

NRM Regions Australia - Response to the Australian Government's National Climate Adaptation Plan Issues Paper

NRM Regions Australia is the national peak body for the 54 regional Natural Resource Management (NRM) organisations that cover Australia.

We welcome the Australian Government's National Climate Risk Assessment First Pass Report and National Adaptation Plan Issues Paper. The National Adaptation Plan is more urgent and crucial than ever with climate change potentially accelerating and entering increasingly unpredictable territory. We recognise the important issues outlined for discussion in the Issues Paper: of responsibilities, adaptive governance and ongoing monitoring and evaluation, mechanisms for prioritising action, and the deeper outlining of risks and actions for 8 key priority areas. We believe that governments will need to lead the step change required, both through policy and investment.

Australia's regional NRM sector is a network of 54 interlinked regional organisations that provide integrated landscape planning and management. We are place-based organisations working with diverse partners and communities across Australia. Regional NRM organisations help direct Australian Government and other investment streams into the resilience and recovery of our natural resources, knitting them together to make a difference on the ground and at a landscape and strategic scale.

We all know that Australia's people and economy rely upon our environment. The condition and resilience of Australia's natural resources are the foundations of our prosperity, industries, regional economies, and community health and well-being. In the face of the uncertainties and impacts of a changing climate, investing and growing capacity to strengthen the resilience of our landscapes and natural resources is crucial; with flow on effects across almost all domains of climate risk from regional communities to primary production to built environments, and from health to national security (see attachment A).

Summary of proposals

Proposal 1: *that the scope of Australian Government roles and responsibilities be expanded to include the Government's currently accepted and increasingly crucial role in investing in climate adaptation and resilience through our regional NRM infrastructure covering the whole of the country.*

Proposal 2: *that the capability represented in Australia's national NRM infrastructure be recognised in the National Adaptation Plan as representing a valuable mechanism for governance, coordination and integration between national leadership and local solutions, and strengthened through further investment in future national adaptation strategies.*

Proposal 3: *that the risks to landscape resilience from climate change be recognised as a cross-cutting risk alongside water security and others.*

Proposal 4: *that nature-based solutions be recognised as a low cost, highly adaptable response to climate risks by integrating this as a cross-cutting theme in the plan.*

Proposal 5: *Ensure extra resources, program flexibility, and capacity-building, so that climate adaptation needs are integrated into existing Australian Government-funded NRM programs, including allowing for provisions to monitor and adapt ongoing programs, and providing extra capacity in disaster planning and recovery programs, to 'build back better'.*

Proposal 6: *Recognise and invest in the potential for NRM work to support mainstreaming adaptation across Australian Government portfolios, services and programs.*

Proposal 7: *Link adaptation and mitigation as a cross-cutting theme.*

Proposal 8: *Invest in updated climate-smart regional NRM planning and draw on the on-ground and participatory capabilities of the NRM sector to inform the deep dive of the National Climate Risk Assessment and subsequent National Plan.*

Proposal 9: *Update and provide more accessible downscaled and locally relevant climate information, including at regional scales, and provide clear guidance on appropriate use and application of the wide array of climate data available, including clear guidance on where data (e.g. projection information) is not available and unlikely to become available due to uncertainties.*

Our response to the Issues Paper addresses 7 key areas that we believe could strengthen the National Adaptation Plan. This discussion reflects our perspective as a sector increasingly called on to support climate adaptation and resilience across our communities and environmental systems.

A. The central role of Australian Government investment in climate adaptation and resilience

The issues paper outlines four key roles for the Australian Government in climate adaptation:

- providing national leadership on adaptation
- providing nationally authoritative climate science and information
- managing Australian Government assets and services
- maintaining a strong, flexible economy and a well targeted social safety net.

The NRM sector supports a broad interpretation of these roles; for example, recognising that managing 'Australian Government services' includes protecting and recovering Australia's at-risk natural environments, biodiversity, waterways and resources as a key ongoing role of the Australian Government.

However, we also see an additional crucial role for the Australian Government not articulated here, which builds on the direct investment the Government makes in the resilience and adaptive potential of Australia's natural resources via the NRM sector and our partners through Natural Heritage Trust (NHT) and programs such as the Future Drought Fund and the Disaster Ready Fund.

NRM organisations are key delivery partners for the Commonwealth Government. A core dimension of NRM work is building resilience across landscapes, which mitigates the impacts of climate extremes and natural hazards on natural environments and on human infrastructure, thereby reducing climate risk across whole landscapes and regions. This includes:

- directly, through rolling out ‘nature-based solutions’ for climate adaptation across landscapes, and
- more generally through programs that provide -
 - connectivity and resilience for our natural systems
 - the protection of agricultural and urban landscapes from exposure, heat and drought
 - improvement in the condition of our waterways
 - connecting communities through resilience planning and emergency recovery efforts.

