

Table S1.

In the following tables obs. is the observed data, pred. is the predicted data, res. is the residual ($d_{\text{obs}} - d_{\text{pred}}$), and s.e. is the 1-sigma standard error of the observations. All distances are in millimeters. For the trilateration measurements stat 1 and stat 2 are the endpoints of each line. For the two color data, the station name is the endpoint monument, and the central monument is indicated in the tables.

1966 earthquake

Table S1a: trilateration data
variance reduction = 90.4%

stat 1	stat 2	obs.	pred.	res.	s.e.
bench	bonnie	-74.6409	-79.1884	4.5475	34.6933
bench	cotton	40.8788	35.2904	5.5884	27.0282
bench	kenger	-139.6825	-144.7881	5.1055	35.6460
bench	mason	29.8888	5.6723	24.2165	26.3823
bonnie	cotton	25.6129	2.7168	22.8961	26.1069
bonnie	kenger	3.0253	-9.0991	12.1244	23.4824
bonnie	mason	77.3421	69.1231	8.2189	35.1379
castle	shade	105.7049	63.5321	42.1728	55.4423
cotton	kenger	-4.7921	-6.5187	1.7266	34.6203
cotton	mason	168.0234	143.5090	24.5145	38.4688
hepsedam	shade	-30.7889	-15.6385	-15.1503	45.1299
kenger	mason	-9.3690	-16.4560	7.0869	28.5715
mine mt	shade	55.4859	65.3503	-9.8644	26.1788
napoleon	red hill	-21.8102	27.4871	-49.2973	38.1978
park	red hill	-166.1224	-103.6093	-62.5131	34.3545
park	waterhle	-119.7503	-112.0807	-7.6696	51.6350

Long-term interseismic slip rate (1966 – 2004)

