



Department of  
Primary Industries

# Clyde River Water Quality Report

Climate Smart Pilots

August 8, 2023

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## **Foreword**

### **Funding**

This work has been produced by the NSW Primary Industries Climate Change Research Strategy funded by the NSW Climate Change Fund.

### **NSW Department of Primary Industries Disclaimer**

This is a research trial and pilot project, and you should not rely solely on the information or advice provided in these reports.

### **Feedback and Questions**

Please provide feedback and questions to Ben Sefton

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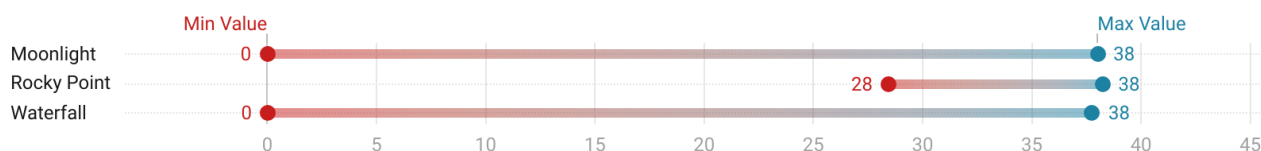
**List of Figures**

# 1 Salinity

## 1.1 Weekly

### Weekly Minimum and Maximum Salinity Clyde River

These values represent the absolute minimum and maximum recorded values from Buoys within each harvest area.



Units represent parts per thousand (ppt). This is equivalent to both g/kg and g/L.

Source: FarmDecisionTECH • Created with Datawrapper

Figure 1: These values represent the highest and lowest salinity reading a buoy has recorded in each of the harvest areas in the past week.

### 7-Day Salinity Average Trend Clyde River

Average daily salinity at each buoy throughout the Clyde River.

Rocky Point Waterfall Moonlight

#### Rocky Point

	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday
Waterfall Creek	34.8 ppt	34.8 ppt	35.0 ppt	35.0 ppt	35.0 ppt	35.0 ppt	35.1 ppt
Rocky Point	33.8 ppt	34.0 ppt	34.0 ppt	34.2 ppt	34.2 ppt	34.3 ppt	34.3 ppt
Angry Man Point	32.3 ppt	32.2 ppt	32.3 ppt	32.5 ppt	32.5 ppt	32.6 ppt	32.7 ppt
Chinamans Point	30.8 ppt	30.9 ppt	31.0 ppt	31.1 ppt	31.1 ppt	31.1 ppt	31.1 ppt

#### Waterfall

	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday
Big Island West	30.1 ppt	30.0 ppt	30.1 ppt	30.1 ppt	30.2 ppt	30.2 ppt	30.2 ppt
Double Bay	29.3 ppt	29.4 ppt	29.4 ppt	28.8 ppt	28.2 ppt	27.8 ppt	27.5 ppt
Buckenbowra Creek	25.5 ppt	26.0 ppt	26.2 ppt	27.6 ppt	29.0 ppt	30.0 ppt	30.7 ppt

#### Moonlight

	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday
Snapper Point	35.5 ppt	35.6 ppt	35.7 ppt	35.8 ppt	35.8 ppt	35.9 ppt	35.9 ppt
Wray Street	32.6 ppt	32.6 ppt	32.6 ppt	32.7 ppt	32.7 ppt	32.8 ppt	32.8 ppt
Moonlight	32.3 ppt	32.4 ppt	28.4 ppt	21.1 ppt	16.9 ppt	14.1 ppt	12.1 ppt
Budd Island North	32.0 ppt	32.0 ppt	32.2 ppt	32.4 ppt	32.6 ppt	32.7 ppt	32.8 ppt

Units represent parts per thousand (ppt). This is equivalent to both g/kg and g/L.

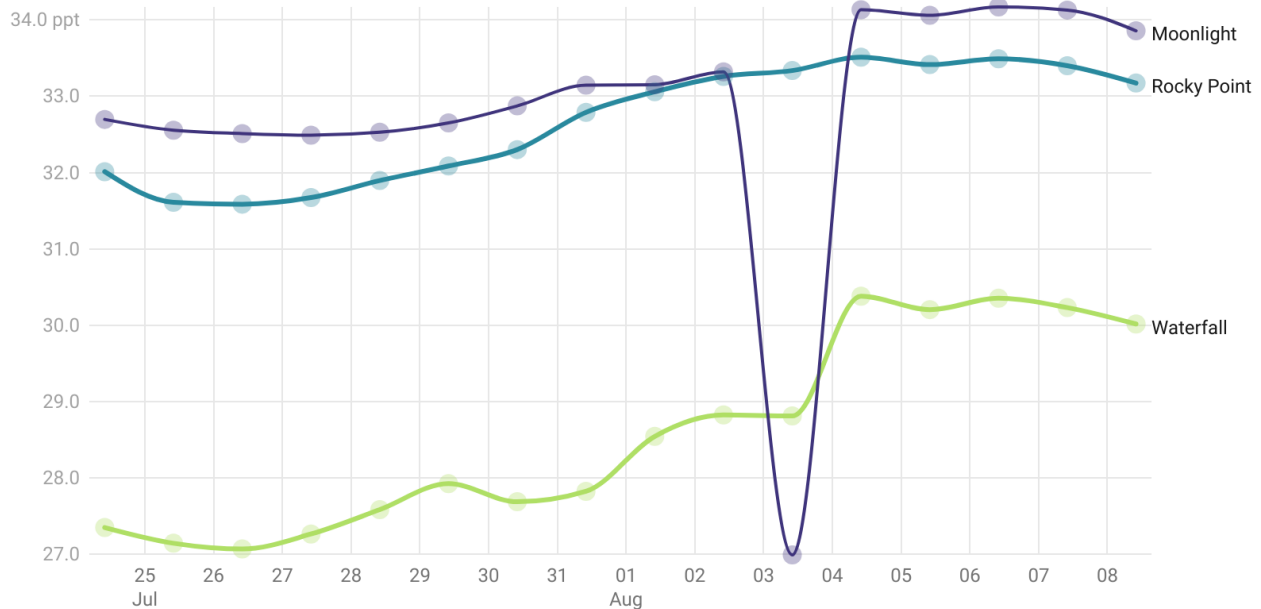
Source: FarmDecisionTECH • Created with Datawrapper

