



Australian Government
Bureau of Meteorology

Making the most of weather and climate information

Western Murray Land
Improvement Group
9 September 2021



Bureau's Strategy

Products & services that:

- benefit the Australian community
- drive competitive advantage for businesses & industries



Seeking to create value and impact

Intelligence and insight



Working across all time scales

Outline

- Climate context
- 7-day weather forecasts
- Seasonal outlooks
- The future – Climate Services for Agriculture **NEW!**



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Climate context



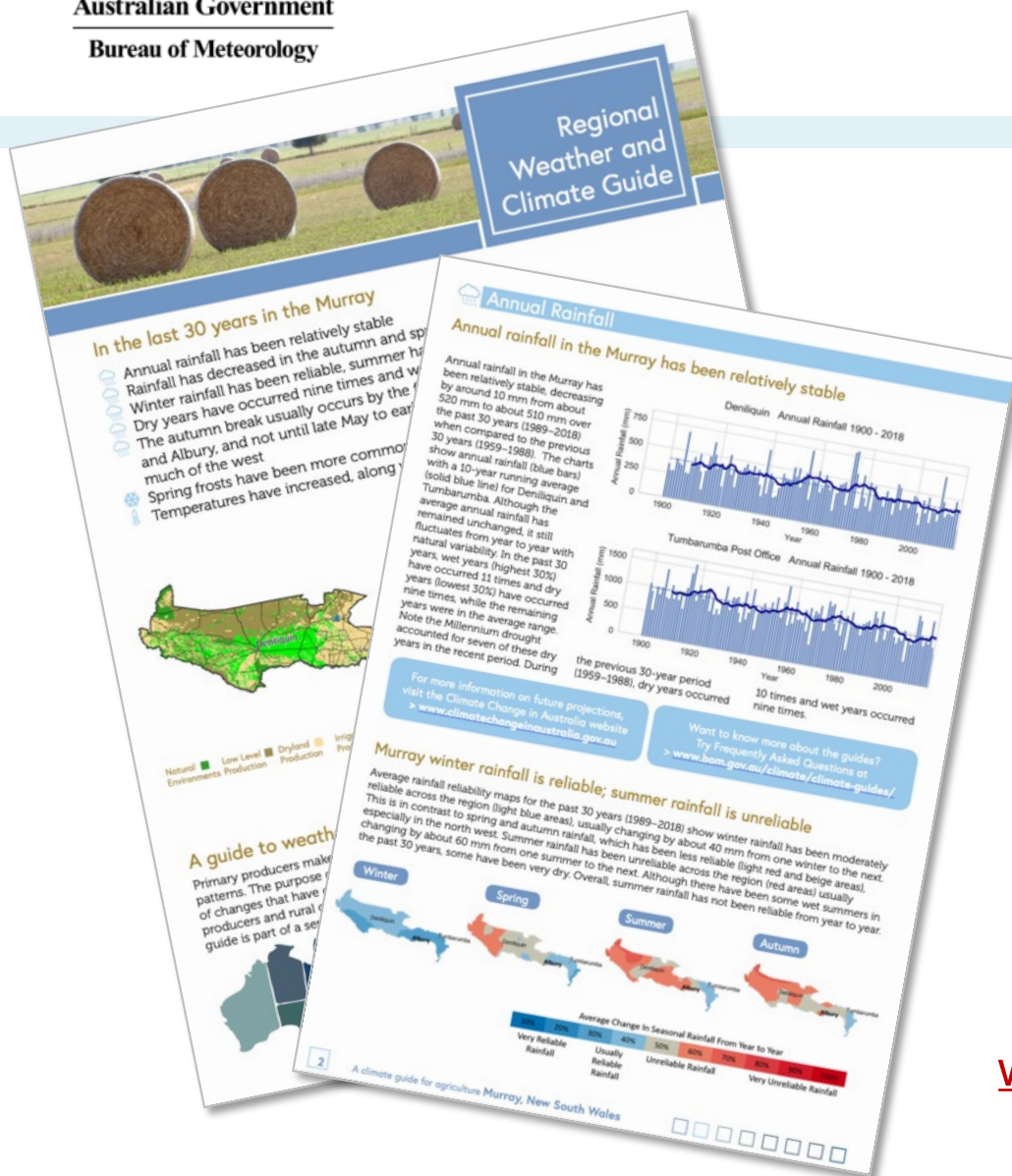
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Climate Guide

- Snapshot of a regions' climate from 1959 – 2018
- Compares two 30-year periods
- Range of topics relevant to agriculture
- Based on NRM regions

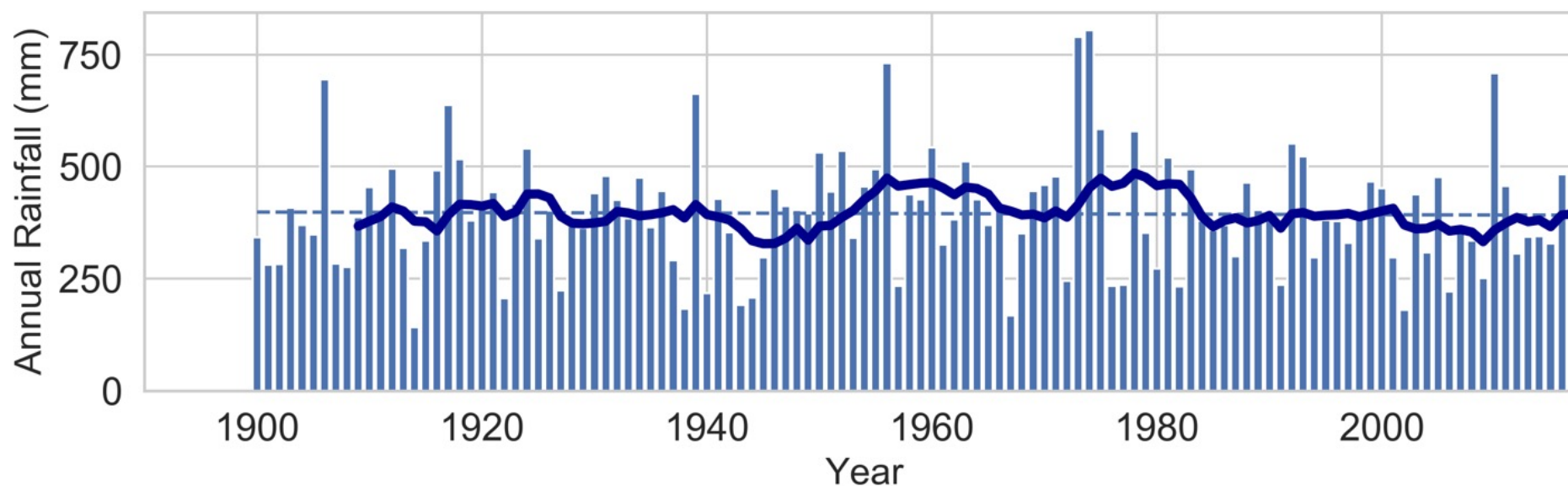
www.bom.gov.au/climate/climate-guides/





Average annual rainfall

Deniliquin Annual Rainfall 1900 - 2018



Relatively stable annual rainfall over the past ~60 years

Wet years vs Dry years

1959-1988			1989-2018		
Wet	Ave.	Dry	Wet	Ave.	Dry
9	11	10	11	10	9

- Analysis represents entire Murray LLS region
- Wet years are top 30% of rainfall records
- Dry years are bottom 30% of rainfall records

