

**USGS Water-Year Summary**

[**11290000**](https://waterdata.usgs.gov/nwis/inventory?agency_code=USGS&site_no=11290000) **TUOLUMNE R**

**A MODESTO CA**

**LOCATION** - Lat 37°37'38", long 120°59'00" referenced to North American Datum of 1927, in NW 1/4 SE 1/4 sec.33, T.3 S., R.9 E., Stanislaus County, CA, Hydrologic Unit 18040002, on left bank, 150 ft downstream from Dry Creek, 0.2 mi upstream from 9th Street Bridge.

**DRAINAGE AREA** - 1,884 mi².

**SURFACE-WATER RECORDS**

**PERIOD OF RECORD** - 1878-84, 1891-94, 1897 (gage heights only), January 1895 to December 1896, April 1940 to current year. Monthly discharge only for some periods, published in WSP 1315-A. Water-quality data for the period October 1985 to March 1987 are available in U.S. Geological Survey Open-File Report 88-479. Water-quality data for the period April 1987 to September 1988 are available in files of the U.S. Geological Survey.

**GAGE** - Water-stage recorder and crest-stage gage. Datum of gage is NGVD of 1929 (levels by Modesto Irrigation District). Prior to July 11, 1947, at site 2,600 ft downstream at same datum; July 11, 1947, to Nov. 16, 1953, at site 1,900 ft downstream at same datum. Nov. 17, 1953 to Apr. 28, 2004, at site 900 ft downstream, at same datum. Gage was reestablished on May 28, 2010, 1,000 ft upstream at same datum.

**REMARKS** - Records for 2016, 2015, and 2014 water years were rated fair. Flow regulated by reservoirs and powerplants upstream from station. Several major diversions upstream of station, including Modesto and Turlock Canals (stations 11289000 and 11289500). See REMARKS for Tuolumne River below La Grange Dam (station 11289650) and schematic diagram of Tuolumne River Basin available from the California Water Science Center.

**EXTREMES FOR PERIOD OF RECORD** - (Water years 1896, and since water year 1941) Maximum discharge observed, 57,000 ft³/s, Dec. 9, 1950, elevation, 69.19 ft, maximum gage height, 71.21 ft, Jan. 4, 1997 (backwater caused by debris on railroad trestle 2,500 ft downstream of gage); minimum daily, 48 ft³/s, Sept. 9, 16, 2015.

