

Winter Climate Update

Dale Grey

Seasonal Risk Agronomist, Bendigo

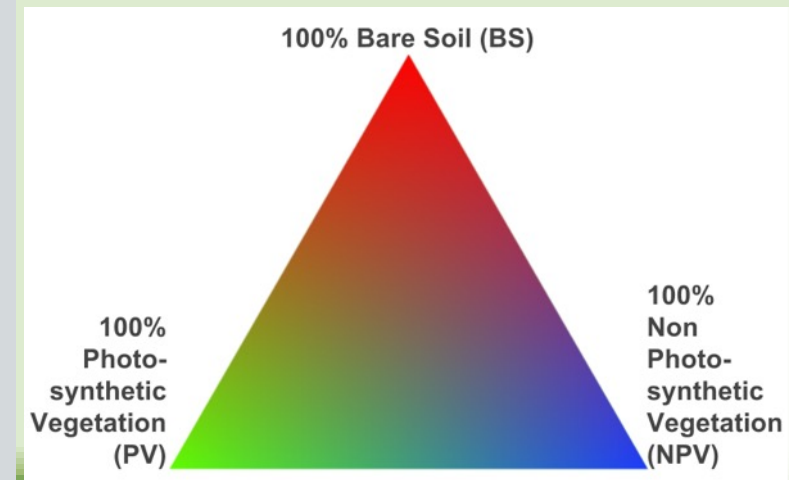
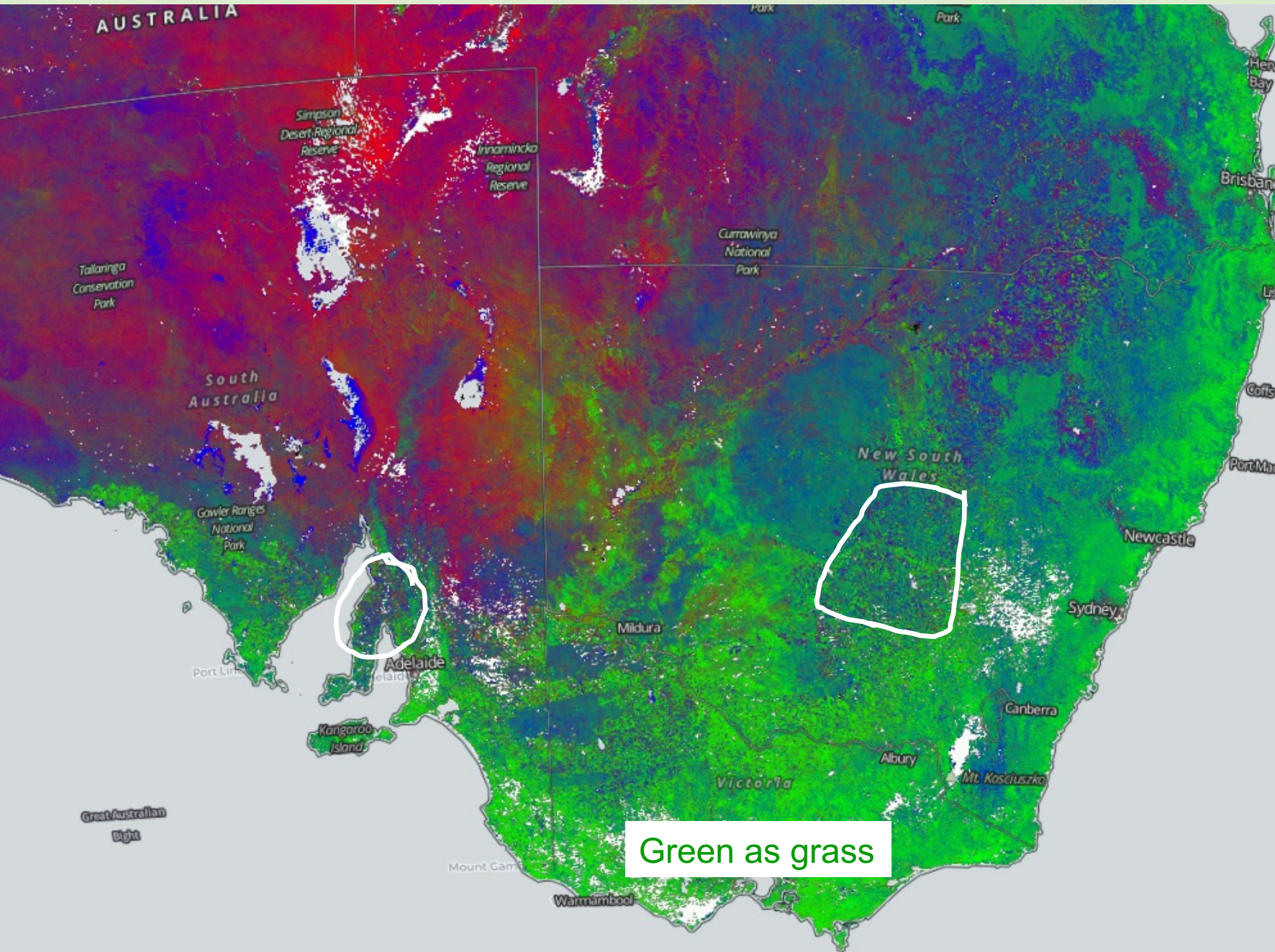
13 July 2022

