The Senate

Environment and Communications References Committee

Climate Risk Assessment

December 2025

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Terms of reference

The Senate referred the following matters to the Environment and Communications References Committee for inquiry and report by 10 December 2025:

(a) the Government's secrecy and withholding of the Climate Risk Assessment (the assessment) from the Australian public since 2024;
(b) the research, consultation and preparation of the assessment by the Department of Climate Change, Energy, the Environment and Water;
(c) the expected ongoing impacts upon the Australian community that are contained within the assessment;
(d) the budgetary costs of both climate driven natural disasters and any government adaptation plans;
(e) the Government's ongoing approach to transparency related to reducing emissions and adaptation to a world currently on track for 2.6 to 3.1 degrees of warming; and
(f) any other related matters.

Abbreviations and acronyms

ABS	Australian Bureau of Statistics
ACIL	Australian Consumers Insurance Lobby
ACS	Australian Climate Service
ASLCG	Australian Security Leaders Climate Group
BOM	Bureau of Meteorology
CEO	Chief Executive Officer
the committee	the Senate Environment and Communications References Committee
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DCCEEW	Department of Climate Change, Energy, the Environment and Water
DRFA	Disaster Recovery Funding Arrangements
GDP	Gross Domestic Product
HIA	Housing Industry Association
ONI	Office of National Intelligence
NCRA	National Climate Risk Assessment
Treasury	Department of the Treasury
WA	Western Australia

List of recommendations

Recommendation 1

4.9 The committee recommends that the Australian Government legislate a requirement that the National Climate Risk Assessment process be undertaken with a report to be tabled in the Australian Parliament within five years of the previous version being released.

Recommendation 2

4.12 The committee recommends that the Australian Government legislate a requirement to respond to the risks outlined in the National Climate Risk Assessment (NCRA) (including the costs of not taking action) and table this response in the Australian Parliament within three months of the release of the NCRA.

Recommendation 3

4.18 The committee recommends that the Australian Government table a declassified version of the report prepared by the Office of National Intelligence on the national security threats posed by climate change in the Australian Parliament within three months.

Chapter 1
Introduction

Referral of the inquiry

1.1 On 26 August 2025, the Senate referred an inquiry into the Climate Risk Assessment to the Senate Environment and Communications References Committee (the committee) for inquiry and report, with the following terms of reference:

(a) the Government's secrecy and withholding of the Climate Risk Assessment (the assessment) from the Australian public since December 2024;
(b) the research, consultation and preparation of the assessment by the Department of Climate Change, Energy, the Environment and Water;
(c) the expected ongoing impacts upon the Australian community that are contained within the assessment;
(d) the budgetary costs of both climate driven natural disasters and any government adaptation plans;
(e) the Government's ongoing approach to transparency related to reducing emissions and adaptation to a world currently on track for 2.6 to 3.1 degrees of warming; and
(f) any other related matters.[1]

Conduct of the inquiry

1.2 The committee published details of the inquiry on its webpage and called for written submissions by 10 September 2025.

1.3 The committee received 30 written submissions, as well as answers to questions on notice, as listed at Appendix 1.

1.4 The committee held one public hearing on 16 September 2025 in Canberra. Details of witnesses who appeared at the hearing are listed at Appendix 2.

Acknowledgement

1.5 The committee thanks inquiry participants who provided submissions to the committee and attended the public hearing.

Structure of this report

1.6 In addition to this introductory chapter, this report has three further chapters:

- Chapter 2—considers the process involved in preparing the National Climate Risk Assessment (NCRA), and concerns raised regarding its public release;

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1 *Journals of the Senate*, No. 9, 26 August 2025, pp. 296–297. The original reporting date of 20 November 2025 was subsequently extended to 10 December 2025.

- Chapter 3—summarises some of the expected ongoing impacts on the Australian community of climate change, as outlined in the NCRA, and in turn addresses the related budgetary costs of climate driven natural disasters and any government adaptation plans; and
- Chapter 4—presents the committee's views and recommendations.

Chapter 2
The preparation and release of the Climate Risk Assessment

2.1 This chapter addresses the processes and timeline relevant to the preparation and release of the National Climate Risk Assessment (NCRA), and views of stakeholders on that release.

2.2 As noted in the first chapter, this inquiry was referred to the committee on 26 August 2025, at a point before the NCRA was publicly released. One of the matters outlined in the inquiry terms of reference was the 'Government's secrecy and withholding of the Climate Risk Assessment…from the Australian public since December 2024'. Significantly, on 15 September 2025, the NCRA was publicly released, at a time after written submissions to this inquiry were closed, and immediately ahead of the committee's public hearing on 16 September 2025. As a result, and as explained in this chapter, some of the concerns expressed in submissions regarding the release of the NCRA were either overtaken or otherwise addressed by the report's release and the Government's explanation of the timings and processes relevant to this release.

2.3 Notwithstanding that some concerns regarding the preparation and release of the NCRA have been addressed by the release of the report on 15 September 2025, this chapter also summarises evidence received regarding the timing and transparency of the process of preparing and releasing the report.

2.4 This chapter also discusses the next steps for the NCRA. The committee's view and recommendations relating to the issues raised in this chapter are contained in Chapter 4 of this report.

What is the Climate Risk Assessment?

2.5 The NCRA is the first document of its kind in Australia, created by the Australian Climate Service (ACS) in conjunction with the Department of Climate Change, Energy, the Environment and Water (DCCEEW).[1] Ms Vicki Manson, Head of the ACS, described the NCRA as 'a foundational piece of work that provides a nationally consistent, science based understanding of climate risks across Australia's systems, sectors and communities'.[2]

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1 Australian Climate Service (ACS), *Delivering the National Climate Risk Assessment*, 2025 (accessed 27 November 2025).

2 Ms Vicki Manson, Head, ACS, *Committee Hansard*, 16 September 2025, pp. 1–2.

2.6 The ACS was provided with $22.9 million to complete the NCRA over a period of two years.[3] A team of over 350 people worked on the report, with 250 being technical and scientific experts.[4]

2.7 Mr Jason Mundy, Division Head, Climate Change Policy, Adaption and Risk Division at DCCEEW, described the NCRA as 'the most comprehensive assessment ever compiled of the risks posed by climate change across Australia'.[5] He went on to state that the risks outlined in the assessment were not inevitable, with the worst impacts avoidable through action to reduce greenhouse gas emissions.[6]

2.8 The NRCA was released alongside the National Adaptation Plan, which provides a policy framework to guide the response to the NCRA, as well as outlining the work currently being undertaken to adapt to climate risk.[7]

2.9 Other countries, such as Singapore, Canada, Finland and the United States of America, have completed similar climate risk assessments.[8]

2.10 Several submitters to the inquiry noted the importance of the NCRA to their respective industries. The Investor Group on Climate Change stated that these kinds of risk assessments provide essential information for capital allocation, risk management and investment decision making, as well as allowing markets to effectively price risk and opportunity.[9]

2.11 This view was echoed by the National Insurance Brokers Association of Australia, which described the NCRA as a 'critical resource' which would provide insights into climate risks such as extreme weather events. These insights, it submitted, would allow insurers to develop sustainable products and address affordability of their products in high-risk areas.[10]

2.12 Other submitters noted the importance of releasing the NCRA in a timely manner. For example, in a submission that was prepared before the 15

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3 Ms Manson, ACS, *Committee Hansard*, 16 September 2025, p. 15.

4 Ms Manson, ACS, *Committee Hansard*, 16 September 2025, p. 15.

5 Mr Jason Mundy, Division Head, Climate Change Policy, Adaption and Risk Division, Department of Climate Change, Energy, the Environment and Water (DCCEEW), *Committee Hansard*, 16 September 2025, p. 2.

6 Mr Mundy, DCCEEW, *Committee Hansard*, 16 September 2025, p. 2.

7 Mr Mundy, DCCEEW, *Committee Hansard*, 16 September 2025, p. 2.

8 Professor Sarah Perkins-Kirkpatrick, Deputy Director, ARC Centre of Excellence for the Weather of the 21st Century and Climate Scientist and Member, Institute for Climate, Energy & Disaster Solutions, Australian National University, *Committee Hansard*, 16 September 2025, p. 30.

9 Investor Group on Climate Change, *Submission 6*, p. 1.

10 National Insurance Brokers Association, *Submission 10*, [p. 3].

September public release of the NCRA, the Emergency Leaders for Climate Action stated that the NCRA is 'urgently needed to support households, communities, businesses and governments in adapting to worsening climate threats'.[11]

The preparation of the Climate Risk Assessment

2.13 Work commenced on the NRCA in May 2023 with the ACS collaborating with DCCEEW to develop a two-phase approach to completing the NRCA.[12] These phases were called the First Pass Assessment and the Second Pass Assessment.[13] The First Pass Assessment commenced in July 2023, with DCCEEW releasing the NCRA Methodology in August 2023.[14]

2.14 The First Pass Assessment took place between July and December 2023. The NCRA Report describes it as a qualitative assessment that included a 'comprehensive literature scan, a rapid adaptation stocktake and a series of expert elicitation workshops'.[15] According to the NCRA Report:

> The first pass assessment reviewed climate within and across 8 systems that make up our society and environment, and delivered a robust, expert-led identification of risks of national significance. A final workshop considered how these risks can compound, cascade and aggregate across multiple systems, and identified a number of cross-system risks.[16]

2.15 The findings of the First Pass Assessment identified 56 nationally significant climate risks and eleven priority risks for the Second Pass Assessment.[17] The First Pass Assessment was publicly released in early 2024.[18]

2.16 The eleven priority risks identified by the First Pass Assessment were:

- coastal communities and settlements;
- concurrency pressures in emergency response and recovery;
- critical infrastructure;
- governance;
- health and wellbeing;
- natural ecosystems;
- primary industries;

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11 Emergency Leaders for Climate Action, *Submission 24*, [p. 3].

12 Ms Manson, ACS, *Committee Hansard*, 16 September 2025, p. 5.

13 ACS, *Submission 15*, [p. 2].

14 DCCEEW, *National Climate Risk Assessment Methodology*, August 2023, p. 1.

15 ACS, *Australia's National Climate Risk Assessment Report*, September 2025, p. 5.

16 ACS, *Australia's National Climate Risk Assessment Report*, September 2025, p. 5.

17 ACS, *Australia's National Climate Risk Assessment Report*, September 2025, p. 7.

18 ACS, *Submission 15*, [p. 2].

- the real economy;
- regional and remote communities;
- supply chains; and
- water security.[19]

2.17 The Second Pass Assessment assessed the above priority risks against seven systems, as well as identifying, in a parallel process, nationally significant risks to the Aboriginal and Torres Strait Islander Peoples system.[20] As explained in the NCRA Report:

> The second pass assessment used subject matter expert analysis to understand key risks, as well as climate hazard, exposure, vulnerability and response data. The understanding of risk and potential impacts across these priority risks was applied across the systems to develop an integrated view of the risk to Australia from climate change.[21]

2.18 The ACS undertook the science and analysis for the Second Pass Assessment, while also engaging with a broad range of stakeholders to identify any gaps.[22] The final NCRA, incorporating the findings of the Second Pass Assessment, was released on 15 September 2025.[23]

2.19 In answers to questions on notice, the ACS outlined one of the workshops which was undertaken in the early stages of the Second Pass Assessment:

> An Australian Climate Service Workshop (100+ participants) was held [in] early November 2024 and invited stakeholders from across government and non-government organisations to explore the evidence base through technical briefings and working sessions. Participants explored what the evidence is telling the ACS about national climate risks, provided feedback on strengths and weaknesses of the key findings and contributed to the national evidence base.[24]

2.20 The Second Pass Assessment included workshops with risk assessment experts from state and territory governments and was planned with a consultative approach. This consultative approach took the form of staged checkpoints with representatives from government, industry, the scientific community and peak bodies, as follows:

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19 ACS, *Australia's National Climate Risk Assessment Report*, September 2025, p. 8.

