

Table S1 Fault parameters and calculated slip amounts for three single-segment rupture scenarios. Geometric means of coastal tsunami heights TM relative to Recipe A are also shown.

	Fault Model	Longitude	Latitude	Fault	Fault	Thickness of	Top depth	Strike	Dip	Slip angle	Slip amount			Mw			Geometric mean (G)
		JGD2000	JGD2000	length	width	seismogenic layer					Recipe A	Recipe I	TM	Recipe A	Recipe I	TM	
		(degree)	(degree)	(km)	(km)	(km)	(km, TP-)	(degree)	(degree)	(degree)	(m)	(m)	(m)				
1	RS01a	141.4063	45.5883	63.3	34.0	17.0	0.0	340	30	55	2.92	1.91	2.37	7.5	7.2	7.4	0.82
2	RS01b	141.4582	45.3239	30.2	34.0	17.0	0.0	353	30	65	1.66	0.93	1.13	7.1	6.8	7.0	0.69
3	RS01c	141.7615	44.8340	56.6	34.0	17.0	0.0	338	30	46	2.92	1.71	2.12	7.5	7.1	7.4	0.73
4	RS03a	141.0247	45.8722	27.6	28.0	15.0	1.0	6	30	73	1.25	0.85	1.25	6.9	6.7	6.9	1.00
5	RS03b	140.8384	45.5991	35.2	28.0	15.0	1.0	23	30	85	1.60	1.08	1.60	7.1	6.9	7.1	1.00
6	RS03c	140.8871	45.0834	58.2	28.0	15.0	1.0	355	30	64	2.64	1.76	2.64	7.4	7.1	7.4	1.00
7	RS04	140.0562	45.1655	48.1	32.0	17.0	1.0	49	30	77	2.50	1.46	1.91	7.3	7.0	7.3	0.77
8	RS05	139.7535	44.7009	56.2	34.0	17.0	0.0	35	30	137	2.92	1.70	2.10	7.5	7.1	7.4	0.73
9	RS06	140.5854	44.7096	28.8	21.2	15.0	0.0	12	45	111	0.99	0.89	1.73	6.8	6.7	7.0	1.62
10	RS07	141.0069	44.6340	20.5	30.0	15.0	0.0	351	30	56	1.00	0.64	0.87	6.8	6.6	6.5	0.88
11	RS08	141.3284	44.6318	30.3	21.2	15.0	0.0	196	45	109	1.04	0.93	1.82	6.8	6.8	7.0	1.66
12	MS01	139.3745	44.5834	57.1	32.0	17.0	1.0	9	30	53	2.92	1.73	2.27	7.4	7.1	7.4	0.79
13	MS02	139.5662	44.5645	40.3	22.6	17.0	1.0	183	45	82	1.48	1.23	2.27	7.0	6.9	7.2	1.51
14	MS03	140.1054	44.2112	31.7	19.8	15.0	1.0	33	45	102	1.02	0.97	2.04	6.8	6.8	7.0	1.96
15	MS04	140.8235	44.6665	51.6	21.2	15.0	0.0	203	45	88	1.77	1.57	3.09	7.1	7.1	7.3	1.71
16	MS05	140.2247	44.1444	32.9	19.8	15.0	1.0	213	45	86	1.06	1.01	2.11	6.8	6.8	7.0	1.95
17	MS06	140.4034	44.0218	47.5	19.8	15.0	1.0	184	45	52	1.52	1.44	3.05	7.1	7.0	7.3	1.95
18	ST01	139.1295	43.6691	59.6	28.0	17.0	3.0	357	30	45	2.71	1.80	2.71	7.4	7.2	7.4	1.00
19	ST02	139.4983	44.1905	40.4	24.9	17.0	1.0	171	40	94	1.63	1.23	2.07	7.1	6.9	7.2	1.25
20	ST03	139.7320	43.8533	23.1	19.8	15.0	1.0	321	45	37	0.74	0.72	1.48	6.6	6.6	6.8	1.94
21	ST04	139.8388	43.8333	36.3	19.8	15.0	1.0	150	45	67	1.17	1.11	2.34	6.9	6.9	7.1	1.93
22	ST05	140.1559	43.4570	22.9	19.8	15.0	1.0	190	45	91	0.73	0.71	1.47	6.6	6.6	6.8	1.96
23	ST06	139.6400	43.7036	46.0	30.0	17.0	2.0	179	30	66	2.24	1.40	1.95	7.3	7.0	7.2	0.88
24	ST07	139.5595	43.2833	23.1	19.8	17.0	3.0	184	45	99	0.74	0.72	1.49	6.6	6.6	6.8	1.93
25	ST08	139.2522	43.7669	37.4	19.8	17.0	3.0	167	45	47	1.20	1.14	2.41	6.9	6.9	7.1	1.93
26	ST09	139.3562	43.4392	39.0	18.4	17.0	4.0	179	45	85	1.16	1.19	2.70	6.9	6.9	7.1	2.18
27	ST10	140.0663	43.1422	33.3	19.8	15.0	1.0	173	45	76	1.07	1.02	2.14	6.9	6.8	7.1	1.92
28	OK01	139.4299	43.0807	58.8	19.8	17.0	3.0	174	45	97	1.89	1.78	3.78	7.2	7.2	7.4	1.87
29	OK02	139.4046	42.5772	43.1	18.4	15.0	2.0	151	45	49	1.28	1.31	2.98	7.0	7.0	7.2	2.17
30	OK03a	139.2484	42.8315	27.6	19.8	17.0	3.0	176	45	100	0.89	0.85	1.78	6.7	6.7	6.9	1.91
31	OK03b	139.2735	42.5827	20.4	19.8	17.0	3.0	210	45	112	0.65	0.63	1.31	6.6	6.6	6.4	1.94
32	OK04	139.2838	41.9701	50.9	19.8	17.0	3.0	344	45	28	1.63	1.54	3.27	7.1	7.1	7.3	1.91
33	OK05	139.2762	42.4385	59.6	21.2	17.0	2.0	171	45	95	2.05	1.80	3.57	7.2	7.2	7.4	1.65
34	OK06	138.7122	42.1742	27.5	26.0	17.0	4.0	28	30	162	1.16	0.85	1.35	6.9	6.7	6.9	1.16
35	OK07	138.6209	41.7443	59.9	26.0	17.0	4.0	26	30	165	2.53	1.81	2.93	7.4	7.2	7.4	1.15
36	OK08	139.5284	41.8778	28.1	19.8	15.0	1.0	21	45	153	0.90	0.87	1.81	6.8	6.7	7.0	1.94
37	OK09	139.5239	41.5377	60.0	30.0	17.0	2.0	346	30	127	2.92	1.81	2.54	7.4	7.2	7.4	0.88
38	OS03	139.6874	42.2005	55.4	21.2	15.0	0.0	10	45	116	1.91	1.68	3.32	7.2	7.1	7.4	1.67
39	OS05	139.9628	41.8800	33.2	19.8	15.0	1.0	328	45	123	1.07	1.02	2.13	6.9	6.8	7.1	1.90
40	OS08	139.8480	41.3870	50.4	19.8	15.0	1.0	9	45	114	1.62	1.53	3.24	7.1	7.1	7.3	1.89
41	RM01	141.6297	44.0668	28.8	34.0	17.0	0.0	358	30	69	1.59	0.89	1.08	7.1	6.7	7.0	0.69
42	MMP01	138.5729	41.3738	36.4	29.0	17.0	2.5	4	30	113	1.71	1.11	1.60	7.1	6.9	7.1	0.94
43	MMP02	138.6133	41.4119	32.3	21.3	17.0	3.3	17	40	111	1.12	0.99	1.93	6.9	6.8	7.0	1.66
44	MMP03	138.3306	41.1776	23.4	21.3	17.0	3.3	30	40	102	0.81	0.72	1.40	6.7	6.6	6.9	1.68
45	MMP04	138.2996	40.9070	50.4	22.1	17.0	2.8	25	40	102	1.81	1.53	2.90	7.2	7.1	7.3	1.54
46	MMP05	138.1671	40.8880	24.6	20.6	15.0	3.2	38	35	98	0.82	0.76	1.52	6.7	6.7	6.9	1.79
47	MMP06	138.4598	40.8817	34.9	23.5	17.0	3.5	215	35	132	1.33	1.07	1.89	7.0	6.9	7.1	1.39
48	OS10	139.4882	41.2429	30.6	27.0	15.0	1.5	360	30	100	1.34	0.94	1.44	7.0	6.8	7.0	1.07
49	OS11	140.1104	41.1099	28.3	20.5	15.0	0.5	8	45	96	0.94	0.87	1.76	6.8	6.7	7.0	1.78
50	MMS01	139.2065	40.7663	53.2	33.4	17.0	2.9	334	25	69	2.88	1.61	2.03	7.4	7.1	7.3	0.72
51	MMS02	139.3833	41.3014	40.6	18.2	15.0	3.3	220	40	130	1.20	1.24	2.84	6.9	6.9	7.2	2.22
52	MMS03	139.4891	41.1966	29.7	18.0	15.0	2.3	205	45	108	0.86	0.91	2.10	6.7	6.8	7.0	2.29
53	MMS04	138.9880	40.6502	21.8	33.1	17.0	3.0	21	25	89	1.17	0.68	0.84	6.9	6.6	6.8	0.73
54	MMS05	138.8321	40.8023	25.3	19.1	17.0	3.5	215	45	129	0.78	0.78	1.68	6.7	6.7	6.9	2.07
55	MMS06	138.6744	40.5907	41.1	28.2	17.0	2.9	195	30	100	1.88	1.25	1.86	7.2	6.9	7.2	0.99
56	NTG01	139.7669	41.2949	43.1	23.3	17.0	2.0	192	40	99	1.63	1.31	2.35	7.1	7.0	7.2	1.40
57	NTG02	139.9504	41.0536	29.9	20.8	15.0	0.3	351	45	88	1.01	0.92	1.83	6.8	6.8	7.0	1.75
58	NTG03	139.6669	40.8959	51.0	21.9	17.0	1.5	165	45	103	1.81	1.55	2.96	7.2	7.1	7.3	1.56
59	NTG04	139.7472	40.6747	40.5	33.4	15.0	0.9	5	25	91	2.19	1.24	1.54	7.3	6.9	7.2	0.72
60	NTG05	139.5548	41.2905	65.0	21.8	17.0	1.6	184	45	96	2.30	1.96	3.80	7.3	7.2	7.4	1.56
61	NTG06	139.5134	40.7058	24.8	18.6	17.0	1.8	162	55	95	0.75	0.77	1.70	6.6	6.7	6.9	2.15
62	NTG07	139.8218	41.0487	32.9	28.2	15.0	0.9	3	30	90	1.50	1.01	1.48	7.1	6.8	7.0	0.99
63	TGR01	140.0603	41.0273	32.7	20.6	15.0	0.4	173	45	91	1.09	1.00	2.01	6.9	6.8	7.0	1.77
64	MGM01	138.7927	40.1821	53.2	33.8	17.0	2.7	26	25	69	2.92	1.61	2.00	7.4	7.1	7.3	0.70
65	MGM02	138.9499	40.5022	25.2	18.3	17.0	3.0	209	50	101	0.75	0.78	1.75	6.6	6.7	6.9	2.22
66	MGM03	138.8178	40.2509	22.8	22.1	17.0	2.8	225	40	140	0.82	0.71	1.31	6.7	6.6	6.8	1.57
67	MGM04	138.6268	40.0925	27.5	19.7	17.0	3.1	196	45	101	0.88	0.85	1.78	6.7	6.7	6.9	1.95
68	MGM05	138.9998	40.8575	26.9	19.1	17.0	2.4	224	50	145	0.83	0.83	1.80	6.7	6.7	6.9	2.10
69	MGM06	138.7859	39.8598	32.8	21.2	17.0	2.0	188	45	91	1.13	1.01	1.97	6.9	6.8	7.0	1.69
70	MGM07	138.3241	39.4760	54.3	23.0	17.0	2.2	29	40	103	2.03	1.65	3.00	7.2	7.1	7.3	1.43
71	MGM08	139.2621	39.6230	39.3	25.2	17.0	0.8	219	40	120	1.61	1.20	1.99	7.1	6.9	7.2	1.22
72	MGM09	138.9925	39.6744	58.7	21.5	17.0	0.5	187	50	83	2.05	1.78	3.47	7.2	7.1	7.4	1.62
73	MGM10	138.7836	39.5279	34.8	22.8	17.0	0.9	204	45	121	1.29	1.07	1.95	7.0	6.9	7.1	1.48
74	MGM11	138.5924	39.483														