Connecting the strategic outlook, knowledge and resources for climate adaptation at Commonwealth and state/territory levels into locally adapted, community-led solutions to meet the very diverse needs of local communities, economies and environments is a vital challenge for a national adaptation plan. The NRM sector represents an ideal level of subsidiarity to meet this challenge. The NRM ‘infrastructure’ is an interlinked national network of regional organisations with strong governance, close ties to Commonwealth and state/territory governments, and locally embedded capability, with partnerships reaching across local governments, communities, First Nations organisations, landholders and industries. Our sector is thus extremely well-placed to play a significant role in the National Adaptation Plan. We can help connect national strategic priorities and resources into place-based programs and partnerships, while enhancing whole-of-region climate resilience.

Australia’s State of the Environment Report (2021) pointed to “the need ... to coordinate and look for synergies between approaches” to climate adaptation at the local level. Local responses alone, often under the pressures of very limited resources, are not geared to look for synergies across sectors, nor to plan and connect interventions in resilience and natural infrastructure across catchments and regions. Our sector has a presence across regional, rural, remote and urban environments, bringing together regional networks and communities across tenures and sectors, to support investment and efforts into strategic and connected activities and programs. These functions have been recognised as central through almost three decades of Australian Government investment and will become more essential as climate change accelerates and impacts worsen.

Example: potential to scale up and interlink local action for wetland restoration across Perth

Climate change is creating significant changes in rainfall across the south-west of Western Australia, including Perth. Some Local Governments in the Perth region are responding by working with water corporations and Perth NRM to restore urban wetlands.

Currently, this restoration program depends upon ad hoc approaches, dependent upon the resourcing and priority of separate Local Governments, with no capacity or incentive to coordinate between projects across LGAs.

Channelling new Commonwealth investment in adaptation through the existing regional NRM agreements would enable Perth NRM to deliver a more regionally targeted approach to this adaptation work, delivering strategic outcomes such as greater environmental connectivity and location of wetland restoration sites in areas of high need, delivering multiple benefits for biodiversity, community well-being, water retention and water quality.

Proposal 1: *that the scope of Australian Government roles and responsibilities be expanded to include the Government’s currently accepted and increasingly crucial role in investing in climate adaptation and resilience through our regional NRM infrastructure covering the whole of the country.*

***Proposal 2:** that the capability represented in Australia's national NRM infrastructure be recognised in the National Adaptation Plan as representing a valuable mechanism for governance, coordination and integration between national leadership and local solutions, and strengthened through further investment in future national adaptation strategies.*

B. Risks to landscapes and Country as a cross-cutting risk

Resilience of our landscapes and natural resources form the foundation of our economic prosperity, regional communities, primary production, health, wellbeing and security.

The issues paper identifies six domains of risk and five cross-system risks. The six separate domains of risk are: Natural environment; Primary industries and food; Regional and remote communities; Health and social support; Infrastructure and built environment; Defence and national security. The categories of cross-system risk include water security but otherwise focuses on human systems, two of these economic and two planning and governance related.

Our work across landscapes demonstrates the importance of recognising that climate change impacts to landscapes as well as freshwater systems present significant risks that cut across all domains. For example, impacts on biodiverse land-based systems during drought or through changing temperature and weather regimes can reduce protection of soils and retention and quality of freshwater for primary industry production. This has broader impacts on regional communities, health and social cohesion. Increased landscape-level risk and exposure to extreme events, such as seen in the 2019–20 wildfires in southern Australia, impact not only biodiversity and primary industries, but also on community physical and mental health, built environment, and defence systems. Risks to the capacity to care for and ensure healthy Country is of widely recognised importance for First Nations community well-being.

***Proposal 3:** that the risks to landscape resilience from climate change be recognised as a cross-cutting risk alongside water security and others.*

C. Nature-based solutions as a cross-cutting theme

Nature-based solutions are a significantly under-resourced approach to climate adaptation. Nature-based solutions present low cost, reversible, 'no-regrets' approaches to a wide range of climate adaptation challenges, and with multiple benefits: from enhancing vegetation across farmland to reduce desertification and soil loss, to restoring floodplains, wetlands and riparian vegetation to reduce the impacts of flood events on waterways, natural infrastructure (e.g. soils and riverbanks) and built environments. Nature-based solutions can be readily adapted as changes occur hence are an effective means of dealing with uncertainty in climate projections. In addition to addressing climate risk, nature-based solutions also deliver multiple co-benefits, often linking adaptation and mitigation, restoring biodiversity and ecosystem services, recovering freshwater, land and marine ecosystems, and providing health, well-being and amenity values for communities.

