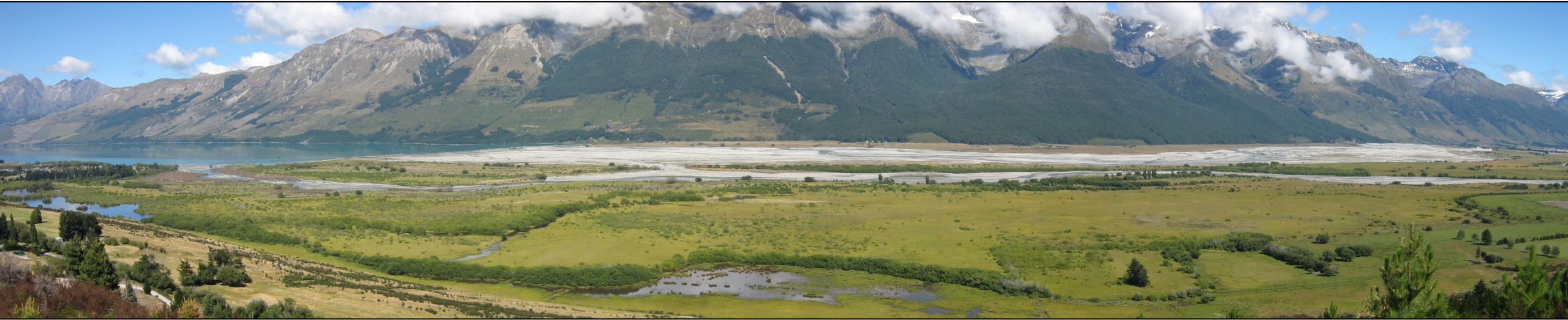


Head of Lake Wakatipu

Natural Hazards Adaptation Strategy

Community update - liquefaction and flooding hazards investigations

2nd June 2022



PRESENTATIONS

1. Programme introduction and context

Dr Jean-Luc Payan, ORC Manager
Natural Hazards

2. Liquefaction hazards at Glenorchy

Presentation by Dr Sjoerd van Ballegooy,
Tonkin + Taylor Ltd

3. Flood hazard assessment for the Dart-Rees floodplain

Presentation by Matthew Gardner, Land
River Sea Consulting Ltd



HEAD OF LAKE WAKATIPU NATURAL HAZARDS ADAPTATION PROGRAMME

Objective:

To provide a framework to actively manage risks associated with natural hazards for the resilience of the area located at the Head of Lake Wakatipu, including Glenorchy and Kinloch

Focused on the wider area at the head of Lake Wakatipu (*Whakatipu-Wai-Maori*)

Multi-hazard scope including;

- flooding/erosion
- seismic hazards
- debris flow and landsliding

Aiming to develop a long-term, holistic hazards adaptation approach

Using the 'Adaptation Pathways' approach developed by the Ministry for the Environment



