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Flooding across South Australia January 2022

Kylie Egan, on behalf of Tina Donaldson
Senior Meteorologist- Hazard Preparedness and Response SA
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Image: Flooding near Glendambo. Source SA SES

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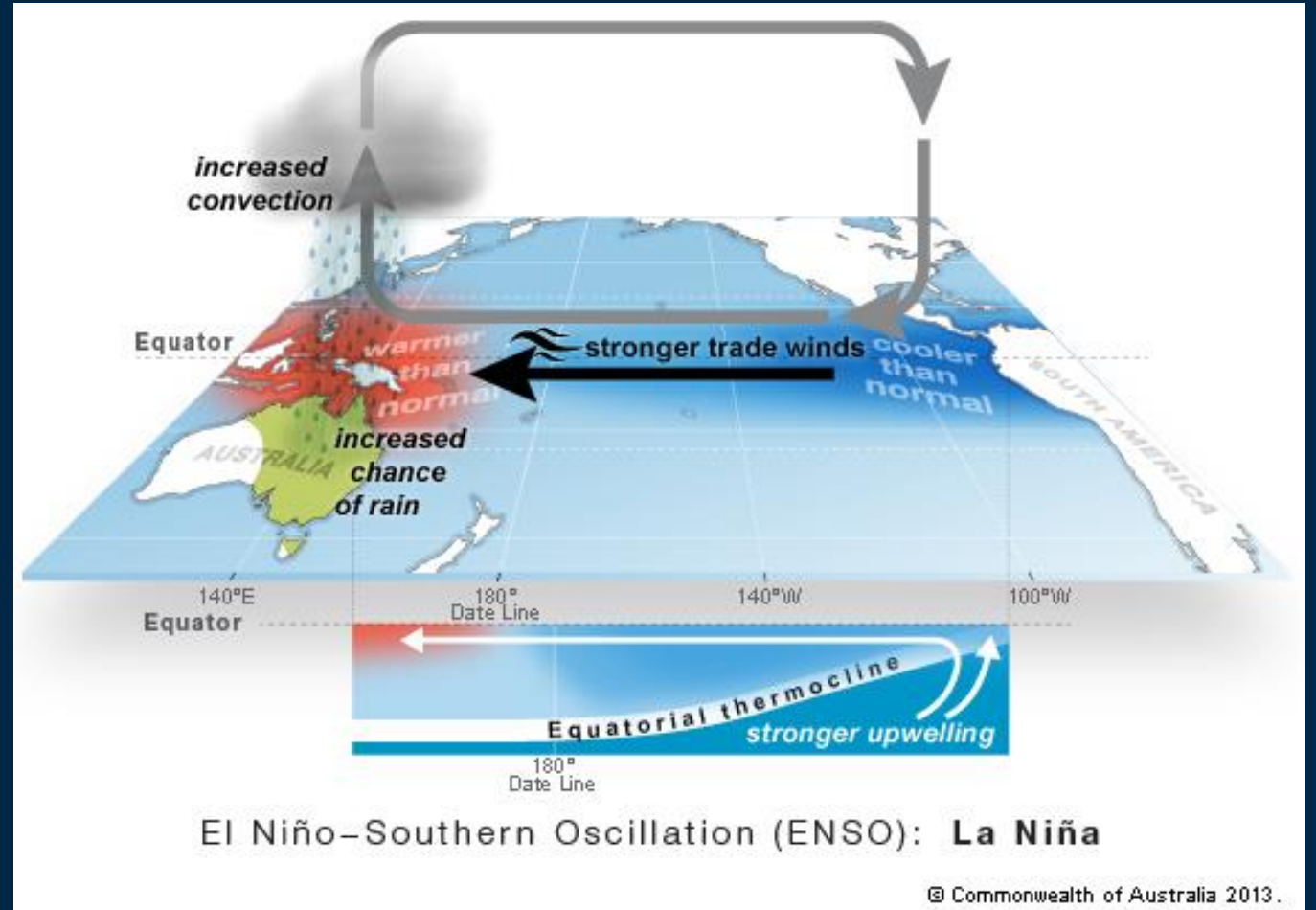
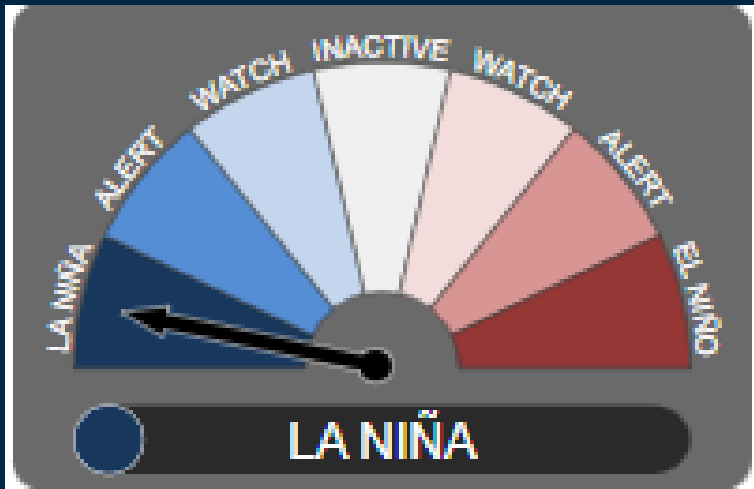
Outline

- Climate Drivers
- Major rainfall events:
 - Event 1: 16-18 January
 - Event 2: 20-25 January
 - Event 3: 26 January – 2 February



Climate Drivers: La Nina

- Sept 2020- March 2021
- November 2021: Active La Nina
- April 2022: La Nina easing





