

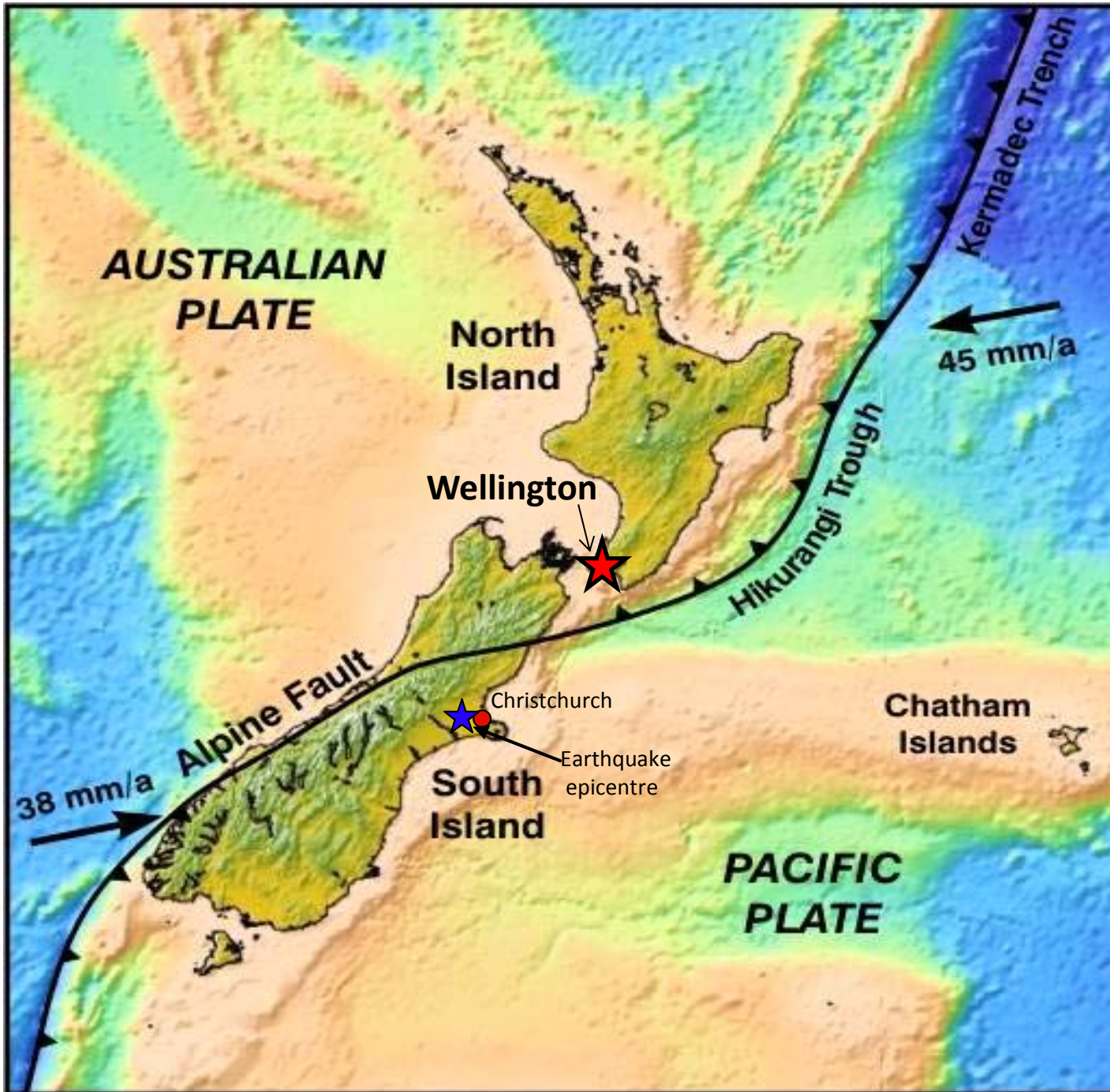


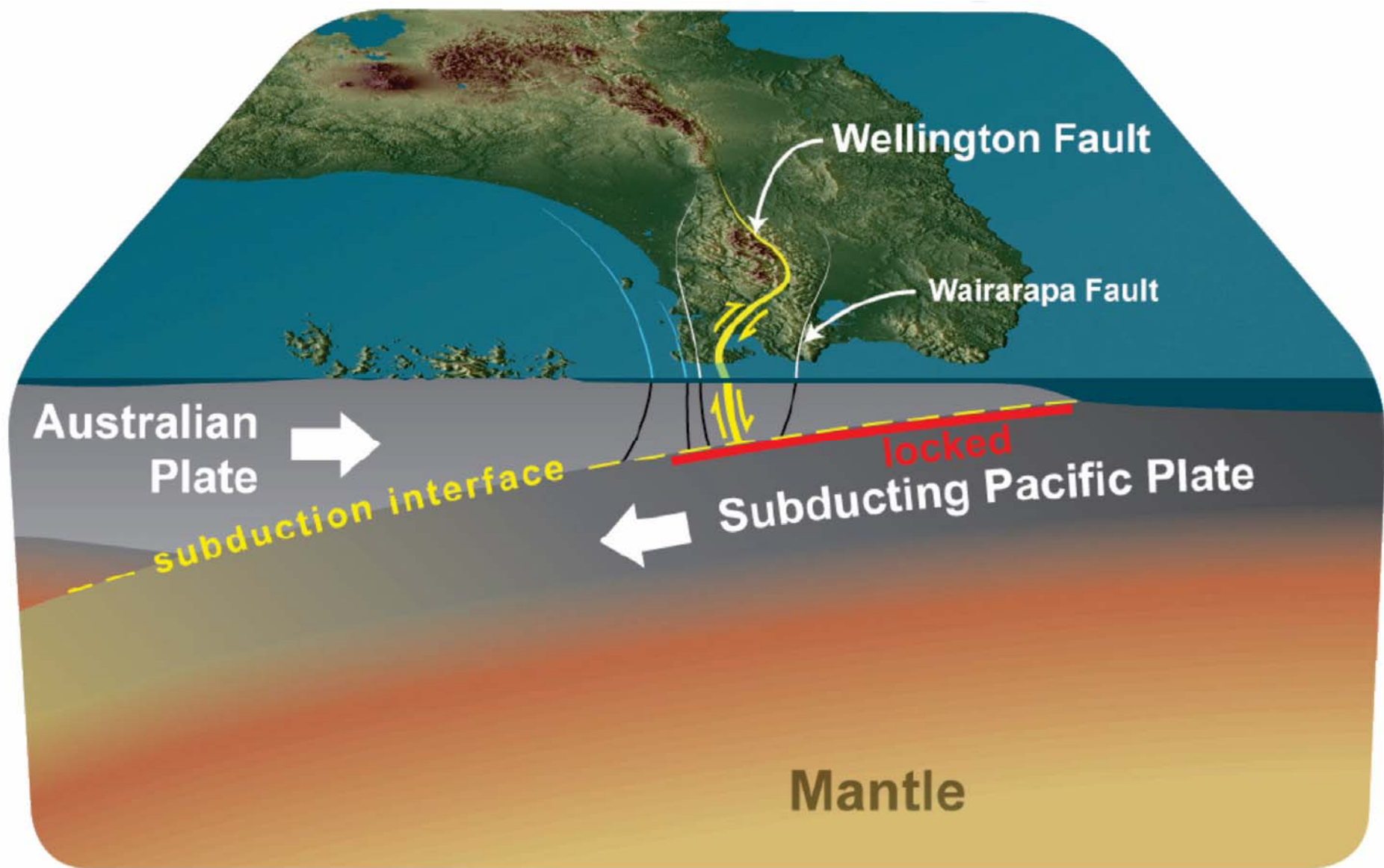
International Centre of Excellence: Community Resilience

Primarily a partnership between the Joint Centre for Disaster Research, Massey University-GNS Science and the Wellington Region Emergency Management Office (WREMO), in Wellington, New Zealand.

