

Far North Prescribed Wells Area

2018–19 groundwater status overview



Far North PWA GAB (J-K) aquifer ○

LEGEND

- Highest on record
- Very much above average
- Above average
- Average
- Below average
- Very much below average
- Lowest on record
- Long-term trend

Regional context

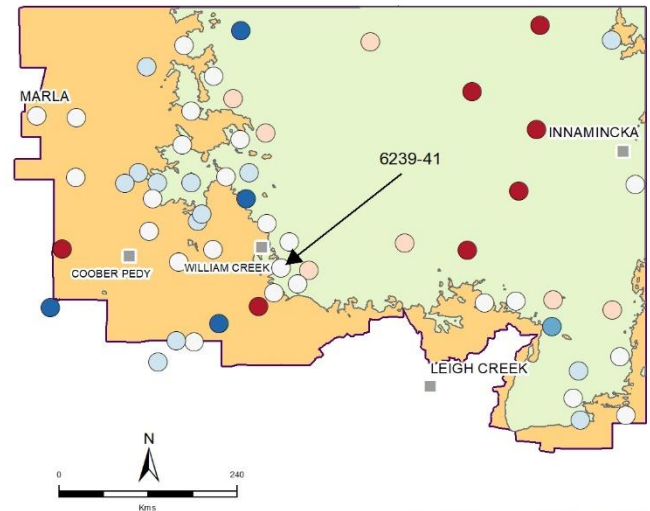
The Far North PWA is located in the South Australian Arid Lands (SAAL) Landscape Region and groundwater resources are managed under the Water Allocation Plan (WAP) with the current plan adopted in 2009. Groundwater in the Far North PWA is vital for the success of the mining, petroleum, pastoral and tourism industries and the provision of community water supplies.

Groundwater in the Far North PWA is predominantly sourced from the Cadna-owie Formation and Algebuckina Sandstone (and lateral equivalents), which form a single hydrogeological unit known as the Jurassic-Cretaceous (J-K) aquifer. The J-K aquifer contains the largest and regionally most important groundwater resource within the Far North PWA.

Groundwater level

Water levels in the majority of GAB(J-K) aquifer monitoring wells are at 'average' to 'highest-on-record' levels in 2019

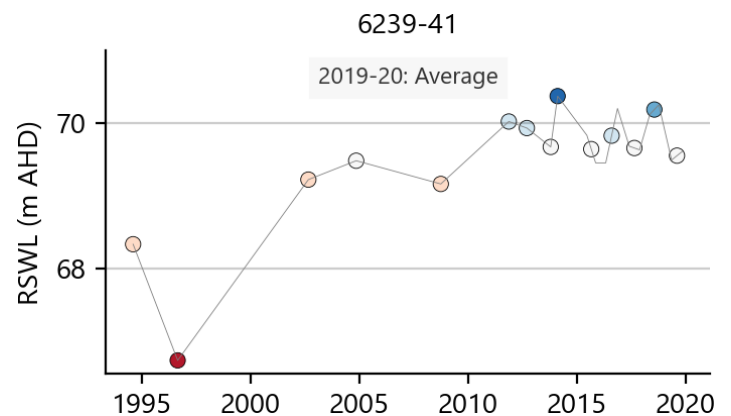
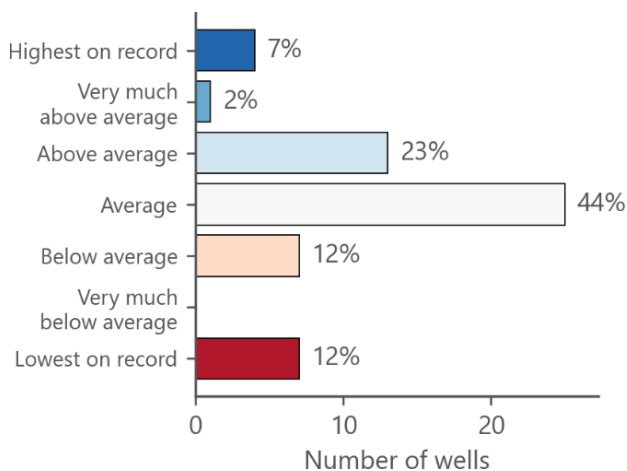
- Nearly half (44%) of monitoring wells recorded 'average' water levels compared to their respective historic water level records
- 32% of monitoring wells recorded 'above average' to 'highest-on-record' water levels
- 24% of monitoring wells recorded 'below average' to 'lowest on record' water levels. These wells are predominantly located in the north-east of the area
- Five-year trends in water level show that the majority of wells (72%) have rising or stable water levels.



