.16	16.93	16.83	16.94	16.39	16.50
3	16.54	16.03	16.52	16.73	16.32	16.85	17.17	16.95	16.84	16.94	16.29	16.52
4	16.46	16.21	16.53	16.77	16.33	16.85	16.71	16.96	16.85	16.96	16.49	16.44
5	16.44	16.22	16.57	16.78	16.35	16.86	16.77	16.97	16.85	16.97	16.38	16.38
6	16.43	15.62	16.59	16.54	16.36	16.79	16.73	16.97	16.83	16.97	16.55	16.47
7	16.50	15.97	16.64	16.71	16.39	16.85	16.69	16.97	16.86	16.95	16.62	16.52
8	16.52	16.14	16.69	16.24	16.39	16.86	16.77	16.78	16.88	16.63	16.63	16.50
9	16.53	16.20	16.62	16.74	16.43	16.88	16.83	16.35	16.90	16.72	16.65	16.54
10	16.20	16.23	16.64	16.49	16.35	16.90	16.85	16.66	16.91	16.89	16.69	9.10
11	16.54	16.26	16.63	16.14	16.41	16.91	16.86	16.77	16.87	16.89	16.62	13.48
12	16.55	16.29	16.69	16.00	16.46	16.90	16.75	16.49	16.72	16.89	16.52	14.88
13	16.61	16.34	16.50	16.23	16.50	16.93	16.75	16.61	16.84	16.82	16.64	15.15
14	16.66	16.37	16.67	16.28	16.52	16.98	16.82	16.51	16.88	16.57	16.42	15.28
15	16.18	16.39	16.71	15.87	16.56	16.98	16.82	16.53	16.61	16.50	16.33	15.31
16	16.42	16.40	16.63	16.18	16.59	16.86	16.83	16.53	16.58	16.68	15.21	15.13
17	16.47	16.40	16.70	16.31	16.63	16.96	16.86	16.57	16.67	16.71	16.31	15.27
18	16.44	16.41	16.37	16.36	16.60	16.98	16.65	16.49	16.81	16.71	16.37	15.27
19	16.23	16.48	16.31	16.36	16.62	16.99	16.78	16.50	16.45	16.71	16.32	15.24
20	16.42	16.50	16.49	16.34	16.61	17.02	16.84	16.36	16.74	16.69	16.37	15.34
21	16.48	16.52	16.51	16.32	16.61	17.05	16.82	16.49	16.78	16.71	16.15	15.39
22	16.34	16.53	16.51	16.37	16.60	17.07	16.82	16.53	16.83	16.73	16.38	15.51
23	16.44	16.57	16.51	16.39	16.57	17.09	16.85	16.52	16.86	16.78	16.31	15.55
24	15.83	16.36	16.44	16.36	16.57	17.09	16.82	16.62	16.88	16.78	15.92	15.71
25	16.39	16.50	16.52	16.06	16.54	17.10	16.86	16.65	16.93	16.76	16.20	15.74
26	16.33	16.50	16.53	16.38	16.70	17.14	16.90	16.71	16.93	16.37	16.36	15.76
27	16.20	16.44	16.56	16.12	16.74	16.98	16.90	16.70	16.92	16.58	16.39	15.77
28	16.13	16.49	16.46	15.87	16.77	17.10	16.92	16.74	16.79	16.58	16.40	15.58
29	16.19	16.49	16.62	16.17	16.78	17.10	16.92	16.74	16.91	16.10	16.24	15.79
30	16.23	16.49	16.68	16.21	---	17.11	16.82	16.76	16.91	16.33	16.36	15.77
31	16.25	---	16.70	16.26	---	17.14	---	16.77	---	16.36	16.40	---
MEAN	16.39	16.33	16.57	16.36	16.51	16.97	16.85	16.68	16.82	16.71	16.36	15.48

WTR YR 1996 MEAN 16.50 HIGHEST 6.96 SEPT. 10, 1996 LOWEST 17.17 APR. 1, 2, 3, 1996



GROUND-WATER LEVELS

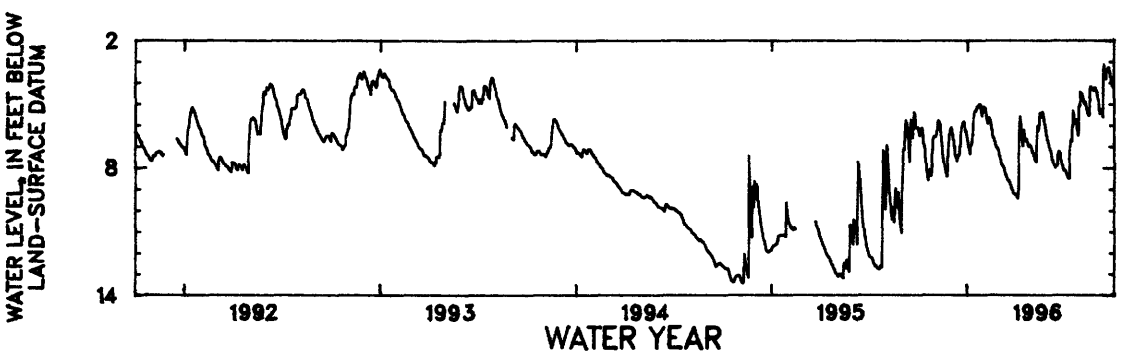
RIO HONDO TO RIO PUERTO NUEVO BASINS

182406066034700. Local number, PN-19.
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: U.S. Geological Survey, WRD, Name: Jardín Botánico No. 3.
AQUIFER.--Alluvium.
WELL CHARACTERISTICS.--Drilled water-table well, diameter 4 in (0.10 m) cased 4.0 in (0.10 m), 0-48 ft (0-14.6 m), perforated 38-48 ft (11.6-14.6 m). Depth 48 ft.(14.6 m).
INSTRUMENTATION.--Digital water level recorder--60-minute punch.
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, 2.91 ft (0.88 m) above land-surface datum.
REMARKS.--Recording observation well.
PERIOD OF RECORD.--June 1991 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 3.06 ft (0.93 m) below land-surface datum, Sept. 11, 1996; lowest water level recorded, 13.43 ft (4.09 m) below land-surface datum, Nov. 8, 9, 1994.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
INSTANTANEOUS OBSERVATION AT 1200

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.14	6.51	6.09	6.73	5.16	7.48	9.33	7.30	7.04	8.16	4.52	5.05
2	6.44	6.52	6.16	6.90	5.22	7.62	9.38	7.28	7.16	8.22	4.62	5.24
3	6.46	6.44	6.36	7.01	5.35	7.73	9.42	7.33	7.21	8.28	4.81	5.43
4	6.40	6.25	6.53	7.10	5.53	7.82	8.95	7.41	7.29	8.35	4.92	5.29
5	6.18	6.19	6.66	7.33	5.71	7.89	6.47	7.57	7.48	8.43	4.97	5.24
6	6.13	5.78	6.83	7.18	5.80	7.89	5.65	7.63	7.60	8.47	4.89	5.30
7	6.15	5.77	7.01	6.92	5.92	7.94	5.56	7.68	7.64	8.48	4.89	5.39
8	6.22	5.86	7.19	6.88	5.70	7.99	5.95	7.69	7.71	8.46	5.09	5.46
9	6.53	5.90	7.41	6.71	5.64	8.11	6.27	6.27	7.84	7.01	5.18	5.60
10	6.78	5.91	7.45	6.41	5.68	8.23	6.53	5.99	7.88	6.99	5.30	3.69
11	6.90	6.27	7.53	5.80	5.76	8.29	6.76	6.05	7.97	6.70	5.42	3.09
12	6.97	6.53	7.67	5.52	5.83	8.35	6.97	6.20	7.93	6.67	5.48	3.33
13	7.17	6.77	7.53	5.37	6.01	8.39	6.20	5.95	7.87	6.77	5.54	3.57
14	7.55	7.00	7.41	5.29	6.15	8.50	6.23	5.40	7.88	6.07	5.49	3.70
15	7.80	7.35	7.39	5.33	6.25	8.58	6.40	5.40	7.86	5.27	4.72	3.82
16	8.10	7.53	7.37	5.25	6.43	8.57	6.59	5.44	7.79	5.43	4.29	3.37
17	8.24	7.69	7.24	5.12	6.56	8.57	6.72	5.61	7.33	5.77	4.15	3.36
18	8.44	7.82	6.98	5.10	6.57	8.63	6.67	5.40	7.23	5.90	4.20	3.43
19	8.57	7.94	6.27	5.15	6.69	8.68	6.63	5.36	7.22	5.90	4.25	3.27
20	8.12	8.09	6.10	5.09	6.73	8.74	6.66	5.47	7.25	5.75	4.26	3.27
21	8.06	8.22	6.00	5.01	6.79	8.81	6.79	5.62	7.33	5.72	4.27	3.42
22	8.10	8.29	5.90	5.00	6.92	8.90	6.86	5.81	7.59	5.87	4.30	3.54
23	8.19	8.38	5.85	5.00	7.00	8.99	6.97	5.97	7.67	6.13	4.35	3.67
24	8.36	8.39	5.84	5.03	7.06	9.05	6.98	6.05	7.80	6.31	4.22	3.77
25	8.23	7.45	5.82	5.23	7.06	9.10	6.90	6.24	7.88	6.48	4.21	3.88
26	7.75	7.40	6.01	5.39	7.08	9.20	6.92	6.38	7.99	5.10	4.22	3.98
27	7.12	6.61	6.21	5.56	7.16	9.20	6.96	6.51	8.11	5.00	4.30	4.14
28	6.65	6.39	6.29	5.27	7.31	9.21	7.01	6.66	8.07	5.06	4.36	4.15
29	6.55	6.20	6.28	5.12	7.40	9.21	7.10	6.73	8.08	4.40	4.42	4.14
30	6.51	6.14	6.47	5.12	---	9.21	7.18	6.82	8.09	4.46	4.60	4.22
31	6.52	---	6.61	5.12	---	9.28	---	6.92	---	4.48	4.81	---
MEAN	7.20	6.92	6.66	5.78	6.29	8.52	6.97	6.39	7.66	6.45	4.68	4.16

WTR YR 1996 MEAN 6.48 HIGHEST 3.06 SEPT. 11, 1996 LOWEST 9.42 APR. 3, 1996



GROUND-WATER LEVELS

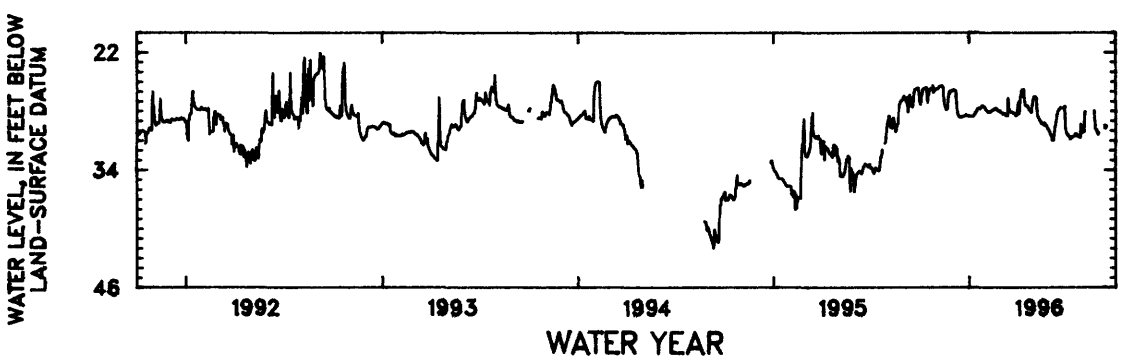
RIO GRANDE DE LOIZA BASIN

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: 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.--Digital water level recorder--60-minute punch.
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.
PERIOD OF RECORD.--December 1960 to March 1985, 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.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
INSTANTANEOUS OBSERVATION AT 1200

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27.15	25.73	25.86	28.53	27.89	28.19	27.18	26.51	30.40	30.33	30.10	---
2	27.31	25.70	25.81	28.52	27.95	28.20	27.06	26.49	30.55	30.37	30.08	---
3	27.05	25.67	25.84	28.52	27.95	28.25	28.34	26.51	30.80	30.44	28.24	---
4	26.43	25.66	25.88	28.53	28.06	28.30	27.07	26.59	30.98	30.55	28.09	---
5	26.06	25.56	25.89	28.56	28.13	28.29	26.53	26.79	31.02	30.58	---	---
6	25.80	25.48	25.98	28.56	28.11	28.31	26.19	27.79	30.93	30.61	---	---
7	25.73	25.46	26.02	28.55	28.07	28.28	25.94	28.51	30.48	30.84	---	---
8	25.74	25.44	27.23	28.53	28.09	28.31	25.83	28.59	30.00	30.82	---	---
9	25.68	25.43	27.73	28.45	28.09	28.44	26.43	28.73	29.64	30.74	---	---
10	25.67	25.40	28.16	28.37	28.01	28.47	26.45	28.83	29.37	30.67	---	---
11	25.58	25.39	28.38	28.30	28.00	28.47	25.76	28.93	29.10	30.62	---	29.70
12	25.59	25.46	28.54	28.22	27.97	28.43	26.50	28.99	28.58	30.61	---	29.52
13	25.57	25.62	28.59	28.10	27.88	26.61	27.08	29.07	28.32	---	---	---
14	26.35	26.58	28.60	28.11	27.85	27.55	27.36	29.23	28.09	---	---	---
15	27.13	27.12	28.60	27.92	27.83	27.84	27.48	29.31	27.97	---	---	---
16	26.71	27.38	28.58	27.80	27.80	27.91	27.44	---	27.86	30.51	---	---
17	26.23	27.58	28.60	27.77	27.75	28.05	27.45	29.31	27.82	30.34	---	---
18	25.94	27.77	28.61	27.75	27.72	28.11	27.48	29.31	27.72	30.33	---	---
19	25.77	27.90	28.56	27.74	27.69	28.11	27.56	29.41	27.67	30.37	---	---
20	25.75	27.46	28.56	27.67	27.75	28.13	27.66	29.22	27.67	30.51	---	---
21	25.72	27.73	28.52	27.76	27.79	28.14	27.84	29.29	27.67	30.53	27.99	---
22	25.71	27.10	28.52	27.64	27.89	28.14	27.89	29.38	---	30.52	28.94	---
23	25.65	26.55	28.50	27.52	27.87	28.22	27.94	29.43	---	30.56	29.43	---
24	25.76	26.24	28.46	27.45	27.96	28.25	27.98	29.54	---	30.63	29.82	---
25	25.37	26.04	28.43	27.45	---	28.27	28.13	29.60	27.67	30.67	29.96	---
26	26.11	---	28.38	27.50	---	28.33	28.02	29.82	27.61	30.66	30.10	---
27	26.02	25.93	28.44	27.49	28.00	28.40	27.38	29.80	27.51	29.31	30.12	---
28	25.88	25.95	28.49	27.52	28.07	28.45	27.03	29.90	29.28	30.32	30.34	---
29	25.79	25.93	28.50	27.57	28.17	28.42	26.70	29.99	29.97	30.10	30.24	---
30	25.74	25.86	28.52	27.64	---	28.17	26.57	30.16	30.22	30.14	---	---
31	25.77	---	28.52	27.78	---	27.43	---	30.26	---	30.13	---	---
MEAN	26.02	26.25	27.85	27.99	27.94	28.14	27.14	28.84	29.07	30.46	29.50	29.61

WTR YR 1996 MEAN 28.02 HIGHEST 25.20 OCT. 25, 1995 LOWEST 31.03 JUNE 5, 1996

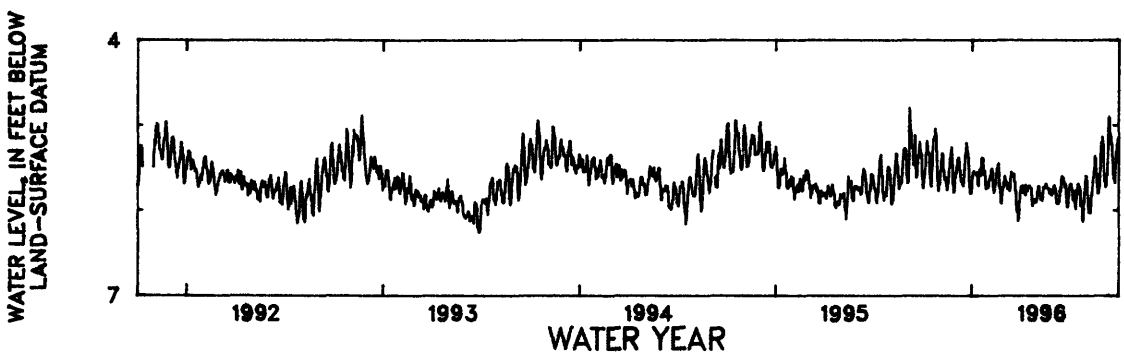


182515065594100. Local number, 222.
LOCATION.--Lat 18°25'15", long 65°59'41", Hydrologic Unit 21010005, 3.56 mi northwest of Carolina plaza, 1.21 mi northwest of Escuela Extensión El Comandante, and 0.74 mi southwest of Escuela Vistamar. Owner: U.S. Geological Survey, WRD, Name: Campo Rico TW-1.
AQUIFER.--Surficial Deposits.
WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 4 in (0.10 m). Depth 100 ft (30.5 m).
INSTRUMENTATION.--Digital water level recorder--60-minute punch.
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 side of casing, 0.80 ft (0.24 m) above land-surface datum. Prior July 28, 1986, top of shelter floor, 3.10 ft (0.94 m) above land-surface datum.
REMARKS.--Recording observation well.
PERIOD OF RECORD.--February 1986 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 4.33 ft (1.32 m) below land-surface datum, Sept. 6, 1995; lowest water level recorded, 7.42 ft (2.26 m) below land-surface datum, Feb. 9, 1986.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
INSTANTANEOUS OBSERVATION AT 1200

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.71	5.69	5.61	5.67	5.71	5.67	5.72	5.86	5.73	5.71	5.60	5.26
2	5.74	5.69	5.57	5.57	5.65	5.60	5.78	5.80	5.71	5.69	5.66	5.44
3	5.66	5.53	5.53	5.55	5.63	5.66	5.79	5.72	5.74	5.69	5.70	5.61
4	5.62	5.54	5.47	5.54	5.60	5.70	5.73	5.72	5.75	5.74	5.84	5.67
5	5.55	5.42	5.40	5.56	5.60	5.69	5.71	5.73	5.80	5.76	5.89	5.67
6	5.48	5.33	5.40	5.57	5.52	5.67	5.76	5.79	5.90	5.82	6.03	5.73
7	5.33	5.34	5.38	5.57	5.51	5.75	5.78	5.81	5.92	5.88	6.00	5.70
8	5.31	5.36	5.44	5.58	5.55	5.73	5.80	5.88	5.92	5.77	6.01	5.57
9	5.18	5.53	5.53	5.57	5.67	5.71	5.82	5.87	5.92	5.77	6.03	5.59
10	5.28	5.55	5.55	5.55	5.74	5.70	5.70	5.82	5.91	5.87	5.91	5.22
11	5.32	5.65	5.62	5.61	5.79	5.77	5.72	5.89	5.89	5.96	5.82	4.95
12	5.33	5.65	5.66	5.70	5.77	5.72	5.73	5.80	5.83	5.98	5.80	4.89
13	5.33	5.63	5.67	5.71	5.71	5.61	5.78	5.73	5.76	5.85	5.67	4.93
14	5.51	5.62	5.64	5.56	5.68	5.55	5.72	5.73	5.77	5.75	5.61	5.06
15	5.63	5.74	5.72	5.52	5.57	5.60	5.73	5.74	5.65	5.74	5.57	5.14
16	5.70	5.76	5.69	5.57	5.51	5.60	5.72	5.73	5.60	5.69	5.51	5.24
17	5.72	5.71	5.57	5.59	5.51	5.58	5.71	5.70	5.61	5.69	5.36	5.22
18	5.59	5.67	5.52	5.45	5.48	5.61	5.74	5.69	5.63	5.81	5.39	5.37
19	5.42	5.57	5.37	5.38	5.45	5.57	5.74	5.73	5.62	5.72	5.52	5.45
20	5.24	5.50	5.33	5.41	5.55	5.66	5.74	5.74	5.67	5.77	5.58	5.59
21	5.15	5.39	5.20	5.39	5.73	5.68	5.81	5.74	5.70	5.85	5.68	5.63
22	5.17	5.37	5.25	5.54	5.69	5.77	5.93	5.75	5.73	5.95	5.74	5.64
23	5.13	5.31	5.31	5.58	5.82	5.82	5.95	5.75	5.69	5.92	5.81	5.68
24	5.11	5.26	5.34	5.55	5.91	5.94	5.91	5.80	5.74	5.90	5.79	5.44
25	5.04	5.39	5.38	5.54	5.92	6.02	5.87	5.80	5.90	6.12	5.74	5.31
26	5.15	5.54	5.54	5.67	5.83	5.99	5.88	5.75	5.96	6.13	5.60	5.35
27	5.30	5.70	5.67	5.75	5.75	6.13	5.88	5.80	5.96	5.99	5.43	5.24
28	5.52	5.80	5.75	5.74	5.73	6.09	5.87	5.82	5.91	5.90	5.21	5.16
29	5.65	5.78	5.81	5.67	5.69	6.00	5.91	5.80	5.83	5.79	5.21	5.15
30	5.75	5.69	5.80	5.67	---	5.87	5.89	5.80	5.74	5.71	5.13	5.15
31	5.77	---	5.79	5.73	---	5.78	---	5.76	---	5.59	5.19	---
MEAN	5.43	5.56	5.53	5.58	5.66	5.75	5.79	5.78	5.78	5.82	5.65	5.37

WTR YR 1996 MEAN 5.64 HIGHEST 4.70 SEPT. 10, 1996 LOWEST 6.28 MAR. 27, 28, 1996



GROUND-WATER LEVELS

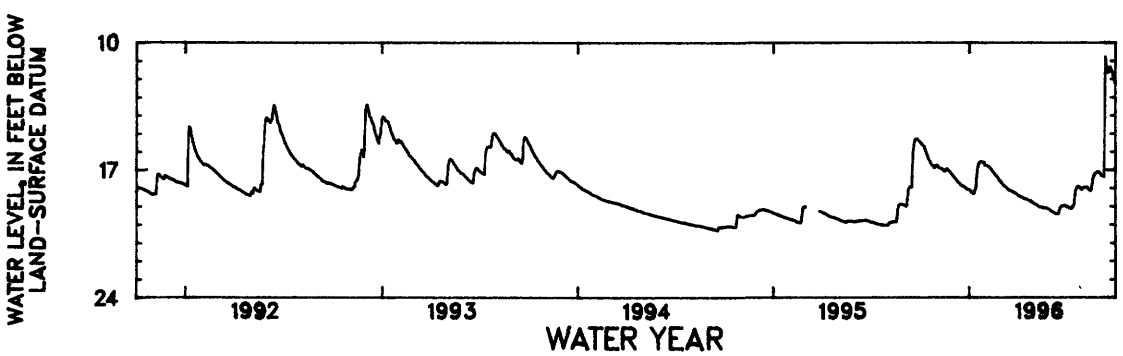
RIO GRANDE DE LOIZA BASIN

181513065554601. Local number, CJ-TW3B.
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: U.S. Geological Survey, WRD, Name: CJ-TW3B.
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 ft (11.6 m).
INSTRUMENTATION.--Digital water level recorder--60-minute 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.
PERIOD OF RECORD.--September 1991 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 10.64 ft (3.24 m) below land-surface datum, Sept. 11, 1996; lowest water level recorded, 20.31 ft (6.19 m) below land-surface datum, Sept. 19, 1994.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
INSTANTANEOUS OBSERVATION AT 1200

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15.46	16.73	17.30	18.09	16.76	17.70	18.39	18.86	19.25	19.03	17.96	17.17
2	15.50	16.74	17.35	18.10	16.76	17.74	18.43	18.88	19.26	19.03	17.96	17.22
3	15.52	16.76	17.39	18.13	16.77	17.78	18.45	18.90	19.28	19.04	17.96	17.26
4	15.56	16.84	17.41	18.17	16.79	17.82	18.46	18.91	19.30	19.06	17.95	17.31
5	15.62	16.86	17.45	18.22	16.81	17.85	18.49	18.92	19.32	19.08	17.95	17.34
6	15.65	16.88	17.48	18.24	16.83	17.88	18.48	18.93	19.33	19.09	17.94	17.35
7	15.68	16.91	17.51	18.26	16.85	17.91	18.50	18.95	19.34	19.10	17.94	17.35
8	15.71	16.91	17.57	18.27	16.88	17.92	18.51	18.97	19.37	19.10	17.95	17.35
9	15.74	16.92	17.62	18.32	16.91	17.95	18.52	18.99	19.39	19.12	17.98	17.38
10	15.85	16.93	17.64	18.24	16.94	17.97	18.56	19.02	19.40	19.09	18.05	14.11
11	15.91	16.94	17.67	18.13	16.96	18.00	18.56	19.03	19.41	19.06	18.07	10.70
12	16.00	16.97	17.70	18.08	17.02	18.03	18.57	19.04	19.42	19.04	18.09	10.93
13	16.08	17.00	17.72	18.00	17.08	18.05	18.60	19.05	19.42	18.96	18.11	11.29
14	16.18	17.04	17.75	17.82	17.11	18.09	18.60	19.06	19.42	18.89	18.12	11.52
15	16.26	17.07	17.78	17.41	17.14	18.12	18.60	19.07	19.42	18.71	18.13	11.65
16	16.32	17.08	17.81	17.05	17.17	18.12	18.61	19.08	19.34	18.40	18.08	11.58
17	16.39	17.05	17.85	16.83	17.22	18.13	18.62	19.08	19.21	18.22	17.87	11.58
18	16.46	16.98	17.89	16.71	17.26	18.14	18.63	19.08	19.11	18.09	17.69	11.61
19	16.52	16.95	17.89	16.62	17.29	18.15	18.64	19.08	19.06	18.00	17.49	11.37
20	16.59	16.94	17.88	16.58	17.32	18.17	18.65	19.08	19.01	17.94	17.37	11.34
21	16.63	16.94	17.90	16.56	17.36	18.19	18.67	19.08	18.97	17.93	17.28	11.40
22	16.68	16.97	17.91	16.54	17.39	18.22	18.68	19.09	18.96	17.90	17.21	11.47
23	16.72	17.04	17.94	16.54	17.44	18.24	18.71	19.10	18.96	17.90	17.19	11.54
24	16.74	17.06	17.96	16.55	17.48	18.24	18.72	19.10	18.96	17.92	17.17	11.62
25	16.78	17.08	18.00	16.57	17.54	18.27	18.74	19.10	18.95	17.95	17.15	11.71
26	16.83	17.10	18.03	16.59	17.57	18.27	18.76	19.13	18.95	17.97	17.13	11.83
27	16.86	17.15	18.04	16.59	17.60	18.28	18.78	19.14	18.95	18.04	17.10	11.91
28	16.91	17.20	18.06	16.58	17.64	18.30	18.81	19.16	18.96	18.06	17.09	12.00
29	16.84	17.23	18.07	16.58	17.66	18.32	18.83	19.18	18.97	18.08	17.10	12.11
30	16.75	17.25	18.08	16.77	---	18.35	18.85	19.20	19.01	18.06	17.10	12.23
31	16.73	---	18.08	16.76	---	18.38	---	19.22	---	18.00	17.14	---
MEAN	16.24	16.98	17.77	17.35	17.16	18.08	18.61	19.05	19.19	18.51	17.66	13.37

WTR YR 1996 MEAN 17.50 HIGHEST 10.64 SEPT. 11, 1996 LOWEST 19.42 JUNE 11-15, 1996



GROUND-WATER LEVELS

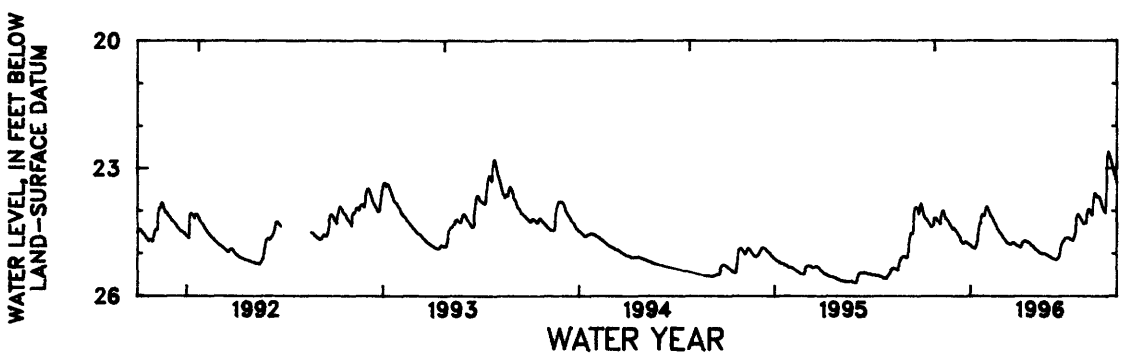
RIO GRANDE DE LOIZA BASIN

181352066025300. Local number, CJ-TW19A.
LOCATION.--Lat 18°13'52", long 66°02'53", Hydrologic Unit 21010005, 0.96 mi southwest of Caguas plaza, 1.02 mi northwest of Escuela Antonio S. Pedreira, and 0.30 mi southeast of Hwy 156 km 59.1. Owner: U.S. Geological Survey, WRD, Name: CJ-TW19A, Bonneville.
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), 0-67 ft (0-20.4 m), screened 50-65 ft (15.2-19.8 m). Depth 67 ft (20.4 m).
INSTRUMENTATION.--Digital water level recorder--60-minute punch.
DATUM.--Elevation of land-surface datum is about 262 ft (79.8 m) above mean sea level, from topographic map. Measuring point: Top of casing 3.00 ft (0.91 m) above land-surface datum.
REMARKS.--Recording observation well.
PERIOD OF RECORD.-- June 1992 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 22.60 ft (6.89 m) below land-surface datum, Sept. 14, 1996; lowest water level recorded, 25.70 ft (7.83 m) below land-surface datum, May 31, 1995.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
INSTANTANEOUS OBSERVATION AT 1200