Table S1b: GPS data
variance reduction = 99.6%

stat	E obs.	E pred.	E res.	E s.e.	N obs.	N pred.	N res.	N s.e.	U obs.	U pred.	U res.	U s.e.
33JD	-24.9060	-24.2482	-0.6578	0.8500	7.0010	6.7750	0.2260	0.8500	2.4020	3.6417	-1.2397	2.5490
ALMO	-38.6050	-36.9735	-1.6315	0.8270	18.3810	19.1957	-0.8147	0.8270	-1.3660	3.0498	-4.4158	2.4810
BENC	-34.7050	-33.0340	-1.6710	0.8650	13.4340	14.7680	-1.3340	0.8650	-1.5310	2.9129	-4.4439	2.5960
BHRM	-39.5220	-37.8878	-1.6342	0.8550	22.7420	19.8754	2.8666	0.8550	3.5660	3.0368	0.5292	2.5650
BREK	-34.4140	-33.8678	-0.5462	0.8510	15.9040	16.3073	-0.4033	0.8510	-4.1150	2.6085	-6.7235	2.5520
CANP	-23.3040	-23.9258	0.6218	0.4980	6.9530	6.4996	0.4534	0.5080	2.0950	3.6087	-1.5137	0.7030
CARH	-33.6150	-33.5684	-0.0466	0.6690	16.3050	15.5809	0.7241	0.6860	1.8700	2.9900	-1.1200	0.8900
CARR	-34.7130	-33.5693	-1.1437	0.5980	16.2760	15.5820	0.6940	0.5520	0.3680	2.9909	-2.6229	0.9060
CBAR	-27.8030	-28.5605	0.7575	0.8540	7.9060	9.4122	-1.5062	0.8540	-1.3650	2.8280	-4.1930	2.5610
CHEC	-33.6410	-37.2418	3.6008	1.7320	22.9580	19.7378	3.2202	1.7320	-9.7500	2.8417	-12.5917	5.1960
CRBT	-36.6410	-37.5413	0.9003	0.6800	21.4630	20.6894	0.7736	0.6800	3.2360	3.1486	0.0874	0.8870
CTWD	-28.7900	-26.5332	-2.2568	0.9790	4.8880	6.9588	-2.0708	0.9790	-1.6830	2.7141	-4.3971	2.9370
GO42	-26.7070	-27.0326	0.3256	0.8440	8.6080	8.3598	0.2482	0.8440	-5.3610	2.9331	-8.2941	2.5320
HOGS	-34.1330	-34.3280	0.1950	0.6780	17.7770	17.4241	0.3529	0.7010	5.6770	2.5737	3.1033	1.1000
HUNT	-25.5560	-26.0321	0.4761	0.6710	8.1900	7.3969	0.7931	0.6690	4.5240	2.8930	1.6310	0.7060
JD84	-37.5730	-36.1071	-1.4659	0.8390	19.0030	19.3575	-0.3545	0.8390	-2.6540	2.6456	-5.2996	2.5160
JOAQ	-27.1630	-26.0840	-1.0790	0.8500	7.4850	7.1213	0.3637	0.8500	2.8840	3.1036	-0.2196	2.5490
LAND	-33.7870	-33.5175	-0.2695	0.4950	17.7370	16.9186	0.8184	0.4920	1.0950	2.2596	-1.1646	0.6270
LOWS	-35.0440	-36.1775	1.1335	0.6670	20.0990	20.2856	-0.1866	0.6680	4.8060	2.9275	1.8785	0.8500
MASO	-34.3640	-33.8620	-0.5020	0.8500	15.6560	16.2569	-0.6009	0.8500	0.6690	2.8922	-2.2232	2.5500
MASW	-33.2260	-33.8638	0.6378	0.6700	17.0760	16.2592	0.8168	0.6670	4.7400	2.8920	1.8480	0.8430
MIDA	-22.8740	-25.6795	2.8055	0.5140	8.0170	7.6091	0.4079	0.5350	-0.5820	3.2362	-3.8182	1.0640
MNMC	-21.9570	-22.5543	0.5973	0.6710	5.4250	5.8103	-0.3853	0.6730	6.0900	3.5458	2.5442	0.7640
MNMT	-20.8220	-22.5541	1.7321	0.8630	3.9700	5.8213	-1.8513	0.8630	3.6560	3.5540	0.1020	2.5880
MONT	-36.4460	-37.6382	1.1922	0.8570	19.6020	20.8472	-1.2452	0.8570	3.4640	2.9671	0.4969	2.5710
OQUI	-35.9520	-33.7413	-2.2107	0.8500	16.0180	15.3579	0.6601	0.8500	-0.2820	3.0913	-3.3733	2.5490
PK59	-25.3890	-24.5621	-0.8269	0.8250	3.5060	5.7100	-2.2040	0.8250	2.4280	2.7387	-0.3107	2.4750
PKDB	-34.7390	-35.4429	0.7039	0.5080	19.0310	19.3791	-0.3481	0.4930	2.1990	2.4128	-0.2138	0.8000
POMM	-33.3310	-33.3032	-0.0278	0.4920	16.4200	16.7196	-0.2996	0.4990	2.7780	2.3538	0.4242	0.7170
RH32	-35.4340	-33.9070	-1.5270	0.9760	12.6230	15.2285	-2.6055	0.9760	-7.1080	2.9049	-10.0129	2.9270
RNCH	-36.0050	-34.3768	-1.6282	0.9640	16.8970	19.2318	-2.3348	1.0580	4.9800	2.1795	2.8005	0.8940
TBLP	-23.7780	-24.4857	0.7077	0.6860	3.9640	5.8267	-1.8627	0.8390	5.4660	2.9159	2.5501	0.9470
TESS	-39.0340	-37.8506	-1.1834	0.8460	21.6760	19.9539	1.7221	0.8460	-2.5980	3.0452	-5.6432	2.5390
TWR2	-30.7530	-30.3359	-0.4171	0.8360	10.1850	10.6984	-0.5134	0.8360	-4.9360	2.8328	-7.7688	2.5090
USLO	-39.5410	-37.8362	-1.7048	0.6930	21.6550	19.8571	1.7979	0.6910	7.1550	3.0111	4.1439	1.2660
WATH	-30.9760	-31.2373	0.2613	0.8450	11.8290	12.5477	-0.7187	0.8450	-0.5280	2.8449	-3.3729	2.5360

Table S1c: two-color EDM data
variance reduction = 97.9%

stat	obs.	pred.	res.	s.e.
Central Monument: CARR				
BARE	-10.2660	-10.5004	0.2344	1.4400
BUCK	-10.7130	-10.9737	0.2607	0.6670
CANN	-9.0090	-9.7236	0.7146	0.5280
CREE	0.5190	0.8257	-0.3067	0.6640
GOLD	9.5080	9.3493	0.1587	0.9080
HOGS	0.2270	0.1031	0.1239	0.6480
HUNT	8.3700	9.0815	-0.7115	0.6480
LANG	1.5720	0.8333	0.7387	0.6100
MASW	-1.0930	-0.5876	-0.5054	0.6860
MELS	9.3580	9.2341	0.1239	0.8470
MIDA	-12.3920	-10.9310	-1.4610	0.9770
MIDD	-2.2890	0.0277	-2.3167	0.6430
MIDE	-11.6060	-10.9101	-0.6959	1.0120
NORE	-1.4010	-1.0991	-0.3019	0.4590
POMM	0.4420	0.9187	-0.4767	0.9700
POMO	1.0480	0.8765	0.1715	1.2210
TABL	4.4080	3.5757	0.8323	0.8610
TODD	-0.4110	-0.0966	-0.3144	1.0820
TURK	9.4980	10.2145	-0.7165	0.6650
Central Monument: LIME				
CROS	-3.3610	-2.8523	-0.5087	0.6020
DONN	-0.5780	-1.0761	0.4981	0.6560
GAS2	-0.4640	-0.5009	0.0369	0.8650
GILL	-13.9060	-14.4119	0.5059	0.6380
LOST	-0.0370	-0.1145	0.0775	0.6120
MIDF	-6.7360	-6.7695	0.0335	0.6020
POND	0.8190	0.6633	0.1557	0.6000
RNCH	-7.8860	-8.5715	0.6855	0.6050
SEAA	1.4430	0.9318	0.5112	0.9130
TBPK	-1.2920	-0.4372	-0.8548	0.6600
Central Monument: PIG				
CROS	2.1880	3.5034	-1.3154	0.6350
GAS1	1.0590	-1.0633	2.1223	0.8380
LIME	0.9350	1.1668	-0.2318	0.6150
MDNW	-4.2190	-6.1573	1.9383	0.6180
MIDF	1.2700	1.5008	-0.2308	0.6250
RNCH	-1.5810	-1.5086	-0.0724	0.6680
TBPK	-1.3920	-1.2877	-0.1043	0.6100
WHER	0.7790	0.6199	0.1591	0.6130

