Water-Data Report 2012

50039500 RIO CIBUCO AT VEGA BAJA, PR

RIO CIBUCO BASIN

LOCATION.--Lat 18°26′53″, long 66°22′29″ referenced to North American Datum of 1927, Vega Baja Municipio, PR, Hydrologic Unit 21010002, on left bank, at bridge on Highway 2, 0.6 mi (1 km) downstream from Río Indio and 0.8 mi (1.3 km) east of Vega Baja.

DRAINAGE AREA.--99.1 mi^2, (256.7 km^2), of which 25.4 mi^2 (65.8 km^2), is noncontributing.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--May 1959 to May 1963 (occassional medium stage measurements), January 1964 to November 1970 (annual maximum discharge at crest-stage partial record), January 1973 to current year.

GAGE.--Water-stage recorder, satellite telemetry at station. Elevation of gage is 32.8 ft (10 m) above NGVD of 1929, from topographic map.

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

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of December 11, 1965, reached a stage of 26.2 ft (7.99 m), datum unknown, discharge about 28,000 ft^3/s (793 m^3/s).

Suggested citation: U.S. Geological Survey, 2014, Water-resources data for the United States, Water Year 2012: U.S. Geological Survey Water-Data Report WDR-US-2012, site 50039500, accessed at http://wdr.water.usgs.gov/wy2012/pdfs/50039500.2012.pdf

50039500 RIO CIBUCO AT VEGA BAJA, PR—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	536	259	219	125	163	144	292	153	158	91	224	76
2	243	690	196	115	199	136	224	661	152	100	109	70
3	209	320	174	223	194	109	191	828	148	78	95	70
4	196	197	157	188	188	100	165	961	142	122	143	61
5	234	172	158	122	187	95	216	1,150	133	350	105	64
6	227	161	314	241	132	96	158	2,590	120	168	85	56
7	186	346	287	416	125	195	148	1,150	117	91	103	54
8	206	507	161	145	123	242	131	1,100	115	95	90	57
9	169	551	508	122	131	160	183	2,020	108	95	100	52
10	150	447	4,970	115	107	131	192	790	105	83	80	47
11	158	352	798	111	101	124	147	507	102	76	73	47
12	190	428	434	109	97	680	149	419	101	121	76	47
13	142	226	306	105	197	436	228	410	98	130	108	73
14	135	235	254	102	1,900	162	1,280	376	95	90	103	203
15	128	487	447	103	697	146	658	312	94	89	100	194
16	143	599	253	120	542	118	e300	374	95	80	155	268
17	144	369	215	131	393	110	e220	405	95	72	162	110
18	227	308	196	360	232	105	e200	538	92	105	177	112
19	200	254	180	158	183	119	e180	333	91	110	83	72
20	133	239	169	116	155	114	e170	267	88	171	70	67
21	180	749	195	113	138	286	e180	249	84	167	207	81
22	236	793	180	128	130	633	e170	245	80	98	374	131
23	328	812	158	119	119	1,000	e180	230	76	85	284	64
24	132	413	149	131	116	1,070	e150	216	74	78	444	57
25	129	548	144	108	108	1,210	e190	205	75	74	353	86
26	198	1,010	145	107	114	366	487	197	75	71	162	151
27	119	729	135	106	158	491	341	191	72	69	134	128
28	112	774	129	104	229	825	189	196	72	71	133	278
29	117	359	129	110	201	4,010	213	178	80	68	94	275
30	121	274	124	120	---	680	192	175	71	92	94	174
31	152	---	122	292	---	435	---	164	---	249	85	---
Total	5,780	13,608	12,006	4,665	7,359	14,528	7,724	17,590	3,008	3,439	4,605	3,225
Mean	186	454	387	150	254	469	257	567	100	111	149	108
Max	536	1,010	4,970	416	1,900	4,010	1,280	2,590	158	350	444	278
Min	112	161	122	102	97	95	131	153	71	68	70	47
Ac-ft	11,460	26,990	23,810	9,250	14,600	28,820	15,320	34,890	5,970	6,820	9,130	6,400
Cfsm	1.88	4.58	3.91	1.52	2.56	4.73	2.60	5.73	1.01	1.12	1.50	1.08
In.	2.17	5.11	4.51	1.75	2.76	5.45	2.90	6.60	1.13	1.29	1.73	1.21