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23.84	24.24	24.41	24.81	23.91	24.60	24.84	24.90	25.11	24.64	24.29	23.82
2	23.90	24.25	24.43	24.82	23.94	24.63	24.85	24.90	25.12	24.64	24.29	23.87
3	23.95	24.26	24.45	24.84	23.96	24.64	24.86	24.92	25.12	24.64	24.29	23.91
4	24.02	24.30	24.46	24.86	23.98	24.66	24.85	24.93	25.13	24.66	24.25	23.93
5	24.07	24.31	24.48	24.86	24.03	24.67	24.81	24.93	25.13	24.68	24.10	23.97
6	24.12	24.29	24.50	24.87	24.05	24.69	24.77	24.94	25.14	24.68	24.04	24.00
7	24.14	24.15	24.51	24.88	24.07	24.71	24.74	24.96	25.14	24.68	23.99	24.02
8	24.17	24.08	24.54	24.88	24.11	24.72	24.73	24.97	25.14	24.67	23.97	24.03
9	24.18	24.03	24.56	24.89	24.13	24.75	24.72	24.99	25.14	24.70	23.96	24.05
10	24.20	24.01	24.58	24.87	24.15	24.75	24.71	24.99	25.13	24.69	23.98	23.75
11	24.20	24.00	24.59	24.83	24.16	24.76	24.70	24.99	25.12	24.65	24.01	23.22
12	24.21	24.01	24.62	24.79	24.18	24.77	24.71	24.99	25.11	24.63	24.04	22.76
13	24.24	24.04	24.63	24.72	24.21	24.77	24.71	25.01	25.09	24.56	24.07	22.65
14	24.26	24.09	24.71	24.68	24.24	24.78	24.72	25.01	25.07	24.51	24.09	22.61
15	24.29	24.15	24.72	24.56	24.28	24.79	24.73	25.01	25.03	24.34	24.10	22.65
16	24.31	24.19	24.73	24.43	24.30	24.78	24.74	25.01	24.98	24.23	23.98	22.69
17	24.34	24.18	24.74	24.34	24.33	24.77	24.73	25.01	24.87	24.15	23.78	22.73
18	24.36	24.19	24.76	24.31	24.36	24.75	24.74	25.01	24.82	24.11	23.66	22.78
19	24.38	24.21	24.76	24.29	24.40	24.75	24.75	25.01	24.77	24.09	23.60	22.80
20	24.38	24.23	24.75	24.27	24.43	24.74	24.76	25.01	24.75	24.08	23.58	22.86
21	24.36	24.24	24.73	24.18	24.44	24.74	24.77	25.03	24.72	24.10	23.59	22.91
22	24.35	24.26	24.72	24.11	24.45	24.75	24.79	25.03	24.72	24.13	23.62	22.97
23	24.34	24.31	24.72	24.09	24.49	24.77	24.82	25.04	24.70	24.14	23.67	23.01
24	24.31	24.33	24.73	24.09	24.51	24.78	24.82	25.05	24.67	24.17	23.67	23.05
25	24.22	24.35	24.74	24.10	24.52	24.79	24.82	25.05	24.65	24.19	23.67	23.10
26	24.17	24.38	24.76	24.11	24.53	24.80	24.83	25.06	24.64	24.22	23.66	23.16
27	24.17	24.40	24.76	24.12	24.55	24.81	24.84	25.07	24.64	24.25	23.66	23.20
28	24.17	24.43	24.77	24.06	24.56	24.83	24.87	25.07	24.64	24.29	23.68	23.25
29	24.17	24.44	24.79	23.98	24.58	24.82	24.88	25.08	24.64	24.30	23.71	23.30
30	24.19	24.44	24.81	23.93	---	24.82	24.89	25.08	24.64	24.30	23.74	23.34
31	24.22	---	24.81	23.90	---	24.83	---	25.10	---	24.29	23.78	---
MEAN	24.20	24.23	24.65	24.47	24.27	24.75	24.78	25.00	24.92	24.40	23.89	23.28

WTR YR 1996 MEAN 24.41 HIGHEST 22.60 SEPT. 14, 1996 LOWEST 25.14 JUNE 5-9, 1996



GROUND-WATER LEVELS

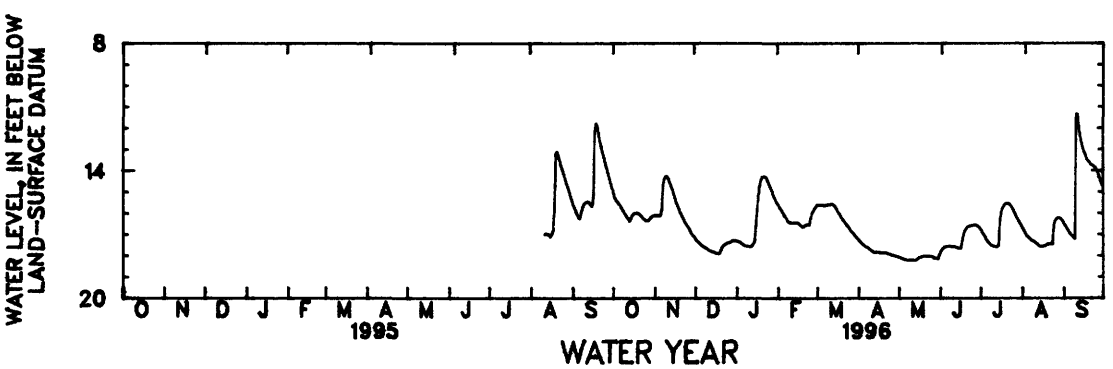
RIO HERRERA TO RIO ANTON RUIZ BASINS

181823065401900. Local number RF-04.
LOCATION.--Lat 18°18'23", long 65°40'19", Hydrologic Unit 21010005, 1.72 mi southwest of the intersection of Hwy 3 with Hwy 976, 1.44 mi west of Hwy 3, 1.33 mi northwest of Hwy 982, and 0.49 mi south of Hwy 976. Owner: U.S. Geological Survey, WRD, Name: RF-04.
AQUIFER.--Alluvium.
WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in (0.15 m), cased 6 in (0.15 m) 0-40 ft (0-12.2 m), screened 20-40 ft (6.1-12.2 m). Depth 40 ft (12.2 m).
INSTRUMENTATION.--Digital water level recorder--60-minute punch.
DATUM.--Elevation of land-surface datum is 86.29 ft (26.30 m) above mean sea level, from topographic survey. Measuring point: Shelter floor on top of 4 in (0.10 m) casing, 3.50 ft (1.07 m) above land-surface datum.
REMARKS.--Recording observation well.
PERIOD OF RECORD.--August 31, 1993 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 10.92 ft (3.33 m) below land-surface datum, Sept. 10, 1996; lowest water level recorded, 18.22 ft (5.55 m) below land-surface datum, May 7 to 13, 1996.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
INSTANTANEOUS OBSERVATION AT 1200

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15.06	16.11	17.23	17.31	15.62	15.61	17.27	18.09	17.80	16.80	16.72	16.51
2	15.27	16.11	17.31	17.34	15.74	15.60	17.35	18.11	17.69	16.92	16.84	16.61
3	15.40	16.11	17.37	17.37	15.83	15.63	17.42	18.13	17.64	17.02	16.98	16.74
4	15.47	16.11	17.43	17.42	15.96	15.63	17.47	18.16	17.58	17.13	17.08	16.83
5	15.56	16.11	17.48	17.45	16.06	15.61	17.52	18.18	17.57	17.27	17.13	16.95
6	15.64	15.84	17.54	17.51	16.16	15.64	17.56	18.20	17.55	17.35	17.19	17.02
7	15.75	14.71	17.58	17.54	16.25	15.63	17.60	18.22	17.55	17.42	17.26	17.08
8	15.86	14.34	17.62	17.56	16.38	15.62	17.64	18.21	17.55	17.49	17.30	17.15
9	15.97	14.27	17.66	17.56	16.44	15.59	17.70	18.22	17.56	17.53	17.33	17.22
10	16.08	14.27	17.70	17.56	16.45	15.59	17.75	18.22	17.56	17.55	17.37	11.31
11	16.19	14.41	17.75	17.56	16.45	15.58	17.79	18.22	17.58	17.57	17.42	11.36
12	16.26	14.57	17.78	17.55	16.45	15.57	17.84	18.22	17.60	17.57	17.48	11.92
13	16.38	14.73	17.82	17.45	16.45	15.61	17.85	18.22	17.62	17.57	17.54	12.36
14	16.24	14.89	17.83	17.32	16.45	15.66	17.83	18.19	17.65	17.53	17.57	12.71
15	16.10	15.11	17.85	16.59	16.45	15.76	17.83	18.14	17.65	16.34	17.57	12.98
16	16.03	15.32	17.87	15.83	16.47	15.92	17.85	18.09	17.65	15.97	17.57	13.14
17	15.99	15.52	17.89	15.15	16.55	16.01	17.86	18.08	17.30	15.76	17.54	13.31
18	15.99	15.66	17.91	14.68	16.60	16.10	17.87	18.05	17.00	15.63	17.52	13.49
19	15.99	15.83	17.87	14.40	16.65	16.21	17.87	18.02	16.82	15.56	17.47	13.57
20	16.03	16.00	17.73	14.30	16.62	16.31	17.87	18.02	16.70	15.54	17.46	13.63
21	16.09	16.14	17.57	14.28	16.57	16.39	17.86	18.02	16.64	15.54	17.45	13.73
22	16.17	16.27	17.51	14.28	16.53	16.48	17.89	18.02	16.61	15.58	17.45	13.76
23	16.23	16.42	17.46	14.34	16.53	16.56	17.92	18.02	16.59	15.65	17.45	13.80
24	16.30	16.52	17.42	14.50	16.53	16.63	17.93	18.02	16.57	15.76	16.60	13.86
25	16.36	16.61	17.39	14.65	16.22	16.73	17.96	18.03	16.56	15.89	16.35	13.98
26	16.36	16.71	17.38	14.79	15.98	16.83	17.99	18.03	16.55	16.01	16.27	14.11
27	16.36	16.83	17.37	14.95	15.89	16.91	17.99	18.11	16.55	16.14	16.22	14.30
28	16.27	16.96	17.30	15.13	15.77	16.98	18.02	18.11	16.58	16.26	16.22	14.48
29	16.20	17.06	17.29	15.28	15.67	17.07	18.04	18.13	16.63	16.38	16.24	14.66
30	16.15	17.11	17.29	15.41	---	17.14	18.06	18.15	16.70	16.50	16.31	14.81
31	16.11	---	17.29	15.52	---	17.20	---	17.94	---	16.60	16.40	---
MEAN	16.00	15.75	17.56	16.08	16.27	16.12	17.78	18.12	17.19	16.58	17.07	14.45

WTR YR 1996 MEAN 16.59 HIGHEST 10.92 SEPT. 10, 1996 LOWEST 18.22 MAY 7 to 13, 1996



GROUND-WATER LEVELS

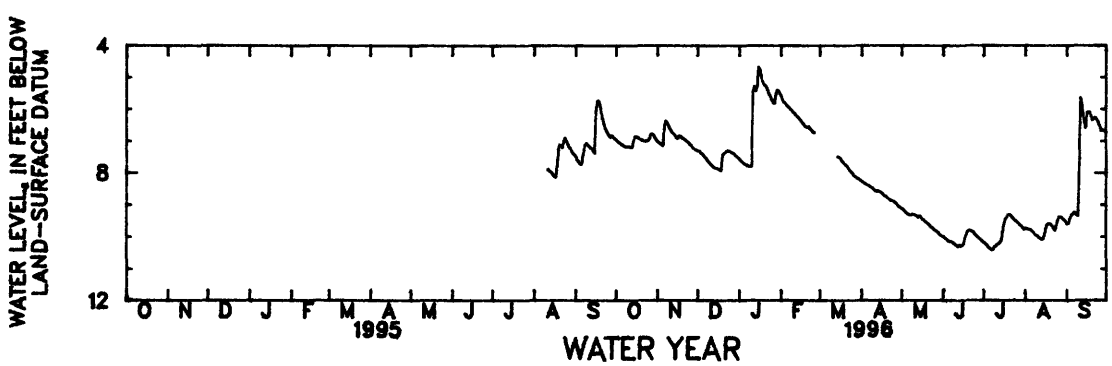
RIO HERRERA TO RIO ANTON RUIZ BASINS

181917065382701. Local number RF-12.
LOCATION.--Lat 18°19'17", long 65°38'27", Hydrologic Unit 21010005, 1.20 mi northwest of Punta Barrancas, 0.81 mi east of Hwy 3, 0.82 mi south of Hwy 195, and 0.61 mi east of Hwy 194. Owner: U.S. Geological Survey, WRD, Name: RF-12.
AQUIFER.--Alluvium.
WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 4 in (0.10 m), cased 4 in (0.10 m) 0-34 ft (0-10.4 m), screened 3.75-34 ft (1.14-10.4 m). Depth 34 ft (10.4 m).
INSTRUMENTATION.--Digital water level recorder--60-minute punch.
DATUM.--Elevation of land-surface datum is 13.70 ft (4.18 m) above mean sea level, from topographic survey. Measuring point: Shelter floor on top of 4 in (0.10 m) casing, 4.16 ft (1.27 m) above land-surface datum.
REMARKS.--Recording observation well.
PERIOD OF RECORD.--August 11, 1995 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 4.64 ft (1.41 m) below land-surface datum, Jan. 15, 1996; lowest water level recorded, 10.45 ft (3.18 m) below land-surface datum, July 7, 8, 1996.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
INSTANTANEOUS OBSERVATION AT 1200

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.96	7.02	7.31	7.58	5.59	---	8.27	9.12	9.99	10.18	9.74	9.60
2	7.00	7.05	7.32	7.63	5.71	---	8.30	9.14	10.02	10.21	9.73	9.57
3	7.04	7.08	7.38	7.66	5.78	---	8.33	9.18	10.05	10.25	9.76	9.42
4	7.06	7.11	7.41	7.70	5.81	---	8.35	9.24	10.10	10.31	9.76	9.31
5	7.11	7.15	7.47	7.73	5.87	---	8.38	9.27	10.13	10.35	9.78	9.29
6	7.12	6.60	7.51	7.75	5.91	---	8.39	9.30	10.15	10.38	9.82	9.23
7	7.16	6.35	7.55	7.78	5.95	---	8.42	9.32	10.15	10.41	9.87	9.26
8	7.18	6.41	7.63	7.80	6.00	---	8.45	9.31	10.18	10.40	9.93	9.32
9	7.18	6.51	7.67	7.80	6.04	---	8.47	9.29	10.21	10.31	9.95	9.35
10	7.18	6.61	7.72	7.79	6.09	---	8.53	9.30	10.24	10.29	9.97	7.53
11	7.18	6.68	7.76	5.40	6.13	---	8.56	9.32	10.28	10.24	10.02	5.62
12	7.20	6.74	7.80	5.25	6.18	---	8.58	9.35	10.31	10.22	10.05	5.82
13	7.19	6.78	7.84	5.44	6.22	---	8.56	9.39	10.26	10.17	10.08	6.14
14	6.99	6.82	7.86	5.28	6.26	7.50	8.58	9.34	10.29	10.11	10.06	6.44
15	6.85	6.89	7.86	4.66	6.31	7.52	8.60	9.36	10.26	9.83	9.95	6.61
16	6.85	6.92	7.88	4.74	6.36	7.55	8.64	9.44	10.23	9.59	9.73	6.09
17	6.88	6.84	7.91	4.94	6.42	7.63	8.68	9.46	10.02	9.45	9.61	6.08
18	6.91	6.84	7.93	5.14	6.46	7.67	8.72	9.51	9.92	9.37	9.59	6.10
19	6.94	6.88	7.43	5.23	6.53	7.72	8.73	9.54	9.82	9.31	9.59	6.23
20	6.96	6.92	7.39	5.25	6.56	7.76	8.76	9.57	9.79	9.30	9.62	6.35
21	6.99	6.94	7.36	5.31	6.55	7.80	8.80	9.62	9.80	9.33	9.66	6.28
22	7.00	6.99	7.32	5.41	6.56	7.86	8.84	9.66	9.82	9.38	9.74	6.25
23	7.01	7.02	7.31	5.53	6.62	7.92	8.87	9.70	9.83	9.43	9.80	6.31
24	6.99	7.05	7.31	5.60	6.67	7.97	8.87	9.73	9.89	9.47	9.64	6.38
25	6.99	7.10	7.33	5.72	6.72	8.01	8.89	9.77	9.94	9.52	9.46	6.50
26	6.91	7.13	7.36	5.80	6.73	8.07	8.93	9.80	9.99	9.55	9.36	6.60
27	6.78	7.19	7.38	5.82	---	8.11	8.96	9.82	10.02	9.59	9.37	6.67
28	6.78	7.24	7.41	5.52	---	8.14	9.02	9.85	10.06	9.63	9.39	6.67
29	6.81	7.28	7.46	5.40	---	8.18	9.06	9.91	10.10	9.66	9.45	6.67
30	6.89	7.28	7.50	5.42	---	8.21	9.09	9.95	10.14	9.71	9.48	6.72
31	6.96	---	7.53	5.52	---	8.24	---	9.97	---	9.77	9.53	---
MEAN	7.00	6.91	7.55	6.12	6.23	7.88	8.65	9.50	10.07	9.86	9.73	7.28

WTR YR 1996 MEAN 8.10 HIGHEST 4.64 JAN. 15, 1996 LOWEST 10.45JULY 7, 8, 1996



GROUND-WATER LEVELS

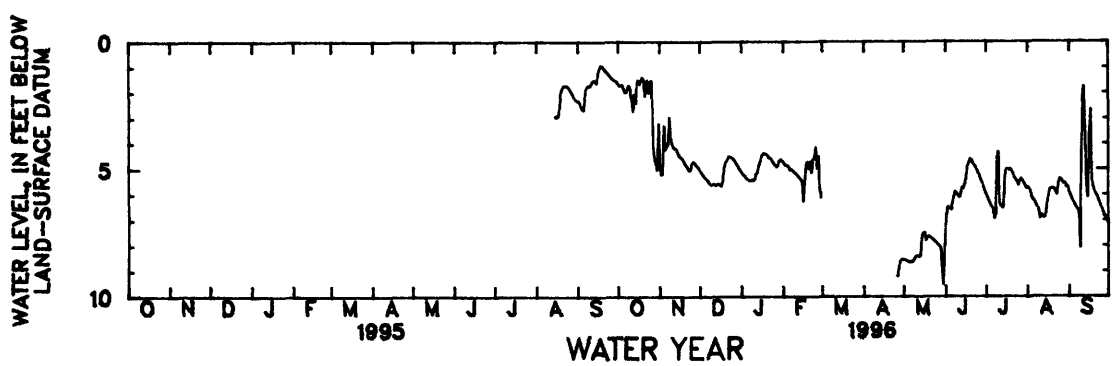
RIO HERRERA TO RIO ANTON RUIZ BASINS

182131065241100. Local number RP-04
LOCATION.--Lat. 18°21'31", long. 65°24'11", Hydrologic Unit 21010005, 1.39 mi southeast of the intersection of Hwy 992 with Hwy 3, 0.40 mi southeast of the intersection of Hwy 983 with Hwy 3, 0.12 mi northwest of the intersection with Hwy 940 with Hwy 983, and 0.03 mi southwest of Hwy 983. Owner: U.S. Geological Survey, WRD, Name: RP-04.
AQUIFER.--Alluvium.
WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 4 in (0.10 m), cased 4 in (0.10 m) 0-39 ft (0-11.9 m), screened 4-39 ft (1.2-11.9 m). Depth 39 ft (11.9 m).
INSTRUMENTATION.--Digital water level recorder--60-minute punch.
DATUM.--Elevation of land-surface datum is 82.12 ft (25.03 m) above mean sea level, from topographic survey. Measuring point: Shelter floor on top of 4 in (0.10 m) casing, 4.18 ft (1.27 m) above land-surface datum.
REMARKS.--Recording observation well. Water levels affected by nearby pumping well.
PERIOD OF RECORD.--August 15, 1995 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 0.91 ft (0.28 m) below land-surface datum, Sept. 18, 1995; lowest water level recorded, 9.66 ft (2.94 m) below land-surface datum, Apr. 26, 1996.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
INSTANTANEOUS OBSERVATION AT 1200

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.66	4.95	5.05	5.12	4.73	---	---	8.54	6.87	5.98	5.70	5.93
2	1.73	5.24	5.12	5.21	4.82	---	---	8.57	6.52	6.11	5.78	6.04
3	1.73	5.19	5.21	5.26	4.86	---	---	8.60	6.49	6.24	5.85	6.18
4	1.70	3.27	5.28	5.33	4.86	---	---	8.63	6.54	6.36	6.10	6.30
5	1.84	4.26	5.34	5.38	4.91	---	---	8.66	6.59	6.48	6.20	6.39
6	1.98	4.13	5.40	5.42	5.03	---	---	8.62	6.33	6.56	6.25	6.51
7	1.97	4.00	5.46	5.45	5.01	---	---	8.64	6.06	6.96	6.36	6.60
8	1.84	2.94	5.55	5.44	5.06	---	---	8.56	5.88	6.78	6.47	6.74
9	1.72	3.78	5.59	5.41	5.11	---	---	8.47	5.96	4.51	6.58	8.11
10	1.85	4.04	5.61	5.44	5.15	---	---	8.41	6.04	4.30	6.96	4.42
11	2.32	4.15	5.58	5.37	5.21	---	---	8.42	6.10	6.37	6.78	2.17
12	2.75	4.20	5.62	5.17	5.28	---	---	8.43	6.05	6.44	6.83	1.75
13	2.06	4.21	5.62	5.11	5.34	---	---	8.39	5.72	6.51	6.90	4.12
14	2.44	4.33	5.58	4.83	5.40	---	---	7.65	5.76	6.43	6.86	5.70
15	1.65	4.44	5.58	4.68	5.47	---	---	7.48	5.60	5.22	6.56	6.13
16	1.49	4.51	5.61	4.45	6.29	---	---	7.48	5.38	4.98	6.24	3.69
17	1.68	4.55	5.65	4.38	5.57	---	---	7.83	4.87	4.99	5.86	2.63
18	1.52	4.61	5.45	4.39	4.80	---	---	7.65	4.76	5.03	5.77	5.38
19	1.40	4.71	4.90	4.41	4.70	---	---	7.63	4.60	4.99	5.76	5.71
20	1.52	4.80	4.69	4.45	4.98	---	---	7.67	4.66	5.07	5.76	5.87
21	2.16	4.86	4.65	4.53	4.70	---	---	7.71	4.78	5.19	5.80	5.99
22	1.57	4.95	4.50	4.57	5.16	---	---	7.76	4.86	5.34	5.92	6.07
23	1.51	5.05	4.51	4.61	4.60	---	---	7.82	4.93	5.43	6.01	6.23
24	2.04	5.03	4.54	4.70	4.54	---	---	7.86	5.05	5.48	5.50	6.38
25	1.54	4.75	4.57	4.78	4.12	---	---	7.90	5.17	5.62	5.37	6.54
26	1.54	4.71	4.63	4.84	4.98	---	9.19	7.97	5.28	5.45	5.42	6.70
27	4.13	4.74	4.70	4.90	4.48	---	8.90	8.04	5.43	5.37	5.52	6.85
28	4.61	4.84	4.80	4.84	5.77	---	8.60	8.09	5.55	5.46	5.57	6.93
29	4.83	4.90	4.86	4.66	6.12	---	8.54	8.97	5.71	5.55	5.56	7.03
30	5.04	4.95	4.97	4.63	---	---	8.53	9.55	5.86	5.65	5.71	7.17
31	3.18	---	5.05	4.67	---	---	---	7.98	---	5.75	5.71	---
MEAN	2.23	4.50	5.15	4.92	5.07	---	8.75	8.19	5.65	5.70	6.05	5.74

WTR YR 1996 MEAN 5.38 HIGHEST 1.28 OCT. 20, 1995 LOWEST 9.66 APR. 26, 1996

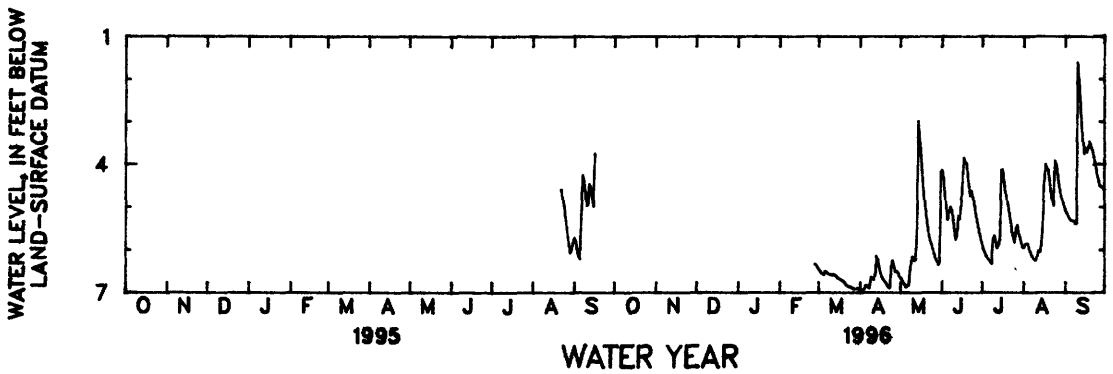


182138065431800. Local number RS-02
LOCATION.--Lat 18°21'38", long 65°43'18", Hydrologic Unit 21010005, 0.87 mi southwest of Hwy 3, 0.39 mi south of the intersection of Hwy 992 with Hwy 991, 0.39 mi north of Hwy 983, and 0.07 mi east of Hwy 991. Owner: U.S. Geological Survey, WRD, Name: RS-02.
AQUIFER.--Alluvium.
WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 4 in (0.10 m), cased 4 in (0.10 m) 0-56 ft (0-17.1 m), screened 2.56-56 ft (0.78-17.1 m). Depth 56 ft (17.1 m).
INSTRUMENTATION.--Digital water level recorder--60-minute punch.
DATUM.--Elevation of land-surface datum is 33.90 ft (10.30 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.
PERIOD OF RECORD.--August 22, 1995 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 1.39 ft (0.42 m) below land-surface datum, Sept. 10, 1996; lowest water level recorded, 6.95 ft (2.12 m) below land-surface datum, Apr. 2, 3, 4, 1996.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
INSTANTANEOUS OBSERVATION AT 1200

