



PRESS RELEASE
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Africa Earthquake Model **A major step in understanding earthquake risk in Africa**

15th May 2019, Geneva. The [GEM Foundation](#) is set to release the Africa Earthquake Hazard and Risk model this week in recognition of UNISDR's Global Platform 2019 Conference in Geneva. The technical data and information for this model can now be downloaded from the [Africa Model webpage](#). The Africa Earthquake model underpins the African portion of GEM's [global maps released in December 2018](#).

The Africa Earthquake Model paints a complete picture of earthquake risk to the continent in terms of damage to buildings and direct economic loss. To do this, GEM combined four regional hazard models to create a complete hazard model for the continent. In turn, the risk model combines the hazard with building exposure and building vulnerability into a probabilistic risk model. The results represent the most comprehensive resource for earthquake risk assessment for the African continent to date.

"The Africa Model is an important scientific contribution to ongoing efforts to reduce earthquake risk in Africa and globally."- Djillali Benouar, Chair of Africa Science & Technology Advisory Group on DRR for the African Union.

The Africa Earthquake Model was developed as a mosaic of regional models for Sub-Saharan Africa, North Africa, West Africa and South Africa, involving and building capacity in local experts where possible. The Sub-Saharan model was developed as part of the Sub-Sahara Hazard and Risk Assessment (SSAHARA) project funded by USAID, covering Eastern Sub-Saharan Africa. The South Africa hazard model, developed by the Council for Geoscience, South Africa and the Indian Institute of Technology, will be released at a later date.

"The release of the Africa Model can have a big impact on disaster risk reduction activities in the region because the tools and data used for risk assessment are freely and openly available to the public. USAID is proud of its contribution to GEM's latest and most comprehensive earthquake risk assessment for Africa." Gari Mayberry, USAID representative to the GEM Governing Board.

Overview of results

The continent-wide assessment, which covers 54 countries and 2 territories, reveals that the seismic hazard of Africa is low to moderate, with concentrations of hazard in North Africa due to convergence between the Nubian and Eurasian plates, and East Africa due to the active East African Rift System.

By contrast, the vulnerability of Africa's built environment is relatively high, mainly because a large portion of buildings are constructed of unreinforced masonry and adobe bricks, which are highly vulnerable to damage from ground shaking.



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The [results](#) can be used by risk managers, urban planners, emergency responders and humanitarian agencies for input to a wide range of disaster risk reduction activities including monitoring of the [Sendai Framework](#) indicators.

“Presently the model directly supports Sendai Framework [Target C](#) by providing estimates of direct economic losses at the national and sub-national levels. Through further collaborative efforts, we plan to continue to improve the model to address [Targets A, B and D](#) by providing estimates of deaths, missing and affected persons, and impact to critical infrastructure,” said John Schneider, GEM Secretary General. He added that GEM designed its exposure database with other perils in mind so it could also be used in assessing damages such as the one caused by Cyclone Idai that recently devastated the southeastern part of Africa.

The Africa Earthquake Model was developed in collaboration with various African public and private institutions, national governments, and individual experts using GEM’s [OpenQuake engine](#). For the complete list of sponsors and contributors, visit: <https://www.globalquakemodel.org/gem>.

GEM will release hazard and risk models for the rest of the world over the coming months.

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Editor’s Notes:

For a complete list of available resources, visit the [Africa Earthquake Model webpage](#).

Interview opportunities

- John Schneider, GEM Secretary General
- Marco Pagani, Hazard Team Leader
- Vitor Silva, Risk Team Leader
- Paul Henshaw, IT Team Leader

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