



SIGNIFICANT EARTHQUAKES AND FAULT RUPTURES IN CALIFORNIA

Map No	Earthquake Date and Fault (Location)	Mag.	Surface Rupture
1	1812 San Andreas (Wrightwood), 12/8	~7.3	15+ mi
2	1812 (Santa Barbara Channel), 12/21	~7.1	(offshore)
2'	1812 San Andreas (Alternate location proposed by Topozada and others, 2002)	~7.1	45± mi
3	1838 San Andreas	~7.4	36± mi
4	1853 San Andreas (Lonoak) (Topozada & others, 2002)	~6.0	*
5	1857 San Andreas (Fort Tejon)	7.9	200± mi
6	1861 Calaveras (Dublin)	5.8	8± mi
7	1865 (Santa Cruz Mtns.)	6.5	*
8	1868 Hayward	7.0	30± mi
9	1872 Owens Valley	7.4	60± mi
10	1872 Owens Valley	6.8	*
11	1873 (Crescent City)	6.9	*
12	1890 San Andreas (San Juan Bautista)	6.3	5± mi
13	1892 Unnamed (Allendale)	6.6	1 mi?
14	1898 Rodgers Creek? (Mare Island)	6.4	*
15	1898 (Mendocino)	~6.7	(offshore)
16	1899 San Jacinto	6.7	2 (?) mi
17	1901 San Andreas (Parkfield)	6.4	"several mi"
18	1906 San Andreas	7.8	270 mi
19	1911 Calaveras (Morgan Hill)	6.4	*
20	1918 San Jacinto	6.8	*
21	1918 (Mendocino)	6.5	(offshore)
22	1922 (Eureka)	7.3	(offshore)
23	1922 San Andreas (Cholame)	6.3	0.25 (?) mi
24	1923 (Cape Mendocino)	7.2	(offshore)
25	1927 (Lompoc)	7.1	(offshore)
26	1933 Newport-Inglewood (Long Bch.)	6.4	*
27	1934 San Andreas (Parkfield)	6.0	2 mi
28	1940 Imperial	7.0	40± mi
29	1941 (Cape Mendocino)	6.6	(offshore)
30	1942 (Fish Creek Mtns.)	6.4	*
31	1947 Manix (Mojave Desert)	6.5	1 mi
32	1950 Fort Sage	5.6	5.5 mi
33	1952 Superstition Hills	5.8	2.5 mi
34	1952 White Wolf	7.3	33 mi
35	1954 (East of Arcata)	6.6	*
36	1966 Imperial	3.6	6 mi
37	1966 San Andreas (Parkfield)	6.0	23 mi
38	1966 Unnamed (Truckee)	6.0	10 mi
39	1968 Coyote Creek (Borrego Mtn.)	6.6	19 mi
40	1971 San Fernando	6.6	9.5 mi
41	1975 Galway Lake	5.2	4.2 mi
42	1975 Cleveland Hill	6.1	3.4 mi
43	1975 Brawley	4.7	6.5 mi
44	1978 Stephens Pass	4.6	1.2+ mi
45	1979 Homestead Valley	4.9	0.22 mi
46	1979 Johnson Valley	5.3	0.9 mi
47	1979 Calaveras (Coyote Lake)	5.7	23.4 mi?
48	1979 Imperial, Brawley, Rico	6.5	18; 7.8; .6 mi
49	1980 Greenville	5.8	3.9 mi
50	1980 Hilton Creek	6.2	12 mi
51	1980 (Eureka)	7.4	(offshore)
52	1982 Little Lake	5.2	6 mi
53	1983 Nunez (Coalinga)	6.4	2 mi
54	1984 Calaveras (Morgan Hill)	6.2	0.72 mi?
55	1986 So. Branch San Andreas	6.0	5.4 mi
56	1986 White Mountains (Chalfant)	6.4	7.8 mi
57	1987 (Whittier Narrows)	6.0	* (blind thrust)
58	1987 Elmore Ranch	6.2	7.2 mi
59	1987 Superstition Hills	6.6	16.8 mi
60	1989 San Andreas (Loma Prieta)	6.9	0.6 mi
61	1992 (Petrolia)	7.2	* (blind thrust?)
62	1992 (Cape Mendocino)	6.6	(offshore)
63	1992 (Cape Mendocino)	6.6	(offshore)
64	1992 Johnson Va., Homestead Va., Emerson, Camp Rock, Eureka Pk., Burnt Mtn. (Landers)	7.3	53 mi
65	1992 (Big Bear)	6.5	*
66	1994 Northridge (Northridge)	6.7	* (blind thrust)
67	1999 Lavic Lake, Bullion (Hector Mine)	7.1	30 mi

\* Surface rupture either not observed or not recorded.

NOTE:  
No pre-Quaternary faults shown in Nevada, Oregon, or Mexico.

EXPLANATION

Geologic Time	Fault Symbol	Years Before Present	Recency of Movement	Description
QUATERNARY	Historic		—	Historic ground ruptures, including creep.
	Holocene	200	—	Holocene displacement
Pleistocene		10,000	?	Pleistocene faults. Many faults in Sierra Nevada shown as pre-Quaternary may be late Cenozoic.
PRE-QUATERNARY		1,600,000		Faults without recognized Quaternary displacement. Not necessarily without future activity potential.
		4.5 billion		(Age of earth)

Faults shown solid where well located or strongly inferred (including offshore faults); faults dotted on land where concealed; bars indicate upper plate of thrust faults.

Selected epicenters - mostly  $M \geq 6.5$ . Pre-1933 earthquakes estimated from intensity. Locations (and magnitude) mostly from Guter and others, 1994, and Topozada and others, 1981.

References Cited

DePolo and others, 1996, Planning scenario for a major earthquake in Western Nevada, Nevada Bureau of Mines and Geology, Special Publication 20.

Guter and others, 1994, Earthquakes in California and Nevada: U.S. Geological Survey Open-File Report 94-647, scale 1:1,000,000.

Topozada and others, 1981, Preparation of isoseismal maps and summaries of reported effects for pre-1900 California earthquakes: California Division of Mines and Geology Open-File Report 81-11, 182 p.

Topozada and others, 2002, San Andreas Fault Zone,  $M \geq 5.5$  earthquake history, Bulletin Seismological Society of America, in press.

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Digital Representation by Richard R. Moar and Jerry Wampole

# SIMPLIFIED FAULT ACTIVITY MAP OF CALIFORNIA

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1999 (Revised 2002, Tousson Topozada and David Branum)