Session ID: SHR-1

Title
SEISMIC RISK MODELS FOR DECISION SUPPORT: ADVANCEMENTS AND APPLICATIONS

Convenors
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Description
Seismic risk models have been developed in various regions to quantify the expected damages, losses, and other impacts from earthquakes. Results of these models have been implemented to identify high-risk areas, support emergency response exercises, inform risk reduction policies, and implement risk-informed zoning for future development, among other applications. These efforts are in line with the first two of the four priorities of the Sendai Framework for Disaster Risk Reduction, which are to understand disaster risk and to strengthen disaster risk governance.

The robustness of seismic risk models depends on underlying assumptions in hazard, exposure, and vulnerability. Typically, most risk models only consider impacts to buildings and their occupants, however, damage to critical infrastructure and service disruption can increase the magnitude of these consequences several-fold. With advancements in computational capabilities and modeling techniques, seismic risk models are evolving to be able to include lifelines, linear infrastructure, and their interdependencies, consideration of spatial correlation in seismic hazard, extension of synthetic catalog timelines, and a general ability to model more regions in higher resolution.

This session is intended to create a dialogue between risk modelers and users of such models (both public and private agencies) to understand the needs of users needs and ways those could be accounted for by the modelers. Submissions in the session are also sought on topics of advancement in modeling techniques to improve accuracy, resolution, or computational efficiency of risk calculations. Submissions related to insights from use cases of risk models as decision support tools will be welcomed, to contribute towards highlighting both the advancements and applications of risk models at present.

Invited Speakers
H. Cowan [6], C.Y. Estrada [7], V. Cedillos [8]

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