

Water-Data Report 2011

11055800 City Creek near Highland, CA

Santa Ana River Basin

LOCATION.--Lat 34°08'38", long 117°11'16" referenced to North American Datum of 1927, in SW ¼ NW ¼ sec.27, T.1 N., R.3 W., San Bernardino County, CA, Hydrologic Unit 18070203, on right bank, 0.6 mi upstream from Highland Avenue, and 1.5 mi northeast of Highland.

DRAINAGE AREA.--19.6 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1919 to current year; combined records of creek and City Creek Water Co.'s canal, June 1924 to September 1986, October 1988 to current year.

REVISED RECORDS.--WSP 1635: 1920 (instantaneous maximum discharge), 1923 (instantaneous maximum discharge), 1937 (instantaneous maximum discharge), 1939 (instantaneous maximum discharge), 1946. WSP 1928: Drainage area.

GAGE.--Water-stage recorder on creek; water-stage recorder on canal. Elevation of creek gage is 1,580 ft above NGVD of 1929, from topographic map. Prior to Mar. 1, 1939, at site 0.2 mi downstream at different datum. Canal gage at different datum.

REMARKS.--Records fair except for estimated daily discharges, which are poor. No regulation upstream from station. City Creek Water Co.'s canal (station 11055700) diverted from a site 0.5 mi upstream from station for irrigation throughout period of record until Sept. 30, 1986, and resumed diversion on Mar. 31, 1989. Diversion canal damaged by storms of January 1993, with no flow in canal from Jan. 14, 1993, to Apr. 5, 1995. For combined discharge of City Creek and canal see station 11055801. See schematic diagram of Santa Ana River Basin available from the California Water Science Center.

EXTREMES FOR PERIOD OF RECORD.--Creek only: Maximum discharge, 9,900 ft³/s, Jan. 10, 2005, gage height, 10.68 ft, on basis of slope-area measurement of peak flow, at site 0.50 mi downstream; maximum gage height, 11.06 ft, Dec. 25, 2003, from floodmark left by a debris flow near the gage; no flow for many days in some years. The maximum stage for the period of record is not related to the maximum discharge on that day, but rather is associated with a debris flow at the gaging station. The stage associated with the maximum discharge on Dec. 25, 2003, is unknown. The maximum discharge on Dec. 25, 2003, (8,000 ft³/s) is based on hydraulic computations that were applied to a possible hyperconcentrated flow event. The peak flow was the result of an intense rain storm that occurred less than two months after a wildfire burned over 90 percent of the drainage basin.

Combined creek and canal: Maximum discharge, 9,900 ft³/s, Jan. 10, 2005; no flow at times in some years.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 110 ft³/s and (or) maximum (*):

Date	Time	Creek Only		Combined Creek and Canal
		Discharge (ft ³ /s)	Gage height (ft)	Discharge (ft ³ /s)
Dec 19	1830	656	5.34	656
Dec 20	2130	2,750	7.46	2,750
Dec 22	0735	*7,250	*9.76	*7,250
Dec 22	1715	2,490	7.09	2,490
Dec 29	2115	126	3.15	126
Feb 26	0430	167	3.63	167

