Water-Data Report 2012

09380000 COLORADO RIVER AT LEES FERRY, AZ

Upper Colorado-Dirty Devil Basin
Lower Lake Powell Subbasin

LOCATION.--Lat 36°51′53″, long 111°35′15″ referenced to North American Datum of 1927, in NE ¼ SE ¼ sec.13, T.40 N., R.7 E., Coconino County, AZ, Hydrologic Unit 14070006, in Navajo Indian Reservation, on left bank at head of Marble Gorge at Lees Ferry, just upstream from Paria River, 16 mi downstream from Glen Canyon Dam, 28 mi downstream from Utah-Arizona State line, and 61.5 mi upstream from Little Colorado River.

DRAINAGE AREA.--111,800 mi^2, approximately, including 3,959 mi^2 in Great Divide Basin in southern Wyoming, which is noncontributing (previously considered part of the MissouriRiver basin).

SURFACE-WATER RECORDS

PERIOD OF RECORD.--Jan. 1895 to current year. Estimates of monthly and annual discharge only for some periods, published in WSP 1313.

REVISED RECORDS.--WSP 859: 1921-23. WSP 1313: 1914-21.

GAGE.--Water-stage recorder. Datum of gage is 3,106.16 ft above sea level. Prior to Jan. 19, 1923, nonrecording gages or reference points within 400 ft of present gage, at different datums.

REMARKS.--Records good. Flow regulated since Mar. 13, 1963, by Lake Powell, 16 mi upstream. Many diversions above Lake Powell for irrigation, municipal, and industrial use. No diversions or inflow between Lake Powell and the gage.

AVERAGE DISCHARGE FOR PERIOD OF RECORD.--51 years (water years 1912-62), 17,850 ft^3/s, 12,930,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--1895-1962: Maximum discharge, 220,000 ft^3/s, June 18, 1921, gage height, 26.5 ft, from floodmarks, from rating curve extended above 120,000 ft^3/s on basis of discharge computed for station near Grand Canyon; minimum, 750 ft^3/s, Dec. 27, 1924.

1963-Curent year: Maximum discharge, 97,300 ft^3/s, June 29, 1983, gage height, 18.14 ft; minimum daily, 700 ft^3/s, Jan. 23, 24, 1963, result of closing coffer dam at Glen Canyon Dam.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge since at least 1868, about 300,000 ft^3/s July 7, 1884, gage height, 31.5 ft, present site and datum, from floodmark at mouth of Paria River, from rating curve extended above 120,000 ft^3/s on basis of discharge computed for flood of June 18, 1921, for station near Grand Canyon.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 21,200 ft^3/s, Nov. 20, 21, 25, gage height, 10.83 ft; minimum daily discharge, 7,910 ft^3/s, Sept. 9.

Suggested citation: U.S. Geological Survey, 2013, Water-resources data for the United States, Water Year 2012: U.S. Geological Survey Water-Data Report WDR-US-2012, site 09380000, accessed at http://wdr.water.usgs.gov/wy2012/pdfs/09380000.2012.pdf

09380000 COLORADO RIVER AT LEES FERRY, AZ—Continued

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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	16,100	15,000	20,400	14,700	11,800	10,400	9,070	10,200	12,600	14,000	14,000	8,200
2	16,100	15,200	20,300	14,800	11,400	10,200	10,600	9,950	10,800	15,500	13,700	8,080
3	16,100	15,200	20,300	16,600	11,700	9,590	10,800	10,200	9,680	14,900	13,800	8,110
4	16,100	15,300	20,400	16,500	11,500	8,900	10,800	10,300	12,600	13,300	12,800	8,210
5	16,100	15,300	20,400	16,700	10,300	10,300	11,200	9,370	12,900	14,400	12,300	8,090
6	16,200	15,100	20,300	16,700	11,300	10,100	10,800	8,740	12,800	14,600	14,000	8,260
7	16,400	15,100	20,300	16,200	11,600	10,100	9,820	10,300	12,800	14,000	14,300	8,240
8	16,400	15,100	20,300	14,500	11,500	10,400	9,150	10,400	12,800	13,600	13,900	8,000
9	16,200	15,000	20,400	16,700	11,800	10,300	10,400	10,300	11,000	14,800	13,700	7,910
10	16,200	15,100	20,400	14,000	11,800	9,450	10,600	10,400	9,890	15,100	13,700	8,000
11	16,000	18,500	20,400	13,200	11,600	8,670	10,800	10,300	12,700	14,700	12,400	7,990
12	16,000	19,100	20,400	13,000	10,500	9,930	10,900	9,380	12,900	15,000	12,300	7,950
13	16,000	19,300	20,300	12,900	11,400	10,500	10,800	8,680	12,500	14,400	14,200	7,990
14	15,900	19,300	20,300	12,500	11,700	10,300	9,920	10,200	12,400	14,000	12,600	7,980
15	15,900	19,500	20,300	11,700	11,800	10,000	9,150	10,400	12,500	13,700	14,400	7,950
16	16,000	19,500	20,300	13,000	11,700	10,100	10,400	10,300	10,700	14,800	13,800	7,980
17	15,900	19,300	20,300	12,900	11,800	9,440	10,700	10,300	9,680	15,000	13,900	8,010
18	15,800	20,500	20,400	13,100	11,500	8,680	10,600	10,400	12,500	14,900	12,800	7,980
19	15,800	21,000	20,300	13,300	10,500	9,860	10,800	9,460	13,000	14,600	12,300	7,980
20	15,800	21,100	20,300	13,100	11,400	10,300	10,600	8,560	12,600	14,800	13,600	7,980
21	15,800	21,100	20,300	12,600	11,700	10,100	9,620	10,000	12,300	14,400	13,700	8,050
22	15,700	20,800	20,300	11,800	11,800	10,200	9,110	10,400	12,700	13,700	14,100	8,020
23	15,700	20,800	20,300	13,100	11,500	10,300	10,700	10,200	10,800	14,900	14,100	8,040
24	15,700	20,900	20,300	13,000	11,200	9,570	10,500	10,300	9,790	14,900	13,500	8,030
25	15,800	20,900	20,300	13,000	11,100	8,680	10,500	9,910	12,600	14,600	12,200	7,990
26	15,700	20,900	20,300	13,200	10,000	9,350	10,500	9,290	12,800	14,700	12,000	7,940
27	15,700	20,900	20,300	13,200	11,200	10,200	10,400	8,610	12,900	14,700	13,600	7,980
28	15,700	20,900	17,900	12,700	11,500	9,480	9,500	8,620	13,000	14,500	14,400	8,000
29	15,700	20,800	17,000	11,800	11,200	10,600	9,090	10,200	12,400	13,700	12,200	8,010
30	15,600	20,000	17,100	13,000	---	10,500	10,600	9,830	10,400	14,700	10,700	8,030
31	15,700	---	17,200	13,200	---	9,500	---	9,970	---	15,000	9,510	---
Total	493,800	556,500	618,100	426,700	329,800	306,000	308,430	305,470	359,040	449,900	408,510	240,980
Mean	15,930	18,550	19,940	13,760	11,370	9,871	10,280	9,854	11,970	14,510	13,180	8,033
Max	16,400	21,100	20,400	16,700	11,800	10,600	11,200	10,400	13,000	15,500	14,400	8,260
Min	15,600	15,000	17,000	11,700	10,000	8,670	9,070	8,560	9,680	13,300	9,510	7,910
Med	15,900	19,400	20,300	13,100	11,500	10,100	10,600	10,200	12,600	14,700	13,700	8,000
Ac-ft	979,500	1,104,000	1,226,000	846,400	654,200	607,000	611,800	605,900	712,200	892,400	810,300	478,000
Cfsm	0.14	0.17	0.18	0.12	0.10	0.09	0.09	0.09	0.11	0.13	0.12	0.07