|  |
| --- |
| **00060, Discharge, cubic feet per second,** |
| **YEAR** | **Monthly mean in ft3/s   (Calculation Period: 1895-01-01 -> 2016-11-30)**  |
| **Jan** | **Feb** | **Mar** | **Apr** | **May** | **Jun** | **Jul** | **Aug** | **Sep** | **Oct** | **Nov** | **Dec** |
| **1895** | 4,825 | 3,912 | 3,165 | 5,825 | 11,790 | 9,160 | 3,831 | 847.8 | 615.2 | 180.0 | 255.0 | 283.1 |
| **1896** | 3,078 | 1,183 | 2,726 | 3,577 | 5,182 | 11,650 | 4,122 | 575.6 | 574.7 | 224.4 | 1,210 | 1,029 |
| **1940** |  |  |  | 3,565 | 3,458 | 2,954 | 360.1 | 339.5 | 815.2 | 665.2 | 1,024 | 1,405 |
| **1941** | 1,293 | 2,270 | 4,227 | 3,592 | 5,066 | 6,441 | 1,699 | 692.0 | 675.2 | 919.9 | 1,034 | 1,802 |
| **1942** | 2,424 | 2,335 | 2,358 | 2,969 | 4,295 | 7,665 | 2,363 | 654.6 | 849.6 | 988.2 | 906.0 | 2,223 |
| **1943** | 1,377 | 3,454 | 6,368 | 3,929 | 4,174 | 3,489 | 511.6 | 483.0 | 551.5 | 908.6 | 1,058 | 1,315 |
| **1944** | 898.0 | 866.2 | 1,239 | 580.2 | 1,034 | 632.2 | 322.7 | 302.7 | 313.8 | 750.5 | 1,146 | 1,799 |
| **1945** | 1,110 | 3,210 | 2,723 | 1,942 | 2,240 | 3,641 | 1,092 | 359.0 | 517.6 | 798.9 | 1,353 | 2,086 |
| **1946** | 2,350 | 1,486 | 919.5 | 2,006 | 4,700 | 1,951 | 367.6 | 326.9 | 302.8 | 750.6 | 1,511 | 1,418 |
| **1947** | 863.5 | 810.6 | 738.3 | 336.3 | 281.9 | 256.0 | 222.6 | 245.7 | 635.4 | 787.4 | 1,107 | 843.9 |
| **1948** | 692.3 | 263.0 | 264.0 | 325.2 | 1,414 | 3,033 | 514.3 | 295.8 | 375.3 | 792.8 | 865.8 | 878.3 |
| **1949** | 814.4 | 636.2 | 1,377 | 835.3 | 443.8 | 314.6 | 257.1 | 251.3 | 236.3 | 744.9 | 1,024 | 969.1 |
| **1950** | 825.6 | 1,304 | 742.6 | 2,509 | 983.8 | 1,687 | 299.1 | 270.7 | 264.5 | 645.1 | 4,124 | 8,677 |
| **1951** | 2,939 | 2,634 | 2,794 | 523.7 | 2,675 | 1,686 | 328.9 | 295.7 | 268.1 | 793.7 | 776.5 | 1,608 |
| **1952** | 3,270 | 3,026 | 4,594 | 6,579 | 8,011 | 5,049 | 568.3 | 336.3 | 405.0 | 715.8 | 1,150 | 1,974 |
| **1953** | 1,879 | 1,582 | 401.9 | 383.7 | 471.8 | 1,982 | 969.2 | 311.0 | 288.8 | 775.7 | 762.2 | 827.1 |
| **1954** | 863.4 | 827.4 | 2,216 | 1,383 | 1,989 | 316.8 | 244.2 | 244.4 | 250.0 | 480.4 | 636.6 | 742.1 |
| **1955** | 1,133 | 1,200 | 548.5 | 282.3 | 259.6 | 240.7 | 210.7 | 216.0 | 216.7 | 320.3 | 550.6 | 4,969 |
| **1956** | 8,054 | 3,658 | 2,069 | 2,015 | 4,520 | 4,137 | 1,046 | 877.9 | 771.4 | 743.4 | 1,206 | 1,607 |
| **1957** | 899.4 | 612.6 | 1,149 | 411.1 | 517.9 | 747.4 | 275.0 | 280.4 | 294.7 | 1,025 | 1,610 | 1,712 |
| **1958** | 1,019 | 1,706 | 4,781 | 7,627 | 5,394 | 3,474 | 1,298 | 375.2 | 751.8 | 1,461 | 2,650 | 1,539 |
| **1959** | 1,012 | 1,730 | 659.9 | 288.1 | 276.2 | 228.9 | 204.4 | 183.8 | 241.1 | 447.3 | 636.6 | 725.8 |
| **1960** | 762.0 | 720.9 | 333.0 | 247.0 | 222.7 | 181.4 | 174.2 | 181.3 | 218.5 | 392.8 | 502.8 | 691.2 |
| **1961** | 650.4 | 382.2 | 198.7 | 178.8 | 161.3 | 143.1 | 123.0 | 132.7 | 138.2 | 139.1 | 217.2 | 172.9 |
| **1962** | 163.6 | 1,642 | 2,006 | 525.6 | 261.7 | 234.1 | 232.2 | 260.3 | 285.3 | 599.4 | 886.1 | 1,531 |