Established in 2014, to to develop the science-based models, methods and metrics that provide empirically-based support for community resilience practices.

Includes a range of other research, practice and community partners.







Wellington

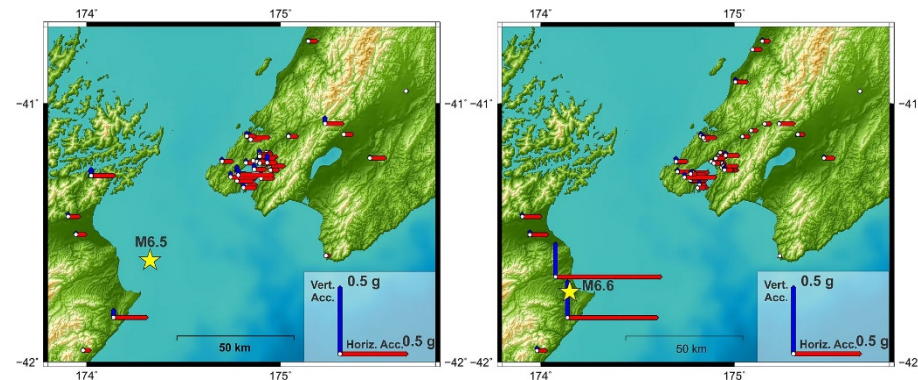
Motivations to prepare after the 2013 Cook Strait Earthquake