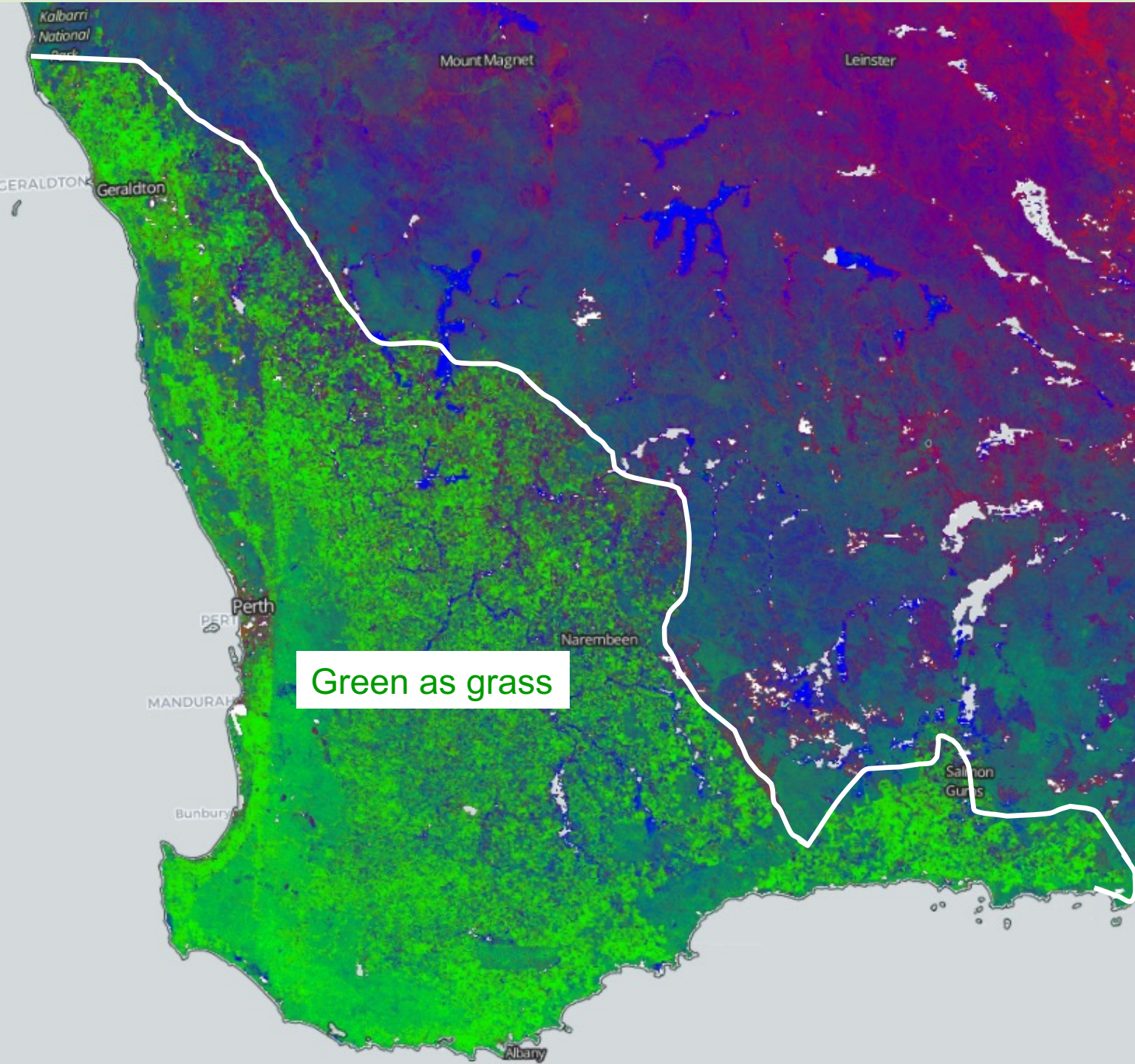
AGRICULTURE VICTORIA



GEOGLAM-RAPP From CSIRO Fractional ground cover

26 June 2022

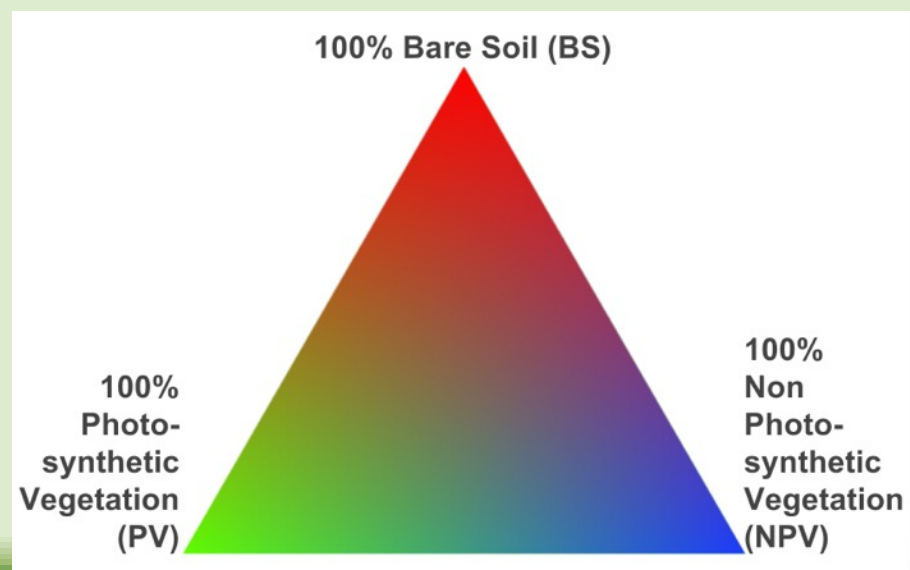




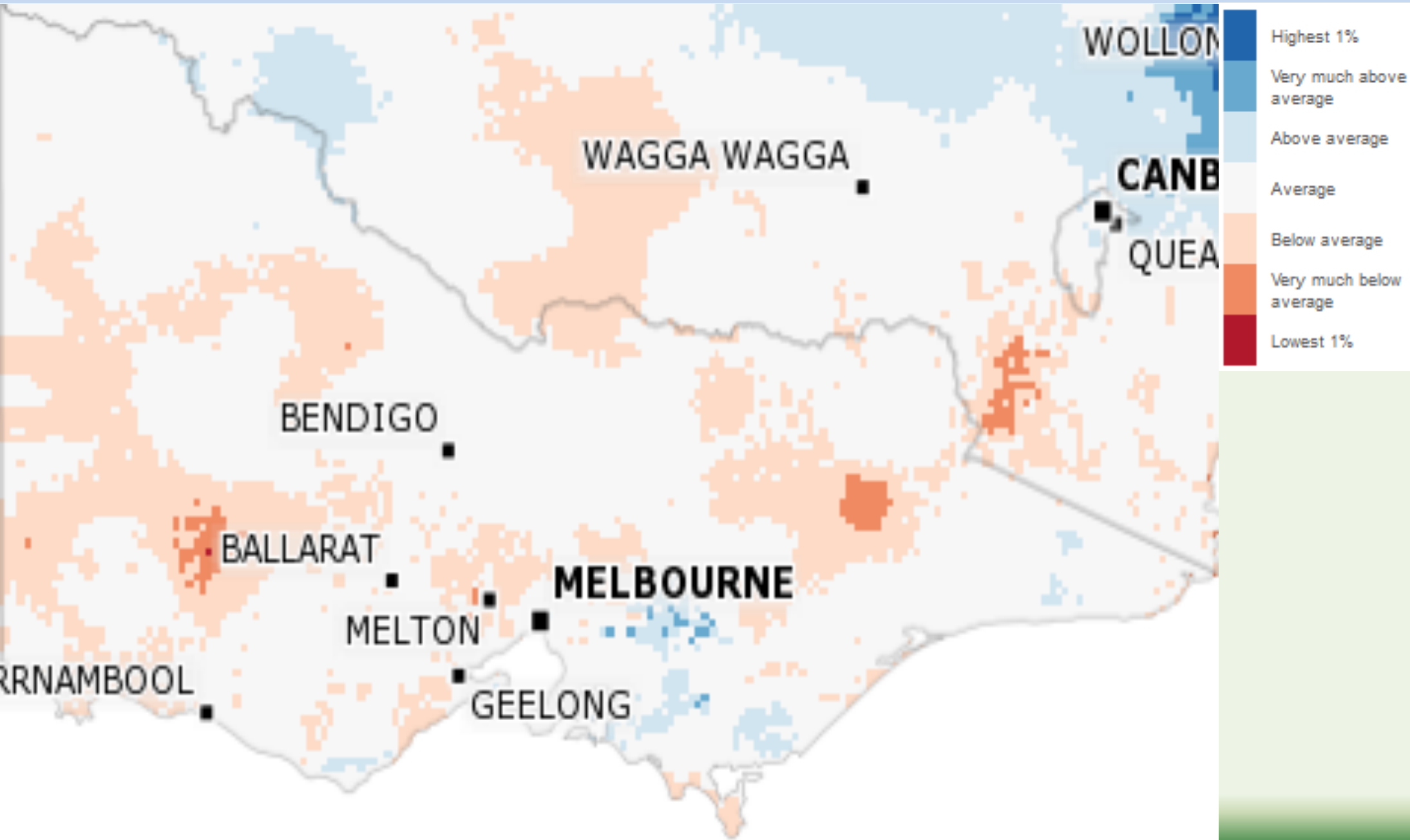
GEOGLAM-RAPP From CSIRO Fractional ground cover

26 June 2022

Green as grass

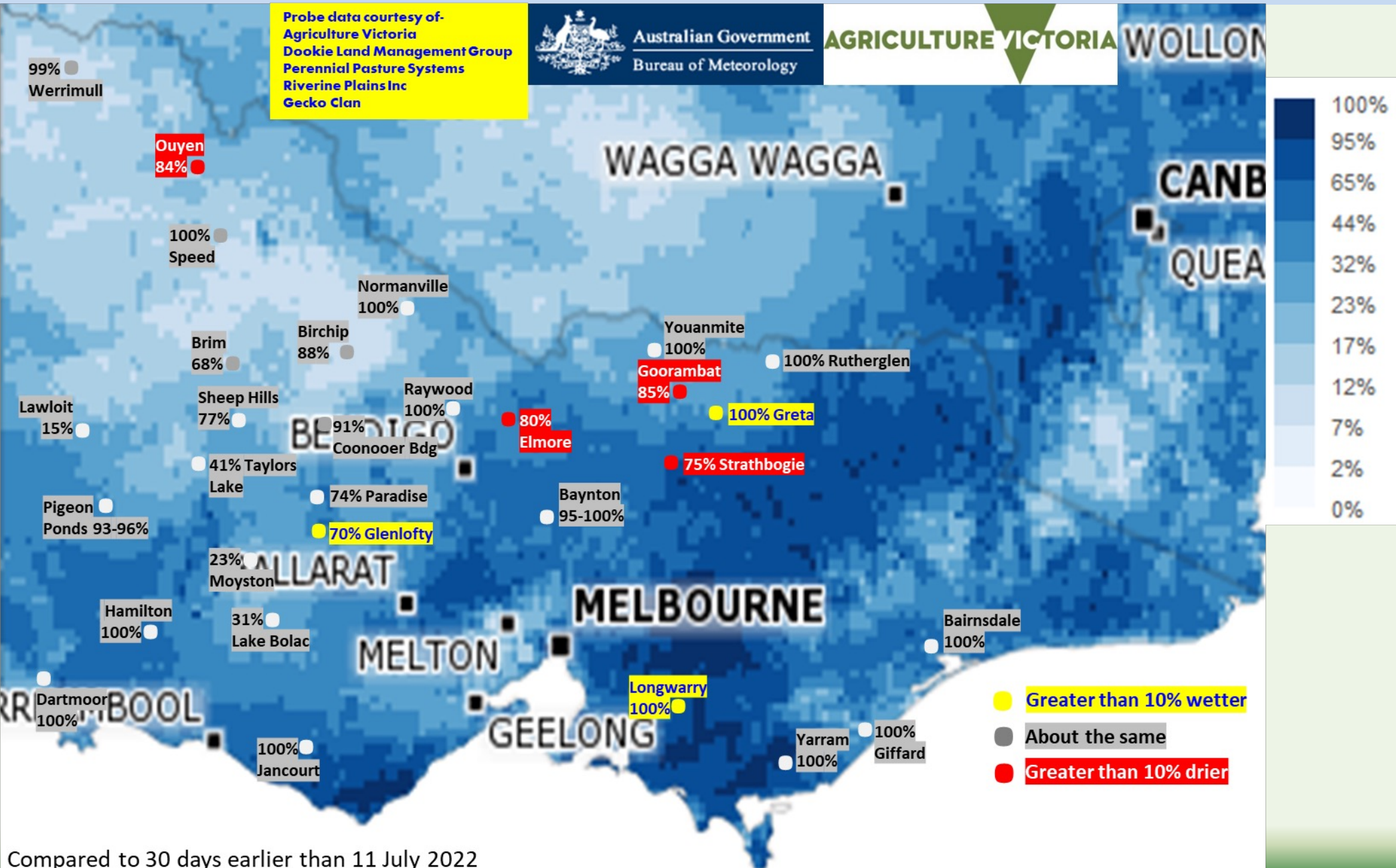


BoM AWRA modelled plant available water decile 10-100cm 11 July 2022



BoM AWRA modelled plant available water %10-100cm 11 July 2022

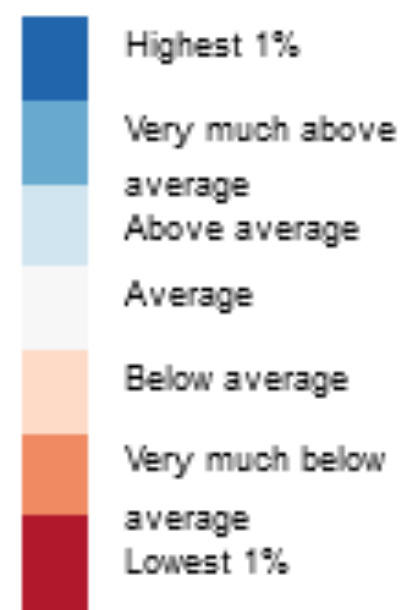
AV soil probes, % plant available water 30-100cm 11 July 2022



Compared to 30 days earlier than 11 July 2022

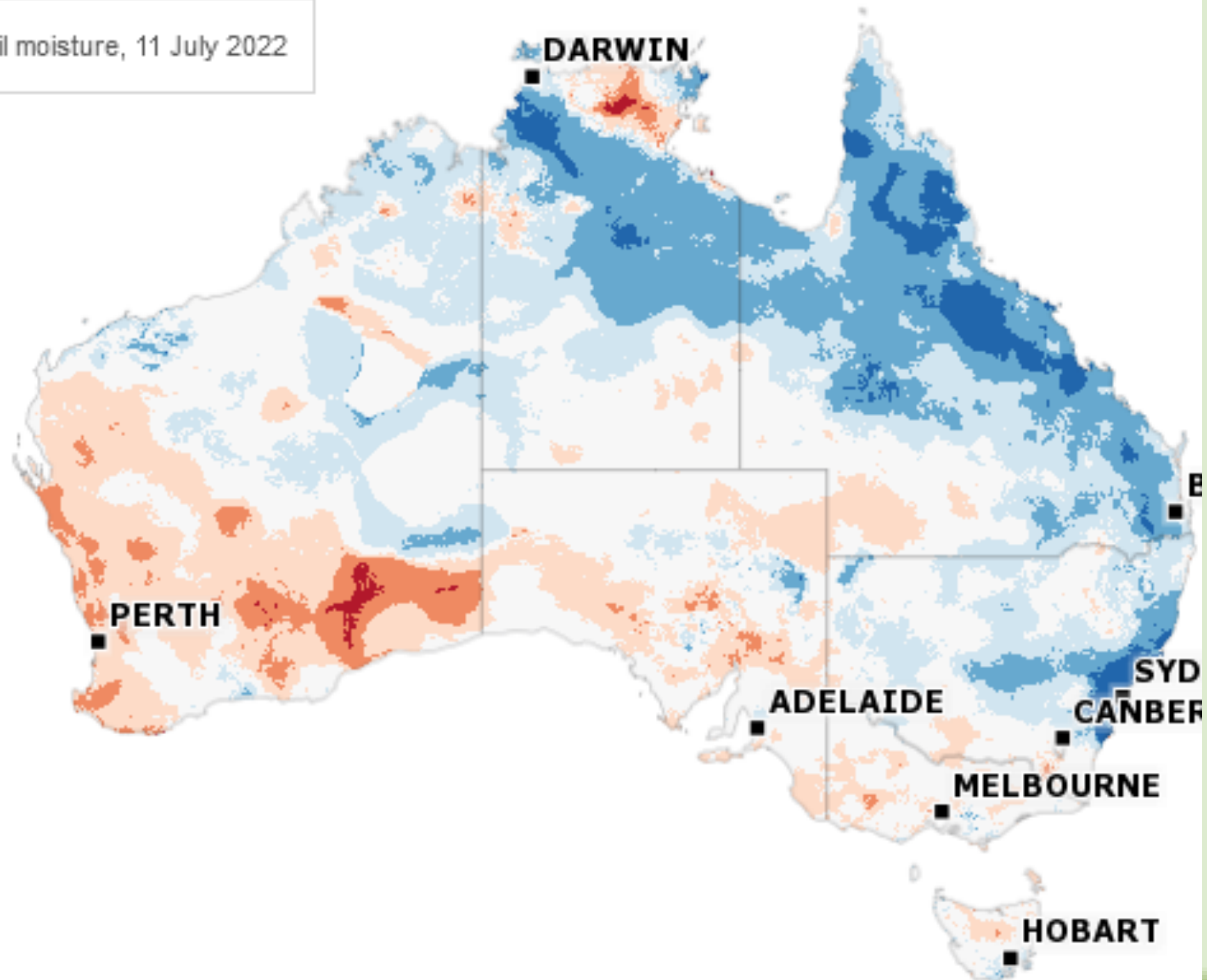
Displaying: Lower soil moisture, 11 July 2022

