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Bureau of Meteorology

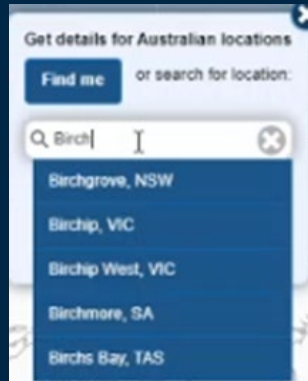
Forewarned is Forearmed (FWFA)

Rainfall Probability of Exceedance &
Burst potential
Feedback Sessions

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Bureau of Meteorology



The new extreme climate outlooks



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Bureau home > Climate > Outlooks

Climate outlooks—weeks, months and seasons

Issued Thursdays, one and two week outlooks also issued Mondays

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Rainfall - Chance of being in the highest 20% of the historical range for November to January

Overview | 1 week | 2 week | 1 month | 3 month

Rainfall | November | December | November to January | December to February

- Summary
- Chance of above median
- Chance of extremes**
- Unusually dry | Unusually wet
- Outlook scenarios
- Chance of at least
- Historical averages
- Past accuracy

Temperature

IDCKOATC02

Issued: 21 October 2021

Outlook for November to January at Nunningong

Rainfall

Historical median	222 mm
Chance of unusually dry (< 174 mm)	5 %
Chance of above median (> 222 mm)	82 %
Chance of unusually wet (> 283 mm)	54 %

Forecast probability %

Decile	Decile	Decile	Decile	Decile
1&2	3&4	5&6	7&8	9&10
173.9	204.1	233.9	282.9	

Rainfall totals (mm)

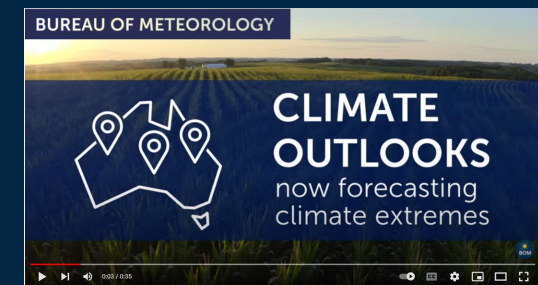
--- usual chance of each range - (20%)

Chance (%) | Number of times more likely (x)

80 | 4.0
70 | 3.5
60 | 3.0
50 | 2.5
40 | 2.0
30 | 1.5
20 | 1.0
10 | 0.5

■ No data
--- Usual

Watch a demo



<https://www.youtube.com/watch?v=0cJGtzk6HeU>

Project release phases: 2021–22



- Switch to ACCESS-S2 as operational model
- Introduction of FWFA products #1 and #2
- Introduction of FWFA products #3, #4 and #5

