Murrumbidgee Operational Drought update

Adrian Langdon, Executive Manager, System Operation
Murray Darling Basin

Northern Basin feeds into the Barwon Darling and includes valleys from Macquarie north

Basin Plan extraction target 3,468 GL

Southern Basin feeds into the Murray and includes valleys from Lachlan south

Basin Plan extraction target 7,450 GL
Southern Valley
Situation
Murrumbidgee system inflows vs allocations

Allocations to extractive users (GS and Supplementary) has been 30% of total inflows over this period.
Murray System Inflows vs Allocation

Last 10 Year Average Inflow (5,076 GL)

Last 6 Year Average Inflow (3,360 GL)

66% of 10 year average
Lachlan system inflows vs allocations

Allocations to extractive users (GS and Supplementary) has been 22.5% of total inflows over this period.

- Long Term Average Inflow (1,212 GL)
- Last 10 Year Average Inflow (851 GL)
- Last 6 Year Average Inflow (740 GL)

70% of long term average
61% of long term average
Northern Valley Situation
Macquarie system inflows vs allocations

Allocations to extractive users has been 17% of total inflows over this period

- Long term average inflow (1448 GL)
- Last 10 Year average inflow (1066 GL)
- Last 6 Year average inflow (690 GL)

Combined inflows in 2017-18 was 42GL. Allocations made from 2016 floods water is storage.

Combined inflows in 2018-19 up to 10th Feb 55 GL

74% of long term average
47% of long term average
Allocations to extractive users (GS and Supplementary) has been 16% of total inflows over this period.
Extractive users (GS and Supplementary) have taken 22% of total inflows over this period.
Border Rivers system inflows vs allocations

Last 10 Year Average Inflow (966 GL)
Balonne flows upstream of St George

Long term average inflow (1112 GL)

10 Year average inflow (1666 GL)

6 Year average inflow (266 GL)
Barwon-Darling Flows versus Extractions

Extractive users have taken 12% of total inflows over this period.
Situation at Menindee?
Barwon Darling versus Menindee Lakes inflows
Water losses
July 2016 – January 2019

Initial 2016 storage level = 133,899 ML
Total inflows from July 16 until Jan 19 = 2,097,991 ML

TOTAL WATER (storage + inflows) = 2,231,890 ML

MINUS

Total releases from July 16 until Jan 19 = 898,336 ML
(MDBA, Enviro, River Ops, Customers)

Total losses from July 16 to Jan 19 = 1,273,934

EQUALS

January 2019 storage level = 59,620 ML

TOTAL WATER – releases + actual storage = LOSSES
Menindee Lakes Storage Operations 2017-18

Darling River Flows and Menindee Storage Volume

- Approaching 480GL negotiated lower rate of call for MDBA - extended time above 480 GL improving the ratio of water held in Wetherell + Pamamaroo against that held in Cawndilla + Menindee
- E-water delivery continued at Weir 32 from 22 Nov to 15 Dec 2017
- 15 December 2017 - 480 GL total storage
- 15 December 2017 - Weir 32 reduced below WSP requirements
- 28 March 2018 - Cawndilla Outlet releases cease

Weir 32 Release
Cawndilla Release
Evaporation (30 day moving avg)
Total System Storage Volume
Distribution of Water – July 2016 – January 2019

System loss including Evaporation, 58.6%

MDBA, 17.4%

OEH Environmental, 11.3%

River Operations, 8.5%

Lower Darling Customers, 4.1%
Why are we in this situation?
Maximum temperature
1 January 2017 – 31 December 2018

Distribution Based on Gridded Data
Australian Bureau of Meteorology

Temp. Decile Ranges

Highest on Record
10
Very Much Above Average
8-9
Above Average
4-7
Average
2-3
Below Average
1
Very Much Below Average
Lowest on Record

http://www.bom.gov.au

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How do inflows to our dams compare to previous droughts?
Comparison of drought inflows – Burrinjuck Dam

Comparison of drought inflows - Burrinjuck Dam
Drought inflows for 24 months ending in February

Cumulative inflows in GL

No of Months
Comparison of drought inflows – Blowering Dam

Comparison of drought inflows - Blowering Dam
Drought inflows for 24 months ending in February
Comparison of drought inflows – Wyangala Dam

Comparison of drought inflows - Wyangala
Drought inflows for 24 months ending in February

Cumulative inflows in GL

No of Months
Comparison of drought inflows – Burrendong Dam

Drought inflows for 36 months

Comparison of Drought Inflows - Burrendong Dam (Drought Inflows for 37 Months Starting in December)

Cumulative inflows in GL

No. of Months

Comparison of drought inflows – Keepit and Split Rock Dams

Drought inflows for 24 months

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Comparison of drought inflows – Copeton Dam

Drought inflows for 18 months starting in January

Jan 1918 - Dec 1919
Jan 1993 - Dec 1994
Jan 2008 - Dec 2009
Jan 2009 - Dec 2010 (50th %)
Current Drought Jan 2017 - Dec 2018
Comparison of drought inflows – Pindari Dam

Drought inflows for 24 months
Comparison of drought inflows – Glenlyon Dam

Drought inflows for 24 months starting in January
ENSO Outlook

An alert system for the El Niño–Southern Oscillation

Issued 14 May 2019  Next issue 28 May 2019

ENSO Outlook eases back to El Niño WATCH

The ENSO Outlook has been eased to El Niño WATCH. This means the chance of El Niño forming in 2019 is around 50%, still double the normal likelihood.

Sea surface temperatures in the tropical Pacific have hovered around the El Niño threshold since late February but there are signs the warm anomalies may soon ease. The atmosphere has generally remained ENSO neutral. Most models indicate the tropical Pacific will remain at or above the El Niño threshold heading into winter, before cooling in late winter and spring. By October, five of eight models indicate a neutral ENSO state is most likely.

El Niño WATCH is not a guarantee that El Niño will occur; it is an indication that some of the typical precursors of an event are in place.

Further information on the current status of ENSO can be found in the ENSO Wrap-Up.

Details: ENSO Wrap-Up
To keep updated

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