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	6.46	6.91	6.65	4.13	5.88	5.94	5.10
2	---	---	---	---	---	6.50	6.93	6.69	4.33	6.00	5.86	5.16
3	---	---	---	---	---	6.54	6.95	6.77	4.67	6.06	5.86	5.22
4	---	---	---	---	---	6.56	6.91	6.81	5.03	6.14	5.86	5.28
5	---	---	---	---	---	6.58	6.83	6.87	5.31	6.20	5.98	5.32
6	---	---	---	---	---	6.49	6.83	6.83	5.07	6.24	6.06	5.32
7	---	---	---	---	---	6.53	6.87	6.81	4.99	6.28	6.14	5.33
8	---	---	---	---	---	6.55	6.89	6.41	5.07	6.32	6.20	5.39
9	---	---	---	---	---	6.57	6.63	6.23	5.29	5.74	6.24	5.39
10	---	---	---	---	---	6.57	6.65	6.15	5.55	5.65	6.22	1.59
11	---	---	---	---	---	6.59	6.69	6.25	5.77	5.83	6.14	1.99
12	---	---	---	---	---	6.57	6.57	6.21	5.63	5.95	6.02	2.57
13	---	---	---	---	---	6.59	6.13	5.81	5.19	5.87	6.04	3.07
14	---	---	---	---	---	6.61	6.23	2.97	5.29	5.77	5.86	3.45
15	---	---	---	---	---	6.65	6.41	3.39	4.95	4.11	5.20	3.77
16	---	---	---	---	---	6.67	6.55	3.79	4.63	4.11	4.40	3.61
17	---	---	---	---	---	6.69	6.63	4.21	3.83	4.39	3.98	3.73
18	---	---	---	---	---	6.71	6.69	4.61	3.97	4.63	4.10	3.57
19	---	---	---	---	---	6.73	6.73	4.95	3.97	4.75	4.14	3.45
20	---	---	---	---	---	6.75	6.77	5.21	4.25	4.95	4.36	3.61
21	---	---	---	---	---	6.81	6.83	5.45	4.51	5.15	4.64	3.67
22	---	---	---	---	---	6.83	6.87	5.65	4.75	5.37	4.84	3.83
23	---	---	---	---	---	6.85	6.89	5.79	4.61	5.60	4.96	3.95
24	---	---	---	---	---	6.87	6.37	5.87	4.77	5.70	3.90	4.13
25	---	---	---	---	---	6.87	6.23	5.97	4.95	5.82	4.00	4.31
26	---	---	---	---	---	6.89	6.39	6.09	5.16	5.46	4.24	4.43
27	---	---	---	---	6.34	6.91	6.51	6.21	5.32	5.42	4.46	4.53
28	---	---	---	---	6.36	6.91	6.49	6.27	5.48	5.62	4.64	4.53
29	---	---	---	---	6.42	6.91	6.53	6.35	5.64	5.70	4.78	4.55
30	---	---	---	---	---	6.89	6.61	6.27	5.78	5.84	4.90	4.61
31	---	---	---	---	---	6.91	---	4.15	---	5.94	5.00	---
MEAN	---	---	---	---	6.37	6.70	6.65	5.73	4.93	5.56	5.19	4.15

WTR YR 1996 MEAN 5.57 HIGHEST 1.39 SEPT. 10, 1996 LOWEST 6.95 APR. 2, 3, 4, 1996



GROUND-WATER LEVELS

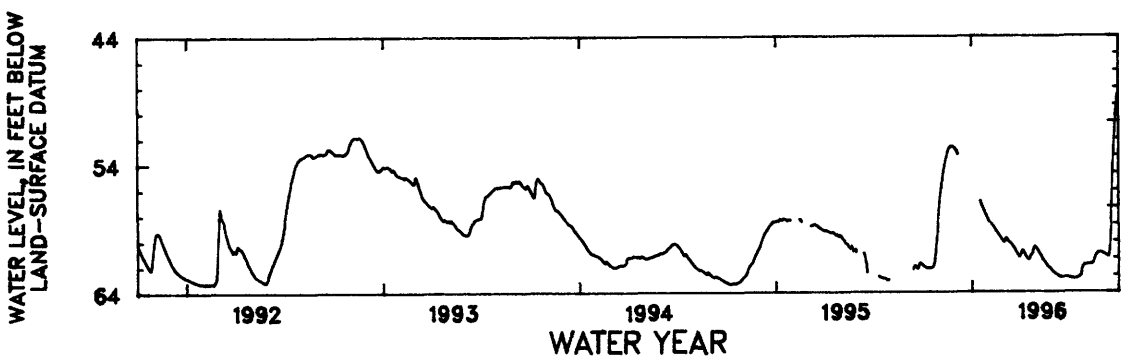
RIO HUMACAO TO RIO SECO BASINS

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.
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.--Digital water level recorder--60-minute punch.
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.
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 (20.10 m) below land-surface datum, June 2, 1968.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
INSTANTANEOUS OBSERVATION AT 1200

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	61.90	57.01	52.88	---	58.47	60.07	60.98	60.74	62.50	62.89	61.85	60.99
2	61.95	56.53	52.97	---	58.54	59.93	60.87	60.81	62.53	62.90	61.84	61.02
3	61.99	56.18	53.07	---	58.59	59.84	60.79	60.88	62.56	62.92	61.84	61.04
4	62.02	55.88	53.16	---	58.64	59.81	60.78	60.95	62.59	62.93	61.83	61.07
5	62.05	55.60	53.27	---	58.69	59.86	60.84	61.01	62.62	62.94	61.83	61.10
6	62.08	55.30	---	---	58.74	59.91	60.91	61.09	62.65	62.95	61.82	61.13
7	62.09	54.98	---	---	58.79	59.99	60.97	61.17	62.68	62.95	61.82	61.15
8	62.11	54.66	---	---	58.85	60.06	61.05	61.25	62.72	62.96	61.83	61.19
9	62.12	54.41	---	---	58.91	60.12	61.14	61.32	62.75	62.97	61.83	61.23
10	62.12	54.20	---	---	58.98	60.15	61.22	61.39	62.77	62.97	61.83	61.17
11	62.12	53.99	---	---	59.05	60.18	61.30	61.46	62.79	62.96	61.82	61.25
12	62.12	53.79	---	---	59.11	60.21	61.37	61.52	62.81	62.96	61.78	61.07
13	62.12	53.59	---	---	59.18	60.25	61.42	61.59	62.82	62.95	61.70	60.71
14	62.11	53.42	---	---	59.25	60.30	61.46	61.65	62.83	62.93	61.61	60.12
15	62.10	53.27	---	---	59.31	60.35	61.48	61.71	62.84	62.91	61.50	59.26
16	62.09	53.09	---	56.91	59.37	60.42	61.45	61.77	62.84	62.89	61.40	58.18
17	62.09	52.93	---	57.01	59.43	60.48	61.35	61.83	62.84	62.86	61.29	56.88
18	62.08	52.82	---	57.11	59.48	60.54	61.24	61.89	62.84	62.82	61.21	55.49
19	62.07	52.74	---	57.22	59.55	60.60	61.14	61.94	62.84	62.79	61.14	54.28
20	62.02	52.68	---	57.32	59.61	60.68	61.08	62.00	62.83	62.75	61.06	53.23
21	61.93	52.64	---	57.42	59.67	60.75	61.04	62.05	62.83	62.70	61.01	52.29
22	61.76	52.63	---	57.52	59.73	60.82	60.96	62.10	62.83	62.60	60.97	51.52
23	61.51	52.62	---	57.62	59.79	60.90	60.78	62.08	62.83	62.40	60.95	50.87
24	61.13	52.62	---	57.72	59.86	60.97	60.60	62.13	62.83	62.18	60.93	50.27
25	60.68	52.63	---	57.83	59.92	61.04	60.50	62.18	62.83	62.03	60.91	49.77
26	60.22	52.64	---	57.92	59.98	61.12	60.47	62.22	62.84	61.95	60.91	49.36
27	59.75	52.68	---	58.01	60.04	61.19	60.49	62.27	62.85	61.92	60.91	49.02
28	59.33	52.71	---	58.11	60.10	61.25	60.54	62.33	62.86	61.89	60.93	48.71
29	58.83	52.75	---	58.19	60.12	61.26	60.60	62.37	62.87	61.88	60.94	48.44
30	58.24	52.81	---	58.29	---	61.21	60.67	62.42	62.88	61.87	60.95	48.20
31	57.64	---	---	58.39	---	61.10	---	62.46	---	61.86	60.97	---
MEAN	61.37	53.79	53.07	57.66	59.30	60.50	60.98	61.70	62.77	62.63	61.39	56.33

WTR YR 1996 MEAN 59.87 HIGHEST 48.08 SEPT. 30, 1996 LOWEST 62.97 JULY 8-11, 1996

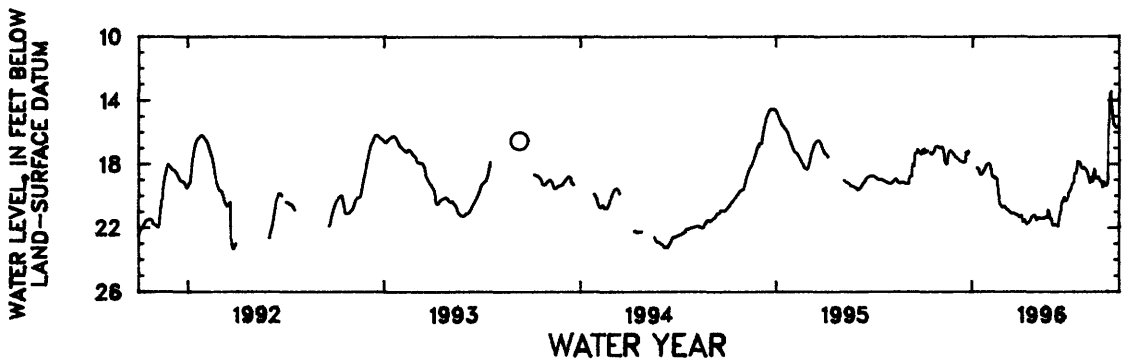


180415065513900. Local number, 96.
LOCATION.--Lat 18°04'15", long 65°51'39", Hydrologic Unit 21010005, 2.44 mi northwest of Escuela Eugenio María de Hostos 4.67 mi southwest of Escuela Segunda Unidad Luciano, and 3.93 mi southwest of Escuela Asunción López. Owner: P.R. Aqueduct and Sewer Authority, Name: USGS TW-2 or Yabucoa 7.
AQUIFER.--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 (0-55.79 m), perforated 56-81 ft (17.07-24.70 m), 102-123 ft (31.10-37.50 m), 144-181 ft (43.90-55.18 m). Depth 181 ft (55.18 m).
INSTRUMENTATION.--Digital water level recorder--60-minute punch.
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.
REMARKS.--Recording observation well.
PERIOD OF RECORD.--April 25, 1978 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 13.10 ft (3.99 m) below land-surface datum, Dec. 2, 1987; lowest water level recorded, 28.29 ft (8.62 m) below land-surface datum, Sept. 20, 1980.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
INSTANTANEOUS OBSERVATION AT 1200

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17.13	16.96	17.54	---	17.96	20.65	21.24	21.45	21.83	19.63	18.48	19.09
2	17.08	16.98	17.57	---	18.01	20.66	21.23	21.40	21.78	19.57	18.52	19.19
3	17.06	16.98	17.60	---	18.02	20.69	21.35	21.34	21.78	19.48	18.69	19.35
4	17.06	16.98	17.62	---	18.16	20.75	21.54	21.33	21.78	19.31	18.86	19.25
5	17.17	16.97	17.65	---	18.34	20.82	21.64	21.36	21.84	19.22	19.02	19.32
6	17.24	16.94	17.69	---	18.53	20.85	21.61	21.37	21.84	19.23	19.10	19.35
7	17.23	16.94	17.70	---	18.73	20.86	21.55	21.38	21.80	19.16	19.19	19.31
8	17.19	17.07	17.77	---	18.80	20.87	21.51	21.39	21.84	19.14	18.92	19.21
9	17.17	17.21	17.80	---	18.79	20.89	21.61	21.37	21.90	18.62	18.84	18.99
10	17.19	17.43	17.81	---	18.80	20.95	21.70	21.39	21.55	18.60	18.94	16.09
11	---	17.74	17.83	18.26	18.88	20.99	21.76	21.39	21.41	18.54	19.12	15.62
12	---	17.89	17.84	18.26	18.89	21.02	21.70	21.37	21.17	18.57	19.09	14.73
13	---	17.98	17.86	18.32	18.84	21.08	21.69	21.37	21.01	18.32	18.67	13.90
14	---	18.01	17.89	18.48	18.87	21.10	21.69	21.38	20.91	18.14	18.53	13.54
15	---	17.99	17.90	18.56	18.92	21.10	21.64	21.38	20.66	17.82	18.31	13.45
16	17.32	17.92	17.90	18.64	18.98	21.08	21.61	21.33	20.40	17.84	18.42	14.01
17	17.34	17.50	17.86	18.64	19.30	21.07	21.59	21.31	20.37	17.85	18.82	14.44
18	17.35	17.33	17.84	18.64	19.70	21.07	21.51	21.31	20.20	17.87	18.92	14.91
19	17.31	17.23	17.83	18.63	19.98	21.08	21.47	21.31	20.06	17.92	18.89	15.23
20	17.26	17.21	17.24	18.59	20.17	21.11	21.39	21.28	20.07	18.01	18.85	15.47
21	17.22	17.17	17.36	18.53	20.37	21.13	21.29	20.85	20.27	18.13	18.86	15.52
22	17.18	17.13	17.39	18.43	20.50	21.16	21.26	20.91	20.24	18.21	18.93	15.61
23	17.08	17.19	17.33	18.41	20.57	21.19	21.24	21.01	20.31	18.26	18.81	15.64
24	16.98	17.23	17.26	18.39	20.61	21.20	21.20	21.24	20.31	18.26	18.97	15.68
25	16.92	17.23	17.21	18.28	20.66	21.19	21.19	21.35	20.26	18.26	19.02	15.72
26	16.88	17.31	---	18.19	20.71	21.19	21.19	21.45	20.22	18.29	19.10	15.67
27	16.88	17.35	---	18.12	20.73	21.23	21.23	21.40	20.03	18.21	19.09	15.67
28	16.88	17.38	---	18.04	20.71	21.29	21.38	21.55	19.81	18.27	19.09	15.67
29	16.90	17.46	---	18.00	20.69	21.32	21.47	21.78	19.75	18.31	19.32	15.63
30	16.92	17.52	---	17.98	---	21.31	21.47	21.80	19.69	18.30	19.49	15.51
31	16.93	---	---	17.97	---	21.28	---	21.84	---	18.37	19.25	---
MEAN	17.11	17.34	17.65	18.35	19.39	21.04	21.46	21.37	20.84	18.51	18.91	16.36

WTR YR 1996 MEAN 19.10 HIGHEST 13.39 SEPT. 15, 1996 LOWEST 21.90 JUNE 9, 1996



GROUND-WATER LEVELS

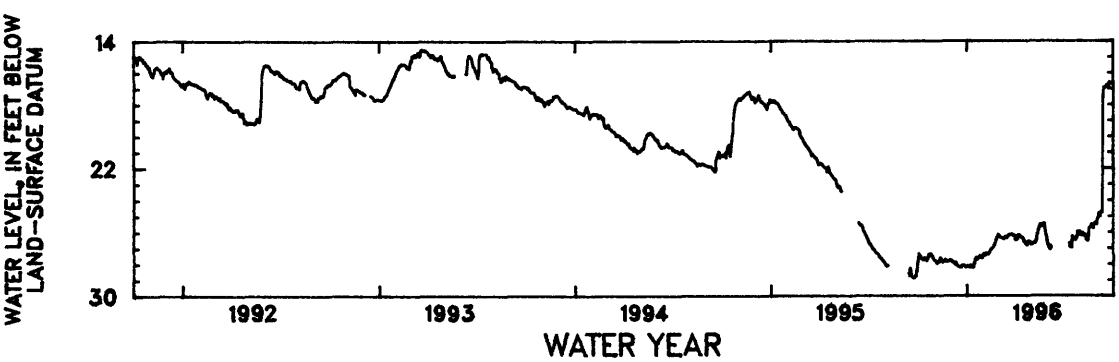
RIO HUMACAO TO RIO SECO BASINS

175719066085500. Local number P-13
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 Phillps Petroleum oil refinery. Owner: Phillips Petroleum, Name: Phillips Petroleum No. 13.
AQUIFER.--Alluvium.
WELL CHARACTERISTICS.--Drilled unused water-table well.
INSTRUMENTATION.--Digital water level recorder--60-minute punch.
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. Sampling performed on June 7, 1996 by private company.
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, 28.88 ft (8.80 m) below land-surface datum, Sept. 22, 1995.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
INSTANTANEOUS OBSERVATION AT 1200

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27.68	27.79	27.75	28.13	27.36	26.23	26.51	26.77	26.85	---	26.06	25.14
2	27.50	27.80	27.83	28.14	27.44	26.31	26.39	26.75	26.94	---	26.23	25.02
3	27.34	27.83	27.80	28.15	27.44	26.32	26.25	26.72	27.06	---	26.11	24.79
4	27.45	27.89	27.85	28.17	27.42	26.33	26.43	26.67	27.06	---	26.06	24.87
5	27.51	27.98	27.91	28.21	27.39	26.35	26.23	26.64	26.88	---	26.11	25.02
6	27.64	27.86	27.90	28.18	27.33	26.37	26.17	26.61	26.97	---	26.16	24.83
7	27.68	27.89	27.93	28.10	27.33	26.39	26.18	26.68	---	---	26.23	24.75
8	27.69	27.87	27.99	28.11	27.36	26.35	26.22	26.60	---	---	26.26	24.71
9	27.72	27.89	28.02	28.13	27.38	26.41	26.27	26.51	---	---	26.15	24.76
10	27.75	27.84	27.89	28.22	27.36	26.41	26.34	26.26	---	26.70	26.45	22.19
11	27.74	27.61	28.01	28.24	27.32	26.34	26.33	26.07	---	26.97	26.50	17.68
12	27.68	27.62	28.10	28.20	27.28	26.27	26.33	25.91	---	26.80	26.50	16.90
13	27.59	27.67	28.09	28.06	27.18	26.33	26.35	25.81	---	26.94	26.55	17.01
14	27.67	27.73	28.13	27.98	27.10	26.36	26.36	25.73	---	26.98	26.54	16.92
15	27.75	27.82	28.15	27.82	27.09	26.37	26.49	25.58	---	26.23	26.19	16.94
16	27.75	27.89	28.20	27.65	27.00	26.27	26.61	25.52	---	26.42	25.68	16.88
17	27.81	27.81	28.19	27.71	27.00	26.26	26.55	25.60	---	26.47	25.71	16.81
18	27.72	27.82	28.21	27.56	26.98	26.16	26.66	25.64	---	26.38	25.71	16.76
19	27.64	27.86	28.23	27.69	26.93	26.19	26.74	25.59	---	26.43	25.70	16.85
20	27.57	27.82	28.22	27.66	26.86	26.14	26.77	25.51	---	26.45	25.51	16.92
21	27.44	27.72	28.20	27.62	26.79	26.15	26.79	25.50	---	26.45	25.49	16.99
22	27.40	27.79	28.10	27.57	26.72	26.15	26.83	25.62	---	26.52	25.61	16.68
23	27.38	27.83	28.10	27.56	26.59	26.15	26.67	25.58	---	26.25	25.71	16.63
24	27.49	27.81	28.10	27.56	26.52	26.13	26.59	25.46	---	26.36	25.75	16.60
25	27.42	27.87	28.10	27.49	26.38	26.13	26.55	25.76	---	25.94	25.48	16.65
26	27.37	27.83	28.10	27.53	26.32	26.20	26.64	26.02	---	26.08	25.48	16.62
27	27.44	27.80	28.11	27.60	26.27	26.18	26.64	26.17	---	26.16	25.41	16.68
28	27.54	27.78	28.15	27.61	26.15	26.19	26.70	26.31	---	26.17	25.47	16.68
29	27.65	27.83	28.20	27.58	26.18	26.21	26.74	26.53	---	25.94	25.50	16.69
30	27.71	27.74	28.19	27.48	---	26.34	26.80	26.69	---	26.11	25.49	16.87
31	27.78	---	28.17	27.41	---	26.44	---	26.80	---	26.06	25.20	---
MEAN	27.60	27.81	28.06	27.84	26.98	26.27	26.50	26.12	26.96	26.40	25.90	19.43

WTR YR 1996 MEAN 26.28 HIGHEST 16.60 SEPT. 24, 26, 1996 LOWEST 28.26 DEC. 21, 22, 1995



GROUND-WATER LEVELS

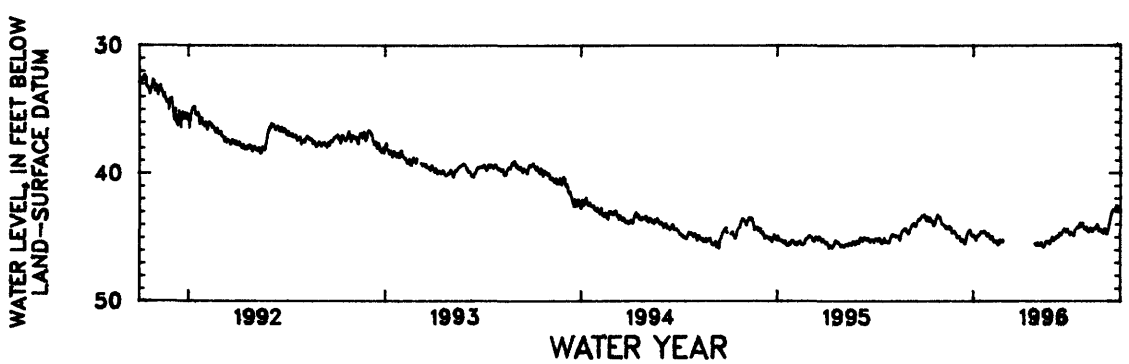
RIO SALINAS TO RIO JACAGUAS BASINS

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.
AQUIFER.--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.--Digital water level recorder--60-minute punch.
DATUM.--Elevation of land-surface datum is 35.32 ft (10.77 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.
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.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
INSTANTANEOUS OBSERVATION AT 1200

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	43.21	43.72	44.98	44.80	45.09	---	---	45.62	45.12	44.60	44.53	44.30
2	43.27	43.92	45.04	44.81	45.14	---	---	45.64	44.96	44.73	44.55	44.33
3	43.46	43.96	44.93	44.98	45.10	---	---	45.61	44.96	44.77	44.59	44.64
4	43.62	43.96	44.96	45.05	44.96	---	---	45.62	44.94	44.76	44.40	44.61
5	43.70	43.96	45.02	45.18	44.91	---	---	45.51	44.90	44.82	44.28	44.74
6	43.60	44.03	44.89	45.23	45.06	---	---	45.37	45.00	44.87	44.30	44.71
7	43.57	44.04	45.11	45.03	45.24	---	---	45.64	44.97	44.67	44.36	44.53
8	43.37	44.17	45.16	44.91	45.35	---	---	45.71	44.80	44.43	44.54	44.31
9	43.55	44.21	45.31	44.94	45.32	---	---	45.73	44.68	44.36	44.56	44.13
10	43.72	44.13	45.21	44.81	45.36	---	---	45.71	44.69	44.30	44.54	43.86
11	43.57	44.32	45.16	44.85	45.31	---	---	45.78	44.80	44.26	44.35	43.64
12	43.48	44.20	45.18	44.79	45.26	---	---	45.63	44.80	44.18	44.26	43.39
13	43.68	44.19	45.19	44.75	45.30	---	---	45.51	44.67	44.23	44.29	43.21
14	43.79	44.35	45.38	44.68	45.41	---	---	45.33	44.62	44.26	44.38	43.11
15	43.80	44.28	45.43	44.54	45.44	---	---	45.32	44.56	44.07	44.35	42.96
16	43.72	44.10	45.52	44.53	45.59	---	---	45.31	44.44	43.98	44.12	42.89
17	43.95	44.16	45.46	44.54	45.53	---	---	45.40	44.33	43.89	44.08	42.83
18	44.11	44.37	45.20	44.58	45.22	---	---	45.45	44.35	43.98	43.99	42.87
19	44.04	44.34	45.01	44.63	45.19	---	---	45.33	44.38	44.15	44.14	42.96
20	43.85	44.24	44.81	44.63	45.31	---	---	45.30	44.42	44.10	44.28	42.91
21	43.92	44.46	44.72	44.48	45.24	---	---	45.41	44.60	43.91	44.39	42.76
22	43.66	44.66	44.61	44.51	45.30	---	---	45.53	44.45	43.88	44.53	42.57
23	43.55	44.55	44.53	44.60	45.33	---	---	45.36	44.33	44.14	44.52	42.56
24	43.41	44.51	44.47	44.70	45.34	---	---	45.25	44.40	44.21	44.49	42.80
25	43.28	44.65	44.41	44.79	45.21	---	45.50	45.16	44.56	44.33	44.41	42.80
26	43.24	44.57	44.42	44.90	---	---	45.56	45.02	44.58	44.33	44.42	42.65
27	43.32	44.49	44.60	44.90	---	---	45.63	44.99	44.67	44.38	44.60	42.87
28	43.50	44.69	44.80	44.76	---	---	45.47	45.23	44.77	44.33	44.52	43.02
29	43.40	44.66	44.83	44.69	---	---	45.42	45.25	44.81	44.19	44.66	42.79
30	43.40	44.82	44.89	44.79	---	---	45.52	45.13	44.64	44.46	44.69	42.82
31	43.66	---	44.91	44.94	---	---	---	45.09	---	44.47	44.42	---
MEAN	43.59	44.29	44.97	44.78	45.26	---	45.52	45.42	44.67	44.32	44.40	43.42

WTR YR 1996 MEAN 44.52 HIGHEST 42.54 SEPT. 22, 23, 24, 1996 LOWEST 45.82 MAY 11, 1996

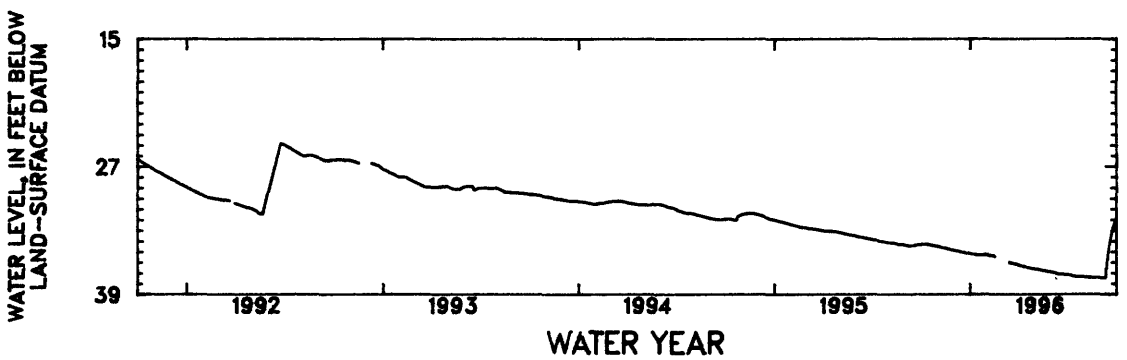


180002066132200. Local number, HW-TW-01.
LOCATION.--Lat 18°00'02", long 66°13'22", Hydrologic Unit 21010004, 3.30 mi southwest of Cerro Guaraco, 8.71 mi southwest of Cayey plaza, and 2.80 mi southeast of Hwy 1 km 82.3 on Rabo del Buey. Owner: U.S. Geological Survey, WRD, Name: HW-TW-01.
AQUIFER.--Fractured, 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 ft (9.75-11.3 m). Depth 39.5 ft (12.0 m).
INSTRUMENTATION.--Digital water level recorder--60-minute punch.
DATUM.--Elevation of land-surface datum is 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.
PERIOD OF RECORD.--April 14, 1988 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 19.34 ft (5.89 m) below land-surface datum, Dec. 18, 1990 to Jan. 26, 1991; lowest water level recorded, 37.45 ft (11.42 m) below land-surface datum, Sept. 10, 1996.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
INSTANTANEOUS OBSERVATION AT 1200

