Earthquake Shaking Green Alert

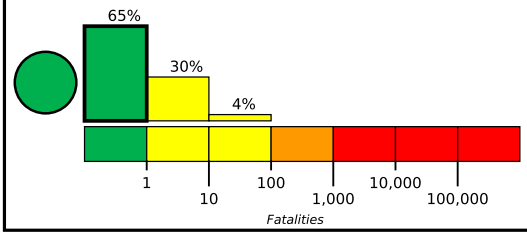
# M 5.4, 56 km E of Madang, Papua New Guinea

Origin Time: 2022-01-15 00:51:13 UTC (Sat 10:51:13 local)
Location: 5.1660° S 146.2935° E Depth: 10.0 km

**PAGER Version 5**

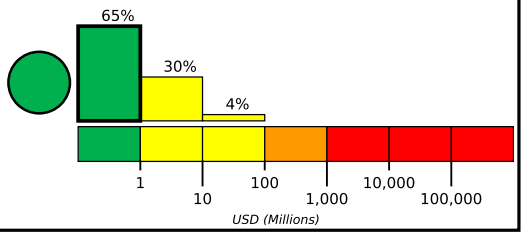
Created: 3 weeks, 0 days after earthquake

## Estimated Fatalities




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

## Estimated Economic Losses



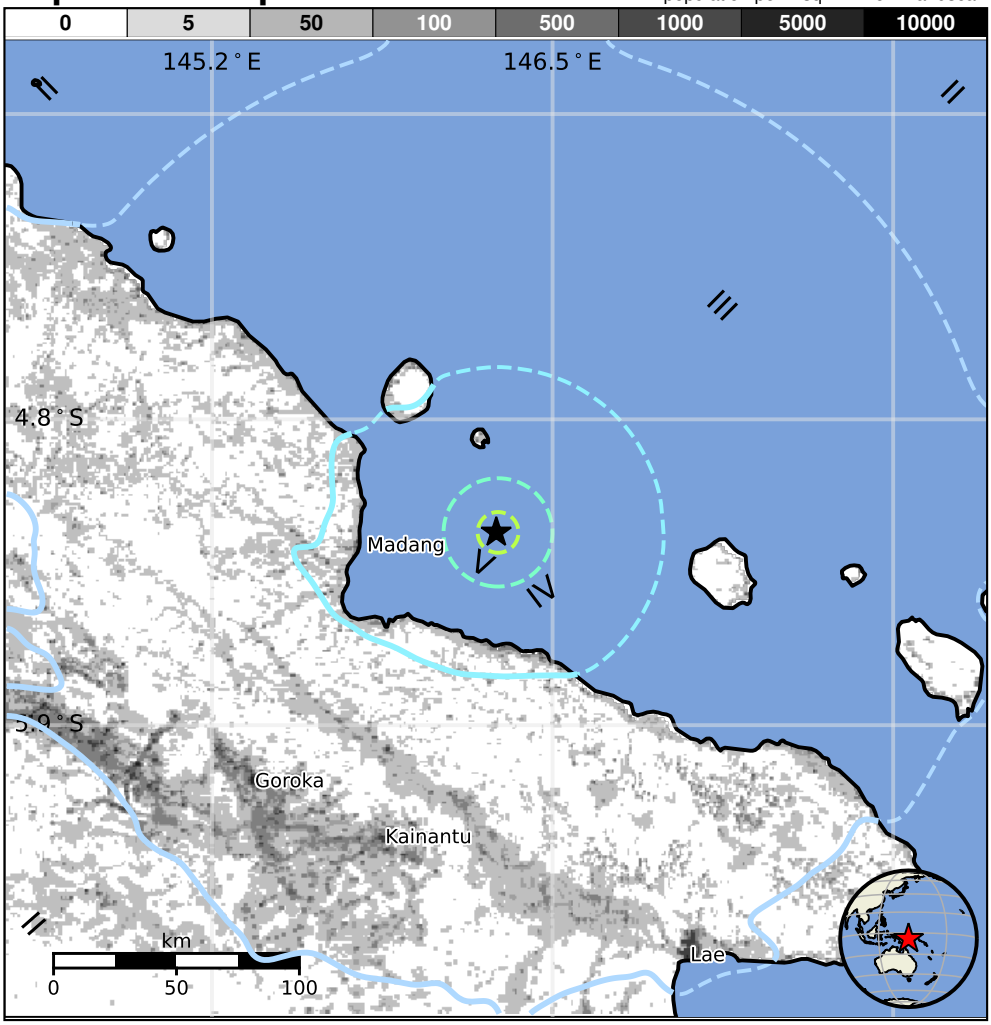

## Estimated Population Exposed to Earthquake Shaking

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| ESTIMATED POPULATION EXPOSURE (k=x1000) | | –* | 2,079k | 204k | 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 a mix of vulnerable and earthquake resistant construction. The predominant vulnerable building types are informal (metal, timber, GI etc.) and unreinforced brick masonry construction.

## Historical Earthquakes

| Date (UTC) | Dist. (km) | Mag. | Max MMI(#) | Shaking Deaths |
|---|---|---|---|---|
| 2005-06-04 | 143 | 6.1 | VII(27k) | 1 |
| 1993-08-20 | 398 | 6.1 | VIII(13k) | 0 |
| 1993-10-16 | 78 | 6.3 | VII(75k) | 3 |

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

## Selected City Exposure

from GeoNames.org

| MMI | City | Population |
|---|---|---|
| **IV** | **Madang** | **27k** |
| **III** | **Kainantu** | **9k** |
| **III** | **Goroka** | **19k** |
| **III** | **Lae** | **76k** |
| III | Kundiawa | 9k |
| III | Minj | <1k |
| II | Finschhafen | 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.

**https://earthquake.usgs.gov/earthquakes/eventpage/us7000gc5i#pager**

**Event ID: us7000gc5i**