

Water-Data Report 2011

08121000 Colorado River at Colorado City, TX

Upper Colorado Basin
Colorado Headwaters Subbasin

LOCATION.--Lat 32°23'33", long 100°52'42" referenced to North American Datum of 1927, Mitchell County, TX, Hydrologic Unit 12080002, on right bank at Colorado City, 3,517 ft upstream from bridge on State Highway 377, 4,100 ft upstream from the Texas and Pacific Railroad Company bridge, 1.3 mi downstream from bridge on Interstate Highway 20 and U.S. Highway 80, 1.6 mi upstream from Lone Wolf Creek, and at mile 796.3.

DRAINAGE AREA.--3,966 mi² of which 2,381 mi² probably is noncontributing.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--Nov. 1923 to Aug. 1925 (published as "at Colorado"), May 1946 to current year.

PERIOD OF RECORD, Water-Quality.--

CHEMICAL DATA: May 1946 to Sept. 1954, Nov. 1956 to Oct. 2003.

BIOCHEMICAL DATA: July 1960 to Sept. 1973.

RADIOCHEMICAL DATA: Jan. 1981 to May 1981.

PERIOD OF DAILY RECORD, Water-Quality.--

SPECIFIC CONDUCTANCE: May 1946 to Sept. 1954, Nov. 1956 to Sept. 2004.

WATER TEMPERATURE: Nov. 1952 to Sept. 1954, Nov. 1956 to Sept. 2004.

REVISED RECORDS.--WSP 1512: 1946(M). WDR TX-81-3: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 2,030.16 ft above NGVD of 1929. Nov. 28, 1923, to Aug. 31, 1925, nonrecording gage at site 1.4 mi downstream at different datum. May 9 to Aug. 5, 1946, nonrecording gage at site 185 ft upstream at present datum. Satellite telemeter at station.

REMARKS.--Records poor. Since water year 1952, at least 10% of contributing drainage area has been regulated. The Colorado River Municipal Water District diverts low flow into an off channel reservoir 3 miles upstream for brine disposal. There are numerous diversions from Lake J.B. Thomas for municipal use and oil field operations. No flow at times. Some records listed in the period of record may not be available electronically.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--5 years (water years 1947-51) prior to completion of Lake J.B. Thomas, 102 ft³/s (73,660 acre-ft/yr).

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1910, 35.9 ft, June 20, 1939, present site and datum, based on floodmarks 1,000 ft upstream and 3,740 ft downstream from gage; discharge, 66,000 ft³/s, by slope-area measurement of peak flow at site 2.5 mi upstream from gage.

EXTREMES FOR PERIOD PRIOR TO REGULATION.--WATER YEARS 1947-1951: Maximum discharge, 24,900 ft³/s, July 6, 1948, gage height, 22.37 ft, from floodmark; no flow at times.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 277 ft³/s, Aug. 14, gage height, 7.42 ft; minimum daily discharge, 0.00 ft³/s, on many days.

08121000 Colorado River at Colorado City, TX—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011
DAILY MEAN VALUES

[e, estimated]