Table S1d: trilateration data
variance reduction = 95.9%

stat 1	stat 2	obs.	pred.	res.	s.e.
airway	barren	-0.2325	0.0574	-0.2900	0.5993
airway	blhllres	-0.4229	0.0906	-0.5135	1.2043
airway	chi2 nol	2.6584	0.4019	2.2565	0.8610
airway	davis	-0.4156	0.0823	-0.4979	0.7873
airway	tess	0.2031	0.1087	0.0944	0.5760
almond	barren	0.9034	0.0163	0.8871	0.6284
almond	bench	-1.2083	-2.5481	1.3398	0.7666
almond	chiches2	0.5474	0.0102	0.5372	0.7471
almond	hopper	1.2238	-0.9939	2.2176	0.9605
almond	red hill	1.7119	1.6379	0.0739	0.4867
barren	chiches2	1.2143	0.7537	0.4606	0.7819
barren	prospect	1.1038	0.2321	0.8716	0.6509
barren	tess	-0.3863	0.1113	-0.4976	0.5937
bench	bonnie	-2.9662	-4.1670	1.2007	0.6199
bench	cotton	3.8161	3.1186	0.6975	0.3946
bench	gold	-5.5998	-6.2930	0.6932	0.8241
bench	hatch	6.6113	6.1154	0.4959	0.9883
bench	hopp rm3	-2.2015	-1.6538	-0.5477	1.4550
bench	hopper	-1.7340	-1.6497	-0.0843	0.4676
bench	kenger	-8.0739	-8.8039	0.7300	0.5156
bench	mason	2.0574	1.6715	0.3859	0.4284
bench	red hill	0.2341	-0.8246	1.0588	0.7017
bench	wild	2.0279	2.7413	-0.7134	0.5677
blhllres	davis	-0.1524	0.1633	-0.3157	1.0678
blhllres	tess	-1.1715	0.0554	-1.2269	0.8757
blhllres	villa 2	0.7575	0.0489	0.7086	1.3244
bonnie	cotton	-1.8919	-2.0799	0.1880	0.4714
bonnie	gold	0.9660	0.4086	0.5574	0.4843
bonnie	kenger	-0.2437	0.0673	-0.3110	0.4270
bonnie	mason	6.8548	5.6719	1.1829	0.5745
bonnie	park	0.2966	0.0908	0.2058	0.6497
break	buckhill	1.9670	2.3261	-0.3592	0.7246
break	flattop	0.9717	-0.6373	1.6089	0.3735
break	pfl	0.2663	0.3081	-0.0419	0.3501
break	table	0.1582	-0.6476	0.8058	0.7105
buck ecc	cholame	2.4465	1.7931	0.6534	1.2308
buck ecc	gastro	-4.4896	-5.2537	0.7641	1.3556
buck ecc	mine mt	5.6188	4.2773	1.3416	1.3663
buckhill	mine mt	6.6641	4.2897	2.3744	0.7493
caliente	gifford	2.6253	2.4886	0.1367	1.2073
caliente	mckttrck	-4.4499	-7.5743	3.1244	0.7961
caliente	simmler	1.9698	-1.9363	3.9061	1.6311
caliente	simmler2	1.9261	-1.9397	3.8658	2.5620
caliente	temblor	4.8975	2.8372	2.0602	0.7273

