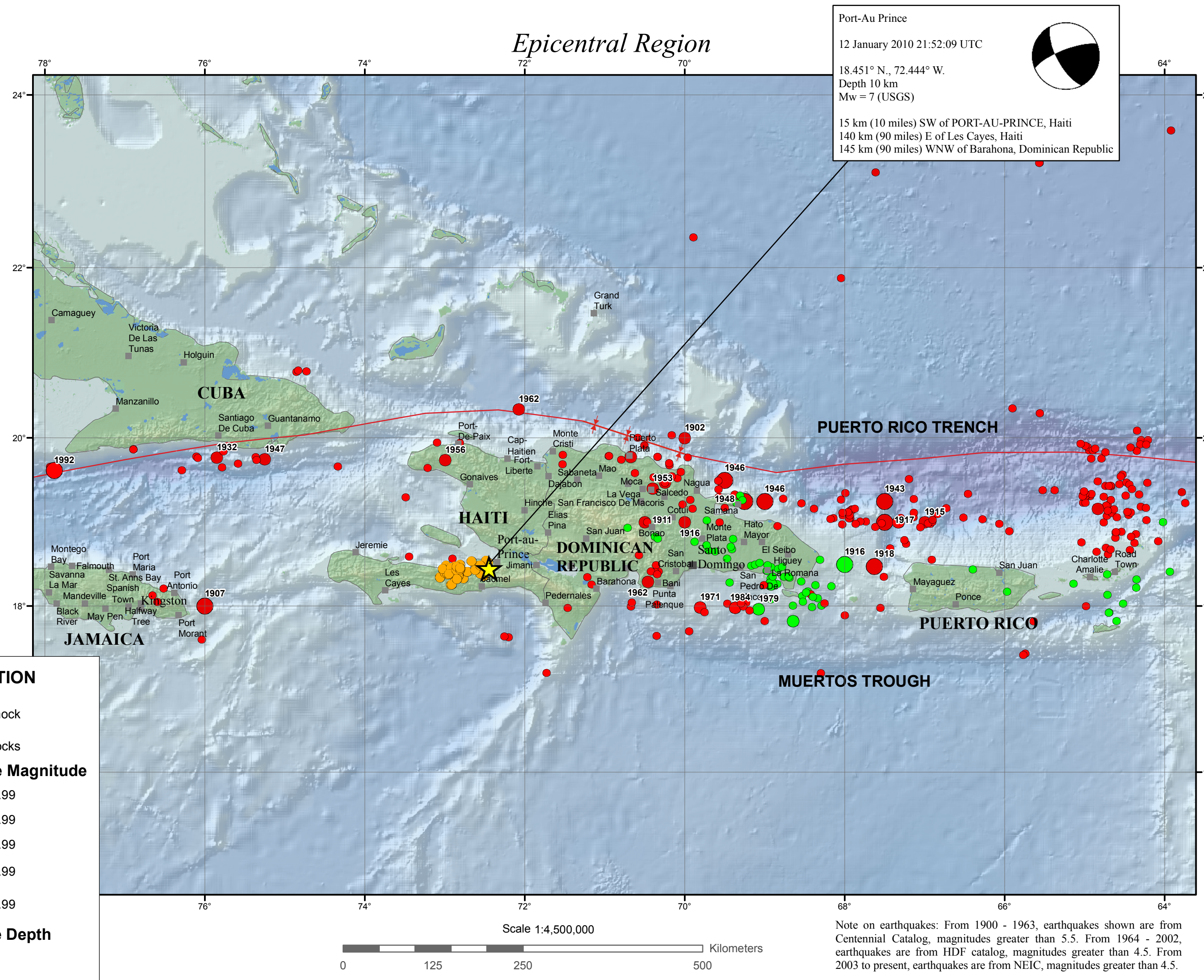
