East Coast
Life at the Boundary

- Living, learning and thriving -

Resilience to Natures Challenges

Natural Hazard Research Forum
2019

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Our partners

- Hawke's Bay Civil Defence Emergency Management Group/Hawke's Bay Regional Council
- Tairāwhiti Civil Defence Emergency Management Group/Gisborne District Council
- Natural Hazard Research Platform/ Resilience to Nature's Challenges
- GNS Science
- National Institute of Water and Atmospheric Research (NIWA)
- Massey University
- Earthquake Commission (EQC)
- Ministry of Civil Defence & Emergency Management
- Greater Wellington Regional Council/Wellington Region Emergency Management Office
- Manawatu/Wanganui CDEM Group
- National Aquarium of New Zealand
- University of Auckland
- Quake CoRE

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Our programme

- Makes it easy & exciting to learn more about natural hazards and how they affect us living on the East Coast
- Supports & shares scientific research focusing on hazards associated with the Hikurangi subduction zone and living at the coast

- Covers four regions – Gisborne, Hawke's Bay, Tararua & Wairarapa/Wellington

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Why do we do it?

He aha te mea nui o te ao.
He tāngata, he tāngata, he tāngata

What is the most important thing in the world?
It is people, it is people, it is people.

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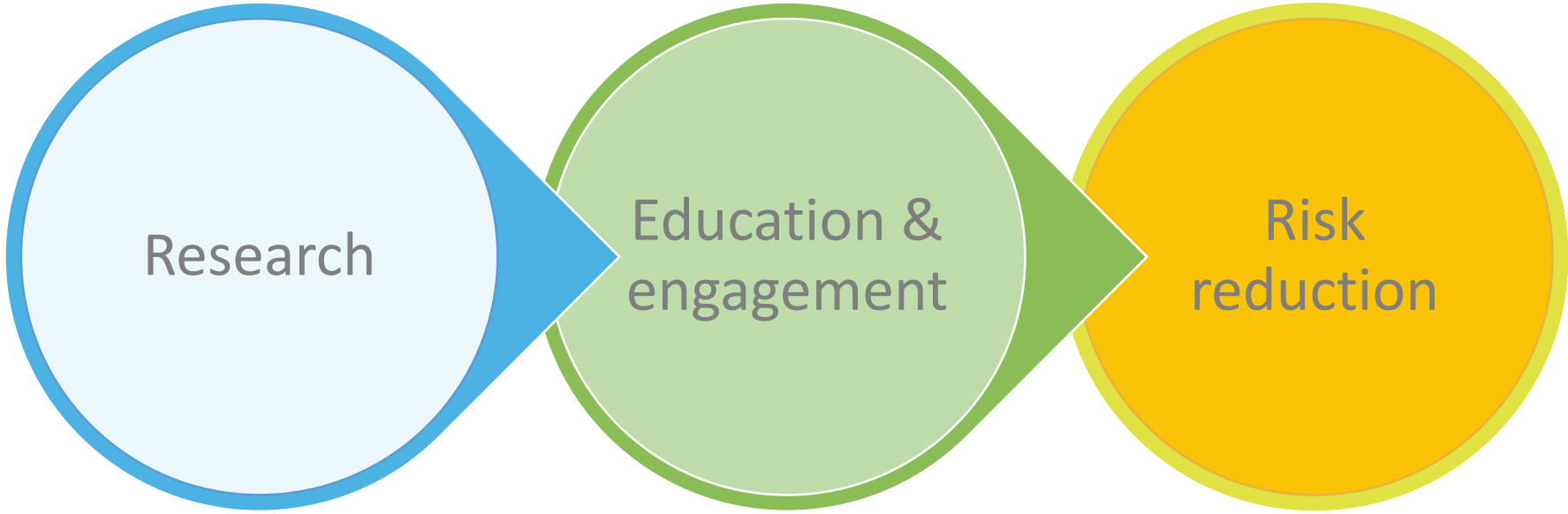

Note: These are only examples of **some** of the projects that are carried out through the East Coast LAB programme.

