Australian Government
Department of Climate Change, Energy, the Environment and Water

# National Climate Risk Assessment and National Adaptation Plan

SA Coastal Councils Alliance:
2025 Coastal Forum

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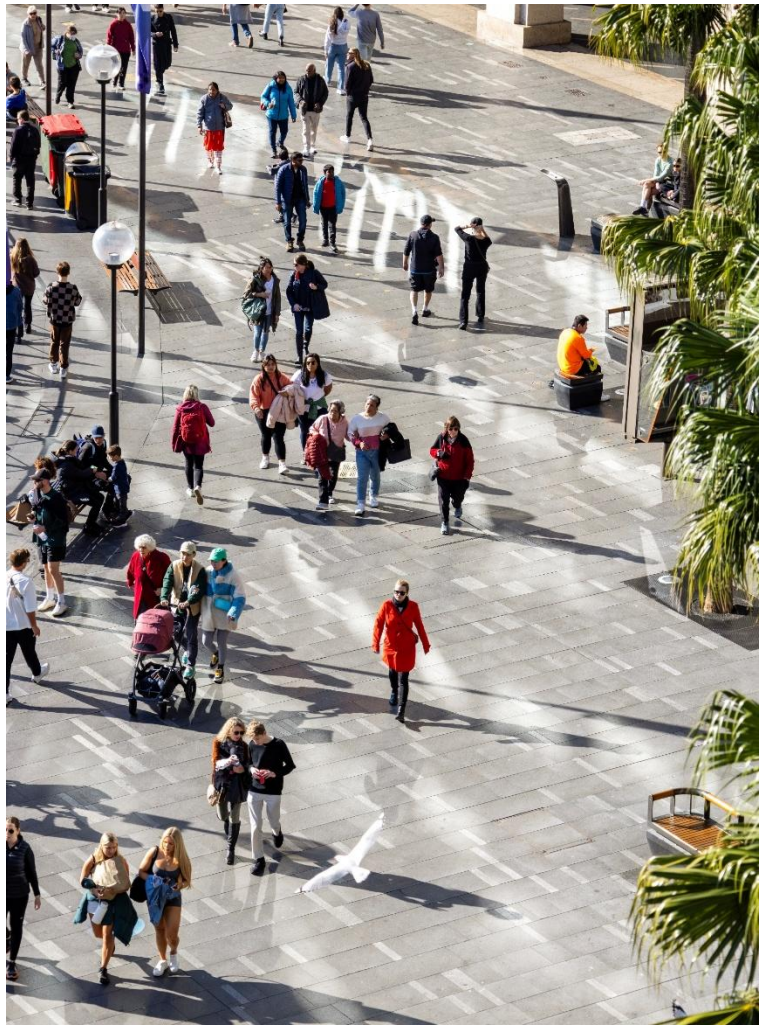
**National Adaptation Policy Office**
7 November 2025

# Overview



The Australian Government has released the National Climate Risk Assessment and National Adaptation Plan.

- The **National Climate Risk Assessment** is Australia's first comprehensive, system-wide analysis of nationally significant climate risks. It identifies how climate change could impact our people, economy, environment, and national systems that support wellbeing.
- The **National Adaptation Plan** provides the Australian Government's policy framework to respond to the findings of the risk assessment.

The risk assessment and adaptation plan complement extensive risk and adaptation work that has already been undertaken by the Commonwealth.

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# National Climate Risk Assessment

## Background briefing

# The Australian Climate Service (ACS) is a partnership made up of:

Australian Government
Bureau of Meteorology

CSIRO

Australian Bureau of Statistics

Australian Government
Geoscience Australia

# Understanding climate risk

Climate risk is the potential for harmful consequences to human, economic and ecological systems from climate hazards.