Even distribution of wet, average and dry years in past ~60 years

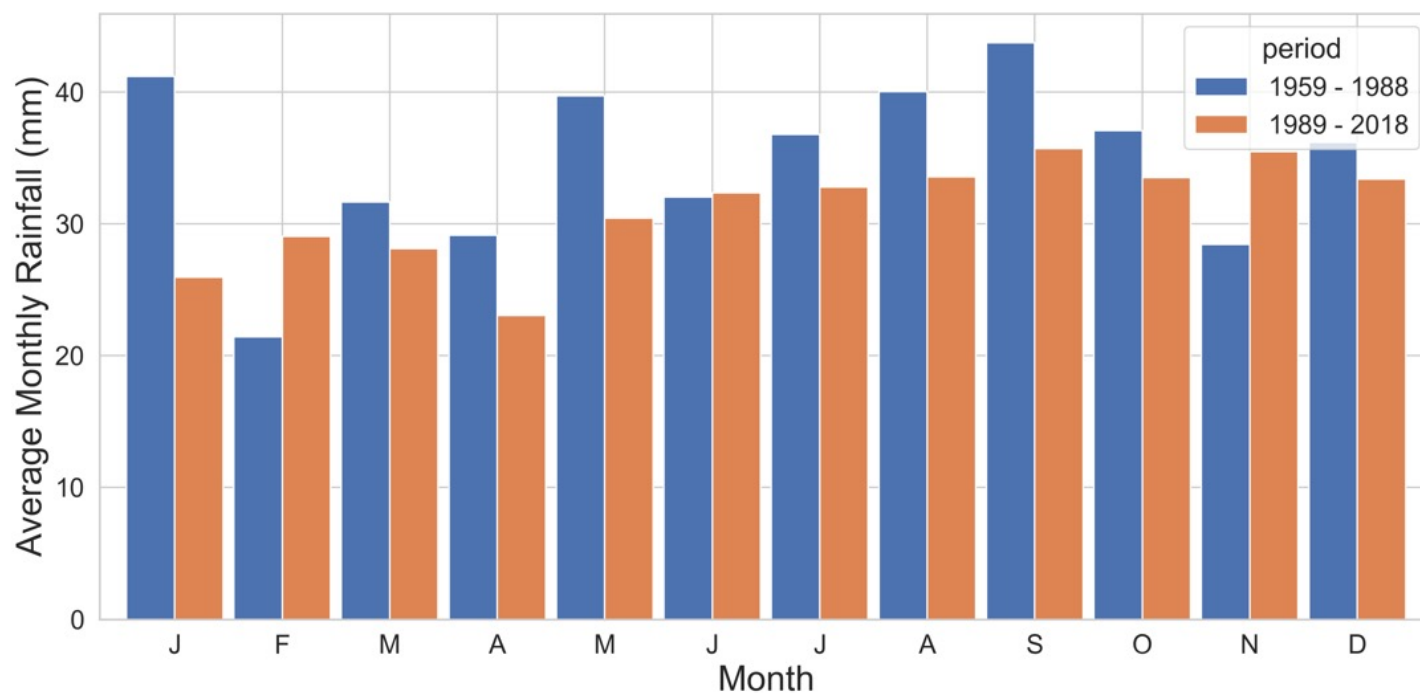


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Average monthly rainfall

Deniliquin 30-year Average Rainfall by Month



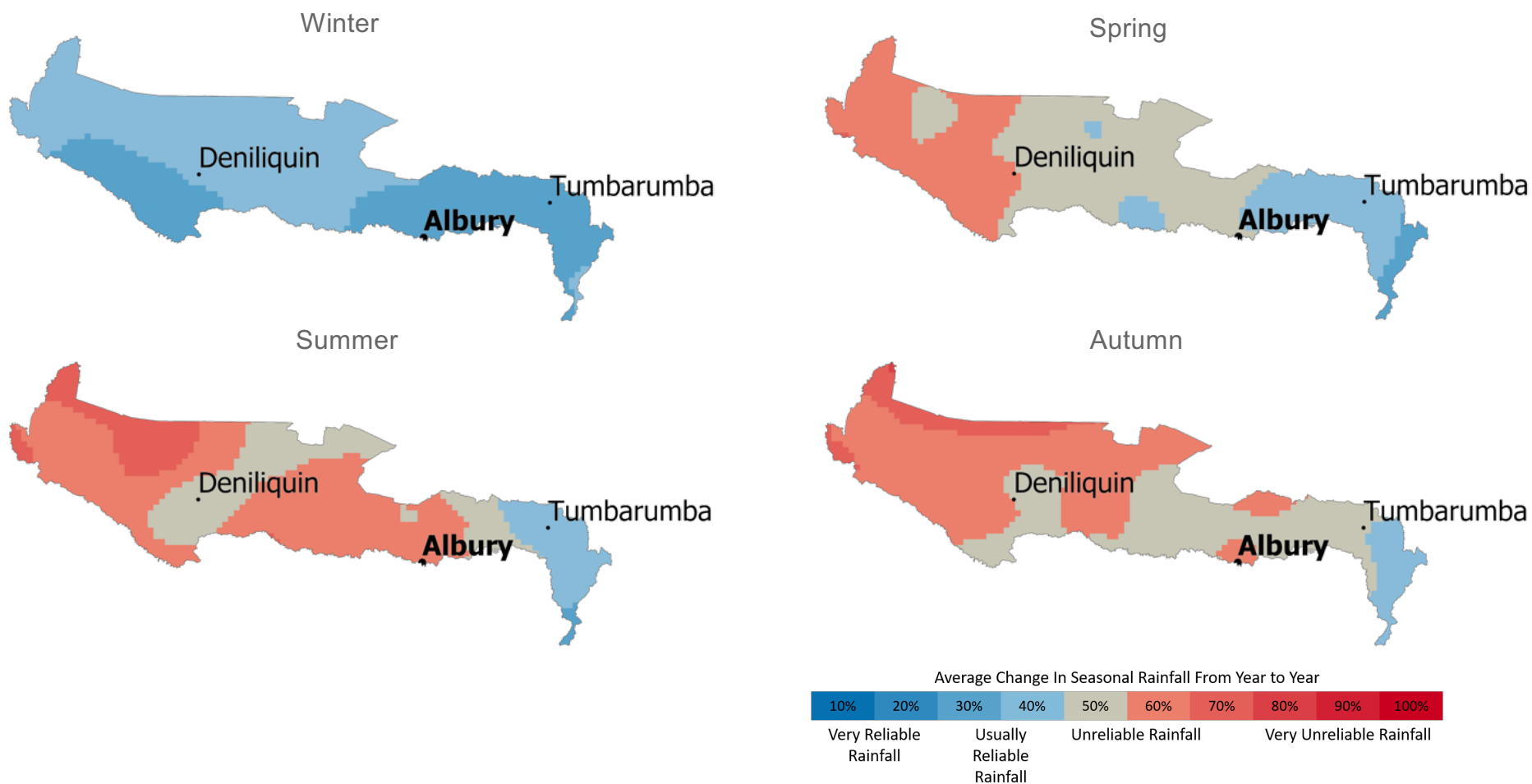
Decrease in Autumn and early Spring rainfall



