



POTATO LINK
AUSTRALIAN POTATO INDUSTRY
— EXTENSION PROJECT —

**Hort
Innovation**
Strategic levy investment

**POTATO –
FRESH FUND**

Online Training

**Hort
Innovation**
Strategic levy investment

**POTATO –
PROCESSING FUND**

Weather Tools
by the Bureau of Meteorology

May 2023

Presented by Jonathan How and Rachel Davis

PT20000 Australian Potato Industry Communication and
Extension Project



Agenda

-
- Introduction on the Bureau of Meteorology – Rachel Davis (5-10 mins)
 - Interactive training session (60 mins)
 - Historical observations- one week to years ago
 - Recent observations- yesterday to last week
 - Nowcasting- now to a few hours ahead
 - Forecasting and Futurecasting- next week to next season
 - Q&A (10 mins)
 - Action & Planning



Upcoming Events

PotatoLink

- [Soil Biology Masterclass](#): 18-19th of May Gatton Qld, Thu 8:30 am – 5 pm, Fri 8:30 am – 1 pm AEST
- [Webinar](#): Mobile drip irrigation: 25th May, 10-11 am AEST
- [Potato R&D forum](#): 5th June, 8:30 am – 11:00 am ACST
- [Field walk Langhorne Creek SA](#):
 - 11 am- buses leave Adelaide Convention Centre (for those travelling from Hort Connections)
 - 12:30 - 2:00 pm field walk
 - 2 pm Bus 1 departs for arrival at Adelaide Convention Centre at 3:30 pm (for those travelling to Hort Connections)
 - 4 pm Bus 2 departs for arrival at Adelaide Convention Centre at 5:30 pm (for those travelling to Hort Connections)

Smart Farming Project

- [Getting hands on with sensors – a practical workshop for growers](#): 6th June, 12 - 1:30 pm Adelaide Convention Centre

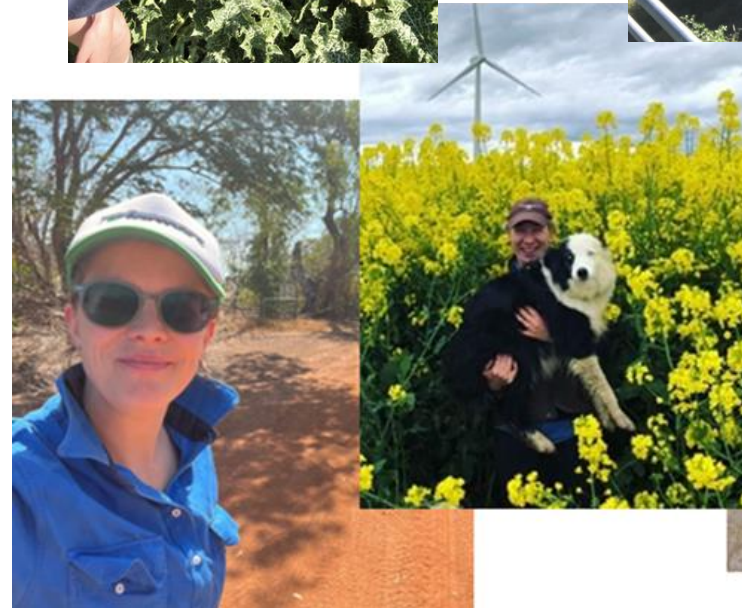


Bureau of Meteorology Agriculture

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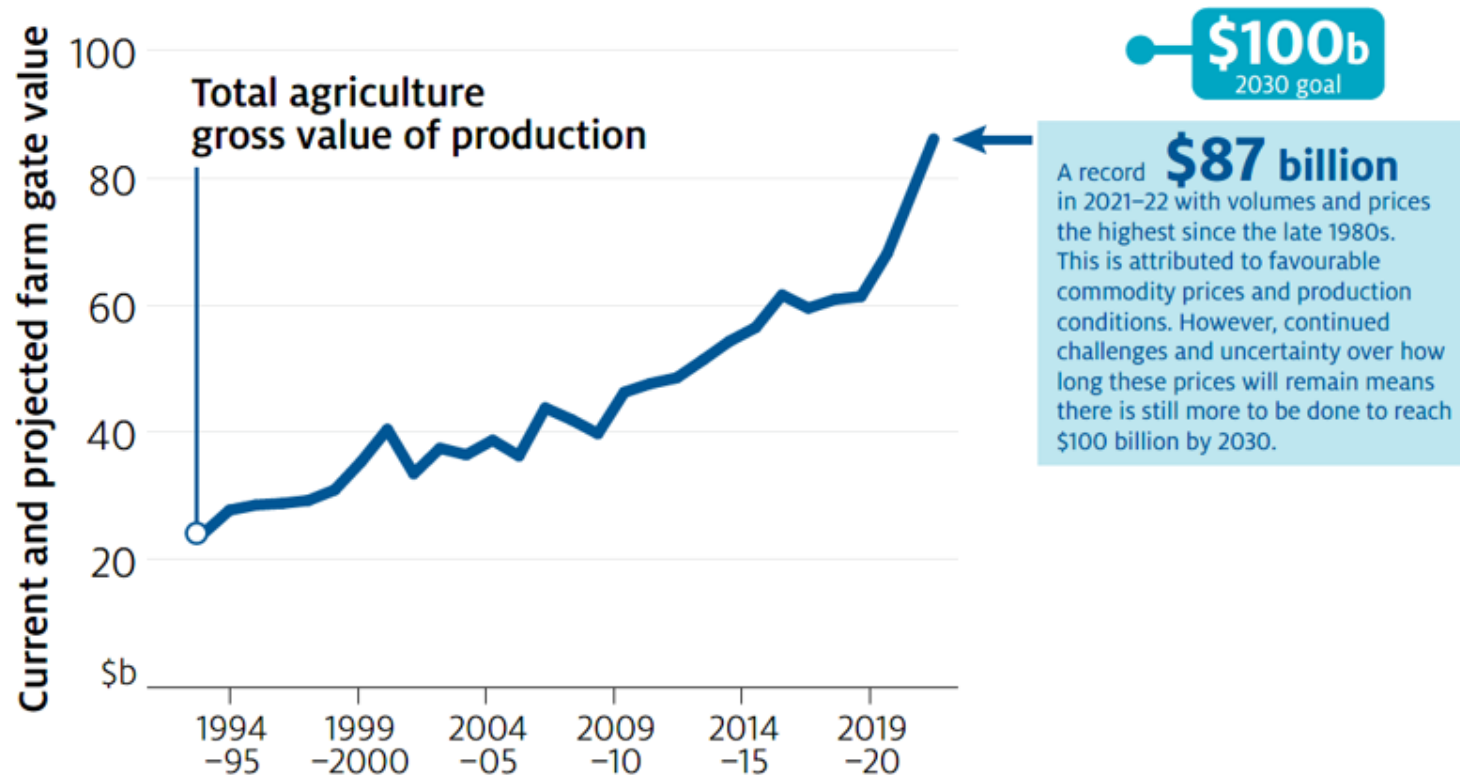
Outline

