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## **Advances in Seismic Risk Assessment: A case study from Jammu and Kashmir, India**

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Seismic risk assessment is a vital process for evaluating and mitigating the potential impacts of earthquakes on various exposure elements such as buildings, infrastructure and human lives. It involves estimating the probability and intensity of earthquake ground motions, as well as the vulnerability and exposure of the exposed elements. In recent years, significant advances have been made in seismic hazard and risk assessment. Jammu and Kashmir, a region in northern India, is one of the most seismically active regions in the world, and has experienced several devastating earthquakes in the past. This paper presents some of the recent advances in seismic risk assessment for Jammu and Kashmir with a focus on stochastic hazard assessment, exposure and fragility function development, and seismic risk assessment. In addition, it also includes a case study of a stochastic scenario earthquake event with a defined return-period, along with its loss scenario for Srinagar city in Jammu and Kashmir region.

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