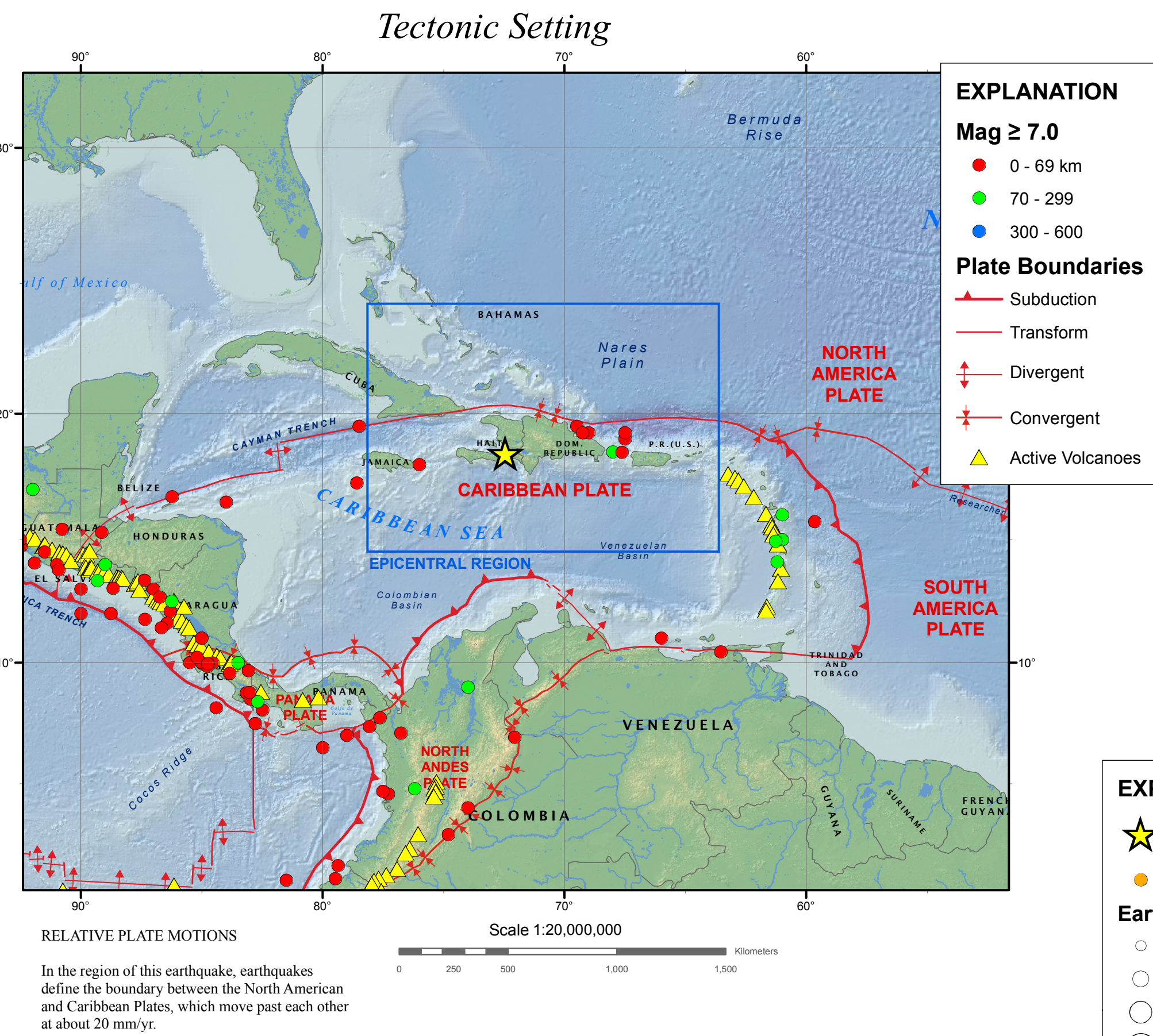


