

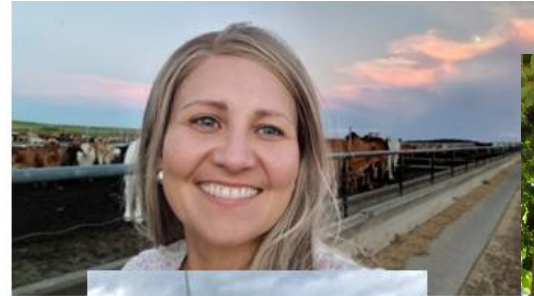
Bureau of Meteorology Agriculture

"Forecasting now and the years ahead"

Rachel Davis, Horticulture Segment Lead

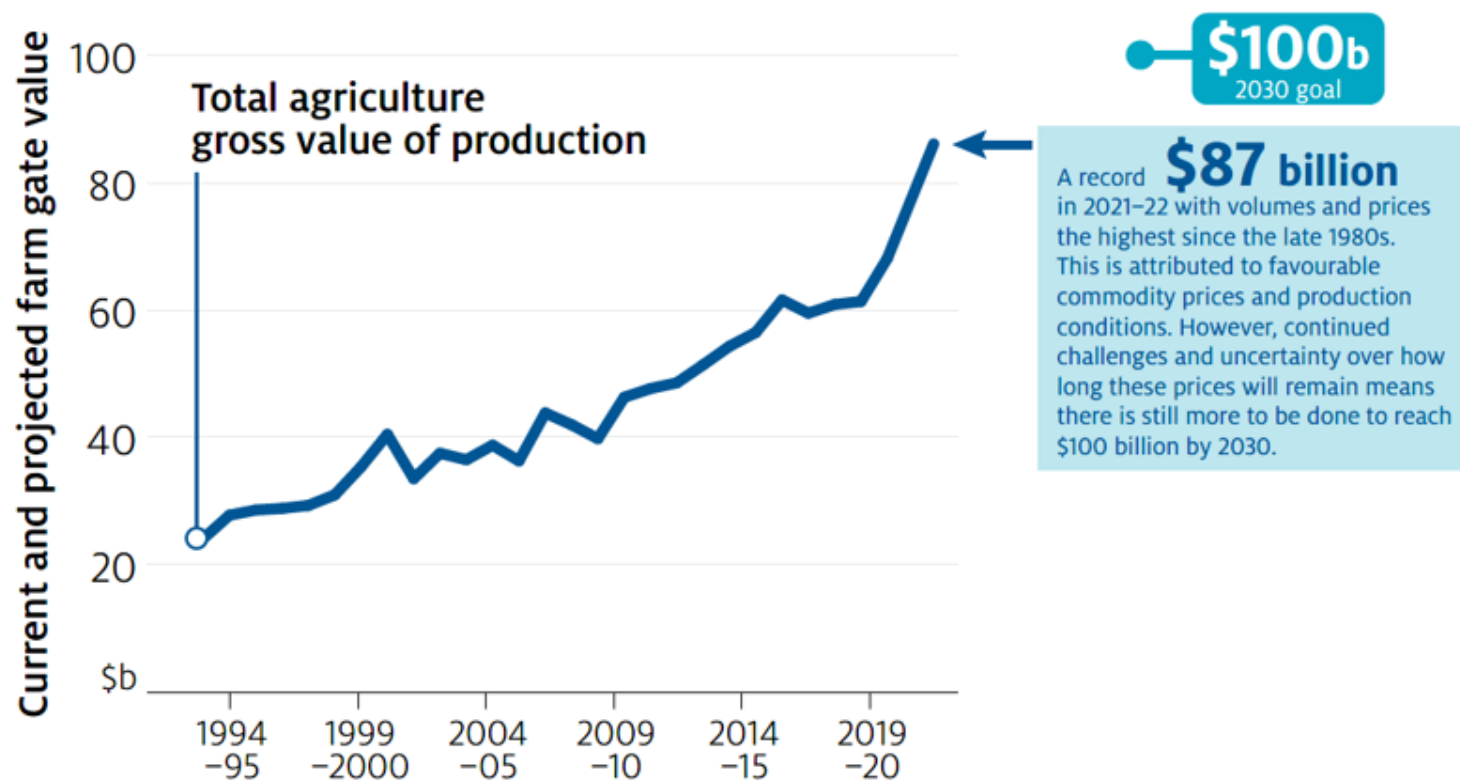
Outline

- Why are we here?
- How will we do it?
- What are we doing?
- What's next?
- Three things you need to know
- Outlook (Long-range forecast)



Why are we here?

- Generate >\$300 million in new economic and social value for the Ag Sector.
- Significantly contribute to the sector's \$100b value target.



Source: ABARES.



How will we do it?

- We are representatives for the Ag Sector to the Bureau and its partners.
- We build and maintain trusted relationships, leveraging strengths from across the sector to solve the big issues.
- We ensure weather/climate/water products meet the needs of critical Ag decisions.



