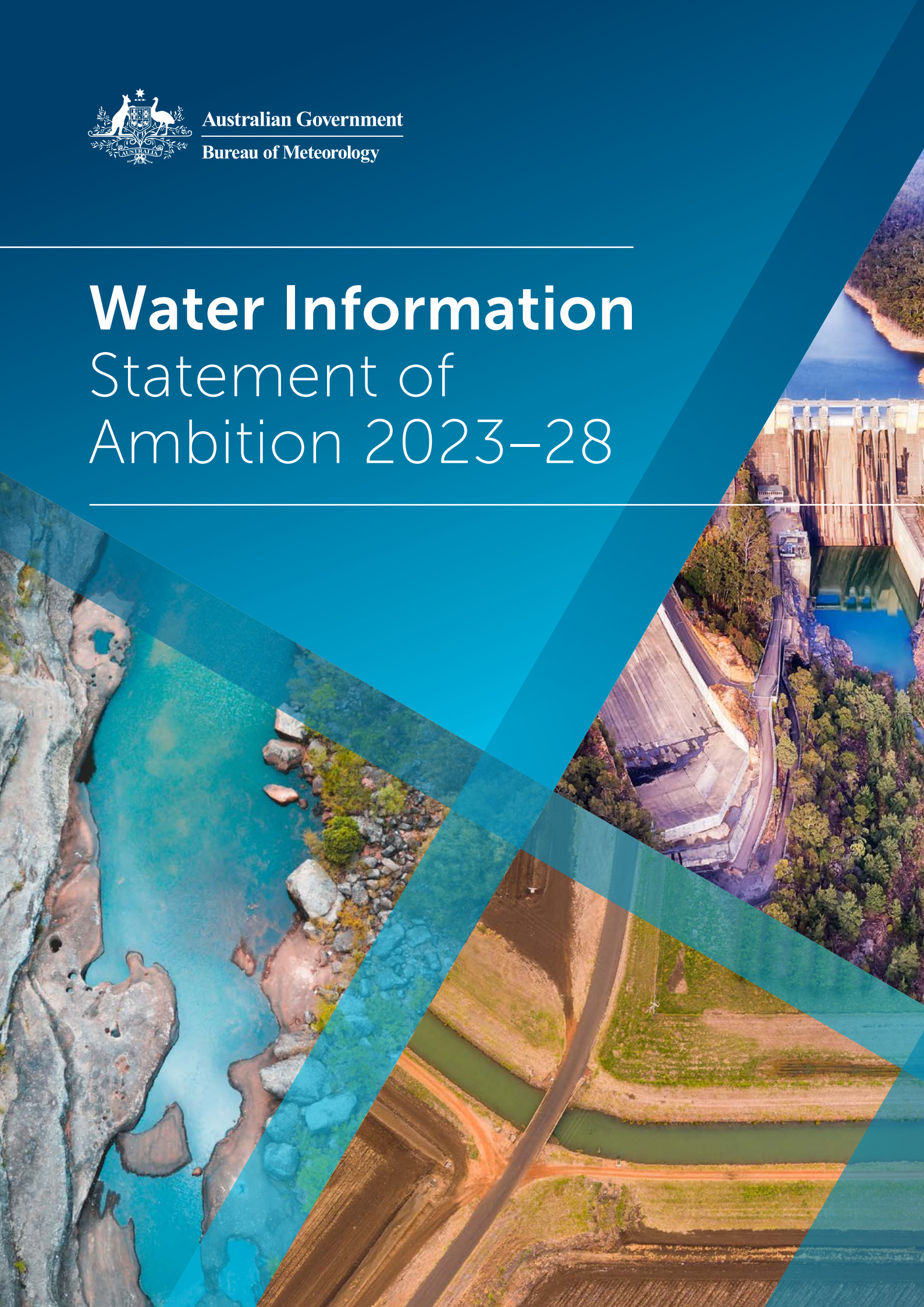




Australian Government
Bureau of Meteorology

Water Information

Statement of Ambition 2023–28





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An aerial photograph showing a winding river with a small dam or weir, surrounded by lush greenery and a golf course. The image is partially obscured by blue geometric shapes in the top right and bottom left corners.

Water information at the Bureau

The Bureau of Meteorology's mission is to deliver responsive weather, water, climate, ocean and space services for Australia – all day, every day.

