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Earthquake Shaking Green Alert

GSN ANSS USAID FROM THE AMERICAN PEOPLE

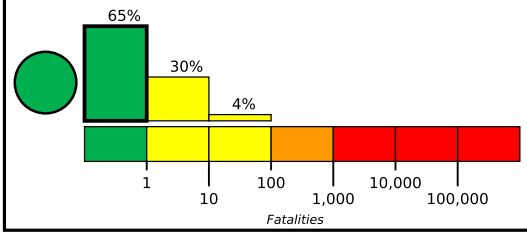
# M 5.9, 121 km SSE of Hihifo, Tonga

Origin Time: 2021-12-25 12:39:09 UTC (Sat 00:39:09 local)
Location: 17.0191° S 173.5123° W Depth: 8.6 km

**PAGER Version 3**

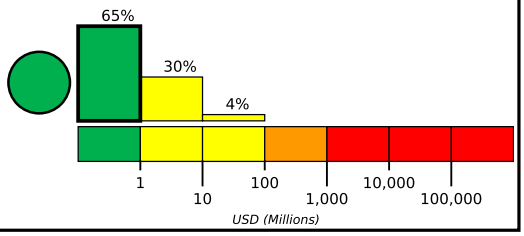
Created: 2 hours, 3 minutes after earthquake

## Estimated Fatalities




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

## Estimated Economic Losses



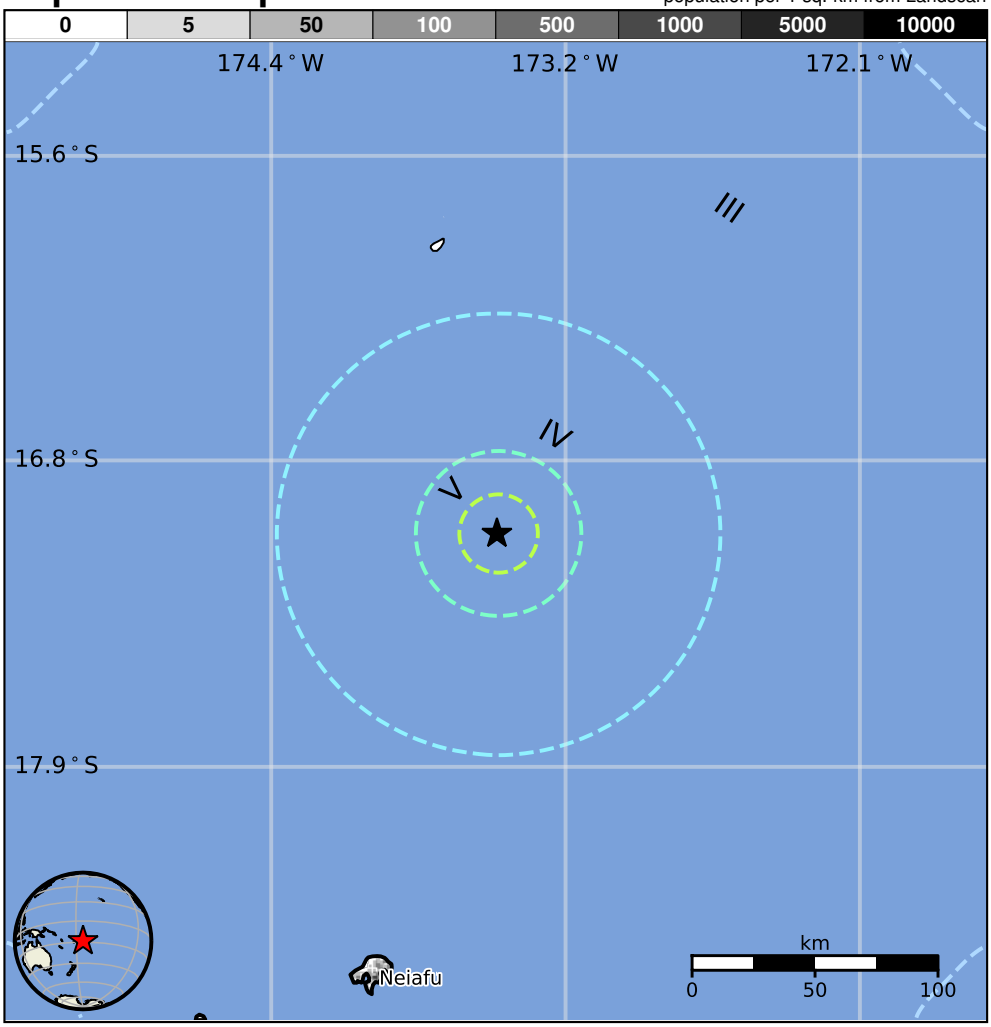

## Estimated Population Exposed to Earthquake Shaking

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| ESTIMATED POPULATION EXPOSURE (k=x1000) | | –* | 15k | 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 | Mod./Heavy | Heavy | V. Heavy |
| | Vulnerable Structures | None | None | None | Light | Moderate | Mod./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 highly vulnerable to earthquake shaking, though some resistant structures exist. The predominant vulnerable building types are unknown/miscellaneous types and wood construction.

## Historical Earthquakes

| Date (UTC) | Dist. (km) | Mag. | Max MMI(#) | Shaking Deaths |
|---|---|---|---|---|
| 2006-09-28 | 169 | 6.9 | IV(197k) | 0 |
| 1999-01-05 | 170 | 5.9 | VII(15k) | – |
| 2006-05-03 | 353 | 8.0 | VIII(7k) | 0 |

## Selected City Exposure

from GeoNames.org

| MMI | City | Population |
|---|---|---|
| III | Hihifo | 1k |
| **III** | **Neiafu** | **4k** |

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.

**https://earthquake.usgs.gov/earthquakes/eventpage/us6000gf7u#pager**

**Event ID: us6000gf7u**