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34.29	34.49	34.86	35.18	35.27	---	36.24	36.62	36.91	37.17	37.36	37.42
2	34.29	34.50	34.87	35.20	35.28	---	36.25	36.63	36.91	37.17	37.36	37.42
3	34.27	34.51	34.89	35.21	35.30	---	36.29	36.63	36.92	37.17	37.37	37.42
4	34.27	34.52	34.90	35.22	35.31	---	36.31	36.64	36.94	37.18	37.37	37.43
5	34.27	34.53	34.90	35.22	35.33	---	36.33	36.65	36.95	37.19	37.37	37.43
6	34.27	34.55	34.91	35.23	35.33	---	36.34	36.65	36.96	37.20	37.38	37.43
7	34.27	34.57	34.92	35.24	35.34	---	36.35	36.66	36.97	37.22	37.38	37.43
8	34.27	34.58	34.93	35.25	35.34	---	36.36	36.67	36.97	37.24	37.39	37.43
9	34.27	34.59	34.95	35.26	35.35	---	36.36	36.68	36.99	37.26	37.40	37.43
10	34.27	34.60	34.96	35.27	35.35	---	36.38	36.69	37.04	37.27	37.40	37.30
11	34.27	34.62	34.97	35.28	35.36	---	36.40	36.69	37.06	37.28	37.41	36.52
12	34.28	34.62	34.98	35.29	35.36	---	36.41	36.70	37.07	37.29	37.40	36.16
13	34.28	34.63	35.00	35.29	35.37	---	36.43	36.71	37.08	37.29	37.40	35.76
14	34.29	34.64	35.01	35.30	35.38	36.02	36.44	36.73	37.08	37.30	37.40	35.35
15	34.30	34.66	35.02	35.30	35.39	36.03	36.45	36.74	37.09	37.31	37.40	35.04
16	34.30	34.67	35.03	35.30	35.44	36.04	36.47	36.74	37.10	37.31	37.42	34.66
17	34.31	34.68	35.04	35.30	---	36.05	36.48	36.75	37.11	37.31	37.42	34.31
18	34.34	34.69	35.06	35.30	---	36.06	36.49	36.76	37.11	37.32	37.42	34.00
19	34.36	34.71	35.07	35.30	---	36.08	36.50	36.77	37.11	37.32	37.42	33.74
20	34.37	34.72	35.08	35.30	---	36.09	36.51	36.78	37.11	37.32	37.42	33.49
21	34.38	34.73	35.08	35.30	---	36.10	36.52	36.79	37.12	37.33	37.42	33.31
22	34.39	34.74	35.08	35.30	---	36.11	36.54	36.81	37.12	37.33	37.42	33.09
23	34.40	34.76	35.12	35.30	---	36.12	36.55	36.83	37.12	37.33	37.42	32.86
24	34.41	34.77	35.14	35.30	---	36.13	36.57	36.85	37.13	37.33	37.42	32.69
25	34.42	34.78	35.14	35.29	---	36.15	36.57	36.85	37.14	37.33	37.42	32.53
26	34.42	34.80	35.15	35.29	---	36.16	36.58	36.86	37.15	37.33	37.42	32.36
27	34.43	34.81	35.15	35.29	---	36.18	36.59	36.86	37.15	37.33	37.42	32.23
28	34.44	34.82	35.15	35.29	---	36.19	36.59	36.87	37.15	37.34	37.42	32.10
29	34.45	34.83	35.16	35.27	---	36.19	36.60	36.88	37.16	37.34	37.42	32.00
30	34.47	34.84	35.17	35.27	---	36.22	36.61	36.89	37.16	37.35	37.42	31.89
31	34.48	---	35.17	35.27	---	36.23	---	36.90	---	37.35	37.42	---
MEAN	34.34	34.67	35.03	35.27	35.34	36.12	36.45	36.75	37.06	37.28	37.40	34.94

WTR YR 1996 MEAN 35.90 HIGHEST 31.83 SEPT. 30, 1996 LOWEST 37.45 SEPT. 10, 1996

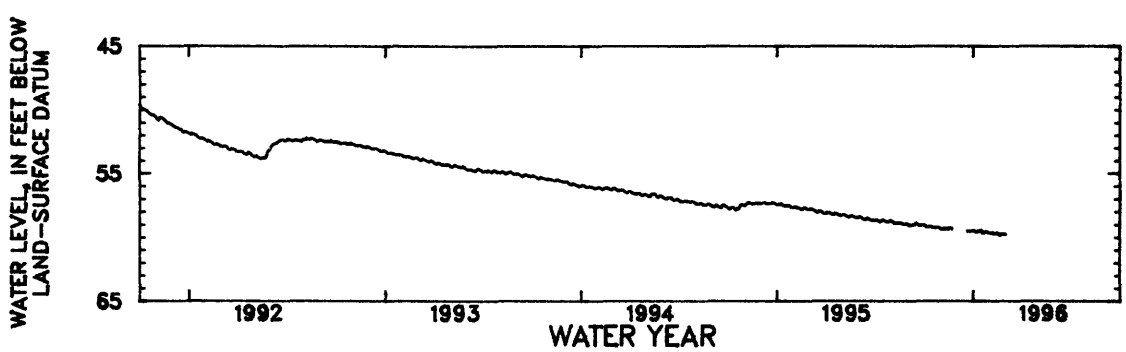


180001066122002 Local number, HW-TW-03C.
LOCATION.--Lat 18°00'01", long 66°12'20", Hydrologic Unit 21010004, 8.27 mi southwest of Cayey plaza, 2.38 mi southwest of Cerro Garau, and 3.45 mi southeast of Hwy 1 km 82.3. Owner: U.S. Geological Survey, WRD, Name: HW-TW-03C.
AQUIFER.--Fractured, volcanic rock, 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.--Digital water level recorder--60-minute punch.
DATUM.--Elevation of land-surface datum is 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. Aquifer test performed during May 24, 25, 26, 1989.
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 (18.23 m) below land-surface datum, Mar. 1, 1996.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
INSTANTANEOUS OBSERVATION AT 1200

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	59.04	59.33	---	59.47	59.65	59.75	---	---	---	---	---	---
2	59.07	59.34	---	59.48	59.67	---	---	---	---	---	---	---
3	59.08	59.34	---	59.47	59.66	---	---	---	---	---	---	---
4	59.14	59.35	---	59.55	59.67	---	---	---	---	---	---	---
5	59.16	59.36	---	59.53	59.65	---	---	---	---	---	---	---
6	59.17	59.35	---	59.54	59.63	---	---	---	---	---	---	---
7	59.18	59.28	---	59.57	59.70	---	---	---	---	---	---	---
8	59.18	59.34	---	59.54	59.70	---	---	---	---	---	---	---
9	59.18	59.34	59.51	59.54	59.71	---	---	---	---	---	---	---
10	59.17	59.34	---	59.53	59.70	---	---	---	---	---	---	---
11	59.14	59.33	---	59.50	59.70	---	---	---	---	---	---	---
12	59.13	59.31	---	59.49	59.69	---	---	---	---	---	---	---
13	59.13	59.30	---	59.45	59.69	---	---	---	---	---	---	---
14	59.16	59.32	---	59.43	59.67	---	---	---	---	---	---	---
15	59.19	59.34	---	59.43	59.67	---	---	---	---	---	---	---
16	59.19	59.33	---	59.42	59.69	---	---	---	---	---	---	---
17	59.21	59.27	---	59.62	59.69	---	---	---	---	---	---	---
18	59.22	59.26	---	59.63	59.71	---	---	---	---	---	---	---
19	59.22	59.26	---	59.64	59.78	---	---	---	---	---	---	---
20	59.22	59.26	---	59.62	59.80	---	---	---	---	---	---	---
21	59.22	59.27	59.51	59.63	59.75	---	---	---	---	---	---	---
22	59.23	59.34	59.51	59.60	59.73	---	---	---	---	---	---	---
23	59.22	---	59.51	59.56	59.72	---	---	---	---	---	---	---
24	59.20	---	59.52	59.55	59.73	---	---	---	---	---	---	---
25	59.20	---	59.52	59.56	59.73	---	---	---	---	---	---	---
26	59.18	---	59.51	59.59	59.73	---	---	---	---	---	---	---
27	59.19	---	59.50	59.60	59.73	---	---	---	---	---	---	---
28	59.21	---	59.50	59.60	59.73	---	---	---	---	---	---	---
29	59.22	---	59.49	59.62	59.74	---	---	---	---	---	---	---
30	59.24	---	59.50	59.63	---	---	---	---	---	---	---	---
31	59.28	---	59.48	59.64	---	---	---	---	---	---	---	---
MEAN	59.18	59.32	59.50	59.55	59.70	59.75	---	---	---	---	---	---

WTR YR 1996 MEAN 59.45 HIGHEST 59.01 OCT. 6, 7, 1995 LOWEST 59.82 MAR. 1, 1996



GROUND-WATER LEVELS

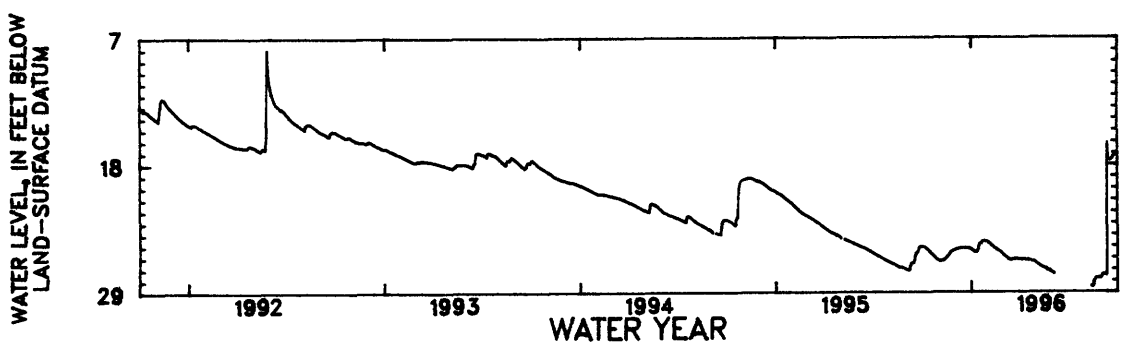
RIO SALINAS TO RIO JACAGUAS BASINS

175947066130601 Local number, HW-TW-05B.
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: U.S. Geological Survey, WRD, Name: HW-TW-05B.
AQUIFER.--Fractured, volcanic rock, water-table aquifer.
WELL CHARACTERISTICS.--Drilled observation well, diameter 7 in (0.18 m), 0-52 ft (0-15.8 m), cased 4 in (0.10 m), 0-51 ft (0-15.5 m), screened 41-46 ft (12.5-14.0 m). Depth 52 ft (15.8 m).
INSTRUMENTATION.--Digital water level recorder--60-minute punch.
DATUM.--Elevation of land-surface datum is 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.
PERIOD OF RECORD.--April 13, 1988 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 7.89 ft (2.40 m) below land-surface datum, May 26, 1992; lowest water level recorded, 28.55 ft (8.70 m) below land-surface datum, Aug. 14, 15, 1996.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
INSTANTANEOUS OBSERVATION AT 1200

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25.07	26.27	25.34	25.31	24.69	25.79	26.17	26.48	27.36	---	---	27.54
2	25.07	26.28	25.32	25.33	24.73	25.82	26.17	26.52	27.38	---	---	27.48
3	25.07	26.29	25.31	25.38	24.76	25.85	26.18	26.56	27.40	---	---	27.47
4	25.07	26.29	25.29	25.42	24.80	25.90	26.19	26.59	27.42	---	---	27.47
5	25.09	26.29	25.27	25.45	24.85	25.94	26.18	26.62	---	---	---	27.48
6	25.11	26.29	25.25	25.48	24.88	25.98	26.17	26.66	---	---	---	27.48
7	25.14	26.26	25.24	25.52	24.94	26.01	26.15	26.70	---	---	---	27.48
8	25.18	26.26	25.22	25.55	24.96	26.05	26.14	26.73	---	---	---	27.49
9	25.22	26.26	25.22	25.55	25.01	26.10	26.15	26.77	---	---	---	27.54
10	25.26	26.26	25.21	25.55	25.05	26.14	26.16	26.78	---	---	---	27.28
11	25.30	26.22	25.19	25.55	25.09	26.17	26.17	26.80	---	---	---	16.08
12	25.35	26.18	25.19	25.46	25.14	26.18	26.18	26.83	---	---	---	17.04
13	25.39	26.14	25.18	25.37	25.17	26.19	26.18	26.88	---	---	28.50	17.48
14	25.45	26.10	25.18	25.22	25.21	26.23	26.19	26.89	---	---	28.53	17.59
15	25.49	26.07	25.18	24.94	25.24	26.22	26.20	26.91	---	---	28.53	17.61
16	25.54	26.01	25.18	24.82	25.29	26.21	26.22	26.93	---	---	28.41	17.62
17	25.60	25.96	25.18	24.78	25.32	26.19	26.23	26.95	---	---	28.09	17.63
18	25.65	25.90	25.18	24.78	25.34	26.17	26.25	26.95	---	---	27.94	17.60
19	25.71	25.87	25.18	24.78	25.37	26.16	26.27	26.97	---	---	27.88	17.55
20	25.76	25.81	25.18	24.78	25.40	26.15	26.27	26.97	---	---	27.83	17.52
21	25.81	25.74	25.18	24.66	25.42	26.14	26.30	27.02	---	---	27.79	17.47
22	25.85	25.63	25.18	24.61	25.45	26.13	26.32	27.10	---	---	27.78	17.38
23	25.90	25.58	25.17	24.58	25.48	26.12	26.34	27.11	---	---	27.78	17.30
24	25.95	25.54	25.17	24.58	25.52	26.11	26.34	27.12	---	---	27.78	17.25
25	26.01	25.50	25.17	24.58	25.55	26.12	26.34	27.12	---	---	27.76	17.19
26	26.05	25.46	25.18	24.58	25.59	26.13	26.35	27.13	---	---	27.76	17.17
27	26.10	25.44	25.18	24.58	25.64	26.14	26.35	27.19	---	---	27.76	17.00
28	26.15	25.42	25.22	24.58	25.68	26.15	26.38	27.21	---	---	27.76	17.00
29	26.19	25.40	25.23	24.60	25.73	26.16	26.42	27.24	---	---	27.77	16.98
30	26.22	25.36	25.26	24.62	---	26.16	26.46	27.29	---	---	27.77	16.97
31	26.24	---	25.29	24.66	---	26.16	---	27.30	---	---	27.71	---
MEAN	25.58	25.94	25.22	25.02	25.22	26.10	26.25	26.91	27.39	---	27.95	20.67

WTR YR 1996 MEAN 25.43 HIGHEST 16.08 SEPT. 11, 1996 LOWEST 28.55 AUG. 14, 15, 1996

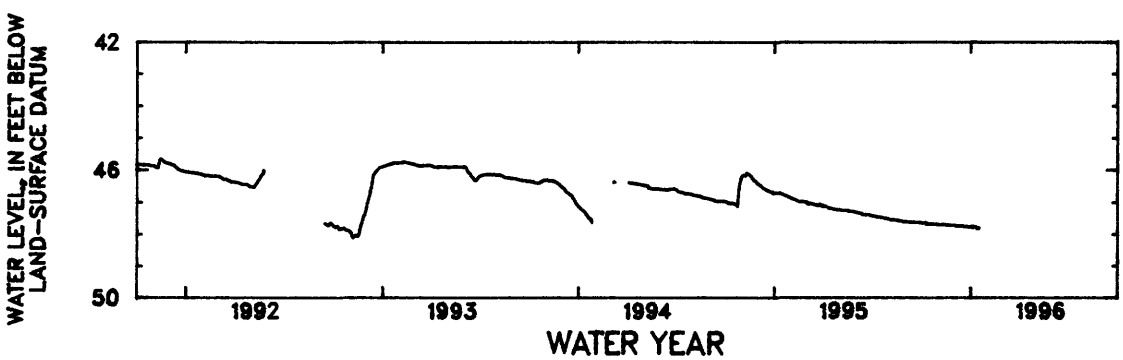


175957066123400 Local number, HW-TW-13.
LOCATION.--Lat 17°59'57", long 66°12'34", Hydrologic Unit 21010004, 3.11 northeast of Central Aguirre Church, 5.76 mi northwest of Escuela de Guayama, and 2.03 mi northeast of Hwy 3 km 151.3. Owner: U.S. Geological Survey, WRD, Name: HW-TW-13.
AQUIFER.--Fractured, volcanic rock, water-table aquifer.
WELL CHARACTERISTICS.--Drilled observation well, diameter 7 in (0.18 m), 0-69 ft (0-21.0 m), cased 4 in (0.10 m), 0-69 ft (0-21.0 m), screened 4.0-69 ft (1.22-21.0 m). Depth 69 ft (21.0 m).
INSTRUMENTATION.--Digital water level recorder--60-minute punch.
DATUM.--Elevation of land-surface datum is 203 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.
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 recorded, 48.10 ft (14.7 m) below land-surface datum, Nov. 6, 7, 1992.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
INSTANTANEOUS OBSERVATION AT 1200

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	47.65	47.70	47.72	47.76	---	---	---	---	---	---	---	---
2	47.65	47.70	47.72	47.77	---	---	---	---	---	---	---	---
3	47.65	47.70	47.73	47.77	---	---	---	---	---	---	---	---
4	47.65	47.70	47.73	47.77	---	---	---	---	---	---	---	---
5	47.65	47.70	47.73	47.77	---	---	---	---	---	---	---	---
6	47.65	47.70	47.74	47.77	---	---	---	---	---	---	---	---
7	47.65	47.70	47.74	47.77	---	---	---	---	---	---	---	---
8	47.65	47.70	47.74	47.77	---	---	---	---	---	---	---	---
9	47.65	47.70	47.74	47.78	---	---	---	---	---	---	---	---
10	47.65	47.70	47.74	47.78	---	---	---	---	---	---	---	---
11	47.69	47.70	47.74	47.78	---	---	---	---	---	---	---	---
12	47.69	47.70	47.74	47.79	---	---	---	---	---	---	---	---
13	47.69	47.70	47.75	47.81	---	---	---	---	---	---	---	---
14	47.69	47.70	47.75	47.82	---	---	---	---	---	---	---	---
15	47.69	47.71	47.75	47.82	---	---	---	---	---	---	---	---
16	47.69	47.71	47.75	47.82	---	---	---	---	---	---	---	---
17	47.69	47.71	47.75	---	---	---	---	---	---	---	---	---
18	47.69	47.71	47.76	---	---	---	---	---	---	---	---	---
19	47.69	47.72	47.76	---	---	---	---	---	---	---	---	---
20	47.69	47.72	47.76	---	---	---	---	---	---	---	---	---
21	47.69	47.72	47.76	---	---	---	---	---	---	---	---	---
22	47.69	47.72	47.76	---	---	---	---	---	---	---	---	---
23	47.69	47.72	47.76	---	---	---	---	---	---	---	---	---
24	47.69	47.72	47.76	---	---	---	---	---	---	---	---	---
25	47.69	47.71	47.76	---	---	---	---	---	---	---	---	---
26	47.69	47.72	47.77	---	---	---	---	---	---	---	---	---
27	47.69	47.72	47.77	---	---	---	---	---	---	---	---	---
28	47.69	47.72	47.77	---	---	---	---	---	---	---	---	---
29	47.69	47.72	47.77	---	---	---	---	---	---	---	---	---
30	47.70	47.72	47.77	---	---	---	---	---	---	---	---	---
31	47.70	---	47.76	---	---	---	---	---	---	---	---	---
MEAN	47.68	47.71	47.75	47.78	---	---	---	---	---	---	---	---

WTR YR 1996 MEAN 47.72 HIGHEST 47.65 OCT 1-11, 1995 LOWEST 47.85 JAN. 14-17, 1996



GROUND-WATER LEVELS

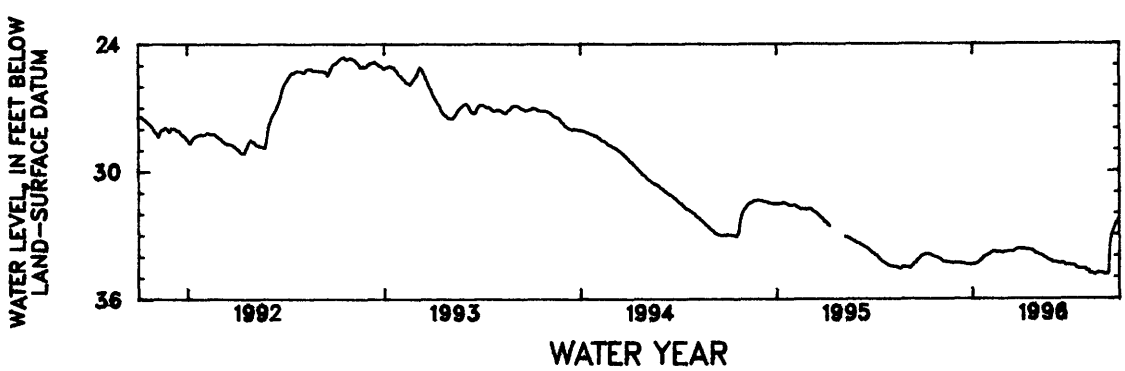
RIO SALINAS TO RIO JACAGUAS BASINS

175903066165000. Local number PG-07
LOCATION.--Lat 17°59'03", long. 66°16'50", Hydrologic Unit 2101004, 0.42 mi north of Hwy 3, 0.60 mi southeast of the intersection of Hwy 1 with Hwy 52, and 1.56 mi northeast of Punta Salinas. Owner: C. Godreau, Name: Pozo Godreau No. 7.
AQUIFER.--Alluvium.
WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 20 in (0.51 m), cased 20 in (0.51 m) 0-120 ft (0-36.6 m), perforated 30-120 ft (9.1-36.6 m). Depth 120 ft (36.6 m).
INSTRUMENTATION.--Digital water level recorder--60-minute punch.
DATUM.--Elevation of land-surface datum is about 54.0 ft (16.5 m) above mean sea level, from topographic map. Measuring point: Shelter floor on top of 20 in (0.50 m) casing, 3.63 ft (1.11 m) above land-surface datum.
REMARKS.--Recording observation well.
PERIOD OF RECORD.--September 25, 1991 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 24.62 ft (7.50 m) below land-surface datum, Oct. 18, 1992; lowest water level recorded, 34.87 ft (10.63 m) below land-surface datum, Sept. 3, 1996.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
INSTANTANEOUS OBSERVATION AT 1200

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33.92	34.13	34.31	34.38	33.89	33.78	33.66	33.89	34.28	34.44	34.69	34.83
2	33.92	34.14	34.31	34.38	33.86	33.78	33.66	33.91	34.28	34.44	34.69	34.84
3	33.91	34.16	34.32	34.38	33.84	33.78	33.66	33.92	34.28	34.44	34.69	34.87
4	33.91	34.20	34.32	34.38	33.81	33.78	33.66	33.93	34.29	34.44	34.69	34.86
5	33.90	34.22	34.32	34.37	33.80	33.78	33.66	33.94	34.29	34.44	34.69	34.85
6	33.90	34.23	34.32	34.37	33.79	33.78	33.66	33.94	34.30	34.44	34.82	34.84
7	33.90	34.25	34.33	34.36	33.79	33.78	33.67	33.95	34.30	34.44	34.82	34.83
8	33.90	34.25	34.32	34.34	33.75	33.78	33.68	33.96	34.32	34.46	34.82	34.83
9	33.90	34.26	34.30	34.34	33.75	33.78	33.68	33.98	34.32	34.46	34.79	34.84
10	33.90	34.26	34.33	34.31	33.75	33.78	33.68	34.00	34.33	34.47	34.80	34.76
11	33.90	34.26	34.36	34.29	33.76	33.78	33.68	34.02	34.34	34.53	34.81	34.08
12	33.90	34.26	34.34	34.27	33.77	33.78	33.68	34.04	34.34	34.55	34.82	33.53
13	33.91	34.28	34.34	34.25	33.80	33.78	33.68	34.06	34.34	34.56	34.85	33.29
14	33.91	34.28	34.34	34.23	33.80	33.79	33.69	34.07	34.34	34.56	34.85	33.13
15	33.93	34.28	34.35	34.22	33.80	33.79	33.70	34.07	34.34	34.59	34.86	33.04
16	33.95	34.28	34.36	34.15	33.80	33.78	33.71	34.09	34.34	34.59	34.86	32.98
17	33.97	34.29	34.36	34.15	33.80	33.76	33.71	34.10	34.34	34.59	34.84	32.91
18	33.99	34.29	34.37	34.15	33.80	33.75	33.71	34.13	34.34	34.59	34.82	32.83
19	34.00	34.29	34.37	34.11	33.80	33.73	33.72	34.14	34.34	34.59	34.81	32.77
20	34.01	34.29	34.38	34.08	33.80	33.73	33.72	34.16	34.38	34.59	34.80	32.71
21	34.03	34.30	34.38	34.05	33.82	33.70	33.74	34.18	34.43	34.59	34.79	32.65
22	34.03	34.30	34.38	34.02	33.82	33.67	33.77	34.19	34.43	34.59	34.77	32.58
23	34.04	34.30	34.38	34.01	33.82	33.67	33.79	34.21	34.42	34.59	34.77	32.52
24	34.05	34.30	34.39	33.99	33.82	33.67	33.80	34.21	34.42	34.59	34.78	32.46
25	34.05	34.31	34.39	33.98	33.83	33.66	33.82	34.21	34.41	34.59	34.78	32.47
26	34.06	34.31	34.39	33.97	33.84	33.66	33.86	34.21	34.42	34.59	34.78	32.42
27	34.06	34.31	34.39	33.96	33.82	33.66	33.86	34.23	34.42	34.59	34.78	32.38
28	34.08	34.30	34.39	33.95	33.80	33.66	33.87	34.28	34.42	34.59	34.78	32.34
29	34.09	34.31	34.39	33.91	33.78	33.66	33.88	34.28	34.42	34.59	34.79	32.30
30	34.11	34.31	34.38	33.90	---	33.66	33.89	34.28	34.42	34.69	34.82	32.26
31	34.13	---	34.38	33.90	---	33.66	---	34.28	---	34.69	34.82	---
MEAN	33.98	34.26	34.35	34.17	33.80	33.74	33.73	34.09	34.35	34.55	34.79	33.47

WTR YR 1996 MEAN 34.11 HIGHEST 32.24 SEPT. 30, 1996 LOWEST 34.87 SEPT. 3. 1996

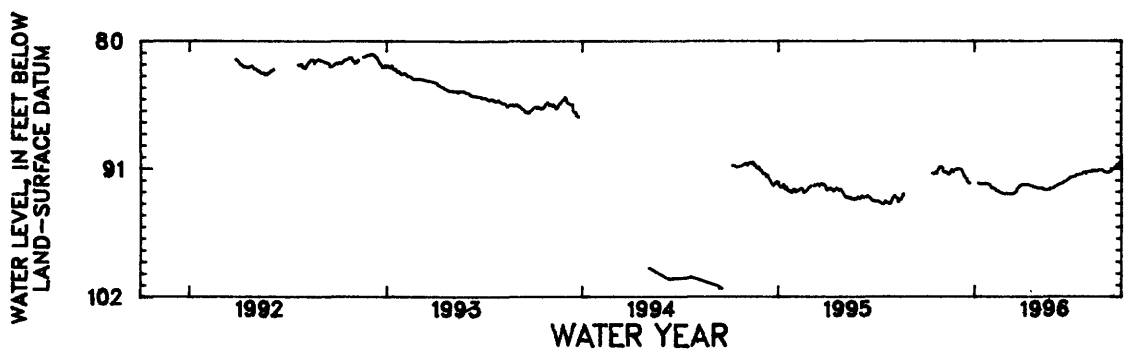


175943066224800. Local number PS-07
LOCATION.--Lat 17°59'43", long 66°22'48", Hydrologic Unit 2101004, 0.74 mi east of Hwy 153, 1.45 mi northeast of Estación Santa Isabel, and 1.98 mi north of Hwy 1. Owner: Luce and Company, Name: Paso Seco No. 7.
AQUIFER.--Alluvium.
WELL CHARACTERISTICS.--Drilled unused water-table well. Depth 235 ft (71.6 m).
INSTRUMENTATION.--Digital water level recorder--60-minute punch.
DATUM.--Elevation of land-surface datum is about 89.0 ft (27.1 m) above mean sea level, from topographic map. Measuring point: Side of the casing, 0.80 ft (0.24 m) above land-surface datum.
REMARKS.--Recording observation well. Water levels affected by nearby pumping wells.
PERIOD OF RECORD.--March 27, 1992 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 81.11 ft (24.72 m) below land-surface datum, Dec. 3, 4, 6, 7, 1992; lowest water level recorded, 101.28 ft (30.87 m) below land-surface datum, Sept. 13, 1994.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
INSTANTANEOUS OBSERVATION AT 1200