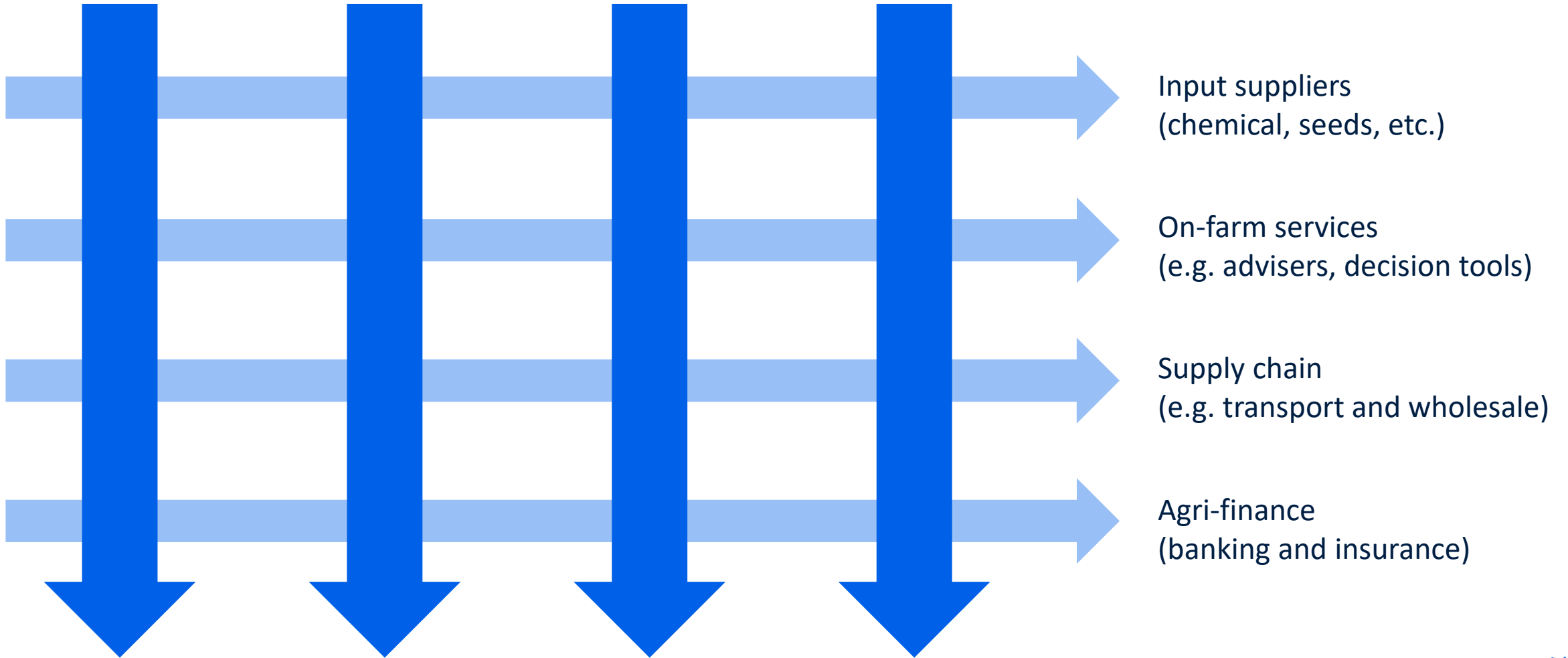
How will we do it?

Livestock

Broadacre

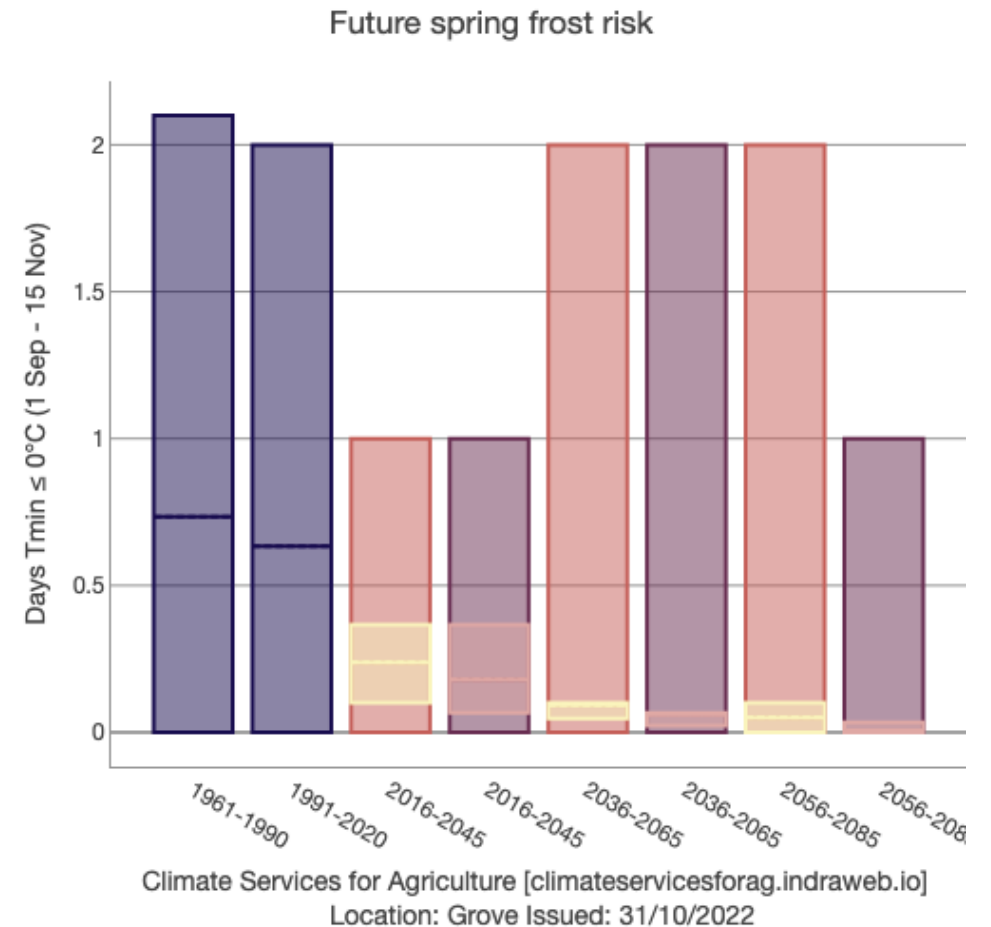
Horticulture

Fisheries, forestry & emerging



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.
 - Unlocking value from non-Bureau weather observations.



What's next?

- Temperature extremes.
 - Heat, frost and chill (cold, wet, windy) forecasts at the resolution and lead time required for producers.
 - Leverage previous projects such as FWFA and NACP.
- Biosecurity.
 - Processes, systems and communication frameworks for any pest or disease.
- 0-30 day seamless rainfall forecast.
 - Rain forecasts that meet lead time, temporal resolution, and forecast skill requirements of producers.
- Interpretable forecasts.
 - Creation and adoption of design principles that ensure >80% of ag users can interpret forecasts.



Three things you need to know


- 1. Interpreting the 7-day rain forecast.
 - Based on the examples below, what is the chance of receiving more than 5 mm?

Website example:

Min **10** Max **17**

Rain at times.

Possible rainfall: **1 to 10 mm**

Chance of any rain: **70%** 

75% (high) chance of at least X mm.

50% (medium) chance of at least X mm.

25% (low) chance of at least X mm.