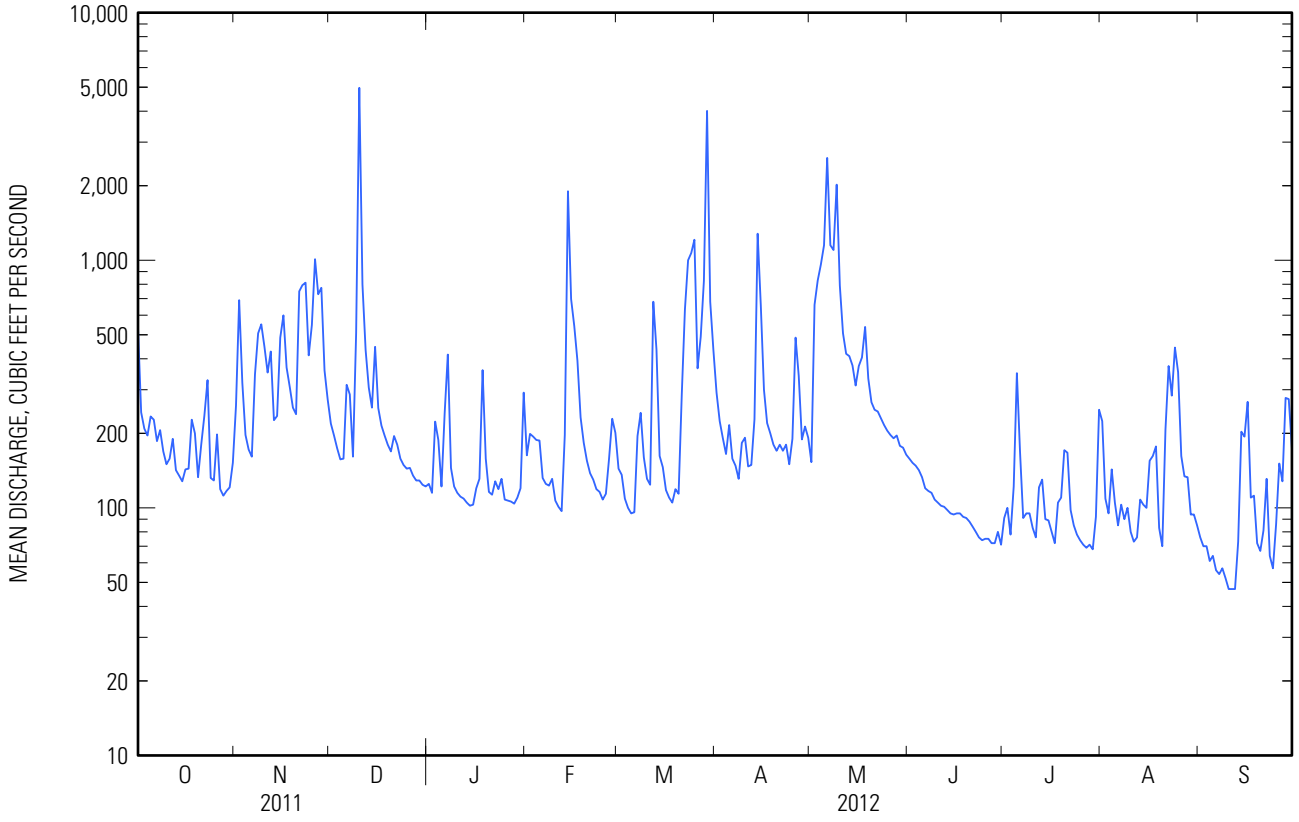
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1973 - 2012, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	171	230	213	128	95.8	96.1	154	226	99.9	81.1	101	161
Max	559	709	1,316	599	254	469	671	658	498	348	526	690
(WY)	(1986)	(2005)	(1982)	(2005)	(2012)	(2012)	(1987)	(2004)	(2011)	(2005)	(2011)	(1996)
Min	45.9	28.3	12.9	30.2	27.2	20.5	16.2	24.7	12.5	14.0	21.2	26.7
(WY)	(1974)	(1998)	(1998)	(1995)	(1994)	(1994)	(1984)	(1977)	(1994)	(1994)	(1978)	(1994)

50039500 RIO CIBUCO AT VEGA BAJA, PR—Continued

SUMMARY STATISTICS

	Calendar Year 2011		Water Year 2012		Water Years 1973 - 2012	
Annual total	112,843		97,537			
Annual mean	309		266		147	
Highest annual mean					342	2011
Lowest annual mean					38.5	1994
Highest daily mean	4,970	Dec 10	4,970	Dec 10	14,600	Dec 13, 1981
Lowest daily mean	51	May 9	47	Sep 10	7.2	May 3, 1995
Annual seven-day minimum	60	Apr 19	51	Sep 6	8.1	Apr 28, 1995
Maximum peak flow			12,700	Mar 29	34,000	Apr 12, 1987
Maximum peak stage			17.12	Mar 29	19.10	Apr 12, 1987
Instantaneous low flow			43	Sep 13	7.2	May 2, 1995
Annual runoff (ac-ft)	223,800		193,500		106,700	
Annual runoff (cfsm)	3.12		2.69		1.49	
Annual runoff (inches)	42.36		36.61		20.19	
10 percent exceeds	606		516		299	
50 percent exceeds	198		158		69	
90 percent exceeds	88		79		25	