At the turn of the 21st century, Australia was hit with its worst drought since Federation – the Millennium Drought. Water security presented a national issue and required a national response, but Australia's water data and information were siloed across different organisations, using inconsistent standards and definitions.

When the Australian Parliament passed the *Water Act 2007*, the Bureau was given additional responsibilities for collecting, holding, managing, interpreting and disseminating Australia's water information. Over the following years, the Bureau developed national water information standards and systems to collect Australia's water data from over 200 different organisations, and products and services to make available water data, information, forecasts and insights.

The water information ecosystem has fundamentally changed over this time.

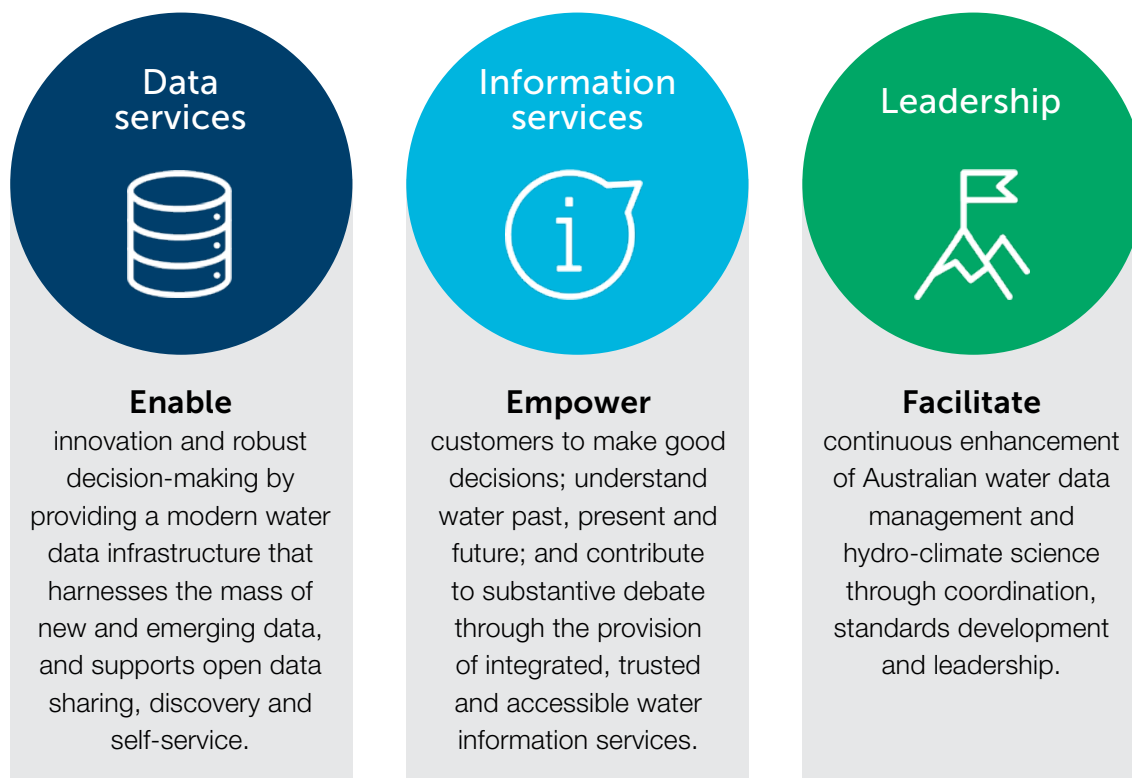
- **Rapid technological change** has transformed methods for data collection, sharing and management, opening new avenues for impact and value, and rendering many existing data systems out of date.
- The growing number of water information sources has improved the availability of water information but has created the challenge of finding **trusted information** and the **'right' information**.
- Water planning and management has matured but the challenges of managing **increasing demand** on our water supplies amidst the uncertainties of **climate variability and change** have intensified.

In light of these changes, the Bureau must change too. In 2021–22, the Bureau undertook a detailed technological review and customer engagement program to assess what its priorities should be in the coming years to optimise its contribution to a better water future for Australia.

This statement outlines the Bureau's ambition for meeting the water information challenges of the next decade.

Vision and objectives

The Bureau of Meteorology will support **Australia's water security, productivity, and resilience** by pursuing outcomes across three key pillars:



Principles

The Bureau of Meteorology will focus on the big initiatives that only a national institution with the unique capabilities of the Bureau can and should do. It will leverage partnerships where possible to increase the value and impact it provides to Australia.

