

Intensity prediction equation and event epicenter determination for Austria

María del Puy Papí Isaba, Yan Jia, and Stefan Weginger
Zentralanstalt für Meteorologie und Geodynamik, Wien, Austria (mppisaba@gmail.com)

Equations that predict intensity as a function of magnitude and distance, among other parameters, are useful tool for hazard and risk assessment.

This study aims to determine an empirical model of the ground shaking intensities (ShakeMap), as well as the epicenter of a series of earthquakes occurred in Austria between 1411 and 2014. Furthermore, the obtained empirical model will lead to further interpretation of both, contemporary and historical earthquakes.

A total of 285 events, which epicenters were located in Austria, and a sum of 22.739 reported macroseismic data from Austria and adjoining countries, were used. The events are characterized by having a local magnitude greater than 3. An individual number was assigned to each reported intensity value. On the other hand, a specific number characterizes the event itself. Moreover, information about the local magnitude of the earthquake, the distance from the reported location to the epicenter, the epicentral intensity, the location of the reported intensity value, and the coordinates of the earthquake (latitude, longitude and depth), were evaluated for the computation of the model. Further development of the model will be presented in the poster.