

**USGS Water-Year Summary**

[**11425500**](https://waterdata.usgs.gov/nwis/inventory?agency_code=USGS&site_no=11425500) **Sacramento River**

**at Verona, CA**

**LOCATION** - Lat 38°46'28", long 121°35'50" referenced to North American Datum of 1927, in SW 1/4 NW 1/4 sec.25, T.11 N., R.3 E., Sutter County, CA, Hydrologic Unit 18020109, on left bank, 1.3 mi southeast of Verona, 1.5 mi downstream from Feather River, 6.2 mi east of Knights Landing, and at mile 19.1 upstream from Sacramento.

**DRAINAGE AREA** - 21,251 mi²

**SURFACE-WATER RECORDS**

**PERIOD OF RECORD** - May 1926 to September 1929 (low-water periods only), October 1929 to current year.

**GAGE** - Water-stage recorder and crest-stage gage. Elevation of gage is 40.050 ft above NGVD of 1929. Datum of gage is 3.00 ft below NGVD of 1929. May 1926 to Sept. 30, 1987, at site 0.5 mi upstream at same datum.

**REMARKS** - Records for 2016, 2015, and 2014 water years rated good. Natural flow of stream affected by storage reservoirs, power developments, diversions for irrigation, return flow from irrigated areas, and bypassing for flood control. When discharge exceeds about 55,000 ft³/s, flow begins over Fremont Weir, 3.5 mi upstream on right bank, into Yolo Bypass (station 11453000). See schematic diagram of lower Sacramento River Basin available from the California Water Science Center.

**EXTREMES FOR PERIOD OF RECORD** - Maximum discharge, 102,000 ft³/s, Jan. 2, 1997, gage height, 42.09 ft, maximum gage height, 42.11 ft, Feb. 20, 1986, site then in use; minimum daily, 304 ft³/s, July 23, 24, 1931.

