



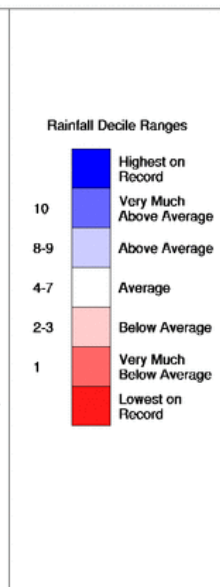
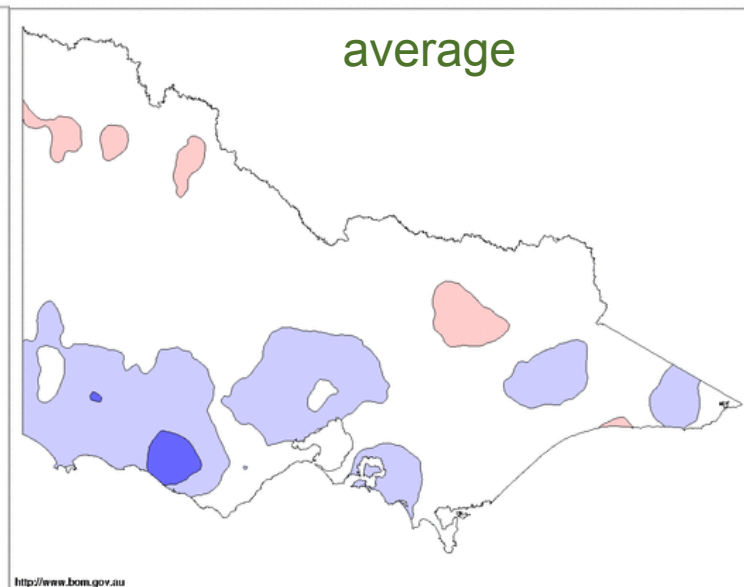
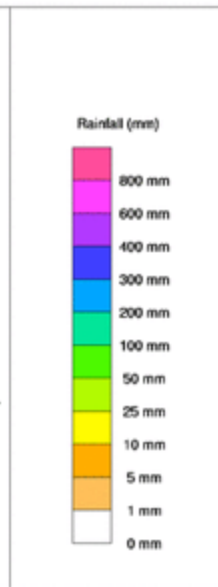
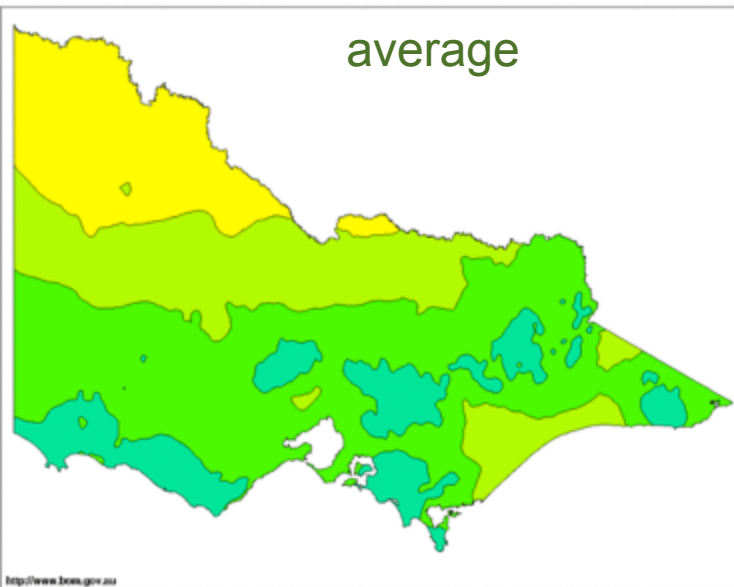
# Autumn/Winter Climate Update

Dale Grey, Bendigo

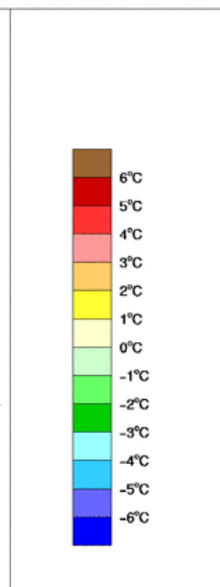
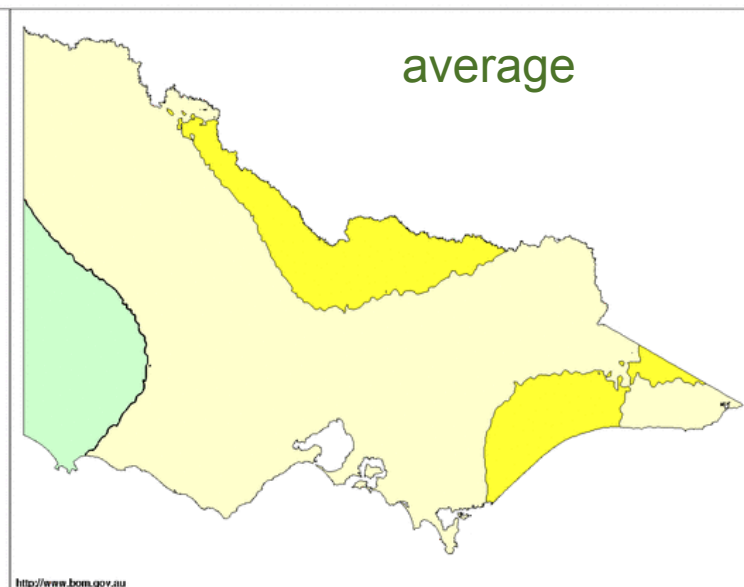
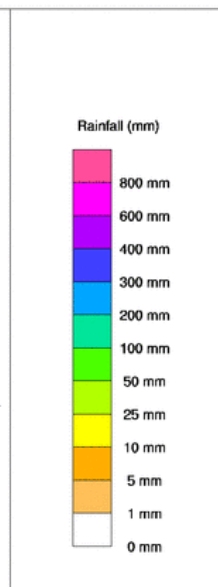
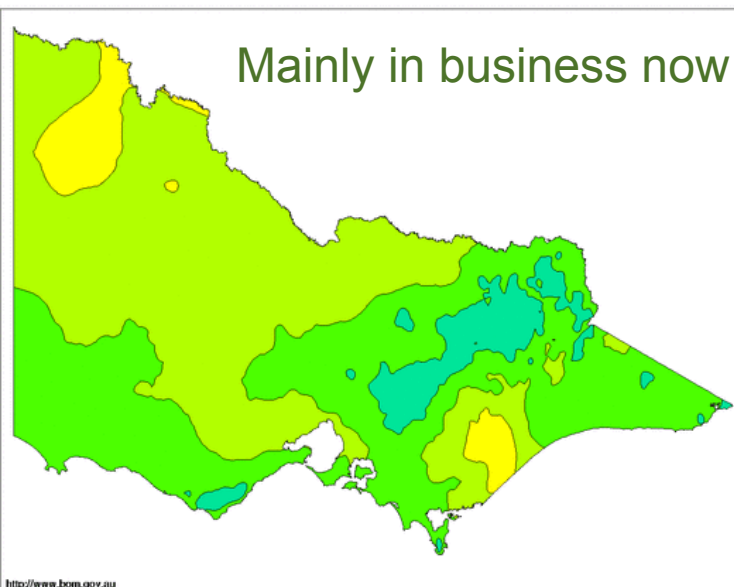