20 ACS, *Australia's National Climate Risk Assessment Report*, September 2025, p. 8.

21 ACS, *Australia's National Climate Risk Assessment Report*, September 2025, p. 6.

22 ACS, *Australia's National Climate Risk Assessment Report*, September 2025, p. 6; ACS, *Submission 15*, [p. 2].

23 Jess Davis, 'How is Australia affected by climate change? The National Climate Risk Assessment models the future', *ABC News*, 15 September 2025 (accessed 27 November 2025).

24 ACS, answers to questions on notice asked by Senator Waters, Senator Dean Smith, Senator David Pocock, Senator Hanson-Young and Senator Cadell, 16 September 2025 (received 30 September 2025), [p. 7].

- Checkpoint 1 in March 2024: advice on methodology and project scope;
- Checkpoint 2 in July 2024: expert advice on how drivers of risk, system risk and opportunities interact; and
- Checkpoint 3 in September 2024: preliminary insights feedback.[25]

2.21 Ms Vicki Manson, Head of ACS, advised the committee that the ACS had engaged with over 250 scientists 'from across government, academia and the private sector' to deliver the NRCA.[26] She went on to say:

> We developed new national indicators, integrated datasets and analytical frameworks to support a transparent and consistent approach to the national assessment. The methodology aligns with international best practice, including guidance from the Intergovernmental Panel on Climate Change. It integrates hazard exposure, vulnerability and response, ensuring the assessment is robust, credible and tailored to Australia's decision-making needs. The national assessment provides a point-in-time snapshot of climate risks under three global warming scenarios: 1.5 degrees, two degrees and three degrees. It shows what is at risk, where and how.[27]

2.22 In addition to the NCRA, there are also two further reports which were produced which provide further evidence on climate risk: the Australia's Future Climate and Hazards Report, and the Climate Risks to Aboriginal and Torres Strait Islander Peoples Report. There were also over 20 technical reports produced which outlined the analysis, data and methodologies used in the NCRA.[28]

2.23 Work on the NCRA required 20 project teams working on different parts of the report. For the eleven priority risks there were teams from the Commonwealth Scientific and Industrial Research Organisation (CSIRO), the Australian Bureau of Statistics (ABS), the Bureau of Meteorology (BOM) and the ACS working to understand the risks, as well as understanding hazard exposure and vulnerability response. These teams were assisted by an expert advisory panel made up of scientists and academics who provided methodology advice.[29]

2.24 The work on the risks specific to Aboriginal and Torres Strait Islander people was done in parallel to this work, and included a range of engagements and

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25 ACS, answers to questions on notice asked by Senator Waters, Senator Dean Smith, Senator David Pocock, Senator Hanson-Young and Senator Cadell, 16 September 2025 (received 30 September 2025), [pp. 6–7].

26 Ms Manson, ACS, *Committee Hansard*, 16 September 2025, p. 2.

27 Ms Manson, ACS, *Committee Hansard*, 16 September 2025, p. 2.

28 Ms Manson, ACS, *Committee Hansard*, 16 September 2025, p. 2.

29 Ms Manson, ACS, *Committee Hansard*, 16 September 2025, p. 6.

consultations with Indigenous communities to identify risks specific to these groups.[30]

2.25 Due to the wide-ranging nature of the NCRA, work on the NCRA included regular engagement with other departments as well as being subject to cabinet deliberations.[31]

2.26 Ms Manson also discussed the quality assurance undertaken while completing the NCRA. This included internal checks and also an expert advisory committee which provided feedback on methodology used and whether it was appropriate and being applied appropriately.[32] The final quality assurance process involved the ACS and its four partners—the BOM, the CSIRO, the ABS and Geoscience Australia—confirming the quality of the report prior to publication. A final review was conducted by Ms Manson and Dr Judith Landsberg, General Manager of the NCRA at the ACS, prior to publication.[33]

2.27 In addition, Mr Jason Mundy, Division Head, Climate Change Policy, Adaptation and Risk Division at DCCEEW, outlined the work undertaken to develop the National Adaptation Plan, a document prepared by DCCEEW as a response to the findings of the NCRA:

> [The National Adaptation Plan is] broken into chapters which look at each of the major systems which comprise Australia's economy, society and environment. In developing each of those chapters, obviously the responsible line area departments were very closely engaged in seeking to take stock of current adaptation actions in receiving early drafts of the national climate risk assessment and were making sure that they were across the development and the implications of those as they worked to look at future adaptation actions and the current, prospective and potential future actions that are included in the National Adaptation Plan.[34]

2.28 Mr Mundy went on to say that one of the key findings of both the NCRA and the National Adaptation Plan was that the impacts of climate change are 'genuinely cross-cutting' and affect every government portfolio. The preparation of the National Adaption Plan occurred in tandem with the NCRA, because 'the two are so intimately related that you could not prepare the National Adaptation Plan without the evidence base of the national climate risk assessment'.[35]

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30 Ms Manson, ACS, *Committee Hansard*, 16 September 2025, p. 6.

31 Mr Mundy, DCCEEW, *Committee Hansard*, 16 September 2025, p. 6.

32 Ms Manson, ACS, *Committee Hansard*, 16 September 2025, p. 9.

33 Ms Manson, ACS, *Committee Hansard*, 16 September 2025, p. 9.

34 Mr Mundy, DCCEEW, *Committee Hansard*, 16 September 2025, p. 6.

35 Mr Mundy, DCCEEW, *Committee Hansard*, 16 September 2025, p. 7.

2.29 Mr Mundy further explained that there was currently a very large body of work being undertaken around climate adaptation, which is described in the National Adaptation Plan. Since 2022, there has been around $3.6 billion invested in adaptation and resilience by the government. The government has also committed to preparing an 'action agenda' in order to take stock of the large body of evidence produced by the NCRA and consider interventions associated with it.[36]

2.30 Dr Judith Landsberg, General Manager of the NCRA at the ACS, discussed the technical reports which accompanied the NCRA. These reports were also cleared on 5 September 2025 and were completed under an ambitious timeframe. Each of the 11 priority risk teams produced a technical report which provides data, data sources, methodology used and limitations on the information provided. As well as these 11 priority risk team reports (some of which required sub-reports) there were also supplementary reports. These included two supplementary reports on climate models, two on health analysis (one for infectious disease and one on changes to communicable disease and air quality) and one done in partnership with the National Environmental Science Program and Monash University on adaptation to climate change.[37]

2.31 Dr Landsberg underscored how quickly the NCRA and all its associated reports had been completed. She noted that the ACS had set out to complete the NCRA in 18 months while similar reports in other jurisdictions had been completed in three to five years. In addition, she pointed out that in any process there will be gaps in information and analysis. The current NCRA looked only at domestic risk and did not consider international risk and impacts. Dr Landsberg also noted that the NCRA did not include a comprehensive assessment of the impact of climate change on the economy.[38]

2.32 Submitters to the inquiry discussed their participation in the process for creating the NCRA. The Biodiversity Council discussed participating in workshops relating to water security, primary industries and food and the natural environment for the NCRA. The consultation process was 'meaningful and open, with [a] two-way exchange of information between experts and the Australian Climate Service'.[39]

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36 Mr Mundy, DCCEEW, *Committee Hansard*, 16 September 2025, p. 12.

37 Dr Judith Landsberg, General Manager, National Climate Risk Assessment, ACS, *Committee Hansard*, 16 September 2025, p. 7.

38 Dr Landsberg, ACS, *Committee Hansard*, 16 September 2025, p. 7.

39 Biodiversity Council, *Submission 11*, p. 2.

Release of the Climate Risk Assessment

2.33 With the release of the NCRA on 15 September, the day prior to the committee's public hearing, several witnesses appearing at the hearing indicated they were very pleased that the report had been released, while at once noting that its contents were highly concerning.

2.34 Professor Perkins-Kirkpatrick of the ARC Centre of Excellence for the Weather of the 21st Century described the report as 'a breath of fresh air' and observing that the level of detail contained in the NCRA was 'amazing'.[40]

2.35 Ms Serena Joyner, Chief Executive Officer of Bushfire Survivors for Climate Action, described a mix of emotions regarding the report. Ms Joyner expressed concern at the findings of the report, mixed with optimism that the report had been released and that there was now an opportunity to act and lessen the worst impacts of climate change.[41]

2.36 Similar views were expressed by Dr Katriona Wylie, Executive Director of Doctors for the Environment Australia, who described the health impacts outlined in the NCRA as 'sobering reading' and the report in general as a 'wake-up call for anyone still clinging to climate denialism or a business-as-usual approach to climate risk'.[42]

National security concerns

2.37 Other participants in the inquiry raised concerns about a separate report on climate risk and national security completed by the Office of National Intelligence (ONI). Admiral Chris Barrie AC (Retired), Chair of the Australian Security Leaders Climate Group (ASLCG), explained at the public hearing that ASLCG had proposed the idea of a national climate security risk assessment prior to the 2022 Federal Election which had then been adopted as an election policy by the then Labor Opposition. This resulted in both the NCRA, which assesses the domestic climate security threat, and a report completed by ONI which assesses the external climate security threat.[43]

2.38 This ONI report was delivered to the government in December 2022 but has been classified and is not available to the public. On 9 December 2024, the

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40 Professor Perkins-Kirkpatrick, ARC Centre of Excellence for the Weather of the 21st Century and Australian National University, *Committee Hansard*, 16 September 2025, pp. 34–35.

41 Ms Serena Joyner, Chief Executive Officer, Bushfire Survivors for Climate Action, *Committee Hansard*, 16 September 2025, p. 58.

42 Dr Katriona Wylie, Executive Director, Doctors for the Environment Australia, *Committee Hansard*, 16 September 2025, p. 65.

43 Admiral Chris Barrie (Retired), Chair, Australian Security Leaders Climate Group (ASLCG), *Committee Hansard*, 16 September 2025, p. 38.

government, alongside ONI, provided a briefing on the contents of the ONI report to independent members of Parliament.[44]

2.39 In its submission to the inquiry, the ASLCG called for the release of ONI's report, making the point that other security threats to Australia, such as cyber security, COVID-19 and rogue states, have been discussed transparently with the public to gain support for action against these threats, while the security threats of climate change have not received the same treatment.[45]

2.40 In its submission, the ASLCG argued:

> With existential climate risks, the community can fully participate in actions to overcome the threat only if the government is transparent about the magnitude of that threat and builds community support for action. Australian governments have learned from bitter experience that making sure that vulnerable communities are fully informed in advance, with practical actions and options, is the key to being prepared for natural emergency threats which are now exacerbated by climate warming.[46]

Concerns the release of the Climate Risk Assessment had been delayed

2.41 Participants in the inquiry, both at the public hearing and in submissions, discussed various aspects of the release of the NCRA, including concerns raised about possible delays to the release of this report. Several inquiry participants claimed that the NCRA was largely completed in December 2024 and then its release delayed until September 2025.

2.42 This view was held by the Biodiversity Council, who at the 16 September hearing welcomed the release of the NCRA, while at the same time telling the committee it was:

> …alarmed by the circumstances in which this document has been published. The draft assessment was largely completed in December 2024 and then inexplicably held up for nine months, seemingly to make space for the protracted approval of the North West Shelf extension, the centrepiece of the largest fossil gas project in the Southern Hemisphere.[47]

2.43 In its submission, provided before the release of the report, the Tasmanian Climate Collective noted that the Australian Government had previously committed to releasing the NCRA by the end of 2024, with information reflecting this being available on DCCEEW's webpage as late as February 2025.[48]

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44 ASLCG, *Submission 13*, pp. 4, 11.