| Day | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep |
|--------------|-------|-------|-------|-------|------|------|------|------|------|------|--------|------|
| 1 | 12 | 0.43 | 0.60 | 0.30 | 0.17 | 0.21 | 0.24 | 0.07 | 0.01 | 0.00 | 0.00 | 0.01 |
| 2 | 2.6 | 0.43 | 0.70 | 0.35 | 0.18 | 0.28 | 0.33 | 0.08 | 0.01 | 0.00 | 0.00 | 0.03 |
| 3 | 0.51 | 0.43 | 0.85 | 0.32 | 0.16 | 0.36 | 0.36 | 0.07 | 0.01 | 0.00 | 0.00 | 0.01 |
| 4 | 0.47 | 0.43 | 0.79 | 0.28 | 0.08 | 0.19 | 0.23 | 0.06 | 0.01 | 0.00 | 0.00 | 0.02 |
| 5 | 0.49 | 0.43 | 0.68 | 0.28 | 0.18 | 0.22 | 0.24 | 0.06 | 0.01 | 0.00 | 0.00 | 0.04 |
| 6 | 0.54 | 0.42 | 1.7 | 0.29 | 0.05 | 0.24 | 0.30 | 0.05 | 0.01 | 0.00 | 0.00 | 0.04 |
| 7 | 0.57 | 0.42 | 2.3 | 0.26 | 0.05 | 0.34 | 0.20 | 0.04 | 0.00 | 0.00 | 0.00 | 0.03 |
| 8 | 0.54 | 0.41 | 1.2 | 0.29 | 0.11 | 0.15 | 0.22 | 0.03 | 0.00 | 0.00 | 0.00 | 0.02 |
| 9 | 0.53 | 0.41 | 0.74 | 0.26 | 0.14 | 0.19 | 0.19 | 0.00 | 0.02 | 0.00 | 0.00 | 0.01 |
| 10 | 0.55 | 0.38 | 0.43 | 0.29 | 0.17 | 0.22 | 0.15 | 0.01 | 0.04 | 0.00 | 0.00 | 0.01 |
| 11 | 0.57 | 0.39 | 0.39 | 0.37 | 0.18 | 0.26 | 0.14 | 0.02 | 0.02 | 0.00 | 0.00 | 0.01 |
| 12 | 0.51 | 0.40 | 0.40 | 0.40 | 0.21 | 0.23 | 0.16 | 0.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 13 | 0.48 | 0.38 | 0.43 | 0.33 | 0.21 | 0.22 | 0.14 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 |
| 14 | 0.47 | 0.47 | 0.42 | 0.27 | 0.13 | 0.32 | 0.11 | 0.03 | 0.00 | 0.00 | 203 | 0.00 |
| 15 | 0.49 | 0.43 | 0.43 | e0.29 | 0.22 | 0.29 | 0.14 | 0.04 | 0.00 | 0.00 | 58 | 0.01 |
| 16 | 0.45 | 0.40 | 0.39 | e0.31 | 0.26 | 0.28 | 0.17 | 0.03 | 0.00 | 0.00 | 7.3 | 0.01 |
| 17 | 0.45 | 0.43 | 0.37 | e0.33 | 0.24 | 0.30 | 0.15 | 0.01 | 0.00 | 0.00 | 4.3 | 0.01 |
| 18 | 0.45 | 0.51 | 0.37 | e0.35 | 0.19 | 0.19 | 0.09 | 0.00 | 0.00 | 0.00 | 0.53 | 0.00 |
| 19 | 0.46 | 0.71 | 0.39 | 0.36 | 0.19 | 0.26 | 0.06 | 0.01 | 0.00 | 0.00 | 0.27 | 0.00 |
| 20 | 0.47 | 0.70 | 0.39 | 0.32 | 0.26 | 0.28 | 0.07 | 0.05 | 0.00 | 0.00 | 0.18 | 0.00 |
| 21 | 0.46 | 0.71 | 0.35 | 0.45 | 0.17 | 0.26 | 0.09 | 0.05 | 0.00 | 0.00 | 0.15 | 0.00 |
| 22 | 0.45 | 0.67 | 0.32 | 0.36 | 0.23 | 0.26 | 0.07 | 0.03 | 0.00 | 0.00 | 0.13 | 0.00 |
| 23 | 0.44 | 0.71 | 0.34 | 0.21 | 0.27 | 0.20 | 0.06 | 0.01 | 0.00 | 0.00 | 0.09 | 0.00 |
| 24 | 0.49 | 0.89 | 0.81 | 0.28 | 0.18 | 0.23 | 0.08 | 0.01 | 0.00 | 0.00 | 0.06 | 0.00 |
| 25 | 0.52 | 0.76 | 0.54 | 0.20 | 0.16 | 0.25 | 0.04 | 0.02 | 0.00 | 0.00 | 0.13 | 0.00 |
| 26 | 0.45 | 0.76 | 0.45 | 0.18 | 0.30 | 0.21 | 0.04 | 0.02 | 0.00 | 0.00 | 0.17 | 0.00 |
| 27 | 0.43 | 0.74 | 0.41 | 0.29 | 0.32 | 0.32 | 0.04 | 0.01 | 0.00 | 0.00 | 0.11 | 0.00 |
| 28 | 0.45 | 0.75 | 0.35 | 0.33 | 0.35 | 0.27 | 0.09 | 0.01 | 0.00 | 0.00 | 0.07 | 0.00 |
| 29 | 0.46 | 0.76 | 0.42 | 0.34 | --- | 0.28 | 0.08 | 0.01 | 0.00 | 0.00 | 0.04 | 0.00 |
| 30 | 0.48 | 0.64 | 0.38 | 0.17 | --- | 0.30 | 0.06 | 0.02 | 0.00 | 0.00 | 0.02 | 0.00 |
| 31 | 0.46 | --- | 0.27 | 0.13 | --- | 0.29 | --- | 0.01 | --- | 0.00 | 0.01 | --- |
| Total | 28.69 | 16.40 | 18.61 | 9.19 | 5.36 | 7.90 | 4.34 | 0.93 | 0.14 | 0.00 | 274.56 | 0.26 |
| Mean | 0.93 | 0.55 | 0.60 | 0.30 | 0.19 | 0.25 | 0.14 | 0.03 | 0.00 | 0.00 | 8.86 | 0.01 |
| Max | 12 | 0.89 | 2.3 | 0.45 | 0.35 | 0.36 | 0.36 | 0.08 | 0.04 | 0.00 | 203 | 0.04 |
| Min | 0.43 | 0.38 | 0.27 | 0.13 | 0.05 | 0.15 | 0.04 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ac-ft | 57 | 33 | 37 | 18 | 11 | 16 | 8.6 | 1.8 | 0.3 | 0.00 | 545 | 0.5 |