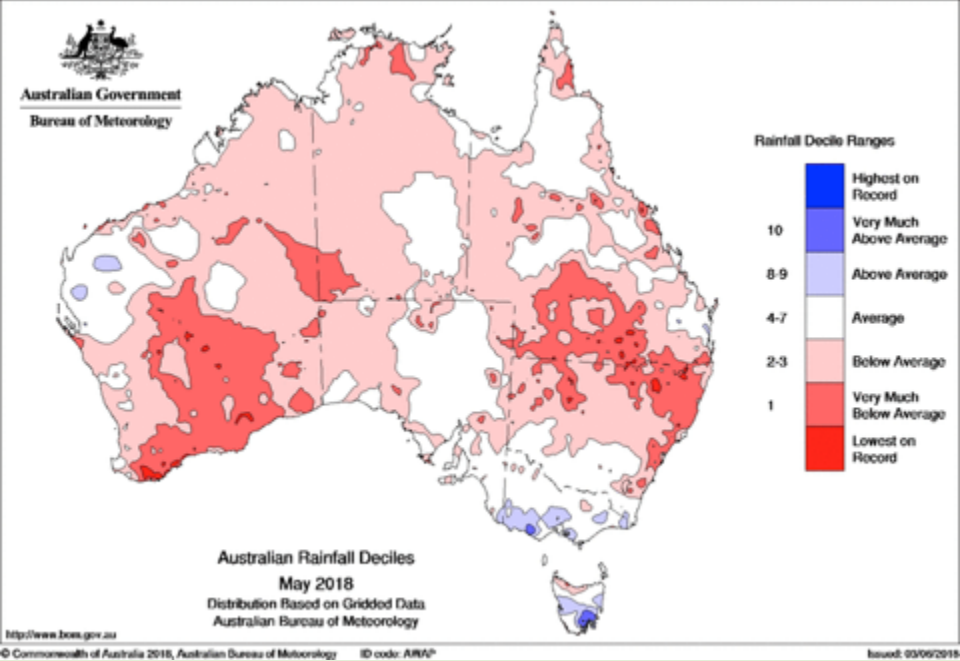
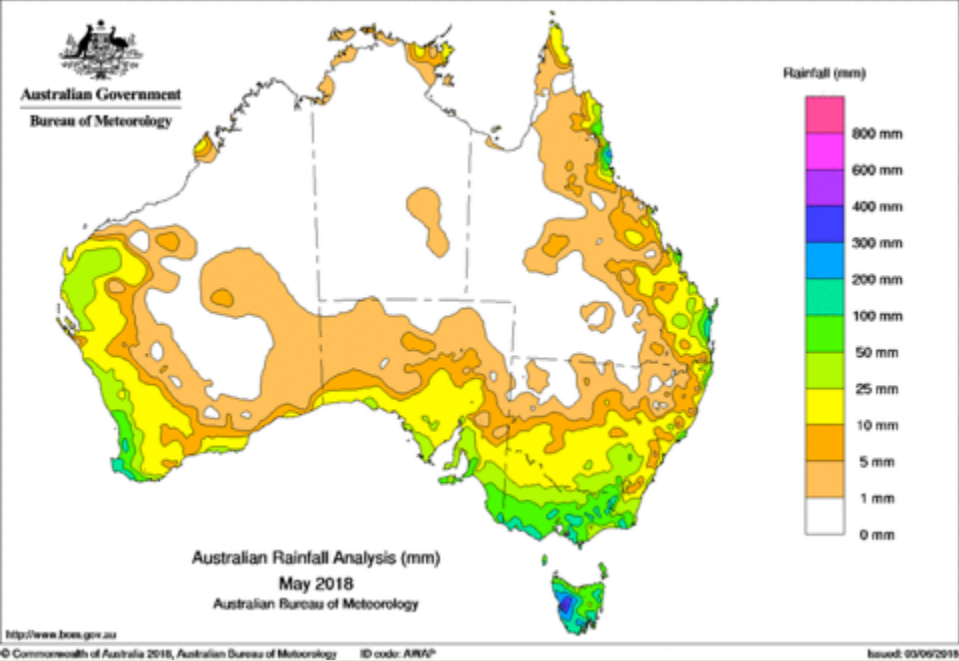
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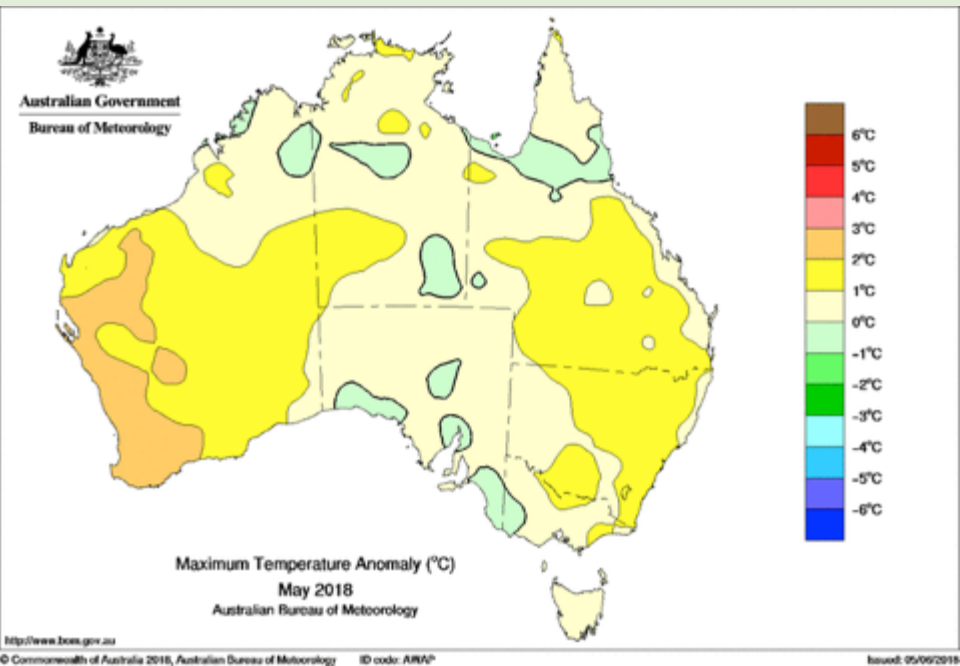
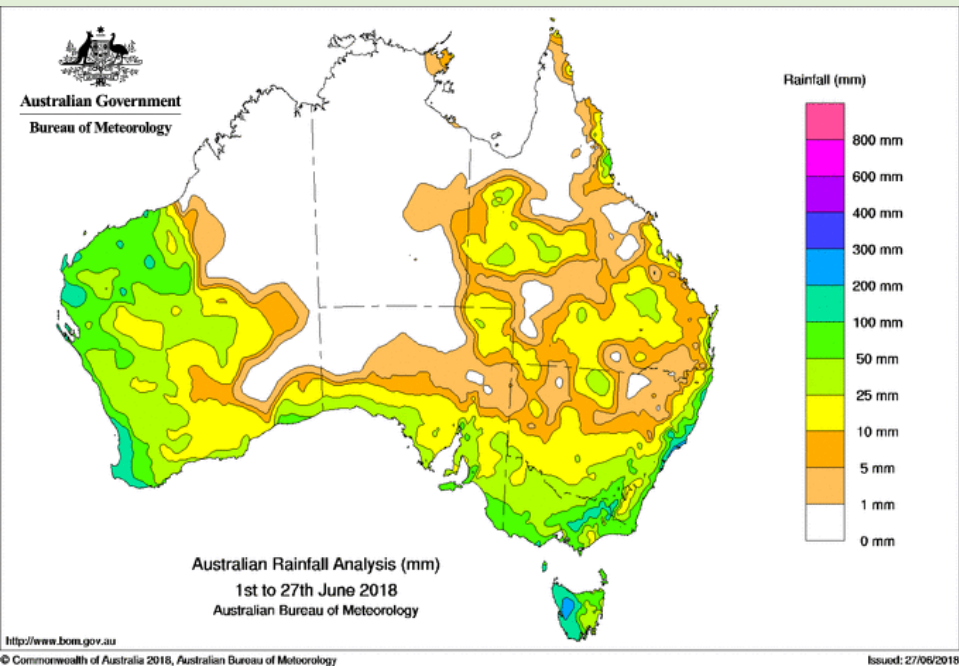