car	mine rm2	-5.5211	-10.1390	4.6178	1.3890
car rm2	kenger	6.5043	4.9792	1.5251	0.7120
castle	shade	18.8628	18.9367	-0.0739	0.5485
chiches2	mcdonrm2	3.5498	2.2300	1.3198	1.3228
chiches2	red hill	-1.6391	-2.5964	0.9573	0.8828
cholame	gastro	11.8836	9.5513	2.3323	1.3540
cholame	montosa	-2.3880	0.1089	-2.4968	1.4257
cholame	shade	-1.6670	1.6815	-3.3485	1.4051
cholame	smithecc	-18.4648	-18.9240	0.4592	1.4455
cobra	flattop	1.5156	1.1703	0.3452	0.6658
cobra	gold	7.1441	7.0934	0.0507	0.7967
cobra	pfl	-0.6117	-0.4329	-0.1788	0.6845
cobra	towers	-0.1633	-0.3243	0.1610	1.3950
cotton	gold	0.8229	1.0111	-0.1882	0.5464
cotton	kenger	-2.1332	-2.1986	0.0654	0.6213
cotton	mason	11.0947	9.3492	1.7455	0.5045
cotton	red hill	-4.2985	-6.9280	2.6295	0.4635
davis	tess	1.1507	0.1986	0.9521	0.9493
flattop	pfl	1.2721	-0.2700	1.5421	0.6676
gastro	montosa	12.5654	10.8101	1.7554	1.9709
gastro	shade	17.7694	18.7568	-0.9873	1.8033
gastro	smithecc	-3.9993	-2.0900	-1.9094	1.5284
gifford	mcktttrck	2.7063	1.9168	0.7895	0.7828
gifford	simmler	-2.8320	-2.9674	0.1354	0.9227
gifford	simmler2	-1.4537	-2.9702	1.5165	1.5887
gold	kenger	-1.9302	-2.5424	0.6122	0.4715
gold	park	1.2011	-1.1922	2.3933	0.7120
gold	pfl	8.2585	9.6366	-1.3781	0.7583
hatch	red hill	-2.0548	-1.4589	-0.5958	0.4794
hepsedam	shade	-26.9939	-25.5323	-1.4616	0.9742
hopp rm3	mason	2.3255	-1.2576	3.5830	2.3686
hopp rm3	red hill	1.1753	2.0593	-0.8840	1.7462
hopp rm3	wild	0.7668	0.8589	-0.0921	1.9322
hopper	mason	-0.2820	-1.2553	0.9734	0.8047
hopper	red hill	7.2205	2.0574	5.1632	0.7958
hopper	wild	-0.4206	0.8614	-1.2820	0.6300
kenger	mason	-0.9651	-1.0630	0.0980	0.3648
kenger	mid f	10.2450	10.4132	-0.1682	0.7171
kitchen	pelato	2.6385	4.0451	-1.4066	1.1062
l yeguas	mcdonrm2	0.2062	0.4708	-0.2646	0.6265
mason	mine rm2	-9.2811	-9.8308	0.5497	0.4545
mason	wild	-0.8164	-1.4481	0.6317	0.4563
mcdonald	mcktttrck	7.8092	8.1294	-0.3202	0.8627
mcdonrm2	mcktttrck	8.5399	8.1305	0.4094	1.9664
mcktttrck	simmler	6.0074	6.4761	-0.4687	0.7056
mcktttrck	simmler2	6.5982	6.4754	0.1227	1.5893
mcktttrck	temblor	4.8588	1.1362	3.7227	0.9272
mcktttrm5	temblor	2.6534	1.1223	1.5311	1.8154
mid f	mine mt	3.3039	2.1399	1.1640	0.4552
mine mt	montosa	15.7564	13.6623	2.0941	2.1717

mine mt	shade	19.1050	19.4721	-0.3670	0.3881
mine mt	table	-2.1292	-0.9603	-1.1689	0.6631
napoleon	red hill	8.7246	7.9207	0.8039	0.5828
park	red hill	-7.4042	-10.6429	3.2387	0.5846
park	waterhle	-19.1525	-7.7318	-11.4207	11.2219
pelato	temblor	-2.9955	-1.7220	-1.2735	1.0159
pfl	table	-3.9978	-5.2673	1.2695	0.6809
prospect	tess	0.4129	0.1272	0.2858	0.7261
prospect	villa 2	2.1736	0.1020	2.0716	1.0769
red hill	twis rm2	5.6137	5.3815	0.2322	0.4976
simmler	twissel	-4.6757	-4.3818	-0.2939	0.5406
simmler2	twissel	-5.0133	-4.3789	-0.6344	1.2372

During transient

Table S1e: two-color EDM data
variance reduction = 89.6%

stat	obs.	pred.	res.	s.e.
Central Monument: CARR				
BARE	-3.1550	-3.6056	0.4506	3.3220
BUCK	-4.3440	-4.5281	0.1841	1.5070
CANN	-2.8010	-2.9825	0.1815	1.2580
CREE	1.0540	0.8821	0.1719	1.5930
GOLD	1.8730	1.6911	0.1819	2.0770
HOGS	0.2380	-0.5323	0.7703	1.5520
HUNT	2.9880	2.0274	0.9606	1.5070
LANG	-0.0570	0.6634	-0.7204	1.4610
MASW	0.7800	0.0751	0.7049	1.6470
MELS	0.3200	1.3864	-1.0664	1.9780
MIDA	-3.7180	-3.2079	-0.5101	1.8150
MIDD	-0.0980	0.0800	-0.1780	1.5360
MIDE	-3.7700	-3.1586	-0.6114	2.4160
NORE	-0.5780	-0.7395	0.1615	1.0550
POMM	1.5850	1.2259	0.3591	1.8050
POMO	4.5380	1.1380	3.4000	2.7840
TABL	-1.4970	-0.6801	-0.8169	2.0180
TODD	-2.2380	-0.0815	-2.1565	2.4380
TURK	2.9880	2.7819	0.2061	1.4600