Figure 2: This figure represents the daily average salinity of each of the buoys contained within a harvest area. Its designed to reduce the impact of tides and provide the general trend of salinity over the past week for specific locations within harvest areas.

## 1.2 Fortnightly

### Fortnightly Salinity Average Trend Clyde River

12-hourly average salinity for each harvest area.



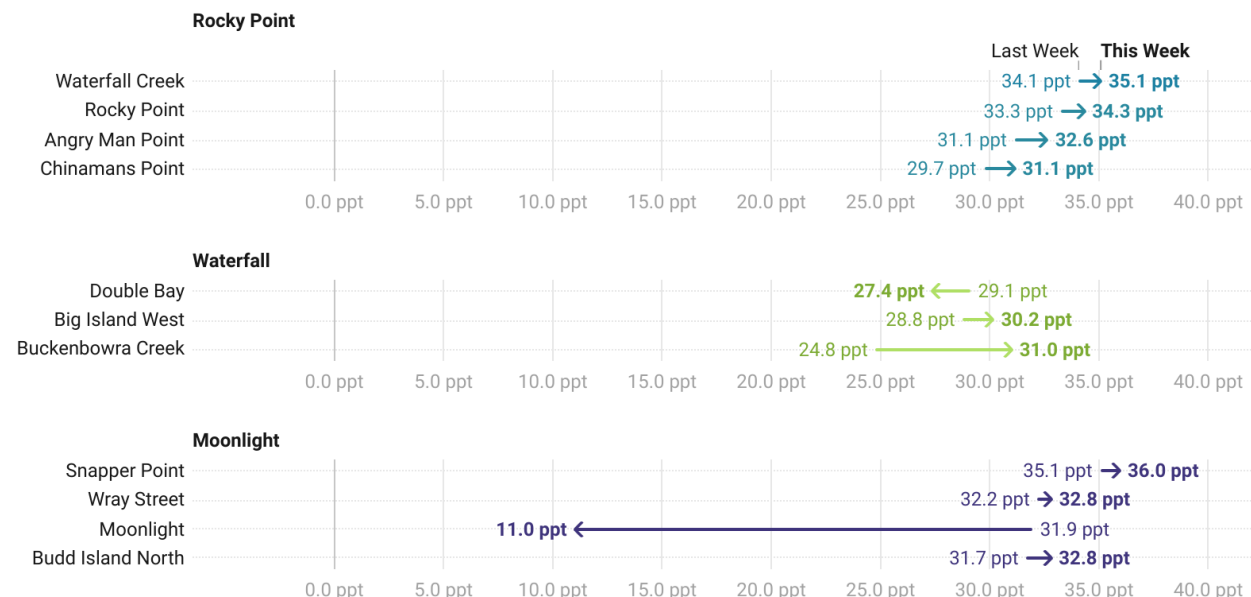
Units represent parts per thousand (ppt). This is equivalent to both g/kg and g/L.

Source: FarmDecisionTECH • Created with Datawrapper

Figure 3: This figure represents the daily average salinity of all buoys contained within a harvest area. Its designed to reduce the impact of tides and provide the general trend of salinity over the past week.

## Fortnightly Average Salinity Trend Clyde River

Comparison between this weeks average salinity and the average salinity last week. Left pointing arrow means salinity is decreasing, right pointing means salinity is increasing.



Units represent parts per thousand (ppt). This is equivalent to both g/kg and g/L.

Source: FarmDecisionTECH • Created with Datawrapper

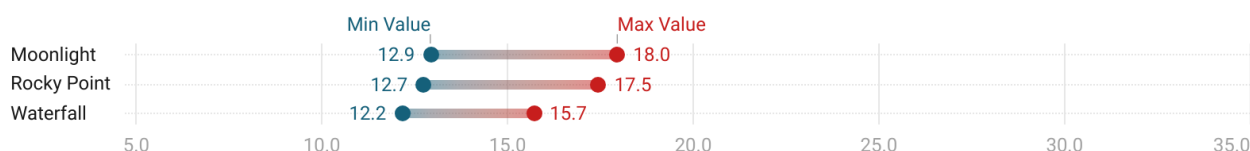
Figure 4: This figure demonstrates the average difference in salinity for this week compared with the prior week. It displays a longer term, general trend to see if salinity is increasing, stabilising or decreasing.