- Why are we here?
- How will we do it?
- What have we done?
- What are we doing?
- What's next?



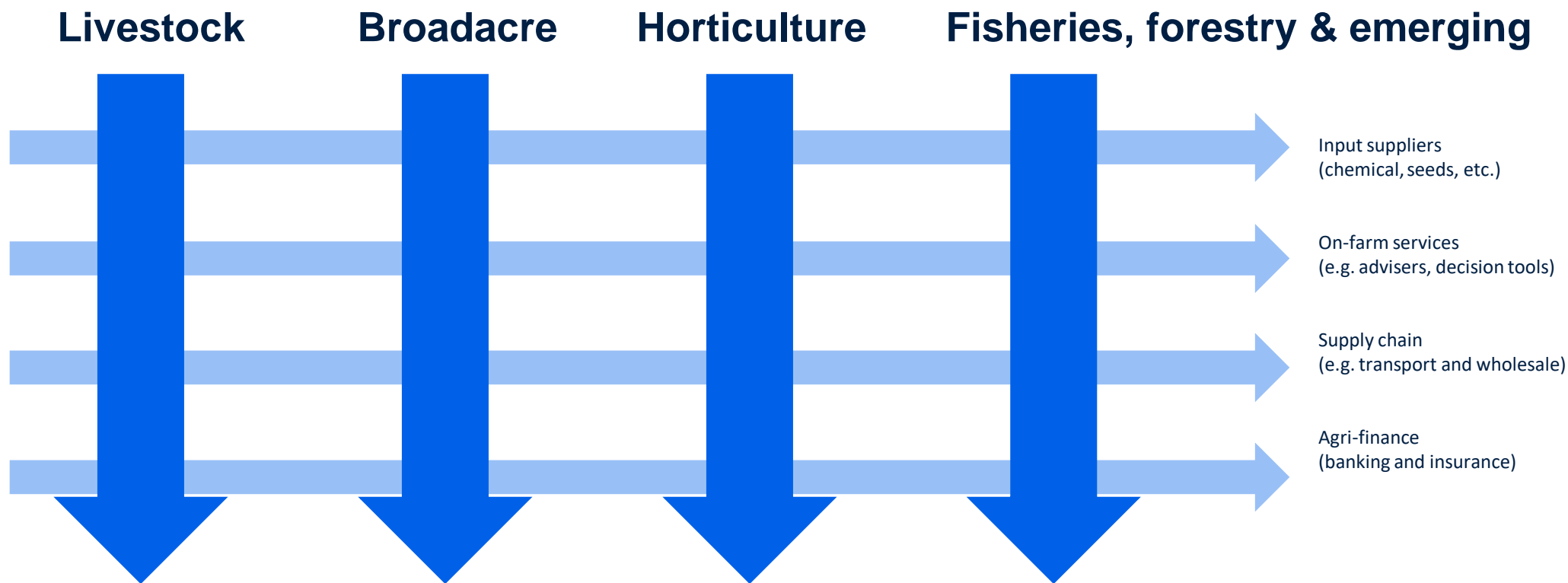
Why are we here?

- Generate >\$300 million in new economic and social value for the Ag Sector.
- Significantly contribute to NFF's vision of \$100b production value target.
- FIAL's \$200b value-added food target by 2030.



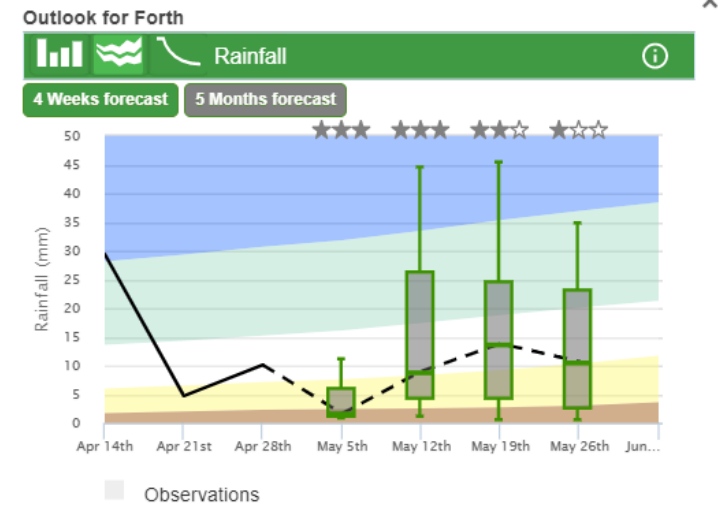
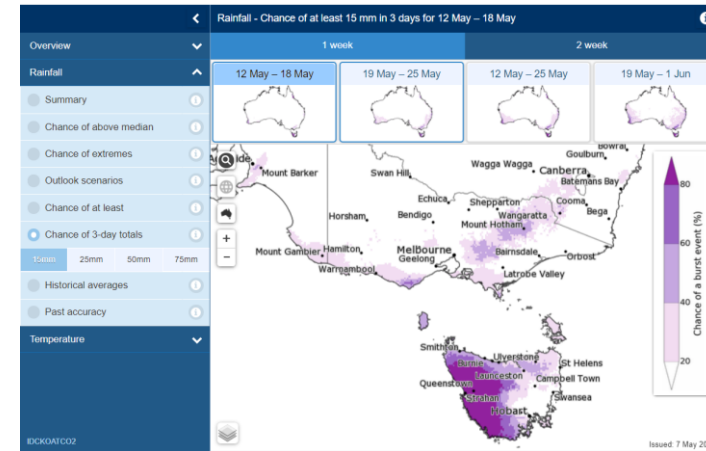
How will we do it?

