FAULT NAME AND GEOMETRY (ss) strike slip, (r) reverse, (n) normal (rl) rt. lateral, (ll) left lateral, (o) oblique	Fault Length (km)	+/-	Slip Rate (mm/yr)	+/-	Rank (1)	Mmax (2)	Down Dip Width (km) (3)	+/-	Ruptop (4)	Rupbot (5)	Dip	Endpt N (W)	Endpt. S (E)	COMMENTS

Note: Entry highlighted in yellow indicates modifications to 1996 fault parameters. Entry highlighted in grey with red text indicates 1996 source that has been deleted in the 2002 fault parameters.

B FAULTS

ELSINORE AND SAN JACINTO FAULT ZONES (NON A FAULTS)

FAULT NAME AND GEOMETRY	Fault Length (km)	+/-	Slip Rate (mm/yr)	+/-	Rank (1)	Mmax (2)	Down Dip Width (km) (3)	+/-	Ruptop (4)	Rupbot (5)	Dip	Endpt N (W)	Endpt. S (E)	COMMENTS
Brawley Seismic Zone (rl-ss)	42	4	25.0	5.0	P	6.4	6	2	2	8	90	-115.71; 33.35	-115.51; 32.96	Brawley Seismic zone removed as specific fault source, but characterized its hazard using gridded seismicity.
Chino -Central Ave. (rl-r-o) (65 SW)	28	3	1.0	1.0	U	6.7	17	2	0	15	65	-117.75; 34.03	-117.57; 33.83	Unconstrained slip rate based on assumptions of slip transfer between Elsinore and Whittier faults.
Earthquake Valley (rl-ss)	20	2	2.0	1.0	U	6.5	15	2	0	15	90	-116.58; 33.18	-116.41; 33.08	Slip rate based on Rockwell (p.c. 1996).
Elmore Ranch (ll-ss)	29	3	1.0	0.5	M	6.6	12	2	0	12	90	-115.66; 33.23	-115.85; 33.03	Late Holocene slip rate based on Hudnut, et al. (1989). Fault length includes eastward extent of zone of seismicity.

GARLOCK FAULT ZONE

FAULT NAME AND GEOMETRY	Fault Length (km)	+/-	Slip Rate (mm/yr)	+/-	Rank (1)	Mmax (2)	Down Dip Width (km) (3)	+/-	Ruptop (4)	Rupbot (5)	Dip	Endpt N (W)	Endpt. S (E)	COMMENTS
Garlock (West) (ll-ss)	98	10	6.0	3.0	P	7.3	12	2	0	12	90	-118.92 34.82	-118.01; 35.27	Minor modifications to digitial fault trace and minor length modification. 1996 slip rate based on offset late Qt. stream channel (McGill, 1994; p.c.1996).
Garlock (East) (ll-ss)	156	16	7.0	2.0	M	7.5	12	2	0	12	90	-118.02; 35.28	-116.38; 35.59	Minor modifications to digitial fault trace and minor length modification. Slip rate based on McGill and Sieh (1993).
Owl Lake (ll-ss)	25	3	2.0	1.0	M	6.5	12	2	0	12	90	-116.88; 35.61	-116.64; 35.73	Slip rate based on offset stream channel. Timing of offset based on radio-carbon and rock varnish dating of alluviual fan surface reported by McGill (1993).

SAN GREGORIO-HOSGRI FAULT ZONE

FAULT NAME AND GEOMETRY	Fault Length (km)	+/-	Slip Rate (mm/yr)	+/-	Rank (1)	Mmax (2)	Down Dip Width (km) (3)	+/-	Ruptop (4)	Rupbot (5)	Dip	Endpt N (W)	Endpt. S (E)	COMMENTS
Hosgri (rl-ss)	169	17	2.5	1.0	M-P	7.5	12	2	0	12	90	-121.73; 36.15	-120.75; 34.87	Minor modifications to digitial fault trace and minor length modification. 1996 slip rate based on San Simeon fault slip rate reported in Hanson and Lettis (1994).
San Gregorio (South) (rl-ss)	66	7	3.0	2.0	P	7.0	12	2	0	12	90	-122.16; 36.85	-121.86; 36.13	WG99/WG02 source parameters used. Go to the U.S. Geological Survey website for more information on WG99 and WG02.

FAULT NAME AND GEOMETRY (ss) strike slip, (r) reverse, (n) normal (rl) rt. lateral, (ll) left lateral, (o) oblique	Fault Length (km)	+/-	Slip Rate (mm/yr)	+/-	Rank (1)	Mmax (2)	Down Dip Width (km) (3)	+/-	Ruptop (4)	Rupbot (5)	Dip	Endpt N (W)	Endpt. S (E)	COMMENTS
San Gregorio (North) (rl-ss)	110	11	7.0	3.0	P	7.2	13	2	0	13	90	-122.62; 37.77	-122.16; 36.85	WG99/WG02 source parameters used. Go to the U.S. Geological Survey website for more information on WG99 and WG02.
CALAVERAS FAULT ZONE														
Calaveras (Northern) (rl-ss)	45	5	6.0	2.0	M	6.8	13	2	0	13	90	-122.03; 37.86	-121.81; 37.45	WG99/WG02 source parameters used. Go to the U.S. Geological Survey website for more information on WG99 and WG02.
Calaveras (Central) (rl-ss)	59	6	15.0	3.0	M	6.2	11	2	0	11	90	-121.81; 37.45	-121.47; 36.99	WG99/WG02 source parameters used. Go to the U.S. Geological Survey website for more information on WG99 and WG02.
Calaveras (Southern) (rl-ss)	19	3	15.0	3.0	P	5.8	11	2	0	11	90	-121.47; 36.99	-121.40; 36.83	WG99/WG02 source parameters used. Go to the U.S. Geological Survey website for more information on WG99 and WG02.
SAN DIEGO AREA														
Coronado Bank (rl-ss)	185	19	3.0	1.0	P	7.6	13	2	0	13	90	-117.93; 33.27	-116.84; 31.89	Slip rate for Palos Verdes fault assummed to extend to SE along Coronado Bank flt.
Newport-Inglewood (offshore)(rl-ss)	66	7	1.5	0.5	P	7.1	13	2	0	13	90	-117.91; 33.60	-117.43; 33.16	Slip rate based on assumption that slip from Rose Canyon zone transfers to offshore Newport-Inglewood (WGCEP, 1995).
Rose Canyon (rl-ss)	70	7	1.5	0.5	M	7.2	13	2	0	13	90	-117.42; 33.12	-117.15; 32.56	Fault extended to south to include Holocene active Silver Strand fault (activity based on Kennedy and Clarke, 1999a and b). Click here to view expanded comments.
TRANSVESE RANGES AND LOS ANGELES BASIN														
Big Pine (ll-ss)	41	4	0.8	0.8	P	6.9	13	2	0	13	90	-119.01; 34.82	-119.40; 34.66	Poorly constrained Plio-Pleistocene slip rate > 0.8 mm/yr from Kahle (1966).
Clamshell-Sawpit (r, 45 NW)	16	2	0.5	0.5	U	6.5	18	2	0	13	45	-117.85; 34.24	-118.00; 34.18	Unconstrained slip rate reported by Dolan, et al (1995), based on geomorphic expression of fault.
Cucamonga (r, 45 N)	28	3	5.0	2.0	M	6.9	18	2	0	13	-45	-117.73; 34.13	-117.44; 34.18	Minor modifications to digitial fault trace and minor length modification. Slip rate from 1996 fault parameters is based on cumulative vertical displacement across three strands reported by Morton and Matti (1987, 1991).
Hollywood (ll-r-o, 70 N)	17	2	1.0	0.5	P	6.4	14	2	0	13	70	-118.41; 34.08	-118.23; 34.12	Slip rate estimated by authors, based on similar rationale for Santa Monica fault zone. Dolan, et al (1995) reported a slip rate of 1.0-1.5 mm/yr.