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Rainfall reliability



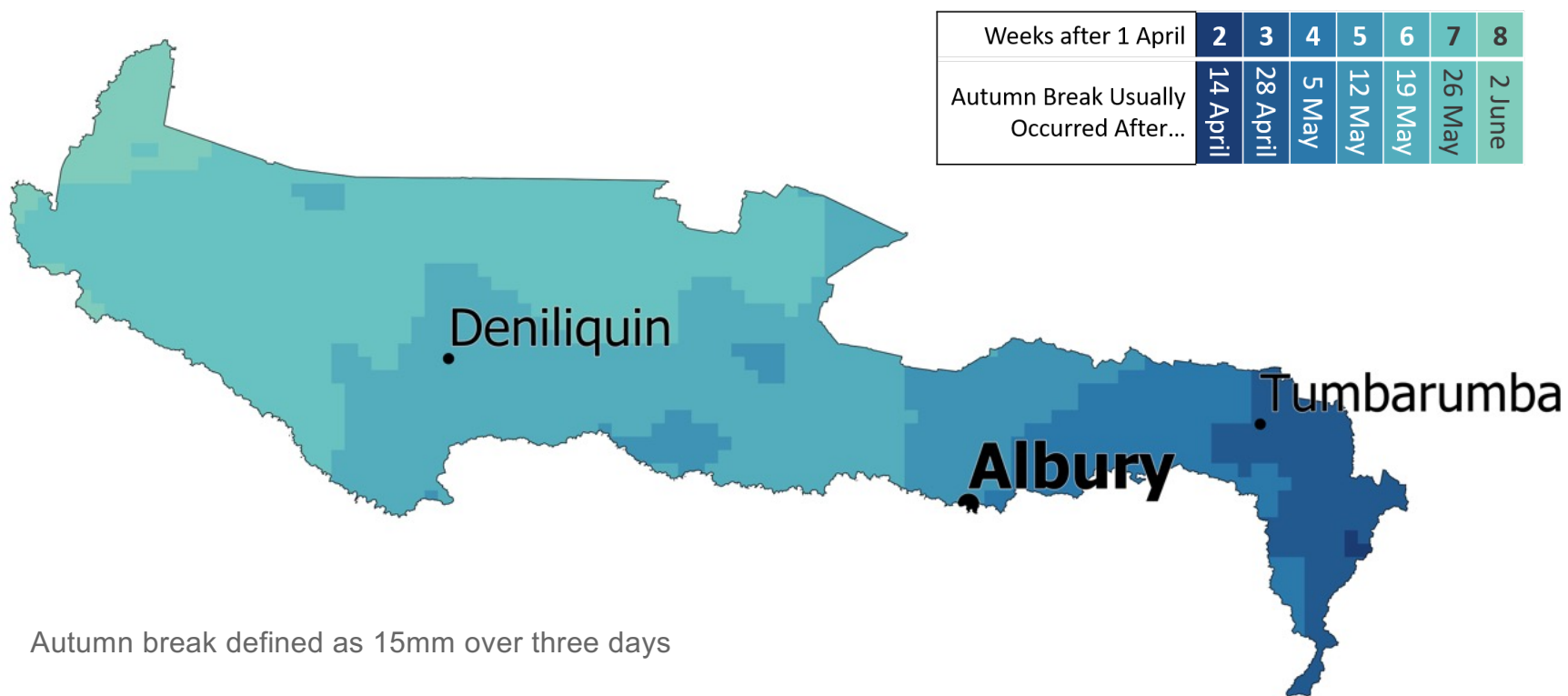
Winter rainfall is the most reliable



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Autumn break



On average, autumn break occurs mid-May around Deniliquin

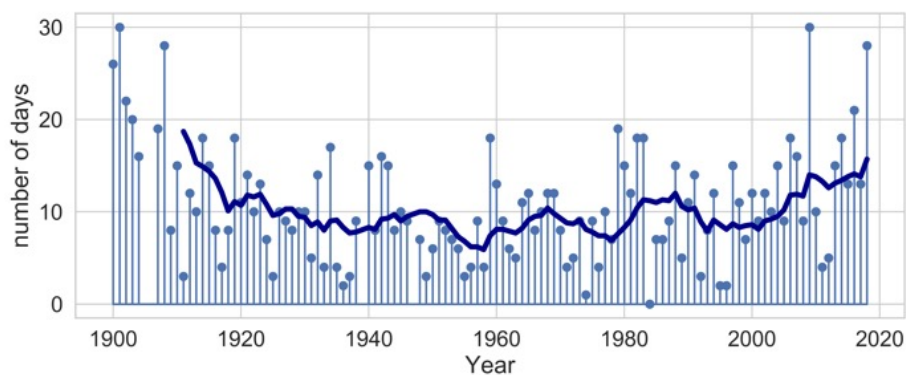


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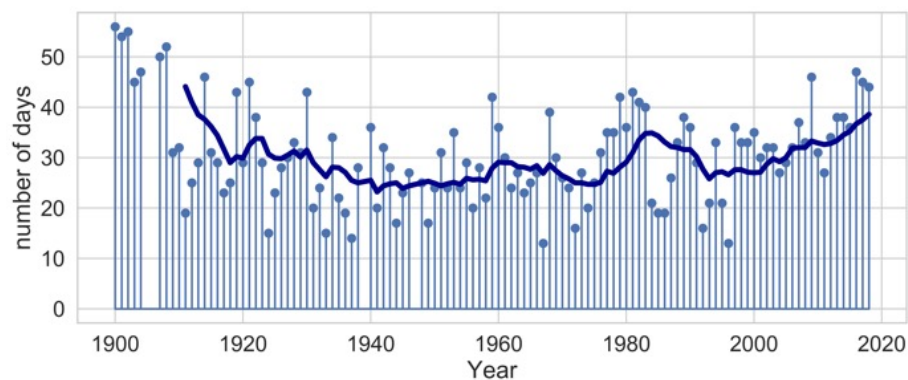
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Temperature

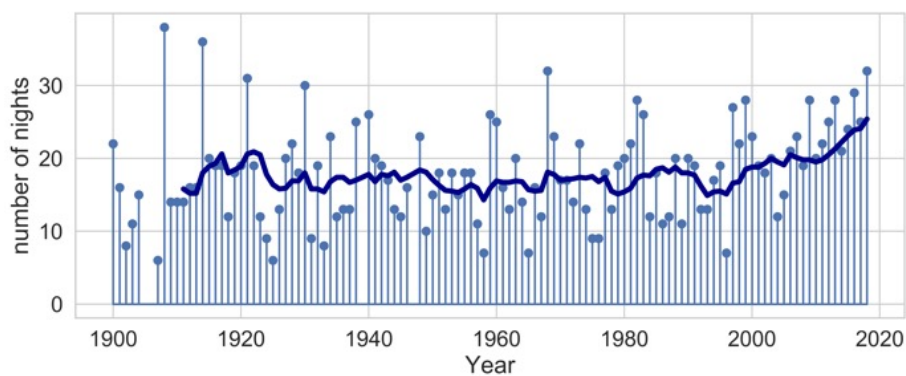
Deniliquin Days Over 38 °C



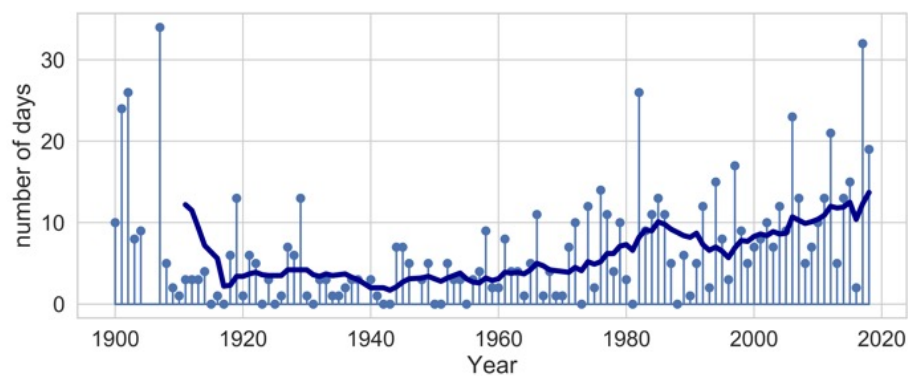
Deniliquin Days With Moderate-Severe THI Stress