*IPCC 2022 and Simpson 2021*

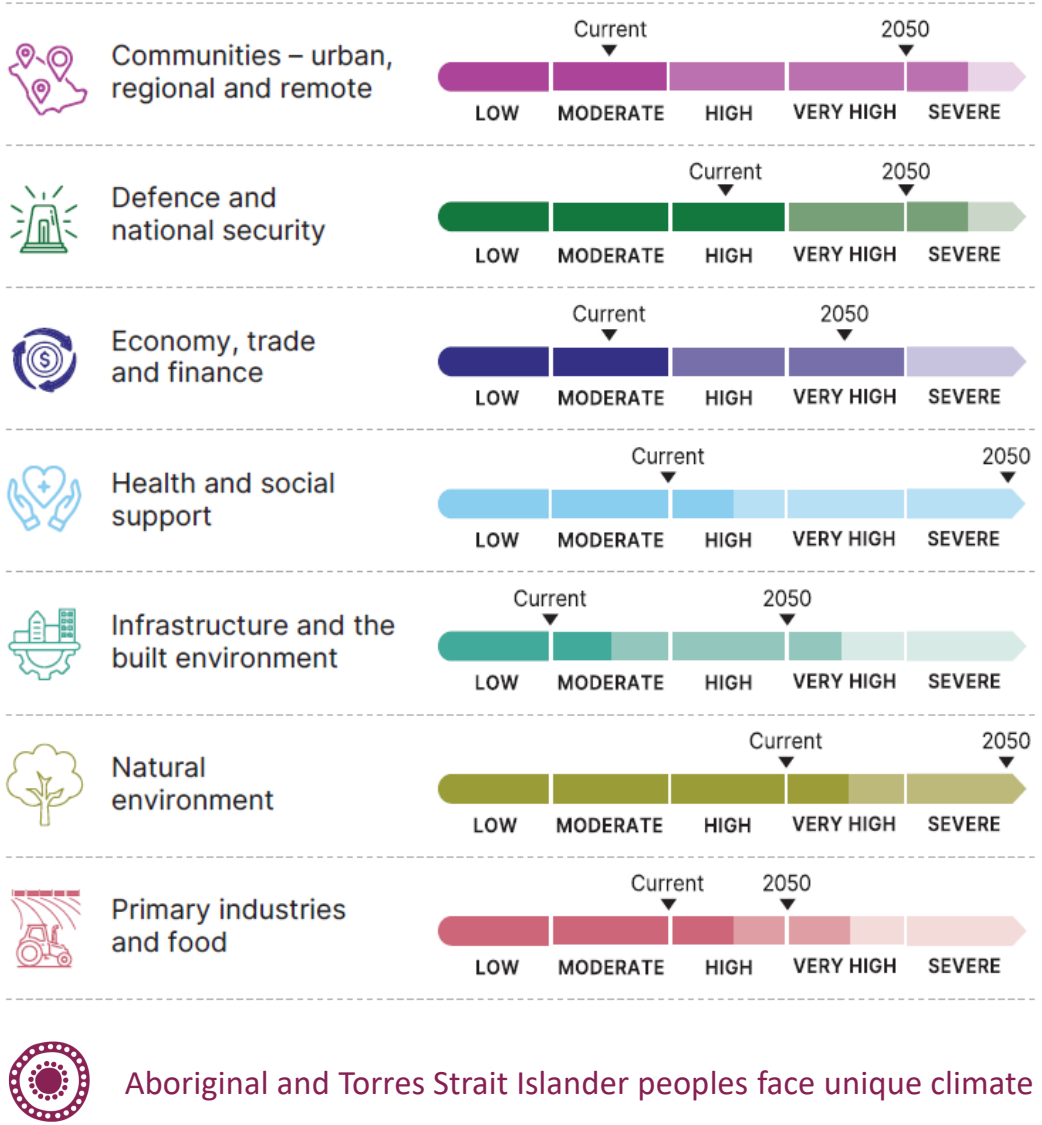
# 8 key functional systems


- 3 views of the future: +1.5°C, +2°C, +3°C
- Considers how risks in one system flow to another
- Physical risk only

# What does the National Assessment tell us

- Climate change is not an over-the-horizon issue.
- Every Australian is already being impacted by climate change
- Impacts to Australian society and the systems that underpin them will worsen over time

Risk ratings for 2050 were assessed at +2°C




Aboriginal and Torres Strait Islander peoples face unique climate risks

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# What the assessment tells us about Australia's climate risks

