ENHANCING EXPOSURE MODELLING THROUGH AUTOMATIC CALIBRATION OF LAND USE MODELS



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DEVELOPING HAZARD MITIGATION STRATEGIES THROUGH MORE EFFICIENT DYNAMIC ASSESSMENT OF EXPOSURE BY MAKING THE CALIBRATION OF LAND USE MODELS AUTOMATIC

MOTIVATION

RESEARCH UTILIZATION

Land use planning is a potent policy lever for reducing the level of future natural disaster risk (Productivity Commission, 2015). For a robust approach we must consider exposure *dynamically*, which requires an ability to model land use.

INPUTS HAZARD DATA Magnitude 5 Earthquake VULNERABILITY DATA MITIGATION OPTIONS Structural measures Land use plans

LAND USE MODEL Dynamic exposure modelling LAND USE DRIVERS Accessibility Suitability Zoning Interaction effects



RESEARCH FOCUS

The land use model is highly sensitive to the drivers, and correct drivers are a function of accurate calibration. Calibration is currently manual, which is time intensive and requires a modelling expert. This research is focused on automating this procedure. An example of our approach is framing calibration as an optimization problem.