For more information check out our website:

www.eastcoastlab.org.nz

- **Hikurangi subduction earthquakes and slow slip behavious:** GNS led MBIE funded
- **Kura e tai āniwhaniwha:** Massey led Quake CoRE funded
- **Quicker, safer tsunami evacautions:** GNS led NHRP funded
- **Participatory technology for citizen science:** AUT led RNC funded
- **Hikurangi response planning**: ECLAB led MCDEM funded

What do we rely on?

Your support & willingness to:

- Ask for advice
- Carry out relevant research
  eg. co-created research outcomes
- Share your research
- Help fund us

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HIKURANGI RESPONSE PLANNING

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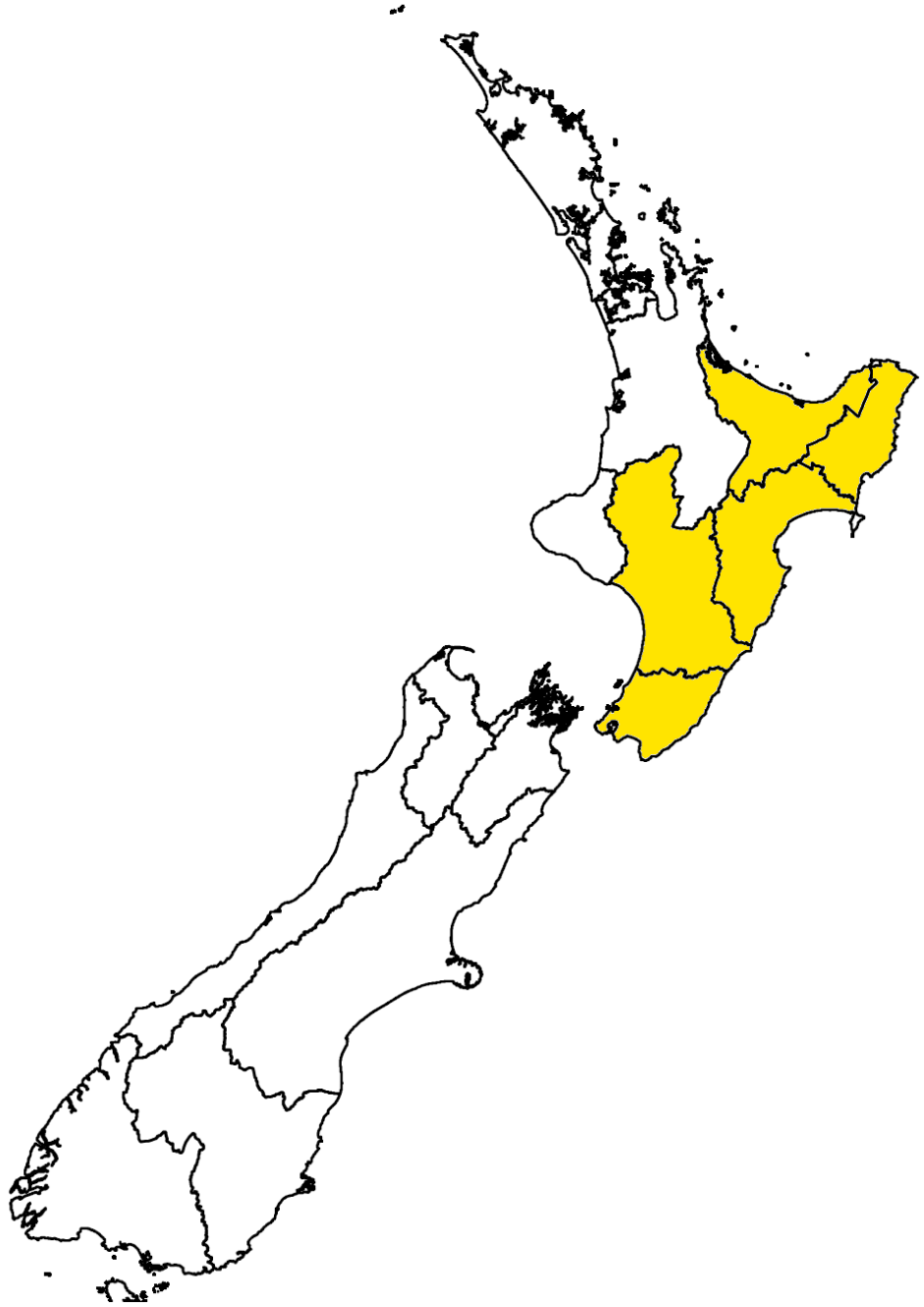
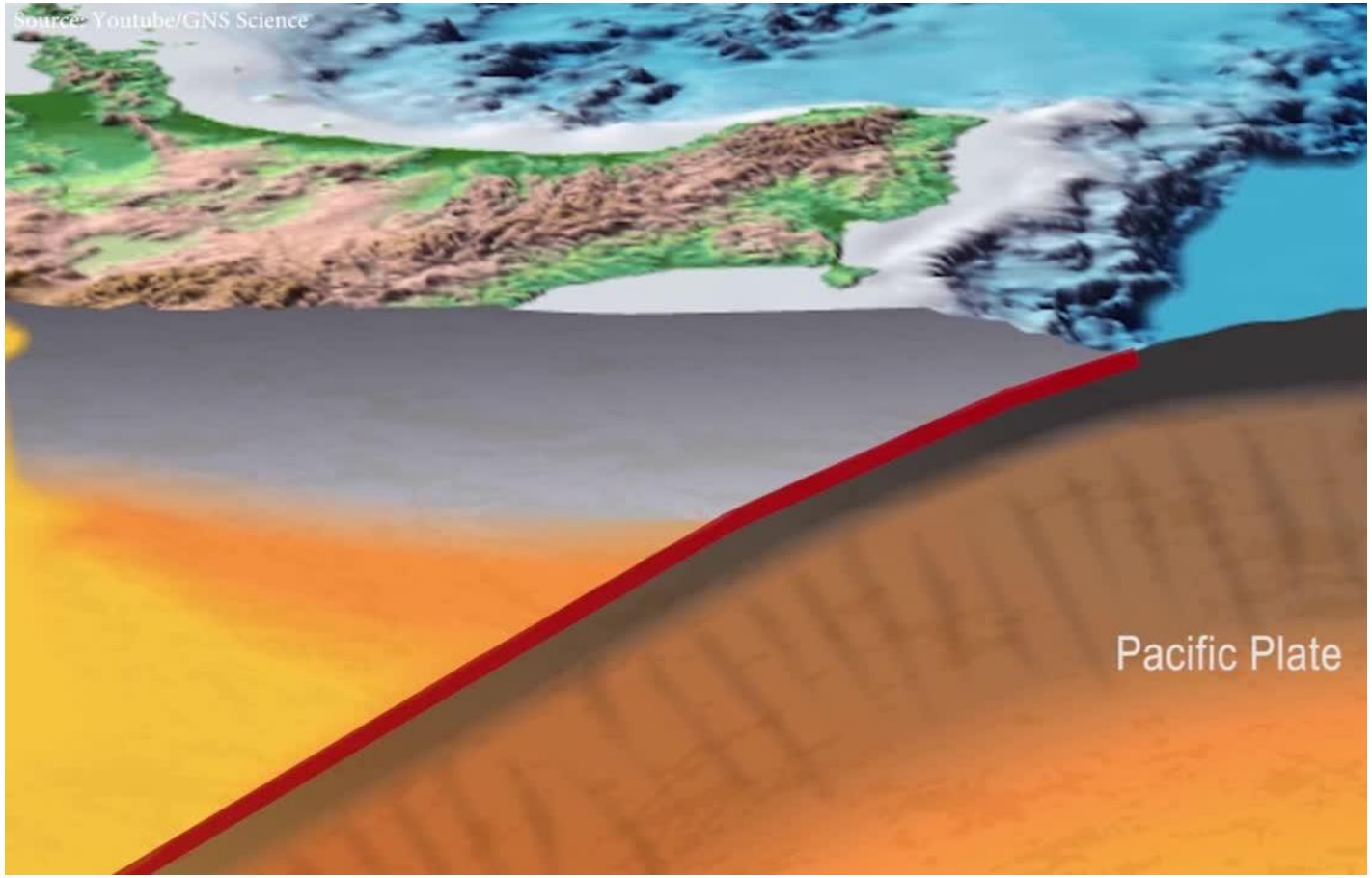
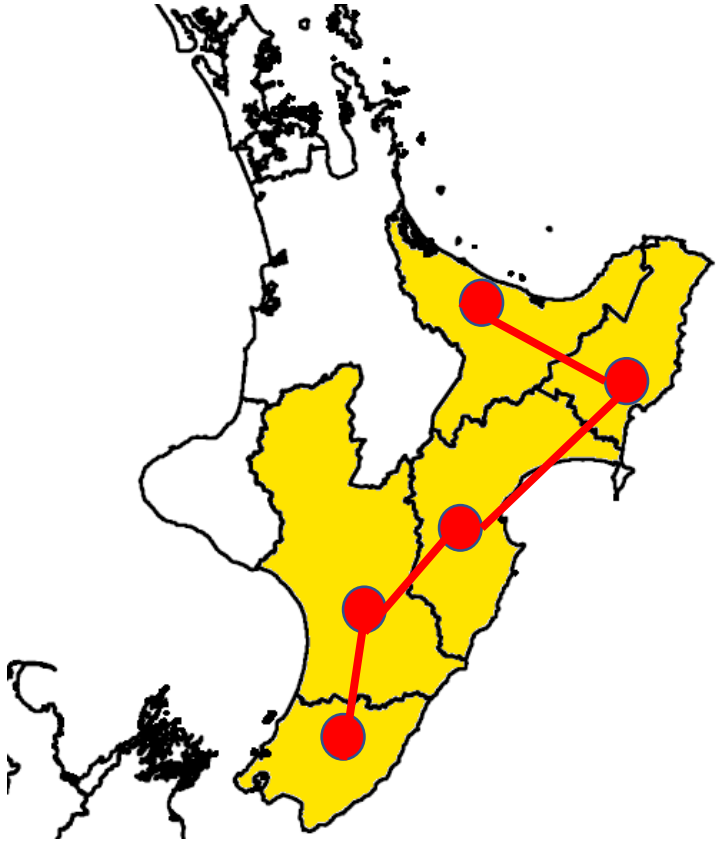