Table S1 (continued)

	Fault Model	Longitude	Latitude	Fault	Fault	Thickness of	Top depth	Strike	Dip	Slip angle	Slip amount			Mw			Geometric mean (G)
		JGD2000	JGD2000	length	width	seismogenic layer					Recipe A	Recipe I	TM	Recipe A	Recipe I	TM	
		(degree)	(degree)	(km)	(km)	(km)	(km, TP-)	(degree)	(degree)	(degree)	(m)	(m)	(m)				
95	SD09	138.3902	38.5391	40.7	23.5	17.0	0.4	211	45	113	1.55	1.24	2.20	7.1	6.9	7.2	1.39
96	SD10	138.2759	38.7448	36.1	22.2	17.0	1.3	202	45	106	1.30	1.11	2.07	7.0	6.9	7.1	1.55
97	SD11	138.7915	38.2287	28.1	23.3	17.0	0.5	220	45	101	1.06	0.86	1.53	6.9	6.7	7.0	1.42
98	MRK01	139.4038	38.5490	34.3	23.6	17.0	0.3	206	45	103	1.32	1.05	1.85	7.0	6.8	7.1	1.38
99	MRK02	139.3292	38.2132	32.4	33.8	17.0	0.1	25	30	87	1.78	1.00	1.22	7.1	6.8	7.0	0.70
100	MRK03	139.2177	38.6836	40.1	23.2	17.0	0.6	201	45	97	1.51	1.22	2.20	7.1	6.9	7.2	1.43
101	MRK04	139.0654	38.7100	32.4	23.2	17.0	0.6	194	45	91	1.22	0.99	1.78	6.9	6.8	7.0	1.44
102	MRK05	138.8301	38.7963	40.7	23.2	17.0	0.6	199	45	95	1.53	1.24	2.23	7.1	6.9	7.2	1.42
103	MRK06	138.9190	38.9478	29.5	23.2	17.0	0.6	218	45	111	1.11	0.91	1.62	6.9	6.8	7.0	1.43
104	MRK07	138.2669	38.8375	29.4	19.9	17.0	0.7	37	55	111	0.95	0.90	1.88	6.8	6.8	7.0	1.92
105	MRK08	138.4288	38.8283	35.7	21.1	17.0	0.8	230	50	131	1.22	1.09	2.15	6.9	6.9	7.1	1.71
106	MRK09	138.8332	38.6478	31.6	22.6	17.0	1.0	195	45	92	1.16	0.97	1.78	6.9	6.8	7.0	1.50
107	ECG03	139.2410	38.2674	23.9	23.9	17.0	0.1	192	45	93	0.93	0.74	1.27	6.8	6.6	6.9	1.34
108	ECG04	139.0591	38.3175	52.7	23.5	17.0	0.4	220	45	101	2.01	1.60	2.86	7.2	7.1	7.3	1.39
109	NG1	138.9043	37.8823	30.1	24.7	18.0	0.5	188	45	82	1.21	0.93	1.55	6.9	6.8	7.0	-
110	NG2	138.8887	38.1328	27.9	25.5	18.0	0.0	174	45	76	1.15	0.86	1.39	6.9	6.7	7.0	-
111	SD1	138.3667	37.4449	29.4	26.0	15.0	4.0	25	25	76	1.24	0.90	1.44	6.9	6.8	7.0	-
112	SD4	138.6489	37.9853	34.2	17.0	15.0	2.0	212	50	96	0.94	1.05	2.57	6.8	6.8	7.1	-
113	SD5	138.0259	37.7101	42.7	17.5	15.0	2.6	4	45	69	1.21	1.30	3.10	6.9	7.0	7.2	-
114	SD6	138.0729	38.0925	33.8	19.2	15.0	1.4	38	45	73	1.05	1.04	2.24	6.8	6.8	7.1	-
115	JO1	137.8188	37.2331	21.6	37.1	18.0	2.3	36	25	125	1.30	0.67	0.74	7.0	6.6	6.8	-
116	JO2	137.9677	37.3871	26.6	31.6	18.0	2.2	61	30	111	1.36	0.82	1.07	7.0	6.7	6.9	-
117	TB1	137.1842	37.1303	32.4	16.3	15.0	2.5	191	50	55	0.86	0.99	2.53	6.7	6.8	7.0	-
118	TB2	137.3565	37.2795	21.9	19.0	15.0	2.8	222	40	95	0.67	0.68	1.47	6.6	6.6	6.8	-
119	TB3	137.6292	37.3195	24.1	23.0	15.0	3.5	251	30	120	0.90	0.75	1.34	6.8	6.6	6.9	-
120	TB4	137.2625	36.6482	39.7	24.0	15.0	3.0	25	30	50	1.55	1.21	2.11	7.1	6.9	7.2	-
121	TB5	137.5430	36.9595	28.5	21.0	15.0	1.5	38	40	76	0.97	0.88	1.73	6.8	6.7	7.0	-
122	NT1a	137.2359	37.9813	32.0	18.9	15.0	0.5	229	50	101	0.98	0.98	2.15	6.8	6.8	7.0	-
123	NT2	137.9269	37.9928	36.6	16.3	15.0	2.5	201	50	78	0.97	1.12	2.85	6.8	6.9	7.1	-
124	NT3	137.7640	37.6895	20.0	16.6	15.0	2.3	242	50	117	0.50	0.62	1.53	6.4	6.5	6.8	-
125	NT5	137.2075	37.5278	21.6	17.1	15.0	0.2	52	60	108	0.53	0.67	1.61	6.5	6.6	6.8	-
126	NT6	136.7296	37.3867	42.6	16.7	15.0	0.5	66	60	124	1.16	1.30	3.24	6.9	7.0	7.2	-
127	KZ1	136.5621	37.0738	25.8	16.7	15.0	0.5	177	60	42	0.70	0.80	1.97	6.6	6.7	6.9	-
128	KZ4	136.0611	36.7516	25.5	18.3	15.0	1.0	25	50	95	0.76	0.79	1.78	6.7	6.7	6.9	-
129	KZ5	135.6720	37.0612	28.0	14.7	13.7	1.0	81	60	215	0.67	0.86	2.43	6.6	6.7	7.0	-
130	KZ6	136.0230	36.4959	25.8	17.5	15.0	0.7	38	55	122	0.73	0.80	1.88	6.6	6.7	6.9	-
131	OR1	134.6573	36.5941	42.2	17.7	15.0	0.5	270	55	-135	1.21	1.29	3.03	6.9	7.0	7.2	2.34
132	OS1	134.7499	36.5526	25.9	29.1	17.0	0.3	79	35	-61	1.22	0.80	1.13	6.9	6.7	6.9	0.93
133	OS2	135.0334	36.5989	29.7	25.6	15.0	0.3	45	35	-79	1.23	0.91	1.47	6.9	6.8	7.0	1.18
134	FU2	136.0039	36.3884	21.1	18.0	15.0	1.2	217	50	150	0.62	0.65	1.49	6.5	6.6	6.8	2.38
135	FU3	135.8403	36.2852	20.9	16.8	15.0	1.2	224	55	158	0.52	0.65	1.58	6.5	6.6	6.8	2.94
136	FU7	135.9253	35.9393	25.2	19.7	15.0	1.1	27	45	107	0.80	0.78	1.63	6.7	6.7	6.9	2.00
137	WS7	135.6772	35.5564	31.8	14.8	15.0	0.2	318	90	5	0.76	0.98	2.73	6.7	6.8	7.0	3.45
138	TG3	135.0337	35.7553	44.7	14.7	15.0	0.3	326	90	9	1.06	1.36	3.87	6.9	7.0	7.2	3.45
139	KS1	134.4569	35.9480	20.0	16.2	15.0	0.3	154	65	9	0.50	0.62	1.57	6.4	6.5	6.8	3.13
140	TR1	134.4185	35.7537	25.3	17.0	15.0	0.3	270	60	-147	0.70	0.78	1.89	6.6	6.7	6.9	2.63
141	TR2	134.1143	35.7344	66.0	17.1	15.0	0.2	257	60	-166	1.83	1.99	4.91	7.2	7.2	7.5	2.56
142	SH01D	131.9654	35.7201	22.9	17.0	15.0	1.2	90	60	-145	0.63	0.71	1.71	6.6	6.6	6.8	2.63
143	SH02Da	131.7457	35.6541	33.4	17.1	15.0	1.2	91	60	-155	0.93	1.02	2.49	6.8	6.8	7.1	2.56
144	SH03D	131.5788	35.2425	34.3	17.2	15.0	1.1	230	60	157	0.96	1.05	2.54	6.8	6.8	7.1	2.56
145	SH06D	132.4645	35.4039	35.6	17.2	15.0	1.1	262	60	178	0.99	1.09	2.63	6.8	6.8	7.1	2.56
146	SH11	131.9202	34.9483	27.3	14.9	15.0	0.2	340	85	6	0.66	0.84	2.33	6.6	6.6	6.9	3.45
147	SH13	133.0328	35.7644	41.2	17.2	15.0	0.2	255	60	-176	1.15	1.26	3.05	6.9	6.9	7.2	2.56
148	YM06	131.1289	34.7096	35.0	15.4	15.0	0.2	340	75	42	0.87	1.07	2.89	6.7	6.8	7.1	3.03
149	YM08	131.4189	34.5759	39.7	14.9	15.0	0.1	326	90	0	0.96	1.21	3.39	6.8	6.9	7.2	3.45
150	YM09	130.8684	34.2796	68.7	14.9	15.0	0.0	306	90	-12	1.66	2.07	5.87	7.1	7.2	7.5	3.13
151	YM10	130.8717	34.5096	24.9	14.9	15.0	0.0	324	90	-3	0.60	0.77	2.13	6.5	6.6	6.9	3.45
152	YM11	130.7664	34.4018	49.4	14.9	15.0	0.0	324	90	-12	1.19	1.50	4.22	6.9	7.0	7.3	3.23
153	YM12	130.0809	34.8404	23.6	17.2	15.0	0.0	48	60	-163	0.66	0.73	1.75	6.6	6.6	6.9	2.56
154	YM13	130.0707	34.8592	23.5	17.2	15.0	0.0	48	60	-163	0.66	0.73	1.74	6.6	6.6	6.9	2.56
155	YM14	130.7408	34.4132	41.6	14.9	15.0	0.0	316	90	-8	1.01	1.27	3.55	6.8	6.9	7.2	3.33
156	YM15	130.7885	34.4256	30.0	14.9	15.0	0.0	326	90	-8	0.72	0.92	2.56	6.6	6.7	7.0	3.45
157	YM16	130.9136	34.6548	21.5	14.9	15.0	0.0	6	90	148	0.50	0.67	1.84	6.4	6.5	6.8	3.45
158	YM17D	130.2186	35.2601	23.3	17.2	15.0	0.0	67	60	-109	0.65	0.72	1.72	6.6	6.6	6.8	2.44
159	YM18D	130.5333	35.4995	44.6	17.1	15.0	0.0	82	60	-86	1.24	1.36	3.32	6.9	7.0	7.2	2.38
160	FO02	130.3518	34.2895	26.6	14.9	15.0	0.0	146	90	34	0.64	0.82	2.27	6.6	6.6	6.9	3.23
161	FO03	130.0638	34.1569	36.4	14.5	15.0	0.0	332	90	-21	0.86	1.11	3.19	6.7	6.8	7.1	3.33
162	FO05	130.1104	34.1692	37.7	14.9	15.0	0.0	138	90	38	0.91	1.15	3.22	6.8	6.8	7.1	3.03
163	FO06	130.0925	33.7792	24.5	15.0	15.0	0.0	123	90	1	0.60	0.76	2.08	6.5	6.6	6.9	3.33
164	FO08	129.6791	34.0542	36.4	14.9	15.0	0.0	116	90	2	0.88	1.11	3.11	6.7	6.8	7.1	3.45
165	FO09	129.7518	34.1127	35.2	14.9	15.0	0.0	129	90	-3	0.85	1.08	3.01	6.7	6.8	7.1	3.45
166	FO04D	129.5888	34.0871	40.1	21.2	15.0	0.0	27	45	176	1.38	1.22	2.41	7.0	7.0	7.2	1.69
167	TS01D	129.0396	33.7295	27.4	21.2	15.0	0.0	7	45	147	0.94	0.84	1.64	6.8	6.8	6.9	1.69
168	TS02D	129.0873	33.7808	30.5	17.1	15.0	0.0	9	60	169	0.85						