Lower soil moisture



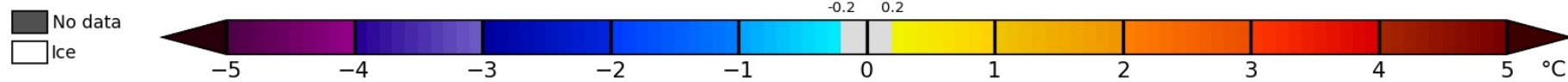
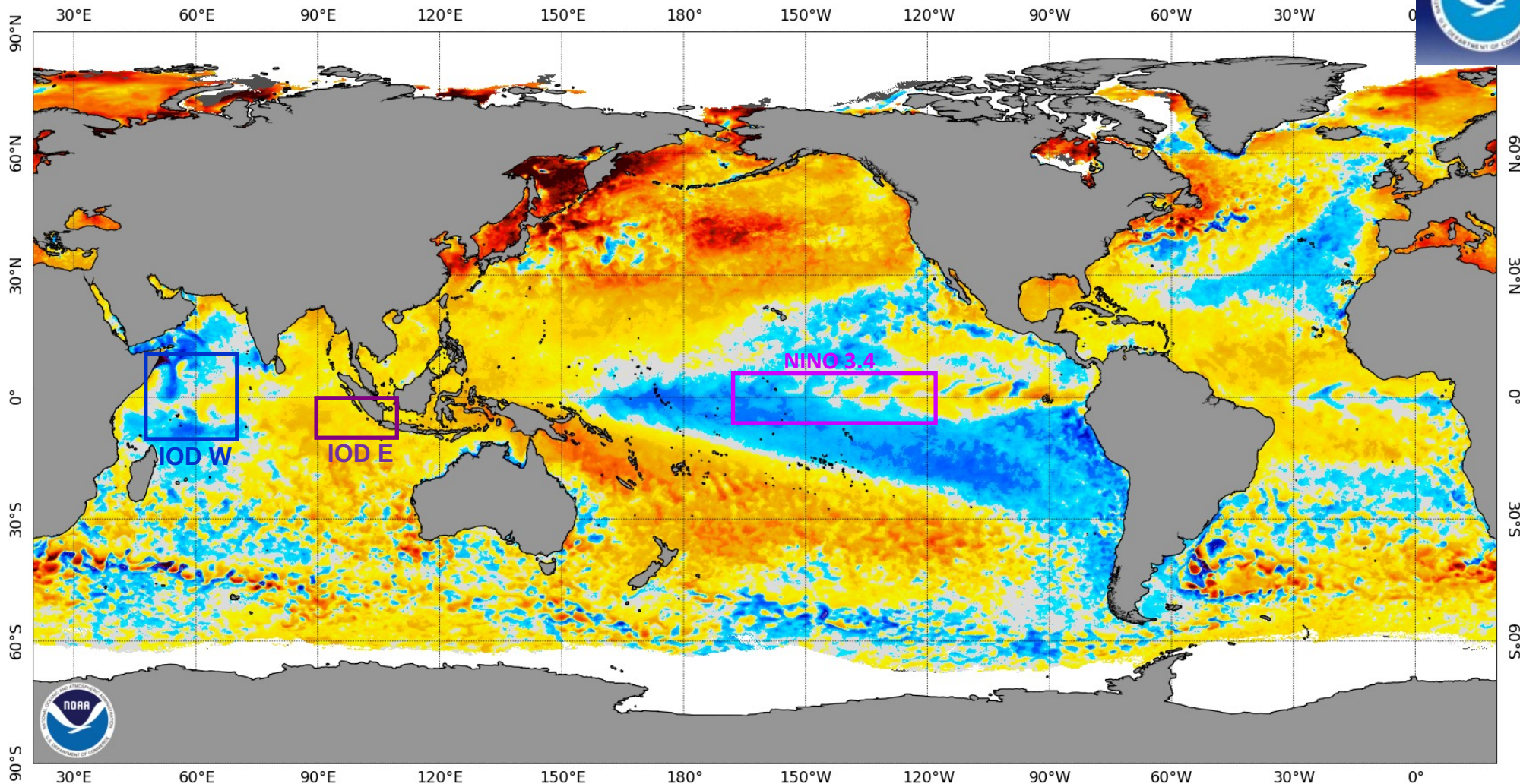
Values

Actual **Relative**



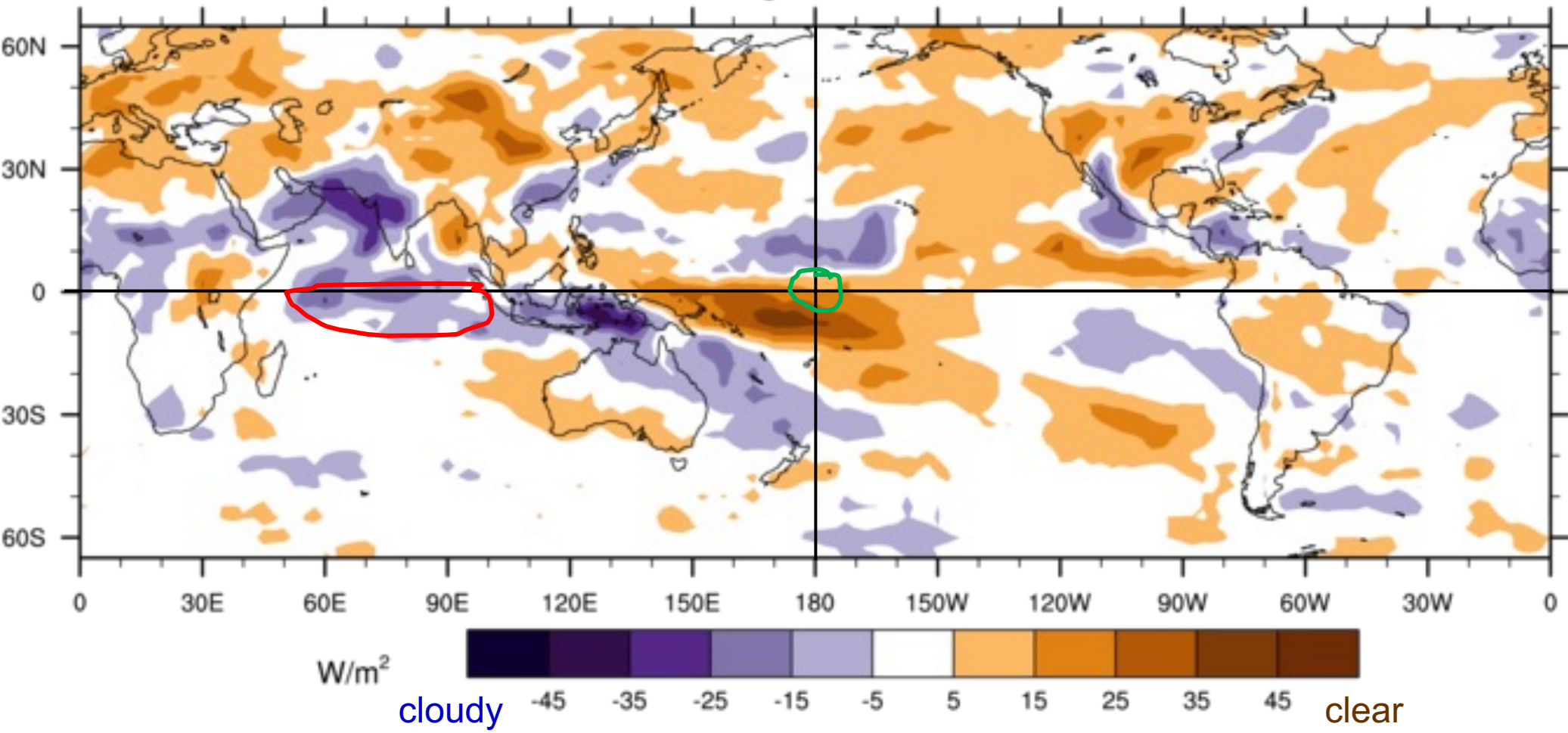


Sea Surface Temperature Anomalies 10 July 2022



NINO3.4 is -0.26°C = Normal
DMI is -1.14°C = -IOD

OLR Anomalies : Average of 10 Jun 2022 : 10 Jul 2022



Last 30 Days
Cloud Anomaly

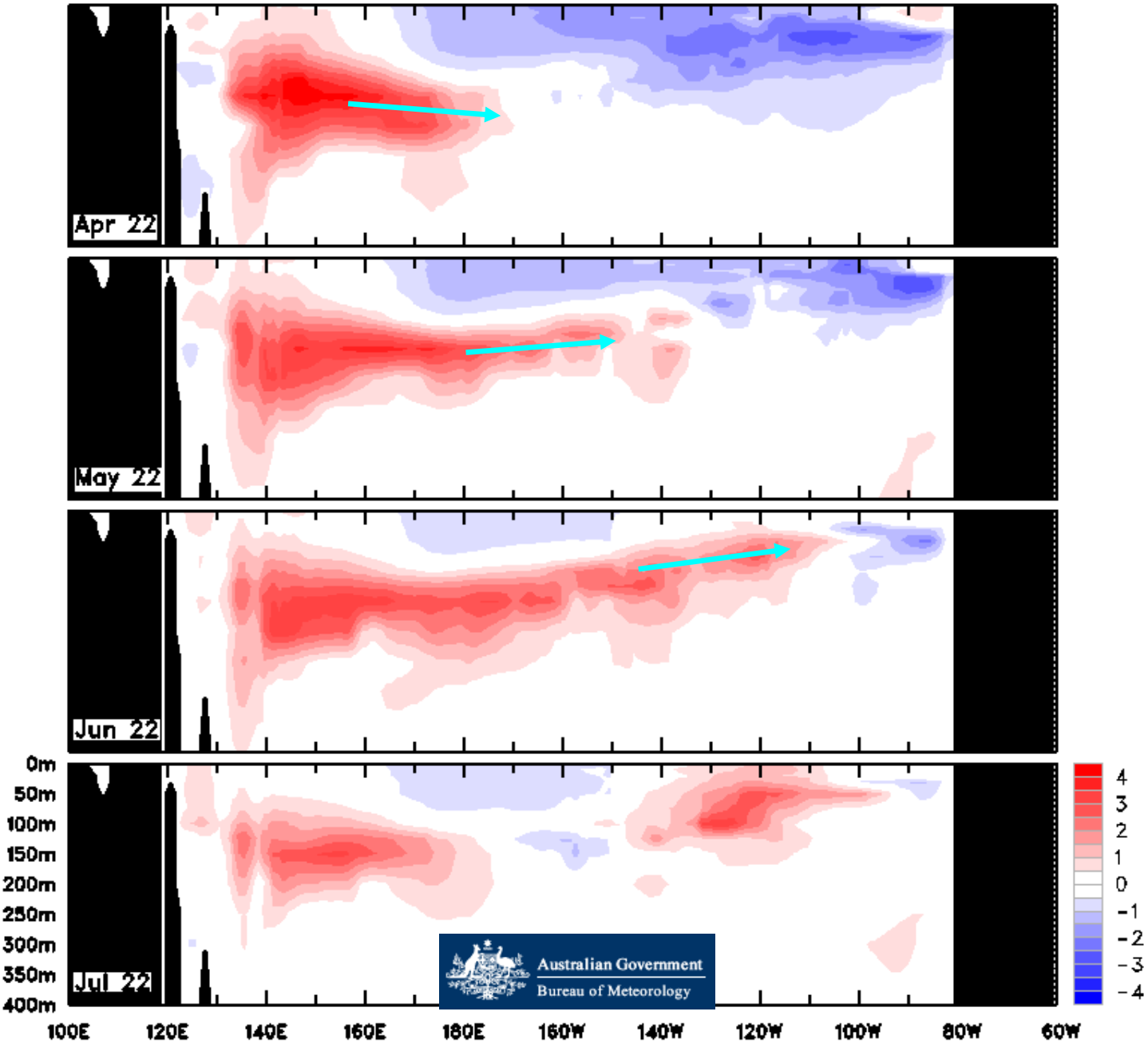
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Lack of cloud at Dateline. La Niña like.
Greater cloud to the north but not -IOD like

