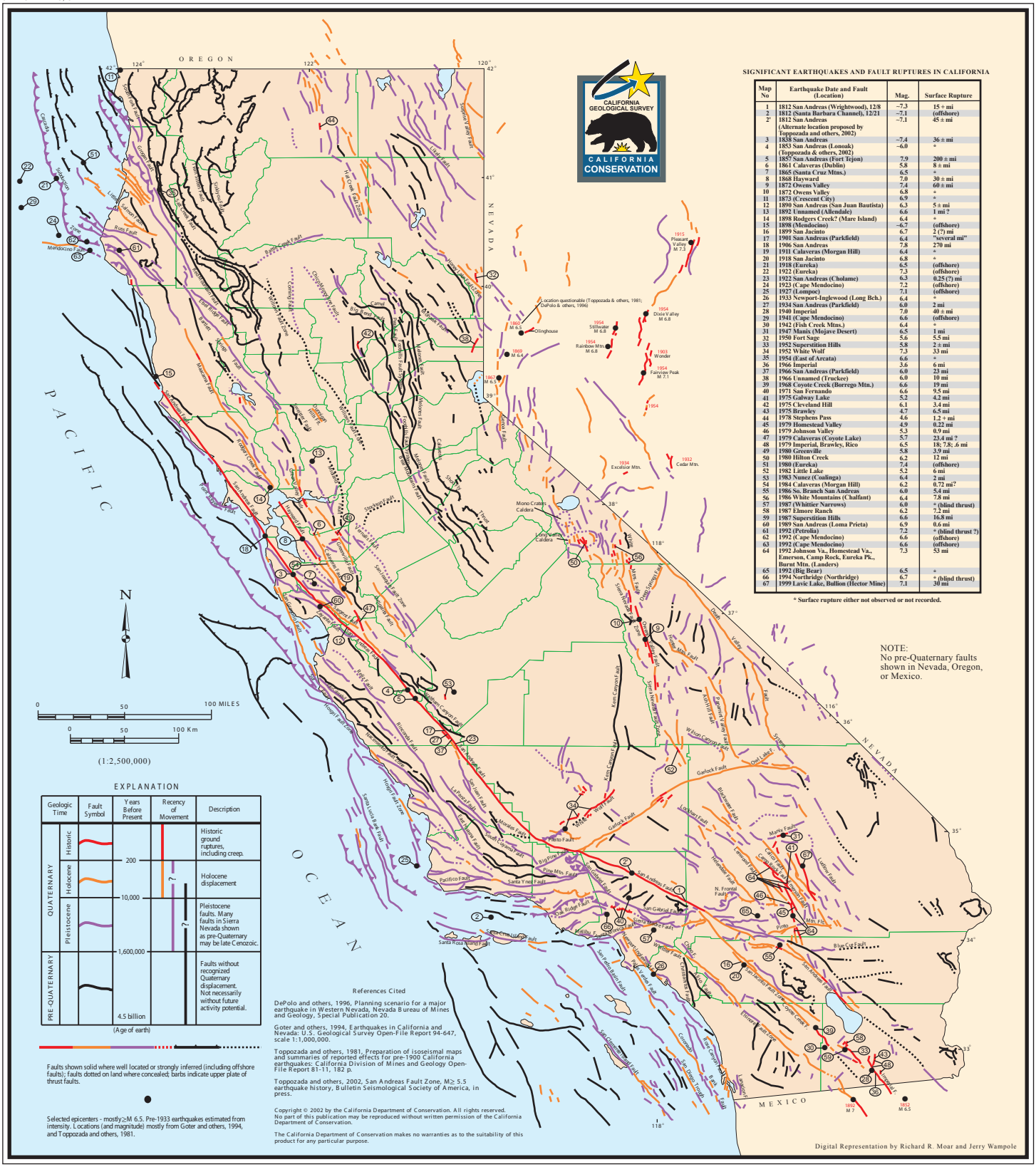

SIGNIFICANT EARTHQUAKES AND FAULT RUPTURES IN CALIFORNIA

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 Toppozada and others, 2002)	~7.1	45 ± mi
3	1838 San Andreas	~7.4	36 ± mi
4	1853 San Andreas (Lonoak) (Toppozada & 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 (Eureka)	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 ± 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.

EXPLANATION

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

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

Selected epicenters - mostly≥M 6.5. Pre-1933 earthquakes estimated from intensity. Locations (and magnitude) mostly from Goter and others, 1994, and Toppozada and others, 1981.

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Digital Representation by Richard R. Moar and Jerry Wampole

SIMPLIFIED FAULT ACTIVITY MAP OF CALIFORNIA

Compiled by Charles W. Jennings and George J. Saucedo

1999 (Revised 2002, Tousson Toppozada and David Branum)