Table S2 Fault parameters and calculated slip amounts for three multi-segment rupture scenarios. Geometric means of coastal tsunami heights by TM relative to Recipe A are also shown.

No.	Fault Model	Fault name	Longitude JGD2000	Latitude JGD2000	Fault length	Fault width	Thickness of seismogenic layer	Top depth	Strike	Dip	Slip angle	Total length	Slip amount			Mw			Geometric mean (G)
													Recipe A	Recipe I	TM	Recipe A	Recipe I	TM	
1	RS01a+RS01b	RS01a	141.4063	45.5883	63.3	34.0	17	0.0	340	30	55	93.5	3.24	3.11	4.21	7.6	7.4	7.7	1.23
		RS01b	141.4582	45.3239	30.2	34.0	17	0.0	353	30	65	86.8	2.24	2.14	2.01	7.6	7.4	7.6	0.99
		RS01b	141.4582	45.3239	30.2	34.0	17	0.0	353	30	65		2.35	2.09	2.07				
2	RS01b+RS01c	RS01c	141.7615	44.8340	56.6	34.0	17	0.0	338	30	46	150.1	3.22	2.87	3.88	7.7	7.7	7.9	1.93
		RS01a	141.4063	45.5883	63.3	34.0	17	0.0	340	30	55		3.18	3.18	6.57				
		RS01b	141.4582	45.3239	30.2	34.0	17	0.0	353	30	65	2.20	2.20	3.13					
3	RS01a+RS01b+RS01c	RS01c	141.7615	44.8340	56.6	34.0	17	0.0	338	30	46	62.8	3.00	3.00	5.87	7.4	7.2	7.4	1.01
		RS03a	141.0247	45.8722	27.6	28.0	15	1.0	6	30	73		2.66	1.77	2.47				
		RS03b	140.8384	45.5991	35.2	28.0	15	1.0	23	30	85	3.00	2.00	3.15					
4	RS03a+RS03b	RS03b	140.8384	45.5991	35.2	28.0	15	1.0	23	30	85	93.4	2.47	2.37	3.02	7.5	7.4	7.7	1.45
		RS03c	140.8871	45.0834	58.2	28.0	15	1.0	355	30	64		3.18	3.05	4.99				
		RS03a	141.0247	45.8722	27.6	28.0	15	1.0	6	30	73	121.0	2.32	2.32	3.41	7.6	7.6	7.8	1.89
6	RS03a+RS03b+RS03c	RS03b	140.8384	45.5991	35.2	28.0	15	1.0	23	30	85		2.62	2.62	4.35				
		RS03c	140.8871	45.0834	58.2	28.0	15	1.0	355	30	64	104.3	3.37	3.37	7.19	7.6	7.5	7.7	1.35
		RS04	140.0562	45.1655	48.1	32.0	17	1.0	49	30	77		2.74	2.79	3.81				
7	RS04+RS05	RS05	139.7535	44.7009	56.2	34.0	17	0.0	35	30	137	97.4	3.05	3.02	4.18	7.6	7.4	7.7	1.57
		MS01	139.3745	44.5834	57.1	32.0	17	1.0	9	30	53		3.23	3.12	4.41				
		MS02	139.5662	44.5645	40.3	22.6	17	1.0	183	45	82	80.8	2.28	2.62	4.41	7.5	7.3	7.6	1.41
8	MS01+MS02	MS02	139.5662	44.5645	40.3	22.6	17	1.0	183	45	82		2.84	2.42	4.54				
9	MS02+ST02	ST02	139.4983	44.1905	40.4	24.9	17	1.0	171	40	94	137.9	2.98	2.42	4.13	7.6	7.6	7.9	2.16
		MS01	139.3745	44.5834	57.1	32.0	17	1.0	9	30	53		3.39	3.22	6.62				
		MS02	139.5662	44.5645	40.3	22.6	17	1.0	183	45	82	2.40	2.70	6.61					
10	MS01+MS02+ST02	ST02	139.4983	44.1905	40.4	24.9	17	1.0	171	40	94	197.5	2.52	2.70	6.02	7.8	7.8	8.1	2.96
		MS01	139.3745	44.5834	57.1	32.0	17	1.0	9	30	53		3.28	3.10	8.79				
		MS02	139.5662	44.5645	40.3	22.6	17	1.0	183	45	82	2.32	2.60	8.78					
11	MS01+MS02+ST01+ST02	ST01	139.1295	43.6691	59.6	28.0	17	3.0	357	30	45	69.2	3.13	3.16	10.48	7.4	7.2	7.5	1.12
		ST02	139.4983	44.1905	40.4	24.9	17	1.0	171	40	94		2.43	2.61	8.00				
		ST06	139.6400	43.7036	46.0	30.0	17	2.0	179	30	66	128.0	3.26	2.31	3.52	7.6	7.6	7.8	2.37
13	ST06+ST07+OK01	ST07	139.5595	43.2833	23.1	19.8	17	3.0	184	45	99		1.88	1.64	2.68				
		OK01	139.4299	43.0807	58.8	19.8	17	3.0	174	45	97	125.0	2.96	3.27	10.13	7.5	7.6	7.8	2.56
		ST07	139.5595	43.2833	23.1	19.8	17	3.0	184	45	99		2.10	2.07	3.97				
14	ST07+OK01+OK02	OK01	139.4299	43.0807	58.8	19.8	17	3.0	174	45	97	171.1	3.34	3.31	10.10	7.7	7.8	8.0	3.12
		OK02	139.4046	42.5772	43.1	18.4	15	2.0	151	45	49		2.76	2.83	7.97				
		ST06	139.6400	43.7036	46.0	30.0	17	2.0	179	30	66	76.4	3.34	2.92	7.17	7.3	7.3	7.5	2.01
15	ST06+ST07+OK01+OK02	ST07	139.5595	43.2833	23.1	19.8	17	3.0	184	45	99		1.92	2.07	5.46				
		OK01	139.4299	43.0807	58.8	19.8	17	3.0	174	45	97	135.2	3.07	3.30	13.88	7.5	7.6	7.9	2.71
		OK02	139.4046	42.5772	43.1	18.4	15	2.0	151	45	49		2.53	2.83	10.95				
16	ST08+ST09	ST08	139.2522	43.7669	37.4	19.8	17	3.0	167	45	47	140.9	2.38	2.27	4.81	7.6	7.6	7.9	2.82
		ST09	139.3562	43.4392	39.0	18.4	17	4.0	179	45	85		2.34	2.32	5.40				
		ST08	139.2522	43.7669	37.4	19.8	17	3.0	167	45	47	178.3	2.63	2.61	6.89	7.6	7.8	8.0	3.46
17	ST08+ST09+OK01	ST09	139.3562	43.4392	39.0	18.4	17	4.0	179	45	85		2.59	2.67	7.74				
		OK01	139.4299	43.0807	58.8	19.8	17	3.0	174	45	97	101.9	3.30	3.27	10.83	7.1	7.0	7.3	1.90
		OK02	139.4046	42.5772	43.1	18.4	15	2.0	151	45	49		2.57	2.62	7.84				
18	ST09+OK01+OK02	OK01	139.4299	43.0807	58.8	19.8	17	3.0	174	45	97	107.5	3.27	3.22	10.98	7.5	7.5	7.7	2.11
		OK02	139.4046	42.5772	43.1	18.4	15	2.0	151	45	49		2.70	2.76	8.66				
		ST08	139.2522	43.7669	37.4	19.8	17	3.0	167	45	47	110.8	2.67	2.64	9.29	7.6	7.5	7.8	1.64
19	ST08+ST09+OK01+OK02	ST09	139.3562	43.4392	39.0	18.4	17	4.0	179	45	85		2.63	2.69	10.42				
		OK01	139.4299	43.0807	58.8	19.8	17	3.0	174	45	97	88.6	3.35	3.30	14.59	7.4	7.4	7.6	1.74
		OK02	139.4046	42.5772	43.1	18.4	15	2.0	151	45	49		2.76	2.83	11.51				
20	OK01+OK02	OK01	139.4299	43.0807	58.8	19.8	17	3.0	174	45	97	48.0	3.14	3.10	7.38	7.5	7.5	7.7	2.16
		OK02	139.4046	42.5772	43.1	18.4	15	2.0	151	45	49		2.59	2.66	5.83				
		OK03a	139.2484	42.8315	27.6	19.8	17	3.0	176	45	100	107.5	1.64	1.55	3.47	7.6	7.6	7.9	2.67
21	OK03a+OK03b	OK03b	139.2735	42.5827	20.4	19.8	17	3.0	210	45	112		1.41	1.33	2.56				
		OK03a	139.2484	42.8315	27.6	19.8	17	3.0	176	45	100	87.4	2.29	2.37	4.35	7.5	7.4	7.6	1.36
		OK03b	139.2735	42.5827	20.4	19.8	17	3.0	210	45	112		1.97	2.03	3.21				
22	OK03a+OK03b+OK05	OK05	139.2762	42.4385	59.6	21.2	17	2.0	171	45	95	110.8	3.49	3.47	8.75	7.6	7.5	7.8	1.64
		OK06	138.7122	42.1742	27.5	26.0	17	4.0	28	30	162		2.20	1.97	2.37				
		OK07	138.6209	41.7443	59.9	26.0	17	4.0	26	30	165	88.6	3.24	2.91	5.16	7.4	7.4	7.6	1.90
23	OK06+OK07	OK04	139.2838	41.9701	50.9	19.8	17	3.0	344	45	28		2.40	2.79	6.50				
24	OK04+OK09	OK09	139.5239	41.5377	60.0	30.0	17	2.0	346	30	127	83.6	3.21	3.03	5.05	7.5	7.5	7.7	2.01
		OS03	139.6874	42.2005	55.4	21.2	15	0.0	10	45	116		3.21	2.90	6.26				
		OS05	139.9628	41.8800	33.2	19.8	15	1.0	328	45	123	139.0	2.40	2.24	4.02	7.6	7.6	7.9	2.67
25	OS03+OS05	OS05	139.9628	41.8800	33.2	19.8	15	1.0	328	45	123		2.36	2.20	4.10				
26	OS05+OS08	OS08	139.8480	41.3870	50.4	19.8	15	1.0	9	45	114	86.8	2.90	2.71	6.21	7.5	7.5	7.7	2.11
		OS03	139.6874	42.2005	55.4	21.2	15	0.0	10	45	116		3.19	3.14	9.57				
		OS05	139.9628	41.8800	33.2	19.8	15	1.0	328	45	123	110.8	2.39	2.43	6.15	7.6	7.6	7.9	2.67
27	OS03+OS05+OS08	OS08	139.8480	41.3870	50.4	19.8	15	1.0	9	45	114		2.94	2.99	9.32				
		MMP01	138.5729	41.3738	36.4	29.0	17	2.5	4	30	113	86.8	2.88	2.36	3.12	7.5	7.4	7.6	1.50
		MMP04	138.2996	40.9070	50.4	22.1	17	2.8	25	40	102		2.95	2.78	5.66				
28	MMP01+MMP04	MMP02	138.6133	41.4119	32.3	21.3	17	3.3	17	40	111	82.7	2.50	2.15	3.68	7.4	7.3	7.6	1.58
		MMP04	138.2996	40.9070	50.4	22.1	17	2.8	25	40	102		3.17	2.69	5.54				
		MMP04	138.2996	40.9070	50.4	22.1	17	2.8	25	40	102	75.0	2.92	2.50	5.19	7.4	7.3	7.5	1.61
30	MMP04+MMP05	MMP05	138.1671	40.8880	24.6	20.6	15	3.2	38	35	98		1.97	1.75	2.72				
		MMP04	138.2996	40.9070	50.4	22.1	17	2.8	25	40	102	85.3	3.10	2.75	5.62	7.5	7.4	7.6	1.60
		MMP06	138.4598	40.8817	34.9	23.5	17	3.5	215	35	132		2.66	2.29	3.66				
31	MMP04+MMP06	MMP05	138.1671	40.8880	24.6	20.6	15	3.2	38	35	98	59.6	1.8						