Resilience to Natures Challenges

Natural Hazard Research Forum 2019

The Project





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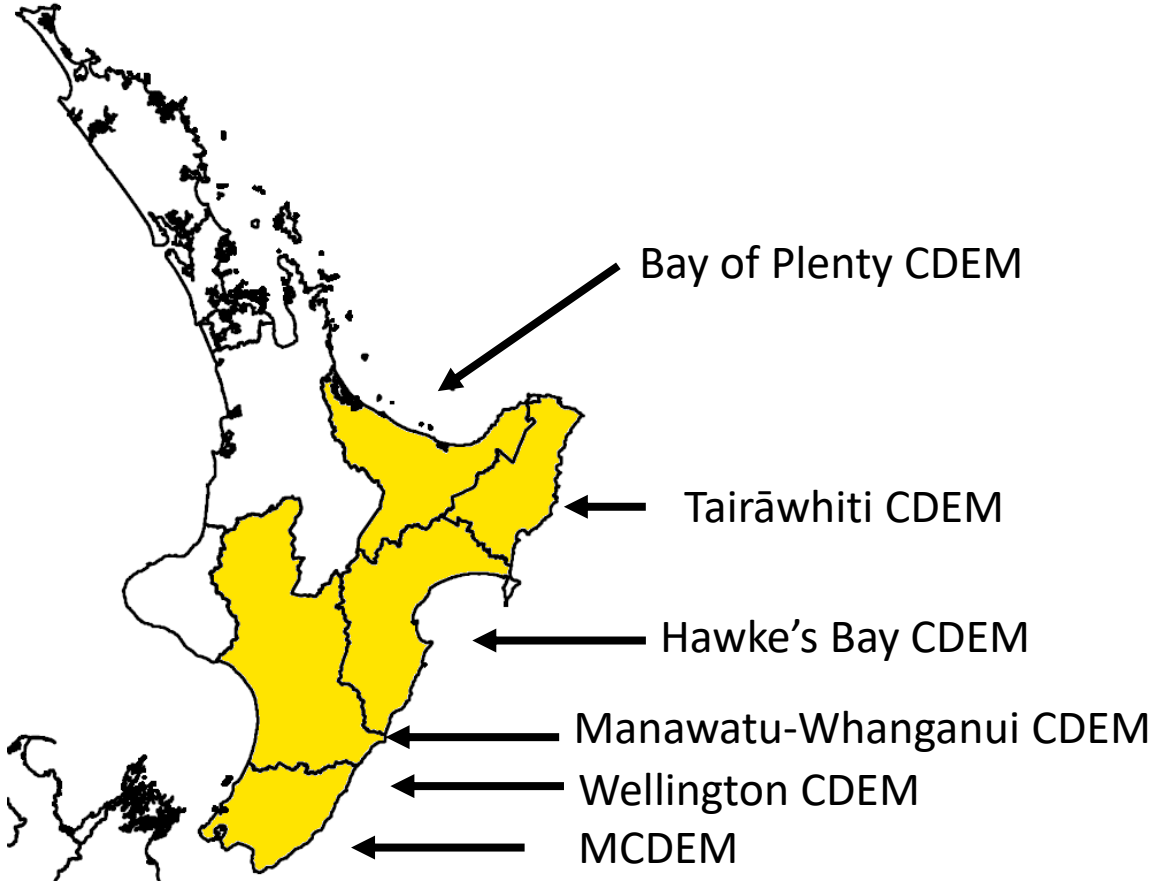
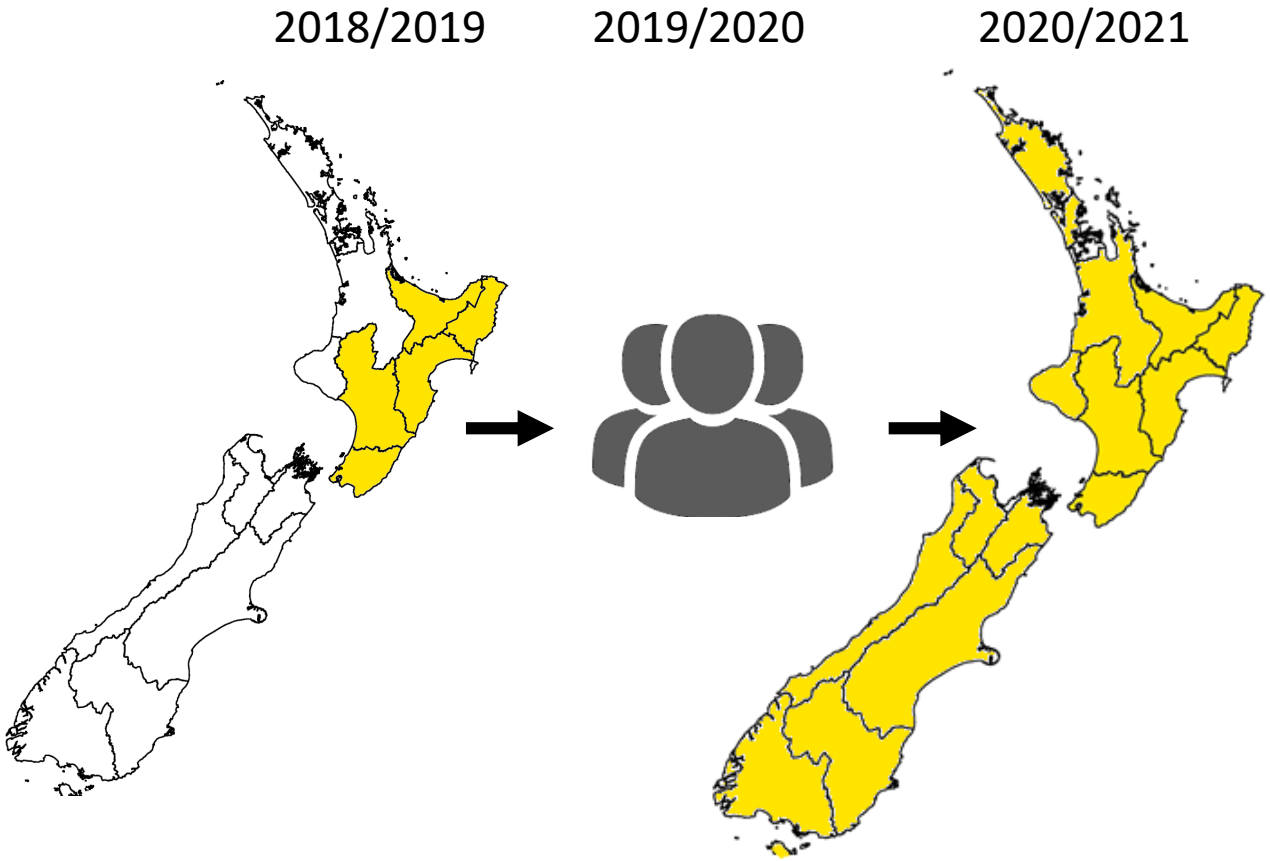
CIVIL DEFENCE