M7.0 Haiti Earthquake of 12 January 2010

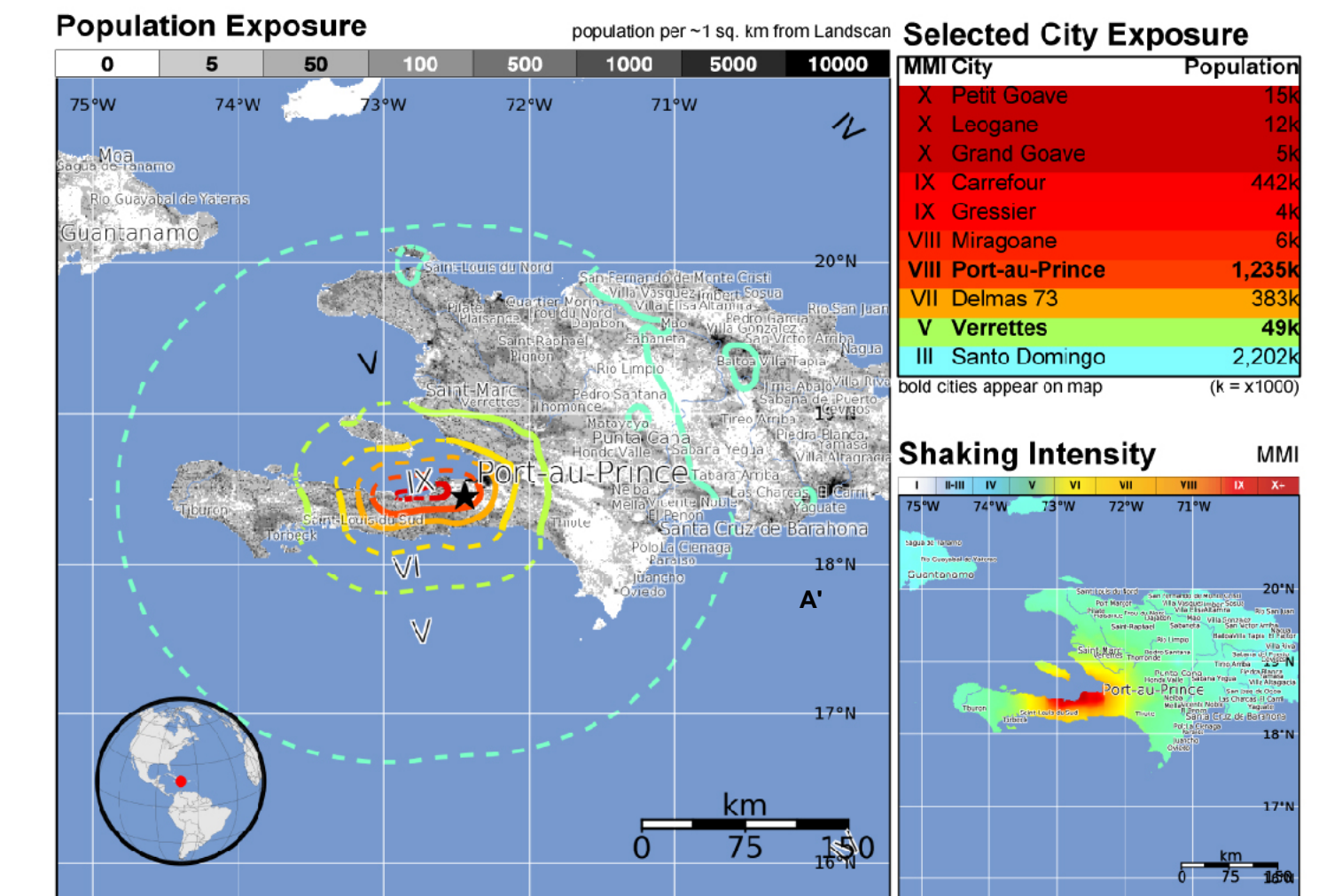


USGS **USAID** **PAGER**
Version 5
Created: 17 hours, 10 minutes after earthquake

M 7.0, HAITI REGION
Origin Time: Tue 2010-01-12 21:53:09 UTC
Location: 18.45°N 72.45°W Depth: 10 km