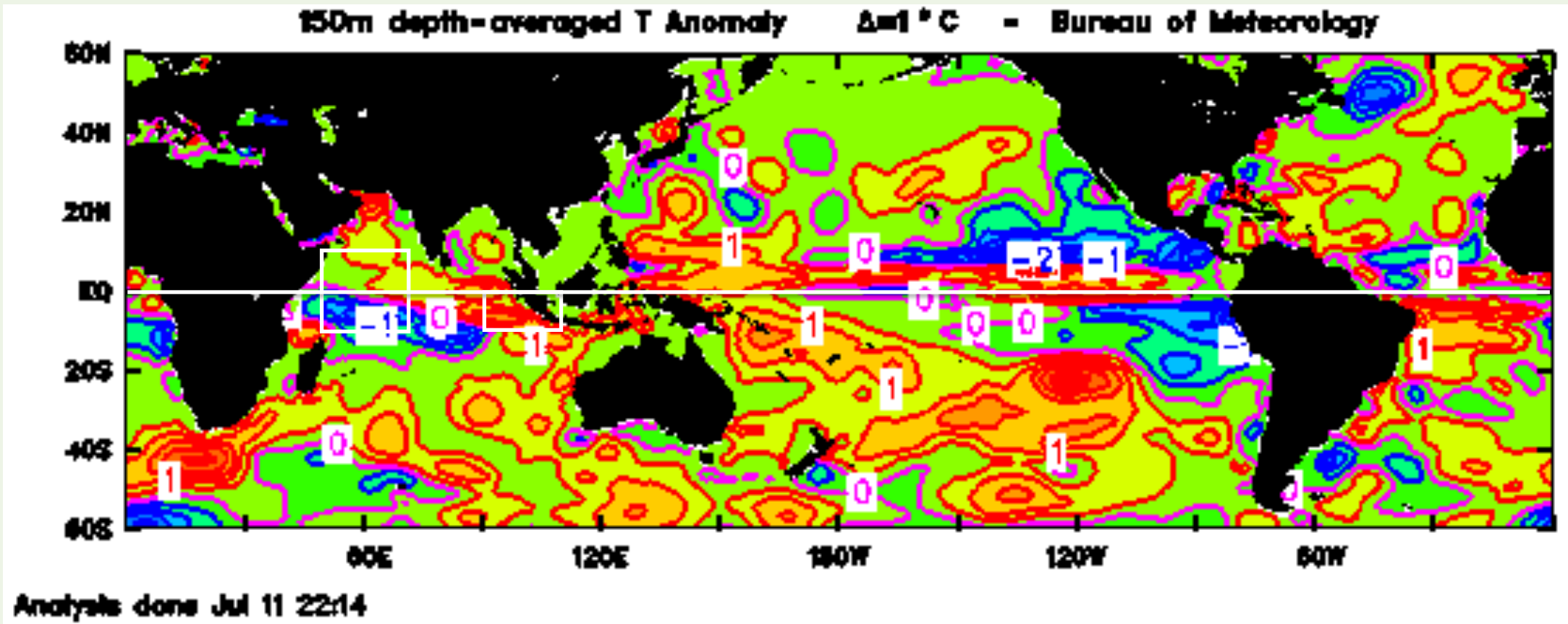
PNG Pacific Ocean Eq Anomaly $\Delta=0.5^\circ\text{C}$ Ecuador

Pacific Equatorial Deep Sea Anomaly

The deep Pacific has been steadily warming nullifying the La Niña.



150m depth averaged temperature anomaly



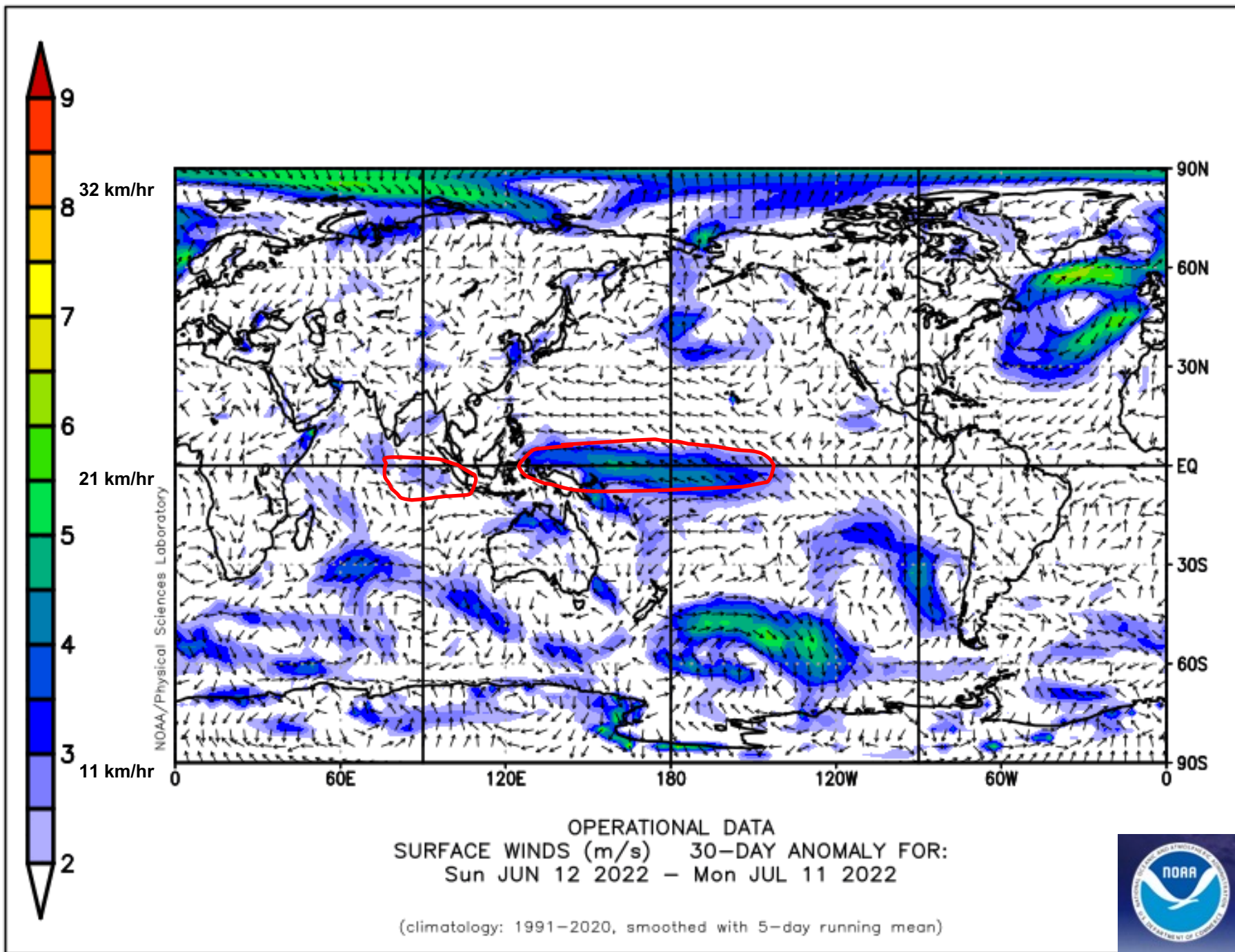
Warmer water off Sumatra
Mixed off Kenya.

Massive pool of warmth in the western Pacific, and mixed in the east

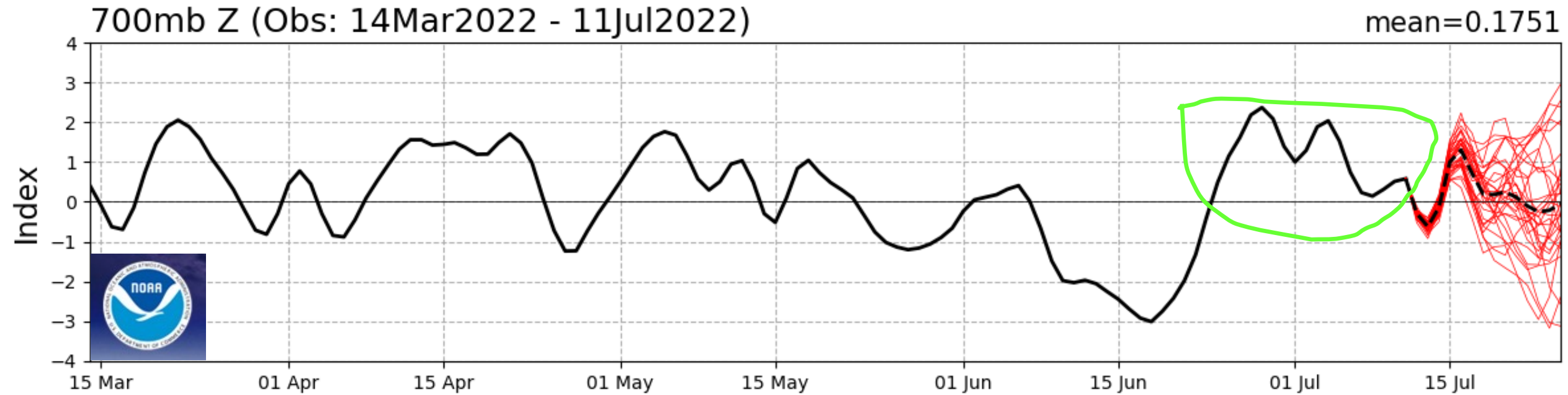
Last 30 Days Wind Direction and Speed Anomaly

Pacific easterly Trade
Winds have cranked
back up.

Indian Ocean some
weak westerlies into
Sumatra, a bit -IOD
like but not convincing.