45 ASLCG, *Submission 13*, p. 9.

46 ASLCG, *Submission 13*, p. 10.

47 Mx Annika Reynolds, National Climate Policy Adviser, Australian Conservation Foundation, *Committee Hansard*, 16 September 2025, p. 64.

48 Tasmanian Climate Collective, *Submission 9*, p. 2.

2.44 At the hearing, Professor Sarah Perkins-Kirkpatrick, Deputy Director, ARC Centre of Excellence for the Weather of the 21st Century, stated that apparent delays in the first NCRA would delay future NCRA developments, as well as delaying the implementation of the National Adaptation Plan. She advised that the delays in release had impacted her opportunities as a physical scientist 'to work in an interdisciplinary setting with vulnerability and exposure experts and modellers to ensure that risk mitigation is underpinned by the most contemporary knowledge, resources and expertise'.[49]

2.45 Professor Christian Jakob, Director at the ARC Centre of Excellence for the Weather of the 21st Century, made similar comments, noting that the apparent delay had negatively impacted businesses, governments and communities which have been 'missing out on crucial scientifically based information' to adapt to climate change. He also contended that delays cause further harms in delaying action and encouraging misinformation.[50]

2.46 Similar views were expressed by Ms Elly Baxter, Senior Campaigner for Climate Action Network Australia, who described the delay as 'unacceptable.' She raised concerns that the delay in the release of the NCRA could have impacts on trust in government and 'creates a perception that the government is more concerned with managing political appearances rather than the safety and livelihoods of our community.'[51]

2.47 Writing before the release of the report, the ASLCG, one of the participants and stakeholders in the NCRA, also expressed concern about the pace of the release of the NCRA. The group described the consultations of the second phase of the NCRA as 'wither[ing]', and expressed a feeling of having been left in the dark about the pace of the work on the NCRA.[52]

2.48 When asked at the public hearing about whether there had been delays between completing the report and its release, Ms Manson stated unequivocally that the NRCA was completed in September 2025. This was due to the ACS needing time to undertake an appropriate quality assurance process for the NCRA.[53]

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49 Professor Perkins-Kirkpatrick, ARC Centre of Excellence for the Weather of the 21st Century and Australian National University, *Committee Hansard*, 16 September 2025, p. 30.

50 Professor Christian Jakob, Director, ARC Centre of Excellence for the Weather of the 21st Century, *Committee Hansard*, 16 September 2025, pp. 30–31.

51 Ms Elly Baxter, Senior Campaigner, Climate Action Network Australia, *Committee Hansard*, 16 September 2025, p. 57.

52 ASLCG, *Submission 13*, p. 4.

53 Ms Manson, ACS, *Committee Hansard*, 16 September 2025, p. 2.

2.49 More specifically, Ms Manson stated that the NRCA and all its associated resources were provided to DCCEEW and the Minister on 5 September 2025.[54]

2.50 Ms Manson further explained that the draft for the NRCA was circulated through relevant departments in March 2025 in order to get feedback from experts across government departments. The ACS received over 3 000 items of feedback from this process which broadly fell into three categories: language use and consistency, tailoring of information, and new evidence which the ACS had not previously been aware of. This process did not include feedback from ministers. After this process, the ACS shared a progress update in late June 2025.[55]

2.51 From July 2025 there was a quality assurance process of the draft NRCA. Ms Manson confirmed that no new evidence was added to the NRCA from this stage until 5 September 2025.[56] Ms Manson described this process as 'presenting the data in an appropriate way and ensuring that the information was presented in an understandable format'.[57]

2.52 When asked about reports that suggested the NRCA was completed in December 2024, Ms Manson explained that such reports might be referring to a working draft, which was completed in December 2024:

> When we pulled that together, part of what we were trying to do was to understand what we could answer and what we couldn't answer. It was the Australian Climate Service's judgement that we needed to do a bit more work and we needed some more advice…We used it to go back to our technical lead teams to ask for further information or advice, and then we really got that advice until that March period. At that point we still had a couple of areas that were gaps that we were working on, but we were starting to really pull the report together in a more fulsome way. So, with that working draft, there were some stakeholders that would have seen that to help give us feedback on how to interpret it, but that was certainly not a final version, and it wasn't fit for sharing with decision-makers with any confidence.[58]

Next steps for the Climate Risk Assessment

2.53 Inquiry participants also discussed when the next version of the NCRA would be released, or if there would be another in-depth climate risk assessment.

2.54 Professor Andrew Pitman stated in his submission that the NCRA was welcome, but that 'what comes next is important'. He recommended that the government

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54 Ms Manson, ACS, *Committee Hansard*, 16 September 2025, p. 3.

55 Ms Manson, ACS, *Committee Hansard*, 16 September 2025, pp. 3–4.

56 Ms Manson, ACS, *Committee Hansard*, 16 September 2025, p. 4.

57 Ms Manson, ACS, *Committee Hansard*, 16 September 2025, p. 4.

58 Ms Manson, ACS, *Committee Hansard*, 16 September 2025, p. 4.

legislate updating the NCRA every five years, with there being a plan to improve the assessment through the development of specific research and development plans over five-, ten- and fifteen-year periods.[59]

2.55 Ms Manson of the ACS explained that there was not currently a set international practice on updating similar kinds of climate risk assessments, noting that some countries update their equivalent reports every five years, others do at key points in time, and some others do it at a sector level when seeking to make decisions relating to that particular sector.[60]

2.56 Mr Mundy of DCCEEW confirmed that there was currently no decision on when the NCRA would be updated or if the climate risk assessment process would be undertaken at regular intervals.[61]

2.57 Mr Mundy confirmed that the government had committed to collaborating with state, territory and local governments on an 'action agenda' to discuss possible policy interventions and to build on current climate adaption work already underway by the end of 2026.[62]

2.58 There was also a discussion at the public hearing about what actions other government departments are taking relating to the risks identified in the NCRA.

2.59 Dr Alex Heath, First Assistant Secretary, Climate, Energy and Trade Insights Division at the Department of the Treasury (Treasury), gave evidence that the data and analysis provided in the NCRA would considered by Treasury for the next Intergenerational Report, which is due in 2026.[63]

2.60 Dr Heath confirmed that Treasury had not costed the risks that were identified in the NCRA, but the 2023 Intergenerational Report did include some assessment of the potential costs of physical risks under different temperature scenarios and the impact this could have on the economy.[64] Dr Heath stated that decisions about how to respond to the NCRA and the National Adaptation Plan were decisions for government.[65]

2.61 When questioned about risks related to the impact of climate change on insurance premiums, the Australian Prudential Regulation Authority confirmed that it was currently undertaking an insurance climate vulnerability assessment

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59 Professor Andrew Pitman, *Submission 4*, [p. 2].

60 Ms Manson, ACS, *Committee Hansard*, 16 September 2025, p. 10.

61 Mr Mundy, DCCEEW, *Committee Hansard*, 16 September 2025, p. 10.

62 Mr Mundy, DCCEEW, *Committee Hansard*, 16 September 2025, p. 10.

63 Dr Alex Heath, First Assistant Secretary, Climate, Energy and Trade Insights Division, Department of the Treasury (Treasury), *Committee Hansard*, 16 September 2025, p. 19.

64 Dr Heath, Treasury, *Committee Hansard*, 16 September 2025, p. 23.

65 Dr Heath, Treasury, *Committee Hansard*, 16 September 2025, p. 21.

with the insurance industry with a view to 'provide insights more publicly next year.'[66]

2.62 The committee's views on matters discussed above, as well as recommendations, will be discussed in Chapter 4 of this report.

[66] Ms Alison Bliss, General Manager, Non-Financial Risk, Australian Prudential Regulation Authority, *Committee Hansard*, 16 September 2025, p. 21.

Chapter 3
The impacts of climate change as outlined in the Climate Risk Assessment

3.1 This chapter provides an overview of some of the key ongoing impacts on the Australian community that are predicted to occur as a result of climate change, as outlined in the National Climate Risk Assessment (NCRA). It also outlines the evidence received throughout the inquiry on the budgetary costs of both climate driven natural disasters and any government adaptation plans.

Climate risks and impacts across Australia's key systems

3.2 The NCRA analysed the potential risks and impacts of climate change across '[eight] key systems that support Australian society and are most at risk from climate change'.[1] These systems were:

- Aboriginal and Torres Strait Islander Peoples;
- Communities—urban, regional and remote;
- Defence and national security;
- Economy, trade and finance;
- Health and social support;
- Infrastructure and the built environment;
- Natural environment; and
- Primary industries and food.[2]

3.3 The NCRA explained that systems thinking 'facilitates an understanding of the broader context and the dynamic relationships between different systems' and 'helps to identify how changes in one system can flow onto others through compounding and cascading impacts'.[3]

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1 Australian Climate Service (ACS), *Australia's National Climate Risk Assessment Report*, September 2025, p. 2.

2 ACS, *Australia's National Climate Risk Assessment Report*, September 2025, p. 12.

3 ACS, *Australia's National Climate Risk Assessment Report*, September 2025, p. 11.

3.4 The NCRA categorised the level of risk to the key systems[4] using five levels—Low,[5] Moderate,[6] High,[7] Very High[8] and Severe[9]—to indicate the severity of expected impacts.[10] The climate risks and impacts across each system are discussed below.

Aboriginal and Torres Strait Islander Peoples

3.5 The NCRA identified seven nationally significant climate risks to Aboriginal and Torres Strait Islander Peoples,[11] which are summarised below:

- **Risk to self-determination**, including the risk to Aboriginal and Torres Strait Islander peoples' ability and right to freely pursue their economic, social and cultural development due to the effects of climate change.
- **Risk to land, sea and Country** due to climate impacts on biodiversity, cultural sites, communities and settlements.
- **Risk to cultural knowledges, practices, values and sites** due to climate impacts on Country.
- **Risk to people's health, wellbeing and identity** from increased prevalence and severity of mental and physical health conditions and displacement from Country.
- **Risk to economic participation and social and cultural economic development** from climate hazards and their impacts.
- **Risk to water and food security** due to climate driven events.

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4 A risk rating was not provided for the Aboriginal and Torres Strait Islander Peoples system.

5 A 'low' risk rating indicates that 'impacts are minimal, with few enduring effects on vulnerable communities and existing inequalities'. See, ACS, *Australia's National Climate Risk Assessment Report*, September 2025, p. 24.

6 A 'moderate' risk rating indicates that 'impacts are limited to a few local regions, with minimal effects on a state or national level and on vulnerable communities'. See, ACS, *Australia's National Climate Risk Assessment Report*, September 2025, p. 24.

7 A 'high' risk rating indicates that 'impacts affect multiple regions within one or 2 states, noticeably impacting vulnerable communities and moderately exacerbating inequalities'. See, ACS, *Australia's National Climate Risk Assessment Report*, September 2025, p. 24.

8 A 'very high' risk rating indicates that 'impacts are significant across multiple states, affecting safety and security nationally. Vulnerable communities face substantial impacts, exacerbating inequalities'. See, ACS, *Australia's National Climate Risk Assessment Report*, September 2025, p. 24.

9 A 'severe' risk rating indicates that 'impacts are widespread across multiple states, severely affecting vulnerable communities and exacerbating inequalities'. See, ACS, *Australia's National Climate Risk Assessment Report*, September 2025, p. 24.

10 ACS, *Australia's National Climate Risk Assessment Report*, September 2025, pp. iv and 24.

11 These should be considered alongside the 56 nationally significant risks identified as part of the First Pass Assessment: ACS, *Australia's National Climate Risk Assessment Report*, September 2025, pp. 2 and 37.

