



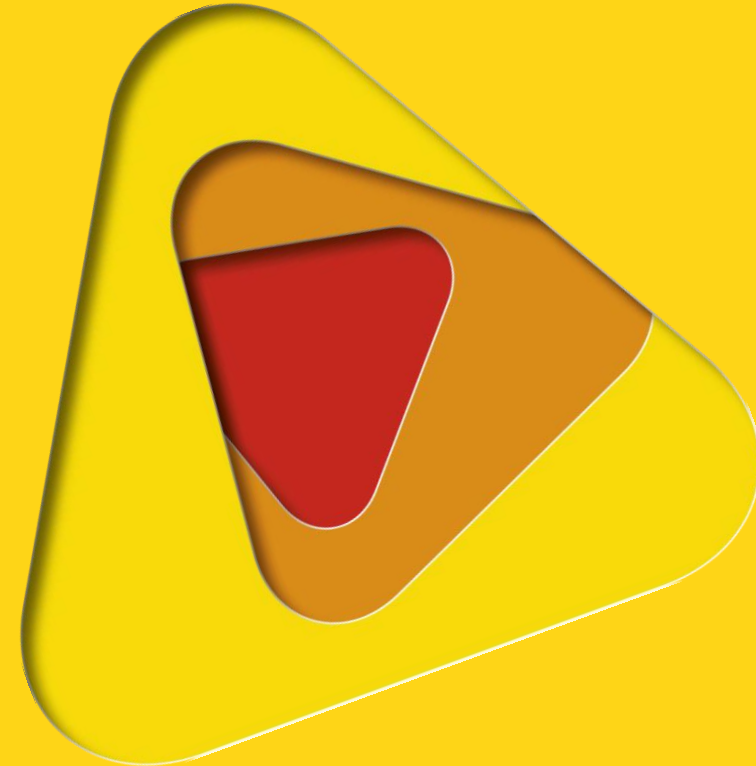
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**HAZARDS**CRC

# RISK MODELLING AS A TOOL TO SUPPORT LOCAL GOVERNMENT EMERGENCY MANAGEMENT

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# OUTLINE

- Risk modelling
- The research
- Emergency manager perceptions:
  - Risk modelling benefits
  - Risk modelling challenges
- Recommendations

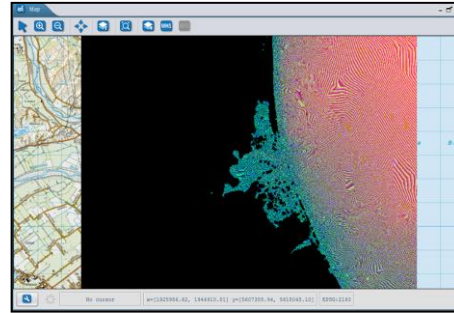
**AND** be the **fence** at top of the cliff  
~~not~~ the **ambulance** at bottom