## May-June Summary

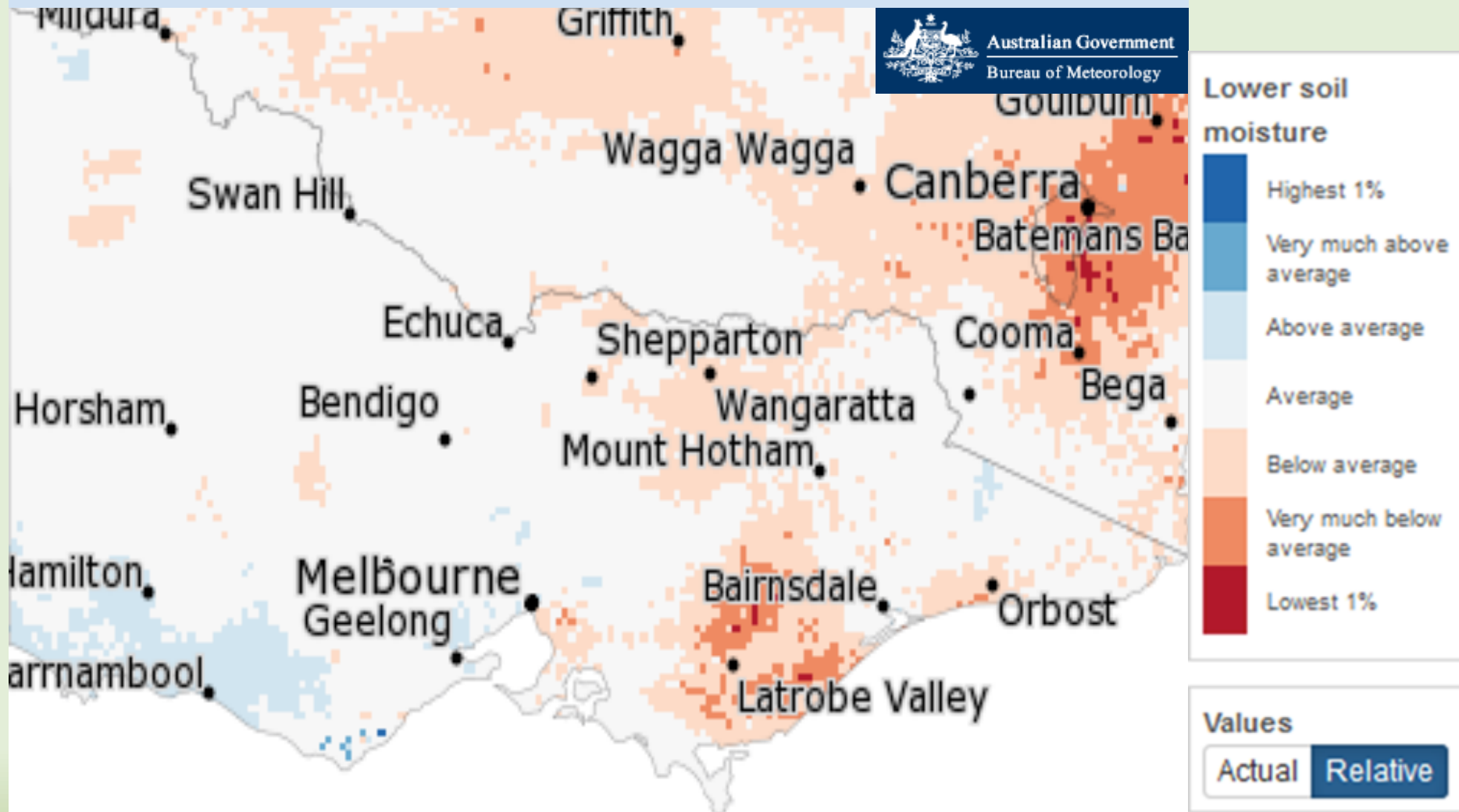




## May-June Summary



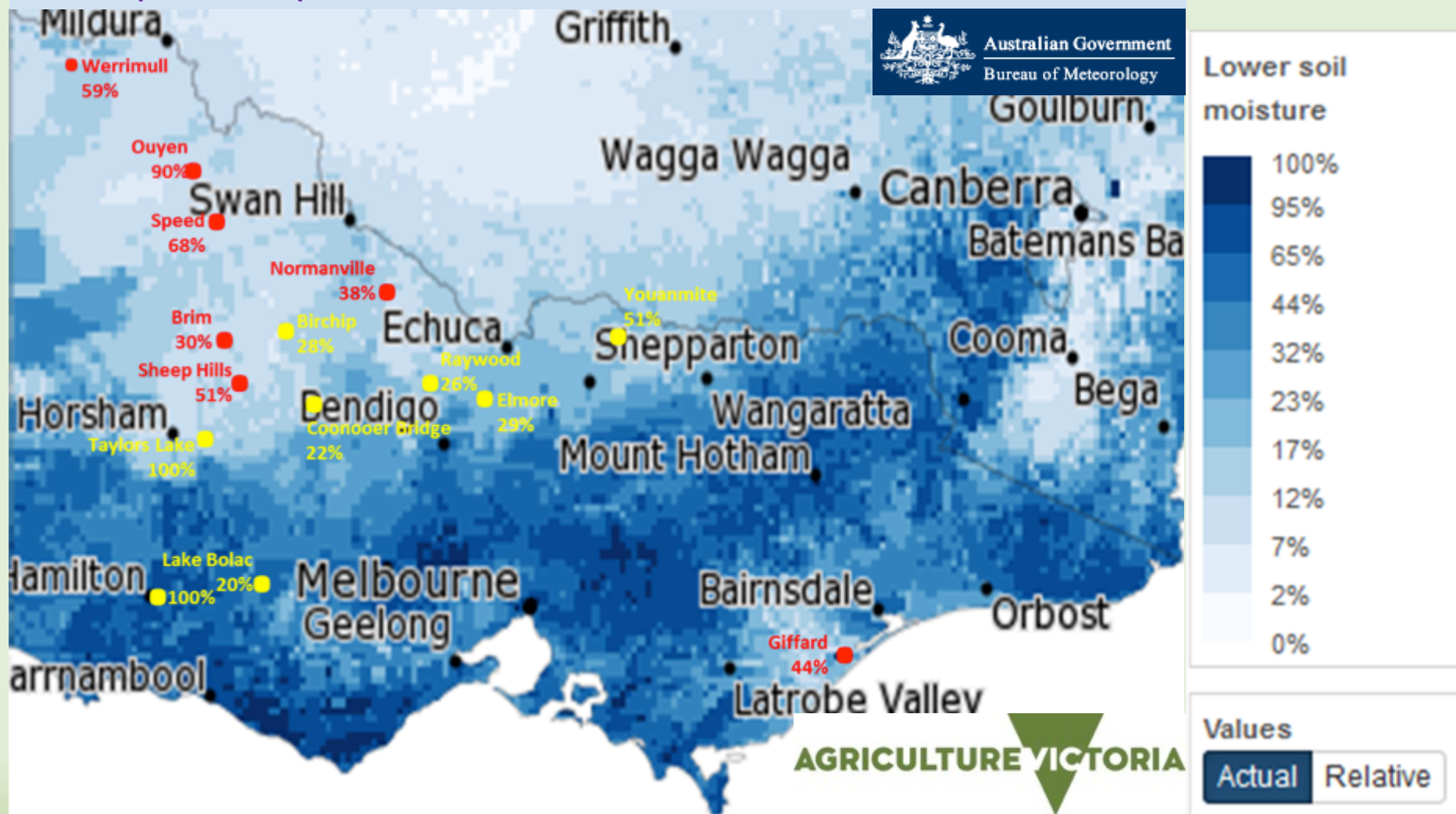
## BoM AWRA modelled plant available water decile 10-100cm 27 Jun 2018