X% chance of at least 0.2 mm.

Mobile App example:

20° **14°**

Max Overnight min

2-20mm

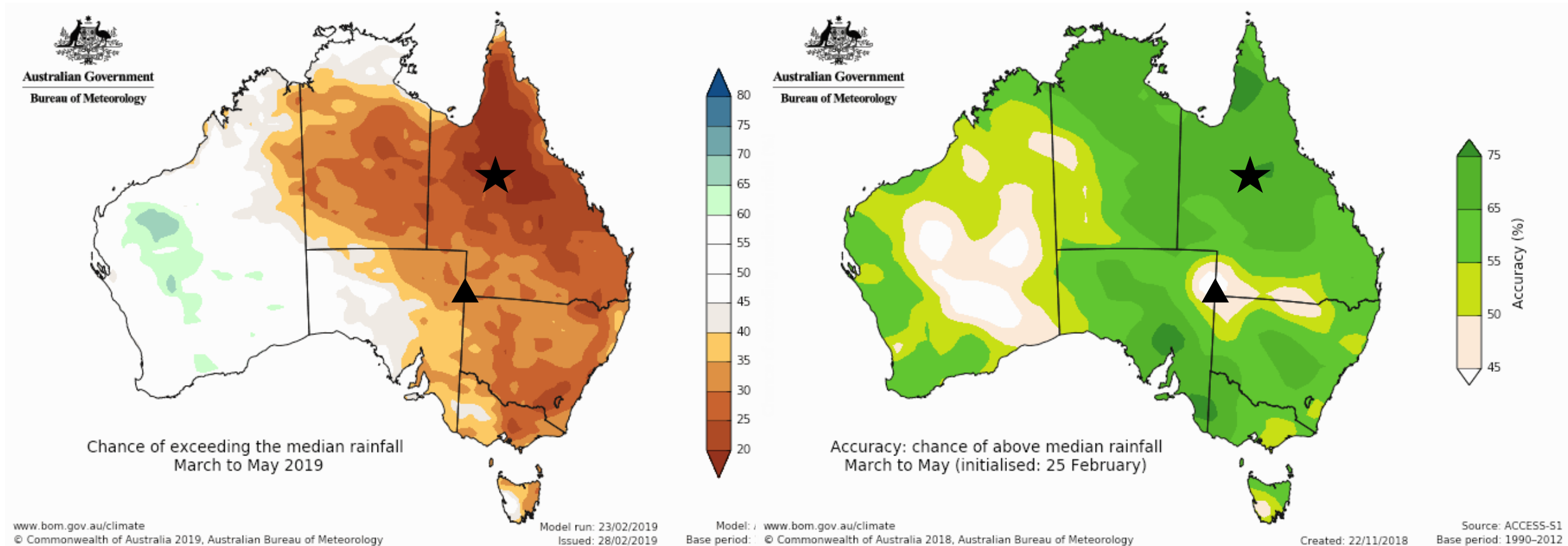
Rain

Showers increasing.



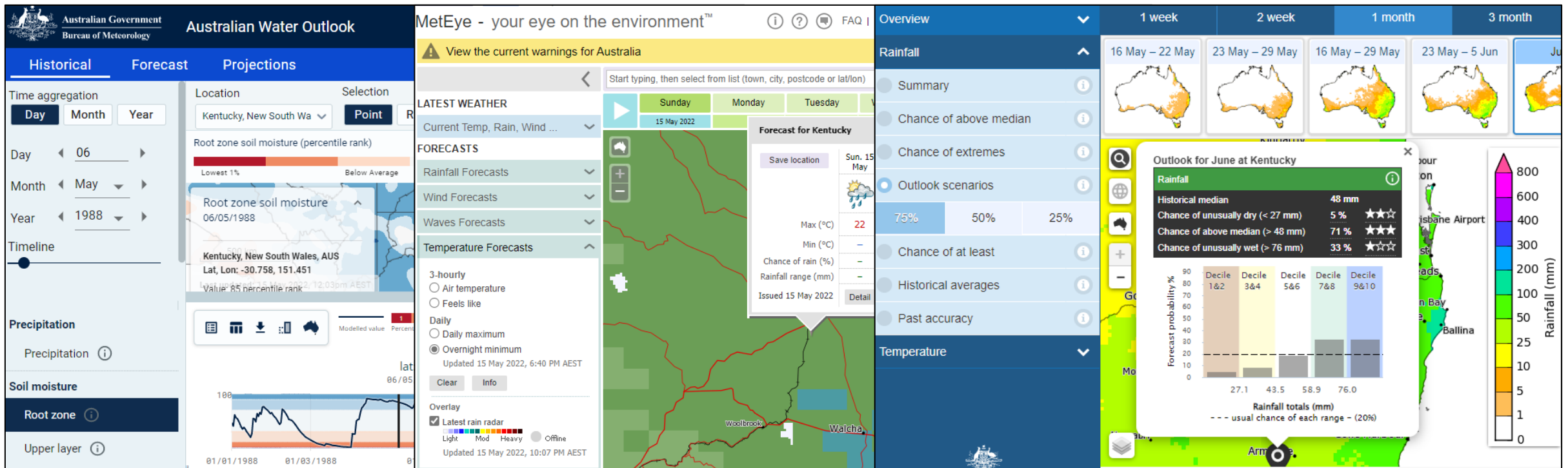
Three things you need to know

- 2. Interpreting seasonal forecasts.
 - How to use skill / past accuracy to measure forecast confidence.



