

# Uplands Case Study: Introduction

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## Research Aim 2: Case studies

- “Understanding Pressure Points, Critical Steps, and Potential Responses”
- Five case studies: Alpine, **Uplands**, Lowlands, Coastal, Marine
  - Based on modelling, not field work surveys and experiments
  - Use the updated climate data from Research Aim 1
  - Coverage not contiguous
- Modelling:
  - Used to make projections (to 2100), not predictions
  - Models are used to identify physical *impacts* under particular climate change scenarios
  - *Implications* includes socioeconomics, population changes, business decisions and changes to public policy

# Uplands Case Study Area

## Study Area Description

Name : Upper Waitaki / MacKenzie country

Catchment Area 9723 km<sup>2</sup>

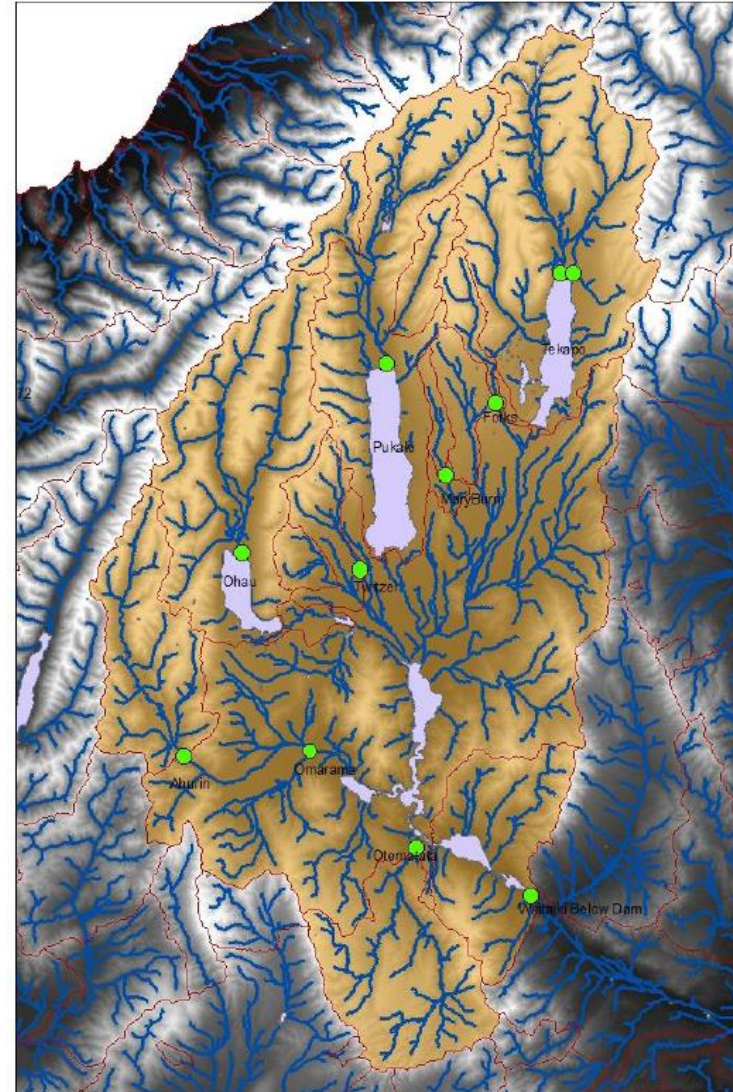
Maximum elevation >3000 masl

Minimum elevation 378 masl

Mean Annual Precipitation 0.6-12 m

Mean Annual Discharge 0.13-10 m

Green dots represent location where the hydrological model is calibrated (discharge at gauging station, lake inflows for lakes).