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Event 1 – Ex TC Tiffany

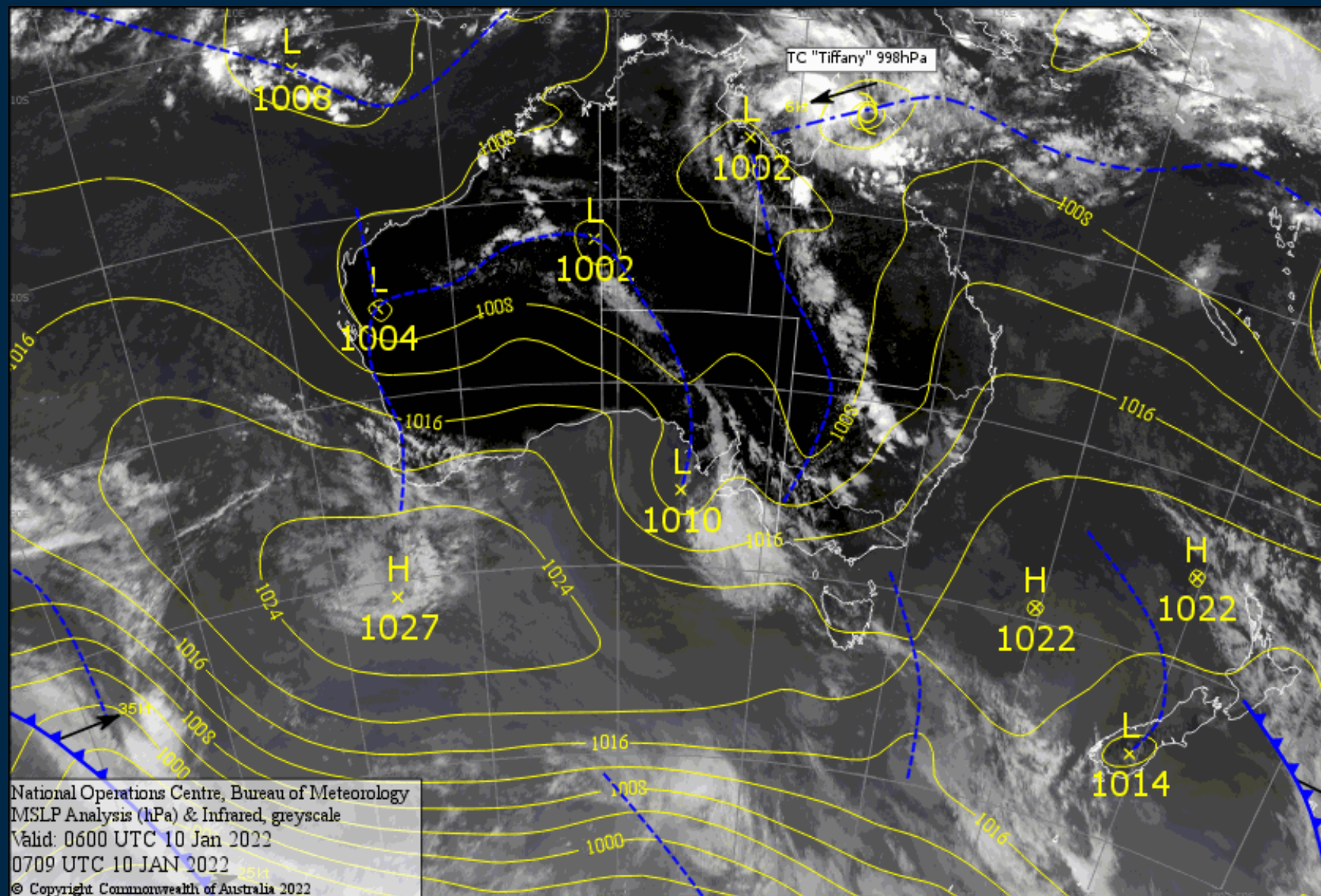
16-18 January 2022

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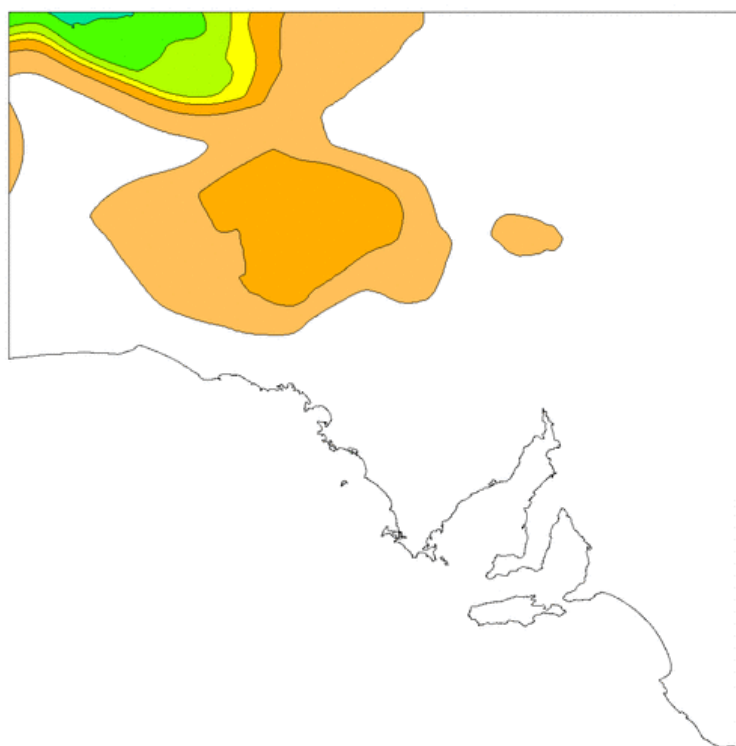


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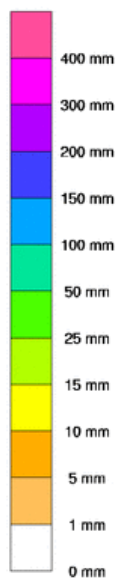
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South Australian Rainfall Totals (mm) 17th January 2022

Australian Bureau of Meteorology



Rainfall (mm)



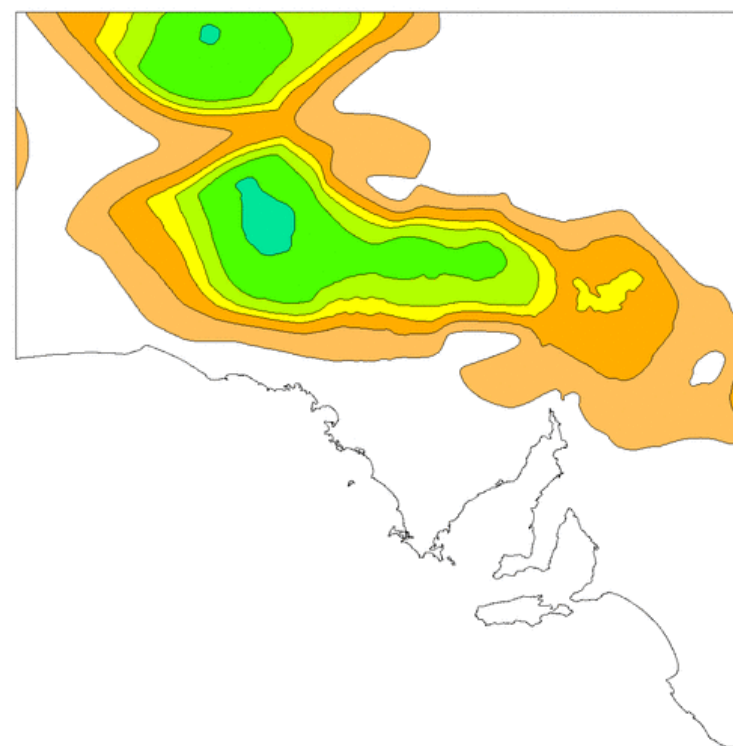
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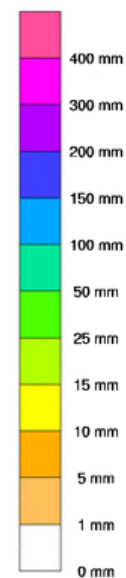
Issued: 26/02/2022

South Australian Rainfall Totals (mm) 18th January 2022

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Rainfall (mm)



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Rainfall to 9 am 18 January

Station name	Rainfall (mm)
Coober Pedy (Mcdouall Peak)	68.8
Tarcoola (Mobella)	58.0
Ernabella (Pukatja)	46.8
Mount Eba	37.0
Tarcoola (Commonwealth Hill)	36.2
Tarcoola (Mulgathing)	35.8
Millers Creek	35.0
Bon Bon	24.0
Roxby Downs (Parakylia Station)	24.0
Andamooka	22.0
Roxby Downs (Olympic Dam Aero)	20.2



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Event 2: Impacts to Road/Rail