Southern Annular Mode



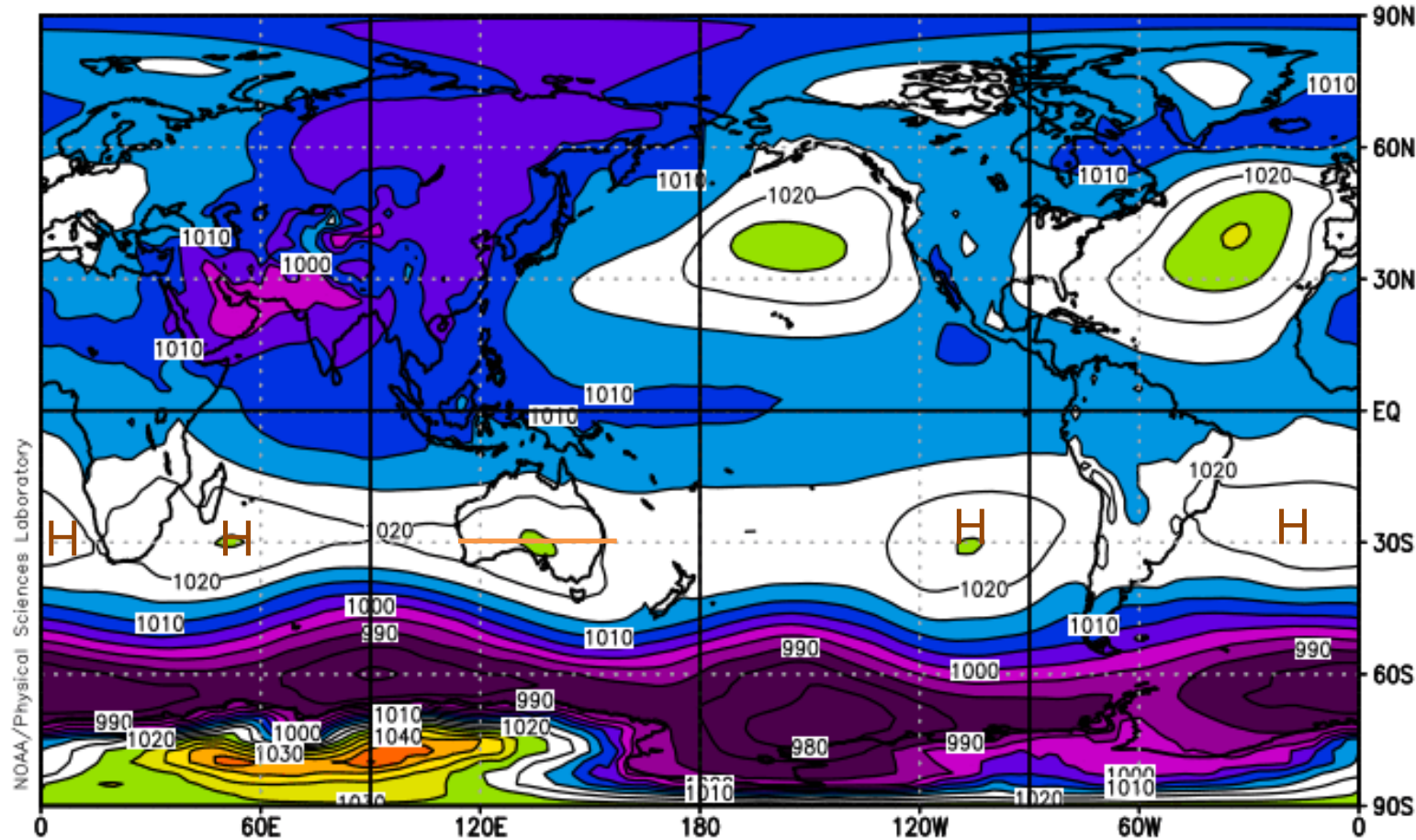
The Southern Annular Mode (SAM) had been recently positive.

Next 14 day predictions: NOAA and BoM both predict another +ve burst returning to normal.

Last 30 days Air Pressure

Centre of highs slightly further north of a winter top of the Bight position.

Position blocking frontal systems.



OPERATIONAL DATA
SEA LEVEL PRESSURE (mb) 30-DAY MEAN FOR:
Sun JUN 12 2022 – Mon JUL 11 2022



High

1050

1040

1030

1020

1010

1000

990

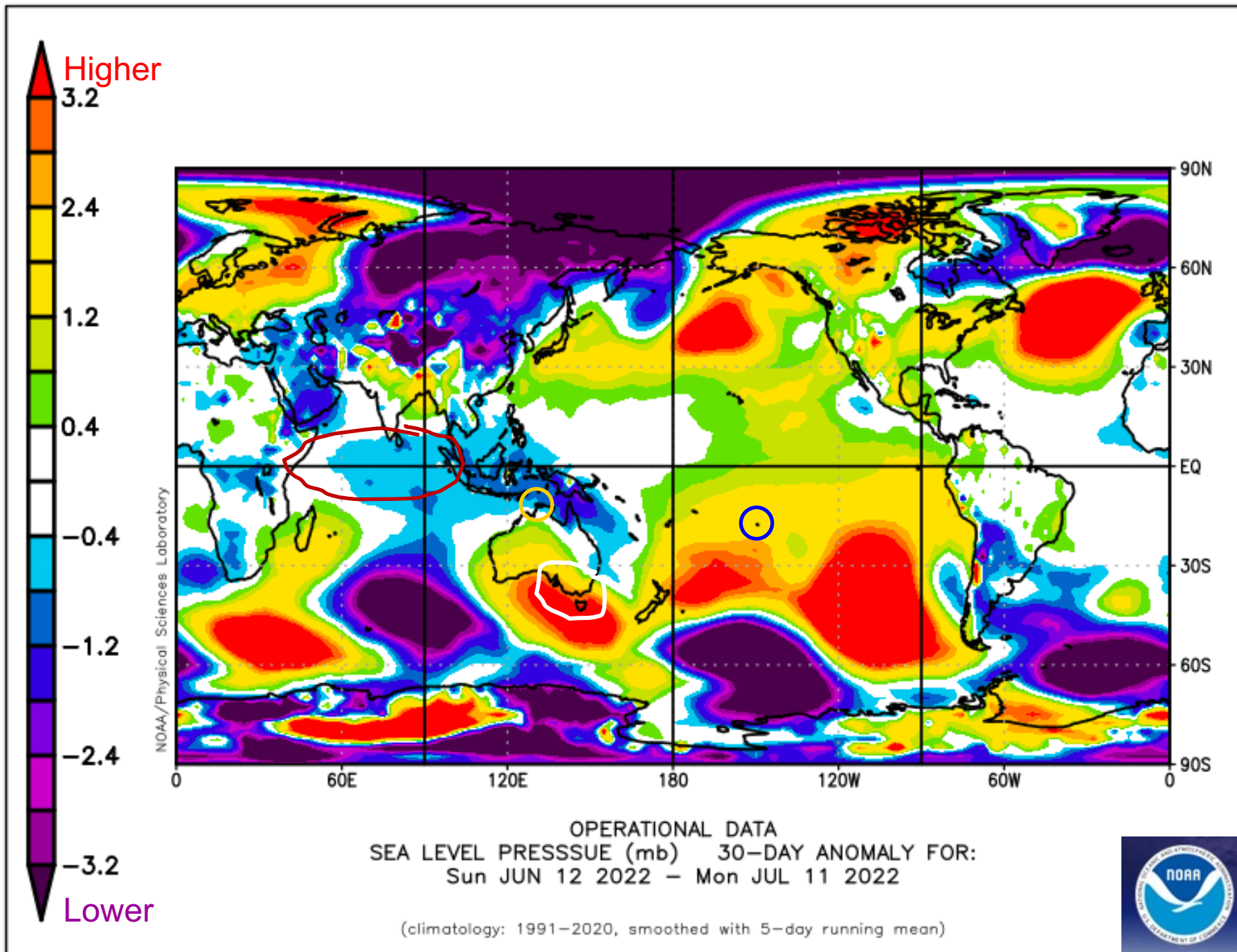
Low

Last 30 days Air Pressure Anomaly

Dominant high
pressure.

Darwin lower, Tahiti
higher.

SOI = +17.3 = La Niña.

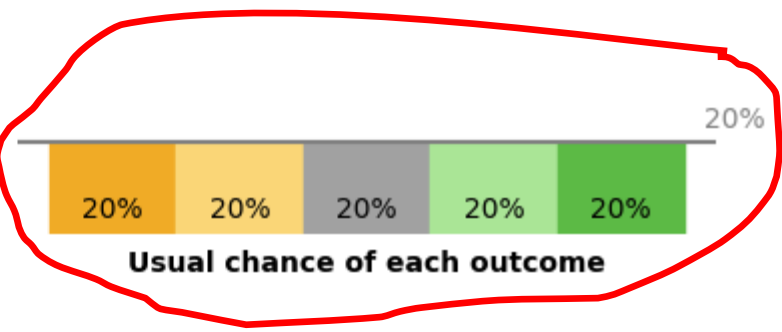
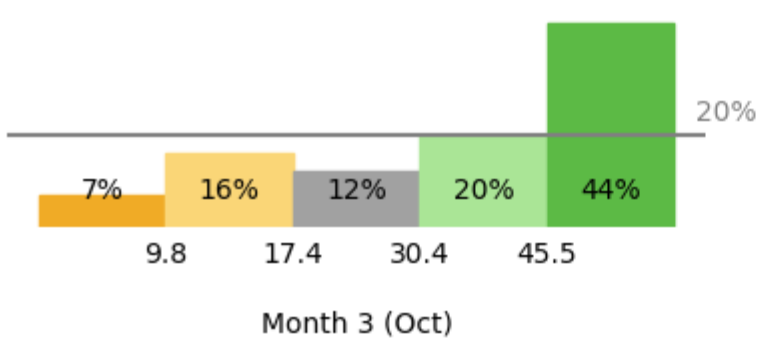
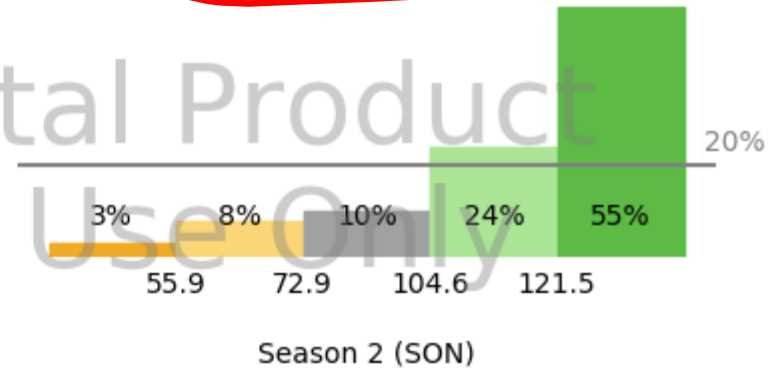
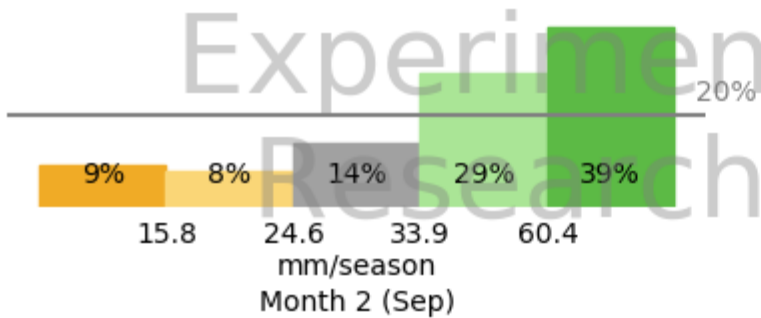
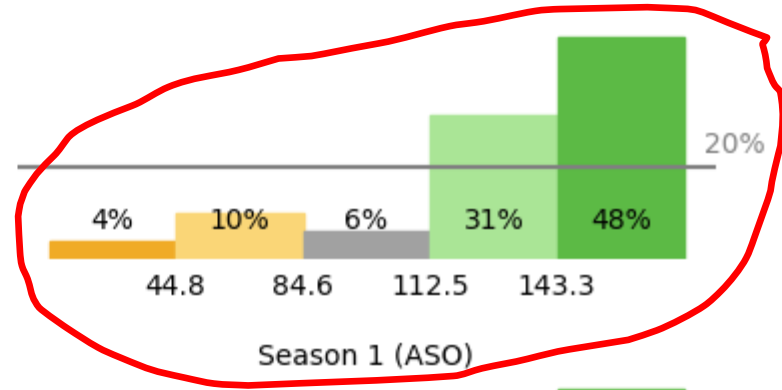
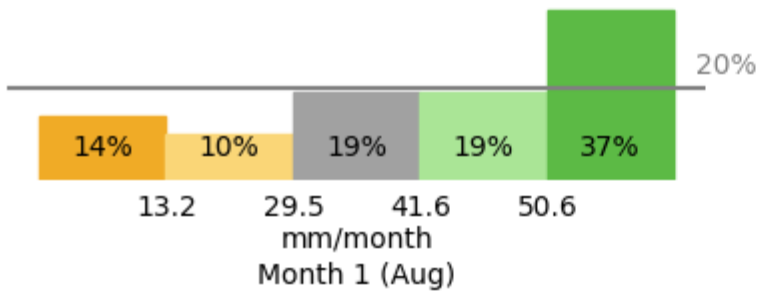