## 2 Water Temperature

### 2.1 Weekly

#### Weekly Minimum and Maximum Water Temperature Clyde River

These values represent the absolute minimum and maximum recorded values from Buoys within each harvest area.



Source: FarmDecisionTECH • Created with Datawrapper

Figure 5: These values represent the highest and lowest temperature reading a buoy has recorded in each of the harvest areas in the past week.

#### 7-Day Temperature Average Trend Clyde River

Average daily temperature at each buoy throughout the Clyde River.

Waterfall Moonlight Rocky Point

##### Rocky Point

	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday
Rocky Point	13.7 °C	13.8 °C	14.0 °C	14.1 °C	14.2 °C	14.3 °C	14.4 °C
Chinamans Point	13.4 °C	13.6 °C	13.7 °C	13.8 °C	13.9 °C	14.0 °C	14.1 °C
Waterfall Creek	13.3 °C	13.5 °C	13.6 °C	13.7 °C	13.9 °C	14.0 °C	14.0 °C
Angry Man Point	13.3 °C	13.5 °C	13.6 °C	13.7 °C	13.8 °C	13.9 °C	14.0 °C

##### Waterfall

	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday
Buckenbowra Creek	13.2 °C	13.3 °C	13.4 °C	13.5 °C	13.7 °C	13.8 °C	13.8 °C
Big Island West	13.0 °C	13.1 °C	13.2 °C	13.3 °C	13.4 °C	13.5 °C	13.6 °C
Double Bay	12.8 °C	12.9 °C	13.0 °C	13.2 °C	13.3 °C	13.4 °C	13.4 °C

##### Moonlight

	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday
Moonlight	13.9 °C	14.1 °C	14.2 °C	14.4 °C	14.5 °C	14.6 °C	14.6 °C
Budd Island North	13.9 °C	14.0 °C	14.1 °C	14.3 °C	14.4 °C	14.5 °C	14.6 °C
Wray Street	13.9 °C	14.0 °C	14.2 °C	14.3 °C	14.4 °C	14.5 °C	14.5 °C
Snapper Point	13.7 °C	13.8 °C	13.9 °C	14.1 °C	14.2 °C	14.3 °C	14.4 °C

Temperature is displayed in degrees Celsius (°C)

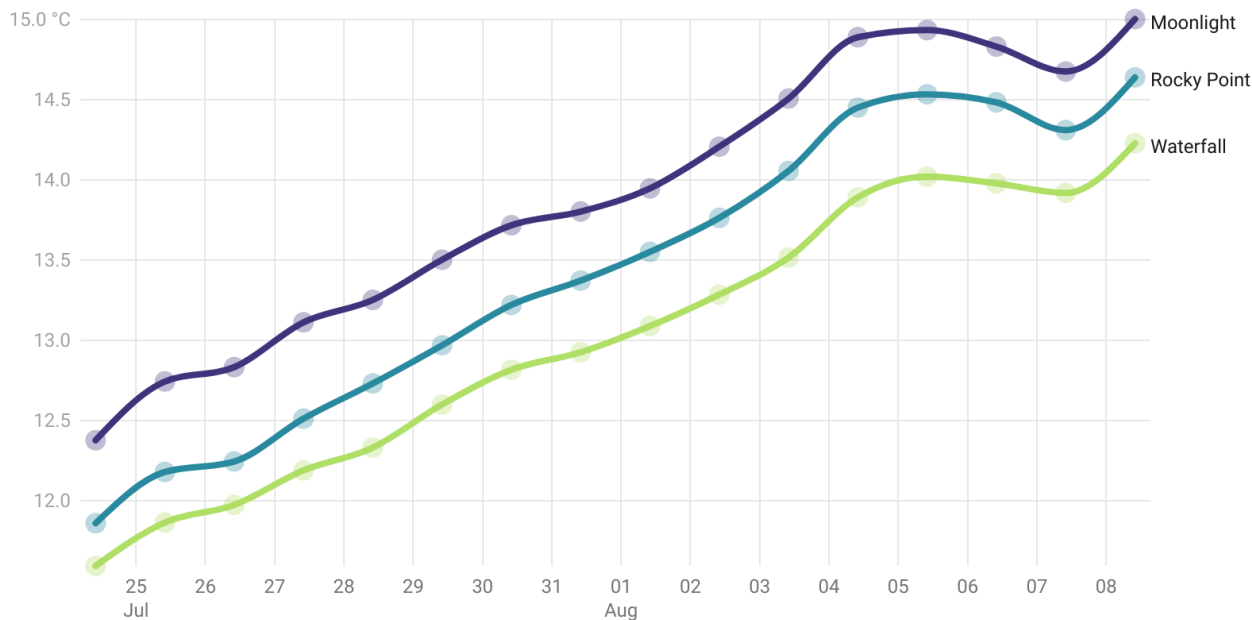
Source: FarmDecisionTECH • Created with Datawrapper

Figure 6: This figure represents the daily average temperature of each of the buoys contained within a harvest area. Its designed to reduce the impact of tides and provide the general trend of temperature over the past week for specific locations within harvest areas.

2.2 Fortnightly

Fortnightly Average Temperature Trend Clyde River

12-hourly average temperature for each harvest area.



