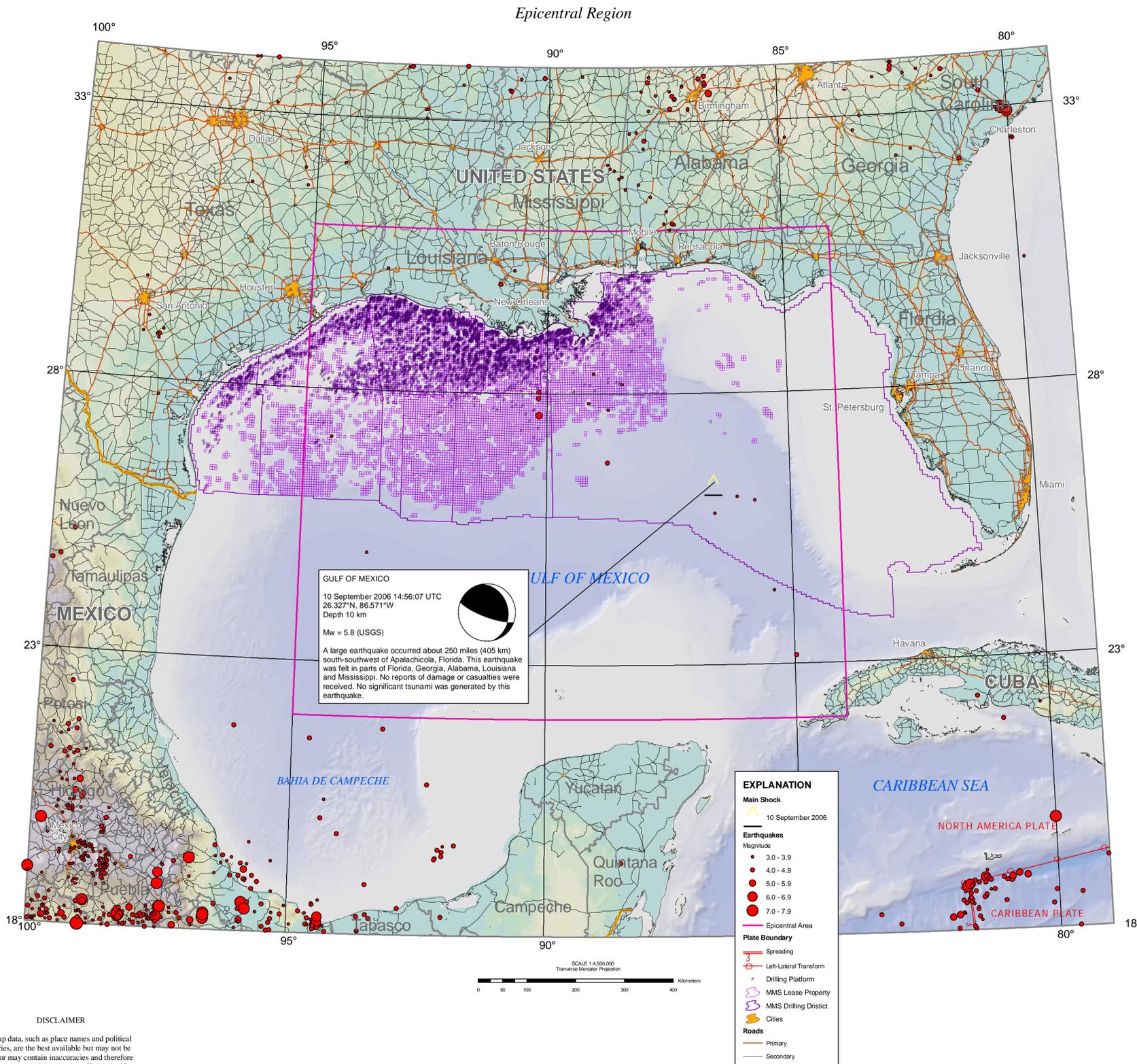


M 5.8 Gulf of Mexico Earthquake of 10 September 2006



DISCUSSION

This 5.8 magnitude earthquake was centered beneath the Gulf of Mexico, well distant from the nearest active plate boundary. Such "midplate" earthquakes are much less common than earthquakes occurring on faults near plate boundaries, and most probably represent the release of long-term tectonic stresses that ultimately originate from forces applied at the plate boundary. This is the largest of more than a dozen shocks that have been instrumentally recorded from the eastern Gulf of Mexico in the past three decades, and it is the most widely felt. The most recent significant earthquake in the region occurred on February 10th, 2006 and had a magnitude of 5.2. We have not associated this earthquake with a specific causative fault. Earthquakes of this magnitude are unlikely to generate destructive tsunami.

The Gulf Coast stress province is characterized by active listric rolth faulting (steeper near the surface and shallowing toward horizontal at depth). The state of stress within the province appears to be uniform with the greatest principal stress vertical and the least principal stress perpendicular to the continental margin. The state of stress is probably not associated with tectonic processes but due to sediment loading. The state of stress within the underlying bedrock is unknown.

REFERENCES

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

Zoback, M.L. and Zoback, M., 1980. State of Stress in the Conterminous United States, *J. of Geophy. Res.*, v. 85, issue B11, pp. 6113-56.