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 2011 TO SEPTEMBER 2012

Part 1 of 4

[MF, membrane filter; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; col/100 mL, colonies per 100 milliliters; ft³/s, cubic feet per second; mg/L, milligrams per liter; ng/L, nanograms per liter; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; --, no data; <, less than; E, estimated]

Date	Sample start time	Discharge, instantaneous, ft³/s (00061)	Dissolved oxygen, water, unfiltered, mg/L (00300)	pH, water, unfiltered, field, standard units (00400)	Specific conductance, water, unfiltered, µS/cm at 25°C (00095)	Temperature, water, °C (00010)	Turbidity, water, unfiltered, broad band light source (400-680 nm), detectors at multiple angles including 90 +/- 30 degrees, ratiometric correction, NTRU (63676)	Calcium, water, unfiltered, recoverable, mg/L (00916)	Magnesium, water, unfiltered, recoverable, mg/L (00927)
11-01-2011	**0955**	135	7.6	7.9	385	25.1	20	--	--
02-09-2012	**1002**	126	8.0	7.7	403	22.6	E 20	55.3	8.80
05-24-2012	**1200**	203	7.9	7.8	420	26.2	E 16	--	--
08-30-2012	**0930**	86	7.3	8.1	441	26.0	E 9.4	64.4	8.43

WATER-QUALITY DATA
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012

Part 2 of 4

[MF, membrane filter; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; col/100 mL, colonies per 100 milliliters; ft³/s, cubic feet per second; mg/L, milligrams per liter; ng/L, nanograms per liter; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; --, no data; <, less than; E, estimated]

Date	Sample start time	Hydrogen ion, water, unfiltered, calculated, mg/L (00191)	Ammonia, water, unfiltered, mg/L as N (00610)	Nitrate plus nitrite, water, filtered, mg/L as N (00631)	Nitrite, water, filtered, mg/L as N (00613)	Phosphorus, water, unfiltered, mg/L as P (00665)	Total nitrogen, water, unfiltered, analytically determined, mg/L (62855)	Fecal coliform, M-FC MF (0.7 micron) method, water, col/100 mL (31625)	Total coliform, M-Endo MF method, immediate, water, col/100 mL (31501)
11-01-2011	**0955**	0.00001	0.02	1.36	0.012	0.114	1.57	E 12,000	40,000
02-09-2012	**1002**	.00002	.05	1.34	.007	.150	1.56	45,000	E 100,000
05-24-2012	**1200**	.00002	.03	1.05	.014	.086	1.17	6,900	2,000
08-30-2012	**0930**	.00001	.12	1.25	.038	.110	1.51	4,500	6,200

50039500 RIO CIBUCO AT VEGA BAJA, PR—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012
Part 3 of 4
[MF, membrane filter; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; col/100 mL, colonies per 100 milliliters; ft³/s, cubic feet per second; mg/L, milligrams per liter; ng/L, nanograms per liter; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; --, no data; <, less than; E, estimated]

Date	Sample start time	Cadmium, water, unfiltered, µg/L (01027)	Chromium, water, unfiltered, recover-able, µg/L (01034)	Copper, water, unfiltered, recover-able, µg/L (01042)	Lead, water, unfiltered, recover-able, µg/L (01051)	Mercury, water, unfiltered, ng/L (50286)	Zinc, water, filtered, µg/L (01090)	Arsenic, water, unfiltered, µg/L (01002)	Cyanide, water, unfiltered, milligrams per liter (00720)	Selenium, water, unfiltered, µg/L (01147)
11-01-2011	0955	--	--	--	--	--	--	--	--	--
02-09-2012	1002	.023	< .6	2.7	.32	4.37	< 1.4	.88	E .0015	.181
05-24-2012	1200	--	--	--	--	--	--	--	--	--
08-30-2012	0930	< .016	1.7	2.6	.24	2.88	< 1.4	.79	E .0048	.199

WATER-QUALITY DATA
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012
Part 4 of 4
[MF, membrane filter; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; col/100 mL, colonies per 100 milliliters; ft³/s, cubic feet per second; mg/L, milligrams per liter; ng/L, nanograms per liter; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; --, no data; <, less than; E, estimated]

Date	Sample start time	Methylene blue active sub-stances, water, unfiltered, recover-able, mg/L (38260)
11-01-2011	0955	--
02-09-2012	1002	< .050
05-24-2012	1200	--
08-30-2012	0930	< .050