

Project	RAP Deliverable 3 – Adaptation Framework Agreement
Client	Wellington Regional Council on behalf of Wellington Regional Leadership Committee
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Note: This report is made up of two separate documents: (i) Phase 1 Main Report and (ii) Phase 1 Appendices.

Recommended citation

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Table of Contents

INTRODUCTION TO APPENDICES.....	1
1. Overview of this two-part Phase 1 Report.....	1
2. Note on Methodology	4
APPENDIX 1: LITERATURE REVIEW – SETTING THE SCENE	5
1. Introduction	5
2. Deepen & extend efforts to future-proof the region	5
2. Interconnectedness necessitates local-regional coordination	7
3. Navigate change, surprise & disruption.....	10
4. Constructively manage uncertainty about the future	28
5. Reconcile divergent interests & constructively address conflict.....	29
6. Act with urgency now but keep options open to enable climate resilient development	30
APPENDIX 2: KEY INFORMANT REFLECTIONS	35
1. Introduction	35
2. Adaptation action is underway	36
3. Adaptation & resilience-building action is founded on Te Tiriti o Waitangi.....	36
4. The case for working together	36
5. Clarity of purpose & direction	37
6. Long-term vision & real-world action focus	38
7. Cultural & community considerations	39
8. Build shared understanding about climate-compounded risk.....	39
9. Local-regional alignment & coordination	39
10. Resource, affordability & capacity constraints	41
11. Infrastructure resilience.....	42
APPENDIX 3: HORIZON SCAN - FACTORS SHAPING LOCAL-REGIONAL RESILIENCE ..	43
1. Introduction	43
2. Horizon Scan: Global factors shaping adaptation & resilience	44
Context – ‘tightening squeeze’	44
Global hindering & helping factors	44

Double exposure	45
Global influence over time	46
Global upshot.....	46
3. Horizon Scan: National factors shaping adaptation & resilience	47
National Context	47
National drivers shaping local-regional resilience	48
Unsettled reform: Planning, local government, water	49
National hindering & helping factors	50
Helping national factors	51
Hindering national factors	52
National challenges & opportunities over time	55
National upshot.....	55
4. Horizon Scan: Local-regional factors shaping adaptation & resilience	56
Local-regional context	56
Local-regional resilience paradox.....	57
Local-regional hindering & helping factors	58
Helping local-regional factors.....	60
Hindering local-regional factors	61
Local-regional challenges & opportunities over time	65
Local-regional upshot.....	68
APPENDIX 4: CONCLUSION & RECOMMENDATIONS	70
1. Conclusion	70
The problématique	70
The combination of institutional fragmentation & myopia	71
Why work together?	73
Why a Tākai Here / Agreement?	75
Pros & cons of the proposed agreement	75
What the agreement is; what is it not?	76
Time horizons and evolving function	77
Key elements of the Tākai Here.....	78
2. Recommendations	78
Stepwise process for agreement that endures.....	78
Priority actions for WRLC Senior Staff Group	79
Final reflection.....	80
BIBLIOGRAPHY / READING LIST.....	81

Adaptation, risk reduction, resilience, tangata whenua, Pasifika, Indigenous Peoples	81
Adaptation pathways planning	82
Adaptation, risk reduction and resilience politics, policy and practice	83
Climate justice, climate action.....	84
Community-based adaptation	85
Guidance for local communities and local government.....	86
Sea-level rise	86

INTRODUCTION TO APPENDICES

1. Overview of this two-part Phase 1 Report

This is Bruce Glavovic's two-part Phase 1 Report for the Greater Wellington contract: **RAP Deliverable 3 – Adaptation Framework Agreement**, a cornerstone of the [Regional Adaptation Project](#).

The separate **Phase 1 Main Report** includes an **Executive Summary** and a 10-page **Main Report**. This **Phase 1 Appendices** document provides the detailed evidence base for the synoptic **Part 1 Main Report**.

Professor Huhana Smith (Massey University) and I were separately contracted to deliver this work. Our work is integrated and carried out in close dialogue with the **Wellington Regional Leadership Committee (WRLC)**, Secretariat, Steering Group, and support staff.

My report complements the separate **Phase 1 report by Professor Huhana Smith** that focused on findings from her engagement with **tangata whenua and Māori entities** in the region. My focus was on engaging with key informants mainly in the **regulatory setting**, chiefly local government, central government agencies, and others in roles relevant to building a connected, thriving and resilient region. Hence our separate reports at the end of Phase 1. Our reporting for Phases 2 and 3 will be presented as integrated outputs as we continue to work together.

These **Appendices** include: **Appendix 1: Literature Review**, focused on scholarly and technical literature to contextualise challenges and opportunities for enabling collaborative climate change adaptation and resilience building in the region; **Appendix 2: Key Informant Reflections** on this WRLC project by a cross-section of regulatory staff in the region; **Appendix 3: Horizon Scan** to make sense of local-global 'forces' shaping resilience prospects for the region; and **Appendix 4: Conclusion and Recommendations**.

Table 1 lists key informants, with most discussions held from July to November 2025. Further discussions will be had with key stakeholders and potential partners in Phases 2 and 3 of this contract.

Phase 1 findings are presented in **plain language**, with relevant linked sources and a **Bibliography / Further Reading** at the end of the Appendices.

Table 1: Conversations with key informants, mainly in government agencies and some other key informants* (neither comprehensive nor representative; Prof. Smith reports on meetings held with tangata whenua key informants)

Entities	Representatives
<i>Territorial Authorities</i>	
Porirua City Council	Wendy Walker (Chief Executive); Nic Etheridge (General Manager: Policy, Planning & Regulatory Services)
Kāpiti Coast District Council	Kris Pervan (Group Manager: Strategy & Growth); Alfred Lison (Planning Technical Support Officer)
Horowhenua District Council	Jacinta Ward (Policy Planner)
Hutt City Council	Jörn Scherzer (Head of Climate, Waste & Resource Recovery); Miriam Randall (Senior Advisor: Climate & Sustainability); Dalila Gharbaoui (Policy Advisor)
Masterton District Council	Karen Yates (General Manager: Strategy & Development); Tania Madden (Strategic Planning Manager); Kylie Robinson (Environment Lead)
Wellington City Council	Jamuna Rotstein (Principal Advisor for Climate Change Adaptation)
Carterton District Council	Ricky Utting (Climate Change Coordinator)
<i>Regional Council</i>	
Greater Wellington	Nigel Corry (Chief Executive); Lian Butcher (Group Manager: Environment); Angela Sutherland (Senior Advisor Climate Change Adaptation); Jaine Lovell-Gadd (Head of Secretariat: Wellington Regional Leadership Committee); Catherine Knight (Principal Strategic Advisor Urban Development)
Wellington Region Emergency Management Office	Dan Neely (Regional Manager)
<i>Government Agencies</i>	
New Zealand Transport Agency (Waka Kotahi)	Jeremy Blake (Principal Advisor Integrated Planning); Aaron Masagnay (Senior Planning Advisor); Jane Loughnan (Senior Investment Advisor); Janet Petersen (Principal Planning Advisor: System Strategy)
Ministry of Health	Vicktoria Blake (Principal Advisor for Climate Risk & Resilience)
<i>Critical infrastructure / Lifelines</i>	
Wellington Engineering Lifelines Group	Fran Wilde (Chair of Wellington Lifelines Group); Richard Mowlle (Project Manager)
CentrePort Ltd	William Woods (Strategic Planning Manager)
<i>Insurance</i>	
Insurance Council of New Zealand	James Baigent (Resilience Leader); Simon Fullan (Response & Recovery Leader)

Entities	Representatives
Stakeholders / Partners	
Wellington NZ	Stuart Taylor (General Manager: Business and Innovation); Chris Sperring (Destination Development Manager); Jo Heaton (Tourism and Visitor Economy Manager)
Tangata Whenua	
Te Ātiawa ki Kāpiti	Donna-Mari Ropata (Iwi Kaimahi); Tiffany Manihera (Community organiser and rangatahi advocate); Lincoln Pearson
Ngāti Toa Rangatira	Helmut Modlik (Tumu Whakarae); Anahera Nin (Iwi Senior Policy Advisor); Rawiri Faulkner (Pou Toa Matarau)
Hawkes Bay case	Gavin Ide (Hawkes Bay Regional Council: Principal Advisor Strategic Planning); Simon Bendall (Traverse Environmental: Managing Director and Principal Planner)

***Note:** An email invitation to share reflections was sent to **Mayors / elected members** involved in the WRLC but no one responded to take up this opportunity. It was therefore prudent to focus mainly on staff in a cross-section of government entities and relevant WRLC partner / stakeholder entities – with a focus on regulatory bodies. Email invitations were sent to many other representatives of WRLC-relevant government entities and stakeholder organisations but securing meetings was not feasible in the timeframe of Phase 1.

This work **builds on prior work by the WRLC** and related investigations by partners and researchers, including the impact of climate change on the region; housing; urban development; iwi capacity; and transport.



Source: WRLC 2024. [*Te Rautaki Whanaketanga ki tua a Wairarapa-Wellington-Horowhenua Future development Strategy 2024–2054*](#)

2. Note on Methodology

This report is NOT written as a scientific treatise with multiple academic citations. This is intentional. The **target audience** is the WRLC leadership, partners, steering group, secretariat and potential contributors and stakeholders, and interested public. The report is therefore written in **plain language**. Nonetheless, the report is **robust and evidence-based**.

Appendix 1 draws insights from **scientific and technical literature** and informs subsequent Appendices by setting the scene for the overall study. Key sources are listed at the end of the report in a Bibliography. **Appendix 2** provides a synopsis of **observations made by key informants in a series of informal discussions**. These discussions were **not** framed as ‘research interviews’ and were not recorded. Rather, these discussions were an opportunity to build rapport with and hear firsthand reflections by people involved in WRLC-related work. We explored four main topics:

1. How might an **action-orientated adaptation framework** for Te Upoko o Te Ika a Māui help future proof local communities; and how might your organisation like to **partner** in this process?
2. What are the main **challenges and opportunities for building an agreed framework**?
3. How could participation **maximise the value** for your organisation / entity?
4. How can we ensure that the relevant people/leaders from your organisation and across the region are **involved**?

I kept notes of my discussions. I report key findings without attributing statements to particular individuals so that, other than listing participants in Table 1, **findings are anonymously reported**. Discussions were wide-ranging and diverse. I distil key insights and report findings in way that shows the breadth and depth of views shared. Discussions are accurately reported, and key themes identified.

Appendix 3 presents an ‘**Horizon Scan**’ of local-global factors that could influence how this initiative might be influenced by changing circumstances over time. Horizon Scanning is a method used in strategic foresight studies to detect signals, trends, etc. that might inform how to progress an initiative into the future. Further details are provided in the appendix. **Appendix 4** presents conclusions and recommendations.

This **study** was informed by **team deliberations and critical reflections**; and feedback on drafts of this report shared by the WRLC Senior Staff Group, Steering Group, Secretariat and support staff, Tom Fitzgerald and Professor Smith.

I remain solely responsible for this analysis and conclusions drawn.

APPENDIX 1: LITERATURE REVIEW – SETTING THE SCENE

1. Introduction

Appendix 1 provides a **robust foundation** for understanding the challenges and opportunities for building adaptive capacity and community resilience and future-proofing Te Upoko o te Ika A Māui. Relevant **scholarly literature** on collaborative governance¹ and planning, local-regional adaptation planning, community-based adaptation planning, and ways to tackle vexing challenges in turbulent times, is reviewed. Relevant **government and technical reports** were also reviewed to identify challenges and opportunities. The following main **themes** were identified:

- Deepen and extend efforts to future-proof the region;
- Interconnectedness necessitates local-regional integration;
- Navigate change, surprise, and disruption;
- Constructively manage uncertainty about the future;
- Reconcile divergent interests and productively address conflict; and
- Act with urgency now but keep options open to enable climate resilient development.

2. Deepen & extend efforts to future-proof the region

1. **Te Rautaki Whanaketanga ki tua a Wairarapa-Wellington-Horowhenua region (the region | takiwā)** is a vibrant, thriving Tiriti-centred region.
2. For Māori, the region is the brains of **Te Ika ā Māui**, forming the head of the fish of Māui, commonly known as the North Island of Aotearoa New Zealand.

¹ The term **governance** is used to describe the way we share power, make decisions, and take action in society. In Aotearoa New Zealand, governance is fundamentally shaped by Te Tiriti o Waitangi, which establishes a relationship between Kāwanatanga (the right to govern) and Tino Rangatiratanga (the right of iwi and hapū to exercise authority over their own affairs). In practice, governance involves navigating historical and systemic inequities to ensure that resources are managed and power is exercised in a just and fair manner. Governance is not just about who is at the ‘table’, but about who sets the agenda and whose voices carry weight. Key governance actors include formal government entities, tangata whenua, and civil society and private sector entities. The term **stakeholders** is used to identify those parties with a tangible interest in, or who are directly impacted by, a public decision – recognising that those most affected should have the opportunity to play a meaningful role in public planning and decision-making processes.

3. **The region is characterised by strong interconnections** within and between tangata whenua, distinctive local communities, diverse businesses, critical infrastructure providers, and an array of government authorities from the local to national level. The region has incredible land- and sea-scapes, and diverse livelihood and economic opportunities including being a centre for tourism, creative industries, knowledge and research, innovations in food and primary production, and the seat of national government (e.g., Our Region 2050 report).
4. **Much work has already been done to prepare for the future** under the aegis of the **Wellington Region Leadership Committee (WRLC)**, e.g., [Future Development Strategy](#) – an outlook for urban, industrial and residential development in the region over the next 30 years – and work underway on **Our Region 2050** to unlock opportunities and address future challenges, as well as this Regional Adaptation Project; and many other WRLC initiatives.
5. Many **future-oriented initiatives are underway** by tangata whenua organisations, local communities, private sector organisations, sector-based organisations, government from the local to national level, and research collaborations, e.g., [Te Matarau a Māui: Collaborative Pathways to Prosperous Māori Futures](#); Yates et al., 2024. Guidebook entitled: [Transitions in Action: An Urban and Regional Guide for Te Upoko o te Ika Wellington](#).

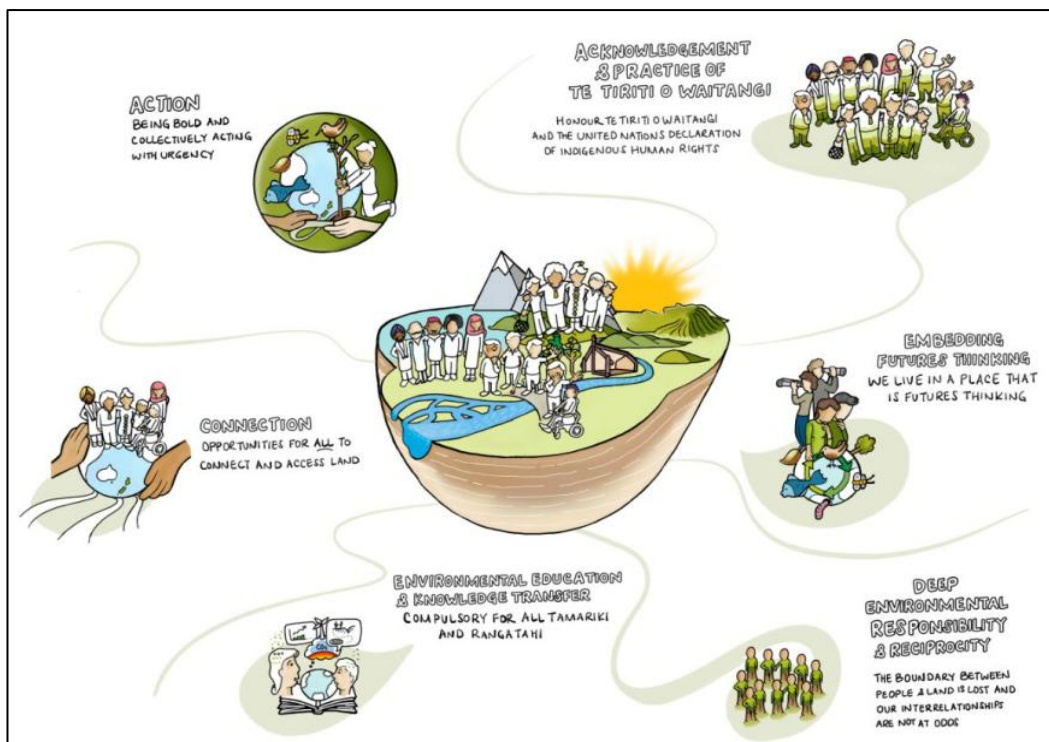


Figure 1.1: Illustration of rangatahi aspirations for the future of whenua 2050
 (Source: Ministry for the Environment. 2023. *Where to from here? How we ensure the future wellbeing of land and people: The Ministry for the Environment’s Long-term Insights Briefing 2023*. Wellington: Ministry for the Environment, page 31).

6. Notwithstanding future-proofing efforts already underway and envisaged through major legislative and institutional reform, **a clear, consistent and coherent approach to building adaptive capacity and resilience at the local-regional scale has yet to be developed and operationalised**. Rather, important ‘pieces of this puzzle’ are spread across a range of regulatory and non-regulatory initiatives from the local to regional and national scale.
7. **The motivation for this project is to fill this significant gap: *How can the region’s governance actors (including government, tangata whenua, civil society, critical infrastructure providers, the private sector, and researchers) develop and action a common, enduring approach to building a connected, thriving and resilient region?***
8. **This is vital work for current and future generations: *How might a dedicated regional approach address real-world locality-specific needs, concerns, challenges and opportunities in the short- (1-10 years), medium- (10-50 years) and long-term (50-100+ years)²?***

2. Interconnectedness necessitates local-regional coordination

9. **The region is deeply interconnected** through rivers, [waterways](#) and [ecosystem linkages](#) that tie localities together along with people and their historical, cultural and socio-economic inter-dependencies. For example, a flood in one district could be driven by heavy rainfall in a far-away district. The region has interconnected labour and housing markets, along with infrastructure and freight corridors, integrated supply chains, a region-wide visitor and tourism economy, a primary sector that supplies food and fibre to the region and beyond, along with regional critical infrastructure interdependencies.

² Note that these **timeframes** can be variously defined. Here, specific timeframes are deliberately used to indicate the extended time horizon necessary for adaptation and resilience planning. The 1-10 year short-term timeframe encompasses the 3-year electoral cycle and key planning timeframes, e.g., 10-year Long-Term Plan. The 10-50 year medium-term timeframe encompasses the 30-year national infrastructure plan timeframe and 30-year infrastructure strategies that Councils are required to produce as part of their Long-Term Plans; as well as 2025 revisions to planning legislation that includes consenting reforms for longer duration permits of up to 50 years. The 50-100+ year long-term timeframe encompasses obligations under the New Zealand Coastal Policy Statement for Councils to identify and assess coastal hazard risks over at least 100 years; as well as National Adaptation Plan provisions that include tools to undertake 100-year adaptation planning for local infrastructure and marae; and provisions in the Planning Bill currently under consideration that include the need to account for natural hazard risk reduction over at least 100 years and Regional Spatial Plan consideration of a 100-year timeframe for climate adaptation and resilience.

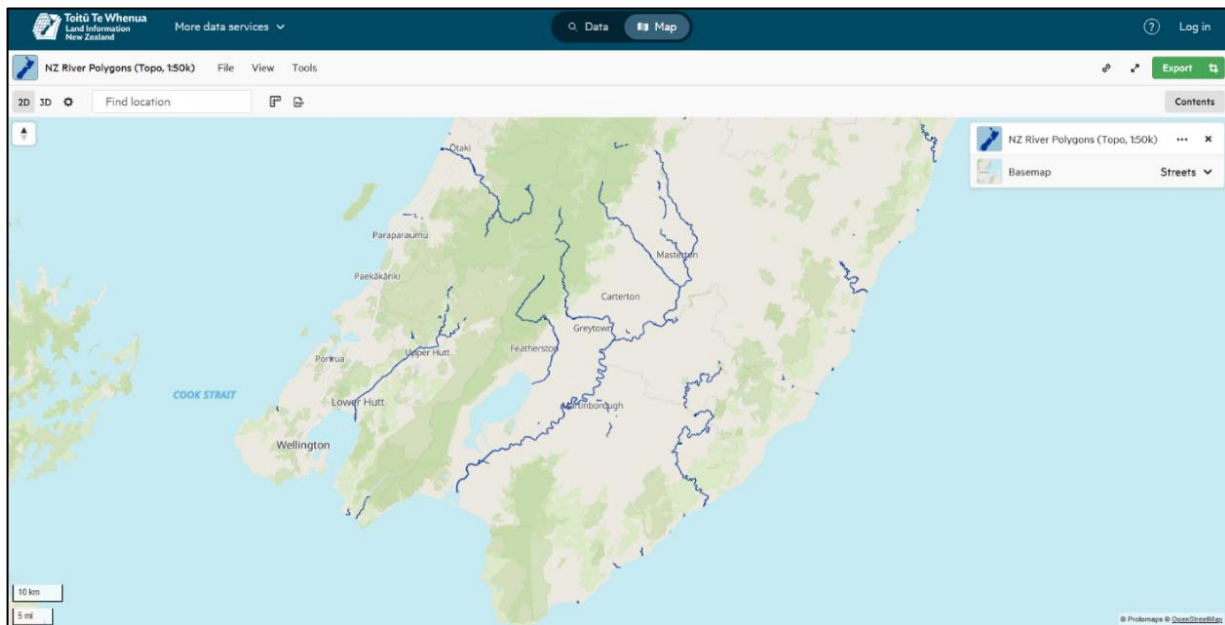


Figure 1.2: Map of region's major rivers ([Land Information New Zealand](#))



Although it is called an economic development strategy, in Te Ao Māori all things are interconnected. A prosperous and well balanced Māori economy creates healthy whānau; healthy whānau contribute to a thriving environment; a thriving environment forms the backdrop to a developing economy, and so on.

Source: Te Matarau a Māui Strategy – [Reshaping Landscapes](#)

10. **The drivers of change, surprise and disruption are interconnected.** Climate-compounded risk is escalating alongside profound societal changes, including socio-technical change (e.g., AI, robotics), geopolitical instability, changes in global trade and economic prospects (e.g., changing terms of international trade), demographic change (e.g., an aging population), institutional change (e.g., legislative and local government reforms), and environmental change (e.g., biodiversity loss and the spread of invasive alien species). These interconnected risks need to be tackled holistically and in a local-regional approach that is joined-up and coordinated.
11. Regional development prospects, public safety and community well-being will be compromised unless infrastructure and development patterns are intentionally climate resilient. **Business as usual practices are climate-fragile and maladaptive** because they typically ignore the implications of climate change and other disruptive change.
12. **Future-proofing the region and building connected, thriving, resilient communities is therefore imperative.** Future-proofing means promoting **climate resilient development**, i.e., rapidly reduce greenhouse gas emissions and enable

effective adaptation and community resilience to secure just and sustainable development that is Tiriti-led and mobilises joined-up climate action that is led by tangata whenua, at-risk communities, private sector organisations, and local government. **Here the focus is on building local-regional adaptive capacity and resilience**, but the WRLC recognises that such actions are an essential part of integrated efforts to enable climate resilient development.

13. **The region could lead the country in innovative climate resilient development** that future-proofs local communities, businesses and the region. But this means navigating change, surprise and disruption.