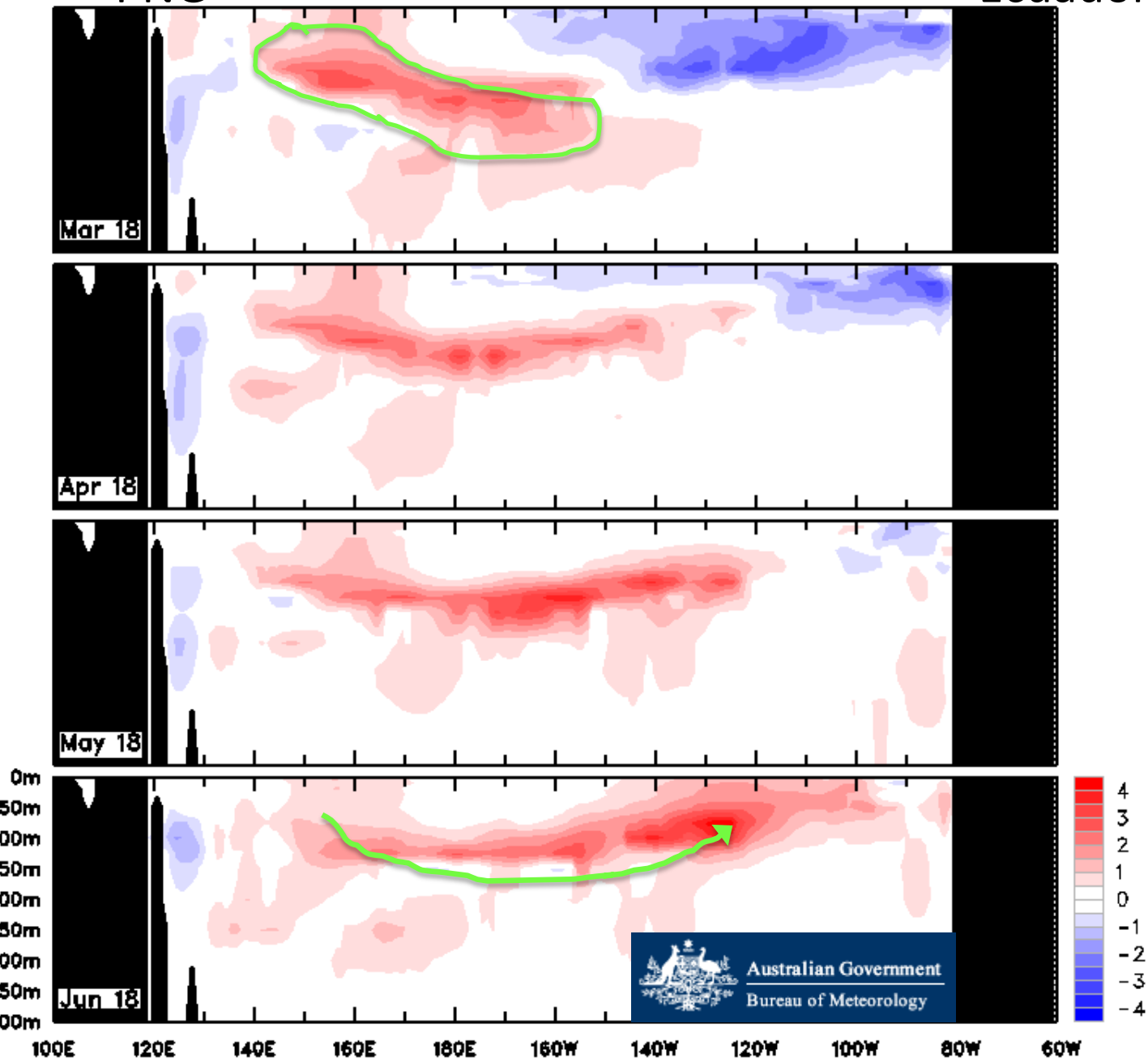
BoM AWRA modelled plant available water %10-100cm 27 Jun 2018

AV soil probes, % plant available water 30-100cm 27 Jun 2018



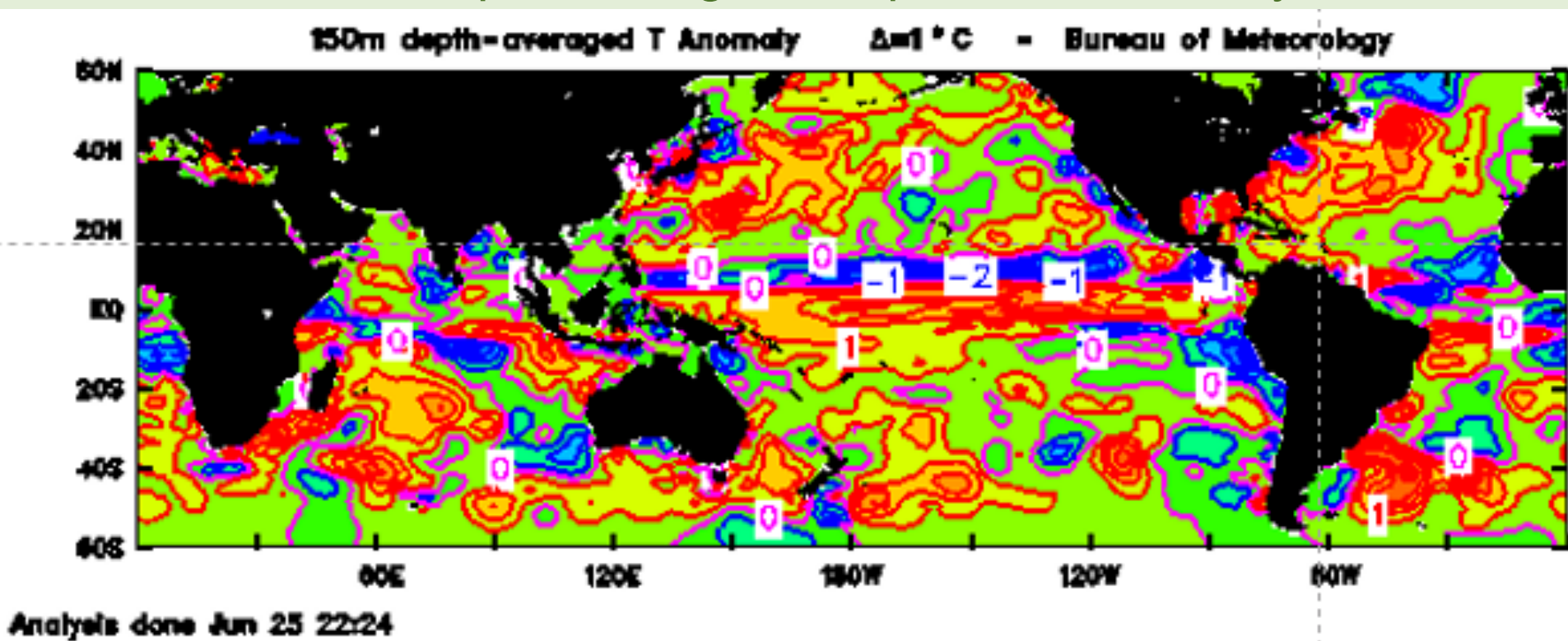
# PNG Pacific Ocean Eq Anomaly $\Delta=0.5^\circ\text{C}$ Ecuador

Warmer water to depth in the west pushed under by reversed trades in Feb, sometimes this kicks off an El Niño.



This is worth keeping an eye on!

