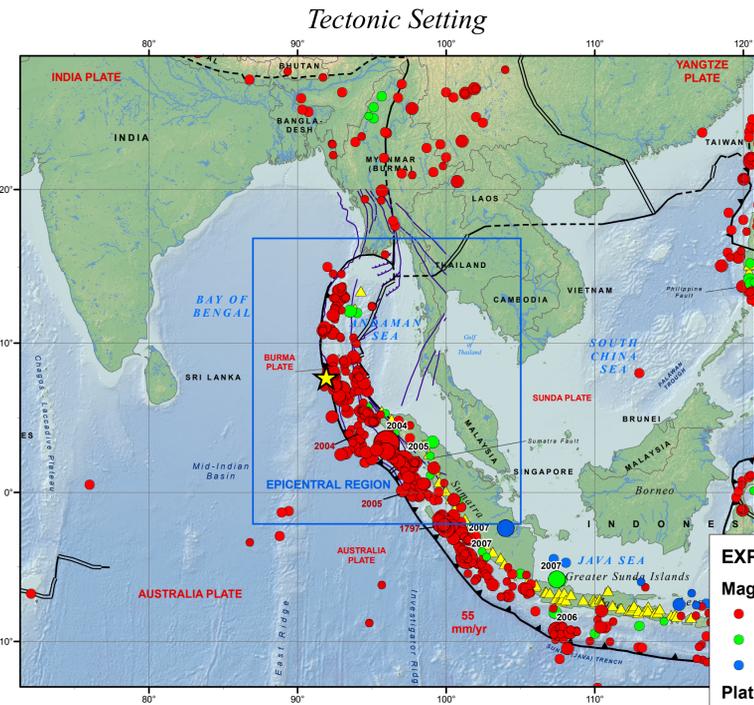


# M7.5 Nicobar Islands, India, Earthquake of 12 June 2010



RELATIVE PLATE MOTIONS  
In the region of this earthquake, the India Plate moves east-southeast with respect to the Burma microplate and Sunda Plate at about 14 mm/yr.