	Calendar Year 2011	Water Year 2012
Total	6,980,900	4,803,230
Mean	19,130	13,120
Max	25,700	21,100
Min	14,100	7,910
Med	18,300	12,600
Ac-ft	13,850,000	9,527,000
Cfsm	0.17	0.12

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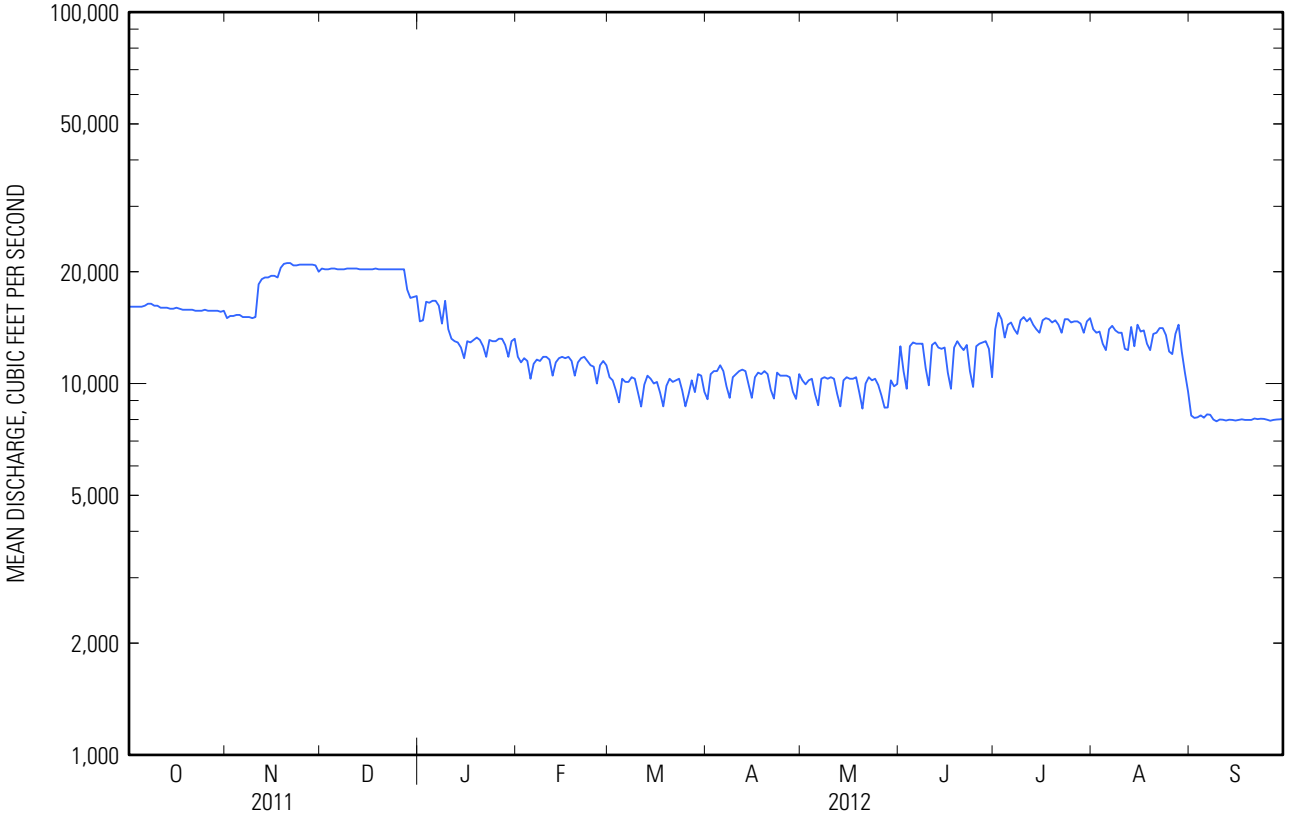

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Jan. to July 1926, Oct. 1926 to June 1927, Aug. 1928 to Dec. 1933, Nov. 1942 to Oct. 1945, Oct. 1947 to current year.

PERIOD OF DAILY RECORD.--SPECIFIC CONDUCTANCE:Oct. 1964 to Sept. 1981, Feb. 1982 to Dec. 1987, Oct. 1989 to Mar. 2003., Feb. 2004 to current year.

pH:Aug. 1990 to Apr. 1993.

WATER TEMPERATURE:July 1949 to Sept. 1981, Feb. 1982 to Dec. 1987, Oct. 1989 to Mar. 2003, Feb. 2004 to current year.

DISSOLVED OXYGEN:Aug. 1990 to Apr. 1993.

SUSPENDED-SEDIMENT DISCHARGE:Oct. 1928 to Dec. 1933, Nov. 1942 to Sept. 1944, Oct. 1947 to Sept. 1965.