Investigation

Public responses to the 2013 Cook Strait earthquake sequence

Key outcomes

- People reviewing their prior actions and preparedness is related to their beliefs about future impacts
- Concern was greater after the first earthquake than after the full earthquake sequence.
- Findings suggest post-earthquake preparedness initiatives should consider the impacts that elicited the highest rate of concern in an event,



Reference: Doyle, E.E.H., McClure, J., Potter, S.H, Becker, J.S., Johnston, D.M., Lindell, M.K., Johal, S., Fraser, S.A., Coomer, M.A. (2018). Motivations to prepare after the 2013 Cook Strait Earthquake, N.Z. *International Journal of Disaster Risk Reduction*, <https://doi.org/10.1016/j.ijdrr.2018.07.008>.

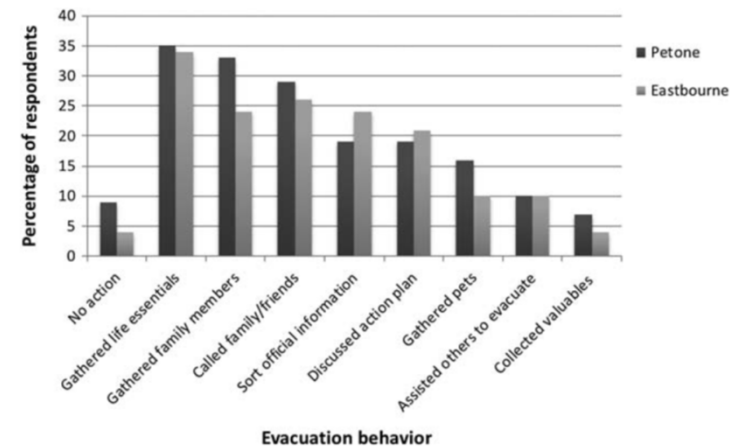
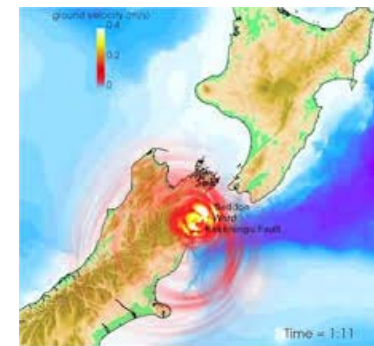
A Citizen Science Initiative to Understand Community Response to the Kaikōura Earthquake and Tsunami Warning in Petone and Eastbourne, Wellington

Investigation

- Survey of Petone and Eastbourne residents, using a citizen science approach to understand tsunami response and evacuation behaviors.

Key outcomes

- Only 11% evacuated because of the earthquake.
- Emphasize the need to engage communities to enhance capacity to respond appropriately to both natural and agency-generated tsunami warnings.



Reference: Blake, D., Johnston, D., Leonard, G., McLaren, L., & Becker, J. (2018). A Citizen Science Initiative to Understand Community Response to the Kaikōura Earthquake and Tsunami Warning in Petone and Eastbourne, Wellington, Aotearoa/New Zealand. *Bulletin of the Seismological Society of America*, 108(3B), 1807–1817. doi:10.1785/0120170292

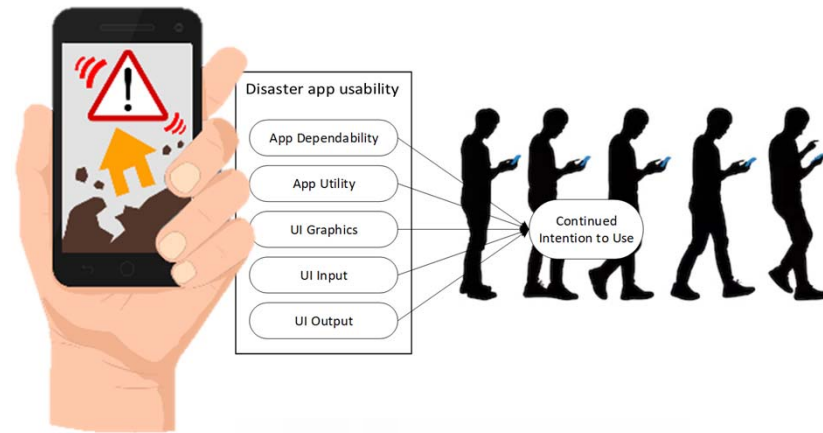
Disaster apps: Usability and continuance intention