Estimated Population Exposed to Earthquake Shaking

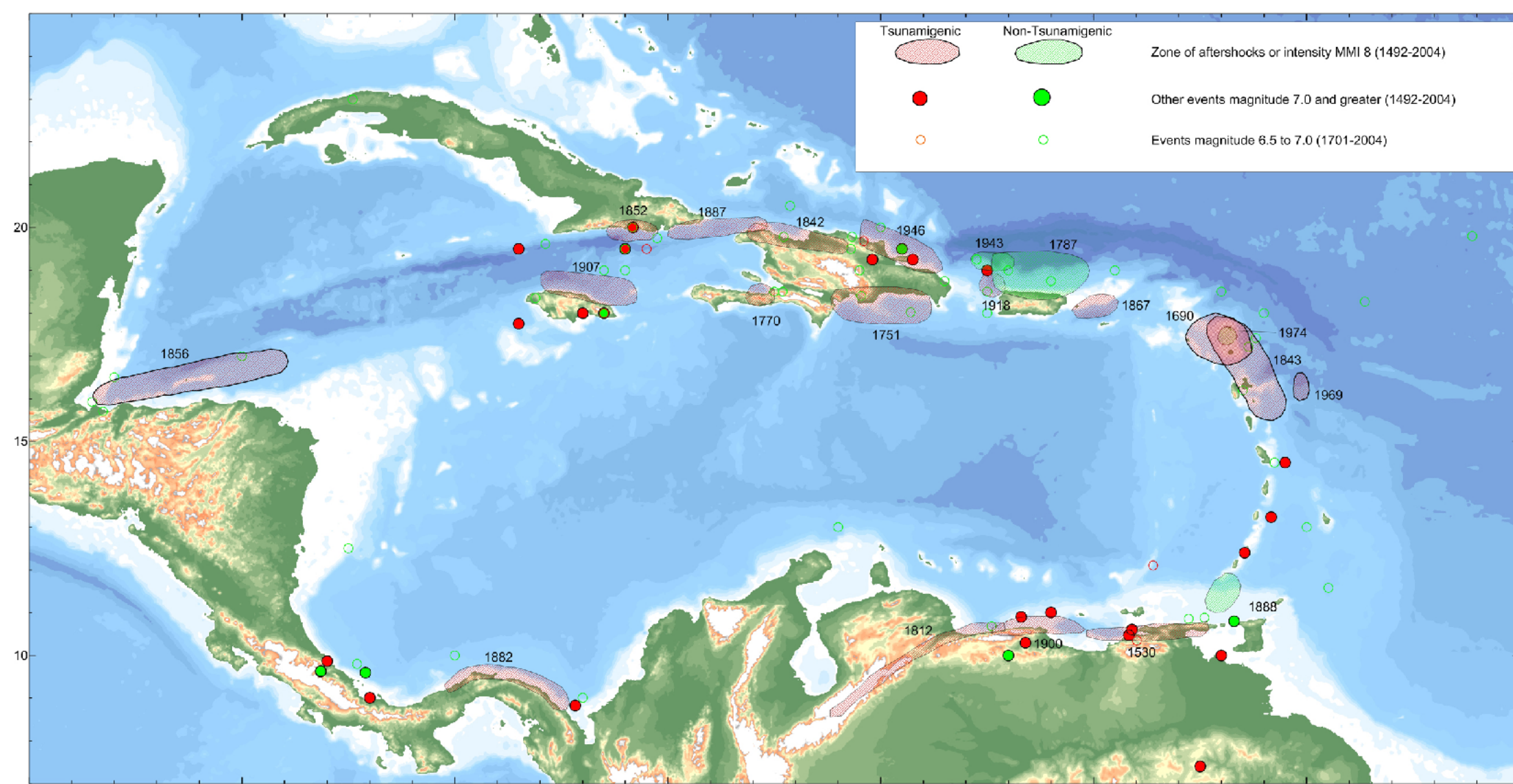
ESTIMATED MODIFIED MERCALLI INTENSITY (k = x1000)	I	II-III	IV	V	VI	VII	VIII	IX	X+
PERCEIVED SHAKING	Not felt	Weak	Light	Moderate	Strong	Vary Strong	Severe	Violent	Extreme
POTENTIAL DAMAGE	none	none	none	V. Light	Light	Moderate	Moderate/Heavy	Heavy	V. Heavy



Overall, the population in this region resides in structures that are vulnerable to earthquake shaking, though some resistant structures exist. On June 24, 1984 (UTC), a magnitude 6.7 earthquake 329 km East of this one struck the Dominican Republic, with estimated population exposures of 320,000 at intensity VII and 2,964,000 at intensity VI, resulting in an estimated 5 fatalities. Recent earthquakes in this area have caused landslides that may have contributed to losses.

This information was automatically generated and has not been reviewed by a seismologist.
<http://earthquake.usgs.gov/pager> Event ID: us2010rja6

Historic Earthquakes and Tsunami 1492 - 2004



Note: Historic earthquakes in the interior and west coast of Central and South America are not included in this figure.

from McCann, 2006, Estimating the threat of tsunamigenic earthquakes and earthquake induced landslide tsunamis in the Caribbean, in Caribbean Tsunami Hazard, Proceedings of the NSF Caribbean Tsunami Workshop, 2004, p.43-65.

TECTONIC SUMMARY

The Haiti earthquake of January 12, 2010, occurred in the boundary region separating the Caribbean plate and the North America plate. This plate boundary is dominated by left-lateral strike slip and compression, and accommodates about 20 mm/yr slip, with the Caribbean plate moving eastward with respect to the North America plate.