20-25 January 2022

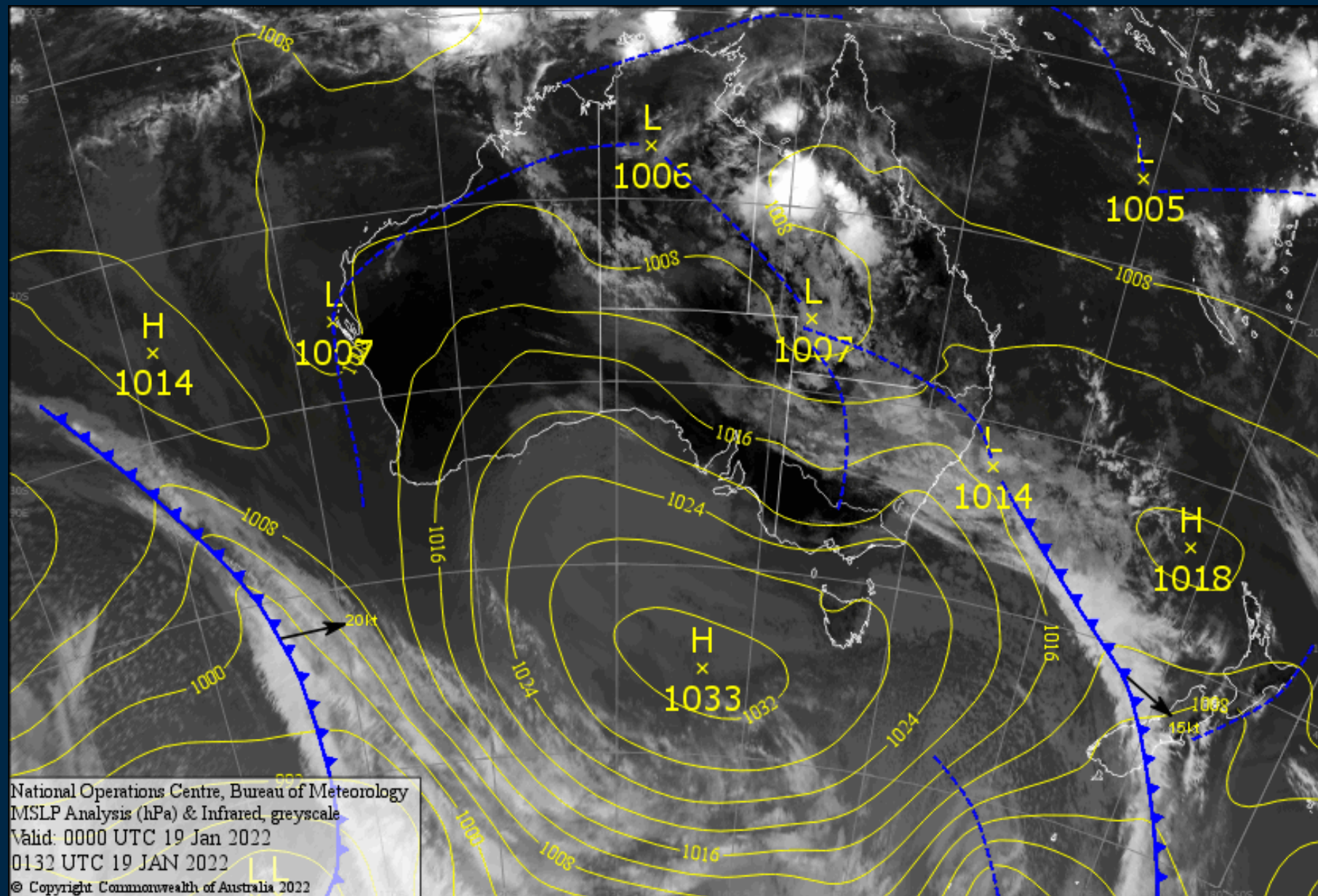
Damage to rail networks near Port Augusta (Source ABC)
18 separate washaways to road/rail east of Tarcoola.

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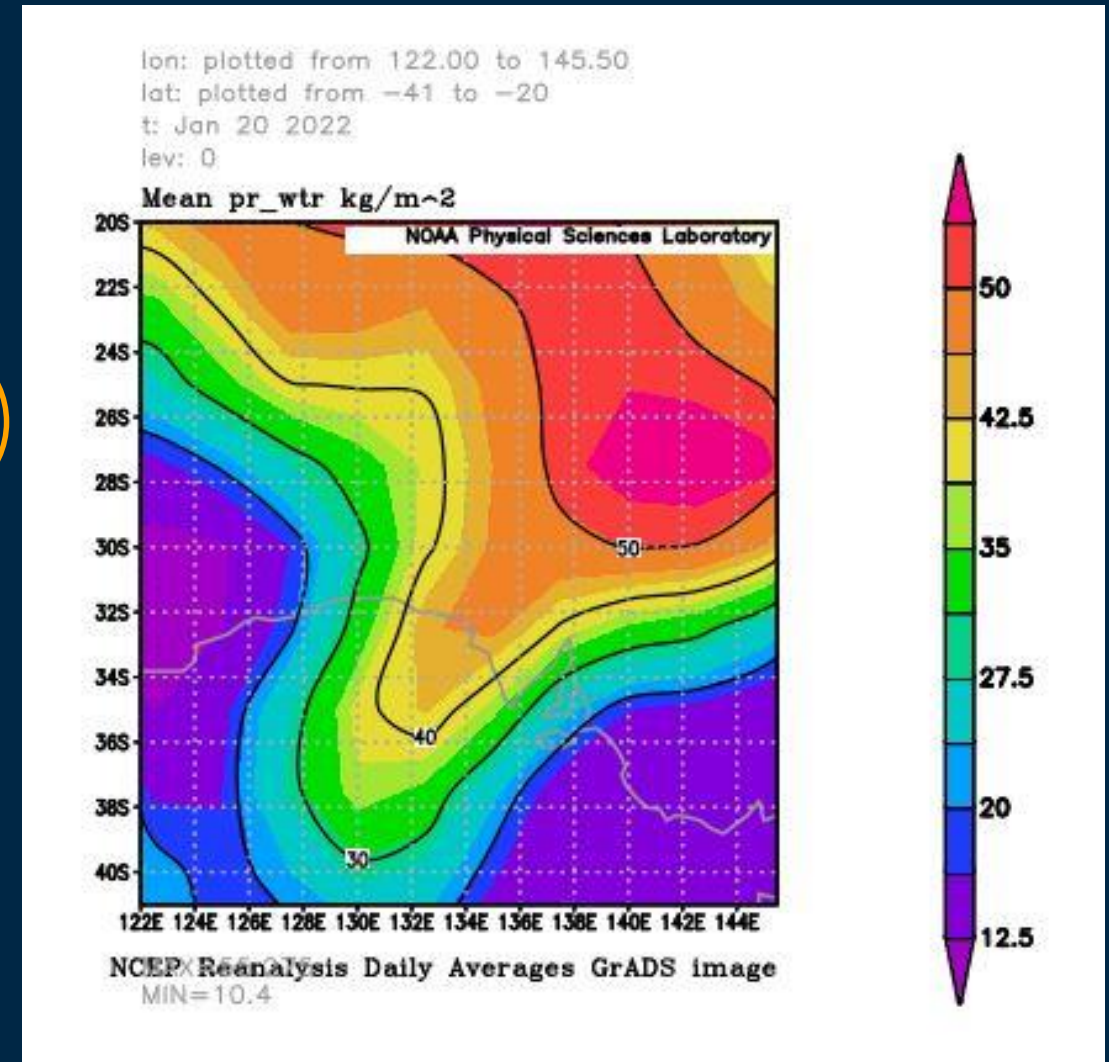
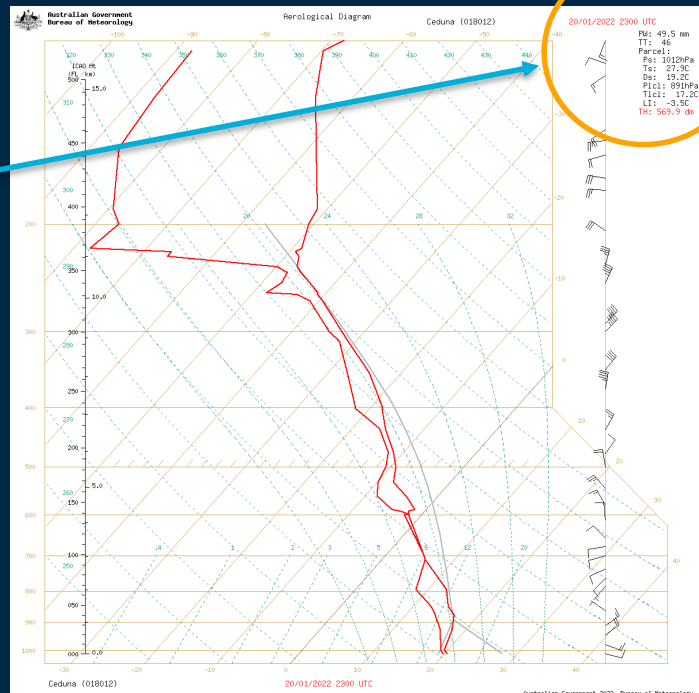
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Event 2: Impacts to Road/Rail. Precipitable water

