

Table 1

Summary of 1000 Year Storms for California

Stations with Highest Return Period for Each of California's 1000 Year Storms

Station	Station Number	Max	Days	Mean	Z	Return Period	Yrs Rec	<-Prev	Max->	CV	Sk	Lat	Long	Elev	MAP	Date
								Inches	Year			dd.ddd	ddd.ddd	feet		
San Francisco	E80 7772 00	28.25	30	8.07	6.48	37,000	144	18.19	1872	.386	.9	37.783	-122.417	52	21.44	1861/12/23-1962/1/21
San Francisco R	E80 7772 00	7.76	1	2.20	6.26	6,300	144	5.90	1982	.404	1.3	37.783	-122.417	52	20.68	1866/12/120
San Andreas Lake	E70 7704 00	27.16	3	5.29	9.70	360,000	122	8.43	1979	.426	1.4	37.583	-122.400	377	34.68	1871/12/18-21
Fort Ross	F80 3161 00	18.06	2	5.12	6.78	32,000	119	8.81	1921	.373	1.0	38.517	-123.250	116	43.22	1874/11/22-23
Sacramento	A00 7633 00	8.37	2	2.58	5.80	3,500	123	5.80	1963	.387	1.3	38.583	-121.483	25	18.16	1880/04/20-21
Encinitas	Z04 2833 00	7.58	1	1.84	6.55	73,000	13	1.70	1974	.476	1.1	32.050	-117.283	300	8.41	1889/10/12
Newman	B00 6168 00	24.98	365	10.48	4.48	6,600	109	19.34	1983	.309	.4	37.350	-121.083	108	10.48	1890 water year
Campo	Z11 1424 00	16.10	1	2.20	13.33	1000000+	92	7.10	1922	.473	1.6	32.628	-116.469	2612	16.88	1891/08/12
Big Bear Lake Dam	Y01 0742 00	32.20	2	7.25	7.14	22,000	111	21.75	1916	.482	1.3	34.242	-116.975	6815	36.82	1891/02/22-23
Tulare	C00 9051 00	3.89	1	1.14	5.66	2,700	21	1.94	1978	.426	1.3	36.213	-119.331	293	8.99	1898/09/26
Forest Lake	D40 3135 10	6.07	1	1.66	6.43	10,000	86	3.32	1901	.413	1.2	36.592	-121.942	295	17.45	1906/12/11
La Porte	A50 4773 00	57.41	20	18.63	5.38	12,200	34	42.62	1907	.387	.7	39.682	-120.983	4975	67.04	1909/01/1-20
Descasio RS	Z09 2406 00	27.79	15	7.23	5.97	6,700	31	16.19	1980	.476	1.1	32.856	-116.623	3500	23.29	1916/01/14-28
Colusa	A00 1948 00	5.60	1	1.58	7.23	42,000	90	3.12	1911	.352	1.1	39.200	-122.017	60	15.63	1916/01/02
Antioch	B80 0232 00	6.59	3	2.12	5.19	2,200	93	5.66	1911	.406	1.1	37.984	-121.728	60	12.44	1918/09/12-14
Fancher Ranch	B00 2968 00	4.00	1	1.29	5.93	6,300	64	2.40	1926	.354	1.1	37.318	-120.334	225	12.550	1925/04/04
Morena Dam	Z11 5840 00	16.65	4	4.02	6.73	6,600	64	8.49	1940	.467	1.5	32.686	-116.522	3075	19.39	1927/02/
Anza Foothill Rch 99	U05 0410 01	16.33	2	4.39	5.23	1,400	61	11.65	1916	.520	1.4	34.132	-117.892	615	19.48	1933/12/31-1934/01/01
Alturas RS	A10 0161 00	5.08	2	1.33	7.29	22,000	79	3.35	1963	.387	1.3	41.483	-120.533	4365	12.13	1937/12/10-11
Brawley 2 SW	X23 1048 00	6.33	2	1.06	7.78	16,600	65	4.84	1977	.639	1.6	32.954	-115.558	-100	2.65	1939/09/05-06
Indio	X19 4529 00	6.45	1	1.05	8.81	55,000	88	3.16	1978	.584	1.6	33.713	-116.224	8	3.43	1939/09/24
Willows	A00 9699 00	40.39	365	17.18	4.36	5,800	110	36.95	1983	.310	.4	39.533	-122.200	140	17.18	1941 water year
Hoegees	U05 4017 00	36.34	2	8.45	6.35	4,400	55	18.01	1926	.520	1.4	34.208	-118.020	2412	37.91	1943/01/