- Groundwater level monitoring well
- Locality
- ▭ Far North PWA
- ▭ Artesian groundwater
- ▭ Non-artesian groundwater



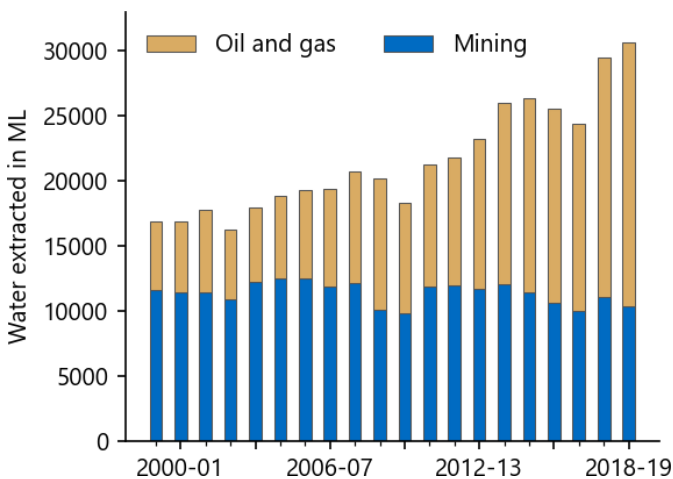
The figure below shows long-term water levels at a monitoring site south-east of William Creek and shows a gradual rise since 1996 which may be due to decommissioning of the original flowing well at this location in 1993. In 2019, the water level is ranked 'average' at this location.



Water extraction

The Great Artesian Basin provides 75% of groundwater supplies in the Far North PWA

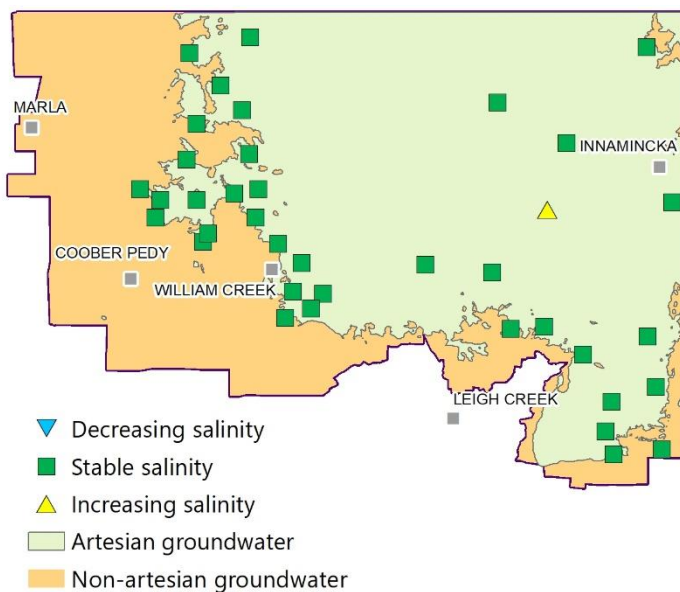
- Groundwater is predominantly extracted for mining, petroleum, stock and domestic purposes. Groundwater extraction is generally metered for mining, petroleum and town water supply purposes. Groundwater extraction for stock, domestic and other purposes is not currently metered
- Groundwater extraction for mining and petroleum purposes in 2018–19 was the highest in the last 20 years, but volumes are within current licenced allocations.



Groundwater salinity

Groundwater salinity in 2019 was stable at most monitoring sites

- In 2019, results from 51 wells in the GAB J K aquifer show groundwater salinity varies from 507 to 9757 mg/L, with a median of 1898 mg/L
- For the five-year period between 2015-19, salinity of the J-K aquifer was stable in all but one monitoring well.



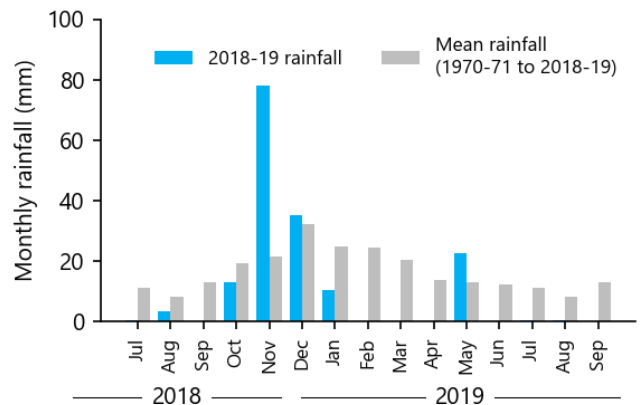
Climate-driven trends in water resources

The local rainfall in the South Australian portion of Great Artesian Basin, within the Far North PWA, has very little influence on groundwater pressure levels as the aquifer is confined.

Rainfall occurrence and intensity is episodic, sometimes without significant rainfall for years, while intense rainfall can deliver annual amounts in a single event. Rainfall is generally less than 250 mm per year.

Rainfall was lower than average for 2018–19

- Rainfall at Marree (BoM station 17031) was 27.1 mm, noticeably less than the long-term (1979–80 to 2018–19) average of 178 mm
- Rainfall at Marla (BoM station 16085) was 162 mm, 51 mm less than the long-term (1979–80 to 2018–19) average of 213 mm
- The figure below shows monthly rainfall at Marla in blue for July 2018 to September 2019 compared to monthly averages in grey.



Water allocation plan

A new water allocation plan is being developed

- The Water Allocation Plan, adopted in 2009, has undergone its 10-year statutory review
- A consultation period took place from 12 November 2019 to 17 April 2020.

More Information

This fact sheet is a high level summary of information provided in the 2018-19 Water Resources Assessment for the Far North PWA. Full details of the assessment can be found at: <https://www.waterconnect.sa.gov.au/>