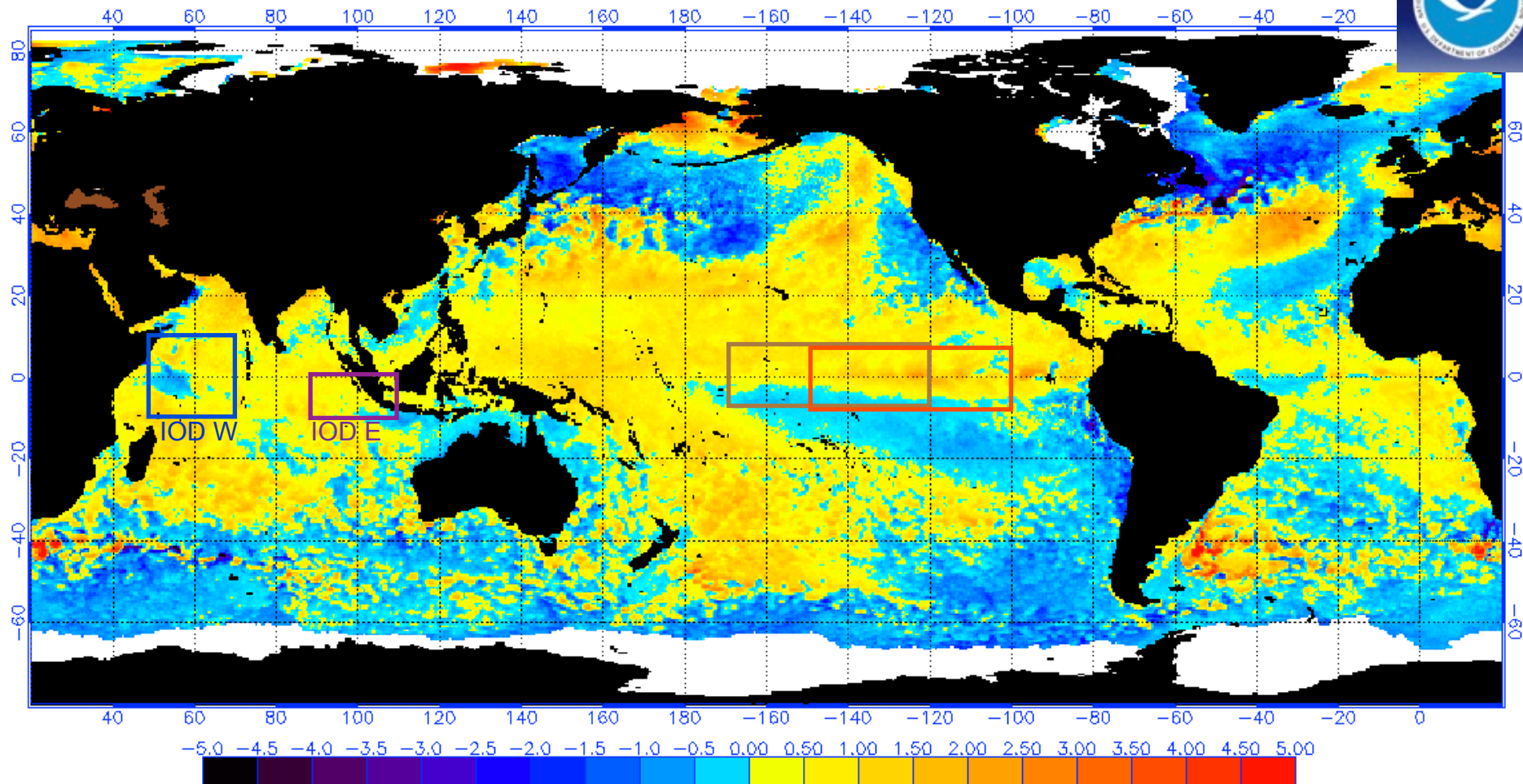
# 150m depth averaged temperature anomaly



Warmer water to depth around Indonesia, could well up warmer at the surface.

25<sup>th</sup> June 2018

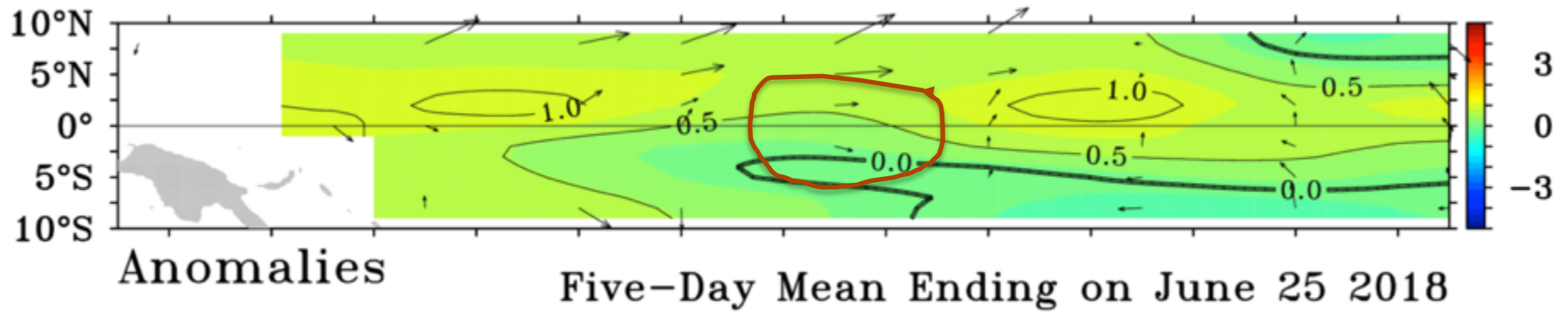
NOAA/NESDIS 50 KM GLOBAL ANALYSIS: SST Anomaly (degrees C), 6/25/2018  
(white regions indicate sea-ice)



