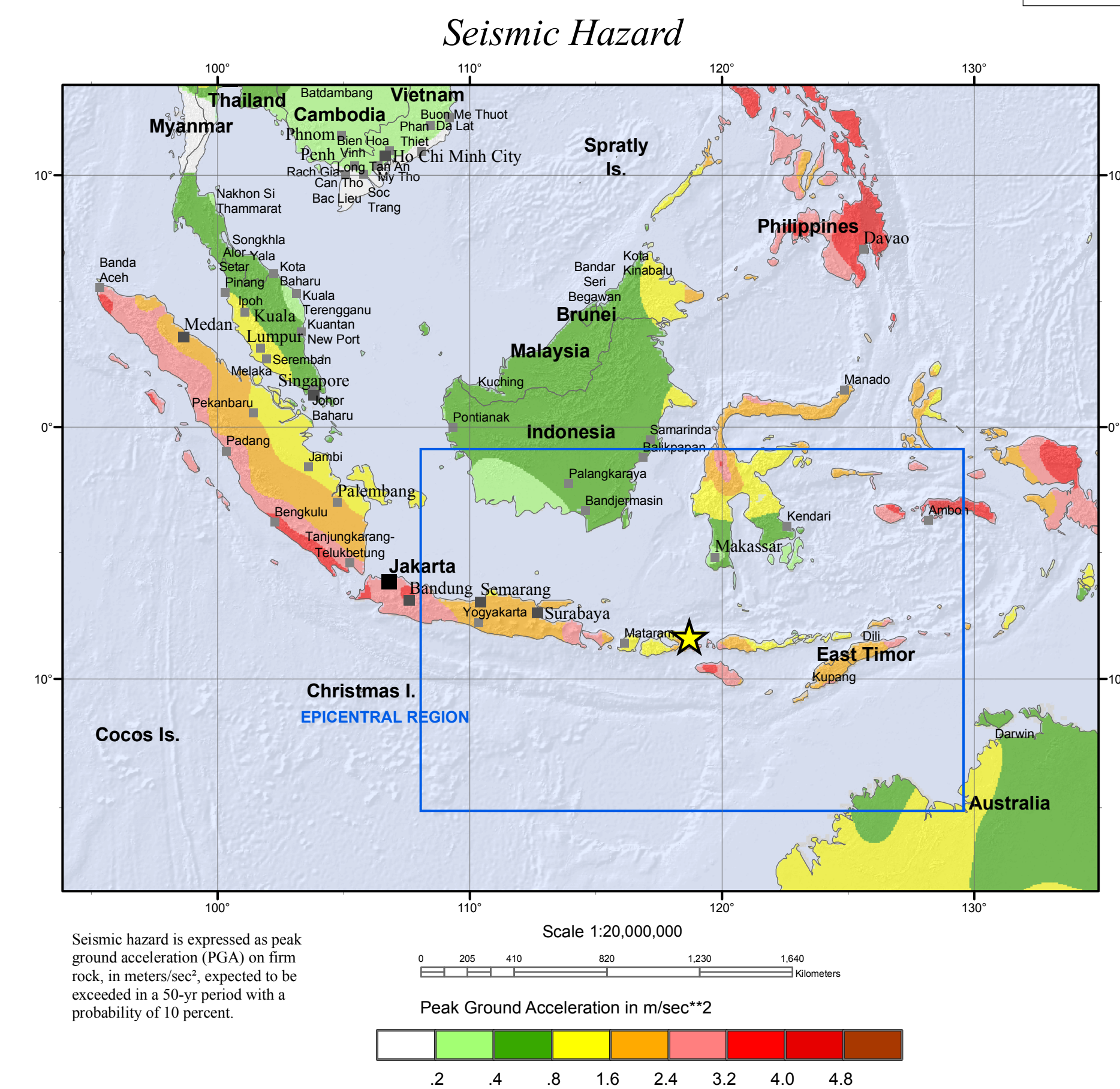