Table S2 (continued)

No.	Fault Model	Fault name	Longitude	Latitude	Fault	Fault	Thickness of	Top depth	Strike	Dip	Slip angle	Total	Slip amount			Mw			Geometric
			JGD2000	JGD2000	length	width	seismogenic						length	Recipe A	Recipe I	TM	Recipe A	Recipe I	
			(degree)	(degree)	(km)	(km)	(km)	(km, TP-)	(degree)	(degree)	(degree)	(km)	(m)	(m)	(m)				
46	MMS01+MMS04+MGM01	MMS01	139.2065	40.7663	53.2	33.4	17	2.9	334	25	69	128.2	3.09	3.11	5.44	7.7	7.6	7.8	1.61
		MMS04	138.9880	40.6502	21.8	33.1	17	3.0	21	25	89		1.98	1.99	2.25				
		MGM01	138.7927	40.1821	53.2	33.8	17	2.7	26	25	69		3.12	3.11	5.36				
47	MMS01+MMS02+MMS04	MMS01	139.2065	40.7663	53.2	33.4	17	2.9	334	25	69	115.6	3.48	3.28	5.47	7.6	7.5	7.8	1.71
		MMS02	139.3833	41.3014	40.6	18.2	15	3.3	220	40	130		2.25	2.87	7.67				
		MMS04	138.9880	40.6502	21.8	33.1	17	3.0	21	25	89		2.22	2.10	2.26				
48	MMS01+MMS03+MMS04	MMS01	139.2065	40.7663	53.2	33.4	17	2.9	334	25	69	104.7	3.49	3.42	5.31	7.6	7.5	7.7	1.54
		MMS03	139.4891	41.1966	29.7	18.0	15	2.3	205	45	108		1.92	2.55	5.51				
		MMS04	138.9880	40.6502	21.8	33.1	17	3.0	21	25	89		2.23	2.19	2.19				
49	MMS01+MMS02+MMS03+MMS04	MMS01	139.2065	40.7663	53.2	33.4	17	2.9	334	25	69	145.3	3.66	3.39	7.34	7.7	7.7	7.9	2.22
		MMS02	139.3833	41.3014	40.6	18.2	15	3.3	220	40	130		2.36	2.97	10.28				
		MMS03	139.4891	41.1966	29.7	18.0	15	2.3	205	45	108		2.00	2.54	7.61				
50	MMS01+MMS02+MMS03+MMS04+MGM01	MMS04	138.9880	40.6502	21.8	33.1	17	3.0	21	25	89	198.5	2.33	2.17	3.03	7.8	7.8	8.1	2.75
		MMS01	139.2065	40.7663	53.2	33.4	17	2.9	334	25	69		3.37	3.25	9.23				
		MMS02	139.3833	41.3014	40.6	18.2	15	3.3	220	40	130		2.18	2.84	12.92				
51	MMS01+NTG05	MMS03	139.4891	41.1966	29.7	18.0	15	2.3	205	45	108	118.2	1.85	2.43	9.57	7.8	7.8	8.1	2.75
		MMS04	138.9880	40.6502	21.8	33.1	17	3.0	21	25	89		2.15	2.08	3.81				
		MGM01	138.7927	40.1821	53.2	33.8	17	2.7	26	25	69		3.39	3.25	9.10				
52	NTG05+NTG06	MMS01	139.2065	40.7663	53.2	33.4	17	2.9	334	25	69	89.8	3.06	2.76	4.02	7.6	7.5	7.8	1.89
		NTG05	139.5548	41.2905	65.0	21.8	17	1.6	184	45	96		2.73	3.05	7.52				
		NTG06	139.5134	40.7058	24.8	18.6	17	1.8	162	55	95		3.26	3.01	6.33				
53	MMS01+MMS04+NTG05	MMS01	139.2065	40.7663	53.2	33.4	17	2.9	334	25	69	140.0	1.86	1.86	2.84	7.7	7.6	7.9	2.22
		MMS01	139.2065	40.7663	53.2	33.4	17	2.9	334	25	69		3.26	2.94	5.28				
		MMS04	138.9880	40.6502	21.8	33.1	17	3.0	21	25	89		2.08	1.88	2.18				
54	MMS01+NTG05+NTG06	NTG05	139.5548	41.2905	65.0	21.8	17	1.6	184	45	96	143.0	2.91	3.25	9.89	7.6	7.7	7.9	2.32
		MMS01	139.2065	40.7663	53.2	33.4	17	2.9	334	25	69		3.25	2.94	5.41				
		NTG06	139.5134	40.7058	24.8	18.6	17	1.8	162	55	95		2.90	3.25	10.13				
55	MMS01+MMS02+NTG05	NTG06	139.5134	40.7058	24.8	18.6	17	1.8	162	55	95	158.8	1.66	2.01	4.54	7.7	7.7	8.0	2.58
		MMS01	139.2065	40.7663	53.2	33.4	17	2.9	334	25	69		3.26	2.88	5.88				
		MMS02	139.3833	41.3014	40.6	18.2	15	3.3	220	40	130		2.10	2.52	8.23				
56	MMS01+MMS03+NTG05	NTG05	139.5548	41.2905	65.0	21.8	17	1.6	184	45	96	147.9	2.91	3.19	11.01	7.6	7.7	7.9	2.47
		MMS01	139.2065	40.7663	53.2	33.4	17	2.9	334	25	69		3.26	2.93	5.59				
		MMS03	139.4891	41.1966	29.7	18.0	15	2.3	205	45	108		1.79	2.19	5.80				
57	MMS01+MMS02+MMS03+NTG05	NTG05	139.5548	41.2905	65.0	21.8	17	1.6	184	45	96	188.5	2.91	3.24	10.47	7.7	7.8	8.1	3.14
		MMS01	139.2065	40.7663	53.2	33.4	17	2.9	334	25	69		3.42	3.01	7.52				
		MMS02	139.3833	41.3014	40.6	18.2	15	3.3	220	40	130		2.21	2.63	10.53				
58	MMS01+MMS02+NTG05+NTG06	MMS03	139.4891	41.1966	29.7	18.0	15	2.3	205	45	108	183.7	1.87	2.25	7.80	7.7	7.8	8.0	2.98
		NTG05	139.5548	41.2905	65.0	21.8	17	1.6	184	45	96		3.05	3.32	14.08				
		MMS01	139.2065	40.7663	53.2	33.4	17	2.9	334	25	69		3.41	3.02	7.34				
59	MMS01+MMS04+NTG05+NTG06	MMS02	139.3833	41.3014	40.6	18.2	15	3.3	220	40	130	164.8	2.20	2.64	10.28	7.7	7.7	8.0	2.65
		NTG05	139.5548	41.2905	65.0	21.8	17	1.6	184	45	96		3.05	3.33	13.75				
		NTG06	139.5134	40.7058	24.8	18.6	17	1.8	162	55	95		1.74	2.06	6.16				
60	MMS01+MMS02+MMS03+NTG05+NTG06	MMS01	139.2065	40.7663	53.2	33.4	17	2.9	334	25	69	213.4	3.41	3.08	6.77	7.7	7.9	8.1	3.54
		MMS04	138.9880	40.6502	21.8	33.1	17	3.0	21	25	89		2.18	1.97	2.80				
		NTG05	139.5548	41.2905	65.0	21.8	17	1.6	184	45	96		3.05	3.41	12.67				
61	MMS01+MMS02+MMS03+MMS04+NTG05	NTG06	139.5134	40.7058	24.8	18.6	17	1.8	162	55	95	210.3	1.74	2.11	5.68	7.7	7.9	8.1	3.46
		MMS01	139.2065	40.7663	53.2	33.4	17	2.9	334	25	69		3.55	3.11	9.05				
		MMS02	139.3833	41.3014	40.6	18.2	15	3.3	220	40	130		2.29	2.72	12.68				
62	MMS01+MMS02+MMS03+MMS04+NTG05+NTG06	MMS03	139.4891	41.1966	29.7	18.0	15	2.3	205	45	108	235.2	1.95	2.33	9.38	7.8	7.9	8.2	3.88
		NTG05	139.5548	41.2905	65.0	21.8	17	1.6	184	45	96		3.17	3.44	16.95				
		NTG06	139.5134	40.7058	24.8	18.6	17	1.8	162	55	95		1.81	2.13	7.60				
63	MMS01+MMS02+MMS03+MMS04+MGM01+NTG05	MMS01	139.2065	40.7663	53.2	33.4	17	2.9	334	25	69	263.5	3.54	3.12	8.92	7.8	8.0	8.3	3.90
		MMS02	139.3833	41.3014	40.6	18.2	15	3.3	220	40	130		2.29	2.72	12.49				
		MMS03	139.4891	41.1966	29.7	18.0	15	2.3	205	45	108		1.94	2.33	9.25				
64	MMS01+MMS02+MMS03+MMS04+MGM01+NTG05+NTG06	MMS04	138.9880	40.6502	21.8	33.1	17	3.0	21	25	89	288.4	2.26	2.00	3.68	7.8	8.0	8.3	4.30
		NTG05	139.5548	41.2905	65.0	21.8	17	1.6	184	45	96		3.16	3.45	16.70				
		MMS01	139.2065	40.7663	53.2	33.4	17	2.9	334	25	69		3.65	3.21	10.50				
65	OK09+OS10	MMS02	139.3833	41.3014	40.6	18.2	15	3.3	220	40	130	90.6	2.36	2.80	14.71	7.5	7.4	7.6	1.34
		MMS03	139.4891	41.1966	29.7	18.0	15	2.3	205	45	108		2.00	2.40	10.89				
		MMS04	138.9880	40.6502	21.8	33.1	17	3.0	21	25	89		2.33	2.05	4.34				
66	OS10+NTG01	NTG05	139.5548	41.2905	65.0	21.8	17	1.6	184	45	96	73.6	3.26	3.55	19.67	7.4	7.3	7.5	1.29
		NTG06	139.5134	40.7058	24.8	18.6	17	1.8	162	55	95		1.86	2.19	8.82				
		MMS01	139.2065	40.7663	53.2	33.4	17	2.9	334	25	69		3.35	3.07	10.93				
67	NTG01+NTG03	MMS02	139.3833	41.3014	40.6	18.2	15	3.3	220	40	130	94.1	2.16	2.69	15.31	7.5	7.4	7.7	1.71
		MMS03	139.4891	41.1966	29.7	18.0	15	2.3	205	45	108		1.84	2.30	11.33				
		MMS04	138.9880	40.6502	21.8	33.1	17	3.0	21	25	89		2.14	1.97	4.51				
68	OK04+OK09+OS10	MGM01	138.7927	40.1821	53.2	33.8	17	2.7	26	25	69	141.4	3.37	3.07	10.77	7.6	7.6	7.9	2.07
		NTG05	139.5548	41.2905	65.0	21.8	17	1.6	184	45	96		2.99	3.40	20.46				
		MMS01	139.2065	40.7663	53.2	33.4	17	2.9	334	25	69		3.44	3.15	12.49				
69	OK09+OS10+NTG01	MMS02	139.3833	41.3014	40.6	18.2	15	3.3	220	40	130	133.6	2.22	2.75	17.49	7.6	7.6	7.9	2.01
		MMS03	139.4891	41.1966	29.7	18.0	15	2.3	205	45	108		1.88	2.35	12.95				
		MMS04	138.9880	40.6502	21.8	33.1	17	3.0	21	25	89		2.19	2.02	5.16				
70	OS10+NTG01+NTG03	MGM01	138.7927	40.1821	53.2	33.8	17	2.7	26	25	69	124.7	3.46	3.15	12.31	7.7	7.8	8.0	2.67
		NTG05	139.5548	41.2905	65.0	21.8	17	1.6	184	45	96		3.07	3.48	23.38				
		NTG06	139.5134	40.7058	24.8	18.6	17	1.8	162	55	95		1.75	2.15	10.48				
71	OK04+OK09+OS10+NTG01	OK09	139.5239	41.5377	60.0	30.0	17	2.0	346	30	127	184.5	3.24	3.00	4.60	7.5	7.4	7.6	1.34
		OS10	139.4882	41.2429	30.6	27.0	15	1.5	360	30	100		2.20	2.14	2.61				
		NTG01	139.4882	41.2429	30.6	27.0	15	1.5	360	30	100		2.76	2.00	2.80				
72	OK09+OS10+NTG01+NTG03	NTG01	139.7669	41.2949	43.1	23.3	17	2.0	192	40	99	184.7	3.04	2.37	4.57	7.5	7.4	7.7	1.71
		NTG03	139.6669	40.8959	51.0	21.9	17	1.5											