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	90.91	91.01	---	92.63	93.13	92.37	92.66	92.47	91.69	91.25	91.31
2	---	91.23	91.01	---	92.64	93.13	92.37	92.66	92.44	91.67	91.24	91.32
3	---	91.26	91.02	---	92.64	93.14	92.37	92.65	92.42	91.67	91.24	91.32
4	---	91.30	91.03	---	92.65	93.15	92.37	92.66	92.41	91.66	91.24	91.31
5	---	91.32	91.05	---	92.66	93.15	92.38	92.67	92.32	91.65	91.23	91.31
6	---	91.28	91.08	---	92.71	93.15	92.37	92.69	92.31	91.64	91.22	91.30
7	---	91.26	91.11	---	92.73	93.15	92.37	92.79	92.30	91.55	91.22	91.29
8	---	91.29	91.24	92.26	92.74	93.15	92.37	92.81	92.29	91.53	91.12	91.27
9	---	91.32	91.31	92.29	92.86	93.15	92.37	92.81	92.28	91.55	91.12	91.24
10	---	91.31	91.44	92.30	92.88	93.15	92.38	92.82	92.26	91.53	91.13	91.23
11	---	91.47	91.50	92.31	92.89	93.15	92.41	92.82	92.24	91.52	91.13	91.22
12	---	91.42	91.63	92.31	92.91	93.15	92.43	92.83	92.24	91.51	91.23	91.11
13	91.38	91.45	91.64	92.31	92.92	93.14	92.44	92.84	92.24	91.50	91.23	91.10
14	91.40	91.48	91.68	92.32	92.93	93.11	92.45	92.82	92.13	91.49	91.23	91.07
15	91.43	91.42	91.83	92.32	93.01	93.06	92.45	92.81	92.12	91.48	91.23	91.03
16	91.45	91.25	91.88	92.32	93.03	93.03	92.46	92.80	92.11	91.47	91.23	91.02
17	91.43	91.20	91.92	92.31	93.05	93.01	92.46	92.80	92.10	91.46	91.12	91.00
18	91.40	91.07	92.04	92.30	93.05	92.96	92.55	92.79	92.07	91.45	91.12	90.88
19	91.40	91.11	92.09	92.29	93.07	92.75	92.56	92.79	92.04	91.43	91.11	90.85
20	91.29	91.12	92.12	92.28	93.09	92.72	92.57	92.69	92.02	91.34	91.11	90.83
21	91.40	91.29	92.23	92.28	93.13	92.60	92.57	92.69	91.93	91.33	91.11	90.81
22	91.42	91.23	92.24	92.27	93.13	92.58	92.58	92.69	91.92	91.32	91.11	90.70
23	91.23	91.11	92.24	92.28	93.14	92.56	92.58	92.69	91.90	91.31	91.11	90.68
24	91.09	91.09	---	92.29	93.15	92.54	92.59	92.68	91.86	91.31	91.11	90.63
25	91.02	91.06	---	92.30	93.15	92.44	92.59	92.65	91.84	91.31	91.12	90.61
26	90.90	91.04	---	92.35	93.15	92.43	92.65	92.64	91.75	91.45	91.12	90.50
27	90.84	91.03	---	92.33	93.14	92.41	92.66	92.62	91.74	91.30	91.22	90.45
28	90.90	91.02	---	92.34	93.14	92.40	92.67	92.59	91.73	91.30	91.23	90.41
29	90.84	91.01	---	92.38	93.13	92.37	92.68	92.51	91.72	91.30	91.25	90.29
30	90.83	91.01	---	92.53	---	92.37	92.67	92.50	91.70	91.28	91.29	90.25
31	90.88	---	---	92.63	---	92.37	---	92.49	---	91.26	91.31	---
MEAN	91.19	91.21	91.58	92.33	92.94	92.86	92.49	92.71	92.10	91.46	91.18	90.94

WTR YR 1996 MEAN 91.94 HIGHEST 90.23 SEPT. 30, 1996 LOWEST 93.16 FEB. 23, 25, 26, MAR. 4-6, 9-12, 1996



GROUND-WATER LEVELS

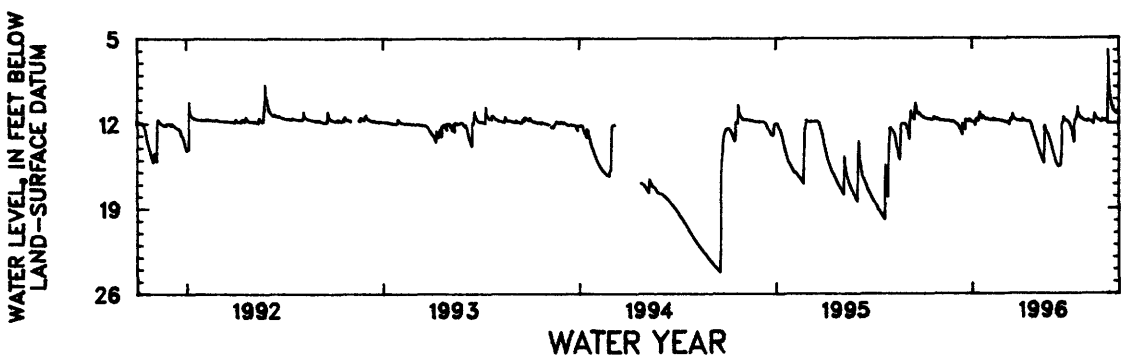
RIO SALINAS TO RIO JACAGUAS BASINS

180206066135500. Local number, RM # 5.
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: U.S. Geological Survey, WRD, Name: 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 ft (0-10.4 m), screened 24-34 ft (7.32-10.7 m). Depth 34 ft (10.4 m).
INSTRUMENTATION.--Digital water level recorder--60-minute punch.
DATUM.--Elevation of land-surface datum is 276.35 ft (84.2 m) above mean sea level.
Measuring point: Top of shelter floor, 3.28 ft (1.0 m) above land-surface datum.
REMARKS.--Recording observation well.
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.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
INSTANTANEOUS OBSERVATION AT 1200

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11.47	11.74	11.97	11.88	11.69	11.86	11.79	13.85	14.71	12.11	11.82	11.77
2	11.51	11.76	12.00	11.89	11.72	11.87	11.81	13.99	14.90	12.26	11.83	11.79
3	11.53	11.76	12.02	11.91	11.73	11.91	11.85	14.12	15.02	12.44	11.84	11.81
4	11.56	11.76	12.06	11.93	11.74	11.91	11.64	14.24	15.15	12.65	11.74	11.83
5	11.58	11.77	12.11	11.98	11.73	11.91	11.73	14.39	15.26	12.88	11.76	11.69
6	11.59	11.77	12.17	12.04	11.68	11.91	11.77	14.53	15.36	13.09	11.80	11.77
7	11.60	11.76	12.23	12.16	11.69	11.99	11.78	14.65	15.45	13.31	11.82	11.83
8	11.61	11.76	12.31	11.67	11.73	12.01	11.80	14.77	15.55	13.52	11.85	11.87
9	11.63	11.78	12.43	11.64	11.75	12.03	11.83	14.88	15.56	12.10	11.88	11.87
10	11.64	11.79	12.57	11.70	11.61	12.13	11.84	14.99	15.54	11.71	11.89	5.95
11	11.64	11.81	12.69	11.75	11.67	11.89	11.85	15.09	15.53	11.72	11.90	8.30
12	11.63	11.82	12.83	11.77	11.73	11.62	11.86	15.20	15.49	11.71	11.90	9.02
13	11.64	11.84	12.91	11.79	11.75	11.70	11.86	15.26	15.40	11.47	12.00	9.40
14	11.66	11.80	12.06	11.25	11.69	11.74	11.86	12.24	14.78	11.51	12.06	9.75
15	11.67	11.80	12.06	11.08	11.74	11.70	11.86	12.18	13.75	10.62	11.69	10.03
16	11.69	11.80	12.15	11.31	11.76	11.22	11.85	12.32	12.05	11.03	11.22	10.29
17	11.70	11.79	12.30	11.46	11.75	11.43	11.88	12.61	11.98	11.25	11.36	10.49
18	11.70	11.79	12.43	11.54	11.74	11.55	11.95	12.75	11.95	11.36	11.49	10.66
19	11.70	11.81	12.50	11.59	11.75	11.60	12.04	12.83	11.48	11.46	11.59	10.81
20	11.70	11.84	11.63	11.40	11.77	11.64	12.17	12.88	11.61	11.52	11.64	10.91
21	11.47	11.85	11.68	11.39	11.77	11.68	12.33	13.04	11.69	11.57	11.67	11.00
22	11.60	11.85	11.77	11.47	11.78	11.72	12.57	13.16	11.73	11.61	11.72	11.06
23	11.56	11.86	11.80	11.56	11.78	11.74	12.74	13.26	11.76	11.65	11.75	11.10
24	11.61	11.88	11.83	11.60	11.80	11.77	12.89	13.41	11.79	11.67	11.77	11.15
25	11.60	11.82	11.84	11.63	11.81	11.78	13.04	13.52	11.83	11.71	11.78	11.18
26	11.63	11.84	11.84	11.63	11.81	11.80	13.16	13.74	11.86	11.74	11.82	11.22
27	11.66	11.86	11.66	11.64	11.82	11.80	13.26	13.89	11.88	11.76	11.85	11.23
28	11.66	11.87	11.69	11.64	11.84	11.80	13.41	14.02	11.91	11.80	11.88	11.23
29	11.62	11.91	11.77	11.62	11.86	11.80	13.54	14.19	11.98	11.79	11.85	11.24
30	11.66	11.94	11.81	11.63	---	11.81	13.68	14.37	12.02	11.79	11.85	11.25
31	11.70	---	11.85	11.67	---	11.81	---	14.55	---	11.81	11.65	---
MEAN	11.62	11.81	12.10	11.65	11.75	11.78	12.25	13.84	13.50	11.89	11.76	10.78

WTR YR 1996 MEAN 12.06 HIGHEST 5.56 SEPT. 10, 1996 LOWEST 15.57 JUNE 8, 9, 1996



GROUND-WATER LEVELS

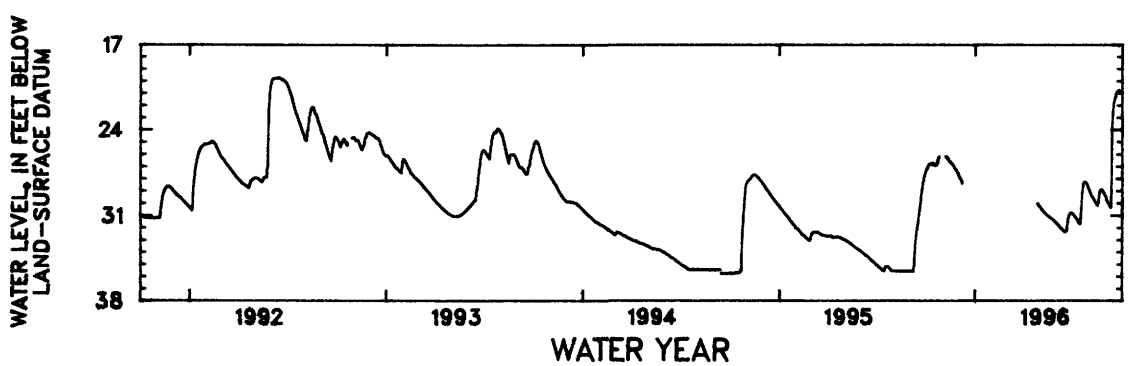
RIO SALINAS TO RIO JACAGUAS BASINS

180104066152300. Local number, RM # 10.
LOCATION.--Lat 18°01'04", long 66°15'23", Hydrologic Unit 21010004, 8.00 mi southeast of Coamo plaza, 1.07 mi northeast of Escuela de Coco, and 0.70 mi southwest of Escuela Sabana Llana. Owner: U.S. Geological Survey, WRD, Name: RM # 10.
AQUIFER.--Quaternary alluvium.
WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 4 in (0.10 m), cased 4 in (0.10 m), 0-37 ft (0-11.3 m), screened 27-37 ft (8.23-11.3 m). Depth 37 ft (11.3 m).
INSTRUMENTATION.--Digital water level recorder--15-minute punch.
DATUM.--Elevation of land-surface datum is 164.13 ft (50.0 m) above mean sea level, from leveling survey. Measuring point: Top of shelter floor, 3.62 ft (1.10 m) above land-surface datum.
REMARKS.--Recording observation well. Pumping test performed on February 8, 1990. Well dry at 35.77 ft (10.9 m).
PERIOD OF RECORD.--March 13, 1989 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 18.0 ft (5.49 m) below land-surface datum, Nov. 9, 1990; lowest water level recorded, 35.77 ft (10.9 m) below land-surface datum, Sept. 14 to Oct. 5, 1994

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
INSTANTANEOUS OBSERVATION AT 1200

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27.38	---	27.67	---	---	---	---	30.34	31.67	30.89	29.05	29.71
2	27.27	---	27.78	---	---	---	---	30.38	31.72	30.94	29.15	29.80
3	27.17	---	27.86	---	---	---	---	30.44	31.76	31.00	29.25	29.89
4	27.08	---	27.94	---	---	---	---	30.55	31.80	31.07	29.39	29.97
5	26.99	---	28.04	---	---	---	---	30.59	31.84	31.13	29.45	30.04
6	26.92	---	28.12	---	---	---	---	30.63	31.90	31.19	29.52	30.12
7	26.81	---	28.23	---	---	---	---	30.68	31.95	31.25	29.58	30.20
8	---	26.19	28.39	---	---	---	---	30.72	32.03	31.33	29.65	30.27
9	---	26.23	---	---	---	---	---	30.79	32.04	31.40	29.73	30.34
10	---	26.29	---	---	---	---	---	30.82	32.09	31.48	29.81	29.07
11	---	26.36	---	---	---	---	---	30.87	32.13	31.55	29.88	24.15
12	26.77	26.41	---	---	---	---	---	30.92	32.17	31.61	29.94	23.06
13	26.74	26.51	---	---	---	---	---	30.96	32.21	31.68	29.99	22.44
14	26.74	26.60	---	---	---	---	---	30.99	32.26	31.66	30.06	22.02
15	26.74	26.61	---	---	---	---	---	31.04	32.29	31.22	30.13	21.70
16	26.78	26.63	---	---	---	---	---	31.08	32.30	30.42	30.17	21.46
17	26.84	26.67	---	---	---	---	---	31.12	32.30	29.71	29.94	21.28
18	26.90	26.71	---	---	---	---	---	31.15	32.26	29.09	29.47	21.13
19	26.90	26.77	---	---	---	---	---	31.18	32.23	28.68	29.14	21.03
20	26.90	26.83	---	---	---	---	---	31.21	31.97	28.42	28.95	20.98
21	26.88	26.89	---	---	---	---	---	31.24	31.55	28.30	28.89	20.89
22	26.72	26.96	---	---	---	---	---	31.28	31.23	28.27	28.86	20.82
23	26.58	27.03	---	---	---	---	---	31.31	31.03	28.26	28.88	20.78
24	26.42	27.11	---	---	---	---	---	31.34	30.91	28.29	28.92	20.78
25	26.31	27.19	---	---	---	---	---	31.37	30.83	28.34	28.98	20.76
26	26.21	27.26	---	---	---	---	30.06	31.42	30.79	28.40	29.08	20.80
27	---	27.34	---	---	---	---	30.12	31.45	30.77	28.47	29.16	20.82
28	---	27.42	---	---	---	---	30.18	31.50	30.77	28.61	29.25	20.88
29	---	27.49	---	---	---	---	30.23	31.54	30.78	28.73	29.35	20.98
30	---	27.59	---	---	---	---	30.29	31.58	30.82	28.84	29.44	21.05
31	---	---	---	---	---	---	---	31.62	---	28.95	29.60	---
MEAN	26.82	26.83	28.00	---	---	---	30.18	31.04	31.68	29.97	29.44	24.24

WTR YR 1996 MEAN 28.74 HIGHEST 20.76 SEPT. 24, 25, 1996 LOWEST 32.30 JUNE 16, 17, 1996

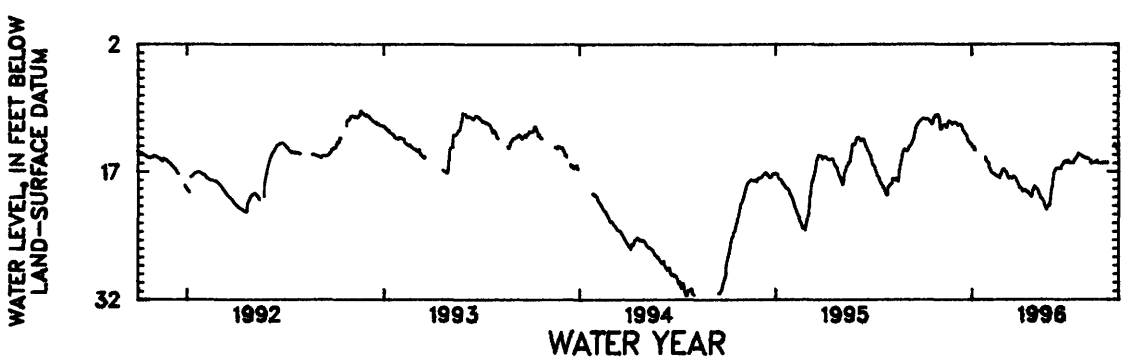


180133066503300. Local number, 132.
LOCATION.--Lat 18°01'33", long 66°50'33", Hydrologic Unit 21010004, 0.90 mi southeast of Yauco plaza, 3.46 mi east of Guayanilla plaza, and 1.32 mi north of Escuela Segunda Unidad Barinas. Owner: Pittsburg Plate Glass 4, Name: Yauco 2.
AQUIFER.--Limestone of Tertiary Age.
WELL CHARACTERISTICS.--Drilled observation well, cased 20 in (0.51 m) 0-20 ft (0-6.1 m), 12 in (0.30 m) perforated pipe 20-84 ft (6.1-25.61 m), 10 in (0.25 m) perforated pipe 84-190 ft (25.61-57.93 m). Depth 190 ft (57.93 m).
INSTRUMENTATION.--Digital water level recorder--60-minute punch.
DATUM.--Elevation of land-surface datum is about 75 ft (22.87 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. [+, 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) below land-surface datum, July 19, 1979; lowest water level recorded, 36.91 ft (11.25 m) below land-surface datum, June 27, 1974.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
INSTANTANEOUS OBSERVATION AT 1200

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10.78	10.66	11.20	13.87	15.97	16.71	18.87	19.09	17.60	15.97	15.37	15.97
2	10.72	10.78	11.21	14.03	16.51	16.89	18.94	19.10	17.12	15.97	15.43	15.97
3	10.73	11.96	11.26	14.13	16.56	17.00	19.16	19.19	16.89	15.97	15.45	15.97
4	10.73	12.01	11.34	14.13	16.67	17.00	19.32	19.37	16.90	15.97	15.45	15.97
5	10.82	12.01	11.42	14.13	16.85	17.02	19.24	19.65	16.77	15.97	15.45	15.97
6	10.79	11.98	11.54	14.25	17.06	17.21	19.26	19.74	16.61	15.97	15.45	15.97
7	10.80	11.77	11.49	14.49	17.10	17.52	19.26	19.92	16.61	15.97	---	15.97
8	10.79	11.50	11.49	---	17.14	17.65	19.18	20.09	16.60	15.97	---	15.97
9	10.79	11.57	11.49	---	17.20	17.80	19.15	20.16	16.60	15.82	15.80	15.97
10	10.81	11.57	11.45	---	17.24	17.78	19.24	20.20	16.60	15.56	15.98	15.97
11	10.81	11.57	11.47	---	17.28	17.61	19.28	20.20	16.60	15.53	15.98	---
12	10.79	11.49	11.55	---	17.32	17.67	19.39	20.32	16.55	15.53	15.98	---
13	10.88	11.49	11.68	---	17.36	17.70	19.35	20.48	16.60	15.41	15.98	---
14	11.01	11.68	11.82	---	17.40	17.67	19.36	20.69	16.61	15.28	15.94	---
15	11.06	11.80	12.02	---	17.44	17.77	19.49	20.94	16.62	15.23	15.90	---
16	11.10	11.80	12.20	---	17.49	17.80	19.58	21.09	16.27	15.11	15.91	---
17	11.23	11.33	12.27	---	17.53	17.68	19.63	21.26	16.22	14.85	15.89	---
18	11.40	11.17	12.39	---	17.57	17.54	19.67	21.36	16.12	14.95	15.83	---
19	11.41	11.09	12.51	---	17.61	17.57	19.77	21.45	16.08	15.00	15.80	---
20	11.30	11.02	12.58	---	17.65	17.64	19.94	21.09	15.83	15.00	15.80	---
21	11.00	11.15	12.61	---	17.69	17.69	19.84	21.03	15.93	15.01	15.70	---
22	10.62	11.12	12.72	---	17.74	17.75	19.48	20.98	15.89	15.05	15.96	---
23	10.65	11.15	12.88	---	17.26	17.89	19.28	21.00	15.77	15.10	15.98	13.79
24	10.59	11.24	13.20	---	17.33	18.02	19.12	21.00	15.74	15.12	15.98	13.91
25	10.31	11.25	13.44	---	17.05	18.19	18.98	20.83	15.79	15.19	15.98	14.02
26	10.49	11.42	13.45	15.37	16.91	18.29	18.81	20.08	15.91	15.28	15.98	14.09
27	10.45	11.32	13.52	15.58	16.76	18.47	18.71	19.61	15.65	15.30	15.98	14.20
28	10.43	11.28	13.58	15.70	16.75	18.65	18.91	19.08	15.65	15.33	15.98	14.40
29	10.27	11.27	13.69	15.74	16.67	18.84	18.94	18.87	15.74	15.29	15.98	14.43
30	10.27	11.17	13.70	15.83	---	18.90	18.97	18.66	15.92	15.33	15.98	14.56
31	10.40	---	13.82	15.93	---	18.83	---	17.97	---	15.36	15.97	---
MEAN	10.78	11.42	12.29	14.86	17.14	17.77	19.27	20.15	16.33	15.43	15.82	15.17

WTR YR 1996 MEAN 15.57 HIGHEST 10.19 OCT. 30, 1995 LOWEST 21.45 MAY 19, 20, 1996

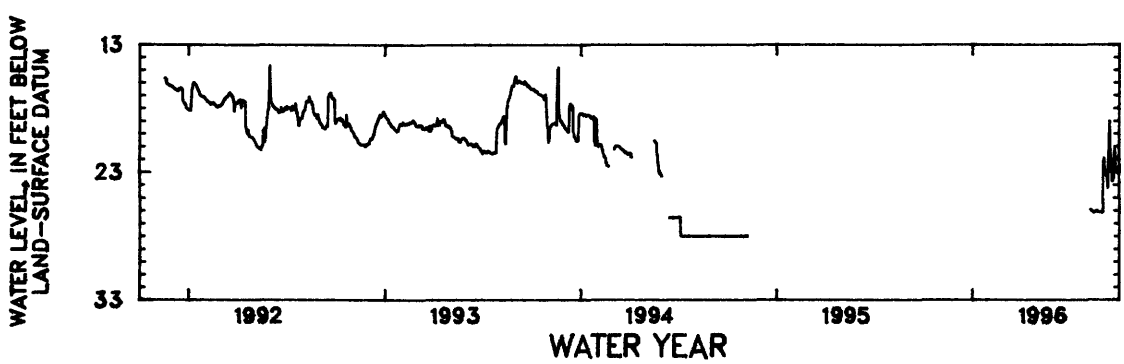


175950066354200. Local number, 141.
LOCATION.--Lat 17°59'50", long 66°35'42", Hydrologic Unit 21010004, 1.71 mi southeast of Plaza Degetau at Ponce, 1.31 mi southeast of the intersection between Hwy 10 and Hwy 2, and 2.60 mi notheast of Muellle de Ponce. Owner: P.R. Aqueduct and Sewer Authority, Name: Restaurada 8A.
AQUIFER.--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) 2-20 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.--Digital water level recorder--60-minute punch.
DATUM.--Elevation of land-surface datum is about 24 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.
PERIOD OF RECORD.--October 1981 to March 1, 1986, discontinued, November 18, 1991 to November 8, 1994, discontinued, August 7, 1996 to September 30, 1996.
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.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
INSTANTANEOUS OBSERVATION AT 1200

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	---	22.12
2	---	---	---	---	---	---	---	---	---	---	---	21.86
3	---	---	---	---	---	---	---	---	---	---	---	22.82
4	---	---	---	---	---	---	---	---	---	---	---	22.99
5	---	---	---	---	---	---	---	---	---	---	---	23.11
6	---	---	---	---	---	---	---	---	---	---	---	23.33
7	---	---	---	---	---	---	---	---	---	---	---	23.34
8	---	---	---	---	---	---	---	---	---	---	25.92	23.42
9	---	---	---	---	---	---	---	---	---	---	25.97	24.27
10	---	---	---	---	---	---	---	---	---	---	26.03	21.53
11	---	---	---	---	---	---	---	---	---	---	26.06	20.26
12	---	---	---	---	---	---	---	---	---	---	26.08	18.93
13	---	---	---	---	---	---	---	---	---	---	26.13	21.08
14	---	---	---	---	---	---	---	---	---	---	26.09	21.84
15	---	---	---	---	---	---	---	---	---	---	26.09	22.59
16	---	---	---	---	---	---	---	---	---	---	26.02	22.85
17	---	---	---	---	---	---	---	---	---	---	26.01	23.75
18	---	---	---	---	---	---	---	---	---	---	25.99	23.70
19	---	---	---	---	---	---	---	---	---	---	25.96	23.66
20	---	---	---	---	---	---	---	---	---	---	26.03	23.37
21	---	---	---	---	---	---	---	---	---	---	26.07	21.11
22	---	---	---	---	---	---	---	---	---	---	26.08	21.22
23	---	---	---	---	---	---	---	---	---	---	26.07	21.82
24	---	---	---	---	---	---	---	---	---	---	26.07	22.93
25	---	---	---	---	---	---	---	---	---	---	26.07	23.00
26	---	---	---	---	---	---	---	---	---	---	26.12	23.03
27	---	---	---	---	---	---	---	---	---	---	26.10	23.06
28	---	---	---	---	---	---	---	---	---	---	26.09	23.13
29	---	---	---	---	---	---	---	---	---	---	26.13	23.09
30	---	---	---	---	---	---	---	---	---	---	26.06	23.07
31	---	---	---	---	---	---	---	---	---	---	22.95	---
MEAN	---	---	---	---	---	---	---	---	---	---	25.92	22.54

WTR YR 1996 MEAN 24.05 HIGHEST 18.61 SEPT. 12, 1996 LOWEST 26.15 AUG. 13, 14, 1996



GROUND-WATER LEVELS

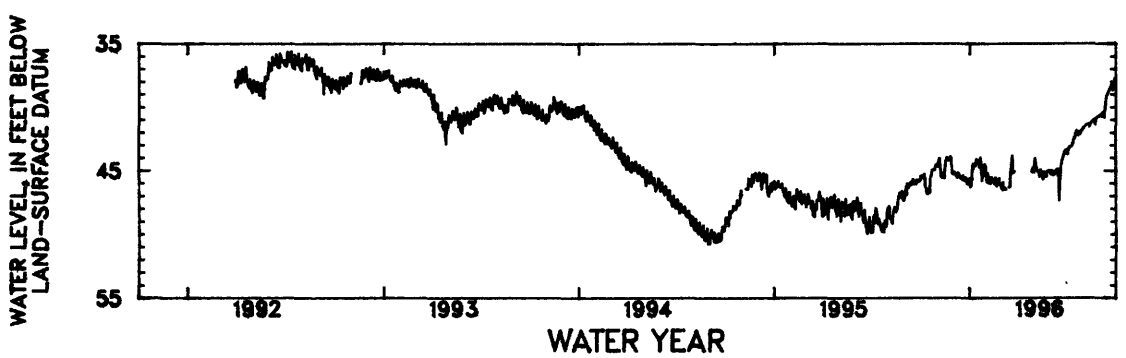
RIO INABON TO RIO LOCO BASIN

180045066381600. Local number AN-1
LOCATION.--Lat 18°00'45", long 66°38'16", Hydrologic Unit 2101004, 0.27 mi east of the intersection of Hwy 10 with Hwy 132, 0.60 mi northwest of Parque Montaner, and 0.04 mi south of Hwy 132. Owner: Albergue de Niños de Ponce, Name: Albergue de Niños.
AQUIFER.--Alluvium.
WELL CHARACTERISTICS.--Drilled unused water-table well.
INSTRUMENTATION.--Digital water level recorder--60-minute punch.
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.
PERIOD OF RECORD.--March 30, 1992 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 35.29 ft (10.76 m) below land-surface datum, June 22, 1992; lowest water level recorded, 51.88 ft (15.81 m) below land-surface datum, Aug. 30, 1994.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
INSTANTANEOUS OBSERVATION AT 1200