**NINO3** =  $+0.53^{\circ}\text{C}$ , **NINO3.4** =  $+0.48^{\circ}\text{C}$ , both neutral but slowly warming

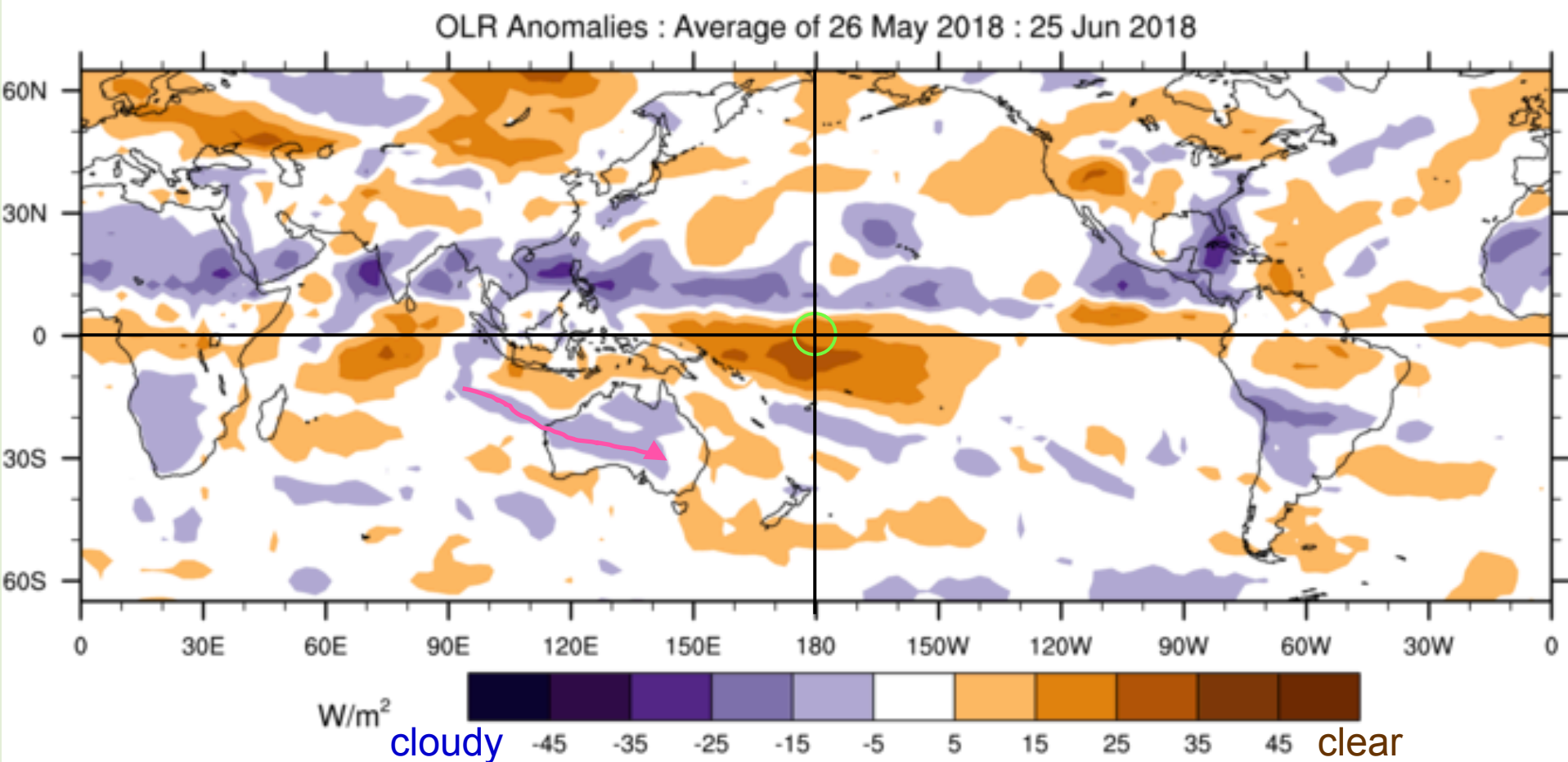
Coral Sea hanging in warmer, Indian normal





*Global Tropical Moored Buoy Array Program Office, NOAA/PMEL*

Trade winds normalish, bit of weak reversal in the centre, strong reversal north of the Equator.

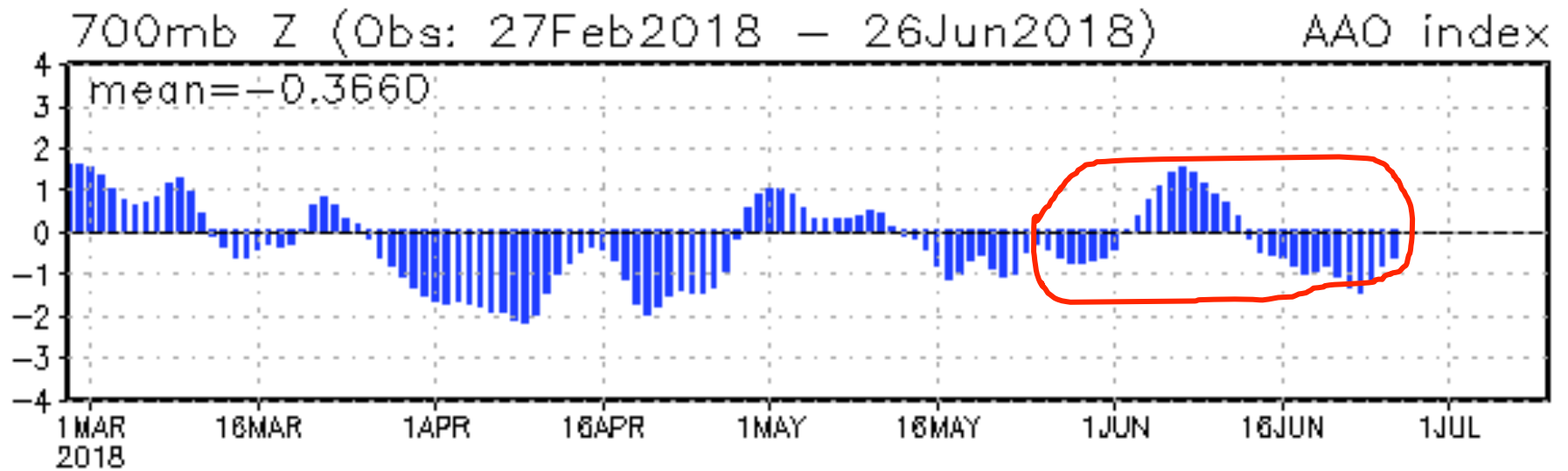


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Cloud at the International Date Line is less = La Nina.  
Bit of NW cloud band activity

# Southern Annular Mode

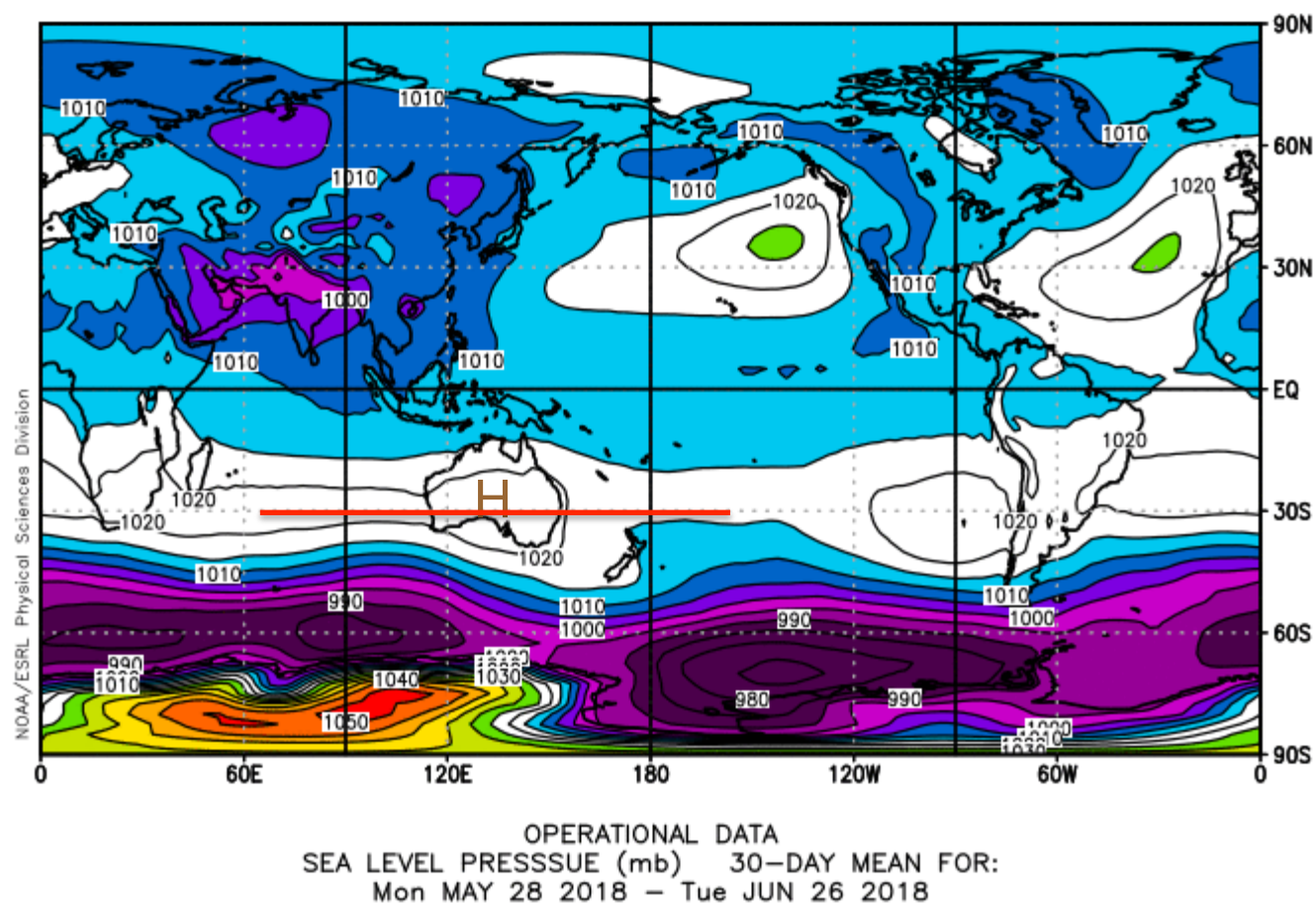
## AAO: Observed & GFS forecasts



The Southern Annular Mode (SAM) has been close to neutral for the last month. Has most effect in Winter.

