



Request for Proposals: Global Earthquake Model (GEM)

GEM seeks to build an authoritative standard for calculating and communicating earthquake hazard and risk. GEM will be the first global, open source model for seismic risk assessment at a national and regional scale, and aims at achieving broad scientific participation and independence. GEM aims to achieve its goals by developing state-of-the-art open source software and global databases necessary for reliably mapping earthquake risk. To this end, GEM has posted these requests for proposals, due **15 July 2009**, with these target budgets and durations:

- Global Active Fault and Seismic Source Database, 450,000€, 24 months. Seismic hazard assessments should incorporate an inventory of active faults. GEM seeks to build a uniform global active fault and seismic source database with a common set of strategies, standards and formats. It should include both observational (active faults and folds) and interpretative (inferred seismic sources) elements.
- Global Instrumental Seismic Catalog, 450,000€, 24 months. As basis for its global reference hazard model, GEM seeks the stable quantification of seismicity for as long a time period as possible and in all regions, as the primary tool to be used to characterize the spatial distribution of seismicity, the magnitude-frequency relation and the maximum magnitude.
- Global Historical Earthquake Catalog and Database, 400,000€, 24 months. The record of past earthquakes is among the most important means to evaluate earthquake hazard, and the distribution of damage associated with past earthquakes is a key to assessment of seismic risk. Extending the record of large damaging earthquakes by several hundred of years longer than the instrumental record is thus extremely valuable.
- Global Ground Motion Prediction Equations, 400,000€, 24 months. With the goal of compiling a global reference hazard assessment model, GEM seeks to develop a harmonized suite of ground motion prediction equations (GMPE), built on the most recent advances in the field.
- Global Geodetic Strain Rate Model, 250,000€, 18 months. The geodetically measured secular strain rate provides an independent benchmark for crustal deformation and thus the recurrence of large earthquakes that can be compared with the seismic catalog and active faults.

We anticipate that proposals will be prepared and submitted by international consortia. Proposals will be subject to peer review, and will be selected by the GEM Scientific Board, with awards expected in mid-September 2009. To learn more about GEM and to download the requests and guidelines for the preparation of the proposals, visit www.globalquakemodel.org.