Central Monument: LIME

CROS	-0.6240	-0.6871	0.0631	1.3290
DONN	0.7550	0.4998	0.2552	1.5170
GILL	-6.0220	-5.8850	-0.1370	1.4700
LOST	0.7530	0.1882	0.5648	1.3560
MIDF	-1.6010	-2.3363	0.7353	1.3290
POND	-0.7340	0.4531	-1.1871	1.3150
RNCH	-2.5620	-1.6879	-0.8741	1.3380
SEAA	3.7240	3.1662	0.5578	2.3050
TBPK	2.7180	1.8542	0.8638	1.5320

Central Monument: PIG

CROS	-0.7470	-1.3171	0.5701	1.4370
GRAV	-0.5890	0.3904	-0.9794	1.3520
LIME	-2.6390	-2.6052	-0.0338	1.3830
MDNW	-1.5810	-3.0312	1.4502	1.3990
MIDE	-0.9100	-1.2395	0.3295	1.3640
MIDF	-2.6930	-1.8411	-0.8519	1.4180
RNCH	-3.4260	-2.3168	-1.1092	1.6110
TBPK	2.6810	2.5297	0.1513	1.3380
WHER	-2.5200	-2.6407	0.1207	1.3510

2004 earthquake

Coseismic

Table S1f: GPS
variance reduction = 97.0%

stat	E obs.	E pred.	E res.	E s.e.	N obs.	N pred.	N res.	N s.e.	U obs.	U pred.	U res.	U s.e.
CANP	19.4000	19.0098	0.3902	1.6000	-19.0000	-25.0447	6.0447	1.8000	-4.4000	-0.2365	-4.1635	7.5000
CARH	12.9000	12.6588	0.2412	1.5000	-0.8000	-3.5877	2.7877	1.8000	-0.3000	1.8589	-2.1589	10.1000
HOGS	-12.3000	-9.6284	-2.6716	2.3000	31.3000	28.2110	3.0890	1.0000	-16.3000	-5.3237	-10.9763	5.7000
HUNT	28.7000	29.0071	-0.3071	1.3000	-12.7000	-15.6452	2.9452	2.7000	-6.7000	6.1619	-12.8619	6.0000
LAND	-10.9000	-18.1031	7.2031	3.6000	21.9000	22.6660	-0.7660	1.2000	-6.8000	-1.2782	-5.5218	7.7000
LOWS	-4.4000	-3.2082	-1.1918	1.3000	0.6000	4.0947	-3.4947	2.5000	-10.3000	0.4433	-10.7433	9.2000
MASW	-7.9000	-7.2196	-0.6804	1.2000	30.9000	28.7011	2.1989	1.0000	-13.6000	-5.5175	-8.0825	6.1000
MIDA	7.8000	13.7062	-5.9062	1.9000	-21.0000	-21.5472	0.5472	2.2000	-8.2000	-0.1263	-8.0737	5.3000
MNMC	7.2000	8.3815	-1.1815	1.2000	-19.2000	-25.6128	6.4128	5.0000	-5.7000	-5.1372	-0.5628	6.3000
PKDB	-30.0000	-24.9277	-5.0723	1.6000	7.7000	5.9755	1.7245	2.3000	2.6000	11.9999	-9.3999	34.5000
POMM	-16.1000	-10.9739	-5.1261	2.2000	2.2000	7.3460	-5.1460	1.0000	-2.9000	2.9357	-5.8357	3.2000
RNCH	-20.4000	-20.3221	-0.0779	1.7000	8.8000	11.1871	-2.3871	1.4000	-5.3000	5.1751	-10.4751	10.0000
TBLP	26.0000	26.8243	-0.8243	1.9000	-8.2000	-11.0541	2.8541	2.3000	-11.2000	4.9581	-16.1581	5.5000

