

SA River Murray Flow Report

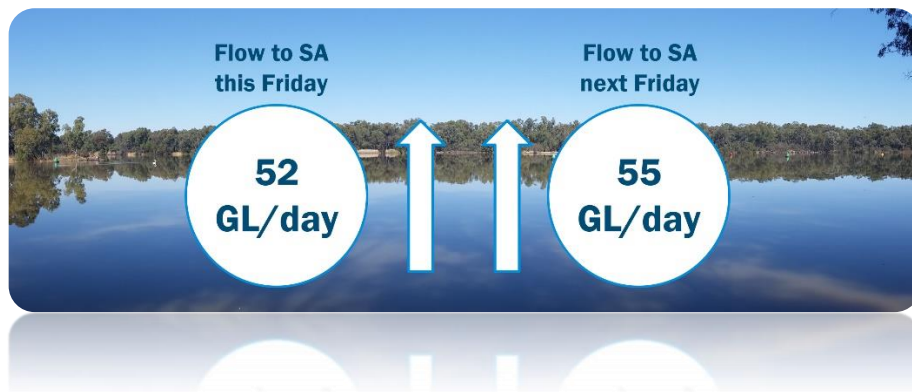


Report #34/2023

Issued 12:00 pm 25 August 2023

This supersedes the previous Flow Report issued by the Department for Environment and Water (DEW) on 18 August 2023. The next Flow Report will be provided on Friday 1 September 2023.

Flow outlook



The flow at the South Australian border is approximately 52 GL/day and is forecast to increase to approximately 55 GL/day over the coming week **depending on river operations**. Changes to operations at [Lake Victoria](#) (how much water goes into the Lake from the main river channel and how much is released out of the Lake) can alter the flow to South Australia. Lake Victoria is operated according to the Lake Victoria Operating Strategy.

The current flow at the border comprises the full August Entitlement Flow (4 GL/day) plus, small volumes of water for the environment and interstate trade adjustments while the majority of the flow is Unregulated Flow.

Airspace releases from Hume and Dartmouth dams as well as rainfall over the upper Murray catchment and Victorian tributaries (such as the Goulburn and Ovens catchment) over recent weeks has led to this increase in flow at the South Australian border.

The latest forecast upstream of the South Australian border indicates that the flow to SA will stay around 50 - 55 GL/day until around early to mid-September 2023, subject to river operations, after which it will begin to fall. This flow outlook is largely based on measurements of flow already in transit to SA and may increase and/or persist for longer if further rainfall on the catchment occurs and/or if pre-releases from storages are increased.

The current expected peak flow is similar to flow observed in July to September 2022 however unlike last year, **the forecast outlook is for a warmer and drier than average August to October** period (see Bureau of Meteorology outlook below).

While this is considered a **High Flow**, this type of flow is most common in winter-spring when the Murray catchment receives the bulk of its rainfall.

The flow over Lock 1 is approximately 48 GL/day and will increase to around 50 GL/day over the coming week.

It is important to note that flow forecasts in this advice are based on the information available at the time of preparation. Advice may change as new gauging information becomes available or due to rainfall events or changed operations upstream.

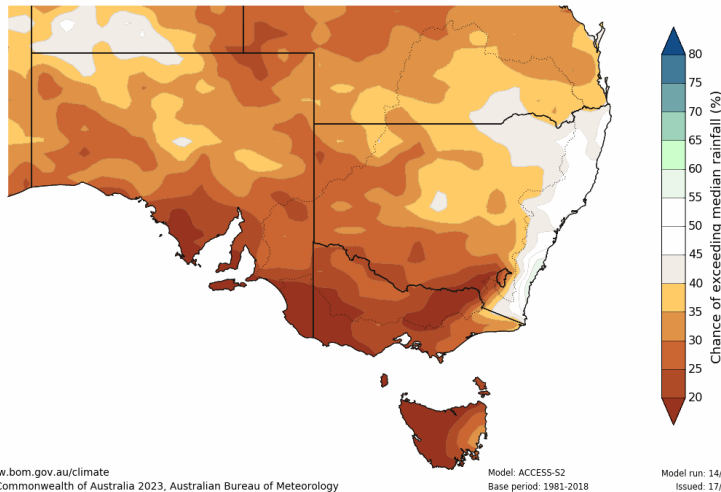
Bureau of Meteorology outlook

Rainfall during July 2023 was average to above average across most of the Southern Connected Basin. However, over the coming months, the Bureau of Meteorology is continuing to forecast below average rainfall (Figure 1) and warmer temperatures (Figure 2) from September to November 2023.

