



Regional seismic hazard map of Austria – first results

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After 25 years, a new regional seismic hazard map of Austria is being made. Improvements are achieved by extended and updated datasets, the use of verified calculation methods and locally selected and newly developed Ground Motion Prediction Equations (GMPEs).

The calculations are carried out with current methods and algorithms which were developed during the European Project „SHARE – Seismic Hazard Harmonization in Europe“ and the PEGASOS project. Computations are carried out with the OpenQuake software.

Local GMPEs (PGA, PGV, PSA and Intensity) as well as the selection of published GMPEs from the validated OpenQuake HazardLib are based on a newly created ground motion database.

The Austrian earthquake catalog was expanded by the moment magnitudes and was compared with the catalogs of neighboring countries. Newly determined hypocenters and an extended collection of earthquake mechanisms result in a better description of local seismicity.

The Probabilistic Seismic Hazard Assessment (PSHA) combines a model of seismic zones (Area Sources) composed of zones and superzones, a model with fracture zones, and a zone-free approach. The combination of models, GMPEs and uncertainties will be done via a Logic Tree approach.

Preliminary results will be presented and current decisions will be discussed as well. The project fits well in time with the developments and publications of national earthquake hazard maps from neighboring countries (Switzerland 2016, Germany 2018, Italy 2019, Slovenia), which are planned to be used to verify our results.