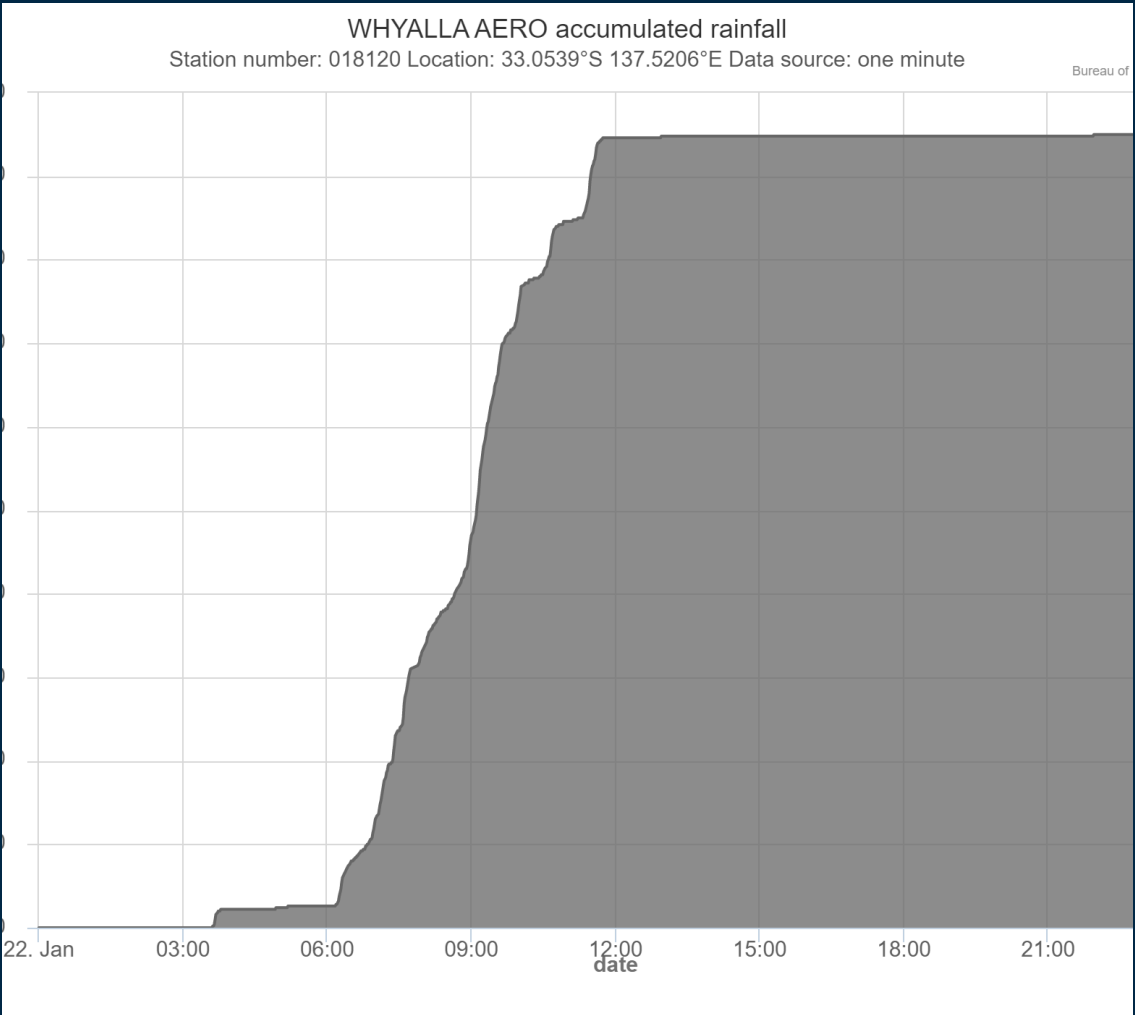
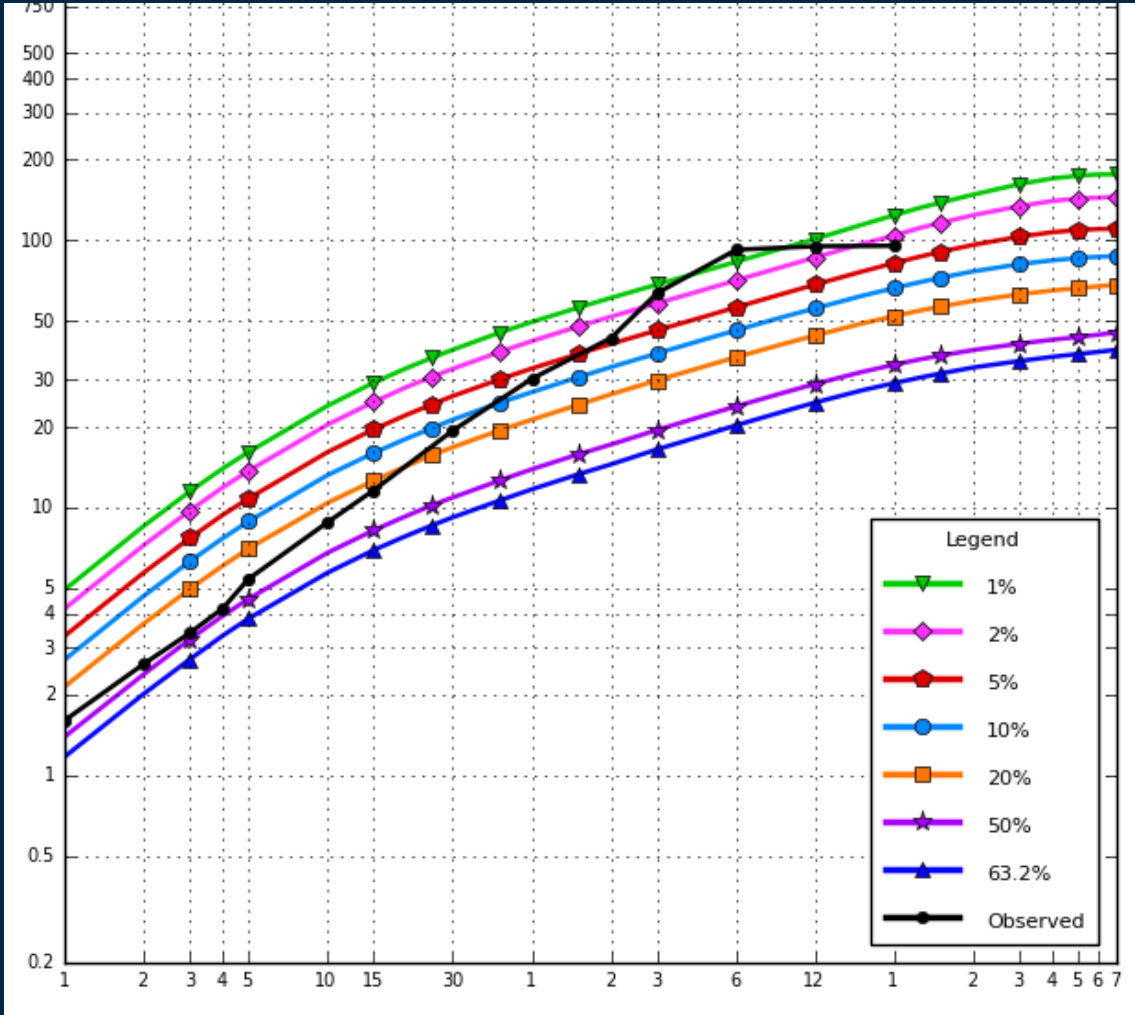
- High Precipitable Water (PW), a measure of the total amount of water available in the column of the atmosphere above a point.
- 30 mm usually a flag for heavy rainfall in SA.
- Broad areas of 40-50 mm.
- Ceduna 21 January.
- **49.5 mm**
- Record is 63.3 mm