| **1963** | 869.4 | 3,429 | 934.3 | 3,010 | 2,040 | 2,207 | 623.0 | 254.4 | 264.3 | 1,055 | 2,189 | 2,340 |
| **1964** | 1,152 | 696.9 | 250.3 | 234.7 | 218.5 | 220.2 | 174.5 | 168.3 | 215.4 | 346.1 | 1,261 | 2,922 |
| **1965** | 5,268 | 3,510 | 1,156 | 3,495 | 1,128 | 1,631 | 615.8 | 352.9 | 563.6 | 1,850 | 2,015 | 2,564 |
| **1966** | 1,791 | 1,736 | 930.5 | 294.5 | 240.1 | 208.1 | 185.5 | 181.4 | 204.8 | 519.9 | 632.2 | 2,742 |
| **1967** | 1,313 | 2,596 | 3,302 | 5,496 | 3,508 | 5,161 | 3,241 | 282.9 | 312.7 | 787.8 | 1,922 | 1,460 |
| **1968** | 1,067 | 1,116 | 1,521 | 289.8 | 227.7 | 195.3 | 180.5 | 189.4 | 196.7 | 369.1 | 468.2 | 1,602 |
| **1969** | 5,703 | 7,606 | 4,468 | 4,640 | 6,085 | 7,238 | 1,402 | 301.5 | 666.2 | 1,668 | 1,846 | 905.0 |
| **1970** | 4,232 | 2,835 | 2,011 | 347.7 | 556.2 | 1,023 | 324.2 | 231.6 | 234.3 | 246.4 | 346.7 | 1,878 |
| **1971** | 1,851 | 1,697 | 873.9 | 546.5 | 289.9 | 245.8 | 212.6 | 227.0 | 240.5 | 626.1 | 533.6 | 749.3 |
| **1972** | 618.2 | 777.7 | 579.4 | 359.4 | 208.2 | 175.5 | 162.2 | 168.9 | 185.4 | 446.8 | 715.0 | 751.8 |
| **1973** | 899.2 | 1,107 | 800.7 | 362.6 | 289.5 | 296.1 | 236.8 | 242.0 | 238.8 | 1,028 | 741.6 | 799.8 |
| **1974** | 1,709 | 1,095 | 1,100 | 528.7 | 293.2 | 321.7 | 329.6 | 529.3 | 1,500 | 1,969 | 1,935 | 1,800 |
| **1975** | 2,733 | 2,013 | 1,711 | 650.7 | 534.6 | 327.9 | 316.5 | 313.7 | 798.5 | 1,927 | 1,903 | 2,296 |
| **1976** | 1,898 | 735.1 | 774.8 | 351.9 | 207.4 | 173.9 | 162.3 | 177.2 | 206.5 | 300.5 | 363.5 | 342.8 |
| **1977** | 285.5 | 278.0 | 351.6 | 169.0 | 138.3 | 94.5 | 78.8 | 67.5 | 72.6 | 78.2 | 93.1 | 109.8 |
| **1978** | 290.9 | 420.3 | 625.7 | 1,505 | 3,255 | 516.4 | 226.0 | 231.2 | 435.9 | 704.6 | 1,234 | 1,186 |
| **1979** | 2,882 | 3,637 | 3,617 | 1,148 | 245.6 | 237.9 | 342.5 | 357.3 | 435.6 | 1,181 | 1,079 | 1,218 |
| **1980** | 4,962 | 5,601 | 5,845 | 2,579 | 2,622 | 2,170 | 425.4 | 276.8 | 1,544 | 2,026 | 1,715 | 1,693 |
| **1981** | 2,111 | 1,442 | 1,180 | 461.8 | 253.9 | 263.4 | 247.7 | 246.1 | 239.8 | 378.9 | 495.7 | 719.4 |
| **1982** | 1,552 | 3,114 | 4,866 | 7,821 | 6,378 | 2,279 | 2,171 | 932.2 | 2,692 | 3,693 | 2,078 | 5,431 |
| **1983** | 5,356 | 6,145 | 7,658 | 9,268 | 10,420 | 5,683 | 4,244 | 2,225 | 4,041 | 4,760 | 2,089 | 4,282 |
| **1984** | 5,963 | 4,654 | 3,062 | 944.5 | 627.4 | 311.7 | 300.0 | 308.6 | 387.7 | 1,015 | 1,167 | 2,134 |
| **1985** | 1,567 | 1,374 | 756.4 | 390.3 | 335.6 | 323.0 | 272.4 | 257.1 | 256.3 | 463.8 | 560.3 | 614.4 |
| **1986** | 607.0 | 2,517 | 6,182 | 5,130 | 2,769 | 1,725 | 355.7 | 347.1 | 937.9 | 1,261 | 1,212 | 2,070 |
| **1987** | 917.2 | 474.2 | 742.5 | 752.2 | 436.2 | 202.7 | 174.5 | 195.7 | 182.5 | 269.3 | 304.7 | 301.2 |
| **1988** | 300.0 | 230.1 | 238.8 | 370.0 | 143.8 | 112.1 | 97.3 | 104.2 | 110.5 | 134.7 | 162.1 | 185.4 |
| **1989** | 185.3 | 169.9 | 260.4 | 357.1 | 168.9 | 140.9 | 138.0 | 143.7 | 171.5 | 245.8 | 298.5 | 265.8 |
| **1990** | 244.1 | 266.2 | 261.4 | 270.7 | 232.1 | 119.5 | 118.1 | 135.8 | 147.5 | 197.4 | 197.1 | 175.8 |
