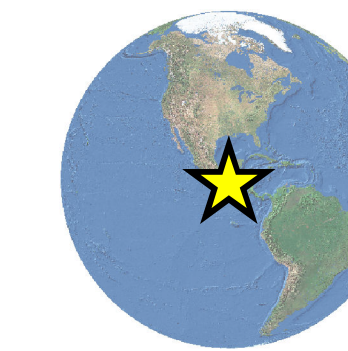
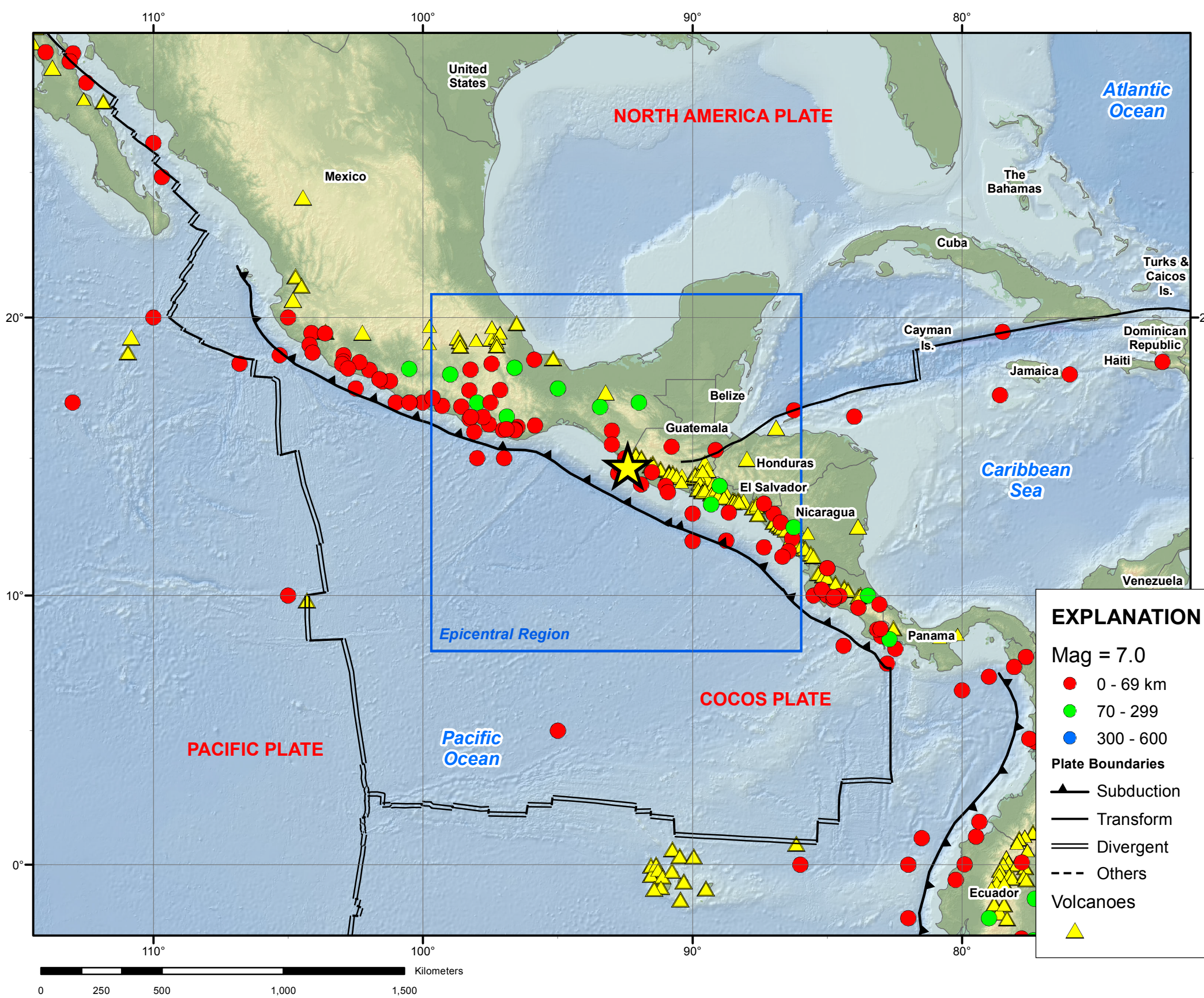


