



## Australian Water Resources Information System (AWRIS)

The Bureau of Meteorology (the Bureau) is now responsible for delivering water information for Australia. We are receiving water data from more than 200 organisations across the nation and will be using this to report on water availability, condition and use in a nationally consistent way.

The Bureau is building the Australian Water Resources Information System (AWRIS) as a secure repository for water data and as a means to deliver high quality water information to all Australians. AWRIS is a powerful information system capable of receiving, standardising, organising and interpreting water data from across the nation.

### Improved water management

Consistent, easily accessible water information is essential for the effective management of water resources. Traditionally, water data in Australia has been collected and reported using a wide variety of formats and standards.

Under the Water Regulations 2008, specified water data collecting agencies are required to supply particular types of water information to the Bureau so we can provide the public with quality data, reports and forecasts.

Water information from the Bureau will be standardised and reliable. It will be freely available to all users, assisting water managers, planners and policy-makers to make better water management decisions. It will also benefit rural landholders, water dependent businesses and the general community.

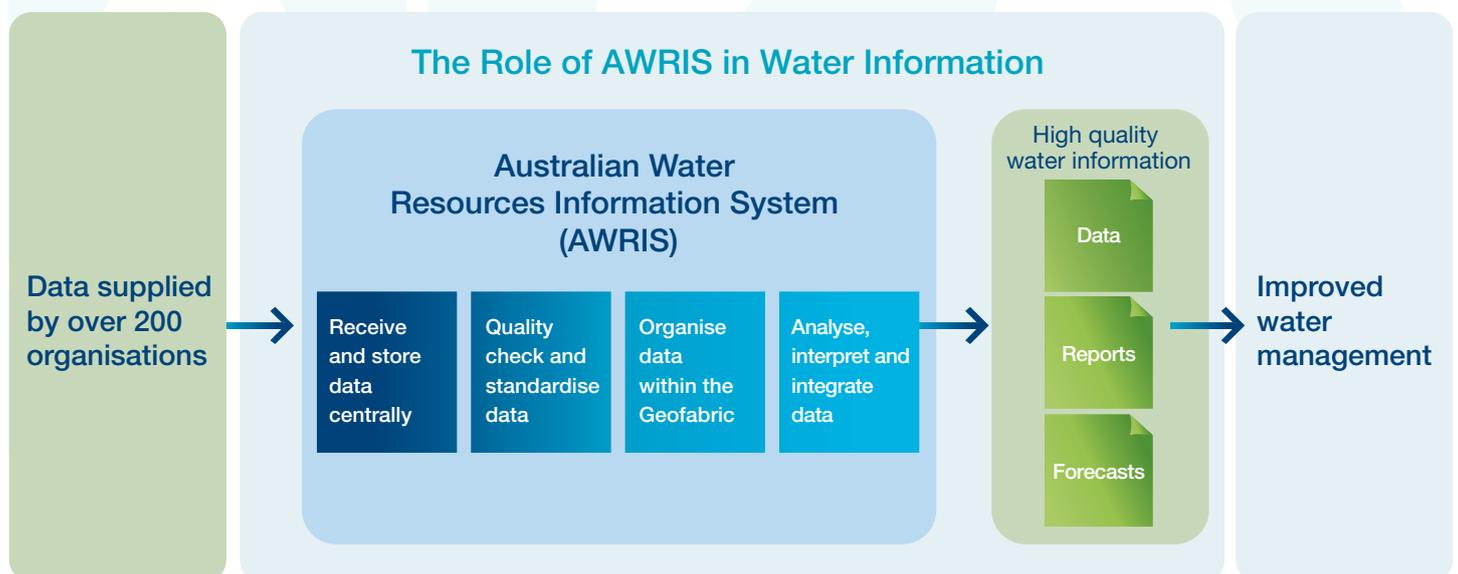
### Inside AWRIS

AWRIS allows us to process and publish water data in new and powerful ways. We will be able to merge historical water data records with current observations to suit a variety of user needs. By spatially enabling this data we will be able to query and report the data in many different ways. Data stored in AWRIS will be delivered to the web, to mobile devices and various hydrologic forecasting systems to be operated by the Bureau.

### Receive and store data centrally

The Bureau receives information about river flows and groundwater levels, water volumes in storage, water quality in rivers and aquifers, water use and restrictions, water entitlements and water trades.

AWRIS will store and manage this data in a central database.



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## Quality check and standardise data

AWRIS processes data and associated metadata such as measurement location and method. Checks are made to ensure that the data is consistent with existing information received before it is loaded to a publicly accessible data base.

We are working with the water sector to establish consistent data collection, management and transfer standards. The Bureau and its research partner CSIRO have developed the Water Data Transfer Format (WDTF). We are promoting WDTF as the preferred method for transferring water time series data and metadata to AWRIS. Already there is widespread uptake of WDTF by Australian water data providers.

The Bureau is also helping water data providers to improve their hydrologic monitoring and data supply systems through the \$80 million Modernisation and Extension of Hydrologic Monitoring Systems Program. This five-year funding program started in 2008 and assists eligible organisations to upgrade and expand their water information monitoring, collection and reporting systems.

## Organise within the Geofabric

The Australian Hydrological Geospatial Fabric (also known as the Geofabric) is a vital component of AWRIS. It is a specialised geographic information system that enables AWRIS to cast all water information we are receiving in a spatial context. This will greatly enhance the discoverability and utility value of water data.

The Geofabric encodes the spatial connections and relationships between most of Australia's hydrological features including rivers, dams, lakes, aquifers, diversions, supply channels, drains and monitoring points.

## Analyse, interpret and integrate the data

Using nationally consistent data sets, AWRIS will provide unprecedented capability to discover, assemble and analyse diverse data sets for any region in Australia. The Bureau will use AWRIS to deliver a range of water data, reports and forecasts including:

- historical and current water data that users can view, search and download
- real-time water reports such as water storage levels and volumes for all major storages
- an annual National Water Account and regular national water resources assessments
- seasonal streamflow forecasts
- improved flood warning systems.

## Using the data

For the first time Australians will have free, online access to water information in one place. Users will be able to:

- use the data as inputs into analysis, planning, reporting, mapping and modelling
- create benchmark reports using consistent and transparent data
- understand water more holistically through integrated views of diverse water data sets such as rainfall, water storage levels and water restriction information
- easily find and verify sources of data
- check details about the standards and quality controls applied to the data.

This will lead to improvements in the timeliness, quality and efficiency of water management and policy decision-making.

## Delivering AWRIS

The first phase of AWRIS development is now complete and we will deliver the first of our water information products, water storage information, during 2010. The National Water Commission is assisting the Bureau to deliver water storage information via the *Raising National Water Standards* program.

The Bureau is developing AWRIS over a ten-year period. The capacity of AWRIS will evolve and expand, enabling faster access and more comprehensive data, reports and forecasts.

We are consulting and working with water information users to understand their requirements. Expert panels and advisory committees provide advice on technical issues. Feedback is always welcome.

## More information

If you would like more information about AWRIS, the Geofabric and the Bureau of Meteorology's role in water information, or you wish to provide feedback, please visit our website at

[www.bom.gov.au/water](http://www.bom.gov.au/water)



**Australian Government**

**National Water Commission**

**Raising National Water Standards Program**