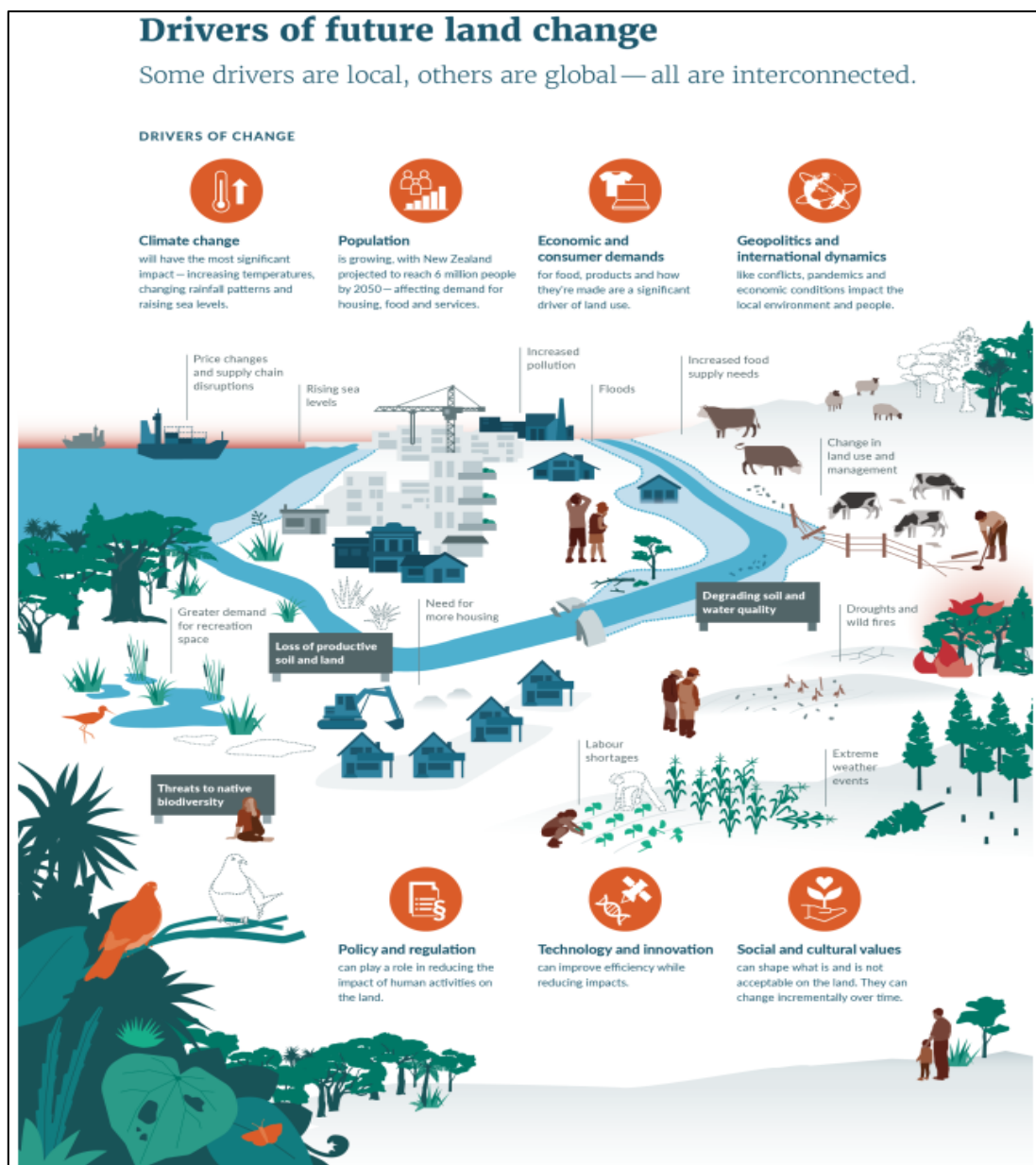


Figure 1.3: Interconnected drivers of change (Source: Ministry for the Environment, 2023. *Where to from here? How we ensure the future wellbeing of land and people: The Ministry for the Environment’s Long-term Insights Briefing 2023*. Wellington: Ministry for the Environment, page 19).

3. Navigate change, surprise & disruption

14. **The region experiences severe natural hazard events**, from earthquakes to landslides, river flooding, coastal storms, coastal erosion, wildfires, heat stress, and extreme weather events (see e.g., [Wellington Region Emergency Management Hazards webpage](#); [Greater Wellington LIM hazard information webpage](#); [Greater Wellington Flood Hazard portal](#); as well as locality specific information held by territorial local authorities, tangata whenua, critical infrastructure providers, the private sector, non-governmental and community-based organisations, and research institutions, e.g., [MBIE’s Natural Hazards and Resilience Platform](#)).

Table 1.1: Some major natural hazard events impacting the region since 2000

Earthquakes	<ul style="list-style-type: none"> • 2005 Upper Hutt earthquake (M5.5: Most expensive regional event for EQC claims in this decade • 2013 Cook Strait earthquakes (up to M6.5) • 2013 Lake Grassmere Earthquake (M6.6): Marlborough-based event that caused damage in Wellington • 2014 Eketāhuna Earthquake (M6.2) • 2016 Kaikōura Earthquake (M7.8): Centred in the upper South Island, the earthquake caused major damage to buildings and infrastructure in the Wellington CBD
Severe weather events	<ul style="list-style-type: none"> • Oct 2003 Kāpiti coast flooding: Major flooding and landslides in Paekākāriki • 2004-2005 flooding: Intense rainfall across the lower North Island caused severe riverine flooding and landslides in the hill country, esp. Feb 2004, Jan 2005 and Mar 2005 • June 2013 storm: Major disruptions, incl. power outages for ~28,000 homes and property damage caused by winds up to 200km/h recorded on Mt Kaukau and waves reaching 15 m • 2017 Ex-Cyclone Debbie: Heavy rain, river flooding and landslides in many areas
Coastal hazards	<ul style="list-style-type: none"> • Coastal erosion is continuous issue for shoreline development, compounded by land subsidence in some parts of the region and climate-compounded impacts like sea-level rise and more intense and frequent extreme weather events
Other hazards	Though susceptible to tsunamis and wildfires, for example, there are no major recorded events since 2000

15. Across the region, **severe disruptions have already been experienced** by households, businesses, farmers, local communities, central and local government, tangata whenua, and critical infrastructure providers, as well as the social-ecological systems that shape the quality of life for current and future generations.

Even the non-human realm is not immune from extreme events and disruptive change. **Climate change compounds natural hazard risk.**



16. **The scientific evidence is clear: global climate change is real**; significant climate-compounded impacts have already been experienced in the region; and escalating climate-compounded risk will continue long into the future, well beyond 2050 (see [IPCC 2023 AR6 Synthesis Report](#); [Beca, 2024, Wellington Regional Climate Change Impact Assessment](#); [WRLC 2024. Summary of Wellington Regional Climate Change Impact Assessment](#); [Greater Wellington 2025 Climate Projections for the Wellington Region](#)).
17. **Weather- and coast-related natural hazard risks are compounded by climate change**, especially along low-lying coasts, near rivers, and on slopes prone to slippage (see above links).

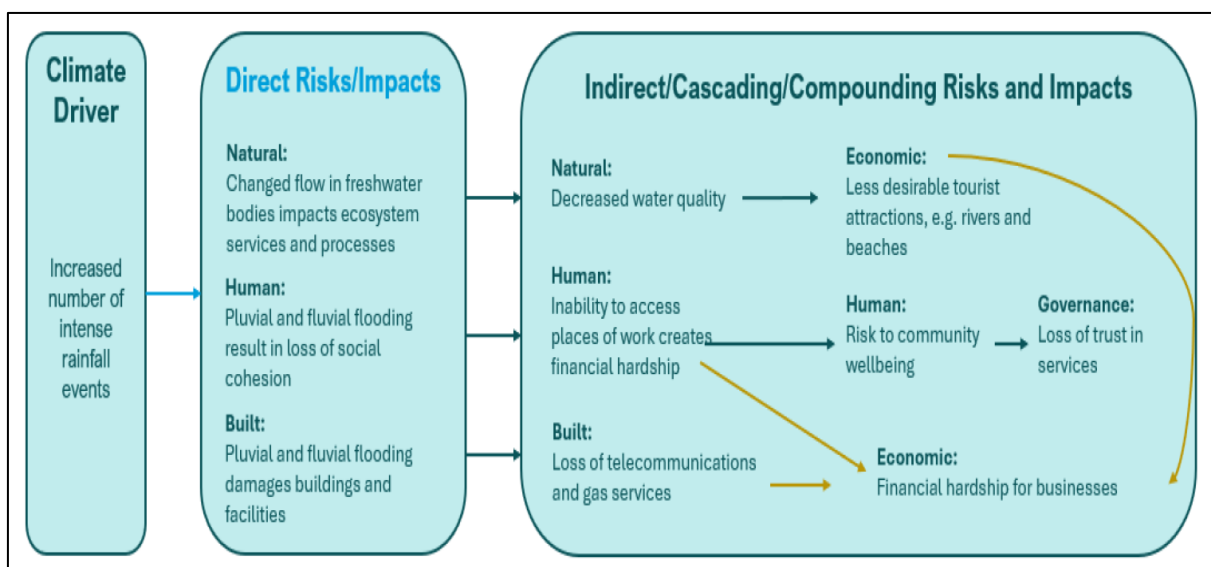


Figure 1.4: Illustration of how a climate driver (e.g., more intense rainfall events) can lead to multiple direct and indirect / cascading / compounding impacts and risks (Source: Beca 2024, page viii).

18. **More intense extreme weather events could disrupt the region’s ecosystems, cultural assets, community well-being, economic development and livelihood prospects up to and beyond 2050** (see [Beca, 2024, Wellington Regional Climate Change Impact Assessment](#); [Greater Wellington 2025 Climate Projections for the Wellington Region](#)).

Appendix 1, Box 1: Wellington climate change and variability

Greater Wellington Regional Council commissioned an **Earth Sciences New Zealand** report on **climate change and variability in the Wellington Region**.

Released in October 2025, the report finds that **the region’s climate is expected to become increasingly extreme**. **Key findings** include:

- **Temperatures** in the region are projected to continue increasing with more hot days and fewer frost days. Six more days of heatwaves are projected by 2040 under SSP1-2.6, and 51 more days of heatwaves by 2090 under SSP3-7.0.
- **Annual and seasonal total rainfall** for the region is expected to increase +/-8% but there is uncertainty about whether future increases or decreases will be observed.
- An **annual heavy rainfall event** (99th percentile) historically resulted in 65mm of daily rainfall. Heavy rainfalls are projected to become more intense in the region, increasing on average around the region by about 4% by 2040 (SSP2-4.5) and about 10% by 2090 (SSP3-7.0). Locality-specific rare, extremely heavy rainfall events could be substantially larger.
- **Drought frequency, duration and severity** are projected to increase in the region. The annual potential evapotranspiration deficit is projected to increase by 28mm by 2040 (SSP2-4.5) and by 101mm by 2090 (SSP3-7.0).

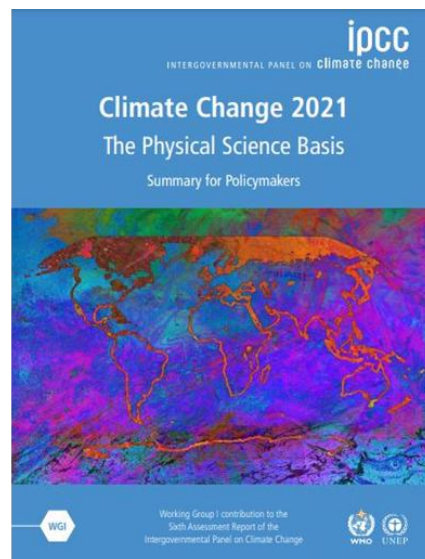
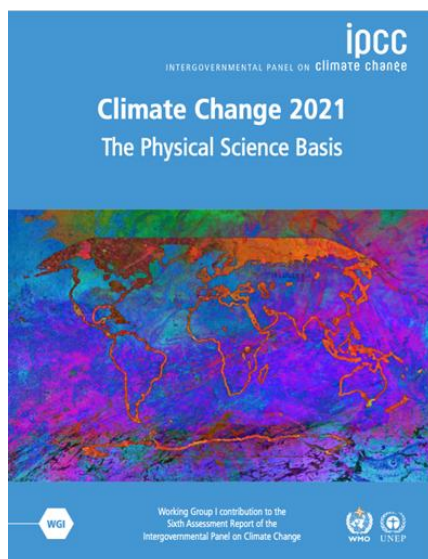
Source: Earth Sciences New Zealand 2025. *Wellington climate change and variability: CMIP6 projections for the Wellington Region*, Prepared for the Greater Wellington Regional Council, 151pp).

Appendix 1, Box 2: Key terminology about climate projections

Following the Earth Sciences New Zealand (2024) report for Greater Wellington, key terminology underpinning climate projections drawing on the Sixth Assessment Reports of the IPCC centres on scenarios called **Shared Socioeconomic Pathways** (SSPs) which include varying economic, political, technological and demographic drivers likely to shape greenhouse gas emissions and consequently global warming and climate risk projections. Updated projections for New Zealand use these SSP scenarios (see pp. 9-10 of the report).

These SSP scenarios start in 2015, and are abbreviated as SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP3-7.0 and SSP5-8.5, in order of increasing greenhouse gas emissions. These SSPs represent narratives characterised as ‘sustainability’ (SSP1), ‘middle of the road’ (SSP2), ‘regional rivalry’ (SSP3) and ‘fossil-fuel intensive development’ (SSP5). SSPs also specify the end-of-21st-century radiative forcing reached; e.g. the ‘4.5’ in SSP2-4.5 assumes a radiative forcing of 4.5 W m² in 2100. The following definition of each SSP is adapted from IPCC (2021):

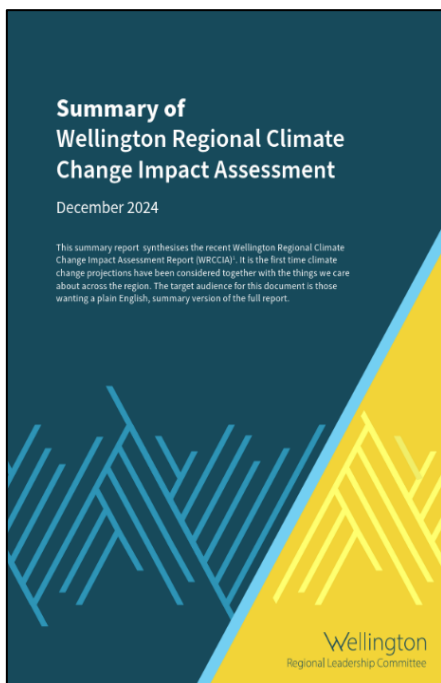
- **SSP1-1.9 and SSP1-2.6** are scenarios with very low and low greenhouse gas emissions, with CO₂ emissions declining to net zero around or after 2050, followed by varying levels of net negative CO₂ emissions.
- **SSP2-4.5** is an intermediate greenhouse gas emissions scenario, with CO₂ emissions remaining around current levels until the middle of the century.
- **SSP3-7.0 and SSP5-8.5** are high and very high greenhouse gas emissions scenarios, with CO₂ emissions that roughly double from current levels by 2100 and 2050, respectively.



Appendix 1, Box 3: Description of climate variables used in Earth Sciences New Zealand 2024 report (Source: Earth Sciences New Zealand 2024, page 13).

Variables	Descriptions
Mean temperature	Annual and seasonal average daily air temperature (°C). The average daily temperature is calculated as the average of the daily maximum and minimum temperature.
Maximum temperature	Annual and seasonal average daily maximum air temperature (°C).
Minimum temperature	Annual and seasonal average daily minimum air temperature (°C).
Daily temperature range	Annual and seasonal difference between the average daily maximum and average daily minimum temperatures (°C).
Hot days	Annual number of days where the daily maximum temperature exceeds 25°C.
Very hot days	Annual number of days where the daily maximum temperature exceeds 30°C.
Heatwave frequency	Annual number of days spent in heatwave. Following the framework of Perkins and Alexander (2013), a heatwave is defined as a period of at least three consecutive days during which the daily maximum temperature exceeds the 95 th percentile. It is calculated relative to the time of year (using a 15-day moving window) and specific location (i.e., percentiles are computed separately for each grid cell based on historical data). The analysis is restricted to the southern hemisphere extended summer period, from November through March.
Frost days	Annual number of days where the daily minimum temperature falls below 0°C.
Growing degree days	Annual number of growing degree days (base 10°C).
Total rainfall	Average annual and seasonal total rainfall.
Wet days	Average annual and seasonal number of days where the daily rainfall total is at least 1 mm.
Very wet days	Average annual and seasonal number of days where the daily rainfall total is more than 25 mm.
Heavy rainfall (99 th percentile) amount	Annual daily rainfall total that exceeds the 99 th percentile during a given base period. It is based on wet days, i.e. dry days are excluded from the calculation, and equivalent to the magnitude of rainfall on the 1-2 wettest wet days of the year. The historic base period of 1995 (1986-2005) is applied in this report.
Dry days	Average annual and seasonal number of days where the daily rainfall total is less than 1 mm.
Potential evapotranspiration deficit	Average annual potential evapotranspiration deficit (PED) accumulation total (mm/year). PED can be interpreted as a measure of drought severity. It represents the gap between the amount of water that could evaporate and transpire from land, and the actual amount of water that is available. PED is calculated daily, and days are added to generate PED accumulation values.
Probability of potential evapotranspiration deficit > 400 mm	Annual probability (%) of PED exceeding 400 mm.

Variables	Descriptions
Meteorological drought duration	Annual length of the longest continuous meteorological drought. We analyse meteorological drought – defined as rainfall deficits – using the approach outlined in Ukkola et al. (2020). Drought conditions are identified when the 3-month running mean of precipitation falls below the 15 th percentile, calculated for each month and location (i.e., grid cell) based on the historical reference period. A drought event is defined as any continuous period of at least one month during which the running mean remains below this threshold.
Average wind speed	Annual and seasonal average daily wind speed.
Windy days	Annual and seasonal number of days where the daily mean wind speed exceeds 10 m s ⁻¹ (36 km/h).
Strong wind (99 th percentile)	Annual and seasonal daily wind speed that exceeds the 99 th percentile during a given base period. The historic base period of 1995 (1986-2005) is applied in this report.
Solar radiation	Annual and seasonal average daily incoming shortwave radiation at Earth's surface.
Relative humidity	Annual and seasonal average daily relative humidity.
Mean sea level pressure	Annual average sea level pressure (hPa).



In the future, the Wellington region³ can expect:

1. More intense storms and heavy rainfall, with an increased risk of flooding and rainfall induced landslides.
2. More frequent dry periods, which could result in drought and wildfires.
3. Sea-level rise in low-lying coastal areas posing an increased chance of flooding, including a heightened risk of storms surging inland, damaging infrastructure and properties, and impacting people's lives.

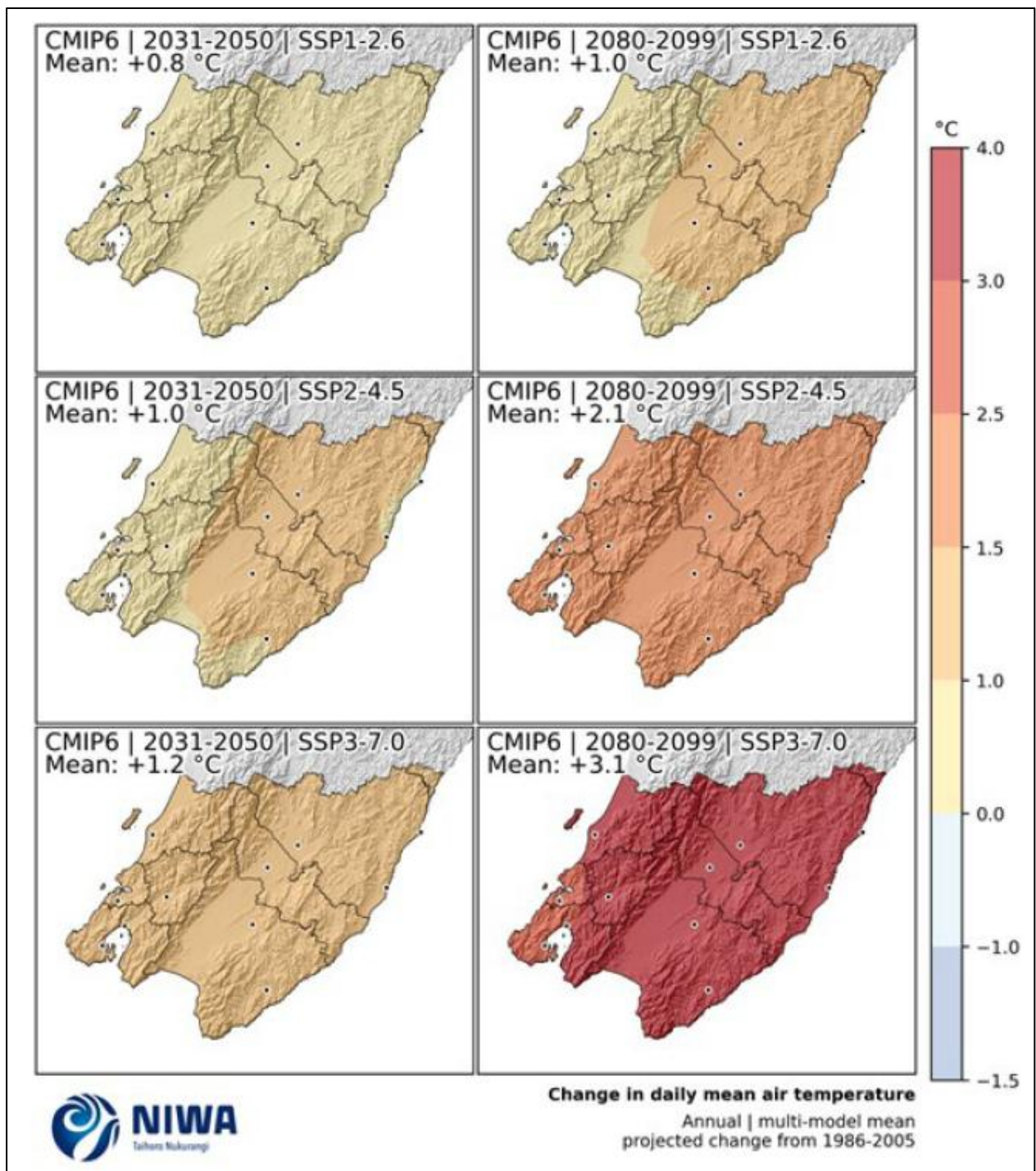


Figure 1. 5: Projected annual mean temperature changes (Source: Earth Sciences New Zealand, 2025, page 21).

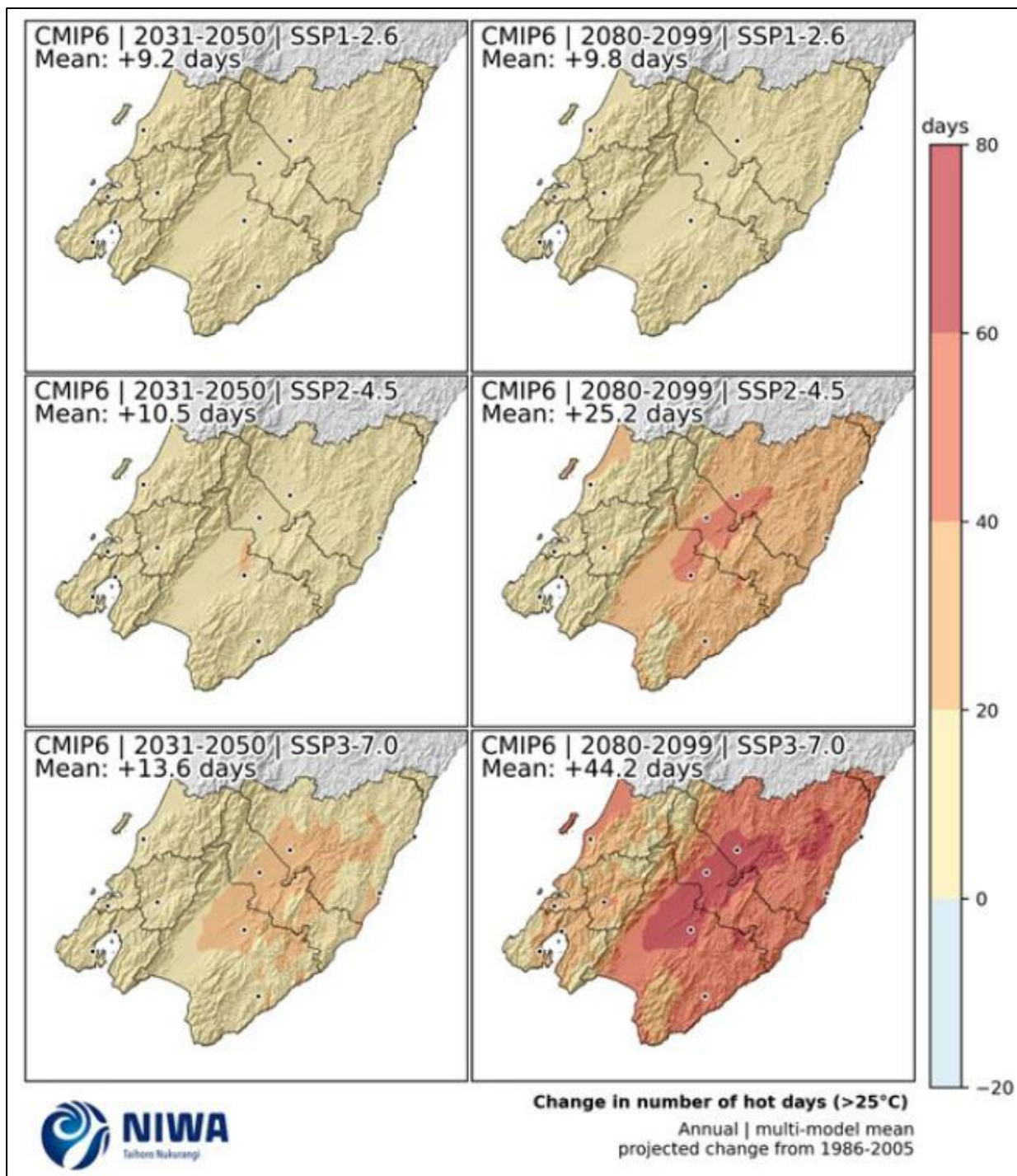


Figure 1.6: Projected annual hot day (>25°C) changes (Source: Earth Sciences New Zealand, 2025, page 49).