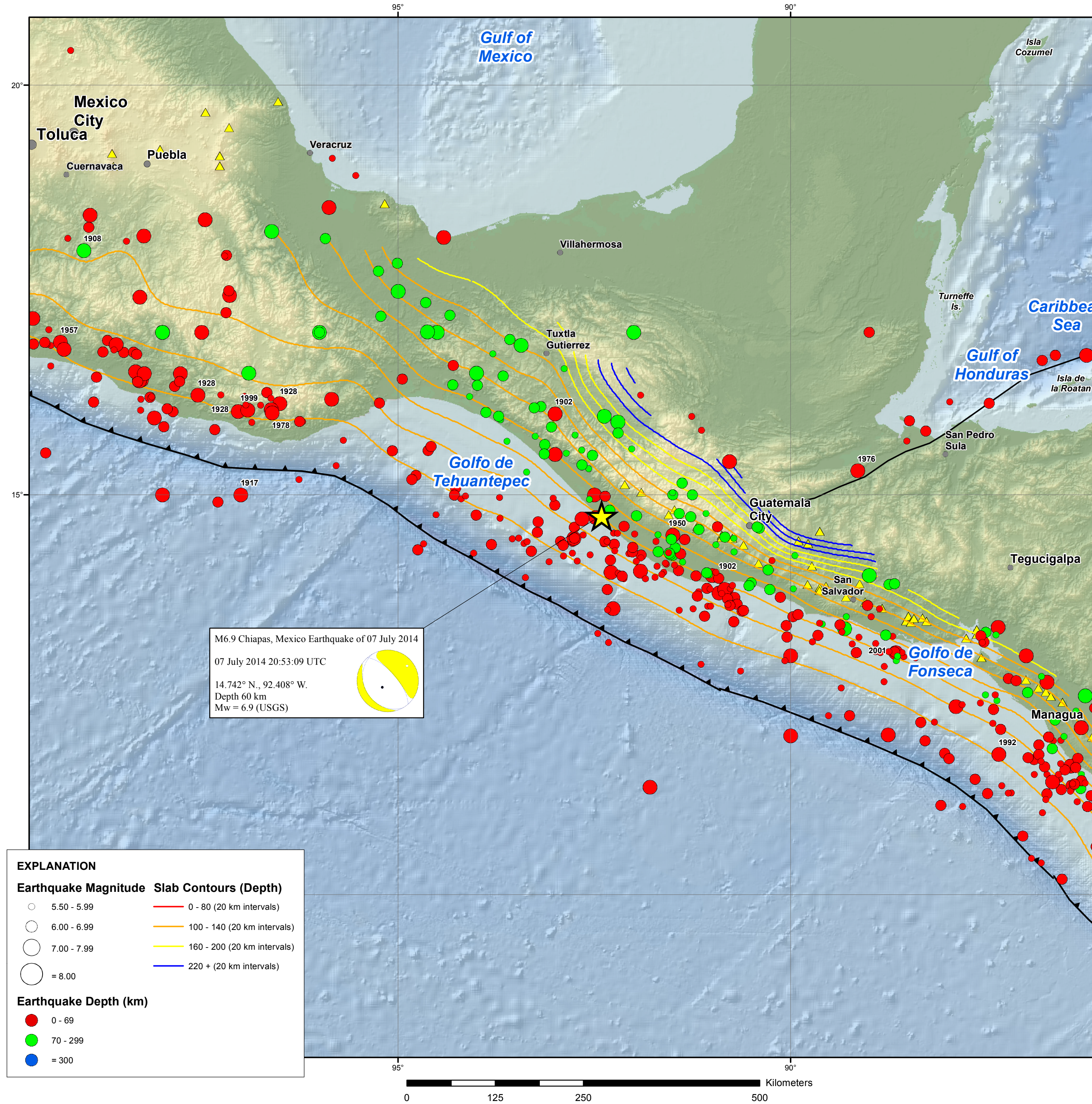
M6.9 Chiapas, Mexico Earthquake of 07 July 2014