Three things you need to know

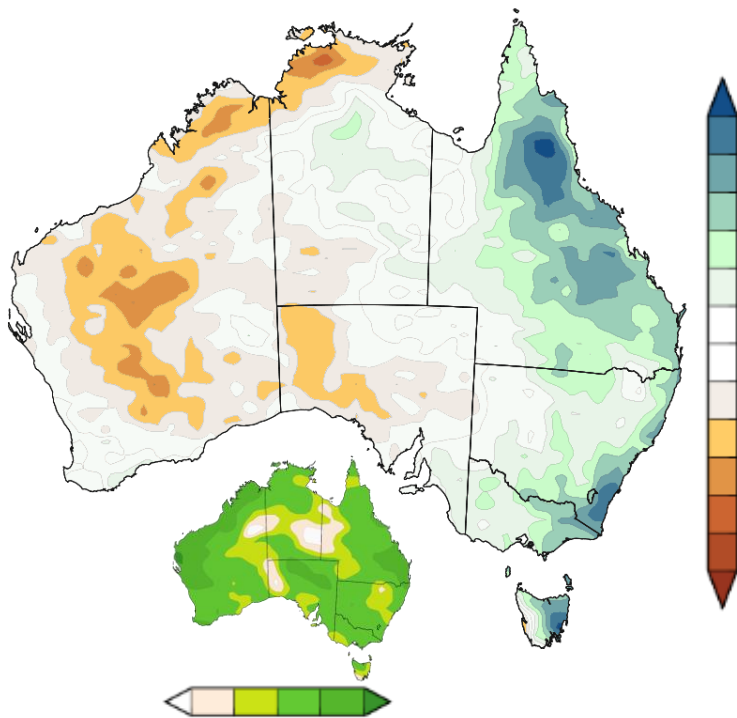
- 3. Every farm, anywhere in the country.
 - 100 years of history: [Australian Water Outlook](#)
 - 7-day forecasts: [Meteye](#)
 - Next week to next season: [Climate Outlooks \(Long-range Forecasts\)](#)



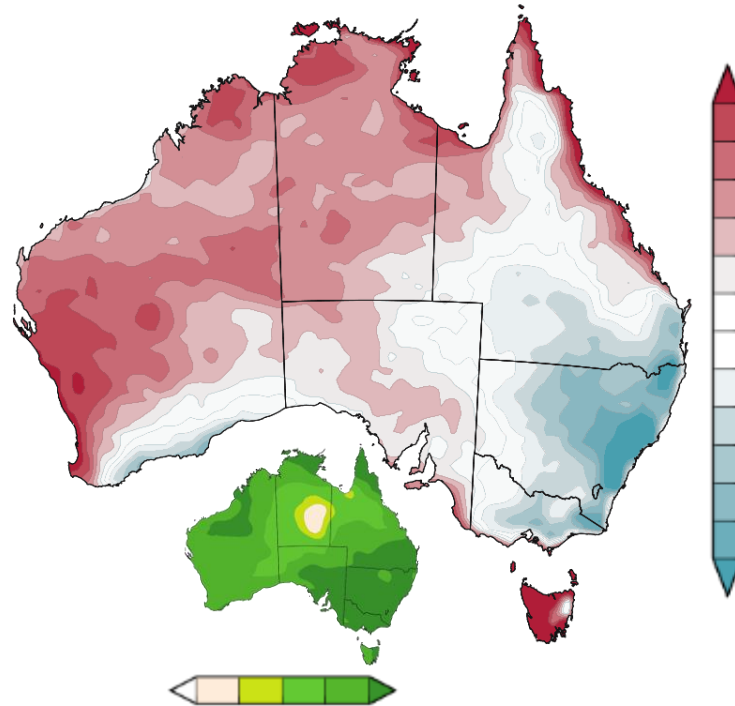
December 2022 – February 2023 long-range forecast

Chance of above median (above average)

