Risk & Assurance Committee

23 June 2026

Report for Agenda Item | Rīpoata moto e Rāraki take [4]

Department: Strategy & Policy

Title | Taitara: Climate Risk Update, June 2026

Purpose of the Report | Te Take mō te Pūroko

The purpose of this report is to brief the Risk & Assurance Committee on current national, regional and district-level climate risk assessment work and the implications for Queenstown Lakes District Council (QLDC). The report covers the 2026 National Climate Change Risk Assessment (NCCRA), the Otago Climate Change Risk Assessment communications and district summary programme, and QLDC-led work to localise climate scenarios for the district to support risk-informed planning and decision-making.

Executive Summary | Whakarāpopototaka Matua

Climate risk is a growing strategic governance issue for QLDC. It affects asset management, spatial planning, emergency management, water security, biodiversity, community wellbeing, business resilience and the long-term financial sustainability of the district. These risks are amplified locally by rapid population and visitor growth, climate-sensitive landscapes, constrained alpine corridors, and communities and lifeline infrastructure already exposed to natural hazards.

The Climate Change Commission released the 2026 National Climate Change Risk Assessment on 7 May 2026. The assessment identifies the most significant climate-related risks across Aotearoa New Zealand and will inform the next National Adaptation Plan due in 2028. Several of the nationally significant risk areas are directly relevant to QLDC, including water infrastructure, buildings, road networks, emergency management, social and community wellbeing, ecosystems and biodiversity, risks in te ao Māori, central and local government funding, and decision-making and delivery.

At the regional level, Otago Regional Council is progressing work to make the 2021 Otago Climate Change Risk Assessment more accessible and useful for councils and communities. ORC has engaged Boffa Miskell to prepare plain-language regional and district summaries, with mana whenua input supported by Aukaha and Te Ao Marama Ltd. The draft QLDC district summary is expected to be provided to QLDC for review in June 2026, with final material expected in July 2026.

At the district level, QLDC is localising the New Zealand Local Government Sector Climate Scenarios into three Queenstown Lakes futures: Acting now for our Mokopuna, Leaving it to the next generation, and Inheriting a broken world. This work uses updated MfE/NIWA CMIP6 downscaled projections, QLDC climate implications work, the Otago Climate Change Risk Assessment, the Climate and Biodiversity Plan and International Plant Protection Convention (IPPC) Sixth Assessment Report

framing. The purpose is not to predict the future, but to stress-test major decisions against a range of plausible climate and transition conditions.

The key implication for the Risk & Assurance Committee is that climate risk should not be treated as a discrete environmental issue. It is a compound enterprise risk that will affect the cost, reliability and performance of core Council assets and services. The most important governance response is to ensure that climate scenarios, non-stationary design assumptions, compound risk and cascading risk are embedded into Council's core planning, investment and assurance processes.

Recommendation | Kā Tūtohuka

That the Risk & Assurance Committee:

1. **Note** the contents of this report; and

2. **Note** that the Council's local climate scenario work is under development and future reporting on its progress will be provided back to the Risk & Assurance Committee.

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Context | Horopaki

1. This report provides a structured update on climate risk assessment work that will inform future governance decisions, including the 2027 Long Term Plan, 30 Year Infrastructure Strategy, activity management plans, spatial planning, emergency management capability development and climate adaptation work.

2. Council has recognised the need to respond to climate and ecological risk through the declaration of a climate and ecological emergency and the development of three yearly Climate and Biodiversity Plans. The current national and regional risk assessment work provides an opportunity to strengthen that response and align it with the best available evidence.

Analysis and Advice | Tatāritaka me kā Tohutohu

A. National Climate Change Risk Assessment update

3. The Climate Change Commission released the 2026 National Climate Change Risk Assessment (NCCRA) on 7 May 2026 **(Attachment B)**. The assessment is required under section 5ZP of the *Climate Change Response Act 2002* and identifies the most significant climate-related risks to Aotearoa New Zealand's economy, society, environment and ecology. It assesses the nature of the risks, their severity and the need for coordinated action, and will inform the Government's next National Adaptation Plan due in 2028.