# RISK MODELLING

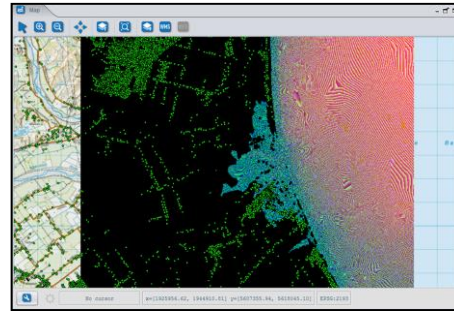
## Hazard data

likelihood and magnitude



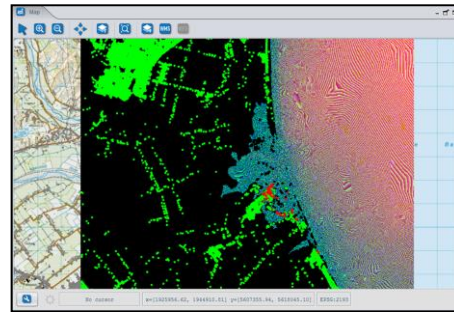
## Asset data

Exposure of a certain asset



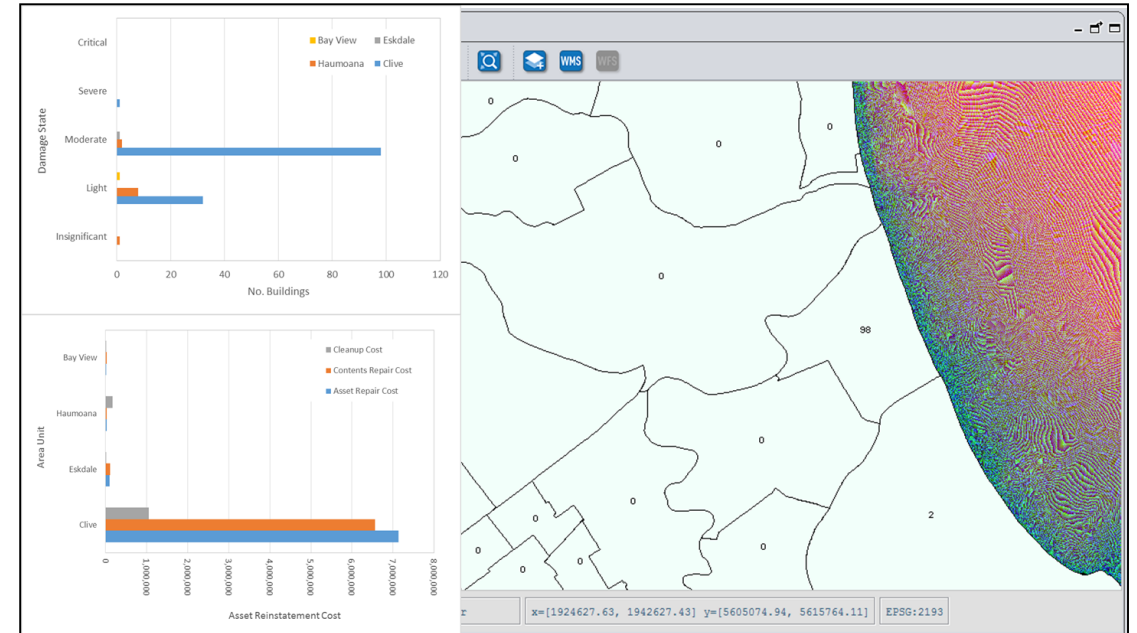
## Vulnerability data

Fragility functions / Damage ratios



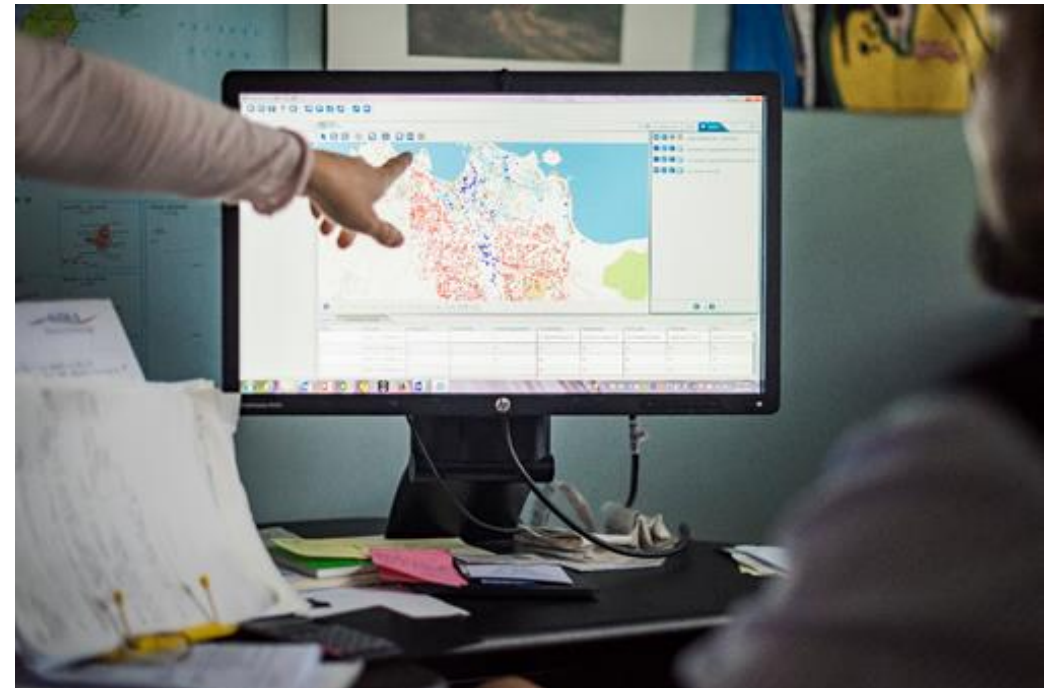
## Consequences

Deaths / injuries / asset damage / business interruption  
/ community cohesion / financial loss