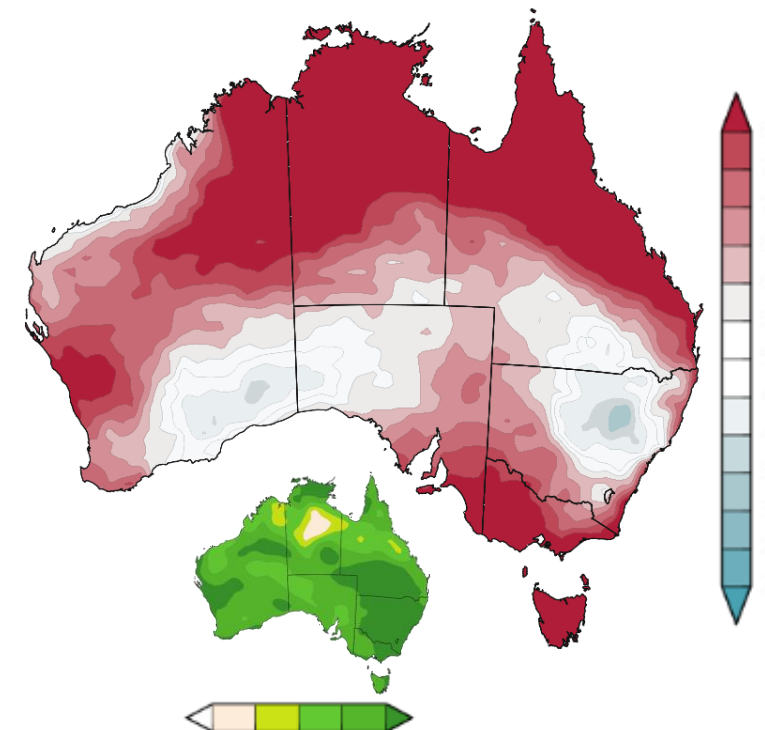
Rainfall



Maximum temperature



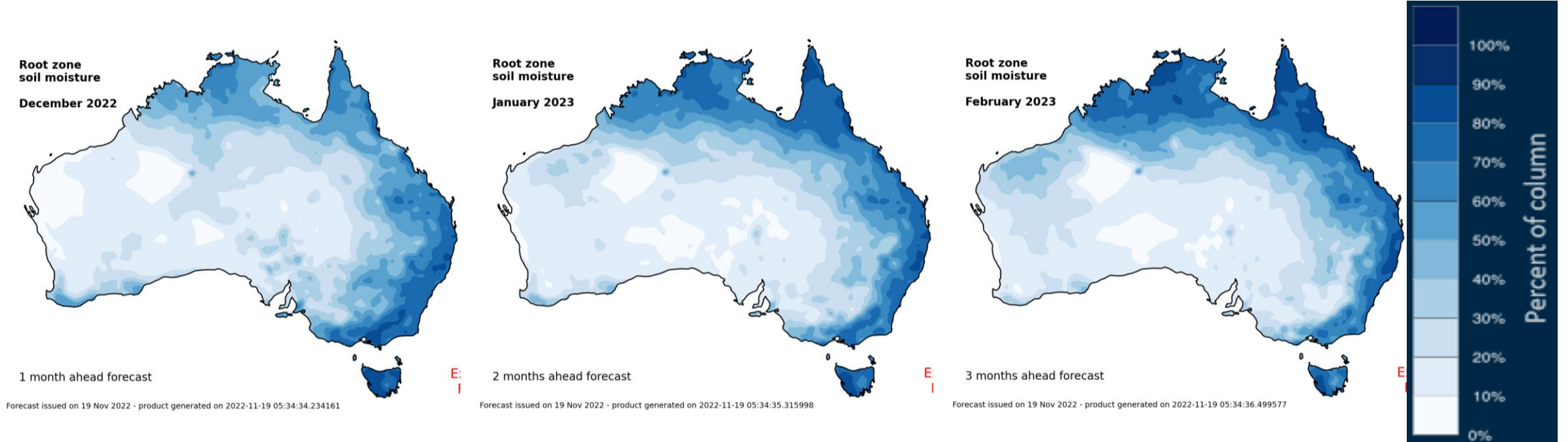
Minimum temperature



- **Rainfall:** Likely to be above average for much of the eastern states; likely below average for large parts of interior western Australia
- **Temperatures:** days are likely to be warmer than average for large parts of WA, NT, Tas and the east coast of QLD; cooler days likely for southern QLD, most of NSW, and large parts of Vic; above - average minimum temperatures likely for most regions

December 2022 – February 2023 long-range forecast

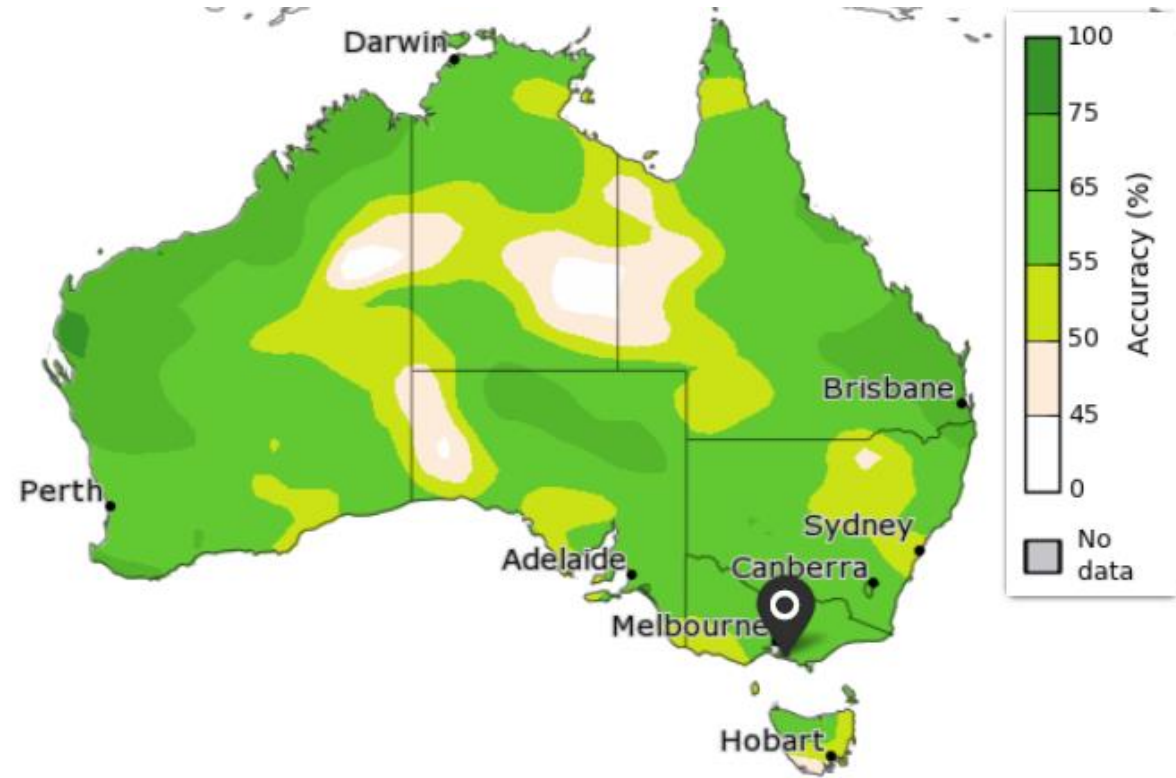
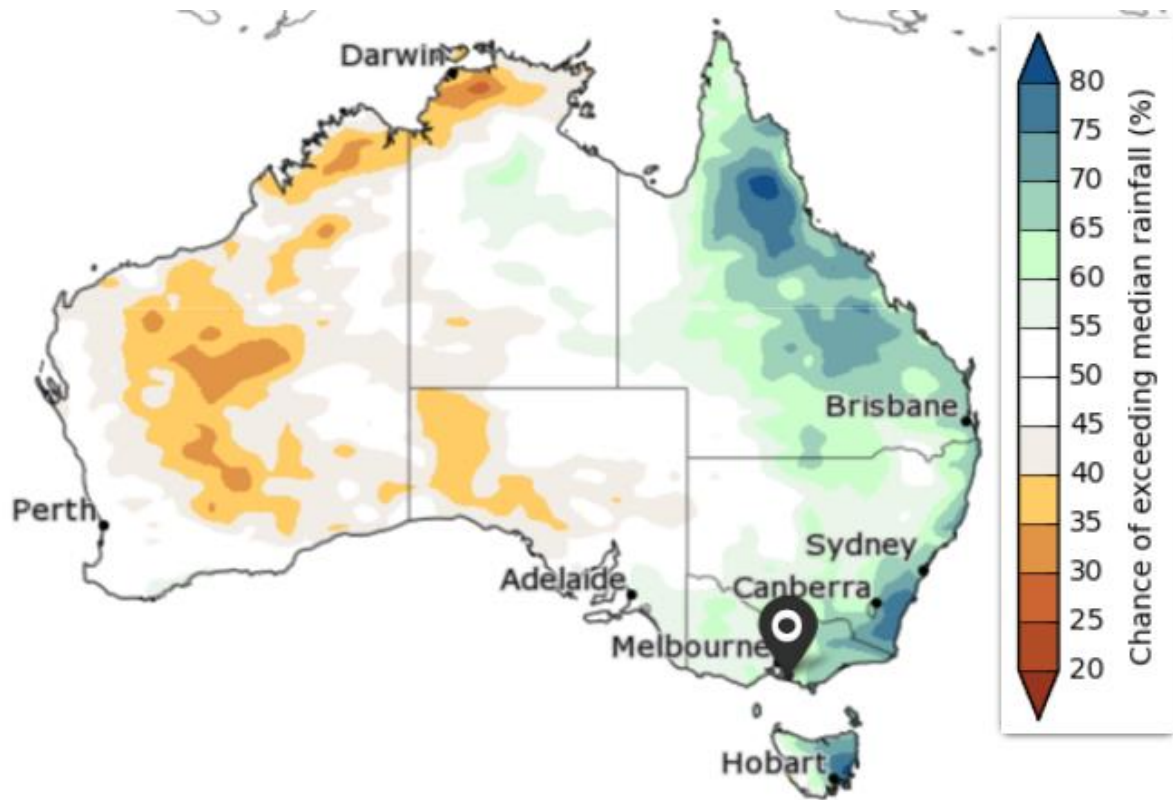
Soil moisture



