



Exchange Commentary

Doing Climate Change Risk Assessments Well

Key Messages

- Climate risk assessments are path-defining, with analytical, practical and ethical complexities that shape adaptation outcomes.
- There's no single right approach: climate change adaptation is most effective as an evolving, collaborative process.
- Data gaps create blind spots, including intersecting hazards, delayed recovery, and cascading system impacts.
- In-house assessments (potentially guided by external experts) can not only identify risks but build capability, align with priorities, secure internal support and enable deeper learning.
- Futures-focused approaches (e.g. scenarios, pathways, narratives) help navigate uncertainty and translate insights into action.



Introduction

Some forms of climate change adaptation are agnostic to climate change risks – they focus instead on reducing clear structural vulnerabilities, building generic adaptive capacities or managing irreducible uncertainties. But reducing climate change-related risks remains the dominant approach, and that begins by understanding what those risks are.



Acknowledgement of Country

The Climate Change Exchange brings together scholars, practitioners, and policy-makers who are thinking, working, and acting towards justice and sustainability in a warming world. We therefore acknowledge that we live, work, and learn on Aboriginal land and that sovereignty was never ceded. We pay respect to all Aboriginal and Torres Strait Islander peoples and their Ancestors, and to all Traditional Owners and Custodians of all lands and waters with which we live, work, and learn. Through the Exchange, we invite conversations and work that seek to honour our reciprocal obligations to Country and each other.



Snapshot

Climate change risk assessments are not only the standard starting point for adaptation, they are also part of and target for adaptation: a process to learn from, adjust and repeat over time as climate change impacts proliferate, diverse responses emerge, and risks rapidly evolve.

While there is no shortage of step-by-step guides or firms offering assessment services, making the most of the assessment process requires an appreciation of the many strategic and pragmatic considerations involved, and the many practical challenges that can emerge during the process.



Because climate change risk assessments direct subsequent action, they can embed strong path dependencies and **need to be approached carefully**. Initial assessments can be especially consequential, setting up a way of thinking about, prioritising and tackling climate change that is repeated over time, along with any blind spots and dangers they embed.

Across scales and sectors, climate change risk assessments are becoming common practice and, in some cases, legislated, standardised and commodified. In the rush to do them, the questions and assumptions they encompass can slip from view. To foster critical reflection and learning, opportunities for discussion about the pros and cons of different approaches are needed – which is what the Climate Change Exchange aims to contribute to.



Recognising the choices and challenges involved

There are many **analytical, practical and ethical considerations** in setting up a climate change risk assessment. Often the availability of data can determine the answers to many of these questions. But as a case of the tail wagging the dog, this can distort the picture of risk that is generated, as well as give an odd sameness to diverse assessments.

Governance

- Who is involved, why and at what stages of the process?
- Where in the organisation is the risk assessment located, who has responsibility for it?
- How is the climate change risk assessment positioned in relation to other organisational frameworks and reporting lines?
- Do existing risk management approaches shape how the climate change risk assessment is done?

Goals

- What are the goals of the risk assessment?
- Is the aim simply to provide information or to also raise awareness, engage stakeholders, stimulate discussion and build capacity?
- What is the appetite for stress testing the organisation?
- How broad is the assessment?

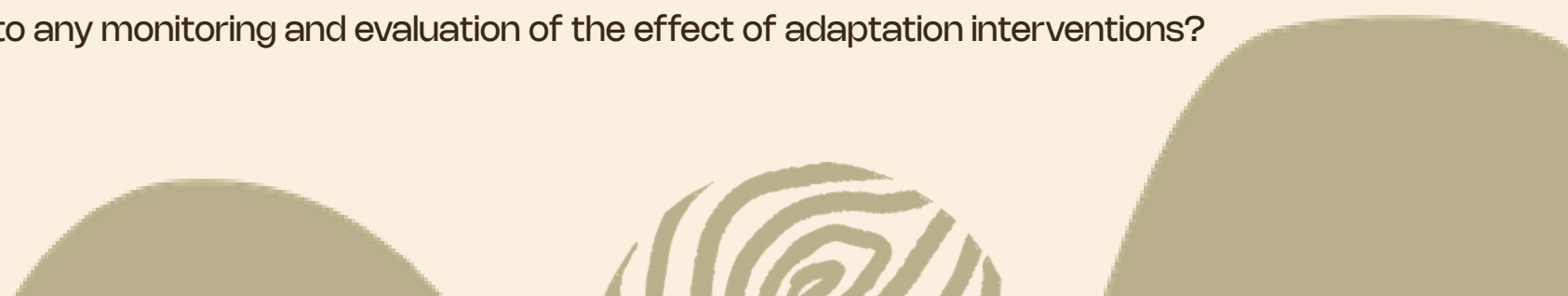
Approach

- What tools and methods are used and why?
- What is quantified and how?
- Are qualitative methods such as field visits, interviews, workshops, case studies and scenarios used?
- How transparent is the risk assessment and why?
- Is there pressure to disclose only the bare minimum and to minimise the risks identified, or is a more open approach taken?

Interpretation and Application

- How are the results of the risk assessment analysed, synthesised, communicated and applied?
- How are they compared and integrated with stakeholders' risk assessments?

Review, Learning and Improvement

- How often is the risk assessment to be repeated?
 - To what extent could it be altered?
 - Will change in baseline conditions and risks over time be analysed and how will this relate to any monitoring and evaluation of the effect of adaptation interventions?
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The intense climate change impacts that have emerged to date have shone a harsh light on many existing climate change risk assessments, exposing the folly of narrowly framing climate change risks. **Blind spots** demanding attention include:

- Intersections between different hazards, and between extremes and trends
- Frequent and concurrent extremes, compounding hazards, delayed recoveries and the nonlinear effects of intersecting impacts
- Cascading of impacts through systems and networks, including critical infrastructure, triggering highly consequential secondary hazards
- Extreme scenarios, including the collision of climate change related stressors with other hazards such as geopolitical conflict.