APPENDIX A - 2002 CALIFORNIA FAULT PARAMETERS

FAULT NAME AND GEOMETRY (ss) strike slip, (r) reverse, (n) normal (rl) rt. lateral, (ll) left lateral, (o) oblique	Fault Length (km)	+/-	Slip Rate (mm/yr)	+/-	Rank (1)	Mmax (2)	Down Dip Width (km) (3)	+/-	Ruptop (4)	Rupbot (5)	Dip	Endpt N (W)	Endpt. S (E)	COMMENTS
Holser (r, 65 S)	20	2	0.4	0.4	P	6.5	14	2	0	13	65	-118.75; 34.44	-118.55; 34.42	Slip rate estimated by authors based on offset of base of Plio-Pleistocene Saugus Fm. Reported by Stitt (1986).
Malibu Coast (ll-r-o, 75 N)	37	4	0.3	0.2	P	6.7	13	2	0	13	75	-118.93; 34.05	-118.53; 34.03	Slip rate is horizontal component of slip based on left-laterally deflected drainages incised in terrace surface (Stage 7? or 9?) reported by Treiman (1994).
Mission Ridge - Arroyo Parida - Santa Ana (r, 60 N)	69	7	0.4	0.2	M	7.2	15	2	0	13	60	-119.90; 34.43	-119.17; 34.47	Minimum dip-slip rate based on Rockwell, et al (1984). Assumption that half of 65 km length ruptures. Total length includes More Ranch fault.
Newport-Inglewood (rl-ss)	66	7	1.0	0.5	P	7.1	13	2	0	13	90	-118.39; 34.04	-117.92; 33.61	Minor modifications to digitial fault trace and minor length modification. 1996 slip rate is based on Mio-Pliocene slip rate of 0.5 mm/yr reported by Freeman, et al. (1992). Offsets observed in the Huntington Beach area indicate significant Holocene displacement. Apparent vertical separation of 0.46 m of 3-4ka A soil horizon is suggestive of higher slip rate. If apparent vertical separation reflects actual vertical displacement, then H:V ratio of 20:1 for fault (Freeman, et al., 1992) would suggest Holocene rate of 2 to 3 mm/yr. We use 1 mm/yr for fault, based on WGCEP (1995).
Oak Ridge (onshore) (r, 65 S)	49	5	4.0	2.0	P	7.0	14	2	1	14	65	-119.21; 34.25	-118.72; 34.4	Dip-slip rate from 1996 fault parameters estimated by authors is composite of several published rates (Yeats, 1988; Levi & Yeats, 1993; Huftile, 1992; Yeats, et al., 1994; WGCEP, 1995).
Palos Verdes (rl-ss)	96	10	3.0	1.0	M	7.3	13	2	0	13	90	-118.58; 33.95	-117.94; 33.28	Minor modifications to digitial fault trace and minor length modification. 1996 slip rate is based on rl offset of ancestral channel of Los Angeles River (Stephenson et al., 1995).
Pleito (r, 45 S)	44	4	2.0	1.0	M	7.0	15	2	0	11	-45	-119.30; 34.94	-118.88; 34.94	Dip modeled at 45° in order to accommodate spatial relationship with San Andreas fault. Click here to view expanded comments.
Raymond (ll-r-o, 75 N)	23	2	1.5	1.0	M	6.5	13	2	0	13	-75	-118.22; 34.12	-117.99; 34.16	Slip rate increased from 0.5 mm/yr, based on slip rate study by Marin, et al (2000). Click here to view expanded comments.
Red Mountain (r, 60 N)	39	4	2.0	1.0	P	7.0	15	2	0	13	60	-119.65; 34.36	-119.28; 34.40	1996 slip rate based on summation of two strands of Red Mtn. flt at Punta Gorda reported in Clark, et al., 1984).
San Cayetano (r, 60 N)	42	4	6.0	3.0	P	7.0	15	2	0	13	-60	-119.16; 34.45	-118.76; 34.44	Minor modifications to digitial fault trace and minor length modification. 1996 dip-slip rate estimated by authors is composite of several published rates (Rockwell, 1983, 1988; Yeats, 1983; Molnar, 1991; Levi & Yeats, 1993; Huftile, 1992; WGCEP, 1995).

APPENDIX A - 2002 CALIFORNIA FAULT PARAMETERS

FAULT NAME AND GEOMETRY (ss) strike slip, (r) reverse, (n) normal (rl) rt. lateral, (ll) left lateral, (o) oblique	Fault Length (km)	+/-	Slip Rate (mm/yr)	+/-	Rank (1)	Mmax (2)	Down Dip Width (km) (3)	+/-	Ruptop (4)	Rupbot (5)	Dip	Endpt N (W)	Endpt. S (E)	COMMENTS
San Gabriel (rl-ss)	72	7	1.0	0.5	P	7.2	13	2	0	13	90	-118.88; 34.71	-118.28; 34.32	Poorly constrained long term slip rate in 1996 fault parameters reported by Yeats, et al. (1994). Slip rates range from 1-3 mm/yr but Holocene slip rates are thought to be closer to the lower value.
San Jose (ll-r-o, 75 NW)	20	2	0.5	0.5	U	6.4	13	2	0	13	75	-117.88; 34.04	-117.69; 34.11	Unconstrained slip rate in 1996 fault parameters reported by Dolan, et al (1995), based on geomorphic expression of fault.
Santa Monica (ll-r-o, 75 N)	28	3	1.0	0.5	P-M	6.6	13	2	0	13	-75	-118.71; 34.01	-118.42; 34.07	Minor modifications to digitial fault trace and minor length modification. 1996 fault parameters is based on published slip rate of 0.3 mm/yr from Clark et al.,1984 for Potrero Canyon fault, a branch of Santa Monica fault zone. Slip rate of 1 mm/yr is based on 2 assumptions: 1) H:V is 1:1 and 2) slip rate for Potrero Canyon is half of entire Santa Monica fault.
Santa Ynez (West) (ll-ss)	65	7	2.0	1.0	M	7.1	13	2	0	13	80	-120.31; 34.51	-119.63; 34.49	Slip rate from 1996 fault parameters is preferred left-lateral, based on offset stream channel reported by Darrow and Sylvester (1984).
Santa Ynez (East) (ll-ss)	68	7	2.0	1.0	M	7.1	13	2	0	13	80	-119.63; 34.49	-118.91; 34.59	Slip rate from 1996 fault parameters is preferred left-lateral, based on offset stream channel reported by Darrow and Sylvester (1984).
Santa Susana (r, 55 N)	27	3	5.0	2.0	P	6.7	16	2	0	13	55	-118.77; 34.36	-118.50; 34.32	Slip rate from 1996 fault parameters is dip-slip rate estimated by authors based on composite of several published rates (Yeats, 1987; Levi & Yeats, 1993; Huftile, 1992; WGCEP, 1995).
Sierra Madre (San Fernando) (r, 45 N)	18	2	2.0	1.0	P	6.7	18	2	0	13	45	-118.48; 34.30	-118.30; 34.28	Dip-slip rate reported in 1996 fault parameters is combination of rate reported by Clark et al (1984) and estimate by authors for the Dunsmore alluvial fan (of age 2-10 ka) reported in Crook et al. (1987).
Sierra Madre (r, 45 N)	57	6	2.0	1.0	P	7.2	18	2	0	13	45	-118.29 34.28	-117.74; 34.12	Slip rate reduced from 3 mm/yr to 2 mm/yr, minor modifications to digitial fault trace and minor length modification. Click here to view expanded comments.
Simi-Santa Rosa (ll-r-o, 60 N)	40	4	1.0	0.5	P	7.0	15	2	1	14	-60	-119.10; 34.22	-118.68; 34.31	Minor modifications to digitial fault trace and minor length modification. Slip rate from 1996 fault parameters is rate reported by Gonzalez and Rockwell (1991) for Springville fault, a branch of Simi-Santa Rosa fault. Slip rate of 1 mm/yr assumed in order to account for entire fault zone.