4. The 2026 NCCRA is published in four main parts:

    - Priorities for Action report;
    - Full Assessment report covering all 37 assessed risks across seven domains;
    - Companion report Ngā mea hirahira o te ao Māori, and
    - Summary of Method report.

5. The NCCRA also contains a broad range of supporting material includes case studies, cascading risk analysis, a social vulnerability assessment, and a National Climate Hazard Exposure Census.

6. The NCCRA identifies 10 significant risk areas where focused action can make the biggest difference. These are grouped under four categories: key infrastructure, communities and safety, nature and the bioeconomy, and decisions and funding.

Significant risk area	NCCRA category	Relevance for QLDC
Water infrastructure	Key infrastructure	Directly relevant to drinking water, wastewater and stormwater resilience, particularly under more intense rainfall, drought stress, water quality shocks and the

Significant risk area	NCCRA category	Relevance for QLDC
		transition to the future water services Council-Controlled Organisation (CCO).
Buildings	Key infrastructure	Relevant to exposure of existing and future buildings to flooding, heat, wildfire, slope hazards and insurance affordability, and to future land-use and adaptation decisions.
Road and rail networks	Key infrastructure	Highly relevant to QLDC because roads are critical lifelines in constrained alpine corridors. Road disruption has cascading effects on emergency response, supply chains, visitor movement and essential services.
Social and community wellbeing	Communities and safety	Relevant to displacement, mental health, community cohesion, housing stress and the social impacts of managed retreat, repeated disruption and climate-related uncertainty.
Emergency management	Communities and safety	Directly relevant to QLDC's EOC capability, community readiness, welfare arrangements, public warning systems, and planning for compound events such as flooding, slips, power disruption and telecommunications outage.
Ngā mea hirahira o te ao Māori	Communities and safety	Relevant to partnership with mana whenua, protection of cultural landscapes and sites, mahika kai, mauri of wai, and ensuring adaptation decisions uphold Te Tiriti responsibilities.
Ecosystems and biodiversity	Nature and the bioeconomy	Relevant to alpine, freshwater and terrestrial ecosystems, indigenous biodiversity, pest pressures, wildfire, water quality and the role of nature-based risk reduction.
Forestry	Nature and the bioeconomy	Relevant to wilding conifer, production forestry and carbon forestry risk, including wildfire, drought, pest and sediment/debris flow implications.
Central and local government funding	Decisions and funding	Relevant to long-term financial sustainability, resilience investment, debt capacity, insurance, recovery costs and the need to shift from reactive recovery to risk reduction.
Decision-making and delivery	Decisions and funding	Relevant to QLDC's ability to make durable, evidence-based and trusted adaptation decisions before risk becomes acute or options narrow.

Figure 1: Source: Climate Change Commission, 2026 National Climate Change Risk Assessment webpage and executive summary, released 7 May 2026.

7. The following NCCRA findings are of particular importance to QLDC:

- Risk to water infrastructure is identified as one of the most urgent national risks and, if not addressed, the first climate risk expected to reach an extreme severity level within the next 25 years. This is relevant to QLDC because climate change will affect water supply security, water quality, stormwater capacity, wastewater network performance and the resilience expectations placed on the future water services CCO.

- The NCCRA highlights road and rail networks as nationally significant because transport disruption creates cascading impacts across emergency response, supply chains and the economy. This strongly aligns with QLDC's exposure profile where many communities depend on limited road corridors, bridges and mountain routes that are vulnerable to slips, flooding, snow and ice disruption, wildfire and earthquake-related compounding hazards.

- The NCCRA identifies emergency management as a significant national risk. The Commission notes that the emergency management system is already under acute pressure and may struggle to respond to the increasing frequency, severity and extent of climate-related disasters. This reinforces the importance of QLDC's emergency management work programme, including EOC readiness, community response planning, welfare arrangements, lifeline utility coordination and planning for compound and cascading events.

