



**Biodiversity
Council**

Submission to the Senate Inquiry into Climate Risk Assessment

8 September 2025

About The Biodiversity Council

The Biodiversity Council brings together leading experts including Indigenous knowledge holders to promote evidence-based solutions to Australia's biodiversity crisis. The Council was founded by 11 universities with the support of Australian philanthropists.



Introduction

Australia is highly vulnerable to climate change. Increased warming will result in more hot days, fewer cold days, reduced snow cover, ongoing sea level rise and ocean acidification. Winter and spring rainfall and soil moisture are projected to decrease with more droughts over southern and eastern Australia. There is expected to be more intense storm events, with potentially fewer but more severe cyclones. More extreme fire weather is expected in southern and eastern Australia.¹

b. the research, consultation and preparation of the assessment by the Department of Climate Change, Energy, the Environment and Water

The Biodiversity Council participated in the National Climate Risk Assessment, primarily participating in workshops related to the natural environment, primary industries & food, and water security. From our experience, the Australian Climate Service consulted with a diverse range of stakeholders to identify and describe risks 'internal' to the natural environment, primary industries & food, and water systems, and also cross-system dependencies and risks with other systems. The consultation process was meaningful and open, with two-way exchange of information between experts and the Australian Climate Service.

At the end of the consultation process, biodiversity conservation and disruption to ecosystem processes was rated as a high priority with many intersections with other risks of social and economic prosperity in Australia. We have not seen a final draft but expect biodiversity conservation to remain a high priority in the assessment and subsequent adaptation planning.

Delaying the release of the risk assessment delays the necessary actions for adaptation to be downscaled to State, region and community levels necessary for climate change preparedness. The climate risk assessment is not the end point of anything. It is the end of the beginning of adaptation planning.

d. the budgetary costs of both climate driven natural disasters and any government adaptation plans

In 2021, the [Australian Business Roundtable for Disaster Resilience & Safer Communities](#) has calculated that natural disasters will cost Australia \$73 billion by 2060, under a low emissions scenario. The [Independent Review of Commonwealth Disaster Funding](#) (the Colvin

¹ Lawrence, J., B. Mackey, F. Chiew, M.J. Costello, K. Hennessy, N. Lansbury, U.B. Nidumolu, G. Pecl, L. Rickards, N. Tapper, A. Woodward, and A. Wreford, 2022: Australasia. In: Climate Change 2022: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [H.-O. Pörtner, D.C. Roberts, M. Tignor, E.S. Poloczanska, K. Mintenbeck, A. Alegría, M. Craig, S. Langsdorf, S. Löschke, V. Möller, A. Okem, B. Rama (eds.)]. Cambridge University Press, Cambridge, UK and New York, NY, USA, pp. 1581–1688, doi:10.1017/9781009325844.013.
<https://www.ipcc.ch/report/ar6/wg2/chapter/chapter-11/#:~:text=Ongoing%20warming%20is%20projected%2C%20with.rainfall%20changes%20in%20northern%20Australia.>

Review) calculated that 87% of Commonwealth disaster funding is spent on recovery programs. Greater investment in preparation prior to disaster events to reduce vulnerability and build resilience is required. The Australian Institute for Disaster Resilience has estimated that ‘for every one dollar invested in resilience before a disaster, we can save between \$3 and \$8 in recovery’.² This is consistent with international estimates for adaptation investment - the [World Economic Forum](#) has calculated that for every \$1 spent, there are \$2-\$10 in benefits while the [World Resources Institute](#) estimates it is 10:1.

Despite knowing the potential impacts of climate change, adaptation has fallen victim to political cycles which have [stalled policy development and research](#). Australia has world-leading adaptation expertise, but key programs have been defunded or dismantled (such as [CSIRO’s climate Adaptation Flagship 2008-2014](#) and the [National Climate Change Adaptation Research Facility 2008-2019](#)). Without sustained funding, there has been a loss of capability and climate literacy, reduced organisational capacity as experts (including scientists, consultants, government and industry specialists) work on other problems, fewer adaptation analyses and less adaptation planning and resulting loss in community engagement. This has added to the difficulty of building political consensus on necessarily ambitious targets as expertise withdrawal has allowed ideological invasion of the contested space.

Climate adaptation is a long-term process requiring ongoing capacity building and engagement with communities to plan and implement, but there has been a tendency to fund short-term climate adaptation initiatives at State and Federal levels.

The Australian Government must provide a significant increase in sustained funding to support adaptation planning and action at all levels.

f. any other related matters.