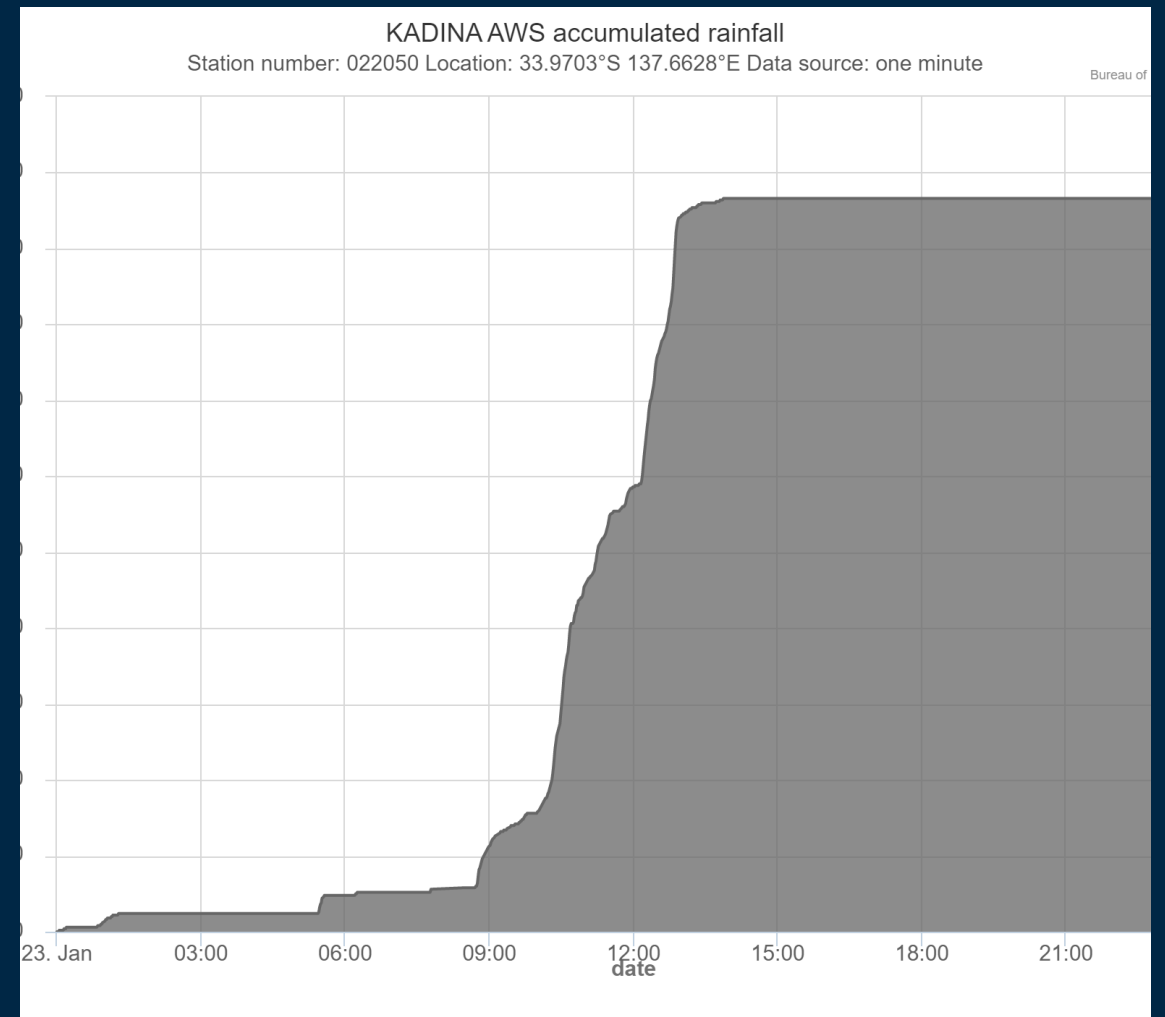
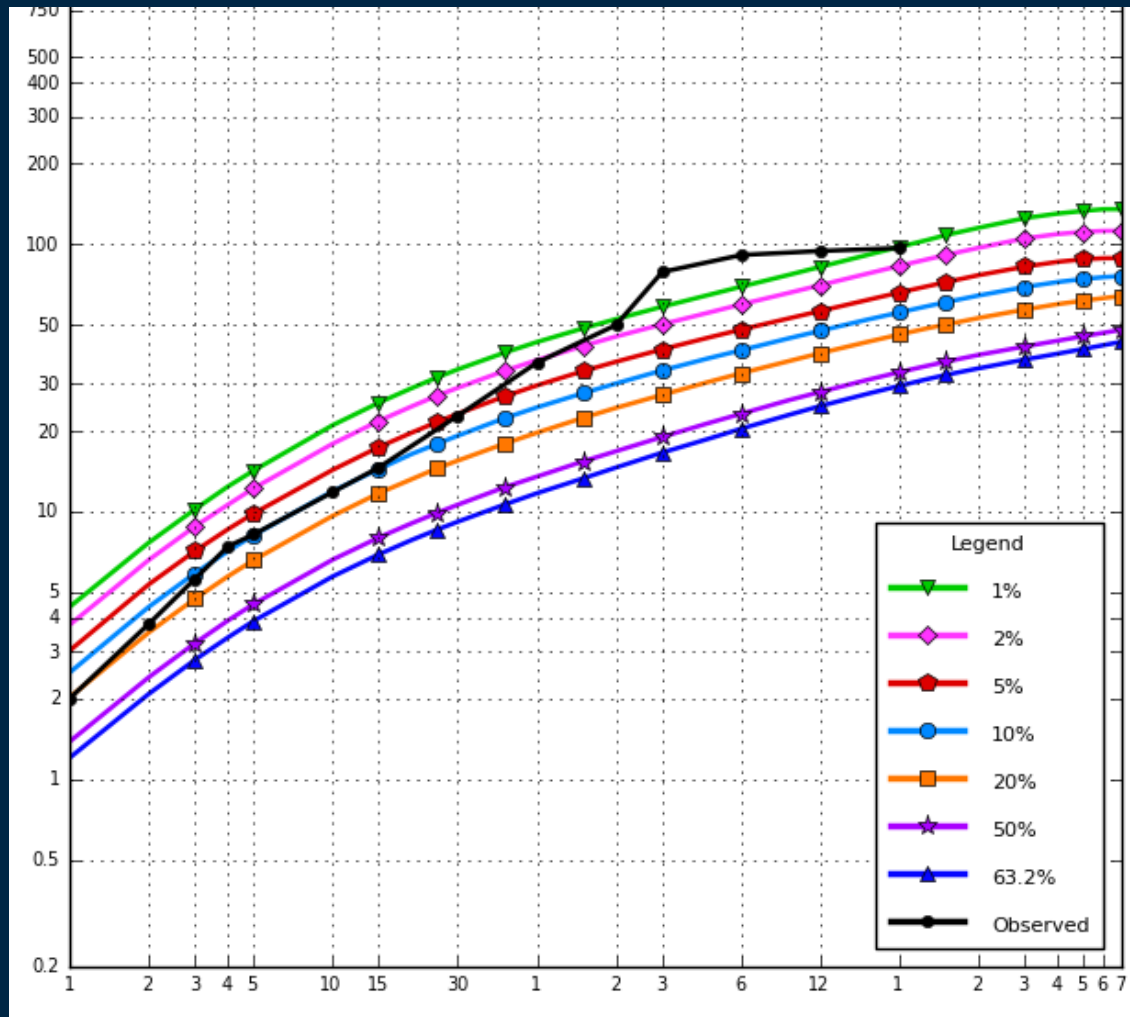
Rainfall records