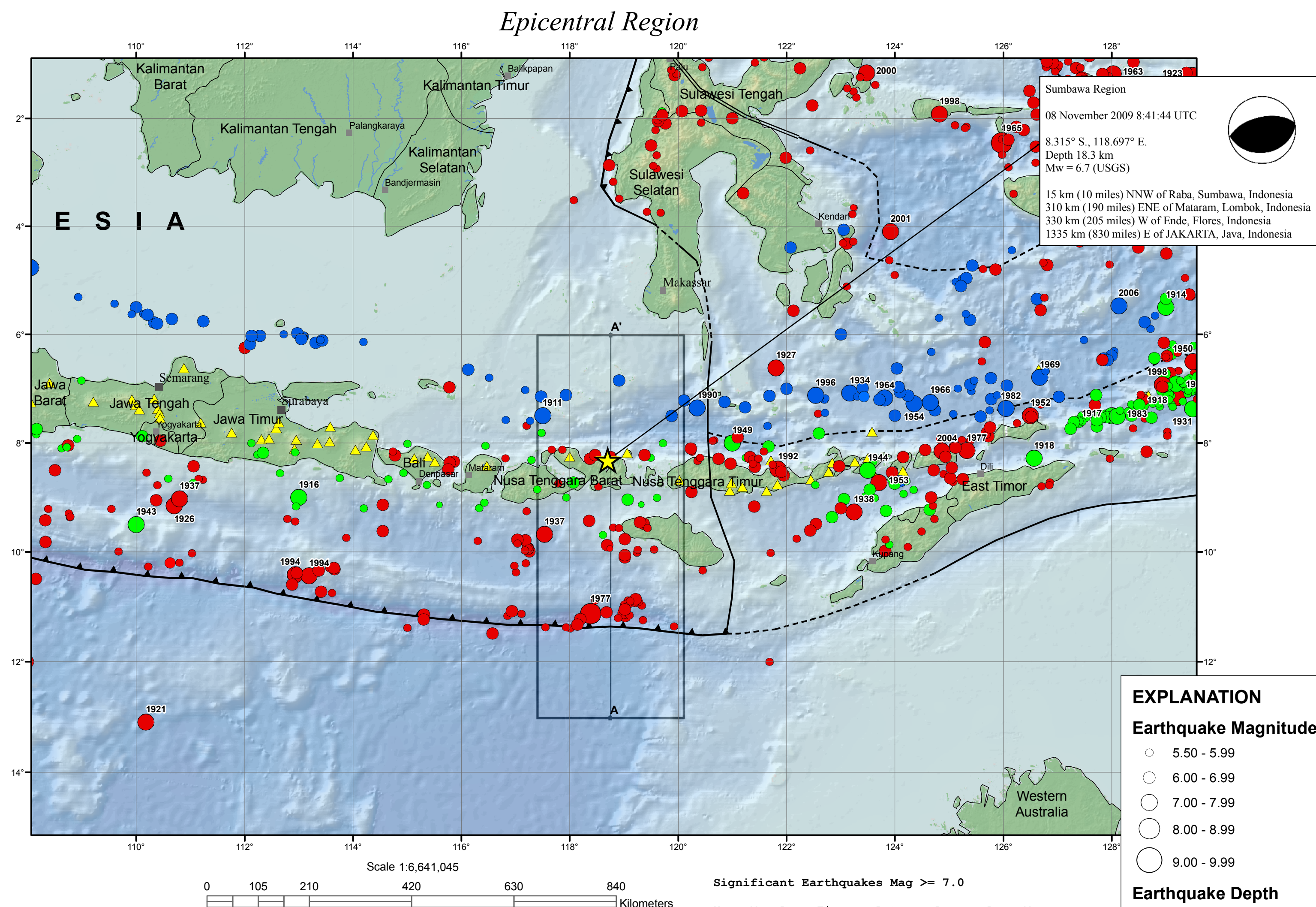