- Ag Sector representatives to the Bureau and its partners
- Ensure weather/climate/water products meet the needs of critical Ag decisions.



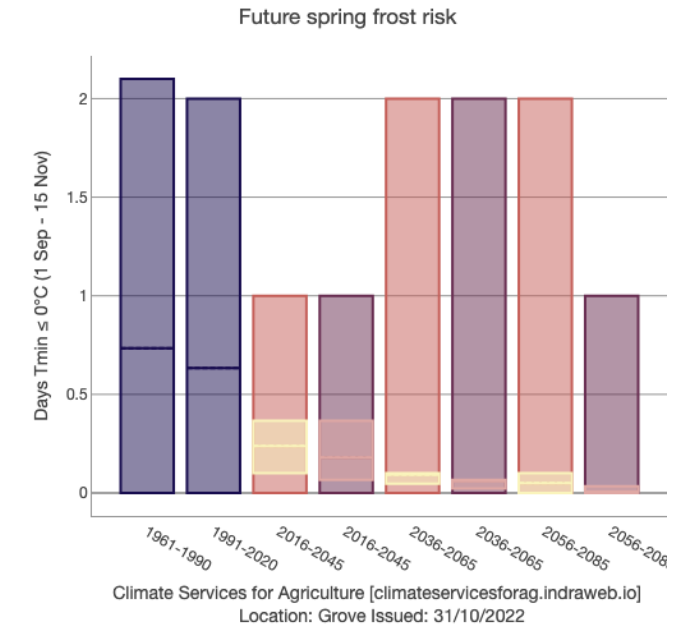
What have we done?

- Forewarned is Forearmed
 - Climate outlooks tools to help plan for extreme weather and climate events.
 - 5 new forecast products available [Bureau's climate outlooks website](#).
 - Extension activities: Train the Trainer



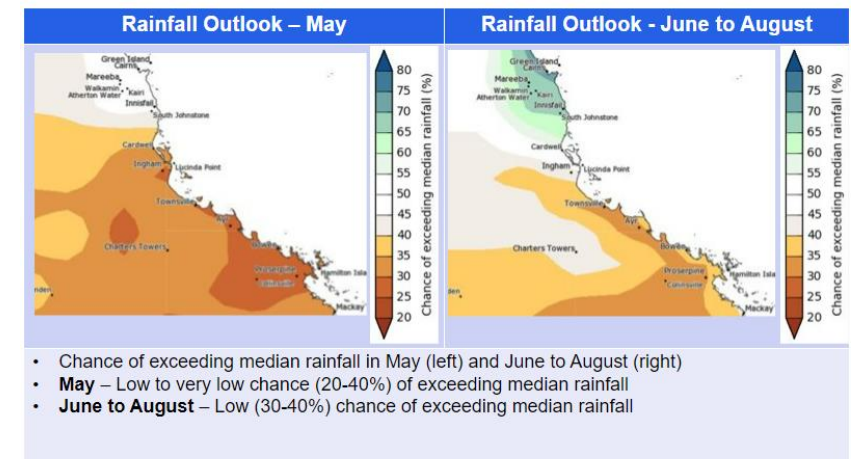
What are we doing?

- Climate Services for Agriculture (CSA).
 - Long-term risks and opportunities at farm and commodity scale.
 - Partnership with the Future Drought Fund and CSIRO.
- Agri-Climate Outlooks (ACO).
 - Seasonal risks and opportunities at farm and commodity scale.
 - Partnership with Agricultural Innovation Australia and CSIRO.
- ObsCheck – Your Weather QC Service.
 - Trusted Private AWS
 - Unlocking value from non-Bureau weather observations.



OFFICIAL

Median Rainfall Outlook – Burdekin



What's next?

Agriculture Decision Support Services

- Bringing people to the people
- Helping key customers make critical farming decisions
- Provide an agriculture lens on the forecasts
- Tailored to regional and commodity specific needs
- Delivered by Agriculture Meteorologists



Jono!



Bureau of Meteorology Agriculture

Jonathan How

Agriculture Decision Support Specialist

Senior Meteorologist

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Online tools for different timescales

Right now

Historical data
One week to years ago

Recent observations:
Yesterday to last week

Nowcasting:
Now to a few hours ahead

Forecasting and Futurecasting:
Next week to next season

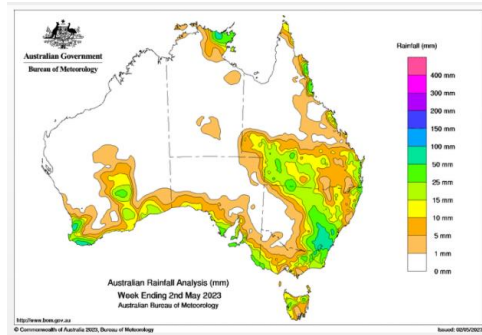
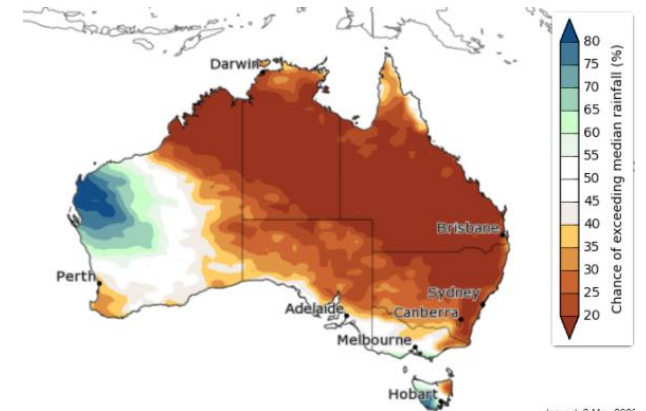
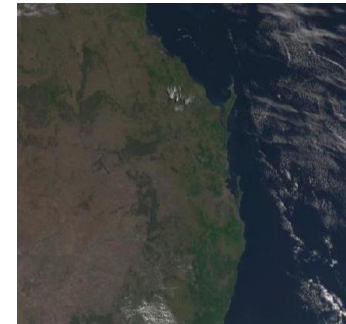


