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# Earthquakes and seismic risk in Italy

**Dr. Carlo Meletti**

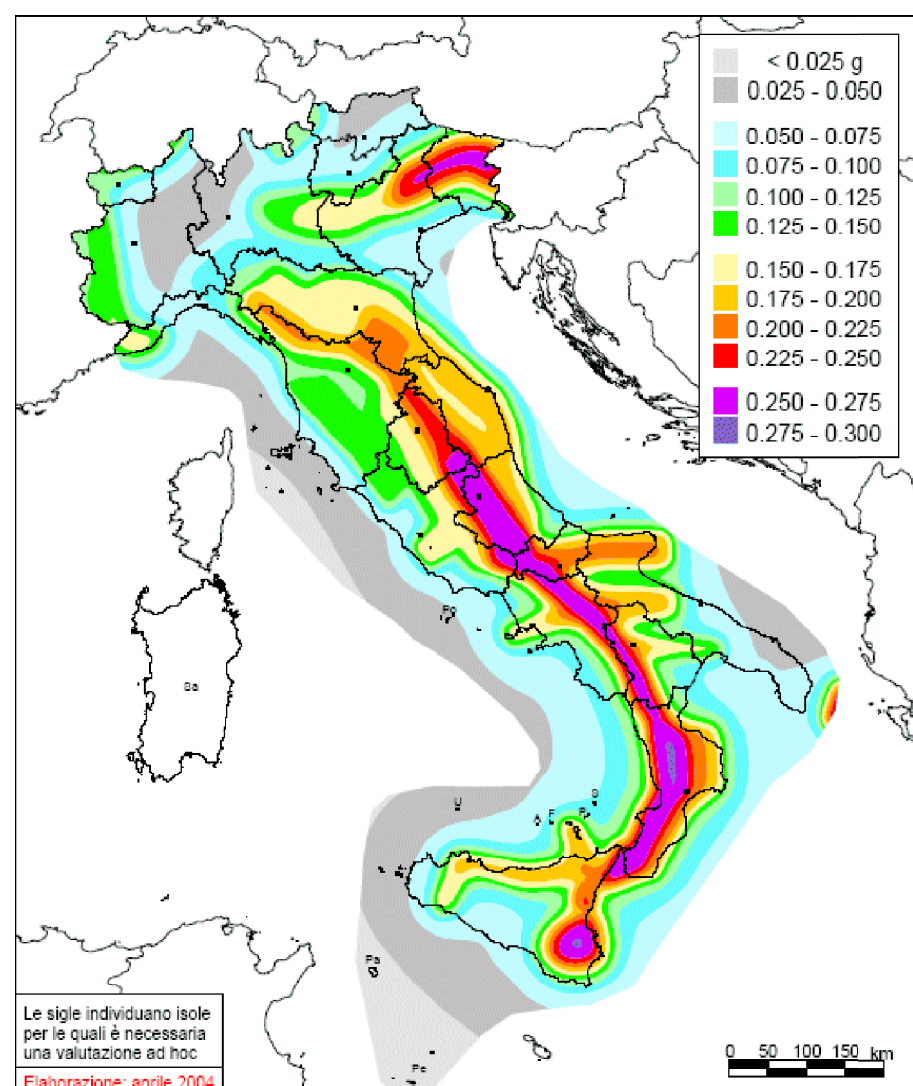
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Italy is a geologically young country, exposed to natural hazard due to the continuous deformation determined by the convergence between African and Euroasiatic plates. Earthquakes and volcanoes are well present elements in Italian history and culture. Despite that, seismic risk is high, and it is even higher compared to regions with a seismicity more considerable than Italy. This is why moderate earthquakes cause damages and casualties, with significant costs for the community.

At the moment, the goal of the earthquake prediction is out of reach. In order to reduce seismic risk (the convolution of hazard, exposition, vulnerability), one has to first reduce the vulnerability. It's also important to estimate the seismic hazard in a proper way, since in the most recent building code, seismic action is determined by reference seismic hazard.

The estimate of seismic hazard is a combination of geology and seismology, which look at a different timescale. Seismology looks at the last tens of years if instrumental or last hundreds of year if historical; in any case minor than the return period of largest earthquakes. Geology offers a look at the last hundreds of thousands of years and it is the only instrument to fully explain the active seismogenic processes.



## The Speaker

Carlo Meletti is a geologist that soon after the degree worked on seismotectonic of Central Mediterranean at Pisa University. From February 2003 he is senior technological scientist at National Institute of Geophysics and Volcanology (INGV). From 2013 to 2019 he was responsible of the Seismic Hazard Center at INGV. From 2019 he is director of the Pisa Section of INGV. He is one of the authors of the seismic hazard model on which is based the seismic input in the building code of Italy.