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **00060, Discharge, cubic feet per second,** | | | | | | | | | | | | | |
| **YEAR** | **Monthly mean in ft3/s   (Calculation Period: 1929-10-01 -> 2016-11-30)** | | | | | | | | | | | |
| **Jan** | **Feb** | **Mar** | **Apr** | **May** | **Jun** | **Jul** | **Aug** | **Sep** | **Oct** | **Nov** | **Dec** |
| **1929** |  |  |  |  |  |  |  |  |  | 5,423 | 5,544 | 27,030 |
| **1930** | 26,390 | 27,040 | 41,070 | 26,570 | 16,600 | 7,113 | 2,951 | 2,814 | 5,117 | 6,428 | 7,433 | 7,498 |
| **1931** | 12,750 | 12,610 | 13,860 | 5,932 | 3,103 | 1,872 | 496.6 | 846.0 | 3,004 | 4,140 | 5,819 | 15,320 |
| **1932** | 24,670 | 18,680 | 24,600 | 22,110 | 24,900 | 12,550 | 3,145 | 2,065 | 2,999 | 3,462 | 3,923 | 6,417 |
| **1933** | 9,958 | 11,730 | 20,610 | 18,900 | 14,250 | 10,670 | 2,395 | 1,530 | 3,037 | 4,154 | 5,911 | 10,470 |
| **1934** | 24,010 | 20,910 | 20,910 | 14,190 | 5,948 | 3,218 | 1,509 | 1,376 | 2,960 | 4,052 | 10,960 | 9,711 |
| **1935** | 32,500 | 22,180 | 34,060 | 48,510 | 37,830 | 14,850 | 4,121 | 3,037 | 4,249 | 5,995 | 6,285 | 7,834 |
| **1936** | 34,960 | 39,530 | 35,810 | 33,690 | 20,290 | 12,760 | 3,789 | 2,679 | 4,281 | 4,958 | 5,099 | 5,968 |
| **1937** | 7,819 | 30,590 | 39,240 | 43,290 | 29,210 | 12,480 | 3,666 | 1,937 | 3,513 | 6,673 | 23,510 | 41,690 |
| **1938** | 29,070 | 56,560 | 57,700 | 55,330 | 53,730 | 33,480 | 9,176 | 5,036 | 5,895 | 7,816 | 9,276 | 12,870 |
| **1939** | 11,060 | 12,620 | 19,370 | 12,760 | 5,615 | 2,487 | 1,281 | 1,521 | 4,101 | 4,916 | 4,879 | 9,359 |
| **1940** | 43,290 | 54,660 | 52,800 | 52,660 | 22,840 | 9,097 | 3,366 | 2,669 | 5,134 | 6,530 | 10,000 | 26,060 |
| **1941** | 56,930 | 57,040 | 51,340 | 52,720 | 45,640 | 19,920 | 7,861 | 4,314 | 4,922 | 6,544 | 8,511 | 38,700 |
| **1942** | 43,190 | 57,860 | 31,860 | 50,720 | 41,130 | 25,950 | 7,312 | 3,774 | 5,522 | 7,632 | 11,750 | 21,090 |
| **1943** | 37,220 | 46,540 | 51,280 | 43,740 | 23,320 | 12,110 | 4,129 | 2,850 | 4,649 | 7,122 | 8,161 | 8,763 |
| **1944** | 10,450 | 21,550 | 22,290 | 13,710 | 16,020 | 6,752 | 2,977 | 3,315 | 5,348 | 4,878 | 11,520 | 16,070 |
| **1945** | 14,070 | 38,140 | 22,620 | 20,110 | 17,850 | 10,440 | 6,394 | 6,841 | 8,069 | 8,713 | 13,740 | 32,730 |
| **1946** | 47,060 | 21,270 | 21,730 | 23,810 | 18,570 | 9,226 | 6,718 | 7,060 | 8,256 | 8,068 | 10,820 | 15,290 |
| **1947** | 10,280 | 18,740 | 23,890 | 17,710 | 6,577 | 6,904 | 4,848 | 5,385 | 6,852 | 8,602 | 9,891 | 7,941 |
| **1948** | 19,130 | 10,090 | 15,410 | 41,790 | 40,570 | 24,720 | 8,321 | 8,775 | 10,160 | 9,794 | 9,917 | 11,240 |
| **1949** | 10,720 | 11,900 | 40,050 | 22,560 | 15,640 | 7,410 | 6,105 | 6,952 | 8,457 | 6,609 | 7,828 | 6,972 |