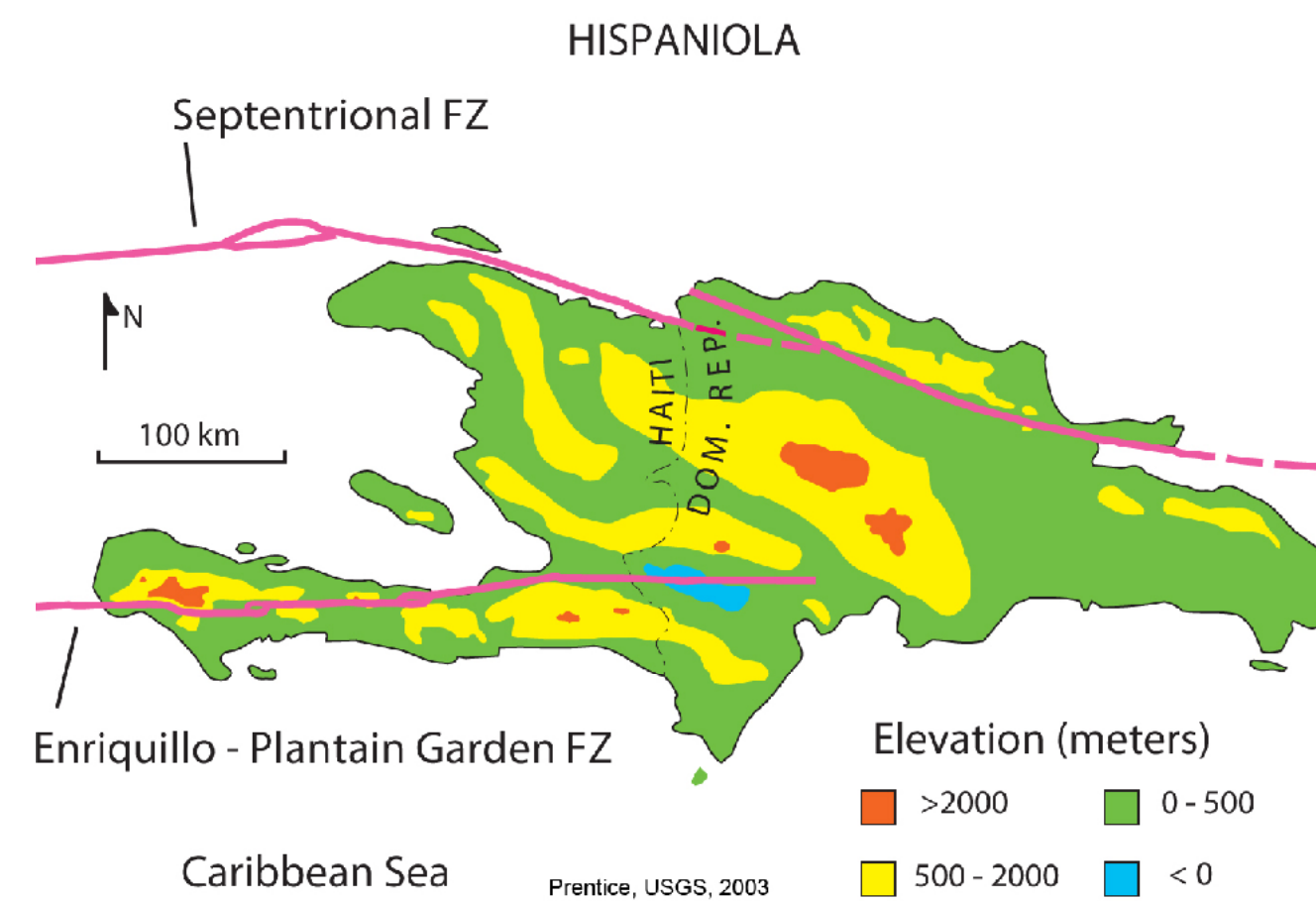
Haiti occupies the western part of the island of Hispaniola, one of the Greater Antilles islands, situated between Puerto Rico and Cuba. At the longitude of the January 12 earthquake, motion between the two Caribbean and North American plates is partitioned between two major east-west trending, strike-slip fault systems -- the Septentrional fault system in northern Haiti and the Enriquillo-Plantain Garden fault system in southern Haiti.

The location and focal mechanism of the earthquake are consistent with the event having occurred as left-lateral strike slip faulting on the Enriquillo-Plantain Garden fault system. This fault system accommodates about 7 mm/yr, nearly half the overall motion between the Caribbean plate and North America plate.

The Enriquillo-Plantain Garden fault system has not produced a major earthquake in recent decades. The EPGFZ is the likely source of historical large earthquakes in 1860, 1770, 1761, 1751, 1684, 1673, and 1618, though none of these has been confirmed in the field as associated with this fault.

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.



from Prentice, et al, 2003, Journal of Geophysical Research, V 108, B3, p.2149

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 Villasehor, 2002)
HDF (unpublished earthquake catalog) (Engdahl, 2003)
Global Seismic Hazard Assessment Program

PLATE TECTONICS AND FAULT MODEL
PB2002 (Bird, 2003)

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. Geosyst.*, v. 4, no. 3, pp. 1027-80.

Engdahl, E.R. and Villasehor, 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.

Map prepared by U.S. Geological Survey National Earthquake Information Center 14 January 2010 Version 3
Map not approved for release by Director USGS