- **Risk to remote and rural communities** from increased interruptions to water, energy, medical and telecommunication infrastructure and reduced food and water security.[12]

3.6 In a supporting report to the NCRA, the Australian Climate Service (ACS) observed that:

> Many Aboriginal and Torres Strait Islander communities in Australia have long been on the front lines of environmental change, experiencing its effects through altered weather patterns, rising sea levels, and biodiversity loss.[13]

3.7 The ACS noted that Aboriginal and Torres Strait Islander communities are disproportionately impacted by climate change, and there is a risk that the threats posed by climate change may exacerbate existing disadvantages if they are not adequately addressed.[14]

3.8 Similarly, the Australian Red Cross submitted that climate impacts, including extreme weather events, biodiversity loss and environmental degradation, 'intersect with…existing structural barriers' experienced by First Nations communities, 'amplifying existing inequalities rooted in historical injustices'.[15]

3.9 Several submitters highlighted that climate impacts are multifaceted and affect various aspects of Aboriginal and Torres Strait Islander peoples' wellbeing.[16] For example, the Seed Indigenous Youth Climate Network stated that its grassroots network had witnessed firsthand:

- Increased heatwaves are threatening health and cultural practices on Country.
- Rising sea levels are eroding land and sacred sites in the Torres Strait.
- Extreme weather events like floods and fires are displacing families and damaging infrastructure in regional and remote communities.[17]

3.10 Further, the National Aboriginal Community Controlled Health Organisation pointed out the 'urgent climate health concerns' arising out of the intersection between climate change, health and housing:

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12 ACS, *Australia's National Climate Risk Assessment Report*, September 2025, p. 39; ACS, *Climate Risks to Aboriginal and Torres Strait Islander Peoples*, September 2025, p. 5.

13 ACS, *Climate Risks to Aboriginal and Torres Strait Islander Peoples*, September 2025, p. 9.

14 ACS, *Climate Risks to Aboriginal and Torres Strait Islander Peoples*, September 2025, p. 9.

15 Australian Red Cross, *Submission 12*, p. 10.

16 Australian Red Cross, *Submission 12*, p. 10; Seed Indigenous Youth Climate Network, *Submission 22*, p. 2; National Aboriginal Community Controlled Health Organisation, *Submission 25*, p. 4.

17 Seed Indigenous Youth Climate Network, *Submission 22*, p. 2.

> Overcrowded, poorly ventilated, and inadequately insulated homes are creating life-threatening conditions during heatwaves, worsening chronic and communicable disease, and disrupting cultural obligations.[18]

3.11 The ACS acknowledged that 'more work [was] needed to look at [climate] risks to Aboriginal and Torres Strait Islander peoples',[19] and encouraged any future National Assessment to '[r]espectfully and appropriately engag[e] with Aboriginal and Torres Strait Islander peoples to learn from their experience and explore risks and responses'.[20]

Communities—urban, regional and remote

3.12 The NCRA categorised the current level of climate risk to communities across Australia as 'moderate' and projected with high confidence that by 2050 the risk would increase to 'very high–severe'.[21] This took into consideration a range of factors, including the impact of rising sea levels on water supplies and infrastructure across multiple states; extreme weather events intensifying safety and security risks; the impact on community resilience and social cohesion; and economic costs to communities.[22]

3.13 The communities identified as being at the highest risk are located in northern Australia and are vulnerable to 'multiple climate hazards, including heatwaves, flooding, tropical cyclones, and bushfires', with a 'high proportion of their populations living in high-risk areas'.[23]

3.14 The NCRA highlighted that the 'reliability, efficiency, and accessibility' of critical and essential services—including health, aged care, water supply, energy, and transport services—are at risk due to climate change.[24] It was also noted that '[c]limate change is expected to drive escalating economic costs across all communities', including increased insurance costs and business interruptions caused by extreme events.[25] The expected economic impacts of climate change are discussed further below.

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18 National Aboriginal Community Controlled Health Organisation, *Submission 25*, p. 8.

19 Dr Judith Landsberg, General Manager, National Climate Risk Assessment, ACS, *Committee Hansard*, 16 September 2025, p. 7.

20 ACS, *Australia's National Climate Risk Assessment Report*, September 2025, p. 29.

21 ACS, *Australia's National Climate Risk Assessment Report*, September 2025, p. 43.

22 ACS, *Australia's National Climate Risk Assessment Report*, September 2025, p. 43.

23 These areas include the Northern Territory, Queensland north, and Western Australia (WA) north: ACS, *Australia's National Climate Risk Assessment Report*, September 2025, pp. 44 and 55.

24 ACS, *Australia's National Climate Risk Assessment Report*, September 2025, p. 45.

25 ACS, *Australia's National Climate Risk Assessment Report*, September 2025, p. 45.

Coastal communities

3.15 The NCRA outlined that coastal[26] and island communities are particularly vulnerable to rising sea levels and associated coastal flooding, erosion and inundation.[27] Impacts on community infrastructure, drinking water supplies, and insurance coverage for coastal properties were expected to occur in the future.[28] The ACS added that:

> In highly exposed and vulnerable settlements, chronic sea level rise is highly likely to challenge social cohesion and liveability. Severe landscape changes and permanent inundation of low-lying areas may lead to relocation of high-risk communities. Relocation is highly likely to disrupt local economies, social networks, traditional identities and cultural heritage.[29]

3.16 Emeritus Professor Bruce Thom AM, founding member of the Australian Coastal Society, warned that '[w]e must expect a complex array of impacts as sea level rises', such as property damage from rising groundwater tables and rising damp; poorer water quality; and adverse ecological events like algal blooms resulting from increased water temperatures and nutrient runoff.[30]

Urban communities

3.17 The NCRA stated that urban communities, especially those along the coast, are 'emerging as primary hotspots for sea level rise impacts', with high population and building densities heightening the risks to communities. Urban communities are also at risk of extreme weather events such as heatwaves which 'strain energy systems, impact public health, and disrupt transport networks'.[31]

Regional and remote communities

3.18 The NCRA indicated that regional communities that rely on climate-sensitive industries such as agriculture and tourism are highly vulnerable to droughts, heatwaves, floods, and other climate risks.[32] Changes to temperature and weather patterns caused by climate change are 'likely to result in decreased total agricultural production and changes in the distribution of primary industries',

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[26] For the purposes of the report, coastal communities were defined as buildings and population 10 kilometres from the soft shoreline: ACS, *Australia's National Climate Risk Assessment Report*, September 2025, p. 58.

[27] ACS, *Australia's National Climate Risk Assessment Report*, September 2025, p. 44. See also, Dr Landsberg, ACS, *Committee Hansard*, 16 September 2025, p. 3.

[28] ACS, *Australia's National Climate Risk Assessment Report*, September 2025, p. 48.

[29] ACS, *Australia's National Climate Risk Assessment Report*, September 2025, p. 48.

[30] Mr Bruce Thom, *Submission 8*, [p. 1].

[31] ACS, *Australia's National Climate Risk Assessment Report*, September 2025, p. 45.

[32] ACS, *Australia's National Climate Risk Assessment Report*, September 2025, p. 44.

with the ACS pointing out that communities may also experience adverse mental health impacts due to reduced employment opportunities.[33]

3.19 The Australian Red Cross also noted the significant mental health impacts on rural and regional communities due to droughts and climate-related natural disasters such as bushfires and floods.[34]

3.20 Additionally, the NCRA noted that remote communities, including Aboriginal and Torres Strait Islander populations, are especially vulnerable to climate driven events because of their 'geographic isolation, limited infrastructure and systemic disadvantage'.[35] The Conservation Council of Western Australia (WA) gave an example of flooding across parts of the Kimberley region leading to food shortages and remote communities being isolated as roads were inundated or washed away.[36]

Defence and national security

3.21 The NCRA categorised the current level of climate risk to the defence and national security system as 'high' and projected with medium confidence that by 2050 the risk would increase to 'very high–severe'.[37] This reflected the projected increase in the economic costs associated with disaster response and recovery; disruptions to supply chains; the displacement of communities; and growing demands on emergency management resources.[38]

3.22 Various climate impacts were identified, including disruptions to critical infrastructure, climate-sensitive infections and communicable diseases, and biosecurity risks.[39] According to the NCRA, the 'compounding and cascading' nature of climate impacts across a range of sectors, from agriculture to human health, 'amplifies the challenges for Australia's national security and emergency management response, stretching the system's resources and funding to their limits'.[40] The projected economic costs associated with disaster response and recovery are discussed below.

3.23 The vast geographical distances between some regions and the nearest emergency management facilities, as well as the increasing physical and mental

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33 ACS, *Australia's National Climate Risk Assessment Report*, September 2025, p. 50.

34 Australian Red Cross, *Submission 12*, p. 4.

35 ACS, *Australia's National Climate Risk Assessment Report*, September 2025, p. 45.

36 Conservation Council of WA, *Submission 29*, p. 2.

37 ACS, *Australia's National Climate Risk Assessment Report*, September 2025, p. 74.

38 ACS, *Australia's National Climate Risk Assessment Report*, September 2025, p. 74.

39 ACS, *Australia's National Climate Risk Assessment Report*, September 2025, p. 75.

40 ACS, *Australia's National Climate Risk Assessment Report*, September 2025, p. 75.

strain on emergency management personnel, pose further challenges in responding to climate hazards.[41]

3.24 The Australian Security Leaders Climate Group (ASLCG), comprising senior former military and intelligence leaders, labelled climate change 'the greatest threat to Australia's future'[42] and an 'existential threat to human civilisation'.[43] Reflecting on the NCRA, the Chair of the ASLCG told the committee that:

> The assessment reveals a level of threat to the security of all Australians that now demands a fundamental shift in national planning, energy and budget priorities.
>
> …It is clear that climate impacts will fundamentally change how and where Australians live and work, with even more severe storms and flooding, unbearable heatwaves and deeper drought putting more pressure on industry, infrastructure, agriculture and vulnerable communities.[44]

Economy, trade and finance

3.25 The NCRA categorised the current level of climate risk to the economy, trade and finance system as 'moderate' and projected with low-medium confidence that by 2050 the risk would increase to 'very high'.[45]

3.26 The ACS expected that physical risks to infrastructure, critical assets, homes and communities would increase due to rising sea levels and extreme weather events, leading to financial losses, property damage and reduced productivity.[46] The NCRA outlined a number of impacts and risks to the economy, including the damage caused by natural disasters; government expenditure on disaster recovery; insured losses and increases to insurance premiums.[47]

3.27 The NCRA noted, for example, that potential damages from sea level rise in Australia could reach 'billions annually by 2100', and cited research that:

> …projected that the physical and economic impacts of coastal sea level rise and storm surge in Victoria could reach $9.44 billion annually by 2040, $14.77 billion by 2070 and $23.66 billion by 2100. These figures translate to reductions of 1.73%, 2.06% and 2.68% of gross state product for those respective years.[48]

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41 ACS, *Australia's National Climate Risk Assessment Report*, September 2025, pp. 88–89.

42 Admiral Chris Barrie (Retired), Chair, Australian Security Leaders Climate Group (ASLCG), *Committee Hansard*, 16 September 2025, p. 38.