Table S2 (continued)

No.	Fault Model	Fault name	Longitude	Latitude	Fault	Fault	Thickness of	Top depth	Strike	Dip	Slip angle	Total	Slip amount			Mw			Geometric
			JGD2000	JGD2000	length	width	seismogenic						length	Recipe A	Recipe I	TM	Recipe A	Recipe I	
			(degree)	(degree)	(km)	(km)	(km)	(km, TP-)	(degree)	(degree)	(degree)	(km)	(m)	(m)	(m)				
77	MGM02+MGM03	MGM02	138.9499	40.5022	25.2	18.3	17	3.0	209	50	101	48.0	1.53	1.49	3.50	7.1	7.0	7.3	1.91
		MGM03	138.8178	40.2509	22.8	22.1	17	2.8	225	40	140		1.60	1.42	2.62				
78	MGM03+MGM04	MGM03	138.8178	40.2509	22.8	22.1	17	2.8	225	40	140	50.3	1.66	1.45	2.60	7.1	7.1	7.3	1.82
		MGM04	138.6268	40.0925	27.5	19.7	17	3.1	196	45	101		1.72	1.59	3.53				
79	MGM02+MGM03+MGM04	MGM02	138.9499	40.5022	25.2	18.3	17	3.0	209	50	101	75.5	2.33	2.26	5.23	7.3	7.3	7.5	1.90
		MGM03	138.8178	40.2509	22.8	22.1	17	2.8	225	40	140		2.44	2.15	3.92				
		MGM04	138.6268	40.0925	27.5	19.7	17	3.1	196	45	101		2.53	2.37	5.31				
80	MGM05+MGM06	MGM05	138.9998	40.0575	26.9	19.1	17	2.4	224	50	145	59.7	1.79	1.71	3.56	7.2	7.2	7.4	1.79
		MGM06	138.7859	39.8598	32.8	21.2	17	2.0	188	45	91		2.08	1.88	3.89				
81	MGM06+MGM07	MGM06	138.7859	39.8598	32.8	21.2	17	2.0	188	45	91	87.1	2.39	2.21	3.70	7.5	7.4	7.6	1.60
		MGM07	138.3241	39.4760	54.3	23.0	17	2.2	29	40	103		3.21	2.85	5.66				
82	MGM06+MGM10	MGM06	138.7859	39.8598	32.8	21.2	17	2.0	188	45	91	67.6	2.33	2.00	3.93	7.3	7.2	7.5	1.56
		MGM10	138.7836	39.5279	34.8	22.8	17	0.9	204	45	121		2.49	2.07	3.89				
83	MGM07+MGM11	MGM07	138.3241	39.4760	54.3	23.0	17	2.2	29	40	103	80.8	3.24	2.69	5.37	7.4	7.3	7.6	1.48
		MGM11	138.5924	39.4838	26.5	22.8	17	0.9	188	45	98		2.25	1.88	2.65				
84	MGM10+MGM12	MGM10	138.7836	39.5279	34.8	22.8	17	0.9	204	45	121	74.9	2.66	2.17	3.87	7.4	7.3	7.5	1.48
		MGM12	138.5916	39.2451	40.1	22.6	17	1.0	192	45	99		2.84	2.33	4.49				
85	MGM11+MGM12	MGM11	138.5924	39.4838	26.5	22.8	17	0.9	188	45	98	66.6	2.16	1.76	2.84	7.3	7.2	7.5	1.48
		MGM12	138.5916	39.2451	40.1	22.6	17	1.0	192	45	99		2.65	2.17	4.33				
86	MGM05+MGM06+MGM07	MGM05	138.9998	40.0575	26.9	19.1	17	2.4	224	50	145	114.0	2.19	2.37	4.92	7.5	7.5	7.8	2.10
		MGM06	138.7859	39.8598	32.8	21.2	17	2.0	188	45	91		2.55	2.61	5.38				
		MGM07	138.3241	39.4760	54.3	23.0	17	2.2	29	40	103		3.42	3.37	8.22				
87	MGM05+MGM06+MGM10	MGM05	138.9998	40.0575	26.9	19.1	17	2.4	224	50	145	94.5	2.53	2.60	5.34	7.5	7.4	7.7	1.80
		MGM06	138.7859	39.8598	32.8	21.2	17	2.0	188	45	91		2.94	2.87	5.83				
		MGM10	138.7836	39.5279	34.8	22.8	17	0.9	204	45	121		3.14	2.96	5.78				
88	MGM06+MGM10+MGM12	MGM06	138.7859	39.8598	32.8	21.2	17	2.0	188	45	91	107.7	2.71	2.78	5.85	7.5	7.5	7.7	1.96
		MGM10	138.7836	39.5279	34.8	22.8	17	0.9	204	45	121		2.89	2.86	5.80				
		MGM12	138.5916	39.2451	40.1	22.6	17	1.0	192	45	99		3.09	3.07	6.72				
89	MGM07+MGM11+MGM12	MGM07	138.3241	39.4760	54.3	23.0	17	2.2	29	40	103	120.9	3.30	3.29	8.35	7.6	7.6	7.8	2.10
		MGM11	138.5924	39.4838	26.5	22.8	17	0.9	188	45	98		2.29	2.30	4.12				
		MGM12	138.5916	39.2451	40.1	22.6	17	1.0	192	45	99		2.81	2.82	6.27				
90	MGM05+MGM06+MGM10+MGM12	MGM05	138.9998	40.0575	26.9	19.1	17	2.4	224	50	145	134.6	2.41	2.59	7.06	7.6	7.6	7.9	2.42
		MGM06	138.7859	39.8598	32.8	21.2	17	2.0	188	45	91		2.81	2.86	7.71				
		MGM10	138.7836	39.5279	34.8	22.8	17	0.9	204	45	121		3.00	2.94	7.64				
91	MGM06+MGM07+MGM10+MGM12	MGM12	138.5916	39.2451	40.1	22.6	17	1.0	192	45	99	162.0	3.21	3.16	8.85	7.6	7.7	8.0	2.77
		MGM06	138.7859	39.8598	32.8	21.2	17	2.0	188	45	91		2.50	2.58	7.54				
		MGM07	138.3241	39.4760	54.3	23.0	17	2.2	29	40	103		3.35	3.32	11.51				
92	MGM05+MGM06+MGM07+MGM10+MGM11	MGM10	138.7836	39.5279	34.8	22.8	17	0.9	204	45	121	175.4	2.67	2.66	7.47	7.7	7.7	8.0	3.02
		MGM12	138.5916	39.2451	40.1	22.6	17	1.0	192	45	99		2.85	2.86	8.65				
		MGM05	138.9998	40.0575	26.9	19.1	17	2.4	224	50	145		2.29	2.48	8.30				
93	MGM06+MGM07+MGM10+MGM11+MGM12	MGM06	138.7859	39.8598	32.8	21.2	17	2.0	188	45	91	188.5	2.66	2.74	9.07	7.7	7.8	8.1	3.14
		MGM07	138.3241	39.4760	54.3	23.0	17	2.2	29	40	103		3.57	3.52	13.85				
		MGM10	138.7836	39.5279	34.8	22.8	17	0.9	204	45	121		2.84	2.82	8.98				
94	MGM05+MGM06+MGM07+MGM10+MGM11+MGM12	MGM11	138.5924	39.4838	26.5	22.8	17	0.9	188	45	98	215.5	2.48	2.46	6.83	7.7	7.9	8.1	3.56
		MGM06	138.7859	39.8598	32.8	21.2	17	2.0	188	45	91		2.57	2.66	9.25				
		MGM07	138.3241	39.4760	54.3	23.0	17	2.2	29	40	103		3.45	3.42	14.14				
95	MGM08+MGM09	MGM10	138.7836	39.5279	34.8	22.8	17	0.9	204	45	121	98.1	2.75	2.74	9.17	7.5	7.4	7.7	1.81
		MGM11	138.5924	39.4838	26.5	22.8	17	0.9	188	45	98		2.40	2.39	6.97				
		MGM12	138.5916	39.2451	40.1	22.6	17	1.0	192	45	99		2.94	2.94	10.62				
96	AKT02+AKT03	MGM05	138.9998	40.0575	26.9	19.1	17	2.4	224	50	145	63.7	2.27	2.46	10.10	7.2	7.2	7.5	1.85
		MGM06	138.7859	39.8598	32.8	21.2	17	2.0	188	45	91		2.64	2.72	11.03				
		MGM07	138.3241	39.4760	54.3	23.0	17	2.2	29	40	103		3.54	3.50	16.85				
97	AKT02+AKT04	MGM10	138.7836	39.5279	34.8	22.8	17	0.9	204	45	121	68.7	2.82	2.80	10.92	7.4	7.3	7.6	1.57
		MGM11	138.5924	39.4838	26.5	22.8	17	0.9	188	45	98		2.46	2.44	8.31				
		MGM12	138.5916	39.2451	40.1	22.6	17	1.0	192	45	99		3.02	3.01	12.66				
98	AKT05+AKT06	MGM08	139.2621	39.6230	39.3	25.2	17	0.8	219	40	120	84.0	2.72	2.57	3.82	7.5	7.4	7.7	1.81
		MGM09	138.9925	39.6744	58.7	21.5	17	0.5	187	50	83		3.07	3.14	6.68				
		AKT02	139.7109	39.7696	30.5	19.3	15	0.0	346	51	63		1.96	1.88	4.02				
99	AKT02+AKT07	AKT03	139.8916	40.2861	33.2	19.5	17	0.1	190	60	101	63.7	2.05	1.96	4.32	7.2	7.2	7.4	1.94
		AKT02	139.7109	39.7696	30.5	19.3	15	0.0	346	51	63		2.05	1.94	3.97				
		AKT04	139.7371	40.3618	38.2	20.6	17	0.1	174	55	85		2.37	2.17	4.65				
100	AKT07+SHN04	AKT05	139.6498	39.9560	38.4	21.1	17	0.8	209	50	105	84.0	2.69	2.40	4.59	7.4	7.4	7.6	1.57
		AKT06	139.5870	39.8183	45.3	23.6	17	0.3	184	45	85		3.09	2.60	4.85				
		AKT07	139.7109	39.7696	30.5	19.3	15	0.0	346	51	63		2.20	2.09	3.74				
101	AKT07+SHN04+S HN06	AKT07	139.9367	39.9012	53.5	23.9	17	0.1	200	45	98	105.4	3.24	2.76	5.30	7.4	7.4	7.6	1.57
		SHN04	139.9367	39.9012	53.5	23.9	17	0.1	200	45	98		3.00	2.94	5.70				
		SHN06	139.7057	39.4281	51.9	21.7	17	0.4	200	50	97		2.82	2.89	6.09				
102	SHN07+MGM13	AKT07	139.9367	39.9012	53.5	23.9	17	0.1	200	45	98	156.8	3.01	2.95	8.55	7.6	7.7	8.0	2.70
		SHN04	139.7057	39.4281	51.9	21.7	17	0.4	200	50	97		2.82	2.90	9.14				
		SHN06	139.3964	38.9935	51.4	23.2	17	0.6	243	45	119		2.91	2.89	8.47				
103	MRK08+SD10	SHN07	139.3791	39.2529	57.8	25.7	17	0.5	244	40	130	88.9	3.24	2.93	5.26	7.5	7.4	7.6	1.52
		MGM13	138.7402	39.0398	31.1	23.2	17	0.6	217	45	122		2.26	2.15	3.13				
		MRK08	138.4288	38.8283	35.7	21.1	17	0.8	230	50	131		2.48	2.15	4.29				
104	SHN06+MRK05	SD10	138.2759	38.7448	36.1	22.2	17	1.3	202	45	106	71.8	2.56	2.17	4.14	7.4	7.3	7.5	1.59
		SHN06	139.3964	38.9935	51.4	23.2	17	0.6	243	45	119		3.07	2.90	5.57				
		MRK05	138.8301	38.7963	40.7	23.2	17	0.6	199	45	95		2.73	2.58	4.41				
105	MRK05+MRK06	MRK05	138.8301	38.7963	40.7	23.2	17	0.6	199	45	95	70.2	2.82	2.25	4.35	7.4	7.3	7.5	1.42
		MRK06	138.9190	38.9478	29.5	23.2	17	0.6	218	45	111		2.40	1.92	3.16				
		MRK05	138.8301	38.7963	40.7	23.2	17	0.6	199	45	95		2.72	2.58	4.41</				