FAULT NAME AND GEOMETRY (ss) strike slip, (r) reverse, (n) normal (rl) rt. lateral, (ll) left lateral, (o) oblique	Fault Length (km)	+/-	Slip Rate (mm/yr)	+/-	Rank (1)	Mmax (2)	Down Dip Width (km) (3)	+/-	Ruptop (4)	Rupbot (5)	Dip	Endpt N (W)	Endpt. S (E)	COMMENTS
Ventura-Pitas Point (r-ll-o, 75 N)	40	4	1.0	0.5	M	6.9	13	2	1	14	75	-119.55; 34.31	-119.14; 34.34	Focal mechanism for M 3.0 earthquake presumably on Ventura fault suggests 1:3 H:V ratio of slip. Slip rate from 1996 fault parameters was estimated by authors based on height of scarp across Harmon alluvial fan mapped by Sarna-Wojcicki, et al (1976) and assumed slip components.
Verdugo (r, 45 NE)	29	3	0.5	0.5	U	6.9	18	2	0	13	45	-118.42; 34.26	-118.15; 34.13	1996 fault parameters used unconstrained slip rate based on report of scarps in alluvial fans (Weber, et al., 1980). Fault zone may complexly join Raymond fault along Eagle Rock and San Rafael flts.
White Wolf (r-ll-o, 60 S)	67	7	2.0	2.0	P	7.3	21	2	0	18	60	-119.10; 35.08	-118.48; 35.39	1996 fault parameters used poorly constrained long term slip rate suggestive of about 5 mm/yr, based on Stein and Thatcher (1981). WGCEP (1995) used slip rate of 2 mm/yr. Dip of fault based on 1952 earthquake focal mechanism and modeling by Stein and Thatcher.
LOS ANGELES BLIND THRUSTS														
Compton thrust (r, 20 NE)	39	4	1.5	1.0	P	6.8	15	2	5	10	20	-118.49; 33.78	-118.14; 33.59	Source deleted based on reported lack of late Quaternary offset (Mueller, 1997). Click here to view expanded comments.
Elysian Park (r, 20 NE)	34	3	1.5	1.0	P	6.7	15	2	10	15	20	-118.23; 34.02	-117.92; 33.85	Source replaced using Puente Hills blind thrust and Upper Elysian Park blind thrust. Click here to view expanded comments.
Upper Elysian Park (r, 50 NE)	20	2	1.3	0.4	P	6.4	13	2	3	13	50	-118.30; 34.11	-118.10; 34.07	Slip rate and fault geometry from Oskin, et al (2000). Click here to view expanded comments.
Northridge (r, 42 S)	31	3	1.5	1.0	P	7.0	22	2	5	20	42	-118.708; 34.41	-118.41; 34.28	1996 fault parameters used slip rate based on Yeats and Huftile (1995). End point coordinates are for surface projection of top of rupture plane.
Puente Hills blind thrust (r, 25 N)	44	4	0.7	0.4	P	7.1	19	2	5	13	25	-118.30; 34.06	-117.87; 33.93	Source parameters from Shaw and Shearer (1999), Shaw, et al (2000), and Christofferson, et al (2001). Click here to view expanded comments.
San Joaquin Hills (r, 23 SW)	28	3	0.5	0.2	P	6.6	15	2	2	8	-23	-117.93; 33.70	-117.67; 33.60	Model by Grant, et al (1999) and Grant and Runnerstrom (written communication, 11-01). Click here to view expanded comments.

FAULT NAME AND GEOMETRY (ss) strike slip, (r) reverse, (n) normal (rl) rt. lateral, (ll) left lateral, (o) oblique	Fault Length (km)	+/-	Slip Rate (mm/yr)	+/-	Rank (1)	Mmax (2)	Down Dip Width (km) (3)	+/-	Ruptop (4)	Rupbot (5)	Dip	Endpt N (W)	Endpt. S (E)	COMMENTS
SANTA BARBARA CHANNEL														
Anacapa-Dume (r,ll-o 45 N)	75	8	3.0	2.0	U	7.5	28	2	0	20	45	-119.50; 33.99	-118.69; 33.98	Unconstrained slip rate is based on assumption by authors that fault carries 1 mm/yr sinstral slip rate from Santa Monica flt and 3.0 mm/yr dextral slip rate from Palos Verdes fault is carried as contractional slip rate.
Channel Islands thrust (r, 17N)	63	6	1.5	1.0	P	7.5	34	2	5	15	17	-119.95; 33.98	-119.27; 33.98	Blind thrust fault based on modeling by Shaw and Suppe (1994). 1996 slip rate based on deformation of 1 my old horizon and is considered poorly constrained. End point coordinates are for top of rupture plane.
Oak Ridge Mid Channel structure (r, 28 N)	37	4	1.0	1.0	P	6.6	11	2	5	10	28	-119.67; 34.25	-119.28; 34.25	Name changed from Montalvo-Oakridge trend. 1996 slip rate used poorly constrained slip rate based on modeling of detachment zone by Shaw and Suppe (1994). End point coordinates are for top of rupture plane.
North Channel Slope (r, 26 N)	68	7	2.0	2.0	P	7.4	23	2	10	20	26	-120.40; 34.46	-119.67; 34.40	Slip rate based on assumption that slip rates from Red Mtn.-Javon Canyon and Pitas Pt. flts transfer to N-dipping thrust. End point coordinates are for top of rupture plane.
Oak Ridge (blind thrust offshore) (r, 30 S)	39	4	3.0	3.0	P	7.1	20	2	5	15	30	-119.68; 34.17	-119.26; 34.17	1996 fault parameter alternative model based on Huftile and Yeats (1995). Replaces slip on eastern Channel Island Thrust and Oakridge Mid Channel structure.
Santa Cruz Island (ll-r-o)	50	5	1.0	0.5	M	7.0	13	2	0	13	90	-120.04; 34.10	-119.52; 33.99	1996 fault parameter is based on moderately constrained Qt. slip rate (0.75 mm/yr) derived from offset streams incised into Stage 11 (?) terrace (Pinter, et al., 1995).
Santa Rosa Island (ll-r-o)	57	6	1.0	0.5	P	7.1	13	2	0	13	90	-120.51; 34.03	-119.91; 34.02	1996 fault parameter is based on moderately constrained Qt. slip rate (1 mm/yr) deroved from offset incised stream channels (Colson et al., 1995).
E. TRANSVERSE RANGES AND MOJAVE														
Blackwater (rl-ss)	60	6	0.6	0.4	P	7.1	13	2	0	13	90	-117.41; 35.45	-117.02; 35.02	Mojave slip rates based on Holocene rates reported for Homestead Vlly., Emerson, and Johnson Vlly. flts (Hecker, et al., 1993; Rubin and Sieh, 1993; Herzberg and Rockwell, 1993), similar geomorphic expression, and geodetic constraints across Mojave shear zone (about 8 mm/yr).
Burnt Mtn. (rl-ss)	21	2	0.6	0.4	P	6.5	13	2	0	13	90	-116.41; 34.12	-116.39; 33.93	Minor modifications to digitial fault trace and minor length modification. See Blackwater fault for slip rate assumptions.

FAULT NAME AND GEOMETRY (ss) strike slip, (r) reverse, (n) normal (rl) rt. lateral, (ll) left lateral, (o) oblique	Fault Length (km)	+/-	Slip Rate (mm/yr)	+/-	Rank (1)	Mmax (2)	Down Dip Width (km) (3)	+/-	Ruptop (4)	Rupbot (5)	Dip	Endpt N (W)	Endpt. S (E)	COMMENTS
Calico-Hidalgo (rl-ss)	95	10	0.6	0.4	P	7.3	13	2	0	13	90	-116.92; 34.99	-116.26; 34.36	See Blackwater fault.
Cleghorn (ll-ss)	25	3	3.0	2.0	P	6.5	13	2	0	13	90	-117.46; 34.31	-117.20; 34.28	Slip rate based on Meisling (1984).
Eureka Peak (rl-ss)	19	2	0.6	0.4	P	6.4	13	2	0	13	90	-116.39; 34.12	-116.34; 33.97	Minor modifications to digitial fault trace. See Blackwater fault for slip rate assumptions.
Gravel Hills-Harper Lk.(rl-ss)	65	7	0.6	0.4	P	7.1	13	2	0	13	90	-117.45; 35.26	-116.92; 34.87	See Blackwater fault for slip rate assumptions.
Helendale-S. Lockhart (rl-ss)	97	10	0.6	0.4	P	7.3	13	2	0	13	90	-117.50; 35.06	-116.87; 34.37	See Blackwater fault for slip rate assumptions.
Johnson Valley (Northern) (rl-ss)	35	4	0.6	0.4	P	6.7	13	2	0	13	90	-116.70; 34.56	-116.46; 34.31	Minor modifications to digitial fault trace and minor length modification. 1996 slip rate based on Herzberg and Rockwell (1993). Fault segment assumed to rupture independently of Landers event.
Landers (rl-ss)	83	8	0.6	0.4	P-M	7.3	13	2	0	13	90	-116.85; 34.78	-116.42; 34.16	Minor modifications to digitial fault trace. 1992 Landers earthquake rupture (Hauksson, et al (1993).
Lenwood - Lockhart-Old Woman Springs (rl-ss)	145	15	0.6	0.4	P	7.5	13	2	0	13	90	-117.76; 35.22	-116.64; 34.35	See Blackwater fault for slip rate assumptions.
North Frontal Fault zone (Western) (r, 45 S)	51	5	1.0	0.5	P	7.2	18	2	0	13	45	-117.27; 34.32	-116.85; 34.37	Reported slip rate of 1.2 mm/yr for Sky High Ranch fault, a rlss segment of fault zone (Meisling, 1984). Other reported slip rates range between 0.1 and 1.3 mm/yr.
North Frontal Fault zone (Eastern) (r, 45 S)	27	3	0.5	0.3	U	6.7	18	2	0	13	45	-116.80; 34.34	-116.53; 34.31	Flt. zone east of intersection with Helendale flt. Unconstrained slip rate based on assumption that some slip transferred to NW-striking flts.
Pinto Mountain (ll-ss)	74	7	2.5	2.0	P	7.2	13	2	0	13	90	-116.72; 34.06	-115.94; 34.11	Minor modifications to digitial fault trace and minor length modification. 1996 long term slip rate based on Anderson (1979). Reported slip rates range from 0.3 - 5.3 mm/yr.
Pisgah -Bullion Mtn.-Mesquite Lk. (rl-ss)	89	9	0.6	0.4	P	7.3	13	2	0	13	90	-116.49; 34.82	-116.00; 34.14	Minor modifications to digitial fault trace and minor length modification. 1996 slip rate based on rl offset of drainage developed on Sunshine lava flow (Hart, 1987).
S. Emerson-Copper Mtn. (rl-ss)	54	5	0.6	0.4	P	7.0	13	2	0	13	90	-116.54; 34.53	-116.18; 34.16	Minor modifications to digitial fault trace and minor length modification. 1996 slip rate based on Rubin and Sieh (1993). Fault segment assumed to rupture independently of Landers event.