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1952 - 2011, BY WATER YEAR (WY)²

| | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep |
|-------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Mean | 30.4 | 11.1 | 4.63 | 3.60 | 8.15 | 17.5 | 30.1 | 79.8 | 68.5 | 17.4 | 35.8 | 46.2 |
| Max | 339 | 267 | 49.6 | 33.6 | 99.0 | 595 | 332 | 1,047 | 745 | 197 | 684 | 817 |
| (WY) | (1987) | (2005) | (1992) | (1992) | (1957) | (2000) | (1957) | (1957) | (1982) | (1961) | (1971) | (1962) |
| Min | 0.00 | 0.00 | 0.03 | 0.05 | 0.06 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| (WY) | (1969) | (1956) | (1955) | (1971) | (1971) | (1956) | (1955) | (1970) | (1953) | (1974) | (1954) | (1954) |

08121000 Colorado River at Colorado City, TX—Continued

SUMMARY STATISTICS

| | Calendar Year 2010 | Water Year 2011 | Water Years 1952 - 2011 ^Z |
|---------------------------------|--------------------|-----------------|--------------------------------------|
| Annual total | 1,804.25 | 366.38 | |
| Annual mean | 4.94 | 1.00 | 29.5 |
| Highest annual mean | | | 143 1957 |
| Lowest annual mean | | | 0.34 1998 |
| Highest daily mean | 378 Sep 27 | 203 Aug 14 | 9,560 May 25, 1957 |
| Lowest daily mean | 0.00 Jun 12 | 0.00 May 9 | 0.00 Oct 1, 1951 |
| Annual seven-day minimum | 0.00 Sep 15 | 0.00 Jun 12 | 0.00 Oct 1, 1951 |
| Maximum peak flow | | 277 Aug 14 | 17,700 Mar 24, 2000 |
| Maximum peak stage | | 7.42 Aug 14 | 28.58 Mar 24, 2000 |
| Annual runoff (ac-ft) | 3,580 | 727 | 21,360 |
| 10 percent exceeds | 0.96 | 0.52 | 21 |
| 50 percent exceeds | 0.27 | 0.18 | 0.41 |
| 90 percent exceeds | 0.04 | 0.00 | 0.00 |

^Z Period of regulated streamflow.