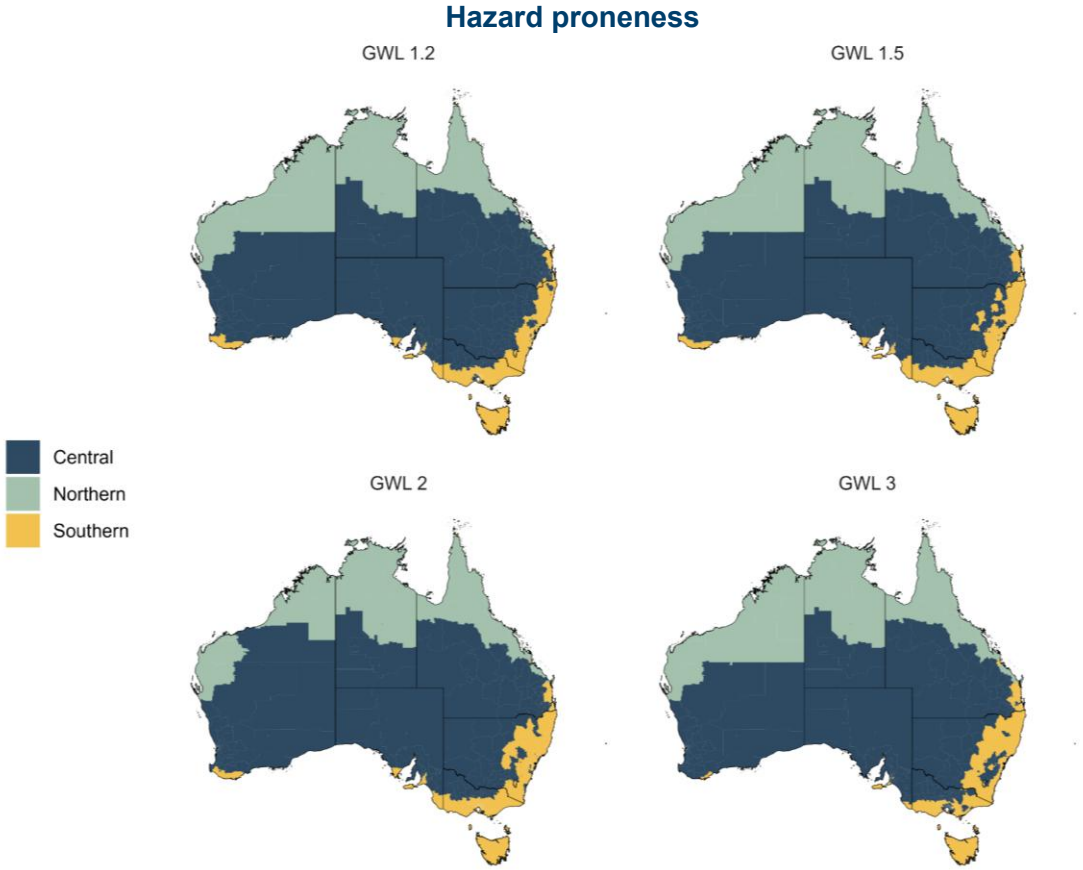
# Future climate and hazards for South Australia

| | Current | Future change relative to current | | |
|---|---|---|---|---|
| | GWL 1.2°C | GWL 1.5°C | GWL 2.0°C | GWL 3.0°C |
| Number of severe and extreme heatwave days | **3 days** [2, 5] | **+1 day** [0, +1] | **+3 days** [+1, +4] | **+7 days** [+4, +9] |
| Time spent in drought (SPI3 ≤ -1) | **18 months / decade** | **+8%** [−14, +44] | **+29%** [−19, +86] | **+34%** [−21, +114] |
| Fire susceptibility | - | increased risk of fire in forested areas | increased risk of fire and megafires in **some** forest areas | increased risk of fire and megafires in **most** forest areas |
| Proportion of time influenced by an extratropical low | **62 hours / year** | **no detectable change** | **−12%** | **−8%** |
| Maximum daily runoff | **0.19 mm** [0.12, 0.25] | **+1%** [−28, 14] | **−1%** [−61, 22] | **−6%** [−52, 59] |

| | Current | Future change relative to current sea level | | | |
|---|---|---|---|---|---|
| | GWL 1.2°C at 2011-2030 | 2050 | GWL 2.0°C at 2090 | GWL 3.0°C at 2090 | Planning benchmark |
| Sea level rise | **0.2 m** | **+0.14 m** | **+0.32 m** | **+0.54 m** | **+0.94 m** |
| Number of coastal flood days (annual average) (Port Adelaide) | **5 days** | **+8 days** | **+33 days** | **+103 days** | **+260 days** |
| Annual coastal flood frequency (Port Adelaide) | **x 1.0** | **x 1.7** | **x 3** | **x 7** | **x 33** |
| Marine heatwave duration (national) | 18 days | +22 days | +77 days | +161 days | |

# Increase in extreme and compound hazard events

- Concurrent and back-to-back hazard events will become more common
- Every system will be impacted
- Australia's disaster response capacity will be further stretched
- Disaster costs are projected to escalate
- Trust in governance structures could be undermined




