Review of New Zealand's 2nd National Climate Change Risk Assessment

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Context

This review was undertaken from 15 December 2025 to 13 February 2026 as part of a service contract for an independent international evaluation of the New Zealand's 2nd National Climate Change Risk Assessment (NCCRA). The scope of services is:

- Review the final outputs (~80 pages + supporting material such as risk summaries).
- Assess soundness of analytical judgement, robustness of findings, and consistency with stated methods.
- Comment only on major issues or critical concerns relating to the outcomes/outputs (of risk conclusions) – this can be done directly in the provided source material.
- Provide a concise written evaluation (max 5 pages) of the Commission's analysis, including comment on the robustness and credibility of the Commission's conclusions and noting any suggested improvements.
- Participate in induction and final discussion meetings.

The review draws upon documentation supplied by the Climate Change Commission (Appendix A). Given that access was provided to only 21 of the 37 risk summaries, and only 6 of the 37 risk analysis templates, this review is indicative rather than comprehensive.

Summary of the review

For this review, the project team provided nine guiding questions.

1. Do the final results and conclusions of the NCCRA 2026 present a credible, defensible, and coherent picture of New Zealand's most significant climate-related risks, given the scope and purpose of the assessment?

According to the *Results and conclusions* paper, the purpose of the NCCRA is to "identify and prioritise the most significant climate-related risks facing Aotearoa New Zealand over the medium to long term, to inform adaptation planning and Government decision-making. The assessment is national in scope and forward-looking and is not intended to prescribe specific policy responses. The NCCRA informs, but does not determine, the National Adaptation Plan (NAP)". Based on my review of the available documents, the NCCRA generally provides a credible, defensible and coherent picture of New Zealand's most significant risks. The analysis templates and risk scoring spreadsheets underpin the risk summaries and risk prioritization. However, the transparency of linkages between templates, spreadsheets and summaries could be improved (see Recommendation 1 below).

2. Are the analytical judgements used to prioritise risks (severity over time, policy readiness, and cascading effects) reasonable and consistently applied across the domains and assessment?

Quantification of risk severity, policy readiness and cascading effects depends on evidence presented in each risk analysis template and the expert judgement process used for deriving scores. The amount of evidence varies between risks, based on the six analysis templates I reviewed. For some risks, the evidence was robust, while for other risks quantitative evidence was lacking for the severity scores (and noted as a gap) and cascading risks scores seemed conservative. The expert judgement process was led by the project team and externally reviewed, so the judgements should be reasonable and consistent. However, the risk summaries are mostly qualitative, with no reference to the risk scores, so the reader doesn't get a sense of risk magnitude or timing. Quantification of current impacts and future risks should be included in each risk summary, along with relevant risk scores (see Recommendation 2 below).

3. Is the final list of "most significant risks" well-justified, proportionate, and logical, including the decision to combine certain risks (e.g. governance, ecosystems, te ao Māori)?

The final list of most significant risks is based on the risk scores (methods 1-3) followed by a 3-step process based on (a) a set of 3 principles, (b) identifying other risks not already captured and (c) looking for opportunities to combine similar risks. The process is logical but somewhat complex. Each element of the 3-step process is dependent on the robustness of the risk scores and expert judgement. Given the likely focus of public/media attention and adaptation planning on the ten significant risks versus other 27 risks, it is important to show how the scores and judgements were made. This is provided in Appendix 2 and Appendix 3 of the *Results and conclusions* paper. However, if any revisions are made to the risk scores based on my previous comments, steps 1-3 should be revisited (see Recommendation 10 below).

4. Is the use of multiple time horizons and global warming levels (current, 2050, 2090) coherent and helpful for decision-makers?