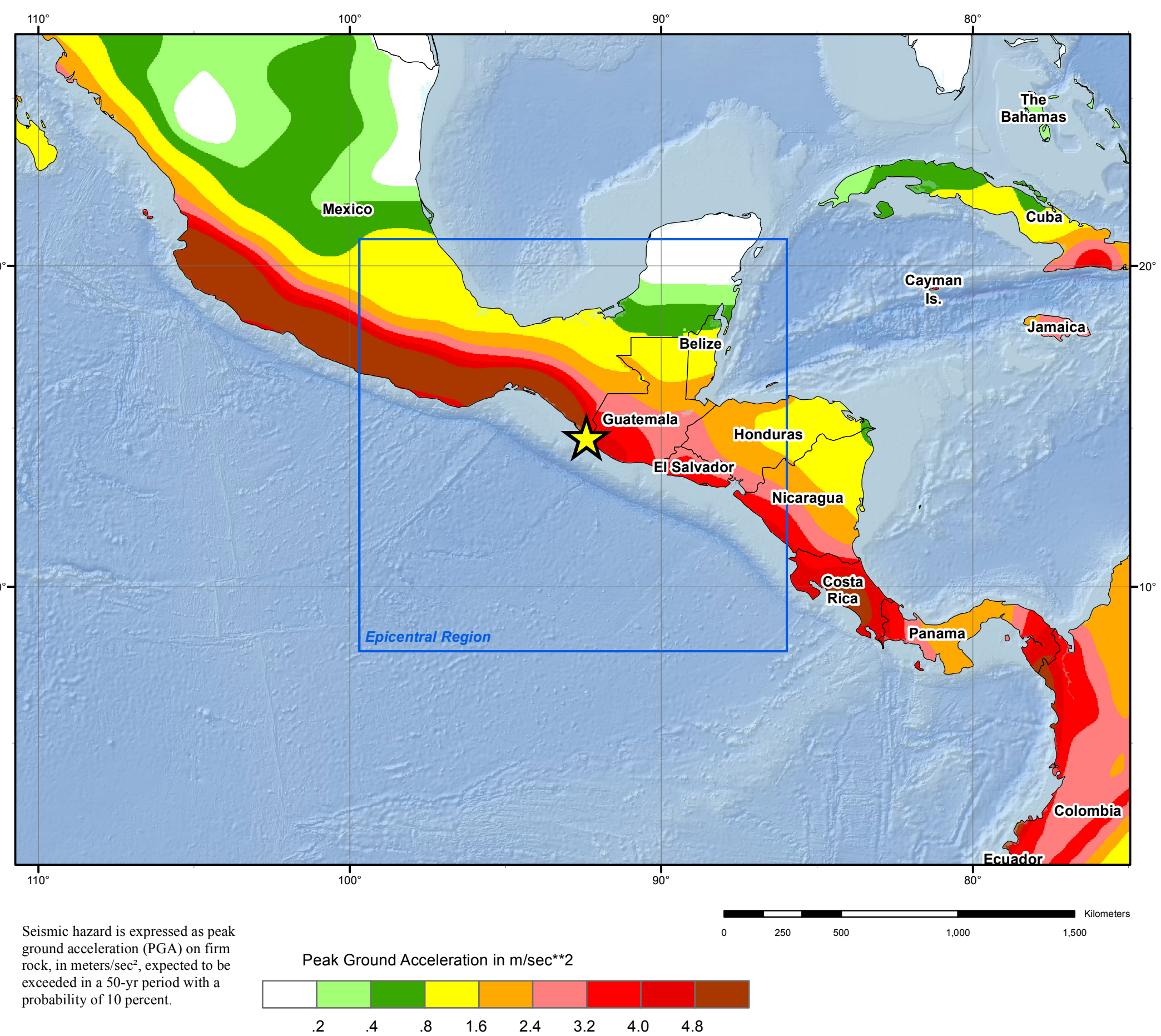
Tectonic Setting



Epicentral Region



Seismic Hazard



TECTONIC SUMMARY

The July 7, 2014 M 6.9 earthquake near the coast of Chiapas, Mexico occurred as the result of normal faulting at a depth of 60 km. The earthquake occurred near the border between Mexico and Guatemala, near Puerto Madero, Mexico, and about 200 km from Guatemala City, Guatemala, which has a population of one million people. At the location of the earthquake, the Cocos plate subducts to the northeast beneath the North America plate at a velocity of approximately 79 mm/yr, forming the Middle America subduction zone. The mechanism of the earthquake is consistent with extension within the down-going Cocos slab. The earthquake occurred below and to the east of the slab interface where larger, thrust-type earthquakes can occur.