Recognising the rapid pace of technological change in the water sector and the significant interests of Australian communities, industries and governments in Australia's water resources, the Bureau will be flexible and responsive in the management its products, services and systems to keep pace with contemporary demands.

Following these principles will require new and improved services alongside the rationalisation of some existing services. When this occurs, the Bureau will be transparent and communicative about how these decisions may impact customers.



Water data hub

Seamless, timely access
to the full range of
Australia's water data



Water information platform

Accessible, integrated
information for
communities in a single
national platform



Impact and value

Free flow of data to support
innovation and decision making

Productive debate on water management
underpinned by shared facts

Water planning resilient to climate
variability and change

Water operations optimised
with best available data
and science



Water and hydro-climate scientific leadership

World-leading expertise
integrating climate and
water science for
the community



Water information and data leadership

National standards and
a coordinated approach
to water data



Decision support

Tailored support for
water management and
policy agencies



Next generation hydrology services

An integrated hydrology
modelling capability
across timescales

Priorities for next 5 years



New national Water Data Hub

Develop a new Water Data Hub replacing existing water data systems, that:

- is in the cloud and leverages state of the art technology such as artificial intelligence, machine learning, and data services
- enables customers to discover the full range of water data collated from over 200 different organisations that collect Australia's water data
- opens opportunities for customers to take advantage of a wide range of new and emerging water datasets arising from technological innovation
- drives new and innovative applications for water data and allows efficient integration with other key datasets



Single platform for public water information

Build on the Murray–Darling Water Information Portal project to develop a single platform for access to national water information that:

- incorporates user-centred design principles
- provides information on water access, use, availability and trends presented in a format suitable for a broad public and community audience
- modernises and enhances the content from the Bureau's existing water information products, providing a single, trusted access platform to minimise customer confusion and transaction costs in accessing information.



Hydrology model integration and enhancement

Rationalise and integrate the Bureau's hydrology modelling suite:

- consolidate models used for flood, streamflow and landscape forecasting
- develop a rainfall forecast product designed for hydrology modelling and available to Australian water agencies.



Sustainable decision support

Establish sustainable decision support services for water operators and Commonwealth water agencies.



Water information and data leadership

Enhance our leadership in water data and information, including strategy, standards, and data coordination.



Water and hydro-climate science leadership

Take an active national leadership, coordination, and facilitation role in the water and hydro-climate science domain, including building and maintaining world-leading expertise.

Customer experience

	 Data provider	 Decision maker	 Community
 Customer needs	<p>I collect and manage water data and provide it to the Bureau to be disseminated to the community, in accordance with the Water Regulations.</p> <p>I'm investing in new data technology and have new real-time and unstructured datasets to share.</p>	<p>I use data and information from the Bureau to support decisions on water management.</p> <p>I need to understand and manage water resources in the face of increasing demands from consumptive users and the environment and changing climate.</p>	<p>My community depends on secure, sustainable water resources for its social, economic and cultural well-being.</p> <p>I would like to be a well-informed contributor to the debate on water management.</p>
 Future experience	<p>The Data Hub allows the Bureau to access my data seamlessly with less burden on my resources. It combines my data with others' data, to provide national datasets for everyone to access.</p> <p>My new data is higher quality due to the Bureau's leadership and coordination on data standards and strategy for new technology</p> <p>The data I provide delivers higher value to my customers and the community.</p>	<p>I can seamlessly access new and improved water datasets via self-service, along with guidance and water sector-specific use cases on how to use them. There are transparent and consistent access arrangements.</p> <p>I adopt them quickly and make good decisions that I can explain to my bosses and the community.</p> <p>I have access to world-leading water and climate science via the Bureau, and I know who can help meet our needs.</p>	<p>I can access information on water past, present and future, from a single platform. The platform is easy-to-understand, factual and independent of the agencies that manage water resources.</p> <p>I can now contribute to public debate on the substantive issues like balancing the water needs of environment and industry. I make productive decisions about my own water use.</p>

The Bureau's services, information and insight are conservatively estimated to have delivered **\$300–400 million** per year in economic value by supporting efficiency, productivity and sustainability in the management and use of Australia's water resources. The initiatives described here could **double** this value.



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