Multiple time horizons (current, 2050, 2090) and global warming levels (GWL1.5, 2/2.5, 3/3.5) are helpful for decision-makers. However, the GWLs are not clearly explained on page 2 of the *Results and conclusions* paper, and there is no reference to the associated emissions pathways. The *Summary of Method* report has a section on Risk Severity which provides more detail on time horizons and GWLs. It notes that GWLs are consistent with low and high emissions pathways SSP1-2.6 and SSP3-7.0. A simple graph showing how GWL varies with time and emissions pathway would improve coherence and policy-relevance. Based on IPCC GWL data, consider renaming 2050 as GWL1.7 (low impact) for SSP1-2.6 and GWL2.1 (high impact) for SSP3-7.0, while 2090 is GWL1.8 (low impact) for SSP1-2.6 and GWL3.6 (high impact) for SSP3-7.0 (see Recommendation 11).

5. Is the integration of te ao Māori and equity considerations meaningful, visible in the conclusions, and appropriate for a national risk assessment?

Integration of te ao Māori and equity considerations in the analysis templates and risk summaries is very relevant for a national risk assessment. Highlighting te ao Māori climate risks in a separate Maori Domain will duplicate Māori climate risks that are already integrated into other Domains, so this needs careful thought. Based on previous discussion, I understand the desire to highlight Māori climate risks, but I suggest creating a Hot Topic breakout box for this, rather than a new Domain.

6. Does the treatment of policy readiness, coverage and gaps provide a sound basis for informing the next National Adaptation Plan (or other climate actions), without straying into policy prescription?

The assessment of policy readiness, coverage and gaps is a useful innovation. It provides a sound basis for the National Adaptation Plan[1]. However, greater transparency is needed between the analysis templates, scoring spreadsheets and risk summaries (see Recommendation 1 below).

7. From the sample provided, do the written summaries of each risk provide sufficient information to explain the scores allocated, and are they clear, balanced, and usable for a wide policy audience, including non-technical decision-makers?

The risk summaries are reasonably clear and useful for a wide range of audiences, but they don't provide sufficient information to explain the risk scores. Greater transparency is needed between the analysis templates, scoring spreadsheets and risk summaries (see Recommendation 1 below). Quantification of current impacts and future risks should be included in each risk summary, along with relevant risk scores (see Recommendation 2 below).

8. Overall, what do you see as the key strengths of the NCCRA 2026 results and conclusions?

The key strengths lie in the comprehensive assessment of risks across different Domains, regions, timeframes, emissions pathways and GWLs. The three scoring methods are novel and policy-relevant. The 3-step process for prioritizing and combining significant risks will inform the National Adaptation Plan. The technical information in the analysis templates and the scoring spreadsheets, along with the expert review process, provide credibility and transparency for the risk summaries and significant risks.

9. Are there any material concerns, omissions, or framing issues that could affect confidence in the NCCRA 2026 results if not addressed before finalisation?

There is scope to improve the transparency between the individual risk analysis templates, risk summaries and risk scores in Appendix 2 (Recommendation 1). There's also an opportunity to improve the quantification of risk severity in the analysis templates and risk summaries (Recommendation 2). Results from the cascading risk assessment should be included in the risk summaries or cross-referenced (Recommendation 3). In each risk summary, the Risk Overview should have sub-headings for hazards, exposures and vulnerabilities (Recommendation 4). Consider including a broader range of actors when describing adaptive capacity in the risk analysis templates and risk summaries (Recommendation 5). Note climate change opportunities in the risk templates and risk summaries (Recommendation 6). High-risk hotspots should be identified in all the risk templates and risk summaries (Recommendation 7). Assess whether the different cascading risk weighting options make a substantial difference to the percentile-based scores (Recommendation 8). Consider revisiting and modifying the cascading risk scores, noting that any changes would need to be approved by external reviewers (Recommendation 9). Consider whether any of the NCCRA significant risks should be renamed to better represent the scope of risk (Recommendation 10). Revisit the GWL typology based on IPCC data (Recommendation 11). While out of scope for the 2nd NCCRA, consider including cascading risk chains in the next NCCRA (Recommendation 12). Provide a confidence rating for each risk and collate knowledge gaps in a table for all 37 risks to guide future research priorities (Recommendation 13).