Coseismic + 60 days

Table S1g: GPS
variance reduction = 99.6%

stat	E obs.	E pred.	E res.	E s.e.	N obs.	N pred.	N res.	N s.e.	U obs.	U pred.	U res.	U s.e.
BENC	4.4000	0.6629	3.7371	3.2000	55.8000	49.6731	6.1269	3.2000	-2.1000	-10.2286	8.1286	11.3000
BONN	53.9000	39.5251	14.3749	7.2000	-2.4000	-12.8719	10.4719	5.6000	-27.4000	0.5735	-27.9735	11.2000
CANP	47.9000	43.8670	4.0330	1.0000	-70.0000	-68.9599	-1.0401	1.0000	-2.9000	-0.6609	-2.2391	2.1000
CARH	-16.0000	-16.0525	0.0525	1.0000	19.4000	21.3892	-1.9892	1.4000	3.3000	-2.1601	5.4601	3.1000
CBAR	35.2000	29.9513	5.2487	3.7000	-1.9000	-7.6051	5.7051	3.4000	6.6000	1.8572	4.7428	7.8000
CRBT	-10.4000	-9.7400	-0.6600	1.0000	3.3000	0.7143	2.5857	1.0000	-3.3000	-3.0162	-0.2838	1.2000
CTWD	40.5000	32.2851	8.2149	11.9000	-1.2000	-8.6325	7.4325	9.3000	22.2000	-0.0321	22.2321	21.1000
GO42	64.6000	64.8130	-0.2130	3.2000	-38.7000	-41.3747	2.6747	3.2000	38.3000	5.1160	33.1840	6.2000
HOGS	-48.4000	-48.6195	0.2195	1.0000	59.6000	61.7920	-2.1920	1.0000	-6.7000	-7.0397	0.3397	2.9000
HTR1	8.1000	9.7918	-1.6918	3.3000	-3.2000	-3.1875	-0.0125	3.7000	-14.3000	-2.9378	-11.3622	6.4000
HUNT	69.1000	67.7256	1.3744	1.0000	-69.8000	-70.0209	0.2209	1.0000	0.6000	3.7073	-3.1073	1.8000
LAND	-65.4000	-67.0689	1.6689	1.0000	66.2000	64.7190	1.4810	1.0000	-1.9000	-1.4569	-0.4431	2.2000
LOWS	-20.7000	-19.2852	-1.4148	1.0000	14.4000	12.5045	1.8955	1.0000	-4.4000	-2.5806	-1.8194	2.0000
MASW	-39.5000	-39.2329	-0.2671	1.0000	62.8000	64.5017	-1.7017	1.0000	-9.5000	-7.4022	-2.0978	1.5000
MIDA	58.9000	59.7515	-0.8515	1.2000	-89.0000	-89.1524	0.1524	1.0000	-3.6000	0.3189	-3.9189	4.9000
MITH	-0.3000	3.5591	-3.8591	4.9000	-20.3000	-20.8363	0.5363	3.3000	-25.7000	-4.0281	-21.6719	7.8000
MNMC	21.9000	22.4431	-0.5431	1.0000	-58.6000	-60.3686	1.7686	1.0000	-10.3000	-6.3454	-3.9546	2.6000
MONT	-32.4000	-27.5052	-4.8948	3.2000	3.6000	3.5765	0.0235	3.2000	-2.0000	-2.0496	0.0496	8.7000
PKDB	-68.4000	-67.4502	-0.9498	1.0000	24.5000	25.1990	-0.6990	1.0000	18.3000	13.8807	4.4193	2.0000
POMM	-76.5000	-70.2559	-6.2441	1.0000	40.0000	52.3704	-12.3704	1.5000	9.2000	6.0797	3.1203	1.3000
RH32	0.2000	0.4475	-0.2475	9.4000	20.1000	8.3356	11.7644	8.0000	55.4000	-1.4610	56.8610	33.7000
RNCH	-50.1000	-56.3101	6.2101	1.6000	38.7000	35.9471	2.7529	1.7000	2.5000	2.1373	0.3627	2.2000
SHR2	-20.9000	-22.4801	1.5801	3.7000	7.1000	4.9835	2.1165	3.7000	26.8000	-0.3504	27.1504	13.5000
TBLP	48.6000	47.4793	1.1207	1.0000	-36.4000	-37.4295	1.0295	1.5000	-2.4000	3.1798	-5.5798	2.4000
TWR2	7.7000	2.3064	5.3936	3.8000	3.5000	-1.0640	4.5640	4.7000	13.8000	-2.2820	16.0820	8.3000
USLO	-0.4000	1.1848	-1.5848	1.0000	1.9000	2.0110	-0.1110	1.0000	0.4000	-1.3023	1.7023	1.7000
WATH	2.9000	0.8888	2.0112	3.3000	19.5000	15.3223	4.1777	3.3000	-0.7000	-2.9882	2.2882	6.4000
WD42	7.8000	-4.4692	12.2692	5.4000	38.0000	38.2885	-0.2885	5.4000	-10.9000	-5.4532	-5.4468	10.3000

