

The IGCP-659 project Seismic Hazard and Risk in Africa: A hidden hazard in an extreme vulnerable context

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Assessment of seismic hazards and disaster risks in Africa is one of the important scientific, engineering and political issues. Although the seismic hazard in Africa is moderate in terms of significant magnitude earthquakes, the vulnerability of the African countries even to a moderate event can be high and hence integrated risks could be high. In 2011 a project on development of the Seismic hazard and Risk in Africa (Meghraoui et al., Episodes, 2016), was initiated with the support of the UNESCO-IUGS International Geoscience Program (IGCP), was successfully completed in 2016, and a new project SEISMOSHAF is ongoing until 2023. The seismic hazard assessment and risk mitigation is conducted to comply with the priorities of the Sendai Framework for Disaster Risk Reduction 2015-2030 (Sendai Framework, 2015).

Previous works were devoted to the building of a databank (satellite images, tectonic and geophysical background, major active faults, active volcanoes, historical and instrumental seismicity, earthquake focal mechanisms, geomorphology and topographic data, geodetic data, tsunamis and their coastal impacts, lithospheric and crustal structures, tomographic data) with harmonization and homogenization of parameters of catalogues, represented by means of a GIS platform under an ArcGIS sub-project for all African countries.

The overall goal of the project is to develop a scientific basis for seismic hazard and risk mapping of African countries and the entire continent using modern assessment methods and vast observational data sets, and to build capacity in the African countries in seismic hazard and risk assessments. A project on the establishment of a seismological centre in Africa is in preparation.

Key words: Seismotectonics, seismic hazard, seismic risk, Africa, IGCP-659

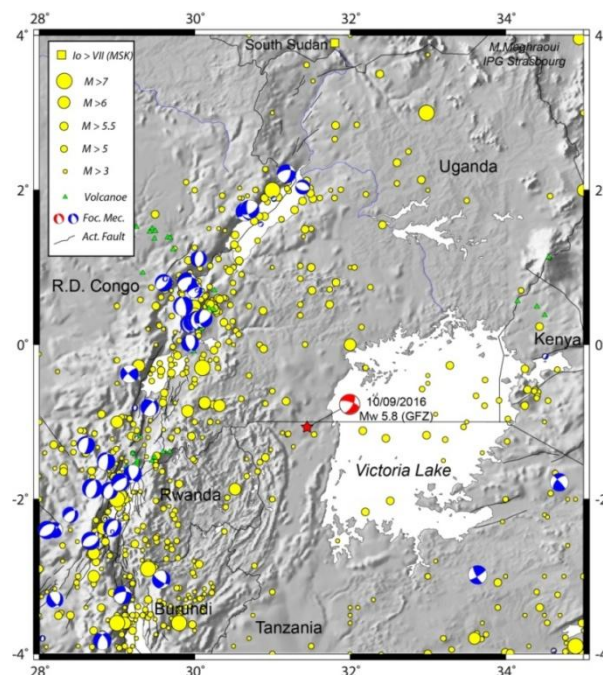


Figure 1: Regional seismotectonic map of eastern Africa and the site of the 10th September 2016 Kagera earthquake (Mw 6.5). The seismicity and tectonic database is from Meghraoui et al. (Episodes, 2016).