[1] The EU climate risk assessment included policy readiness, policy horizon and risk ownership in their set of policy characteristics.

Specific comments and recommendations

The *Results and conclusions* paper includes helpful information about the methodology, risk scores and significant risks. Key results sit in the appendices:

- Appendix 1 lists the 37 risks
- Appendix 2 tabulates the scores for risk severity (now, 2050, 2090 low/high impact), policy readiness and cascading risk (potential to address other risks) for each of the 37 risks.
    - Governance: 4 risks
    - Built environment: 7 risks
    - People, health & community: 5 risks
    - Economics & finance: 4 risks
    - Natural environment: 5 risks
    - SRNE: 5 risks
    - NMHH: 7 risks
- Appendix 3 describes the 3-step risk prioritisation method and the significant risks
- Appendix 4 tabulates the Table of Contents for the short and long reports

Based on a review of this paper and the supporting material (Appendix A), I have a few specific comments and recommendations.

Comment 1: There is a lack of transparency between the individual risk analysis templates, risk summaries and risk scores in Appendix 2. These scores underpin the selection of significant risks, so it's important to provide a clear line of sight to the evidence.

Recommendation 1a: Each risk summary should include a table showing the risk severity scores for current, 2050 and 2090 (low/high emissions), a policy-readiness score and a cascading risk score. These tables might be like those in recent risk climate assessments for Australia and the EU (see Appendix B below). This would improve traceability to the table in Appendix 2 which collates scores for all 37 risks.

Recommendation 1b: The Introduction of each risk summary should cross-reference evidence in the associated analysis template. In the Compounding and Complex Risks section of each risk summary, other risk analysis templates could be cross-referenced.

Recommendation 1c: Each risk analysis template should include the risk severity scores, policy readiness score and cascading risk score. Each template should describe how the scores were derived and reviewed. If possible, provide a link to the scoring spreadsheets (Excel files).

Comment 2: The IPCC emphasizes the importance of quantifying impacts and risks for specific regions, sectors, years, SSPs and GWLs to underpin the assessment of severity, timing and confidence. However, many of the NCCRA current impacts and future risks are not quantified, so it's hard to assess risk severity, timing and confidence. The risk analysis template has a section for exposure (current, 2050 and 2090). In the six templates I reviewed, quantification of exposure was good for Pastoral Agriculture and Electricity Supply, but poor for Freshwater Environments, Central and Local Government Funding and Physical Health, and absent for Enduring Adaptation Governance. Quantification of risk severity is very limited in the summary reports.

Recommendation 2: Each analysis template should quantify, where possible, historical climate-related impacts and future climate-related risks (for different timeframes, emissions pathways and GWLs). The credibility of risk severity scores depends on this evidence. If the evidence is unavailable or patchy, this should be noted under Data Gaps. Quantification of current impacts and future risks should be included in each risk summary, perhaps in a simple infographic. This would be helpful for public communication and media engagement.

Comment 3: In each risk summary, the discussion of Complex and Compounding Risks doesn't refer to the detailed assessment of cascading risks undertaken for this project. This is a missed opportunity.

Recommendation 3: Results from the cascading risk assessment should be included in the risk summaries or cross-referenced.

Comment 4: The IPCC framing of climate risk involves hazard, exposure and vulnerability. This has been used in many risk assessments around the world. Hazard, exposure and sensitivity/adaptive capacity are described in the analysis templates, but implicit/absent in the risk summaries.

Recommendation 4: In each risk summary, the Risk Overview should have sub-headings for hazards, exposures and vulnerabilities, similar to the Australian National Climate Risk Assessment. This would then inform the National Adaptation Plan which aims to reduce exposure and vulnerability. Reductions in global greenhouse gas emissions aim to reduce the hazards.

