USGS
science for a changing world

Earthquake Shaking Green Alert

GSN ANSS USAID FROM THE AMERICAN PEOPLE

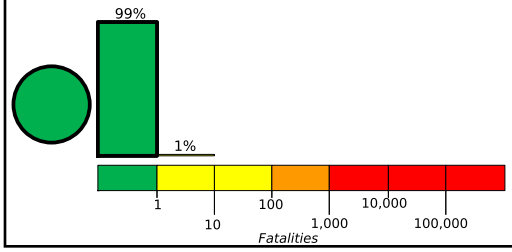
M 5.2, HALMAHERA, INDONESIA

Origin Time: Mon 2013-12-09 08:47:23 UTC (17:47:23 local)
Location: 2.74°N 128.40°E Depth: 35 km

PAGER Version 9

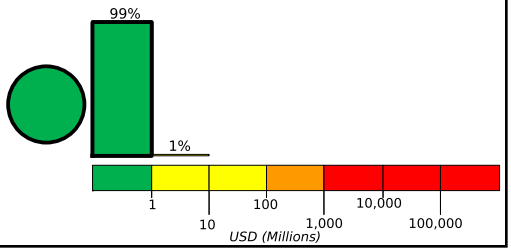
Created: 9 weeks, 4 days after earthquake

Estimated Fatalities



Green alert for shaking-related fatalities and economic losses. There is a low likelihood of casualties and damage.

Estimated Economic Losses



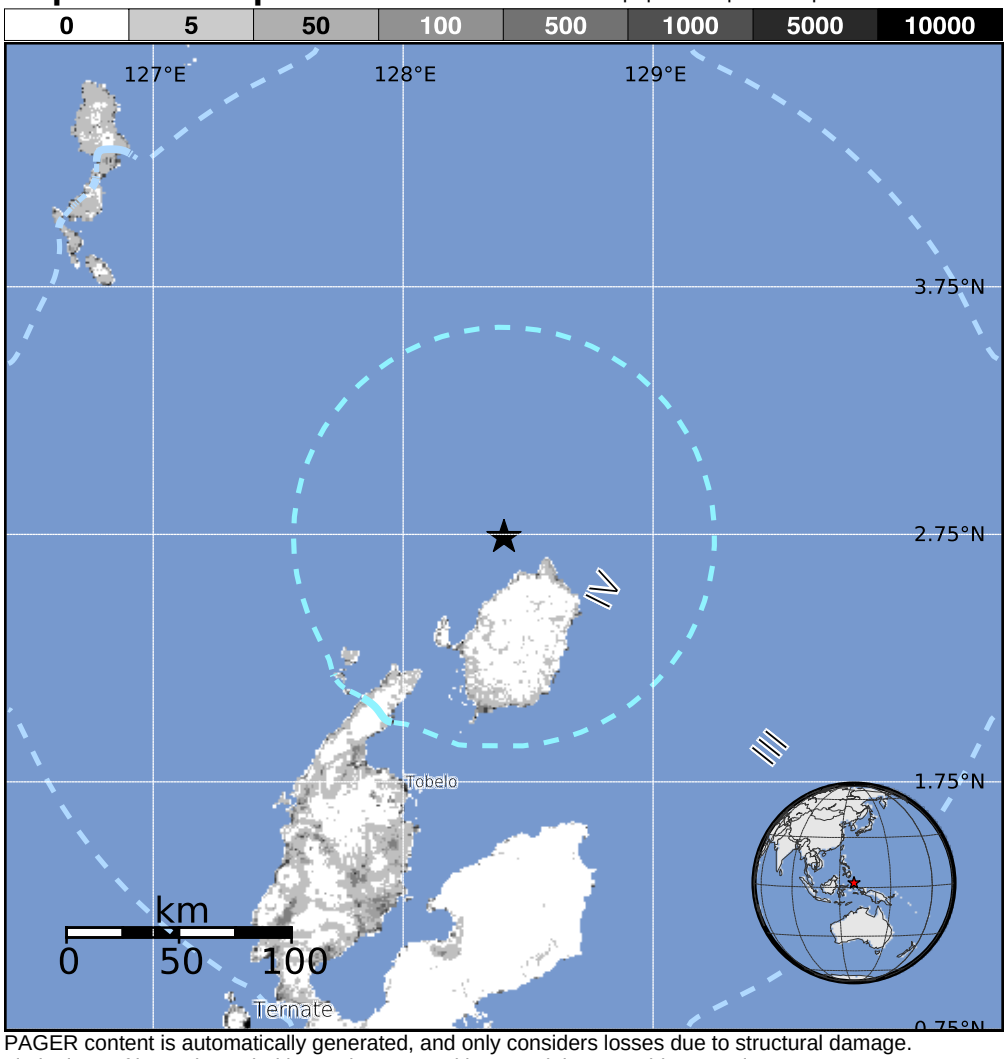
Estimated Population Exposed to Earthquake Shaking

ESTIMATED POPULATION EXPOSURE (k = x1000)		- -*	860k	140k	2k	0	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	none	none	V. Light	Light	Moderate	Moderate/Heavy	Heavy	V. Heavy
	Vulnerable Structures	none	none	none	Light	Moderate	Moderate/Heavy	Heavy	V. Heavy	V. Heavy

*Estimated exposure only includes population within the map area.

Population Exposure

population per ~1 sq. km from Landscan



Structures:
Overall, the population in this region resides in structures that are vulnerable to earthquake shaking, though some resistant structures exist.

Historical Earthquakes (with MMI levels):

Date (UTC)	Dist. (km)	Mag.	Max MMI(#)	Shaking Deaths
1979-05-18	351	6.3	V(3k)	0
2007-01-21	286	7.5	VI(283k)	3
1994-01-21	195	6.9	IX(28k)	7

Selected City Exposure

from GeoNames.org

MMI	City	Population
III	**Tobelo**	**10k**
II	**Ternate**	**102k**
II	Kota Ternate	< 1k

bold cities appear on map (k = x1000)

PAGER content is automatically generated, and only considers losses due to structural damage.
Limitations of input data, shaking estimates, and loss models may add uncertainty.

http://earthquake.usgs.gov/pager

Event ID: usb000ldz3