Record highest January daily rainfall						
	New record (mm)		Old record		Years of record	
	115.0	on the 21st	26.7	on the 24th in 1941	98	
	78.0	on the 21st	66.6	on the 14th in 1995	143	
	160.0	on the 22nd	69.6	on the 30th in 1974	102	
	75.0	on the 22nd	72.2	on the 31st in 1974	111	
	151.6	on the 22nd	50.2	on the 25th in 1993	108	
	71.0	on the 22nd	35.2	on the 14th in 1995	75	
	64.0	on the 22nd	51.0	on the 13th in 1998	126	
	57.2	on the 22nd	49.0	on the 13th in 1998	58	
	181.4	on the 22nd	92.6	on the 13th in 1998	53	
	70.4	on the 22nd	61.2	on the 8th in 1999	139	
	140.0	on the 22nd	56.0	on the 20th in 2007	54	
	52.4	on the 22nd	38.2	on the 12th in 2010	109	
	41.0	on the 22nd	21.2	on the 8th in 2012	26	
	93.0	on the 22nd	15.0	on the 8th in 2012	24	
	164.6	on the 22nd	76.2	on the 20th in 2017	34	
	104.6	on the 23rd	66.4	on the 17th in 1995	37	
	45.8	on the 23rd	29.2	on the 20th in 2007	24	
	93.2	on the 23rd	61.2	on the 20th in 2017	36	
	64.0	on the 24th	46.7	on the 25th in 1941	141	
	107.8	on the 24th	51.0	on the 27th in 1981	135	
	39.0	on the 24th	28.0	on the 20th in 2007	30	
	35.8	on the 24th	34.4	on the 20th in 2007	21	
	54.0	on the 24th	29.2	on the 2nd in 2014	20	

Whyalla: Accumulation and Intensity-Frequency-Duration

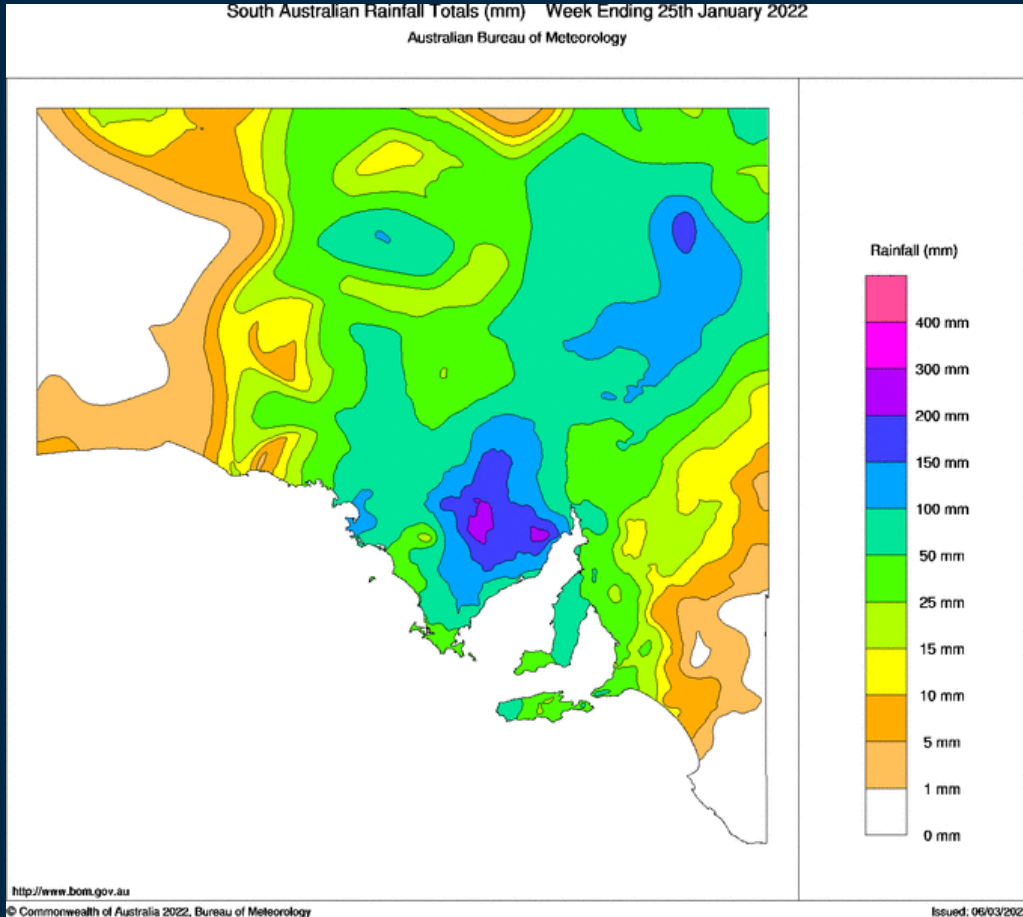


Kadina: Accumulation & Intensity-Frequency-Duration





Cumulative rainfall observations over 7 days to 25 January





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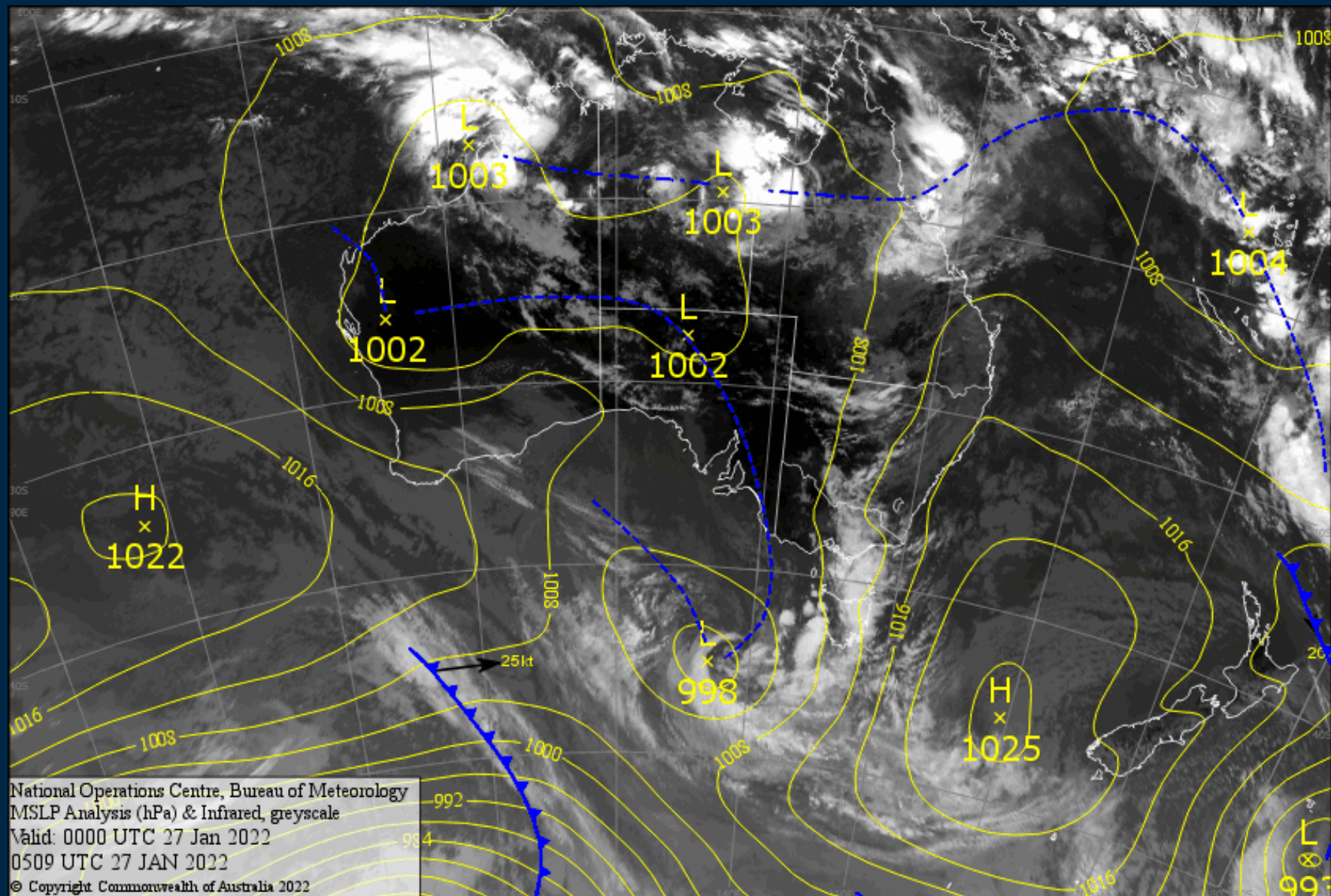
Event 3: Rain during recovery efforts

