

SHAKING THE ARCHIPELAGO

25 years of Seismic Activities in the Philippines

The Philippines is **one of the most disaster-prone countries in the world**. Situated along the Pacific Ring of Fire, it experiences frequent seismic activity due to active tectonic movements, particularly along the Philippine Trench and other fault systems. **According to the 2024 World Risk Report by UNICEF, the Philippines ranks first** among countries with the highest disaster risk.

This map visualizes **25 years of earthquake occurrences (2000–2024)**, highlighting seismic hotspots and the country's vulnerability to tectonic hazards. The total recorded earthquakes, as well as earthquake-related deaths, injuries, affected populations, and economic damages (in USD) sourced from USGS EHP and EM-DAT.

Active Fault

- Approximate Offshore Projection
- Active Fault (Approximate)
- Active Fault (Certain)

Potential Active Fault

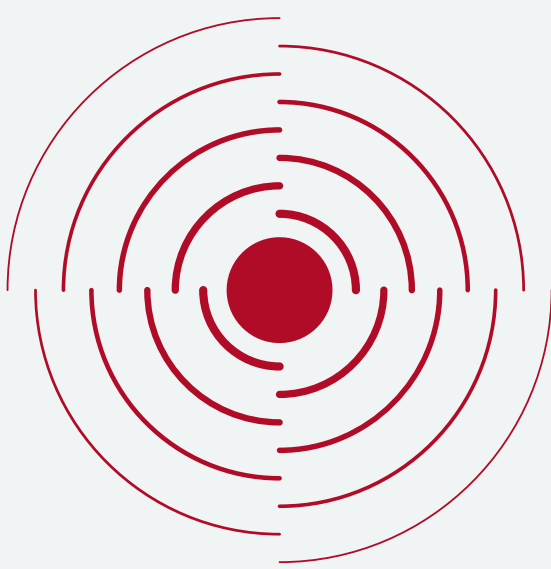
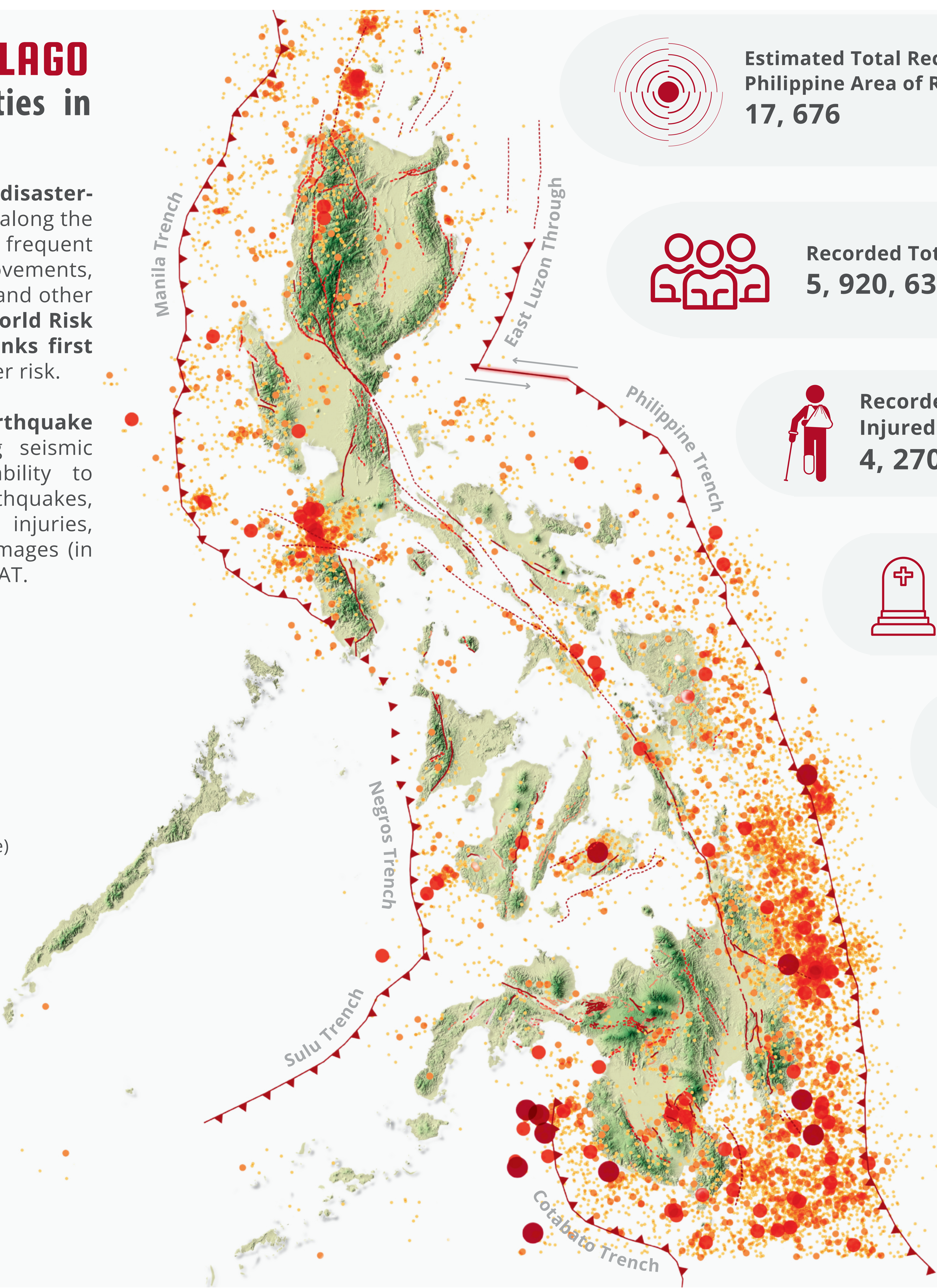
- Potential Active Fault (Certain)
- Potential Active Fault (Approximate)

