



7-day streamflow forecasts



What is the 7-day streamflow forecasts service?

The Bureau forecasts likely streamflow rates for the next seven days at more than 200 locations across Australia. This service helps anyone using our rivers – especially river and reservoir managers who make decisions about the best use of the country’s water, from a water supply, agricultural, and environmental perspective.

How does the service work?

Forecasts are automatically generated every day using hydrological models. The models start with real-time observations of rainfall and streamflow from a national network of rain and river gauges. These observations are combined with the Bureau’s rainfall forecasts to calculate how much runoff is likely, and the flow of this water down the stream network. A forecast is generated for each of the next seven days.

Information on forecast accuracy is provided to give a better understanding of how the forecasts have performed against past observations.

What are the benefits of the service?

These streamflow forecasts indicate whether rivers are likely to rise or fall in the coming week. They show whether forecast rain is sufficient to cause increased flow in the rivers, and how this compares to the average flow for this time of the year.

Together with other planning tools, these forecasts can be used to:

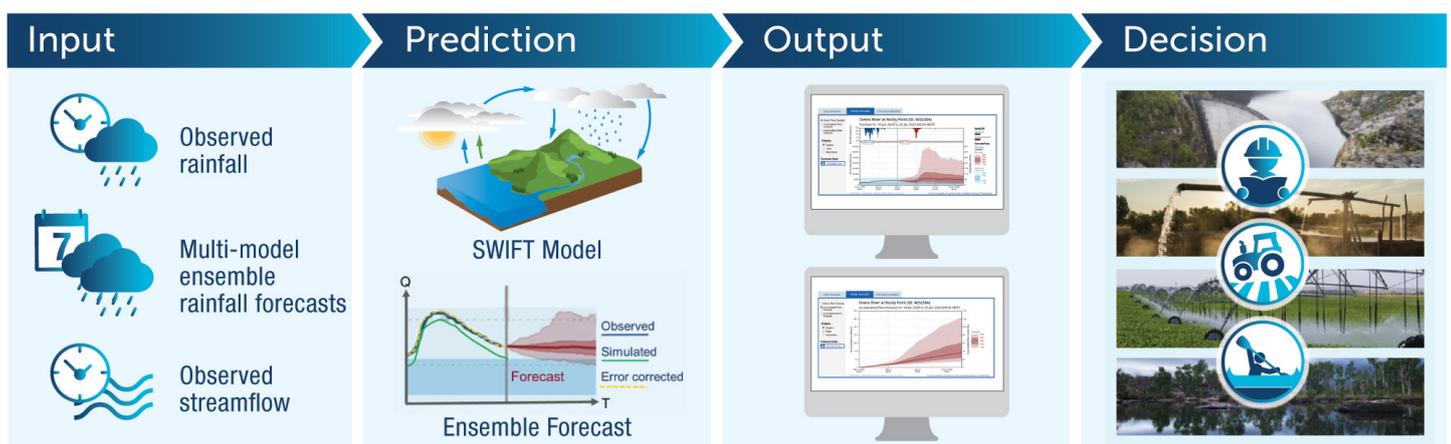
- reduce water wastage in managed irrigation systems when natural flows are expected;
- achieve environmental outcomes, helping water managers meet high and low flow needs for rivers and wetlands;
- provide additional information for reservoir operations;
- support on-farm water management decisions; and
- help recreational users plan activities such as camping, fishing, and boating.

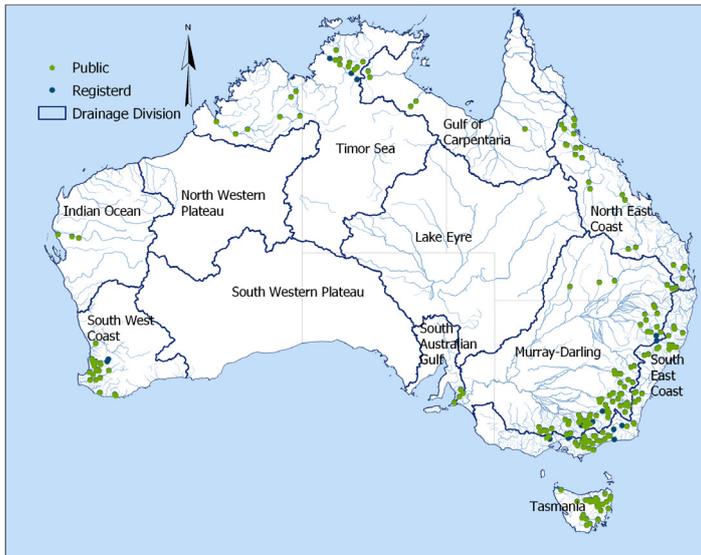
Who can use it?

The 7-day streamflow forecasts are available to everyone via a web portal. Professional organisations involved in water management, especially dam and river operators, may take the forecasts and apply them to decision making and scenario planning. If you are a recreational user, you may like to check the forecasts to help decide whether river conditions are suitable for boating and fishing trips.

Next steps

In 2015, the Bureau released the deterministic service that covers the regions of high economic, environmental and social significance. We are now replacing that with probabilistic forecasts. We will continue to work with the stakeholders for further refinement and improvement of the service.





7-day streamflow forecast locations

How are 7-day streamflow forecasts different to flood forecasts?

Flood forecasts are generated by skilled hydrologists using models, observations and other information, to provide warnings to the public and emergency managers about hazardous conditions. The forecasts and warnings are typically reviewed many times a day during floods and focus on providing the best possible estimate of flood peak heights and timing. For more information on flood forecasting, visit www.bom.gov.au/australia/flood

The 7-day streamflow forecasts are generated automatically, once a day, to assist water managers and the public with day-to-day decision-making related to river and reservoir operations and management.

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, planning and operations. It provides the 7 day streamflow forecasts as part of its water information role and responsibilities under the **Water Act 2007**.

Managing the upper Murray

At the Murray–Darling Basin Authority, a small team of river operators is responsible for managing the regulation of the River Murray System, including water releases from Hume Reservoir in the upper reaches of the Murray. These releases flow into Lake Mulwala, which supplies major irrigation districts in northern Victoria and southern New South Wales. Flows continuing downstream of Lake Mulwala are managed to meet many other requirements, including supporting the riverine environment at sites such as the Barmah–Millewa Forest and supplying water to a range of other water users along the length of river.

Managing the system is complex. Once released, flows can take several weeks to reach downstream locations, and release decisions rely on an understanding of the ever-changing weather conditions and flows downstream. Judging the right amount of water to release is therefore critical to ensure irrigation requirements are met and also helps provide suitable conditions for recreational users of Lake Mulwala. However, releasing too much water may lead to water wastage and is sometimes detrimental to the environment.

To get this balance right, river operators must take account of natural inflows from tributaries of the Murray such as the Kiewa and Ovens Rivers in northern Victoria. This is where the 7-day streamflow forecasting service is of great benefit.

"Having these forecasts is fantastic! It allows us to more accurately estimate what these natural inflows will be. This means we can meet our Lake Mulwala objectives with more precision by making the right releases upstream. We can also plan for releases in conjunction with natural flows to improve environmental outcomes downstream."
MDBA River Operator.

FIND OUT MORE

For more information about the 7-day streamflow forecasts visit www.bom.gov.au/water/7daystreamflow or contact water_sdf@bom.gov.au
Subscribe to our newsletters and product notices to receive regular updates through e.bom.gov.au/subscribe