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	45.43	44.68	45.28	45.62	45.71	46.46	---	44.14	45.02	43.37	41.60	40.58
2	45.42	44.66	45.15	46.30	45.92	45.97	---	44.01	44.99	43.69	41.54	40.56
3	45.48	44.36	45.08	46.19	45.16	45.93	---	44.63	45.29	43.35	41.49	40.72
4	45.42	44.21	45.21	45.98	45.32	46.51	---	44.81	45.05	43.31	41.47	40.47
5	45.45	44.03	45.25	45.65	45.94	46.31	---	44.91	45.36	43.12	41.40	40.44
6	45.56	44.03	45.40	44.56	46.00	46.48	---	45.00	45.07	43.16	41.37	40.39
7	45.46	44.91	45.36	44.45	45.57	46.43	---	45.09	45.25	43.10	41.35	40.34
8	45.25	45.22	45.55	44.84	45.90	46.50	---	45.10	45.21	43.04	41.34	40.81
9	45.62	45.50	45.33	44.60	46.01	---	---	45.18	45.13	43.07	41.33	40.33
10	46.28	45.52	45.17	44.61	45.55	---	---	45.47	44.98	43.03	41.35	39.93
11	46.37	45.51	45.31	44.47	45.51	---	---	45.33	44.90	42.94	41.30	39.61
12	46.65	45.20	45.42	44.60	45.83	---	---	44.92	44.88	42.78	41.56	39.15
13	46.80	45.34	45.51	44.18	45.67	---	---	45.17	44.87	42.53	41.26	39.06
14	46.82	45.56	45.59	44.11	45.86	---	---	45.24	45.43	42.46	41.24	38.95
15	46.47	45.58	45.63	44.41	45.71	46.28	---	45.15	44.89	42.34	41.16	38.84
16	46.69	44.54	45.60	44.30	46.06	46.15	---	45.68	47.40	42.36	41.13	38.76
17	46.67	44.23	45.67	44.29	45.63	45.16	---	45.56	45.78	42.05	41.08	38.65
18	46.75	44.20	45.69	44.28	45.55	44.89	---	45.18	45.58	41.91	41.03	38.56
19	45.70	43.95	45.34	44.72	45.75	44.16	---	45.10	44.90	41.83	41.00	38.46
20	45.43	43.95	45.66	44.05	46.23	43.78	---	45.34	44.41	42.11	40.99	38.42
21	45.40	44.05	45.71	43.97	46.09	45.21	---	45.48	44.34	42.11	40.94	38.33
22	45.03	44.18	45.74	44.33	45.81	45.16	---	45.43	44.10	42.20	41.40	38.21
23	44.93	44.12	45.60	44.75	45.95	45.14	---	45.43	43.97	42.06	40.95	38.09
24	44.93	44.06	45.54	45.84	45.72	45.05	---	45.09	43.81	42.03	40.87	38.67
25	44.93	44.09	45.74	45.39	45.61	---	---	45.02	43.68	41.92	40.78	38.05
26	44.92	43.89	45.62	45.41	46.03	---	45.07	45.00	43.55	42.09	40.76	37.97
27	44.91	43.98	46.04	45.23	46.14	---	44.77	45.01	43.41	41.89	40.71	37.89
28	44.90	44.65	45.99	44.50	46.18	---	44.77	45.00	43.64	41.86	40.70	37.78
29	44.58	45.21	45.75	44.50	46.32	---	44.96	45.09	43.35	41.79	40.70	37.70
30	44.52	45.25	45.70	44.62	---	---	45.12	45.05	43.35	41.72	40.67	37.65
31	44.59	---	45.62	44.74	---	---	---	45.27	---	41.65	40.66	---
MEAN	45.59	44.62	45.52	44.82	45.82	45.64	44.94	45.09	44.72	42.48	41.13	39.11

WTR YR 1996 MEAN 44.00 HIGHEST 37.62 SEPT. 30, 1996 LOWEST 47.55 JUNE 16, 1996

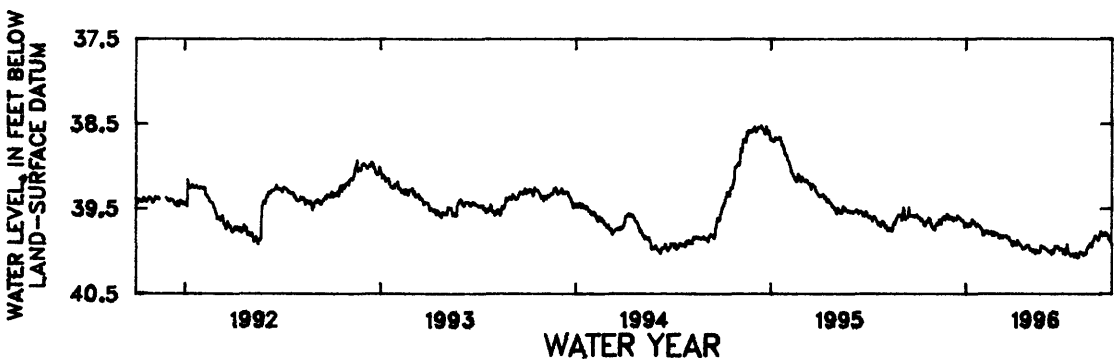


180132067033800. Local number, 143.
LOCATION.--Lat 18°01'32", long 67°03'38", Hydrologic Unit 21010003, 1.86 mi south of Lajas plaza, 1.27 mi southeast of the Estación Experimental Agrícola, and 1.30 mi northwest of the intersection of Hwy 116 with Hwy 305.
Owner: Pedro P. Vivoni, Name: Vivoni, Hacienda Amistad.
AQUIFER.--Limestone of unknown age.
WELL CHARACTERISTICS.--Drilled unused irrigation well, diameter 12 in (0.30 m). Depth 200 ft (60.98 m).
INSTRUMENTATION.--Digital water level recorder--15-minute punch.
DATUM.--Elevation of land-surface datum is about 52.5 ft (16.0 m) above mean sea level, from topographic map.
Measuring point: Hole side of casing, 0.80 ft (0.24 m) above land-surface datum.
REMARKS.--Recording observation well.
PERIOD OF RECORD.--December 1981 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 37.36 ft (11.39 m) below land-surface datum, Nov. 20, 1985; lowest water level recorded, 40.09 ft (12.22 m) below land-surface datum, July 21, 22, 28, 1996.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
INSTANTANEOUS OBSERVATION AT 1200

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	39.57	39.74	39.59	39.67	39.78	39.80	39.92	39.99	39.99	40.03	40.02	39.82
2	39.59	39.73	39.60	39.68	39.81	39.82	39.92	39.98	40.00	39.99	40.01	39.84
3	39.60	39.72	39.62	39.68	39.81	39.85	39.93	39.99	40.00	39.98	40.02	39.85
4	39.61	39.75	39.62	39.71	39.80	39.85	39.92	40.01	40.01	40.02	40.03	39.84
5	39.61	39.70	39.62	39.71	39.81	39.85	39.93	40.00	40.01	40.04	40.02	39.87
6	39.60	39.69	39.61	39.70	39.78	39.82	39.89	39.98	40.00	40.02	40.02	39.86
7	39.62	39.68	39.60	39.69	39.76	39.84	39.87	39.99	40.00	39.98	40.04	39.83
8	39.64	39.67	39.64	39.67	39.76	39.83	39.91	40.02	40.03	39.92	40.05	39.80
9	39.62	39.67	39.64	39.71	39.78	39.83	39.90	40.03	40.04	39.95	40.02	39.81
10	39.64	39.69	39.63	39.69	39.79	39.85	39.91	40.00	39.99	40.01	40.02	39.76
11	39.62	39.66	39.61	39.69	39.76	39.82	39.92	39.99	39.99	40.03	40.03	39.80
12	39.64	39.63	39.63	39.66	39.78	39.83	39.94	39.99	40.01	40.03	40.04	39.80
13	39.65	39.63	39.63	39.62	39.80	39.83	39.94	40.02	40.02	40.03	40.03	39.82
14	39.68	39.63	39.63	39.66	39.78	39.83	39.95	40.02	39.99	40.04	39.98	39.80
15	39.70	39.68	39.62	39.67	39.79	39.83	39.96	40.01	39.94	40.06	39.96	39.79
16	39.68	39.68	39.58	39.65	39.79	39.82	39.98	40.00	39.95	40.05	39.96	39.81
17	39.70	39.62	39.60	39.65	39.78	39.82	39.96	40.00	39.95	40.05	39.94	39.82
18	39.68	39.61	39.61	39.68	39.77	39.84	39.96	40.02	39.95	40.04	39.94	39.81
19	39.66	39.62	39.61	39.69	39.81	39.85	39.96	40.00	39.96	40.03	39.93	39.78
20	39.64	39.61	39.61	39.70	39.82	39.85	39.97	39.93	39.94	40.03	39.92	39.79
21	39.66	39.59	39.61	39.71	39.79	39.84	39.96	39.94	39.94	40.06	39.91	39.80
22	39.65	39.61	39.62	39.68	39.77	39.84	39.94	39.95	39.95	40.07	39.94	39.82
23	39.62	39.63	39.64	39.68	39.79	39.87	39.95	39.95	39.97	40.06	39.95	39.81
24	39.61	39.61	39.63	39.69	39.82	39.87	39.93	39.96	39.99	40.04	39.93	39.82
25	39.62	39.58	39.64	39.70	39.81	39.88	39.94	39.95	39.98	40.02	39.90	39.84
26	39.62	39.58	39.64	39.71	39.79	39.90	39.93	39.95	39.98	40.04	39.89	39.87
27	39.66	39.56	39.64	39.71	39.79	39.93	39.94	39.97	39.97	40.05	39.88	39.88
28	39.69	39.60	39.67	39.71	39.79	39.94	39.96	39.97	39.97	40.08	39.86	39.89
29	39.68	39.62	39.70	39.73	39.81	39.90	39.98	39.97	39.98	40.08	39.85	39.90
30	39.72	39.59	39.72	39.74	---	39.89	39.99	39.97	39.99	40.07	39.82	39.93
31	39.72	---	39.68	39.74	---	39.89	---	39.98	---	40.03	39.82	---
MEAN	39.65	39.65	39.63	39.69	39.79	39.85	39.94	39.98	39.98	40.03	39.96	39.83

WTR YR 1996 MEAN 39.83 HIGHEST 39.51 SEPT. 10, 1996 LOWEST 40.09 JULY 21, 22, 28, 1996



GROUND-WATER LEVELS

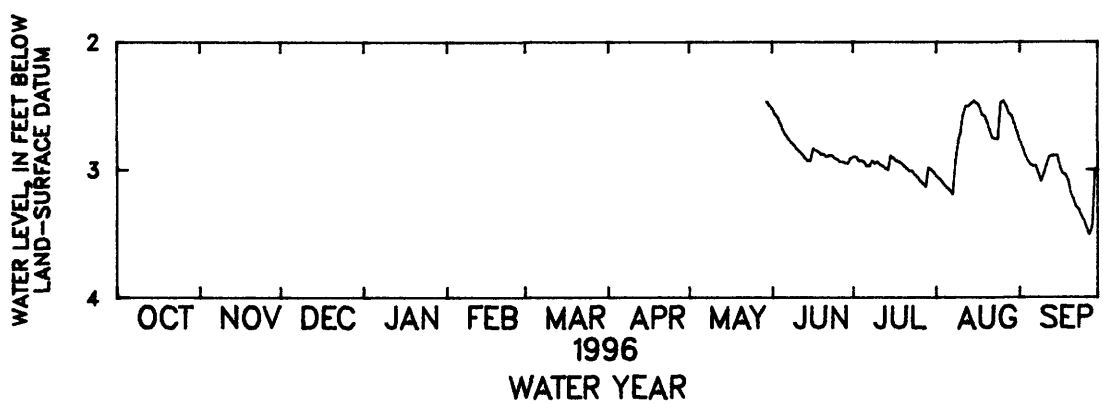
RIO GUANAJIBO BASIN

180628067084300. Local number, CR-TW-9A.
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: U.S. Geological Survey, WRD, Name: CR-TW-9A.
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 ft (0-7.32 m), screened 19-24 ft (5.79-7.32 m). Depth 24 ft (7.32 m).
INSTRUMENTATION.--Digital water level recorder--60-minute punch.
DATUM.--Elevation of land-surface datum is about 33.21 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.--Observation well. Drilled on Mar. 25, 1992, Automatic Digital Recorder (ADR) re-installed on May 29, 1996.
PERIOD OF RECORD.--July 1992 to January 1994, discontinued, May 27, 1996 to September 30, 1996.
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, 5.99 ft (1.82 m) below land-surface datum, May 19, 20, 1993.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
INSTANTANEOUS OBSERVATION AT 1200

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	2.52	2.90	3.05	2.77
2	---	---	---	---	---	---	---	---	2.57	2.90	3.07	2.83
3	---	---	---	---	---	---	---	---	2.59	2.93	3.09	2.89
4	---	---	---	---	---	---	---	---	2.64	2.93	3.12	2.93
5	---	---	---	---	---	---	---	---	2.69	2.94	3.14	2.96
6	---	---	---	---	---	---	---	---	2.73	2.97	3.16	2.97
7	---	---	---	---	---	---	---	---	2.76	2.97	3.19	2.97
8	---	---	---	---	---	---	---	---	2.79	2.93	2.94	3.03
9	---	---	---	---	---	---	---	---	2.81	2.95	2.79	3.09
10	---	---	---	---	---	---	---	---	2.84	2.94	2.72	3.03
11	---	---	---	---	---	---	---	---	2.86	2.96	2.57	2.96
12	---	---	---	---	---	---	---	---	2.88	2.97	2.50	2.90
13	---	---	---	---	---	---	---	---	2.91	2.99	2.50	2.89
14	---	---	---	---	---	---	---	---	2.93	3.00	2.48	2.89
15	---	---	---	---	---	---	---	---	2.93	2.89	2.46	2.89
16	---	---	---	---	---	---	---	---	2.83	2.91	2.48	2.98
17	---	---	---	---	---	---	---	---	2.85	2.93	2.50	3.03
18	---	---	---	---	---	---	---	---	2.86	2.94	2.57	3.04
19	---	---	---	---	---	---	---	---	2.88	2.95	2.58	3.08
20	---	---	---	---	---	---	---	---	2.88	2.97	2.63	3.18
21	---	---	---	---	---	---	---	---	2.90	2.99	2.69	3.23
22	---	---	---	---	---	---	---	---	2.89	3.01	2.75	3.29
23	---	---	---	---	---	---	---	---	2.89	3.01	2.76	3.31
24	---	---	---	---	---	---	---	---	2.91	3.04	2.76	3.36
25	---	---	---	---	---	---	---	---	2.92	3.06	2.47	3.40
26	---	---	---	---	---	---	---	---	2.94	3.09	2.46	3.46
27	---	---	---	---	---	---	---	---	2.94	3.11	2.50	3.51
28	---	---	---	---	---	---	---	---	2.95	3.13	2.56	3.44
29	---	---	---	---	---	---	---	---	2.95	2.98	2.58	2.99
30	---	---	---	---	---	---	---	2.47	2.91	3.00	2.64	3.00
31	---	---	---	---	---	---	---	2.50	---	3.02	2.70	---
MEAN	---	---	---	---	---	---	---	2.48	2.83	2.98	2.72	3.08

WTR YR 1996 MEAN 2.89 HIGHEST 2.44 MAY 29, 1996 LOWEST 3.51 SEPT. 27, 1996

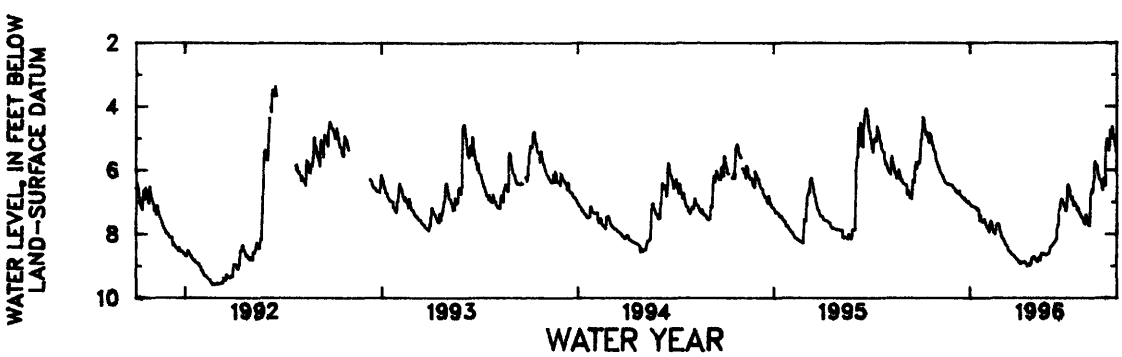


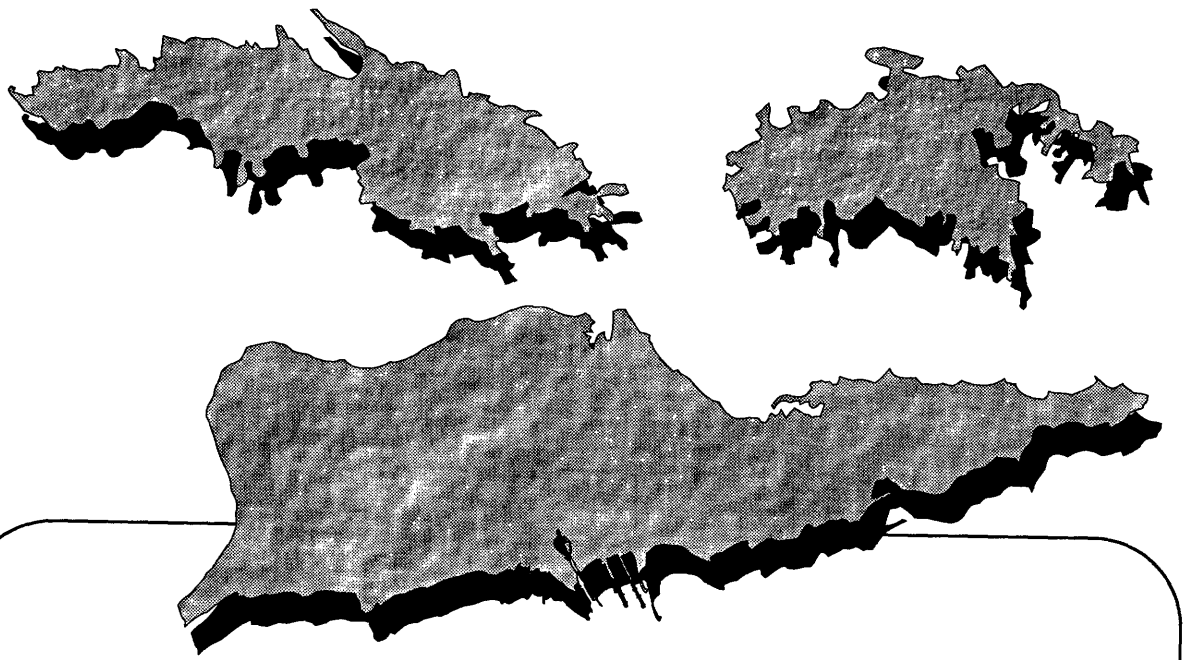
182442067091700. Local number, 200 .
LOCATION.--Lat 18°24'42", long 67°09'17", Hydrologic Unit 21010002, 1.40 mi south of Aguadilla plaza, 3.04 mi northeast of Aguada plaza, and 0.20 mi north of Hwy 2 km 146.4. Owner: Carmelo Sánchez, Name: Aguadilla Cement Well.
AQUIFER.--Surficial deposits.
WELL CHARACTERISTICS.--Abandoned water-table industrial well, diameter 4 in (0.10 m), cased 0-20 ft (0-6.10 m), perforated 11-20 ft (3.35-6.10 m). Depth 20 ft (6.10 m).
INSTRUMENTATION.--Digital water level recorder--60-minute punch.
DATUM.--Elevation of land-surface datum is about 10 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. Water levels affected by nearby pumping well.
PERIOD OF RECORD.--October 1985 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 2.24 ft (0.68 m) below land-surface datum, Aug 25, 1988; lowest water level recorded, 9.60 ft (2.93 m) below land-surface datum, Feb. 20, 1992.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
INSTANTANEOUS OBSERVATION AT 1200

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.45	5.73	6.55	7.05	7.75	8.12	8.88	8.77	8.36	6.44	7.66	6.38
2	5.04	5.79	6.55	7.10	7.80	8.13	8.90	8.77	8.34	6.48	7.68	6.45
3	5.02	5.90	6.57	7.11	7.80	8.14	8.93	8.81	8.32	6.56	7.50	6.58
4	4.80	5.88	6.62	7.12	7.81	8.19	8.94	8.81	8.29	6.59	7.39	6.63
5	4.33	5.93	6.67	7.13	7.88	8.23	8.86	8.81	8.27	6.81	7.47	6.27
6	4.36	6.00	6.61	7.13	7.93	8.25	8.87	8.87	8.25	6.81	7.55	6.24
7	4.41	6.04	6.69	7.13	7.69	8.31	8.87	8.78	8.22	6.85	7.62	6.29
8	4.57	6.08	6.72	7.15	7.59	8.33	8.89	8.74	8.19	6.92	7.66	6.37
9	4.70	6.11	6.72	7.15	7.64	8.35	8.88	8.73	8.17	6.83	7.71	6.50
10	4.79	6.19	6.72	7.15	7.65	8.36	8.89	8.75	8.12	6.94	7.73	5.26
11	4.88	6.18	6.71	7.18	7.72	8.41	8.90	8.81	7.82	6.97	7.74	5.08
12	4.80	6.23	6.63	7.17	7.84	8.46	8.87	8.66	7.70	7.10	6.93	5.01
13	4.88	6.28	6.74	7.19	7.87	8.51	8.88	8.60	7.71	7.00	6.70	5.07
14	4.85	6.30	6.77	7.24	7.95	8.52	8.89	8.60	7.26	7.08	6.69	5.14
15	4.96	6.36	6.80	7.21	7.96	8.55	8.96	8.59	7.21	7.05	6.59	5.23
16	5.08	6.39	6.81	7.20	7.98	8.56	8.99	8.60	7.21	7.08	6.71	5.38
17	5.13	6.41	6.83	7.26	8.00	8.57	9.02	8.62	7.01	7.12	6.53	5.22
18	4.82	6.41	6.85	7.30	7.87	8.61	8.95	8.62	6.98	7.22	6.32	4.74
19	4.89	6.42	6.85	7.60	7.74	8.63	8.95	8.61	6.90	7.25	6.24	4.75
20	4.88	6.44	6.89	7.39	7.71	8.64	8.96	8.63	6.92	7.16	5.77	4.74
21	4.97	6.45	6.93	7.43	7.68	8.65	8.96	8.65	7.00	7.24	5.72	4.74
22	5.07	6.42	6.87	7.58	7.70	8.67	8.99	8.64	7.02	7.30	5.80	4.64
23	5.19	6.44	6.91	7.62	7.68	8.68	8.92	8.64	7.03	7.34	5.91	4.82
24	5.21	6.45	6.93	7.62	7.70	8.69	8.94	8.62	7.11	7.38	5.96	4.93
25	5.24	6.45	6.96	7.63	7.76	8.73	8.75	8.61	7.13	7.39	5.84	4.98
26	5.34	6.45	6.99	7.63	7.89	8.74	8.74	8.59	7.22	7.45	5.97	5.00
27	5.39	6.46	7.00	7.55	7.94	8.76	8.72	8.58	7.26	7.47	6.14	5.19
28	5.41	6.47	7.02	7.54	7.99	8.79	8.71	8.57	7.26	7.50	6.23	5.24
29	5.43	6.47	6.97	7.62	8.08	8.80	8.71	8.41	7.14	7.51	6.29	5.33
30	5.67	6.52	7.01	7.66	---	8.82	8.71	8.40	6.53	7.58	6.30	5.45
31	5.71	---	7.03	7.72	---	8.83	---	8.38	---	7.63	6.33	---
MEAN	5.01	6.25	6.80	7.34	7.81	8.52	8.88	8.65	7.53	7.10	6.73	5.45

WTR YR 1996 MEAN 7.17 HIGHEST 3.84 OCT. 5, 1995 LOWEST 9.02 APR. 22, 1996





Surface-Water Records for U.S. Virgin Island

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 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.02	.02	.01	.01	.01	.01	.02	.01	.01	.01	.01	.01
2	.02	.03	.01	.01	.01	.01	.02	.01	.01	.01	.02	.01
3	.02	.03	.01	.01	.01	.01	.26	.01	.01	.01	.02	.03
4	.04	.02	.01	.01	.01	.01	.05	.01	.01	.01	.03	.01
5	.03	.02	.01	.01	.01	.01	1.5	.01	.01	.01	.01	.01
6	.03	.02	.01	.01	.01	.01	.05	.01	.01	.01	.01	.01
7	.03	.02	.01	.01	.01	.01	.02	.02	.01	.01	.01	.01
8	.03	.02	.01	.01	.03	.01	.02	.02	.01	.05	.01	.01
9	.02	.01	.01	.01	.02	.02	.01	.01	.01	.02	.01	.13
10	.05	.02	.02	.01	.02	.01	.01	.01	.01	.01	.01	32
11	.03	.02	.02	.67	.01	.01	.01	.01	.01	.01	.01	.16
12	.03	.02	.01	.07	.01	.01	.02	.01	.01	.02	.01	.05
13	.03	.02	.01	.03	.01	.01	.01	.01	.01	.02	.01	.03
14	.04	.02	.01	.02	.01	.01	.01	.01	.01	.04	.01	.02
15	.03	.04	.01	.04	.01	.12	.01	.01	.01	.03	.01	.01
16	.09	.02	.01	.04	.01	.07	.01	.01	.01	.02	.01	.04
17	.07	.02	.02	.02	.01	.03	.01	.01	.01	.01	.01	.02
18	.05	.02	.02	.02	.01	.02	.02	.01	.01	.02	.01	.02
19	.04	.02	.07	.02	.01	.01	.01	.02	.02	.02	.01	.01
20	.03	.02	.03	.02	.01	.01	.01	.01	.02	.02	.01	.01
21	.02	.01	.02	.01	.01	.01	.01	.01	.02	.02	.01	.09
22	.02	.01	.02	.01	.01	.01	.02	.01	.01	.02	.01	.02
23	.02	.02	.02	.01	.01	.01	.01	.01	.01	.02	.01	.01
24	.02	.01	.01	.01	.01	.01	.01	.01	.01	.02	.01	.01
25	.02	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
26	.02	.01	.01	.01	.01	.01	.02	.01	.01	.02	.01	.01
27	.02	.01	.01	.02	.01	.01	.01	.01	.01	.02	.01	.01
28	.02	.02	.01	.01	.01	.02	.01	.01	.01	.02	.01	.01
29	.02	.01	.01	.01	.01	.02	.01	.01	.01	.02	.01	.01
30	.02	.02	.01	.01	---	.02	.01	.01	.01	.02	.01	.01
31	.02	---	.01	.01	---	.02	---	.01	---	.01	.01	---
TOTAL	0.95	0.56	0.46	1.17	0.33	0.56	2.20	0.34	0.33	0.56	0.35	32.79
MEAN	.031	.019	.015	.038	.011	.018	.073	.011	.011	.018	.011	1.09
MAX	.09	.04	.07	.67	.03	.12	1.5	.02	.02	.05	.03	32
MIN	.02	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
AC-FT	1.9	1.1	.9	2.3	.7	1.1	4.4	.7	.7	1.1	.7	65
CFSM	.06	.04	.03	.08	.02	.04	.15	.02	.02	.04	.02	2.23
IN.	.07	.04	.03	.09	.03	.04	.17	.03	.03	.04	.03	2.49

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 1996, BY WATER YEAR (WY)

MEAN	.52	.77	.060	.064	.057	.054	.068	.36	.14	.046	.057	1.07
MAX	3.09	4.22	.30	.35	.38	.31	.34	2.06	.89	.18	.23	8.91
(WY)	1986	1988	1993	1992	1992	1987	1986	1987	1987	1988	1988	1989
MIN	.013	.011	.002	.016	.005	.001	.000	.002	.004	.010	.010	.009
(WY)	1995	1995	1995	1986	1995	1995	1995	1995	1995	1994	1994	1994

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1963 - 1996	
ANNUAL TOTAL	25.94		40.60			
ANNUAL MEAN	.071		.11		.26	
HIGHEST ANNUAL MEAN					.77	1989
LOWEST ANNUAL MEAN					.11	1994
HIGHEST DAILY MEAN	9.2	Sep 15	32	Sep 10	169	Nov 27 1987
LOWEST DAILY MEAN	.00	Jan 1	.01	Nov 9	.00	Jan 31 1986
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 1	.01	Dec 1	.00	Jan 31 1986
INSTANTANEOUS PEAK FLOW			738	Sep 10	1650	Apr 18 1983
INSTANTANEOUS PEAK STAGE			5.71	Sep 10	7.00	Apr 18 1983
ANNUAL RUNOFF (AC-FT)	51		81		190	
ANNUAL RUNOFF (CFSM)	.15		.23		.53	
ANNUAL RUNOFF (INCHES)	1.97		3.08		7.20	
10 PERCENT EXCEEDS	.03		.03		.11	
50 PERCENT EXCEEDS	.01		.01		.02	
90 PERCENT EXCEEDS	.00		.01		.01	