- The NCCRA elevates risks to ecosystems and biodiversity as an interconnected national priority. This is relevant for QLDC because alpine and freshwater ecosystems are both highly climate-sensitive and provide important functions such as regulating water flows, stabilising erosion-prone areas, filtering pollutants, providing habitats for indigenous flora and fauna, and sequestering carbon. The natural environment is also central to the district's identity, wellbeing, visitor economy and cultural values. Biodiversity loss, wildfire, invasive species, warming waterways, altered flows and sediment pulses can create cascading effects across the landscape, businesses that rely on the natural environment (e.g. tourism, viticulture), recreation, cultural values and community wellbeing.

- The NCCRA highlights risks to central and local government funding and to decision-making and delivery. This is central to the Risk & Assurance Committee's role. Without early and coordinated adaptation, councils face rising recovery costs, more volatile expenditure, constrained debt capacity, higher insurance costs, community conflict and reduced ability to fund core services. Climate risk should therefore be treated as an enterprise risk and not only as an environmental work programme.

8. The NCCRA does not replace local hazard assessments or QLDC's district-level climate scenario work. Its value is in providing national assurance that the risk themes QLDC is already seeing locally are significant, interconnected and require early governance attention. The assessment provides a strong evidence base for embedding climate risk into Council's next Long Term Plan, 30 Year Infrastructure Strategy, activity management plans, spatial planning, adaptation planning, procurement, financial strategy and emergency management capability development.

9. The NCCRA also supports a shift in Council risk framing from single-hazard risk to compound and cascading risk. For QLDC, this means planning for events where heavy rainfall, landslides, lake level impacts, power disruption, telecommunications outage, transport isolation, visitor welfare and supply chain interruption occur together. This has implications for capital prioritisation, business continuity, lifeline utility coordination, EOC planning and community readiness.

B. Otago Climate Change Risk Assessment update

10. Otago Regional Council (ORC) released the Otago Climate Change Risk Assessment (OCCRA) in 2021.

11. The OCCRA provided a comprehensive regional assessment of climate-related risks across domains including the built environment, natural environment, economy, governance and human systems. It remains useful for QLDC because it identifies regional-scale hazard and consequence patterns that are relevant to district planning, even though some of the climate framing used earlier high-emissions assumptions.

12. ORC is now progressing a communications and translation project to make OCCRA findings more accessible to councils and communities. ORC has advised that this programme is intended to incorporate mana whenua region-specific knowledge, values and tikaka, prepare a story map describing climate change impacts across the region, apply the OCCRA findings at a district scale, and distil information into plain-language summaries for each district and the region.

13. ORC engaged Boffa Miskell to undertake this work in 2025, with a target delivery date of July 2026. Workshops have been undertaken with territorial authorities and others across the region, supported by Aukaha and Te Ao Marama Ltd. Target audiences include territorial authorities and organised communities, including hapori Māori and catchment groups. The intention is to provide concise and accessible information that can support property, community and district-level resilience and adaptation measures.

14. ORC has advised that the draft district summaries will be provided to staff within the Otago Climate Officers Group for review, before being presented to Otago Regional Councillors and made publicly available in July 2026. QLDC staff will review the draft material to ensure it is locally accurate, useful for Council purposes and suitable for future community-facing adaptation conversations.

15. The OCCRA communications work is important because it will provide an accessible bridge between technical regional risk assessment and practical local action. It is likely to support public communication, community adaptation planning, catchment and biodiversity work, emergency readiness and the next stages of district climate risk engagement.

C. QLDC local climate scenario work

16. The Resilience and Climate Action team are leading work to localise/downscale a set of climate scenarios for the Queenstown Lakes District. The purpose is to translate broad national Local Government sector scenarios into three practical QLDC-specific futures that can be used to stress-test major investments, land-use choices, infrastructure planning, emergency management, service delivery and financial strategy.

17. The scenario work draws on national, regional and district evidence sources including QLDC's Climate and Biodiversity Plan, the Bodeker Scientific climate implications report for Queenstown Lakes District[1], the OCCRA, the updated MfE/NIWA CMIP6 downscaled projections[2], the Local Government Sector Climate Scenarios[3] and IPCC Sixth Assessment Report (AR6)[4].

