



Water-Data Report 2011

11058600 Waterman Canyon Creek near Arrowhead Springs, CA

Santa Ana River Basin

LOCATION.--Lat 34°11'09", long 117°16'20" referenced to North American Datum of 1983, in NE ¼ SW ¼ sec.11, T.1 N., R.4 W., San Bernardino County, CA, Hydrologic Unit 18070203, on right bank, at upstream end of Arrowhead Springs Road Bridge, and 0.6 mi southwest of Arrowhead Springs.

DRAINAGE AREA.--4.82 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--November 1911 to October 1914 (published as "near San Bernardino"), December 1919 to September 1985, October 2007 to current year.

REVISED RECORDS.--WDR US-2008: Drainage Area.

GAGE.--Water-stage recorder, concrete control, and crest-stage gage. Elevation of gage is 1,840 ft above NGVD of 1929, from topographic map.

November 1911 to October 1914, nonrecording gage at site 0.45 mi upstream at different datum. December 1919 to September 1985, at site 0.5 mi upstream at different datum.

REMARKS.--Records fair except for estimated daily discharges, which are poor. No regulation upstream from station. One small diversion for domestic use above station. See schematic diagram of Santa Ana River basin available from the California Water Science Center.

EXTREMES FOR PERIOD OF RECORD.--(Since 1920) Maximum discharge, 2,350 ft³/s, Mar. 2, 1938, estimated, based on rainfall-runoff studies, at site and datum then in use; maximum gage height, 5.53 ft, Jan. 25, 1969, at site and datum then in use; no flow at times in some years, prior to water year 2008.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 35 ft³/s and (or) maximum (*), from rating curve extended above 39 ft³/s, on basis of critical-depth computations:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec 19	2100	*122	*2.81
Dec 20	1600	118	2.78
Dec 21	0515	84	2.57
Dec 22	0145	103	2.69
Feb 26	0315	63	2.44