Comment 5: Actions should be shared between the government, private sector, research organisations and communities. In the NCCRA, greatest emphasis is on government actions. Private sector, research and community perspectives are addressed well in the Electricity Supply template and the Pastoral Agriculture template, but rarely mentioned in the other risk summaries.

Recommendation 5: Consider including a broader range of actors when describing adaptive capacity in the risk analysis templates and risk summaries.

Comment 6: Each risk assessment aggregates risks and opportunities, masking valuable information about separate risks and opportunities, e.g. reduced energy demand for winter heating, reduced winter mortality, and increased agriculture productivity and forest growth in south and west New Zealand (IPCC, 2022). It's good to see that the template for Electricity Supply identified opportunities.

Recommendation 6: Note opportunities in the analysis templates and risk summaries.

Comment 7: Regions with high or extreme risk (hotspots) are mentioned in a few of the risk templates and risk summaries. These hotspots are policy-relevant. The risk template in Appendix 3 of the methodology asks experts to identify regional differences in exposure, sensitivity and/or adaptive capacity, but this information is limited in many of the analysis summaries.

Recommendation 7: High-risk hotspots should be identified in analysis templates and risk summaries.

Comment 8: The Cascading Risk Scoring Results spreadsheet has three options for aggregating / weighting influence. Option 1 is Total connectedness (the unweighted sum of scores, which is easy to understand), Option 2 gives extra weight to scores 2 and 3, and Option 3 is the same as Option 2 excluding scores of 1. Option 3 was used. If the team used the Options 1 or 2, that would that have increased the number of medium, high and very high scores, with implications for significant risks.

Recommendation 8: Option 1 easier to understand and includes important scores of 1, so consider using Option 1, update the scores in Appendix 2, and re-assess the list of significant risks.

Comment 9: Some of the scores in the pivot table of the Cascading Risk Scoring Results spreadsheet were surprisingly low, such as:

- Electricity & telecommunication infrastructure has no influence (0) on ports & airports or social cohesion, and weak (1) influence on supply chains, central & local government, linear transport networks, livestock agriculture, mental health, physical health, social infrastructure & community services, and tourism. I would have scored all these at least 2.
- Similarly, supply chain influences are all 0 or 1, but I would have rated most of them 2.
- Electricity supply influences are all 0 and 1 (which I can accept based on the detailed analysis template) but the score of 2 for influence on electricity and telecommunications infrastructure should be 3 in my view.
- The influence of central and local government funding/costs on other risks is also under-estimated.
- Why do linear transport networks have 0 influence on forestry, horticulture and livestock, and minor (1) influence on social infrastructure and community services?
- Insurability of assets has a huge impact on the stability of the financial system as the central government becomes the insurer of last resort, so perhaps the score should be 3 not 2.
- Risks to physical health should affect more than 3 other risks, e.g. functioning of supply chains, fisheries, forestry, horticulture, tourism, transport, ports & airports, etc.

Recommendation 9: Consider revisiting and modifying the cascading risk scores, noting that any changes would need to be approved by external reviewers.

Comment 10: The NCCRA identifies 10 significant risks:

1. Combined risks to governance
2. Combined risks to ecosystems and biodiversity
3. Combined risks to social and community wellbeing
4. Combined risks to te ao Māori
5. Risks to forestry
6. Risks to the ability of the emergency management system to respond
7. Risks to potable water supplies and wastewater and stormwater systems
8. Risks to buildings
9. Risks to linear transport networks
10. Risks to central and local government funding

It's interesting to compare the NCCRA significant risks with the 11 Australian priority risks:

1. Governance
2. Natural ecosystems
3. Health
4. Remote & regional communities
5. Primary industries
6. Emergency response
7. Water security
8. Critical infrastructure

9. Supply chains
10. Real economy
11. Coastal communities

There's reasonable alignment between risks 1-10 in both nations, which is reassuring.