- Soil moistures are expected to be high for the much of eastern Australia, inc. Tasmania during December'22 to February'23 period.
- In the north, soil moistures are expected to increase in the later part of the outlook period as northern monsoon sets in

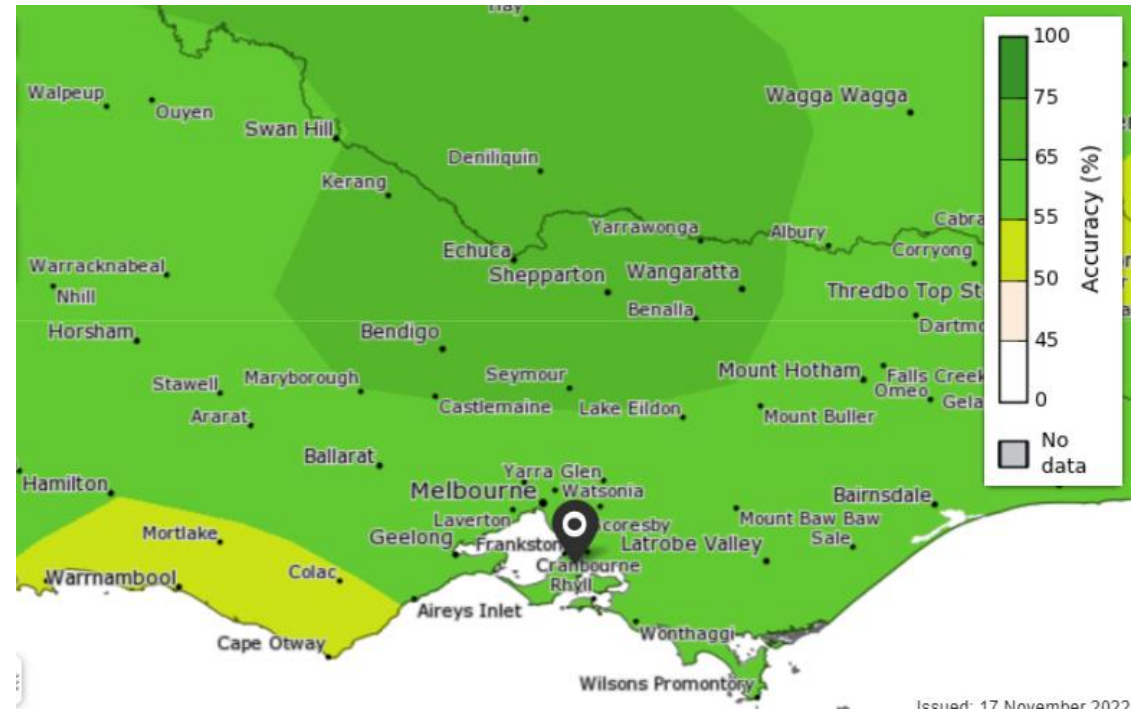
Outlook for Baxter, Victoria (December to February)

Chance of above average rainfall



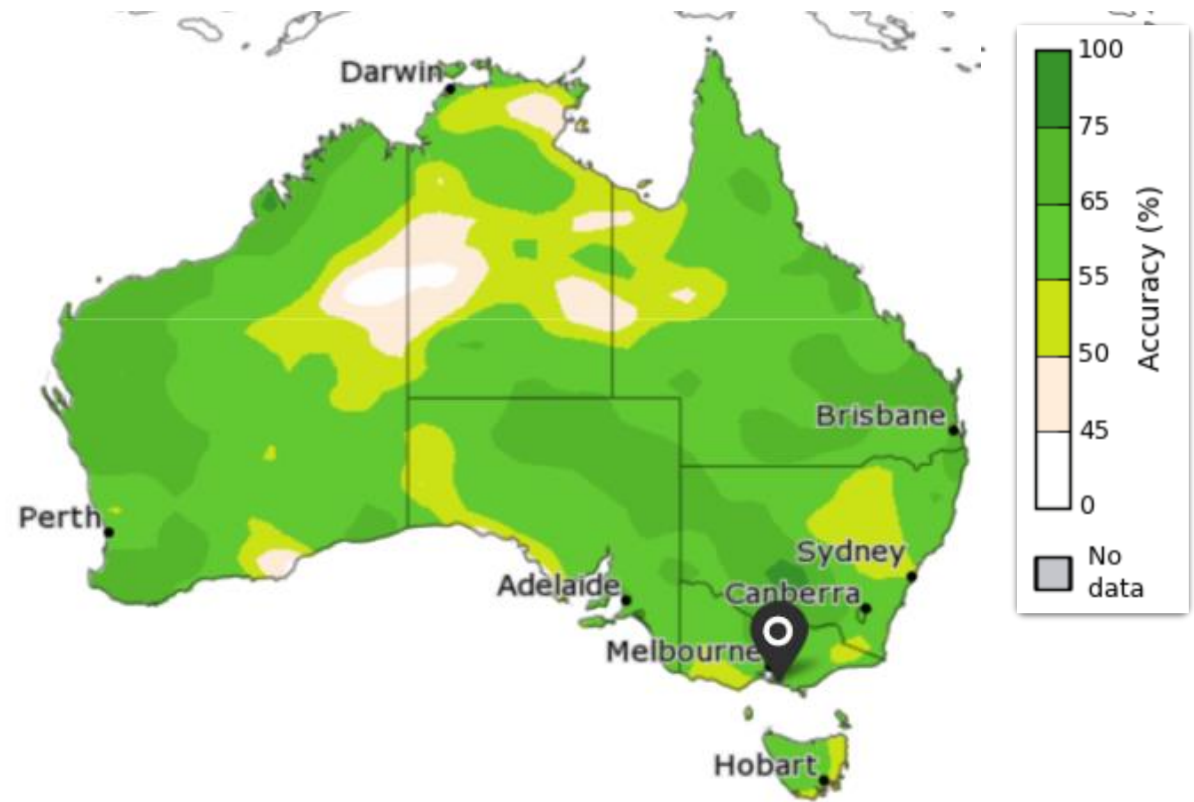
Outlook for Baxter, Victoria (December to February)