43 ASLCG, *Submission 13*, p. 3.

44 Admiral Barrie (Retired), ASLCG, *Committee Hansard*, 16 September 2025, p. 38.

45 ACS, *Australia's National Climate Risk Assessment Report*, September 2025, p. 98.

46 ACS, *Australia's National Climate Risk Assessment Report*, September 2025, pp. 98–99.

47 ACS, *Australia's National Climate Risk Assessment Report*, September 2025, p. 102.

48 ACS, *Australia's National Climate Risk Assessment Report*, September 2025, p. 65.

3.28 However, it was noted that 'a comprehensive assessment of the impact of climate change to the economy' was not undertaken as part of the NCRA due to time limitations.[49]

3.29 The NCRA also recognised that 'current modelling methodologies are likely to significantly underestimate the economic impacts' of climate change as 'non-market contributions, such as the effects of loss of ecological services or heritage and cultural values, are not taken into account'.[50] A similar point was made by Associate Professor Ben Neville, Deputy Director of Melbourne Climate Futures, who said that the economic modelling of climate change 'doesn't include the full complexity of effects' and fails to consider 'the potential cascading impacts from physical damage from climate change to our economy'.[51]

Costs of climate driven natural disasters

3.30 According to a 2021 Deloitte report, climate-related disasters already cost $38 billion per year on average—around 2 per cent of Gross Domestic Product (GDP) in 2020—and could rise to at least $73 billion annually by 2060, or 4 per cent of GDP in 2020.[52]

3.31 The Independent Review of Commonwealth Disaster Funding led by Andrew Colvin AO APM estimated that, under a moderate emissions scenario, the total annual cost of natural disasters (including floods, bushfires, storms, cyclones and hail) could reach approximately $40.3 billion by 2049–50, incorporating both financial and social impacts.[53]

3.32 In 2024–25, the Australian Government reported cash payments to the states of $1.38 billion under the Disaster Recovery Funding Arrangements (DRFA).[54] The NCRA pointed to Treasury projections that the average Australian Government expenditure under the DRFA could increase by 2090, on average, by 500 per cent under a +2.0°C warming scenario, or by 600 per cent by 2090 under a sub +3.0°C warming scenario.[55] However, the 'estimated cost of future disasters is likely to

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49 Dr Landsberg, ACS, *Committee Hansard*, 16 September 2025, p. 7.

50 ACS, *Australia's National Climate Risk Assessment Report*, September 2025, p. 29.

51 Associate Professor Ben Neville, Deputy Director, Melbourne Climate Futures, University of Melbourne, *Committee Hansard*, 16 September 2025, pp. 31–32. See also, Dr Richard Denniss, Executive Director, The Australia Institute, *Committee Hansard*, 16 September 2025, p. 37.

52 ACS, *Australia's National Climate Risk Assessment Report*, September 2025, p. 103.

53 ACS, *Australia's National Climate Risk Assessment Report*, September 2025, p. 102.

54 Department of the Treasury, answers to questions on notice asked by Senator Waters, 16 September 2025 (received 9 October 2025), [p. 1].

55 ACS, *Australia's National Climate Risk Assessment Report*, September 2025, pp. 102 and 107.

be an underestimate because the increasing frequency of extreme events is likely to compound costs of recovery'.[56]

3.33 Several submitters mentioned the severe economic damage from the Black Summer bushfires—including agricultural losses, impact on the tourism industry and health costs—as an example of the rising costs of climate driven natural disasters.[57] The Emergency Leaders for Climate Action concluded that '[c]limate-fuelled disaster costs are rising rapidly, placing increasing strain on government budgets'.[58]

Insurance market

3.34 The NCRA cited research by the Insurance Council of Australia which showed that insured losses from declared insurance catastrophes have grown from 0.2 per cent of GDP (or $2.1 billion) in 1995–2000 to 0.7 per cent of GDP (or $4.5 billion) in 2020–24, with floods being one of the main drivers of the increased losses.[59] The NCRA noted that:

> The impact of extreme weather on the Australian economy has more than tripled over the past 3 decades, with the rate of growth of the financial impact of extreme weather outpacing the rate of economic growth.[60]

3.35 Additionally, insurance premiums are likely to rise for households exposed to natural hazards, 'decreasing affordability of full insurance cover to households and leading to underinsurance or a "protection gap"'.[61]

3.36 The Chief Executive Officer (CEO) of the National Insurance Brokers Association explained that:

> Rising premiums, reduced affordability and, in some cases, the limited availability of insurance are already impacting and affecting our communities. These pressures are projected to grow as climate change increases both the frequency and severity of extreme weather events.
>
> …The affordability and availability of insurance are closely linked to risk exposure. Without targeted action, many homes and businesses with high-

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56 ACS, *Australia's National Climate Risk Assessment Report*, September 2025, p. 109.

57 Bushfire Survivors for Climate Action, *Submission 7*, p. 5; Emergency Leaders for Climate Action, *Submission 24*, [p. 5].

58 Emergency Leaders for Climate Action, *Submission 24*, [p. 5].

59 ACS, *Australia's National Climate Risk Assessment Report*, September 2025, pp. 102 and 104.

60 ACS, *Australia's National Climate Risk Assessment Report*, September 2025, p. 104.

61 ACS, *Australia's National Climate Risk Assessment Report*, September 2025, p. 102.

> risk issues may become effectively uninsurable, placing communities at risk from severe financial hardship and slowing the recovery after disasters.[62]

3.37 According to the Climate Risk Group, 652 424 properties across Australia are already at high risk of damage from extreme weather associated with climate change and 'require immediate evaluation and adaptation'. The number of high-risk properties is projected to grow to 746 185 by 2050, and to over 1.3 million by 2100.[63]

3.38 Numerous inquiry participants raised concerns about the impending 'insurability crisis',[64] with the Australian Consumers Insurance Lobby (ACIL) noting that '[u]naffordable insurance creates a form of economic displacement' whereby households may be forced to relocate after disaster or risk being 'locked into financial stress to maintain inadequate cover'.[65]

Costs of climate adaptation

3.39 The committee received evidence that the Australian Government's current investments relating directly to climate adaptation and resilience 'are in the order of $3.6 billion since 2022', and that this investment was 'part of a larger suite of policies to the value of around $9 billion to assist with resilience and with adaptation actions'.[66]

3.40 However, the CEO of Bushfire Survivors for Climate Action pointed out that the Government's 2025 National Adaptation Plan had not been directly funded, and called for 'leadership that recognises the enormous costs this country faces and reckons with how to pay for them'.[67] The Climate Risk Group submitted that adaptation at the scale required to protect Australian properties would cost 'billions of dollars annually in retrofits, resilience measures, and in some cases managed retreat'.[68]

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62 Mr Richard Klipin, Chief Executive Officer (CEO), National Insurance Brokers Association, *Committee Hansard*, 16 September 2025, p. 45. See also, National Insurance Brokers Association, *Submission 10*, [p. 2].

63 Climate Risk Group, *Submission 18*, [p. 1].

64 Conservation Council of WA, *Submission 29*, p. 16; Ms Serena Joyner, CEO, Bushfire Survivors for Climate Action, *Committee Hansard*, 16 September 2025, p. 59. See also, Dr Denniss, The Australia Institute, *Committee Hansard*, 16 September 2025, p. 37.

65 Australian Consumers Insurance Lobby (ACIL), *Submission 2*, p. 2.

66 Mr Jason Mundy, Division Head, Climate Change Policy, Adaptation and Risk Division, Department of Climate Change, Energy, the Environment and Water (DCCEEW), *Committee Hansard*, 16 September 2025, p. 12.

67 Ms Joyner, Bushfire Survivors for Climate Action, *Committee Hansard*, 16 September 2025, p. 58.

68 Climate Risk Group, *Submission 18*, [p. 2].

3.41 Nonetheless, inquiry participants argued that the costs would be far greater if adaptation measures are not taken.[69] The ACIL, for example, stated that:

> Investment in adaptation measures—flood levees, cyclone-proof building upgrades, bushfire mitigation—offers a far better return for both government and consumers. Every dollar spent on resilience reduces future claims, minimises recovery costs, and supports long-term insurance affordability.[70]

Health and social support

3.42 The NCRA categorised the current level of climate risk to the health and social support system as 'moderate–high' and projected with medium confidence that by 2050 the risk would increase to 'severe'.[71] This took into account a range of public health risks, including mental health impacts, increased transmission of communicable diseases, and morbidity and mortality associated with heatwaves and bushfires.[72]

3.43 Older people, people in rural and remote areas, people who work outdoors, women, volunteers and emergency responders were identified as being 'particularly susceptible to the health impacts of climate change'.[73]

3.44 Further, the NCRA outlined that climate impacts on transport, supply chains and critical infrastructure may reduce access to health services, leading to increased morbidity and mortality.[74]

3.45 Sweltering Cities pointed out that '[h]eatwaves are Australia's deadliest environmental disaster'.[75] This was echoed by Dr Wylie, the Executive Director of Doctors for the Environment Australia, who said that:

> Whenever there is a hot day or a heatwave, in health care we see increased heart attacks, we see more strokes, we see more kidney disease, we see more suicidal ideation, we see more mental illness and we see more domestic violence. …We already have loss of productivity and loss of workday availability because of heat. We know that there are already projections that

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69 Australian Red Cross, *Submission 12*, p. 9; Professor Sarah Perkins-Kirkpatrick, Deputy Director, ARC Centre of Excellence for the Weather of the 21st Century and Climate Scientist and Member, Institute for Climate, Energy & Disaster Solutions, Australian National University, *Committee Hansard*, 16 September 2025, p. 30.

70 ACIL, *Submission 2*, p. 2. See also, Biodiversity Council, *Submission 11*, p. 3.

71 ACS, *Australia's National Climate Risk Assessment Report*, September 2025, p. 126.

72 ACS, *Australia's National Climate Risk Assessment Report*, September 2025, pp. 126–129.

73 ACS, *Australia's National Climate Risk Assessment Report*, September 2025, p. 127.

74 ACS, *Australia's National Climate Risk Assessment Report*, September 2025, pp. 126–127.

75 Sweltering Cities, *Submission 1*, [p. 1].

> with a three-degree global warming future we will have heatwaves that last up to a month in Australia.[76]

3.46 Dr Wylie also gave evidence that Australia is experiencing 'a changing pattern of infectious diseases' as a result of climate change, including increased incidence of Japanese encephalitis and dengue fever.[77]

3.47 In addition, the Australian Red Cross highlighted the psychosocial impacts of climate driven disasters such as the development of post-traumatic stress symptoms, as well as the rise of ecoanxiety (helplessness related to feared climate impacts) and solastalgia (distress caused by environmental changes in a person's local area).[78]

Infrastructure and the built environment

3.48 The NCRA categorised the current level of climate risk to infrastructure and the built environment as 'low–moderate' and projected with medium confidence that by 2050 the risk would increase to 'high–very high'.[79] This was reflective of the challenges to:

- **energy infrastructure**—which would be affected by more frequent and intense extreme heat events and megafires, leading to disruptions in energy supply;
- **transport and supply chains**—which are at risk from acute hazards such as bushfires, floods, and extreme winds;
- **residential infrastructure**—which would face increased risks from extreme weather;
- **water infrastructure**—which would be challenged by extreme variability in rainfall;
- **telecommunications infrastructure**—which would be at high risk, from climate hazards such as extreme heat, bushfires, flooding and extreme winds;
- **coastal infrastructure**—which would be threatened by sea level rise and increased storm surge activity; and
- **Aboriginal and Torres Strait Islander communities' infrastructure**—which would be disproportionately at risk from severe weather events, extreme heat events, and bushfires.[80]

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76 Dr Katriona Wylie, Executive Director, Doctors for the Environment Australia, *Committee Hansard*, 16 September 2025, p. 67.

77 Dr Wylie, Doctors for the Environment Australia, *Committee Hansard*, 16 September 2025, p. 67. See also, Conservation Council of WA, *Submission 29*, p. 3.

