



Future Proofing Groundwater Systems

Adaptation Pathways for Groundwater

Factsheet 2



Earth Sciences
New Zealand

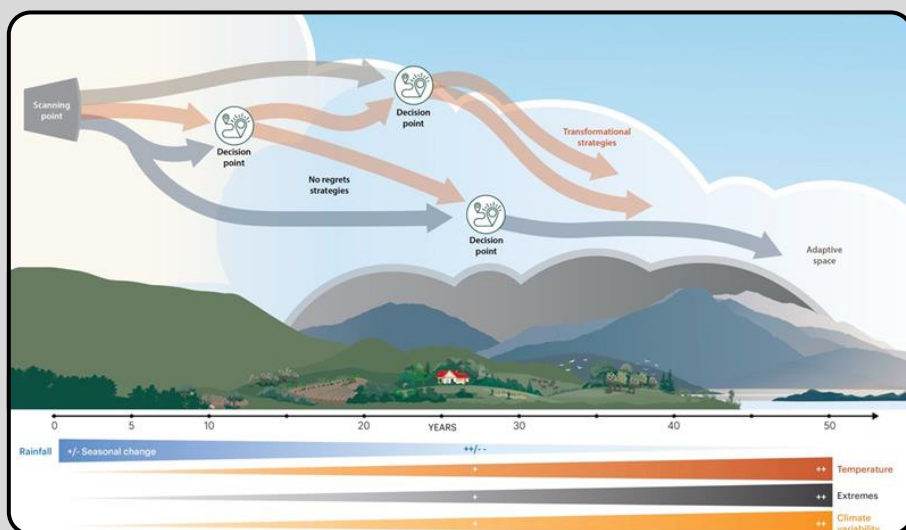
“Adaptation pathways planning is a strategic framework used to design long-term solutions in the face of change and uncertainty.” Pathways planning helps identify and sequence adaptation options over time, while preserving flexibility to shift, if conditions change, or new knowledge emerges. Traditionally, adaptation pathways have been developed as part of technical or engineered responses to climate-change impacts and implications. In order to make adaptation-pathways processes more accessible and relevant to stakeholders we are developing and applying a participatory approach, working with iwi, stakeholders, and water managers across management scales to deliver better outcomes for groundwater now and into the future.



By using participatory approaches, we build a shared understanding of complex systems alongside the stakeholders who implement the solutions. This ‘knowledge partnering’ combines transdisciplinary science with local expertise to navigate the search for solutions in uncertain futures. Participation is central, to ensure communities at large and small scales are supported to make decisions they need to in the face of significant uncertainties.

Dynamic Adaptive Pathways

In FPGW we are focusing on the ways in which communities must navigate increasing frequency, intensity, and duration of drought events. At regional and local scales our work will provide a framework and context within which different groups of iwi, stakeholders and water managers can better understand potential climate-change impacts and to consider and discuss a range of possible adaptation options and decision pathways.



Participatory approaches to adaptation pathways help to identify locally relevant pathways of autonomous and planned adaptation in the context of regional development and decisions, while informing actors of potential trade-offs and possible consequences of adaptation actions. Decisions around how to respond to drought events will be explored in terms of water availability for irrigation, maintenance of streamflows, drinking water supplies. We are evaluating the economic and social consequences of these decisions across local, regional, and national scales [Factsheets 2 and 3].