Deniliquin Nights Over 20 °C



Deniliquin Days Below 0 °C



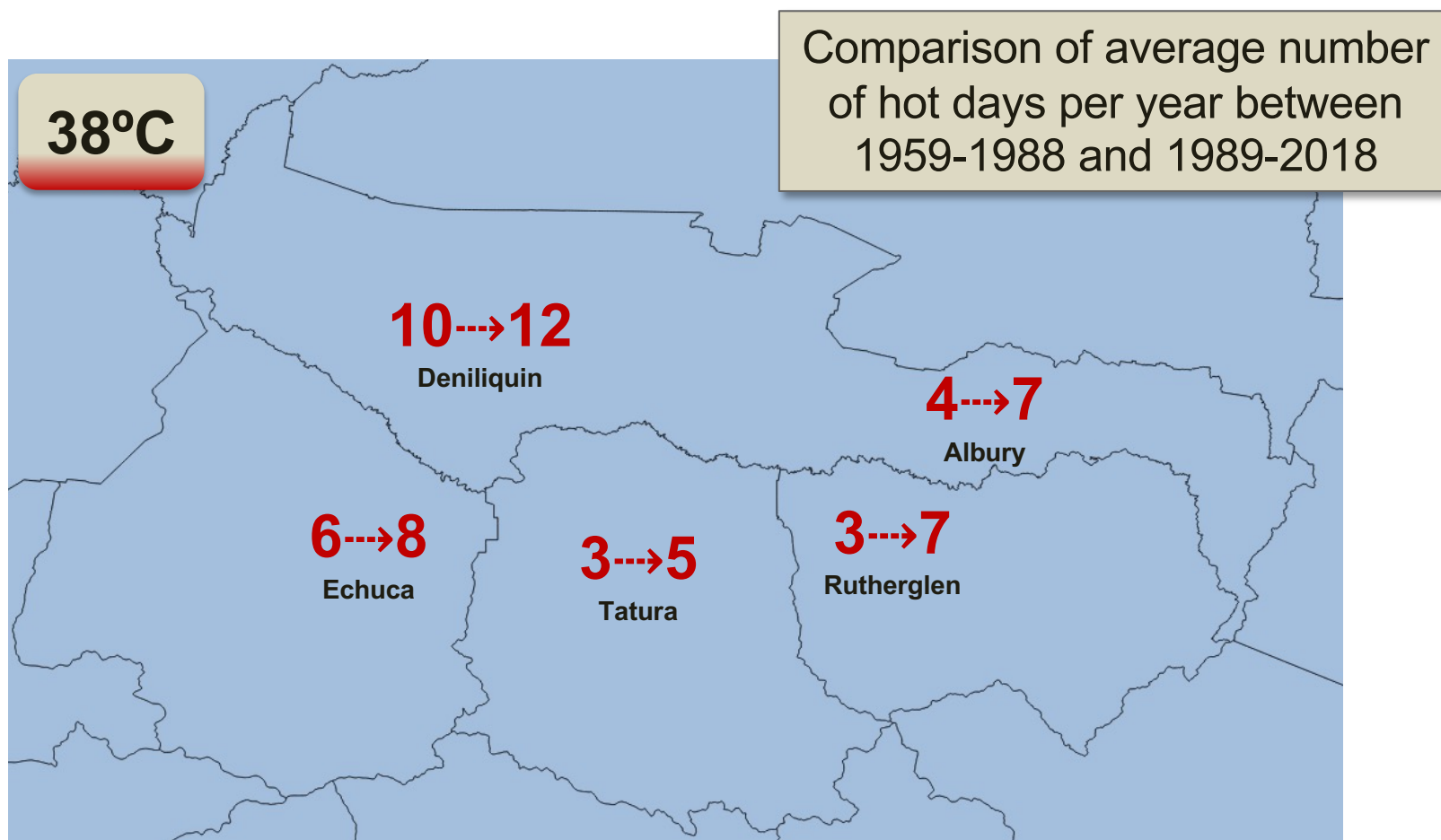
Increased number of hot days and nights per year



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Average number of hot days



Increase in average number of hot days per year

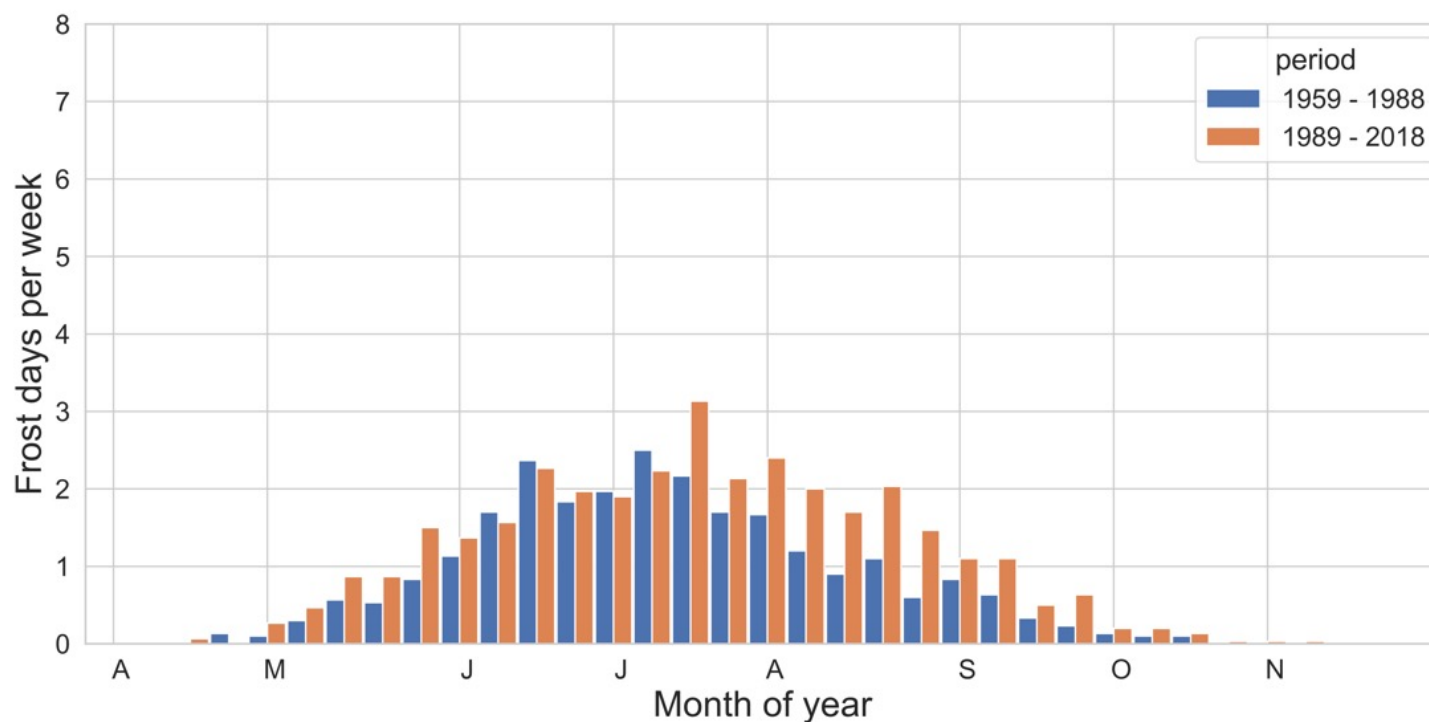


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Frost

Deniliquin Frost Occurrence And Likelihood By Week



Four more nights per year for potential frost in Aug & Sep

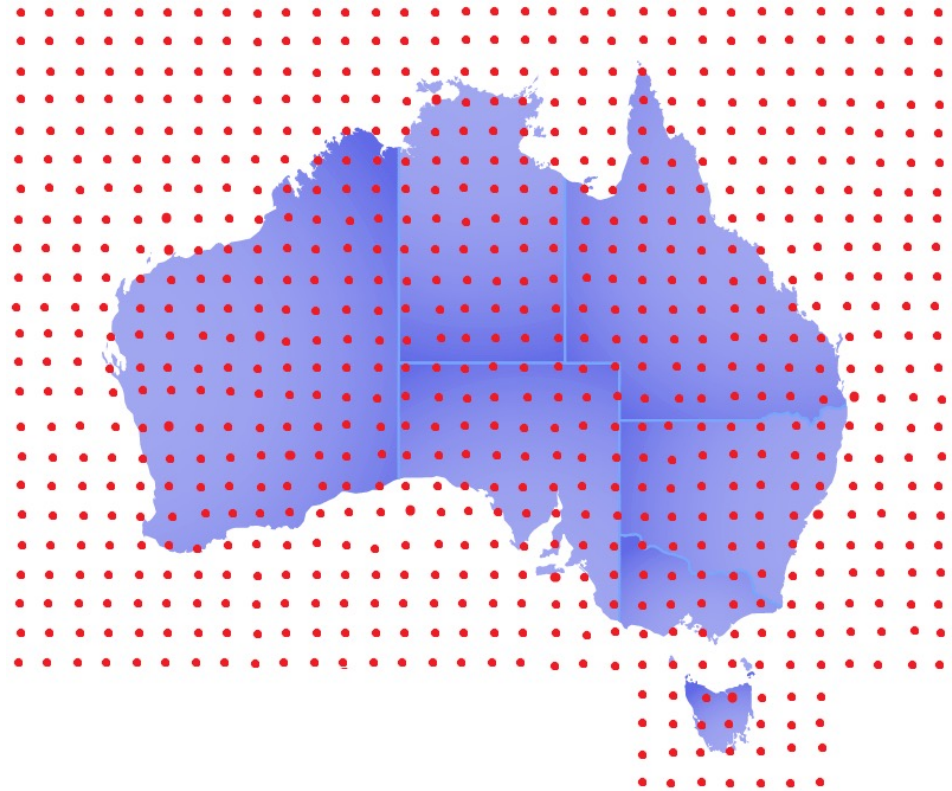
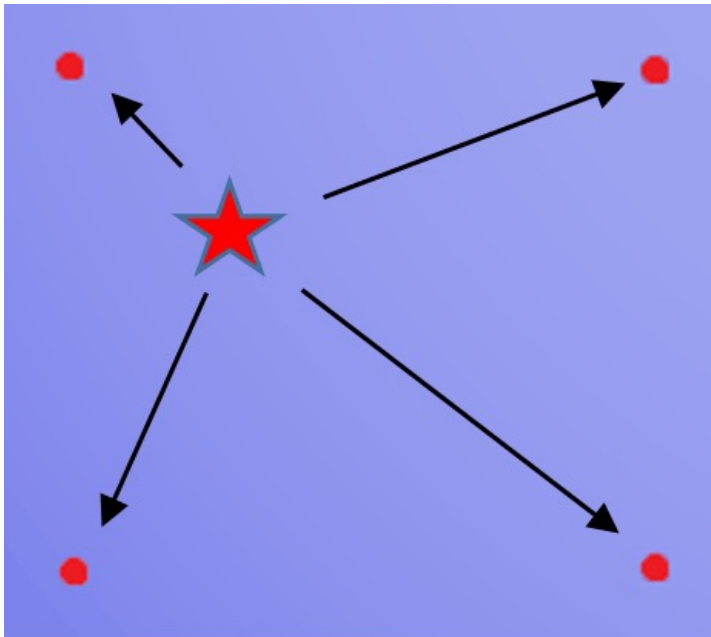