Table S2 (continued)

No.	Fault Model	Fault name	Longitude	Latitude	Fault	Fault	Thickness of	Top depth	Strike	Dip	Slip angle	Total	Slip amount			Mw			Geometric
			JGD2000	JGD2000	length	width	seismogenic						length	Recipe A	Recipe I	TM	Recipe A	Recipe I	
			(degree)	(degree)	(km)	(km)	(km)	(km, TP-)	(degree)	(degree)	(degree)	(km)	(m)	(m)	(m)				
117	MRK05+MRK06+SD08+SD06	MRK05	138.8301	38.7963	40.7	23.2	17	0.6	199	45	95	155.4	2.96	2.93	8.54	7.6	7.7	7.9	2.69
		MRK06	138.9190	38.9478	29.5	23.2	17	0.6	218	45	111		2.52	2.50	6.19				
		SD08	138.6880	38.4166	51.5	23.5	17	0.4	216	45	97		3.35	3.30	10.67				
		SD06	138.0729	38.0925	33.8	19.2	15	1.4	38	45	73		2.46	2.67	8.57				
118	MRK05+SD08+SD06+SD05	MRK05	138.8301	38.7963	40.7	23.2	17	0.6	199	45	95	168.6	2.94	2.84	8.74	7.6	7.7	8.0	3.09
		SD08	138.6880	38.4166	51.5	23.5	17	0.4	216	45	97		3.33	3.19	10.91				
		SD06	138.0729	38.0925	33.8	19.2	15	1.4	38	45	73		2.44	2.59	8.77				
		SD05	138.0259	37.7101	42.7	17.5	15	2.6	4	45	69		2.62	2.91	12.11				
119	SHN06+MRK05+MRK06+SD08+SD06	SHN06	139.3964	38.9935	51.4	23.2	17	0.6	243	45	119	206.9	3.21	3.19	13.48	7.7	7.9	8.1	3.45
		MRK05	138.8301	38.7963	40.7	23.2	17	0.6	199	45	95		2.86	2.84	10.66				
		MRK06	138.9190	38.9478	29.5	23.2	17	0.6	218	45	111		2.43	2.42	7.73				
		SD08	138.6880	38.4166	51.5	23.5	17	0.4	216	45	97		3.23	3.19	13.32				
120	SHN06+MRK05+SD08+SD06+SD05	SD06	138.0729	38.0925	33.8	19.2	15	1.4	38	45	73	220.0	2.37	2.59	10.70	7.7	7.9	8.2	3.80
		SHN06	139.3964	38.9935	51.4	23.2	17	0.6	243	45	119		3.20	3.12	13.79				
		MRK05	138.8301	38.7963	40.7	23.2	17	0.6	199	45	95		2.85	2.78	10.91				
		SD08	138.6880	38.4166	51.5	23.5	17	0.4	216	45	97		3.22	3.12	13.63				
121	MRK05+MRK06+SD08+SD06+SD05	SD06	138.0729	38.0925	33.8	19.2	15	1.4	38	45	73	198.1	2.36	2.53	10.94	7.7	7.8	8.1	3.51
		SD05	138.0259	37.7101	42.7	17.5	15	2.6	4	45	69		2.53	2.85	15.12				
		MRK05	138.8301	38.7963	40.7	23.2	17	0.6	199	45	95		3.01	2.91	10.77				
		MRK06	138.9190	38.9478	29.5	23.2	17	0.6	218	45	111		2.56	2.48	7.81				
122	SHN06+MRK05+MRK06+SD08+SD06+SD05	SD08	138.6880	38.4166	51.5	23.5	17	0.4	216	45	97	249.5	3.41	3.28	13.46	7.8	8.0	8.2	4.21
		SD06	138.0729	38.0925	33.8	19.2	15	1.4	38	45	73		2.50	2.66	10.81				
		SD05	138.0259	37.7101	42.7	17.5	15	2.6	4	45	69		2.68	2.98	14.93				
		SHN06	139.3964	38.9935	51.4	23.2	17	0.6	243	45	119		3.27	3.20	16.30				
123	SHN08+MRK03	MRK05	138.8301	38.7963	40.7	23.2	17	0.6	199	45	95	74.2	2.91	2.84	12.89	7.4	7.3	7.5	1.41
		MRK06	138.9190	38.9478	29.5	23.2	17	0.6	218	45	111		2.48	2.42	9.35				
		SD08	138.6880	38.4166	51.5	23.5	17	0.4	216	45	97		3.29	3.20	16.11				
		SD06	138.0729	38.0925	33.8	19.2	15	1.4	38	45	73		2.41	2.59	12.94				
124	MRK03+ECG04	SD05	138.0259	37.7101	42.7	17.5	15	2.6	4	45	69	92.8	2.59	2.91	17.88	7.4	7.3	7.5	1.66
		SHN08	139.5032	38.8955	34.2	23.3	17	0.5	228	45	112		2.69	2.14	3.71				
		MRK03	139.2177	38.6836	40.1	23.2	17	0.6	201	45	97		2.90	2.31	4.37				
		MRK03	139.2177	38.6836	40.1	23.2	17	0.6	201	45	97		2.68	2.56	4.32				
125	ECG04+SD07	ECG04	139.0591	38.3175	52.7	23.5	17	0.4	220	45	101	90.3	3.09	2.94	5.61	7.5	7.4	7.6	1.69
		SD07	138.2538	37.8999	37.6	21.2	15	0.0	44	45	98		3.16	2.89	5.56				
		SD04	138.6489	37.9853	34.2	17.0	15	2.0	212	50	96		2.54	2.44	4.39				
		ECG04	139.0591	38.3175	52.7	23.5	17	0.4	220	45	101		3.24	2.82	5.47				
126	ECG04+SD04	SD04	138.6489	37.9853	34.2	17.0	15	2.0	212	50	96	87.0	2.22	2.27	4.91	7.4	7.4	7.6	1.68
		SD04	138.6489	37.9853	34.2	17.0	15	2.0	212	50	96		2.03	2.11	5.12				
		SD07	138.2538	37.8999	37.6	21.2	15	0.0	44	45	98		2.38	2.21	4.50				
		SD07	138.2538	37.8999	37.6	21.2	15	0.0	44	45	98		2.46	2.10	4.42				
127	SD04+SD07	SD11	138.7915	38.2287	28.1	23.3	17	0.5	220	45	101	71.8	2.23	1.82	3.00	7.3	7.3	7.5	2.09
		SHN08	139.5032	38.8955	34.2	23.3	17	0.5	228	45	112		2.59	2.59	5.41				
		MRK03	139.2177	38.6836	40.1	23.2	17	0.6	201	45	97		2.79	2.80	6.38				
		ECG04	139.0591	38.3175	52.7	23.5	17	0.4	220	45	101		3.22	3.21	8.30				
128	SD07+SD11	MRK03	139.2177	38.6836	40.1	23.2	17	0.6	201	45	97	127.0	2.84	2.80	6.38	7.6	7.6	7.8	2.28
		ECG04	139.0591	38.3175	52.7	23.5	17	0.4	220	45	101		3.28	3.21	8.30				
		SD04	138.6489	37.9853	34.2	17.0	15	2.0	212	50	96		2.25	2.59	7.45				
		MRK03	139.2177	38.6836	40.1	23.2	17	0.6	201	45	97		2.79	2.78	6.44				
129	SHN08+MRK03+ECG04	ECG04	139.0591	38.3175	52.7	23.5	17	0.4	220	45	101	130.4	3.22	3.18	8.38	7.6	7.6	7.8	2.30
		SD07	138.2538	37.8999	37.6	21.2	15	0.0	44	45	98		2.79	2.78	6.44				
		SD04	138.6489	37.9853	34.2	17.0	15	2.0	212	50	96		3.22	3.18	8.38				
		MRK03	139.2177	38.6836	40.1	23.2	17	0.6	201	45	97		2.79	2.78	6.44				
130	MRK03+ECG04+SD04	ECG04	139.0591	38.3175	52.7	23.5	17	0.4	220	45	101	102.3	3.22	3.18	8.38	7.5	7.5	7.7	1.95
		SD07	138.2538	37.8999	37.6	21.2	15	0.0	44	45	98		2.59	2.69	6.61				
		SD04	138.6489	37.9853	34.2	17.0	15	2.0	212	50	96		3.47	3.37	7.15				
		ECG04	139.0591	38.3175	52.7	23.5	17	0.4	220	45	101		2.38	2.71	6.41				
131	SD04+SD02+SD07	SD02	138.4346	37.7301	15.4	23.9	18	2.0	177	42	98	87.2	1.89	1.82	2.04	7.4	7.4	7.6	1.88
		SD04	138.6489	37.9853	34.2	17.0	15	2.0	212	50	96		2.73	2.71	6.92				
		SD02	138.4346	37.7301	15.4	23.9	18	2.0	177	42	98		2.17	1.82	2.20				
		SD07	138.2538	37.8999	37.6	21.2	15	0.0	44	45	98		3.20	2.84	6.08				
132	SHN08+MRK03+ECG04+SD07	SHN08	139.5032	38.8955	34.2	23.3	17	0.5	228	45	112	164.6	2.65	2.63	7.25	7.7	7.7	8.0	2.81
		MRK03	139.2177	38.6836	40.1	23.2	17	0.6	201	45	97		2.86	2.85	8.54				
		ECG04	139.0591	38.3175	52.7	23.5	17	0.4	220	45	101		3.30	3.27	11.11				
		SD07	138.2538	37.8999	37.6	21.2	15	0.0	44	45	98		2.65	2.76	8.76				
133	MRK03+ECG04+SD04+SD02	MRK03	139.2177	38.6836	40.1	23.2	17	0.6	201	45	97	142.4	2.98	2.93	7.69	7.6	7.6	7.9	2.53
		ECG04	139.0591	38.3175	52.7	23.5	17	0.4	220	45	101		3.44	3.36	10.00				
		SD04	138.6489	37.9853	34.2	17.0	15	2.0	212	50	96		2.36	2.71	8.98				
		SD02	138.4346	37.7301	15.4	23.9	18	2.0	177	42	98		1.87	1.81	2.86				
134	ECG04+SD04+SD02+SD07	ECG04	139.0591	38.3175	52.7	23.5	17	0.4	220	45	101	139.9	3.51	3.39	9.99	7.6	7.6	7.9	2.61
		SD04	138.6489	37.9853	34.2	17.0	15	2.0	212	50	96		2.41	2.73	8.97				
		SD02	138.4346	37.7301	15.4	23.9	18	2.0	177	42	98		1.91	1.83	2.86				
		SD07	138.2538	37.8999	37.6	21.2	15	0.0	44	45	98		2.82	2.86	7.88				
135	SD04+SD02+SD07+SD11	SD04	138.6489	37.9853	34.2	17.0	15	2.0	212	50	96	115.2	2.80	3.07	9.45	7.5	7.5	7.8	2.17
		SD02	138.4346	37.7301	15.4	23.9	18	2.0	177	42	98		2.22	2.06	3.01				
		SD07	138.2538	37.8999	37.6	21.2	15	0.0	44	45	98		3.28	3.22	8.30				
		SD11	138.7915	38.2287	28.1	23.3	17	0.5	220	45	101		2.97	2.78	5.64				
136	SHN08+MRK03+ECG04+SD04+SD02	SHN08	139.5032	38.8955	34.2	23.3	17	0.5	228	45	112	176.6	2.79	2.74	8.35	7.7	7.8	8.0	3.03
		MRK03	139.2177	38.6836	40.1	23.2	17	0.6	201	45	97		3.01	2.97	9.84				
		ECG04	139.0591	38.3175	52.7	23.5	17	0.4	220	45	101		3.48	3.41	12.80				
		SD04	138.6489	37.9853	34.2	17.0	15	2.0	212	50	96		2.38	2.75	11.49				
137	MRK03+ECG04+SD04+SD02+SD07	SD02	138.4346	37.7301	15.4	23.9	18	2.0	177	42	98	180.0	1.89	1.84	3.66	7.7	7.8	8.0	3.15
		MRK03	139.2177	38.6836	40.1	23.2	17	0.6	201	45	97		3.01	2.95	9.88				
		ECG04	139.0591	38.3175	52.7	23.5	17	0.4	220	45	101		3.48	3.38	12.85				
		SD04	138.6489	37.9853	34.2	17.0	15	2.0	212	50	96		2.38	2.72	11.53				
138	ECG04+SD04+SD02+SD07																		