This is being driven by all international climate models forecasting an El Nino event emerging in 2023 and persisting well into the Southern Hemisphere summer. El Nino typically suppresses winter-spring rainfall over Eastern Australia.

The Indian Ocean Dipole (IOD) is currently neutral, however models suggest that a positive IOD is likely to form in spring. A positive IOD typically suppresses winter-spring rainfall across Australia and, when occurring at the same time as an El Nino event (as is forecast over the coming months), it can exacerbate the drying effect.

Chance of exceeding the median rainfall for September to November 2023



Chance of exceeding the median maximum temperature for September to November 2023

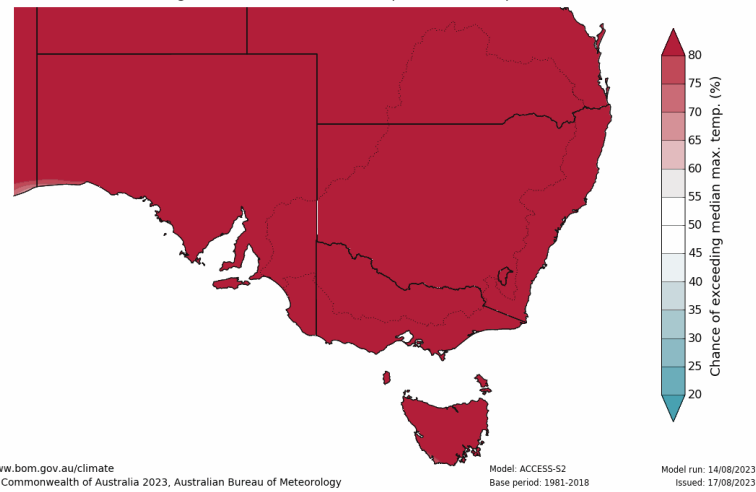


Figure 1: Chance of exceeding median rainfall for September to November 2023 (Bureau of Meteorology).

Figure 2: Chance of exceeding the median maximum temperature for September to November 2023 (Bureau of Meteorology).

Water levels

At these flow rates, water levels immediately upstream of locks and weirs are expected to remain at, or around, normal pool level. Due to natural hydraulic gradients, the further a location is from a lock, the greater the increase in water levels above normal pool level will be.

Although water levels in some locations may be higher, they are expected to stay within the range of normal variation (including when water levels are raised for environmental benefit – which is not the current reason why water levels are higher) and not reach levels seen under flood classifications.

Current water levels are updated daily and can be found at the following link: <https://www.waterconnect.sa.gov.au/River-Murray/SitePages/Daily.aspx>

High Flow Advice

With flow at the South Australian forecast above 40 GL/day, the Department for Environment and Water has issued a *High Flow Advice* with this River Murray Flow Report. The *High Flow Advice* is also available on the DEW website at the following location: <https://www.waterconnect.sa.gov.au/River-Murray/SitePages/River%20Murray%20Flow%20Reports.aspx>

Upstream flows

More information on upstream conditions and forecasts can be found in the Murray-Darling Basin Authority's *Weekly Flow Report* here: <https://www.mdba.gov.au/water-management/regular-reports-murray-data-storages/weekly-reports>

Murray Mouth

Dredging at the Murray Mouth continues to be suspended due to high flows scouring sand out of the mouth. Conditions are continuing to be monitored and fortnightly surveys performed in order to provide accurate information to assist in determining when dredging may recommence.