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FAULT NAME AND GEOMETRY (ss) strike slip, (r) reverse, (n) normal (rl) rt. lateral, (ll) left lateral, (o) oblique	Fault Length (km)	+/-	Slip Rate (mm/yr)	+/-	Rank (1)	Mmax (2)	Down Dip Width (km) (3)	+/-	Ruptop (4)	Rupbot (5)	Dip	Endpt N (W)	Endpt. S (E)	COMMENTS
SOUTHERN AND CENTRAL COAST RANGES														
Casmalia (Orcutt Frontal fault) (r, 75 SW))	29	3	0.3	0.2	P	6.5	10	2	0	10	75	-120.65; 34.93	-120.37; 34.82	Poorly constrained slip rate based on deformation of terraces (Clark, 1990).
Lions Head (r, 75 NE)	41	4	0.02	0.02	P	6.6	10	2	0	10	75	-120.61; 34.87	-120.24; 34.70	Poorly constrained slip rate based on offset marine terraces (Clark, 1990).
Los Alamos-W. Baseline (r, 30 S)	28	3	0.7	0.7	P	6.9	20	2	0	10	30	-120.32; 34.76	-120.06; 34.63	Poorly constrained slip rate based in part on dip slip displacement of A soil horizon (Guptil, et al, 1981).
Los Osos (r, 45 SW)	44	4	0.5	0.4	P	7.0	14	2	0	10	45	-120.87; 35.30	-120.46; 35.12	Poorly constrained late Quaternary slip rate based on uplift of marine terraces and assumed flt. dip of 30° - 60° (Lettis & Hall, 1994).
Monterey Bay - Tularcitos (rl-r-o)	84	8	0.5	0.4	P	7.3	14	2	0	14	90	-122.12; 36.92	-121.53; 36.37	Slip rate is composite of flts in Monterey area (Tularcitos, Chupines, Navy, flts in Monterey Bay). Rates of individual flts. estimated to be about 0.1 mm/yr (Rosenberg & Clark, 1995).
Rinconada (rl-ss)	190	19	1.0	1.0	P	7.5	10	2	0	10	90	-121.76; 36.68	-120.51; 35.31	Long term slip rate of about 3mm/yr based on Hart (1985). Lacks obvious Holocene offset.
San Juan (rl-ss)	68	7	1.0	1.0	P	7.1	13	2	0	13	90	-120.30; 35.68	-119.96; 35.15	Poorly constrained slip rate based on Anderson (1984).
San Luis Range (S. margin) (r, 45 N)	64	6	0.2	0.1	P	7.2	14	2	0	10	45	-120.79; 35.18	-120.24; 34.85	Fault system with composite slip rate of about 0.2mm/yr. Includes San Luis Obispo Bay, Oceano, Wilmar Ave., Olson, and Santa Maria River flts (Lettis, et al., 1994).
GREAT VALLEY														
Battle Creek (n, 75 S)	29	3	0.5	0.4	P	6.5	11	2	0	11	75	-122.18; 40.40	-121.85; 40.47	Slip rate based on Clark, et al. (1984) and Page and Renne (1994).
Great Valley 1 (r, 15 W)	44	4	0.1	0.1	P	6.7	10	2	7	9.6	15	-122.30; 39.68	-122.28; 39.28	Slip rate and segmentation from WGNCEP (1996) and Wakabayshi and Smith (1994). End point coordinates for all Great Valley segments are for top of rupture plane.
Great Valley 2 (r, 15 W)	22	2	0.1	0.1	P	6.4	10	2	7	9.6	15	-122.28; 39.29	-122.29; 39.09	Slip rate and segmentation from WGNCEP (1996) and Wakabayshi and Smith (1994).
Great Valley 3 (r,15 W)	55	6	1.5	1.0	P	6.9	10	2	7	9.6	15	-122.28; 39.12	-122.00; 38.67	Slip rate and segmentation from WGNCEP (1996) and Wakabayshi and Smith (1994).

FAULT NAME AND GEOMETRY (ss) strike slip, (r) reverse, (n) normal (rl) rt. lateral, (ll) left lateral, (o) oblique	Fault Length (km)	+/-	Slip Rate (mm/yr)	+/-	Rank (1)	Mmax (2)	Down Dip Width (km) (3)	+/-	Ruptop (4)	Rupbot (5)	Dip	Endpt N (W)	Endpt. S (E)	COMMENTS
Great Valley 4 (r, 15 W)	42	4	1.5	1.0	P	6.6	10	2	7	9.6	15	-122.05; 38.65	-121.89; 38.30	Slip rate and segmentation from WGNCEP (1996) and Wakabayshi and Smith (1994).
Great Valley 5 (r, 15 W)	28	3	1.5	1.0	P	6.5	10	2	7	9.6	15	-121.90; 38.30	-121.75; 38.08	Slip rate and segmentation from WGNCEP (1996) and Wakabayshi and Smith (1994).
Great Valley 6 (r, 15 W)	45	5	1.5	1.0	P	6.7	10	2	7	9.6	15	-121.80; 38.06	-121.52; 37.72	Segment deleted based on WG99/WG02 and to account for slip on Mount Diablo Thrust. Go to U.S. Geological Survey website for more information on WG99 and WG02.
Great Valley 7 (r,15 W)	45	5	1.5	1.0	P	6.7	10	2	7	9.6	15	-121.52; 37.73	-121.16; 37.45	Slip rate and segmentation from WGNCEP (1996) and Wakabayshi and Smith (1994).
Great Valley 8 (r, 15 W)	41	4	1.5	1.0	P	6.6	10	2	7	9.6	15	-121.16; 37.43	120.99; 37.09	Slip rate and segmentation from WGNCEP (1996) and Wakabayshi and Smith (1994).
Great Valley 9 (r, 15 W)	39	4	1.5	1.0	P	6.6	10	2	7	9.6	15	-120.99; 37.10	-120.75; 36.81	Slip rate and segmentation from WGNCEP (1996) and Wakabayshi and Smith (1994).
Great Valley 10 (r, 15 W)	22	2	1.5	1.0	P	6.4	10	2	7	9.6	15	-120.76; 36.80	-120.65; 36.63	Slip rate and segmentation from WGNCEP (1996) and Wakabayshi and Smith (1994).
Great Valley 11 (r, 15 W)	25	3	1.5	1.0	P	6.4	10	2	7	9.6	15	-120.65; 36.64	-120.45; 36.5	Slip rate and segmentation from WGNCEP (1996) and Wakabayshi and Smith (1994).
Great Valley 12 (r, 15 W)	17	2	1.5	1.0	P	6.3	10	2	7	9.6	15	-120.44; 36.48	-120.35; 36.34	Slip rate and segmentation from WGNCEP (1996) and Wakabayshi and Smith (1994).
Great Valley 13 (r, 15 W)	30	3	1.5	1.0	P	6.5	10	2	7	9.6	15	-120.37; 36.34	-120.15; 36.14	Slip rate and segmentation from WGNCEP (1996) and Wakabayshi and Smith (1994).
Great Valley 14 (r, 15 W)	24	2	1.5	1.0	P	6.4	10	2	7	9.6	15	-120.16; 36.14	-119.95; 36.00	Slip rate and segmentation from WGNCEP (1996) and Wakabayshi and Smith (1994).
BASIN AND RANGE - SIERRA NEVADA														
Antelope Valley (n, 60 E)	41	4	0.8	0.5	P	6.7	15	2	0	13	60	-119.62; 38.84	-119.47; 38.50	Minor modifications to digitial fault trace and minor length modification. Nevada is modeling.
Birch Creek (n, 60 E)	16	2	0.7	0.5	P	6.4	15	2	0	13	60	-118.34; 36.98	-118.40; 37.10	Slip rate based on Beanland and Clark (1994).
Death Valley (South) (rl-ss)	62	6	4.0	3.0	P	7.1	13	2	0	13	90	-116.75; 36.05	-116.38; 35.59	Long term slip rate based on 35 km dextral offset of Miocene volcanic rks. reported by Butler, et al, (1988).