BoM and NOAA predictions suggest a return to neutral in the coming fortnight.

## Last 30 days Air Pressure

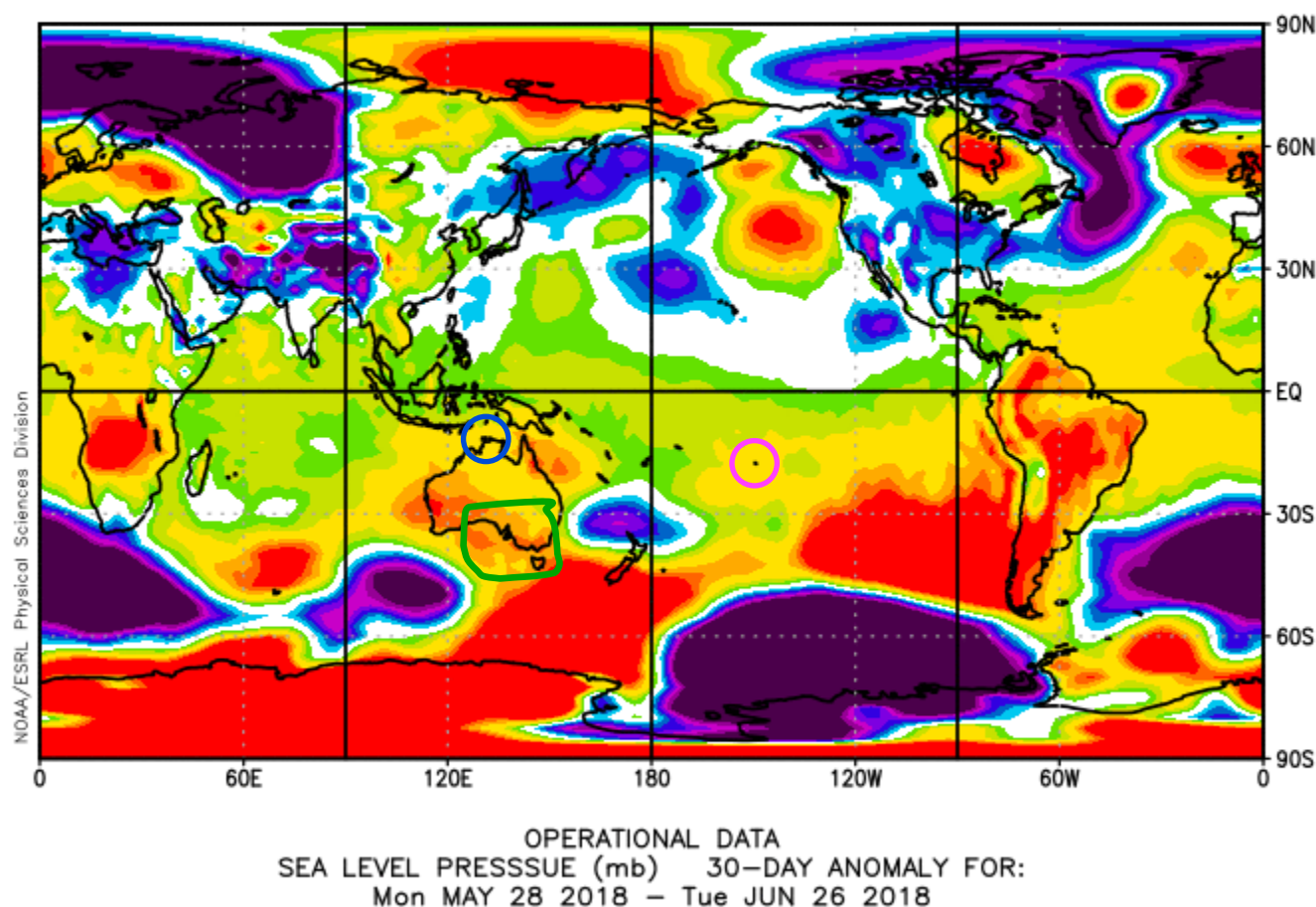


Source = NOAA

Centre of high pressure is slightly higher than a winter position N-S  
During June high centred over SA is sub optimal for SE Aust.



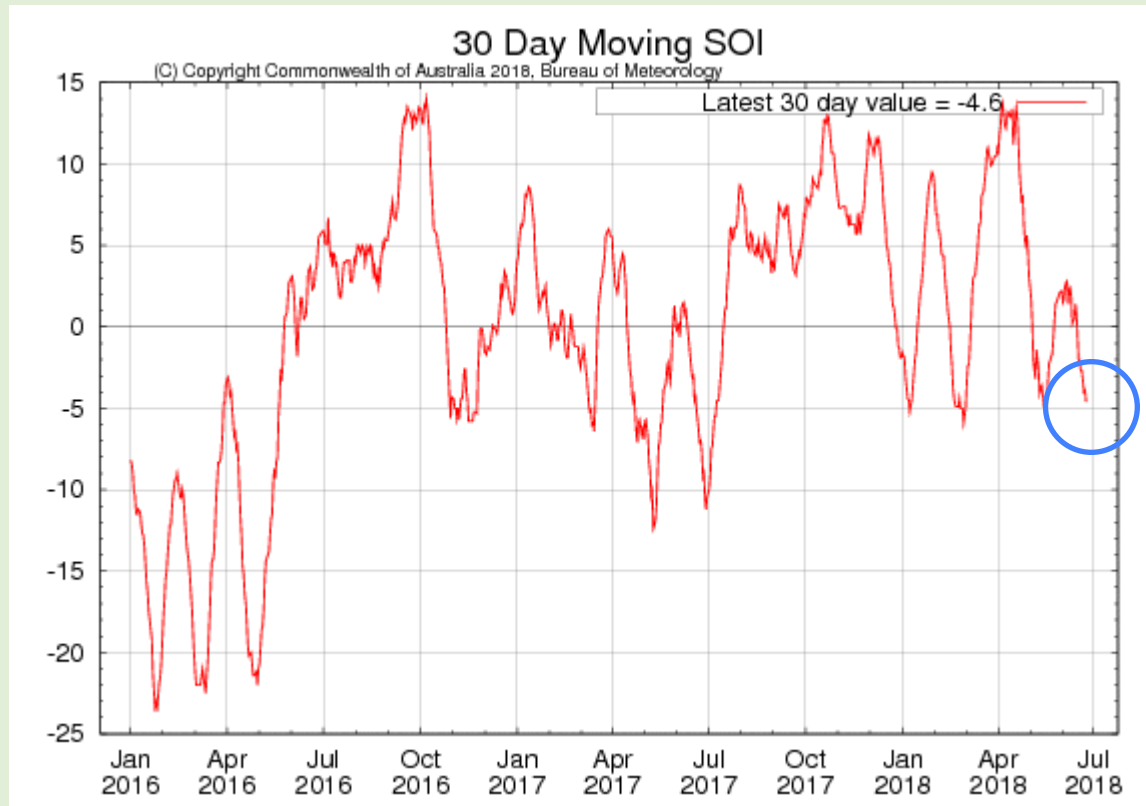
## Last 30 days Air Pressure Anomaly



(NCEP Operational climatology data: 1985-1996, smoothed with 5-day running mean) Source = NOAA

Pressure has been higher over most of Australia, strong highs moving slow  
Darwin pressure higher, Tahiti higher = SOI neutral

# The SOI has ants in its pants



-4.6 and falling.