TURBIDITY:Oct. 1998 to Sept. 2000, minimum daily values.

INSTRUMENTATION.--Specific conductance and water temperature recorder Mar. 1977 to Sept. 1981, Feb. 1982 to Dec. 1987, and Oct. 1990 to current; dissolved-oxygen recorder Aug. 1990 to Apr. 1993.

REMARKS.--Daily water temperature and specific conductance records good. Unpublished daily specific conductance measurements for period Nov. 1942 Oct. 1947 to Sept. 1964 available from District Office in Tucson, AZ. Extreme value for the period of record include only those obtained after a normal flow release pattern from Glen Canyon Dam was started after July 31, 1965.

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: (Aug. 1965 to Sept. 1981, Feb. 1982 to Dec. 1987, Oct. 1990 to current year).-Maximum, 1,260 microsiemens, Apr. 20,21, 1967; 460 microsiemens, Aug. 10, 1965.

pH:-Maximum, 8.3, on many days in Jan. to Apr. and June 1991;-Minimum, 7.6, on several days in Nov. and Dec. 1990, and Mar. 1991.

WATER TEMPERATURE: (Aug. 1965 to Sept. 1981, Feb. 1982 to Dec. 1987, Oct. 1990 to current year).-Maximum, 21.0 C on several days during Aug., 1967, 1968;-Minimum, 2.0 C on Jan. 29, 30, 1970.

DISSOLVED OXYGEN:-Maximum recorded, 11.2 mg/L, Apr. 29, 1991;-Minimum recorded, 6.4 mg/L, Sept. 18, 1991.

TURBIDITY:-Minimum daily, less than 1.0 NTU on most days.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 805 microsiemens/cm, Mar. 19; minimum, 538 microsiemens/cm, Dec. 20, Jan. 4.

WATER TEMPERATURE: Maximum, 15.4°C, Nov. 12; minimum, 7.8°C, Mar. 19, 20, Apr. 2.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012

Part 1 of 7

[%, percent; $CaCO_3$, calcium carbonate; MF, membrane filter; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; col/100 mL, colonies per 100 milliliters; ft^3/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; <, less than; A, average; E, estimated; k, counts outside acceptable range]

Sample date-time	Medium name	Sample type	Barometric pressure, mm Hg (00025)	Temperature, air, °C (00020)	Discharge, instantaneous, ft^3/s (00061)	Dissolved oxygen, water, unfiltered, mg/L (00300)	Dissolved oxygen, water, unfiltered, % saturation (00301)	pH, water, unfiltered, field, standard units (00400)
12-06-2011 1545	Surface water	Regular	689	5.8	20,500	7.4	79	7.8
02-14-2012 1000	Surface water	Regular	680	8.0	12,000	8.0	78	7.7
05-22-2012 1010	Surface water	Regular	679	33.3	8,570	9.2	91	7.5
08-22-2012 0850	Surface water	Regular	685	31.2	9,900	7.6	75	7.5
08-22-2012 0855	*QC sample - Surface water*	*Replicate*	*685*	*31.2*	*9,900*	*7.6*	*75*	*7.5*

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WATER-QUALITY DATA
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012
Part 2 of 7

[%, percent; $CaCO_3$, calcium carbonate; MF, membrane filter; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; col/100 mL, colonies per 100 milliliters; ft^3/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; <, less than; A, average; E, estimated; k, counts outside acceptable range]

Sample date-time	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)	Dissolved solids dried at 180°C, water, filtered, mg/L (70300)	Dissolved solids, water, filtered, sum of constituents, mg/L (70301)	Dissolved solids, water, filtered, tons per acre-foot (70303)	Hardness, water, mg/L as $CaCO_3$ (00900)	Noncarbonate hardness, water, filtered, field, mg/L as $CaCO_3$ (00904)	Suspended solids, water, unfiltered, mg/L (00530)
12-06-2011 1545	579	13.5	< 2.0	374	359	0.51	214	92	< 15
02-14-2012 1000	686	9.0	< 2.0	437	429	.59	246	109	< 15
05-22-2012 1010	681	9.4	< 2.0	439	427	.60	249	117	< 15
08-22-2012 0850	649	10.1	< 2.0	422	384	.57	229	112	< 15
08-22-2012 0855	*649*	*10.1*	*< 2.0*	*425*	*385*	*.58*	*228*	*111*	*< 15*

WATER-QUALITY DATA
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012
Part 3 of 7

[%, percent; $CaCO_3$, calcium carbonate; MF, membrane filter; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; col/100 mL, colonies per 100 milliliters; ft^3/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; <, less than; A, average; E, estimated; k, counts outside acceptable range]

Sample date-time	Calcium, water, filtered, mg/L (00915)	Calcium, water, unfiltered, recoverable, mg/L (00916)	Magnesium, water, filtered, mg/L (00925)	Magnesium, water, unfiltered, recoverable, mg/L (00927)	Potassium, water, filtered, mg/L (00935)	Sodium adsorption ratio, water, number (00931)	Sodium, water, filtered, mg/L (00930)	Alkalinity, water, filtered, inflection-point, incremental titration method, field, mg/L as $CaCO_3$ (39086)	Bicarbonate, water, filtered, inflection-point, incremental titration method, field, mg/L (00453)
12-06-2011 1545	55.7	52.6	18.2	17.0	2.73	1.30	43.6	122	147
02-14-2012 1000	64.7	61.6	20.6	19.4	3.08	1.54	55.5	137	166
05-22-2012 1010	65.1	62.9	21.0	20.5	2.99	1.55	56.2	A 132	160
08-22-2012 0850	59.8	57.5	19.4	18.1	2.83	1.39	48.2	117	142
08-22-2012 0855	*59.5*	*58.0*	*19.2*	*18.5*	*2.95*	*1.43*	*49.5*	*117*	*142*

09380000 COLORADO RIVER AT LEES FERRY, AZ—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012
Part 4 of 7

[%, percent; $CaCO_3$, calcium carbonate; MF, membrane filter; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; col/100 mL, colonies per 100 milliliters; ft^3/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; <, less than; A, average; E, estimated; k, counts outside acceptable range]

