



Extending the ISC-GEM Global Earthquake Instrumental Catalogue

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After a 27-month project funded by the GEM Foundation (www.globalquakemodel.org), in January 2013 we released the ISC-GEM Global Instrumental Earthquake Catalogue (1900-2009) (www.isc.ac.uk/iscgem/index.php) as a special product to use for seismic hazard studies. The new catalogue was necessary as improved seismic hazard studies necessitate that earthquake catalogues are homogeneous (to the largest extent possible) over time in their fundamental parameters, such as location and magnitude.

Due to time and resource limitation, the ISC-GEM catalogue (1900-2009) included earthquakes selected according to the following time-variable cut-off magnitudes: $M_s=7.5$ for earthquakes occurring before 1918; $M_s=6.25$ between 1918 and 1963; and $M_s=5.5$ from 1964 onwards. Because of the importance of having a reliable seismic input for seismic hazard studies, funding from GEM and two commercial companies in the US and UK allowed us to start working on the extension of the ISC-GEM catalogue both for earthquakes that occurred beyond 2009 and for earthquakes listed in the International Seismological Summary (ISS) which fell below the cut-off magnitude of 6.25. This extension is part of a four-year program that aims at including in the ISC-GEM catalogue large global earthquakes that occurred before the beginning of the ISC Bulletin in 1964. In this contribution we present the updated ISC GEM catalogue, which will include over 1000 more earthquakes that occurred in 2010-2011 and several hundreds more between 1950 and 1959. The catalogue extension between 1935 and 1949 is currently underway. The extension of the ISC-GEM catalogue will also be helpful for regional cross border seismic hazard studies as the ISC-GEM catalogue should be used as basis for cross-checking the consistency in location and magnitude of those earthquakes listed both in the ISC GEM global catalogue and regional catalogues.