Investigations

- The importance of usability in the context of use app design.
- Factors of usability that affect continuance intention

Key outcomes

- Usability should be prioritized not only on tools for responders but on technologies available to the public.
- Important to understand what factors of usability affect continuance intention
- Research found 5 usability factors that affect users' continuance intention: (1) app dependability, (2) app utility, (3) interface graphics, (4) interface input, and (5) interface output



Reference: Tan, M. L., Prasanna, R., Hudson-Doyle, E., Stock, K., Leonard, G., & Johnston, D. (2017). Mobile applications in crisis informatics literature: A systematic review. *International Journal of Disaster Risk Reduction*, 24, 297–311. <http://doi.org/10.1016/j.ijdrr.2017.06.009>

Activity 1

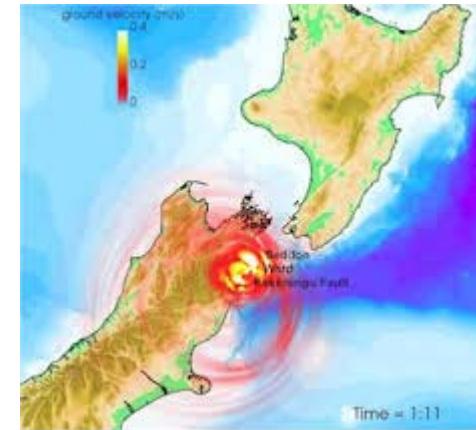
Resilience Framing and Synthesis

- Inter and intra programme linkages
- Bibliography project
- AJDTS Special Issue – 18 papers (currently)

Measure of success:

ICoE is a key linkage for seismic resilience

researchers and research programmes across New Zealand



Activity 2

Wahine tapuhi ō te Parawhenua Mea kia mataara

- Māori disaster response and community resilience following recent earthquakes
- The strength networks to enable rapidly and effectively harnessing of physical, cultural, spiritual and social resources to respond to disasters

Measures of success:

1. ICoE is a known and visible national supporter of Maori students and emerging disaster researchers
2. ICoE has stronger relationships with tangata whenua and the key Māori stakeholders in the Wellington region



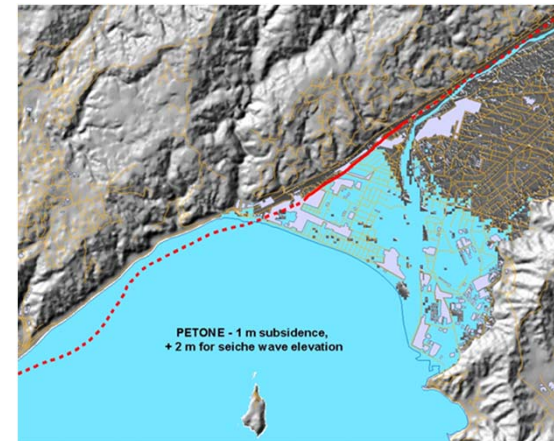
Activity 3

Planning and policy in a dynamic risk environment

- Co-governance for recovery
- Earthquake policy reviews
- District plans and Regional Policy Statements
- Culture Resilience – links with MCH

Measures of success:

1. Policy makers, land use planners, communities and iwi take into account hazard knowledge in their decision making and planning.
2. ICoE has stronger relationships with key cultural institutions in the Wellington region.



Activity 4

Communicating earthquake risk information: challenges and opportunities in a digital world

- Story telling
- Local vs national education evaluation
- Social media
- AF8/ECLab linkages

Measures of success:

ICoE is a known provider of innovative seismic communication knowledge nationally and internationally.



OUR RESEARCH CONTRIBUTES TO OTHER IMPORTANT WORK



MCDEM's Project AF8 a collaborative effort to save lives by planning and preparing a coordinated response across the South Island after a severe earthquake on the Alpine Fault.



MCDEM's Hikurangi Response Plan - Developing a coordinated response to a major subduction zone earthquake & tsunami event to assist and enhance community resilience across the North Island's East Coast.



Activity 5

Understanding community-based resilience

- Community Hubs
- House-hold preparedness
- Temporary housing
- Role of community groups



Measures of success:

1. The Wellington region is a recognised and visible laboratory for community-based seismic resilience research nationally and internationally
 2. ICoE has stronger relationships with key community resilience stakeholders in the Wellington region.
-