



Seasonal Streamflow Forecasts

Each month, the Bureau forecasts likely streamflow volumes for the next three months for more than 140 locations across Australia. These forecasts inform decisions made by those who use rivers and water storages—in particular, managers of water supplies for towns, irrigation and the environment.

How does the seasonal streamflow forecast service work?

The service applies a statistical approach, using the relationship between climate indicators, past catchment conditions and historical rainfall and streamflow at a location to forecast its total streamflow volume for the following three-month period. Forecasts are provided as the likelihood of high, near-median or low streamflows (also known as tercile forecasts).

Information on forecast accuracy is provided with each forecast. This includes the typical forecast quality for that particular time of year, comparing past forecast volumes with actual observed volumes.

The forecasts are issued early in each month at locations with economic, environmental and social significance. These are generally key water management locations and water control infrastructure including water storages.

What are the benefits?

Together with other information and planning tools, seasonal streamflow forecasts can influence important decisions such as:

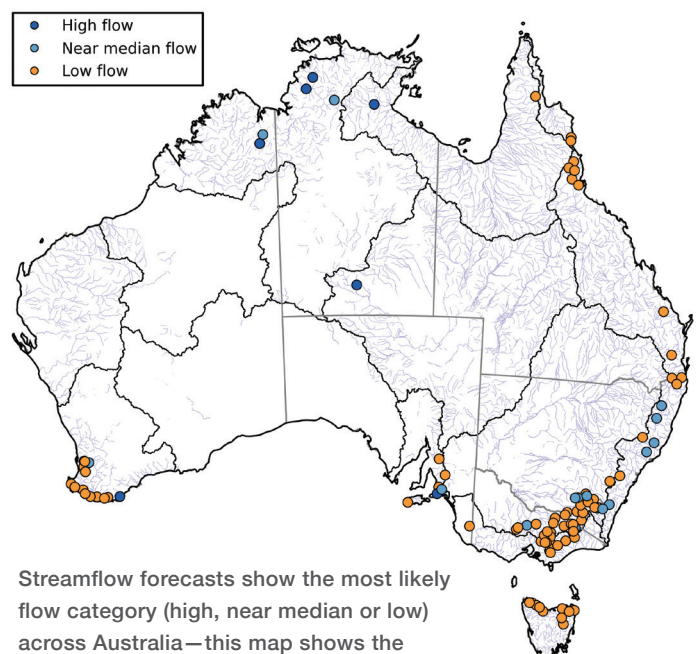
- Water allocations
- Cropping strategies
- Water market planning
- Environmental watering
- Operating multi-storage water supply schemes
- Managing drought
- Restricting water supply during drought.

Who can use it?

The seasonal streamflow forecasts are available to everyone via the Bureau's web page. Organisations responsible for managing water, such as storage and river operators, can use forecasts to assist decision-making and scenario planning for the months ahead. Irrigators, farmers and local government can use it to plan water use into the future. Recreational users may also consult forecasts when planning activities.

What is the Bureau's role?

The Bureau's Improving Water Information Programme is building a comprehensive and reliable picture of Australia's water resources to support policy and planning. It collates and manages water information as part of its responsibilities under the *Water Act 2007*.



Related Bureau services

Seasonal streamflow forecasts complement several other Bureau climate and water information services, including:

- rainfall and temperature outlooks—provided each month they indicate the likelihood of wetter or warmer seasons ahead
- 7-day streamflow forecasts—generated each day these assist day-to-day decision-making related to river and reservoir operations and management
- flood forecasting service—operated during high streamflow events they focus on flood-prone locations, providing warnings to the public and emergency managers about hazardous conditions.

A valuable service

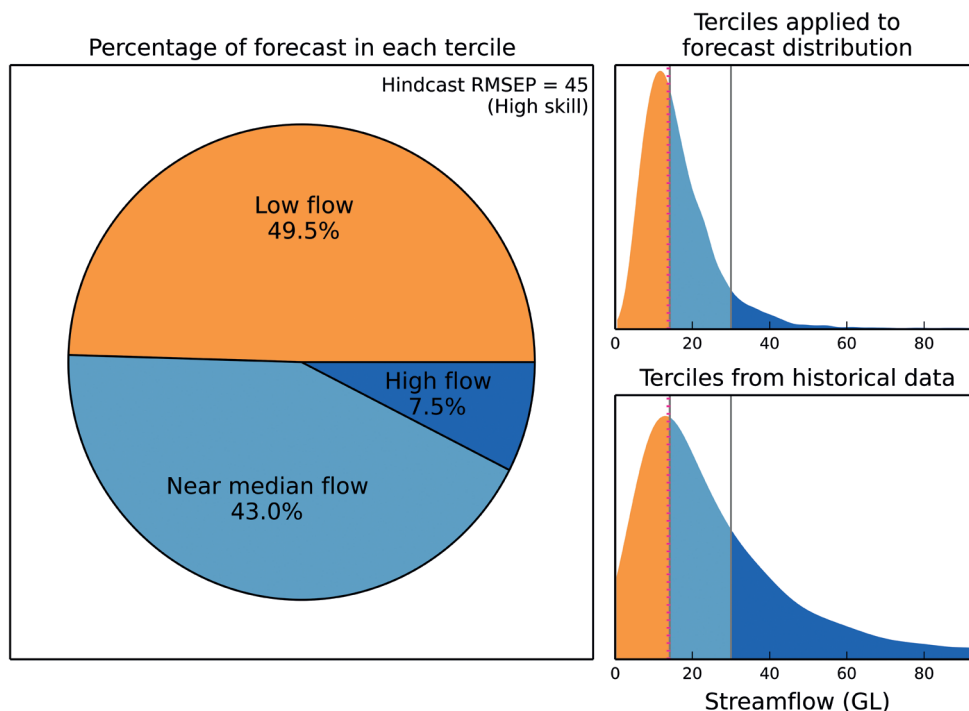
Irrigation in the Murrumbidgee catchment makes an important contribution to the Murray–Darling Basin’s multi-billion dollar agricultural industry. Lake Burrinjuck and Blowering Reservoir are key storages within this catchment which support irrigation. The Bureau’s Seasonal Streamflow Forecasts of likely flow volumes into these storages provide valuable information that can help estimate storage levels for the months ahead, with important implications for the economy in this region and for water supply to Wagga Wagga.

Next steps

The Bureau is planning to upgrade the service to include merged forecasts from statistical and dynamic modelling approaches, where a hydrological model is used with rainfall data input in addition to the historical streamflow data. Rainfall data from the Bureau’s new ACCESS-S climate prediction model will be used as input to the hydrological model.

This rainfall data is of much higher resolution, providing information that is approximately 16-times finer in detail across the landscape. This will improve forecast quality. The Bureau is also developing forecasts for individual months.

Forecast for the Goodradigbee River at Wee Jasper show increased likelihood of low streamflows for January–March 2016 (left). Compared with historical data for the period 1970–2008, the forecast distribution moves towards lower streamflows (right).



FIND OUT MORE

For more information about the Seasonal Streamflow Forecast service visit www.bom.gov.au/water/ssf or contact water_ssf@bom.gov.au

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