Chance of above average rainfall



Outlook for Baxter, Victoria (December to February)

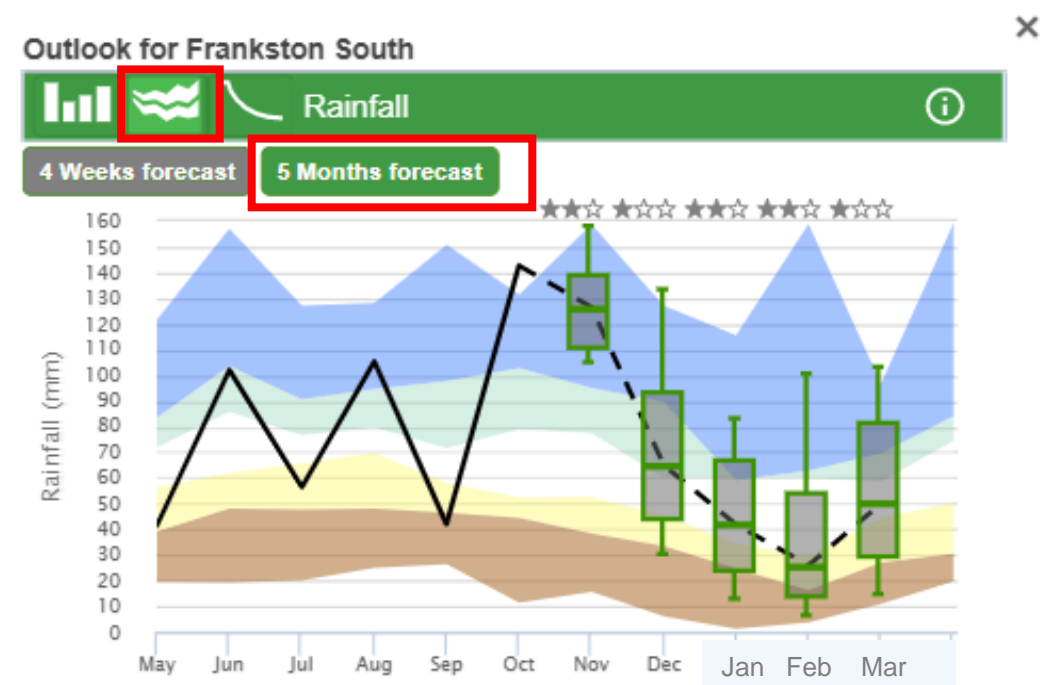
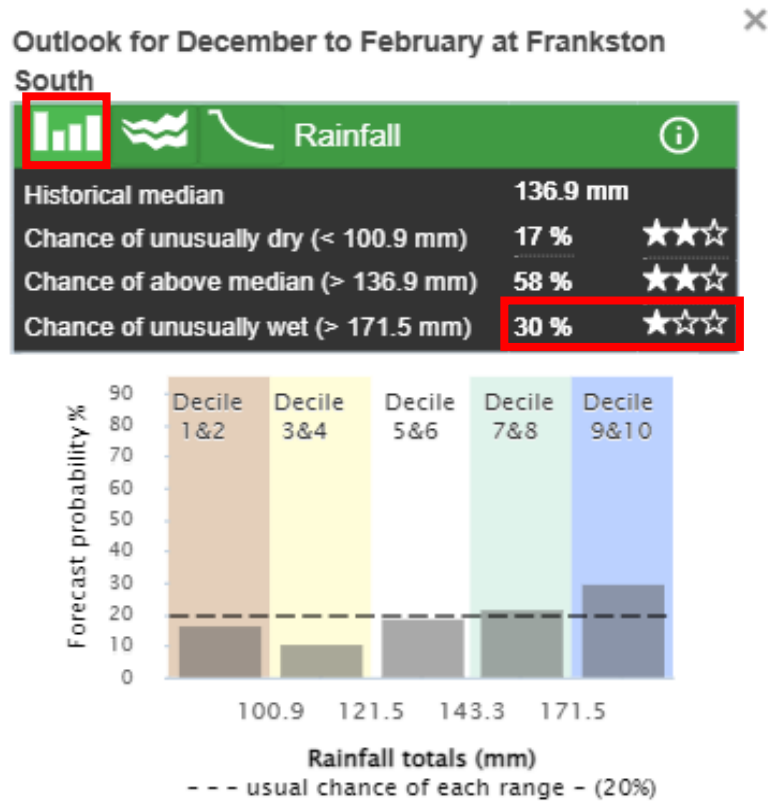
Chance of extremes: unusually wet



Outlook for Baxter, Victoria (December to February)

