



## **Pan-European Seismic Risk Assessment: A proof of concept using the Earthquake Loss Estimation Routine (ELER)**

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One of the key objectives of the new EU civil protection mechanism is an enhanced understanding of risks the EU is facing. Developing a European perspective may create significant opportunities of successfully combining resources for the common objective of preventing and mitigating shared risks. Risk assessments and mapping represent the first step in these preventive efforts. The EU is facing an increasing number of natural disasters. Among them earthquakes are the second deadliest after extreme temperatures. A better-shared understanding of where seismic risk lies in the EU is useful to identify which regions are most at risk and where more detailed seismic risk assessments are needed. In that scope, seismic risk assessment models at a pan-European level have a great potential in obtaining an overview of the expected economic and human losses using a homogeneous quantitative approach and harmonized datasets. This study strives to demonstrate the feasibility of performing a probabilistic seismic risk assessment at a pan-European level with an open access methodology and using open datasets available across the EU. It aims also at highlighting the challenges and needs in datasets and the information gaps for a consistent seismic risk assessment at the pan-European level. The study constitutes a “proof of concept” that can complement the information provided by Member States in their National Risk Assessments. Its main contribution lies in pooling open-access data from different sources in a homogeneous format, which could serve as baseline data for performing more in depth risk assessments in Europe.