**Northern: greater community proneness to tropical cyclones, floods, and extreme heat**

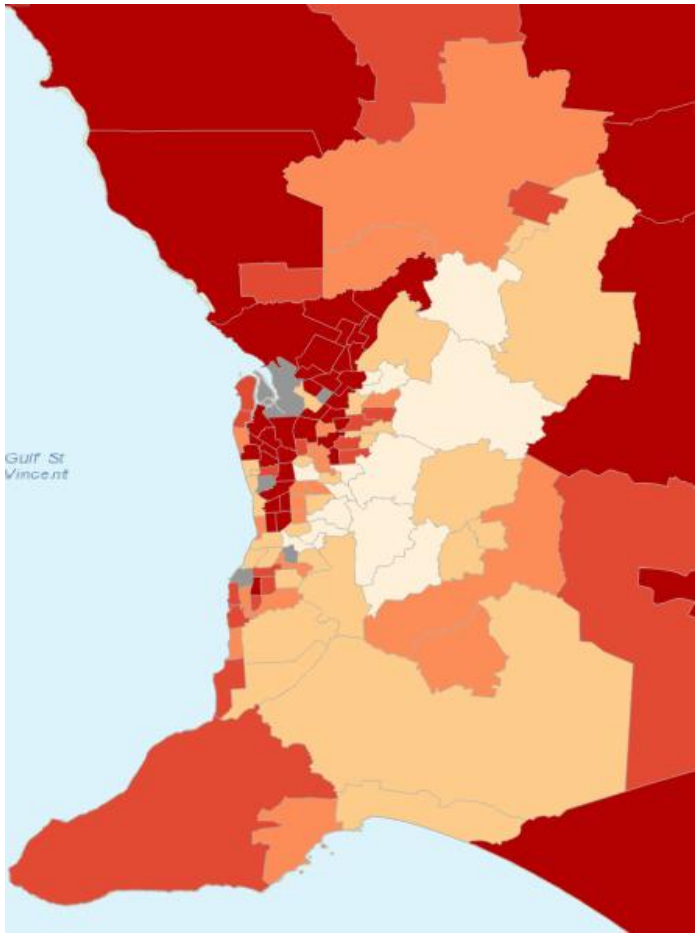
**Central: greater community proneness to extreme heat**

**Southern: greater community proneness to flood and bushfire**

*Four hazards: Bushfire, flood, tropical cyclones, heatwaves*
*Note: most hazards will occur in all locations*

# Extreme heat is a widespread and systemic risk

- Extreme temperatures are likely to increase nationwide
- Health risks are increasing, especially for vulnerable populations
- Reduction in outdoor work and emergency response capacity
- Impacts on freshwater and water availability
- Increasing strain on energy systems and cooling infrastructure




ACS Heat-Health Risk Index (HHRI) by 2021 Statistical Area Level 2 Beta

| | |
|---|---|
| Higher risk | Medium-high risk |
| Medium risk | Medium-lower risk |
| Lower risk | No data |

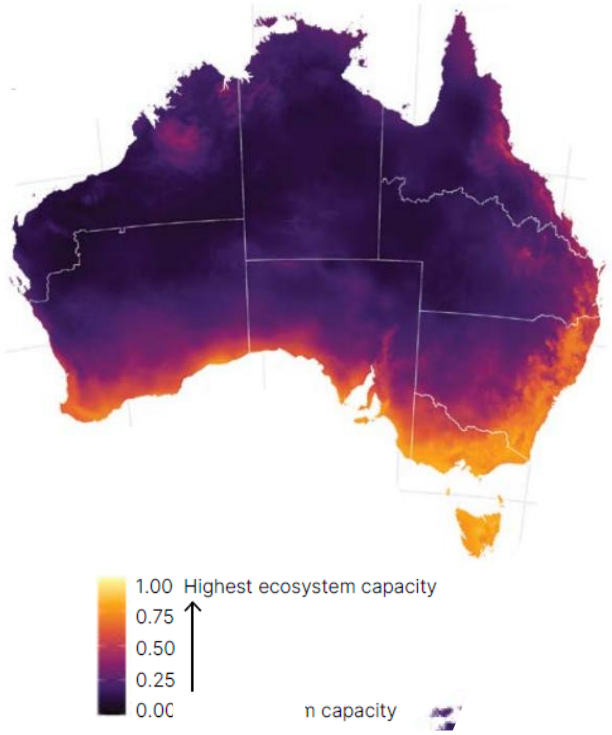
**Unpacking social vulnerability**

- Socioeconomic Status
- Household Composition
- Language and Culture
- Housing Conditions
- Health Status / Risk Factors

