

Global Simplified Earthquake Hazard Map

OVERVIEW

In 2018, GEM released the Global Seismic Hazard Map (GSHM), and now maintains a series of global digital hazard map layers derived from the global hazard model that are available for purchase for commercial use (and by request for public good or non-commercial use). The GEM GSHM was the first of its kind since the GSHAP was presented in 1999. The GSHM was updated in 2019 and is now available as a digital data set.

The GEM GSHM was created by collating maps computed using national and regional probabilistic seismic hazard models developed by various institutions and projects, and by GEM Foundation scientists. The OpenQuake Engine, an open-source seismic hazard and risk calculation software developed principally by the GEM Foundation, was used to calculate the hazard values. A smoothing methodology was applied to homogenise hazard values along the model borders. The Global Simplified Earthquake Hazard Map is a simplified version of the GSHM intended for applications where quantitative analysis is not required.

TECHNICAL DESCRIPTION

The Global Simplified Earthquake Model (GEM) Global Seismic Hazard Map (version 2019.1) comprises a single global, vector point data layer containing georeferenced hazard indicator values. The map was computed on a global grid of sites, spaced approximately 8 km, using GEM's global hazard compilation of 31 national and regional hazard models.

Map layer details

Main layer: Global seismic hazard map with simplified hazard indicator values (larger values indicate higher hazard) computed on a uniform grid with reference rock conditions ($V_{s30} = 760\text{-}800$ m/s).

Use case: Risk awareness and communication based on indication of earthquake hazard at individual locations. Not suitable for any kind of quantitative analysis of hazard or risk; please contact **GEM Products** for information regarding products suitable for insurance, engineering and other applications requiring quantitative analysis.

For information on map layers for other spectral periods or return periods, please contact **GEM Products**.

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Contact us

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