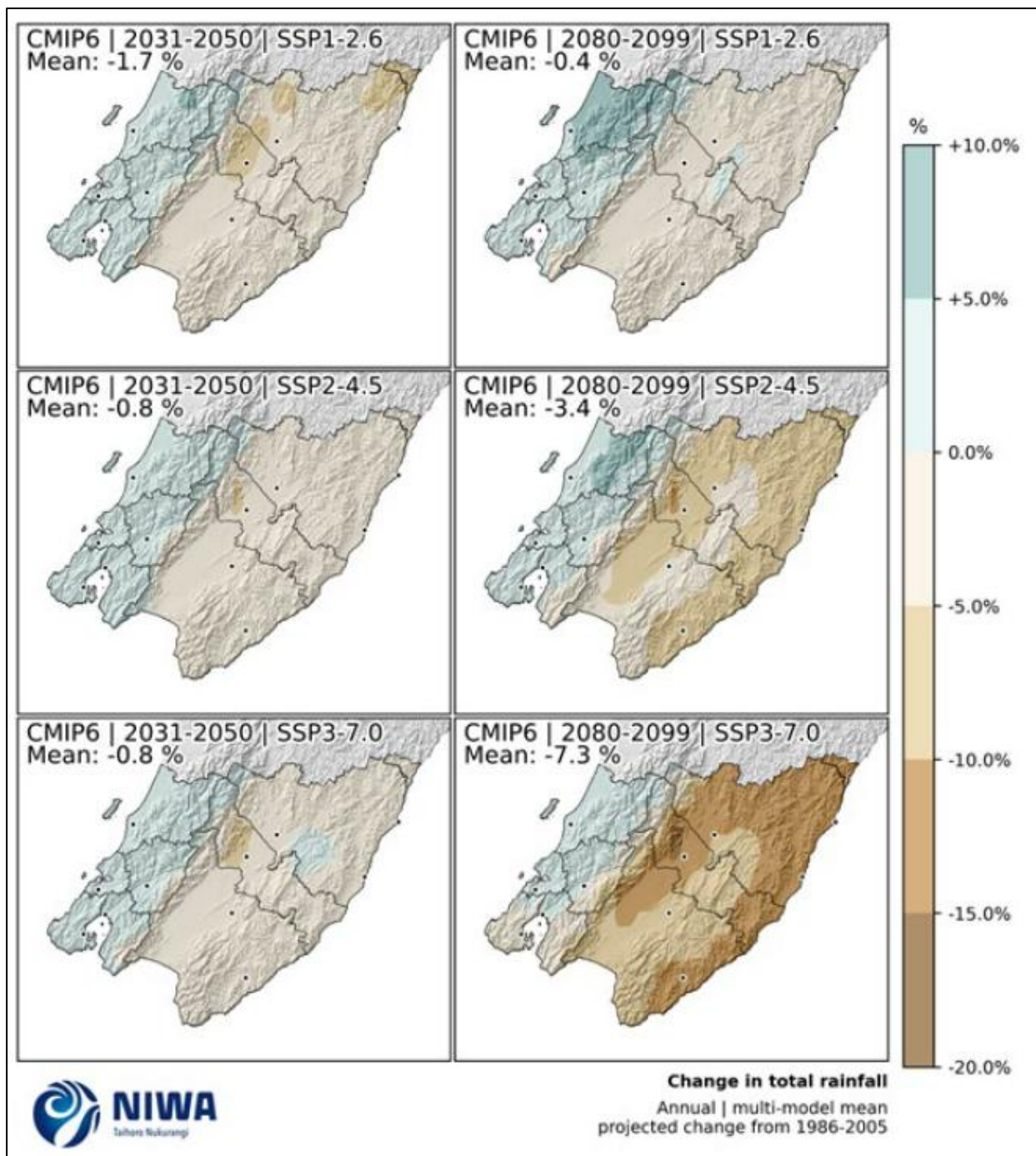


Figure 1.7: Projected annual average total rainfall changes (Source: Earth Sciences New Zealand, 2025, page 60).

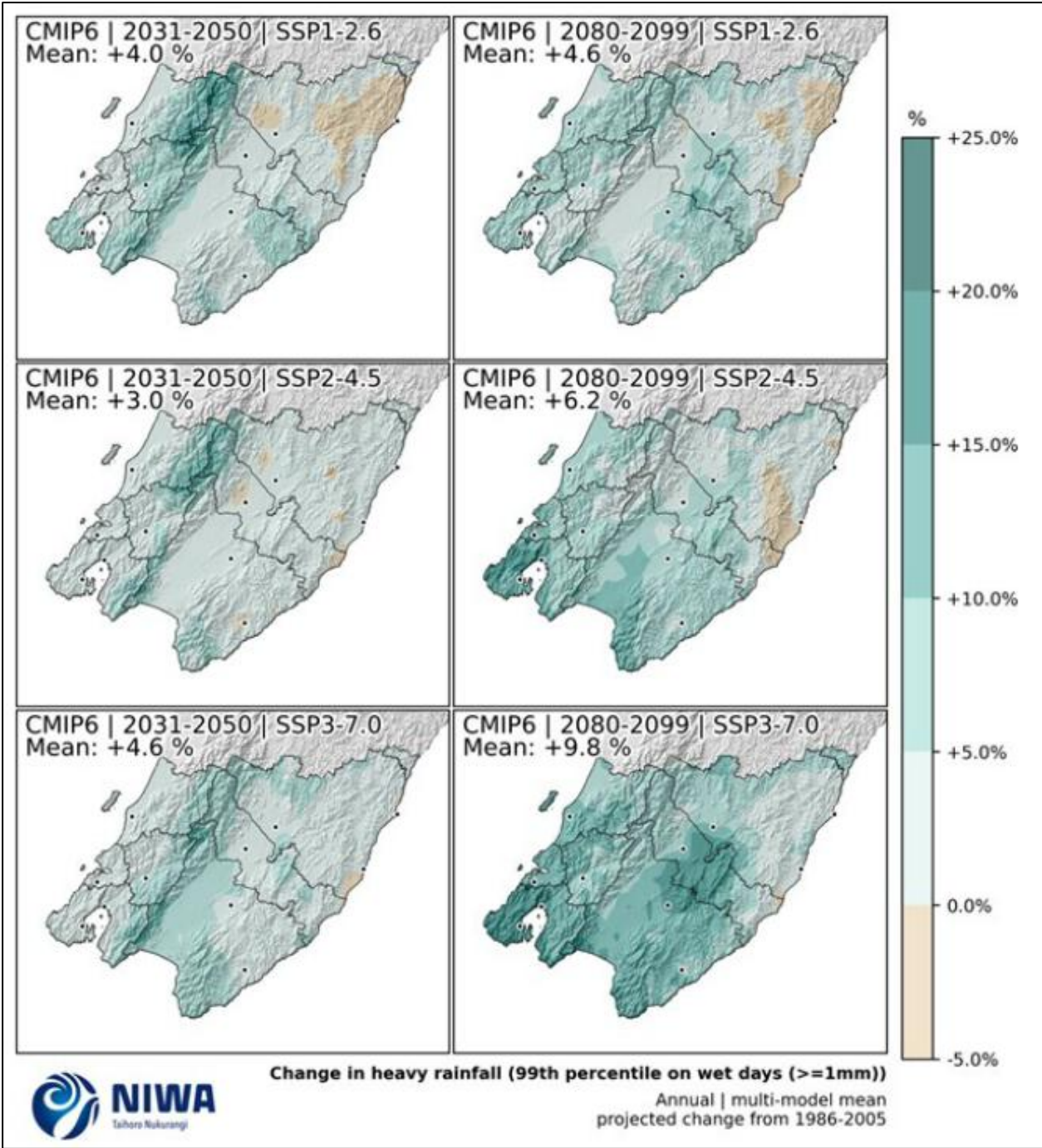


Figure 1.8: Projected annual heavy rainfall changes (Source: Earth Sciences New Zealand, 2025, page 81).

Table 1.2: Historic and projected Potential Evapotranspiration Deficit (PED) (Source: Earth Sciences New Zealand, 2025, page 89).

Historic PED accumulation and projected changes (mm) Relative to 1995 (1986-2005)							
	Historic average	SSP1-2.6		SSP2-4.5		SSP3-7.0	
	1995	2040	2090	2040	2090	2040	2090
Annual	225	+44	+38	+28	+72	+43	+101

Table 1.3: Historic meteorological drought duration and projected changes (days) (Source: Earth Sciences New Zealand, 2025, page 94).

Historic meteorological drought duration and projected changes (days) Relative to 1995 (1986-2005)							
	Historic average	SSP1-2.6		SSP2-4.5		SSP3-7.0	
	1995	2040	2090	2040	2090	2040	2090
Annual	50.3	+11.6	+8.3	+3.6	+16.5	+8.8	+27.3



Extreme weather event, Ōwhiro Bay (Source: [Wellington City Council](#))

19. **Every aspect of life and livelihoods in the region is impacted**, from the safety and security of individuals, families, whanau, hapū, iwi, local communities and businesses to ecosystem impacts, economic opportunities, the cost and availability of insurance, psycho-social well-being, ties to treasured places, and so much more.

Appendix 1, Box 4: Skyrocketing Insurance Premiums & the prospect of insurance retreat

House insurance premiums have increased on the order of 900% since 2000, and about 128% over the last decade.

Wellington has **comparatively higher house insurance premiums** compared to Auckland and Christchurch chiefly due to exposure to seismic risk.

Average house insurance premiums in Wellington range from about \$4,500-4,800pa, but some premiums have jumped from about \$3000 to over \$9000pa.

Many factors shape the hike in premiums, including major events and better understanding of natural hazard risk in the region; escalating global reinsurance costs; a shift to risk-based pricing by insurers; and increased government levies for the Natural Hazards Cover provided by the [Natural Hazards Commission](#).

Concern is growing about the prospect of some high-risk properties becoming uninsurable, i.e., **insurance retreat**, in the face of escalating climate-compounded risk.

Local government has also experienced skyrocketing insurance premiums, especially in this region. Some councils, like Wellington City Council are considering establishing investment funds to **self-insure** some of the risk they face.

Some relevant sources of information:

[Reserve Bank \(2024\). Insurance availability and risk-based pricing.](#)

[Noy, I. & B. Storey \(2025\). As insurance gets harder to buy, NZ has 3 choices for disaster recovery – and we keep choosing the worst one, The Conversation.](#)

[The Treasury – key documents on residential insurance and climate-related hazards.](#)

[Helen Clark Foundation – Premiums Under Pressure: How Climate Change is Reshaping Residential Insurance and What to do About it.](#)

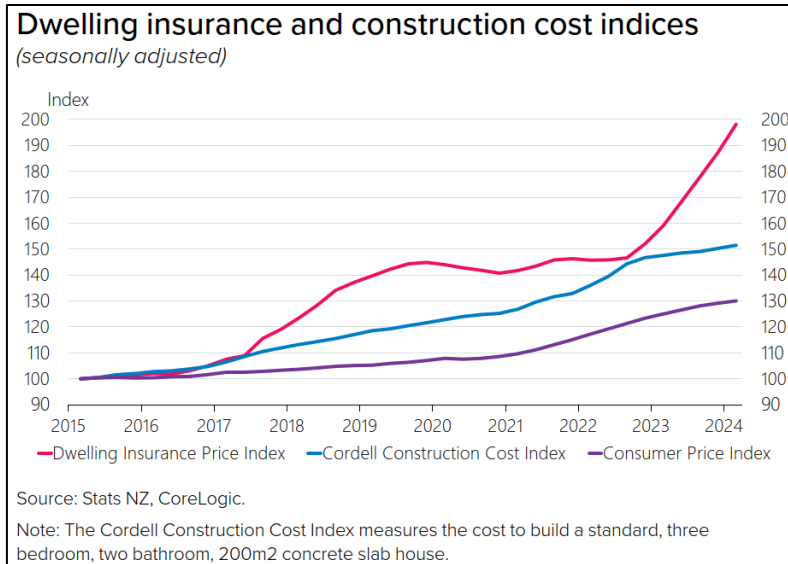


Figure 1.9: Rising home insurance premiums (Source: Reserve Bank 2024. *Financial Stability Report*, Wellington: Reserve Bank, page 19).

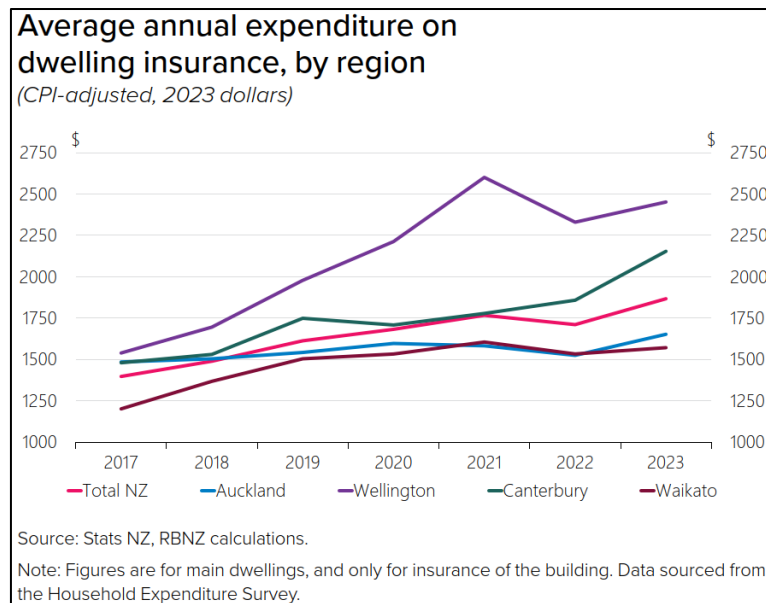


Figure 1.10: Average annual expenditure on dwelling insurance (Source: Reserve Bank 2024. *Financial Stability Report*, Wellington: Reserve Bank, page 21).

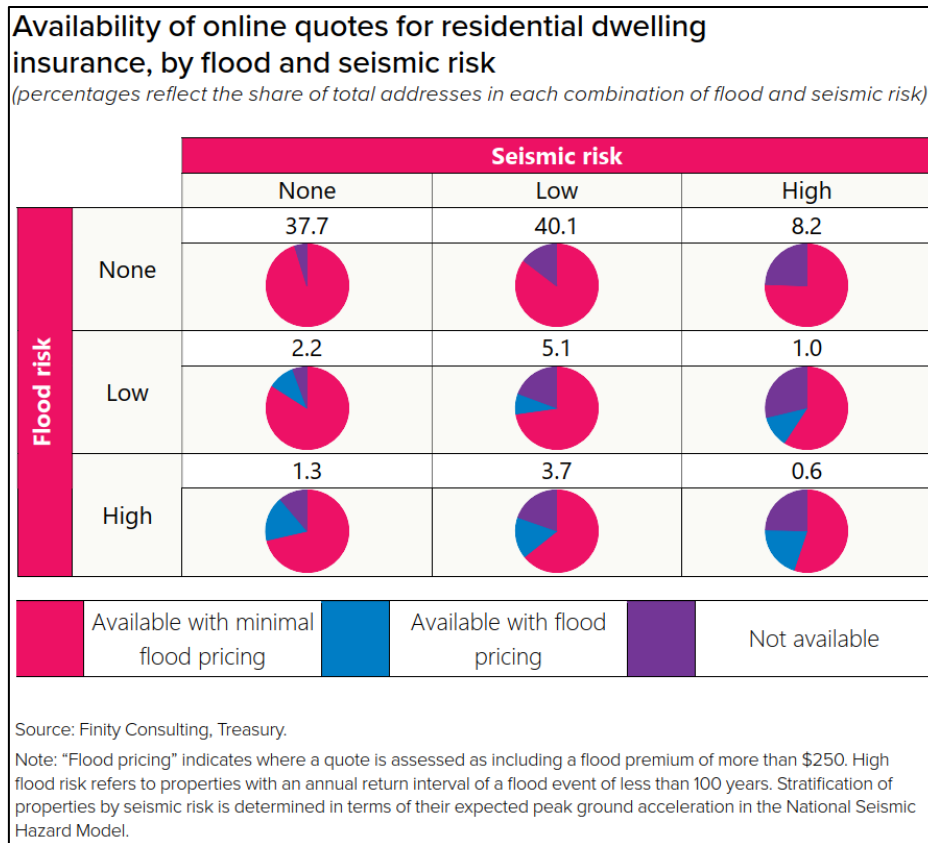


Figure 1.11: Insurance availability for residential dwellings prone to flood and seismic risk (Source: Reserve Bank 2024. *Financial Stability Report*, Wellington: Reserve Bank, page 23).

20. The **Wellington Regional Climate Change Impact Assessment [Summary Report](#)** states: “The region’s **current governance and institutions are hindering adaptation** planning and implementation and are **not fit for purpose under Te Tiriti**” (p. 2). Further: “Unaddressed governance risks **could lead to maladaptation**” (p.5) [emphasis added]. The Report assesses **current risks related to the region’s governance structures as “extreme”** – driven by legal, institutional and public decision-making challenges associated with climate change adaptation.
21. It is **highly likely that local government in the region will face increasing reputational and litigation risks in coming decades**. Climate-related litigation is on the rise in the country. Local council decisions are likely to be challenged over perceived inaction or inadequate climate-informed planning. Anticipated ‘catastrophic’ impact ratings by 2100 due to coastal erosion and flooding could drive increasing legal pressure on councils. Highly exposed development in places like Petone, Seaview and parts of Wellington’s CBD could be ‘hotspots’ for future legal action over council decisions to allow / restrict development. There will likely be growing demand on local government for compensation and / or better protection in hazard-prone areas, intensifying socio-political contestation under rates capping.

22. **Many people in the region will experience significantly worse impacts in the second half of this century** because major sections of the region’s coastline are subsiding as the ocean warms, sea level rises, and extreme weather events become more intense and frequent (See [NZ SeaRise](#) to explore different sea-level rise scenarios along with vertical land movement for different localities in the region).

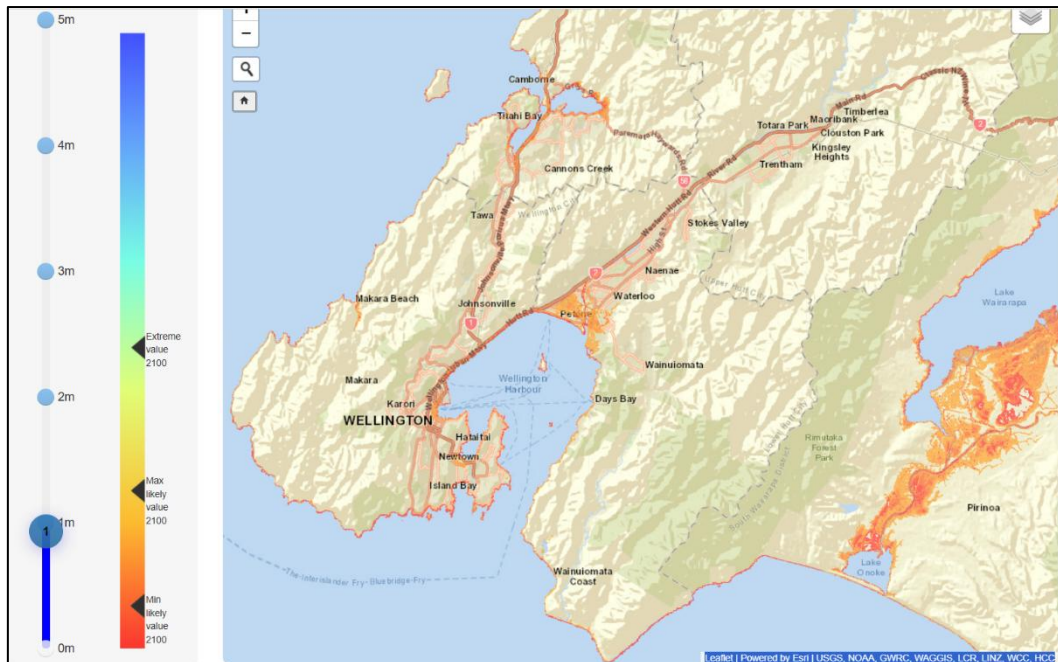


Figure 1.12: Scenario of area affected by 1m sea-level rise by 2100 (Source: Greater Wellington sea-level rise portal, see <https://mapping1.gw.govt.nz/GW/SLR/>).

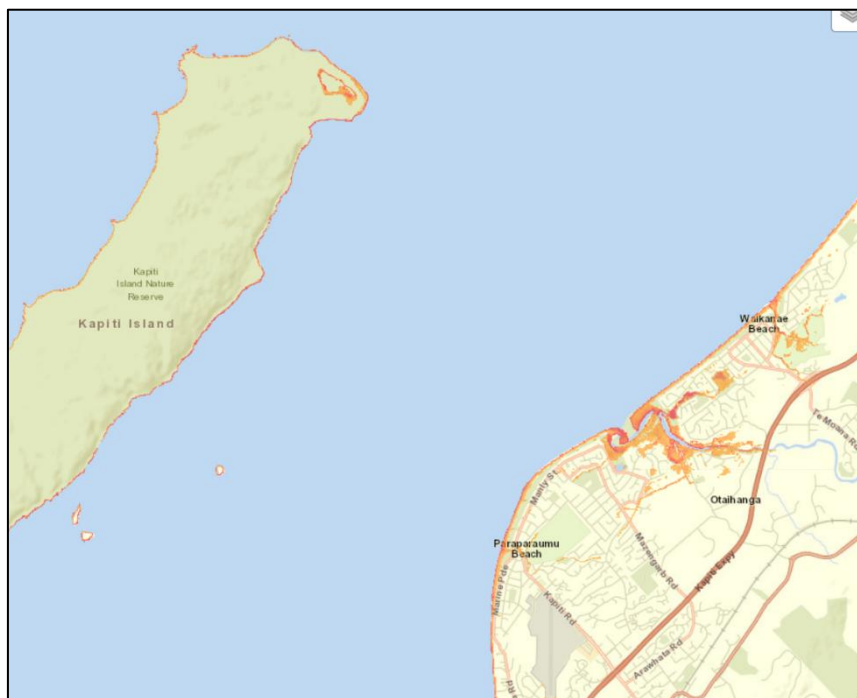


Figure 1.13: Scenario of area affected by 1m sea-level rise by 2100 (Source: Greater Wellington sea-level rise portal, see <https://mapping1.gw.govt.nz/GW/SLR/>).

