

Working together to improve knowledge and understanding of climate change in the Australian rangelands

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Abstract

The Rangelands Cluster Project has been working to facilitate the inclusion of climate change science in natural resource management planning across some of the driest and hottest country on earth. The project has created new pathways for information that allowed researchers to take existing data and analyse and present it in new ways to provide relevant and current information for planning for climate change.

This paper talks about the opportunities and challenges of working on this project. It describes the processes of engagement and collaboration we went through and our innovative approach to information and knowledge transfer. While the paper touches on some of the information products and climate projections for the rangelands, that is not the focus; these are all available elsewhere.

As a result, groups of professionals working across the rangelands and in research institutions have an improved and shared understanding of the challenges facing the rangelands as the climate changes.

Background

In 2012 the Australian Government established the Regional Natural Resource Management Planning for Climate Change Fund, providing \$43.9 million over four financial years. This fund had two streams:

- Stream 1 (\$28.9 million) – funding directly to regional NRM organisations to revise existing regional NRM plans to help identify where in the landscape adaptation and mitigation activities should be undertaken
- Stream 2 (\$15 million) – to produce regional-level climate change information (National Projections Project) and provide guidance on the integration of that information into regional NRM and land use planning (Impacts and Adaptation Project – eight regional cluster projects and a national project).

The Rangelands Cluster includes seven NRM regions from across central Australia (see map): Rangelands WA (part), Territory NRM (part), Alinytjara Wilurara NRM, SA Arid Lands NRM, Desert Channels Qld, South West NRM (Queensland) and Western Local Land Services (NSW).



Figure 1: Map showing boundaries of the eight clusters that form part of the Impacts and Adaptation Project under Stream 2 of the Regional NRM Planning for Climate Change Fund

Approach

The Rangelands Cluster Project was a collaboration between the Rangelands NRM Alliance (representing the NRM groups), CSIRO, University of Canberra and Ninti One. Ninti One's role included that of project manager, but it also acted as an independent knowledge broker to help facilitate and coordinate the connection between the researchers and the NRM groups (the end users).

The objectives of the project were to:

- work with regional NRM organisations to identify information needs and plan responses to climate change that deliver optimum NRM and adaptation outcomes
- provide highest quality climate change adaptation information that acknowledges the unique characteristics of the rangelands and can be easily integrated with existing information used by NRM planners
- build the capacity of both NRM planners and climate change researchers and create multidisciplinary networks to deliver adaptive responses in the future.

Part of the project brief was that no new research be undertaken; the project was to collate and present existing data that provided information suitable for climate adaptation and mitigation in the arid and semi-arid rangelands.

From the beginning, the Rangelands Cluster Project included researchers with specialised knowledge in rangelands systems and information, biodiversity and aquatic ecosystems, as these were areas

known to be of interest and importance to NRM planners and where some work had already been undertaken.

How did we do that?

Prior to this program, climate change information was not being successfully transferred to and adopted by the NRM community. We implemented an engagement process that acknowledged and mitigated some of the potential reasons for this communication deficit: that researchers and NRM staff came from various disciplinary backgrounds that used different technical languages and operating styles; that researchers and NRM staff came from different work environments in terms of salary, tenure, location and organisational size and culture; that researchers and NRM staff had different aspirations, time frames and stakeholder responsibilities, even if they were talking about the same species and landscapes.

To address these challenges, we brought everyone together from the start of the project and continued to maintain a focus on building relationships and engaging with all partners. We allowed time for relationships to develop, cultures to merge and languages to be understood. This built confidence and respect among participants, so that 'active' two-way dialogue quickly replaced the 'passive', unidirectional style of much scientific communication.

To ensure the right information was developed, scientists from the project as well as from the National Projections Project team came together with NRM staff to decide what the priority issues were and to work through what was already available, what was possible and what was needed.

The process included:

1. Face-to-face workshops – these were crucial to help establish relationships and connections between researchers and the NRM staff as well as supporting the NRM staff to build a network for peers. Living and working in remote communities often makes that very difficult, so it was a priority for this project. Representatives from the Australian Government team also attended these workshops, which was invaluable in helping them understand the issues facing NRM planners in the rangelands as well as building relationships.
2. Telephone link-ups –the Project Working Group, made up of project partner representatives, phoned in at least monthly for the first 18 months of the project to ensure smooth progress.
3. Regional visits –the project's Knowledge Broker visited or met with staff from each region to discuss and understand the unique issues of the region and to engage NRM staff in the process.
4. Establishment of a Scientific Advisory Panel –experts from different, relevant backgrounds formed a panel to provide advice to the researchers and link them into other research and projects that may be relevant.

Initially, only representatives from 3–4 regions attended workshops. We knew the process was working when all regions sent representatives to subsequent gatherings and researchers and NRM staff were having conversations external to the formal meetings and workshops.

The results

Working in this collaborative way takes time and can be slow. It took us several months of back and forth to finally agree on what the significant issues were that also had data available for interpretation. Our final list of projects for which reports have been produced include:

- Rainfall variability and pasture growth
- Meteorological drought
- Heatwaves
- Remotely sensed ground cover

- Fire
- Dust
- Pastoral production and adaptation
- *Cenchrus ciliaris* (buffel grass)
- Invasive animals
- Aquatic refugia
- Native species
- Guidance to support adaptation: Addressing climate adaptive capacity, resilience and vulnerability of people in remote and marginalised regions

These reports are currently available at www.nintione.com.au/resources. They will also be put on the Climate Change in Australia website (www.climatechangeinaustralia.gov.au/en/) as well as being published in a collated report. This report will include a brief synthesis that provides a simple framework to support NRM staff in their planning processes.

Have this project and this approach made a difference?

It's probably too early to tell at this stage what impact this project has had. But we know that we are providing information that NRM planners need and want and in formats that they have agreed are most useful. And we know that early in the project we had trouble getting responses to email requests and surveys, but at the last workshop we held we had representatives from every region and all the researchers, including the National Projections Project team. The feedback from the workshop suggested that we were on the right track.

Bringing everyone together at the start of a project to develop a common vision is not particularly unique. The innovative approach in this project was that we continued the interaction and dialogue while testing information, discussing needs and approaches and responding with requested additional information. This forged relationships, built trust and empowered all partners in the project. Our success will be judged by the extent to which supplied information is included in regional plans that address adaptation for climate change in the rangelands.