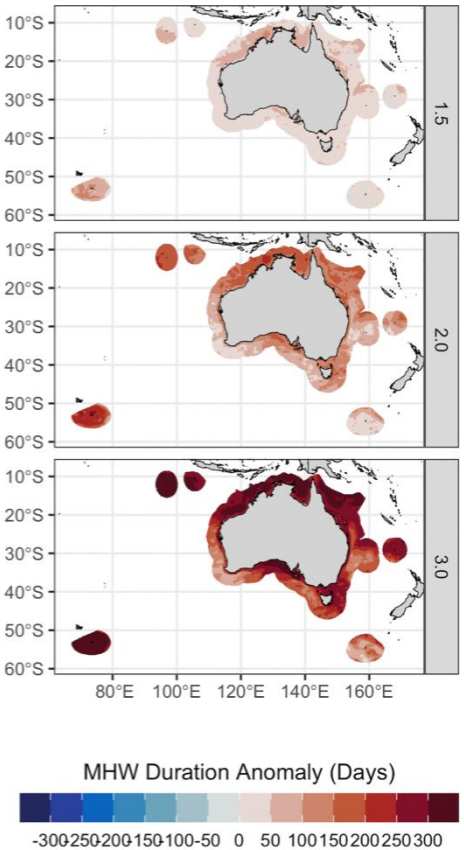
# Natural environments are under pressure from climate change, threatening all systems

- Increased climate variability, aridity and changes to water temperatures will impact the environment
- Degrading ecosystems affect water security, biodiversity, and carbon storage.
- Loss of natural buffers against hazards (e.g. wetlands, forests)
- Environmental decline impacts culturally significant landscapes and national identity
- Mental health impacts linked to environmental loss

Bioclimatic Ecosystem Resilience Index

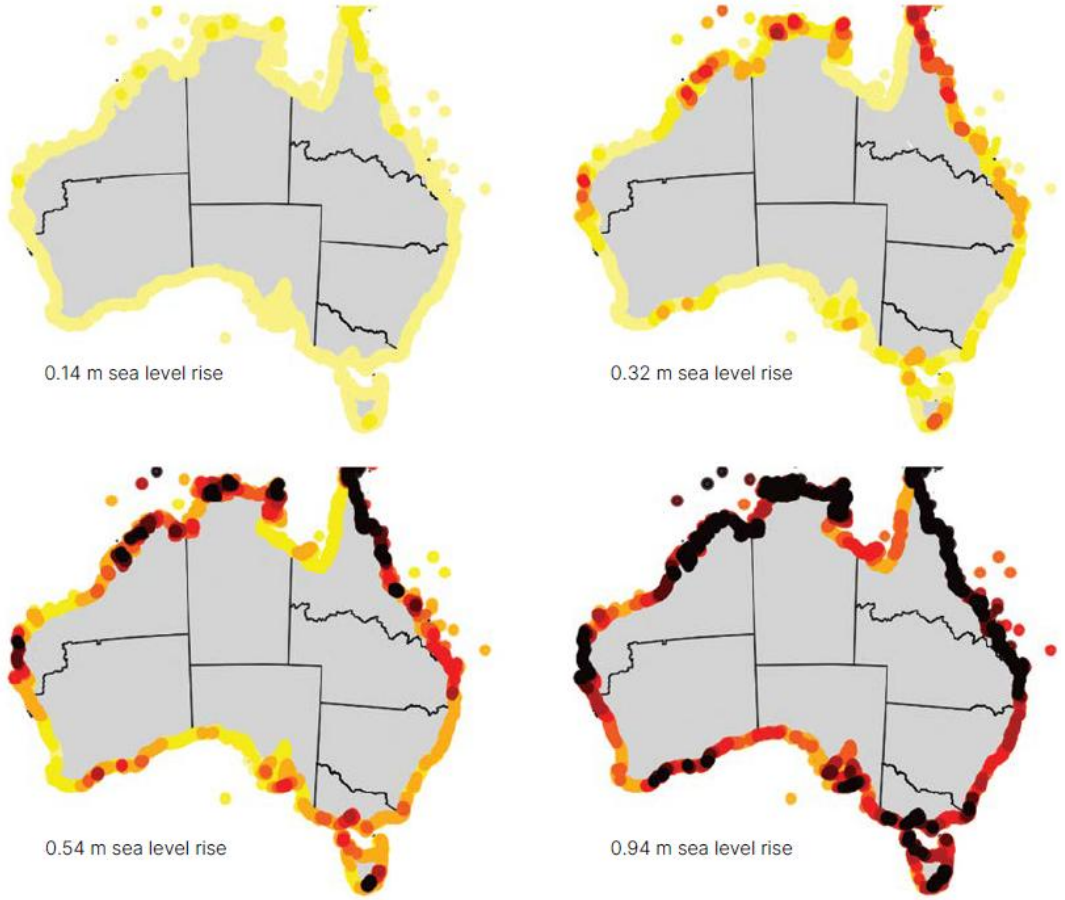



Marine heat wave projected changes



# Coastal communities face distinct and intensifying risks

- Sea level rise amplifies flooding, erosion, and storm surge
- Coastal cities and towns face growing exposure to climate hazards
- Climate-driven migration and investment are increasing coastal vulnerability
- Infrastructure, housing, and populations are increasingly at risk
- Pressure on local economies and services