| **1950** | 19,330 | 31,500 | 23,310 | 26,010 | 19,660 | 11,830 | 6,490 | 6,548 | 8,651 | 8,835 | 26,520 | 48,760 |
| **1951** | 40,430 | 51,850 | 31,940 | 18,810 | 19,450 | 7,951 | 7,988 | 9,415 | 9,716 | 8,907 | 11,540 | 29,330 |
| **1952** | 51,470 | 55,560 | 47,970 | 54,840 | 51,600 | 29,590 | 13,790 | 9,802 | 11,130 | 9,441 | 9,991 | 28,930 |
| **1953** | 57,870 | 29,950 | 21,080 | 22,120 | 28,560 | 23,370 | 8,893 | 8,773 | 12,510 | 10,510 | 13,180 | 13,110 |
| **1954** | 25,180 | 50,880 | 41,110 | 41,290 | 19,360 | 10,080 | 8,010 | 9,651 | 10,990 | 9,890 | 14,120 | 20,900 |
| **1955** | 19,310 | 12,870 | 11,690 | 12,430 | 16,920 | 8,584 | 7,703 | 7,624 | 8,805 | 6,968 | 9,268 | 33,600 |
| **1956** | 59,930 | 47,120 | 41,790 | 27,730 | 36,100 | 19,460 | 8,843 | 8,279 | 11,430 | 11,080 | 12,640 | 10,600 |
| **1957** | 10,900 | 17,060 | 43,050 | 16,750 | 26,030 | 13,260 | 6,846 | 6,908 | 9,879 | 16,860 | 16,530 | 22,080 |
| **1958** | 33,260 | 64,300 | 50,050 | 53,730 | 43,170 | 26,130 | 10,750 | 10,950 | 13,050 | 11,100 | 11,370 | 10,760 |
| **1959** | 26,120 | 37,680 | 24,280 | 12,670 | 10,540 | 6,512 | 6,905 | 8,750 | 9,549 | 7,289 | 6,721 | 6,586 |
| **1960** | 10,620 | 32,910 | 30,240 | 15,980 | 13,560 | 8,158 | 7,510 | 7,698 | 8,497 | 7,099 | 10,630 | 16,450 |
| **1961** | 10,450 | 38,190 | 28,550 | 16,250 | 12,240 | 9,058 | 7,529 | 8,755 | 8,784 | 6,621 | 8,029 | 14,960 |
| **1962** | 9,796 | 37,890 | 31,180 | 22,350 | 16,500 | 10,780 | 6,977 | 8,465 | 9,566 | 24,920 | 13,370 | 29,250 |
| **1963** | 16,610 | 49,130 | 21,280 | 53,370 | 36,560 | 13,640 | 8,804 | 8,289 | 13,330 | 11,750 | 19,490 | 17,060 |
| **1964** | 21,580 | 17,670 | 11,770 | 11,120 | 12,310 | 9,002 | 8,389 | 9,341 | 10,990 | 8,415 | 13,090 | 30,680 |
| **1965** | 59,380 | 38,840 | 18,600 | 36,490 | 23,900 | 14,310 | 9,463 | 11,700 | 13,110 | 12,470 | 18,590 | 20,130 |
| **1966** | 32,560 | 25,310 | 21,760 | 20,340 | 13,750 | 8,234 | 10,070 | 10,450 | 10,100 | 8,541 | 16,760 | 40,220 |
| **1967** | 30,170 | 44,750 | 34,100 | 42,140 | 43,970 | 35,180 | 15,460 | 12,500 | 15,460 | 13,440 | 11,460 | 12,960 |
| **1968** | 18,220 | 36,060 | 31,540 | 11,540 | 12,620 | 8,596 | 9,327 | 11,710 | 12,190 | 10,370 | 11,770 | 20,620 |
| **1969** | 44,910 | 60,760 | 39,800 | 37,050 | 32,360 | 18,220 | 11,870 | 16,130 | 18,100 | 12,370 | 12,980 | 31,260 |
| **1970** | 59,980 | 58,660 | 38,550 | 12,330 | 12,560 | 9,701 | 9,984 | 12,490 | 15,650 | 13,580 | 20,210 | 55,150 |
| **1971** | 45,780 | 27,010 | 28,410 | 33,440 | 25,710 | 24,150 | 17,130 | 20,040 | 22,110 | 14,050 | 13,900 | 18,960 |
| **1972** | 16,870 | 18,840 | 21,410 | 12,140 | 12,010 | 12,040 | 12,640 | 13,120 | 14,620 | 14,270 | 21,040 | 23,750 |