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7-day weather forecasts

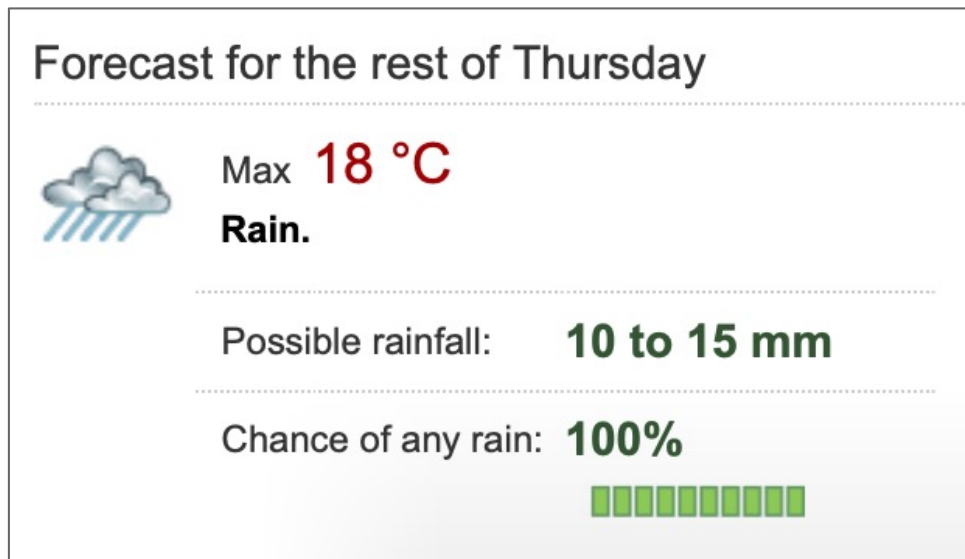
The forecast grid



A forecast for every six kilometres

Interpreting a rainfall forecast

Website



App



<http://www.bom.gov.au/app/>

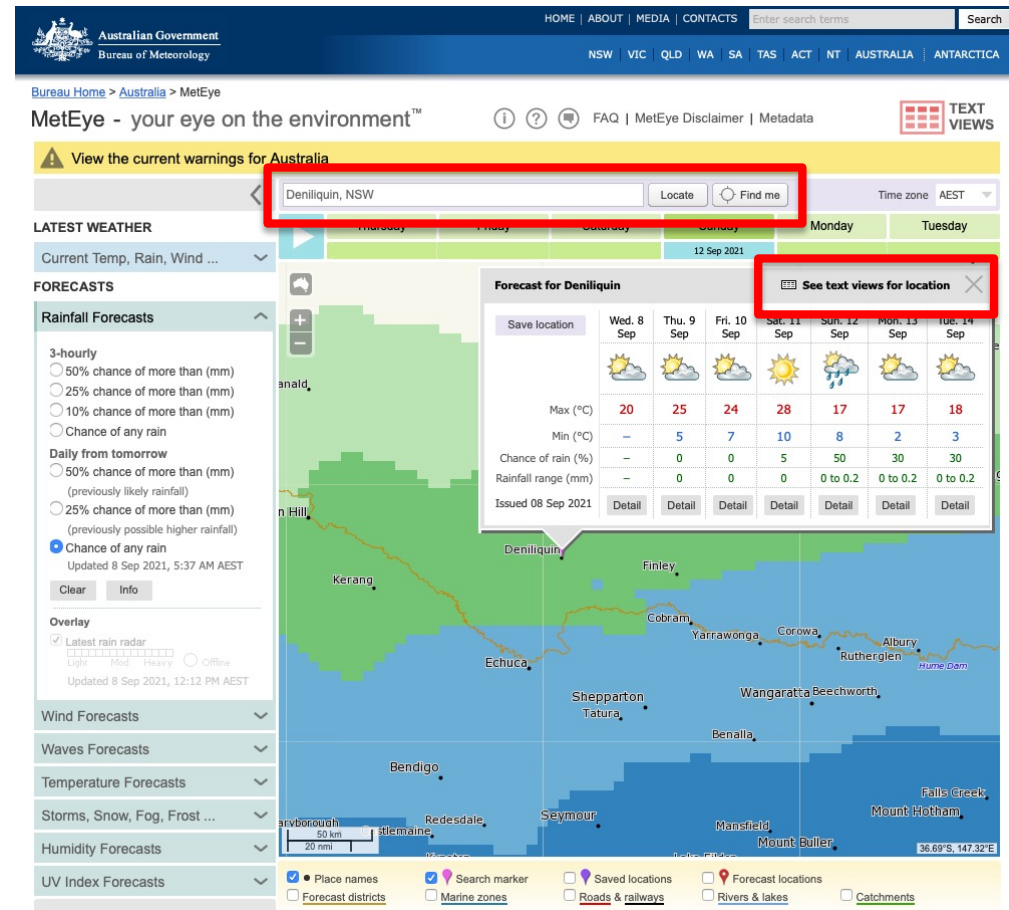
Possible rainfall: There is a medium chance (50%) of at least **10mm**, and a low chance (25%) of at least **15mm**

Chance of any rain: There is a **100%** chance of at least **0.2mm** in the 24-hour period

MetEye – map view

- Forecast every 6km across Australia
- Next 7 days - daily down to 3-hourly
- Range of weather variables
 - rainfall, temperature, wind, frost and more
- Output from official Bureau forecast

www.bom.gov.au/meteye/



Forecast for your local area

MetEye – text view

Daily overview

Deniliquin Weather (beta) MAP VIEW MetEye

View the current warnings for New South Wales

Change location Start typing, then select from list (town, city, postcode or lat/lon)

16.9 °C

Lowest 1.6 °C 6:26 am Highest 17 °C 12:20 pm

0 mm of rain since 9 am

Latest weather at 12:20 pm

55% Humidity
NW Wind Direction
1031.5 Pressure (hPa)
15 km/h Wind Speed
8 knots
24 km/h Highest Gust
13 knots (11:58am)

WEATHER STATION

Deniliquin
Approx. 1.3 km away
ID: 95869

Forecast
issued at 9:13 am AEST on Wednesday 8 September 2021.

Rest of Wednesday **20 °C** Partly cloudy.

When will it rain?

	Possible rainfall	Chance of any rain
10:00 am - 1:00 pm	0 mm	0%
1:00 pm - 4:00 pm	0 mm	0%
4:00 pm - 7:00 pm	0 mm	0%
7:00 pm - 10:00 pm	0 mm	0%
10:00 pm - 1:00 am	0 mm	0%
1:00 am - 4:00 am	0 mm	0%

Thu 9 Sep **5 °C 25 °C** Mostly sunny.
Possible rainfall: 0 mm Chance of any rain: 0%

Fri 10 Sep **7 °C 24 °C** Partly cloudy.
Possible rainfall: 0 mm Chance of any rain: 0%

Sat 11 Sep **10 °C 28 °C** Sunny.
Possible rainfall: 0 mm Chance of any rain: 5%


Sun 12 Sep **8 °C 17 °C** Shower or two.
Possible rainfall: 0 to 0.2 mm Chance of any rain: 50%

Mon 13 Sep **2 °C 17 °C** Mostly sunny.

