

The Global Earthquake Model

Science & Technology Platforms, 19 May 2013
4th Global Platform for Disaster Risk Reduction
Geneva, Switzerland

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working together to assess risk



GLOBAL EARTHQUAKE MODEL

Goal & Vision

Goal: To provide tools and resources for transparent analysis of earthquake risk anywhere in the world...

...by bringing individuals and organisations together in a global collaborative effort to leverage science to benefit society.

Vision: To change the landscape of earthquake risk assessment, and support risk understanding and risk reduction

Who is GEM?



A great diversity of people and organisations from around the globe working together for improved earthquake risk assessment

A public-private partnership

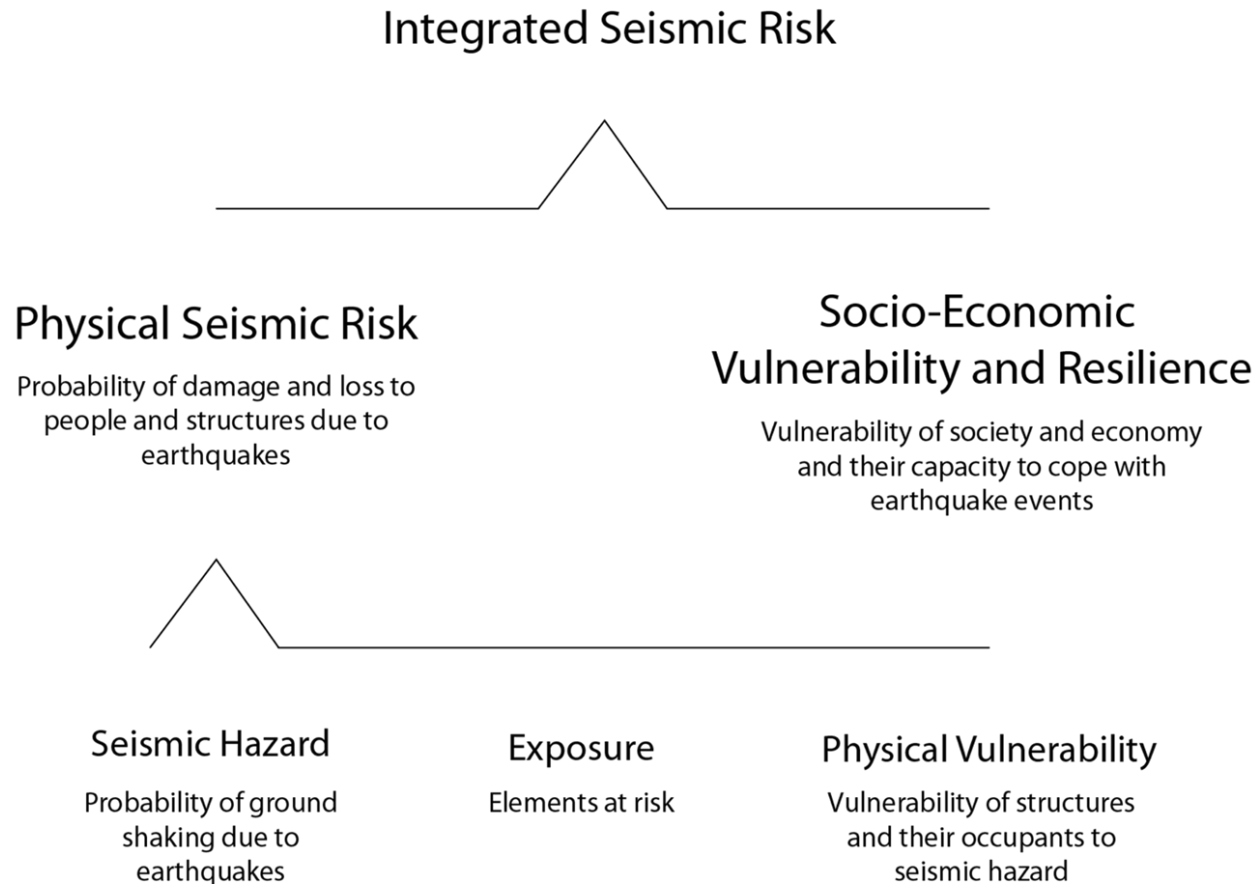
The non-profit and independent GEM Foundation drives the effort and started in 2009.

The foundation is funded and governed through a unique public-private partnership



Integrated risk assessment

The development and implementation of methods, metrics, and tools for the integrated evaluation of earthquake risk worldwide