78 Australian Red Cross, *Submission 12*, pp. 4–5.

79 ACS, *Australia's National Climate Risk Assessment Report*, September 2025, p. 148.

80 ACS, *Australia's National Climate Risk Assessment Report*, September 2025, pp. 148–149.

3.49 The NCRA also noted that there would be significant economic costs associated with stockpiling, repairing and hardening infrastructure.[81]

3.50 The Housing Industry Association indicated that in addition to upgrading existing buildings to make them more resilient to natural disasters, the focus should be on building climate resilience as part of planning and zoning systems and urban infrastructure design.[82]

Natural environment

3.51 The NCRA categorised the current level of climate risk to the natural environment system as 'high–very high' and projected with medium confidence that by 2050 the risk would increase to 'severe'.[83] The assessment of future risk underscored the sheer extent of predicted impacts:

> The sustainability and prosperity of all natural systems will be challenged, with severe impacts expected on ecosystems, high risks of resource depletion, loss of species, and the almost certain collapse of some ecosystems.[84]

3.52 Natural features which act as carbon sinks, such as forests, wetlands and oceans, were expected to be increasingly compromised by climate change and other human activities. Additionally, ecosystems and native biodiversity would be challenged by rising temperatures, altered rainfall patterns and more frequent extreme weather events.[85]

3.53 Terrestrial species would be forced to move, adapt to the new climactic conditions or face dying out, while freshwater species would be exposed to droughts and heat-related stress, and marine and estuarine environments would face threats from ocean warming and acidification.[86]

3.54 A coalition of peak conservation organisations across northern Australia highlighted that climate impacts were already threatening the region's natural values:

> Across the Top End and Kimberley, we are witnessing unprecedented ecosystem collapse, from mass mangrove die-offs to coral bleaching and the disappearance of culturally significant species.[87]

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81 ACS, *Australia's National Climate Risk Assessment Report*, September 2025, p. 148.

82 Housing Industry association (HIA), *Submission 5*, p. 2; Mr Simon Croft, Chief Executive, Industry and Policy, HIA, *Committee Hansard*, 16 September 2025, p. 54.

83 ACS, *Australia's National Climate Risk Assessment Report*, September 2025, p. 176.

84 ACS, *Australia's National Climate Risk Assessment Report*, September 2025, p. 176.

85 ACS, *Australia's National Climate Risk Assessment Report*, September 2025, p. 177.

86 ACS, *Australia's National Climate Risk Assessment Report*, September 2025, p. 177.

87 Northern Australia Conservation Alliance, *Submission 21*, [p. 10].

3.55 Similarly, the CEO of the Australian Marine Conservation Society told the committee that tourism operators and scientists had been witnessing the impacts of climate change at coral reefs around Australia 'for the last decade or more', including 'six major bleaching events in the last nine years at the Great Barrier Reef'.[88]

Primary industries and food

3.56 The NCRA categorised the current level of climate risk to the primary industries and food system as 'moderate–high' and projected with medium confidence that by 2050 the risk would increase to 'high–very high'.[89] This assessment factored in the risks to:

- **cropping**—rainfall variability and extreme heat may result in lower crop yields;
- **horticulture**—high temperatures may affect the quality and marketability of produce;
- **forestry**—hotter climates, increased fire risk, and changes in rainfall and drought patterns may affect tree establishment, growth rates and mortality;
- **fisheries and aquaculture**—higher marine temperatures, ocean acidity and storm activity may reduce their range and productivity;
- **livestock**—changes in temperature and rainfall may impact animal welfare and the availability of feed;
- **biosecurity**—higher temperatures and changing rainfall patterns may accelerate the spread of pests and diseases; and
- **farming communities**—reduced water security and agricultural productivity may impact community livelihoods.[90]

3.57 The Conservation Council of WA observed that hotter and drier weather was already having 'a significant and damaging impact on agricultural production in the Wheatbelt'.[91] It also noted that food security was of increasing concern to the Karajarri people of the Kimberley region, as 'seasonal signs of when to hunt for animals and collect bush tucker are no longer reliable'.[92]

3.58 In addition, the Chair of the ASLCG warned it was 'likely that climate impacts will drive a permanent food cost-of-living crisis'.[93]

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88 Mr Paul Gamblin, CEO, Australian Marine Conservation Society, *Committee Hansard*, 16 September 2025, pp. 66–67.

89 ACS, *Australia's National Climate Risk Assessment Report*, September 2025, p. 207.

90 ACS, *Australia's National Climate Risk Assessment Report*, September 2025, pp. 207–208.

91 Conservation Council of WA, *Submission 29*, p. 7.

92 Conservation Council of WA, *Submission 29*, p. 3.

93 Admiral Barrie (Retired), ASLCG, *Committee Hansard*, 16 September 2025, p. 38.

3.59 The committee's views on the impacts of climate change as outlined in the NCRA are contained in Chapter 4 of this report, as well as recommendations.

Chapter 4
Committee view and recommendations

4.1 The committee is pleased that the National Climate Risk Assessment (NCRA) has been released by the government, albeit after this inquiry was commenced. The committee considers the NCRA an important document.

4.2 The committee also welcomes the work of the ACS in producing documents specifically dealing with the risks facing Aboriginal and Torres Strait Islander peoples in Australia. This is highly important considering the vulnerabilities already facing Aboriginal and Torres Strait Islander communities.

4.3 The NCRA makes for sobering reading. Evidence received throughout the hearing and from submissions provided, show the dire state of risks to Australia and its people from climate change. It is clear that climate change is one of the most significant threats facing Australia today.

4.4 The committee agrees with the evidence received that the NCRA is a long overdue piece of work. It was concerning to hear the evidence that this type of risk assessment should have been completed ten years ago.

4.5 At the same time, the committee notes evidence received that swift and decisive action from government, industry and the community can still prevent the worst risks outlined in the NCRA from eventuating.

4.6 It was clear to the committee that there is now a need for urgent action to match the severity of what has been outlined in the NCRA. In this vein, the committee was pleased to hear that the Department of Climate Change, Energy, the Environment and Water (DCCEEW) is working on an action agenda with state, territory and local governments in order to build on current climate adaptation measures. The committee urges the government to work quickly on this action agenda.

4.7 The committee was also concerned that there is no current plan from the government about when, or even if, an update to the NCRA will be prepared. Evidence received by the committee was that other jurisdictions revisit their climate risk assessment processes at regular intervals or at key points in time.

4.8 Although there is no set international practice about when climate risk assessments should be updated, the committee is of the view that the NCRA should be reviewed, both to assess and incorporate new and emerging risks, and also to assess how Australia is performing against the risks identified in previous reports.

Recommendation 1

4.9 The committee recommends that the Australian Government legislate a requirement that the National Climate Risk Assessment process be undertaken with a report to be tabled in the Australian Parliament within five years of the previous version being released.

4.10 The committee was concerned by evidence suggesting that there has been little in the way of modelling or costing by the government of the risks outlined in the NCRA. Similarly, while the committee welcomes advice that information in the NCRA will be included in the next Intergenerational Report—to be undertaken by Treasury in 2026—by itself this does not seem to be a response commensurate to the gravity of the NCRA's findings.

4.11 The committee is strongly of the view that a report of this gravity, and the severity of the risks it sets out—requires a response of commensurate priority, and indeed of utmost urgency, from the government.

Recommendation 2

4.12 The committee recommends that the Australian Government legislate a requirement to respond to the risks outlined in the National Climate Risk Assessment (NCRA) (including the costs of not taking action) and table this response in the Australian Parliament within three months of the release of the NCRA.

4.13 The evidence provided by the Australian Security Leaders Climate Group about the continued secrecy surrounding the report on climate risk prepared by the Office of National Intelligence (ONI) was also concerning to the committee.

4.14 One of the facts most apparent from this inquiry process is that climate change cuts across almost every area of Australian life. The impacts of climate change on national security present their own challenges and, although the committee is cognisant of the importance of secrecy in relation to national security matters, there are also risks associated with considering national security climate risks in isolation.

4.15 The committee found the evidence provided by the Australian Security Leaders Climate Group compelling. Governments regularly release national security information to build support for action against threats, and it is clear from the NCRA that there is no more pressing threat to the Australian people than climate change.

4.16 The committee is strongly of the view that a declassified version of the report prepared by ONI should be released. The government has duties of transparency, not only to the Parliament where providing a declassified version of the report would allow Members and Senators to make more informed decisions, but also to the Australian people about the very real risks that they face.

4.17 The committee also strongly urges the government to consider national security risks alongside other climate risks when completing future iterations of the NCRA.

Recommendation 3

4.18 The committee recommends that the Australian Government table a declassified version of the report prepared by the Office of National Intelligence on the national security threats posed by climate change in the Australian Parliament within three months.

Senator Sarah Hanson-Young
Chair

Labor Senators' Dissenting Report

Introduction

1.1 The Senate referred an inquiry into the Climate Risk Assessment to the Environment and Communications References Committee on 26 August 2025, with a reporting date of 10 December 2025.

1.2 The terms of reference of the inquiry were: (a) the Government's secrecy and withholding of the Climate Risk Assessment (National Assessment) from the Australian public since December 2024; (b) the research, consultation and preparation of the assessment by the Department of Climate Change, Energy, the Environment and Water; (c) the expected ongoing impacts upon the Australian community that are contained within the assessment; (d) the budgetary costs of both climate driven natural disasters and any government adaptation plans; (e) the Government's ongoing approach to transparency related to reducing emissions and adaptation to a world currently on track for 2.6 to 3.1 degrees of warming; and (f) any other related matters.

1.3 The conduct of the inquiry is summarised in the committee report and included a public hearing on 16 September 2025.

1.4 We would like to thank inquiry participants who provided submissions to the committee and gave evidence to the public hearing. We would also like to comment all those involved in the preparation of the National Assessment—it is a vital piece of national work.

National Climate Risk Assessment

1.5 The National Climate Risk Assessment (National Assessment) was released on 15 September 2025[1] —Australia's first comprehensive assessment of the risks posed by climate change, whose 'methodology aligns with international best practice'.[2]

1.6 On 15 September 2025, the Australian Government also released its National Adaptation Plan—a policy framework intended to respond to climate risks. The Government's current investments relating directly to climate adaptation and resilience 'are in the order of $3.6 billion since 2022', with this investment 'part

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1 The Hon Chris Bowen MP, Minister for Climate Change and Energy, the Hon Josh Wilson MP, Assistant Minister for Climate Change and Energy, Assistant Minister for Emergency Management, and the Hon Kate Thwaites MP, Special Envoy for Climate Change Adaptation and Resilience, 'Cascading, compounding and concurrent: National Climate Risk Assessment shows why climate action is so important', *Media Release*, 15 September 2025.

2 Ms Vicki Manson, Head, Australian Climate Service (ACS), *Committee Hansard*, 16 September 2025, p. 2.

of a larger suite of policies to the value of around $9 billion to assist with resilience and with adaptation actions'.[3]

1.7 The National Assessment was produced by the Australian Climate Service (ACS) and in collaboration with the Bureau of Meteorology, the Commonwealth Scientific and Industrial Research Organisation (CSIRO), the Australian Bureau of Statistics (ABS) and Geoscience Australia.[4] A team of over 350 people worked on the report, including 250 technical and scientific experts.[5]

1.8 Utilising a robust consultation methodology,[6] the National Assessment was developed with input from a wide range of stakeholders, including government, industry, community leaders, academics and other potential users of the National Assessment, and involved extensive testing of the evidence base.[7]

1.9 The National Assessment utilised a methodology created to suit Australia—the scale of the country and its unique environment, climate and people—and focuses on physical climate risk (including the physical risk of climate hazards on climate transition elements, such as solar infrastructure).[8]

1.10 The National Assessment used four different time horizons to assess changes in risk and considered the current climate and three different global warming scenarios on mid-term (2050) and long-term (2090) horizons.[9]

1.11 The National Assessment provided an assessment of risk across eight key systems considered most at risk from climate change: (a) Aboriginal and Torres Strait Islander Peoples; (b) Communities—urban, regional and remote; (c) Defence and national security; (d) Economy, trade and finance; (e) Health and social support; (f) Infrastructure and the built environment; (g) Natural environment; and (h) Primary industries and food.[10]

1.12 The National Assessment analysed eleven regions: (a) Western Australia north; (b) Western Australia south; (c) South Australia; (d) Northern Territory; (e) Queensland north; (f) Queensland south; (g) New South Wales and Australian

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3 Mr Jason Mundy, Division Head, Climate Change Policy, Adaptation and Risk Division, Department of Climate Change, Energy, the Environment and Water (DCCEEW), *Committee Hansard*, 16 September 2025, p. 12.