October 2021



October 2021

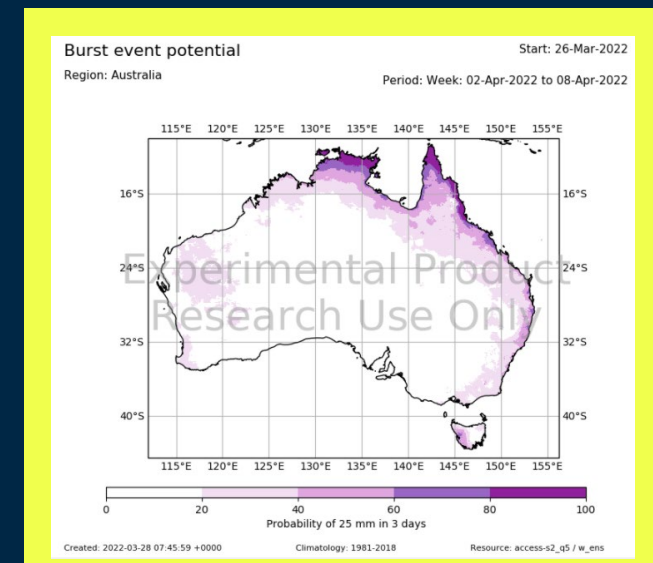
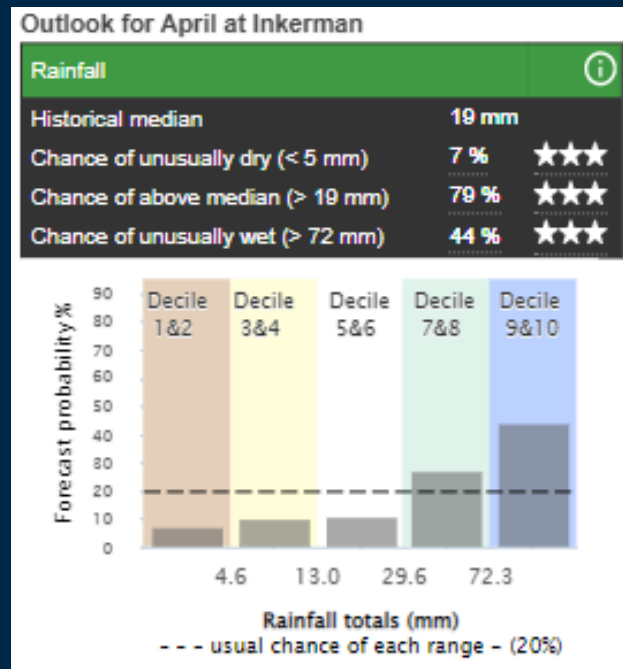
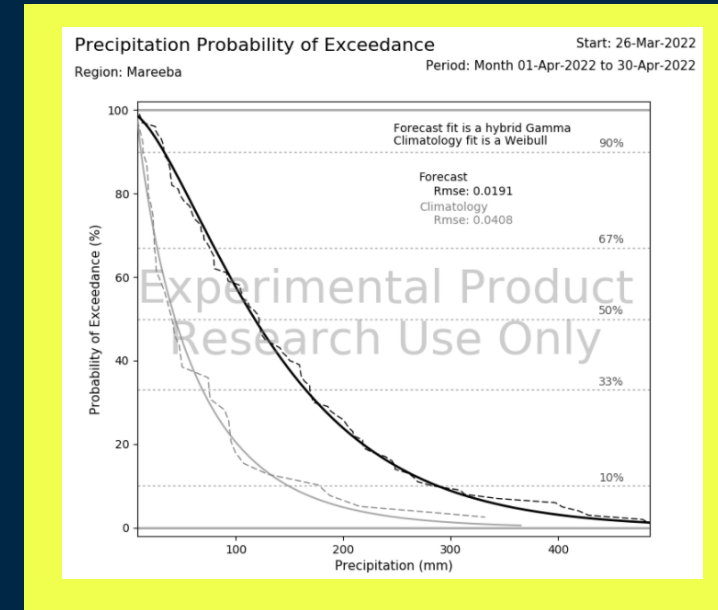
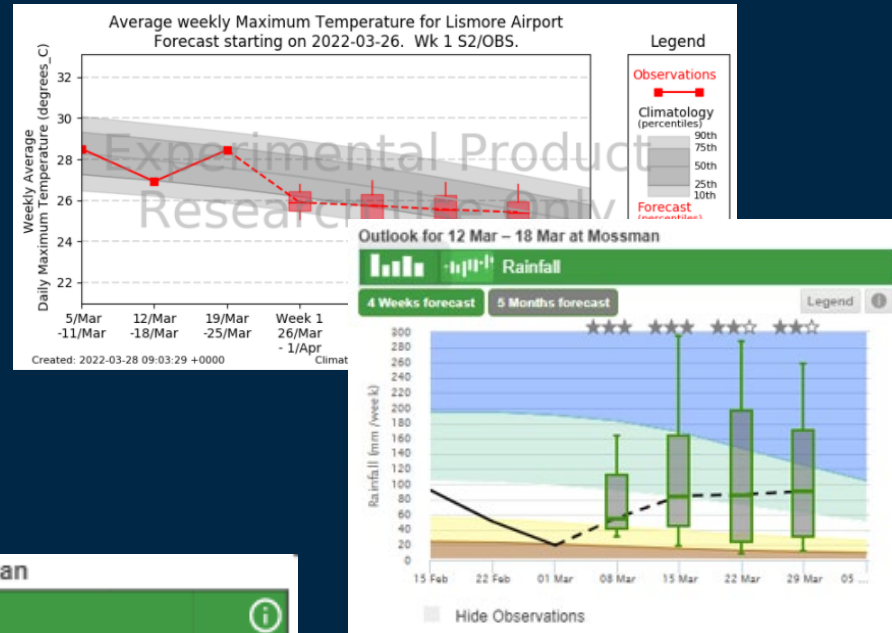
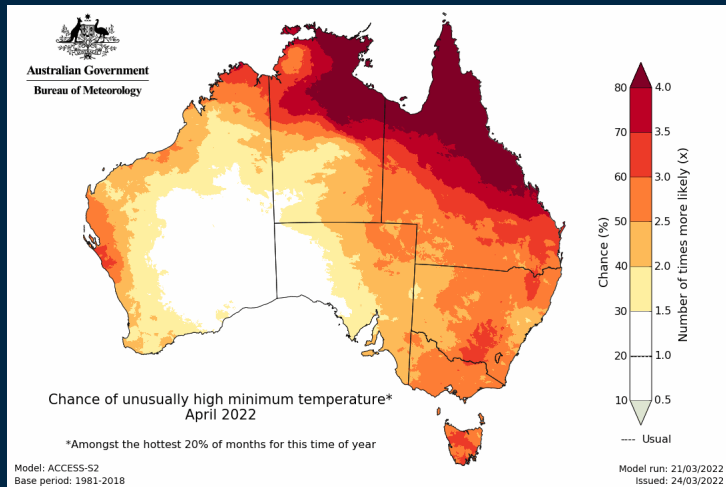