Table S1h: two-color EDM data
variance reduction = 99.99%

stat	obs.	pred.	res.	s.e.
BUCK	-136.7000	-136.4584	-0.2416	1.5000
CANN	-88.5000	-90.6340	2.1340	2.7000
CREE	-51.3000	-49.7606	-1.5394	2.8000
HOGS	5.3000	5.4527	-0.1527	2.5000
HUNT	110.6000	112.2678	-1.6678	1.8000
LANG	56.6000	57.1859	-0.5859	1.3000
MASW	-34.4000	-39.7091	5.3091	4.0000
MIDA	-134.4000	-134.9599	0.5599	1.4000
MIDD	30.1000	30.6925	-0.5925	2.3000
POMM	58.1000	58.3776	-0.2776	2.5000
TURK	125.7000	125.0367	0.6633	1.3000

Coseismic + 230 days

Table S1i: GPS
variance reduction = 97.0%

stat	E obs.	E pred.	E res.	E s.e.	N obs.	N pred.	N res.	N s.e.	U obs.	U pred.	U res.	U s.e.
33JD	59.5000	51.9627	7.5373	13.1000	-110.6000	-90.9985	-19.6015	11.5000	-3.4000	-8.2400	4.8400	19.8000
ALMO	3.3000	0.9791	2.3209	7.1000	4.8000	16.9837	-12.1837	7.1000	5.1000	-3.7748	8.8748	10.9000
BARR	5.3000	0.8137	4.4863	4.2000	11.2000	9.5316	1.6684	4.2000	7.9000	-4.0723	11.9723	14.6000
BHRM	-4.1000	0.0117	-4.1117	9.4000	14.0000	4.0487	9.9513	4.3000	-4.7000	-4.8899	0.1899	15.7000
BREK	-72.3000	-75.6362	3.3362	6.1000	87.5000	91.2150	-3.7150	4.3000	11.3000	-7.3393	18.6393	10.1000
BUCK	-56.4000	-76.2048	19.8048	28.8000	34.2000	38.6245	-4.4245	9.4000	-25.1000	5.7261	-30.8261	22.7000
COLO	5.6000	10.0015	-4.4015	5.8000	5.4000	-0.1501	5.5501	5.8000	-18.6000	-7.0545	-11.5455	20.0000
GILL	-67.8000	-57.1464	-10.6536	5.5000	54.6000	40.2079	14.3921	6.9000	-7.8000	0.6293	-8.4293	26.8000
JD84	-81.6000	-76.2924	-5.3076	19.8000	35.6000	32.9038	2.6962	7.3000	7.3000	10.2098	-2.9098	22.0000
JOAQ	80.2000	84.0582	-3.8582	19.5000	-104.2000	-89.1876	-15.0124	10.6000	-19.5000	2.6088	-22.1088	9.7000
KNGR	52.7000	52.8257	-0.1257	5.7000	-35.1000	-35.1694	0.0694	6.2000	0.2000	0.3714	-0.1714	19.8000
LOST	44.1000	44.2845	-0.1845	6.8000	-86.2000	-85.2878	-0.9122	5.6000	-19.3000	-9.3030	-9.9970	13.5000
MDDF	-84.5000	-77.9277	-6.5723	6.7000	44.9000	49.9731	-5.0731	12.7000	4.4000	3.5029	0.8971	16.9000
PIGG	36.9000	32.9618	3.9382	6.2000	-100.0000	-77.6981	-22.3019	13.0000	-10.6000	-11.1487	0.5487	15.5000
PK59	42.0000	50.6376	-8.6376	11.6000	-9.3000	-21.0517	11.7517	8.9000	-21.1000	-0.6530	-20.4470	17.6000
PYRA	25.8000	19.3879	6.4121	6.2000	-12.8000	-1.7142	-11.0858	6.2000	17.1000	-7.2348	24.3348	18.9000
TESS	3.0000	0.4228	2.5772	7.6000	4.9000	5.9904	-1.0904	4.9000	6.7000	-4.5153	11.2153	13.4000

