



Australian Water Resources Assessment

Australian Water Resources Assessments are regular reports on the availability, quality and use of the nation's water resources. They use the best available water data, models and analyses to describe the state of the nation's water resources at a point in time and in the context of the long-term record.

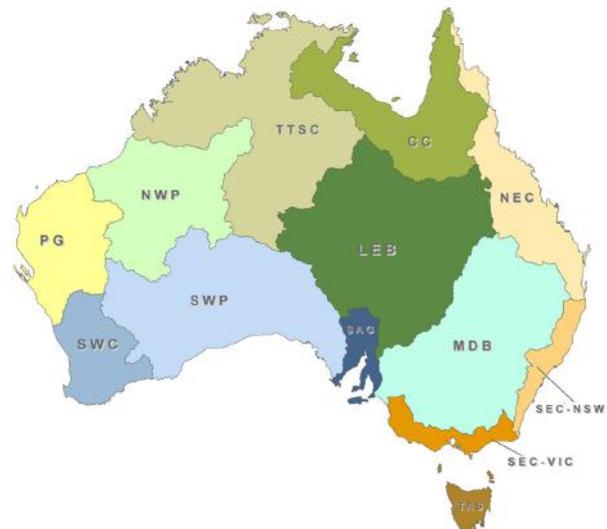
What do Australian Water Resources Assessments do?

Assessments report on the water resources of hydrologically-defined regions across Australia, and include a national overview.

The Assessments:

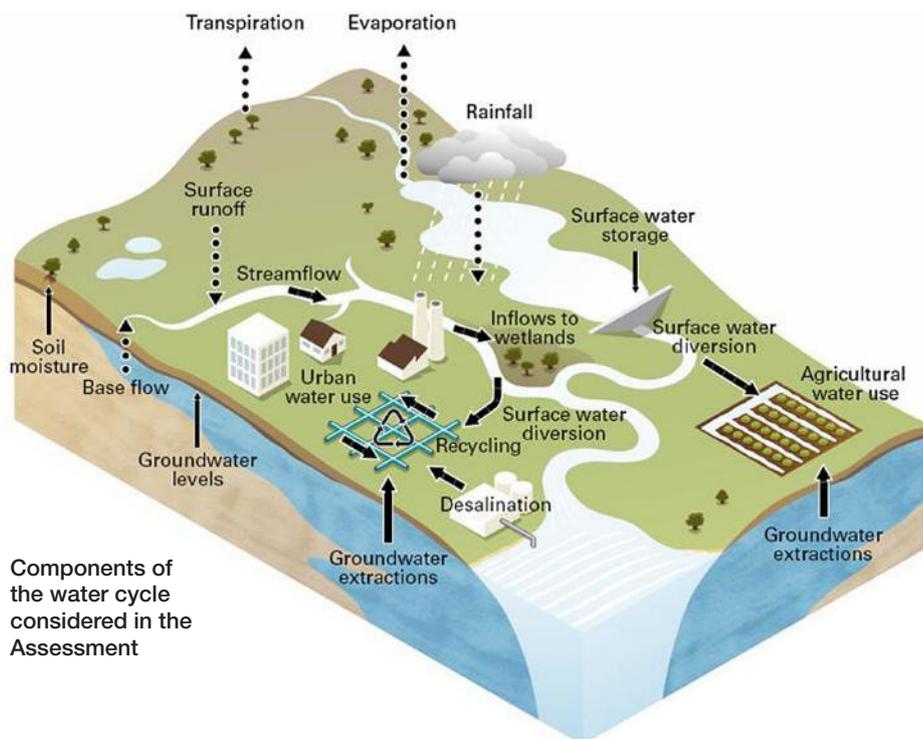
- report trends in water availability and use at local, regional and national scales over timescales of months to decades
- report on the hydrological state of rivers, wetlands, storages and aquifers
- report on nationally-significant rainfall and flooding during the reporting year
- provide information on urban and rural water use and water levels of major surface water storages and aquifers
- provide the hydrometric data used in the report at the national, regional and local level
- use a nationally-consistent landscape water balance model to estimate landscape water flows.