18. The downscaled Queenstown Lakes climate scenarios (see Table 1) align with those that were developed as part of the Local Government Sector Climate Scenarios project last year. QLDC staff participated in the Working Group for this national project. An overview of the process and outputs was provided in the Climate & Biodiversity Plan update report at the 02 October 2025 Audit, Finance & Risk Committee .

Scenario	Pathway alignment	Summary of QLDC future
Acting now for our Mokopuna	SSP1-2.6	Early, coordinated transition with earlier resilience investment, lower long-term disruption and more preserved options. Physical risk remains material, but institutional response is more proactive.
Leaving it to the next generation	SSP2-4.5	Delayed action followed by a rushed and more costly transition. The same early hazards create greater disruption because assets, communities and institutions are less prepared.
Inheriting a broken world	SSP3-7.0	Weak global and national action, worsening physical risk, lower institutional capacity, higher social stress and more severe long-term disruption to communities, infrastructure, ecosystems and the economy.

Table 1: Queenstown Lakes downscaled climate scenarios

19. Each of the scenarios refers to a different IPCC Shared Socio-economic Pathways (SSPs)[5]. These pathways have been utilised by Earth Sciences (NIWA) and MfE to create a national data set for

[1] https://climateaction.qldc.govt.nz/media/yl0jygcv/24-4-19_bodeker_final_report_qldc.pdf
[2] https://niwa.co.nz/climate-and-weather/updated-national-climate-projections-new-zealand
[3] https://www.lgfa.co.nz/sustainability/sustainability-lgfa/local-government-sector-scenarios
[4] https://www.ipcc.ch/assessment-report/ar6/
[5] https://environment.govt.nz/what-you-can-do/climate-scenarios-toolkit/climate-scenarios-list/ipccs-ssp-rcp-scenarios/

downscaled climate data[6]. These data sets allow climate projection data to be generated on a 5 km gridded dataset that can be aggregated to territorial authority scale.

20. Table 2 shows the annualised climate projection data for Queenstown Lakes District for each of the above SSP pathways, expressed as change relative to a 1995-2014 baseline. The 2030, 2050 and 2100 labels represent standard climate projection time-periods rather than Council planning periods.

Pathway	Projection Period	Mean temperature change	Annual rainfall change	Heavy rainfall 99th percentile change	Hot days >25°C change	Frost days change
Acting now for our Mokopuna SSP1-2.6	2030 (2021–2040)	+0.44°C	-0.05%	+2.38%	+1.53 days/yr	-6.62 days/yr
	2050 (2041–2060)	+0.80°C	+2.26%	+5.06%	+2.53 days/yr	-13.48 days/yr
	2100 (2081–2100)	+0.76°C	+2.36%	+3.82%	+2.29 days/yr	-13.56 days/yr
Leaving it to the next generation SSP2-4.5	2030 (2021–2040)	+0.55°C	-1.55%	+2.47%	+1.62 days/yr	-9.20 days/yr
	2050 (2041–2060)	+1.06°C	+1.96%	+6.16%	+3.84 days/yr	-17.75 days/yr
	2100 (2081–2100)	+1.88°C	+5.06%	+9.93%	+7.16 days/yr	-33.40 days/yr
Inheriting a broken world SSP3-7.0	2030 (2021–2040)	+0.68°C	-1.81%	+2.65%	+2.78 days/yr	-10.21 days/yr
	2050 (2041–2060)	+1.32°C	+2.39%	+6.77%	+5.37 days/yr	-21.51 days/yr
	2100 (2081–2100)	+2.91°C	+8.07%	+15.98%	+14.51 days/yr	-49.65 days/yr

Table 2: Queenstown Lakes climate projection dataset (Source: MfE/NIWA CMIP6 downscaled projections)

21. These climate datasets have important risk implications. Even under the lower-emissions pathway, heavy rainfall will increase, hot days will increase, and frost days will decrease. Under higher warming, late-century changes become much more pronounced, particularly for heavy rainfall, hot days and reduced frost days. This is material for stormwater management, roading, flood risk, landslides, slope stability, wildfire, lake and river management, water demand, tourism and biodiversity. These datasets will provide an importance input that can be used across a wide range of planning, investment and engineering activities.