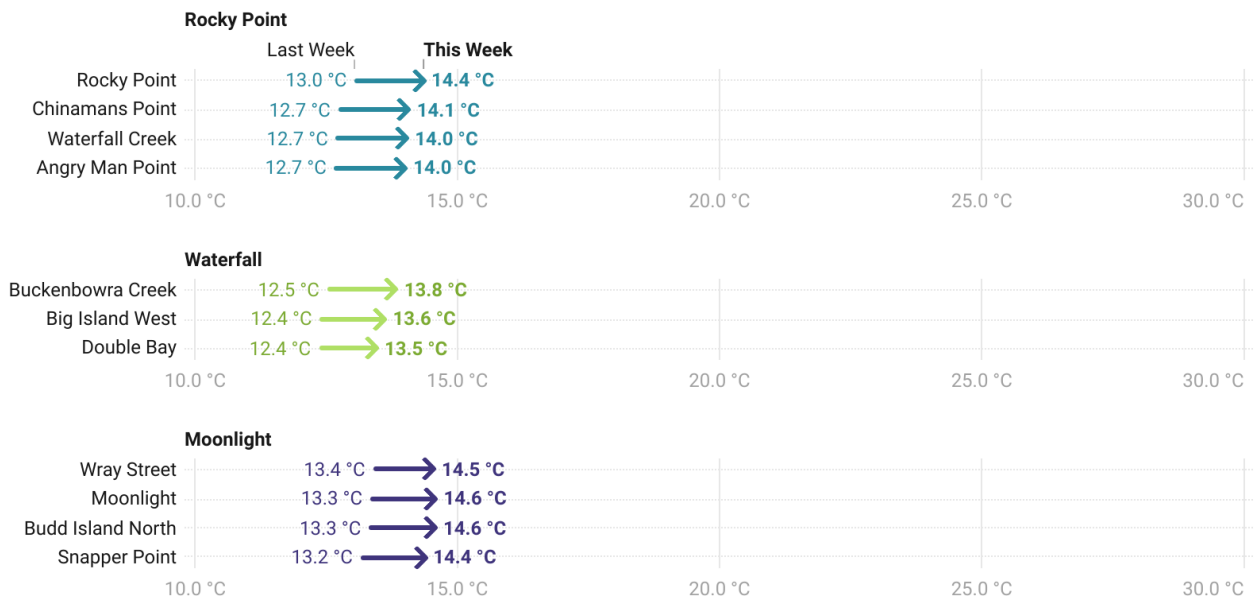
Temperature is displayed in degrees Celsius (°C).  
Source: FarmDecisionTECH • Created with Datawrapper

Figure 7: This figure represents the daily average temperature of all buoys contained within a harvest area. Its designed to reduce the impact of tides and provide the general trend of temperature over the past week.



## Fortnightly Average Temperature Trend Clyde River

Comparison between this weeks average temperature and the average temperature last week.



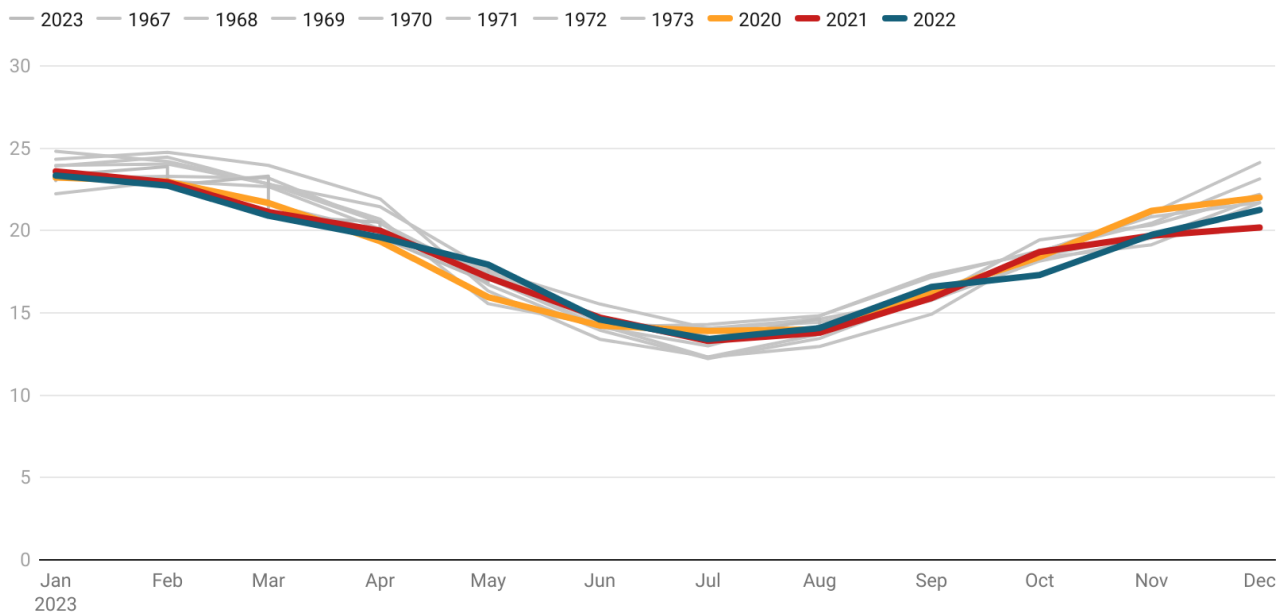
Temperature is displayed in degrees Celsius (°C)  
Source: FarmDecisionTECH • Created with Datawrapper

Figure 8: This figure demonstrates the average difference in temperature for this week compared with the prior week. It displays a longer term, general trend to see if temperature is increasing, stabilising or decreasing.