Latest Weather Observations for Launceston

Issued at 11:21 am EST Wednesday 3 May 2023 (issued every 10 minutes, with the page automatically refreshed every 10 minutes)
 (1) About weather observations | Map of weather stations | Latest weather observations for TAS | Other Formats
 Station Details ID: 091237 Name: LAUNCESTON (TI TREE BEND) Lat: -41.42 Lon: 147.12 Height: 5.0 m
 Data from the previous 72 hours | See also: Recent months at Launceston

Date/Time EST	Temp °C	App Temp °C	Dew Point °C	Rel Hum %	Delta-T °C	Dir	Wind Spd km/h	Wind Gust km/h	Spd km/h	Gust km/h	Press hPa	Press hPa	Rain since 6am mm
03/11 00am	10.8	9.3	9.2	90	0.8	N	7	11	4	6	-	-	0.0
03/10 30am	10.7	10.1	8.8	88	0.9	NW	2	4	1	2	-	-	0.0
03/10 00am	10.5	9.7	9.6	94	0.5	NW	-	-	-	-	-	-	0.0
03/09 30am	10.1	10.0	9.3	95	0.4	CALM	-	-	-	-	-	-	0.0
03/09 00am	10.1	9.3	9.6	97	0.2	NE	-	-	-	-	-	-	0.0

Copyright: Image by Bureau of Meteorology. For related Warnings, see www.bom.gov.au



MetEye - your eye on the environment™



Historical data

The Bureau stores a vast amount of weather observations and historic information dating back to the 1800s.

Main historical weather:

<http://www.bom.gov.au/climate/data-services/station-data.shtml>

- a) Climate data online (free service)
- b) Data requests (cost recovery service)

Average conditions maps:

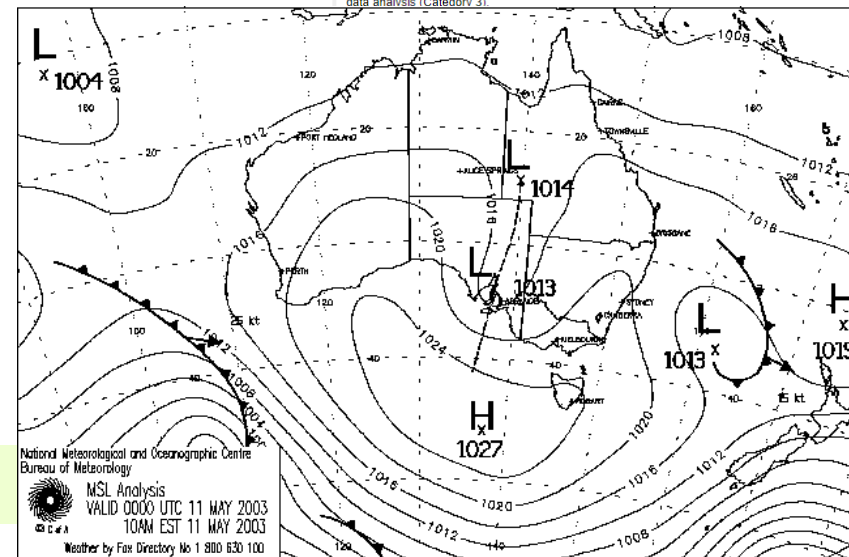
<http://www.bom.gov.au/climate/maps/averages/>

Weather charts back to 1999:

<http://www.bom.gov.au/australia/charts/archive/index.shtml>

Mean sea level pressure chart from 11 May 2003

The screenshot shows the Bureau of Meteorology website. The header includes the Australian Government logo and navigation links for HOME, ABOUT, MEDIA, CONTACTS, and a search bar. The main content area is titled "Historical weather observations and statistics" and includes a navigation menu on the left with options like "Climate", "Long-range forecasts", "News & reports", "Weather station data", "Data services", "Weather Station Directory", "Maps - history to now", "Maps - averages", "Climate change", "Extremes and records", and "About Australian climate". The main content area features a "Free data online" section, a "Climate Data Online" button, a "Data requests" section with a note about charges, and a "Weather Station Directory" section with a "Find station data" button. There is also a "Prices for data" section and a "Format of station data" section.



Online tools - demonstrated

Historical data

Link 1: Climate Data Online

1. From the BOM home page, scroll down to "Our services"
2. Then in the 2nd column from the left, click on "Climate and Past Weather"
3. In the right column click on "[Weather station data](#)"

- a) Rainfall update viewer (shown in next section)
- b) Text search – choose data type, then type your location
- c) Map search – choose data type, then click on your location

Question (for your chosen weather station)

1. What was the monthly rainfall for April 2019, and how does it compare to April 2021 or 2022?

Pause for questions

The screenshot shows the Australian Government Bureau of Meteorology's Climate Data Online interface. At the top, there's a navigation bar with 'HOME | ABOUT | MEDIA | CONTACTS' and a search box. Below that, a sidebar on the left lists various climate data options, with 'Weather station data' expanded to show 'Daily rainfall', 'Recent observations', 'Monthly statistics', 'Major cities', and 'Long-term temperature data'. The main content area features a 'Climate Data Online' heading and a 'Text search' section. The 'Text search' section includes a dropdown for 'Data about' (set to 'Rainfall'), radio buttons for 'Type of data' (Daily, Monthly), and a 'Find' button. Below this is a 'Map search' section with a 'Get Data' button. Red arrows from the instructions point to the 'Text search' and 'Map search' sections. A small map in the top right shows station locations with a red dot labeled 'a)' and a larger map in the bottom left shows a zoomed-in view of a location with a red dot labeled 'c)'.