22. To give broader context to the implications of these climate shifts a summary narrative and set of sector impact statements has been drafted. These provide framing to the potential vulnerabilities, impacts and opportunities that could be associated with these scenarios:

[6] https://environment.govt.nz/what-you-can-do/climate-scenarios-toolkit/climate-scenarios-list/ipcc-climate-data-for-aotearoa-new-zealand/

- Infrastructure
- Tourism and the economy
- Water catchment
- Agriculture, horticulture and viticulture
- Biodiversity and ecosystems
- Māori culture values
- Emergency Management

23. The finalisation of these narratives is still under development and will be progressed as a collaborative programme that includes inputs from the Climate Reference Group, Otago Climate Risk Assessment working group and QLDC staff. The final outputs will be shared with the Risk & Assurance Committee for their endorsement.

24. The Climate Scenario work programme has the potential to support a wide range of planning, investment and engineering activity areas across council. Examples of potential utilisation cases include, but are not limited to the following:

- Embed scenario thinking into the Long Term Plan, 30 Year Infrastructure Strategy, activity and asset management plans, spatial planning, emergency management and procurement.
- Strengthen locality-specific hazard evidence for lake-edge inundation, fluvial and pluvial flooding, debris flows, landslides and wildfire interfaces, and integrate those layers into planning, LIM and consenting workflows.
- Plan for cascading and compound risks, such as heavy rainfall combined with slips, road closures, power disruption, telecommunications outage, visitor welfare demand and supply chain disruption.
- Help strengthen the evidence base for risk informed spatial planning and infrastructure decision-making that avoids creating new exposure and preserve adaptation options.
- Treat ecosystem protection, catchment restoration and nature-based solutions as part of Council's risk reduction infrastructure, particularly for water quality, sediment, flood attenuation, biodiversity and cultural values.
- Strengthen partnership with mana whenua so scenario localisation and adaptation priorities are co-designed early and reflect Māori values, mātauraka and Te Tiriti responsibilities.

- Help build emergency management capability for more frequent, overlapping and prolonged events, including EOC readiness, welfare coordination, public information, community response arrangements and lifeline utility coordination.

Consultation Process | Hātepe Matapaki

Significance and Engagement | Te Whakamahi I kā Whakaaro Hiraka

25. This matter is of low significance, as determined by reference to the Council's Significance and Engagement Policy 2024. This report is an information and assurance update and does not seek a decision to approve new expenditure, alter levels of service, transfer ownership or control of a strategic asset, or make a final decision on a matter that would directly affect a large proportion of the district. The matters discussed in this report are strategically important and may inform future decisions that have a higher level of significance. Any future decisions arising from this work will be assessed separately under the Significance and Engagement Policy.

26. The persons who are affected by or interested in this matter include residents and ratepayers of the Queenstown Lakes District, mana whenua, infrastructure providers, emergency management partners, the development sector, the tourism sector, environmental and community groups, businesses, visitors, and future generations who may be affected by long-term climate risk and adaptation decisions.

27. No specific community consultation is required for this information report. However, the work described in this report is connected to a range of existing and future engagement processes, including the Climate and Biodiversity Plan, Long Term Plan, 30 Year Infrastructure Strategy, spatial planning, emergency management capability development, Otago Climate Change Risk Assessment communications work, and future adaptation planning. Further engagement will be required as climate scenario work is translated into specific policy, investment, land-use or service-level decisions.

Māori Consultation | Iwi Rūnaka

28. This report does not seek a decision requiring specific iwi consultation. However, the matters discussed are directly relevant to mana whenua interests, including the mauri of wai, mahika kai, protection of culturally significant landscapes and sites, biodiversity, emergency management, and long-term adaptation decision-making.

29. ORC's current OCCRA communications programme includes mana whenua input supported by Aukaha and Te Ao Marama Ltd. QLDC's local scenario and adaptation work should continue to strengthen early partnership with mana whenua so that Māori values, mātauraka, tikaka and Te Tiriti responsibilities are embedded into future planning and decision-making.