# RISK MODELLING

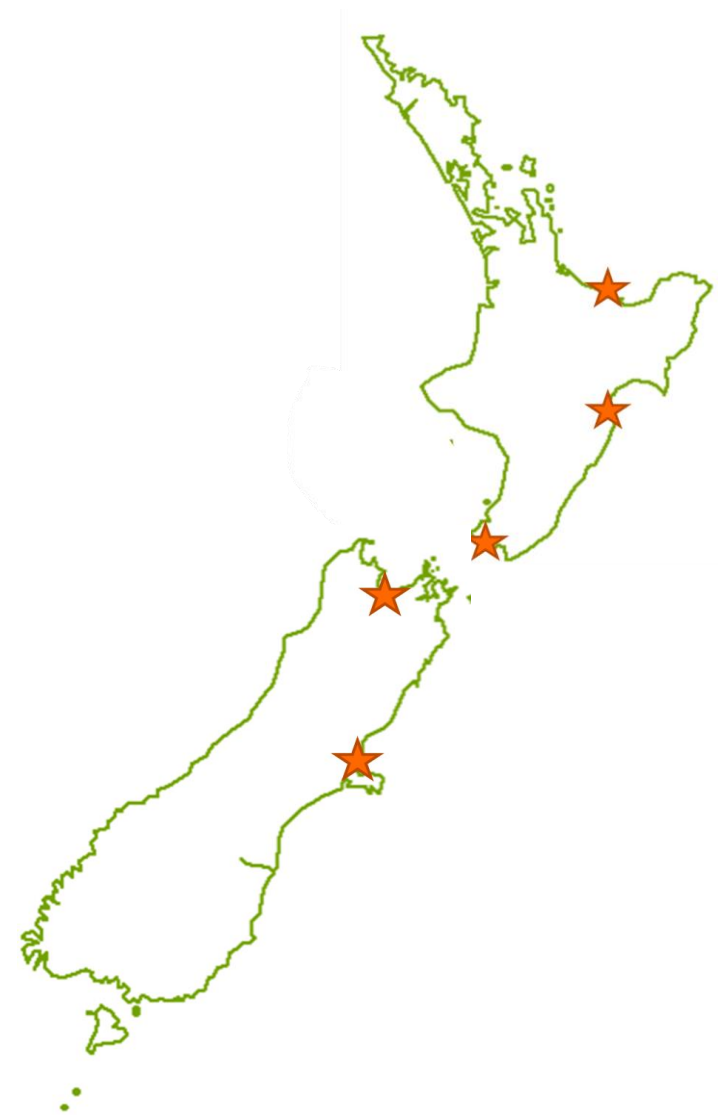
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Source: Dave Allen - NIWA

