

Flagship 5 Coordinated Project 2019-2020

Project Leader: David Johnston

Contact: David.Johnston@gns.cri.nz

Project Contributors

| | QuakeCoRE PI/AI | QuakeCoRE Industry Affiliate | Others – Aligned Researchers, Stakeholders, Students etc |
|--|-------------------------------------|---------------------------------|---|
| David Johnston (GNS/Massey) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Julia Becker (GNS) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Ann Brower (UC) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Caroline Orchiston (UO) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Cassie Kenney (Massey) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| John Hopkins (UC) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Wendy Saunders (GNS) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Kristie-Lee Thomas (GNS) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Bridgette Sullivan-Taylor (UA) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| John McClure (VUW) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Lucy Carter (Massey) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Emily Grace (GNS) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Dan Neely (WREMO) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Harmony Repia (Massey) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Emily Campbell (Massey) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Siautu Alefaio (Massey) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Denise Blake (Massey) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Mary Anne Thompson (GNS/UA) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Emily Lambie (Massey) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Raj Prasanna (Massey) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Tristram Sparks (Massey) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Helen McCracken (Ministry for Culture and Heritage) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Jo Bailey (Massey) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Pam Johnston (Earthquake Commission) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Kate Boersen (ECLab) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Joe McLeod (Te Piringa o Te Awa Kairangi) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

2018-2020 TEC Contract for delivery by QuakeCoRE FP5 Programme

Flagship 5:

Our goal in Flagship 5 is to identify how societal decisions and choices affect the social, culture and economic resilience of communities, at local, regional and national scales. QuakeCoRE will bring together expertise from a range of disciplines, including tangata whenua knowledge to develop a holistic understanding of social, cultural and economic impacts from earthquakes; thus, providing key input to policy decisions at all levels of government and building a resilience community of practice. The key thrust areas are:

1. Addressing key knowledge gaps to improve our ability to holistically evaluate impacts of earthquakes, to understand and model system effects, and to advance our capability to evaluate the case for investment.
2. Analysis and sharing of current tools and methodologies used for the evaluation of resilience-building policies and practices in order to identify opportunities for innovative cross-sectorial and organisational research collaboration.
3. Development and evaluation of up to 6 Wellington case study activities which critically assess potential investment policies and practices to improve New Zealand's resilience to earthquakes; and their use to provide inventive recommendations and advice for practical implementation.

| Thrust Areas | Key tasks | Start | Finish |
|--|--|------------|------------|
| FP5.1 Addressing key knowledge gaps [activities can occur in parallel and in any order] | 1. Developing new methods for evaluating socio-economic impacts | 1/07/2017 | 31/12/2020 |
| | 2. Improving our understanding and analysis of system effects | 1/01/2017 | 31/12/2020 |
| | 3. Exploring new ways to evaluate the case for investment and methods to building social, cultural and economic resilience | 1/01/2017 | 31/12/2020 |
| FP5.2 Analysis of common methodologies, tools and knowledge | 1. Assessment of existing tools and alternative evaluation techniques | 1/01/2016 | 31/12/2017 |
| | 2. Evaluation of stakeholder wants and needs | 1/01/2017 | 31/12/2017 |
| | 3. Series of workshops for sharing new discoveries/learnings across teams for cross-pollination | 1/01/2017 | 31/12/2020 |
| FP5.3 Development and evaluation of Wellington case study key activities | 1. Selection of Resilience Pathway key activities to be developed | 1/07/2017 | 01/01/2018 |
| | 2. Resilience Pathway Activity 1 – Wellington Resilience Framing Exercise | 01/01/2018 | 31/12/2018 |
| | 3. Resilience Pathway Activity 2 – Whakaoranga Iwi Whanui | 01/01/2018 | 31/12/2020 |
| | 4. Resilience Pathway Task 3 – Wellington Infrastructure Investment | 01/01/2019 | 31/12/2020 |
| | 5. Resilience Pathway Task 4 – Planning and Policy in a Dynamic Risk Environment | 01/01/2018 | 31/12/2018 |
| | 6. Resilience Pathway Task 5 – Understanding Community-Based Resilience | 01/01/2018 | 31/12/2020 |

FP5 Coordinated Project Plan – 2019-20

Research Activities:

Activity 1 Resilience Framing and Synthesis

This task will continue the 2018 efforts that produced meta-synthesis of Wellington's resilience building efforts. We aim to further identify key research gaps for QuakeCoRE, research linkage opportunities for Flagship 5 tasks and with other Flagship projects and priorities, and integrative opportunities for the wider research and practices spaces.

Activity 2 Wahine tapuhi ō te Parawhenua Mea kia mataara

This task will extend work currently being conducted on how Wellington regional networks connecting Māori communities and local authorities can be enhanced for earthquake resilience. The proposed project would provide a synthesis of the previous activities to tell a wider narrative around novel approaches to engage with and collaborating with Māori communities and stakeholders to increase earthquake resilience from kura to kaumatua. A secondary narrative that will be explored is ethnographic reflection exploring the role of emerging wahine researchers collaborating in the field of seismic research. Outputs will include an academic article and a workshop on engaging with Māori communities for seismic resilience research.

Activity 3 Planning and policy in a dynamic risk environment

This task aims to build knowledge about good practice and increase the uptake of hazard knowledge by policy makers, land use planners, communities and iwi through the adoption of appropriate land use practices and public policy. Building on current research we will explore how to improve the preparation and implementation of plans and policies addressing earthquake hazards within district, regional and central government (e.g. District, Regional and CDEM plans etc). In particular, we will analyse barriers to successful policy implementation and how to overcome such barriers in the Wellington Region and within a wider evolving global risk management context. The task will draw on work from other regions and experience from recent events (e.g. Canterbury and Kaikōura earthquakes). A specific project will continue the partnership with the Ministry for Culture and Heritage around the role of cultural resilience.

Activity 4 Communicating earthquake risk information: challenges and opportunities in a digital world

Rapid advances in our understanding of earthquake risk need effective communication pathways to policy and practice. The growing body of communication research provides an improved comprehension of what is required for knowledge transfer, stakeholder engagement and behaviour change. This project will explore new education products and processes used in building earthquake resilience in the city of Wellington and the East Coast of the North Island. The activity illustrates the growing collaborative partnership between earthquake engineering, risk communication, design and behavioural science.

Activity 5 Understanding community-based resilience

Work by WREMO and projects associated with the 100 Resilient Cities pioneered by the Rockefeller Foundation (100RC) have presented an opportunity to rethink the region's approach to emergency management and earthquake risk reduction, resulting in an increased emphasis on enhancing levels of resilience in communities, and the built environment and systems supporting communities, by improving the ability to anticipate risks, limit the impacts of those risks, and bounce back rapidly from any emergency event. The WREMO Community Resilience Strategy was developed to provide a set of guiding principles for community engagement, strategic objectives to enhance resilience, and relevant tools for emergency management advisors. Adding to this, the 100 RC Wellington Resilience Strategy has provided a set of thirty visionary projects to enhance community resilience. This task will explore community-based resilience building activities at an individual-, organisational-, and community level and the relationship between risk perception, risk acceptance, and personal, community, and organisational competencies and capabilities. Research will explore the role of formal and informal social networks, community

engagement, empowerment, and strategies for motivating and sustaining individual, organisational and community participation in at-risk communities. The role of government and institutions, the business sector, education in schools and community groups in preparing and responding to earthquake events will also be a focus. This task has a strong alignment with current projects by WREMO, WCC, Hutt CC, EQC, Red Cross and other groups.

For further details please contact the Flagship Leader