

REAL WORLD  
SOLUTIONS

## Seismic and Natural Hazard

Experts say that natural hazard modelling provides insights that are essential to designing and constructing buildings, bridges, and other structures that can withstand various natural hazards. The results of natural hazard modelling indicate the likelihood and potential impact of natural hazards on a specific region, which can be used to develop preparedness plans, response and mitigation strategies



*A business solutions partner of choice*



Enterprises University of Pretoria employs significant expertise in earthquake, mining catastrophe, and meteorological risk modelling to provide solutions to a wide range of organisations. We are well-positioned to provide independent advice and analysis on African and international natural hazards that may be used to inform an organization's risk management and mitigation strategy.

Our internationally renowned experts in risk, vulnerability, and hazard analysis are able to develop stochastic event sets for catastrophe modelling as well as develop and implement computer codes for hazard and loss assessments. The assessment provides the potential effects of hydraulic fracturing on seismic hazard and loss.

Performing seismic hazard analysis enables organisations to:

Estimate maximum loss in catastrophe modelling	Estimate seismic hazard and loss for buildings and critical infrastructures
Model hail loss	Assess tsunami hazard and loss

The scientifically proven methods to analyse seismic and natural hazards includes amongst others;

**Deterministic Seismic Hazard Analysis (DSHA)** involves developing a particular seismic scenario, according to which expected damages (losses) could be estimated. It provides a framework for the evaluation of the worst-case damages.

**Probabilistic Seismic Hazard Analysis (PSHA)** assists in determining earthquake magnitude. The analysis will include results of area-characteristic PSHA, assessment of the area characteristic, maximum possible earthquake magnitude and the annual probability of exceedance and return periods of specified value of earthquake magnitude.

### Why partner with us?

- Customised, innovative and real-world relevant research and advisory services driven by scientific evidence.
- Access to comprehensive knowledge resources from the University of Pretoria.
- Personalised services to achieve unique business and professional development goals.
- Innovative solutions for targeted training and businesses decisions support insights.
- An extensive international footprint spanning six continents.
- Leading domestic and international industry experts and thought leaders.



### For more information, contact us today.

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