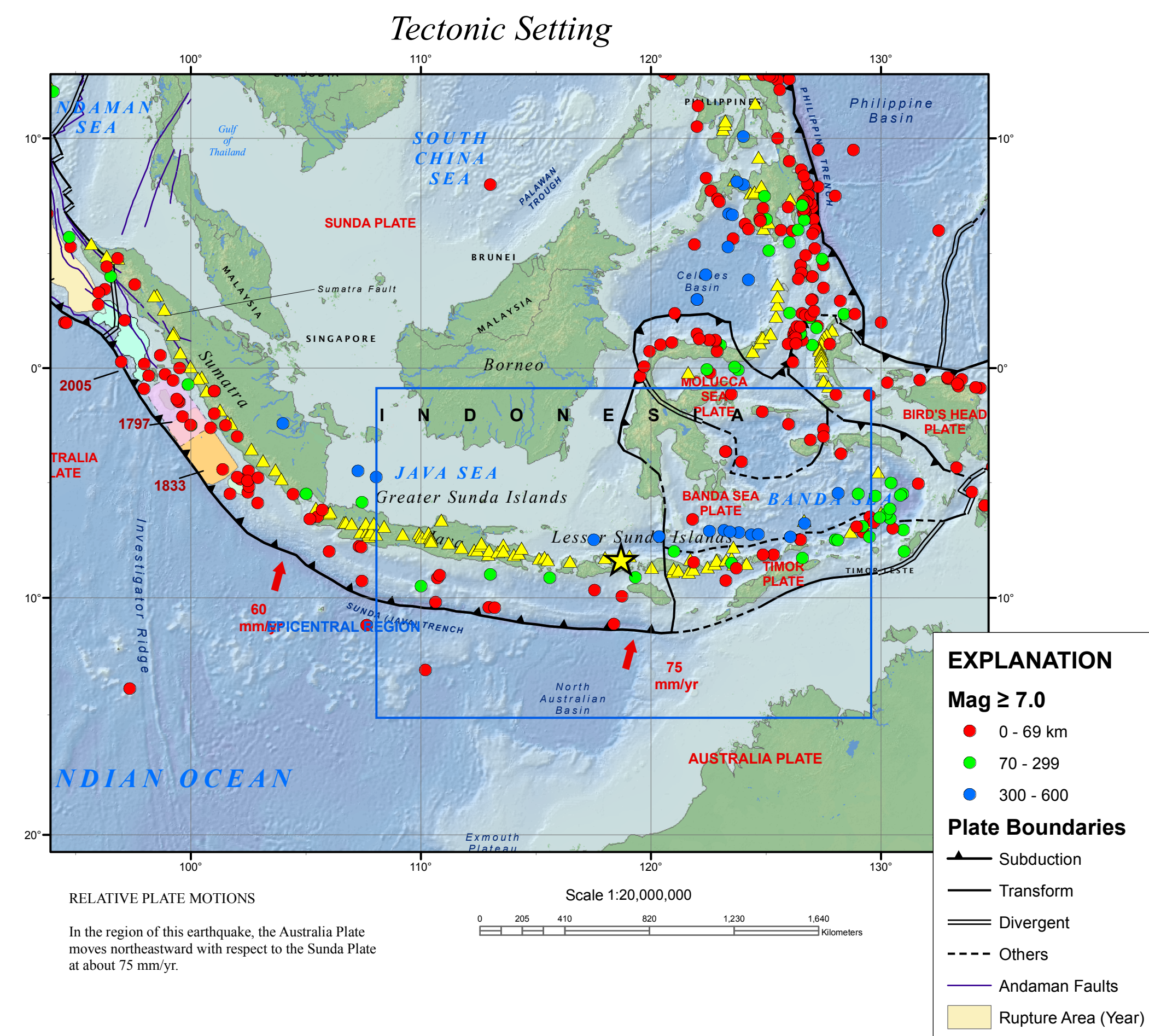