Table S2 (continued)

No.	Fault Model	Fault name	Longitude JGD2000	Latitude JGD2000	Fault length	Fault width	Thickness of seismogenic layer	Top depth	Strike	Dip	Slip angle	Total length	Slip amount			Mw			Geometric mean (G)
													Recipe A	Recipe I	TM	Recipe A	Recipe I	TM	
			(degree)	(degree)	(km)	(km)	(km)	(km, TP-)	(degree)	(degree)	(degree)	(km)	(m)	(m)	(m)				
148	SHN09+MRK01+E CG03+ECG05	ECG05	139.1920	37.9986	16.8	23.9	17	0.1	203	45	91	100.2	2.31	1.80	2.49	7.5	7.5	7.7	1.74
		SHN09	139.1967	38.5650	25.1	26.0	17	0.3	33	40	95		2.95	2.85	4.62				
		MRK01	139.4038	38.5490	34.3	23.6	17	0.3	206	45	103		3.29	3.34	6.97				
		ECG03	139.2410	38.2674	23.9	23.9	17	0.1	192	45	93		2.76	2.78	4.80				
		ECG05	139.1920	37.9986	16.8	23.9	17	0.1	203	45	91		2.32	2.34	3.38				
149	SHN11+MRK02	SHN11	139.4587	38.4986	27.6	29.8	15	0.1	24	30	86	60.0	2.68	1.73	2.34	7.5	7.2	7.4	0.84
		MRK02	139.3292	38.2132	32.4	33.8	17	0.1	25	30	87		3.09	1.88	2.43				
150	SHN11+MRK02+E CG01	SHN11	139.4587	38.4986	27.6	29.8	15	0.1	24	30	86	84.0	2.83	2.48	3.48	7.5	7.4	7.6	1.15
		MRK02	139.3292	38.2132	32.4	33.8	17	0.1	25	30	87		3.27	2.69	3.61				
151	NG1+NG2	ECG01	139.2995	37.9888	24.0	23.3	15	0.0	33	40	95	58.0	2.34	2.32	3.88	7.3	7.1	7.4	-
		NG1	138.9043	37.8823	30.1	24.7	18	0.5	188	45	82		2.39	1.79	3.09				
152	SD2+SD4	NG2	138.8887	38.1328	27.9	25.5	18	0.0	174	45	76	49.6	2.33	1.72	2.78	7.1	7.1	7.3	-
		SD2	138.4346	37.7301	15.4	23.9	17	2.0	177	40	98		1.33	1.12	1.43				
153	SD5+SD6	SD4	138.6489	37.9853	34.2	17.0	15	2.0	212	50	96	75.2	1.67	1.68	4.48	7.3	7.3	7.5	-
		SD5	138.0259	37.7101	42.7	17.5	15	2.6	4	45	69		2.34	2.39	6.08				
154	JO1+JO2	SD6	138.2780	37.8972	33.8	19.2	15	1.4	38	45	73	48.2	2.18	2.09	3.49	7.4	7.0	7.3	-
		JO1	137.8188	37.2331	21.6	37.1	18	2.3	36	25	125		2.63	1.38	1.46				
155	JO1+JO3	JO2	137.9677	37.3871	26.6	31.6	18	2.2	61	30	111	38.5	2.69	1.53	2.12	7.2	6.9	7.1	-
		JO1	137.8188	37.2331	21.6	37.1	18	2.3	36	25	125		2.14	1.24	1.46				
156	TB1+TB2	JO3	137.9692	37.3858	16.9	22.6	18	2.0	13	45	101	54.2	1.48	1.10	1.88	7.1	7.1	7.3	-
		TB1	137.1842	37.1303	32.4	16.3	15	2.5	191	50	55		1.61	1.77	4.87				
157	TB2+TB3	TB2	137.3565	37.2795	21.9	19.0	15	2.8	222	40	95	46.0	1.43	1.45	2.82	7.1	7.0	7.2	-
		TB2	137.3565	37.2795	21.9	19.0	15	2.8	222	40	95		1.44	1.36	2.92				
158	TB1+TB2+TB3	TB3	137.6292	37.3195	24.1	23.0	15	3.5	251	30	120	78.4	1.67	1.43	2.66	7.3	7.3	7.6	-
		TB1	137.1842	37.1303	32.4	16.3	15	2.5	191	50	55		2.49	2.94	7.36				
159	NT2+NT3	TB2	137.3565	37.2795	21.9	19.0	15	2.8	222	40	95	56.6	2.20	2.08	4.27	7.1	7.1	7.4	-
		TB3	137.6292	37.3195	24.1	23.0	15	3.5	251	30	120		2.55	1.80	3.89				
160	NT4+NT5	NT2	137.9269	37.9928	36.6	16.3	15	2.5	201	50	78	41.4	1.66	1.89	5.26	6.9	7.0	7.2	-
		NT3	137.7640	37.6895	20.0	16.6	15	2.3	242	50	117		1.23	1.39	2.82				
161	NT4+NT5+NT6	NT4	137.3973	37.6808	19.8	16.5	15	0.7	61	60	122	84.0	1.09	1.24	3.05	7.3	7.4	7.6	-
		NT5	137.2075	37.5278	21.6	17.1	15	0.2	52	60	108		1.16	1.29	3.21				
162	KZ3+KZ4	NT4	137.3973	37.6808	19.8	16.5	15	0.7	61	60	122	41.5	1.82	2.02	4.04	6.9	7.0	7.2	-
		NT5	137.2075	37.5278	21.6	17.1	15	0.2	52	60	108		1.93	2.11	4.25				
163	OS1+OS2	NT6	136.7296	37.3867	42.6	16.7	15	0.5	66	60	124	55.6	2.69	2.96	8.55	7.3	7.1	7.4	1.08
		KZ3	136.2988	37.0719	16.0	16.4	15	0.8	228	60	131		0.97	1.09	2.36				
164	FU1+FU2+FU3	KZ4	136.0611	36.7516	25.5	18.3	15	1.0	25	50	95	48.7	1.30	1.38	3.37	7.0	7.0	7.3	-
		OS1	134.7499	36.5526	25.9	29.1	17	0.3	79	35	-61		2.45	1.62	2.25				
165	FU4+FU5+FU6	OS2	135.0334	36.5989	29.7	25.6	15	0.3	45	35	-79	25.3	2.46	1.74	2.93	6.6	6.7	6.9	-
		FU1	136.0845	36.4325	6.7	18.0	15	1.2	224	50	156		0.84	0.89	1.21				
166	FU4+FU5+FU6+FU7	FU2	136.0039	36.3884	21.1	18.0	15	1.2	217	50	150	50.5	1.50	1.58	3.81	7.0	7.1	7.3	-
		FU3	135.8403	36.2852	20.9	16.8	15	1.2	224	55	158		1.44	1.57	4.04				
167	FU4+FU5+FU6+FU8	FU4	135.9904	36.2794	7.5	16.1	15	1.1	356	60	54	42.7	0.61	0.73	1.74	6.8	7.0	7.2	-
		FU5	136.0243	36.2052	7.7	16.1	15	1.1	333	60	31		0.61	0.74	1.78				
168	FU4+FU5+FU6+FU7+FU8	FU6	136.0520	36.1481	10.2	14.8	15	1.1	357	70	53	67.8	0.68	0.85	2.57	7.1	7.2	7.5	-
		FU7	135.9253	35.9393	25.2	19.7	15	1.1	27	45	107		0.90	1.05	1.77				
169	FU13+WS1+WS2+WS6	FU4	135.9904	36.2794	7.5	16.1	15	1.1	356	60	54	52.5	0.85	1.03	2.07	7.0	7.1	7.3	-
		FU5	136.0243	36.2052	7.7	16.1	15	1.1	333	60	31		0.86	1.05	2.13				
170	FU13+WS1+WS4+WS5+TG1	FU6	136.0520	36.1481	10.2	14.8	15	1.1	357	70	53	61.8	0.95	1.21	3.06	7.1	7.2	7.4	-
		FU8	135.9297	35.9672	17.4	11.8	7	1.1	13	30	64		1.11	1.58	6.56				
171	TR1+TR2	FU4	135.9904	36.2794	7.5	16.1	15	1.1	356	60	54	91.3	1.15	1.39	2.36	7.4	7.4	7.6	-
		FU5	136.0243	36.2052	7.7	16.1	15	1.1	333	60	31		1.16	1.41	2.42				