| **1991** | 153.9 | 166.0 | 374.0 | 386.0 | 425.9 | 103.8 | 104.9 | 116.1 | 119.3 | 155.7 | 200.3 | 182.2 |
| **1992** | 193.8 | 462.7 | 256.6 | 319.1 | 354.5 | 110.7 | 97.1 | 96.8 | 117.9 | 160.8 | 208.8 | 203.5 |
| **1993** | 752.7 | 449.6 | 294.4 | 824.4 | 733.9 | 479.6 | 321.9 | 494.8 | 998.1 | 742.8 | 394.3 | 439.7 |
| **1994** | 623.3 | 416.4 | 322.3 | 521.0 | 440.7 | 142.6 | 115.2 | 125.1 | 124.3 | 173.2 | 237.3 | 250.2 |
| **1995** | 1,586 | 4,257 | 5,655 | 7,163 | 7,862 | 5,481 | 3,291 | 1,437 | 2,365 | 1,794 | 438.6 | 414.8 |
| **1996** | 673.7 | 5,500 | 5,328 | 3,019 | 4,097 | 795.3 | 342.7 | 444.9 | 518.5 | 610.8 | 508.5 | 4,996 |
| **1997** | 15,500 | 8,782 | 2,957 | 1,606 | 1,145 | 449.7 | 480.3 | 455.3 | 465.9 | 724.2 | 488.9 | 459.2 |
| **1998** | 2,713 | 7,516 | 5,665 | 5,767 | 3,640 | 4,468 | 2,985 | 1,210 | 1,637 | 1,153 | 519.7 | 1,308 |
| **1999** | 1,353 | 5,178 | 3,747 | 2,162 | 1,831 | 476.4 | 471.0 | 440.0 | 494.6 | 583.9 | 463.3 | 422.3 |
| **2000** | 462.1 | 2,590 | 4,783 | 1,835 | 1,413 | 587.5 | 596.1 | 979.1 | 901.8 | 718.1 | 489.5 | 450.1 |
| **2001** | 543.3 | 1,372 | 996.9 | 717.8 | 917.9 | 246.1 | 252.7 | 275.7 | 286.0 | 334.3 | 273.2 | 408.1 |
| **2002** | 453.1 | 261.9 | 308.1 | 725.0 | 617.6 | 240.0 | 237.8 | 264.3 | 237.0 | 339.0 | 285.6 | 329.3 |
| **2003** | 297.8 | 275.0 | 298.7 | 798.8 | 625.1 | 344.4 | 342.1 | 371.5 | 392.9 | 407.5 | 317.0 | 323.3 |
| **2004** | 348.0 | 466.1 | 1,287 | 1,280 | 582.4 | 254.5 | 243.4 | 240.8 | 227.4 | 365.9 | 248.8 | 240.6 |
| **2005** | 854.4 | 2,269 | 4,467 | 4,934 | 4,862 | 3,954 | 2,157 | 1,007 | 536.1 | 575.7 | 455.2 | 1,267 |
| **2006** | 4,794 | 2,889 | 4,737 | 8,264 | 7,964 | 4,720 | 1,186 | 799.4 | 635.6 | 633.0 | 474.3 | 464.1 |
| **2007** | 461.5 | 526.4 | 539.0 | 630.7 | 560.4 | 253.5 | 248.9 | 241.1 | 214.7 | 242.5 | 230.4 | 244.0 |
| **2008** | 510.2 | 424.9 | 289.0 | 606.3 | 839.8 | 201.0 | 191.6 | 189.5 | 181.2 | 246.5 | 215.2 | 220.2 |
| **2009** | 222.3 | 265.1 | 285.1 | 437.2 | 790.8 | 249.3 | 223.0 | 184.4 | 194.8 | 450.9 | 307.4 | 311.2 |
| **2010** | 357.5 | 342.5 | 365.9 | 1,276 | 2,689 | 2,585 | 1,073 | 445.1 | 435.2 | 603.4 | 460.6 | 4,689 |
| **2011** | 4,648 | 3,327 | 5,606 | 7,413 | 3,681 | 5,153 | 2,383 | 2,415 | 1,399 | 620.4 | 473.3 | 444.1 |
| **2012** | 465.4 | 435.9 | 451.2 | 428.0 | 868.7 | 232.3 | 191.5 | 184.0 | 175.1 | 305.5 | 216.5 | 358.9 |
| **2013** | 249.5 | 193.8 | 237.3 | 469.6 | 394.3 | 162.6 | 167.8 | 190.5 | 177.2 | 330.9 | 219.3 | 202.3 |
| **2014** | 197.8 | 211.7 | 201.8 | 411.0 | 198.1 | 113.0 | 131.2 | 145.5 | 125.9 | 154.3 | 190.8 | 253.6 |
| **2015** | 200.6 | 209.7 | 191.9 | 354.2 | 185.7 | 98.3 | 98.2 | 83.8 | 65.5 | 138.0 | 163.6 | 221.5 |
| **2016** | 456.7 | 223.1 | 505.2 | 584.2 | 433.3 | 124.5 | 101.9 | 109.8 | 111.6 | 313.9 | 219.2 |  |
| **Mean ofmonthlyDischarge** | 1,800 | 1,950 | 1,980 | 1,990 | 2,050 | 1,730 | 722 | 402 | 525 | 753 | 841 | 1,350 |
| \*\* Incomplete data have been used for statistical calculation  |