

Water-Data Report 2011

11251000 San Joaquin River below Friant, CA

San Joaquin River Basin

LOCATION.--Lat 36°59'04", long 119°43'24" referenced to North American Datum of 1927, in SW ¼ SW ¼ sec.7, T.11 S., R.21 E., Fresno County, CA, Hydrologic Unit 18040001, on left bank, 0.5 mi west of Friant, 1.5 mi downstream from Cottonwood Creek, and 2 mi downstream from Friant Dam at mile 268.1.

DRAINAGE AREA.--1,676 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1907 to current year. Published as "near Pollasky" October 1907 to December 1908, and as "near Friant" January 1909 to September 1938. Monthly discharge only for October 1907 to November 1908, published in WSP 1315-A.

REVISED RECORDS.--WSP 843: 1914 (instantaneous maximum discharge).

GAGE.--Water-stage recorder. Datum of gage is 294.00 ft above NGVD of 1929 (levels by U.S. Bureau of Reclamation). Oct. 18, 1907, to Nov. 9, 1913, nonrecording gage at site 4.5 mi upstream at different datum. Nov. 10, 1913, to Sept. 30, 1938, water-stage recorder at site 2.5 mi upstream at different datum.

REMARKS.--Records rated fair. Flow regulated by Millerton Lake (station 11250100) beginning in 1941, and by nine powerplants and eight reservoirs with combined capacity of about 609,300 acre-ft. Diversion for irrigation to Madera and Friant-Kern Canals (stations 11249500 and 11250000) began in 1943 and 1949, respectively. See schematic diagram of lower San Joaquin River Basin available from the California Water Science Center.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 77,200 ft³/s, Dec. 11, 1937, gage height, 23.8 ft, site and datum then in use; minimum daily, 54 ft³/s, Sept. 15, 1924.

Maximum discharge since construction of Friant Dam in 1941, 60,300 ft³/s, Jan. 3, 1997, gage height, 22.97 ft (provided by U.S. Bureau of Reclamation); minimum daily, 11 ft³/s, Jan. 8, 1977.

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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	333	344	203	4,170	415	231	8,160	4,460	2,770	3,360	313	327
2	334	345	80	4,600	193	236	8,130	4,480	2,720	3,200	313	329
3	331	347	81	4,360	221	234	8,090	4,460	2,640	2,820	312	327
4	334	347	84	4,840	222	525	7,860	4,450	2,540	2,830	312	323
5	334	347	87	6,610	221	716	7,690	4,360	2,430	3,560	312	323
6	331	343	71	6,540	221	719	7,670	4,200	2,330	4,800	313	323
7	341	342	63	5,430	221	729	7,650	3,930	2,240	7,240	311	323
8	361	342	72	4,510	221	723	7,390	3,700	2,530	8,100	311	322
9	358	342	75	4,490	222	719	6,850	3,510	2,760	7,610	313	322
10	355	343	79	4,480	221	718	6,840	3,300	2,770	6,780	315	323
11	356	343	78	3,650	211	717	6,820	3,060	2,760	5,210	317	326
12	356	340	79	2,720	217	718	6,860	2,830	2,760	1,530	318	328
13	346	340	80	2,730	214	717	6,890	2,730	2,760	1,440	318	328
14	337	335	84	2,080	216	717	6,890	2,740	2,770	2,520	319	324
15	334	449	88	1,560	216	717	6,910	2,760	3,040	1,760	319	327
16	332	702	82	1,650	224	722	6,900	2,780	3,510	577	319	327
17	331	701	88	1,560	194	723	6,870	2,790	4,240	312	319	325
18	331	728	95	1,560	207	723	6,870	2,790	5,120	311	319	321
19	330	718	122	1,580	308	729	6,900	2,800	5,460	311	319	328
20	332	722	113	1,600	260	825	6,630	2,810	5,690	313	319	327
21	339	724	62	1,610	240	1,590	6,200	2,810	6,490	315	319	329
22	341	558	58	1,620	234	2,500	6,180	2,790	6,720	312	318	333
23	339	301	135	1,640	230	2,990	6,220	2,780	6,520	311	318	330
24	340	299	157	1,330	227	4,910	6,270	2,770	5,790	311	319	327
25	343	300	39	1,070	240	6,080	6,250	2,750	5,570	315	322	326
26	339	296	456	1,080	256	6,510	5,910	2,760	5,580	314	326	328
27	342	297	923	877	237	6,360	5,370	2,770	5,360	312	325	330
28	347	296	2,350	733	231	6,980	4,820	2,780	4,470	313	323	327
29	347	298	4,620	729	---	7,340	4,440	2,790	3,660	313	328	327
30	348	299	4,320	741	---	7,290	4,420	2,780	3,350	313	322	326
31	343	---	4,200	745	---	7,670	---	2,770	---	308	326	---
Total	10,565	12,488	19,124	82,895	6,540	73,078	200,950	99,490	117,350	68,021	9,857	9,786
Mean	341	416	617	2,674	234	2,357	6,698	3,209	3,912	2,194	318	326
Max	361	728	4,620	6,610	415	7,670	8,160	4,480	6,720	8,100	328	333
Min	330	296	39	729	193	231	4,420	2,730	2,240	308	311	321
Ac-ft	20,960	24,770	37,930	164,400	12,970	145,000	398,600	197,300	232,800	134,900	19,550	19,410

