



Earthquake Risk Modelling – Opening the black box

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Assessing the risk from natural catastrophes such as earthquakes involves the detailed study of the seismic sources and site conditions that contribute to the earthquake hazard in the region of interest, the distribution and particular characteristics of the exposures through the study of building stock and its vulnerabilities, and the application of specific financial terms for particular portfolios. The catastrophe modelling framework encompasses these relatively complex considerations while also including a measure of uncertainty. This paper describes succinctly the structure and modules included in a probabilistic catastrophe risk model and presents several examples of risk modelling for realistic scenarios such as the expected earthquakes in the Marmara Sea region of Turkey and the results from modelling the 2009 L'Aquila (Abruzzo) earthquake.