2.3 Historical

Historical and Current Average Monthly Water Temperature Clyde River

Monthly average water temperature from historical (1967-73) and recent (2020-22). Measured close to the Clyde River entrance.

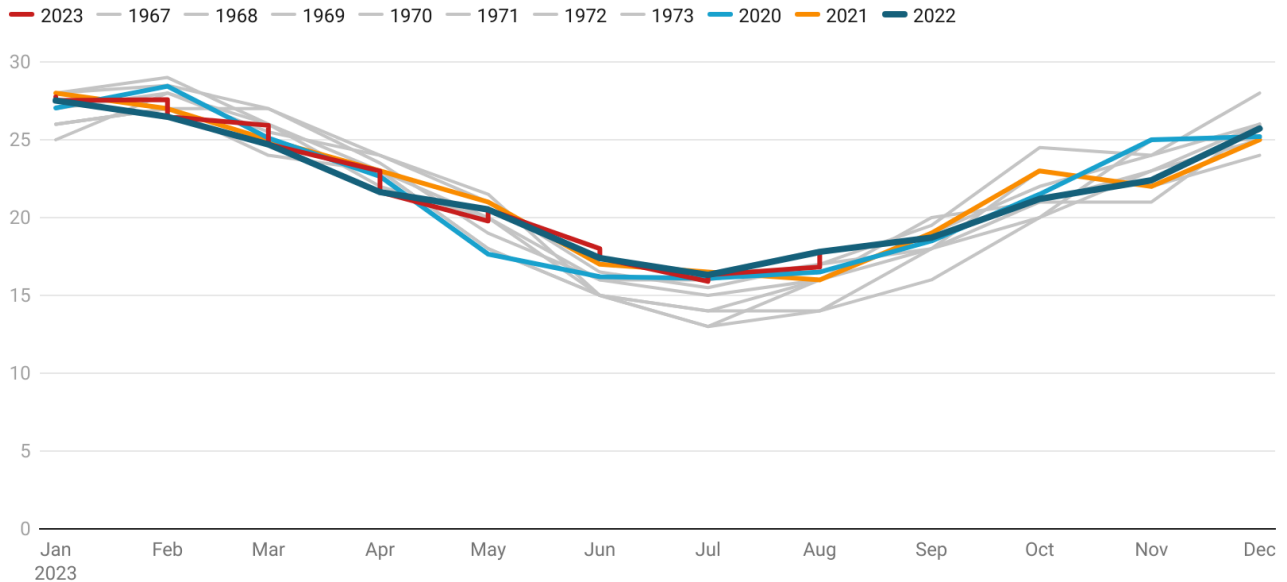


Temperature is displayed in degrees Celsius (°C).  
Source: FarmDecisionTECH • Created with Datawrapper

Figure 9: Monthly average water temperature from historical (1967-73) and recent (2020-22). Measured close to the Clyde River entrance.

## Historical and Current Maximum Monthly Water Temperature Clyde River

Monthly maximum water temperature from historical (1967-73) and recent (2020-23) years. Measured close to the Clyde River entrance.



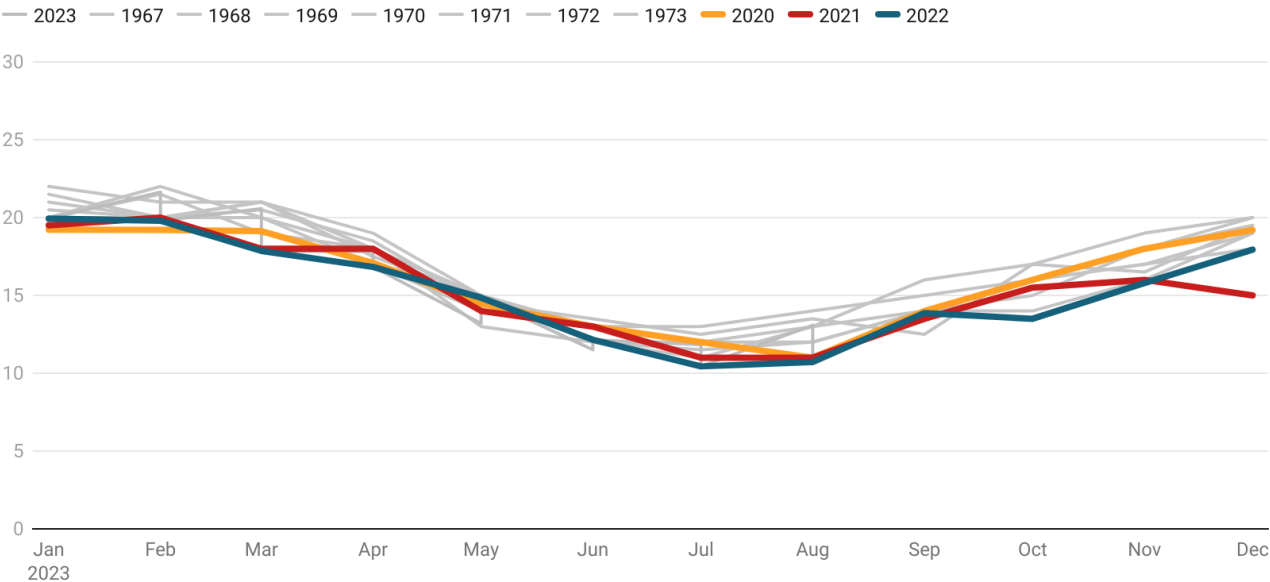
Temperature is displayed in degrees Celsius (°C).