4 ACS, *Australia's National Climate Risk Assessment Report*, September 2025, p. 2.

5 Ms Manson, ACS, *Committee Hansard*, 16 September 2025, p. 15.

6 Doctors for the Environment Australia, *Submission 28*, p. 3.

7 ACS, *Australia's National Climate Risk Assessment Report*, September 2025, p. 2.

8 ACS, *Australia's National Climate Risk Assessment Report*, September 2025, p. 3.

9 ACS, *Australia's National Climate Risk Assessment Report*, September 2025, p. 27.

10 ACS, *Australia's National Climate Risk Assessment Report*, September 2025, p. 2.

Capital Territory; (h) Victoria; (i) Tasmania; (j) the Australian Exclusive Economic Zone; and (k) the Australian Antarctic Territory.[11]

1.13 The National Assessment is a proactive product that details the challenges Australia faces in responding to climate change and can facilitate action based on an understanding of those areas that present the biggest risks.

Release of the National Assessment

1.14 The National Assessment is intended to be 'a foundational piece of work' to provide a national, science-based understanding of climate risks to Australia.[12] The assessment of climate risks is essential to inform policy development (including measures aimed at prevention or mitigation),[13] as well as capital allocation, risk management, and investment decisions.[14]

1.15 Evidence to the inquiry outlined the timely completion of the National Assessment, the substantial work involved in the preparation of the National Assessment, including extensive quality assurance and testing efforts.[15]

1.16 Dr Judith Landsberg, the General Manager of the National Assessment at ACS, gave beneficial evidence that:

> The final technical reports were cleared on 5 September. As Vicki said, the timeline was very ambitious, and what we found, given this is the first time we've done this, is that there were a number of technical reports that required input from the others, which is partly why we had a couple that were quite late. Each of the 11 priority risk teams has provided a technical report, which is standard science structure. It looks at methodology. It provides the data and the data sources. It provides limitations and where there are gaps. So there are 11 reports, one from each of the priority risk teams. …This was a very rapid assessment. We set out to do it in, essentially, 18 months. Other countries have done it in three to five years. So we used available evidence and some new modelling.[16]

1.17 Evidence to the inquiry also reflected a balance between concern about the findings of the National Assessment and the significance of the work contained

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11 ACS, *Australia's National Climate Risk Assessment Report*, September 2025, p. 9.

12 Ms Manson, ACS, *Committee Hansard*, 16 September 2025, pp. 1–2.

13 Mr Mundy, DCCEEW, *Committee Hansard*, 16 September 2025, p. 2; Kincuri Consulting, *Submission 3*, p. 3.

14 Investor Group on Climate Change, *Submission 6*, pp. 1, 4.

15 Ms Manson, ACS, *Committee Hansard*, 16 September 2025, pp. 2, 4, 6, 9; Mr Mundy, DCCEEW, *Committee Hansard*, 16 September 2025, pp. 6–7, 12; Dr Judith Landsberg, General Manager, National Climate Risk Assessment, ACS, *Committee Hansard*, 16 September 2025, p. 7.

16 Dr Landsberg, ACS, *Committee Hansard*, 16 September 2025, p. 7.

in the National Assessment, as well as its importance in driving action to lessen the worst impacts of climate change.[17]

1.18 Labor Senators do not agree with the premise of the first term of reference of the inquiry and note the release of the National Assessment on 15 September 2025, and consider that many of the concerns contained in the submissions to the inquiry were overtaken by, or addressed by, the release of the National Assessment and the ACS's explanation of the timing of the release and related processes and reasons. The importance and difficulty of preparing an evidence-based, accurate, and assured national climate change risk assessment should not be underestimated.

The risks of climate change and the National Assessment

1.19 Chapter 3 of the committee report summarises aspects of the ongoing impacts predicted to occur because of climate change set out in the National Assessment and outlines the evidence received by the inquiry.

1.20 The evidence given to the inquiry about the extensive risks posed to Australia's society, environment, economy and landscape by the impacts of climate change was deeply concerning. By way of one example, Admiral Chris Barrie (Retired), Chair, Australian Security Leaders Climate Group gave evidence to the inquiry that:

> It is clear that climate impacts will fundamentally change how and where Australians live and work, with even more severe storms and flooding, unbearable heatwaves and deeper drought putting more pressure on industry, infrastructure, agriculture and vulnerable communities. It's terrible that this assessment predicts that 1½ million Australians will be at risk from sea level rise by 2050—that's in 25 years time—and, with more certainty, that 597,000 will be put at risk just five years from now. Parts of northern Australia where the government is operating military bases will become unlivable, and it's likely that climate impacts will drive a permanent food cost-of-living crisis. The security leaders group reaffirms its analysis, released last week in the report. A climate first foreign policy for Australia: human security in the age of climate disruption, that climate, not China, is the greatest threat to Australia's future. Australia's political and budgetary commitments should reflect this reality.[18]

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[17] Professor Sarah Perkins-Kirkpatrick, Deputy Director, ARC Centre of Excellence for the Weather of the 21st Century and Climate Scientist and Member, Institute for Climate, Energy & Disaster Solutions, Australian National University, *Committee Hansard*, 16 September 2025, pp. 34–35; Ms Serena Joyner, Chief Executive Officer, Bushfire Survivors for Climate Action, *Committee Hansard*, 16 September 2025, p. 58; Dr Katriona Wylie, Executive Director, Doctors for the Environment Australia, *Committee Hansard*, 16 September 2025, p. 65; National Insurance Brokers Association, *Submission 10*, p. 3; Australian Security Leaders Climate Group (ASLCG), *Submission 13*, p. 7.

[18] Admiral Chris Barrie (Retired), Chair, ASLCG, *Committee Hansard*, 16 September 2025, p. 38.

1.21 Labor Senators agree with the committee report's observations (at [4.3]) that 'the [National Assessment] makes for sobering reading' and that '[it] is clear that climate change is one of the most significant threats facing Australia today'.

1.22 Labor Senators agree with the committee report's observation (at [4.4]) that 'the [National Assessment] is a long overdue piece of work' and that 'this type of risk assessment should have been completed ten years ago'.

Conclusion

1.23 Labor Senators share the concerns about the impacts of climate change contained in the committee report, though the recommendations do not reflect due consideration or the action that the Government is taking on the matters raised by the report. We do not support the recommendations for the reasons set out below.

1.24 In relation to recommendation one of the committee report, we do not consider that it is advisable to set a five-year deadline for the National Assessment process in legislation because there is a risk that this becomes the default time period for such assessments when the appropriate frequency for this process has not been given sufficient scrutiny. Prior to setting any such requirement, further consideration is required of Australia's first National Climate Risk Assessment and the National Adaptation Plan.

1.25 In relation to recommendation two of the committee report, we do not accept that the Australian government's response to the National Assessment in relation to the issue of modelling or costing of climate change risks lacks sufficient gravity or reflects a lack of urgency in responding to the risks of climate change. Given the recent release of the National Adaption Plan in response to the National Assessment and the forward workplan committed to through the adaptation action agenda, we do not support recommendation two.

1.26 In relation to recommendation three, we consider that the Government has reported extensively on the national security threats posed by climate change, including through the Minister for Climate Change and Energy's annual Climate Change Statement to Parliament. We note that no Office of National Intelligence report of this kind has ever been released by Government due to considerations about Australia's national security and do not support recommendation three.

Senator Varun Ghosh
Deputy Chair

Senator Charlotte Walker
Member

Coalition Senators' Dissenting Report

1.1 Coalition senators reject the three recommendations made by the Chair of the Environment and Communications References Committee, Senator Hanson-Young.

1.2 We note the Climate Risk Assessment (the assessment) was provided to the Government in late 2024 and its release was purposely delayed until after the 2025 election. The Government should rightly be criticised for delaying the release of the assessment until September 2025.

1.3 Any report which predicts apocalyptic outcomes should be based on credible research with such research being made fully available and open to peer review.

1.4 The assessment was prepared by the Australian Climate Service (ACS) with limited input from central Government agencies.

1.5 Regrettably, the assessment included some outlandish claims in relation to projected losses on Australian property values. An outdated 2019 report was used as the basis to assert the market would lose $571 billion in the next five years, and $770 billion by 2100. The ACS was unable to justify these figures, and they were not verified by the Department of Treasury or the Department of Finance.

1.6 The assessment projected excess mortality would increase by 444 per cent in Sydney, 259 per cent in Melbourne, 335 per cent in Townsville, 312 per cent in Perth, 146 per cent in Launceston and 423 per cent in Darwin compared to current conditions. Yet, on further interrogation, the ACS was unable to justify how a 444 per cent increase in excess mortality translated to actual deaths due to heat-related mortality.

1.7 The ACS identified twelve factors which drive the risk of excess mortality from climate change. Yet, the ACS advised it only included one of those factors, being heat, in their modelling and did not model the other risk factors. The assessment identified a broad range of people, for instance, Australian women, older Australians, and Indigenous Australians being at risk of climate change yet they did not consider the other eleven factors.

1.8 The ACS was unable to detail the total cost of preparing the assessment, except to advise that it allocated $22.9 million for the technical work relating to the assessment. The ACS was allocated an additional 38.3 Average Staffing Level (ASL) to undertake the assessment, which was in addition to its normal ASL allocation of 74.6.

1.9 The Government should review the capability of the ACS, which is hosted by the Bureau of Meteorology, to prepare any future Climate Risk Assessments.

1.10 The Coalition supports measures to adapt to the impact of climate change, and it is vital that Commonwealth, state, and local governments continue to provide funding for adaptation and mitigation works.

Senator the Hon Sarah Henderson
Member

Senator Dean Smith
Member

Senator Ross Cadell
Member

Additional Comments from Senator David Pocock

Introduction

1.1 This inquiry has achieved what Australians rightly expect: the release of the nation's first National Climate Risk Assessment. Its publication is a direct result of persistent Senate pressure, and it stands as a powerful example of how the Senate, when it chooses to use its powers, can push the executive to act in the public interest.

1.2 Successive governments have failed to articulate, or at times even acknowledge, the extent of climate risk, leaving Australians in the dark about threats that affect their homes, livelihoods, and futures. This inquiry broke that pattern. It shows that the Senate can compel transparency even when the government would prefer to operate behind closed doors. In doing so, it reinforces why a strong Senate is essential to Australia's democracy.

A pattern of transparency wins in an increasingly secretive parliament

1.3 The government's initial refusal to release the National Climate Risk Assessment is not an isolated event; it is becoming a defining feature of the 48th Parliament. Following the release of the National Climate Risk Assessment, the Senate again asserted its authority by successfully pushing the government to release the Report of the Review into Public Sector Board Appointments Processes, another document the government had slow-walked and resisted disclosing.

1.4 These victories matter because they come against a backdrop of a government that is becoming increasingly secretive. Whether it's climate risk, public sector governance, or national security assessments, the instinct of the executive increasingly seems to be to withhold information from the public and Parliament. This trend is deeply concerning.

1.5 The Senate, through inquiries like this one, is showing it can push back. Transparency should not be an optional extra; it is a democratic obligation. When the government forgets that, the Senate must remind it. And this inquiry is an example of this.