172	SH02Da+SH02Db	FU6	136.0520	36.1481	10.2	14.8	15	1.1	357	70	53	47.8	1.29	1.62	3.49	7.0	7.0	7.3	2.70
		FU7	135.9253	35.9393	25.2	19.7	15	1.1	27	45	107		2.33	2.55	6.50				
173	YM07a+YM07b+YM07c	FU8	135.9297	35.9672	17.4	11.8	7	1.1	13	30	64	50.6	1.50	2.12	7.48	6.9	7.1	7.3	3.23
		FU13	135.8946	36.1005	8.5	15.6	15	0.3	253	70	175		1.08	1.24	2.55				
174	FO01+FO02	WS1	135.8245	36.0401	16.0	17.0	15	0.3	248	60	180	38.9	1.54	1.70	4.42	6.8	6.9	7.1	3.13
		WS2	135.7944	35.9755	17.7	16.2	15	1.0	256	60	-176		1.58	1.79	5.14				
175	FO03+FO05	WS6	135.5605	35.9378	10.3	18.3	15	1.0	252	50	173	71.1	1.28	1.36	2.63	7.1	7.3	7.5	3.03
		FU13	135.8946	36.1005	8.5	15.6	15	0.3	253	70	175		1.26	1.50	3.18				
176	FO07+FO08	WS1	135.8245	36.0401	16.0	17.0	15	0.3	248	60	180	55.6	1.80	2.06	5.52	7.0	7.1	7.4	3.33
		WS4	135.6164	36.0094	9.9	14.9	15	0.3	255	90	178		1.33	1.62	3.87				
177	FO07+FO09	WS5	135.5151	36.0178	9.9	14.7	15	0.3	267	90	174	54.4	1.31	1.61	3.92	7.0	7.1	7.3	3.33
		TG1	135.4028	35.9829	17.6	16.6	15	0.6	224	60	152		1.87	2.16	6.18				
178	SH02Da+SH02Db	TR1	134.4185	35.7537	25.3	17.0	15	0.3	270	60	-147	91.3	1.74	1.89	3.16	7.4	7.4	7.6	-
		TR2	134.1143	35.7344	66.0	17.1	15	0.2	257	60	-166		2.82	3.05	8.20				
179	YM07a+YM07b+YM07c	SH02Da	131.7457	35.6541	33.4	17.1	15	1.2	91	60	-155	47.8	1.48	1.62	4.29	7.0	7.0	7.3	2.70
		SH02Db	131.5846	35.6256	14.4	17.1	15	1.2	77	60	-177		0.97	1.06	1.85				
180	FO01+FO02	YM07a	131.3241	34.9348	16.6	15.1	15	0.1	318	80	-9	50.6	1.22	1.52	4.20	6.9	7.1	7.3	3.23
		YM07b	131.3846	34.7893	17.1	14.9	15	0.2	340	90	-17		1.23	1.55	4.38				
181	FO03+FO05	YM07c	131.4842	34.6603	16.9	14.9	15	0.3	324	90	-5	38.9	1.23	1.54	4.33	7.1	7.3	7.5	3.03
		FO01	130.3121	34.3929	12.3	14.9	15	0.0	150	90	21		0.71	0.90	1.85				
182	FO07+FO08	FO02	130.3518	34.2895	26.6	14.9	15	0.0	146	90	34	55.6	1.05	1.32	4.00	7.0	7.1	7.4	3.33
		FO03	130.0638	34.1569	36.4	14.5	15	0.0	332	90	-21		1.74	2.21	6.39				
183	FO07+FO09	FO05	130.1104	34.1692	37.7	14.9	15	0.0	138	90	38	54.4	1.79	2.25	6.44	7.0	7.1	7.3	3.33
		FO07	130.0986	33.8786	19.2	15	15	0.0	142	90	11		1.08	1.35	2.97				
184	FO07+FO09	FO08	129.6791	34.0542	36.4	14.9	15	0.0	116	90	2	54.4	1.49	1.86	5.67	7.0	7.1	7.3	3.33</

Table S3 Geometric means of coastal heights by changing fault slip angles from the standard ones. For multi-segment rupture scenarios, standard slip angle for the first fault segment is shown and plotted on Figure 14.

	Fault model	Standard slip angle (°)	Geometric mean (G)				
			-30°	-15°	0°	+15°	+30°
1	FU2	150	0.47	0.68	1.00	1.32	1.56
2	FU3	158	0.47	0.57	1.00	1.45	1.85
3	FU7	107	0.94	1.00	1.00	0.96	0.96
4	WS7	5	0.81	0.81	1.00	2.33	3.57
5	TG3	9	0.56	0.56	1.00	2.33	3.45
6	KS1	9	0.88	0.88	1.00	1.49	2.04
7	TR1	-147	0.37	0.67	1.00	1.28	1.49
8	TR2	-166	0.53	0.53	1.00	1.67	2.22
9	SH01D	-145	0.53	0.75	1.00	1.23	1.39
10	SH02Da	-155	0.56	0.68	1.00	1.35	1.64
11	SH03D	157	0.59	0.66	1.00	1.39	1.69
12	SH06D	178	1.00	1.00	1.00	1.49	2.27
13	SH11	6	0.71	0.71	1.00	2.33	3.70
14	SH13	-176	0.93	0.93	1.00	1.69	2.50
15	YM06	42	0.36	0.70	1.00	1.23	1.39
16	YM08	0	1.00	1.00	1.00	3.33	5.88
17	YM09	-12	0.36	0.36	1.00	1.96	2.78
18	YM10	-3	0.95	0.95	1.00	2.78	4.76
19	YM11	-12	0.38	0.38	1.00	1.96	2.78
20	YM12	-163	0.72	0.72	1.00	1.41	1.82
21	YM13	-163	0.72	0.72	1.00	1.43	1.82
22	YM14	-8	0.56	0.56	1.00	2.33	3.57
23	YM15	-8	0.62	0.62	1.00	2.44	3.85
24	YM16	148	0.23	0.60	1.00	1.33	1.59
25	YM17D	-109	0.74	0.89	1.00	1.04	1.05
26	YM18D	-86	0.87	0.96	1.00	1.00	1.00
27	FO02	34	0.23	0.61	1.00	1.32	1.56
28	FO03	-21	0.28	0.40	1.00	1.56	2.04
29	FO05	38	0.27	0.65	1.00	1.28	1.47
30	FO06	1	1.00	1.00	1.00	2.63	4.76
31	FO08	2	0.96	0.96	1.00	3.03	5.26
32	FO09	-3	0.84	0.84	1.00	2.94	4.76
33	FO04D	176	0.97	0.97	1.00	1.33	1.75

	Fault model	Standard slip angle (°)	Geometric mean (G)				
			-30°	-15°	0°	+15°	+30°
34	TS01D	147	0.66	0.79	1.00	1.20	1.37
35	TS02D	169	0.84	0.84	1.00	1.52	2.04
36	TS03D	179	1.00	1.00	1.00	1.49	2.22
37	FK01	-166	0.79	0.79	1.00	1.45	1.85
38	FK02	-29	0.60	0.72	1.00	1.25	1.47
39	Hamada	154	0.35	0.55	1.00	1.43	1.75
40	FU1+FU2+FU3	156	0.41	0.60	1.00	1.41	1.72
41	FU4+FU5+FU6	54	0.62	0.82	1.00	1.14	1.22
42	FU4+FU5+FU6+FU7	54	0.77	0.88	1.00	1.08	1.14
43	FU4+FU5+FU6+FU8	54	0.66	0.85	1.00	1.10	1.85
44	FU4+FU5+FU6+FU7+FU8	54	0.69	0.86	1.00	1.08	1.11
45	FU13+WS1+WS2+WS6	175	1.00	1.00	1.00	1.28	1.79
46	FU13+WS1+WS4+WS5+TG1	175	0.57	0.69	1.00	1.47	1.92
47	TR1+TR2	-147	0.45	0.54	1.00	1.56	2.04
48	SH02Da+SH02Db	-155	0.51	0.67	1.00	1.35	1.64
49	YM07a+YM07b+YM07c	-9	0.42	0.43	1.00	2.00	2.86
50	FO01+FO02	21	0.24	0.60	1.00	1.35	1.61
51	FO03+FO05	-21	0.28	0.57	1.00	1.37	1.67
52	FO07+FO08	11	0.81	0.81	1.00	2.78	4.76
53	FO07+FO09	11	0.70	0.70	1.00	2.70	4.17