

Project fact sheet

Building capacity to adapt to a more variable water future



Key points

- This initiative addresses the urgent challenge of water variability in the Murray–Darling Basin, a critical agricultural and ecological region in Australia.
- It focuses on understanding water governance complexities and engaging diverse stakeholders to co-create sustainable solutions.
- The project emphasises collaboration, adaptive decision-making, and climate-resilient strategies.

The challenge

The Murray–Darling Basin faces increasing pressures from climate change, including reduced rainfall and more extreme weather events, leading to heightened water scarcity.

Water governance in the region is particularly complex, involving multiple layers of policies, jurisdictions, and stakeholders.

The challenge lies in navigating these intricacies to implement cohesive, forward-looking water management practices.

Without effective strategies, the basin's capacity to sustain its ecosystems and economies will be severely compromised.

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The opportunity

This project provides an opportunity to address some of the basin's water challenges through innovative research and stakeholder collaboration.

By identifying and engaging key actors in water governance – including local communities, First Nations groups, and government agencies – the initiative aims to co-design objectives that balance cultural, environmental, economic, and social priorities.

The knowledge and tools developed can serve as a model for other regions globally, where similar challenges of water variability and governance complexity exist.

Our research

The research adopts a multifaceted approach to build capacity for adaptive water management:

1. **Mapping governance frameworks:**
The project identifies the organisations, policies, and individuals

shaping water governance. By analysing how decisions are made and interact across scales, it highlights areas for improved coordination.

- 2. Defining climate-resilient objectives:** Collaborating with stakeholders, the project establishes objectives that incorporate cultural heritage, economic sustainability, social equity, and environmental health. These goals guide decision-making under varying climate scenarios.
- 3. Addressing knowledge gaps:** The initiative evaluates primary threats and uncertainties, such as climate projections and water scarcity trends. By identifying gaps in existing knowledge, it lays the groundwork for targeted research and innovation.
- 4. Promoting adaptive decision-making:** To enable effective adaptation, the project develops tools and processes that support stakeholders in making informed, flexible decisions. This includes fostering inter-agency collaboration and empowering local actors.

Outcomes

The project will create a robust foundation for adaptation planning in the Murray–Darling Basin. Insights gained will not only improve local resilience but also provide strategies applicable to other water-stressed regions globally. Expected outcomes include improved governance frameworks, informed decision-making processes, and enhanced community engagement.

One Basin CRC

Since our inception in mid-2022, the **One Basin Cooperative Research Centre** has brought together 85 partners across the Murray–Darling Basin.

Our purpose is to work together to grow value from water in a changing world.

From Queensland to South Australia, we are finding practical solutions to complex challenges, training the next generation of scientists, and nurturing regional communities.

Our collective goal is a productive, resilient and sustainable Murray–Darling Basin.

Key personnel

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