A wider and deeper Murray Mouth will have positive environmental benefits following the flood through enabling better exchange of water between the ocean, Lake Alexandrina and the Coorong.

Barrage operations and water levels in the Lower Lakes

The water level in Lake Alexandrina is approximately 0.78 m AHD and Lake Albert is approximately 0.82 m AHD. The difference is due to wind effects.

The Lower Lakes are being managed to target a daily average lake level between 0.7 m AHD to 0.8 m AHD during August 2023. It is not currently feasible to target a lower water level in the Lower Lakes (than the range stated above) due to the current and forecast tide heights. Targeting a lower level in the lakes would result in extended periods of gate closures when the tide level is higher than the water level upstream of the barrage, which in turn will increase water levels in the lakes. While the water level in the Lower Lakes can have an influence on water levels further upstream along the River Murray channel (for example, at Wellington and Jervois), this influence is reduced during higher flows.

During adverse weather conditions, SA Water will operate the barrages to minimise the risk of seawater entering Lake Alexandrina, therefore minimising any negative salinity impacts from reverse flow events. As the frequency of storms are greater during winter months it may mean that barrages are often closed. However, every opportunity is being taken to release water when conditions permit. This includes having a large number of gates open when conditions are suitable and utilising automatic gates to open and close at all hours of the day in line with tide conditions.

Gate openings at the barrages can now be viewed on Water Data SA here:

<https://water.data.sa.gov.au/Data/Dashboard/75>

Total daily flow releases from the barrages can also be found on Water Data SA here:

<https://water.data.sa.gov.au/Data/Dashboard/1>

River Murray River Vessel Waste Disposal Stations

As at 24 August 2023 all River Vessel Waste Disposal Stations (excluding Lock 3) are online and operational.

The Lock 3 River Vessel Waste Disposal Station has been out of commission since January 2020 due to a significant infrastructure failure. The nearest alternative waste facility is located at Waikerie. Normal boat waste (domestic or galley waste) can still be deposited at the Lock 3 facility at the present time.

Goolwa porta loo disposal unit is currently out of service and has been scoped for repairs. Updates will be provided as further information becomes available.

You can report any River Vessel Waste Disposal Station issues on 1800 799 065.

If you have any questions, please contact the DEW Engagement Team on DEW.WIOCommunications@sa.gov.au

Levee embankments

Field inspections of the levees are ongoing, and reinforcement of levee stabilisation works, where required, is underway. The risk of increased flows on the repaired sections of levees is also being assessed and any identified risks, as well as reinforcement, is being addressed on a priority basis.

While flood recovery works are taking place, levee banks along the River Murray are closed to the public for recreational activities. This includes for walking, fishing, and mooring of river vessels.

For questions related to the levee stabilisation works please contact Birgitte Sorensen on (08) 8463 6942 or birgitte.sorensen@sa.gov.au.

Questions related to dewatering and recovery of agricultural areas can be directed to the PIRSA Recovery Hotline on 1800 931 314.

More information on the stabilisation of levee banks in the LMRIA can be found on the DEW website at <https://www.environment.sa.gov.au/topics/river-murray-floods/lower-murray-levee-banks>.

If you have any questions, contact the DEW Engagement Team on DEW.WIOCommunications@sa.gov.au

Potential weir pool lowering in 2023-24

Planning is underway for potential small-scale weir pool manipulations at Locks 1 to 6 to commence in late September 2023, to achieve a range of benefits for floodplain and wetland vegetation and wildlife. Planning and exact timing is dependent on river conditions (flow and water quality), availability of water for the environment and approvals.

The operation will involve minor weir pool lowering, within the normal operating range, at Locks 1 to 5, and a potential weir pool lowering of up to 16 cm below normal pool level at Lock 6.

The weirs will be lowered by 2-3 cm per day over 1-8 days dependent on their target height which will limit any erosion risks and means any water level increases in the downstream weir pools will be minimal.

Lowering the weir pools will assist with drawing elevated groundwater into the river, flushing salt to the sea and supporting drying out of floodplains which have been inundated for an extended period of time. In stream salinity will be closely monitored ahead of, during and after any lowering event.