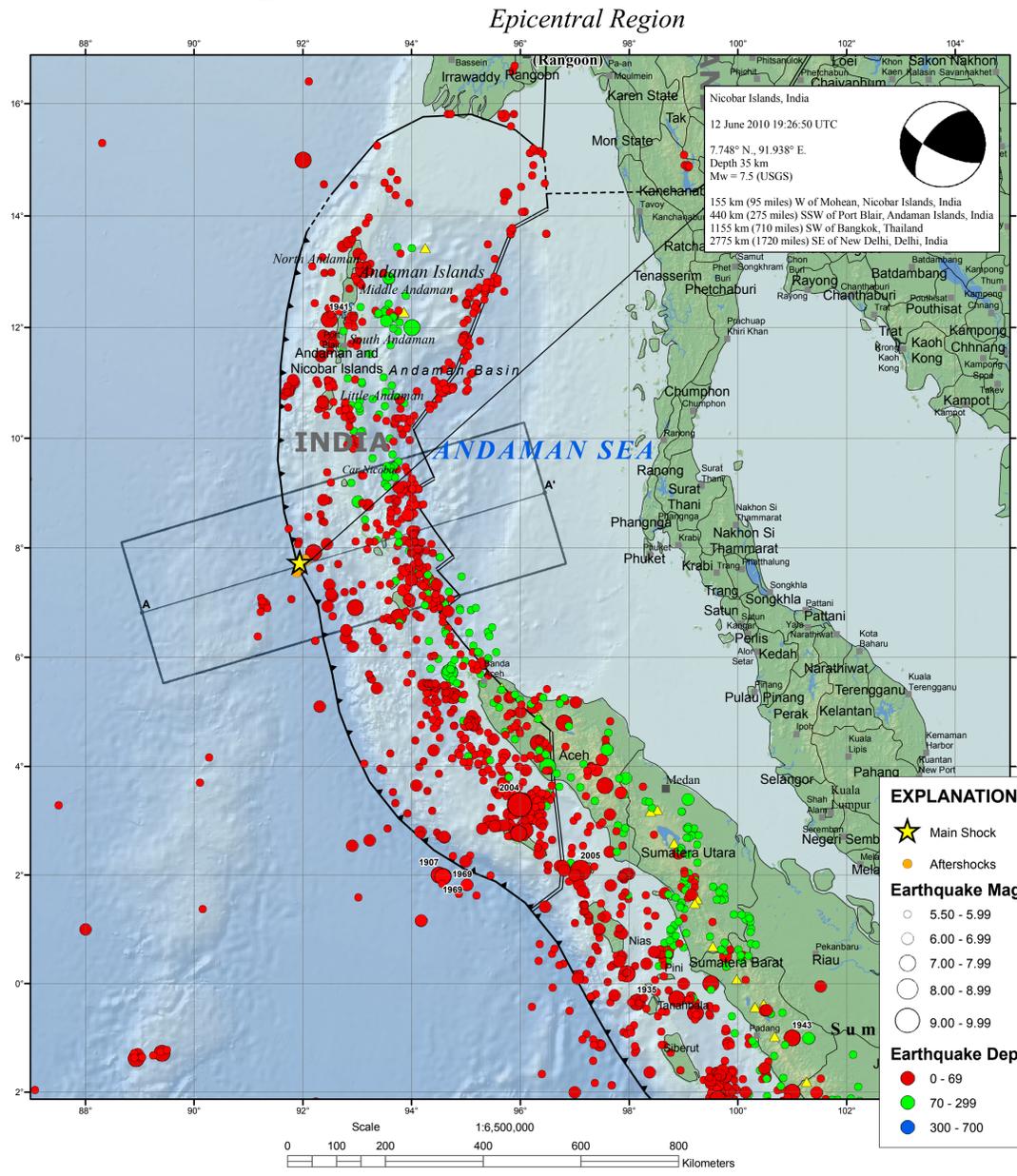
**EXPLANATION**

Mag  $\geq 7.0$

- 0 - 69 km
- 70 - 299
- 300 - 600

**Plate Boundaries**

- Subduction
- Transform
- Divergent
- Others
- Andaman Faults



**EXPLANATION**

- Main Shock
- Aftershocks

**Earthquake Magnitude**

- 5.50 - 5.99
- 6.00 - 6.99
- 7.00 - 7.99
- 8.00 - 8.99
- 9.00 - 9.99

**Earthquake Depth**

- 0 - 69
- 70 - 299
- 300 - 700

**TECTONIC SUMMARY**

The Nicobar Islands region earthquake of June 12, 2010 occurred as a result of oblique-reverse faulting in close proximity to the oceanic trench defining the bathymetric expression of the plate boundary between the Australia-India and Sunda plates. At the location of this earthquake, the Australia and India Plates move northwards with respect to the Sunda plate at a velocity of approximately 45-50 mm/yr. On the basis of the currently available fault mechanism information, earthquake location and depth, it is likely that this earthquake occurred within the Australia-India oceanic plate, rather than on the interplate thrust boundary. Today's earthquake was located adjacent to the 1300 km long rupture area of the devastating Mw 9.1 earthquake of December 2004, approximately 650 km to the north west of the hypocenter of that event, in a region of the Australia-India plate that has experienced a broad variety of faulting mechanisms in the past.

**Significant Earthquakes Mag  $\geq 7.5$**

Year	Mon	Day	Time	Lat	Long	Dep	Mag
1907	01	04	0519	2.000	94.500	50	7.5
1935	12	28	0235	-0.345	98.147	35	7.8
1941	06	26	1152	12.149	92.478	49.1	7.7
1943	06	09	0306	-1.000	101.000	50	7.5
1969	11	21	0205	1.971	94.572	10.6	7.5
1969	11	21	0205	1.973	94.574	11	7.6
2004	12	26	0058	3.295	95.982	30	9.0
2005	03	28	1609	2.085	97.108	30	8.6
2010	06	12	1926	7.748	91.938	35	7.5

**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.

**USGS**  
science for a changing world

**M 7.5, NICOBAR ISLANDS, INDIA REGION**  
Origin Time: Sat 2010-06-12 19:26:50 UTC  
Location: 7.75°N 91.94°E Depth: 35 km