Sample date-time	Carbonate, water, filtered, inflection-point incremental titration method, field, mg/L (00452)	Chloride, water, filtered, mg/L (00940)	Fluoride, water, filtered, mg/L (00950)	Sulfate, water, filtered, mg/L (00945)	Ammonia plus organic nitrogen, water, unfiltered, mg/L as N (00625)	Ammonia, water, filtered, mg/L as N (00608)	Nitrate plus nitrite, water, filtered, mg/L as N (00631)	Organic nitrogen, water, unfiltered, mg/L (00605)	Phosphorus, water, unfiltered, mg/L as P (00665)
12-06-2011 1545	0.8	28.8	0.23	136	0.22	0.011	0.202	0.21	< .01
02-14-2012 1000	.4	39.2	.30	162	.24	< .010	.314	< .24	< .01
05-22-2012 1010	.3	37.5	.24	164	.18	< .010	.254	< .18	.01
08-22-2012 0850	.3	32.8	.21	149	.17	< .010	.252	< .17	< .01
08-22-2012 0855	*.0*	*32.8*	*.21*	*149*	*.19*	*< .010*	*.259*	*< .19*	*< .01*

WATER-QUALITY DATA
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012
Part 5 of 7

[%, percent; $CaCO_3$, calcium carbonate; MF, membrane filter; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; col/100 mL, colonies per 100 milliliters; ft^3/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; <, less than; A, average; E, estimated; k, counts outside acceptable range]

Sample date-time	Total nitrogen, water, unfiltered, mg/L (00600)	Escherichia coli, modified m-TEC MF method, water, col/100 mL (90902)	Barium, water, unfiltered, recoverable, µg/L (01007)	Beryllium, water, filtered, µg/L (01010)	Beryllium, water, unfiltered, recoverable, µg/L (01012)	Cadmium, water, filtered, µg/L (01025)	Cadmium, water, unfiltered, µg/L (01027)	Chromium, water, unfiltered, recoverable, µg/L (01034)	Copper, water, filtered, µg/L (01040)
12-06-2011 1545	0.42	< 1 k	83.0	< .006	< .02	< .016	< .016	< .30	1.0
02-14-2012 1000	.55	< 1 k	86.9	< .006	< .02	< .016	.016	< .30	.85
05-22-2012 1010	.43	E 3 k	86.7	< .006	< .02	.021	< .016	< .30	.93
08-22-2012 0850	.43	< 1 k	82.0	< .006	< .02	< .016	< .016	< .30	3.4
08-22-2012 0855	*.45*	*< 1 k*	*82.3*	*< .006*	*< .02*	*.019*	*< .016*	*< .30*	*3.4*

09380000 COLORADO RIVER AT LEES FERRY, AZ—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012
Part 6 of 7

[%, percent; $CaCO_3$, calcium carbonate; MF, membrane filter; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; col/100 mL, colonies per 100 milliliters; ft^3/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; <, less than; A, average; E, estimated; k, counts outside acceptable range]

Sample date-time	Copper, water, unfiltered, recoverable, µg/L (01042)	Lead, water, filtered, µg/L (01049)	Lead, water, unfiltered, recoverable, µg/L (01051)	Manganese, water, unfiltered, recoverable, µg/L (01055)	Mercury, water, filtered, µg/L (71890)	Mercury, water, unfiltered, recoverable, µg/L (71900)	Zinc, water, filtered, µg/L (01090)	Zinc, water, unfiltered, recoverable, µg/L (01092)	Antimony, water, filtered, µg/L (01095)
12-06-2011 1545	1.4	< .025	0.05	1.5	< .005	< .005	< 1.4	< 3.0	0.236
02-14-2012 1000	< .70	< .025	< .04	1.2	< .005	< .005	< 1.4	< 3.0	.184
05-22-2012 1010	.71	< .025	< .04	1.1	< .005	< .005	< 1.4	< 3.0	.166
08-22-2012 0850	4.2	< .025	< .04	1.2	< .005	< .005	< 1.4	< 3.0	.189
08-22-2012 0855	*4.2*	*< .025*	*< .04*	*1.2*	*< .005*	*< .005*	*< 1.4*	*< 3.0*	*.196*

WATER-QUALITY DATA
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012
Part 7 of 7

[%, percent; $CaCO_3$, calcium carbonate; MF, membrane filter; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; col/100 mL, colonies per 100 milliliters; ft^3/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; <, less than; A, average; E, estimated; k, counts outside acceptable range]

Sample date-time	Antimony, water, unfiltered, µg/L (01097)	Arsenic, water, filtered, µg/L (01000)	Arsenic, water, unfiltered, µg/L (01002)	Boron, water, unfiltered, recoverable, micrograms per liter (01022)	Selenium, water, unfiltered, µg/L (01147)	Suspended sediment concentration, mg/L (80154)	Suspended sediment discharge, tons per day (80155)
12-06-2011 1545	0.27	1.4	1.7	62	1.21	3	166
02-14-2012 1000	.21	1.4	1.5	68	1.32	5	162
05-22-2012 1010	.22	1.4	1.4	78	1.37	1	23
08-22-2012 0850	< .18	1.5	1.5	70	1.19	2	53
08-22-2012 0855	*.18*	*1.5*	*1.5*	*71*	*1.17*	--	--

09380000 COLORADO RIVER AT LEES FERRY, AZ—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012

[e, estimated]