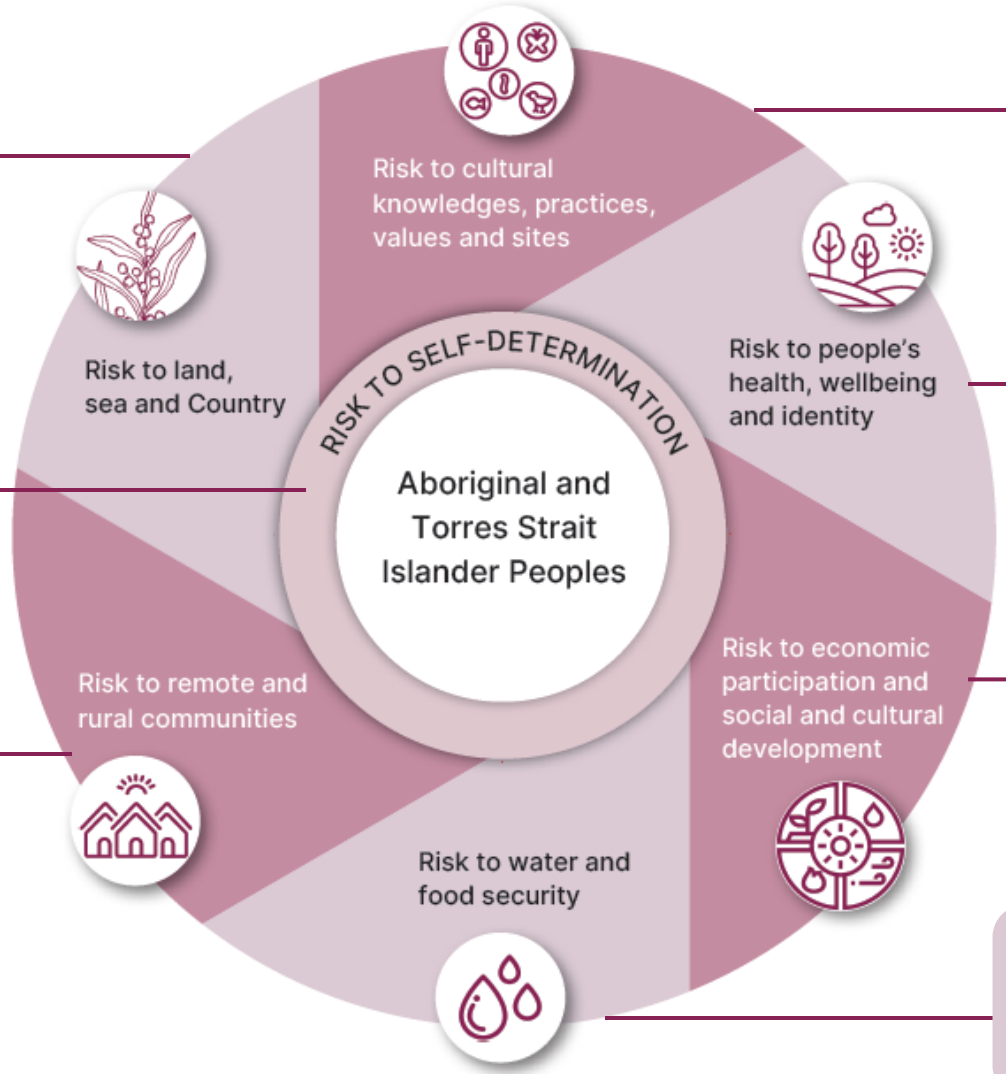

*Changes in extreme total water level*

# Key climate risks

Increased extreme weather events and rising warming waters impact biodiversity, cultural sites, communities and settlements

The right to freely pursue economic, social and cultural development is at risk due to disproportionate experiences of the effects of climate change. This is an interconnected risk that compounds other key risks.

