

Table S2. Recalculation of magnitude and depth for the learning set events using the methodology proposed in this work. In the header "Lon" and "Lat" are the epicentral coordinates; I_E is the expected intensity at the epicenter; The unit of the steepness is intensity/km. Inferred hypocentral depth is calculated using Eq. 5. The M_w y-intercept is calculated using Eq. 4. Eq. 3 and Eq. 5 can be applied for a steepness interval $0.058 \leq S \leq 0.010$, which corresponds to the depth interval 5.0 - 73.0 km, respectively.

ID	Event date	Time (UTC)	Lon	Lat	Hypocentral depth (km)	M_w (instrumental)	Steepness	I_E	Inferred Hypocentral Depth (km)	M_w (y-intercept this work)	MDP (within 55 km)	MDP source
1	9-nov-1983	16:29:52	10.27	44.76	18.0	5.0	0.040	6.35	13.61	5.47	231	CFTI5Med
2	2-may-1987	20:43:53	10.69	44.81	3.0	4.7	0.061	6.52	≤ 5.00	5.38	175	DBMI15
3	10-may-2000	16:52:11	11.93	44.24	13.1	4.8	0.068	4.75	≤ 5.00	4.39	89	Gasparini et al. 2011
4	11-apr-2003	9:26:57	8.87	44.76	8.2	4.8	0.048	5.84	8.73	5.10	299	Gasparini et al. 2011
5	14-sep-2003	21:42:53	11.38	44.26	20.1	5.3	0.033	5.74	20.09	5.19	100	DBMI15
6	26-mar-2008	9:19:30	9.81	44.34	72.2	4.0	0.017	4.13	48.86	4.45	27	HSIT
7	23-dec-2008	15:24:22	10.35	44.54	22.9	4.9	0.045	5.67	10.31	5.04	85	HSIT
8	5-apr-2009	20:20:53	11.91	44.23	24.5	4.5	0.021	4.2	39.12	4.45	61	HSIT
9	19-apr-2009	12:39:50	7.87	44.74	45.3	4.2	0.012	3.57	64.50	4.19	200	HSIT
10	13-oct-2010	22:43:14	12.38	44.21	26.5	4.0	0.023	3.94	35.01	4.29	64	HSIT
11	25-jan-2012	8:06:37	10.51	44.87	29.0	4.9	0.027	4.8	28.03	4.73	160	HSIT
12	27-jan-2012	14:53:13	10.01	44.52	72.4	4.9	0.007	4.24	≥ 73.00	4.59	112	HSIT
13	20-may-2012	2:03:52	11.26	44.90	6.3	5.9	0.052	6.73	6.99	5.56	207	HSIT
14	29-may-2012	7:00:03	11.07	44.84	8.1	5.7	0.062	7.14	≤ 5.00	5.73	164	HSIT
15	29-may-2012	10:55:57	10.98	44.87	8.7	5.3	0.059	6.62	≤ 5.00	5.44	118	HSIT
16	3-jun-2012	19:20:43	10.95	44.89	8.7	4.8	0.045	5.68	10.31	5.04	167	HSIT
17	6-jun-2012	4:08:31	12.32	44.40	31.1	4.0	0.023	4.19	35.01	4.43	55	HSIT
18	25-jan-2013	14:48:18	10.45	44.16	19.8	4.8	0.016	4.42	51.65	4.62	142	HSIT
19	18-nov-2018	12:48:46	12.49	44.05	36.8	4.0	0.005	3.53	≥ 73.00	4.19	90	HSIT
20	14-jan-2019	23:03:56	12.32	44.37	20.6	4.3	0.031	4.47	22.45	4.50	60	HSIT
21	5-may-1990	7:21:29	15.74	40.74	18.8	5.8	0.022	6.38	37.01	5.66	139	DBMI15
22	26-may-1991	12:25:59	15.82	40.69	18.0	5.1	0.036	6.39	17.00	5.52	137	DBMI15
23	15-oct-1996	9:55:59	10.68	44.80	15.0	5.4	0.040	6.36	13.61	5.47	101	DBMI15
24	26-sep-1997	9:40:26	12.85	43.01	8.0	6.0	0.046	7.71	9.75	6.17	135	DBMI15
25	26-mar-1998	16:26:17	12.80	43.14	51.0	5.2	0.014	5.52	57.71	5.26	82	DBMI15
26	9-sep-1998	11:28:00	15.95	40.06	29.2	5.6	0.025	5.96	31.33	5.40	115	Gasparini et al. 2011
27	31-oct-2002	10:32:59	14.89	41.72	16.0	5.8	0.048	6.88	8.72	5.68	173	Gasparini et al. 2011
28	1-nov-2002	15:09:01	14.84	41.74	18.0	5.8	0.044	6.35	10.90	5.43	165	Gasparini et al. 2011
29	21-oct-2006	7:04:10	12.89	43.63	32.3	4.2	0.027	4.9	28.03	4.78	66	HSIT
30	6-apr-2009	1:32:40	13.38	42.34	8.6	6.1	0.043	6.92	11.52	5.75	313	Galli et al. 2009
31	20-sep-2009	3:50:17	13.42	43.40	34.0	4.5	0.004	4.06	≥ 73.00	4.49	128	HSIT
32	15-oct-2010	5:21:19	16.63	38.88	37.2	4.3	0.027	3.84	28.03	4.19	62	HSIT
33	28-aug-2012	23:12:15	15.73	38.20	48.9	4.5	0.015	4.21	54.59	4.52	91	HSIT
34	25-oct-2012	23:05:24	16.02	39.88	9.7	5.2	0.035	5.13	17.97	4.83	97	HSIT
35	5-dec-2012	1:18:20	13.66	42.91	23.1	4.1	0.049	4.44	8.25	4.31	119	HSIT
36	16-feb-2013	21:16:09	13.57	41.71	18.6	4.8	0.025	4.77	31.32	4.73	191	HSIT
37	29-dec-2013	17:08:43	14.44	41.39	20.4	5.0	0.035	5.07	17.97	4.80	219	HSIT
38	24-aug-2016	1:36:32	13.23	42.70	7.9	6.0	0.040	6.99	13.61	5.82	142	Tertulliani et al. 2016a
39	30-oct-2016	6:40:17	13.11	42.83	7.3	6.5	0.051	8.06	7.39	6.31	236	Tertulliani et al. 2016b
40	18-jan-2017	10:14:09	13.28	42.53	8.4	5.5	0.034	7.26	19.00	6.03	66	Azzaro et al. 2017
41	16-aug-2018	18:19:04	14.87	41.87	19.6	5.1	0.041	5.27	12.87	4.85	110	HSIT
42	6-oct-2018	0:34:19	14.88	37.63	5.5	4.6	0.060	5.11	≤ 5.00	4.59	71	HSIT