Chance of being in the highest 20% of historical rainfall records

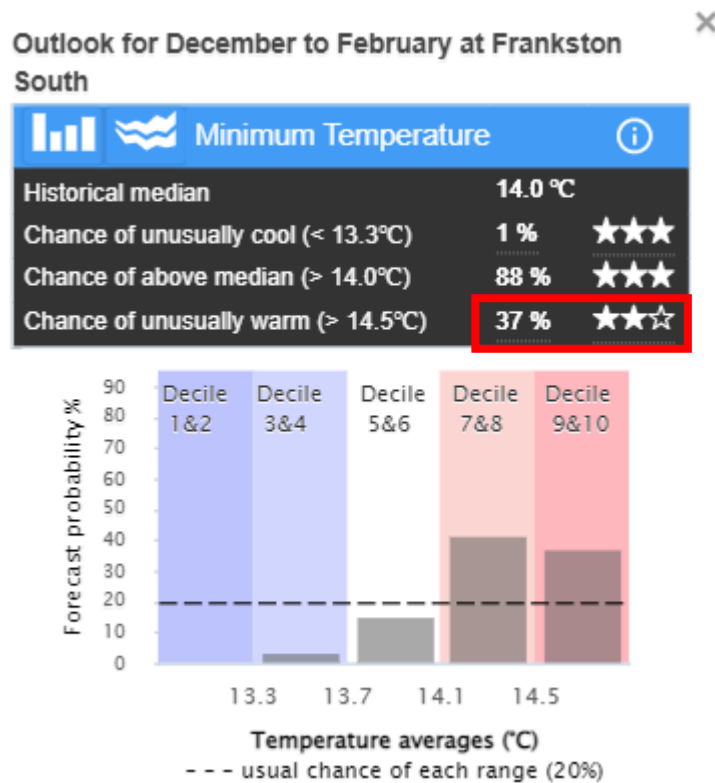
- 30% chance of greater than 171.5 mm
- Low past accuracy



Outlook for Baxter, Victoria (December to February)

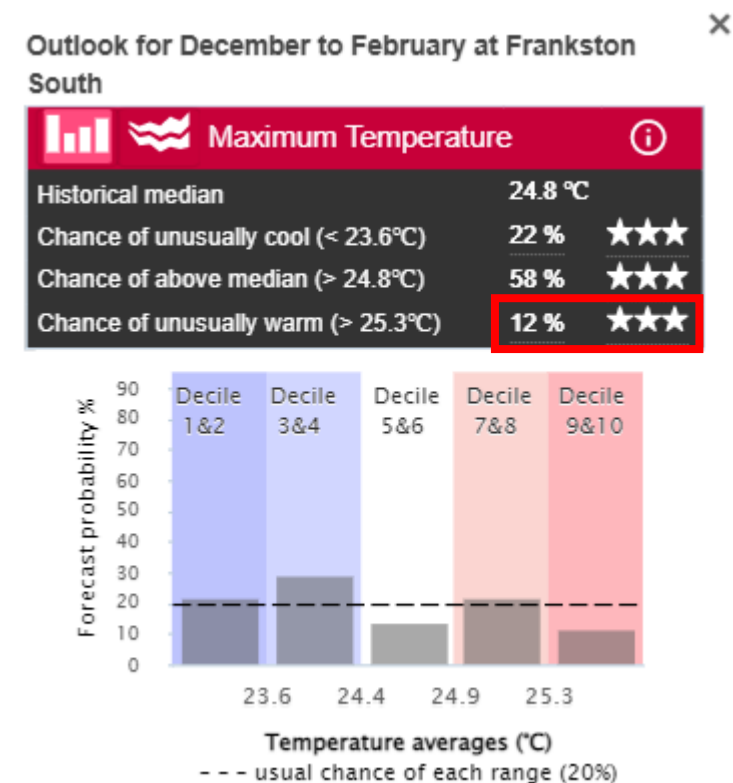
Chance of unusually warm: min. Temp.

- 37% chance of above 14.5°C
- Moderate past accuracy



Chance of unusually warm: max. Temp.

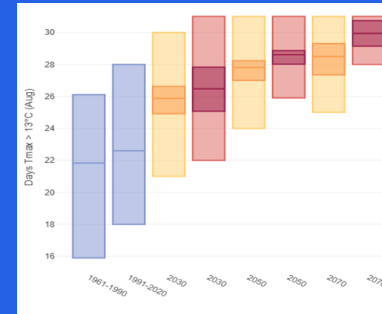
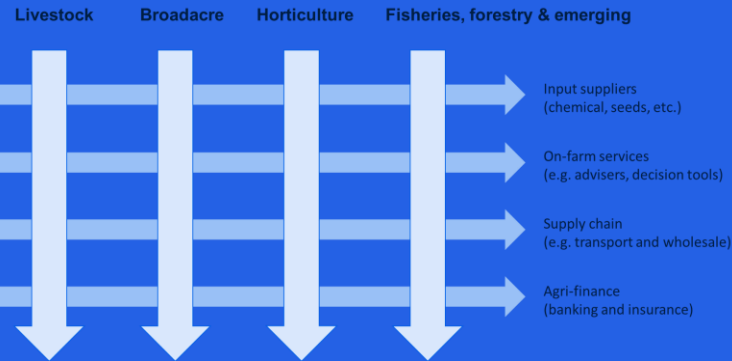
- 12% chance of above 25.3°C
- Very high past accuracy



Questions?

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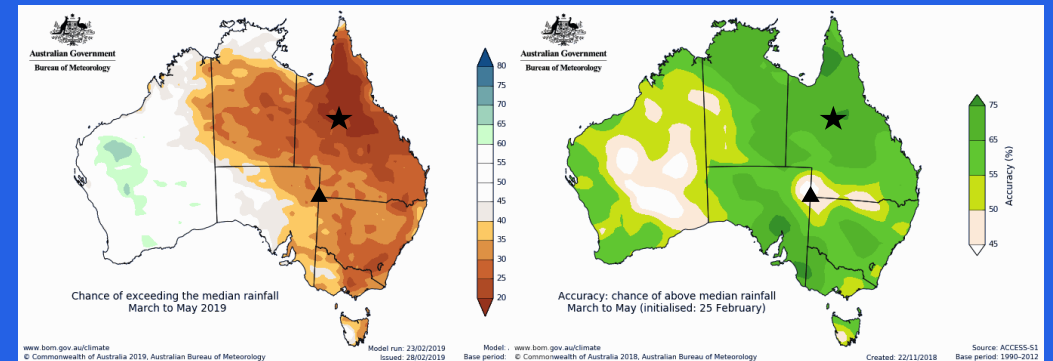


Forecast for the rest of Tuesday

Min 22 °C Max 29 °C

Possible rainfall: 2 to 6 mm

Chance of any rain: 60%



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