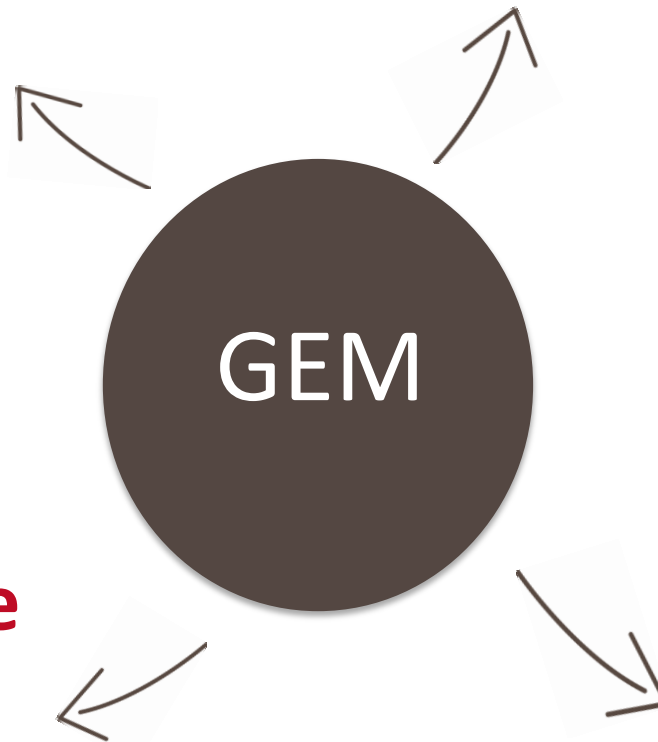
Our main activities

**(1) global data,
methods,
guidelines &
tools**

**(2) regional
partnerships and
collaboration**

**(4) open-source
platform and
software tools**

**(3) knowledge
sharing and
technology
transfer**



Global products, guidelines and output

▶ Databases

- Instrumental catalogue
- Historical Catalogue
- Geodetic strain rate model
- Active faults data
- Tectonic regionalisation model
- Building and population models
- Earthquake consequences data
- Physical vulnerability functions
- Socio-economic vulnerability and resilience indicators

▶ Regional and global models

- Seismic source models
- Ground motion models
- Physical exposure models
- Physical fragility and vulnerability models

Regional Collaboration

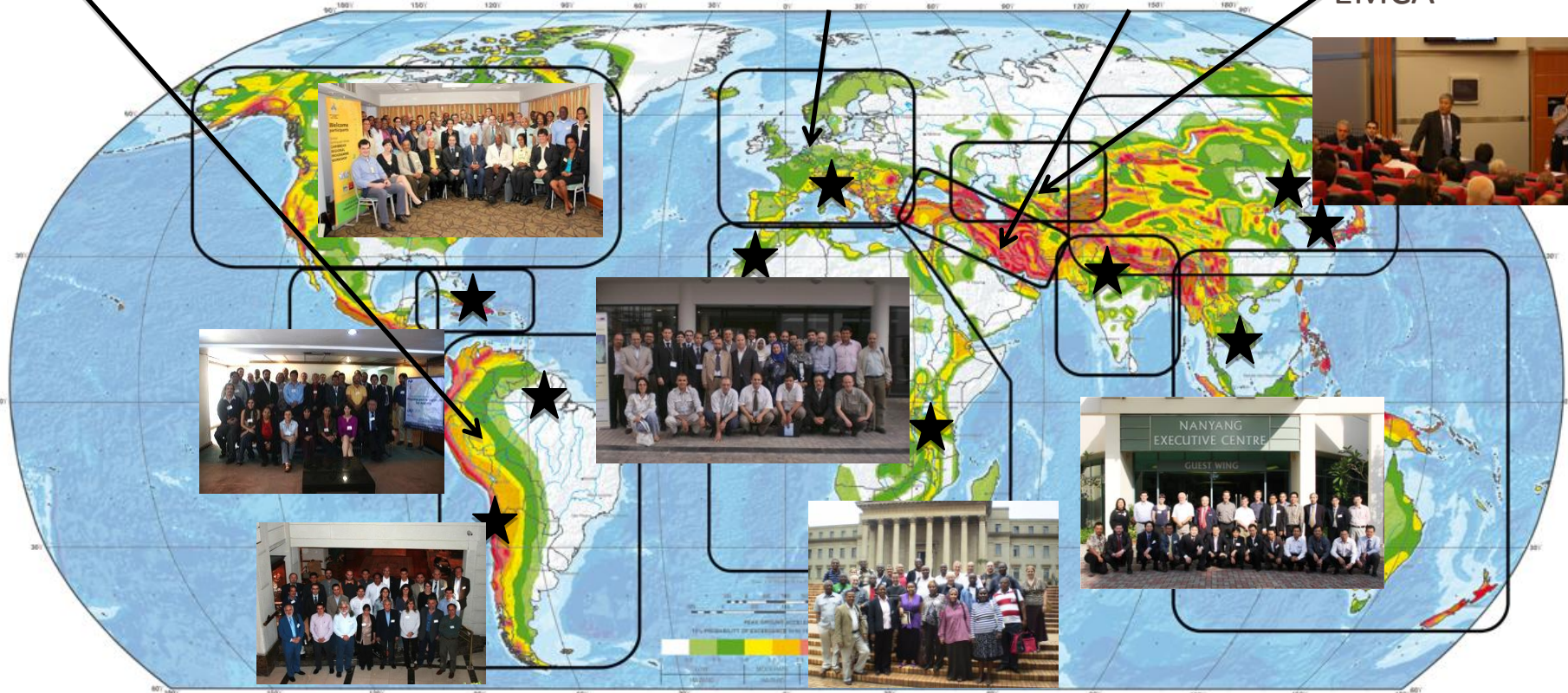
SARA



SHARE, NERA, Syner-G

EMME

EMCA



★ regional workshops

The OpenQuake Platform & Tools

From global to local: the platform & tools become more valuable over time for local decision-making

Organisations and individuals
(data, results)



Local - national, regional -
programmes & collaborations
(data, methods)



Global Framework
(tools, data, methods)



Taking stock and future directions

- ▶ Several global databases already publicly available
- ▶ Open-source modelling engine v1 ready and used in 80 countries
- ▶ Science outputs and reports shared online for open commentary
- ▶ Regional collaborations established and developing

2014: launch of the OpenQuake Platform, related tools, resources & documents

- ▶ New global science
- ▶ Intensified collaboration through strategic partnerships worldwide
- ▶ Working together on risk assessment through the platform

GEM and DRR

- ▶ Building an evidence base for DRR
- ▶ Supporting risk assessment – hazard, exposure, vulnerability
- ▶ Growing expertise, sharing knowledge
- ▶ Building networks, including public-private partnerships
- ▶ Providing and supporting open data, tools, and guidelines
- ▶ Developing basis for economic investments in DRR

Learn more...



www.globalquakemodel.org