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"Good Practice" Guidance for Managing Induced Seismicity in Deep Geothermal Energy Projects in Switzerland

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Fully open or partly open geothermal systems can induce potentially damaging seismicity. How this seismicity should be addressed depends on the geothermal system, its operational characteristics, the geological context, exposed buildings, existing infrastructure and populations, and social concern. This contribution proposes an initial screening tool, called Geothermal Risk of Induced seismicity Diagnosis (GRID), for estimating to what extent induced seismicity is of concern for a specific project. A framework for tailor-made risk governance measures is recommended, including hazard and risk assessment, social site characterization, seismic monitoring, structural retrofitting and traffic light systems. The framework is currently customized to Switzerland and can be adapted to other regions or geo-energy applications. Building on this approach, originally proposed by Trutnevyte & Wiemer (2017), and in an effort to contribute to a sustainable and safe use of deep geothermal energy, the Swiss Seismological Service at ETH Zurich (SED) has summarized the recommendations in a "good practice" guide (Wiemer et al., 20017).
Wiemer, S., Kraft, T., Trutnevyte, E., Roth P. (2017). "Good Practice" Guide for Managing Induced Seismicity in Deep Geothermal Energy Projects in Switzerland. Report of the Swiss Seismological Service @ ETH Zurich for SwissEnergy, http://dx.doi.org/10.12686/a5.