The Project





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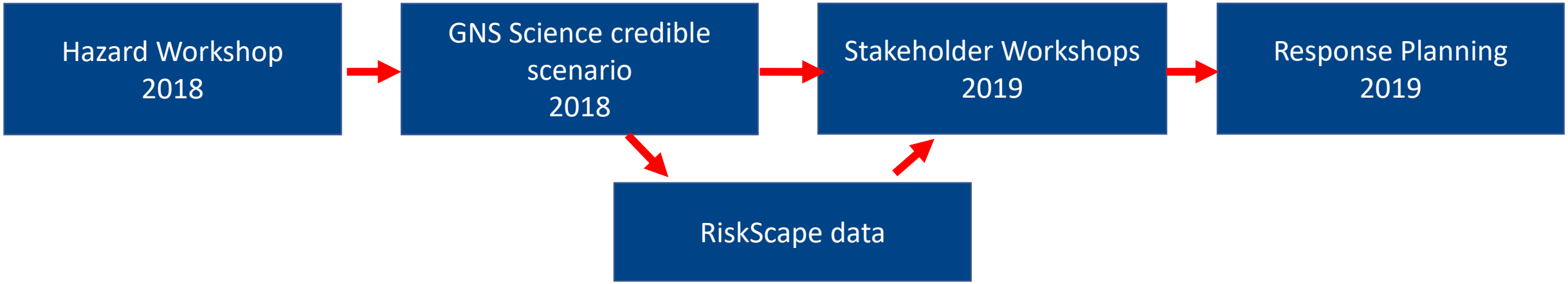
Our journey and why we use science



- National Disaster Resilience Strategy- Objective 1: Understand risk scenarios
- Science informs impact which enables emergency planners to plan for consequences
- Science helps to justify response planning and funding by highlighting risk and why investment in risk reduction activities is so important

What science do we use

1. **Science scenario: Credible magnitude 8.9 earthquake and tsunami**
   - Incl. qualitative impact assessments (expert panel approach)

2. **RiskScape modelling**
   - Uses GNS Science scenario (for impact), and
   - Tsunami evacuation maps (for exposure)

3. **Social science research**
   - To inform our work e.g. risk communication workshop

…but, we also help to *create* research-

- HRP is being researched to inform risk communication understandings eg. Survey of our introductory project video

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What works/learnings/future opportunities

1. Science scenario: Credible magnitude 8.9 earthquake and tsunami

- Scenario very engaging for all stakeholders- impact maps showing tsunami inundation and earthquake MMI's ost useful
  - Showing inundation at NZ scale useful to avoid disengagement if stakeholders determine assets 'safe'
  - Use tsunami evacuation zones more at regional scales to demonstrate that it is one scenario of many
- Multiple models showing variations in output beneficial to show how impacts can change and that just one scenario of many

What works/learnings/future opportunities

2. RiskScape modelling

- RiskScape numbers useful to further understanding of impacts and grab attention
- Definitive/absolute numbers based on one scenario can narrow focus
- Presentation of data is important- maps of impact easier to digest by stakeholders rather than tables (quickly attain situational awareness
- We need to continue to collaborate on model outputs

3. Social science research

- Social science helps inform us of human behaviour- great for use for education, engagement and communication

Recommendations

- Communication of uncertainty is important
- Contextual visuals help to understand impact, one example of bridging the gap between the scientist and ‘layman’
- Data has so much power to educate but it needs to be communicated in the right way
- Keep communication lines open throughout science delivery
- Let’s continue to collaborate!

Thank you

For more information visit: eastcoastlab.org.nz/hikurangiresponseplan

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