

# M 7.8, NEAR THE COAST OF ECUADOR

Origin Time: Sat 2016-04-16 23:58:37 UTC (18:58:37 local)

Location: 0.37°N 79.94°W Depth: 19 km

FOR TSUNAMI INFORMATION, SEE: [tsunami.gov](http://tsunami.gov)

Created: 13 hours, 38 minutes after earthquake

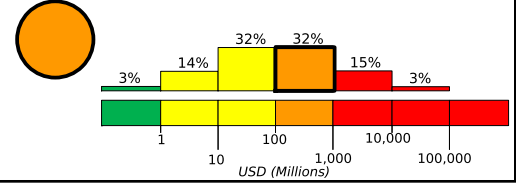
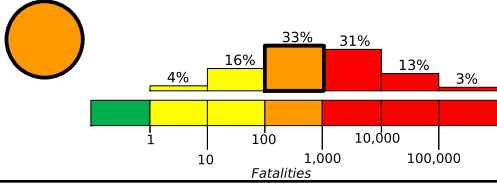
PAGER  
Version 6

## Estimated Fatalities

Orange alert for shaking-related fatalities and economic losses. Significant casualties and damage are likely and the disaster is potentially widespread. Past orange alerts have required a regional or national level response.

## Estimated Economic Losses

Estimated economic losses are less than 1% of GDP of Ecuador.

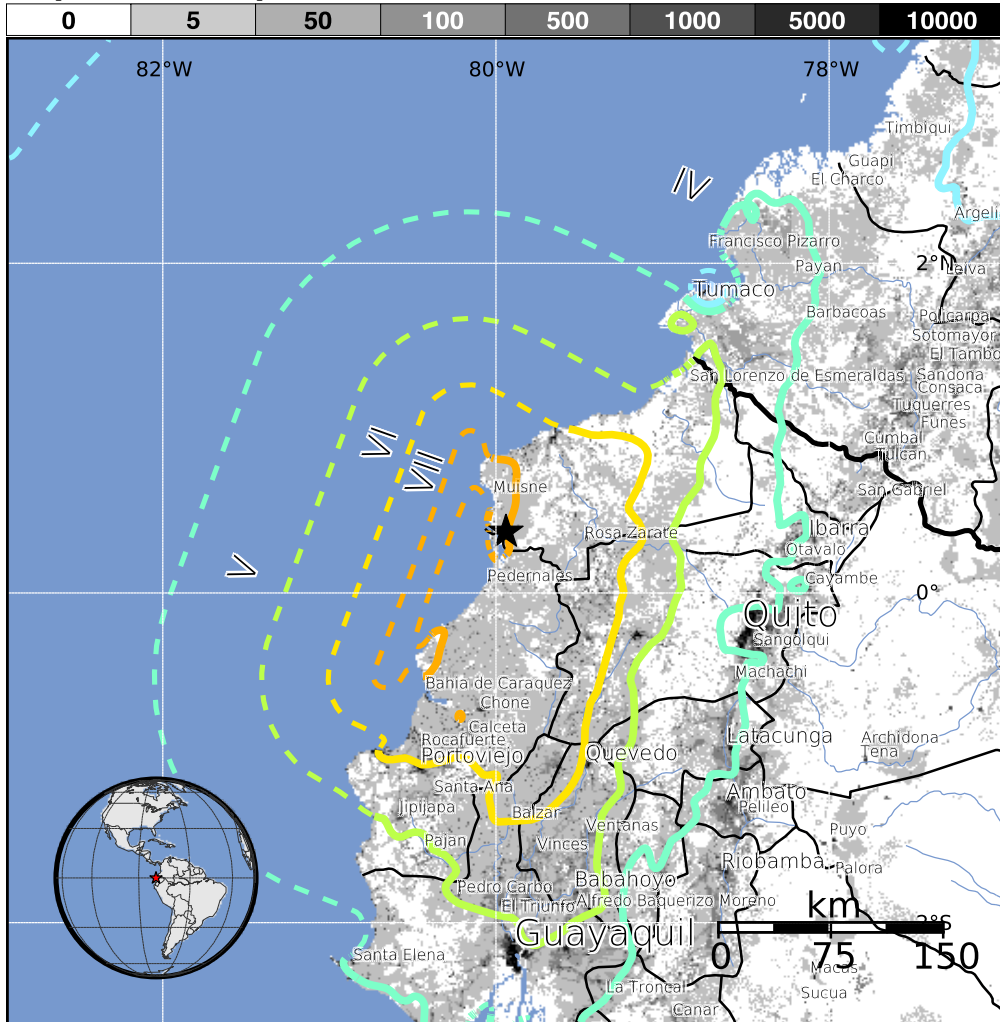


## Estimated Population Exposed to Earthquake Shaking

ESTIMATED POPULATION EXPOSURE (k = x1000)	- - *	115k*	5,238k*	5,971k	2,085k	1,760k	103k	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



### Structures:

Overall, the population in this region resides in structures that are vulnerable to earthquake shaking, though some resistant structures exist. The predominant vulnerable building types are unreinforced brick masonry and mud wall construction.

### Historical Earthquakes (with MMI levels):

Date (UTC)	Dist. (km)	Mag.	Max MMI(#)	Shaking Deaths
1979-03-01	31	5.7	VIII(4k)	0
1996-03-28	212	5.9	VIII(14k)	27
1987-03-06	245	7.1	IX(2k)	1k

Recent earthquakes in this area have caused secondary hazards such as tsunamis and landslides that might have contributed to losses.

## Selected City Exposure

from GeoNames.org

MMI City	Population
VIII Muisne	13k
VIII Tosagua	15k
VIII Pedernales	6k
VII Bahia de Caraquez	37k
VII Rosa Zarate	42k
VII Chone	45k
VII Portoviejo	170k
V Guayaquil	1,952k
IV Pasto	382k
IV Quito	1,400k

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/earthquakes/eventpage/us20005j32>

Event ID: us20005j32