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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	2.3	2.9	4.6	48	17	46	36	22	20	9.6	7.8	3.9
2	2.2	2.7	4.5	46	16	43	35	22	20	8.9	6.3	3.8
3	2.3	2.7	4.5	55	16	47	34	21	20	8.7	5.7	3.7
4	2.6	2.7	4.6	e45	16	43	32	20	20	8.7	5.5	3.7
5	3.0	2.8	4.8	e43	15	38	32	20	20	8.6	5.6	4.7
6	3.2	2.8	7.2	39	15	37	31	20	21	8.9	5.9	4.8
7	3.5	3.1	6.0	37	15	51	32	20	18	8.8	5.9	4.0
8	3.3	4.9	5.7	35	15	41	35	22	15	8.4	6.1	3.7
9	2.9	4.1	5.5	33	15	37	32	24	15	7.9	6.3	3.6
10	2.5	3.9	5.8	31	15	35	31	23	15	7.6	6.7	3.9
11	2.4	4.2	5.8	29	15	33	30	22	14	7.5	6.8	4.4
12	2.3	4.3	6.1	27	15	32	29	20	14	7.8	7.0	4.0
13	2.1	4.1	6.3	25	15	e31	29	18	14	8.0	6.7	5.4
14	2.2	4.0	6.4	24	15	e30	27	19	13	8.2	6.6	5.1
15	2.5	4.1	6.6	23	15	e30	26	24	13	8.2	e6.6	4.9
16	2.5	4.1	8.6	22	24	e29	26	21	13	8.0	e6.6	4.9
17	2.7	4.2	8.9	21	20	e29	26	21	13	7.6	e6.5	4.9
18	2.8	4.1	16	20	20	e28	26	27	13	7.0	e6.4	4.4
19	2.9	4.4	210	19	e45	e27	27	23	13	6.5	e6.4	3.8
20	3.1	16	584	18	e37	e30	26	21	12	6.3	e6.3	3.5
21	3.2	16	e589	18	e32	61	25	20	12	6.2	e6.2	3.4
22	3.4	7.5	e1,590	18	e29	48	25	20	11	6.3	e6.1	3.5
23	3.1	5.7	e500	17	27	46	25	21	11	6.2	e6.0	4.2
24	3.1	6.3	e301	17	26	43	25	21	11	6.0	e6.0	4.3
25	3.5	5.1	e218	18	27	55	24	20	10	5.8	e5.9	5.0
26	3.1	4.7	e225	17	e102	51	23	20	10	5.7	e5.8	5.4
27	2.8	4.6	e120	17	e47	49	23	20	9.8	6.0	e5.7	4.4
28	2.7	5.5	e63	17	e47	45	22	20	9.7	6.2	e5.6	3.9
29	2.7	4.9	70	16	---	44	22	21	10	6.0	e5.1	3.7
30	3.1	4.7	69	18	---	41	22	20	10	6.2	e4.9	3.7
31	3.2	---	55	18	---	38	---	20	---	9.3	3.9	---
Total	87.2	151.1	4,711.9	831	713	1,238	838	653	420.5	231.1	188.9	126.6
Mean	2.81	5.04	152	26.8	25.5	39.9	27.9	21.1	14.0	7.45	6.09	4.22
Max	3.5	16	1,590	55	102	61	36	27	21	9.6	7.8	5.4
Min	2.1	2.7	4.5	16	15	27	22	18	9.7	5.7	3.9	3.4
Ac-ft	173	300	9,350	1,650	1,410	2,460	1,660	1,300	834	458	375	251

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1920 - 2011, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	1.41	3.43	10.2	19.0	30.4	28.3	17.7	7.73	3.20	1.37	0.82	0.81
Max	19.2	43.4	152	269	451	219	148	52.3	26.1	11.7	9.56	6.60
(WY)	(2005)	(1966)	(2011)	(2005)	(1969)	(1938)	(1926)	(1998)	(1998)	(1980)	(1983)	(2005)
Min	0.00	0.00	0.00	0.13	0.35	0.18	0.03	0.00	0.00	0.00	0.00	0.00
(WY)	(1927)	(1922)	(1930)	(1936)	(1924)	(1926)	(1934)	(1934)	(1924)	(1924)	(1920)	(1920)

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	Calendar Year 2010		Water Year 2011		Water Years 1920 - 2011	
Annual total	8,788.7		10,190.3			
Annual mean	24.1		27.9		10.3	
Highest annual mean					75.3	1969
Lowest annual mean					0.46	1961
Highest daily mean	1,590	Dec 22	1,590	Dec 22	3,360	Feb 25, 1969
Lowest daily mean	1.2	Sep 28	2.1	Oct 13	0.00	Jul 18, 1920
Annual seven-day minimum	1.4	Aug 21	2.4	Oct 10	0.00	Jul 18, 1920
Maximum peak flow			7,250	Dec 22	9,900	Jan 10, 2005
Maximum peak stage			9.76	Dec 22	^a 11.06	Dec 25, 2003
Annual runoff (ac-ft)	17,430		20,210		7,430	
10 percent exceeds	32		42		20	
50 percent exceeds	6.0		13		1.8	
90 percent exceeds	1.9		3.4		0.00	

^a Maximum stage for the 2004 water year and period of record is not related to the maximum discharge on that date, but rather is associated with a debris flow at the gaging station.