The EU risk assessment identified 36 risks, of which 8 were regarded as urgent:

1. Coastal ecosystems
2. Marine ecosystems
3. Carbon sinks due to wildfires
4. Crop production in southern Europe
5. Heat stress
6. Population/building exposure to wildfires
7. Pluvial and fluvial flooding
8. European solidarity mechanisms (financial stability)

There's not much alignment with the NCCRA significant risks, which is understandable given the greater exposure to heat, fires and floods in Europe.

Note that economy, health, agriculture/food, supply chains and infrastructure are not explicitly mentioned in the NCCRA significant risks. Regarding infrastructure, the NCCRA includes transport and buildings, but excludes energy and telecoms. The combined risks to social and community wellbeing include mental health, but 'health' is missing from the name of this risk. The Domain called Sectors Relying on the Natural Environment (SRNE) is a bit clunky, especially since most sectors rely to some extent on the natural environment.

Recommendation 10: Consider whether any of the NCCRA significant risks should be renamed to better represent the scope of risk. Given the growing exposure of coastal buildings, infrastructure and people to sea level rise and flooding, and the MfE (2024) *Coastal hazards and climate change guidance*, perhaps coastal communities should be elevated to a significant risk. Consider renaming the SRNE Domain as Primary Industries and moving tourism into the Economy Domain (similar to the EU risk assessment). The combined risks to social and community wellbeing include mental health, so consider calling this 'Combined risks to social and community health and wellbeing'.

Comment 11: In the methodology, the global warming level for 2050 is GWL1.5 (low impact) for SSP1-2.6 and GWL2/2.5 (high impact) for SSP3-7.0, while the equivalent for 2090 is GWL2 (low impact) for SSP1-2.6 and GWL3/3.5 (high impact) for SSP3-7.0. However, according to the IPCC (2021):

- 2050 SSP1-2.6 has a median GWL of 1.7 C
- 2050 SSP3-7.0 has a median GWL of 2.1 C
- 2090 SSP1-2.6 has a median GWL of 1.8 C
- 2050 SSP3-7.0 has a median GWL of 3.6 C

Recommendation 11: Consider renaming 2050 as GWL1.7 (low impact) for SSP1-2.6 and GWL2.1 (high impact) for SSP3-7.0, while 2090 is GWL1.8 (low impact) for SSP1-2.6 and GWL3.6 (high impact) for SSP3-7.0.

Comment 12: The scoring of cascading risks has been summarised in a matrix within an Excel spreadsheet. This shows how Risk A affects Risk B and vice versa, which is highly relevant. However, it does not include cascading risk chains, e.g. how Risk A affects Risks B, C, D and E. This often occurs during and after extreme weather events, with major and sustained consequences.

Recommendation 12: While out of scope for the 2nd NCCRA, consider including cascading risk chains in the next NCCRA.

Comment 13: Each analysis template and risk summary has a section on Gaps. This informs the assessment of confidence, but confidence ratings have not been provided for each risk in Appendix 2. There is also a missed opportunity to collate knowledge gaps for all 37 risks in a table, which would be very useful for future climate research priorities.

Recommendation 13: Provide a confidence rating for each severity score, policy readiness score and cascading risk score, plus an overall confidence rating. Collate knowledge gaps in a table for all 37 risks to guide future research priorities.

Based on feedback from our review meeting on 5 February 2026, I have tried to rate the recommendations based on importance and feasibility. Please consider implementing any recommendation that has at least a medium/medium rating.