**USAID**  
FROM THE AMERICAN PEOPLE  
**PAGER Version 2**  
Created: 1 hour, 11 minutes after earthquake

**Estimated Population Exposed to Earthquake Shaking**

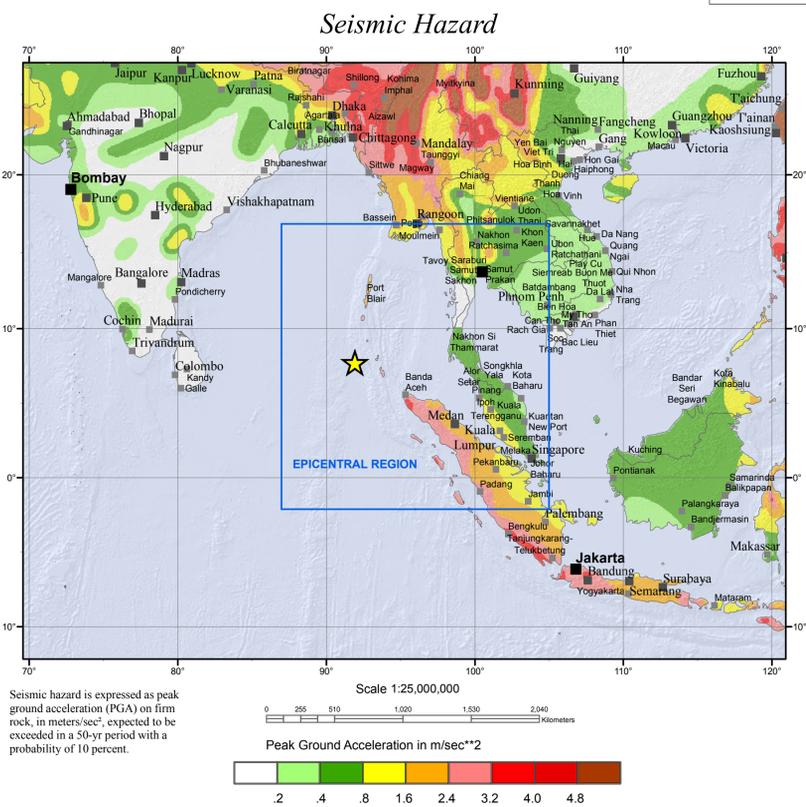
ESTIMATED POPULATION EXPOSURE (N = 21000)	0	13k	35k	2k	0	0	0	0	
ESTIMATED MODIFIED MERCALLI INTENSITY	I	II-III	IV	V	VI	VII	VIII	IX	X+
PERCEIVED SHAKING	Not felt	Weak	Light	Moderate	Strong	Very Strong	Severe	Violent	Extreme
POTENTIAL DAMAGE	Resistant Structures: none	Resistant Structures: none	Resistant Structures: none	Resistant Structures: V. Light	Resistant Structures: Light	Resistant Structures: Moderate	Resistant Structures: Moderate/Heavy	Resistant Structures: Heavy	Resistant Structures: V. Heavy
	Vulnerable Structures: none	Vulnerable Structures: none	Vulnerable Structures: none	Vulnerable Structures: Light	Vulnerable Structures: Moderate	Vulnerable Structures: Moderate/Heavy	Vulnerable Structures: Heavy	Vulnerable Structures: V. Heavy	Vulnerable Structures: V. Heavy



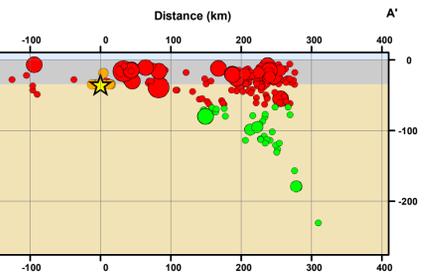
Overall, the population in this region resides in structures that are highly vulnerable to earthquake shaking, though some resistant structures exist. On July 24, 2005 (UTC), a magnitude 7.2 earthquake 33 km Northeast of this one struck India, with estimated population exposures of 40,000 at intensity V and 23,000 at intensity IV, with no reported fatalities.

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

Event ID: us2010xxbv



Seismic hazard is expressed as peak ground acceleration (PGA) on firm rock, in meters/sec<sup>2</sup>, expected to be exceeded in a 50-yr period with a probability of 10 percent.



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

PLATE TECTONICS AND FAULT MODEL  
NIMA and ESRI, Digital Chart of the World  
USGS, EROS Data Center  
NOAA GEBCO and GLOBE Elevation Models

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 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.

The GEBCO\_08 Grid, version 20090202, <http://www.gebco.net>