Convergence Zone

- Trench
- Collision Zone
- Transform Fault

Earthquake Magnitude

- < 4.0
- 4.0 - 5.0
- 5.1 - 6.0
- 6.1 - 7.0
- > 7.0



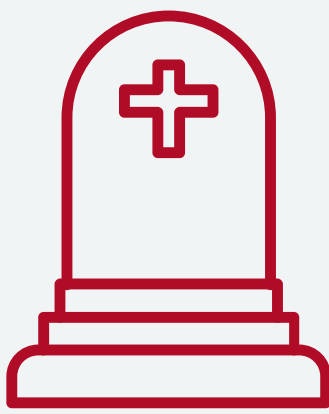
Estimated Total Recorded Earthquakes within Philippine Area of Responsibility (PAR)
17, 676



Recorded Total No. of People Affected
5, 920, 638



Recorded Total No. of People Injured
4, 270



Recorded Total No. of Deaths
491



Estimated Total Damages
387, 317

Data Sources:

- OpenTopography. (2024). Digital Elevation Model (DEM) via OpenTopography Plugin in QGIS. Retrieved from <https://opentopography.org>
- Centre for Research on the Epidemiology of Disasters (CRED). (2024). EM-DAT: The International Disaster Database [Data file]. Université Catholique de Louvain. Retrieved from <https://www.emdat.be>
- U.S. Geological Survey. (2000–2024). Earthquake Hazards Program data and reports. Earthquake Hazards Program.
- GADM. (2022). GADM database of global administrative areas, version 4.1 [Shapefile]. Retrieved from <https://gadm.org>
- Dome, A. (2025). Philippine Fault Lines and Trenches [Manual Digitized Geospatial dataset]. Geoportal Philippines. Retrieved from <https://geoportal.gov.ph>
- Bernardo, T. I., Bajarias, T. G. (n.d.). Philippine Fault Lines and Trenches [Manual Digitized Geospatial dataset].