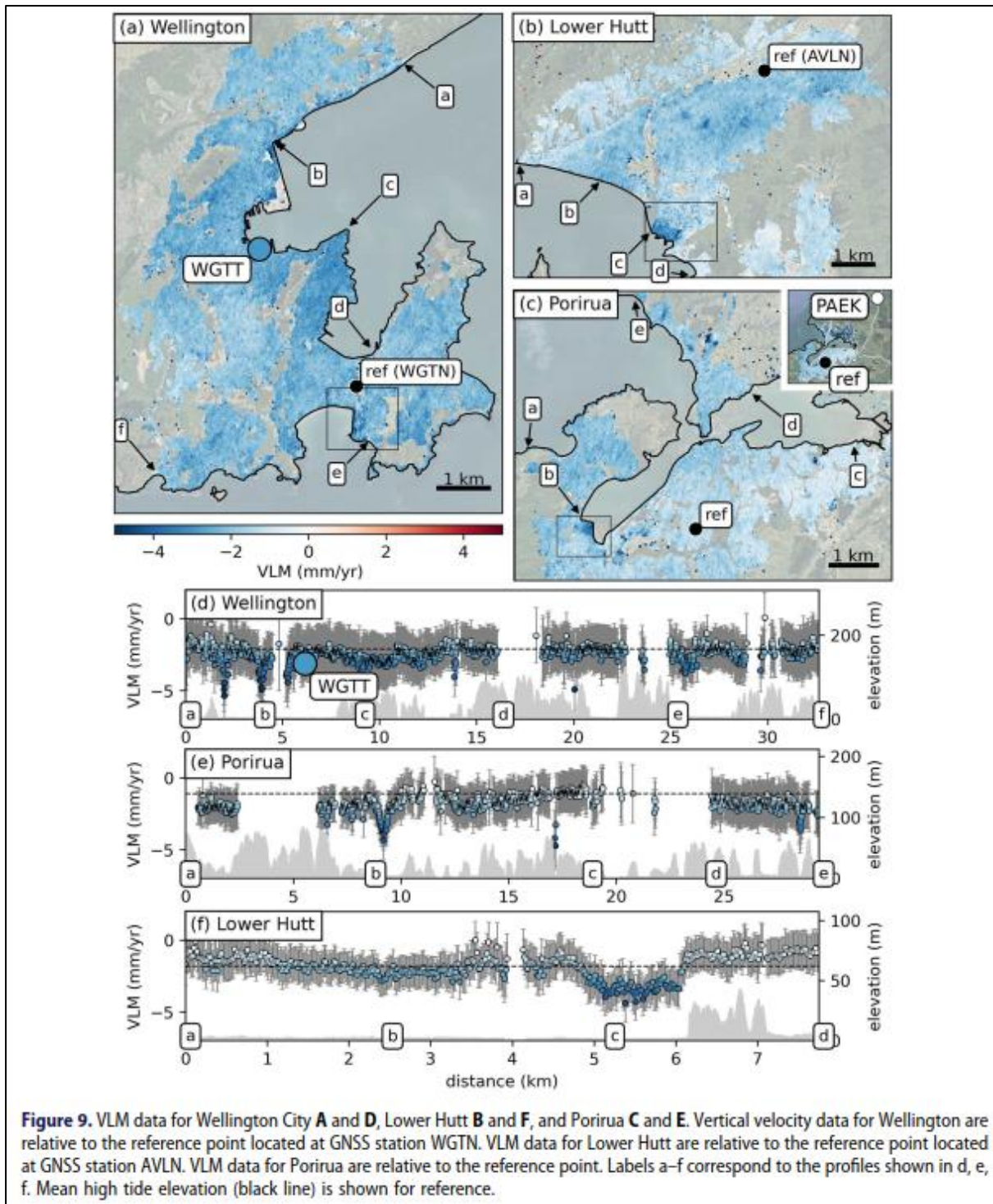


Figure 1.14: Vertical land movement (VLM) for selected localities in the region
 (Source: Kearse, J. et al., 2025. InSAR measurement of vertical land motion in New Zealand cities, and implications for sea-level rise projections, *New Zealand Journal of Geology and Geophysics*, 68:4, 794-815, <https://doi.org/10.1080/00288306.2025.2470435>).

23. **Climate change impacts will continue for thousands of years – even if greenhouse gas emissions and global temperatures were to stabilise immediately.** This is a consequence of sheer size of the ocean – covering over 70% of the Earth’s surface – and the ocean’s thermal inertia. Heat trapped deep in the ocean will continue to cause thermal expansion and ongoing sea-level rise for millennia ([IPCC 2019. Sea level rise and implications for low-lying islands, coasts and communities](#)).
24. **Cutting greenhouse gas emissions is essential** to contain the worst consequences of global climate change, including extreme heat, more intense and frequent extreme weather events, and medium- to long-term sea-level rise. Even in a best case scenario, coastal communities will have to adapt to sea-level rise impacts due to recent observed sea-level rise, heat already absorbed by the ocean, and projected global warming and related sea-level rise.
25. In the more distant future, in coming centuries, sea-level rise will inundate many low-lying coastal communities, especially along subsiding shorelines. Much sooner, in coming decades, the predominant impact of rising sea level will be that **historically rare extreme coastal events (e.g., that might have occurred on a 100-year return period) will occur much more frequently, possibly every decade or even annually, exceeding coastal community risk tolerance levels.**

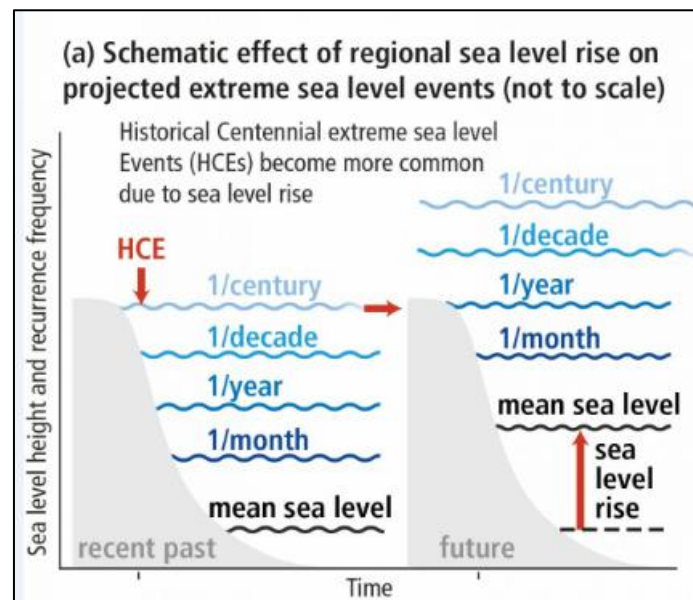
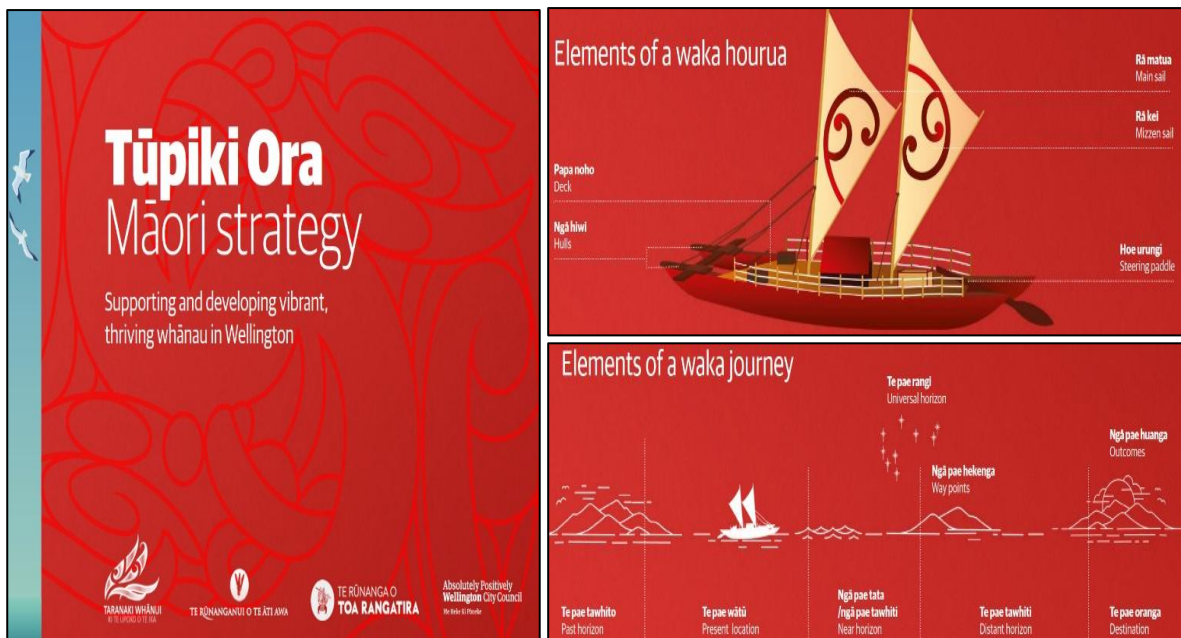


Figure 1.15: Illustration of extreme sea level events and their average recurrence in the recent past (1986-2005) and the future. Local sea levels that historically occurred once per century (historical centennial events, HCEs) are projected to recur more frequently in future because of mean sea-level rise (Source: IPCC, 2019. Summary for Policymakers. In: *IPCC Special Report on the Ocean and Cryosphere in a Changing Climate* [H.-O. Pörtner, et al., (eds.)]. Cambridge University Press, Figure SPM4, Panel A).

26. **Climate-compounded risk is therefore a ‘now and forever challenge’ that affects every aspect of life in the region.**
27. **‘Navigation’ is useful metaphor** to use in times of change, surprise and disruption as ‘navigators’ chart their course to sail stormy seas, much like charting a region’s future development in turbulent times.
28. **Navigating stormy seas requires a coordinated approach** to natural hazard risk reduction, adaptation and resilience building, especially in a changing climate.
29. **How does one navigate stormy seas?** The [Tūpiki Ora Māori strategy and action plan](#), and [Tākai Here mana whenua-Wellington City partnership agreement](#) (signed on the 29th of April 2022) provides valuable insights. **The waka Hourua | two-hulled waka is used as a powerful symbolic framework for building resilience within Māori and Pasifika communities** and could inform this project. The double-hulled waka represents alignment of two distinct worldviews and knowledge systems – Te Ao Māori and Te Ao Pākehā (primarily Western Science) – on a journey together towards a common future. The deck connecting the hulls is a shared or negotiated space for collaboration founded on trust and mutual respect. Traditional wayfinding relied on a ‘reading’ of natural signs, like the stars, currents, waves and wind, and is a metaphor for navigating life’s travails and challenges and thus building resilience.



Source: [Tūpiki Ora Māori strategy and action plan](#), and [Tākai Here mana whenua-Wellington City partnership agreement](#)

30. The waka Hourua | two-hulled waka symbolic framework to navigate stormy seas could be a **good foundation** for better managing inevitable uncertainty about the region’s turbulent future.

4. Constructively manage uncertainty about the future

31. Obviously, **the future is uncertain**. Uncertainty grows (and becomes unknowable) with projections further into the future; and the more one focuses on locality-specific prospects.
32. It is **futile to rely solely on predictions** about what might happen in the future for a particular locality or region. **Historical trends will not continue unchanged**.
33. **Constructively managing uncertainty is essential** for local-regional planning and decision-making given irreducible future uncertainty.
34. **Adaptation pathways planning** provides a robust foundation for dealing with uncertainty about the future, and this approach has become foundational for adaptation practice in Aotearoa New Zealand and many other jurisdictions around the world, with particular application in coastal settings (e.g., [Ministry for the Environment, 2024, Coastal Hazards and Climate Change Guidance](#)).
35. **Adaptation pathways planning** is a structured process to identify and decide on short-term risk reduction and adaptation interventions (i.e., 1-10 years) mindful of plausible medium- (i.e., 10-50 years) to longer-term (i.e., 50-100+ years) actions that might be necessary when initial interventions reach their ‘sell-by date’ and a new adaptation pathway is necessary to enable affected parties to address risk and realise their aspirations over time.
36. This approach to adaptation planning **enables structured consideration of prevailing risk and considers the implications of evolving circumstances to enable more credible, salient, legitimate³ and feasible⁴ adaptation interventions to be sequenced and adjusted over time**.
37. Adaptation pathways planning **helps to reduce maladaptation**, i.e., an action(s) intended to enable adaptation but unintentionally increases climate risk with negative consequences, e.g., undermining livelihood and development prospects.
38. Constructively managing uncertainty about the future is necessary but not sufficient. **Adaptation pathways planning and action does not remove inevitable contestation. Divergent values, needs, and interests, need to be reconciled and constructive outcomes sought in inevitably contested situations**.

³ Building on Cross et al., (2003), **credible** here refers to the ‘trustworthiness’ of this underpinning evidence – usually centred on the expertise, experience, reliability and track record of the person / entity involved in / delivering evidence; and here this includes scientific and local knowledge and mātauranga Māori. **Salient** here refers to relevance and the fit and timing of information / evidence used to shape an initiative like this Tākai Here. **Legitimate** here refers to the ‘integrity’ of an initiative / process – usually centred on the perceived fairness of the process through which evidence was produced, including being non-aligned and respectful of diverse worldviews, values and interests.







⁴ **Feasible** often encompasses at least six dimensions: economic; technological; socio-cultural; geophysical; and environmental.

5. Reconcile divergent interests & constructively address conflict

39. **People in the region have widely divergent worldviews, values, needs and interests.** Sometimes divergent perspectives spill over into more intense **public disputes and social conflict**. To navigate stormy seas, public processes need to reconcile:

- short- and long-term interests;
- private and public interests;
- individual rights and collective rights;
- cultural differences;
- local vs regional vs national and beyond interests;
- equity vs efficiency;
- Te Ao Māori vs local knowledge vs science vs expert knowledge, etc.; and
- economic, social, political, environmental and institutional imperatives.

Table 1.4: Examples of potential resilience-building trade-offs (Source: Department of the Prime Minister and Cabinet and Ministry for the Environment. 2025. *Building New Zealand’s Long-term Resilience to Hazards: Long-term Insights Briefing*. Wellington: Department of the Prime Minister and Cabinet, page 15)

	Deciding between	Potential outcome	Advantages	Trade-off
	Efficiency vs redundancy (spare capacity)	Use a mix of suppliers and store essential goods in different places.	Keeps goods and services flowing during disruptions.	Higher costs, especially for small and medium-sized businesses.
	Cost vs robustness	Local and central government invest in infrastructure with a higher level of service.	Long-term reliability and savings.	High upfront costs and delayed benefits.
	Future-proofing vs waiting	Investing in more resilient infrastructure pre-crisis is cheaper and mitigates harm from hazards.	Avoids passing additional costs onto future generations – when mitigations will be more expensive.	Immediate costs, equity challenges.
	Protecting the status quo vs accepting a sunk cost	Large-scale investment in protection for homes in a high-risk flood zone.	Fewer people are displaced from their homes and communities in the short term.	Residents remain in flood zone and potential for this to become more costly over time as further investment required.
	Centralisation vs decentralisation	Resources are targeted to community-level organisations to focus on resilience building.	Community organisations have demonstrated they play a vital role in preparing for and responding to emergencies.	Smaller groups may not have the capacity to respond to a large-scale crisis.
	Individual freedoms vs collective resilience	Rules and regulations on land use in risky areas are strengthened.	Fewer people exposed to hazard, lower longer-term financial risk for individuals.	Can infringe on people’s ability to live where they want, or where they have in the past.

40. **Social conflict is not necessarily ‘bad’**, unless the outcomes are destructive, violent and cause lingering harm. **Conflict can be tackled in ways that lead to constructive outcomes that advance the ‘public good’**. For example:
- **Securing civil rights** around the world has usually depended on persistent struggles against oppressive regimes and vested interests. In some cases, non-violent protest and civil disobedience have been used to expose unjust and / or inequitable systems and practices to secure rights and positive social outcomes.
 - **Climate action can raise awareness and influence behaviour**. Protests about climate inaction are viewed differently by different groups of people but are an example of how concerned citizens might take action to expose practices that harm people, the region, and the planet. Stopping freeway traffic is disruptive but focuses attention on a matter of grave societal concern.
 - The **Porirua Citizens Assembly** convened by **Ngāti toa Rangatira** enables representatives of Porirua to reconcile divergent views by considering, deliberating and making recommendations on how to tackle climate change and prepare for the future of this part of the region.
41. **Disputing parties can craft enduring, productive outcomes with the help of an independent ‘third party’ or ‘critical friend’**, i.e., a trusted ‘outside-insider’ who can help build trust, mediate disputes, enable constructive dialogue and deliberation, and broker agreed, collaborative solutions that parties commit to. Even destructive conflict can be transformed into enduring, meaningful and productive societal outcomes. Delayed action makes this outcome more difficult to achieve.

6. Act with urgency now but keep options open to enable climate resilient development

42. **Critical planetary boundaries have been transgressed** by unsustainable patterns of resource extraction, consumption, pollution, and habitat destruction. Multiple scientific assessments have demonstrated that 7 of 9 planetary boundaries have already been crossed (see: [Planetary Health Check](#), including:
- **Climate change:** Greenhouse gas emissions have **pushed average global warming levels to ~1.5°C above pre-industrial levels of warming** – above this threshold the climate is ‘dangerous’ for human well-being and planetary health. **2024 was the hottest year on record** at 1.55 -1.6°C above pre-industrial levels of warming, according to the World Meteorological Organisation. **The last three years were the hottest on record. The average for a continuous three-year period (2023-2025) was ~1.5°C, including uncertainty.** Three years is too short for a definitive declaration on crossing the Paris Agreement’s long-term 1.5°C threshold, but this threshold is likely to be crossed before 2030.

- **Land System change:** Much of the world’s land has been transformed by human activities. Global forested land, for example, is 54% of pre-industrial levels.
- **Freshwater change:** Human activities have modified blue (surface and groundwater) and green (soil moisture) water flows and now exceed safe limits across the globe.
- **Biogeochemical flows:** Synthetic fertiliser and industrial agri-chemical use has pushed nitrogen and phosphorous levels beyond safe limits.
- **Introduction of novel entities:** The boundary for the level of inadequately tested synthetic chemicals and novel entities has been transgressed.
- **Ocean acidification:** The average acidity of ocean surface waters has increased about 30% since the industrial revolution, making it difficult for some keystone ocean species to survive in an increasingly acidic ocean environment. Seawater becomes more acidic (lower pH) with the absorption of excess carbon dioxide.
- **Biosphere integrity:** Human disturbance of ecosystems and destruction of habitat drive biodiversity loss and undermine the diversity, health and integrity of the Earth’s biosphere – the narrow zone where life can thrive.

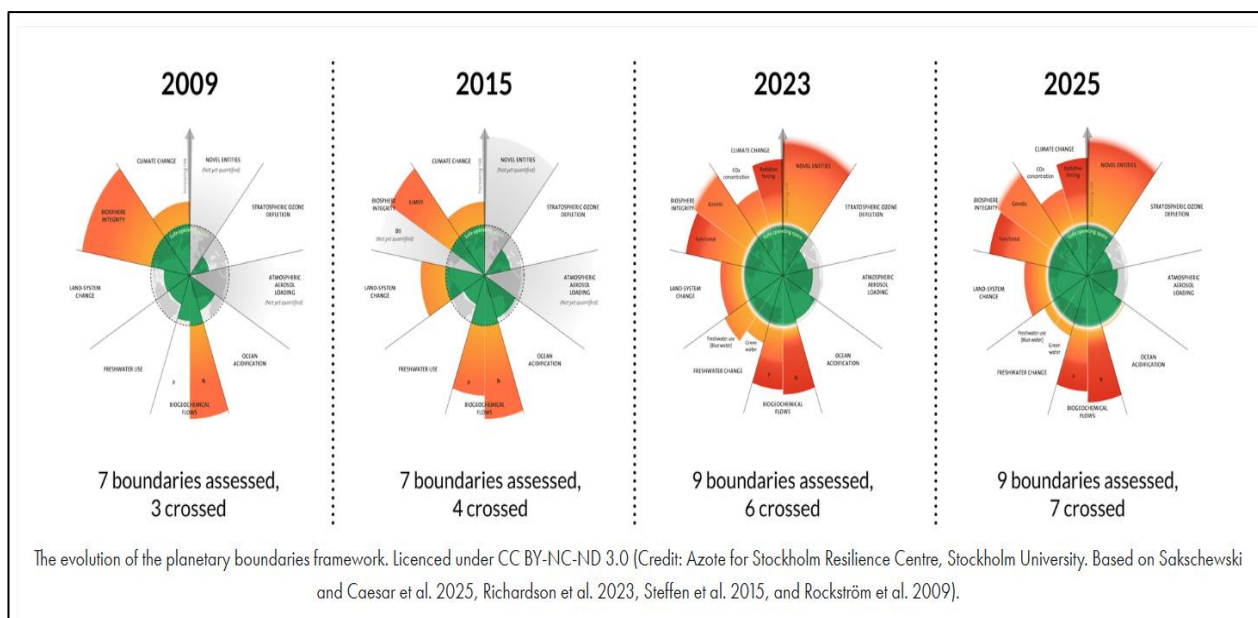


Figure 1.16: Crossing planetary boundaries (Source: [Crossing planetary boundaries](#))

43. Social scientists have shown that **despite a more than doubling of Gross Domestic Product in the 2000-2022 period, social deprivation is widespread and entrenched in business as usual practices.** Even a modest reduction in human deprivation would have to accelerate fivefold for human needs to be met by 2030 (see [Fanning & Raworth, 2025. Doughnut of social and planetary boundaries monitors a world out of balance.](#))

44. **We need to act with urgency now but keep open options for charting climate resilient development pathways into the future.** The closing section on achieving climate resilient development in the [IPCC's 6th Assessment Report Summary for Policymakers by Working Group II](#) encapsulates this imperative:

D.5 It is unequivocal that climate change has already disrupted human and natural systems. Past and current development trends (past emissions, development and climate change) have not advanced global climate resilient development (very high confidence). Societal choices and actions implemented in the next decade determine the extent to which medium- and long-term pathways will deliver higher or lower climate resilient development (high confidence). Importantly climate resilient development prospects are increasingly limited if current greenhouse gas emissions do not rapidly decline, especially if 1.5°C global warming is exceeded in the near-term (high confidence). These prospects are constrained by past development, emissions and climate change, and enabled by inclusive governance, adequate and appropriate human and technological resources, information, capacities and finance (high confidence).

...