APPENDIX A - 2002 CALIFORNIA FAULT PARAMETERS

FAULT NAME AND GEOMETRY (ss) strike slip, (r) reverse, (n) normal (rl) rt. lateral, (ll) left lateral, (o) oblique	Fault Length (km)	+/-	Slip Rate (mm/yr)	+/-	Rank (1)	Mmax (2)	Down Dip Width (km) (3)	+/-	Ruptop (4)	Rupbot (5)	Dip	Endpt N (W)	Endpt. S (E)	COMMENTS
Death Valley (Graben) (n, 60 W)	54	5	4.0	3.0	M	7.1	15	2	0	13	-60	-116.88; 36.53	-116.74; 36.06	Slip rate based on vertically offset alluvial fan surface reported in Klinger and Piety (1994).
Death Valley (Northern) (rl-ss)	110	11	5.0	3.0	P-M	7.4	13	2	0	13	90	-117.67 37.30	-116.88; 36.54	Minor modifications to digitial fault trace and minor length modification. 1996 slip rate based on assumptions of 46 m rl offset of 5-20 ka alluvium near Redwall Canyon. New work by Klinger (2001) suggests that the 46 m rl offset reported by Reynolds (1969) may be more likely about 250-330 m, based on a palinspastic reconstruction of the Redwall Canyon alluvial fan.. The age of offset late Pleistocene (unit Q2c) alluvial-fan surface is estimated to be about 35-60 ka (table A3-1 Klinger and Sarna-Wojcicki, 2001), based on the degree of soil development, relative age dating, and stratigraphic relationship of alluvial fan surface to lacustrine deposits. Total offset of 250-330 m for the large incised channels since 35-60 ka, indicates an average minimum late Pleistocene slip rate of 4-9 mm/yr. This is consistent with, but larger than the late Holocene slip rate of 3-6 mm/yr provided by offset of late Holocene (2-4 ka) stream channels reported by Klinger (2001, table A3-2).
Death Valley (N of Cucamongo) (rl-n-o)	77	8	5.0	3.0	P-M	7.2	13	2	0	13	90	-118.19; 37.83	-117.67; 37.30	Minor modifications to digitial fault trace. 1996 late Qt. slip rate based on offset Pleistocene shutter ridge in Fish Lake Valley reported in Reheis (1994). Reheis and Dixon (1996) suggest lt. Qt. slip rate of about 5 mm/yr in the Fish Lake Valley area.
Deep Springs (n, 60 NW)	25	3	0.8	0.6	P	6.6	15	2	0	13	-60	-117.94; 37.43	-118.06; 37.23	Minor modifications to digitial fault trace. 1996 dip slip rate based on offset Holocene alluvial fans reported by Bryant (1989). Reheis and Sawyer (I997) estimated a late Pleistocene (post 0.76 Ma) slip-rate of 0.3-0.5 mm/yr, based on their observation that Bishop ash in an ancestral stream channel is located 200 m about the valley floor and the assumption that the maximum vertical offset is twice this value. Lee and others (2001) reported a late Pleistocene slip-rate of about 0.9 mm/yr based on vertical offset of Bishop ash of about 695 m.
Fish Slough (n, 60 W)	26	3	0.2	0.1	P	6.6	15	2	0	13	-60	-118.39; 37.59	-118.39; 37.36	Minor modifications to digitial fault trace. Poorly constrained dip slip rate based on offset of Bishop Ash reported in Bateman (1965).
Genoa (Carson Range fault zone) (n, 60 E)	53	5	2.0	1.3	M	6.9	15	2	0	13	60	-119.86; 39.11	-119.81; 38.67	Also referred to as Carson Range fault zone. Slip rate increased from 1.0 mm/yr to 2.0 mm/yr based on Ramelli, et al. (1999). Nevada is modeling.
Hartley Springs (n, 60 E)	25	3	0.5	0.3	P	6.6	15	2	0	13	60	-119.08; 37.85	-119.00; 37.64	Slip rate (0.15 mm/yr) based on dip-slip offset of late Tioga lateral moraine reported in Clark, et al (1984). Slip rate is for small branch fault; unconstrained slip rate of 0.5 mm/yr assummed for entire fault zone.

FAULT NAME AND GEOMETRY (ss) strike slip, (r) reverse, (n) normal (rl) rt. lateral, (ll) left lateral, (o) oblique	Fault Length (km)	+/-	Slip Rate (mm/yr)	+/-	Rank (1)	Mmax (2)	Down Dip Width (km) (3)	+/-	Ruptop (4)	Rupbot (5)	Dip	Endpt N (W)	Endpt. S (E)	COMMENTS
Hilton Creek (n, 60 E)	29	3	2.5	0.6	M	6.7	15	2	0	13	60	-118.88; 37.69	-118.73; 37.46	Slip rate based on dip-slip offset of late Tioga lateral moraine reported in Clark, et al (1984).
Hunter Mountain-Saline Valley (rl-n-o)	72	7	2.5	1.0	P	7.2	13	2	0	13	90	-117.95; 36.92	-117.43; 36.48	Minor modifications to digitial fault trace and minor length modification. Long term slip rate (Pliocene) of 2.0-2.7mm/yr for Hunter Mtn. fault (Birchfiel, et al., 1987), and association with Panamint Vly flt.
Independence (n, 60 E)	49	5	0.2	0.1	P	7.1	15	2	0	13	60	-118.30; 36.88	-118.09; 36.50	Slip rate based on offset Tioga outwash deposits reported in Clark, et al (1994).
Little Lake (rl-ss)	42	4	0.7	0.4	M	6.9	13	2	0	13	90	-117.88; 35.91	-117.57; 35.62	Minor modifications to digitial fault trace and minor length modification. 1996 slip rate is minimum rate basd on offset channel cut in basalt (Roquemore, 1981).
Mono Lake (n, 60 E)	26	3	2.5	1.3	M	6.6	15	2	0	13	60	-119.19; 38.15	-119.10; 37.93	Slip rate based on offset of late Tioga lateral moraine reported in Clark, et al. (1984).
Owens Valley (rl-ss)	121	12	1.5	0.8	M-P	7.6	13	2	0	13	90	-118.33; 37.24	-117.98; 36.19	Minor modifications to digitial fault trace. 1996 slip rate reported in Beanland and Clark (1994) is composite based on Lone Pine fault and assumption that horizontal component similar to 1872 earthquake.
Panamint Valley (rl-n-o)	110	11	2.5	1.0	M	7.4	13	2	0	13	90	-117.41; 36.44	-116.90; 35.61	Minor modifications to digitial fault trace and minor length modification. 1996 moderately constrained slip rate based on offset drainages developed on Holocene alluvial fans reported in Zhang, et al, 1990.
Robinson Creek (n, 60 SE)	17	2	0.5	0.3	M	6.4	15	2	0	13	60	-119.23; 38.33	-119.32; 38.21	Dip slip offset of late Tioga outwash in Buckeye Crk. reported in Clark, et al. (1984).
Round Valley (n, 60 E)	43	4	1.0	0.5	M	7.0	15	2	0	13	60	-118.74; 37.56	-118.60; 37.24	Minor modifications to digitial fault trace and minor length modification. Slip rate based on dip-slip offset of late Tioga lateral moraine reported in Clark, et al (1984).
S. Sierra Nevada (n, 60 E)	77	8	0.1	0.1	U	7.3	15	2	0	13	60	-117.99; 36.19	-117.99; 35.57	Unconstrained dip slip rate estimated by authors based on association with Independence fault.
Tank Canyon (n, 60 W)	16	2	1.0	0.5	M	6.4	15	2	0	13	-60	-117.25; 35.77	-117.25; 35.64	Moderately constrained slip rate based on vertically offset Holocene alluvial fan (Clark, et al, 1984).
White Mountains (rl-ss)	111	11	1.0	0.5	P	7.4	13	2	0	13	90	-118.34; 37.96	-118.17; 37.02	Minor modifications to digitial fault trace and minor length modification. 1996 preferred rl slip rate reported by dePolo (1989).
SAN FRANCISCO BAY AREA														
Concord (rl-ss)	17	2	4.0	2.0	M	6.2	16	2	0	16	90	-122.09; 38.06	-121.97; 37.88	WG99/WG02 source parameters used. Go to the U.S. Geological Survey website for more information on WG99 and WG02.

