

State of California  
Seismic Safety Commission

## Memo

To: Richard J. McCarthy, Executive Director  
Commissioners

From: Seismic Safety Commission  
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Date: May 2, 2012

Subject: Introduction and Overview of the Global Earthquake Model (G.E.M.)

The Global Earthquake Model (G.E.M.) is to be the first seismic risk model for the world, and in doing so is setting new international data format standards, new open source software, and new global data sets, such as inventories of the world's active faults and buildings. G.E.M. will have a number of components that include information on seismic hazards, vulnerability of buildings and infrastructure.

The GEM Foundation is a public-private partnership that drives a collaborative effort aimed at developing and deploying tools and resources for earthquake risk assessment worldwide.

Dr. Ross Stein will be talking to the Commission about G.E.M. Dr. Stein is a USGS geophysicist, chairs the G.E.M. Scientific Board and is a GEM co-founder

### **Recommendation:**

This is an informational item. Commissioners are encouraged to ask questions.

### **Notes from Dr. Ross Stein regarding G.E.M.:**

**WHY GEM?** Most people threatened by earthquakes are unaware of their vulnerability. Earthquake risk assessment tools and data are out of reach due to cost or complexity in many areas of the world. GEM was created to bridge this critical gap, and hereby support risk awareness and actions that increase resilience.

**WHAT IS GEM?** GEM is an international effort of an actively engaged expert community to advance seismic risk assessment through discussion, technology transfer and collaboration. We are jointly developing an integrated platform of advanced software and data tools and resources for independent risk analysis.

**HOW DO WE WORK?** Leading scientists and professionals are developing datasets, best practices and tools related to seismic hazard, exposure, physical and social/economic vulnerability and seismic risk within global projects, regional programs and working groups. Together with open-source software applications their contributions are integrated into GEM's risk assessment platform.

**WHO IS BEHIND GEM?** Governmental agencies, private companies, international non-governmental organizations, and scientific societies have joined forces and together fund and govern the non-profit and independent GEM Foundation. The executive secretariat resides in Pavia, Italy. The GEM Governing Board is composed of its Sponsors, and the GEM Scientific Board provides technical guidance.

The GEM website is: <http://www.globalquakemodel.org/>