26 January – 2 February

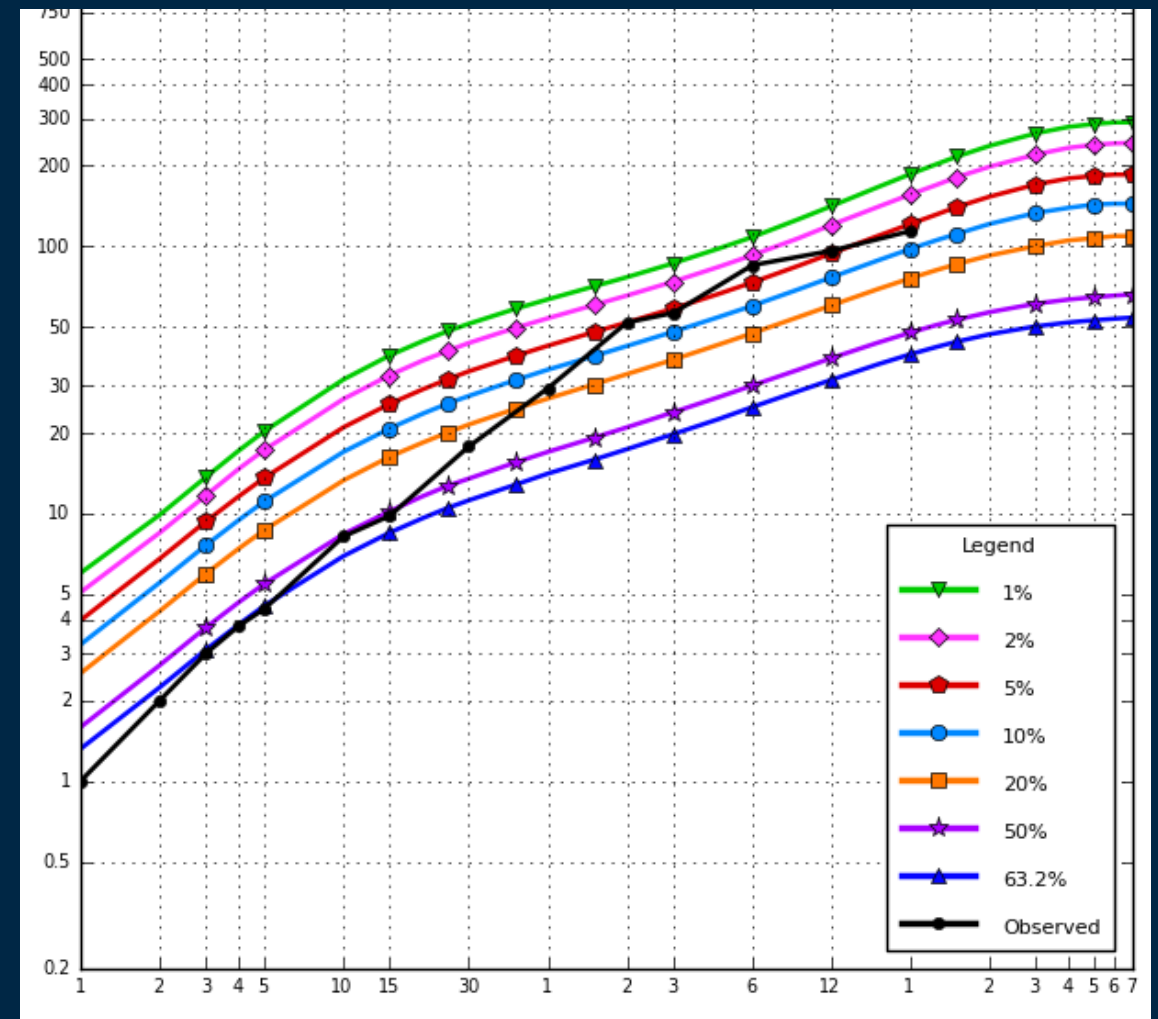
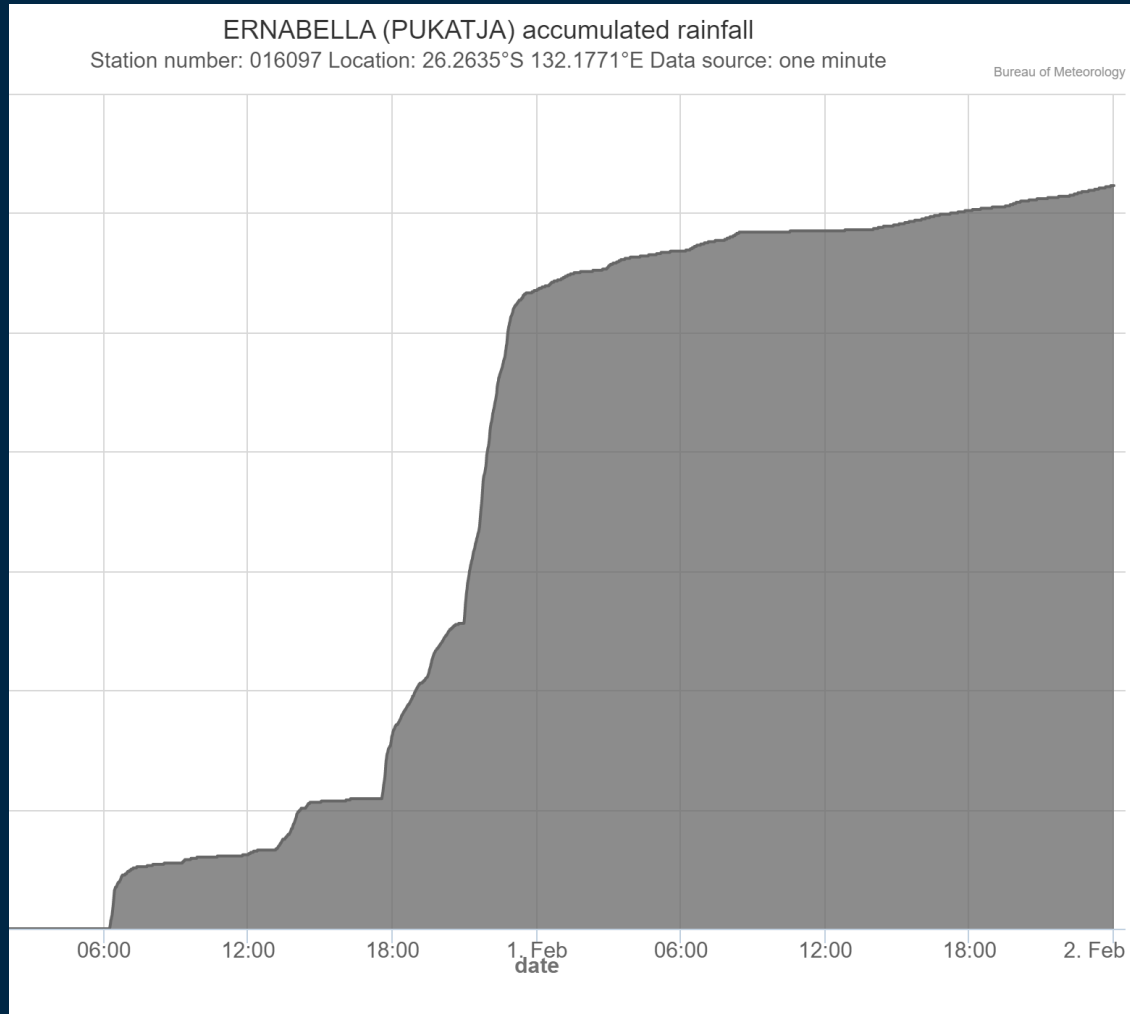


- Empty shelves at an Alice Springs supermarket. Source ABC.

