The seismicity models for the 2019 National Italian Seismic Hazard Model

Francesco Visini (1), Bruno Pace (2), Carlo Meletti (3), Warner Marzocchi (), and the MPS-T3 Working Group

(1) Istituto Nazionale di Geofisica e Vulcanologia, (2) DiSPUTer, Università degli Studi "G. d'Annunzio", Chieti-Pescara, (3) Università di Napoli Federico II

In 2015, the CPS (Centro Pericolosità Sismica, Seismic Hazard Centre) of the Istituto Nazionale di Geofisica e Vulcanologia started to promote and coordinate the activities of a project aimed at producing the new national probabilistic seismic hazard model for Italy. We present the results of the activities of a task of this project, task 3: "seismicity models", that is focused on the definition of a set of seismicity models and on the analysis of their uncertainties. More than 30 researchers subdivided in 12 working groups produced 11 seismicity models covering the entire Italian territory, 1 models built ad hoc for the volcanic Etna area, 1 model for the seismicity of the Calabrian Arc, and 1 model for sources external to the Italian territory. The national models are built using different types of sources, methods, and input data. In particular, 5 models are based on area source and, with different approaches, on expected seismicity rates by means of fit of observations of the historical earthquake catalogue; 2 models are based on a mixed fixed-radius and adaptive radius and on Woo methodology for smoothing seismicity; 2 models used faults and background seismicity and; 2 models are based on geodetic data and they are independent from the historical seismicity.