D.5.3 The cumulative scientific evidence is unequivocal: Climate change is a threat to human well-being and planetary health. Any further delay in concerted anticipatory global action on adaptation and mitigation will miss a brief and rapidly closing window of opportunity to secure a liveable and sustainable future for all. (very high confidence) [bold emphasis added]

45. Many assessments take stock of the **region's critical thresholds and boundaries**, including the state of waterways and rivers, coastal and marine environment, air quality, biodiversity, land and soil capacity, climate change, etc. (see above links). Crucially, **the upshot of local to global assessments is that it is imperative to act with urgency now but chart a course that keeps open climate resilient development pathways** that maximise opportunities to build connected, thriving, resilient communities in this region.
46. Charting a climate resilient development course means **investing in actions that go beyond incremental and transitional change to enable transformation.**

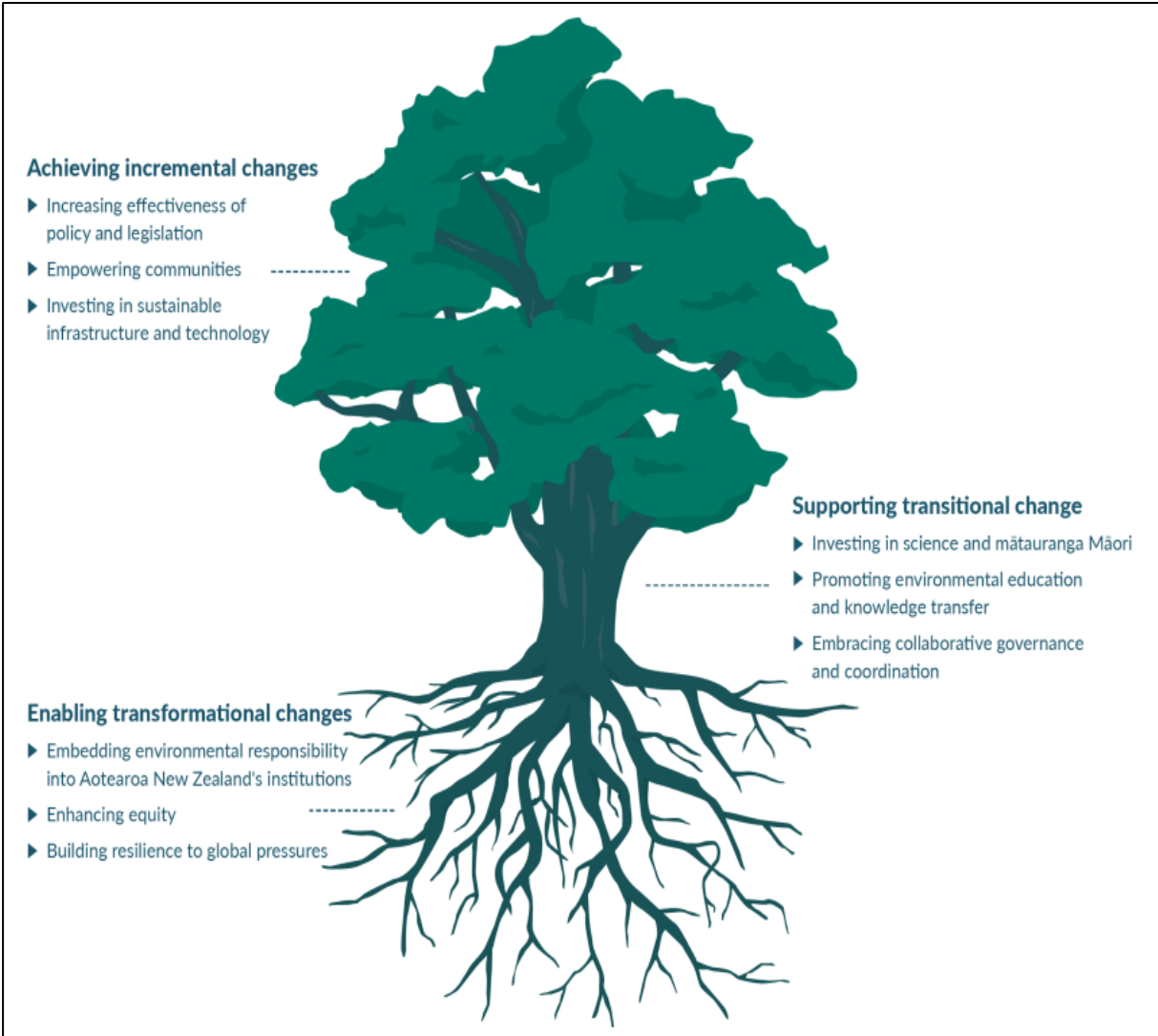


Figure 1.17: Leverage points for change (Source: Ministry for the Environment. 2023. *Where to from here? How we ensure the future wellbeing of land and people: The Ministry for the Environment's Long-term Insights Briefing 2023*. Wellington: Ministry for the Environment, page 36).

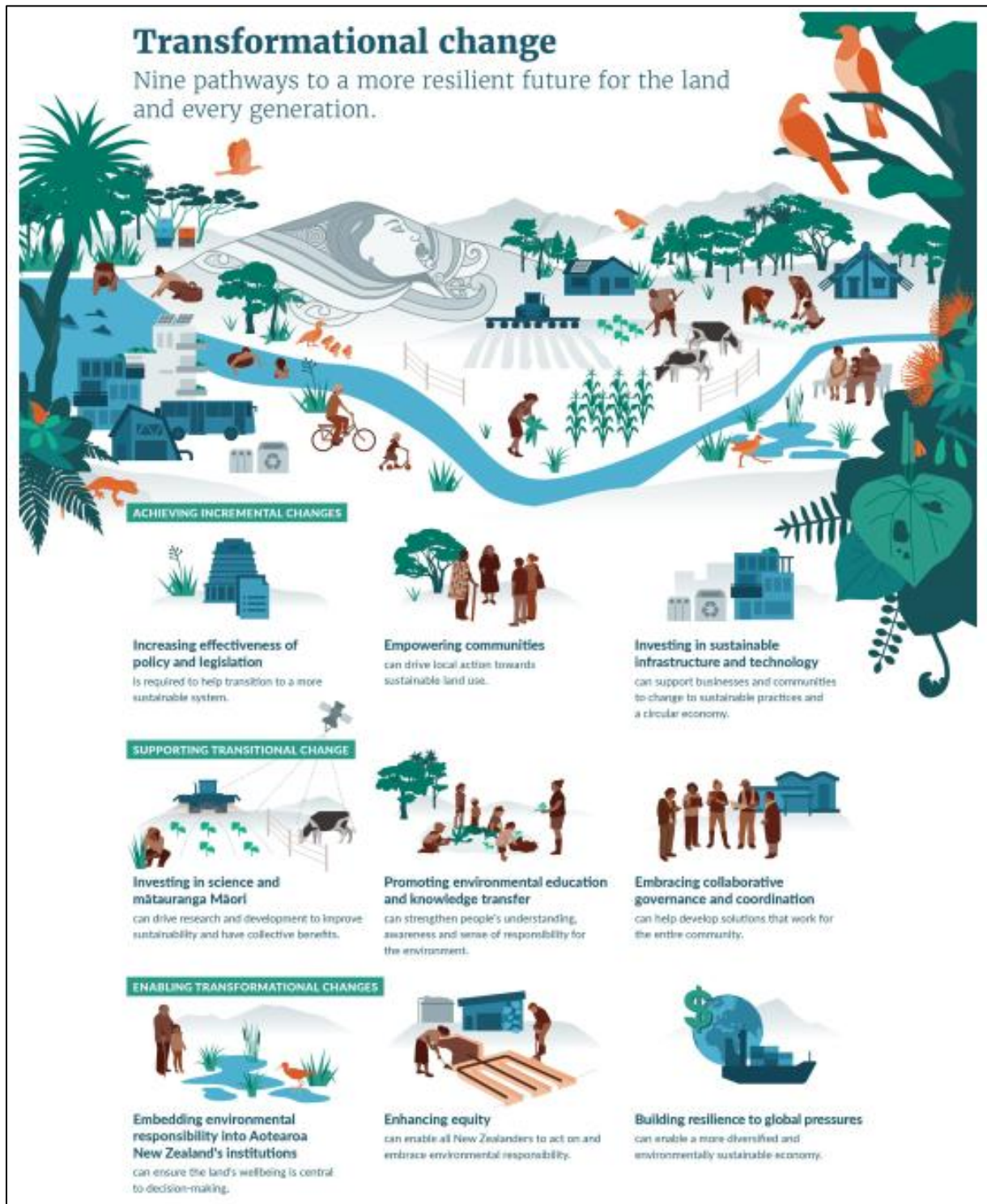


Figure 1.18: Pathways to a more resilient future (Source: Ministry for the Environment, 2023. Where to from here? How we ensure the future wellbeing of land and people: The Ministry for the Environment's Long-term Insights Briefing 2023. Wellington: Ministry for the Environment, page 45).

2. Adaptation action is underway

1. **Climate action is already underway across the region** – initiated by tangata whenua, at-risk communities, civil society, government at all levels, critical infrastructure providers, the private sector etc.
2. Some of these initiatives are centred on building the resilience of **those most at risk**. Others are public facing and seek to mobilise people to take action, e.g., Porirua Citizens Assembly initiated by Ngāti Toa Rangatira.

3. Adaptation & resilience-building action is founded on Te Tiriti o Waitangi

3. **Te Ao Māori and mātauranga Māori are foundation stones** for building a connected, thriving and resilient region that is Tiriti-grounded.
4. From a Ngāti Toa perspective, the focus needs to be on people – housing, food, etc. and so the key is to understand how climate changes impacts people and the things that sustain their livelihoods.
5. **Enhancing the well-being, health, prosperity, and mana of Māori is key.**
6. **Reciprocity is essential.**
7. A **Treaty-founded approach is vital**, but **capacity constraints** need to be overcome to realise this promise in practice.
8. Resource and capability constraints, especially in smaller organisations and entities, make it **difficult for some groups to contribute to collective efforts** across the region.

4. The case for working together

9. The WRLC sponsored “**Wellington Regional Climate Impact Assessment**” Report (2024) provides a **common reference point** and details the range of climate and hazard stressors that are expected to impact all aspects of life across the region in coming decades and well into the future. These **impacts will escalate over time and cause complex, cascading and compounding impacts**.
10. **All governance actors will be affected, and no one entity will be able to navigate the inevitable disruptions in isolation and on their own.**
11. It will be **necessary to work together** across jurisdictional, sectoral, and other compartmentalisations. In short, all local and central government agencies need to work together in partnership with tangata whenua as well as governance actors in the private sector, including farmers, businesses and critical infrastructure

providers, and civil society, including at-risk residents, local communities, non-governmental organisations, science and media organisations.

12. Working together needs to **deliver practical benefits** at both the local and regional level. But this is difficult to realise in practice.
13. The adaptation framework needs to **enable action**; providing **strategic direction** that can be **operationalised in an aligned and coordinated manner**.
14. **Regional spatial planning** is critical to operationalise the WRLC-agreed strategic direction, e.g., where to prioritise roads and critical infrastructure, etc.
15. In short, **what is the ask of this regional adaptation framework project?**
 - We are in this together
 - There is no government panacea
 - Extreme events on the rise
 - Need collaborative ways of working with agreed values on how to work together
 - Agreed priorities and milestones
 - Practical tools to build adaptive capacity and resilience
 - Clear outcomes monitored and adjusted through specific details in ‘living agreement’
 - Layers of understanding – common approach built on agreed principles and practices
16. **Purpose is clear:** Align and coordinate regional efforts, and enable mutually supportive locally-led action.

5. Clarity of purpose & direction

17. The need to work together is clear and compelling. But **what does this mean in practice?**
18. What is the **‘value proposition’** and **envisaged outcomes**; and **what can be reasonably expected** from locality- and sector-specific entities, and hapū and iwi, and governance actors across the region?
19. Not clear why this initiative has **gone on for so long** without delivering the anticipated agreed adaptation framework.
20. This initiative needs to have a **clearly defined purpose and long-term outcomes** that are widely supported, along with commitments to specified roles and responsibilities.
21. Understanding what partners, stakeholders and the public can **reasonably expect** from this initiative is vital for its success.
22. **Climate change and adaptation (and managed retreat in particular) are ‘dirty words’** in some local settings. A different framing is necessary to get people on the same page, possibly focused on ‘positive’ outcomes instead of the negative connotations of extreme events and the ‘climate emergency.’ Examples of

alternative framings include communities and a region that is thriving; resilient; future-proofed; future-ready; empowered; self-sufficient and sustainable.

23. Debating climate science is unhelpful; **focus attention on building connected, thriving and resilient communities.**
24. There is **no appetite for creating new institutions.** To ensure ongoing collaboration, practical action-oriented initiatives need to be **mainstreamed** into the strategic and operational duties and responsibilities of key governance actors across the region.
25. The distinctive contribution of this initiative is to **secure agreement and adopt a common approach** to understand and address climate-compounded risk, including developing a **'toolbox'** that can be consistently applied across the region by all governance actors in both formal (e.g., regulatory actions) and informal (e.g., voluntary community actions) institutional settings.
26. **Regional spatial planning is foundational** for this work because climate resilient development needs to be tailored for different geographies, and spatially distinct cultural and socio-economic and community settings.

6. Long-term vision & real-world action focus

27. **A narrow focus on adapting to climate change is not widely supported.** There is concern about adaptation being reduced to a few interventions like protective works (e.g., stopbanks, seawalls), accommodation measures (like raising houses), and managed retreat (the planned relocation of people living in perilous locations or post-disaster relocation of impacted residents). In practice, climate impacts are pervasive and deeply interconnected to all aspects of the economy, culture, society, governance and natural environment. **A more integrated concept is needed.**
28. Climate impacts and adaptation responses are typically viewed from a 'deficit logic' or negative framing. Mobilising collective action is seldom achieved by negative framing. **A positive framing is necessary.**
29. It is not clear what the envisaged 'adaptation framework' will deliver in practice.
30. Whilst attention understandably focuses on pressing immediate concerns, we need to **plan ahead over decadal timeframes** and beyond to build intergenerational resilience and future-proof the region.
31. **Insurance is THE game-changer** – sharply increased premiums and insurance withdrawal imperil at-risk residents and businesses, as well as council coverage of assets and critical infrastructure, etc.
32. This initiative needs to **endure beyond electoral cycles** and flip-flopping of different government coalitions.
33. This initiative needs to be **action focused.**
34. **Linking this project to long-term regional spatial planning** is critical because climate-compounded impacts and risk are distributed unevenly in space and time.

Adaptation action in brownfield and greenfield development situations might be fundamentally different. Need to **avoid BAU** in the face of climate risk.

7. Cultural & community considerations

- 35. **Tangata whenua have a pivotal role to play** in building connected, thriving and resilient communities and future-proofing the region.
- 36. **Local communities are diverse and offer many strengths and capabilities, and all voices need to be heard, and vulnerable or marginalised groups need to be meaningfully involved.**

8. Build shared understanding about climate-compounded risk

- 37. Much remains to be done to **build shared understanding** about the climate and natural hazard risks in the region.
- 38. **Climate scepticism undermines well-intentioned adaptation and resilience-building.**

9. Local-regional alignment & coordination

- 39. **Regional coordination enables consistency and strategic alignment.**
- 40. **Tailored locally-led action** ensures that distinctive circumstances are addressed, **with regional cooperation** enabling alignment across the region.
- 41. In practice, people in the region are interconnected and inter-dependent, but governance actors have different often locality- or sector-specific mandates and roles and responsibilities, with varying resources and capabilities. **Working together at the regional-scale is utterly compelling but difficult in practice.**
- 42. Major adaptation interventions, e.g., stopbanks or seawalls, **cost** many millions of dollars. Few can afford such investment without central government support. ***How might a regional approach enable investment in priority disaster risk reduction and resilience-building?***
- 43. The Region's Future Development Strategy, and associated work like WR2050, and anticipated Regional Spatial Plan, are **important regional initiatives to build on.**
- 44. **Need entity-specific briefings and 'invitations' to contribute to region-wide endeavours.** If not tailored, likely not considered relevant.
- 45. **Let each entity decide what it wants to contribute to this regional initiative, given shared principles and agreed intended outcomes.**

46. More people than expected are **climate cynical or sceptical**; many have already experienced **sharp insurance and rates increases**; and many residents are **worried and anxious** about the future.
47. **Community engagement is very difficult** in these circumstances, and it is very easy to get stuck on debates about ‘risk science’.
48. **Need new framing for adaptation**: maybe start with increasingly frequent extreme events and what to do about navigating disruptive change to engage folk and then build some collective momentum to prepare for turbulent times.
49. **Regional cooperation must enable local action**; otherwise, regional efforts likely to seem too removed from local reality.
50. **Answer question: what needs to be done regionally that can’t be done locally?**
51. **Carrot is regional \$ available to TLAs and iwi.**
52. The **core logic** is to enable a united front, informed by shared principles, clarity on roles and responsibilities; and practical steps to enable local-regional adaptation.
53. A key part of rationale is the **cost of post-disaster clean ups** and associated disruptions – **need to avoid development in ‘dumb places’ and the consequent post-disaster costs.**
54. **Save money by avoiding post-disaster recovery costs** and hence need to invest in efforts to coordinate vulnerability reduction across region.
55. Some territorial authorities think **adaptation is too complex, unaffordable and lacking clear government direction and support**; and some have **‘burned fingers’** in efforts to enable adaptation – expensive, contentious and beyond local council capacity and resources.
56. This initiative must be **tied to territorial authorities’ roles** defined in law.
57. **Key incentive for under-resourced councils will be making \$\$ available.**
58. Maybe this region-wide adaptation framework can distil **region-relevant lessons**; provide a script for how to do adaptation at minimum cost; avoid contestation; secure social licence⁵ for action; and have a peer-reviewed, **robust ‘how to’ approach to adaptation at local level that is regionally consistent and coordinated.**
59. A troubling persistent issue is the **unresolved who pays for medium- to long-term adaptation**, with no clarity yet from government. The lauded Clifton Tangoio Coastal Hazard Strategy initiative appears to have fallen apart, perhaps because this issue of ‘who pays’ remains unresolved.

⁵ **Social licence** is the unwritten, informal ‘permission’ that a community grants to a government / authority to carry out a particular, often controversial, action. A social licence is secured through trust and legitimacy. High-stakes, unpopular decisions can cause a public backlash, litigation and / or social unrest even when a government agency has a legal (i.e., through legislation) and / or a political (i.e., through an election) mandate. Securing a social licence typically boils down to whether or not the community thinks that the decision-making process is fair – both procedurally and substantively.

- 60. The imperative to **reduce natural hazard risk by focusing on the drivers and root causes of social vulnerability** resonates, e.g., mana whenua located in floodplains, especially if poor people in poor housing and hence inclusionary housing across the region is something to work towards together.
- 61. A **common regional approach** has merit recognising that local authorities, and other governance actors, **aren't on their own**.
- 62. **How do we build thriving communities? What does a Māori economy look like? How do we build resilient economic, urban, rural and energy systems for the 22nd century?**

10. Resource, affordability & capacity constraints

- 63. The **cost of living crisis** affects the whole region, and **few can afford escalating insurance premiums and rates increases to cover the cost of adaptation interventions**.
- 64. **Some territorial authorities are considering self-insurance** given that insurance premiums on assets have become unaffordable.
- 65. **Climate-compounded impacts on council assets**, e.g., local roading network, have very significantly increased maintenance costs; and in districts with limited capacity to raise rates, it may be necessary to close at-risk roads serving remote areas with few residents.
- 66. What **economic / fiscal tools** can be used to finance buyouts, pre- and post-disaster?
- 67. What **legislative and contractual tools** can be used to enable buyouts or planned relocation?
- 68. **At-risk residents, tangata whenua and local government cannot afford the major investments required to future-proof communities across the region**.
- 69. **Smaller entities and organisations can benefit from a common approach and 'stress-tested' tools and practices thus avoiding having to 're-invent the wheel' under severe resource and capability constraints**.
- 70. **Some major infrastructure providers have yet to seriously plan for more integrated, resilient solutions in the face of climate-compounded risk**. Hard questions about long-term resilience have been avoided.
- 71. Addressing **funding constraints and opportunities for cost-sharing** will be essential to enable just and equitable adaptation and resilience-building.
- 72. A **joined-up regional effort is necessary to influence strategic investments** in major public infrastructure and regional development, from roads to industrial development.
- 73. In some settings, even with capacity constraints, **active resilience building for just and sustainable development is underway** through long-standing initiatives by

active local communities, tangata whenua, NGOs, etc., Some councils have **strong elected member support** for such initiatives, but this is **not always the case**.

74. **Agreements reached through WRLC can be powerful catalyst to help overcome local inertia or resistance to climate action.**

75. Sharing **success stories** about local climate action can inspire and motivate and be the catalyst to unlock local capabilities and mobilise action. Climate change is a 'human story' and we need to **share our stories to spark collective climate action**.

11. Infrastructure resilience

76. Building **resilient critical infrastructure is essential** in a region differentially impacted by natural hazards and climate change, with the port, airport, road and rail systems being especially important for just and sustainable regional development.

77. **Strategic investments in critical infrastructure** need to be aligned with demographic, urban and industrial development trajectories and the geography of natural hazard risk; and hence the imperative to work together on an ongoing basis.

APPENDIX 3: HORIZON SCAN - FACTORS SHAPING LOCAL- REGIONAL RESILIENCE

1. Introduction

Appendix 3 builds on and extends Appendices 1-2 by ‘scanning the horizon’ to identify local-global factors that could shape adaptation and resilience in the region over time; how these factors could hinder or help this initiative; and pros and cons of crafting an agreement to advance local-regional adaptation and resilience building.

Horizon Scanning ‘scans the horizon’ for ‘warning signs or signals’ and helps identify potential challenges and opportunities that should be considered in the face of inevitable change. Horizon Scanning does NOT attempt to predict the future. It can help identify emerging trends, risks and opportunities to improve decision-making and build long-term resilience.

This **one-off desktop horizon scan** followed a typical three-step Horizon Scan based on **Intelligence Gathering; Sense-making; and Recommendations**. Intelligence Gathering involved a **desktop scan** to identify ‘signs or signals’ relevant for addressing the question:

What global, national and local hindering and helping factors shape prospects for enabling community-based adaptive capacity and resilience, and future-proofing Te Upoko o te ika a Māui, in the short- (1-10 years), medium- (10-50 years) and long-term (50-100+ years); and what do these factors reveal about pros and cons for developing a WRLC Tākai Here / agreement to this end?

These timeframes were intentionally used to encompass an extended **time horizon necessary for adaptation and resilience planning**.

I used the **STEEPLE** (**S**ocial, **T**echnical, **E**conomic, **E**nvironmental, **P**olitical, **L**egal, and **E**thical) framework to scope relevant factors. I scanned **diverse sources**, including news and social media, grey literature, and reports by Local Government and Government and tangata whenua entities, for potential signals. These signals were clustered into key themes to **make sense** of the data gathered and assess potential implications for this initiative over time, including interconnections. This analysis laid

the foundation for identifying **pros and cons for crafting a WRLC Tākai Here or MoU / accord and recommendations for action.**

2. Horizon Scan: Global factors shaping adaptation & resilience

Context – ‘tightening squeeze’

1. **Te Ūpoko o te Ika a Māui is in a global setting that imposes a tightening ‘squeeze’** on the region: socially, technologically, economically, environmentally, politically, legally and ethically.
2. **Socio-technical change** is reconfiguring business and government operations, and social interactions through technologies like AI and robotics.
3. **Planetary boundaries** have been transgressed, and **climate conditions** are on the cusp of **exceeding the 1.5°C threshold** above pre-industrial global warming levels deemed much safer for life on earth.
4. **Geopolitical and economic disruption and volatility** – such as trade tensions and tariff shifts, violent conflict, and energy shocks – have increased the cost of fuel, materials, disrupted supply chains, and infrastructure delivery. Global economic growth is slower and more uncertain, hampering private and public investment. The **cost and complexity of building local-regional resilience** has therefore increased.
5. **Multi-lateral institutions have been undermined**, with profound **legal** and **ethical** implications for tackling global challenges like human rights violations and climate change.

Global hindering & helping factors

6. **Global hindering and helping factors** impacting this region are wide-ranging.
7. Appendix 1 details the local-regional implications of **global change and climate change** especially as the world approaches a **permanent 1.5°C+ reality**. Local-regional initiatives now take place in what climate scientists, the UN and many credible organisations describe as a **dangerous, shifting world**.
8. **Geopolitical shocks and structural disruptions to the political economy** have intensified – manifest in trade tensions, deepening conflict in the Middle East with global ramifications through energy price hikes – and directly impact this region through sharply increased fuel, freight, construction, financing and overall living costs. As a consequence, **adaptation and resilience building costs are rising**

faster than prevailing planning assumptions provide for. Insurance premiums and availability, and long-term investment in resilience are being affected.

Table 3.1: Potential hindering and helping global factors*

STEEPLE factor	Hindering (barriers)	Helping (enablers)
Social	Climate-compounded impacts, including displacement & migration could pressure the region’s housing & social services	Global ‘just transition’ initiatives demonstrate ways to build just community resilience
Technological	Supply chain vulnerability for critical technologies (e.g., EVs, infrastructure sensors)	Declining cost of decentralised energy (e.g., solar, microgrids) could enable community-level energy autonomy
Economic	Global financial shocks, inflation, etc. could increase cost of regional debt-servicing	Access to Green Bonds & ESG investment could make climate-resilient infrastructure more affordable
Environmental	Environmental tipping points & accelerating sea-level rise could outpace local-regional adaptive capacity	Advances in environmental & climate data / modelling enable more precise downscaling for this region
Political	Post-truth, conspiracy thinking & populism stall global cooperation & financing for environmental / climate initiatives	International environmental / climate accords are a mandate for local-regional action
Legal	Rising litigation risk against governments for ‘climate inaction’	Evolution of Indigenous Rights & Rights of Nature in international law supports Treaty-led models & practice.
Ethical	Unresolved ethical dilemmas re managed retreat: who stays / goes; who pays / benefits	Global shift towards intergenerational equity as core long-term planning principle

* **Some key sources:** [DPMC & MfE Long-term Insights Briefings](#); [Wellington Regional Climate Change Impact Assessment](#); [MfE 2025 Drivers Report](#); [World Economic Forum Global Risks Report 2025](#); [World Economic Forum Global Risks Report 2026](#)

Double exposure

9. **‘Double exposure’** explains the amplifying and compounding nature of these political-economy and geopolitical shocks in a world already experiencing disruptive global environmental and climate change.