Recommendation	Importance	Feasibility
1: Improve the transparency between the individual risk analysis templates, risk summaries and risk scores	High	High
2: Improve the quantification of risk severity in the analysis templates and risk summaries	High	Low
3: Results from the cascading risk assessment should be included in the risk summaries	High	High
4: In each risk summary, the Risk Overview should have sub-headings for hazards, exposures and vulnerabilities	Medium	Low
5: Consider including a broader range of actors when describing adaptive capacity in the risk analysis templates and risk summaries	Medium	High
6: Note climate change opportunities in the risk templates and risk summaries, perhaps collated in a breakout box	High	High
7: High-risk hotspots should be identified in all the risk templates and risk summaries, perhaps collated in a breakout box	High	Medium
8: For the cascading risk influence, Option 1 easier to understand and includes important scores of 1, so consider using Option 1, update the scores in Appendix 2, and re-assess the list of significant risks.	Medium	Medium
9: Consider revisiting and modifying the cascading risk scores, noting that any changes would need to be approved by external reviewers	Medium	Medium
10: Consider whether any of the NCCRA significant risks should be renamed to better represent the scope of risk	Medium	High
11: Revisit the GWL typology based on IPCC data	Medium	High
12: Consider including cascading risk chains in the next NCCRA	Low	Low
13: Provide a confidence rating for each risk and collate knowledge gaps in a table for all 37 risks to guide future research priorities	High	Medium

Concluding remarks

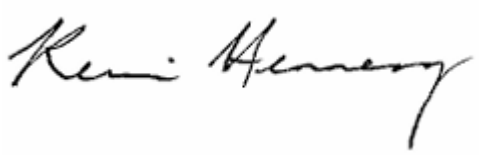
Thanks for the opportunity to review the draft 2nd NCCRA. The Commission and Expert Review Groups should be proud of this comprehensive assessment. It represents an important contribution to understanding current and future climate risks and developing the National Adaptation Plan.

In the *Results and conclusions* paper, I have suggested some edits and made a few comments. This includes suggestions for the structure of the long and short reports.

The *Summary of method* (45 pages) and *Cascading risk methodology* (15 pages) are well written. I presume these will appear in the long report.

I have suggested minor editorial changes in each of the documents supplied for this review. These have been uploaded to a Sharepoint folder called “Kevin’s feedback”.

Kevin Hennessy



Climate Comms, 6 February 2026

Appendix A: Documents provided for the review

Supporting material

- Reviewer brief for Kevin Hennessy
- Key and guiding questions for the review
- Summary of risk assessment method
- Review of risk assessment method by Paul Watkiss
- Cascading risk methodology
- Review of cascading risk methodology by Marc Zebisch

Results and conclusions

- Results and conclusions paper
- Cascading risks scoring results for 30 of the 37 risks (Excel file)
- Domain and risk summaries and analysis templates
    - Built environment
        - Summary
        - 3 waters
        - Transport
        - Buildings
        - Risks to electricity supply template (9 pages)
    - Governance
        - Summary
        - Risk to adaptation delivery
        - Risks to enduring governance
        - Risk to enduring governance template (15 pages)
    - Natural environment
        - Coastal
        - Terrestrial
        - Freshwater
        - Freshwater template (9 pages)
        - Marine
        - Indigenous Biodiversity
    - Sectors relying on the natural environment
        - Pastoral agriculture template (29 pages)
    - People, health & community
        - Mental health
        - Social infrastructure
        - Physical health
        - Physical health template (23 pages)
        - Emergency management
        - Social cohesion and community/cultural wellbeing
    - Economy & finance
        - Businesses & public orgs affected by supply chain disruption
        - Financial system stability
        - Fiscal costs
        - Central and local government costs template (11 pages)
        - Insurability of assets

Appendix B: Risk tables from the EU and Australian climate risk assessments

Summary table from the EU climate risk assessment.

Table ES.5 Assessment of major risks

Climate risks for 'Economy and finance' cluster	Urgency to act	Risk severity			Policy characteristics		
		Current	Mid-century	Late century (low/high warming scenario)	Policy horizon	Policy readiness	Risk ownership
European solidarity mechanisms	Urgent action needed	+++	++	++	Short	Medium	Co-owned
Public finances	More action needed	++	++	++	Medium	Medium	Co-owned
Property and insurance markets	More action needed	++	++	++	Medium	Medium	Co-owned
Population/economy due to water scarcity (hotspot region: southern Europe)	More action needed	++	++	++	Medium	Medium	Co-owned
Population/economy due to water scarcity	Further investigation	++	++	++	Medium	Medium	Co-owned
Pharmaceutical supply chains (*)	Further investigation	++	+	+	Short	Medium	EU
Supply chains for raw materials and components (*)	Further investigation	++	++	++	Short	Medium	EU
Financial markets	Further investigation	+	+	+	Short	Medium	Co-owned
Winter tourism	Sustain current action	+++	+++	++	Medium	Advanced	National