June 2022



CLIMATE OUTLOOKS
now forecasting climate extremes

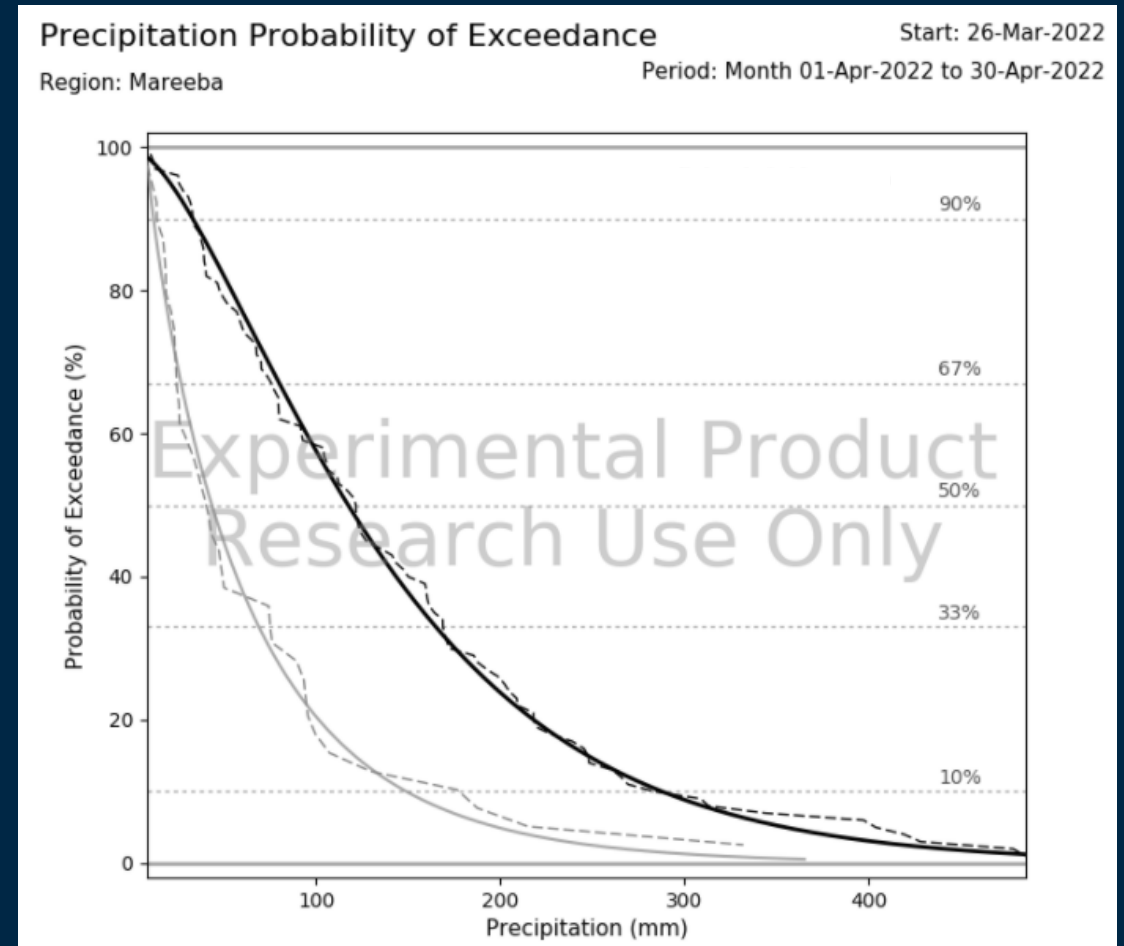
Our FWFA Portfolio of five operational products