# THE RESEARCH

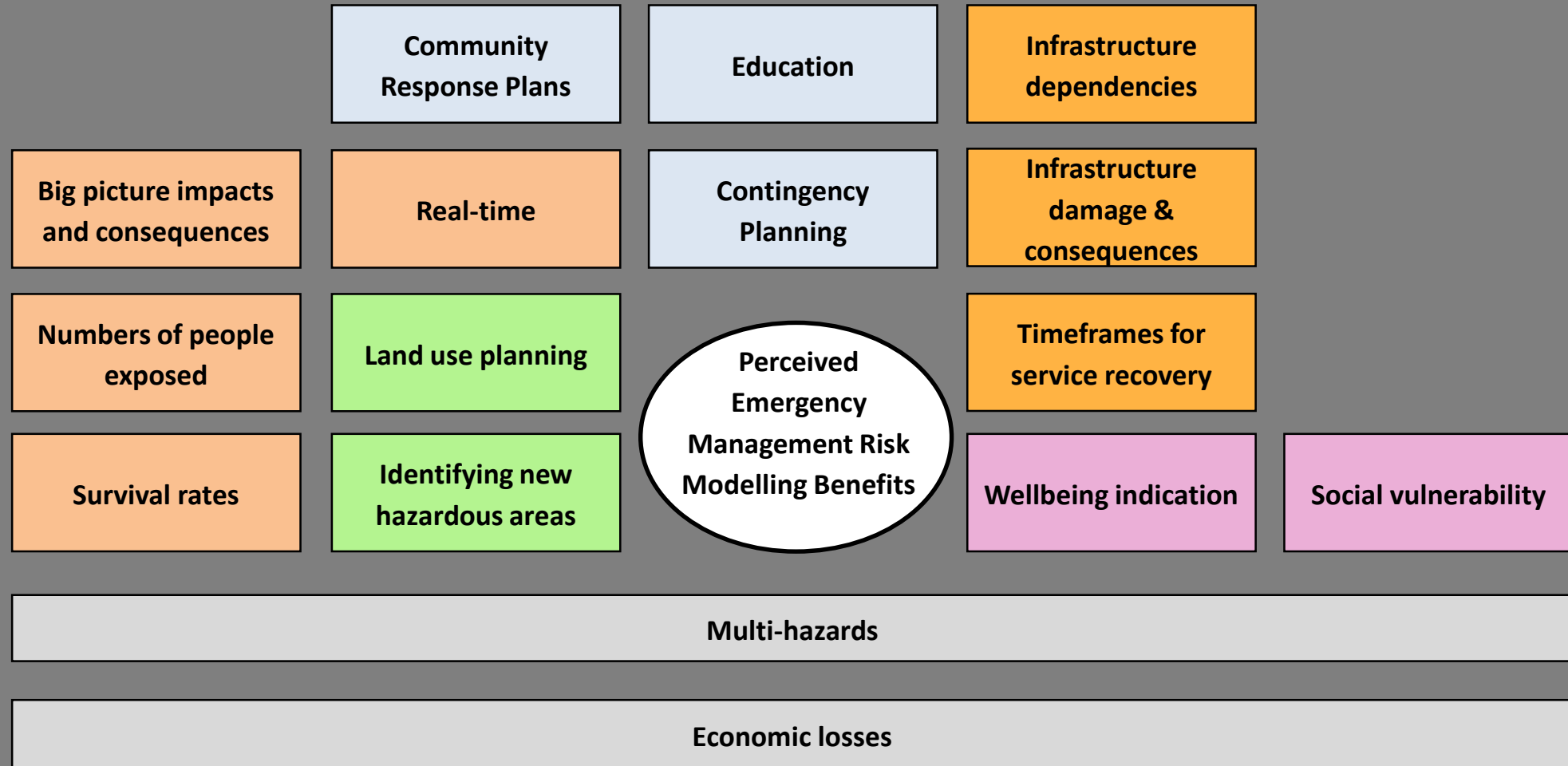
- Qualitative, semi-structured focus group sessions
- 5 local government regions across New Zealand
- Participants consisted of:
  - Emergency managers
  - Land use Planners
  - Asset managers
  - Engineers
  - Modellers



# EMERGENCY MANAGER PERCEPTIONS: RISK MODELLING BENEFITS

*“It would be a huge benefit for us to be able to show to our politicians, to our community members, so they could understand what the impacts of these events might be so that they are encouraged to take those mitigation options that we believe they need to take now”.*

# EMERGENCY MANAGER PERCEPTIONS: RISK MODELLING BENEFITS



# EMERGENCY MANAGER PERCEPTIONS: RISK MODELLING CHALLENGES

- Modelling uncertainty
- Data availability
- Cost
- User requirements and capability
- Trust and assurance in modelling outputs
- **Response capabilities**



# RECOMMENDATIONS

- Developing risk modelling so that it is more usable
- Enable the surrounding governance system to support risk modelling
- Improving emergency manager perceptions of value for risk modelling

# CONCLUSION & QUESTIONS



The Riddler (John Astin, c. 1960's)