60 to 230 days postseismic

Table S1j: GPS
variance reduction = 99.3%

stat	E obs.	E pred.	E res.	E s.e.	N obs.	N pred.	N res.	N s.e.	U obs.	U pred.	U res.	U s.e.
BENC	-0.6000	-1.1341	0.5341	1.8000	8.9000	8.7452	0.1548	1.8000	-4.0000	-4.8604	0.8604	9.0000
BONN	8.8000	6.8429	1.9571	2.7000	0.2000	-1.5479	1.7479	2.1000	-6.5000	-3.7470	-2.7530	6.0000
CANP	10.0000	8.9994	1.0006	0.9000	-11.4000	-11.7209	0.3209	0.9000	-4.0000	-4.2347	0.2347	3.3000
CARH	-13.4000	-12.6198	-0.7802	1.2000	13.4000	14.7796	-1.3796	1.8000	-0.9000	-3.4789	2.5789	3.0000
CBAR	6.6000	5.7240	0.8760	2.1000	-2.5000	-1.4533	-1.0467	1.8000	-2.3000	-3.7663	1.4663	5.1000
CRBT	-1.8000	-1.5070	-0.2930	0.6000	2.2000	1.1774	1.0226	0.9000	-5.0000	-4.3913	-0.6087	1.8000
CTWD	6.5000	4.9567	1.5433	4.2000	0.1000	-0.9703	1.0703	3.3000	-1.0000	-4.1254	3.1254	9.9000
GO42	12.0000	13.1379	-1.1379	1.8000	-7.3000	-7.4584	0.1584	1.8000	-0.2000	-3.2925	3.0925	4.2000
HOGS	-9.3000	-8.9568	-0.3432	0.9000	9.8000	10.0259	-0.2259	0.9000	-3.5000	-3.8925	0.3925	3.6000
HTR1	-0.1000	1.7281	-1.8281	2.7000	-0.2000	-0.0643	-0.1357	3.0000	-5.1000	-4.4696	-0.6304	6.6000
HUNT	12.5000	12.9483	-0.4483	0.9000	-13.1000	-13.3692	0.2692	0.6000	-4.8000	-2.9655	-1.8345	2.7000
LAND	-12.0000	-12.4539	0.4539	0.9000	13.4000	13.6842	-0.2842	0.6000	-3.4000	-2.1389	-1.2611	3.3000
LOWS	-3.3000	-2.9929	-0.3071	0.6000	4.7000	3.9551	0.7449	0.9000	-4.9000	-4.6001	-0.2999	2.1000
MASW	-5.7000	-5.9337	0.2337	0.6000	11.1000	11.2715	-0.1715	0.6000	-6.7000	-5.7564	-0.9436	2.1000
MIDA	15.0000	14.5981	0.4019	1.8000	-17.2000	-16.2905	-0.9095	1.2000	-1.8000	-3.8177	2.0177	7.5000
MITH	-0.9000	0.1721	-1.0721	3.3000	-3.2000	-4.4740	1.2740	2.1000	-7.3000	-5.7464	-1.5536	6.6000
MNMC	6.1000	6.6498	-0.5498	0.9000	-9.1000	-9.2042	0.1042	0.6000	-3.1000	-3.3777	0.2777	3.0000
MONT	-6.9000	-5.2795	-1.6205	2.7000	0.9000	1.1736	-0.2736	2.7000	-1.3000	-4.0485	2.7485	8.7000
PKDB	-10.1000	-10.5403	0.4403	1.2000	7.0000	7.1201	-0.1201	1.2000	-4.9000	-4.7596	-0.1404	8.7000
POMM	-15.6000	-14.3145	-1.2855	0.9000	13.0000	15.7077	-2.7077	2.1000	-2.9000	-2.4225	-0.4775	4.2000
RH32	1.3000	-0.0383	1.3383	3.9000	1.4000	2.1391	-0.7391	3.3000	13.2000	-4.0043	17.2043	18.0000
RNCH	-6.1000	-9.2829	3.1829	1.8000	10.1000	8.6095	1.4905	2.7000	-3.2000	-4.5502	1.3502	3.3000
SHR2	-6.6000	-5.9520	-0.6480	2.7000	-1.1000	1.3796	-2.4796	2.7000	6.2000	-2.9526	9.1526	11.1000
TBLP	8.6000	7.7488	0.8512	0.9000	-5.7000	-5.7751	0.0751	2.4000	-3.6000	-3.3975	-0.2025	3.3000
TWR2	1.5000	0.3203	1.1797	3.6000	-1.1000	0.5245	-1.6245	4.5000	1.5000	-4.2373	5.7373	9.6000
USLO	0.3000	0.1037	0.1963	0.6000	1.0000	1.0975	-0.0975	0.9000	-8.6000	-4.0580	-4.5420	6.9000
WATH	1.5000	0.6880	0.8120	2.1000	3.6000	3.7098	-0.1098	2.1000	-1.3000	-4.3354	3.0354	5.4000
WD42	-1.0000	-0.6807	-0.3193	2.1000	5.6000	7.3842	-1.7842	2.1000	-5.6000	-4.9097	-0.6903	5.1000

Table S1k: two-color EDM data
variance reduction = 99.7%

<u>stat</u>	<u>obs.</u>	<u>pred.</u>	<u>res.</u>	<u>s.e.</u>
BUCK	-52.8000	-53.9205	1.1205	1.5000
CANN	-45.1000	-39.3283	-5.7717	2.8000
CREE	1.2000	6.9751	-5.7751	3.0000
HOGS	-5.3000	-4.0593	-1.2407	2.6000
HUNT	44.2000	43.2547	0.9453	1.8000
LANG	-10.4000	-11.5367	1.1367	1.4000
MASW	3.8000	10.5080	-6.7080	4.2000
MIDA	-55.6000	-55.1342	-0.4658	1.4000
MIDD	-17.3000	-13.6921	-3.6079	2.3000
POMM	-12.3000	-10.3068	-1.9932	2.6000
TURK	50.9000	51.2729	-0.3729	1.3000