ST. THOMAS, U.S. VIRGIN ISLANDS

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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.61	.33	.36	.53	.21	.23	.20	.27	.38	.24	.64	.32
2	.52	.51	.57	.41	.15	.22	.21	.23	.24	.45	.41	.44
3	.49	.39	.41	.36	.22	.21	.42	.23	.27	.24	.67	.81
4	1.6	.33	.37	.39	.21	.29	.46	.26	.16	.26	1.8	.43
5	.54	.35	.40	.41	.16	.17	.49	.32	.13	.07	.70	.33
6	.43	.35	.41	.53	.19	.17	.27	.27	.29	.04	.47	.23
7	.94	.31	.29	.39	.15	.16	.20	.42	.36	.12	.34	.21
8	.87	.36	.27	.54	.29	.29	.26	.68	.10	6.4	.26	.53
9	.54	.33	.33	.58	.25	1.3	.26	.50	.16	2.0	.26	e4.0
10	1.2	.29	.52	.41	.27	.42	.38	.43	.13	.51	.32	205
11	.58	.28	.35	10	.28	.29	.20	.46	.12	.41	.25	4.2
12	.67	.37	.39	.77	.15	.22	.57	.42	.30	1.6	.22	1.5
13	.49	.32	.78	.22	.22	.18	.38	.38	.11	.45	.43	.97
14	.47	.31	.63	2.1	.25	.22	.26	.35	.37	2.4	.35	.93
15	.43	1.0	.29	.75	.24	1.7	.25	.44	.23	.83	.62	.86
16	.41	.49	.43	.36	.56	.80	.16	.41	.13	.50	.37	2.9
17	.43	.41	.37	.28	.52	.40	.16	.32	.11	e.43	.28	.78
18	.46	.32	.81	.26	.32	.32	.28	.42	.11	.41	.31	.68
19	.61	.63	7.0	.68	.22	.22	.22	.40	.11	.28	.23	.64
20	.34	.39	.89	.34	.34	.21	.14	.38	.16	.30	.26	.55
21	.31	.31	.58	.22	.41	.20	.19	.38	e.39	.32	.27	1.3
22	.31	.32	.65	.27	.35	.20	.22	.21	e.14	.31	.16	.61
23	.45	.31	.42	.16	.51	.21	.17	.35	.21	.36	.29	.55
24	.34	.30	.43	.32	.39	.35	.20	.14	.11	.32	.20	.52
25	.47	.32	.40	.23	.16	.43	.17	.13	.09	.34	.22	.51
26	.36	.35	.39	.25	.23	.62	.73	.12	.05	.38	.30	.47
27	.33	.37	.56	.33	.21	.23	.27	.15	.11	.55	.96	.67
28	.31	.29	.46	.20	.21	.25	.28	.26	.14	.60	e.81	e.70
29	.37	.26	.35	.18	.24	.19	.59	.21	.11	.59	e.31	e.49
30	.36	.29	.40	.18	---	.16	.23	.26	.13	.60	e.41	.57
31	.29	---	.38	.42	---	.27	---	.38	---	.59	e.31	---
TOTAL	16.53	11.19	20.89	23.07	7.91	11.13	8.82	10.18	5.45	22.90	13.43	232.70
MEAN	.53	.37	.67	.74	.27	.36	.29	.33	.18	.74	.43	7.76
MAX	1.6	1.0	7.0	10	.56	1.7	.73	.68	.39	6.4	1.8	205
MIN	.29	.26	.27	.16	.15	.16	.14	.12	.05	.04	.16	.21
AC-FT	33	22	41	46	16	22	17	20	11	45	27	462
CFSM	.23	.16	.29	.32	.12	.15	.13	.14	.08	.32	.19	3.33
IN.	.26	.18	.33	.37	.13	.18	.14	.16	.09	.37	.21	3.72

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 1996, BY WATER YEAR (WY)

MEAN	.25	1.05	0.64	.09	.05	.13	.04	.80	.30	.08	.08	.51
MAX	2.04	6.49	4.79	.74	.27	.71	.92	6.92	3.16	.82	.44	38.0
(WY)	1993	1993	1993	1996	1996	1969	1993	1969	1993	1996	1996	1995
MIN	.00	.06	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
(WY)	1969	1968	1965	1968	1965	1965	1965	1968	1963	1965	1965	1965

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1963 - 1996	
ANNUAL TOTAL	1251.68		387.19			
ANNUAL MEAN	3.43		1.06		.34	
HIGHEST ANNUAL MEAN					3.43	1995
LOWEST ANNUAL MEAN					.002	1965
HIGHEST DAILY MEAN	802	Sep 16	205	Sep 10	802	Sep 16 1995
LOWEST DAILY MEAN	.01	Apr 5	.04	Jul 6	.00	Mar 01 1965
ANNUAL SEVEN-DAY MINIMUM	.01	Apr 3	.11	Jun 24	.00	Mar 01 1965
INSTANTANEOUS PEAK FLOW			6210	Sep 10	10500	Sep 16 1995
INSTANTANEOUS PEAK STAGE			6.75	Sep 10	7.28	Sep 16 1995
ANNUAL RUNOFF (AC-FT)	2480		768		246	
ANNUAL RUNOFF (CFSM)	1.47		.45		.14	
ANNUAL RUNOFF (INCHES)	19.98		6.18		1.98	
10 PERCENT EXCEEDS	.70		.78		.91	
50 PERCENT EXCEEDS	.20		.35		.25	
90 PERCENT EXCEEDS	.03		.17		.08	

e Estimated

ST. JOHN, U.S. VIRGIN ISLANDS

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 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e.02	e.02	e.01	e.01	e.01	.01	.02	.02	.01	.00	.01	.01
2	e.02	e.03	e.01	e.01	e.01	.01	.01	.02	.01	.00	.02	.02
3	e.02	e.03	e.01	e.01	e.01	.01	.10	.02	.01	.01	.02	.02
4	e.04	e.02	e.01	e.01	e.01	.01	.04	.01	.01	.01	.05	.02
5	e.03	e.02	e.01	e.01	e.01	.01	.04	.01	.01	.00	.03	.01
6	e.03	e.02	e.01	e.01	e.01	.01	.22	.01	.01	.00	.02	.01
7	e.03	e.02	e.01	e.01	e.01	.01	.10	.01	.01	.00	.02	.01
8	e.03	e.02	e.01	e.01	e.03	.02	.05	.01	.01	.54	.02	.01
9	e.02	e.01	e.01	e.01	e.02	.04	.04	.01	.01	.09	.03	.06
10	e.05	e.02	e.02	e.01	e.01	.02	.03	.01	.01	.03	.03	9.9
11	e.03	e.02	e.02	e.60	e.01	.02	.03	.01	.01	.01	.02	1.0
12	e.03	e.02	e.01	e.06	e.01	.01	.03	.01	.01	.07	.02	.21
13	e.03	e.02	e.01	e.03	e.01	.01	.04	.01	.01	.04	.02	.10
14	e.04	e.02	e.01	e.02	e.06	.02	.04	.01	.01	.13	.02	.08
15	e.03	e.04	e.01	e.04	.03	.02	.04	.01	.01	.11	.02	.08
16	e.09	e.02	e.01	e.04	.03	.02	.04	.01	.01	.05	.02	1.9
17	e.06	e.02	e.02	e.02	.02	.05	.04	.01	.00	.03	.02	.42
18	e.05	e.02	e.02	e.02	.02	.05	.04	.01	.00	.03	.02	.18
19	e.04	e.02	e.07	e.02	.02	.03	.04	.01	.00	.02	.02	.14
20	e.03	e.02	e.03	e.02	.02	.03	.03	.01	.00	.02	.02	.10
21	e.02	e.01	e.02	e.01	.03	.03	.03	.01	.00	.01	.02	.08
22	e.02	e.01	e.02	e.01	.02	.03	.03	.01	.00	.01	.01	.08
23	e.02	e.02	e.02	e.01	.02	.03	.04	.01	.00	.01	.02	.08
24	e.02	e.01	e.01	e.01	.02	.03	.03	.01	.00	.01	.01	.07
25	e.02	e.01	e.01	e.01	.02	.03	.03	.01	.00	.01	.01	.06
26	e.02	e.01	e.01	e.01	.02	.03	.03	.01	.00	.01	.01	.06
27	e.02	e.01	e.01	e.02	.02	.03	.03	.01	.00	.01	.01	.06
28	e.02	e.02	e.01	e.01	.02	.03	.02	.01	.00	.00	.01	.06
29	e.02	e.01	e.01	e.01	.01	.03	.02	.01	.00	.00	.01	.06
30	e.02	e.02	e.01	e.01	---	.02	.02	.01	.00	.00	.01	.05
31	e.02	---	e.01	e.01	---	.02	---	.01	---	.00	.01	---
TOTAL	0.94	0.56	0.46	1.09	0.54	0.72	1.30	0.34	0.16	1.26	0.58	14.94
MEAN	.030	.019	.015	.035	.019	.023	.043	.011	.005	.041	.019	.50
MAX	.09	.04	.07	.60	.06	.05	.22	.02	.01	.54	.05	9.9
MIN	.02	.01	.01	.01	.01	.01	.01	.01	.00	.00	.01	.01
AC-FT	1.9	1.1	.9	2.2	1.1	1.4	2.6	.7	.3	2.5	1.2	30
CFSM	.08	.05	.04	.10	.05	.06	.12	.03	.01	.11	.05	1.35
IN.	.09	.06	.05	.11	.05	.07	.13	.03	.02	.13	.06	1.50

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1983 - 1996, BY WATER YEAR (WY)

MEAN	.049	.31	.026	.013	.006	.005	.31	.094	.010	.011	.016	.32
MAX	.23	2.52	.11	.044	.019	.023	4.03	.89	.031	.041	.082	2.35
(WY)	1986	1985	1989	1989	1996	1996	1983	1986	1987	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 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1983 - 1996	
ANNUAL TOTAL	32.05		22.89			
ANNUAL MEAN	.088		.063		.097	
HIGHEST ANNUAL MEAN					.35	1983
LOWEST ANNUAL MEAN					.006	1993
HIGHEST DAILY MEAN	14	Sep 15	9.9	Sep 10	110	Apr 18 1983
LOWEST DAILY MEAN	.00	Jan 1	.00	Jun 17	.00	Oct 3 1982
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 1	.00	Jun 17	.00	Jan 9 1983
INSTANTANEOUS PEAK FLOW			41	Sep 10	946	Apr 18 1983
INSTANTANEOUS PEAK STAGE			2.39	Sep 10	5.33	Apr 18 1983
ANNUAL RUNOFF (AC-FT)	64		45		70	
ANNUAL RUNOFF (CFSM)	.24		.17		.26	
ANNUAL RUNOFF (INCHES)	3.22		2.30		3.57	
10 PERCENT EXCEEDS	.02		.05		.04	
50 PERCENT EXCEEDS	.00		.02		.01	
90 PERCENT EXCEEDS	.00		.01		.00	

e Estimated

ST. CROIX, U.S. VIRGIN ISLANDS

50333700 RIVER GUT AT HWY 66 AT FAIRPLAINS, ST. CROIX, VI

LOCATION.--Lat 17°42'31", long 64°47'16", Hydrologic Unit 21020002, 1.00 mi (1.61 km) southeast from Experimental Station, 1.10 mi (1.77 km) southeast from Hwy 70 and Hwy 64 intersection, 0.50 mi (0.80 km) west from Anguilla ruins.

DRAINAGE AREA.--5.89 mi² (15.26 km²).

WATER-STAGE RECORDS

PERIOD OF RECORD.--May 1990 to July 1996. (discontinued)

GAGE.--Water-stage recorder. Elevation of gage is 20 ft (6 m), from topographic map.

REMARKS.--Gage-height and precipitation satellite telemetry at station. All gage-height of 10.46 ft or lower are considered zero flow.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage-height, 15.34 ft (4.676 m), May 19, 1992; minimum recorded, 10.46 ft (3.188 m), many days, but could be lower.

EXTREMES FOR CURRENT YEAR.--Maximum gage-height, 14.95 ft (4.556 m), Dec 19; minimum recorded, 10.46 ft (3.188 m), many days.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10.46	10.46	10.46	10.49	10.49	10.47	10.46	10.47	10.46	A		
2	10.46	10.46	10.46	10.49	10.49	10.47	10.46	10.47	10.46	A		
3	10.46	10.48	10.46	10.49	10.50	10.47	10.46	10.47	10.46	A		
4	10.46	10.47	10.46	10.49	10.50	10.47	10.47	10.47	10.46	A		
5	10.46	10.46	10.46	10.49	10.49	10.47	10.47	10.47	A	A		
6	10.46	10.46	10.46	10.49	10.49	10.47	10.46	10.47	A	A		
7	10.46	10.46	10.46	10.49	10.49	10.47	10.46	10.50	A	A		
8	10.46	10.46	10.46	10.49	10.49	10.47	10.46	10.47	A	A		
9	10.46	10.46	10.46	10.49	10.49	10.47	10.47	10.46	A	A		
10	10.47	10.46	10.46	10.49	10.49	10.47	10.46	10.47	A	A		
11	10.46	10.46	10.46	10.49	10.49	10.47	10.46	10.46	A	A		
12	10.46	10.46	10.46	10.49	10.48	10.47	10.47	10.46	A	A		
13	10.46	10.46	10.46	10.49	10.47	10.47	10.46	10.46	A	A		
14	10.46	10.46	10.46	10.52	10.47	10.47	10.48	10.46	A	A		
15	10.46	10.46	10.46	10.49	10.47	10.47	10.47	10.46	A	A		
16	10.46	10.46	10.47	10.49	10.47	10.47	10.47	10.46	A	A		
17	10.47	10.46	10.47	10.49	10.47	10.47	10.47	10.46	A	A		
18	10.46	10.46	10.82	10.49	10.47	10.47	10.47	10.46	A	A		
19	10.46	10.46	12.80	10.49	10.47	10.47	10.47	10.46	A	A		
20	10.50	10.46	11.20	10.49	10.47	10.47	10.47	10.46	A	A		
21	10.47	10.46	10.73	10.49	10.47	10.47	10.46	10.46	A	A		
22	10.47	10.46	10.52	10.49	10.47	10.47	10.47	10.46	A	A		
23	10.47	10.46	10.49	10.49	10.47	10.47	10.47	10.46	A			
24	10.47	10.46	10.49	10.49	10.47	10.47	10.47	10.46	A			
25	10.46	10.46	10.49	10.49	10.47	10.47	10.47	10.46	A			
26	10.46	10.46	10.49	10.49	10.47	10.47	10.47	10.46	A			
27	10.46	10.46	10.49	10.49	10.47	10.47	10.47	10.46	A			
28	10.46	10.46	10.49	10.49	10.47	10.47	10.47	10.46	A			
29	10.46	10.46	10.49	10.49	10.47	10.47	10.47	10.46	A			
30	10.46	10.46	10.49	10.49	---	10.47	10.47	10.46	A			
31	10.46	---	10.49	10.49	---	10.46	---	10.46	---			
MAX	10.50	10.48	12.80	10.52	10.50	10.47	10.48	10.50				
MIN	10.46	10.46	10.46	10.49	10.47	10.46	10.46	10.46				

ST. CROIX, U.S. VIRGIN ISLANDS

50334500 BETHLEHEM GUT AT HWY 66 AT FAIRPLAINS, ST.CROIX, VI

LOCATION.--Lat 17°42'31", long 64°47'15", Hydrologic Unit 21020002, 1.00 mi (1.61 km) southeast from Experimental Station, 1.10 mi (1.77 km) southeast from Hwy 70 and Hwy 64 intersection, 0.50 mi (0.80 km) west from Anguilla ruins.

DRAINAGE AREA.--4.11 mi² (10.64 km²).

WATER-STAGE RECORDS

PERIOD OF RECORD.--1963 to 1969 (monthly measurements only), May 1990 to August 1996 (discontinued). Prior to 1990 published as Bethlehem Gut at upper Bethlehem.

GAGE.--Water-stage recorder. Elevation of gage is 20 ft (6 m), from topographic map.

REMARKS.--Gage-height and precipitation satellite telemetry at station. All gage-height of 11.45 ft or lower are considered zero flow.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage-height, 24.10 ft (7.346 m), Sept 16, 1995; minimum, 11.45 ft (3.490 m), many days, but could be lower.

EXTREMES FOR CURRENT YEAR.--Maximum gage-height, 12.94 ft (3.944 m), May 4; minimum, 11.44 ft (3.487 m), Aug. 3-22.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	A	A	A	A	A	11.45	11.45	11.45	A	11.45	11.45	
2	A	A	A	A	A	11.45	11.45	11.45	A	11.45	11.45	
3	A	A	A	A	A	11.45	11.45	11.45	A	11.45	11.44	
4	A	A	A	A	A	11.45	11.45	12.05	A	11.45	11.44	
5	A	A	A	A	A	11.45	11.45	12.33	11.45	11.45	11.44	
6	A	A	A	A	A	11.45	11.45	12.27	11.45	11.45	11.44	
7	A	A	A	A	A	11.45	11.45	12.28	11.45	11.45	11.44	
8	A	A	A	A	A	11.45	11.45	12.18	11.45	11.45	11.44	
9	A	A	A	A	A	11.45	11.45	12.07	11.45	11.45	11.44	
10	A	A	A	A	A	11.45	11.45	11.98	11.45	11.45	11.44	
11	A	A	A	A	A	11.45	11.45	11.91	11.45	11.45	11.44	
12	A	A	A	A	A	11.45	11.45	11.85	11.45	11.45	11.44	
13	A	A	A	A	11.75	11.45	11.45	11.79	11.45	11.45	11.44	
14	A	A	A	A	11.72	11.45	11.45	A	11.45	11.48	11.44	
15	A	A	A	A	11.68	11.45	11.45	A	11.45	11.49	11.44	
16	A	A	A	A	11.65	11.45	11.45	A	11.45	11.45	11.44	
17	A	A	A	A	11.61	11.45	11.45	A	11.45	11.45	11.44	
18	A	A	A	A	11.58	11.45	11.45	A	11.45	11.45	11.44	
19	A	A	A	A	11.55	11.45	11.45	A	11.45	11.45	11.44	
20	A	A	A	A	11.51	11.45	11.45	A	11.45	11.45	11.44	
21	A	A	A	A	11.48	11.45	11.45	A	11.45	11.45	11.44	
22	A	A	A	A	11.46	11.45	11.45	A	11.45	11.45	11.45	
23	A	A	A	A	11.45	11.45	11.45	A	11.45	11.45	11.45	
24	A	A	A	A	11.45	11.45	11.45	A	11.45	11.45	11.45	
25	A	A	A	A	11.45	11.45	11.45	A	11.45	11.45	11.45	
26	A	A	A	A	11.45	11.45	11.45	A	11.45	11.45	11.45	
27	A	A	A	A	11.45	11.45	11.45	A	11.45	11.45		
28	A	A	A	A	11.45	11.45	11.45	A	11.45	11.45		
29	A	A	A	A	11.45	11.45	11.45	A	11.45	11.45		
30	A	A	A	A	---	11.45	11.45	A	11.45	11.45		
31	A	---	A	A	---	11.45	---	A	---	11.45		
MEAN	---	---	---	---	---	11.45	11.45	---	---	11.45		
MAX	---	---	---	---	---	11.45	11.45	---	---	11.49		
MIN	---	---	---	---	---	11.45	11.45	---	---	11.45		

A No gage-height record

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 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.9	1.1	.74	e.55	e.29	.18	.08	.04	.01	.19	e.03	.00
2	3.2	1.1	.79	e.55	e.26	.15	.08	.04	.01	.15	e.03	.00
3	1.0	1.2	.74	e.52	e.28	.13	.08	.04	.01	.17	e.03	.00
4	.96	1.1	.76	e.52	e.28	.13	.08	.04	.00	.15	e.03	.00
5	.95	1.1	.71	e.52	e.26	.13	.07	.03	.00	.07	e.03	.00
6	.95	1.2	.71	e.51	e.24	.13	.06	.02	.00	.00	e.01	.00
7	.92	1.2	.68	e.48	e.24	.13	.06	.14	.00	.05	e.01	.00
8	6.0	1.2	.66	e.47	e.24	.13	.06	.07	.00	.07	e.01	.00
9	20	1.6	.62	e.44	e.24	.13	.06	.06	.00	.04	e.01	1.7
10	26	2.5	.61	e.44	e.23	.12	.06	.07	.00	.04	e.01	62
11	21	2.2	.61	e.43	e.21	.11	.06	.05	.00	.04	e.01	3.2
12	19	1.1	.62	e.41	e.20	.11	.06	.05	.02	.08	e.01	1.4
13	16	1.0	.59	e.41	.22	.11	.06	.05	.01	.09	e.01	.84
14	9.9	.99	.57	e.42	.22	.11	.06	.03	.01	.50	e.01	.62
15	5.2	.99	.56	e.39	.23	.13	.07	.02	.02	e.34	e.01	.90
16	5.1	.99	.57	e.35	.22	.11	.07	.02	.03	.30	e.01	.59
17	6.3	.99	.67	e.35	.22	.11	.07	.02	.03	.30	e.01	.52
18	6.8	.94	1.0	e.35	.20	.09	.07	.02	.03	.32	e.01	.50
19	6.3	.90	e1.8	e.42	.18	.09	.07	.02	.03	.31	e.01	.44
20	7.7	1.1	e.72	e.35	.18	.09	.06	.01	.03	.31	e.00	.41
21	6.1	.90	e.69	e.35	.18	.09	.04	.01	.03	.31	e.00	.41
22	3.1	.90	e.59	e.33	.18	.09	.04	.01	.02	.30	e.00	.41
23	.87	.88	e.54	e.33	.18	.09	.04	.01	.02	e.26	e.00	.41
24	.94	.93	e.54	e.33	.18	.09	.04	.01	.03	e.19	e.00	.41
25	.86	.90	e.52	e.33	.18	.09	.04	.01	.03	e.15	e.00	.41
26	.96	.86	e.49	e.32	.18	.09	.03	.01	.03	e.21	e.00	.41
27	1.0	.82	e.50	e.33	.18	.09	.03	.01	.07	e.08	e.00	.41
28	1.1	.81	e.50	e.31	.18	.09	.03	.01	.09	e.07	.00	e.48
29	1.1	.82	e.48	e.26	.18	.09	.04	.01	.15	e.07	.00	e.34
30	1.1	.76	e.48	e.26	---	.09	.04	.01	.23	e.07	.00	e.40
31	1.1	---	e.55	e.28	---	.09	---	.01	---	e.05	.00	---
TOTAL	183.41	33.08	20.61	12.31	6.26	3.41	1.71	0.95	0.94	5.28	0.29	77.21
MEAN	5.92	1.10	.66	.40	.22	.11	.057	.031	.031	.17	.009	2.57
MAX	26	2.5	1.8	.55	.29	.18	.08	.14	.23	.50	.03	62
MIN	.86	.76	.48	.26	.18	.09	.03	.01	.00	.00	.00	.00
AC-FT	364	66	41	24	12	6.8	3.4	1.9	1.9	10	.6	153
CFSM	2.82	.53	.32	.19	.10	.05	.03	.01	.01	.08	.00	1.23
IN.	3.25	.59	.37	.22	.11	.06	.03	.02	.02	.09	.01	1.37

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 1996, BY WATER YEAR (WY)

MEAN	.99	.75	.52	.29	.18	.089	.066	.094	.19	.092	.032	.81
MAX	5.92	2.33	2.34	.88	.55	.34	.23	.46	1.43	.52	.18	3.80
(WY)	1996	1988	1988	1988	1988	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	1989	1989	1989	1989	1989	1989	1989	1991

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1986 - 1996	
ANNUAL TOTAL	351.07		345.46			
ANNUAL MEAN	.96		.94		.34	
HIGHEST ANNUAL MEAN					.94	1996
LOWEST ANNUAL MEAN					.037	1994
HIGHEST DAILY MEAN	58	Sep 15	62	Sep 10	62	Sep 10 1996
LOWEST DAILY MEAN	.00	Jan 1	.00	Jun 4	.00	Oct 1 1985
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 1	.00	Jun 4	.00	Sep 4 1986
INSTANTANEOUS PEAK FLOW			622	Sep 10	937	Sep 15 1995
INSTANTANEOUS PEAK STAGE			4.69	Sep 10	5.38	Sep 15 1995
ANNUAL RUNOFF (AC-FT)	696		685		248	
ANNUAL RUNOFF (CFSM)	.46		.45		.16	
ANNUAL RUNOFF (INCHES)	6.22		6.12		2.21	
10 PERCENT EXCEEDS	1.1		1.1		.71	
50 PERCENT EXCEEDS	.00		.18		.04	
90 PERCENT EXCEEDS	.00		.01		.00	

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Ground-Water Records for U.S. Virgin Island

GROUND-WATER LEVELS

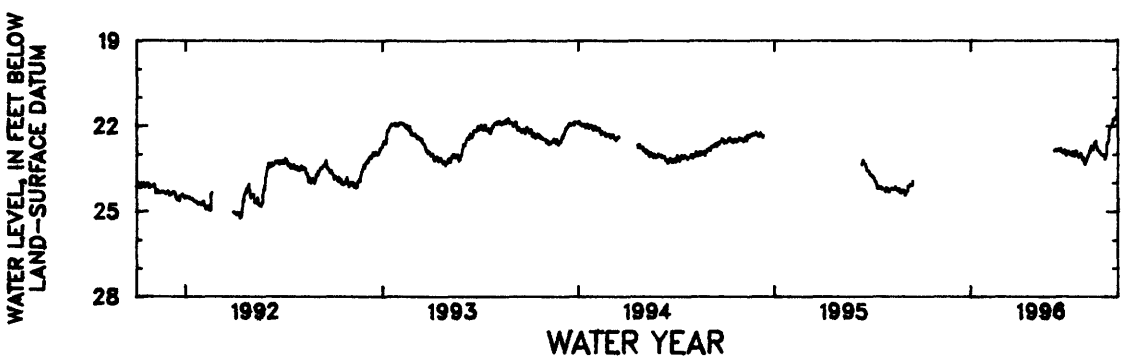
ST. CROIX, U.S. VIRGIN ISLANDS

174225064472000. Local number, 2.
LOCATION.--Lat 17°42'25", long 64°47'20", Hydrologic Unit 21020002, 0.90 mi southeast of the Experimental Station, 0.6 mi southwest of Christiansted Plaza, and 0.18 mi northeast of the Alexander Hamilton Airport entrance on Hwy 64. Owner: U.S. Virgin Islands Government, Name: USGS-10, Fairplains 2 (FP2).
AQUIFER.--Alluvium and marl.
WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in (0.15 m), cased 6 in (0.15 m).
INSTRUMENTATION.--Digital water level recorder--60-minute punch.
DATUM.--Elevation of land-surface datum is about 20 ft (6.10 m) above mean sea level, from topographic map. Measuring point: Top of 0.5 in (0.01 m) hole at concrete base wall, 3.00 ft (0.91 m) above land-surface datum.
REMARKS.--Recording observation well. Nearby pumping well.
PERIOD OF RECORD.--June 1983 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 19.45 ft (5.93 m) below land-surface datum, Nov. 4, 1989; lowest water level recorded, 26.46 ft (8.06 m) below land-surface datum, Aug. 25, 1990.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
INSTANTANEOUS OBSERVATION AT 1200

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	22.90	23.29	23.02
2	---	---	---	---	---	---	---	---	---	23.00	23.24	23.00
3	---	---	---	---	---	---	---	---	---	23.00	23.21	23.04
4	---	---	---	---	---	---	---	---	22.86	22.94	23.13	23.00
5	---	---	---	---	---	---	---	---	22.82	22.99	23.04	23.04
6	---	---	---	---	---	---	---	---	22.88	23.04	23.07	23.16
7	---	---	---	---	---	---	---	---	22.89	22.95	22.99	23.12
8	---	---	---	---	---	---	---	---	22.83	22.90	22.89	23.03
9	---	---	---	---	---	---	---	---	22.88	23.04	22.93	22.99
10	---	---	---	---	---	---	---	---	22.85	22.90	22.85	22.64
11	---	---	---	---	---	---	---	---	22.85	23.06	22.73	22.57
12	---	---	---	---	21.56	---	---	---	22.80	23.06	22.70	22.54
13	---	---	---	---	21.56	---	---	---	22.87	22.91	22.80	22.48
14	---	---	---	---	21.56	---	---	---	22.88	22.88	22.84	22.32
15	---	---	---	---	21.53	---	---	---	22.84	22.88	22.83	22.14
16	---	---	---	---	21.53	---	---	---	22.79	22.98	22.75	22.03
17	---	---	---	---	21.50	---	---	---	22.92	23.04	22.66	22.03
18	---	---	---	---	21.68	---	---	---	22.89	23.00	22.58	22.02
19	---	---	---	---	21.79	---	---	---	22.94	23.11	22.55	21.96
20	---	---	---	---	21.79	---	---	---	22.89	23.06	22.52	21.89
21	---	---	---	---	---	---	---	---	22.95	23.02	22.69	21.85
22	---	---	---	---	---	---	---	---	22.91	23.02	22.74	21.73
23	---	---	---	---	---	---	---	---	22.85	22.96	22.83	21.73
24	---	---	---	---	---	---	---	---	22.85	22.97	22.83	21.76
25	---	---	---	---	---	---	---	---	22.96	23.08	22.88	21.69
26	---	---	---	---	---	---	---	---	23.05	23.19	22.87	21.76
27	---	---	---	---	---	---	---	---	22.88	23.16	22.92	21.77
28	---	---	---	---	---	---	---	---	23.00	23.10	22.90	21.68
29	---	---	---	---	---	---	---	---	22.97	23.23	22.95	21.44
30	---	---	---	---	---	---	---	---	22.90	23.31	23.01	21.35
31	---	---	---	---	---	---	---	---	---	23.35	23.00	---
MEAN	---	---	---	---	21.61	---	---	---	22.89	23.03	22.88	22.29