Calaveras Dam	E50 1281 00	7.17	1	1.81	7.33	24,000	79	3.90	1965	.404	1.3	37.487	-121.818	805	22.01	1950/11/18
Orick PC	F50 6498 00	11.50	1	3.66	5.71	4,200	55	5.56	1939	.375	1.0	41.637	-124.017	161	67.06	1950/10/29
Lake McKenzie	E60 4688 00	42.27	8	12.22	6.09	5,400	33	21.54	1932	.404	1.2	37.217	-122.067	1809	45.97	1955/12/19-27
Oakdale Woodward	B00 6305 00	5.72	1	1.42	8.55	300,000	19	1.70	1963	.354	1.1	37.867	-120.867	220	12.67	1958/04/03
Upr San Leandro Filter	E40 9185 00	13.14	3	3.47	6.54	6,800	48	6.31	1982	.426	1.4	37.800	-122.140	490	23.02	1962/10
Florence Lake	B70 3093 00	14.50	3	3.76	7.04	33,000	66	12.20	1956	.406	1.1	37.273	-118.974	7350	22.68	1963/01/30-02/2
Gazelle	F20 3363 05	8.09	6	2.16	7.78	360,000	18	3.52	1982	.353	.9	41.575	-122.543	2690	12.10	1964/12/
Kern Intake 3 SCE	C50 4519 00	23.57	5	4.45	8.93	130,000	51	9.67	1963	.481	1.4	35.945	-118.476	3642	16.76	1966/01/3-7
Independence	W03 4232 00	14.55	60	3.00	6.50	8,400	92	11.63	1967	.592	1.3	36.801	-118.185	3950	4.71	1969/01/02
Harrison Gulch RS R	A30 3791 00	12.60	1	3.30	8.01	130,000	45	8.20	1982	.352	1.1	40.367	-122.967	2710	36.36	1970/12/03
Yuma Valley, AZ	X27 9890 80	7.03	2	1.02	10.09	640,000	56	2.87	1939	.584	1.6	32.717	-114.710	120	2.88	1977/08/16-17
Buttonwillow	C00 1244 00	3.41	1	0.82	7.41	28,000	53	1.56	1988	.426	1.3	35.400	-119.467	268	5.13	1978/02/10
Ferguson Ranch	A00 3020 00	12.00	1	2.95	8.72	500,000	25	6.30	1980	.352	1.1	40.350	-122.450	800	28.97	1981/12/03
Richmond City Hall	E40 7414 50	7.54	1	2.17	6.13	5,350	43	3.21	1978	.404	1.3	37.933	-122.350	55	21.72	1982/01/04
Kekseyville 2N	A80 4491 01	70.12	365	25.35	5.70	190,000	36	40.61	1941	.310	.4	38.976	-122.831	1385	25.35	1983 water year
Dry Cyn Res	U03 2516 00	13.72	2	3.56	5.30	2,000	73	8.48	1926	.538	1.2	34.482	-118.523	1511	13.66	1983/03/01-02
Atlas Road	E30 0372 00	41.08	10	10.38	7.43	94,000	24	21.59	1956	.398	1.0	38.427	-122.248	1660	36.23	1986/02/
Newman	B00 9418 00	4.10	1	1.22	6.67	18,500	96	2.53	1995	.354	1.1	38.182	-120.962	214	10.48	1988/01/17
Mission Creek	X19 5718 61	19.17	15	4.89	6.13	9,100	19	9.90	1969	.476	1.1	34.011	-116.627	2400	11.68	1993/01/05-19
San Francisco M Del. I	E70 7772 00	6.76	1	2.24	4.99	1,100	106	7.76	1866	.404	1.3	37.783	-122.417	52	21.50	1994/11/05
Mt Shasta City	A20 5983 00	19.33	5	6.84	4.68	1,300	97	15.15	1909	.390	1.0	41.317	-122.317	3544	35.81	1995/01/07-11
Roseville Filter Pl	A00 7565 30	7.56	1	2.37	6.22	11,000	23	2.96	1986	.352	1.1	38.723	-121.186	298	22.50	1995/01/10
Morrow Bay FD	T10 5866 00	8.82	1	1.98	8.05	65,000	36	3.08	1963	.429	1.3	35.367	-120.850	115	16.32	1995/03/10
Average		17.02	29	4.81	6.84		68	10.19		.424	1.2	37.015	-120.276	1448	21.65	
Maximum		70.12	365	25.35	13.33		144	42.62		.639	1.6	41.637	-114.71	7350	67.06	
Minimum		3.41	1	0.82	4.36		13	1.56		.309	0.4	32.05	-124.017	-100	2.65	
Count		46	46	46	46		46	46		46	46	46	46	46	46	46