10. **Te Ūpoko o te Ika a Māui** is experiencing this **tightening global squeeze** and **double exposure**.
11. **Globally driven shocks and disruptive change** have profound **social and ethical implications** for this region because these escalating impacts and risks do not ‘land’ evenly. Lower-income households, many Māori and Pasifika communities, renters, and small businesses are less able to absorb rising living costs, skyrocketing insurance premiums, and service disruption.
12. These global pressures can have a **limited positive effect** by raising awareness about escalating risk and the need for **coordinated, long-term regional planning** to strengthen **local-regional energy resilience, food and water security, and climate resilient infrastructure and development**.
13. **Global pressures do not automatically generate inclusive and equitable processes and outcomes**. They can lead to more technocratic and centralised, top-down responses if not carefully managed.

Global influence over time

14. **In the short-term**, global shocks compound affordability woes and delivery costs.
15. **In the medium-term**, the turbulent global setting constrains infrastructure renewal and compounds pressure on local government revenue and capacity to provide basic services for the local communities they serve.
16. **In the long-term**, these global forces, including intensification of environmental and climate disruptors, geopolitical instability and economic and political volatility are likely to be transmitted through insurance and capital markets into more pronounced financial-legal-commercial pressures that compound existing regional vulnerability and hamper adaptive capacity and local-regional resilience.

Global upshot

17. Global forces directly and indirectly shape regional prospects. In this setting, **resilience must not be limited to risk optimisation and defensive engineering responses**.
18. **Local-regional resilience depends on cultural continuity, social solidarity, democratic legitimacy, and joined-up local-regional capability** so that local communities and governance actors are less exposed and vulnerable to the **tightening squeeze** of these global forces and **double exposure** to global geopolitical and political-economy disruptions and climate-environmental shocks.
19. **Global conditions underscore the imperative for anticipatory regional planning, local-regional energy-food-water security, resilient infrastructure, and Te Tiriti-based climate resilient development**.

20. **This region cannot assume a benign global political-economy** with stable food prices, smooth supply chains, and easy access to capital and affordable insurance while it tackles challenges arising from aging infrastructure, escalating natural hazard risk, and transitioning from short-term focused business as usual to enable local community resilience and future-proofing the region. The global setting **raises the premium on regional cooperation and coordination** that secure social legitimacy and enable equitable intergenerational outcomes.

3. Horizon Scan: National factors shaping adaptation & resilience

National Context

21. The resilience of Te Ūpoko o te Ika a Māui is being reshaped by the **intersection of global volatility and national legislative pivots** that together **compound fiscal stress, institutional churn, and paradoxically natural hazard risk**.
22. **Much resilience-building work has been underway countrywide, especially by central government agencies**. It is beyond the scope of this report to systematically document all these initiatives.
23. Many local-regional initiatives have adopted and applied **Ministry for the Environment guidance on adapting to climate change**, but there has not been a regionally or nationally consistent approach to the practice of adaptation and resilience building.
24. On the one hand, there is **increasing recognition of the system-wide nature and implications of local government performance, infrastructure precarity, and the imperative to build adaptative capacity and local-regional resilience**. Positive examples include efforts to clarify roles and responsibilities for managing risk and cost-sharing, e.g., proposed National Adaptation Framework; water reform that seeks to strengthen regulatory oversight and system capability; and emerging Regional Spatial Planning provisions that seek to align physical development, infrastructure, environmental limits, and natural hazard risk over time.
25. On the other hand, successive governments have introduced **divergent changes to the planning system, water reform, local government reform, and adaptation and resilience policy, creating deep uncertainty about long-term strategic direction, and protracted institutional and policy instability**. Continual changes to the Local Government Act 2002 (LGA), **fiscal constraints and proposed rates capping** hinder local councils' ability to invest in long-term adaptive capacity and frustrate efforts to enable community and regional resilience and sustainability. The

absence of enabling legislation on adaptation, including a framework for funding and cost-sharing, undermines resilience and increases the risk of maladaptation.

National drivers shaping local-regional resilience

26. The **global ‘squeeze’** that is increasing overall risk and costs is compounded by a **national squeeze** on local-regional initiatives primarily because **protracted ‘unsettled’ national reforms are reshaping institutions and policy settings without providing stability or well-aligned frameworks for local-regional action.**
27. For over a decade, **successive governments have worked towards a national adaptation framework with legislative backing**, but it has not yet been delivered.

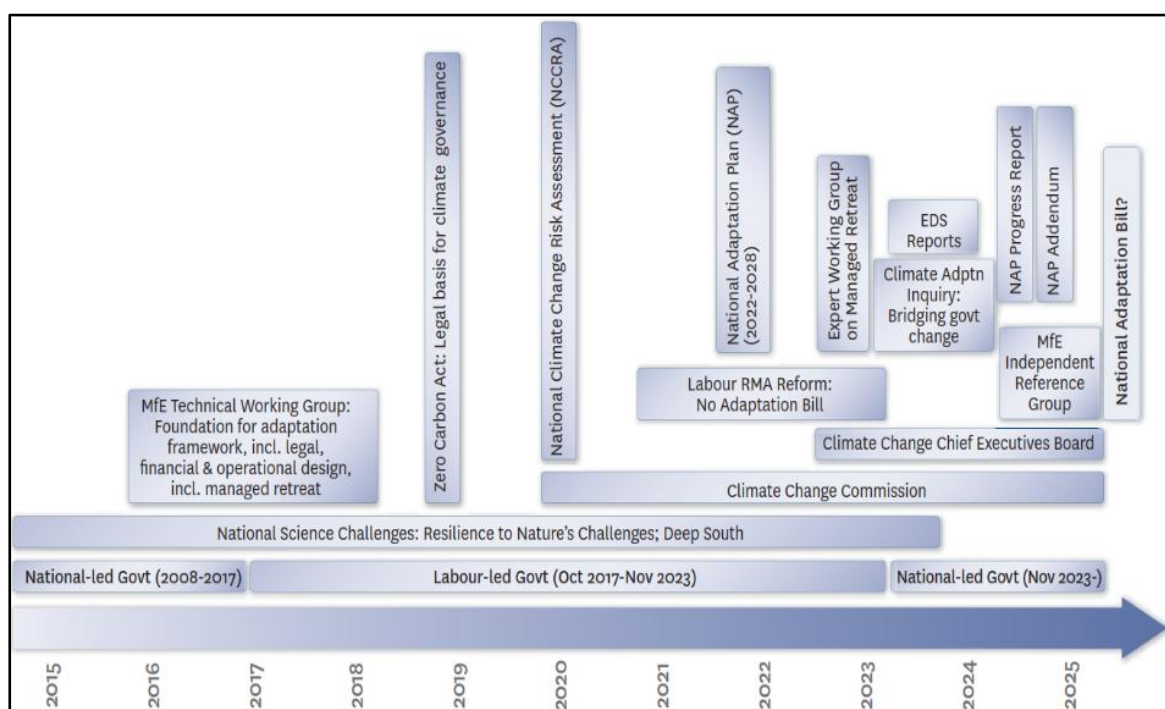


Figure 3.1: Some key initiatives over the last decade that inform a legislated national adaptation framework (Source: [Glavovic, B.C. et al., 2025. Institutionalising community-based adaptation in Aotearoa New Zealand, *Policy Quarterly*, 21\(4\): 48-60.](#))

28. In mid-October 2025, the Government announced its four-pillar, four-page **National Adaptation Framework** and the **intention to introduce legislation in 2026.**
29. The proposed framework is an **important step forward** but leaves **many questions unanswered.** For instance, the **first pillar prioritises nationally consistent climate risk information** – which is widely supported. But the framework is light on detail. It appears to focus on hazards and not the social vulnerabilities that need to be addressed to reduce risk. The **second pillar focuses on clarifying adaptation roles and responsibilities**, but no mention is made of the Crown’s pivotal role in

enabling just and sustainable adaptation and climate resilient development. The **third pillar centres on investing in risk reduction measures** but no mention is made of how to ensure that no new development is allowed in locations exposed to escalating climate-compounded risk. The **fourth pillar focuses on cost-sharing** (who pays) for risk reduction, adaptation and resilience building, including post-disaster buy-outs and planned relocation of people living in extremely hazardous locations. Experience shows that **few local communities and their local governments can afford the adaptation interventions necessary to contain climate risk for the foreseeable future**. The Government has signalled that it intends to **stop Crown contributions to post-disaster bailouts and managed retreat after about two decades**. If implemented, this intention would leave many communities, tangata whenua, local government, and regions exposed and vulnerable to escalating climate-compounded risk. The outcome would be unfair, unjust and inequitable consequences for many, especially those living along the shoreline and in floodplains.

30. **It remains to be seen whether the intended adaptation legislation will provide answers to questions such as those indicated above**, and whether an enduring, visionary approach can be developed with cross-party support to reduce risk and build the resilience of Aotearoa New Zealand's people, economy, and natural environment across generations.
31. **Ongoing political flip-flopping on adaptation and resilience-building will continue unless National- and Labour-led governments agree on how to institutionalise a nationally consistent adaptation framework that enables just, equitable and enduring outcomes that are fiscally prudent through to 2050 and well-beyond.**
32. **Until such agreement is reached, local government, tangata whenua, at-risk residents, businesses and communities will be left largely on their own in the face of escalating climate-compounded risk**; whilst under severe constraints on the affordability of major adaptation interventions; escalating insurance premiums and the prospect of insurance retreat; and the more recently proposed **rates capping** that limit annual council rates increases, and put a ceiling on long-term resilience investment.

Unsettled reform: Planning, local government, water ...

33. **Institutional uncertainty in the adaptation 'policy space' is compounded by extensive reforms across key local government functions** since at least the early 2000s, with reforms driven by major ideological differences in governments led by the Labour and National parties, including ongoing [RMA reforms](#), Three Water / Local Water Done Well reforms, local government reforms, including the recent

proposal by the National-led government to abolish Regional Councillors and establish Combined Territories Boards, as part of a wider plan to simplify local government and contain costs in providing core infrastructure and basic services (see: [Department of Internal Affairs: The Future for Local Government](#)).

34. Institutional uncertainty is further complicated by **long-standing debate over council amalgamation** and **formal active local government amalgamation investigations underway since early 2026**. There is regional consensus for local councils to seek mandates from their respective councils to lead their own reform rather than be subject to central government imposed amalgamation.
35. The recent central government proposed local government **‘rates capping’** (2-4%) creates a ‘resilience ceiling’ that forces a zero-sum choice between maintaining basic services and investing in long-term regional resilience and future-proofing.
36. It is **too early to gauge the trajectory of these reforms**, but the implications are significant for local-regional climate resilient development prospects.

National hindering & helping factors

Table 3.2: Potential hindering and helping national factors*

STEEPLE factor	Hindering (barriers)	Helping (enablers)
Social	Cost-of-living crisis & ‘rates revolt’ sentiment reduce local-regional appetite for long-term investments in ‘hard’ & ‘soft’ public infrastructure; no clarity on who pays creates public uncertainty & reduces trust	Growing national consensus to improve community-based disaster preparedness, especially post-Gabrielle; national adaptation discourse shifting to risk, roles, cost-sharing
Technological	Critical infrastructure precarity & threats (e.g., cyber-security) with aging infrastructure, rising costs & transition gaps; delivery capacity misaligned with regional spatial plans	Government-led digital twins & national hazard mapping assist evidence-based planning; improving regulatory frameworks for water & infrastructure systems; Regional Spatial Planning as integrating mechanism
Economic	Global shocks compound national fiscal ‘belt-tightening’ & rates capping constrains resilience investment	Central government ‘regional / city deals’ have potential for new funding streams, including infrastructure funding reforms
Environmental	Escalating natural hazard risk in changing climate outpaces institutional reforms; reality of Alpine Fault & Wellington’s seismic risk	National Adaptation Plan & Climate Risk Assessment are stable statutory enabler for regional resilience work; Regional Spatial Planning

STEEPLE factor	Hindering (barriers)	Helping (enablers)
		enables ecosystem-based adaptation
Political	Reform volatility reflects political pendulum swings between centralisation vs decentralisation of power; local government focus on narrow basic services provision vs community well-being; government withdrawal vs support of community-based resilience building	Te Tiriti o Waitangi as constitutional foundation for partnership framework for local-regional adaptation & resilience building. Sharp focus on adaptation & local government reform
Legal	Legislative uncertainty & reform fatigue due to protracted inconsistent approaches to Resource Management Act (RMA) and wider Local Government reform, & adaptation legislation gap	Potential for cross-party agreement on Climate Change Adaptation legislation on basis of existing statutory framework & independent work of Climate Change Commission
Ethical	Unresolved tension between private property rights & public safety & well-being in world of dangerous climate change, with no consistent policy-setting for equity, cost-sharing, post-disaster recovery or burden-sharing for planned relocation; risk of symbolic inclusion of mana whenua without authority	Sharpening focus on Māori outcomes as important success metric for public spending; recognition of cost-sharing & equity as core adaptation ethical issues; opportunity to embed Treaty-based spatial justice

* Some key sources: [DPMC & MfE Long-term Insights Briefings](#); [Wellington Regional Climate Change Impact Assessment](#); [MfE 2025 Drivers Report](#); [Treasury 2025 Investment Statement](#); [MfE and Stats NZ – Our Environment 2025](#)

Helping national factors

37. The **strongest helping factor nationally** is that climate change adaptation, infrastructure funding, water reform and local government performance are increasingly treated as **systemic issues, not just local problems**.

38. **Adaptation** is increasingly recognised as **more than an emergency management concern** and is **starting to be framed socially in terms of managing risk, roles**

and responsibilities, investment in risk reduction, cost-sharing, and long-term resilience building.

39. **Institutional architecture remains in place nationally to support local-regional adaptation planning**, including the statutory climate-risk-and-response cycle under the Climate Change Response Act with national risk assessments, adaptation plans and independent progress reporting by the Climate Change Commission.
40. Te Ūpoko o te Ika a Māui benefits from efforts to standardise infrastructure planning and establish more robust national systems around natural hazards information and water regulation, for example. Recent **helpful technology-centred policy moves** promise to enable better asset intelligence, more effective prioritisation, and more credible long-term planning.
41. **The Government's recent infrastructure-funding work could help local-regional resilience if it becomes durable.**
42. **Politically, climate change adaptation and local government affordability are explicit national priorities**, with an explicit national reform agenda around basic services, financial discipline, performance metrics, and infrastructure funding.
43. **National law continues to provide an adaptation mandate, and some recent reforms could help if they settle, and if divergent policy positions between National- and Labour-led Governments are reconciled.**
44. On the **ethical front**, the Climate Change Commission has repeatedly stressed the **imperative for effective, fair and equitable ways to fund and share the costs of adaptation**. Such questions are openly on the national policy agenda 'table.' This potentially helpful national ethical concern matters because the **region's long-term resilience depends to a large extent on whether the burdens and benefits of adaptation are held to be equitable and legitimate**.
45. The proposed **Regional Spatial Planning provisions in the RMA reform is potentially the single most important integrative mechanism** for aligning land-use, infrastructure, housing and urban growth, environment, and communities in Te Tiriti-based climate resilient development. Regional spatial planning ambition and local-regional institutional capability and funding need to be aligned to realise this promise.

Hindering national factors

46. The strongest hindering factor is **the national institutional setting is neither stable nor coherent**. Successive governments have shifted legislation, policy and practice central to long-term adaptive capacity and resilience, including planning reform (RMA reform); adaptation policy and law; local government purpose, function and financing; water governance; and infrastructure strategy and financing. The resultant instability matters as much as escalating natural hazard risk because governance

actors are hampered in their ability to plan with confidence for timeframes beyond electoral cycles.

47. **A major hindering social constraint is that national policy has yet to resolve core questions about who bears the costs of loss, adaptation and resilience-building.** The [Climate Change Commission's 2024 progress assessment](#) determined that **urgently needed adaptation is being delayed by the absence of a national funding framework for adaptation and the lack of clarity on how to meet adaptation costs.** This uncertainty fuels public mistrust, erodes social licence, amplifies insurance stress, and compounds social conflict over rates, infrastructure prioritisation, post-disaster buy-outs and managed retreat.
48. **A hindering technological factor is policy lags behind the scale of the real-world problem.** The region is reliant on costly, aging systems that have suffered long-standing under-investment and capability gaps while new governance and financing arrangements bed down. To compound matters, global geopolitical instability and political-economy conditions are driving up construction and operating costs when resilience upgrades are most urgently needed.
49. There are **major Global-National economic hindrances.** Global volatility manifest in slowing economic growth, inflationary pressure with the recent energy shock and hike in fuel prices has hit this region hard given pre-existing infrastructure deficits, escalating natural hazard risk, the cost-of-living crisis and the prospect of rising input costs, more constrained public finances, and mounting difficulty in financing long-term resilience investments. There is likely increasing pressure on borrowing costs and household budgets that together make adaptation and resilience building politically more difficult and fiscally more stressful.
50. **A further national economic hindrance is the [Government-led rate capping agenda](#)** with a planned regime in which councils must consider the impact of rate caps in long-term plans from 2027, with a fully implemented regulatory model signalled for 2029. Whilst the policy intention is affordability and financial discipline, councils with major infrastructure liabilities and natural hazard risk exposure face a 'ceiling' on revenue needed for adaptation and resilience-building, unless matched by new national funding provisions. Discretionary funding for tangata whenua-led adaptation projects may be among the early casualties of council funding cuts.
51. **Environmental reality is outpacing national institutional reform – natural hazard risk is escalating faster than national institutional debates settle.**
52. **The major political hindrance is that the current national reform direction is markedly discontinuous with the previous Government's reforms.** For governance actors at the local-regional level, the repeated reversal on policy and legislative direction creates institutional uncertainty and churn – with acute awareness of the need for reform but inability to make long-term plans because it is unclear what the legislative setting will be in a few years.

53. **A further political hindrance is the current national push to simplify local government.** Removing Regional Councillors and replacing Regional Councils with Combined Territorial Boards, alongside locally-led regional reorganisation options, has the potential to weaken regional democratic legitimacy and undermine the many complex region-wide functions central to resilience in Te Ūpoko o te Ika a Māui, e.g., flood protection, coastal management, regional spatial strategy.
54. **Legally, the country is still in transition on the adaptation and resilience fronts.** The Climate Change Commission has stressed the **serious gaps remaining on adaptation funding and cost-sharing**, with the **associated fiscal constraints vs equity conundrum**. The legal hindrance is not merely what the ‘rules of the game’ are, but that the **rules are being rewritten repeatedly while governance actors continue to make both day-to-day and strategic decisions** about land-use, natural hazard risk, and critical infrastructure.
55. **A further legal hindrance is government flip-flopping on the Local Government Act and core functions of local government.** Successive Labour-led and National-led government have introduced or removed the four community well-beings as a core council service. Under National, the well-beings are removed so that councils focus on basic services, contain costs and exercise fiscal and rates discipline. Under Labour, including the well-beings is foundational for holistic, long-term resilience building. Either way, councils are buffeted by legislative flip-flopping and have to mount countervailing justifications for adaptation, social investment, community development, and place-based resilience-building.
56. **De-coupling cultural and environmental well-being from the core mandate of local councils hinders Māori resilience** by forcing tangata whenua to advocate for kai sovereignty or papakāinga within a constrained ‘cost-effective basic service delivery model’ that fails to value non-market indigenous assets. Paradoxically, the shift from a partnership-based well-being model to basic service provision simultaneously narrows the definition of Māori interests while inadvertently compelling a more radical, autonomous resilience-building agenda.
57. **The major ethical hindrance is that current reforms prioritise private property rights, affordability, fiscal discipline and economic growth over public safety, equity, sustainability and climate resilient development.** Moreover, **the toughest ethical questions remain unresolved**: How are mana whenua rights upheld; how are socially vulnerable communities in exposed localities protected and supported; who loses in the face of disruptive change; who pays for post-disaster recovery; who pays for planned relocation; and how are intergenerational costs apportioned? **Leaving such questions unanswered is itself a resilience risk because it delays action and deepens social and political conflict.**
58. A constructively **critical reading of ‘resilience’ recognises two divergent trajectories**: On the one hand it can mean **enabling local community and tangata whenua resilience on their own terms**. On the other hand, it can mean **compelling**

local communities and tangata whenua to cope with increasing risk under an institutional regime that is more centralised, fiscally constrained, and less willing to recognise and address differentiated rights, worldviews, values, needs and interests. **The current national agenda manifests both tendencies but that latter is politically predominant.**

National challenges & opportunities over time

59. **In the short-term, policy shifts and institutional instability, funding uncertainty, and rising costs are a brake on local-regional adaptation and resilience building action.** As the Government pushes harder for fiscal discipline, and clear institutional focus, it narrows the ability of government, especially at the local level, to do the vital relational, social and community-based work that authentic long-term resilience depends upon. This manifests in the short-term when councils are fiscally constrained in doing any more than ‘fixing the most urgent problems.’ The **Treaty Principles Bill** did not progress beyond the second reading, but the episode signalled **constitutional conflict over how Treaty relationships are interpreted** in public policy and the public arena more broadly. For mana whenua in this region, **national resilience settings are not merely about the law and funding**; they are also about **voice and agency**, and whether **Māori representation and authority** are politically contingent or secure foundations for regional spatial planning, adaptation planning, and future-proofing the region.
60. **In the medium-term**, the key issue is the **extent to which reforms settle into a more coherent and stable system to enable local-regional climate resilient development.** Mandate narrowing and rates capping could manifest as suppressed investment in proactive risk reduction and enduring resilience at the very time it is desperately needed.
61. **In the long-term**, local-regional resilience depends on the extent to which successive governments agree on an enabling and enduring legislative, fiscal and governance framework to institutionalise Treaty-led, inter-generational decision-making, land-use, adaptation and climate resilient development. Residual unresolved national questions about cost-sharing, managed retreat, post-disaster recovery, and Māori whenua and wai will manifest as deep inequities and injustices.

National upshot

62. **The region faces ‘double exposure’: rapidly escalating climate-compounded risk amplified by global-national volatility.**
63. **Te Ūpoko o te Ika a Māui is operating under a national system that is under global pressure while still evolving institutionally.** The challenge is not merely to

navigate escalating climate-compounded risk but to do so while coping with the cost-of-living crisis, as institutions and policy prescriptions continue to shift, and navigate intensifying complexity, uncertainty, change, contestation and the urgent need for climate action.

64. **National-level policy settings are simultaneously enabling system reform whilst creating institutional uncertainty and instability.**
65. **The national ‘picture’ is neither one of simple failure nor simple progress.** It is a picture of **incomplete local-regional system institution building under conditions of profound political discontinuity.** For Te Ūpoko o te Ika a Māui, the ‘best’ national help would come from enduring clarity around roles, funding, infrastructure, and regional-scale capability that is Treaty-grounded. The ‘worst’ national trajectory increases institutional churn and short-term unaffordability without resolving underlying land-use, democratic governance, and adaptation finance and practice challenges.
66. **Ignoring the well-beings of local communities and mana whenua risks losing the social licence and local knowledge and *mātauranga* (Māori knowledge) essential for navigating unavoidable climate retreat in coming decades.**
67. **Local-regional resilience depends on navigating global-national turbulence, not waiting in vain hope for certainty and stability.**
68. **Regional Spatial Planning provisions could be the vital integrative mechanism for Te Tiriti-based climate resilient development in the region.** Spatial planning cannot answer vexing questions about who decides, who should bear the brunt of predictable impacts of business-as-usual, and who should pay for climate resilient development investments. But spatial planning can reveal where and how the region should develop over time.