There is significant diffusion of responsibility for adaptation. The [Council of Australian Governments’ \(COAG\) statement](#) on responsibilities for adaptation does not allocate responsibility for adaptation but rather says that it is an obligation for all tiers of government. Moreover, it emphasises that private parties should take responsibility for their own actions, assets, investments and risks, with governments primarily responsible for managing risks to public goods and assets and creating an environment that supports private adaptation. This is a short-sighted and grossly inadequate approach given the systemic risks posed by climate change.

² Australian Senate (2024) *Select Committee on Australia’s Disaster Resilience: Boots on the ground: Raising resilience*. August 2024.

https://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Disaster_Resilience/DisasterResilience/Report/Chapter_2_-_Responding_to_natural_disasters#_ftn8

The [IPCC](#) notes that climate impacts are cascading,³ compounding⁴ and aggregating⁵ across sectors and systems due to complex interactions. The [first pass component](#) of the Climate Risk Assessment states that it considers how risks can compound, cascade and aggregate across multiple systems. The Department of Home Affairs 2018 report, [Profiling Australia's Vulnerability](#) notes:

There is little knowledge or understanding amongst decisionmakers and the general public of how complex and highly dynamic systems interact across our society. Extreme events create systemic shocks that disrupt these systems and quickly cascade to overwhelm the capacity of social, economic and natural systems to cope.

Despite this, the Australian Government remains focussed on private adaptation with a curtailed role for government. The overview of the National Adaptation Plan [Strengthening Climate Adaptation in Australia](#) reiterates the roles and responsibilities outlined in the COAG statement; which does not come close to dealing with the scale of the problem.

In 2022, the [IPCC's Australasian](#) chapter noted:

A step change in adaptation action is needed to address climate risks and to be consistent with climate resilient development. Current adaptation falls short on the assessment of complex risks, implementation, monitoring and evaluation. It is largely incremental and temporary given the scale of projected impacts; it has limits and is mainly reactive rather than anticipatory.

There is a significant gap between the findings and recommendations emerging from scientific papers and government reports, and the Australian Government's approach to climate change adaptation. This will not be solved by the Climate Risk Assessment alone.

Climate impacts will be uneven and exacerbate underlying vulnerability.⁶ For people, socioeconomic inequality, low incomes and high levels of debt, poor health and disabilities increase vulnerability and limit adaptation.⁷ For ecosystems, combinations of chronic stresses (such as habitat loss, invasive species and climatic changes), and acute effects for extreme events (such as storms, heatwaves and wildfires) create conditions where they may collapse.⁸ There is a need to supplement the climate risk assessments with an analysis of the most vulnerable places (both communities and ecosystems).

Confronting the significant impacts of climate change and implementing successful adaptation actions requires deep engagement with stakeholders that considers their local

³ [Cascading impacts](#) result from interdependencies between systems such as supply chains, shared reliance on biophysical systems, infrastructure and essential goods and services.

⁴ [Compound events](#) involve multiple drivers and hazards that contribute to risk, such as prolonged hot and dry conditions leading to a combination of drought, heatwaves and increased bushfire risk.

⁵ [Aggregation](#) occurs when risks with unrelated causes occur simultaneously.

⁶ <https://www.aidr.org.au/media/6682/national-resilience-taskforce-profiling-australias-vulnerability.pdf>

⁷ Lawrence et al. (IPCC)

⁸ Bergstrom, D. M. et al. (2021) Combating ecosystem collapse from the tropics to the Antarctic *Global Change Biology*, **27**(9): 1692-1703.

<https://onlinelibrary.wiley.com/doi/full/10.1111/gcb.15539?msocid=185b67729af8644336df6a1f9bef6589>

values and contexts. This requires supportive governance, capability and funding to work. Australia has undertaken world-leading work in this area but it hasn't been scaled or maintained. This needs to change.

Climate change mitigation and adaptation must be a priority across the Australian Government. Cross-jurisdictional coordination and planning processes need to be established now to deal with current and future climate change impacts. Diffuse responsibilities and siloed roles will not help us deal with the scale of the challenge.

The Climate Risk Assessment must be considered the starting point of climate adaptation undertaken by the Australian Government. As a next step, it should be supplemented by a vulnerability analysis. From this, the Australian Government should fund and facilitate programs that support engagement with the community and stakeholders in Australia's most vulnerable places.

The Australian Government must step up and lead with increased accountability, more supportive governance and increased funding. Revising the COAG statement of responsibilities for adaptation would be a good first step.