The region around the July 7 earthquake is highly seismically active, having produced 12 events of M7.0 or greater since 1902 within 200 km of the epicenter. Most recently, an M7.4 event occurred in November 2012 on the subduction zone interface 123 km southeast of the July 7 event. Other notable events include an M7.2 in 1993 which caused 1 casualty in western Guatemala; an M7.7 in 1942 with 38 casualties and widespread damage, and two events of M7.8 and 7.5 in 1902.

Significant Earthquakes Mag >= 7.0

Year	Mon	Day	Time	Lat	Long	Dep	Mag
1902	04	19	02:23	14.000	-91.000	0	7.5
1902	09	23	20:18	16.000	-93.000	0	7.8
1903	01	14	01:47	15.000	-98.000	0	7.4
1907	12	30	05:26	12.100	-86.300	0	7.2
1908	03	26	23:03	18.000	-99.000	80	7.7
1912	12	09	08:32	15.500	-93.000	0	7.1
1914	03	30	00:41	17.000	-92.000	150	7.2
1915	09	07	01:20	14.000	-89.000	80	7.4
1916	02	27	20:20	12.000	-90.000	0	7.3
1916	06	02	13:59	17.500	-95.000	150	7.0
1917	12	29	22:50	15.000	-97.000	0	7.7
1921	02	04	08:22	15.411	-90.780	35	7.4
1921	03	28	07:49	13.356	-87.361	35	7.2
1926	02	08	15:17	12.011	-86.758	35	7.1
1926	11	05	07:55	12.670	-86.736	35	7.1
1928	03	22	04:17	16.127	-96.505	35	7.5
1928	06	17	03:19	16.028	-97.036	35	7.7
1928	08	04	18:26	16.418	-98.266	35	7.2
1928	10	09	03:01	16.229	-97.550	35	7.5
1931	01	15	01:50	16.053	-96.614	35	7.8
1935	12	14	22:05	14.718	-92.484	35	7.2
1937	07	26	03:47	18.523	-95.878	35	7.2
1937	12	23	13:18	17.431	-98.287	35	7.4
1942	08	06	23:37	13.780	-90.913	35	7.7
1944	06	28	07:58	15.000	-92.500	0	7.1
1947	01	26	10:06	12.500	-86.250	170	7.0
1948	01	06	17:25	17.000	-98.000	80	7.0
1950	10	23	16:13	14.500	-91.500	0	7.5
1950	12	14	14:15	17.000	-97.500	0	7.3
1951	12	12	01:37	16.500	-96.500	160	7.0
1956	10	24	14:42	11.619	-86.436	35	7.2
1957	07	28	08:40	16.881	-99.297	37.2	7.8
1959	05	24	19:17	17.450	-97.145	69.6	7.0
1962	05	11	14:11	17.171	-99.651	35	7.3
1965	08	23	19:46	16.178	-95.846	10.5	7.4
1968	08	02	14:06	16.484	-97.771	49.8	7.3
1970	04	29	14:01	14.461	-92.760	50.9	7.3
1973	08	28	09:50	18.233	-96.608	80.7	7.3
1976	02	04	09:01	15.297	-89.145	12.1	7.5
1978	11	29	19:52	16.012	-96.602	24.5	7.8
1980	10	24	14:53	18.176	-98.236	64.9	7.2
1982	06	19	06:21	13.337	-89.312	73.1	7.3
1983	12	02	03:09	14.055	-91.914	31	7.0
1992	09	02	00:16	11.766	-87.352	45	7.7
1993	09	10	19:12	14.702	-92.656	34	7.2
1995	09	14	14:04	16.852	-98.588	23	7.4
1995	10	21	02:38	16.842	-93.434	159	7.2
1996	02	25	03:08	15.949	-98.104	22.6	7.1
1999	06	15	20:42	18.374	-97.457	63	7.0
1999	09	30	16:31	16.046	-96.912	40	7.5
2001	01	13	17:33	13.038	-88.661	38	7.7
2004	10	09	21:26	11.422	-86.695	35	7.0
2009	05	28	08:24	16.720	-86.233	10	7.3
2012	03	20	16:493	-98.231	20	7.4	