Operational Product #4: Probability of exceedance curves

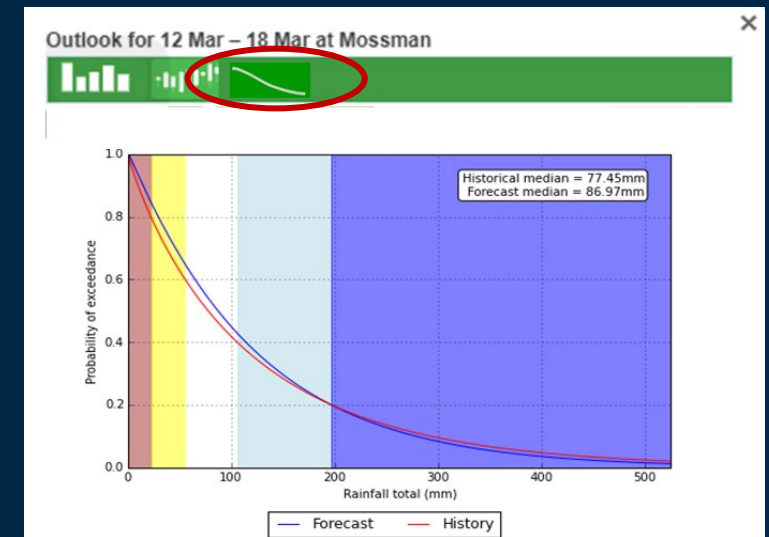
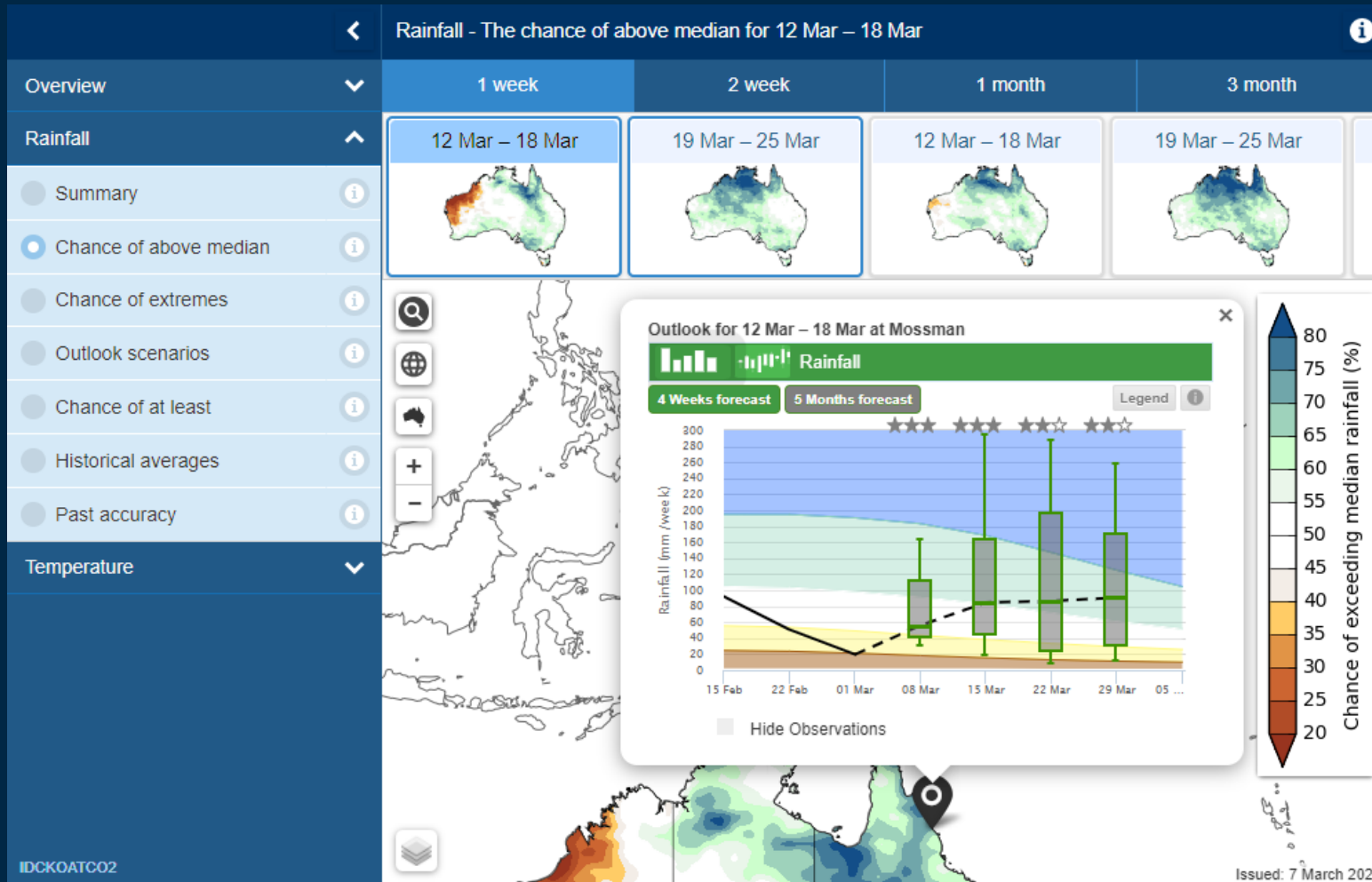
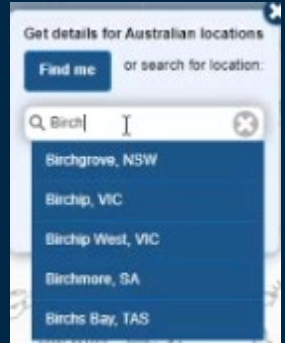
- Available for rainfall
- Location-specific
- Available for weeks, fortnights, months, seasons ahead
- Allows selection of probability or threshold of interest
- Allows comparison to 'usual' (climatology)
- Shows the 'complete information' from the forecast
- Useful to drill down for more detailed information

It is acknowledged that this is a complex product that takes time to interpret, but most believe it to be valuable once understood.



