

SESSION 18- The Next Steps in Understanding and Managing Induced Seismicity

Conveners

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Session Description

Numerous cases of seismicity have been induced by various geo-energy operations in the past few decades. Some earthquakes have been large enough to cause nuisance, damage, or even human loss. These impacts can often negatively affect public perception, and may result in premature project termination or resource development moratoriums. Thus, understanding the physical processes that facilitate fault slip are critical to developing effective risk management strategies.

In this session, we invite a broad spectrum of contributions that spans any topic aimed at understanding, identifying, characterizing, monitoring, modeling, forecasting, or managing induced seismicity. We welcome studies that focus on each type of causal operation, such as: geothermal energy, gas storage, hydraulic fracturing, wastewater disposal, fluid production, mining, or reservoir impoundment. Contributions spanning multiple scales are also welcomed: from the laboratory, to underground experiments, to the field scale – as well as numerical or modeling studies.

The next steps in managing induced seismicity will require a fundamental understanding of these complex interactions between fluids, geology, stress, fault slip, and the resulting hazard/risks.