Increased interruptions to water, energy, medical and telecommunication infrastructure and reduce food and water security




Climate impacts on Country

Increased prevalence and acuity of mental and physical health conditions from Country being sick, as well as displacement

Climate-related hazards and their impacts

Disruption of waterways and related infrastructure due to climate events can have harmful, far reaching and long-term effects


Australia's National Climate Risk Assessment: An Overview


Australia's National Climate Risk Assessment Report

**Other supporting technical resources such as:**

- **Australia's Future Climate and Hazard Report**
- **Climate Risks to Aboriginal and Torres Strait Islander Peoples**
- **Technical reports and data resources**

**Find the National Climate Risk Assessment**

**on the**

**Australian Climate Service website**

**acs.gov.au**

# Climate Adaptation Policy in Australia

- Climate adaptation can help to protect the things we value from climate impacts;
    - 2025 UNEP adaptation report found that every $1 invested in coastal protection avoids $14 in damages.
- The National Adaptation Plan has been developed as a **framework to drive adaptation action at the national level**.
    - It delivers on a commitment announced in June 2023.
- The release of the National Adaptation Plan and the National Climate Risk Assessment also fulfils Australia's **commitments as a signatory to the Paris Agreement;**
    - under which Australia has committed to contribute to enhancing the world's ability to adapt to climate change, strengthen resilience, and reduce vulnerability.

# External Consultation

## Stakeholder overview

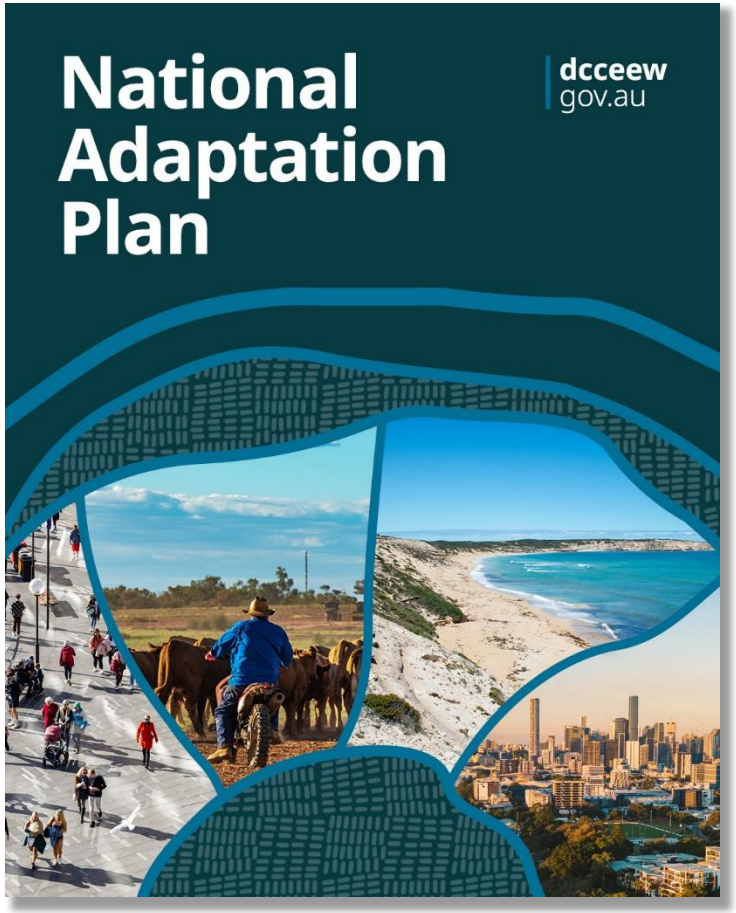

The National Adaptation Plan was developed in consultation with and input from Commonwealth departments, relevant agencies, states and territories, businesses, and communities.

Targeted consultation was also undertaken with First Nations organisations, government agencies, community members and leaders.