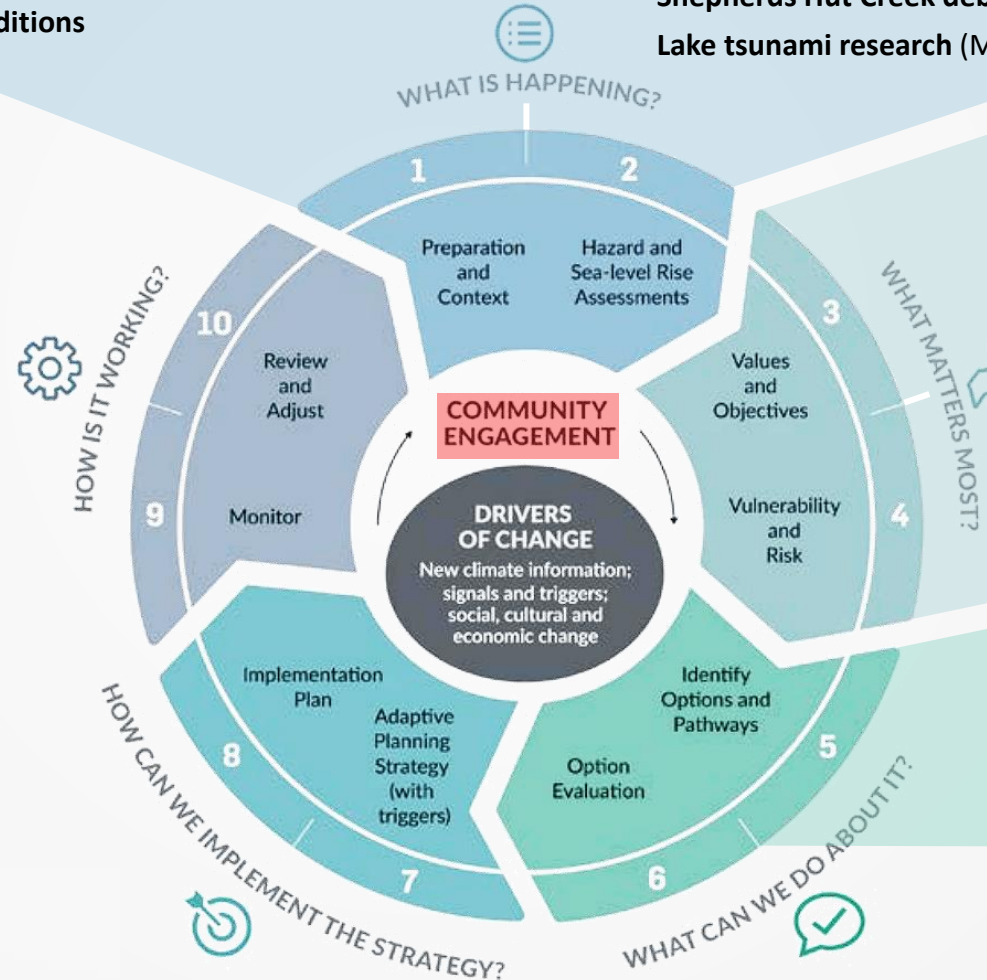
'ADAPTATION PATHWAYS' APPROACH

and

PROGRAMME WORK COMPLETED

Project planning
 Discussions with project partners
 Data collection (e.g. LiDAR and cross-section surveys, and aerial imagery)
 Engage project advisor (Dr Paula Blackett, NIWA)
 Environmental monitoring network additions

Otago region climate change projections (NIWA, Oct 2019)
 Head of Lake Wakatipu natural hazard & risk assessment (T+T, Mar 2021)
 Glenorchy floodbank assessments (WSP, June & Sept 2020)
 Dart-Rees river morphology research (University of Canterbury)
 Buckler Burn initial assessment of flood hazards (Massey, Dec 2021)
 Buckler Burn debris flow modelling (Geosolve, Nov 2021)
 Shepherds Hut Creek debris flow assessment (WSP, in progress)
 Lake tsunami research (Massey, NIWA, UoO, in progress)



Community engagement session 1 (Dec 2020)
 Community engagement session 2 (April 2021)
 Cultural values statement (Aukaha, Jan 2021)

Glenorchy liquefaction vulnerability (T+T, May 2022)
 Dart-Rees flood hazard assessment (LRS Ltd, May 2022)

Evaluation of floodplain hazard mitigation approaches (Damwatch Engineering Ltd, in progress)

NATURAL HAZARDS INVESTIGATIONS

Two new natural hazard investigations recently completed:

1. **Glenorchy liquefaction vulnerability assessment, Tonkin + Taylor Ltd**

- The first liquefaction hazard assessment for Glenorchy based on comprehensive subsurface geotechnical data and analysis.

2. **Dart-Rees flood hazard assessment, Land River Sea Consulting Ltd**

- The most detailed hydraulic modelling study for the Dart-Rees rivers
- The first flood hazard study at Dart-Rees to include climate change and geomorphic change factors

Findings will inform adaptation planning and decision-making in the Dart-Rees floodplain and Glenorchy township.



KEY DATES and FURTHER INFORMATION

2 nd June	Community update presentation Presentations and recording of meeting available on our project webpage tomorrow (3 rd June)
9 th June 1pm	Reports presented to the ORC Data and Information Committee Meeting will be streamed on the ORC YouTube page
Late June	Follow-up community discussions and feedback ORC staff will be in-person in Glenorchy

We will answer all of your questions, you can send these to:
headofthelake@orc.govt.nz

Our project webpage: <https://www.orc.govt.nz/holw>

ORC YouTube page: <https://www.youtube.com/channel/UC77y56iqlzQYFTyLKUHzQXg>

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