Over the past few decades Nature-based climate solutions have increasingly been adopted as core strategies in national climate adaptation policies globally, notably in the United States, and many European countries.

We commend the issues paper for recognising the importance of place-based and community-led approaches to adaptation as a cross-cutting theme. While 'no-regrets' solutions are proposed for prioritisation under the Issues Paper, the lack of explicit reference to nature-based solutions in the issues paper misses a vital and internationally recognised

opportunity to mainstream these approaches across sectors, policies and programs. We therefore suggest that nature-based solutions likewise be included as a cross-cutting theme and embedded at the core of the National Adaptation Plan.

***Proposal 4:** that nature-based solutions be recognised as a low cost, highly adaptable response to climate risks by integrating this as a cross-cutting theme in the plan.*

D. Mainstreaming additional adaptation resourcing in Commonwealth-funded NRM programs

Regional NRM organisations deliver highly cost-effective and streamlined programs to recover and strengthen resilience of our natural environment and primary industries. These provide a wide range of benefits, including some designed to strengthen climate adaptation (such as fish passage works and glider bridges in Northern Queensland to ensure landscape connectivity for species climate resilience). In point F we show how climate smart regional NRM planning can further embed adaptation into existing and new programs.

These programs themselves require adaptation planning, monitoring, adaptive management and investment to ensure climate resilience into the future. Investment through the Emergency Preparedness Planning initiative is a welcome start to this work. Additional, ongoing resourcing is needed to build in and maintain climate adaptation across existing and new NRM programs, works and infrastructure, including to:

- document, identify and map NRM programs and infrastructure at risk or impacted by climate change
- provide ongoing funding to return to sites of investment and monitor subsequent impacts
- protect infrastructure into the future, including shoring up, restoring and/or adapting NRM infrastructure impacted by climate change (including extreme events).

Likewise, the NRM sector is a frequent provider of Australian Government disaster recovery and resilience services. There is an urgent need to build in provision and extra investment for climate adaptation into resilience and recovery programs that are widely rolled out across the NRM sector. This would require enhancing existing programs to:

- Allow capacity to build strategic, long-term and future-focused thinking and planning into programs, including access to data and projections, in built risk-assessment, and exploration of adaptation scenarios
- Support identification of staged adaptation management schedules that would identify requirements for further interventions and potential additional funding
- Provide flexibility in the timing and allocation of funding, to allow for appropriate place-based approaches to adaptation and to climate resilience planning and ensure adequate time to plan rather than focusing on how quickly funding is rolled out

Example: planning for water availability in Wheatbelt NRM riparian restoration

In 2018–2023, Wheatbelt NRM was funded to undertake a riparian restoration program on agricultural properties, aiming to deliver improved outcomes for water quality to adapt to more water-stressed future climate conditions. The project funding was narrowly targeted on fencing and restoration.

The project suffered from a lack of mainstreamed investment into climate adaptation planning and implementation. A punctuated period of drought in 2023–24 saw farmers having to return stock to recently revegetated riparian areas for grazing/watering.

Extra resourcing and flexibility in the guidelines for this program would have allowed for the increased risk of drought to be assessed and addressed, so that adaptive strategies could be inbuilt, for example through provision of emergency water sources for stock during drought.

***Proposal 5:** Ensure extra resources, program flexibility, and capacity-building, so that climate adaptation needs are integrated into existing Australian Government-funded NRM programs, including allowing for provisions to monitor and adapt ongoing programs, and providing extra capacity in disaster planning and recovery programs, to ‘build back better’.*

E. Cross-sector benefits of NRM for climate adaptation and resilience

NRM climate adaptation and resilience initiatives deliver a wide range of co-benefits for ecosystems, food systems, natural and cultural heritage, regional and First Nations community wellbeing and cohesion, health, built infrastructure, and national security. They also frequently deliver co-benefits for carbon sequestration and emissions reduction.

There is significant potential for NRM to support mainstreaming climate adaptation across a wide range of other Australian Government programs and services.

Greater documentation and recognition of the multiple benefits of NRM adaptation and resilience could provide a crucial, affordable means of delivering on outcomes (including adaptation strategies) for a wide range of Australian Government portfolios, from health to social services, from emergency management to security and defence.

Example: coastal resilience and fire planning in Southeast Queensland

Healthy Land and Water (HLW) coordinates and partners in extensive programs for coastal, flood and fire resilience.

HLW’s coastal resilience program delivers a wide range of benefits for community amenity, health and wellbeing, coastal biodiversity restoration, blue carbon, and reduction of nitrogen pollutants, in addition to reducing risks of inundation, tidal surges and storm damage.