DATA SOURCES

EARTHQUAKES AND SEIS
USGS, National Earthquake Information Center
NOAA, National Geophysical Data Center
IASPEI, Centennial Catalog (1900 - 1999) and extensions (Engdahl and Villaseor, 2002)
EHB catalog (Engdahl et al., 1998)
HDF (unpublished earthquake catalog, Engdahl, 2003)
Global Seismic Hazard Assessment Program

PLATE TECTONICS AND FAULT MODEL
Bird, P., 2003. An updated digital model of plate boundaries. *Geochim. Geophys. Res.*, v. 4, no. 3, pp. 1027-80.
Engdahl, E.R., and Villaseor, 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.

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

REFERENCES

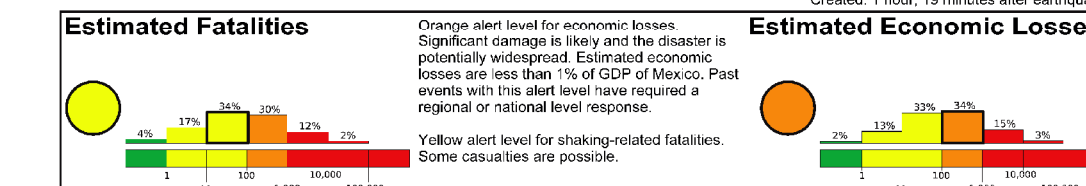
Bird, P., 2003. An updated digital model of plate boundaries. *Geochim. Geophys. Res.*, v. 4, no. 3, pp. 1027-80.
Engdahl, E.R., and Villaseor, A., 2002. Global Seismicity: 1900-1999, chap. 41 of Lee, W.H.K., and others, eds., *International Earthquake and Engineering Seismology*, Part A: New York, N.Y., 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.

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.
Map updated by U.S. Geological Survey National Earthquake Information Center
07 July 2014
http://earthquake.usgs.gov/
Map not approved for release by Director USGS

PAGER

USGS Earthquake Shaking Orange Alert USAID ANSS PAGER Version 3
M 6.9, CHIAPAS, MEXICO
Origin Time: Mon 2014-07-07 11:23:55 UTC (06:23:55 local)
Location: 14.74°N 92.41°W Depth: 60 km
Created: 1 hour, 18 minutes after earthquake

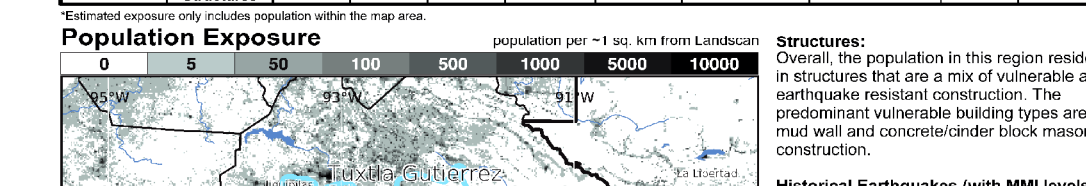


Estimated Population Exposed to Earthquake Shaking

ESTIMATED POPULATION EXPOSURE (x 1000)	I	II-III	IV	V	VI	VII	VIII	IX	X+
ESTIMATED POPULATION EXPOSURE (x 1000)	7,590k	9,666k	2,768k	984k	273k	0	0	0	0

PERCEIVED SHAKING
Not felt Weak Light Moderate Strong Very Strong Severe Violent Extreme

POTENTIAL DAMAGE
Resistant Structures none none none none none none none none none none
Vulnerable Structures none none none none none none none none none none