WTR YR 1996 MEAN 22.69 HIGHEST 21.32 SEPT. 30, 1996 LOWEST 23.36 JULY 31, 1996



GROUND-WATER LEVELS

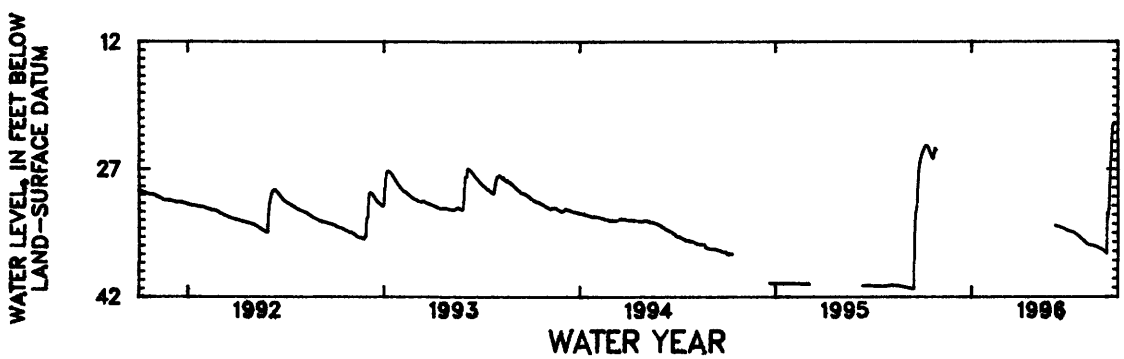
ST. CROIX, U.S. VIRGIN ISLANDS

174243064475100. Local number, 3.
LOCATION.--Lat 17°42'43", long 64°47'51", Hydrologic Unit 21020002, 0.75 mi northwest of the Alexander Hamilton Airport entrance on Hwy 64, 6.45 mi southwest of Christiansted Plaza, and 0.57 mi southwest of the Experimental Station. Owner: U.S. Virgin Islands Government, Name: Golden Grove - 6 (PW6).
AQUIFER.--Alluvium and marl.
WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 8 in (0.20 m), cased 8 in (0.20 m).
INSTRUMENTATION.--Digital water level recorder--60-minute punch.
DATUM.--Elevation of land-surface datum is about 40 ft (12.2 m) above mean sea level, from topographic map. Measuring point: Upper edge of hole at 8 in (0.20 m) casing, 4.20 ft (1.28 m) above land-surface datum.
REMARKS.--Recording observation well.
PERIOD OF RECORD.--March 1982 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 12.99 ft (3.96 m) below land-surface datum, Nov. 10, 1990; lowest water level recorded, 41.05 ft (12.51 m) below land-surface datum, Sept. 15, 1995.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
INSTANTANEOUS OBSERVATION AT 1200

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25.03	---	---	---	---	---	---	---	---	34.28	35.65	36.50
2	24.89	---	---	---	---	---	---	---	---	34.30	35.72	36.53
3	24.71	---	---	---	---	---	---	---	---	34.33	35.76	36.59
4	24.57	---	---	---	---	---	---	---	---	34.34	35.81	36.66
5	24.39	---	---	---	---	---	---	---	33.64	34.36	35.83	36.69
6	24.28	---	---	---	---	---	---	---	33.67	34.38	35.87	36.75
7	24.22	---	---	---	---	---	---	---	33.69	34.42	35.89	36.80
8	24.17	---	---	---	---	---	---	---	33.70	34.43	35.91	36.84
9	24.23	---	---	---	---	---	---	---	33.72	34.45	35.93	36.89
10	24.27	---	---	---	---	---	---	---	33.74	34.47	35.95	32.06
11	24.34	---	---	---	---	---	---	---	33.76	34.52	35.96	32.98
12	24.47	---	---	---	---	---	---	---	33.77	34.57	35.97	32.14
13	24.63	---	---	---	---	---	---	---	33.79	34.62	36.00	31.75
14	24.84	---	---	---	---	---	---	---	33.83	34.66	36.02	30.49
15	24.99	---	---	---	---	---	---	---	33.84	34.71	36.02	28.61
16	25.10	---	---	---	---	---	---	---	33.86	34.76	36.03	26.98
17	25.25	---	---	---	---	---	---	---	33.88	34.82	36.04	25.52
18	25.41	---	---	---	---	---	---	---	33.91	34.86	36.06	24.48
19	25.55	---	---	---	---	---	---	---	33.94	34.91	36.08	22.90
20	25.71	---	---	---	---	---	---	---	33.96	34.97	36.10	22.11
21	25.75	---	---	---	---	---	---	---	33.97	35.04	36.13	21.83
22	25.48	---	---	---	---	---	---	---	34.01	35.08	36.18	21.66
23	25.08	---	---	---	---	---	---	---	34.04	35.14	36.21	21.56
24	24.52	---	---	---	---	---	---	---	34.08	35.22	36.23	21.56
25	24.59	---	---	---	---	---	---	---	34.14	35.25	36.27	---
26	24.67	---	---	---	---	---	---	---	34.18	35.32	36.29	---
27	24.72	---	---	---	---	---	---	---	34.21	35.37	36.33	---
28	---	---	---	---	---	---	---	---	34.23	35.42	36.37	---
29	---	---	---	---	---	---	---	---	34.24	35.46	36.39	---
30	---	---	---	---	---	---	---	---	34.27	35.56	36.43	---
31	---	---	---	---	---	---	---	---	---	35.62	36.46	---
MEAN	24.81	---	---	---	---	---	---	---	33.93	34.83	36.06	30.29

WTR YR 1996 MEAN 32.20 HIGHEST 21.52 SEPT. 23, 1996 LOWEST 36.90 SEPT. 10, 1996



GROUND-WATER LEVELS

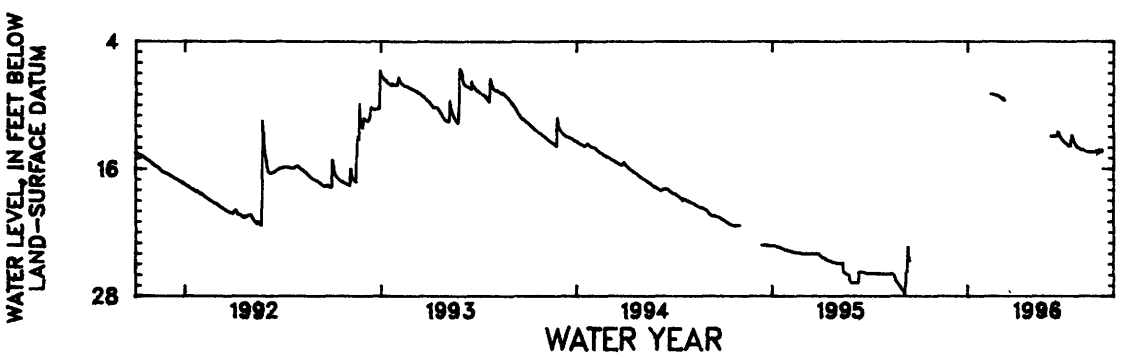
ST. CROIX, U.S. VIRGIN ISLANDS

174316064480800. Local number, 13.
LOCATION.--Lat 17°43'16", long 64°48'08", Hydrologic Unit 21020002, 5.25 mi east of Fort Frederick at Frederickstead, 0.95 mi southeast of Holy Cross Church, and 0.65 mi northeast of Adventure Ruins. Owner: U.S. Virgin Islands Water and Power Authority, Name: WAPA-17 at Adventure well field.
AQUIFER.--Kingshill Limestone.
WELL CHARACTERISTICS.--Drilled observation well, diameter 4 in (0.10 m), cased 0-95 ft (0-29.0 m), screened 10-40 ft (3.05-12.2 m). Depth 95 ft (29.0 m).
INSTRUMENTATION.--Digital water level recorder--60-minute punch.
DATUM.--Elevation of land-surface datum is about 75 ft (22.9 m) above mean sea level, from topographic map. Measuring point: Top of shelter floor, 2.33 ft (0.71 m) above land-surface datum.
REMARKS.--Recording observation well.
PERIOD OF RECORD.--February 28, 1990 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 0.27 ft (0.08 m) below land-surface datum, Sept. 10, 1996; lowest water level recorded, 27.88 ft (8.50 m) below land-surface datum, Sept. 6, 1995.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
INSTANTANEOUS OBSERVATION AT 1200

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	9.22	---	---	---	13.56	14.20	14.38
2	---	---	---	---	---	9.28	---	---	---	13.61	14.20	14.40
3	---	---	---	---	---	9.34	---	---	---	13.63	14.20	14.40
4	---	---	---	---	---	9.34	---	---	---	13.67	14.20	14.28
5	---	---	---	---	---	9.34	---	---	12.94	13.72	14.24	14.28
6	---	---	---	---	---	9.34	---	---	12.94	13.79	14.29	14.33
7	---	---	---	---	---	9.34	---	---	12.94	13.88	14.30	14.38
8	---	---	---	---	---	9.49	---	---	12.89	13.88	14.35	14.39
9	---	---	---	---	---	9.51	---	---	12.89	13.86	14.38	14.24
10	---	---	---	---	---	9.55	---	---	12.91	13.85	14.39	---
11	---	---	---	---	---	---	---	---	12.91	13.87	14.39	---
12	---	---	---	---	---	---	---	---	12.91	13.34	14.40	---
13	---	---	---	---	8.96	---	---	---	12.90	12.83	14.41	---
14	---	---	---	---	8.96	---	---	---	12.86	12.87	14.41	---
15	---	---	---	---	8.97	---	---	---	12.86	13.05	14.42	---
16	---	---	---	---	8.98	---	---	---	12.86	13.22	14.42	---
17	---	---	---	---	8.99	---	---	---	12.64	13.37	14.43	---
18	---	---	---	---	9.00	---	---	---	12.53	13.49	14.43	---
19	---	---	---	---	9.01	---	---	---	12.55	13.62	14.43	---
20	---	---	---	---	9.03	---	---	---	12.80	13.70	14.43	---
21	---	---	---	---	9.03	---	---	---	12.92	13.77	14.43	---
22	---	---	---	---	9.04	---	---	---	13.00	13.85	14.43	---
23	---	---	---	---	9.06	---	---	---	13.06	13.92	14.44	---
24	---	---	---	---	9.07	---	---	---	13.16	13.96	14.44	---
25	---	---	---	---	9.12	---	---	---	13.22	14.01	14.44	---
26	---	---	---	---	9.12	---	---	---	13.29	14.04	14.45	---
27	---	---	---	---	9.14	---	---	---	13.34	14.04	14.45	---
28	---	---	---	---	9.17	---	---	---	13.40	14.08	14.45	---
29	---	---	---	---	9.20	---	---	---	13.46	14.13	---	---
30	---	---	---	---	---	---	---	---	13.51	14.22	14.27	---
31	---	---	---	---	---	---	---	---	---	14.23	14.29	---
MEAN	---	---	---	---	9.05	9.37	---	---	12.99	13.71	14.37	14.34

WTR YR 1996 MEAN 12.77 HIGHEST 0.27 SEPT. 10, 1996 LOWEST 14.46 AUG. 26, 1996



GROUND-WATER LEVELS

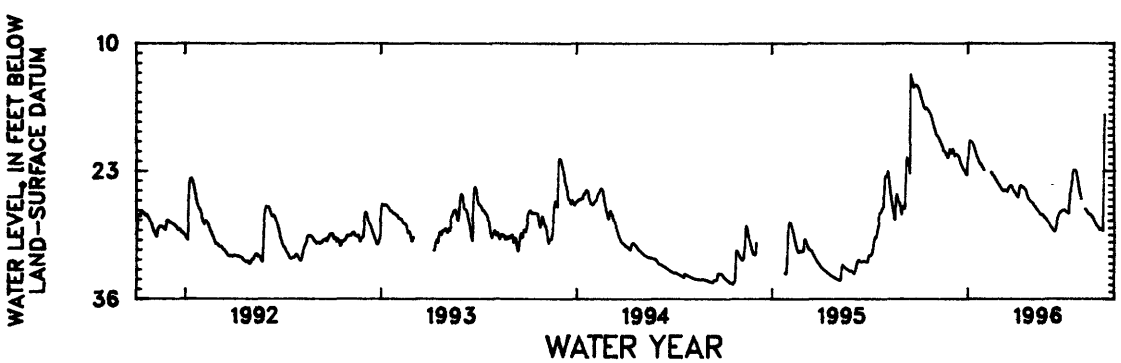
ST. THOMAS, U.S. VIRGIN ISLANDS

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: U.S. Virgin Islands Government, Name: Grade School 3.
AQUIFER.--Volcanic breccia.
WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in (0.15 m), cased 6 in (0.15 m). Depth 70 ft (21.3 m).
INSTRUMENTATION.--Digital water level recorder--60-minute punch.
DATUM.--Elevation of land-surface datum is about 60 ft (18.3 m) above mean sea level, from topographic map. Measuring point: 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.
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 (10.79 m) below land-surface datum, July 21, 1982.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
INSTANTANEOUS OBSERVATION AT 1200

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14.61	18.89	21.17	21.50	---	24.58	25.45	26.23	28.43	27.00	---	28.75
2	14.77	19.09	21.13	21.19	---	24.67	25.54	26.32	28.53	27.04	---	28.86
3	14.97	19.27	20.86	20.61	---	24.75	25.62	26.43	28.62	27.10	---	28.97
4	15.17	19.36	20.77	20.15	---	24.83	25.67	26.50	28.70	27.16	---	28.94
5	15.40	19.40	20.95	19.97	---	24.91	25.24	26.55	28.78	27.21	---	28.84
6	15.60	19.47	21.26	19.94	---	24.98	24.66	26.63	28.86	27.25	---	28.87
7	15.80	19.54	21.47	19.99	---	25.00	24.50	26.74	28.94	27.27	---	28.93
8	15.96	19.64	21.30	20.04	---	25.05	24.46	26.85	29.01	27.27	26.87	28.98
9	16.17	19.77	21.32	20.10	---	24.96	24.46	26.87	29.07	26.32	26.93	29.03
10	16.36	19.88	21.29	20.19	---	24.89	24.52	26.92	29.12	25.43	27.01	27.54
11	16.45	20.05	21.30	20.37	---	24.93	24.57	27.01	29.08	25.11	27.10	20.95
12	16.62	20.22	21.36	20.54	---	24.97	24.65	27.08	28.97	24.93	27.21	18.83
13	16.69	20.40	21.44	20.72	---	25.02	24.65	27.15	28.79	24.20	27.29	17.29
14	16.59	20.56	21.57	20.90	23.16	25.06	24.65	27.22	28.55	23.98	27.35	---
15	16.57	20.74	21.61	21.07	23.26	25.11	24.72	27.31	28.28	23.28	27.39	---
16	16.58	20.96	21.80	21.24	23.35	24.89	24.82	27.39	28.01	22.94	27.43	---
17	16.62	20.99	21.96	21.41	23.44	24.66	24.86	27.43	27.77	22.93	27.39	---
18	16.70	20.99	22.21	21.58	23.47	24.60	24.96	27.34	27.58	22.92	27.42	---
19	16.81	21.08	22.36	21.73	23.56	24.58	25.11	27.35	27.44	22.92	27.49	---
20	16.92	21.18	22.47	21.87	23.68	24.46	25.27	27.43	27.32	22.92	27.58	---
21	17.01	21.35	22.58	21.99	23.77	24.46	25.46	27.52	27.22	23.03	27.68	---
22	17.08	21.42	22.67	22.11	23.86	24.45	25.63	27.60	27.16	23.25	27.75	---
23	17.20	21.43	22.77	22.23	23.96	24.55	25.76	27.69	27.12	23.54	27.85	---
24	17.29	21.64	22.87	22.36	24.05	24.68	25.88	27.74	27.07	23.85	28.00	---
25	17.49	21.61	22.97	22.29	24.14	24.81	25.96	27.79	27.03	24.16	28.16	---
26	17.70	21.28	23.07	22.34	24.22	24.94	26.04	27.86	27.01	24.47	28.29	---
27	17.89	20.92	23.16	22.46	24.31	25.04	26.07	27.94	26.98	24.79	28.39	---
28	18.08	20.80	23.25	22.58	24.39	25.12	26.11	28.03	26.99	25.05	28.47	---
29	18.29	20.86	23.34	22.70	24.48	25.19	26.15	28.14	26.95	25.32	28.54	---
30	18.49	21.05	23.45	22.81	---	25.25	26.19	28.24	26.94	25.60	28.61	---
31	18.68	---	22.28	22.90	---	25.34	---	28.34	---	25.86	28.68	---
MEAN	16.66	20.46	22.00	21.35	23.82	24.86	25.25	27.28	28.01	24.97	27.70	26.52

WTR YR 1996 MEAN 23.87 HIGHEST 14.54 OCT. 1, 1995 LOWEST 29.12 JUNE 10, 1996



GROUND-WATER LEVELS

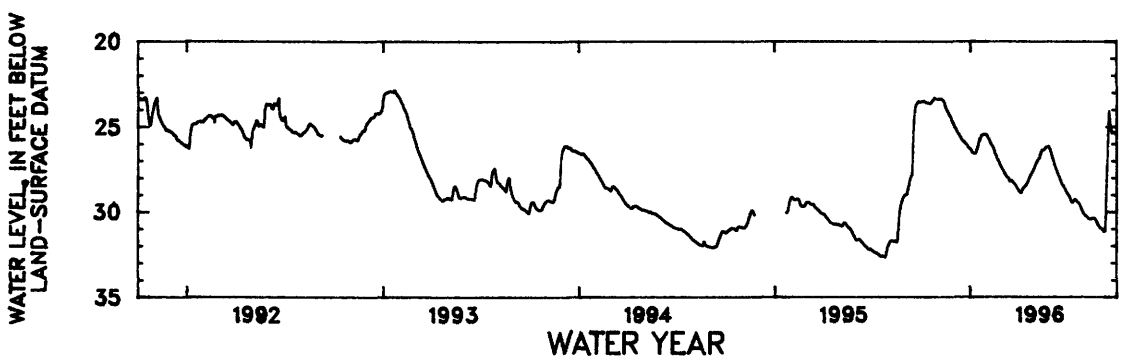
ST. THOMAS, U.S. VIRGIN ISLANDS

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 302, and 1.15 mi southwest of Dorothea. Owner: U.S. Virgin Islands Water and Power Authority, Name: Kirwan Terrace, VIEO-6.
AQUIFER.--Alluvial deposits, volcanic rock.
WELL CHARACTERISTICS.--Drilled observation well, diameter 4 in (0.10 m), cased 0-56 in (0-17.1 m), screened 56-76 ft (17.1-23.2 m). Depth 76 ft (23.2 m).
INSTRUMENTATION.--Digital water level recorder--60-minute punch.
DATUM.--Elevation of land-surface datum is about 35 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.--Observation well. Drilled on July 1, 1991. Automated digital recorder installed on October 2, 1991.
PERIOD OF RECORD.--October 2, 1991 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 22.79 ft (6.95 m) below land-surface datum, Jan. 21, 1993; lowest water level recorded, 32.67 ft (9.96 m) below land-surface datum, July 27, 1995.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
INSTANTANEOUS OBSERVATION AT 1200

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23.51	23.37	24.90	26.29	25.50	27.49	28.79	27.22	26.73	28.96	30.14	30.97
2	23.51	23.37	24.97	26.34	25.61	27.55	28.82	27.14	26.84	29.00	30.19	30.98
3	23.52	23.36	25.04	26.41	25.67	27.60	28.85	27.10	26.93	29.06	30.21	31.00
4	23.51	23.37	25.05	26.48	25.71	27.65	28.88	27.03	27.05	29.12	30.23	31.04
5	23.50	23.35	25.13	26.53	25.78	27.72	28.86	26.97	27.16	29.19	30.26	31.07
6	23.49	23.34	25.17	26.55	25.84	27.78	28.75	26.93	27.25	29.26	30.28	31.13
7	23.51	23.37	25.25	26.56	25.91	27.85	28.71	26.86	27.35	29.37	30.31	31.15
8	23.52	23.38	25.31	26.56	25.96	27.89	28.64	26.84	27.44	29.39	30.35	31.14
9	23.54	23.41	25.38	26.57	26.03	27.94	28.58	26.78	27.54	29.46	30.40	31.08
10	23.58	23.43	25.41	26.56	26.09	27.96	28.55	26.62	27.60	29.43	30.41	30.18
11	23.58	23.45	25.45	26.56	26.13	27.98	28.52	26.52	27.68	29.37	30.43	28.56
12	23.58	23.51	25.54	26.46	26.17	28.02	28.48	26.43	27.78	29.34	30.41	27.47
13	23.59	23.60	25.59	26.34	26.24	28.09	28.45	26.36	27.84	29.29	30.41	26.57
14	23.62	23.71	25.64	26.26	26.32	28.15	28.40	26.36	27.91	29.27	30.40	25.45
15	23.61	23.81	25.69	26.17	26.43	28.20	28.34	26.36	27.98	29.27	30.37	24.63
16	23.62	23.89	25.74	25.98	26.55	28.18	28.30	26.34	28.06	29.30	30.38	24.05
17	23.64	23.95	25.79	25.85	26.62	28.15	28.23	26.32	28.14	29.34	30.38	24.55
18	23.62	24.03	25.84	25.76	26.68	28.15	28.14	26.31	28.22	29.36	30.37	24.92
19	23.61	24.10	25.87	25.67	26.75	28.19	28.05	26.28	28.31	29.41	30.38	25.12
20	23.55	24.16	25.85	25.63	26.84	28.23	27.98	26.18	28.37	29.45	30.38	25.26
21	23.51	24.22	25.86	25.56	26.91	28.28	27.91	26.18	28.42	29.48	30.40	25.34
22	23.49	24.26	25.93	25.48	26.98	28.30	27.84	26.16	28.42	29.51	30.44	25.33
23	23.43	24.32	25.98	25.46	27.05	28.34	27.80	26.16	28.51	29.56	30.50	25.33
24	23.37	24.36	26.01	25.45	27.12	28.37	27.74	26.16	28.54	29.64	30.57	25.35
25	23.34	24.43	26.04	25.43	27.18	28.39	27.68	26.17	28.60	29.71	30.65	25.33
26	23.30	24.49	26.07	25.43	27.24	28.45	27.62	26.13	28.68	29.78	30.71	25.35
27	23.33	24.59	26.11	25.44	27.30	28.52	27.56	26.26	28.75	29.85	30.77	25.36
28	23.34	24.67	26.18	25.43	27.37	28.58	27.48	26.29	28.82	29.92	30.84	25.35
29	23.35	24.75	26.23	25.44	27.44	28.63	27.39	26.40	28.87	30.00	30.87	25.35
30	23.36	24.80	26.26	25.45	---	28.68	27.31	26.50	28.92	30.06	30.91	25.36
31	23.36	---	26.28	25.46	---	28.74	---	26.61	---	30.10	30.94	---
MEAN	23.50	23.89	25.66	25.99	26.46	28.13	28.22	26.52	27.96	29.46	30.46	27.33

WTR YR 1996 MEAN 26.97 HIGHEST 23.29 OCT. 26, 1995 LOWEST 31.15 SEPT. 7, 8, 1996



GROUND-WATER LEVELS

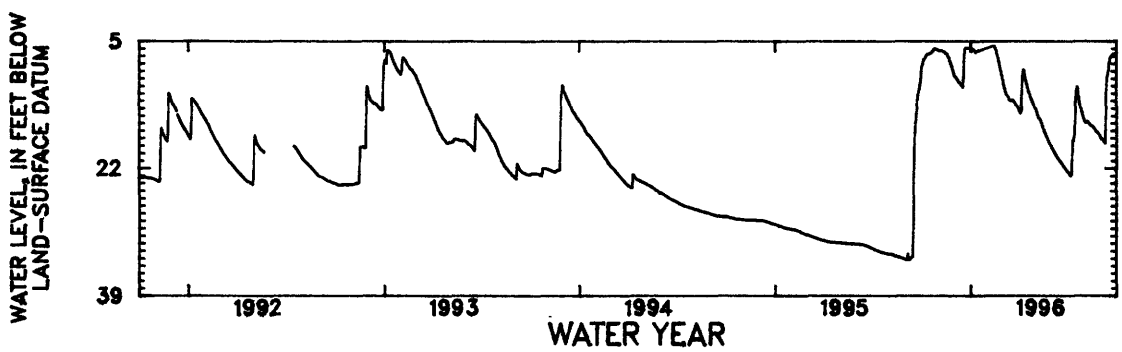
ST. JOHN, U.S. VIRGIN ISLANDS

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: U.S. 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 ft (25.9 m).
INSTRUMENTATION.--Digital water level recorder--60-minute 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.
PERIOD OF RECORD.--March 1982 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 2.71 ft (0.79 m) below land-surface datum, Jan. 3, 1990; lowest water level recorded, 34.18 ft (10.42 m) below land-surface datum, Sept. 6, 1995.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
INSTANTANEOUS OBSERVATION AT 1200

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.41	6.17	9.44	5.92	---	10.23	14.32	14.03	19.19	22.47	15.69	17.98
2	8.25	6.21	9.63	5.94	---	10.56	14.49	14.21	19.32	22.54	15.82	18.14
3	8.08	6.24	9.73	5.96	---	10.91	14.64	14.44	19.46	22.63	15.89	18.14
4	7.74	6.27	9.76	5.99	---	11.17	14.35	14.70	19.61	22.75	15.91	18.10
5	7.42	6.25	9.88	6.05	---	11.43	14.17	14.91	19.75	22.86	15.72	18.21
6	7.36	6.23	9.98	6.11	---	11.69	12.08	15.11	19.86	22.94	15.72	18.34
7	7.30	6.25	10.06	6.21	---	11.94	9.58	15.32	19.98	23.01	15.72	18.47
8	7.18	6.27	10.15	6.30	---	12.13	8.97	15.33	20.13	22.77	15.83	18.57
9	7.07	6.30	10.32	6.41	---	12.21	8.77	15.38	20.25	19.88	15.92	18.64
10	6.93	6.34	10.47	6.52	---	12.28	8.91	15.53	20.35	18.17	16.00	14.40
11	6.79	6.38	10.47	6.35	---	12.38	9.42	15.72	20.46	18.23	16.07	11.55
12	6.72	6.39	10.51	---	---	12.49	9.84	15.93	20.58	18.36	16.19	10.41
13	6.70	6.42	10.65	---	---	12.68	10.12	16.16	20.70	17.30	16.27	9.72
14	6.70	6.53	10.75	---	5.59	12.85	10.41	16.35	20.79	15.84	16.32	9.30
15	6.69	6.61	10.84	---	5.78	12.98	10.73	16.54	20.87	13.29	16.32	8.89
16	6.66	6.64	10.94	---	5.97	13.00	11.01	16.72	20.97	11.96	16.38	7.97
17	6.58	6.67	11.06	---	6.17	13.01	11.23	16.92	21.05	11.33	16.45	7.62
18	6.56	6.80	11.19	---	6.38	12.93	11.50	17.12	21.14	11.06	16.51	7.35
19	6.52	6.94	9.83	---	6.71	12.87	11.72	17.28	21.26	11.20	16.62	7.08
20	6.46	7.06	6.64	---	7.01	12.90	11.95	17.42	21.36	11.85	16.70	7.01
21	6.38	7.17	6.01	---	7.27	12.96	12.15	17.60	21.46	12.44	16.82	6.96
22	6.27	7.38	5.88	---	7.60	13.03	12.38	17.77	21.59	12.97	16.96	6.81
23	6.20	7.66	5.88	---	7.94	13.14	12.61	17.95	21.70	13.36	17.07	6.77
24	6.06	7.85	5.88	---	8.28	13.22	12.78	18.12	21.80	13.72	17.10	6.73
25	5.97	8.03	5.88	---	8.60	13.35	12.95	18.27	21.91	14.03	17.16	6.72
26	5.97	8.25	5.88	---	8.89	13.49	13.15	18.43	22.01	14.31	17.27	6.70
27	6.03	8.51	5.88	---	9.19	13.61	13.28	18.60	22.10	14.59	17.37	6.65
28	6.03	8.79	5.88	---	9.52	13.74	13.50	18.71	22.18	14.88	17.42	6.61
29	6.06	9.03	5.88	---	9.87	13.86	13.75	18.82	22.27	15.10	17.54	6.59
30	6.11	9.23	5.88	---	---	13.99	13.92	18.94	22.36	15.31	17.67	6.57
31	6.13	---	5.88	---	---	14.15	---	19.05	---	15.50	17.83	---
MEAN	6.75	7.03	8.62	6.16	7.55	12.62	11.96	16.69	20.88	16.67	16.52	11.10

WTR YR 1996 MEAN 12.41 HIGHEST 5.59 FEB. 14, 1996 LOWEST 23.07 JULY 7, 8, 1996



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Adenosine triphosphate, definition of ... 32
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CONVERSION FACTORS AND VERTICAL DATUM

Multiply	By	To obtain
	Length	
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
	Area	
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
	Volume	
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
	Flow	
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
	Mass	
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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