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1908 - 1940, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	628	609	868	1,276	1,704	2,246	3,805	5,876	6,085	2,765	1,166	772
Max	1,678	1,317	3,589	4,507	4,391	6,854	8,010	11,170	15,870	9,635	2,312	1,361
(WY)	(1919)	(1928)	(1910)	(1909)	(1937)	(1938)	(1916)	(1938)	(1911)	(1911)	(1914)	(1938)
Min	164	196	301	333	393	419	1,262	1,703	635	335	264	156
(WY)	(1932)	(1932)	(1909)	(1918)	(1924)	(1924)	(1912)	(1934)	(1924)	(1924)	(1924)	(1931)

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SUMMARY STATISTICS

Water Years 1908 - 1940		
Annual mean	2,343	
Highest annual mean	4,961	1938
Lowest annual mean	698	1924
Highest daily mean	38,800	Jan 31, 1911
Lowest daily mean	54	Sep 15, 1924
Annual seven-day minimum	105	Sep 16, 1931
Maximum peak flow	77,200	Dec 11, 1937
Maximum peak stage	23.80	Dec 11, 1937
Annual runoff (ac-ft)	1,698,000	
10 percent exceeds	6,100	
50 percent exceeds	1,190	
90 percent exceeds	394	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 2011, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	333	251	367	692	943	1,107	1,730	1,857	1,655	964	536	431
Max	1,663	1,623	3,798	9,144	7,100	7,705	7,701	9,107	9,438	5,322	2,807	2,392
(WY)	(1946)	(1983)	(1983)	(1997)	(1969)	(1969)	(1983)	(1941)	(1941)	(1995)	(1945)	(1948)
Min	47.2	37.3	32.5	30.0	33.9	33.0	43.2	43.9	78.6	101	91.1	67.2
(WY)	(1970)	(1972)	(1971)	(1966)	(1966)	(1968)	(1971)	(1971)	(1970)	(1970)	(1970)	(1969)

SUMMARY STATISTICS

	Calendar Year 2010	Water Year 2011	Water Years 1941 - 2011
Annual total	213,782	710,144	
Annual mean	586	1,946	904
Highest annual mean			4,385
Lowest annual mean			66.9
Highest daily mean	4,620	Dec 29	8,160
Lowest daily mean	39	Dec 25	39
Annual seven-day minimum	74	Dec 6	74
Maximum peak flow			8,560
Maximum peak stage			10.16
Annual runoff (ac-ft)	424,000	1,409,000	654,900
10 percent exceeds	1,390	6,260	2,760
50 percent exceeds	348	358	159
90 percent exceeds	97	221	56

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