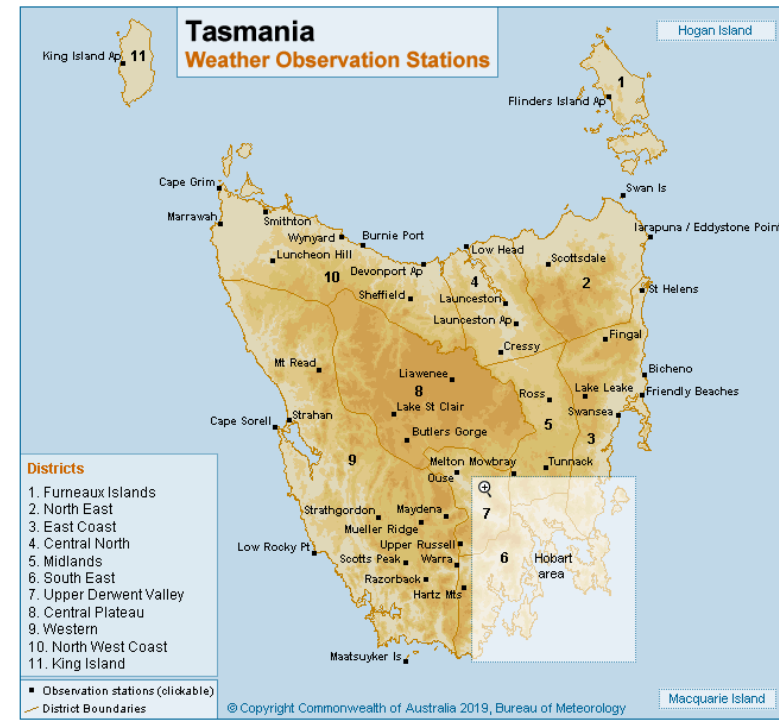


Recent Observations

- Each state and territory has their own observations page.
- The BOM Weather App has observations for the past 72 hours.
- The Bureau operates automatic weather stations throughout the country, but not all stations will accurately represent people's properties
- Most report every 30 mins, some only once a day
- The rain gauge network is much more comprehensive, a mix of Bureau and privately owned stations.



Tasmanian Weather Observation Stations



Online tools - demonstrated

Recent observations

Link 2: State/territory Observations Page.

1. From the BOM home page, click on your state or territory on the map of Aus.
2. Then in the middle column, click the first link "All observations"
3. In the left column (Latest Weather) choose either
 - a) SA latest observations, or
 - b) South Australia observations via clickable mapthen navigate to the weather station closest to your property

Questions (for your chosen weather station)

1. What was the overnight minimum?
2. When was the last time it rained? If it hasn't rained there in the past 72 hrs, click on "Recent months at xxx" at the top of the Latest Weather Observations page

POLL A: How much rain have you had so far this month at the station closest to your property/chosen station

Pause for questions.

Australian Government
Bureau of Meteorology

HOME | ABOUT | MEDIA | CONTACT

NSW | VIC | QLD

[Bureau Home](#) > [Australia](#) > [South Australia](#) > South Australian Observations

South Australian Observations

View the current warnings for South Australia

Latest Weather

Capital city

Adelaide area latest observations

Adelaide observations via clickable map

Land areas

SA latest observations

South Australia observations via clickable map

Latest weather graphs via clickable map

Thermal comfort

Marine areas

Rainfall & Rivers

Latest rainfall & river conditions via clickable map

Rainfall and river height data (by catchment) including all Daily and Weekly Rainfall bulletins

Rainfall overview maps General overview of rainfall across South Australia (day, month or year)

Recent rainfall

Radars

Adelaide radar

Daily Weather

Daily weather review

Weather bulletins

- 9 am summary
- 3 pm summary
- Agriculture

Daily weather observation tables (via location then date)

Rainfall and temperature records

Climate Data Online

Access a range of statistics, historical weather observations, climatology maps, and other Australian climate data.



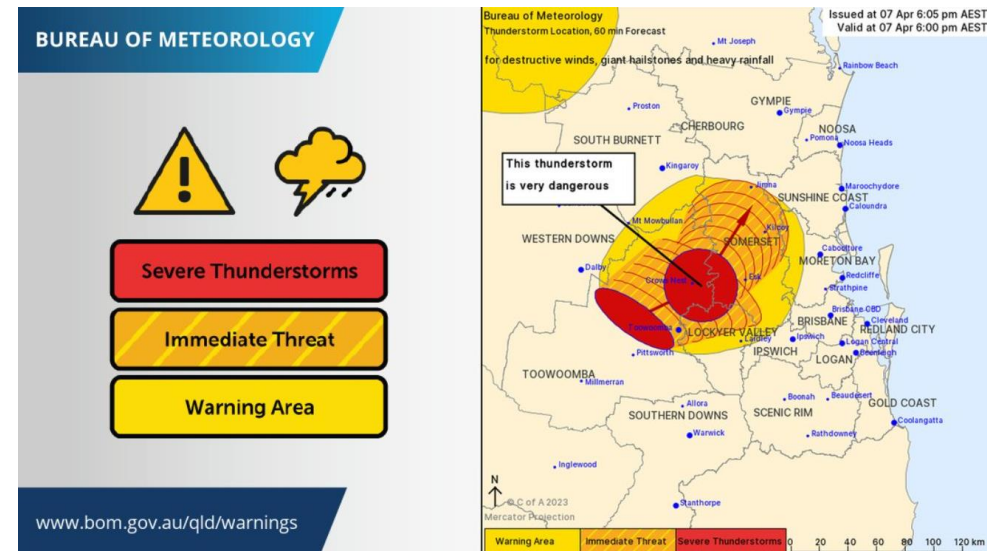
Nowcasting:

POLL B: Today's forecast is for storms. What tools do you use to check to see if storms or rain are coming before you step outside?