4. Horizon Scan: Local-regional factors shaping adaptation & resilience

Local-regional context

69. The global-national setting underscores the logic of regional collaboration but simultaneously this is a much more difficult setting in which to deliver durable climate resilient development.
70. **Adaptation action and resilience building is already underway across the region,** driven by tangata whenua, territorial local authorities, government agencies, at-risk residents, local communities, farmers and businesses, critical infrastructure providers, as well as diverse WRLC partners and stakeholders. **Much of this action is, however, isolated, disjointed, and short-term focused.**

71. The full extent and scope of these **local-regional initiatives have yet to be systematically documented** and is beyond the scope of this Phase 1 report. However, documenting and celebrating this work, and raising its profile, is an important part of working together to build connected, thriving and resilient communities and future-proof the region.
72. Arguably, **at the start of 2026, the region is stronger institutionally than it was a year ago**. Water reform has advanced toward a new regional entity. The region has a new [CDEM Strategy 2025-2035](#). Public transport planning has been refreshed. Regional adaptation planning has been advanced through this initiative.
73. But the **region continues to be unsettled institutionally**. Crucial **local-regional issues remain unresolved**, including how to resolve fragmented mandates, infrastructure deficits, fiscal stress, uneven community vulnerability, persistent uncertainty about whose values count, who decides, who pays when climate-compounded risk becomes intolerable, and how to institutionalise co-governance with mana whenua?
74. **Crucially, as yet, there is no coherent, joined-up region-wide approach for navigating the stormy seas outlined above and in Appendix 1.**
75. **This WRLC work is therefore foundational** for overcoming shortcomings in the region's prevailing governance of climate-compounded risk.

Local-regional resilience paradox

76. The region faces a **resilience paradox**. On the one hand, some of the country's most robust climate risk information, local-regional development strategies and planning frameworks, and partnership intentions are found in this region. On the other hand, the region's capacity to act in a joined-up and coherent manner consistently over time is hampered by uneven capacity across local communities, governance actors, and institutions in the region; intensifying fiscal constraints; and fragmented governance structures, processes and practices.
77. Local-regional resilience is **not merely a technical challenge** but a **political and institutional struggle over how to manage the distribution and cost of climate-compounded risk**. Resilience is much more than 'bouncing back' – it is about who controls resources, who bears risk, who has voice, and whether institutions and governance actors can act early enough to enable Te Tiriti-led justice, equity and sustainability across generations.
78. Central to this struggle is reconciling **localised vulnerability and capability** with the imperative to strengthen **regional cohesion** in order to address cross-boundary issues through collective regional strategic and spatial planning and coherent local action.

Local-regional hindering & helping factors

Table 3.3: Potential hindering and helping local-regional factors*

STEEPLE factor	Hindering (barriers)	Helping (enablers)
Social	Socio-demographic silos – aging populations vs young, precarious renters	Strong tangata whenua presence with long-term ancestral commitment to region
Technological	Fragmented technological capacity across region, e.g., IT & data systems vary between providers & councils	Local innovation hubs & ‘smart city’ initiatives in Wellington & Lower Hutt
Economic	Infrastructure funding gap & strict debt-to-revenue ratios for local councils	Concentration of public sector jobs provides strong economic base
Environmental	Steep topography & exposure to natural hazards drives high-cost engineering challenges for regional transport, water & critical infrastructure	Geographic diversity enables ‘portfolio’ approach for local community resilience building
Political	Inter-council competition / parochialism intensifies struggle over limited resources	WRLC is established forum for regional leadership & coordination
Legal	Difficult to coordinate local councils & multiple tangata whenua entities	Many precedents for cooperative arrangements / accords / Tākai Here to deepen & extend region-wide partnership agreements
Ethical	Inequities in social services & critical infrastructure across localities in the region.	Commitment to foundational regional values is well-established, including Manaakitanga (i.e., care), & Kaitiakitanga (i.e., guardianship)

* Some key sources: [WRLC Reports](#); [Greater Wellington Document Library](#); [WREMO Community Ready](#)

Box 3.1: Mana whenua resilience concerns over time

Commonly cited concerns include:

- Protection of whenua, wai, taonga, wāhi tapu, mahinga kai and customary relationships with place.
- Genuine decision-making power, not symbolic consultation.
- Housing justice and unlocking Māori land and development opportunities.
- Institutional continuity and Treaty integrity during reform.
- Intergenerational capability.

Short-term concerns include:

- Whether public institutions have the resources and willingness to translate engagement rhetoric into shared authority and co-governance.
- Ensuring current reforms do not compromise settlement commitments, mātauranga, or tikanga.
- Being involved early in decisions on governance reform, water reform and adaptation planning.
- Protecting at-risk coastal and freshwater sites, and mahinga kai.
- Safe, affordable and resilient housing.
- Burn-out and engagement fatigue.

Medium-term concerns include:

- Whether the region can embed Te Ao Māori in spatial planning, infrastructure planning and hazard management to improve housing, protect taonga and enhance Māori capability.
- Ensuring that resilience initiatives are culturally grounded to enhance long-term Māori land development and Māori-led housing providers, papakāinga, mahinga kai and food security, and co-governance arrangements.
- Exercising agency over cultural sites or mahinga kai through the courts instead of around the council table.

Long-term concerns include:

- Whether climate change adaptation and regional governance will respect mana whenua relationships with ancestral lands and waters as conditions change, raising questions about identity, whakapapa, memory, justice and equity.
- Will future regional resilience pathways protect mana whenua authority and connection to place or reproduce another cycle in which Māori suffer disproportionate loss whilst others hold decision-making power?
- How can the Māori communal, intergenerational model reframe community resilience building and future-proof the region?

For mana whenua, resilience is the continuity of whakapapa relationships between people, place and future generations. The resilience agenda goes far beyond natural hazards management. **Resilience should be built on Māori foundations** of mana whenua authority, land and water, housing, food systems, cultural integrity and intergenerational well-being.

Some key sources: [Iwi Values and Aspirations Report 2025](#); WRLC Future Development Strategy Technical Reports; [Deep South Challenge: Adaptation by Mana Whenua](#)

Helping local-regional factors

79. The **WRLC** provides a robust platform for mana whenua, councils and central government to **work together** to improve local community resilience and future-proof the region. The WRLC is a legitimate forum to enable collective voice and region-wide planning on matters of local-regional importance.
80. Many of **the region's most severe risks transcend local council boundaries** and necessitate joined-up thinking and action: coastal erosion and storms in a changing climate with accelerating sea-level rise; extreme weather events and flooding; transport-housing-urban development interdependencies; lifelines resilience; and food-energy-water security. **Regional machinery has already been put in place** to tackle these region-wide challenges, including the Wellington Region CDEM Group Strategy 2025-2035 that involves local councils, iwi, government agencies, community groups, businesses, and volunteers; and the Future Development Strategy and wider growth framework that accounts for an expected additional 200,000 people and 99,000 homes and associated infrastructure by 2051. Resilience, iwi/Māori development outcomes, and climate/zero-carbon transition are regional priorities.
81. **Mana whenua are recognised as foundational partners** for shaping the region's future and are more embedded than ever before, but this is still uneven in practice. There are active region-wide and sectoral moves towards partnership by design founded on shared values and shared power, along with acknowledgement of mana motuhake (i.e., self-determination, autonomy and independence) and tino rangatiratanga (i.e., political control by Māori people over Māori affairs), and more equitable resourcing. New governance models, e.g., Tiaki Wai (the new water entity replacing Wellington Water in July 2026), institutionalise mana whenua in 'co-governor' roles for critical lifelines.
82. **Regional flood protection and nature-based work are important strengths.** The region has major protective works ('hard' resilience infrastructure), flood resilience projects and related work that seek to future-proof communities, infrastructure, cultural taonga, livelihoods and the economy. Nature-based solutions, like wetland restoration, soil management, and giving rivers room to move, are underway in co-development with mana whenua, government partners and local communities.
83. **Bioregional food hubs and regenerative mahinga kai practices provide a template for regional food security** that is more resilient to supply chain shocks compared to globalised models.
84. **'Soft' resilience infrastructure** is being strengthened by consolidating and building shared understanding about local-regional risk. The **Wellington Regional Climate Impact Assessment** provides a 'single source of truth' that helps councils and other entities avoid using conflicting data that can cause inconsistencies and 'blind spots'

in local-regional adaptation and resilience planning. Using the same peer-reviewed climate risk data could help reduce litigation risk for councils.

85. Regional governance actors are already moving towards **regional spatial planning** to better align land-use, infrastructure, long-term development strategies and address environmental limits.
86. **Local engagement innovations** like the [Porirua Assembly on Climate](#) are actively testing innovations in **deliberative democracy**⁶ by involving citizens in working through the complex considerations inherent in adaptation and resilience planning; and, in the process, local councils may secure the **social licence** necessary for making unpopular decisions on behalf of their communities, e.g., managed retreat.
87. **Amalgamation** of local councils has long been debated, and with mounting national government pressure, formal merger investigations are underway. Among other things, there is potential for functional consolidation and regionalising specialised adaptation, and resilience capabilities will enable smaller councils and entities to access expertise they couldn't otherwise afford.

Hindering local-regional factors

88. **Wellington's geography** – with steep hills, rugged topography and narrow, low-lying coastal strips – leaves little 'room' for climate resilient development. **Coastal squeeze** is a major impediment because ecosystems, infrastructure and communities have little room to move back in the face of rising sea level and pre-existing private development.
89. **Fragmented governance** manifests in different local mandates, capacities and financial positions, creating a '**resilience postcode lottery**' whereby a resident in Upper Hutt may have different flood protection than one in Petone despite sharing the same river system.
90. **Resilience is actively undermined by fragmented decision-making, not merely slowed down.** Smaller councils and entities do not have the balance sheets to fund major adaptation interventions nor invest in long-term resilience-building. Hence, **short-term fixes** prevail over investment in climate resilient development.

⁶ **Deliberative democracy** involves citizens directly in complex public problem-solving through dialogue, deliberation and consensus-building. It goes beyond the 'voting logic' of representative democracy. A representative group of 'everyday citizens' dedicates the time, resources and accesses relevant information to carefully consider all sides of a difficult issue before working out a sound solution and recommendations. For the Porirua Assembly on Climate, a Te Tiriti-led citizen's assembly was established comprising two chambers – a mana whenua group and a community group representing the wider Porirua demographic – enabling participants to learn from experts, discuss diverse perspectives and develop consensus recommendations for decision-makers. A distinctive innovation was integrating Western deliberative principles with Māori wānanga (collective deliberation) with Pacific Talanoa (dialogue) to create a 'third relational sphere' where decisions affecting everyone were made together.

91. **Maladaptation is a serious risk.** When decisions are made in isolation, or without adequate consideration of medium- to long-term consequences, maladaptation is more likely, reflected in a well-intentioned action in one part of the region shifting or intensifying risk elsewhere.
92. **Capacity gap for tangata whenua:** Having a seat at the decision-making table is necessary but not sufficient as most tangata whenua entities, including hapū and iwi, face severe resource and capability constraints, especially given the sheer volume of work inherent in Treaty-related processes, and regional water, transport, climate and related reforms (see [WRLC Iwi Capacity & Capability Project](#)). The challenge is to ensure authentic engagement, decision rights, funding, technical capacity and time are shared so that tangata whenua co-create outcomes rather than simply endorse decisions late in the process. These conditions are being built actively rather than having already been secured.
93. **Funding, insurance and fiscal constraints and stress have become major resilience issues in their own right.** Some councils and entities have **elevated debt** levels that are difficult to manage. **Credit rating pressure** is intensifying with some council's receiving downgraded credit ratings that result in more expensive borrowing and reduced 'borrowing power', loss of reputation and leverage, and potential impacts on basic service delivery. **Fiscal strain** results from major infrastructure deficits in the face of shrinking affordable funding, making it hard to cover the increasing cost of simply maintaining what already exists let alone investing in new resilient infrastructure. **Inflation** and the **increasing cost of insurance and higher interest rates** mean that councils are paying more for the same services. 'Finding' savings typically results in **deferred maintenance** and / or **operational cuts**. **Structural changes** are also afoot in how residents will pay for some services, e.g., water services being shifted from councils to separate entities resulting in separate bills, with static or even slight decrease in rates but an overall increase in the cost of living as a result of paying two providers for the same core services. The upshot of this situation is that when money tightens, institutions are compelling to focus on the urgent over the important, and visible urgently needed services over less visible preventive and resilience-building services. In short, **the region will not be able to future-proof itself if it repeatedly postpones the very investments necessary to reduce future losses.**
94. **Climate-compounded natural hazard risks are escalating faster than local-regional institutions are able to respond** (see Appendix 1). **Traditional responses are typically too slow, too siloed and tied to short electoral cycles** to build robust, enduring adaptive capacity and community resilience. Council political, finance and planning timeframes operate on annual, 3-year and 10-year cycles, with some 30-year timeframes, but **century-scale risk needs to be mainstreamed into institutions built for much shorter horizons**, and this mismatch is one of the deepest structural hindrances to community resilience and regional future-proofing.

95. **Over-reliance on technical risk analysis and protective responses is commonplace.** Notwithstanding a palpable shift in disaster risk reduction thinking and practice in recent years, a hazard-centric, technocratic risk optimisation logic tends to prevail with over-reliance on hard-engineered solutions. This modality is not fit-for-purpose given the escalating climate-compounded risk facing the region. More attention needs to be focused on the drivers and root causes of social vulnerability, and adaptation and resilience planning need to be better aligned from the local to regional level. Crucially, hard-engineered protective works remain necessary, even vital, but they do not substitute for more prudent land-use restraint in exposed localities (especially those also including highly productive land), planned relocation of those in the most imperilled locations, and transformative long-term settlement patterns that foster climate resilient development.
96. **Critical infrastructure⁷ and lifelines⁸ are under strain.** With aging networks, high seismic risk and escalating climate risk, and population growth intersecting with extreme fiscal limits, debt constraints and rising costs, investment in long-term resilience is hampered. **Regional lifelines have limited redundancy and often intersect fault lines exposing the region to potentially devastating disruptions in a major seismic event.** There are major shortcomings in water infrastructure and **massive funding pressures** on critical regional transport projects. **Interdependencies shape resilience**, e.g., if the power goes out, will water pumps still work? **Lifelines** enable survival and functional livelihoods (e.g., having a backup generator at a water reservoir enables people to access water even if the power fails). **Long-term investment in critical infrastructure** reduces risk and builds enduring resilience.
97. **Water is both a major risk and institutional turning point.** Emerging water governance reform is promising from a regional resilience perspective because water, wastewater and stormwater are foundational for local economies, public health, community well-being, and urban development. Official statements suggest better, more resilient water governance. Years of frustration, failures and leaks are reflected in deep public suspicion about promises made. The challenge is to earn the social licence necessary to deliver tangible improvements while maintaining public ownership, mana whenua co-governance, and accountability to local communities. Water reform can help future-proof the region, provided water governance reform delivers service improvement and not just administrative rearrangements.

⁷ **Critical infrastructure** refers to the physical systems and assets that are key to public safety, health and well-being, e.g., power stations, bridges, hospitals, data centres, etc.

⁸ **Lifelines** refers to the vital subset of infrastructure ‘services’ that need to work during and immediately after a disaster to enable socio-economic function, including energy, telecommunications, transport, water, financial services, and fast-moving consumer goods like food and grocery supply chains.

98. A similar case can be made regarding **regional transport**. Water is a biological and public health imperative, and a living ancestor and source of life for Māori. **Transport is an economic and emergency lifeline for the region**. Yet Wellington's geography makes the transport network **prone to a 'single point of failure' with multiple 'choke points'** that could sever the region into isolated islands after a major seismic event. There is a **massive funding-to-need gap**. To compound matters, low-lying coastal roads and rail, for example, could become **stranded assets** in coming decades, posing a major fiscal risk, especially given the cost of inland replacement options, often over mountainous terrain. The **equity implications** are profound because inadequate public transport means that those unable to afford a private vehicle lose access to education, employment, healthcare and most social services. Smaller, remote communities, e.g., in Wairarapa and coastal Horowhenua, are especially vulnerable to service cuts to 'save the core network'. Those most vulnerable are likely to be further marginalised. **The WRLC seeks to improve transport resilience in the region** by supporting a regional systems-level approach that integrates transport considerations into the region's economic development, housing and climate adaptation, including the Wellington-Horowhenua Future Development Strategy, West-East Access and Resilience Investigation, and analysis of Transport Emissions Reduction Pathway, among others.
99. **Adaptation planning is underway, but the real tests are still to come**. Many local initiatives are underway, including pilot studies and adaptation pathways planning aimed at identifying short-, medium- and long-term adaptation pathways. But crucial questions remain unanswered in the adaptation policy vacuum that prevails, including how to share costs, who is to benefit, and how to honour cultural connections and place-attachment without leaving people exposed to escalating intolerable risk. The truly difficult and contentious decisions still mostly lie ahead.
100. **Regional growth is both an opportunity and a risk multiplier**. Effective **regional spatial planning** helps direct housing, industry, land-use, and infrastructure into **safer, better-connected, more liveable places**. Done well, this **reduces exposure to hazards and improves community well-being**. But **growth intensifies pressures on already fragile systems** – critical infrastructure and lifelines, housing affordability, and environmental quality. **Business as usual growth fails** to leverage the foregoing opportunity and simply **reproduces social vulnerability and natural hazard risk at a larger scale**. In short, accommodating growth without changing where and how we build will **deepen risk** rather than reduce it, and **undermine the potential for climate resilient development**.
101. **Mana whenua** face ongoing hindrances in relation to housing, food security, land-use, livelihood sustainability, protection of taonga, and the ability to steer development pathways in ways that are equitable and consistent with tikanga (i.e., customary values, protocols and practices) and kaitiakitanga (i.e., guardianship or long-term stewardship).

102. **Social inequality is one of the region’s most severe resilience hindrances.**

Resilience is unevenly distributed across the region. Local communities have markedly differing capabilities to absorb impacts, participate in planning processes, or relocate out of harm’s way. Some households can insure, retrofit, work remotely, absorb high rates and costs, and even relocate. Others cannot. Māori and Paskifika in parts of the region already suffer disproportionate impacts due to the double exposure described above. Prospects are dismal for those most disadvantaged. There is a risk that well-intentioned resilience building practices paradoxically shift risk downward onto households, communities and groups of people with the least capacity to cope or adapt. Long-term resilience necessitates justice, fairness, and affordability as core foundations, not merely nice-to-have add-ons.

Local-regional challenges & opportunities over time

103. **Short-term challenges include:**

- a. **Many communities are already exposed to natural hazard risk**, including climate-compounded risk, with about 31% of the [Greater Wellington region’s population and buildings](#) currently exposed to a 1% Annual Exceedance Probability (AEP) flood event (also known as a 1-in-100 year event). This exposure worsens in coming decades due to climate-compounded extreme events. In Lower Hutt, 50% of all residential and 90% of all commercial buildings are exposed. The Kāpiti coast is the second most affected district in terms of population exposure. 67% of commercial stock is at risk in Wellington City but only about 15% of residential building stock is exposed. By 2110, South Wairarapa and Masterton could have nearly 50% of all buildings exposed to 1% AEP flooding. The prognosis is much worse when accounting for all natural hazards. **Extreme events are increasingly compound and cascading.**
- b. **Social equity is unevenly spread around the region.**
- c. **Fiscal stress is intensifying**, contributing to infrastructure fragility and deferred investment in resilience.
- d. The **cost-of-living crisis is a hindrance** to long-term resilience investments.
- e. **For mana whenua, ‘administrative burnout’ and ‘consultation fatigue’ are key concerns** given the pressure to contribute to multiple committees, co-design projects and review endless policy and project proposals. Direct resourcing is necessary to operationalise well-intended partnerships.
- f. **Short-termism is a challenge** – institutionalised by 3-year electoral cycles and annual budgets.
- g. **Institutional churn** hampers enduring, joined-up local-regional action.

- h. The **political challenge** is there is as yet **no settled consensus on what kind of local-regional governance architecture is appropriate**. Options, including amalgamation, are being explored. The Government’s proposal to remove elected regional councillors and replace them with Combined Territories Boards has been opposed by Greater Wellington. The question is not whether amalgamation is either good or bad, but what is being amalgamated, what should remain local, and how tangata whenua authority and local representation are institutionalised in any new structure.
 - i. The **ecological challenge** is already a major resilience issue that is projected to get much worse in a changing climate with a growing regional population. The intrinsic value of nature is at stake, along with direct and indirect benefits to people – from cultural landscapes and taonga to mahinga kai (i.e., Māori practice of gathering, producing / procuring natural resources, including food), flood protection, biodiversity, and individual and collective well-being.
 - j. The **institutional challenge** is to **improve coordination during turbulent times**.
104. **Short-term opportunities include:**
- a. Local-regional **resilience understanding and coordination is improving**, and there is **more scaffolding for collective action in place** than in recent years.
 - b. **Mana whenua are actively involved in co-governance** to help future-proof the region.
 - c. **Promising progress on some ‘reform’ fronts** – including innovations in critical infrastructure and lifelines.
 - d. **More focused attention on local-regional adaptation planning and resilience building**.
 - e. The **refreshed Wellington Regional Triennial Agreement for 2025-2028** aims for better alignment across regional committees and forums, and that mana whenua remain members of the WRLC and meet as an iwi caucus with the Mayoral Forum on issues of joint interest. This is a real institutional opportunity.
 - f. **Amalgamation** offers the prospect of more streamlined planning and decision-making, less duplication, and more focused regional strategic direction.
105. **Medium-term challenges:**
- a. The over-riding challenge is to **transform business-as-usual practices** that deepen misalignment between local-regional physical development patterns and the reality of environmental limits and escalating climate-compounded risk.

- b. This timeframe is likely to be dominated by **crossing the threshold for coastal properties** exposed to climate-compounded risk and sea-level rise in particular. Insurance unaffordability and retreat are likely to predominate and managed retreat is likely to become more commonplace, with serious justice and equity implications.
 - c. **For mana whenua, important cultural sites are located in exposed localities**, like urupā and marae along the coast. Hapū and iwi are concerned about the challenges of moving ancestors and communal hubs. There are also **deep concerns about post-settlement prospects for whenua that becomes uninsurable or undevelopable due to climate-compounded risk**.
 - d. The **ecological challenge** is to move beyond ‘green-blue washing’ and recognise that degraded hill catchments; river systems, wetlands and estuaries; and polluted harbours make the region more costly and fragile to live in. Healthy, productive and diverse ecosystems are an integral part of the region’s resilience ‘infrastructure’.
 - e. The **institutional challenge** is whether the region can align infrastructure, spatial planning, ecological restoration, Māori partnership and social equity into an enduring operational governance model.
106. **Medium-term opportunities:**
- a. Can the region align land-use, water, transport, natural hazards planning, climate resilient development, and tangata whenua co-governance into a coherent institutional operating model – that outlasts organisational change, ongoing reforms, and electoral turnover? **Amalgamation could potentially be enabling.**
 - b. The **ecological opportunity** lies in mainstreaming **nature-based solutions to restore ecological functioning and reciprocal human-Nature relationships.**
 - c. The **institutional opportunity** lies in the foundation already laid to work towards a more integrated and collaborative Tiriti-based approach but this will necessitate political vision and discipline across multiple electoral cycles.
107. **Long-term challenges:**
- a. At root, **resilience decisions are settlement decisions that are equitable and ensure Tiriti-based climate resilient development.** Century-scale future-proofing necessitates thinking and action beyond technical risk optimisation, emergency response, and reliance on protective works.
 - b. Amalgamation could enable climate resilient development in the region, but the **risk is centralising power too far from local communities** if not carefully designed.

- c. **The institutional challenge is make ‘wise’ settlement decisions now that ensure inter-generational resilience**, informed by where and how communities should intensify, where and critical infrastructure should be constructed, how to foster nature-based resilience including allowing rivers and coasts to move, how to enable planned relocation when continued occupation becomes too risky and / or too costly, and how Te Tiriti-based authority is expressed in a changing landscape. Importantly, for mana whenua, the challenge is also to restore the life force of the region’s water bodies and ensure that their mokopuna (i.e., grandchildren) can continue to live with abundance in their ancestral rohe (i.e., territory).
108. **Long-term opportunities:** Local-regional climate resilient development prospects will be determined (e.g., [Wellington Regional Growth Framework](#)) by:
- a. The extent to which the region **enables coordinated decisions about where and how communities live.**
 - b. **How equitably costs and risk are shared** between and within communities and generations.
 - c. **Unwavering political consensus** to enable ‘compact’ development, remove people, housing and infrastructure from the most exposed locations; decouple the economy from fossil fuels; and strengthen local-regional water, energy and food security. **This institutional challenge is a constitutional and civilisational.**
 - d. If this opportunity is seized, the region will be an **exemplar for Treaty-grounded, place-based climate resilient development.**

Local-regional upshot

- 109. The region’s governance actors **need to build resilience in the face of a turbulent local-global setting with mounting pressures on all fronts.**
- 110. **Local-regional prospects are constrained neither by intent nor a lack of data and understanding**, but by the extent to which **collective commitment, equitable capacity and institutional coherence** can be unlocked at scale and with the urgency necessary to **chart Tiriti-led climate resilient development pathways.**
- 111. The **greatest risk is not climate-compounded events but institutional fragmentation** in which councils and other entities retreat into ‘localism’ to protect their own interests (e.g., ratepayer bases or particular communities) while **shared regional infrastructure (soft and hard) becomes a point of failure for all.**
- 112. The most important **local-regional advantage** is that the region now has in place **more robust institutional scaffolding for collective action** than it has had in recent years. But this **scaffolding is still under construction as risks escalate rapidly. Institutional architecture and a trusted operational system** needs to be

developed that is Tiriti-led, founded upon agreed values for working together, shares power, prioritises urgent adaptation actions, addresses the drivers and root causes of social vulnerability, supports those most at-risk, and holds a century-long line on land-use, settlement, and infrastructure decisions.