WEATHER OVERVIEW
DETAILED 3-HOURLY FORECAST
EXTENDED FORECAST (7-DAY)
CURRENT AND PAST WEATHER

Murray–Darling Basin Water Information
Now available →

RADAR



3-hourly forecast

Deniliquin Detailed Forecast (beta) MAP VIEW MetEye

View the current warnings for New South Wales

Change location Start typing, then select from list (town, city, postcode or lat/lon)

Wednesday 8 September

Thursday 9 September

Rainfall

From	1:00 AM	4:00 AM	7:00 AM	10:00 AM	1:00 PM	4:00 PM	7:00 PM	10:00 PM
50% chance of more than (mm)	0	0	0	0	0	0	0	0
25% chance of more than (mm)	0	0	0	0	0	0	0	0
10% chance of more than (mm)	0	0	0	0	0	0	0	0
Chance of any rain	0%	0%	0%	0%	0%	0%	0%	0%

Temperatures

At	1:00 AM	4:00 AM	7:00 AM	10:00 AM	1:00 PM	4:00 PM	7:00 PM	10:00 PM
Air temperature (°C)	8	6	5	17	23	25	17	14
Feels like (°C)	5	2	2	12	17	18	13	10
Dew point temperature (°C)	6	5	5	7	7	5	5	4

UV

At	1:00 AM	4:00 AM	7:00 AM	10:00 AM	1:00 PM	4:00 PM	7:00 PM	10:00 PM
UV Index	0	0	1	3	5	1	0	0

Significant Weather


From	1:00 AM	4:00 AM	7:00 AM	10:00 AM	1:00 PM	4:00 PM	7:00 PM	10:00 PM
Thunderstorms								
Snow								
Rain								
Fog								
Frost								

Humidity & Wind

At	1:00 AM	4:00 AM	7:00 AM	10:00 AM	1:00 PM	4:00 PM	7:00 PM	10:00 PM
Wind speed km/h	9	11	13	22	30	26	17	17
knots	5	6	7	12	16	14	9	9
Wind direction	N	N	NNW	NNW	NW	NW	NW	NW
Relative humidity (%)	87	98	98	52	37	28	44	49
Forest fuel dryness factor	7.9	7.9	7.9	8.4	8.4	8.4	8.4	8.4
Mixing height (m)	94	94	94	621	1855	2041	94	94

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RADAR





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Seasonal outlook



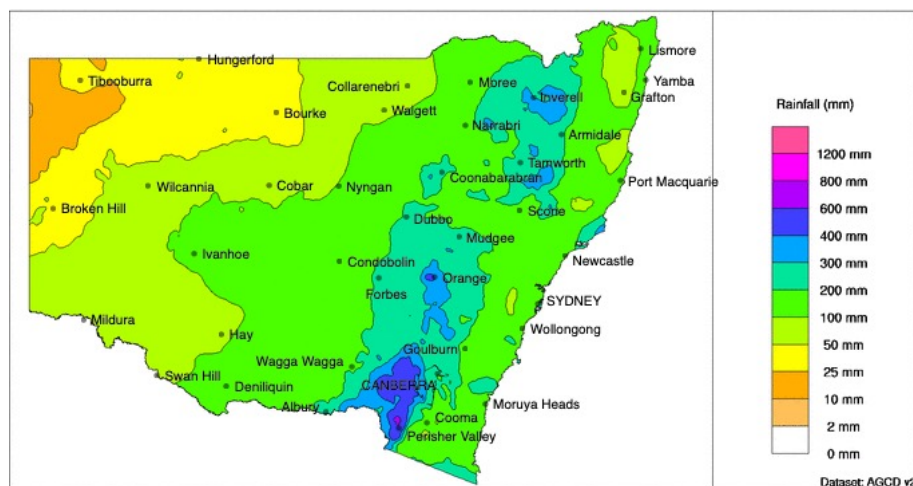
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Recent rainfall

New South Wales total rainfall (mm) 1 June to 31 August 2021

Australian Gridded Climate Data

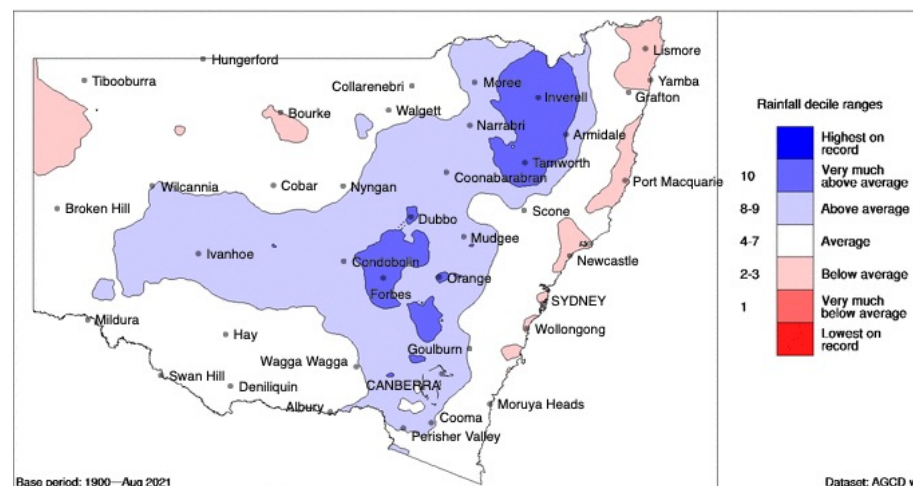


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Dataset: AGCD v2
Issued: 31/08/2021

New South Wales rainfall deciles 1 June to 31 August 2021

Australian Gridded Climate Data



Base period: 1900–Aug 2021

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Dataset: AGCD v2
Issued: 31/08/2021

Average winter rainfall in 2021



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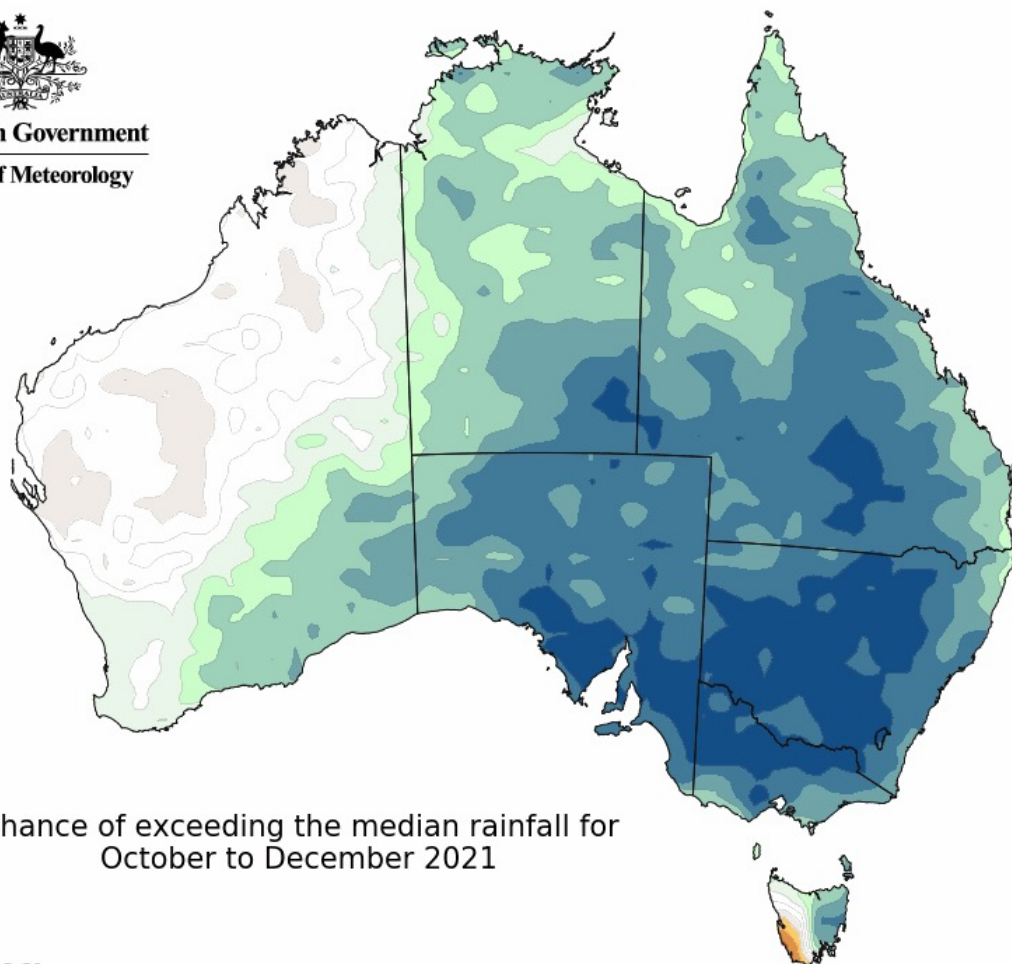
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October to December outlook