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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	0.75	0.95	1.0	18	5.9	7.6	9.9	5.9	4.5	3.2	2.7	1.2
2	0.75	0.82	1.0	18	5.5	7.2	9.9	5.7	4.5	3.1	2.4	1.1
3	0.76	0.81	1.1	19	5.3	7.0	10	5.6	4.4	3.0	2.3	1.1
4	0.94	0.83	1.1	17	5.2	6.7	9.7	5.6	4.4	3.1	2.1	1.1
5	1.1	0.84	1.2	16	5.2	6.5	9.5	5.8	4.4	3.1	2.0	1.3
6	1.2	0.89	1.7	15	4.8	6.4	9.4	6.0	4.5	3.2	1.8	1.2
7	1.1	0.99	1.2	14	4.7	9.0	9.4	6.0	4.4	3.0	1.7	1.1
8	0.96	1.7	1.2	14	4.7	7.2	9.4	6.7	4.5	3.1	1.6	1.1
9	0.80	1.2	1.2	13	4.6	6.8	9.2	6.5	4.5	3.0	1.6	1.1
10	0.72	1.1	1.2	12	4.5	6.5	9.0	6.4	4.4	2.9	1.6	1.3
11	0.72	1.0	1.1	12	4.4	6.4	8.7	6.2	4.3	2.9	1.6	1.3
12	0.71	0.96	1.0	12	4.3	6.4	8.5	6.0	4.2	3.0	1.6	1.2
13	0.65	0.91	0.93	11	4.2	6.3	8.4	5.9	4.2	3.1	1.6	1.2
14	0.70	0.90	0.98	10	4.2	6.2	8.1	5.7	4.1	3.1	1.5	1.2
15	0.88	0.91	1.3	9.8	4.2	6.0	7.5	6.6	4.0	3.1	1.5	1.2
16	0.90	0.93	2.4	9.5	7.0	5.9	7.2	6.0	4.0	3.0	1.5	1.3
17	1.1	0.90	3.5	9.4	5.1	5.8	7.1	5.9	4.1	2.9	1.4	1.3
18	1.2	0.87	6.3	9.2	5.7	5.7	7.4	6.5	4.0	2.7	1.3	1.2
19	1.2	0.95	54	8.7	8.9	6.6	7.5	5.9	4.0	2.7	1.4	1.1
20	1.3	8.8	e63	8.5	7.1	6.4	7.5	5.7	3.9	2.6	1.4	1.1
21	1.4	4.3	e59	8.1	6.0	13	7.4	5.6	3.8	2.6	1.4	1.0
22	1.4	2.2	e66	7.9	5.5	10	7.3	5.8	3.7	2.7	1.4	1.1
23	1.3	1.7	33	7.5	5.3	9.7	7.3	5.8	3.7	2.7	1.4	1.1
24	1.2	1.6	30	7.1	5.2	9.4	7.3	5.7	3.6	2.6	1.4	1.2
25	1.3	1.3	26	7.0	5.9	14	7.1	5.5	3.6	2.6	1.3	1.4
26	1.1	1.2	23	6.9	15	12	6.8	5.4	3.3	2.5	1.3	1.4
27	0.98	1.2	22	6.7	8.9	12	6.5	5.2	3.2	2.6	1.1	1.2
28	0.92	1.3	21	6.3	8.0	11	6.4	5.0	3.2	2.6	1.1	1.2
29	0.95	1.1	22	6.1	---	11	6.4	5.3	3.3	2.6	1.1	1.2
30	1.1	0.98	20	6.7	---	11	6.3	5.0	3.3	2.6	1.1	1.1
31	1.1	---	19	6.4	---	10	---	4.7	---	3.4	1.2	---
Total	31.19	44.14	487.41	332.8	165.3	255.7	242.1	179.6	120.0	89.3	48.4	35.6
Mean	1.01	1.47	15.7	10.7	5.90	8.25	8.07	5.79	4.00	2.88	1.56	1.19
Max	1.4	8.8	66	19	15	14	10	6.7	4.5	3.4	2.7	1.4
Min	0.65	0.81	0.93	6.1	4.2	5.7	6.3	4.7	3.2	2.5	1.1	1.0
Ac-ft	62	88	967	660	328	507	480	356	238	177	96	71

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1912 - 2011, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	0.75	1.41	2.76	3.89	6.44	7.62	5.00	2.97	1.79	0.99	0.65	0.58
Max	5.94	10.0	17.3	28.2	55.2	57.1	18.4	12.8	7.14	4.34	4.92	3.20
(WY)	(1984)	(1966)	(1967)	(1969)	(1969)	(1938)	(1958)	(1983)	(1983)	(1983)	(1983)	(1983)
Min	0.00	0.08	0.28	0.43	0.48	0.50	0.29	0.20	0.07	0.00	0.00	0.00
(WY)	(1962)	(1965)	(1963)	(1963)	(1961)	(1961)	(1961)	(1934)	(1961)	(1960)	(1951)	(1928)

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[e, estimated]

	Calendar Year 2010	Water Year 2011	Water Years 1912 - 2011
Annual total	1,424.86	2,031.54	
Annual mean	3.90	5.57	2.87
Highest annual mean			13.9
Lowest annual mean			0.29
Highest daily mean	66 Dec 22	66 Dec 22	590 Feb 25, 1969
Lowest daily mean	0.57 Sep 27	0.65 Oct 13	0.00 Mar 5, 1912
Annual seven-day minimum	0.66 Sep 24	0.74 Oct 9	0.00 Jul 27, 1924
Maximum peak flow		122 Dec 19	e2,350 Mar 2, 1938
Maximum peak stage		2.81 Dec 19	5.53 Jan 25, 1969
Annual runoff (ac-ft)	2,830	4,030	2,080
10 percent exceeds	6.3	10	5.9
50 percent exceeds	1.4	4.0	1.2
90 percent exceeds	0.80	1.0	0.20