Influencing what is and is not included in a climate change risk assessment is the way it is organised and conducted. There are therefore many important **process-based questions** around assessments.

A key question is **who is involved and how**. This includes how broadly and deeply external and internal stakeholders are consulted, and the breadth of expertise brought in to contribute. Different professions and disciplines tend to conceive, assess and manage climate change risk in distinct ways, which can lead to tensions in teams if not acknowledged

Another key choice is whether to do some or all of the assessment processes **in-house or whether to outsource** it to experts in the field. Both approaches can present challenges. Doing it in-house can be slower and more difficult, but can produce a more bespoke and legitimate analysis, while building capacity in the process. Outsourcing it to experts of some kind can mean the assessment is less deeply understood or owned by those commissioning it, but it can be a more feasible option and can produce a more technically sophisticated output.

The complexities of climate change risk assessments mean they often end up taking more time and resources than anticipated, especially as their uncertainties are typically underplayed in the planning phase.

For some organisations, the ability to undertake or update comprehensive, cutting-edge climate change risk assessments is being undermined by proliferating climate-related disasters, which are creating distractions, budget pressures and tensions. As the research on climate change adaptation barriers documents, if not addressed, these **compounding impacts risk deepening inequalities between organisations**. These feedbacks underline the need to appreciate climate change risk assessment as part of climate change adaptation.



Learning from Experience

The Climate Change Exchange held a first **Learning Exchange** on Doing Climate Change Risk Assessments Well, in November 2025, and we enjoyed hearing about the rich perspectives shared throughout the panel and breakout conversations; where we explored people's experiences, practical challenges and what's worked well.



Acknowledgement

Thank you to all those who participated in the Doing Climate Change Risk Assessments Well webinar and shared their insights. Thank you in particular to our panellists: Ella Reeks from Climate in Mind; Bart Kellett from NSW Government; Candace Jordan from the City of Melbourne and Lisa Ehrenfried from Yarra Valley Water.

Current Experience



Councils are at varying stages of their climate risk assessment journey, with many shifting toward in-house or hybrid models.



In-house assessments allow teams to draw on local knowledge, integrate with Council Plans and business planning, and build internal capability.



Some councils use a hybrid model: external facilitation, mentoring, or peer review while retaining responsibility for the core analysis and writing.



Past experiences with consultant-led assessments often resulted in high-quality but less locally nuanced outputs, requiring internal rewriting.

Practical challenges



No single standardised methodology, leading to uncertainty and "choose your own adventure" processes.



Difficulty integrating diverse data sets (spatial layers, asset data, service delivery information).



Limited internal capacity to manage data, workshops, and writing.



Need to translate technical risk information into language suitable for internal audiences and decision-makers.



Outsourcing risks loss of context-specific knowledge unless councils remain deeply involved.



Bringing the whole organisation along on the adaptation journey can be slow and resource-intensive.

What's worked well



In-house or hybrid approaches build ownership, capability, and internal alignment.



Peer review by experts strengthens credibility and ensures methodological robustness.



Aligning risk assessment processes with Council Plan cycles and business planning embeds adaptation across the organisation.



Internal and externally facilitated workshops help surface local knowledge and deepen staff engagement.



Recognising adaptation as a long-term organisational journey encourages iterative, realistic progress.

Concluding reflections

As a significant, path-defining part of climate change adaptation, and a process that integrates many considerations and forms of information, **risk assessments demand close attention**. Doing a climate change risk assessment well means being thoughtful and transparent about the choices involved, realistic and reflective about the compromises and process, and committed to learning from the whole experience, ready to repeat it again.



The Climate
Change Exchange



Contact us:

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The Climate Change Exchange exists to bring together research, policy and practice to build our collective capacity to create inclusive, just and transformative adaptation futures.

We create spaces for people to connect, grow their understanding and act to transform systems through building relationships and practicing adaptation together.

We focus on:



Strengthening the capability of organisations and communities to plan for, manage and recover from the impacts of climate change.



Increasing the use of relevant research to inform just adaptation planning.



Building a collaborative network of researchers and practitioners to share and promote innovative thinking and good practice in climate change adaptation.

By engaging with the ubiquitous but neglected topic of climate change risk assessments, the Climate Change Exchange aims to increase awareness and foster discussion about the analytical, practical and ethical complexities involved so that this building block of adaptation provides as strong a foundation as possible.



Further reading

- Alexandra, J. (2023) Climate risk assessment in the MDB – a review. *Australasian Journal of Water Resources* 27, 18–30. – the challenges posed by systemic risks and the need for stakeholder participation and transparency
- Hedlund, J. (2023) The politics of climate risk assessment. *npj Climate Action* 2, 48. – Discusses political constraints such as biases towards certain groups, sectoral incoherence, and distributional conflicts.
- Crimmins, A.R., Avery, C.W., Reidmiller, D.R., Grade, A.M. (2025) Innovations in the climate assessment development process. *Climatic Change* 178, 175. – Part of a special issue on the US Fifth National Climate Risk Assessment
- Lin, B.B., Fleming, A., Romanach, L., Boulaire, F.A., Capon, T., Po, M., Cook, S., Darbyshire, R., Bluhm, S., Barnett, G. (2025) Learnings From the Co-Development of Priority Risks in Australia's First National Climate Risk Assessment. *Climate Resilience and Sustainability* 4, e70004.



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