- Nowcasting is all about what's coming up in the immediate future – next minute to the next hour or so
- Can be very important on days of big storm outbreaks, or on days of Extreme/Catastrophic Fire Dangers with a wind change



Taken from BOM YouTube Channel



Storm warning for SEQ from 7 April 2023



Online tools - demonstrated

Nowcasting:

Links 3:

- a) Radar: <http://www.bom.gov.au/australia/radar/>
- b) Satellite viewer (requires fast internet connection) <http://satview.bom.gov.au/>
- c) Warnings

BOM Weather App:

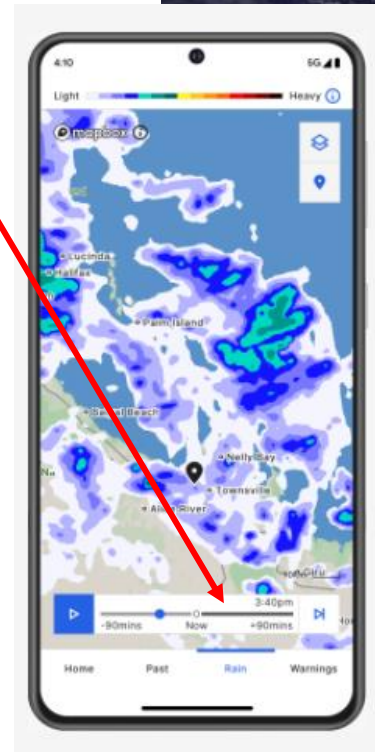
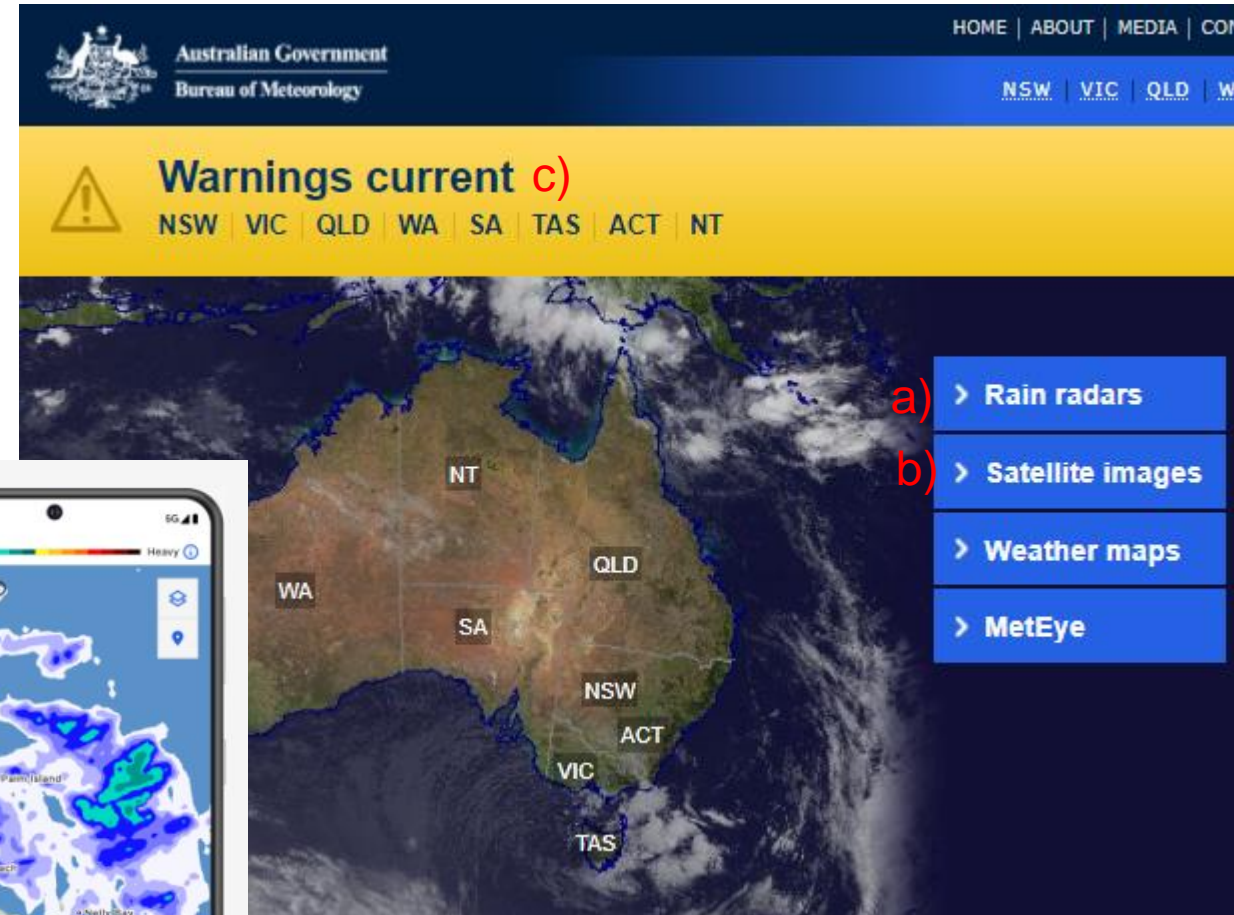
The newest update now has radar capability to see 90mins ahead, and warning notification enhancements

Questions – depending on weather conditions

1. Based on the satellite viewer, by looking at the clouds, where might it be raining, or about to rain?
2. Is the upcoming rainfall likely to be light/heavy, or just passing/persistent?
3. Are there any warnings current for your area?

POLL C: Your usual radar is out, how can you see if it's going to rain?