HLW also coordinates the Queensland Fire and Biodiversity Consortium, which works with landholders, communities and First Nations organisations to support fire planning and preparedness. These programs reduce landscape-level bushfire risk, enhance biodiversity outcomes, support First Nations cultural values, education and well-being through reintroduction of cultural fire practices, and growing community resilience and self-reliance in emergency preparedness, management and recovery.

***Proposal 6:** Recognise and invest in the potential for NRM work to support mainstreaming adaptation across Australian Government portfolios, services and programs.*

***Proposal 7:** Link adaptation and mitigation as a cross-cutting theme.*

F. Potential for NRM capabilities including regional planning to deepen the National Climate Risk Assessment and subsequent National Adaptation Plan.

In the early 2010s, the Australian Government invested in a program of climate-smart regional planning through the NRM sector (including AdaptNRM). This program drew together regionally relevant information on climate risks and adaptation needs with integrated community-based decision-making. The work has provided a crucial underpinning for ongoing regional investment in climate-smart landscape resilience across programs and initiatives. Those plans were intended to provide a medium-term outlook, to be renewed every 5 years. There would be significant value now in updating this climate-smart regional planning approach - both to *inform* the National Climate Risk Assessment and to feed into this process, providing a foundation for the subsequent National Plan.

***Proposal 8:** Invest in updated climate-smart regional NRM planning and draw on the on-ground and participatory capabilities of the NRM sector to inform the deep dive of the National Climate Risk Assessment and subsequent National Plan.*

G. Accessible data and decision tools for downscaled and locally relevant climate information

We welcome the Australian Government's past and current investments in climate data, and the recognition of the importance of this role as part of the Australian Government's climate adaptation strategy.

Available climate data sources represent a confusing array of scenarios, assumptions, timelines and uncertainties for users without a high degree of technical knowledge, time or capacity. On-ground partners of regional NRM organisations (including landholders, communities and First Nations groups) have an urgently growing need for accessible data that they can understand (e.g. on climate baselines and projections, and on the likely impacts of climate change on other values such as biodiversity and primary production). Regional NRM organisations are increasingly called on to assess and interpret climate data at regional NRM scale and further downscaled.

Existing work on climate and biophysical models downscaled to NRM regional level, including climate adapted ecological data, was developed in the past 5 to 10 years, particularly through a significant injection of effort during the previous iteration of climate-smart regional planning, in platforms such as NRM Adapt. However, guidance is sorely needed on the use of the many and growing array of disparate data sources, including: on their application and the assumptions behind different models; gaps and uncertainties; complexity and accessibility of language; how to interpret and develop appropriate new baseline scenarios (given that our global baseline now sits at close to 1.5°C warming); and how to understand and feed back into models when observations differ from projections.

There also remain significant gaps in regional socio-economic impact data. Currently most available socio-economic impact data is event-related (e.g. impacts from fire and flood events) and remain at a very high level (e.g. costs to insurers). Significantly less information is available on the effects of these events on other socio-economic indicators, such as public health and primary production, or on the longer and slower impacts of climate change on socio-economic outcomes.

There is a need for new investment to update available climate data, including:

- Guidance on whether previous climate and ecological tools downscaled to NRM regions are still applicable and work to update these where needed

- Addressing gaps in data, including for spatially explicit baseline risks for extreme events downscaled to NRM regional boundaries
- Addressing gaps in regional socio-economic impact data. Currently most socio-economic impact data is event-related (e.g. impacts from fire and flood events) and remain at a very high level (e.g. costs to insurers). Significantly – public health, primary production.

There also needs to be a significantly ramped up effort in translation of existing data and guidance on its use for under-resourced and non-technical users of climate information. This includes:

- More accessible data
- Clearer use of language and translation into non-technical language for communities and practitioners to understand (e.g. language like ‘RCP scenarios’ is highly esoteric and confusing for non-technical users).
- Guidance and tools on the use of climate data to support collective planning
- A central place to go to for all climate data, easily navigable and accessible platforms, (including providing access outside of government systems and dealing appropriately with access and privacy restrictions to maximise data availability)
- Guidance on which data sets are most appropriate to use for what purpose, including more reliable data sources, preferred data sources for specific use-cases, consolidation of data sources and prioritisation of data based on reliability and quality for different use scenarios, guidance on specific data use (e.g. whether to draw baselines from historical BOM data, or updated scenarios)
- Higher level integration and interconnectivity between the plethora of climate data platforms, and clear guidance on how to navigate them.

Proposal 9: *Update and provide more accessible downscaled and locally relevant climate information, including at regional scales, and provide clear guidance on appropriate use and application of the wide array of climate data available, including clear guidance on where data (e.g. projection information) is not available and unlikely to become available due to uncertainties.*

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