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IT'S OUR FAULT: BETTER DEFINING EARTHQUAKE RISK IN WELLINGTON, NEW ZEALAND

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Background *It's Our Fault* is a comprehensive study of Wellington's earthquake risk, and is jointly funded by New Zealand's Earthquake Commission, Accident Compensation Corporation, Wellington City Council, Wellington Region Emergency Management Group, Greater Wellington Regional Council, and Natural Hazards Research Platform.

Aims/Objectives/Purpose The project's objective is to position the capital city of New Zealand to become more resilient through an encompassing study of the likelihood of large earthquakes, and the effects and impacts of these earthquakes on humans and the built environment.

Methods An integrated suite of geological, geophysical, engineering and social science investigations has been undertaken.

Results/Outcomes Key results to date include better definition and constraints on: (1) location, size, timing, and likelihood of large earthquakes on the active faults closest to Wellington; (2) earthquake size and ground shaking characterisation of a representative suite of subduction interface rupture scenarios under Wellington; (3) stress interactions between these faults; (4) geological, geotechnical, and geophysical parameterisation of the near-surface sediments and basin geometry in Wellington City and the Hutt Valley; and (5) characterisation of earthquake ground shaking behaviour in these two urban areas in terms of, for example, the subsoil classes specified in the New Zealand Structural Design Standard. Work currently underway includes liquefaction assessment, loss estimation, and social ramifications.

Significance/Contribution to the Field *It's Our Fault* investigations are already supporting measures aimed at risk reduction, and collectively they will facilitate identification of additional actions that, if applied, will have the greatest benefit towards further increasing the region's resilience to earthquakes.