Weak government responses

1.6 While the Senate has successfully forced the release of important information, the government's responses to these revelations have so far been inadequate.

1.7 On climate policy, the government's response to the National Climate Risk Assessment has been to adopt a weak 2035 emissions reduction target of between 62 per cent and 70 per cent on 2005 levels, far short of what climate science, economic modelling, and basic safety demand.

1.8 On public sector integrity, the response to the Review into Public Sector Board Appointments Processes has been the release of a non-binding, unenforceable 'framework' rather than the legislative and structural reform needed to improve transparency and public trust.

1.9 I want to acknowledge and congratulate my non-government Senate colleagues, who recognised the importance of transparency and insisted on the release of these documents. I look forward to continuing this work to hold the government accountable and push back against what is becoming a disturbing pattern of secrecy.

What is in the National Climate Risk Assessment must be a wake up call

1.10 The National Climate Risk Assessment makes one thing abundantly clear: the risks we face as a nation from climate change are immediate, escalating, and deeply frightening. They are not theoretical projections or distant possibilities. They are real threats that will shape the lives of every Australian and every generation to come.

1.11 Some of the assessment's most alarming findings include:

(a) 1.5 million Australians at risk from sea level rise;
(b) Rolling heatwaves that could cause up to four times more deaths than we currently experience;
(c) $611 billion in potential property value losses; and
(d) Heightened risks to food security, water availability, infrastructure, essential services, and national security.

1.12 These figures capture only part of the story. They reflect the profound and far-reaching consequences of failing to act decisively on climate change. They underscore just how much Australians stand to lose if governments continue to prioritise short-term political expediency over long-term national safety.

1.13 As a start, we have to stop approving new fossil fuel projects that will come at significant long-term costs. Yet the Albanese Labor Government has already approved 32 new or expanded fossil fuel projects, including mega-projects like the North-West Shelf extension, with a staggering 94 more in the pipeline. Approving new coal and gas in the face of overwhelming evidence of escalating climate harm is reckless and indefensible. If we are serious about protecting Australian communities, safeguarding our economy, and acting on the risks laid bare in the National Climate Risk Assessment, the government must draw a line and stop approving new and extended fossil fuel projects.

Australia must fund climate adaptation at the scale required

1.14 Adaptation cannot be an afterthought. Yet Australia currently spends only a fraction of what many submitters say is required to build climate resilience in communities across the country. If we are serious about safeguarding lives, infrastructure, and local economies, we need orders of magnitude more

investment. We could start funding this by making sure that the gas giants pay their fair share for our national resources to have the kind of national wealth enjoyed by Norway and Qatar.

1.15 We must also stop pretending that approving new fossil fuel projects is compatible with protecting Australians from climate harm. It is not. Every new coal or gas project adds fuel to a fire that is already burning too hot.

Transparency on national security risks is essential

1.16 I have been pushing for the release of both the National Climate Risk Assessment and the Office of National Intelligence report into climate-related national security risks. Australians deserve access to the full picture of the threats we face. Continuing to withhold the latter report serves no one except those who would prefer inaction. National security should never be used as an excuse for politically convenient secrecy.

Recommendation 1

1.17 That the Federal Government legislate a requirement for the Office of National Intelligence to conduct annual assessments of the national security threats posed by climate change, with a declassified version released publicly and tabled in Parliament.

Acknowledgement

1.18 Finally, I want to thank the Committee Secretariat for their hard work, professionalism, and dedication throughout this inquiry. Their support has been invaluable.

Senator David Pocock
Participating Member

Appendix 1
Submissions and additional information

1 Sweltering Cities
2 Australian Consumers Insurance Lobby
3 Kincuri Consulting
4 Professor Andrew Pitman AO, FAA
5 Housing Industry Association (HIA)
6 Investor Group on Climate Change
7 Bushfire Survivors for Climate Action
8 Mr Bruce Thom
9 Tasmanian Climate Collective
10 National Insurance Brokers Association
11 Biodiversity Council
12 Australian Red Cross
13 Australian Security Leaders Climate Group
14 ARC Centre of Excellence for the Weather of the 21st Century
15 Australian Climate Service
16 Department of Finance
17 Ecological Society of Australia
18 The Climate Risk Group
19 Global Shield Australia
20 ANU Institute for Climate, Energy & Disaster Solutions
21 Northern Australia Conservation Alliance
22 Seed Indigenous Youth Climate Network
23 Business Council for Sustainable Development Australia
24 Emergency Leaders for Climate Action
25 National Aboriginal Community Controlled Health Organisation
26 Mrs Jenny Cambers-Smith
27 Preparing Nature and Society for a Hotter World co-organisers
28 Doctors for the Environment Australia
29 Conservation Council of WA
30 Australian Primary Health Care Nurses Association

Answers to Question on Notice

1 Response to Question on Notice to the Australian Climate Service asked by Senator Waters, Senator Dean Smith, Senator David Pocock, Senator Hanson-Young and Senator Cadell at a public hearing on 16 September 2025 (received 30 September 2025)
2 Response to Question on Notice to the Department of Climate Change, Energy, the Environment and Water asked by Senator Waters at a public hearing on 16 September 2025 (received 1 October 2025)

3 Response to Question on Notice to the Department of Finance asked by Senator Waters at a public hearing on 16 September 2025 (received 8 October 2025)

4 Response to Question on Notice to the Department of Finance asked by Senator Dean Smith at a public hearing on 16 September 2025 (received 8 October 2025)

5 Response to Question on Notice to the Department of Treasury asked by Senator Canavan at a public hearing on 16 September 2025 (received 9 October 2025)

6 Response to Question on Notice to the Department of Treasury asked by Senator Waters at a public hearing on 16 September 2025 (received 9 October 2025)

7 Response to Question on Notice to the Department of Treasury asked by Senator Dean Smith at a public hearing on 16 September 2025 (received 9 October 2025)

8 Response to Question on Notice to the Department of Treasury asked by Senator Waters at a public hearing on the 16 September 2025 (received 9 October 2025)

9 Response to Question on Notice to the Department of Agriculture, Fisheries and Forestry asked by Senator Cadell at a public hearing on the 16 September 2025 (received 9 October 2025)

10 Response to Question on Notice to the Department of Climate Change, Energy, the Environment and Water asked by Senator Waters at a public hearing on the 16 September 2025 (received 17 October 2025)

11 Response to Question on Notice to the Australian Prudential Regulation Authority asked by Senator Dean Smith at a public hearing on the 16 September 2025 (received 24 October 2025)

12 Response to Question on Notice to the Australian Climate Service asked by Senator Henderson and Senator Dean Smith at a public hearing on the 16 September 2025 (received 30 September 2025)

13 Response to written question on notice to the Housing Industry Association asked by Senator David Pocock on 9 October 2025 (received 3 November 2025)

14 Response to written question on notice to the Climate Council of Australia asked by Senator David Pocock on 9 October 2025 (received 31 October 2025)

15 Response to written question on notice to the Australian Marine Conservation Society asked by Senator David Pocock on 9 October 2025 (received 28 October 2025)

16 Response to written question on notice to the Australian Security Leaders Climate Group asked by Senator David Pocock on 9 October 2025 (received 27 October 2025)

17 Response to written question on notice to the Bushfire Survivors for Climate Action asked by Senator David Pocock on 9 October 2025 (received 27 October 2025)

18 Response to written question on notice to the Doctors for the Environment Australia asked by Senator David Pocock on 9 October 2025 (received 24 October 2025)

19 Response to written question on notice to the ARC Centre of Excellence for the 21st Century Weather asked by Senator David Pocock on 9 October 2025 (received 24 October 2025)

20 Response to written question on notice to the Melbourne Climate Futures asked by Senator David Pocock on 9 October 2025 (received 23 October 2025)

21 Response to written question on notice to the Biodiversity Council asked by Senator David Pocock on 9 October 2025 (received 23 October 2025)

22 Response to written question on notice to the National Insurance Brokers Association asked by Senator David Pocock on 9 October 2025 (received 23 October 2025)

23 Response to written question on notice to the Australian Conservation Foundation asked by Senator David Pocock on 9 October 2025 (received 14 November 2025)

24 Response to written question on notice to the Climate Action Network asked by Senator David Pocock on 9 October 2025 (received 6 November 2025)

25 Response to written question on notice to the ANU Institute for Climate Energy and Disaster Solutions asked by Senator David Pocock on 9 October 2025 (received 6 November 2025)

26 Response to written question on notice to the Actuaries Institute asked by Senator David Pocock on 9 October 2025 (received 24 October 2025)

27 Response to written question on notice to the Property Council of Australia asked by Senator David Pocock on 9 October 2025 (received 24 October 2025)

Appendix 2
Public hearing and witnesses

Tuesday 16 September 2025
Committee Room 2S3 Parliament House
Canberra

Australian Climate Service

- Ms Vicki Manson, Head of the Australian Climate Service
- Dr Judith Landsberg, General Manager, National Climate Risk Assessment

Department of Climate Change, Energy, the Environment and Water

- Ms Nicole Mitchell, Branch Head, National Adaptation Policy Office
- Mr Nigel Pinto, A/g Branch Head, Climate Active, Risk and Science Branch
- Mr Jason Mundy, Head of Division, Climate Change Policy, Adaptation and Risk Division
- Ms Alannah Pentony, A/g Division Head, Emissions Reduction Division

Department of Agriculture, Fisheries and Forestry

- Mr Nick Blong, First Assistant Secretary, Sustainability, Climate and Strategy Division
- Mr David Galeano, Assistant Secretary, Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES)

Australian Prudential Regulation Authority

- Ms Alison Bliss, General Manager, Non-Financial Risk
- Mr Ian Beckett, General Manager, Policy

Department of Finance

- Mr Libor Pelecky, First Assistant Secretary, Property and Construction Division, Commercial Group
- Ms Louise Starr, Assistant Secretary, Climate Action and Property Data, Property and Construction Division, Commercial Group

Department of the Treasury

- Dr Alex Heath, First Assistant Secretary, Climate, Energy and Trade Insights Division
- Ms Freya Carlton, Director, Domestic Macro Modelling Unit, Climate and Idustry Modelling Branch, Climate, Energy and Trade Insights Division
- Mr Matthew Maloney, Assistant Secretary, Climate and Energy Policy Branch, Climate, Energy and Trade Insights Division

ARC Centre of Excellence for 21st Century Weather

- Professor Christian Jakob

ANU Institute for Climate, Energy & Disaster Solutions (ICEDS) and ARC Centre of Excellence for 21st Century Weather

- Professor Sarah Perkins-Kirkpatrick

Melbourne Climate Futures

- Associate Professor Ben Neville, Deputy Director
- Dr Lily O'Neill, Researcher

Australian Security Leaders Climate Group

- Admiral Chris Barrie Retd., Executive

The Australia Institute

- Dr Richard Denniss, Executive Director

National Insurance Brokers Association

- Ms Allyssa Hextell, Head of Policy and Advocacy
- Mr Richard Klipin, Chief Executive Officer

Housing Industry Association

- Mr Simon Croft, Chief Executive, Industry and Policy

Bushfire Survivors for Climate Action

- Ms Serena Joyner, Chief Executive Officer

Climate Action Network Australia

- Ms Elly Baxter, Strategic Campaigner

Climate Council of Australia

- Mr Greg Mullins AO AFSM, Climate Councillor and founder of Emergency Leaders for Climate Action (ELCA)

Australian Conservation Foundation

- Mx Annika Reynolds, National Climate Policy Adviser

Australian Marine Conservation Society

- Mr Paul Gamblin, Chief Executive Officer

Biodiversity Council

- Professor Patrick O'Connor, Councillor
- Mr James Trezise, Chief Executive Officer

Doctors for the Environment Australia

- Dr Kate Wylie, Executive Director