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		October			November			December			January	
1	670	658	663	651	638	643	590	571	585	549	542	546
2	671	653	662	657	636	645	571	556	562	550	543	547
3	671	660	665	656	635	645	566	551	557	548	541	546
4	664	656	660	644	635	638	588	564	576	546	538	543
5	663	654	659	658	638	648	583	561	570	549	539	542
6	679	656	665	667	647	660	571	561	565	565	548	557
7	679	665	671	654	636	645	571	561	566	559	553	556
8	673	655	664	658	634	645	576	558	566	564	552	557
9	657	641	647	644	633	640	579	562	568	561	550	555
10	660	643	653	636	626	630	562	556	559	578	552	562
11	663	650	655	635	619	626	563	557	560	572	546	559
12	659	649	653	623	611	617	562	553	558	563	540	552
13	660	650	655	624	611	619	564	551	557	590	556	580
14	657	648	651	631	621	626	552	546	549	588	566	582
15	651	647	649	630	620	623	555	546	551	e586	e562	e577
16	654	649	651	627	618	622	566	555	558	e596	e578	e588
17	655	646	650	624	616	622	560	542	553	638	596	621
18	650	642	645	617	605	611	547	541	544	e633	e594	e615
19	648	642	644	635	601	617	548	540	543	618	596	610
20	645	637	641	630	621	623	549	538	542	602	591	597
21	647	638	642	634	626	631	561	546	555	e621	e595	e608
22	651	641	646	630	622	627	565	556	561	696	621	661
23	647	640	642	622	609	616	556	545	550	709	648	689
24	648	640	644	627	608	617	556	545	550	674	659	666
25	651	640	643	617	598	606	553	542	547	659	615	643
26	649	634	640	598	592	595	551	543	547	627	614	620
27	637	623	630	601	592	596	551	545	548	618	614	615
28	649	629	637	596	586	592	560	545	552	623	614	619
29	641	634	637	597	586	590	560	547	554	631	619	625
30	646	633	637	588	581	585	551	542	548	634	624	631
31	644	634	639	---	---	---	550	543	547	631	623	627
Month	679	623	650	667	581	623	590	538	556	709	538	593

09380000 COLORADO RIVER AT LEES FERRY, AZ—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012

[e, estimated]

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		February			March			April			May	
1	627	622	625	752	724	739	784	746	763	---	---	---
2	634	623	629	783	734	752	797	747	769	715	696	707
3	636	624	630	788	771	778	753	723	739	720	692	704
4	639	629	634	775	746	755	763	721	740	727	705	715
5	637	616	626	758	733	745	762	749	756	728	685	701
6	620	609	616	742	733	738	766	749	754	718	678	696
7	626	612	621	788	735	760	768	731	751	724	681	700
8	627	615	622	788	776	785	765	734	744	713	668	688
9	651	625	633	776	725	745	765	750	756	702	647	664
10	655	638	650	756	739	747	751	722	739	705	644	677
11	662	633	644	747	737	742	729	724	726	703	645	671
12	648	636	640	743	723	735	746	724	737	698	667	682
13	679	642	660	737	722	729	754	714	735	704	681	692
14	689	659	673	758	737	745	766	717	744	692	646	669
15	693	667	678	753	732	744	768	741	752	682	645	663
16	701	669	688	756	738	744	742	724	734	---	---	---
17	706	694	699	758	744	752	748	732	741	683	619	647
18	702	684	692	784	750	763	746	732	742	701	670	684
19	690	683	688	805	777	790	738	723	730	692	616	644
20	721	685	702	784	757	765	749	732	738	710	616	673
21	712	692	701	775	749	761	749	730	738	712	639	667
22	718	711	714	773	746	759	737	712	723	684	665	676
23	714	702	709	776	760	768	721	705	715	697	655	673
24	735	703	718	780	763	769	722	704	717	721	666	702
25	718	705	712	774	761	766	730	713	721	738	680	715
26	737	714	728	783	746	763	735	710	722	719	671	684
27	728	701	713	783	747	763	733	707	719	721	678	697
28	747	696	716	783	754	762	730	689	708	727	674	698
29	772	731	749	795	782	790	733	699	720	712	680	700
30	---	---	---	784	729	753	728	690	705	692	669	681
31	---	---	---	787	752	770	---	---	---	695	679	685
Month	772	609	673	805	722	757	797	689	736	---	---	---

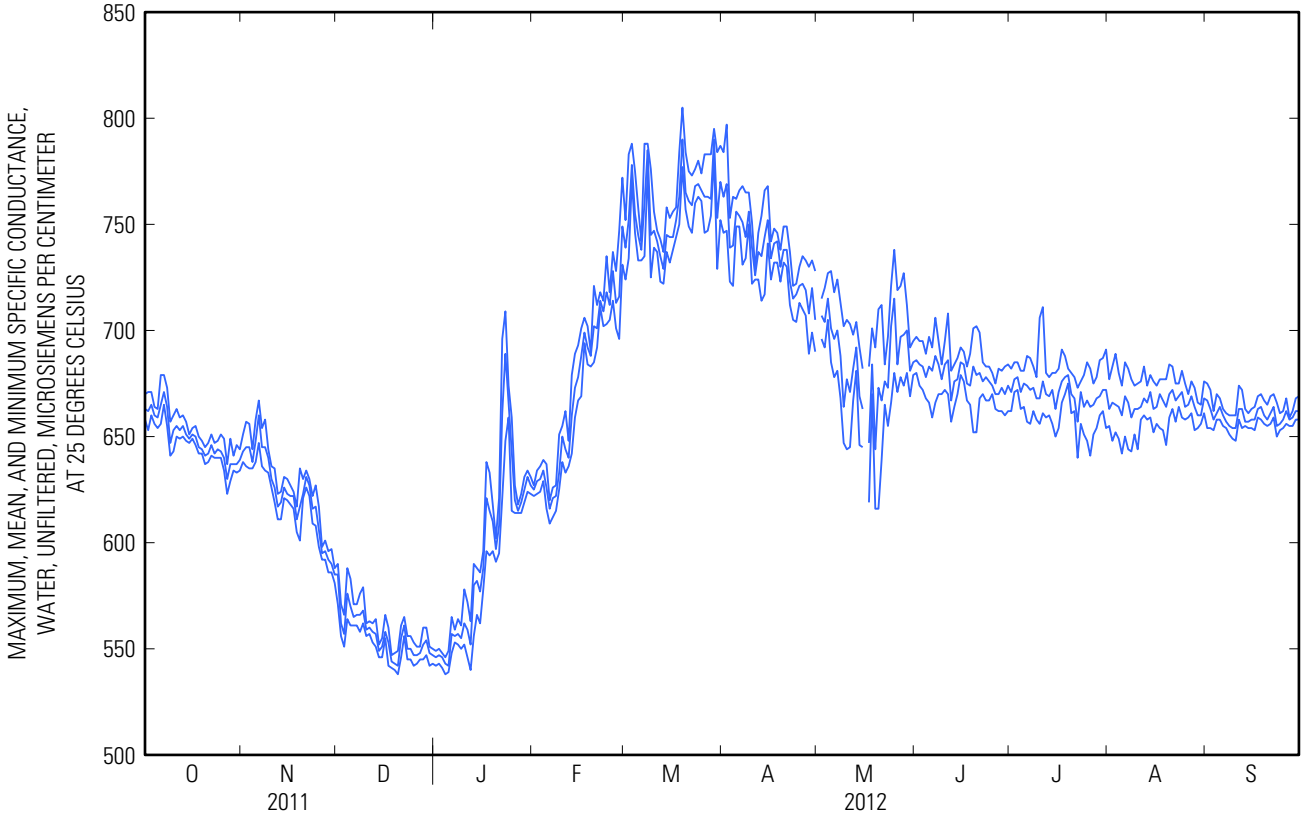
09380000 COLORADO RIVER AT LEES FERRY, AZ—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012