Source: FarmDecisionTECH • Created with Datawrapper

Figure 10: Monthly maximum water temperature from historical (1967-73) and recent (2020-22). Measured close to the Clyde River entrance.

## Historical and Current Minimum Monthly Water Temperature Clyde River

Monthly minimum water temperature from historical (1967-73) and recent (2020-22) years. Measured close to the Clyde River entrance.



Temperature is displayed in degrees Celsius (°C).  
Source: FarmDecisionTECH • Created with Datawrapper

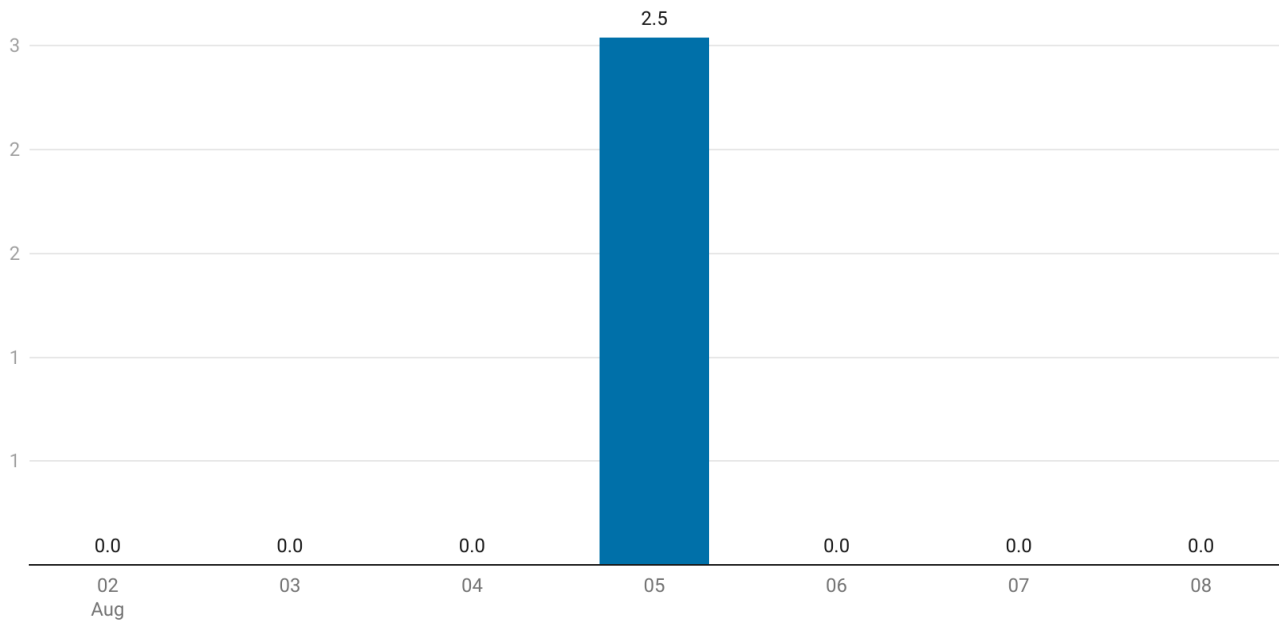
Figure 11: Monthly minimum water temperature from historical (1967-73) and recent (2020-22). Measured close to the Clyde River entrance.

### 3 Precipitation

#### 3.1 Weekly

##### 7-Day Clyde River Precipitation Clyde River

Daily total precipitation. Weather station is located on Budd Island.



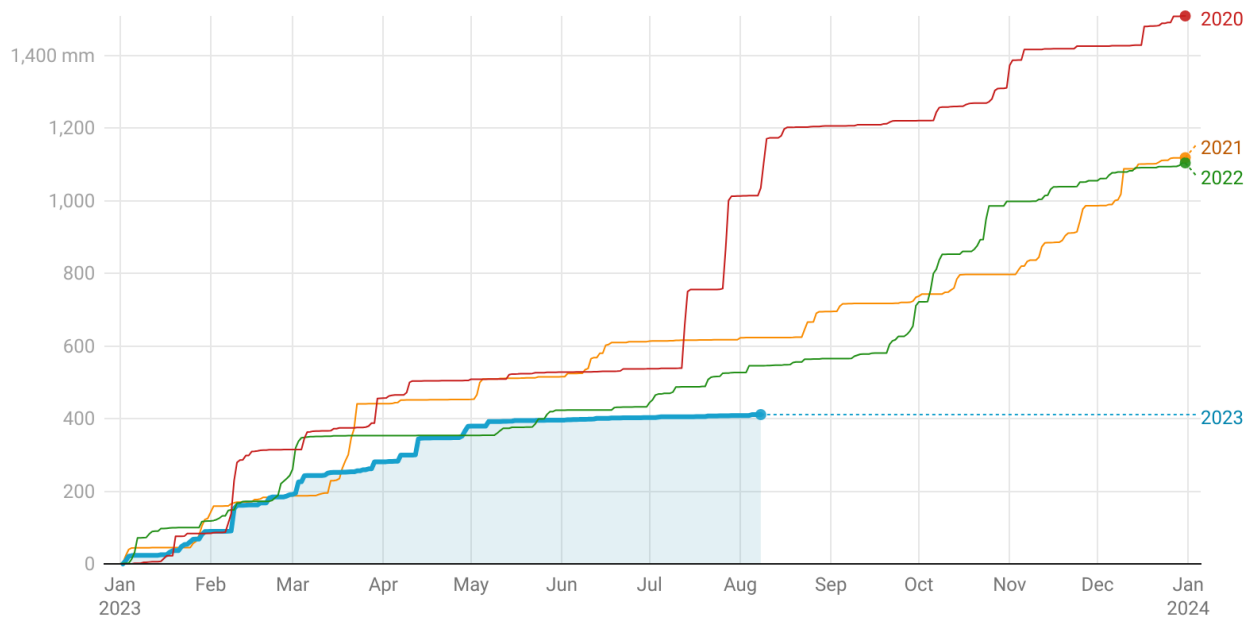
Precipitation is measured in millimeters (mm). 1 mm of rainfall is equal to 1 litre of water per meter squared.  
Source: FarmDecisionTECH • Created with Datawrapper