Rainfall Decile Bars

Region **Birchip grains**



Start: 09-Jul-2022



Forewarned is Forearmed

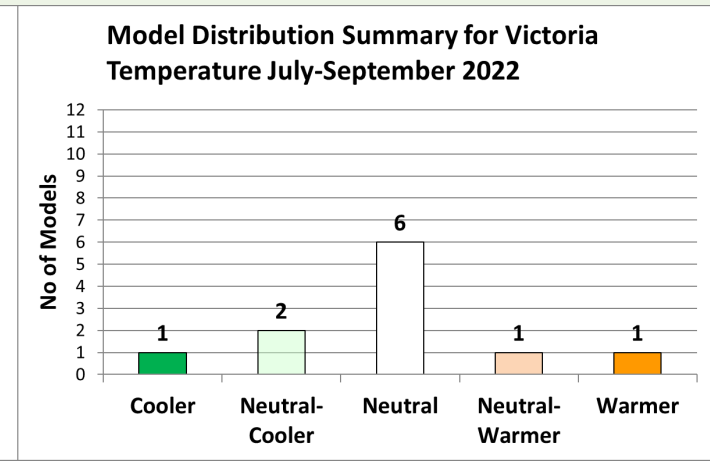
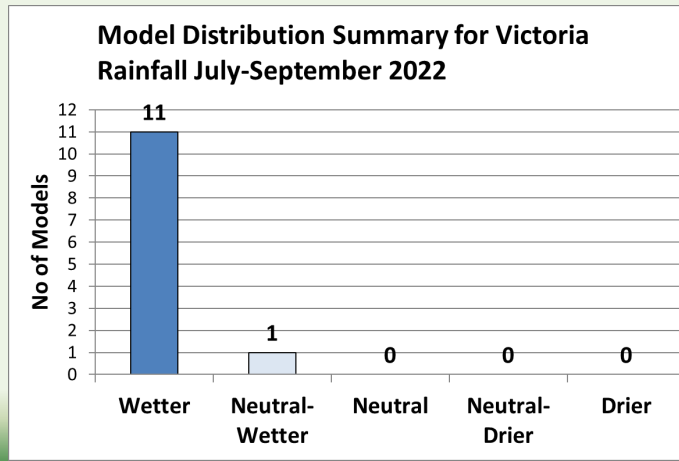
Probabilistic forecast spread from 99 model runs

Modelled climate and ocean predictions for Victoria from June 2022 run models

Phenomena	CGCM	CGCM	CGCM	CGCM	CGCM	CGCM	CGCM	CGCM	Ensemble	Ensemble	Ensemble	Statistical
	System 5 ECMWF Europe	ACCESS-S BoM Australia	SINTEX-F JAMSTEC Japan	CFSv2 NCEP USA	GEOS-S2S NASA USA	EPS JMA Japan	CSM1.1m BCC China	GloSea5 UKMO UK	NMME USA	C3S Europe	MME APCC Korea	SOI phase USQ/Qld Australia
Month of Run	July	July	June	July	July	June	July	July	July	June	June	June
Forecast months*	ASO	ASO	JAS	ASO	ASO	JAS	ASO	ASO	ASO	JAS	JAS	JAS
Rainfall Skill JAS	Low S / Moderate N	Moderate	-	Low S / Moderate N	Moderate	Moderate	-	Moderate W / High E	Moderate / Low SW	-	-	-
Winter Pacific Ocean NINO3.4	Slightly cool	Slightly cool	Slightly cool	Cool (La Niña)	Cool (La Niña)	Slightly cool	Slightly cool	Cool (La Niña)	Cool (La Niña)	Slightly cool	Slightly cool	SOI Positive
Winter Eastern Indian Ocean	Warm (-IOD)	Warm (-IOD)	Warm (-IOD)	Warm (weak -IOD)	Warm (-IOD)	Warm (-IOD)	Warm (-IOD)	Warm (-IOD)	Warm (-IOD)	Warm (-IOD)	Warm (-IOD)	-
Winter Rainfall	Wetter, slightly wetter SW	Wetter N, slightly wetter S	Slightly wetter E, neutral W	Slightly wetter, neutral SW	Slightly wetter	Slightly wetter	Slightly wetter, neutral SW, far E	Wetter	Wetter	Wetter N, slightly wetter S	Wetter N, slightly wetter S	Slightly wetter, neutral E Gipps
Winter Temperature	Neutral, slightly cooler NW	Slightly warmer, neutral NW	Neutral	Neutral	Neutral	Slightly cooler	Cooler	Neutral, slightly cooler NW	Slightly cooler W, neutral E	Slightly warmer E, neutral W	Neutral, slightly cooler NW	-

July/August-September/October

Pacific Ocean- Slightly cool
 Indian Ocean- Warm (-IOD)
 Rainfall- Wetter
 Temperature- Mixed



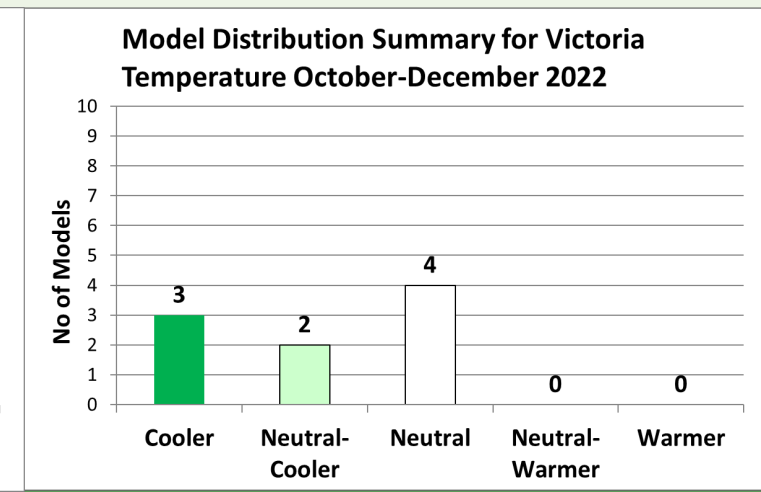
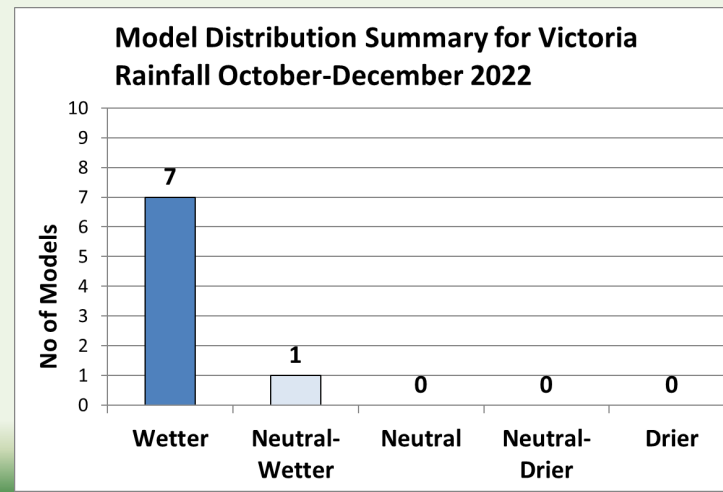
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Phenomena	CGCM								Ensemble			Statistical
	System 5 ECMWF Europe	ACCESS-S BoM Australia	SINTEX-F JAMSTEC Japan	CFSv2 NCEP USA	GEOS-S2S NASA USA	EPS JMA Japan	CSM1.1m BCC China	GloSea5 UKMO UK	NMME USA	C3S Europe	MME APCC Korea	SOI phase USQ/Qld Australia
Month of Run	July	July	June	July	July	June	July	July	July	June	June	June
Forecast months*	NDJ	OND	OND	NDJ	NDJ	OND	NDJ	OND	NDJ	SON	OND	-
Spring Pacific Ocean NINO3.4	Slightly cool	Slightly cool	Slightly cool	Cool (La Niña)	Cool (La Niña)	Cool (weak La Niña)	Warm (El Nino)	Cool (La Niña)	Cool (La Niña)	Slightly cool	Slightly cool	-
Spring Eastern Indian Ocean	Warm (-IOD)	Warm (-IOD)	Warm (-IOD)	Slightly warm (weak -IOD)	Normal	Warm (-IOD)	Warm (-IOD)	Warm (-IOD)	Warm (-IOD)	Warm (-IOD)	Warm (-IOD)	-
Spring Rainfall	Slightly wetter	-	Slightly wetter	Slightly wetter W, neutral E	Slightly wetter, wetter Alps	-	Neutral, slightly wetter NW	Wetter	Wetter E, slightly wetter W	Wetter	Slightly wetter	-
Spring Temperature	Cooler E, slightly cooler W	-	Neutral, slightly cooler NE	Neutral	Neutral, slightly cooler NE	-	Neutral	Slightly cooler	Slightly cooler N, neutral S	Slightly cooler N, neutral S	Cooler N, slightly cooler S	-