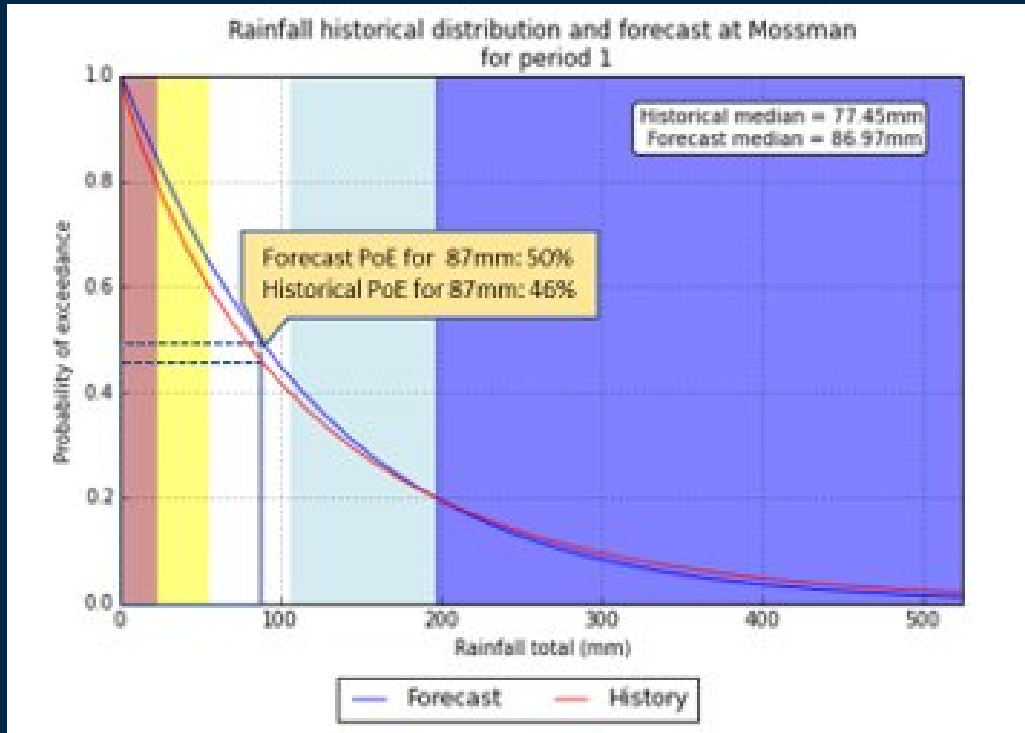
POE into Climate Outlooks

- We are proposing to place the POE curves in a new tab in the location-based pop-ups along (next to a new tab for the climagrams)
- Will have a slightly different look to the experimental version



Proposed version

1. Does not include the raw ensemble distribution, coloured background (to give quintile cues)
2. Experimental website look

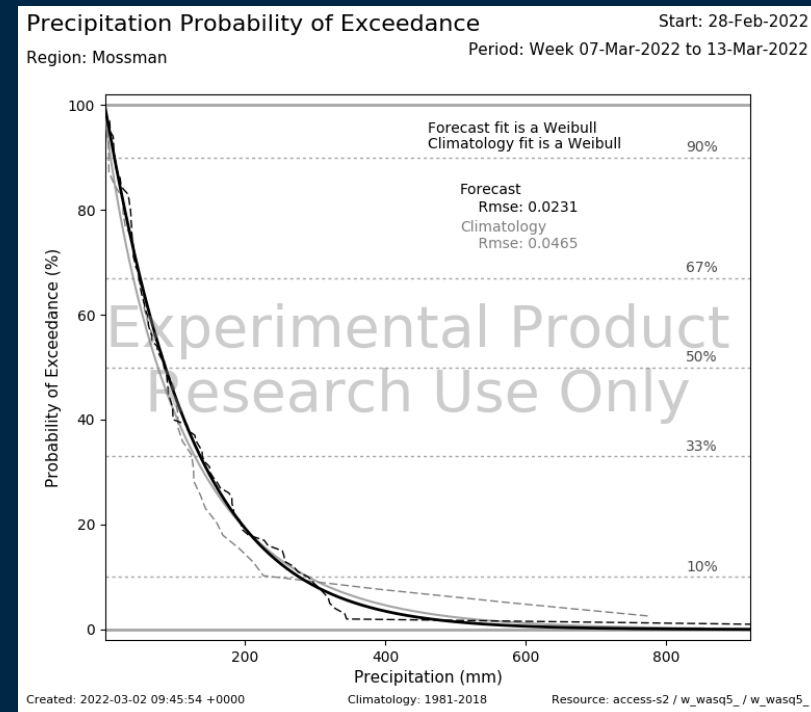


What's not there:

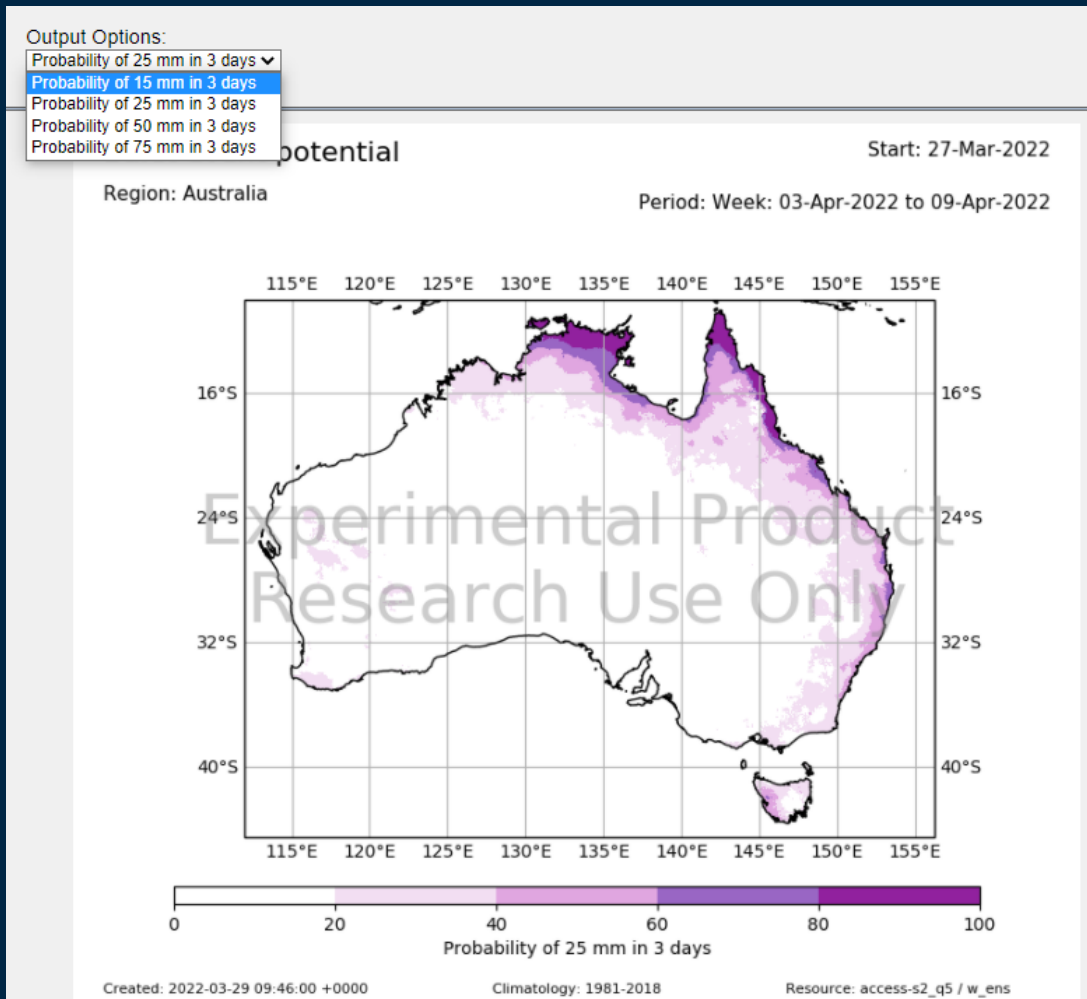
- Fit statistic
- Raw ensemble distribution
- Skill

Features:

- Hovering tooltip gives probability at any rainfall
- Cuts off at a probability = 0.05
- Background coloured to indicate climatological quintiles
- Potential to provide medians as a legend (if useful)
- Available at all grid points