The Bureau of Meteorology publishes an Australian Water Resources Assessment online every two years.



NEC	North East Coast	SWC	South West Coast
SEC-NSW	South East Coast (NSW)	PG	Pilbara-Gascoyne
SEC-VIC	South East Coast (Victoria)	NWP	North Western Plateau
TAS	Tasmania	TTSC	Tanami - Timor Sea Coast
MDB	Murray-Darling Basin	LEB	Lake Eyre Basin
SAG	South Australian Gulf	CC	Carpentaria Coast
SWP	South Western Plateau		

Australian Water Resources Assessment 2012 reporting regions



Components of the water cycle considered in the Assessment





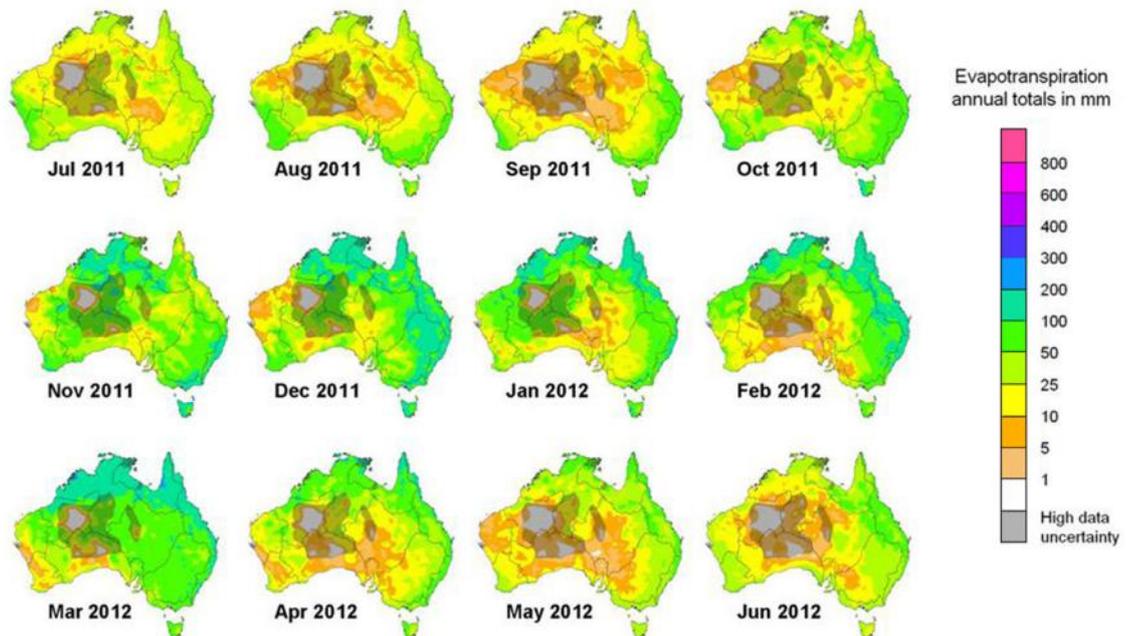
How do we prepare Australian Water Resources Assessments?

The Assessments draw information from the Bureau's water information systems for receiving, modelling, estimating and analysing water data across Australia.