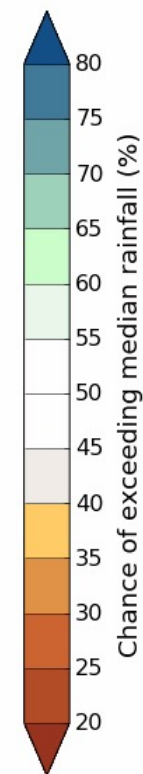


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Chance of exceeding the median rainfall for
October to December 2021



Model: ACCESS-S1
Base period: 1990-2012

Model run: 06/09/2021
Issued: 09/09/2021

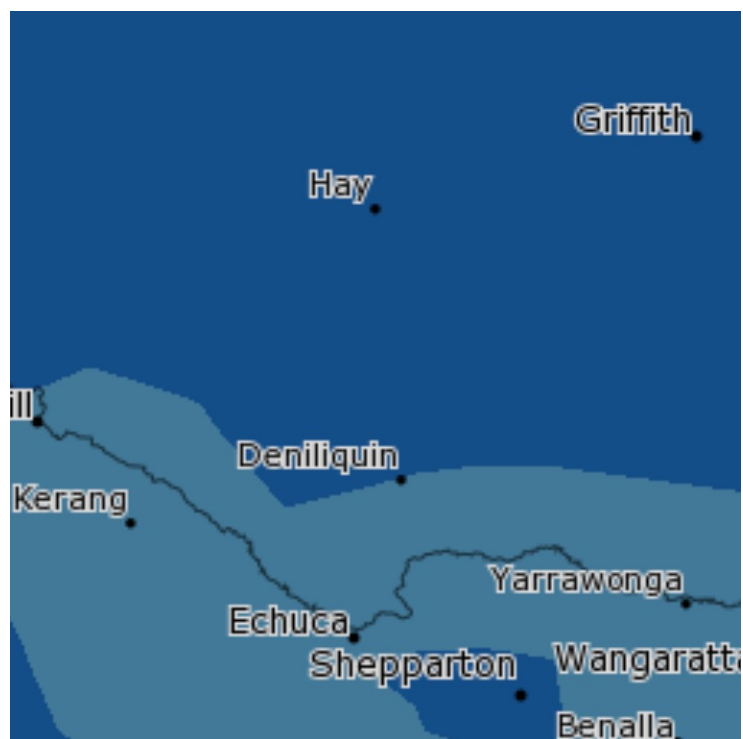


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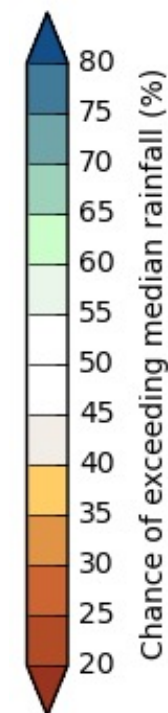
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October to December outlook

October



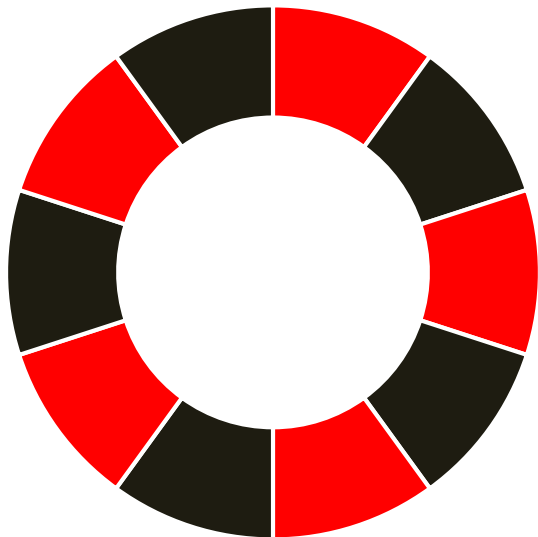
October to December



Increased chance of wetter than average

Interpreting the outlook

Five red squares
Five black squares



Five dry squares
Five wet squares



Three dry squares
Seven wet squares



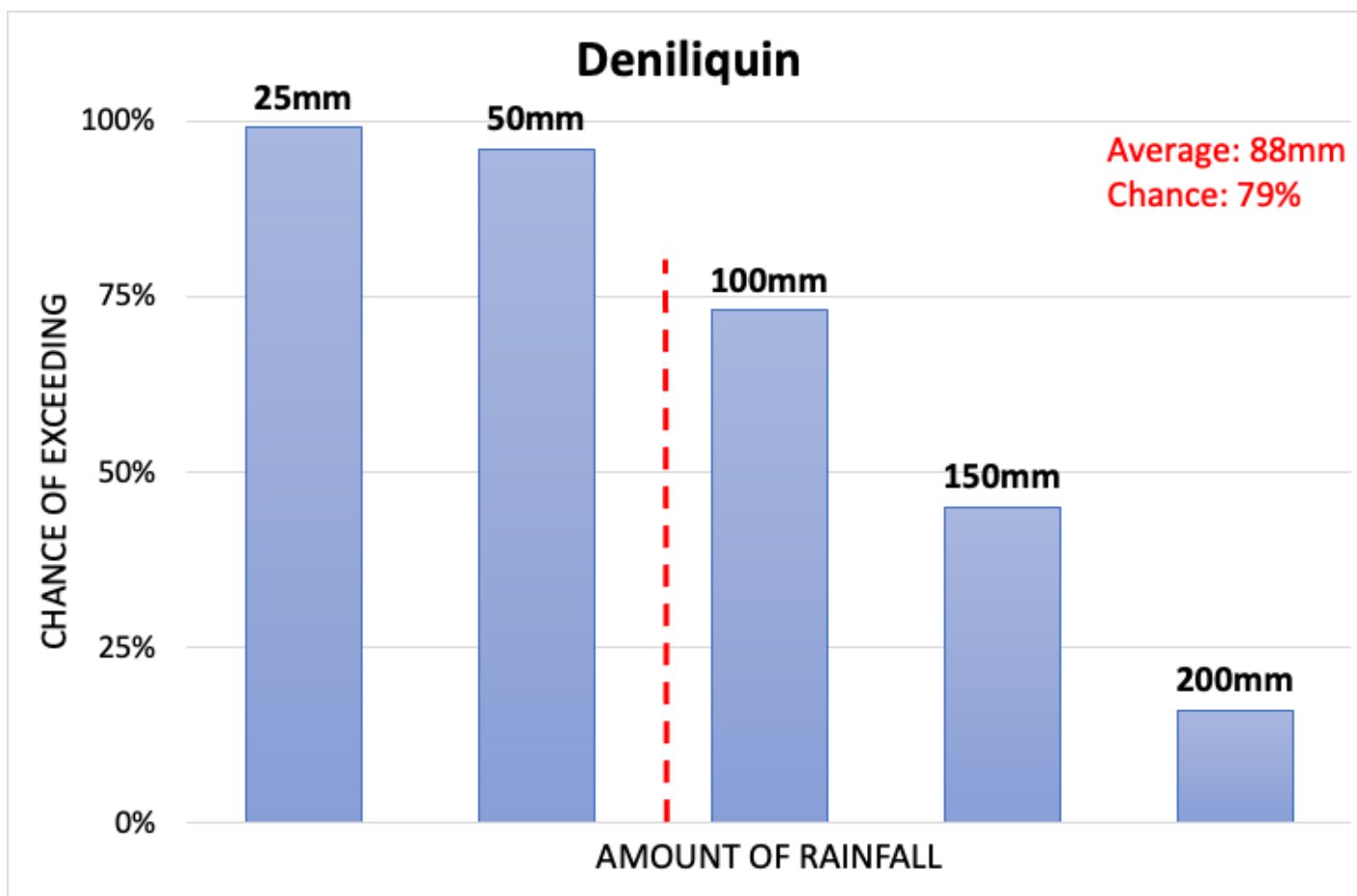
Seasonal outlooks are about chance



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October to December – rainfall outlook