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FAULT NAME AND GEOMETRY (ss) strike slip, (r) reverse, (n) normal (rl) rt. lateral, (ll) left lateral, (o) oblique	Fault Length (km)	+/-	Slip Rate (mm/yr)	+/-	Rank (1)	Mmax (2)	Down Dip Width (km) (3)	+/-	Ruptop (4)	Rupbot (5)	Dip	Endpt N (W)	Endpt. S (E)	COMMENTS
Green Valley (North) (rl-ss)	14	2	5.0	3.0	P	6.2	14	2	0	14	90	-122.20; 38.45	-122.15; 38.26	WG99/WG02 source parameters used. Go to the U.S. Geological Survey website for more information on WG99 and WG02.
Green Valley (South) (rl-ss)	25	3	5.0	3.0	P	6.2	14	2	0	14	90	-122.15; 38.26	-122.09; 38.06	WG99/WG02 source parameters used. Go to the U.S. Geological Survey website for more information on WG99 and WG02.
Greenville (North) (rl-ss)	27	3	2.0	1.0	P	6.6	15	3	0	15	90	-121.83; 37.88	-121.67; 37.69	WG99/WG02 source parameters used. Go to the U.S. Geological Survey website for more information on WG99 and WG02.
Greenville (South) (rl-ss)	24	3	2.0	1.0	P	6.6	15	3	0	15	90	-121.67; 37.69	-121.54; 37.50	WG99/WG02 source parameters used. Go to the U.S. Geological Survey website for more information on WG99 and WG02.
Hayward (SE extension) (rl-r-o)	26	3	3.0	2.0	U	6.4	10	2	0	10	90	-121.90; 37.47	-121.72; 37.28	Source deleted based on WG99/WG02. Go to U.S. Geological Survey website for more information on WG99 and WG02.
Monte Vista-Shannon (r, 60, W)	45	5	0.4	0.3	P-M	6.7	10	2	0	9	60	-122.25; 37.44	-121.84; 37.21	Rupture bottom and dip changed from 11 km to accommodate spatial realtionship with San Andreas fault. 1996 poorly constrained slip rate based on vertical separation of late Pleistocene terrace and assumptions of age of terrace (23-120ka) and flt. dip reported by Hitchcock, et al.(1994).
Mount Diablo Thrust (r 38, NE)	25	0	2.0	1.0	P	6.6	14	2	8	16	38	-122.04; 37.88	-121.82; 37.73	WG99/WG02 source parameters used. Go to the U.S. Geological Survey website for more information on WG99 and WG02.
Ortigalita (rl-ss)	70	7	1.0	0.5	P	7.1	11	2	0	11	90	-121.28; 37.27	-120.90; 36.73	Minor modifications to digitial fault trace and minor length modification. Poorly constrained slip rate based on vertical slip rate reported by Clark, et al (1984) (0.01-0.04 mm/yr), assumptions regarding H:V ratio, and geomorphic expression of flt. consistent with about 1 mm/yr.
Point Reyes (r, 50 NE)	47	5	0.3	0.2	P	7.0	12	2	0	9	50	-123.24; 38.18	-122.83; 37.94	Poorly constrained long term (post-Miocene) slip rate based on vertical offset of crystalline basement (McCulloch, 1987).
Quien Sabe (rl-ss)	23	2	1.0	1.0	P	6.4	10	2	0	10	90	-121.36; 36.93	-121.21; 36.76	Poorly constrained slip rate estimated by authors based on vertically offset alluvial fan (Bryant, 1985) and assumptions regarding H:V ratio (6:1 to 14:1) based on 26JAN86 M5.8 earthquake (Hill et al, 1990) and age of fan surface based on soil profile development.
Sargent (rl-r-o)	53	5	3.0	1.5	P	6.8	12	2	0	12	90	-121.94; 37.14	-121.45; 36.87	Source deleted based on WG99/WG02. Go to U.S. Geological Survey website for more information on WG99 and WG02.
West Napa (rl-ss)	30	3	1.0	1.0	U	6.5	10	2	0	10	90	-122.37; 38.41	-122.24; 38.16	Unconstrained slip rate based on assumption that geomorphic expression of fault is consistent with about 1mm/yr slip rate (WGNCEP, 1996).
Zayante-Vergeles (rl-r)	58	6	0.1	0.1		7.0	12	2	0	12	90	-121.97; 37.09	-121.46; 36.79	Slip rates reported by Clark, et al (1984).

FAULT NAME AND GEOMETRY (ss) strike slip, (r) reverse, (n) normal (rl) rt. lateral, (ll) left lateral, (o) oblique	Fault Length (km)	+/-	Slip Rate (mm/yr)	+/-	Rank (1)	Mmax (2)	Down Dip Width (km) (3)	+/-	Ruptop (4)	Rupbot (5)	Dip	Endpt N (W)	Endpt. S (E)	COMMENTS
NORTHERN COAST RANGES														
Bartlett Springs fault system (rl-ss)	174	17	6.0	3.0	P	7.6	15	2	0	15	90	-123.50; 40.27	-122.50; 38.93	Combines Bartlett Springs, Round Valley, and Lake Mountain faults. 1996 slip rate based on assumption that slip carried from Concord-Green Valley system (WGNCEP, 1996). Taylor and Swan (1986) and Swan and Taylor (1991) reported minimum slip rate of 1-2 mm/yr for segment at Lk. Pillsbury, based on apparent vertical separation and plunge of slickensides.
Bartlett Springs (rl-ss)	85	9	6.0	3.0	P	7.1	15	2	0	15	90	-123.05; 39.57	-122.50; 38.93	Combined with Lake Mountain and Round Valley faults as Bartlett Springs fault system.
Collayomi (rl-ss)	29	3	0.6	0.3	P	6.5	10	2	0	10	90	-122.86; 38.99	-122.68; 38.78	Slip rate based on (Clark, et al., 1984)
Garberville-Briceland (rl-ss)	39	4	9.0	2.0	U	6.9	12	2	0	12	90	-124.02; 40.27	-123.72; 39.99	Maacama segments and Garberville-Briceland fault consolidated from 1996 model.
Hunting Creek-Berryessa (rl-ss)	60	6	6.0	3.0	U	7.1	12	2	0	12	90	-122.50; 38.93	-122.20; 38.45	Slip rate based on assumption that slip is carried from Concord-Green Valley system (WGNCEP, 1996).
Lake Mountain (rl-ss)	35	4	6.0	3.0	P	6.7	15	2	0	15	90	-123.50; 40.26	-123.40; 39.96	Combined with Bartlett Springs and Round Valley faults as Bartlett Springs fault system.
Maacama (South) (rl-ss)	41	4	9.0	2.0	P	6.9	12	2	0	12	90	-123.00; 38.86	-122.69; 38.58	Maacama segments and Garberville-Briceland fault consolidated from 1996 model.
Maacama (Central) (rl-ss)	60	6	9.0	2.0	P	7.1	12	2	0	12	90	-123.29; 39.34	-123.00; 38.85	Maacama segments and Garberville-Briceland fault consolidated from 1996 model.
Maacama (North) (rl-ss)	81	8	9.0	2.0	P	7.1	12	2	0	12	90	-123.72; 39.99	-123.29; 39.34	Maacama segments and Garberville-Briceland fault consolidated from 1996 model.
Maacama-Garberville (rl-ss)	182	18	9.0	2.0	P-M	7.5	12	2	0	12	90	-123.72; 39.99	-122.69; 38.58	Maacama segments and Garberville-Briceland faults consolidated from 1996 model. 1996 slip rate of 9 mm/yr is based on assumption that dextral slip from Hayward - Rodgers Creek flt carried NW along Maacama zone (WGNCEP, 1996). Central and northern sections of fault zone characterized by fault creep of about 7 mm/yr.
Round Valley (rl-ss)	53	5	6.0	3.0	P	6.8	12	2	0	12	90	-123.40; 39.96	-123.04; 39.58	Combined with Bartlett Springs and Lake Mountain faults as Bartlett Springs fault system.