Figure 12: Daily total precipitation at Budd Island for the past week.

## 3.2 Yearly

### Year-to-Date Precipitation Clyde River

Accumulation of rainfall since the start of the year. Other years are shown in reference to this year.



Rainfall is displayed in millimetres (mm).

Created with Datawrapper

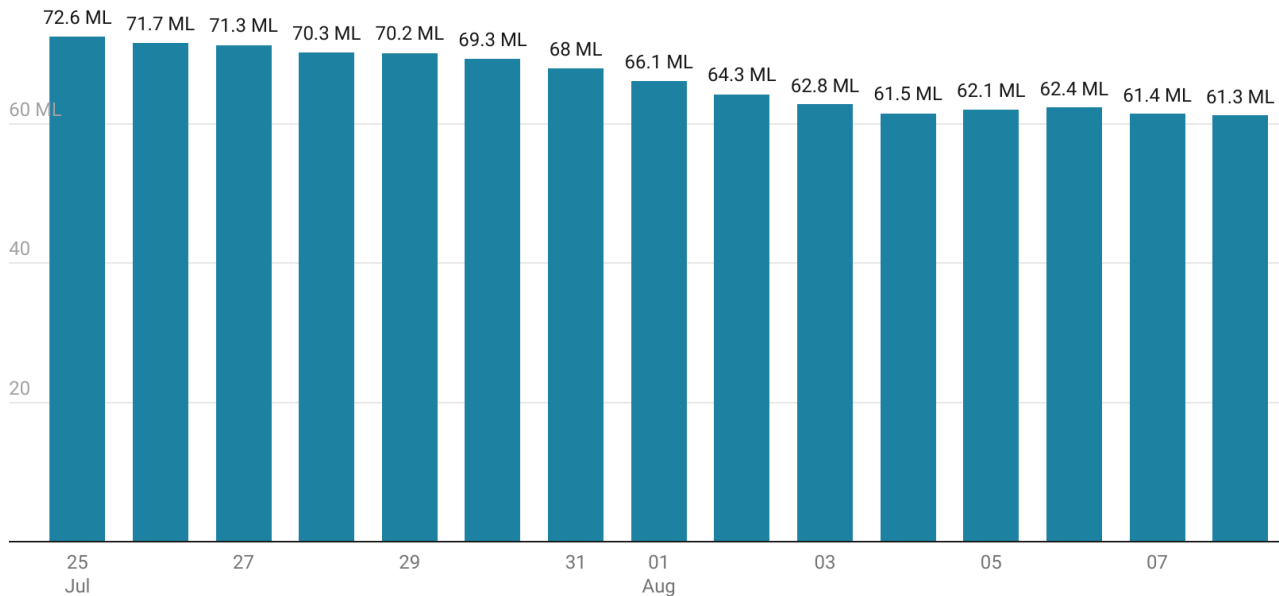
Figure 13: Compares this years total precipitation against previous years.

## 4 Flow Rate from Tributaries

### 4.1 Fortnightly

#### Brooman Tributary Fortnightly Discharge rate Clyde River

Daily discharge rate totals for Brooman Tributary. This station is roughly 20 km North of the Clyde River.