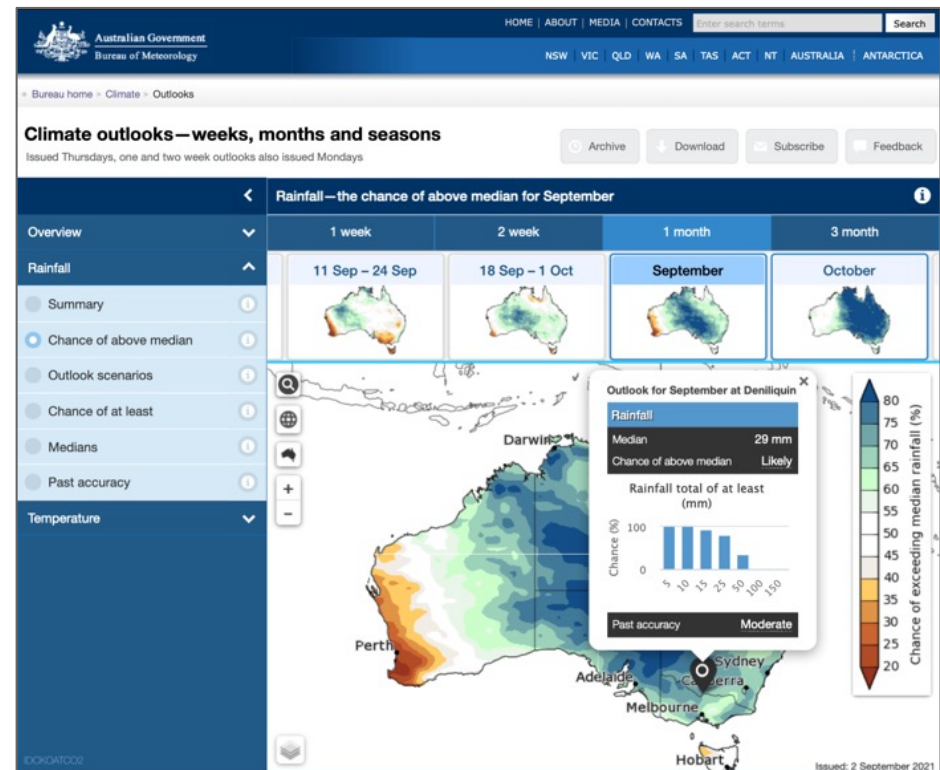
Increased chance of wetter than average

Climate outlooks

- Next week, next month to next three-months
- Rainfall, maximum temperature, minimum temperature
- Monthly Climate and Water Outlook video
- Quarterly webinars



www.bom.gov.au/webinars



www.bom.gov.au/climate/outlooks/



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Climate Services for Agriculture



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Climate Services for Agriculture

CLIMATE SERVICES FOR AGRICULTURE Prototype

Future Drought Fund

Helping farmers and communities plan for the impacts of climate variability

Let us show you tailored climate information relevant to your local area by entering your location below:

Location... Get started

About Data CLIMATE SERVICES FOR AGRICULTURE Support FAQ

Australian Government
Department of Agriculture,
Water and the Environment

CSIRO

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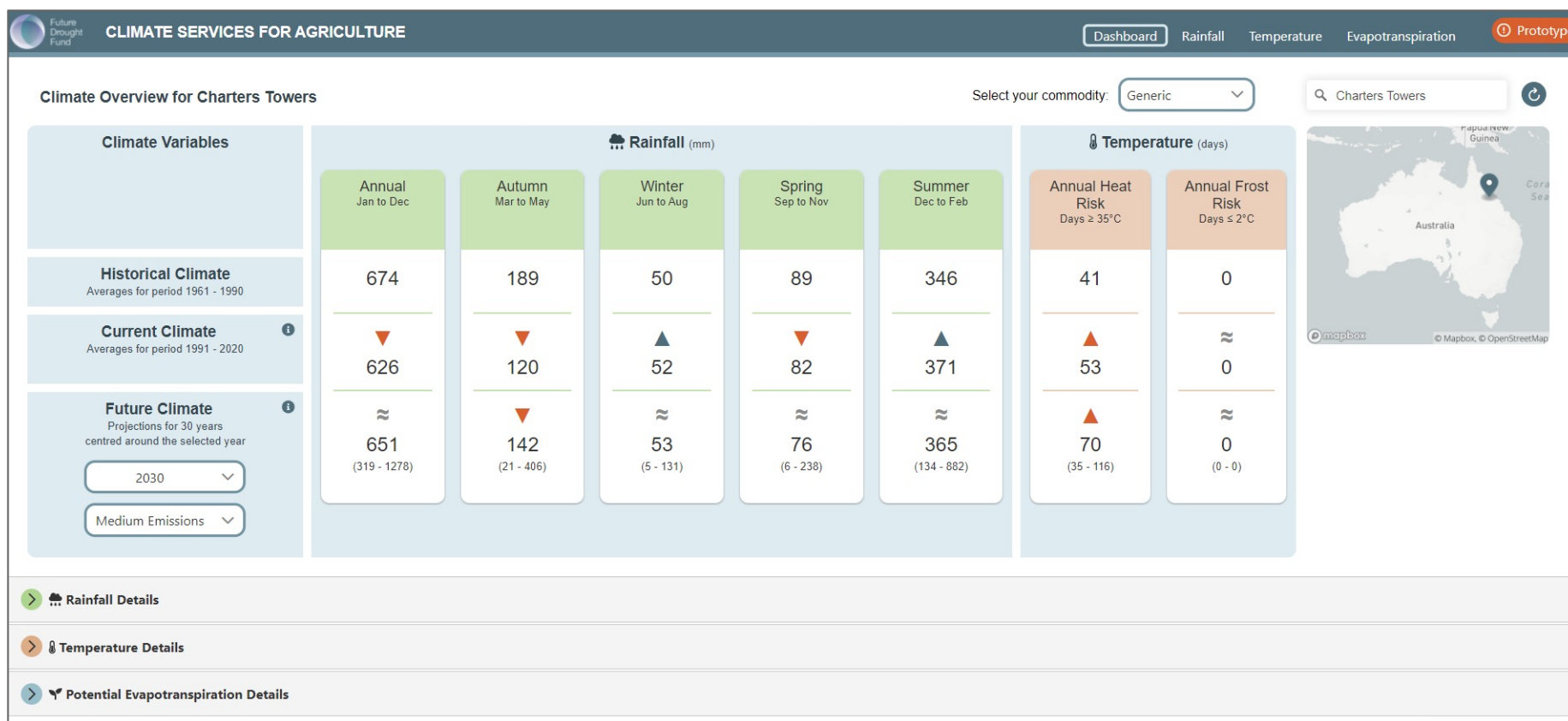
<https://www.agriculture.gov.au/ag-farm-food/drought/future-drought-fund/climate-services>



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Prototype



<https://climateservicesforag.indraweb.io/>

username: csa password: demo

Coming next

In December, next version of prototype will include:

- More commodity specific information in the dashboard
- Seasonal outlooks
- New mobile design

This is just the beginning

Seeking your input

- **Seeking farmers and advisors to register for co-design activities**
- **Co-design activities include:**
 - Social science interviews
 - User Experience and Concept testing
- **Feedback mechanisms**
 - Participate in co-design activities!
 - Email: agriculture@bom.gov.au
 - Online feedback via prototype

Opportunity to co-design new service



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