[e, estimated]

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		June			July			August			September	
1	697	680	686	682	662	671	e677	e655	e663	675	654	667
2	695	674	684	685	671	677	e683	e648	e666	672	654	663
3	695	672	683	685	672	678	e689	e652	e665	662	653	658
4	689	668	678	681	663	671	e680	e649	e664	670	658	661
5	697	666	683	681	664	675	e674	e642	e660	668	658	664
6	692	659	681	688	657	674	e685	e650	e669	663	655	660
7	706	666	688	687	656	672	e682	e644	e666	661	654	657
8	695	670	684	683	662	673	e677	e643	e659	660	651	655
9	684	670	677	678	658	668	e674	e651	e663	660	649	654
10	695	672	684	706	656	668	e675	e644	e663	660	648	654
11	708	670	686	711	661	676	676	658	664	674	658	663
12	681	657	667	680	659	670	683	660	668	672	654	663
13	684	664	676	678	660	669	674	658	666	663	655	657
14	687	670	677	680	656	672	679	659	671	661	654	657
15	692	679	685	680	650	663	676	652	663	663	654	658
16	690	676	684	682	654	671	674	656	664	664	653	658
17	683	667	675	691	666	676	677	654	670	669	659	663
18	689	665	674	688	670	678	677	653	667	670	658	664
19	701	652	683	682	675	679	677	646	664	667	656	660
20	702	652	679	680	661	670	684	659	670	665	655	658
21	699	668	680	678	662	668	683	663	672	669	656	661
22	685	670	676	e673	e640	e657	675	657	667	670	659	664
23	683	667	678	676	656	671	675	664	669	666	650	655
24	683	667	676	e679	e651	e664	681	659	671	661	653	656
25	680	670	674	e685	e648	e667	675	658	664	662	654	658
26	675	663	670	682	641	664	670	659	665	668	656	662
27	682	662	670	675	651	665	676	661	669	659	655	658
28	681	662	673	678	654	668	673	653	664	662	655	659
29	683	660	670	686	660	669	666	654	660	668	658	662
30	684	662	674	687	662	672	665	656	660	669	658	662
31	---	---	---	691	654	672	676	661	668	---	---	---
Month	708	652	678	711	640	671	689	642	666	675	648	660

09380000 COLORADO RIVER AT LEES FERRY, AZ—Continued



09380000 COLORADO RIVER AT LEES FERRY, AZ—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		October			November			December			January	
1	14.8	14.0	14.4	14.8	14.1	14.5	14.1	13.8	13.9	11.2	10.9	11.0
2	14.7	14.0	14.3	14.4	13.1	13.9	14.6	14.1	14.5	11.1	10.8	10.9
3	14.7	13.8	14.3	14.5	13.9	14.2	14.5	14.0	14.3	11.1	10.7	10.9
4	14.5	13.9	14.2	15.2	14.4	14.8	14.0	13.2	13.5	11.1	10.8	11.0
5	14.3	13.8	14.0	14.9	13.5	14.2	13.6	13.2	13.4	11.0	10.8	10.9
6	14.3	13.4	13.8	14.0	13.1	13.4	13.6	13.3	13.5	10.9	10.6	10.7
7	14.0	13.4	13.6	14.2	14.0	14.1	13.4	13.2	13.3	10.8	10.5	10.7
8	14.3	13.5	13.9	14.6	14.2	14.4	13.3	13.0	13.1	10.7	10.3	10.5
9	14.9	13.8	14.4	14.9	14.4	14.6	13.2	12.9	13.1	10.7	10.5	10.6
10	14.7	14.1	14.4	15.0	14.5	14.7	13.2	12.9	13.1	10.6	10.3	10.4
11	14.8	14.2	14.5	15.2	14.6	15.0	13.0	12.7	12.9	10.5	10.2	10.4
12	15.0	14.3	14.6	15.4	15.0	15.2	13.0	12.7	12.9	10.4	10.2	10.3
13	14.8	14.2	14.5	15.2	14.6	14.9	13.0	12.8	12.9	10.3	9.9	10.1
14	14.9	14.3	14.6	14.7	14.4	14.5	12.9	12.6	12.8	10.2	9.8	10.0
15	14.9	14.3	14.6	14.7	14.3	14.5	12.8	12.5	12.7	10.3	9.8	10.1
16	14.8	14.2	14.4	14.5	14.1	14.3	12.6	12.3	12.4	10.3	9.9	10.1
17	14.9	14.2	14.5	14.4	13.9	14.2	12.6	12.3	12.4	9.9	9.3	9.6
18	14.7	14.1	14.4	14.8	14.2	14.5	12.6	12.4	12.5	10.1	9.4	9.7
19	14.8	14.0	14.4	14.7	14.4	14.5	12.6	12.4	12.5	10.0	9.6	9.8
20	15.1	14.4	14.7	14.4	13.9	14.2	12.5	12.2	12.4	10.1	9.7	9.9
21	14.8	14.2	14.5	14.2	13.7	13.9	12.2	11.8	12.0	9.9	9.6	9.7
22	14.8	14.2	14.5	14.2	13.8	14.0	11.9	11.6	11.7	9.6	8.9	9.2
23	14.8	14.2	14.5	14.2	13.8	14.0	12.0	11.8	11.9	9.3	8.7	9.0
24	14.6	14.1	14.4	14.1	13.7	13.9	11.9	11.6	11.8	9.6	9.2	9.4
25	14.8	14.4	14.5	14.4	13.9	14.1	11.9	11.6	11.7	9.7	9.2	9.5
26	14.4	14.0	14.2	14.4	14.0	14.2	11.8	11.5	11.7	9.8	9.3	9.6
27	14.8	13.9	14.4	14.1	13.8	14.0	11.6	11.4	11.5	9.8	9.4	9.6
28	14.7	14.3	14.5	14.3	13.8	14.0	11.5	11.2	11.3	9.5	9.1	9.3
29	14.7	14.2	14.4	14.1	13.9	14.0	11.4	11.1	11.3	9.5	9.1	9.3
30	15.0	14.4	14.7	14.1	13.8	14.0	11.4	11.1	11.3	9.5	9.0	9.3
31	14.9	14.5	14.7	---	---	---	11.3	11.1	11.2	9.6	9.2	9.4
Month	15.1	13.4	14.4	15.4	13.1	14.3	14.6	11.1	12.6	11.2	8.7	10.0