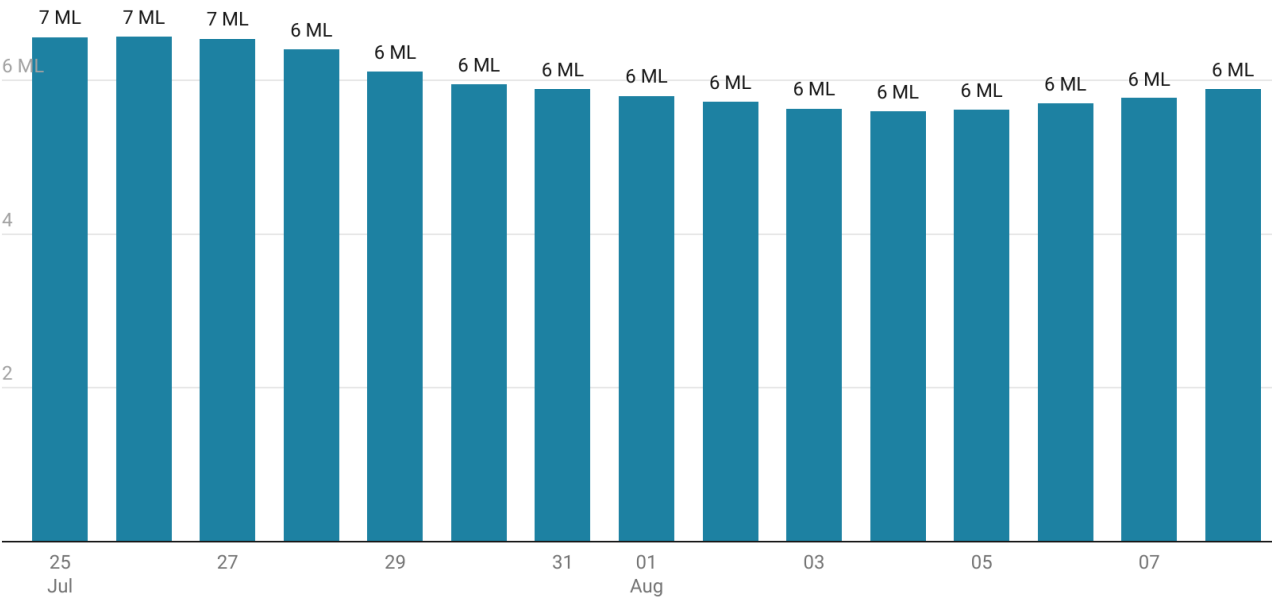


Values represent megalitres per day (ML/day). A mega litre is equal to 1 million litres. Data: © State of New South Wales through WaterNSW. Quality Codes: 140 = Current rating - may be subject to change, 145 = Telemetry system added point, 255 = Dataset not complete  
Source: FarmDecisionTECH • Created with Datawrapper

Figure 14: Fortnightly (daily total) water discharge from Brooman.

Buckenbowra Tributary Fortnightly Discharge rate Clyde River

Daily discharge rate totals for Buckenbowra Tributary. This station is roughly 8 km West of the Clyde River.



Values represent megalitres per day (ML/day). A mega litre is equal to 1 million litres. Quality Codes: 140 = Best available data, 145 = Data under review, 255 = Dataset not complete

Chart: © State of New South Wales through WaterNSW • Created with Datawrapper

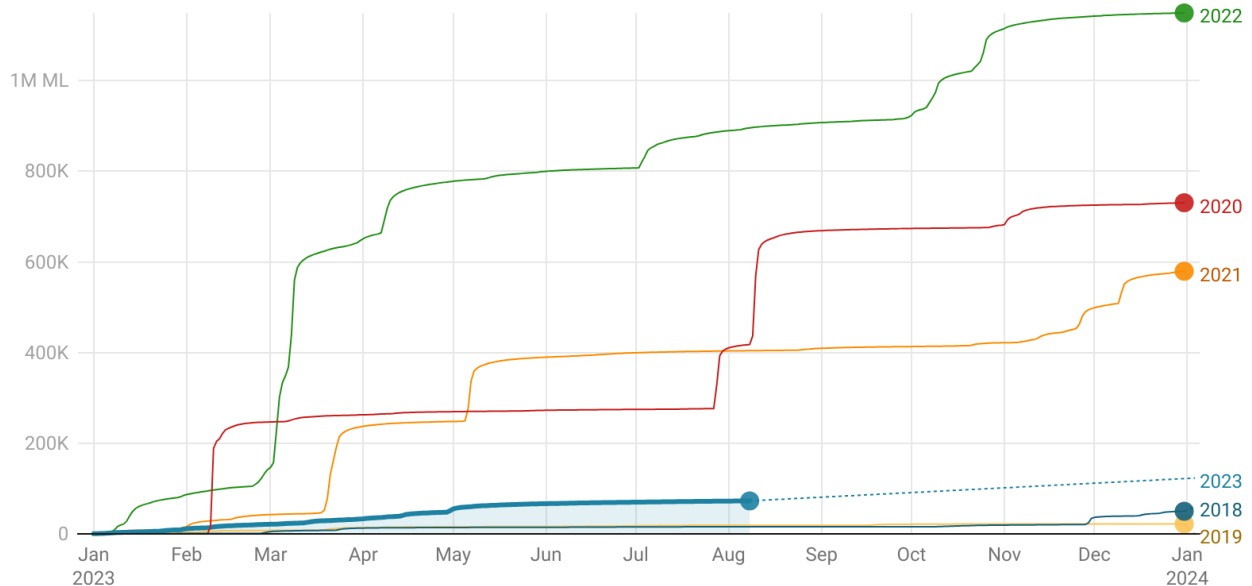
Figure 15: Fortnightly (daily total) water discharge from Buckenbowra.



## 4.2 Yearly

### Cumulative Daily Discharge-Rate Brooman Clyde River

Cumulative daily water flow for each year from Brooman into the Clyde River. Units represent mega litres (ML). One ML is equal to 1 million litres.



Data: © State of New South Wales through WaterNSW

Chart: FarmDecisionTECH • Created with Datawrapper

Figure 16: Compares this years total water discharge against previous years. Drought years (2018 and 2019) are shown for comparison.