DATA SOURCES

EARTHQUAKES AND SEISMIC HAZARD
USGS, NEIC National Earthquake Information Center
USHIS catalog of principal earthquakes in the United States, 1568 - 1989 (Stover, C.W. and Coffman, J.L., 1993)
NGDC earthquakes of Mexico, Central America, and Caribbean 1900 - 1979 (Rinehart and others, 1982)
NOAA, National Geophysical Data Center

PLATE TECTONICS
PB2003 (Bird, 2003)

BASE MAP
NIMA and ESRI, Digital Chart of the World
USGS, EROS Data Center

OFFSHORE DRILLING
MMS Minerals Management Service

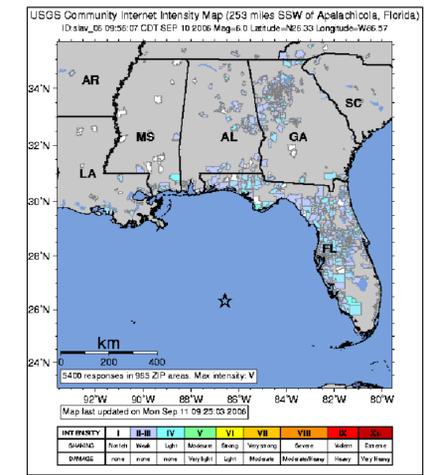
EPICENTRAL AREA EARTHQUAKES

YR	MO	DY	LAT	LON	MAG	DEPTH	SOURCE
1930	10	19	30.00	-91.00	4.2		USHIS
1978	07	24	26.73	-88.74	4.9	33	PDE
1980	01	10	24.35	-85.28	3.9	10	PDE
1986	05	12	27.70	-88.73	3.6	10	PDE
1992	03	31	26.02	-85.73	3.8	5	PDE
1992	09	27	28.17	-88.44	3.8	10	PDE
1994	06	30	27.91	-90.18	4.2	10	PDE
1997	04	18	25.78	-86.55	3.9	33	PDE
1998	07	06	25.02	-93.63	3.4	10	PDE
2000	12	09	28.03	-90.17	4.3	10	PDE
2001	03	16	28.36	-89.03	3.6	10	PDE
2001	03	16	28.31	-89.42	10		PDE
2002	05	27	27.12	-94.44	3.8	10	PDE
2002	09	19	27.82	-89.14	3.7	10	PDE
2003	04	13	26.09	-86.08	3.2	10	PDE
2003	10	10	23.15	-84.97	4.4	10	PDE
2006	02	10	27.60	-90.16	5.2	5	PDE
2006	09	10	26.34	-86.60	5.9	14	PDE

SIGNIFICANT EPICENTRAL REGION EARTHQUAKES

YR	MO	DY	LAT	LON	MAG	DEPTH	SOURCE
1817	1	8	32.90	-80.00	5.0		USHIS
1882	10	22	34.00	-96.00	4.9		USHIS
1886	9	1	32.90	-80.00	7.0		USHIS
1900	6	21	20.00	-80.00	7.9	60	NOAA
1908	3	26	18.00	-99.00	8.1	80	NOAA
1911	3	31	34.00	-91.80	4.7		USHIS
1912	11	19	19.90	-99.80	7.8		NOAA
1914	3	5	33.50	-83.50	4.5		USHIS
1916	10	18	33.50	-86.50	5.1		USHIS
1920	1	3	19.30	-96.90	7.8		NOAA
1928	2	10	19.00	-97.50	6.5	100	NGDC
1931	12	17	33.80	-90.10	4.6		USHIS
1937	7	26	18.80	-97.50	7.7		NOAA
1959	8	26	18.20	-94.40	6.8		NOAA
1972	2	3	33.21	-80.58	4.5	2	USHIS
1973	8	28	18.20	-96.60	7.3	75	NOAA
1974	11	22	32.93	-80.16	4.7	6	USHIS
1980	10	24	18.20	-98.20	6.8	65	NOAA

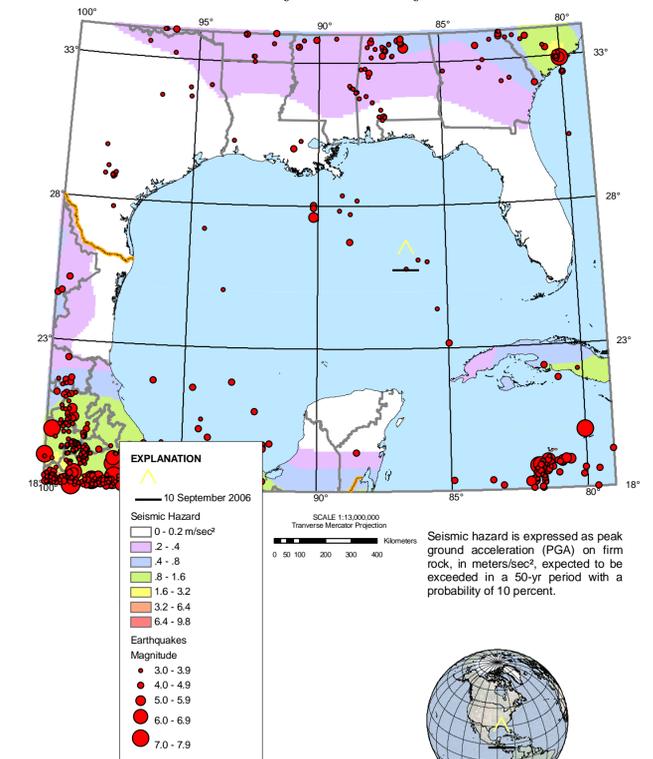
Community Internet Intensity Maps



COMMUNITY INTERNET INTENSITY MAPS

The Community Internet Intensity Maps (CIIM) summarize the online questionnaire responses provided by Internet users. An intensity number is assigned to each community from which a filled-out CIIM questionnaire was received; each intensity value reflects the effects of earthquake shaking on the people and structures in the community. The color-coded ZIP Code zone on the map represents the average of the individual intensity values in that ZIP Code zone.

Generalized Seismic Hazard



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.