M6.7 Sumbawa, Indonesia, Earthquake of 8 November 2009



TECTONIC SUMMARY

The November 8th, 2009 earthquake in the Sumbawa region of Indonesia occurred as a result of thrust faulting on or near a microplate boundary within the Sunda plate. Eastern Indonesia is characterized by complex tectonics in which motions of numerous small plates are accommodating large-scale convergence between the Australian and Sunda plates. In the region of today's earthquake, the Australian plate moves northeastwards with respect to the Sunda plate at a rate of approximately 75 mm/yr. The convergence across this plate boundary has caused two oppositely oriented thrust zones; in the south, Australian plate subducts beneath Sunda towards the north at the Java Trench, while on the northern side of the eastern Sunda Arc near the location of November 8th's earthquake, oceanic crust of the Flores Basin subducts to the south along the Flores Thrust.

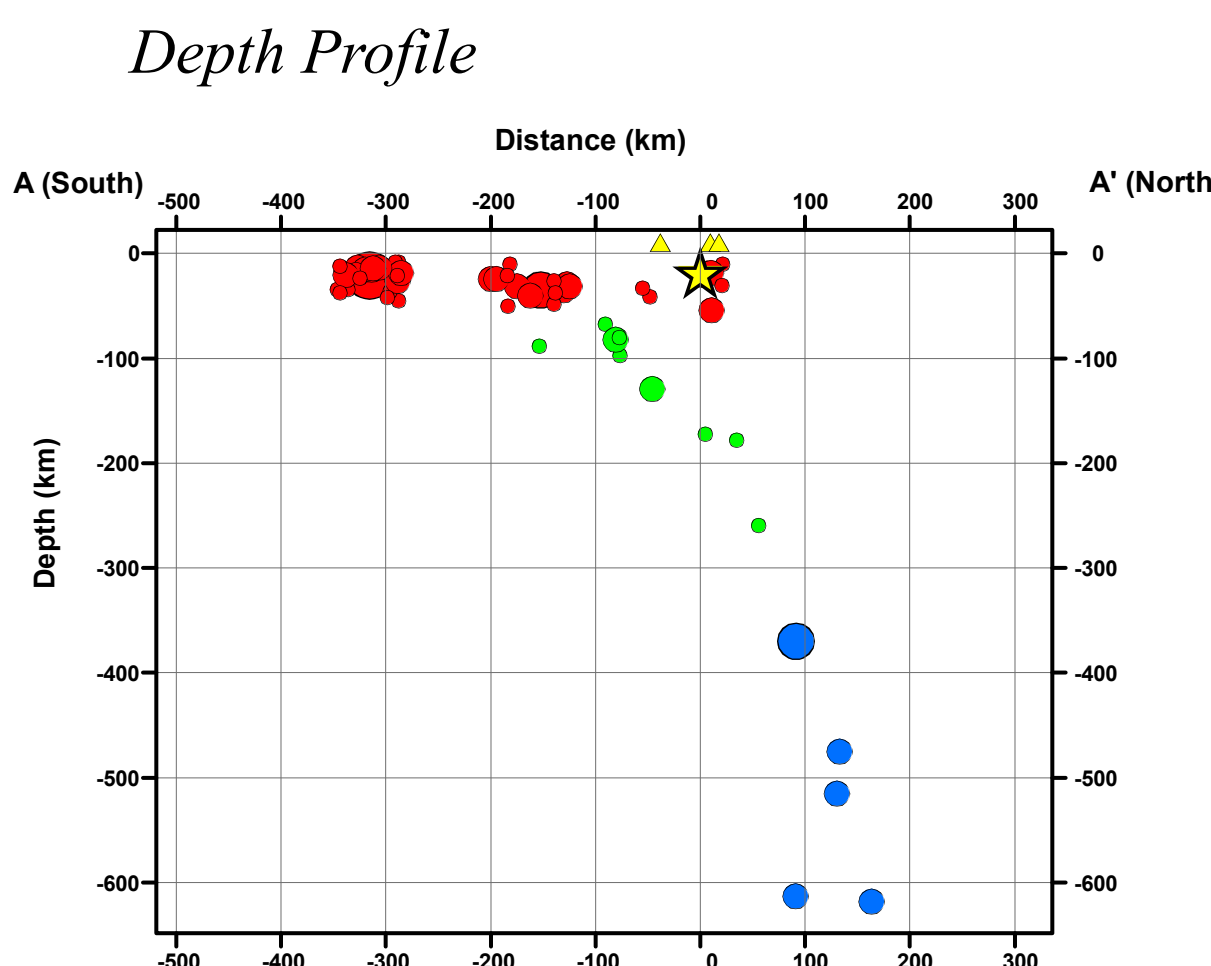
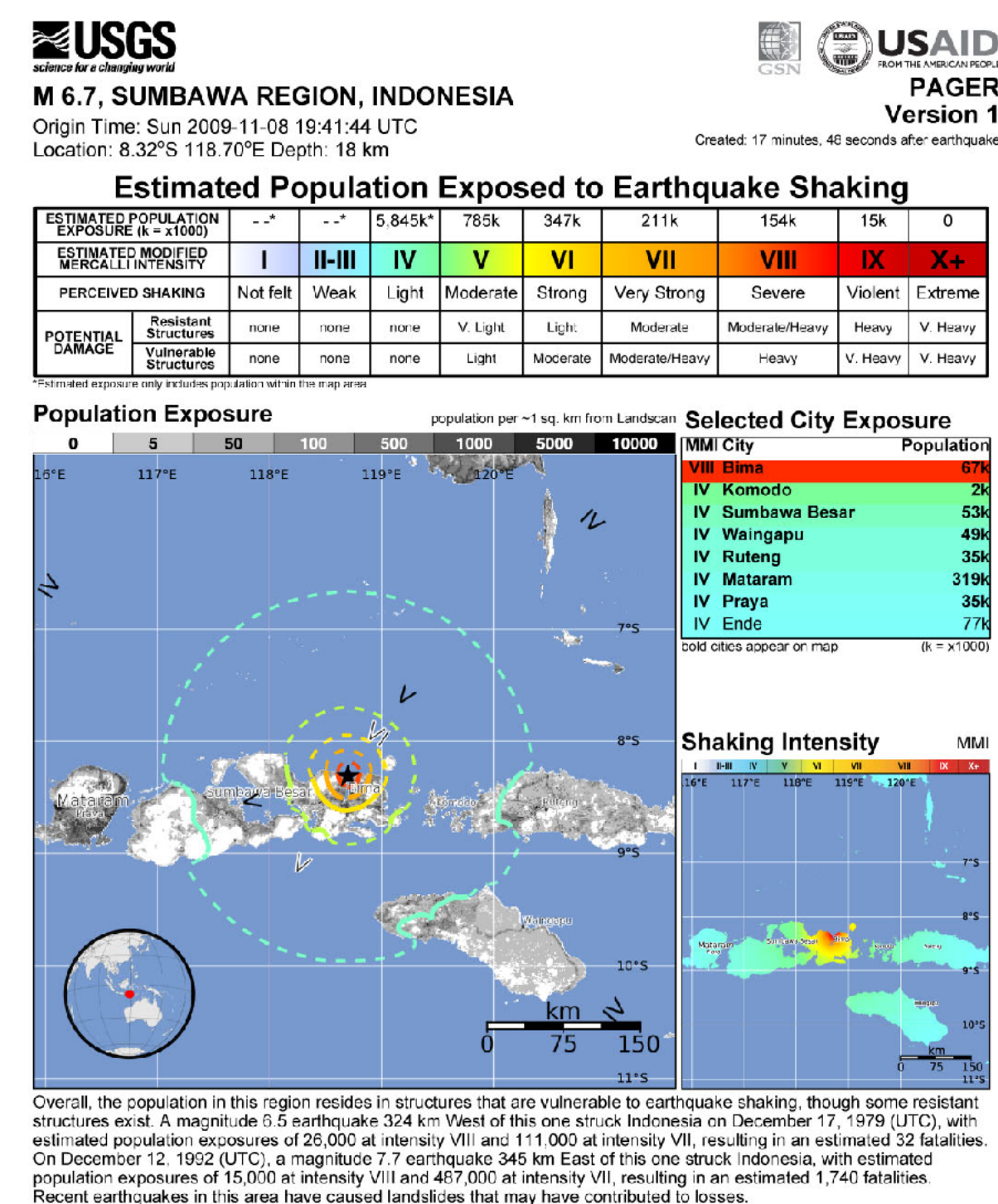
Earthquakes occur frequently in the region of Sumbawa. In December 1992, a large M7.8 earthquake occurred approximately 350 km to the east of the November 8 event. The 1992 shock and associated tsunami caused over 2,500 fatalities and leaving 90,000 homeless.