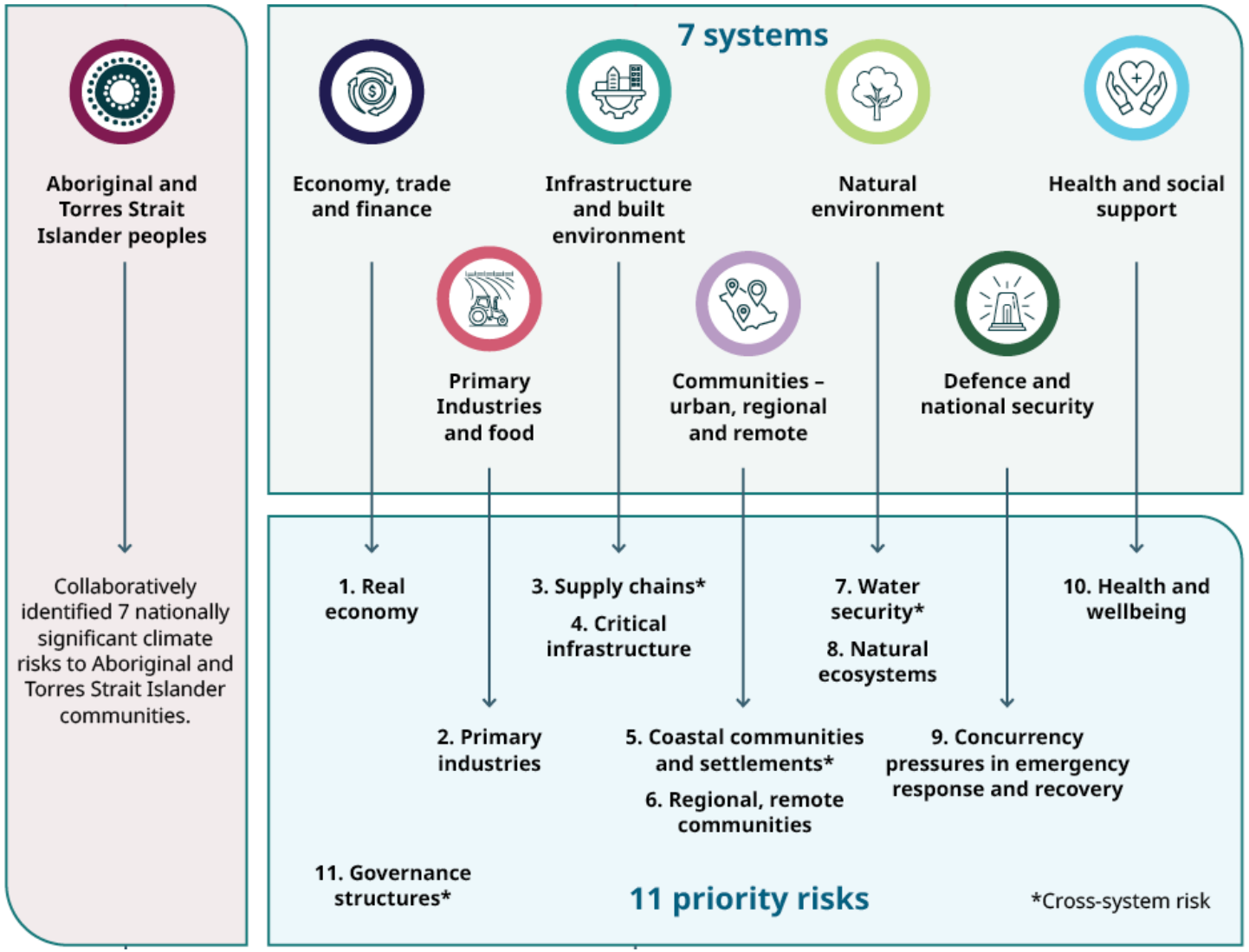
# National Adaptation Plan – Outline

The National Adaptation Plan:

- https://www.dcceew.gov.au/climate-change/publications/national-adaptation-plan
- **Establishes a framework** for Australian Government action, including:
  - A **vision** and **objectives** for a well-adapted Australia; and
  - **Principles** to direct the Australian Government's future response.
- Outlines existing **roles and responsibilities** for adaptation.
- Describes **current and future measures** the Australian Government is developing to support adaptation across all key systems of Australia's economy, society and environment.
  - These correspond to the systems described in the Risk Assessment.



# National Adaptation Plan - Systems




For each system, the National Adaptation Plan:

- Establishes a **vision**
- Summarises **consultation inputs**
- Discusses relevant **priority risks**
- Sets out **roles** and **responsibilities**
- Outlines **actions**:
  - what we are doing
  - what we will do
  - future priorities

# Australian Government Action Underway

- **Improving national understanding** of disaster impacts and increasing resilience, adaptability, and preparedness through the Disaster Ready Fund
- **Collaborating with jurisdictions** through the Energy and Climate Change Ministerial Council and its working groups
- **Supporting the Australian Climate Service** to provide institutional support for reliable, authoritative climate science and information
- **Implementing flexible, collaborative arrangements to better share climate information**
- **Providing practical support to government officials** through the Climate Risk and Opportunity Management Program (CROMP)

# Next Steps

The National Climate Risk Assessment highlights that climate change impacts all Australians and a national, coordinated response is needed. The National Adaptation Plan identifies significant action underway across the Australian Government.

To further drive action, we will:

- **continue to deliver on current and pending actions**, as detailed in the National Adaptation Plan.
- **work with states, territories and local governments, to create an action agenda** for this Plan.
    - The action agenda will coordinate action between all levels of government, setting out tangible action to avert the worst impacts on Australian communities and businesses.
    - The action agenda will be developed in consultation with the Energy and Climate Change Ministerial Council.
- undertake broader engagement to **build awareness and understanding of the National Climate Risk Assessment and National Adaptation Plan** in the community.
- harmonise adaptation priorities with disaster resilience action through the Commonwealth's response to the Glasser and Colvin reviews.

# Questions