09380000 COLORADO RIVER AT LEES FERRY, AZ—Continued

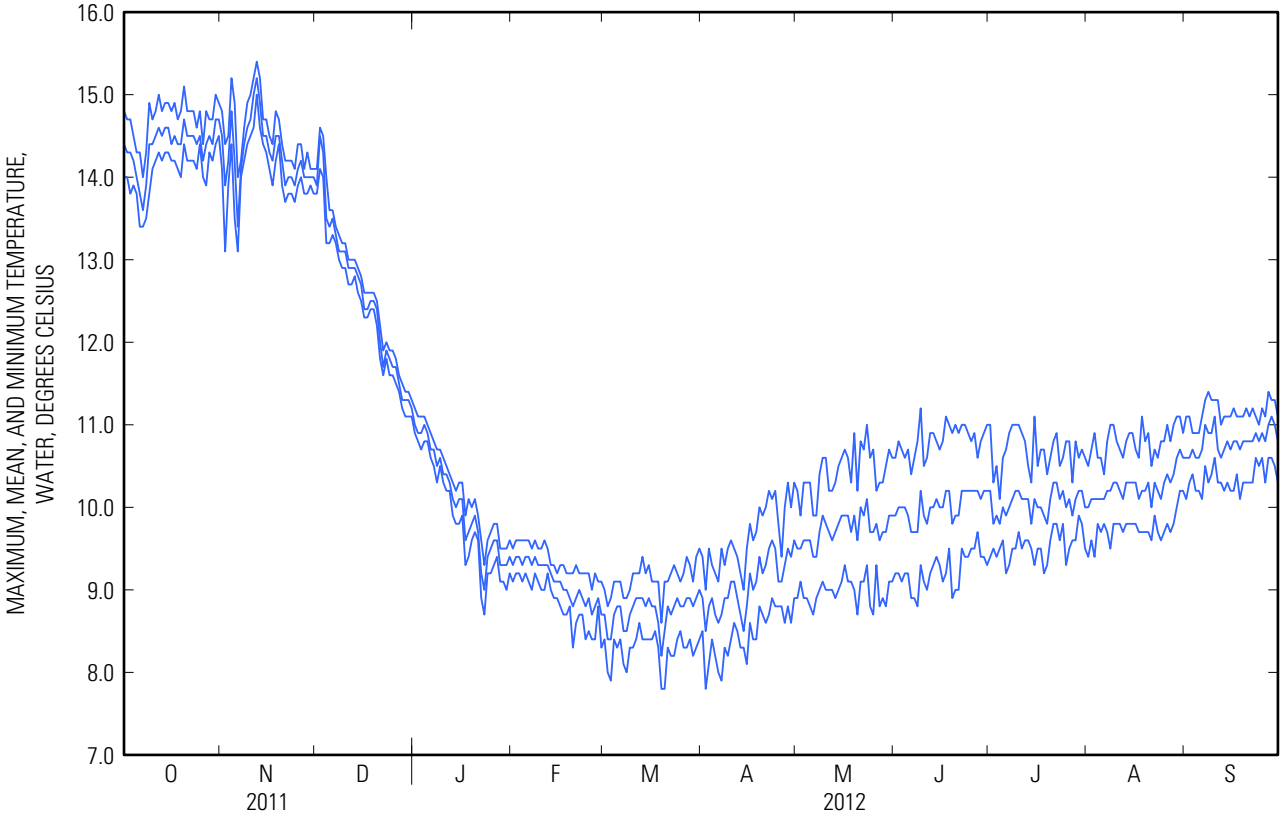
TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		February			March			April			May	
1	9.5	9.1	9.3	9.0	8.4	8.7	9.4	8.5	8.9	10.2	8.9	9.5
2	9.6	9.2	9.4	8.8	8.0	8.4	9.0	7.8	8.5	9.9	9.1	9.5
3	9.6	9.2	9.4	8.9	7.9	8.4	9.5	8.1	8.8	10.3	8.9	9.6
4	9.6	9.1	9.3	9.1	8.4	8.7	9.3	8.4	8.9	10.3	8.9	9.6
5	9.6	9.2	9.4	9.1	8.3	8.8	9.2	8.2	8.7	10.3	8.8	9.6
6	9.6	9.1	9.4	9.1	8.4	8.8	9.1	8.0	8.6	9.9	8.7	9.4
7	9.5	9.0	9.3	8.9	8.1	8.5	9.5	7.9	8.7	9.9	8.9	9.4
8	9.6	9.2	9.4	8.9	8.0	8.5	9.3	8.3	8.9	10.4	9.0	9.7
9	9.5	9.1	9.3	9.0	8.3	8.7	9.5	8.2	8.9	10.6	9.1	9.9
10	9.5	9.0	9.3	9.2	8.3	8.8	9.6	8.4	9.1	10.6	9.0	9.8
11	9.6	9.0	9.3	9.2	8.4	8.9	9.5	8.6	9.1	10.2	9.0	9.7
12	9.5	9.2	9.3	9.2	8.6	8.9	9.4	8.5	8.9	10.2	9.0	9.6
13	9.3	9.0	9.2	9.4	8.4	8.9	9.2	8.3	8.7	10.3	8.9	9.7
14	9.3	8.9	9.1	9.2	8.4	8.8	9.0	8.3	8.5	10.5	9.0	9.8
15	9.2	8.9	9.1	9.3	8.4	8.9	9.5	8.1	8.8	10.6	9.1	9.9
16	9.3	8.8	9.1	9.1	8.4	8.8	9.8	8.6	9.2	10.7	9.3	9.9
17	9.3	8.7	9.0	9.1	8.5	8.8	9.6	8.4	9.0	10.6	9.1	9.9
18	9.2	8.7	9.0	9.1	8.3	8.6	9.7	8.4	9.1	10.3	9.1	9.7
19	9.2	8.8	8.9	8.6	7.8	8.2	10.0	8.8	9.4	10.9	9.0	9.9
20	9.2	8.3	8.8	9.1	7.8	8.5	9.9	8.7	9.2	10.2	8.7	9.6
21	9.3	8.6	8.9	9.1	8.3	8.8	10.0	8.6	9.3	10.8	9.1	10
22	9.2	8.7	9.0	9.2	8.2	8.7	10.2	8.7	9.5	10.7	9.1	9.9
23	9.2	8.7	8.9	9.3	8.2	8.8	10.1	8.9	9.6	11.0	9.3	10.1
24	9.2	8.4	8.8	9.2	8.4	8.9	10.2	8.8	9.5	10.6	8.8	9.7
25	9.2	8.5	8.9	9.1	8.5	8.8	9.8	8.8	9.1	10.7	8.7	9.7
26	9.0	8.4	8.7	9.2	8.3	8.8	9.4	8.8	9.1	10.2	9.3	9.8
27	9.2	8.4	8.8	9.4	8.3	8.9	10.0	8.6	9.3	10.3	8.8	9.6
28	9.1	8.8	8.9	9.3	8.4	8.9	10.3	8.8	9.5	10.3	8.9	9.7
29	9.1	8.3	8.7	9.1	8.2	8.8	10.0	8.6	9.4	10.5	8.8	9.7
30	---	---	---	9.4	8.3	8.9	10.3	8.9	9.6	10.7	9.1	9.9
31	---	---	---	9.5	8.4	9.0	---	---	---	10.6	9.1	9.9
Month	9.6	8.3	9.1	9.5	7.8	8.7	10.3	7.8	9.1	11.0	8.7	9.7