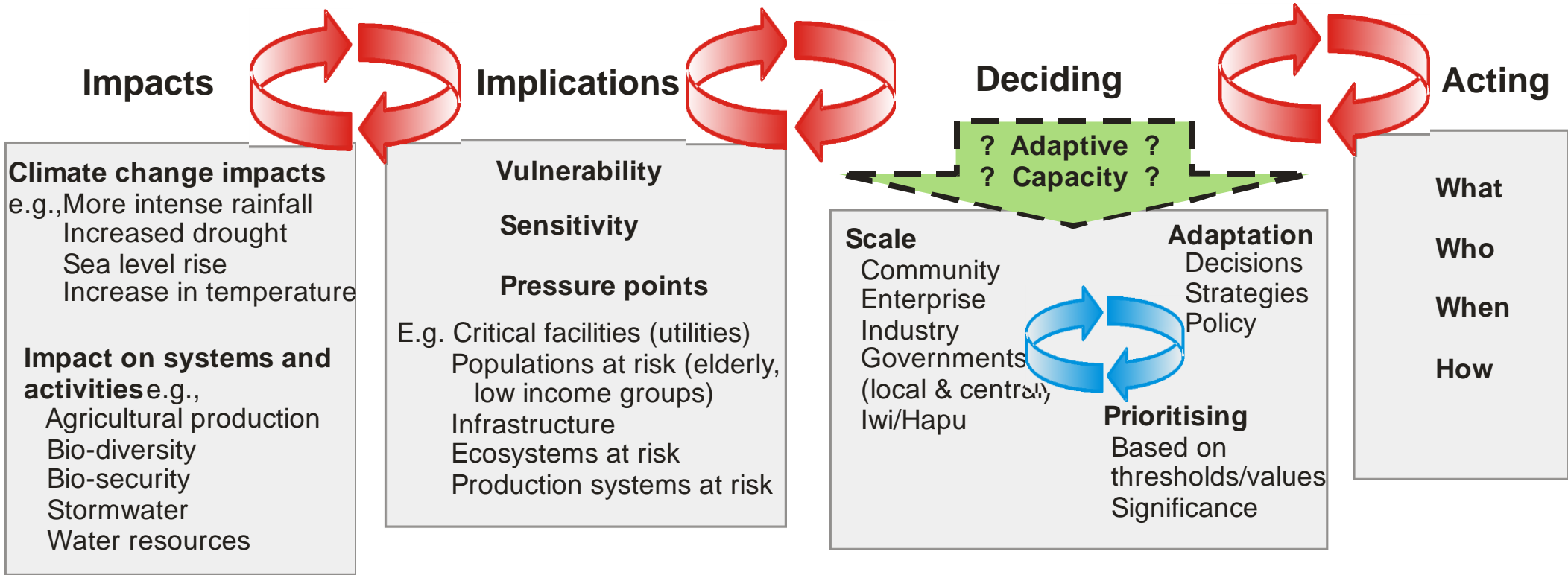


## Impacts considered, after liaison with stakeholders (November 2014)

### Modelling impacts (proposed)

- ✓ • Flow availability and hydrological fluxes for downstream users **Christian Zammit, Topnet**
- ✓ • Land-use change and its downstream impacts **Levente Timar, LURNZ**
- ✓ • Agricultural profitability
- ✓ • Agriculture and forestry production impacts **Troy Baisden, BIOME-BGC**
- ✓ • Wilding pines and wildfires **Norm Mason**
- ✓ • Shifts in environmental conditions and resulting shifts in ecosystems, potentially including species distributions and exacerbated increased weed invasions **Andrew Dunningham, CLIMEX**

# Impacts and implications, and beyond



Understanding

Adaptation

## Key Outputs from this Case Study

- Scientific papers and reports to be used for the IPCC AR6
- Linkages with National Science Challenges, especially the Deep South Challenge
  - What was accomplished?
  - What was too much of a stretch?
  - How can this work be extended?
  - Are we asking the right questions?
  - What are the lessons learned?
- An Uplands Case Study Synthesis Report (we'll alert you when this is completed)

Your feedback  
today will be  
invaluable!