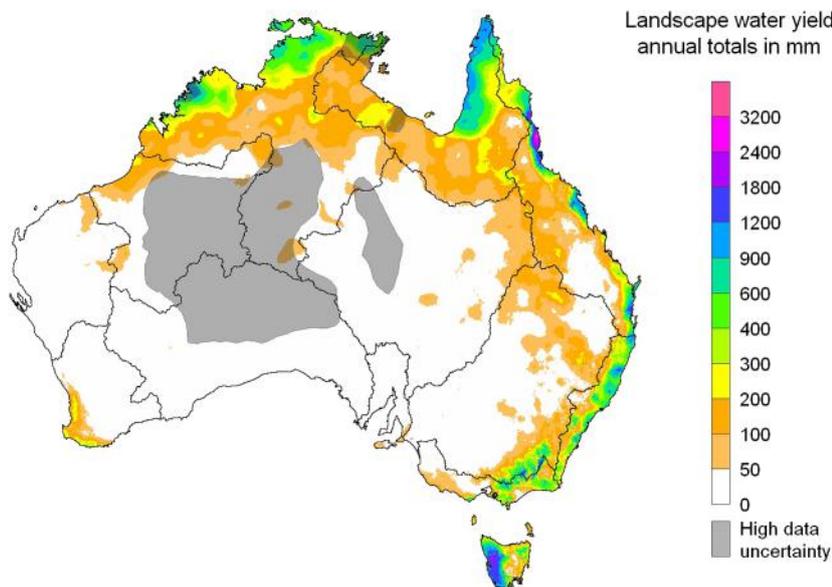
Water information is collected and held by more than 200 organisations across Australia that use this data for their own business needs. The Bureau obtains this information through the Water Regulations and makes this data freely available.

A nationally consistent water balance model, the Australian Water Resources Assessment (AWRA) Modelling System, developed through

the Water Information Research and Development Alliance between the Bureau and CSIRO, is used as a means of reporting on water availability. Inputs include rainfall, temperature, and canopy types and outputs provide estimates of evapotranspiration, runoff and landscape water yield across the nation. This modelling system is the first to have all the water balance modelling components integrated (surface water, groundwater and regulated systems). It generates outputs at spatial and temporal resolutions appropriate to a range of reporting scales. The AWRA system is calibrated and validated using the best available data.



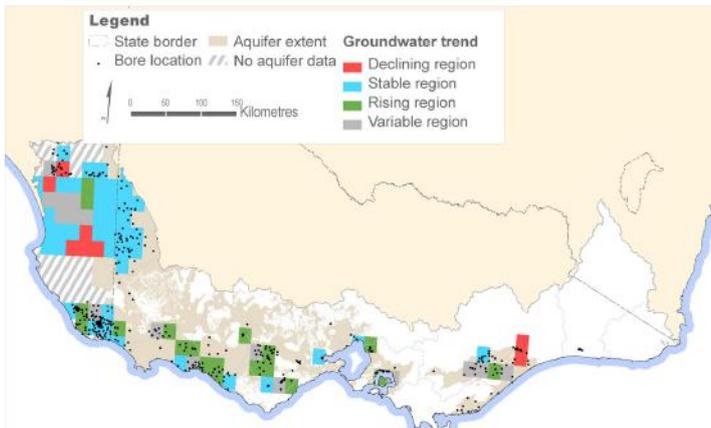
Monthly evapotranspiration across Australia from July 2011 to June 2012



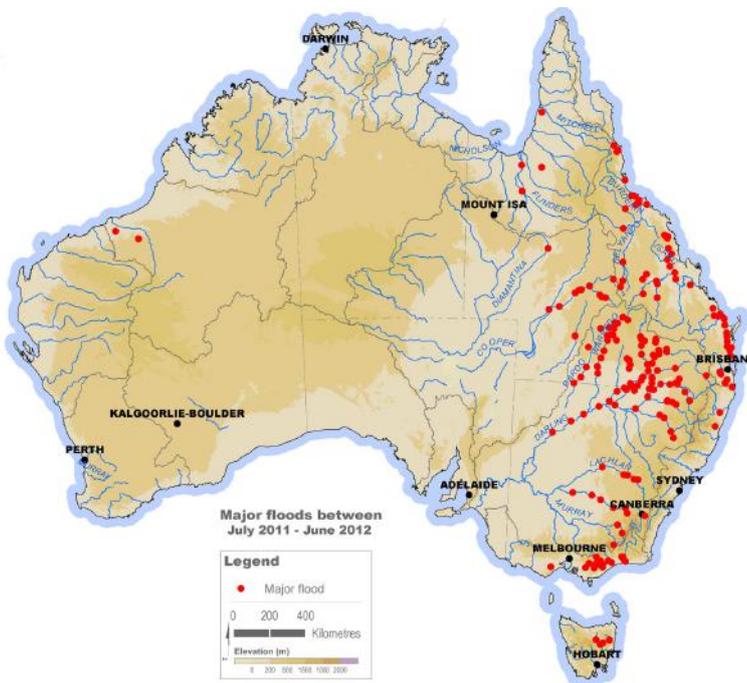
Modelled landscape water yield across Australia from July 2011 to June 2012