2002 CALIFORNIA FAULT PARAMETERS

FAULT NAME AND GEOMETRY (ss) strike slip, (r) reverse, (n) normal (rl) rt. lateral, (ll) left lateral, (o) oblique	Fault Length (km)	+/-	Slip Rate (mm/yr)	+/-	Rank (1)	Mmax (2)	Down Dip Width (km) (3)	+/-	Ruptop (4)	Rupbot (5)	Dip	Endpt N (W)	Endpt. S (E)	COMMENTS
NORTHWESTERN CALIFORNIA														
Big Lagoon-Bald Mtn. flt zone (r, 35 NE)	90	9	0.5	0.5	P	7.5	23	2	0	13	35	-124.44; 41.73	-123.93; 41.03	Minor modifications to digitial fault trace and minor length modification. 1996 long term slip rate is based on vertical offset of Pliocene "Klamath sapprolite" and assumption that age of offset began about 1 ma (McCrory, 1996).
Cascadia subduction zone (r)	257	26	35.0	5.0	P	8.3	58	2	5	20	15	-123.80; 45.00	-123.80; 40.20	Refer to U.S. Geological Survey Open-File Report 02-420 at http://geohazards.cr.usgs.gov/eq/html/faults2002.html for discusssion on changes to Cascadia subduction zone.
Fickle Hill (r, 35 NE)	32	3	0.6	0.4	P	7.1	23	2	0	13	35	-124.18; 40.98	-123.96; 40.74	Minor modifications to digitial fault trace and minor length modification. 1996 slip rate based on Carver & Burke (1992) and McCrory (1996).
Little Salmon (onshore) (r, 30 NE)	34	3	5.0	3.0	M	7.2	26	2	0	13	30	-124.23; 40.76	-123.99; 40.53	Slip rate based on Carver & Burke (1988, 1992) and assumption by authors that main trace has slip rate of 4 mm/yr and 1 mm/yr for eastern strand. Slip based on 30 degree dip.
Little Salmon (offshore)(r, 30 NE)	46	5	1.0	1.0	P	7.3	26	2	0	13	30	-124.64; 41.00	-124.23; 40.76	Poorly constrained slip rate based on vertical separation of Rio Dell equivalent strata (1 my) and base and top of Hookton Fm. (about 0.5 my) reported by McCrory (1996).
Mad River (r, 35 NE)	42	4	0.7	0.6	P	7.2	23	2	0	13	35	-124.23; 41.03	-123.92; 40.75	Minor modifications to digitial fault trace and minor length modification. 1996 slip rate based on Carver & Burke (1992) and assummed dip of 30 degrees.
McKinleyville (r, 35 NE)	47	5	0.6	0.2	M	7.2	23	2	0	13	35	-124.23; 41.07	-123.86; 40.76	Minor modifications to digitial fault trace and minor length modification. 1996 slip rate based on recalulation of rate by Carver & Burke (1992), with assumption that lowest terrace age is 80 ka.
Mendocino fault zone (rl-r-o)	170	17	35.0	5.0	P	7.6	15	2	15	30	90	-126.38; 40.41	-124.41; 40.26	Minor modifications to digitial fault trace and minor length modification. Slip rate based on relative plate motion (McCrory, et al., 1995).
Table Bluff (r, 45 NE)	49	5	0.6	0.6	P	7.1	18	2	0	13	45	-124.68; 40.83	-124.18; 40.65	Poorly constrained slip rate based on 700 m vertical offset of basement rocks. Age of deformation assumed to have begun about 1 ma (McCrory, 1996).
Trinidad (r, 35 NE)	88	9	2.5	1.5	P	7.5	23	2	0	13	35	-124.39; 41.45	-123.84; 40.79	Minor modifications to digitial fault trace. 1996 slip rate based on recalulation of slip rate reported by Carver & Burke (1992), with assumption that lowest terrace age is 80ka. Dip slip rate includes horizontal shortening rate from Trinidad anticline, resolved for 35 degree dipping fault (P. McCrory, p.c., 1996). Length includes offshore faults.

FAULT NAME AND GEOMETRY (ss) strike slip, (r) reverse, (n) normal (rl) rt. lateral, (ll) left lateral, (o) oblique	Fault Length (km)	+/-	Slip Rate (mm/yr)	+/-	Rank (1)	Mmax (2)	Down Dip Width (km) (3)	+/-	Ruptop (4)	Rupbot (5)	Dip	Endpt N (W)	Endpt. S (E)	COMMENTS
NORTHEASTERN CALIFORNIA														
Cedar Mtn.-Mahogany Mtn. (n, 60 E)	78	8	1.0	0.5	P	7.1	11	2	0	10	60	-122.12; 42.20	-121.90; 41.53	Minor modifications to digitial fault trace. 1996 poorly constrained slip rate of 0.2 mm/yr based on vertical offset of late Tioga gravels along E. Cedar Mtn. flt. reported by Bryant and Wills (1991). 1 mm/yr slip rate assumed for entire fault zone, including Mahogany Mtn. flt. zone.
Gillem-Big Crack (n, 60 E)	33	3	1.0	0.5	P	6.6	13	2	0	11	60	-121.57; 41.97	-121.59; 41.68	Poorly constrained slip rate based on vertical separation of late Pleistocene (about 40 ka) Mammoth Crater basalt (Donnelly-Nolan and Champion (1987).
Goose Lake (n, 60 W)	57	6	0.1	0.1	P	7.0	11	2	0	10	60	-120.34; 42.26	-120.19; 41.79	Slip rate based on Pezzopane (1993).
Hat Creek-McArthur-Mayfield (n, 60 W)	97	10	1.5	1.0	P-M	7.2	11	2	0	10	-60	-121.63; 41.45	-121.37; 40.62	Minor modifications to digitial fault trace and minor length modification. 1996 model assumes rupture along Hat Creek, McArthur, and Mayfield faults. Hat Creek flt. has poorly to moderately constrained slip rate based on offset of Tioga lateral moraine reported by Muffler (1994) and Sawyer (p.c. 1995). McArthur flt. has poorly constrained slip rate based on offset of 'Popcorn Cave basalt' (Page, et al, 1995). Mayfield flt. has moderate to well-constrained slip rate based on vertical offset of 10.6ka basalt and surveyed scarp profiles (Donnelly-Nolan, et al, 1990).
Honey Lake (rl-ss)	58	6	2.5	1.0	M-W	6.9	11	2	0	11	90	-120.55; 40.32	-120.04; 39.99	Minor modifications to digitial fault trace and minor length modification. 1996 slip rate based on dextral offset of Holocene fluvial terrace reported by Wills and Borchardt (1993) (1.9 ± 0.8 mm/yr) At least 4 surface rupturing events have occurred in the past 6 ka, suggesting a recurrence of about 1.5 ka. Slip rate includes assummed slip from Warm Springs fault.
Likely (rl-ss)	64	6	0.3	0.3	U	7.0	11	2	0	11	90	-120.73; 41.34	-120.25; 40.89	Unconstrained slip rate based on assumption by authors that up to 5 m of dextral offset of latest Pleistocene shorelines at northern Madeline Plains (Bryant, 1991) may go unobserved and also overall geomorphic expression of fault zone.
Surprise Valley (n, 60 E)	87	9	1.3	0.5	M	7.2	11	2	0	10	60	-120.14; 41.88	-119.99; 41.13	Slip rate base on vertical offset of Holocene alluvial fans and assumptions of fan ages based on relationship to Pleistocene Lk. Surprise (Hedel, 1980, 1984).

(1) Slip-rate rank: W - well-constrained; M - moderately constrained; P - poorly constrained; U - unconstrained.

(2) Maximum moment magnitude - representative value for B faults. See discussion on magnitude calculation.

(3) Down-dip width = (rupture bottom minus rupture top) divided by sine of dip angle.

(4) Top of rupture plane.

(5) Bottom of rupture plane.

Fault Name	Comments	References
Rose Canyon fault	Fault length extended to the south to include the Silver Strand fault. Kennedy and Clarke (1999a, 1999b) documented evidence of Holocene displacement in San Diego Bay and Treiman (2002) documented distributed Holocene deformation in downtown San Diego. 2002 fault parameter retains 1996 slip rate, which is a minimum slip rate reported by Lindvall and Rockwell (1995).	Kennedy, M.P., and Clarke, S.H., 1999a, Analysis of late Quaternary faulting in San Diego Bay and hazard to the Coronado Bridge: California Department of Conservation, Division of Mines and Geology Open-File Report 97-10A. Kennedy, M.P., and Clarke, S.H., 1999b, Age of faulting in San Diego Bay in the vicinity of the Coronado Bridge - an addendum to - Analysis of late Quaternary faulting in San Diego Bay and hazard to the Coronado Bridge: California Department o f Conservation, Division of Mines and Geology Open-File Report 97-10B. Treiman, J.A., 2002, Silver Strand fault, Coronado fault, Spanish Bight fault, San Diego fault, and Downtown Graben, Southern Rose Canyon fault zone, San Diego, California, California Geological Survey unpublished Fault Evaluation Report FER-245.

Fault Name	Comments	References
Pleito fault	Fault dip and bottom of rupture modified from 1996 fault parametes in order to accommodate down-dip spatial relationship with San Andreas fault. Dip angle is changed from 20° to 45° and rupture bottom to 11 km. This is preferred alternative, although it conflicts with field and subsurface data indicating that fault generally has shallow dip (about 20° - Hall, 1984; Davis, 1983) and flattens at about 4 km depth.	Davis, T.L. 1983, Late Cenozoic structure and tectonic history of the western “Big Bend” of the San Andreas fault and adjacent San Emigdio Mountains: University of California, Santa Barbara, unpublished Ph.D. thesis, 580 p. 9 plates. Hall, N.T., 1984, Late Quaternary history of the eastern Pleito thrust fault, northern Transverse Ranges, California: Stanford University, California, unpublished Ph.D. thesis, 89 p., 16 plates, map scale 1:6,000.