October/November–December/January

Pacific Ocean-
Indian Ocean-
Rainfall-
Temperature-

Slightly cool (poss. La Niña)
Warm (-IOD)
Wetter
Neutral/Cooler NE

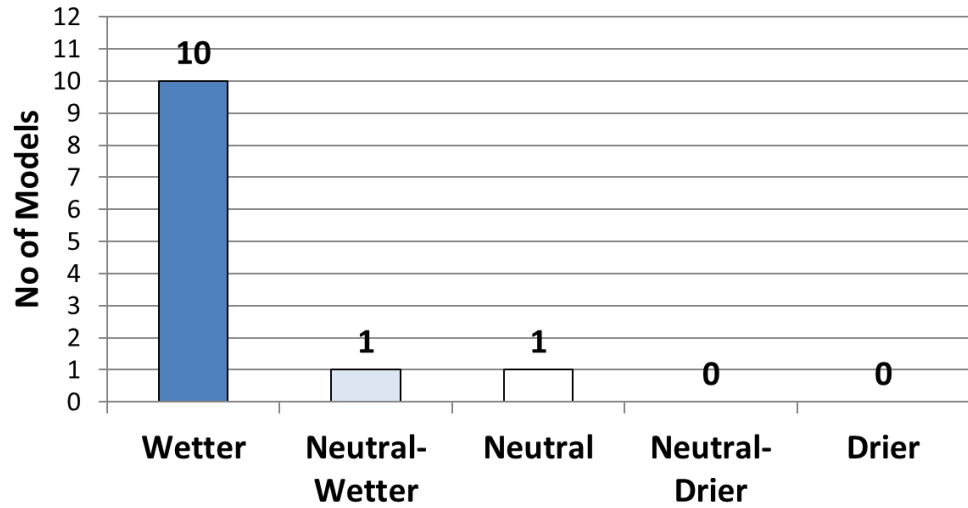


Rainfall- Wetter

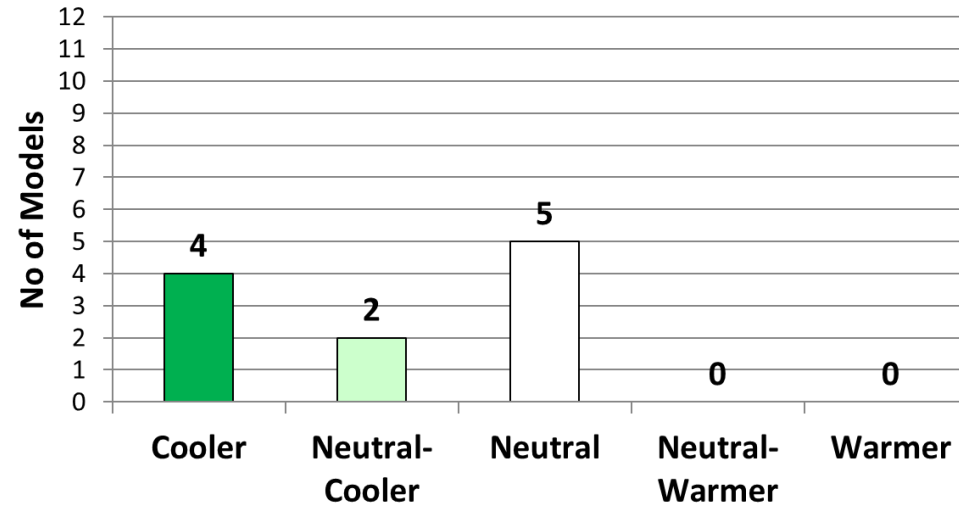
Temperature- Neutral/cooler



Model Distribution Summary for Sth Australia Rainfall July-September 2022



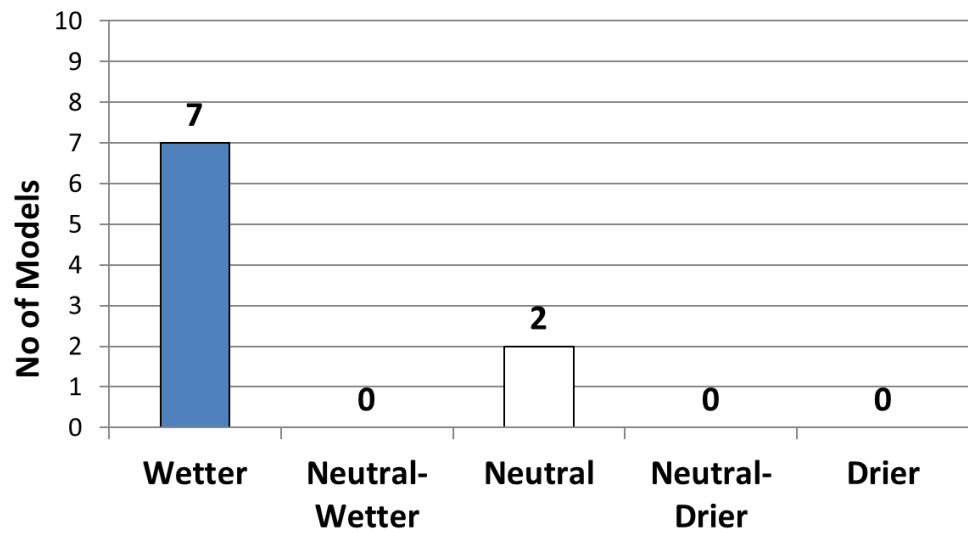
Model Distribution Summary for Sth Australia Temp July-September 2022



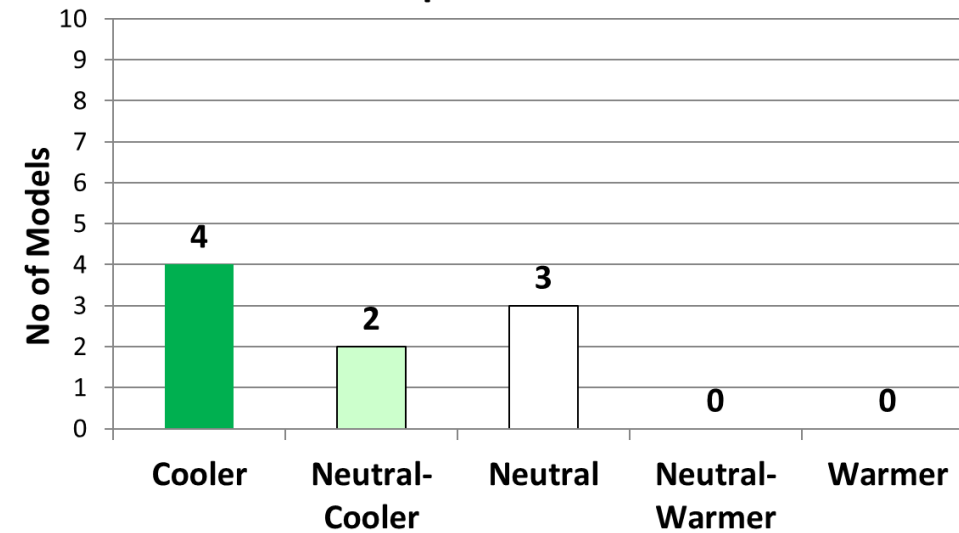
Rainfall- Wetter

Temperature- Cooler/neutral

Model Distribution Summary for Sth Australia Rainfall Oct-Dec 2022



Model Distribution Summary for Sth Australia Temperature Oct-Dec 2022

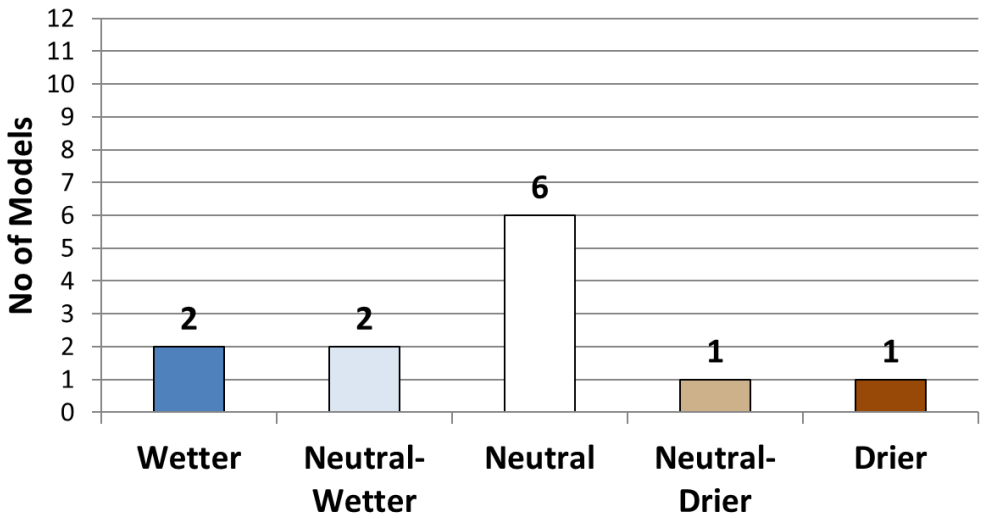


Rainfall- Mixed

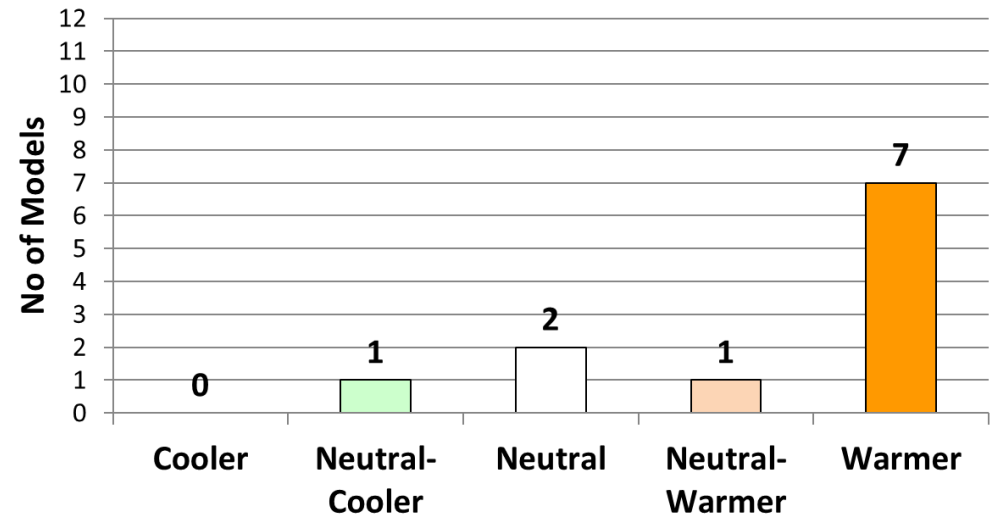
Temperature- Warmer



Model Distribution Summary for Tasmanian Rainfall July-September 2022



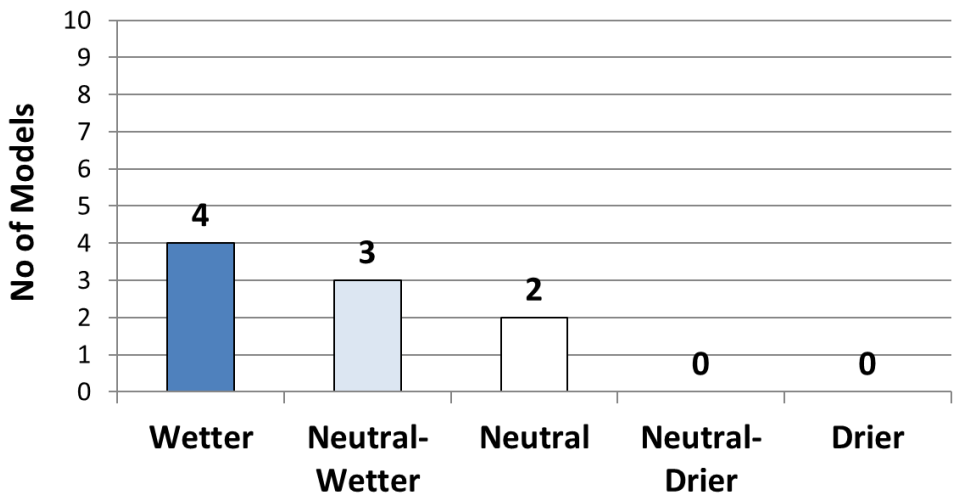
Model Distribution Summary for Tasmanian Temperature July-September 2022