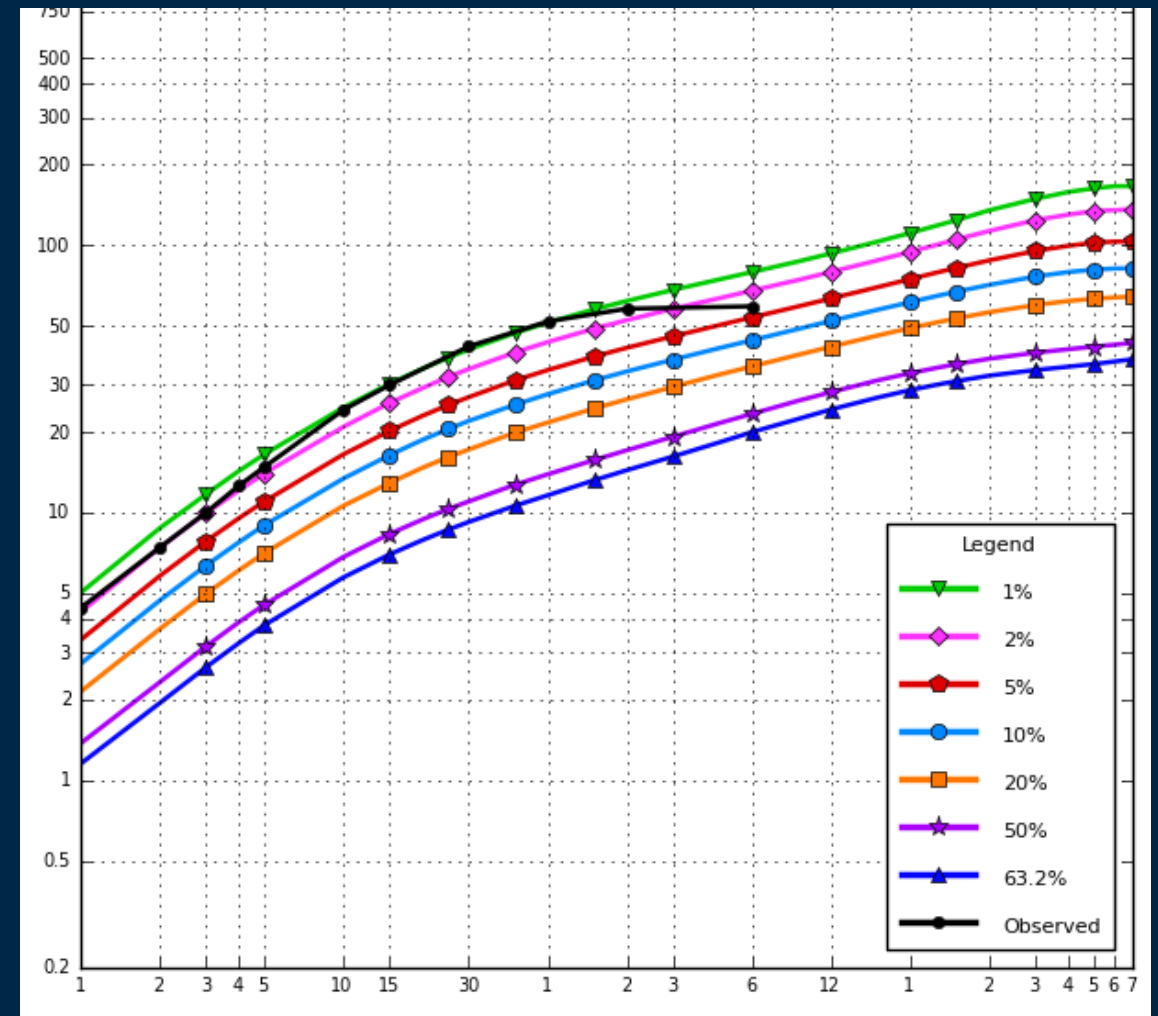
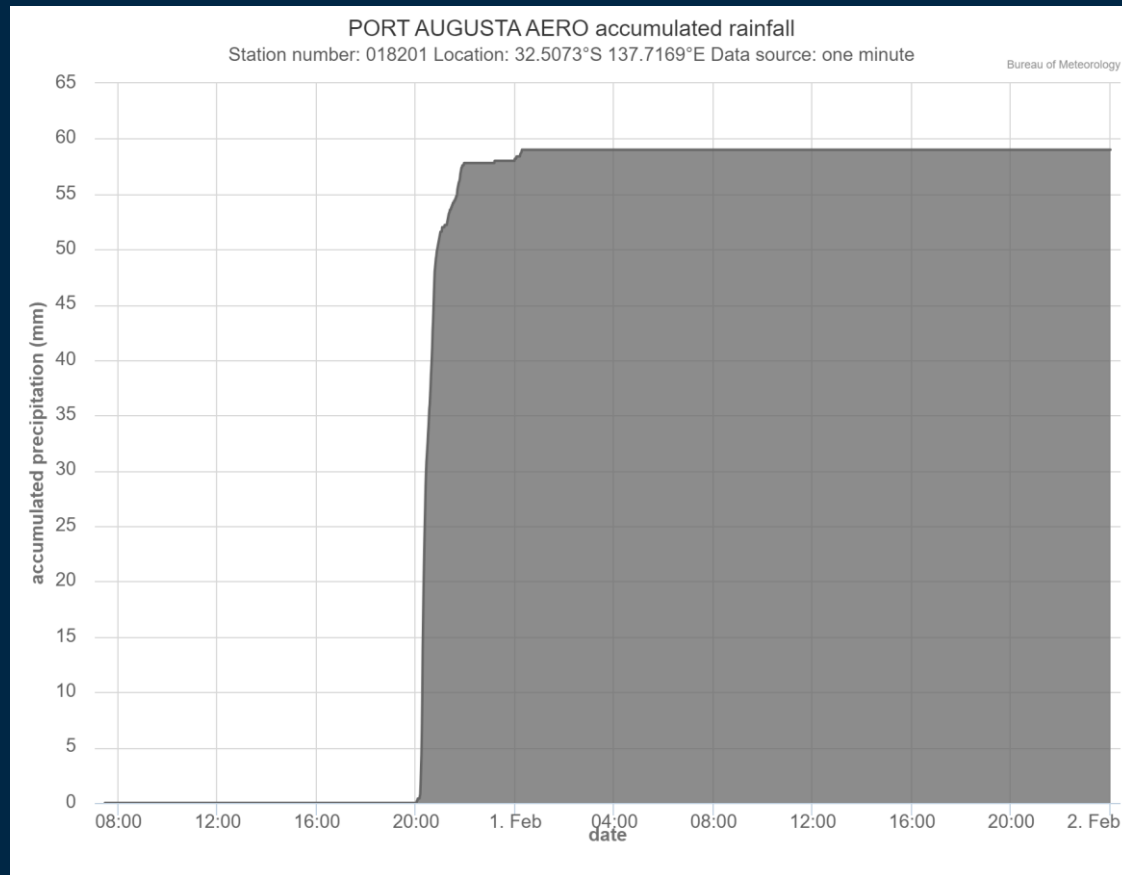
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Ernabella/Pukatja accumulation & Intensity- frequency - duration



Port Augusta accumulation & Intensity – Frequency - Duration



Drone Footage from SA SES

- [Drone footage captures extent of flooding along the Stuart Highway near Glendambo - ABC News](#)





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Thank you

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- Olympic Dam Highway connecting Woomera and Roxby Downs (Source: ABC)

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