113. **Amalgamation** may help if regional coherence is strengthened while protecting local voice and agency, and mana whenua authority; it may hinder if it becomes a bureaucratic consolidation that recentralises power and undermines relational governance. For mana whenua, resilient amalgamation includes authority, land and water protection, housing justice, food security, cultural continuity, and intergenerational capability.
114. **The risk for local government is not merely under-funding**, it is being pushed toward a more managerial, compliance-oriented role at the moment resilience necessitates more relational and deliberative governance with negotiated choices and co-produced social licence and legitimacy. Local government needs to invest in the **‘slow work’ of trust building, sharing power, and holding a consistent local-regional line on difficult spatial land-use choices. This is precisely why a robust regional compact for climate resilient development makes sense now.**
115. **For tangata whenua in the region**, conditions are more uneven. Institutional turbulence and uncertainty raises questions about the **security of Māori voice and agency** in co-creating Tiriti-based climate resilient development pathways. Is Māori representation and Treaty-ground authority politically contingent and if so, how can tangata whenua resilience be supported in practice while being destabilised constitutionally?
116. **The imperative for regional cooperation and an enduring commitment to work together has never been more urgent and compelling.** Hence, the merit of this initiative: Ko te Whakarite i ngā Hononga: to create ensuring connections between all governance actors in the region.

APPENDIX 4: CONCLUSION & RECOMMENDATIONS

1. Conclusion

The problématique

1. **Risk governance in the region is increasingly mismatched with the scale, pace, and interconnected nature of the risks it faces.**
2. **The region is confronting a multi-exposure reality:** Converging and intensifying climate and natural hazard risk are interacting with global geopolitical and economic volatility, energy and supply chain shocks, and an unsettled national legislative and institutional environment. These pressures are compounded by local fiscal stress and infrastructure deficits. The impacts and risks are spread unevenly across the region and will intensify over time, with future generations bearing a disproportionate burden.
3. The region, and the WRLC in particular, has made **noteworthy progress in understanding risk and strengthening regional coordination**. However, this progress is constrained by **fragmented governance, institutional myopia, uneven capacity, fiscal pressure, and unresolved questions about resilience roles, funding, and long-term decision-making**.
4. The creates a **‘resilience paradox’**. On ‘paper’, the region appears well-prepared, with many WRLC strategic initiatives already completed, underway or planned, along with initiatives like the Wellington Region CDEM Group Strategy 2025-2035. In practice, **regional risks are escalating faster than institutions are able to act collectively to address them**, and the **drivers shaping the region’s prospects are increasingly converging, interacting and reinforcing**.
5. The literature review in Appendix 1, key informant reflections in Appendix 2, and Horizon Scanning in Appendix 3 together demonstrate that the **primary hindrance to building adaptive capacity, community resilience, and future-proofing the region** is neither a lack of technical data nor limited understanding about the hazardscape, and it is not the absence of good intentions. Rather, **the crucial problem is the vexing combination of institutional fragmentation and institutional myopia**.


The combination of institutional fragmentation & myopia

6. **Institutional fragmentation** occurs when responsibility for interconnected issues is distributed across multiple organisations and / or sectors, each operating with distinct mandates, constraints, priorities, etc., making it difficult to cooperate let alone coordinate and align decisions. Consequences include coordination gaps, duplication, transaction costs and inefficiencies, wasted resources, and maladaptation with a ‘solution’ in one place creating problems in another. This is the **structural silo problem** or a **‘failure of the whole’** where the region’s ‘collective intelligence’ is compartmentalised with constituent parts unable to realise the ‘whole greater than the sum of the parts’.
7. **Institutional myopia** refers to **‘organisational short-sightedness’** – the tendency for organisations to prioritise immediate and short-term concerns and pressures, budgets, political cycles, etc. over medium- to long-term considerations. **The present is prioritised and the future discounted.** Consequently, necessary but difficult, often contested, decisions are delayed, and future impacts and costs are imposed on vulnerable groups and / or future generations.
8. Institutional fragmentation produces a **‘resilience postcode lottery’** for financial security, public safety, and community well-being because the viability of housing and infrastructure is conditioned by **inconsistent local standards and capabilities** instead of a **coherent regional logic and joined-up capability and coordination that enable locally-led, enduring resilience action.** For example, imagine different local councils and utility providers all using different flood-mapping models for the same stretch of coast, resulting in conflicting building consents and inconsistent infrastructure repairs.
9. **Fragmentation can be managed** if there are durable partnerships norms; clear roles and escalation pathways; and strong aligning mechanisms (e.g., shared data, regional spatial planning). **Fragmentation helps explain trans-local inconsistency and inefficiency, but not why there is repeated under-investment in intergenerational resilience.**
10. **Institutional myopia** manifests, for example, as discounting of long-term risk vs immediate service prioritisation; preference to address visible, immediate problems over preventive investment; and political priorities tied to 3-year electoral cycles.
11. **Institutional myopia** can lead to **stranded assets.** For example, to meet immediate housing targets, a new housing development might be consented along a low-lying coast knowing that the council (and future rate payers) will likely face a multi-million dollar seawall or managed retreat in coming decades, not to mention potentially devastating climate change-compounded extreme events even sooner.
12. **Together, institutional fragmentation and myopia mean that public decisions are often poorly aligned across organisations (and space) and over time, making it very hard to manage long-term risks and build intergenerational resilience.**

13. **This interaction creates a ‘crisis of presence’:** Fragmentation ensures that no single agency has a complete picture of what is going on in the region. Myopia ensures that even if they did have a complete picture, each organisation is incentivised to ignore that which falls outside their immediate or short-term priorities, e.g., 3-year electoral cycles. Future generations have the most at stake in climate resilience decision-making, but they have no voice in contemporary decisions that privilege the now over the future.
14. **Positive feedback loop of failure:** This combination creates a self-reinforcing feedback loop that makes intergenerational resilience very difficult to realise in practice. **Budgetary myopia** is manifest in council decisions to prioritise visible, urgent problems (e.g., filling potholes), especially under fiscal pressure, over invisible, long-term resilience investments. **Fragmented responsibility** results in no one entity ‘owning’ 100-year risk, for example, making myopic choices the default. Social scientists call the resultant phenomenon **‘organised irresponsibility’** as agencies ‘blame’ each other for causing inaction.
15. **Path dependency is commonplace**, i.e., the ‘trap’ in which short-term choices lock-in a future with no exits or off-ramps, e.g., investing in permanent high-cost underground infrastructure in a low-lying coastal setting projected to be inundated in a few decades. Narrow agency mandates (fragmentation) and a focus on short-term political wins (myopia) can ‘lock in’ infrastructure and housing development that over time could become stranded assets, ‘stealing’ adaptive capacity from future generations and leaving them with constrained climate resilient development options and outcomes.
16. **Importantly, these challenges are not only technical or institutional, they are relational and political.** Many resilience decisions depend on **trust, legitimacy, and social licence**, particularly where they involve trade-offs, cost sharing, or changes in land use.
17. For **mana whenua**, these issues are experienced in terms of **protection of whenua, wai and taonga; kai sovereignty and food security; housing and ability of whānau to live on ancestral land; and intergenerational well-being.**
18. There remains a **risk of procedural inclusion without structural influence**, where tangata whenua participation does not translate into meaningful decision-making power or resourcing.
19. **In sum, institutional fragmentation disperses responsibility; myopia defers responsibility.**
20. **Intergenerational resilience** requires legitimacy to make difficult choices; bold decisions now secure future benefits; and cost-sharing crosses temporal and geographic scales.

Why work together?

21. ***Ko te Whakarite i ngā Hononga | Ensuring Connections*** centres on **working together now and into the future. This is essential** to build connected, thriving, and resilient local communities, a vibrant regional economy, and to secure healthy, diverse and productive terrestrial and marine ecosystems that together enable regional climate resilient development.
22. **No entity, governance actor or sector can do this work alone – with global political-economy volatility and national austerity and institutional flux.**
23. A Tākai Here is not merely a ‘nice-to-have’ agreement, it is the **institutional mechanism to bridge the gap between the 100+-year reality of climate-compounded risk and short-term political cycles and institutional churn.**
24. **This living agreement is NOT a new initiative.** It is a practical enabling mechanism for deepening and extending regional adaptation and resilience work underway by the WRLC – and helps make this work easier, more coherent and effective, and less risky. This is a trust-building coordination enabler, not a new funding request. It provides security for all partners, reducing exposure to political and public backlash, poorly aligned decisions and stranded investments. It helps ensure that entities are not left carrying the consequences of decisions made elsewhere.
25. This agreement can **help ensure continuity and trust** at a time when national institutions, including laws and policies and parallel reforms, continue moving. The Tākai Here is politically and institutionally agnostic – portable and persistent across governance and institutional change. This Tākai Here **helps lock-in shared values and principles for how to work together, data-sharing, planning and decision pathways, priority-setting, and partner commitments while national reforms and institutional change unfolds.**
26. **More well-resourced entities and those with regional and national mandates and responsibilities will benefit from Tiriti-based, flax-roots support and buy-in** for a joined-up approach that future-proofs local communities, tangata whenua, local government, critical infrastructure providers, farmers and businesses.
27. **Future-proofing the region and realising its potential** in ways that are climate resilient, reducing greenhouse gas emissions and adapting to change in ways that are just and sustainable, **is an exciting prospect** that can open new opportunities to reinvigorate and revitalise the region for generations to come.
28. **The imperative to work together across the region is further underscored by the absence of a robust and enduring adaptation framework to enable climate resilient development, ongoing RMA and other legislative and local government reforms that could potentially reconfigure local-regional government duties and responsibilities, including Tiriti-based ways of working.** The recent proposal to replace Regional Councils with Combined Territories Boards underlines the imperative for local-regional collaboration.

<p>Summary of Wellington Regional Climate Change Impact Assessment December 2024</p> <p><small>This summary report synthesises the recent Wellington Regional Climate Change Impact Assessment Report (WRCCIR). It is the first time climate change projections have been considered together with the things we care about across the region. The target audience for this document is those wanting a plain English, summary version of the full report.</small></p> 	<p>The key messages of this report include:</p> <ul style="list-style-type: none"> • Even with emissions reductions, adaptation to ongoing climate impacts is necessary and requires appropriate planning and investment. • Social cohesion across a variety of communities is at risk from hazards exacerbated by climate change, and councils need a better understanding of the potential impacts. • Understanding and addressing how different hazards interact is vital when making choices about how and where we want to live. • Council decisions on population growth and development directly influence how communities will live with and adapt to the risks of a changing climate. • Consistency of knowledge, data and information is an issue nationally and across the region, as is the lack of baseline data in some rohe (geographic areas) and sectors. • The region's current governance⁴ and institutions are hindering adaptation planning and implementation and are not fit for purpose under Te Tiriti. • There are opportunities to work as Te Tiriti partners with local iwi and hapū on climate adaptation. 	<p>Key recommendations</p> <p>The report outlined a number of adaptation recommendations throughout the report, key ones are captured below:</p> <ul style="list-style-type: none"> • Develop a regional approach to climate change adaptation: This approach should identify the most vulnerable areas and communities and outline specific agreed methods and actions to address risks. • Improve data collection and monitoring: This will help to better understand the exposure and vulnerability of different elements to climate change impacts. • Strengthen collaboration between agencies: This is essential for ensuring a coordinated and effective response to climate change. • Engage with communities: This will help to build support for adaptation measures and ensure that they are equitable and effective.
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Appendix 4, Box 1: Mana whenua-Wellington City Council Partnership agreement

Tākai Here

I hainatia ai a Tākai Here i te Aperira i te tau 2022. Ko tāna he poupou i te takohanga ki te mahi tahi. He mea nui te rā i hainatia ai, i te mea koia te rā i hainatia ai te Tiriti o Waitangi, i Te Whanganui-a-Tara.

E whakaahuatia ana te rangapū mā ngā korero me ngā āhua o te waka. Kohāmātou mahi e rite ana ki te hoe e kōpana whakamua ana i te waka ki reira waihangatia ai tētehi rangapū e aro ana ki tua, mō te anamata o Te Whanganui-a-Tara te take.

E tohu ana i te aukahatanga o te waka, kia haumaruru ai, kia rite hoki ai ki te mahi i ngā mahi. He tohu tēnei o te mahi tahi i runga i te whakairo kotahi kia pakari ai te hononga.

Tākai Here partnership

Signed in April 2022, Tākai Here established a **shared commitment to partnership**. The date of the signing was significant, in being the 182nd anniversary of the signing of the Treaty of Waitangi in Te Whanganui-a-Tara.

The partnership is expressed through the narrative and imagery of a waka. The role we all play is like that of a hoe (paddle) propelling the waka forward, creating a partnership that looks ahead and plans for the future of Wellington.

It also refers to the binding, lashing, knotting and tying of the waka to ensure it is safe and fit for our combined purposes. This represents the way our shared values and tikanga ensure a strong relationship.

Why a Tākai Here / Agreement?

29. Key informants argued in favour of an alternative framing to the initial project focus on adaptation per se; one that has a positive and productive focus. Resilience came to the fore, and climate resilient development in particular which includes adaptation as a pillar along with mitigation of GHG emissions for just and sustainable development. This is the recommended framing for this initiative, with a primary focus on building adaptive capacity coupled with resilience.
30. **The case to prepare a formalised agreement to work together was clearly and consistently identified throughout this study.** There are pros and cons.

Pros & cons of the proposed agreement

31. The agreement could be framed as an **operational de-risking strategy** that provides both a spatial and temporal bridge to overcome the core problem of interacting institutional fragmentation and myopia.
32. **Pros include providing:**
- **Synchronised long-term logic:** All decisions, including those taken now, must account for medium- to long-term implications, compelling a 100+ year logic across WRLC decisions.
 - **Political ‘shield’ and social licence:** By sharing the burden of intergenerational resilience amongst WRLC partners, no one organisation or ‘leader’ stands out as a ‘lone villain’. The Treaty-based partnership with mana whenua – who naturally apply intergenerational timelines – provides a constitutional and moral mandate that Western political cycles cannot provide on their own.
 - **Fiscal scale and certainty:** Regional unity through this agreement signals investor-ready scale and coherence, enabling negotiation of ‘regional deals’ and green finance that is not accessible to individual, debt-constrained local councils.
 - **System alignment:** Enabling coordinated management of interdependent lifelines.
 - **Fiscal leverage:** Creating the scale and coherence needed to access investment and funding opportunities.
 - **Treaty legitimacy:** Grounding decisions in a co-governance partnership that reflects intergenerational responsibility.
33. **There are real cons too, including:**
- **The cost of coordination:** In the very short-term, investment of staff time and intellectual capital is necessary to enable wise co-design, and this might feel burdensome given already over-stretched staff.

- **Perceived loss of autonomy / sovereignty:** Elected members and senior staff may feel that the agreement dilutes their authority, and there is a risk that myopic immediate concerns will compete with resilient regional needs leading to resilience governance stalemates.
- **Difficulty of the ‘wait and see’ strategy:** Adaptation pathways planning can be used to navigate the deep uncertainty inherent in planning for accelerating climate change, and hence working under uncertainty can be challenging for those not familiar with this approach.

34. **These challenges are real, but they are manageable and do NOT outweigh the risks of inaction.**

What the agreement is; what is it not?

35. There are **many possible ways to structure such an agreement**. A core finding is that the **WRLC: SSG is best placed to co-design an initial agreement** – which might be framed as a Tākai Here as a point of departure as this is a familiar construct to WRLC members and many governance actors in this region.
36. This **Tākai Here is a pragmatic response** to address the core problem facing the region, without necessarily requiring structural reform immediately or new funding commitments. The intention is to move beyond ‘traditional consultation’ towards a **model of co-creation or co-production** involving Local Government, the Crown and Mana Whenua, at least initially. It may be desirable to involve other regional stakeholders in due course, e.g., from the private sector, civil society, and scientific research.
37. The proposed approach **does not create a new layer or governance; not is it merely a symbolic statement of intent**. Rather, it has a real-world practical purpose – to align what is already being done, reduce duplication, and avoid unintended consequences. By establishing shared principles, priorities and ways of working, the Tākai Here can help ensure that decisions made by one organisation do not undermine choices and outcomes elsewhere and that scarce resources are used strategically, efficiently, effectively and fairly.
38. This Tākai Here is a mechanism to **build intergenerational resilience**. It is not a static, one-off agreement. It is a **‘living agreement’**, evolving over time as circumstances and needs change.
39. The Tākai Here framing is noteworthy because it signals the intention to ground this work in a **Treaty-led partnership** with mana whenua, recognising that durable resilience depends as much on trusting relationships as it does on systems. Hence, the intention to continue the WRLC practice of early and meaningful involvement in shaping processes, priorities and practices, clear recognition of mana whenua aspirations and authority, and a commitment to building trust and capabilities over

time. This could help to create a strong foundation for wider community, private sector, and civil society engagement and ownership over time.

40. Carefully designed, the Tākai Here provides a **stable regional platform that can endure across shifting national policy settings**, support the implementation of **regional spatial planning**, and foster **more effective engagement with central government, infrastructure providers, and other partners**.

Time horizons and evolving function

41. The main focus of the Tākai Here might evolve over time:

- **In the short-term (1-10 years), manage fiscal and operational risk:** With austerity, fiscal stress, infrastructure deficits, mounting costs and the prospect of rates-capping, the Tākai Here could serve as a functional efficiency tool. For example, redundancy and ‘stranded asset’ risk is inherent in siloed planning, but can be eliminated by regional coordination of critical lifeline utilities (water, transport, energy) investments. This regional partnership offers the scale and credibility necessary to negotiate high-level funding arrangements, such as ‘regional deals’, with central government; and secure favourable status with insurers and credit rating agencies that might help lower insurance premiums and the cost of borrowing for major long-term resilience projects. A pool of regional experts could trouble-shoot locality-specific risk problems and mobilise tailored adaptation and resilience planning capability building to make tangible progress quickly.
- **In the medium-term (10-50 years), establish policy stability and secure social licence:** Securing long-term resilience and climate resilient development pathways involves challenging public concerns, e.g., managed retreat in the face of intolerable risk, which cannot be resolved by technocratic decision-making or engineering solutions. Solutions depend on trust and legitimacy, i.e., social licence. The Tākai Here is Treaty-led and ensures procedural fairness and cultural legitimacy based on trust built amongst WRLC partners and regional stakeholders. Grounding decisions in this mana-to-mana partnership creates an institutional anchor that can hold fast when resilience projects are inevitably buffeted by disruptions like extreme events, electoral cycles and political flip-flopping, institutional churn and external disruptions.
- **In the long-term (50-100+ years), secure intergenerational equity and chart climate resilient development pathways:** Decisions made in the short-term can ‘lock in’ vulnerabilities for future generations. This Tākai Here shifts the planning horizon from short-term administrative cycles to an intergenerational timeline. Doing so ensures that adaptation costs and benefits are equitably

shared, the Crown’s obligations under Te Tiriti o Waitangi are upheld, and principles like Kaitiakitanga are respected.

Key elements of the Tākai Here

42. Co-designing the Tākai Here needs to account for many considerations, including the following potential **key elements**:

- Be **Te Tiriti-grounded** through resilience co-governance and affirming mana whenua authority.
- **Align with and enable Regional Spatial Planning**, adaptation pathways planning, including the Regional Adaptation Project, and climate resilient development.
- Partners commit to work together and identify a **small set of agreed shared local-regional priorities** and durable adaptation planning and implementation measures, along with enabling capability building.
- **Endure beyond political cycles**, going deeper and beyond ‘the next reform cycle’ to navigate institutional turbulence.
- **Mobilise and leverage individual entity and collective capabilities** to support consistent and fair action across the region.
- **Mechanisms to counter institutional fragmentation**: The ‘single source of truth’ – A regional **data commons** can provide WRLC partners with a common evidence-base to enable consistency in planning across the region.
- **Mechanisms to counter institutional myopia**: Anchoring decisions in mana-to-mana partnerships provides ‘temporal stability’ because iwi governance and Māori ontologies (e.g., whakapapa) function on centuries-long time horizons, protecting WRLC partners from the short-termism of political and budget cycles.
- **Mechanisms to secure social licence**: Mainstreaming community buy-in into the agreement can draw on lessons from the Porirua Citizen’s Assembly and its exploration of deliberative democracy.

2. Recommendations

Stepwise process for agreement that endures

43. **Maintaining the status quo is a choice** to accept systemic maladaptation.

44. **Co-creating** this Tākai Here opens a structured stepwise path to consolidate regional risk data and intelligence, pool the region’s fiscal heft, and provide

governance certainty that WRLC partners and at-risk communities and the private sector need.

45. The Tākai Here is the **most robust mechanism** available to ensure that the region continues to be viable, investable, and a safe place over the coming century.
46. **Concerns about co-designing this Tākai Here identified in this report – around workload, funding implications, autonomy and institutional uncertainty – are real** and should be directly addressed in crafting the agreement. Nonetheless, these concerns do not outweigh the risk of proceeding without a deliberate mechanism for regional adaptation and resilience coherence and coordination.
47. The Tākai Here can be understood as a **low-regret response to these very concerns**: it is intended to be flexible, non-binding, capability of being implemented incrementally, starting with a small number of shared priorities to be scaled over time as value is demonstrated.
48. This Tākai Here is a **pragmatic proposal**. There is no proposed commitment to a fully defined agreement at this point in time. Rather, the recommendation is to co-design a fit-for-purpose mechanism that deliberately reflects the realities of the region and its constituent communities and governance actors; the constraints under which organisations operate; and the need to build confidence and capability progressively. **The stepwise co-design process is as important as the outcome.**
49. The task going forward is to consolidate and **translate shared understanding about local-regional risk into shared ways of working** to tackle this risk over time in ways that are credible, salient, legitimate and feasible for the Senior Staff Group, and ultimately also for Chief Executives, elected members and WRLC governance partners.
50. Effective co-creation **clearly articulates the ‘value proposition’** of this agreement, outlines carefully and clearly the **scope and expectations** of this endeavour, and provides **early demonstration of practical benefits**.
51. Done well, the WRLC Tākai Here could be the **institutional anchor** needed in turbulent seas.
52. Resilience in the region depends **not only which decisions are made but on how these decisions are made**, and how well governance actors in the region are able to work collaboratively through challenging circumstances over time.
53. **The process is as important as the outcome.**

Priority actions for WRLC Senior Staff Group

54. Three **priority actions** are identified for the WRLC Senior Staff Group:
 - a. Define **shared values and principles** for working together – grounded in Te Tiriti, practical realities, and intergenerational resilience;

- b. Identify **key elements and practical actions** of a region-wide approach for building community resilience and future-proofing the region that includes **practical guidance on ‘best practices’** that could be applied from the local to regional scale along with other actions to leverage collective capability; and
- c. Record these agreements in a **co-designed, signed agreement Tākai Here (e.g., Memorandum of Understanding) with supporting documentation** (explained in a **Briefing Document** to support the co-designed and co-produced Tākai Here in Phases 2 and 3) before the next general election.

Final reflection

- 55. Done well, a **WRLC co-designed Tākai Here can act as an institutional anchor in turbulent seas.**
- 56. **The region’s future depends not only on what decisions are made, but on how they are made, and how well organisations are able to work together over time.**

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