As planning continues, further details on these operations will be provided in future Flow Reports.

If you would like to receive email updates with further information please send your request to

DEW.WIOcommunications@sa.gov.au

Water quality

Algal blooms

A number of alerts for blue-green algae have been issued by upstream authorities in recent weeks. They include:

- River Murray at Fort Courage (**Amber alert**)
- Lake Victoria at the Outlet Regulator (**Amber alert**)
- Darling River at Tapio (**Red alert**)
- Darling River at Ellersie (**Red alert**)
- Darling River at Burtundy (**Red alert**)
- Darling River at Pooncarie (**Red alert**)
- Darling River at Tolarno (**Red alert**)
- Darling River at Menindee Weir No. 32 (**Red alert**)

While no algal-blooms are currently present within South Australia, people are advised to avoid contact with any obviously green water or scums if they are encountered as they may cause skin irritations in some people.

South Australian authorities closely monitor the situation upstream and SA Water increases sampling whenever a water quality event is detected to allow for timely action. SA Water, SA Health and DEW monitor the occurrence of blue-green algal blooms in South Australia. SA Water uses the water quality data to continually adjust operations to minimise impacts to water treatment plants and other users located along the River Murray.

Water quality alerts in South Australia can be found on the SA Health website:

<https://www.sahealth.sa.gov.au/wps/wcm/connect/public+content/sa+health+internet/public+health/water+quality/water+quality+alerts>

More information on current alerts upstream can be found on the WaterNSW website here:

<https://www.waternsw.com.au/water-services/water-quality/algae-alerts>

Salinity

Salinity levels throughout the River Murray in South Australia have returned to their typical range following elevated levels experienced during the flood recession.

Nonetheless, it is possible that some irrigators may record higher salinity readings at isolated locations. These higher readings are more likely to be observed at the bottom of the water column.

Irrigators are encouraged to monitor the [daily salinity levels](#) provided by SA Water as part of their business operations.

PIRSA has provided salinity management advice for irrigators on its website:

https://www.pir.sa.gov.au/emergencies_and_recovery/storms_and_floods/river_murray_flood_2022

Further information

River Murray high flows	https://www.environment.sa.gov.au/topics/river-murray-flows
2022-23 River Murray Flood event	https://www.environment.sa.gov.au/topics/river-murray-floods
2022-23 River Murray Flood recovery	https://www.recovery.sa.gov.au/active-recoveries/river-murray-flood
	https://pir.sa.gov.au/emergencies-and-recovery/storms-and-floods/river-murray-flood-2022
Water quality alerts in SA	https://www.sahealth.sa.gov.au/wps/wcm/connect/public+content/sa+health+internet/public+health/water+quality/water+quality+alerts
NSW fish deaths	https://www.dpi.nsw.gov.au/fishing/habitat/threats/fish-kills
NSW algal alerts	https://www.waternsw.com.au/water-services/water-quality/algal-alerts
Real-time water data at sites in SA	https://water.data.sa.gov.au/
Current daily water levels	https://www.waterconnect.sa.gov.au/River-Murray/SitePages/Daily.aspx
Daily flow and level information at key SA Water sites on the River Murray	https://www.sawater.com.au/water-and-the-environment/south-australias-water-sources/river-sources/river-reports-daily-flow
Daily salinity information in SA	https://www.sawater.com.au/water-and-the-environment/south-australias-water-sources/river-sources/river-reports-daily-salinity
Real time information throughout the River Murray system	https://riverdata.mdba.gov.au/system-view
Whole River Murray System updates	https://www.mdba.gov.au/water-management/regular-reports-murray-data-storages/weekly-reports
Marine safety in SA	https://marinesafety.sa.gov.au/
Victorian rainfall and river conditions	http://www.bom.gov.au/vic/flood/index.shtml
NSW rainfall and river conditions	http://www.bom.gov.au/nsw/flood/
Climate outlooks	http://www.bom.gov.au/climate/ahead/outlooks/
Climate drivers	http://www.bom.gov.au/climate/enso/

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