| **1973** | 48,760 | 56,430 | 44,990 | 18,500 | 14,540 | 11,880 | 12,550 | 14,560 | 15,710 | 14,080 | 43,300 | 57,250 |
| **1974** | 63,790 | 44,890 | 55,370 | 55,770 | 23,810 | 19,760 | 19,110 | 21,230 | 21,790 | 17,120 | 19,510 | 23,060 |
| **1975** | 16,740 | 40,270 | 44,680 | 27,000 | 25,490 | 20,000 | 15,380 | 17,240 | 18,330 | 15,860 | 18,960 | 22,320 |
| **1976** | 12,920 | 11,480 | 12,740 | 11,610 | 9,754 | 10,270 | 11,360 | 12,480 | 11,700 | 7,800 | 7,401 | 6,826 |
| **1977** | 9,460 | 7,810 | 6,731 | 6,188 | 7,433 | 5,705 | 7,529 | 6,912 | 6,300 | 4,725 | 6,907 | 11,870 |
| **1978** | 41,540 | 38,090 | 46,370 | 33,090 | 18,330 | 9,453 | 12,230 | 14,290 | 14,880 | 10,730 | 10,930 | 11,720 |
| **1979** | 19,300 | 27,390 | 24,430 | 13,060 | 11,950 | 9,227 | 14,190 | 13,550 | 12,030 | 10,370 | 12,590 | 18,180 |
| **1980** | 51,790 | 46,340 | 49,870 | 16,670 | 11,840 | 14,930 | 13,510 | 12,860 | 13,450 | 9,604 | 9,317 | 13,780 |
| **1981** | 16,770 | 22,210 | 23,020 | 15,650 | 11,450 | 7,823 | 13,850 | 13,220 | 11,230 | 7,890 | 27,480 | 52,110 |
| **1982** | 53,140 | 49,050 | 53,200 | 62,140 | 32,720 | 18,840 | 14,560 | 17,080 | 20,930 | 15,950 | 24,440 | 45,390 |
| **1983** | 38,910 | 67,300 | 71,340 | 52,060 | 50,520 | 38,790 | 24,550 | 21,400 | 21,230 | 18,450 | 39,540 | 64,470 |
| **1984** | 49,760 | 27,500 | 26,810 | 15,250 | 12,910 | 12,400 | 17,790 | 16,840 | 15,730 | 10,700 | 22,290 | 27,900 |
| **1985** | 14,300 | 15,590 | 12,630 | 11,040 | 11,300 | 11,180 | 13,920 | 11,830 | 10,630 | 8,315 | 9,154 | 14,080 |
| **1986** | 17,240 | 58,800 | 63,840 | 19,450 | 10,320 | 9,253 | 12,770 | 12,000 | 15,740 | 12,490 | 10,790 | 11,470 |
| **1987** | 12,180 | 16,560 | 20,310 | 11,030 | 9,710 | 9,779 | 12,790 | 12,500 | 9,797 | 7,652 | 7,025 | 14,270 |
| **1988** | 23,170 | 10,890 | 10,340 | 15,430 | 9,940 | 9,684 | 12,650 | 12,610 | 10,770 | 8,482 | 10,620 | 11,360 |
| **1989** | 12,140 | 11,710 | 38,760 | 18,110 | 10,860 | 10,410 | 14,840 | 15,480 | 14,320 | 11,030 | 11,910 | 13,520 |
| **1990** | 16,770 | 12,280 | 12,110 | 14,150 | 10,400 | 9,030 | 9,053 | 12,360 | 9,113 | 6,647 | 7,056 | 10,050 |
| **1991** | 8,561 | 7,591 | 23,590 | 9,640 | 6,744 | 7,093 | 7,106 | 7,474 | 8,903 | 7,505 | 6,048 | 8,004 |
| **1992** | 9,737 | 24,950 | 18,750 | 8,667 | 5,118 | 4,858 | 5,089 | 6,693 | 9,359 | 6,261 | 5,987 | 11,290 |
| **1993** | 41,490 | 40,560 | 41,440 | 36,770 | 18,070 | 24,200 | 14,790 | 17,600 | 13,620 | 11,270 | 10,160 | 17,080 |
| **1994** | 11,830 | 17,620 | 11,600 | 7,270 | 8,098 | 6,562 | 10,140 | 10,600 | 13,100 | 7,255 | 7,696 | 14,530 |