Column Headings: Station name; DWR Station Number; Max refers to the maximum rainfall for various numbers of days; Days refer to storm duration in days; Mean refers to the average water year maximum rainfall for indicated Days; Z is the Max in units of standard deviations; Return Period is the average time in years between rainfalls as large as Max; Yrs Rec refers to years of record; Prev Max refers to the previous maximum rainfall of record in the indicated year; CV is the regional design value of the coefficient of variation; Sk is the regional design value of the coefficient of variation; Lat refers to latitude °N ; Long refers to longitude °W; Elev refers to elevation in feet; MAP refers to the mean annual precipitation in inches

Table 2
California Storm Damage Summary

Station	Year	Month	Day	Dur Days	Lives Lost	\$ M Loss	Counties	Highest rain	#10	#1000	Max In	Mx RP Years
San Francisco	1861	12	23*21	30				2	0	2	28.25	37.0
San Francisco R	1866	12	19	1				1	0	1	7.75	6.3
San Andreas Lake	1871	12	18*20	3				2	2	2	27.16	360.0
Fort Ross	1874	11	22*23	2				1	0	1	18.02	32.0
Sacramento	1880	4	30	1				1	1	1	15.70	3.5
Encinitas	1889	10	12	1				1	0	1	7.58	73.0
Newman	1890	Wtr Yr		365				28	0	8	138.25	6.6
Big Bear Lake	1891	2	23&24	2				2	3	2	32.20	22.0
Campo	1891	8	12	1				1	1	1	16.10	1M+
Tulare	1898	9	26	1				2	0	1	3.89	2.7
Forest Lake	1906	12	11	1				8	0	1	8.66	10.0
La Porte	1909	1	1*20	20				9	2	1	57.42	12.2
Los Gatos	1911	1	10*15	6				15	0	1	19.63	0.9
Colusa	1916	1	2	1				3	0	2	9.40	42.0
Descasio RS	1916	1	14*18	15	22	5		25	9	6	37.06	6.7
Antioch	1918	9	12*14	3				7	0	2	7.12	2.2
Werner Springs	1921	12	5Da	5				4	6	0	28.81	0.5
Fancher Ranch	1925	4	4	1				1	0	1	4.00	6.3
Morena Dam	1927	2	13*17	4				37	4	6	26.60	6.6
Tehachapi	1932	9	28*1		15	1						
Anza Foothill Rch 99	1933	12	31*1	2	40	5		14	16	2	19.49	1.4
Riverside N	1937	2	4*7	4				7	1	0	22.85	0.5
Little Uvis	1937	12	10	2		15		27	8	2	20.50	22.0
Riverside N	1938	3	2	1	87	78		12	39	1	15.96	0.5
Indio	1938	9	24	2		2		3	0	1	8.00	55.0
Brawley	1939	9	5&6	2				7	0	3	6.33	16.6
Willows	1941	Wtr		365				55	1	7	86.10	5.8
Hoegees	1943	1	23	1			3		57	9	26.12	24.0
Orick	1950	10	29	1			1	4	2	1	11.50	4.2
Calaveras dam	1950	11	18	1	2	32		30	5	9	13.16	24.0
Inskip Inn	1950	12	30	1					1	1	14.60	5.3
Lake McKenzie	1955	12	17*27	10		200		164	17	20	49.20	5.4
Oakdale Woodward	1958	4	3	1			1	3	0	1	5.72	300.0
Orinda Filters	1962	10	10*12	3	56	250		214	22	24	25.78	6.7
Florence Lake	1963	1	30*01	3	10	19		46	7	5	23.25	33.0
Gazelle	1964	12	19*24	6		213	31	80	33	7	32.60	360.0
Kern Intake 3 SCE	1966	12	2*7	5		29	7	41	19	11	30.60	130.0
Independence	1969	1&2		60	41	300	40	299	50	20	88.50	8.4
Fieldbrook 4D Rch	1974			1					1	1	10.10	2.0
Harrison Gulch RS R	1976	9	11	1	5	150	3	14	1	0	12.10	0.7
Mecca	1977	9	11	1				14		0	4.00	0.7
Yuma Valley, AZ	1977	8	16	1	5	25	2	21	0	3	7.80	640.0
Buttonwillow	1978	2	10	1	18	120	7	76	9	16	13.31	28.0
Sage	1980	2	14*21	8	18	316	8	133	0	1	31.84	0.9
Furgerson Ranch	1980	12	3	14				3	1	1	12.00	500.0
Richmond City Hall	1982	1	4	1	20	156		104	16	8	15.20	5.4
Kekseyville 2N	1983	Wtr Yr		365		523		512	8	44	188.50	190.0
Atlas Road	1986	2	11*20	10	13	400		187	10	11	49.44	94.0
Newman	1988	1	17	1				4	0	1	4.10	18.5
Mission Creek	1993	1	5*19	15	20	600		148	1	12	37.89	9.1
Black Butte Rch	1995	Wtr		365				62	8	1	129.58	4.3
Greenville	1995	1	7*12	6				50	5	1	35.18	2.4
Roseville Filter Pl	1995	1	10	1	17	741.4		50	6	5	11.60	4.0
Morrow Bay FD	1995	3	10	1	16	1090		45	2	4	12.44	65.0

1/4 of State's accessed value was lost in 1862 flood

Column Headings: Station refers to station with largest return period for storm; Dur refers to storm duration in days; Lives lost refers to the storm related storm deaths; \$ M Lost refers to the property loss in \$ millions; Counties refers to the number of counties which were declared to be disasters; Highest rain refers to the number of rain measuring stations reporting the highest ever rainfall; #10 refers to the number of stations reporting 10 inches or more of rainfall in one day; #1000 refers to the number of stations reporting 1000 year rainfalls during storm; Max in refers to the the maximum rainfall in inches reported for the storm; Mx PR refers to the highest reported return period in years.