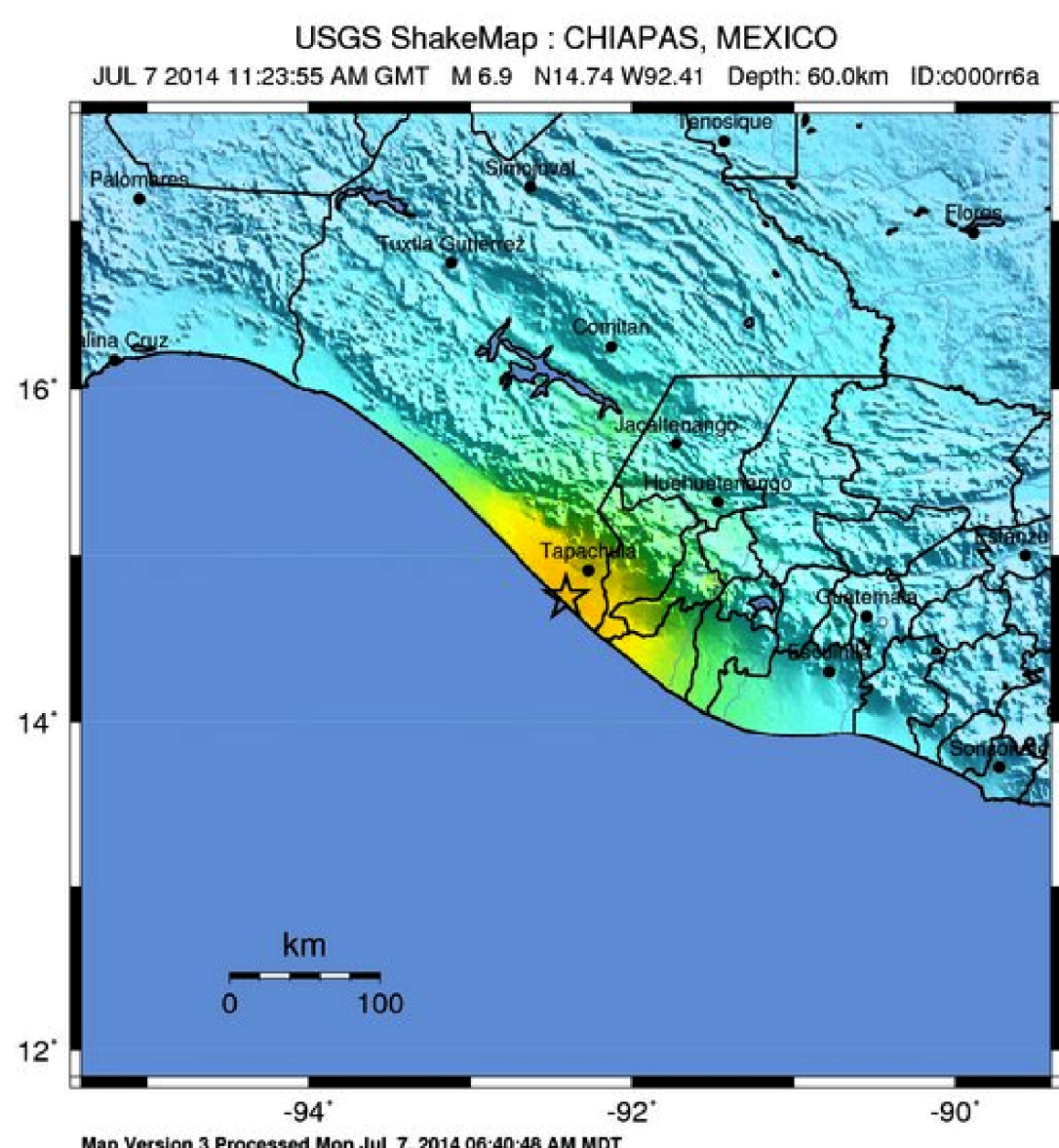


Selected City Exposure

MMI City	Population
VII Puerto Madero	108
VII La Libertad	44
VII Ciudad Tecun Uman	114
VII Mazatlan	68
VII Alvarez Obregon	54
VII Frontera Hidalgo	28
V Quintana Roo	1228
IV Chimaltenango	824
IV Escuintla	1034
III Guatemala City	9964
III Tuxtla Gutierrez	4814

(n = 1000)
bold cities appear on map
Event ID: usc000r6a

ShakeMap



PERCEIVED SHAKING	not felt	Weak	Light	Moderate	Strong	Very strong	Severe	Violent	Extreme
POTENTIAL DAMAGE	none	none	none	Very light	Light	Moderate	Mod. Heavy	Heavy	Very Heavy
PEAK ACC.(g)	<0.05	0.3	2.8	6.2	12	22	40	75	>139
PEAK VEL.(cm/s)	<0.02	0.1	1.4	4.7	9.8	20	41	68	>179
INSTRUMENTAL INTENSITY	I	II-III	IV	V	VI	VII	VIII	IX	X+

Source: based upon Wooten et al. (2011)