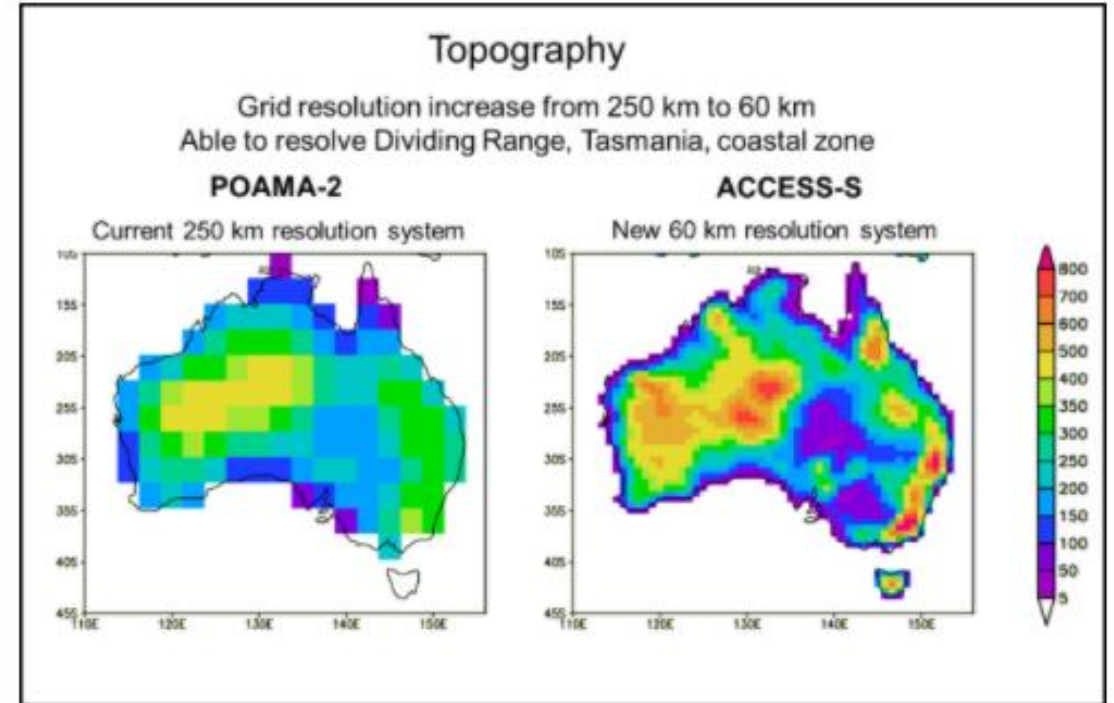
Pause for questions



Forecasting and Futurecasting

- What's coming up next week, next month, next season, next year?
- This is where computer models come in: ACCESS, EC, GFS etc
- ACCESS-C+: 4km resolution
- ACCESS-R: 12km resolution
- ACCESS-G: 25km resolution
- ACCESS-S: 60km resolution

POLL D: What sort of weather do you keep an eye out for in the upcoming week?



BOM ACCESS Model replaced POAMA in 2018



Online tools - demonstrated

Forecasting: Next 7 days

Link 4: MetEye

1. From the BOM home page, click on "Meteye" near the top-middle
2. On the MetEye page, navigate both the weather element type on the left, and then the day and time of the week
3. Type in your postcode, or zoom in to your location

Questions – for your location

1. When is the next rain due, and the chance of rain?
Rainfall forecasts, then "Chance of any rain"
2. Where in your state/territory will it be coldest tomorrow morning? Either use the 3-hr air temperature, or overnight Sea minimum options.
3. Any significant weather for your location this coming week to be aware of?
"Storms, snow, fog, frost" and then "All significant weather"

The screenshot displays the Australian Bureau of Meteorology's MetEye interface. At the top, there's a navigation bar with 'Warnings current' and links for various states and territories. A sidebar on the right offers options like 'Rain radars', 'Satellite images', 'Weather maps', and 'MetEye'. The main area features a map of Australia with a 'Day and time' selector set to 'Wednesday, 3 May 2023'. A 'Weather elements' sidebar on the left allows users to filter forecasts by type, such as 'Wind speed and direction (knots)'. The map shows wind speed and direction forecasts across Australia, with a legend on the right indicating wind speed ranges in knots. The bottom of the page includes a search bar and various map controls.