The pattern of high and low pressure around the Equator indicates neutral conditions.

Worth watching the wet season is over.

Southern Oscillation Index = SOI = difference in air pressure (Tahiti – Darwin)

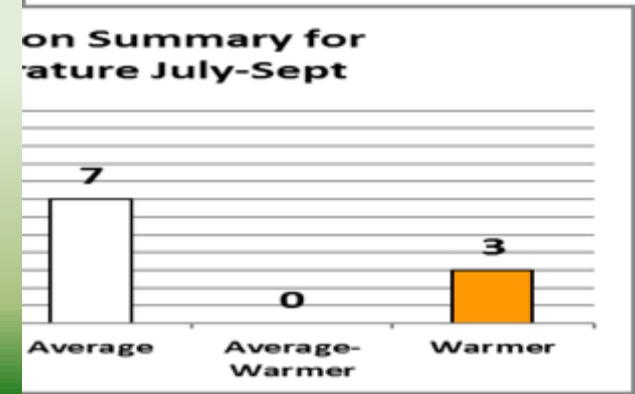
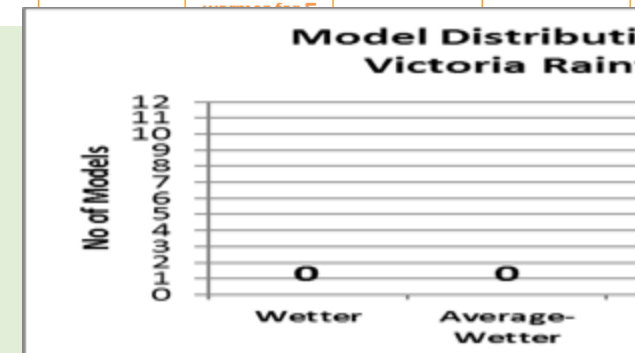
# Modelled Climate and Ocean Predictions for Victoria from June 2018 run models

	Ocean-Atmosphere Coupled Models								Multi Model Ensembles			Statistical
	System 5 ECMWF Europe	POAMA2 BoM Australia	SINTEX-F JAMSTEC Japan	CFSv2 NCEP USA	GEOS-S2S NASA USA	ENS JMA Japan	CSM1.1m BCC China	UKMO GloSea5 UK	NMME USA	APCC Korea	EUROSIP Europe	SOI phase USQ/Qld Australia
Month of Run	June	June	June	June	June	June	May	June	June	June	June	June
Forecast months	JAS	JAS	JJA	JAS	JAS	JAS	JAS	JAS	JAS	JAS	JAS	JAS
Rainfall Skill	Low/moderate	Low	NA	Low S, moderate N	Moderate	Low	NA	Moderate	Low/moderate NE	NA	Low	NA
Winter Pacific Ocean NINO3.4	Warm (weak El Niño)	Neutral	Warm (El Niño Modoki)	Slightly warm	Slightly warm	Slightly warm	Slightly warm	Warm (El Niño)	Warm (weak El Niño)	Slightly warm	Warm (weak El Niño)	-
Winter Eastern Indian Ocean	Slightly cool	Neutral (weak -IOD)	Cool (+IOD)	Neutral, (weak +IOD)	Slightly warm	Neutral	Slightly warm (weak -IOD)	Slightly warm (weak -IOD)	Neutral, (weak +IOD)	Neutral	Neutral	-
Winter Rainfall	Average, slightly drier NE	Slightly drier, average Gipps	slightly drier	Average	Average	Average	Average	Average, slightly drier Gipps	Average	Average	Average	Average/ slightly drier central
Winter Temperature	Slightly warmer	Slightly warmer	Average	Average W, slightly cooler E	Slightly warmer	Average	Average	Average	Average	Average, slightly warmer	Average	-

## July-Sept

Pacific Ocean-  
Indian Ocean-  
Rainfall-  
Temperature-

Neutral(possible El Nino)  
Mixed  
Average  
Average



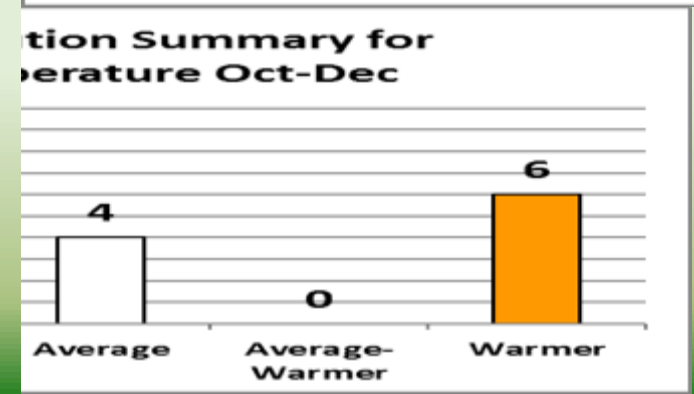
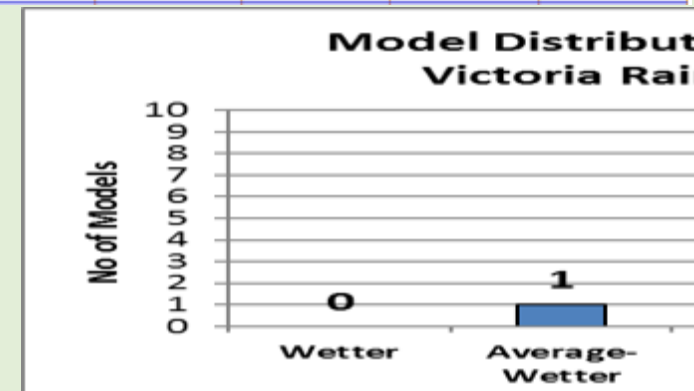
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Month of Run	June	June	June	June	June	June	May	June	June	June	June	June
Forecast months	OND	OND	SON	OND	OND	-	OND	SON	SON	OND	SON	-
Spring Pacific Ocean NINO3.4	Warm (El Niño)	Neutral	Warm (El Niño Modoki)	Slightly warm	Slightly warm	-	Warm (weak El Niño)	Warm (El Niño)	Warm (El Niño)	Warm (weak El Niño)	Warm (El Niño)	-
Spring Eastern Indian Ocean	Neutral	Neutral	Cool (+IOD)	Slightly warm	Slightly warm	-	Neutral (weak -IOD)	Neutral	Neutral	Neutral	Neutral	-
Spring Rainfall	Slightly drier, average Gipps	Average	Slightly drier	Average	Average	-	Average W, slightly wetter E	Average	Average, slightly drier Centre	Average	Average	-
Spring Temperature	Slightly warmer	Slightly warmer, average NE	Slightly warmer	Average	Slightly warmer	-	Average	Average	Slightly warmer	Slightly warmer	Average	-

## Oct-Dec

Pacific Ocean-  
Indian Ocean-  
Rainfall-  
Temperature-

El Nino  
Neutral  
Average  
Slightly warmer/average





A man with short brown hair, smiling, is sitting on a large, light-brown rock. He is wearing a red short-sleeved shirt, green and white patterned shorts, and dark green sandals. He is holding a white bag in his lap. The background features a calm river flowing through a rocky landscape with lush green vegetation and trees. The water reflects the surrounding greenery and rocks.

# Thank you

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