09380000 COLORADO RIVER AT LEES FERRY, AZ—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		June			July			August			September	
1	10.6	9.2	9.9	11.0	9.4	10.2	10.5	9.4	10	11.1	10.1	10.6
2	10.8	9.2	10	10.3	9.5	9.8	10.7	9.6	10.1	11.1	10.3	10.6
3	10.7	9.1	10	10.5	9.4	9.9	10.9	9.4	10.1	10.9	10.4	10.7
4	10.6	9.2	10	10.1	9.5	9.8	10.6	9.8	10.1	10.9	10.2	10.6
5	10.7	9.2	9.9	10.6	9.6	10.0	10.6	9.7	10.1	10.9	10.2	10.6
6	10.4	8.9	9.7	10.7	9.2	9.9	10.4	9.8	10.1	11.1	10.1	10.7
7	10.6	8.9	9.7	10.9	9.3	10.0	10.8	9.7	10.2	11.3	10.5	11.0
8	10.8	8.8	9.7	11.0	9.5	10.1	11.0	9.5	10.2	11.4	10.3	10.9
9	11.2	9.3	10.2	11.0	9.5	10.2	11.0	9.8	10.3	11.3	10.4	10.9
10	10.5	9.1	9.9	11.0	9.7	10.2	10.8	9.8	10.3	11.3	10.6	11.1
11	10.6	9.0	9.8	10.9	9.5	10.1	10.7	9.8	10.2	11.3	10.3	10.7
12	10.9	9.2	10.0	10.8	9.6	10.1	10.6	9.7	10.1	11.0	10.3	10.6
13	10.9	9.3	10.0	10.5	9.6	10.1	10.8	9.8	10.3	11.1	10.2	10.7
14	10.8	9.4	10.1	10.3	9.5	9.8	10.9	9.8	10.3	11.1	10.3	10.8
15	10.7	9.3	10	11.1	9.3	10.1	10.9	9.8	10.3	11.1	10.2	10.7
16	10.8	9.1	10	10.5	9.5	10	10.7	9.8	10.3	11.2	10.2	10.8
17	11.1	9.2	10.2	10.7	9.5	10.0	10.6	9.7	10.1	11.1	10.4	10.8
18	11.0	9.5	10.2	10.7	9.2	9.9	11.1	9.7	10.2	11.1	10.1	10.7
19	10.9	8.9	9.8	10.4	9.3	9.8	10.8	9.7	10.2	11.1	10.3	10.8
20	11.0	9.0	9.9	10.6	9.6	10.1	10.9	9.7	10.3	11.2	10.3	10.8
21	10.9	9.0	9.9	10.8	9.8	10.3	10.5	9.6	10.0	11.1	10.3	10.8
22	11.0	9.5	10.2	10.9	9.8	10.3	10.7	9.9	10.3	11.2	10.3	10.8
23	11.0	9.4	10.2	10.5	9.6	10.1	10.6	9.7	10.2	11.1	10.6	10.9
24	10.9	9.4	10.2	10.6	9.8	10.2	10.8	9.6	10.1	11.0	10.5	10.8
25	10.8	9.5	10.2	10.8	9.3	10.0	10.8	9.7	10.3	11.2	10.6	10.9
26	10.9	9.5	10.2	10.8	9.5	10.1	11.0	9.8	10.4	11.1	10.3	10.8
27	10.6	9.7	10.2	10.3	9.6	9.9	10.8	9.7	10.3	11.4	10.6	11.0
28	10.8	9.4	10.1	10.8	9.6	10.1	11.0	9.8	10.4	11.3	10.6	11.1
29	10.9	9.4	10.2	10.6	9.9	10.2	11.1	10.0	10.6	11.3	10.5	11.0
30	11.0	9.3	10.2	10.7	9.8	10.2	11.1	10.2	10.7	11.1	10.3	10.8
31	---	---	---	10.6	9.5	10.0	10.9	10.2	10.6	---	---	---
Month	11.2	8.8	10.0	11.1	9.2	10.0	11.1	9.4	10.2	11.4	10.1	10.8

	Max	Min	Mean
Year	15.4	7.8	10.8

09380000 COLORADO RIVER AT LEES FERRY, AZ—Continued