Session 06

Advances in probabilistic seismic hazard and risk assessment: insights from local, national and regional models

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Europe has a long history of destructive earthquakes, and efforts by society to manage these natural disasters include assessment, mitigation and action plans, in order to reduce casualties and economic losses. It has long been recognized that earthquake effects extend across country borders and, in the last few decades, that seismic hazard and risk must be addressed not only locally, but also nationally and, equally importantly, at a regional level.

The European Facilities for Earthquake Hazard and Risk (EFEHR) has recently released the 2020 European seismic hazard and risk models. Going forward, there is a need to better integrate these models with the local and national hazard and risk modelling efforts being carried out across Europe. Hence, with this joint session, we invite contributions related to seismic hazard and risk assessment, at local, national and regional scale, with a particular focus on seismogenic source models, earthquake rate forecasts, active fault modelling, empirical and physical ground motion modelling, site effects evaluation, exposure modelling, numerical and empirical vulnerability model development, assessment of seismic hazard across political boundaries, comparison and sensitivity analyses and engineering applications. Furthermore, contributions illustrating the development of innovative testing procedures, comprehensive treatment of aleatory and epistemic uncertainties or new tendencies in geoscience (i.e. machine learning, artificial intelligence) with application and use in earthquake hazard and risk modeling are also welcomed.