Fault Name	Comments	References
Raymond fault	Slip rate is increased from 0.5 mm/yr ± 0.3 mm/yr to 1.5 mm/yr ± 1.0 mm/yr. Previous slip rate was poorly constrained estimate by authors of 1996 PSHA model. Marin and others (2000) reported a minimum sinistral slip rate of at least 1.5 mm/yr, based on 44 m sinistral offset of a gravel-filled channel. A single ^{14}C date of 25,400 ± 160 yrs BP from a charcoal fragment obtained from a silty sand unit in which the offset channel had incised provides a maximum age of displacement.	Marin, M., Dolan, J.F., Hartleb, R.D., Christofferson, S.A., Tucker, A.Z., and Owen, L.A., 2000, A latest Pleistocene-Holocene slip rate on the Raymond fault based on 3-D trenching, East Pasadena, California: EOS, Transactions of the American Geophysical Union, v. 81, (48, supplement) F855.

Fault Name	Comments	References
Sierra Madre fault	Slip rate is reduced from 3 ± 1.0 mm/yr to 2 ± 1 mm/yr, recognizing that Sierra Madre fault may rupture in infrequent, large surface-rupturing earthquakes (Rubin and others, 1998; Tucker and Dolan, 2001). Tucker and Dolan estimated a minimum reverse slip rate of 0.6 to 0.9 mm/yr, based on at least 14 m of reverse displacement of a 24 ka alluvial unit. Slip rate is poorly constrained because unit 7 is eroded from the hanging wall and the amount of actual displacement is unknown. Age control is based on detrital charcoal sample taken from unit 7. ^{14}C age is 20,910 yrs BP, but is beyond calibration. Unfaulted unit 4 overlies faulted sediment package on footwall. Age of base of unit 4 is 7,330 ± 40 ^{14}C yrs BP. Therefore, interval between 22 - 24 ka and about 8 ka, along with estimated minimum reverse slip of 14 m, is used to estimate minimum latest Pleistocene to Holocene slip rate of 0.6 - 0.9 mm/yr. Penultimate event poorly constrained between 7.3 ka and 24 ka.	Rubin, C.M., Lindvall, S.C., and Rockwell, T.K., 1998, Evidence for large earthquakes in metropolitan Los Angeles: Science, v. 281, p. 398-402. Tucker, A.Z., and Dolan, J.F., 2001, Paleoseismologic evidence for a >8 ka age of the most recent surface rupture on the eastern Sierra Madre fault, northern Los Angeles metropolitan region, California: Bulletin of the Seismological Society of America, v. 91, p. 232-249.

Fault Name	Comments	References
Compton thrust	This structure is deleted from 2002 seismic sources, based on investigations by T.K. Rockwell and K.J. Mueller, who excavated a trench, and K.J. Mueller acquired CPT borings across the surface projection of the Compton-Los Alamitos axial surface (Mueller, 1997), showing that this surface does not deform peat deposits dated as 1.9 ka or the Gaspur aquifer dated as 15-20 ka.	Mueller, K.J., 1997, Recency of folding along the Compton-Los Alamitos trend: Implications for seismic risk in the Los Angeles basin: EOS Transactions of the American Geophysical Union, v. 78, p. F702.

Fault Name	Comments	References
(Lower) Elysian Park blind thrust	(Lower) Elysian Park blind thrust of Shaw and Suppe (1996) and Hauksson (1990) is deleted from 2002 fault parameters and is replaced with Puente Hills blind thrust of Shaw and Shearer (1999) and Upper Elysian Park blind thrust of Oskin and others (2000). See discussions for Upper Elysian Park and Puente Hills blind thrust faults below	Hauksson, E., 1990, Earthquakes, faulting and stress in the Los Angeles basin: Journal of Geophysical Research, v. 95, p. 15,365-15,394. Oskin, M., Sieh, K., Rockwell, T., Miller, G., Guptill, P., Curtis, M., McArdle, S., and Elliot, P., 2000, Active parasitic folds on the Elysian Park anticline: Implications for seismic hazard in central Los Angeles, California: Geological Society of America Bulletin, v. 112, p. 693-707. Shaw, J.H., and Suppe, J., 1996, Earthquake hazards of active blind-thrust faults under the central Los Angeles Basin, California: Journal of Geophysical Research, v. 101, p. 8623-8642.

Fault Name	Comments	References
Upper Elysian Park blind thrust	2002 fault parameters incorporate the second of three fault models of Upper Elysian Park blind thrust proposed by Oskin and others (2000). This model infers a 50° NE dip, a rupture top of 3 km and rupture bottom of 15 km. Folded late Quaternary deposits across the Coyote Pass escarpment and related structures allowed Oskin and others (2000) to estimate a contraction rate of 0.6 -1.1 mm/yr. The 50° dip and the 0.6 -1.1 mm/yr contraction rate infers a late Quaternary slip rate of 0.9 - 1.7 mm/yr.	Oskin, M., Sieh, K., Rockwell, T., Miller, G., Guptill, P., Curtis, M., McArdle, S., and Elliot, P., 2000, Active parasitic folds on the Elysian Park anticline: Implications for seismic hazard in central Los Angeles, California: Geological Society of America Bulletin, v. 112, p. 693-707.

Fault Name	Comments	References
Puente Hills blind thrust	(Lower) Elysian Park blind thrust of Shaw and Suppe (1996) is replaced with Puente Hills blind thrust of Shaw and Shearer (1999). Modeled geometry of fault zone is based on Shaw and Shearer (1999). Slip rate of 0.7 ± 0.4 mm/yr is based on reported slip rates for Puente Hills structure that range from 0.2 - 1.1 mm/yr. Shaw and others (2000) reported long term minimum slip rate of 0.5 - 0.9 mm/yr for Santa Fe Springs and Western Coyote Hills segments, based on high resolution seismic profiles that allowed new 3D modeling of Quaternary folding. Christofferson and others (2001) reported a minimum average late Pleistocene slip rate of 0.2 - 1.1 mm/yr. This is based on borehole data and high-resolution seismic profiling across zone of active folding. A 1.5 – 2 m thick argillic soil profile indicating late Pleistocene age of geomorphic surface is folded. The 9 m scarp indicates minimum vertical uplift rate since soil formed. Using 19°- 22° dip, a 0.2 - 1.1 mm/yr dip-slip slip rate can be estimated. Averaging the minimum slip rates of Shaw and others (2000) and Christofferson and others (2001) yields a minimum slip rate estimate of 0.7 ± 0.4 mm/yr.	Christofferson, S.A., Dolan, J.F., Shaw, J.H., and Pratt, T.L., 2001, Determination of a Holocene slip rate on the Puente Hills blind-thrust fault, Los Angeles basin, California (abs): EOS, Transactions of the American Geophysical Union, Annual Fall Meeting, v. 82, no. 47, p. F933. Shaw, J.H., and Suppe, J., 1996, Earthquake hazards of active blind-thrust faults under the central Los Angeles Basin, California: Journal of Geophysical Research, v. 101, p. 8623-8642. Shaw, J.H., and Shearer, P.M., 1999, An elusive blind-thrust fault beneath metropolitan Los Angeles: Science, v. 283, p. 1516-1518. Shaw, J.H., Plesch, A., Fiore, P., Dolan, J., Christofferson, S., Pratt, T.L., Williams, R., and Odum, J., 2000, Structural geometry, segmentation, and slip on the Puente Hills blind-thrust system: Implications for earthquake hazards in metropolitan Los Angeles: EOS, Transactions of the American Geophysical Union, Annual Fall Meeting, p. F850.

Fault Name	Comments	References
San Joaquin Hills blind thrust	2002 fault parameters include the San Joaquin Hills blind thrust fault, based on Grant and others (1999) and Grant and Runnerstrom (written communication November 2, 2001). We select Grant and Runnerstrom's model B (their weight of 45%). This model assumes a 23° SW dip of a shallow backthrust (after Rivero and others, 2000), extending from 2 – 8 km depth. The rupture bottom is approximately coincident with location of the offshore Newport-Inglewood fault zone. Slip rate of 0.5 ± 0.2 mm/yr is based on the average late Quaternary uplift rate of the San Joaquin Hills of 0.21 - 0.27 mm/yr and inferred dip of 20° to 30°.	Grant, L.B., Mueller, K.J., Gath, E.M., Cheng, H., Edwards, R.L., Munro, R., and Kennedy, G.L., 1999, Late Quaternary uplift and earthquake potential of the San Joaquin Hills, southern Los Angeles Basin, California: Geology, v. 27, p. 1031-1034. Grant, Lisa, and Runnerstrom, Eric, 2001, Notes on proposed models for the San Joaquin Hills blind thrust: Unpublished written communication to W. A. Bryant, November 2, 2001. Rivero, C., Shaw, J.H., and Mueller, K.J., 2000, Oceanside and Thirtymile Bank blind thrusts: Implications for earthquake hazards in coastal southern California: Geology, v. 28, p. 891-894.