Risk and Mitigations | Kā Raru Tūpono me kā Whakamaurutaka

30. This matter relates to the Environmental risk category. It is associated with RISK10012 Ineffective mitigation response to the declared climate and ecological emergency within the QLDC Risk Register. This risk has been assessed as having a high residual risk rating.

31. Approval of the recommended option will allow Council to implement additional controls for this risk. This will be achieved by strengthening governance awareness of current national, regional and district climate risk work; aligning QLDC's response with the 2026 National Climate Change Risk Assessment; and supporting the use of localised climate scenarios in core Council planning, investment and assurance processes. This will help Council move from reactive risk response towards earlier risk identification, option-preserving decisions, non-stationary infrastructure assumptions, stronger emergency management readiness, and better integration of climate risk into the 2027 Long Term Plan, 30 Year Infrastructure Strategy, activity and asset management plans, spatial planning and adaptation planning.

Financial Implications | Kā Riteka ā-Pūtea

32. This report does not seek approval for additional operational or capital expenditure. The work described is being progressed within existing approved work programmes and budgets. However, the report identifies that climate risk has material long-term financial implications for Council, including potential impacts on infrastructure renewal costs, resilience investment, insurance, recovery costs, debt capacity, service levels and affordability. Future decisions arising from the local climate scenario work, adaptation planning or infrastructure resilience planning may require additional funding consideration through the Long Term Plan, Annual Plan or future business cases.

Council Effects and Views | Kā Whakaaweawe me kā Tirohaka a te Kaunihera

33. The following Council policies, strategies and bylaws were considered:

- Vision Beyond 2050 and the QLDC Strategic Framework, particularly the need to support thriving people, resilient communities and a district that is prepared for future change.
- Climate and Biodiversity Plan 2025-2028, which provides the primary Council framework for climate action, biodiversity protection, adaptation and emissions reduction.
- 2024-2034 Long Term Plan, which sets current funding, levels of service and investment priorities.
- 30 Year Infrastructure Strategy 2024-2054, and the developing 2027 30 Year Infrastructure Strategy, which will need to account for climate risk, natural hazards, non-stationary design assumptions and infrastructure resilience.

- QLDC Spatial Plan and future spatial planning work, which are relevant to risk-informed growth, land-use choices, infrastructure sequencing and avoidance of new exposure in high-risk areas.

- Emergency management work programme and Civil Defence Emergency Management arrangements, which are relevant to compound events, cascading disruption, welfare, lifeline utility coordination and community readiness.

- QLDC Disability Policy, which is relevant to climate risk and emergency management because climate-related disruption can have disproportionate impacts on people with disabilities and those who may require additional support during emergencies.

34. The recommended option is consistent with the principles set out in the above policies.

35. This matter is included within existing work programmes and is relevant to the current Long Term Plan and Annual Plan. Any future decisions requiring additional expenditure or changes to levels of service will be considered through the relevant planning, budgeting or business case process.

Local Government Act 2002 Purpose Provisions | Te Whakatureture 2002 o te Kāwanataka ā-Kīaka

36. Section 10 of the Local Government Act 2002 states the purpose of local government is (a) to enable democratic local decision-making and action by, and on behalf of, communities; and (b) to promote the social, economic, environmental, and cultural well-being of communities in the present and for the future. This report supports that purpose by improving Council's understanding of climate risk and its implications for long-term community wellbeing, infrastructure resilience, emergency management, environmental protection, cultural values and financial sustainability. As such, the recommendation in this report is appropriate and within the ambit of Section 10 of the Act.

37. The recommended option:

- Can be implemented through current funding under the Long Term Plan and Annual Plan;

- Is consistent with the Council's plans and policies; and

- Would not significantly alter the intended level of service provision for any significant activity undertaken by or on behalf of the Council or transfer the ownership or control of a strategic asset to or from the Council.

Attachments | Kā Tāpirihaka

A	2026 National Climate Change Risk Assessment summary table
B	2026 National Climate Change Risk Assessment (circulated separately)
C	Otago Climate Change Risk Assessment (circulated separately)