Online tools - demonstrated

Futurecasting: Beyond 7 days

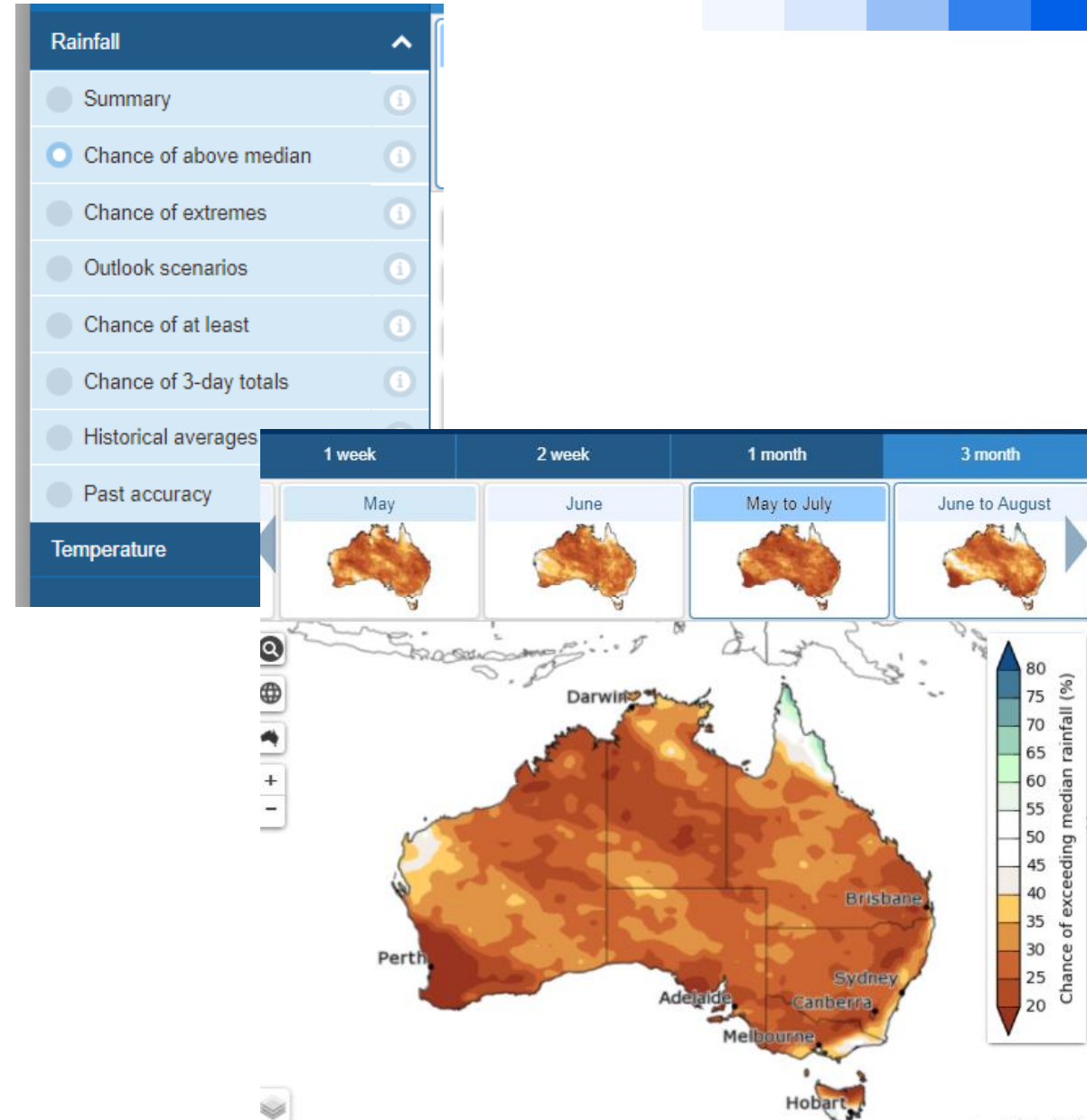
Link 5: Seasonal and long-range forecasts

1. From the BOM home page, scroll down to "Our services" and select "Climate and Past Weather"
2. Then, on the right, click through to "Long Range Forecasts" <http://www.bom.gov.au/climate/outlooks/#/rainfall/summary>
3. Select Rainfall or Temperature on the left column to explore

Questions – for your location

1. What's the chance of exceeding median rainfall from June to August? "Chance of above median"
2. What's the chance of at least 15mm at your property next week? "Chance of at least", then select 15mm from the drop-down list
3. Historically, what's the past accuracy for median rainfall forecasts for May to July?
"Past accuracy", then select "Median"

Pause for questions



Online tools – of mention

BOM App

- Download now - [App Store](#) or [Google Play](#)

Australian Water Outlook

- Historical, Forecasts & Projections of Soil moisture, Runoff & Evapotranspiration - <https://awo.bom.gov.au/>

Climate Services for Agriculture (CSA).

- Long-term risks and opportunities at farm and commodity scale - <https://climateservicesforag.indraweb.io/>

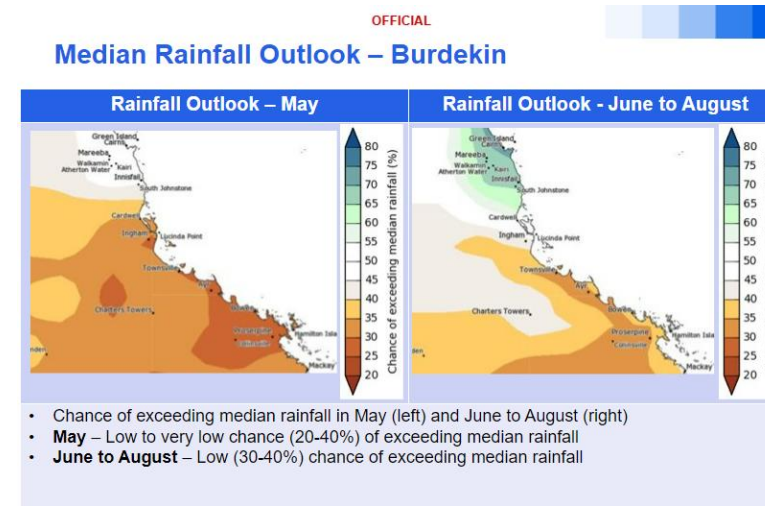
Australian CliMate

- Question focused analyses for exploration of weather data across Australia <https://climateapp.net.au/>

Project – of mention

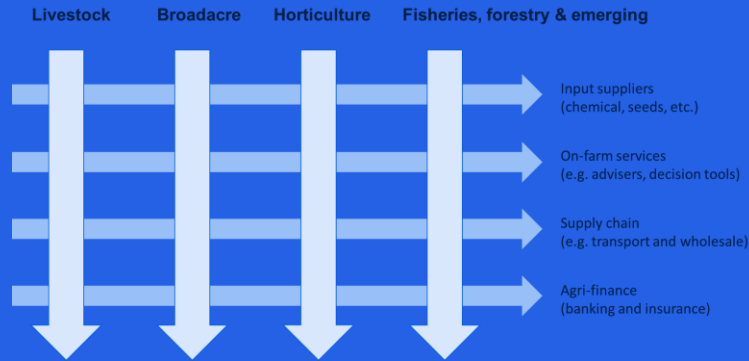
Agri-Climate Outlooks

1. Decision support by Agriculture Meteorologists
 2. Education and training
 3. Agriculture impact specific-alerts
 4. Interpreting the forecast
 5. Improving the forecasts (Research)
- AIA's Media release: [here](#)



Questions or Feedback?

agriculture@bom.gov.au



Click here: [State of the Climate Report - 2022](#)