Data analysis, modelling and reporting techniques have been applied to water information pertaining to various water features such as streams, storages and aquifers to place the assessment year in context with past water resource variability.



Groundwater trends of selected groundwater bores in South East Coast (Victoria) region for 2007–12.



Flood occurrence across Australia in 2011–12

Using the Australian Water Resources Assessment

This scientifically robust and nationally-consistent Assessment is intended to help Australians, particularly policy specialists and water resource managers to:

- support the goals of the National Water Initiative
- contribute to the water reform agenda
- identify current and future water management challenges
- compare the current and past states of Australia's water resources
- improve understanding of the impacts of past and present water management practices on water resources
- better understand interactions between climate, water and landscape
- inform discussions on floods, droughts and water scarcity
- inform discussions on water use, quality and aquifers states.

Activities for which the Australian Water Resources Assessment can be used

These include:

- providing contextual information on surface water, groundwater, urban and agricultural water systems throughout Australia
- contributing to research and water reform by providing nationally and regionally consistent water resources information and data, such as, surface water, groundwater, urban and agricultural water supply and use
- providing independent information to government institutions and reports, such as State of the Environment reporting
- providing an overview of groundwater subsystems and trends in water levels in various regions, and discussing factors influencing these levels to inform planning and policy makers
- providing a spatial overview of the salinity states and variability for Australian river systems and aquifers to improve understanding of the current and past states of Australia's water quality
- providing information on extreme hydrologic events such as floods and water scarcity to inform planning
- assisting government policy formulation and the development of broad scale strategic plans and decision-making
- supplying information for water resource education materials in schools and tertiary institutions
- improving understanding of Australia's water resources by the broader community.



Users of the Australian Water Resources Assessment say:

“The report is used on a daily basis to build staff knowledge of water resources availability in Australia.” *Australian Government, Department of the Environment.*

“The evaporative loss estimates provided by the Australian Water Resources Assessment will be used in future hydrodynamic and water quality projects. We will also use Mean Annual Flow and Mean Annual Runoff data to sanity-check gauged flow and calculate flow data provided by our clients.” *A water management consultancy, Melbourne.*

“The Australian Water Resources Assessment has been used for sustainable water management courses in Australia that cover irrigation, urban water and climate themes.” *International Centre of Excellence in Water Resources Management, Australia.*

Governance, consultation and review

Under the Commonwealth *Water Act 2007* the Bureau of Meteorology is responsible for compiling and delivering comprehensive water information across Australia. This includes conducting timely, rigorous and independent assessments of Australia’s water resources.

To ensure that the Assessment is technically sound, the Bureau works with key stakeholders and seeks feedback on its value and use. Our water science collaborators within the Water Information Research and Development Alliance between the Bureau and CSIRO provided technical expertise specifically with regard to the Australian Water Resources Assessment (AWRA) Modelling System. State and Territory water agencies, academic representatives and professional service organisations provided guidance and feedback on the Assessments.

The Bureau of Meteorology is currently building its water resources information systems. As these systems develop, more data and different data types will become available for inclusion in our Assessments and a richer understanding of the nation’s water resources will be achievable.

Feedback and further information

User feedback is vital for ongoing refinement of the Australian Water Resources Assessment. All comments and suggestions are welcome and should be sent to awra@bom.gov.au

For further information about the Bureau’s Water Information products and services, please visit: www.bom.gov.au/water

Visitors are also able to receive regular updates by e-mail by subscribing to the Bureau’s [EnGauge newsletter](#).

