

The global earthquake model: calculating and communicating seismic risk

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ABSTRACT

Over half a million people died in the last decade due to earthquakes and tsunamis, most of these in the developing world, where risk is increasing due to rapid population growth and urbanization. Yet in many earthquake-prone regions no risk models exist, and even where models do exist, they are inaccessible. Better risk awareness can reduce the toll that earthquakes take by leading to improved planning, construction, emergency response, and greater access to insurance. Responding to a call from the Global Science Forum of the Organisation for Economic Cooperation and Development (OECD), the Global Earthquake Model will provide an authoritative standard for calculating and communicating earthquake hazard and risk by developing much-needed global datasets, building open-source tools, and engaging scientists and engineers and users around the world. GEM will provide a basis for comparing earthquake risks across regions and across borders. GEM tools will be usable at the community, national and international level for uniform earthquake risk evaluation and as a defensible basis for risk mitigation plans. GEM results will be disseminated widely and openly. GEM is inclusive, politically, scientifically, and commercially independent, and will build technical capacity and promote awareness raising activities. GEM is structured as a public-private partnership that serves a humanitarian imperative while offering a key to sustainable development. GEM will take 5 years to build its first working model that will empower people to reduce their own risk, while at the same time providing institutions and organisations with the information to adapt or develop policies, products and campaigns that serve these people with respect to earthquake risk reduction.