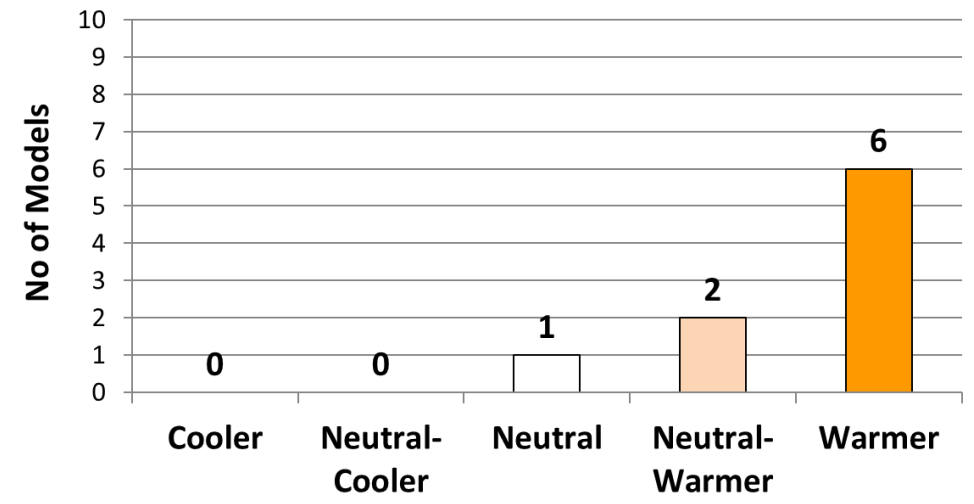
Rainfall- Wetter/Neutral

Temperature- Warmer

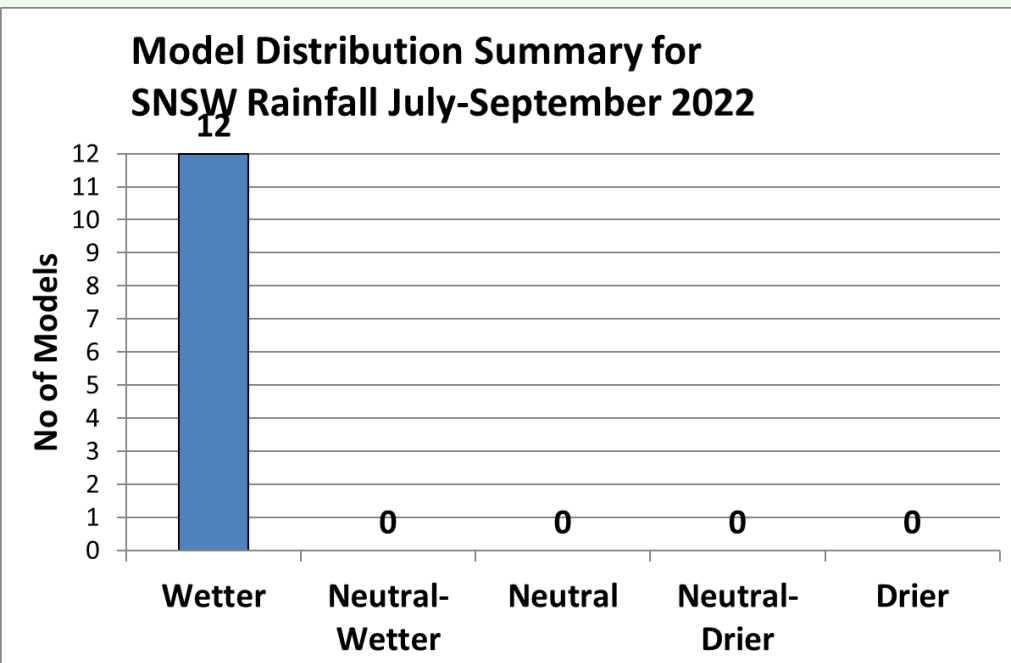
Model Distribution Summary for Tasmanian Rainfall Oct-Dec 2022



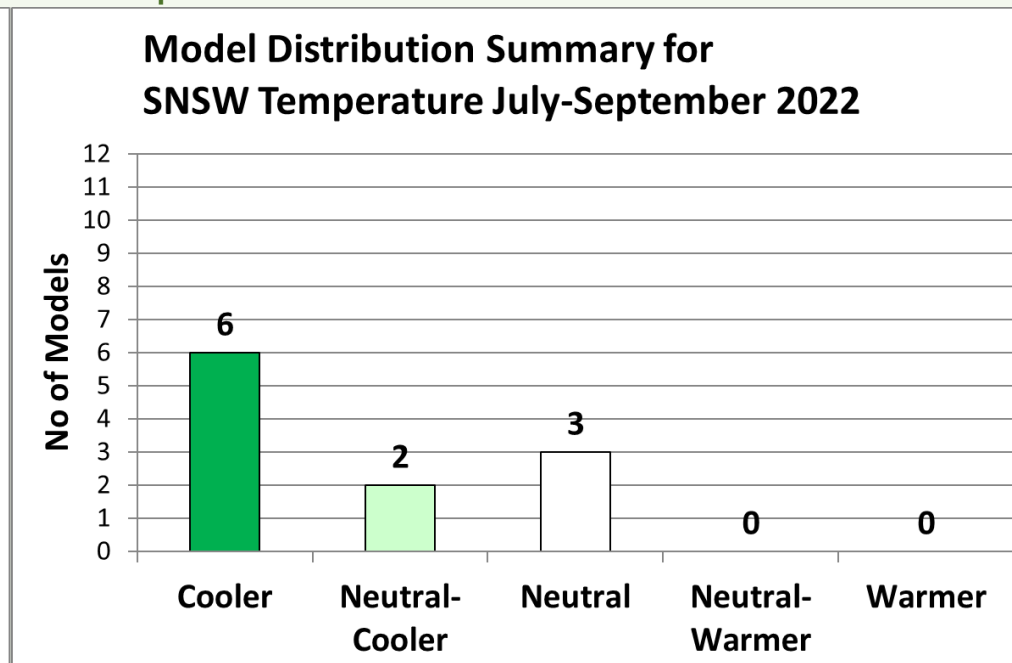
Model Distribution Summary for Tasmanian Temperature Oct-Dec 2022



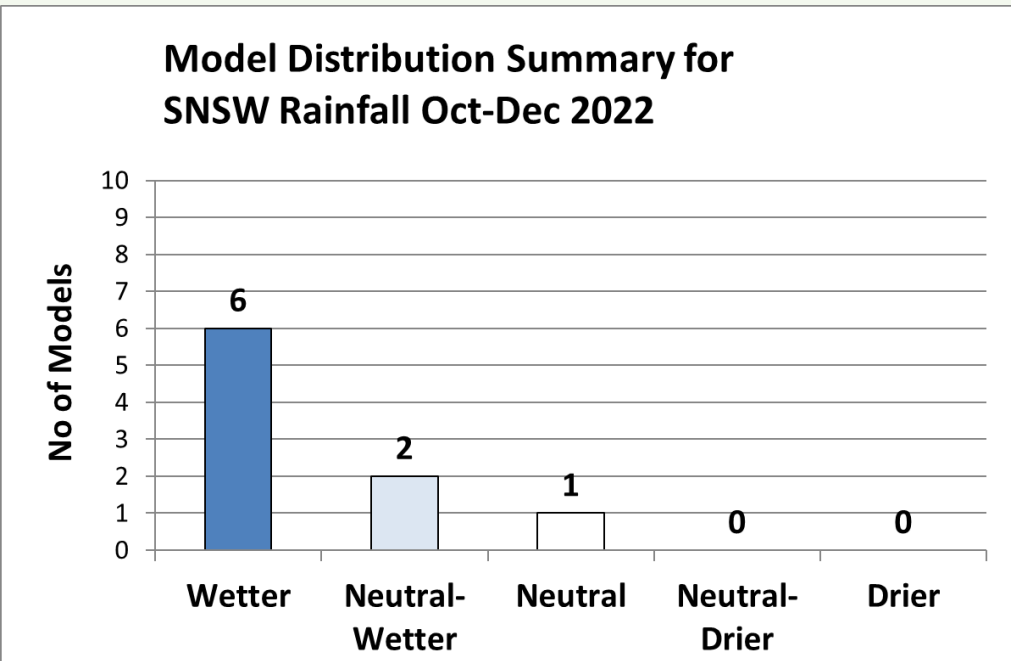
Rainfall- Wetter



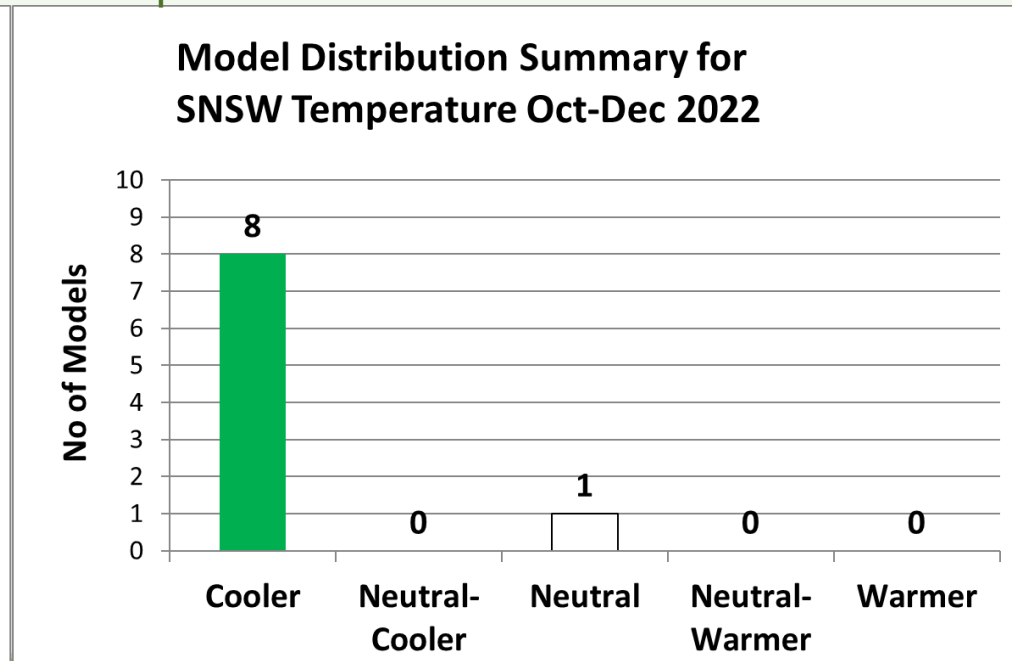
Temperature- Cooler



Rainfall- Wetter



Temperature- Cooler



In a Nut Shell



- Water to the north is warmer.
- The Pacific Ocean third La Niña looks some time away.
- Atmospherically it's still a La Niña.
- Indian Ocean now –IOD at surface and below.
- Atmospherically not –IOD yet.
- Plenty of wetter forecasts but July looks drier.
- Model skill becoming as good as it gets.



Dhurbo Coast, Somalia

Pangang Island, West Sumatra



My Rain Gauge is Busted
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That's all Folks

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