Operational Product #5: Rainfall over 3 days – burst



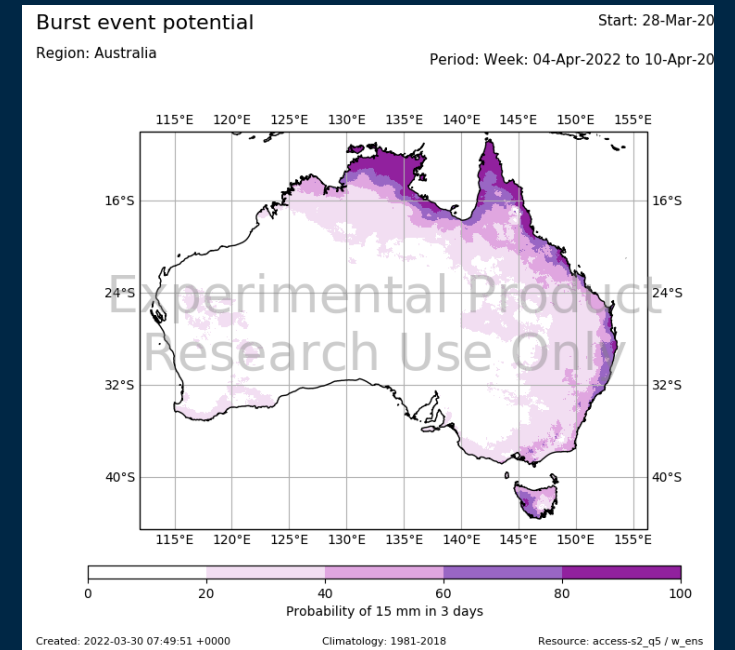
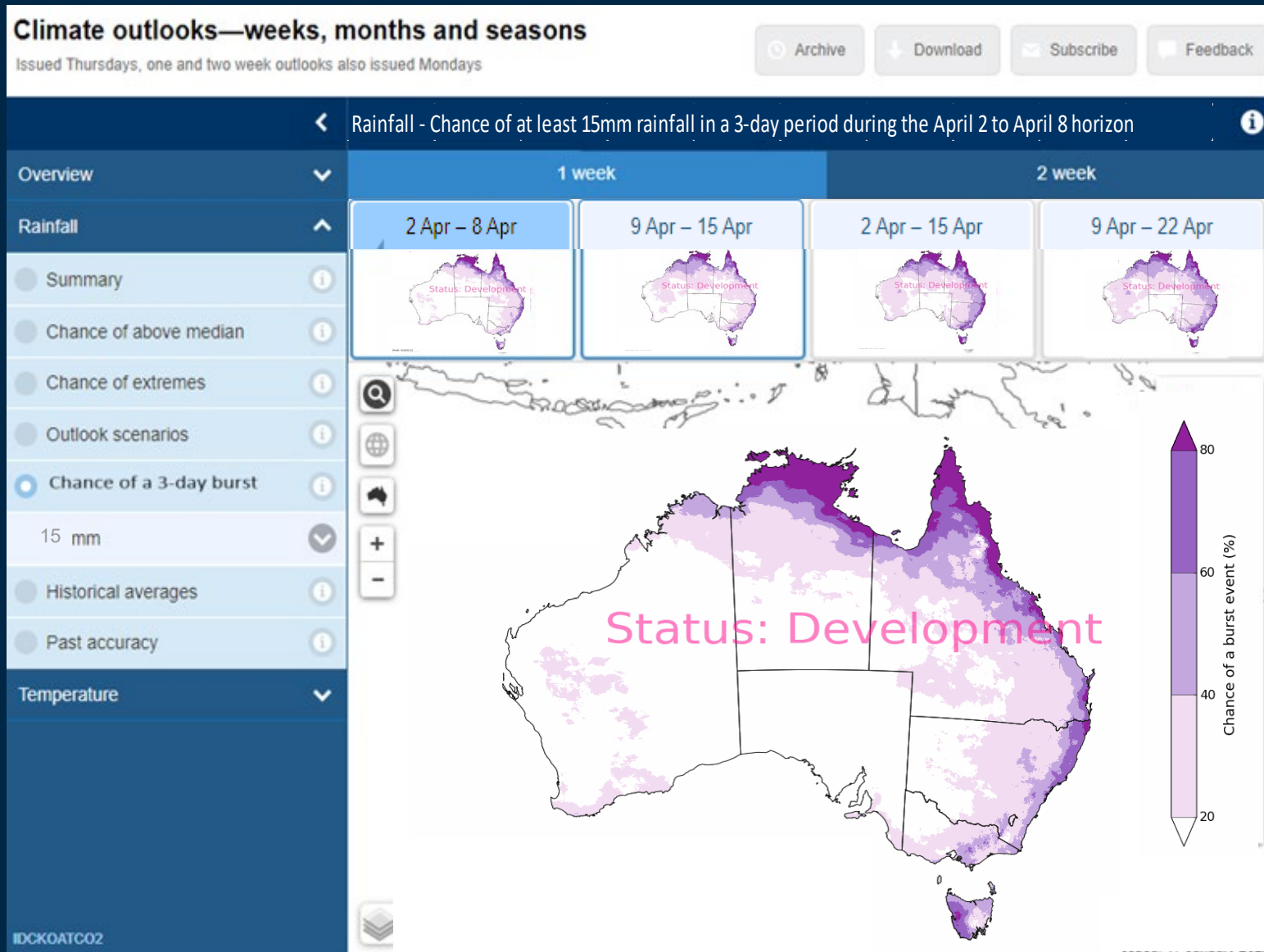
Characteristics:

- Available for Rainfall
- Available for weeks and fortnights ahead (i.e., only multi-week)
- Chance of getting x-mm of rain over 3-days (3-day accumulation)
- Preselected thresholds of rainfall are available

Notes:

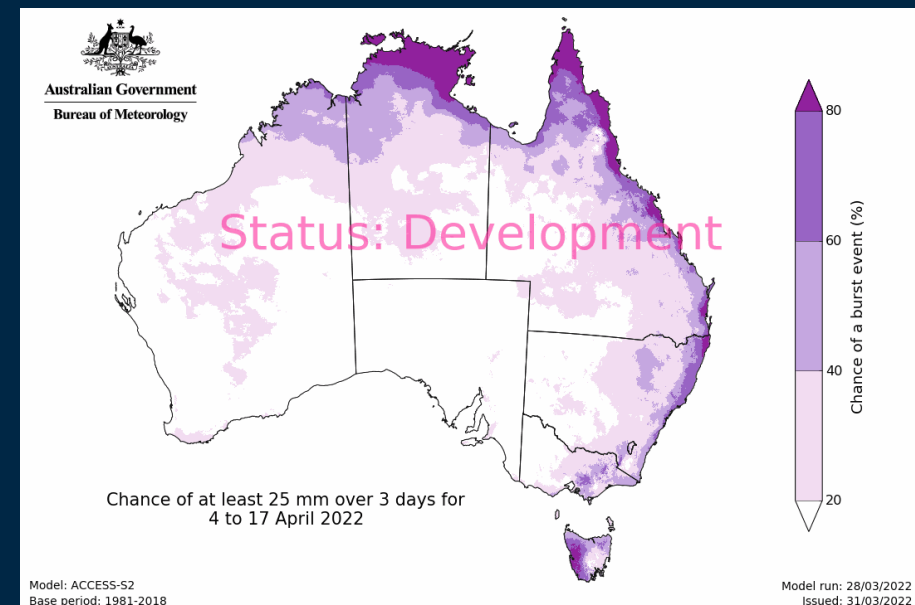
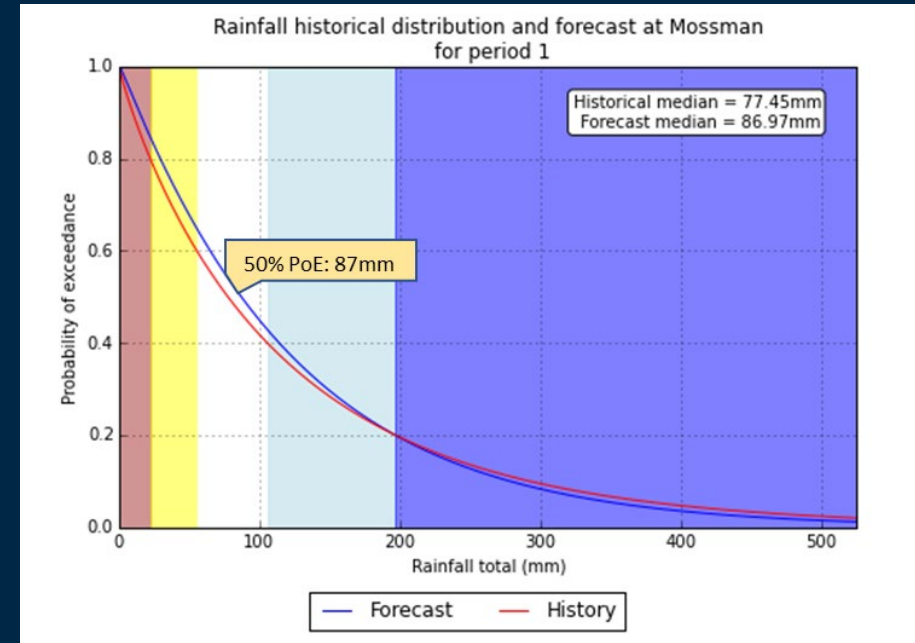
- Developed in collaboration with Northern Australia Climate Program project
- Favourable feedback, particularly from northern groups (especially 50 mm in 3 days from northern producers)

Maps of 3-Day Rainfall Burst potential



Points for discussion/feedback:

- Placing the PoE curves in a location based popup – Lack of other options given our page constraints. Keen to hear if you think its an issue.
- Background climatology – we propose to use the quintile ranges which tie in with the extremes (also using the same colour scheme)
- Is it clear that the colour scheme in the background refers to the historical range of data?
- The hovering tooltip could provide POE/mm value at each point along both curves. Should we focus on the probability or the rainfall total at any point on the graph?
- Is the display of skill required?
- How should we refer to these products?
 - PoE
 - 3-day rainfall bursts



Thank you

Please provide your feedback
Questions?

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**CLIMATE
OUTLOOKS**
now forecasting
climate extremes



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