USGS
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Earthquake Shaking **Green Alert**

GSN ANSS USAID FROM THE AMERICAN PEOPLE

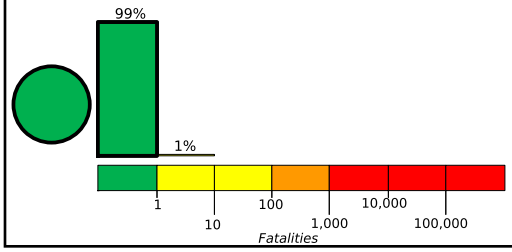
M 6.0, TONGA

Origin Time: Sun 2016-07-10 13:44:40 UTC (13:44:40 local)
Location: 15.08°S 173.20°W Depth: 8 km

PAGER Version 3

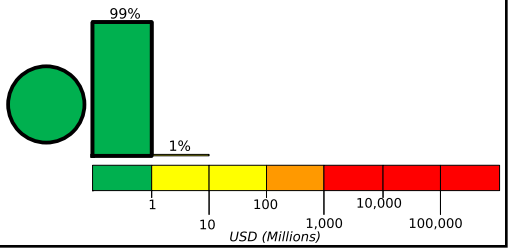
Created: 7 weeks, 2 days after earthquake

Estimated Fatalities



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

Estimated Economic Losses



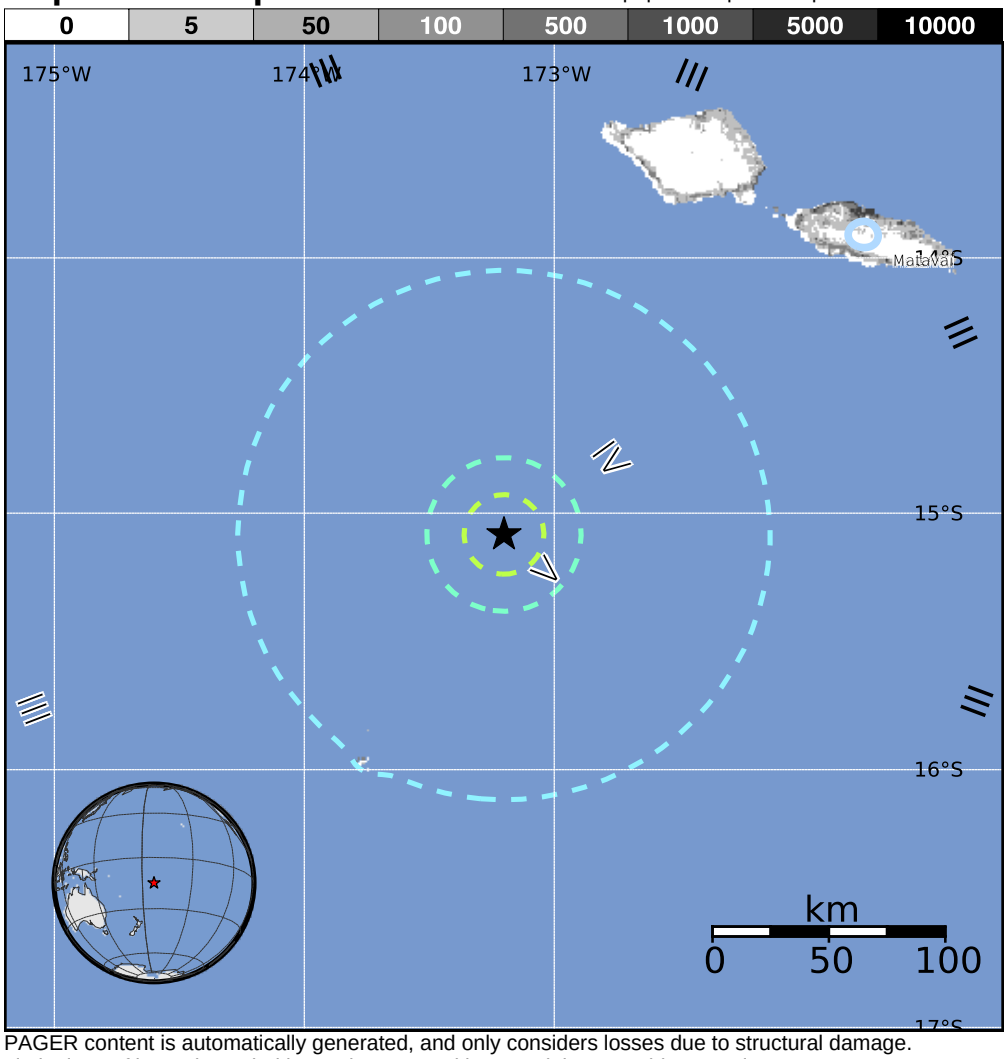
Estimated Population Exposed to Earthquake Shaking

ESTIMATED POPULATION EXPOSURE (k = x1000)		- -*	202k*	0	0	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
2006-09-28	212	6.9	IV(220k)	0
1977-06-13	395	5.7	VII(4k)	0
1999-01-05	388	5.9	VII(15k)	0

Selected City Exposure

from GeoNames.org

MMI	City	Population
III	Leulumoega	1k
III	Gataivai	1k
III	Nofoali`i	2k
III	Malie	2k
III	Afenga	2k
III	Satapuala	1k
III	Fasito`outa	2k
III	Faleula	3k
III	Apia	40k
III	Vaiusu	2k
III	Siusega	2k

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/us100062ea

Event ID: us100062ea