Significant Earthquakes Mag ≥ 7.0

Year	Mon	Day	Time	Lat	Long	Dep	Magn
1911	07	05	1840	-7.500	117.500	370	7.0
1914	07	04	2338	-5.500	129.000	200	7.1
1916	09	11	0630	-9.000	113.000	100	7.1
1917	08	30	0407	-7.500	128.000	100	7.3
1918	11	08	1841	-7.168	129.210	35	7.5
1918	11	23	2257	-8.283	126.567	217	7.1
1919	08	29	0544	-2.682	127.493	35	7.0
1921	09	11	0401	-13.095	110.177	25	7.3
1922	09	11	0401	-13.095	110.177	25	7.3
1926	09	10	1034	-9.152	117.701	35	7.0
1927	03	03	0105	-6.617	121.807	35	7.0
1931	03	28	1238	-7.369	129.491	150	7.2
1934	06	29	0826	-7.083	123.166	647	7.0
1937	08	11	0055	-9.675	117.533	35	7.2
1937	09	27	0855	-9.027	110.802	35	7.0
1938	06	09	1915	-3.145	126.928	25	7.0
1938	10	20	0219	-9.268	123.243	35	7.3
1943	07	23	1453	-9.500	110.000	90	7.6
1944	03	22	0043	-8.500	123.500	220	7.2
1949	04	23	1115	-8.222	121.000	80	7.0
1950	10	08	0323	-3.750	128.250	50	7.5
1950	11	02	1527	-6.500	129.500	50	7.4
1952	02	14	0338	-7.500	126.500	50	7.2
1953	06	25	1045	-8.727	123.704	35	7.1
1954	02	20	1835	-7.276	124.352	551	7.0
1963	04	16	0129	-1.172	128.026	35	7.2
1964	10	18	1232	-7.173	123.809	577	7.0
1965	01	24	0011	-2.455	125.965	284	8.2
1966	06	22	0229	-7.257	124.651	526	7.0
1967	06	22	0229	-7.257	124.651	526	7.0
1977	08	19	0608	-11.126	118.380	21.3	8.3
1977	08	27	0712	-8.137	125.326	42.7	7.1
1982	06	22	0418	-7.367	126.048	452	7.5
1983	11	24	0530	-7.508	128.103	181	7.4
1990	05	24	2009	-7.356	120.350	588	7.1
1992	12	12	0529	-8.482	121.844	28	7.8
1994	06	02	1817	-10.411	112.935	34.5	7.8
1994	06	02	1817	-10.432	113.191	35	7.1
1995	12	25	0443	-6.915	129.187	144	7.1
1996	06	11	1122	-7.122	122.536	589	7.8
1997	09	05	0509	-7.122	122.536	589	7.8
1998	11	29	1410	-1.916	124.823	16	7.7
2000	05	04	0421	-1.153	123.478	26	7.6
2001	10	19	0328	-4.095	123.921	15.5	7.5
2004	11	11	2126	-8.152	124.868	10	7.5
2006	01	27	1658	-5.473	128.131	397	7.6

DISCLAIMER

Base map data, such as place names and political boundaries, are the best available but may not be current or may contain inaccuracies and therefore should not be regarded as having official significance.



DATA SOURCES

EARTHQUAKES AND SEISMIC HAZARD
USGS, National Earthquake Information Center
NOAA, National Geophysical Data Center
IASPEI, Centennial Catalog (1900 - 1999) and
extensions (Engdahl and Villaseñor, 2002)
HDF (unpublished earthquake catalog) (Engdahl, 2003)
Global Seismic Hazard Assessment Program

PLATE TECTONICS AND FAULT MODEL
PB2002 (Bird, 2003)
Finite Fault Model, Chen Ji, UC Santa Barbara (2007)

BASE MAP
NIMA and ESRI, Digital Chart of the World
USGS, EROS Data Center
NOAA GEBCO and GLOBE Elevation Model

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Bird, P., 2003, An updated digital model of plate boundaries: *Geochem. Geophys. Geosyst.*, v. 4, no. 3, pp. 1027- 80.

Engdahl, E.R. and Villaseñor, A., 2002, Global Seismicity: 1900 - 1999, chap. 41 of Lee, W.H.K., and others, eds., International Earthquake and Engineering Seismology, Part A: New York, N.Y., Elsevier Academic Press, 932 p.

Engdahl, E.R., Van der Hilst, R.D., and Buland, R.P., 1998, Global teleseismic earthquake relocation with improved travel times and procedures for depth determination: Bull. Seism. Soc. Amer., v. 88, p. 722-743.

The GEBCO_08 Grid, version 20090202, <http://www.gebco.net>

Map prepared by U.S. Geological Survey
National Earthquake Information Center
9 November 2009
Map not approved for release by Director USGS