| **1995** | 53,680 | 52,440 | 61,130 | 52,720 | 50,370 | 31,910 | 18,750 | 16,520 | 19,760 | 11,190 | 10,150 | 21,350 |
| **1996** | 30,130 | 61,590 | 49,150 | 29,770 | 31,540 | 17,930 | 17,060 | 17,880 | 14,850 | 9,616 | 11,430 | 44,920 |
| **1997** | 72,110 | 48,390 | 19,050 | 10,930 | 9,334 | 13,040 | 18,580 | 16,350 | 12,020 | 9,744 | 12,160 | 18,370 |
| **1998** | 45,320 | 70,030 | 54,070 | 46,550 | 36,650 | 45,560 | 21,960 | 21,190 | 21,120 | 13,110 | 17,690 | 39,650 |
| **1999** | 27,640 | 53,390 | 48,370 | 25,060 | 15,020 | 13,420 | 18,240 | 15,440 | 13,550 | 9,690 | 11,070 | 13,720 |
| **2000** | 19,930 | 51,140 | 50,410 | 22,590 | 16,930 | 14,160 | 18,670 | 16,730 | 14,050 | 10,040 | 10,410 | 11,660 |
| **2001** | 15,420 | 18,840 | 22,150 | 10,580 | 7,705 | 10,430 | 13,370 | 12,220 | 11,220 | 7,392 | 11,270 | 24,610 |
| **2002** | 34,050 | 16,050 | 17,810 | 11,040 | 10,820 | 12,020 | 16,470 | 15,720 | 12,440 | 8,764 | 10,570 | 26,260 |
| **2003** | 47,330 | 30,360 | 19,820 | 19,160 | 34,490 | 18,210 | 19,610 | 17,270 | 13,970 | 9,643 | 10,790 | 25,270 |
| **2004** | 32,650 | 40,270 | 41,770 | 18,960 | 10,940 | 13,530 | 17,870 | 16,510 | 13,470 | 10,930 | 10,300 | 15,500 |
| **2005** | 30,010 | 19,990 | 23,500 | 16,300 | 32,620 | 20,560 | 15,460 | 13,720 | 14,750 | 11,850 | 11,370 | 28,590 |
| **2006** | 56,460 | 39,690 | 60,340 | 65,970 | 42,120 | 21,400 | 15,470 | 16,310 | 16,270 | 10,490 | 10,740 | 15,520 |
| **2007** | 12,960 | 21,260 | 16,430 | 12,280 | 8,921 | 10,970 | 16,700 | 15,490 | 14,710 | 10,240 | 10,260 | 12,290 |
| **2008** | 21,970 | 25,580 | 12,910 | 10,100 | 8,883 | 9,652 | 11,550 | 10,990 | 10,710 | 7,900 | 9,350 | 8,776 |
| **2009** | 8,967 | 20,090 | 21,110 | 11,570 | 13,780 | 10,640 | 15,690 | 13,450 | 11,110 | 8,984 | 8,440 | 10,170 |
| **2010** | 26,830 | 26,830 | 18,040 | 17,540 | 13,540 | 16,410 | 14,680 | 15,590 | 16,250 | 11,520 | 11,500 | 36,370 |
| **2011** | 29,990 | 21,660 | 45,550 | 45,060 | 29,270 | 32,710 | 17,210 | 14,690 | 18,400 | 14,650 | 11,310 | 13,370 |
| **2012** | 14,210 | 13,260 | 19,240 | 22,550 | 10,710 | 11,680 | 17,480 | 16,260 | 14,830 | 10,960 | 11,030 | 41,560 |
| **2013** | 19,380 | 13,630 | 12,160 | 11,460 | 11,170 | 12,050 | 15,270 | 15,870 | 12,550 | 7,445 | 8,255 | 7,778 |
| **2014** | 6,418 | 10,230 | 14,080 | 9,050 | 5,091 | 7,895 | 8,658 | 8,459 | 8,158 | 6,235 | 7,390 | 32,230 |
| **2015** | 9,839 | 16,380 | 7,141 | 5,882 | 6,746 | 5,552 | 5,919 | 6,332 | 7,727 | 7,334 | 6,451 | 10,400 |
| **2016** | 26,420 | 17,970 | 44,660 | 15,490 | 9,219 | 10,100 | 13,460 | 15,090 | 14,790 | 10,550 | 13,140 |  |
| **Mean of monthly Discharge** | 28,300 | 32,400 | 31,300 | 25,300 | 20,100 | 14,100 | 10,900 | 10,800 | 11,400 | 9,540 | 12,300 | 21,100 |