Legends and notes

Urgency to act: Urgent action needed; More action needed; Further investigation; Sustain current action; Watching brief

Risk severity: Catastrophic; Critical; Substantial; Limited

Confidence: Low: +; Medium: ++; High: +++

(*) Wide range of evaluations by authors and risk reviewers.

Summary table and overview from the Australian climate risk assessment.

Priority risk snapshot: Real economy

Risks to the real economy from acute and chronic climate change impacts, including from climate-related financial system shocks or volatility.

The real economy is the part of a country's economy that produces and uses goods and services, rather than the part that consists of financial services such as banks and stock markets (Figure 34). This priority risk is assessed and evaluated around the plausible worst-case scenario depicted in the risk statement and focuses on the observed and anticipated impacts and consequences to the real economy from direct or indirect economic impacts for at-risk communities.

Rationale

The current risk to the real economy from climate change is rated as **Moderate**; direct impacts to households and businesses from climate change are being experienced in some communities with cascading impacts on insurance costs and asset values. The risk is expected to increase to **High–Very High** by 2050 as direct financial impacts will increase and there is a significant potential for cascading impacts, including financial transmission of international impacts, to trigger climate-driven economic crises (Figure 33). Compounding economic impacts across multiple systems, as well as significant disaster costs and insurance challenges, mean that the risk is rated as **Severe** for 2090. While the vulnerability of the real economy is low, adaptive capacity is also low. As such, improved management and incremental adaptation – through improved regulation, for example – are required and can be effective, although the distributed nature of the risk, and global factors, are likely to influence the success of potential interventions.

Key hazards

- Heatwaves, tropical cyclones, bushfires and severe floods have direct impacts on homes, businesses and infrastructure. These events will become more frequent and severe *(high confidence)* leading to property damage, increased insurance costs, and loss of income.
- Chronic climate change impacts will also drive risk, especially rising temperatures *(very high confidence)* and rising sea levels *(very high confidence)*. Coastal erosion and sea level rise pose significant risks to coastal communities and infrastructure, and significant current exclusions for insurance cover mean that repair and recovery costs remain with households and businesses or may be transferred to governments.

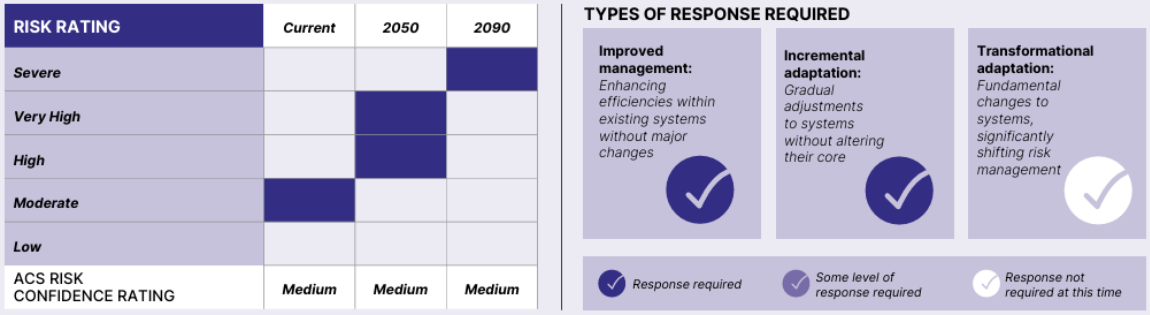


Figure 33: Rating for the Real economy priority risk for current, 2050 and 2090, and the types of responses required to address the risk. For definitions of risk ratings, please see Figure 9.