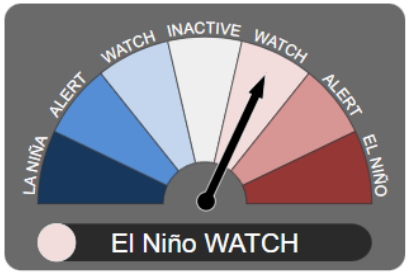
ENSO update - OCOF 188

18 May 2023

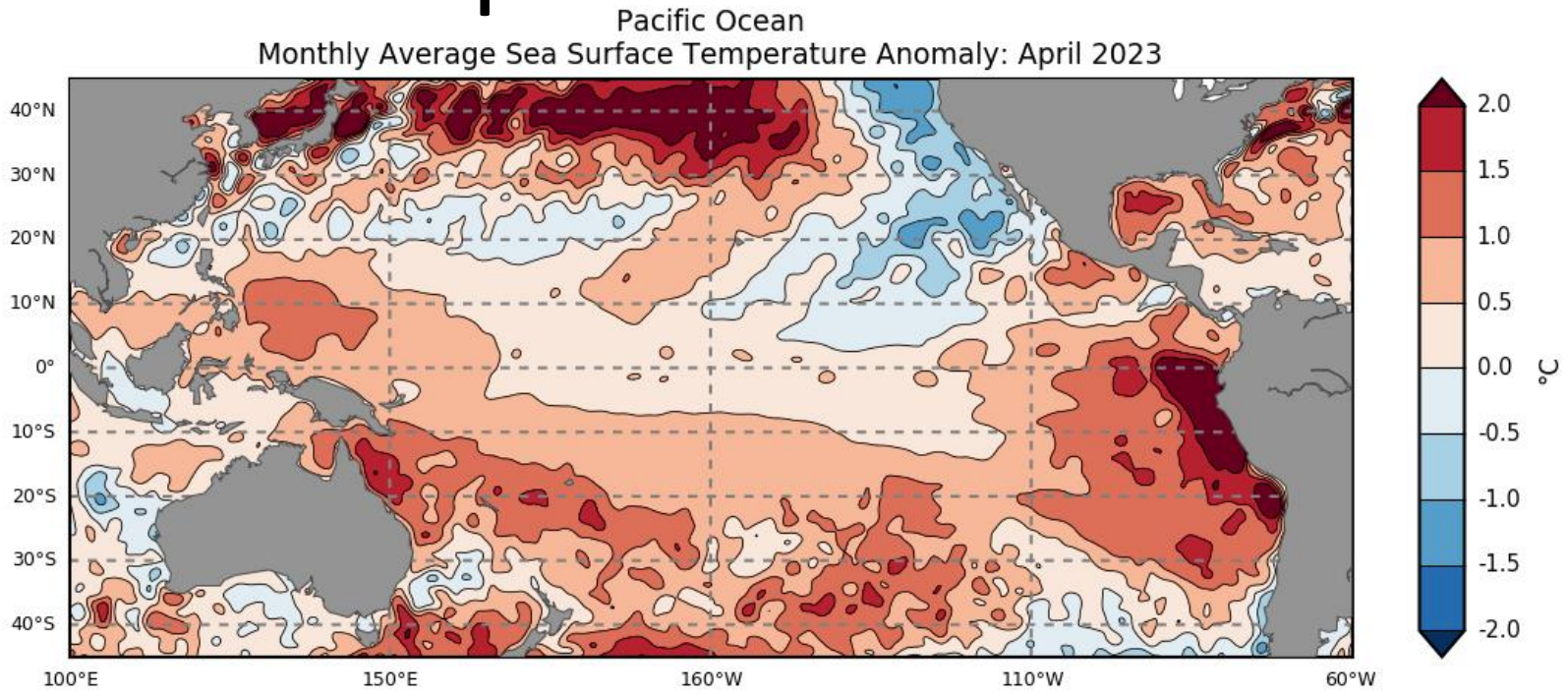
ENSO Update

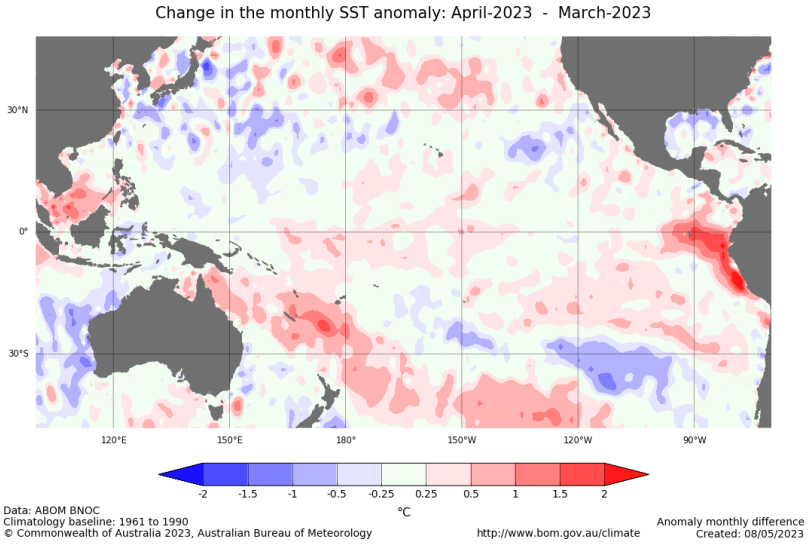


El Niño WATCH continues

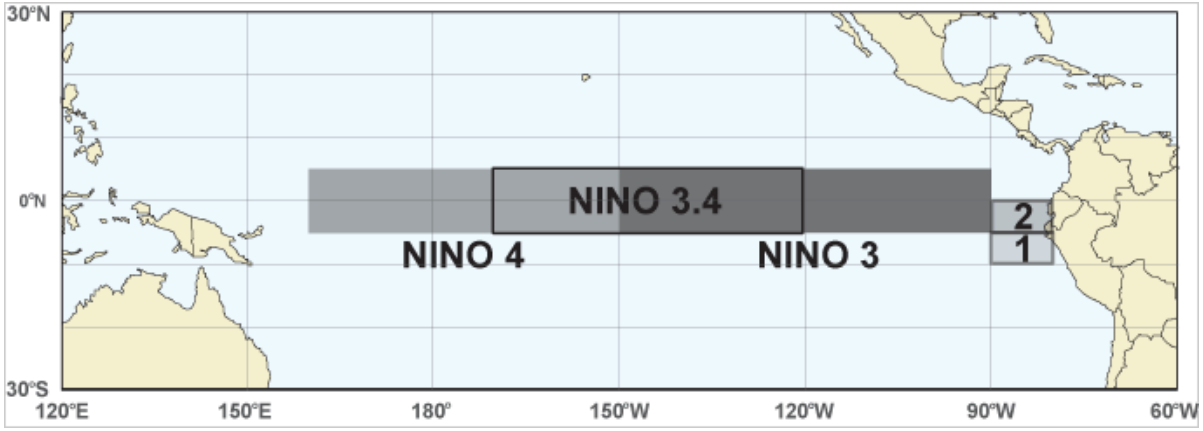
- The El Niño–Southern Oscillation (ENSO) is currently neutral (neither La Niña nor El Niño).
- The Bureau's ENSO Outlook is at El Niño WATCH. An El Niño WATCH is not a guarantee that El Niño will occur, rather it is an indication that some of the typical precursors of an event are currently observed. An El Niño WATCH means that there is around a 50% chance that El Niño will develop. This is about twice the normal likelihood of El Niño forming in any year.
- International climate models suggest further warming of the central and eastern tropical Pacific Ocean is likely. From July, six of the seven models indicate El Niño thresholds for sea surface temperatures will be met or exceeded, with all models meeting thresholds by August.

April 2023 SSTs





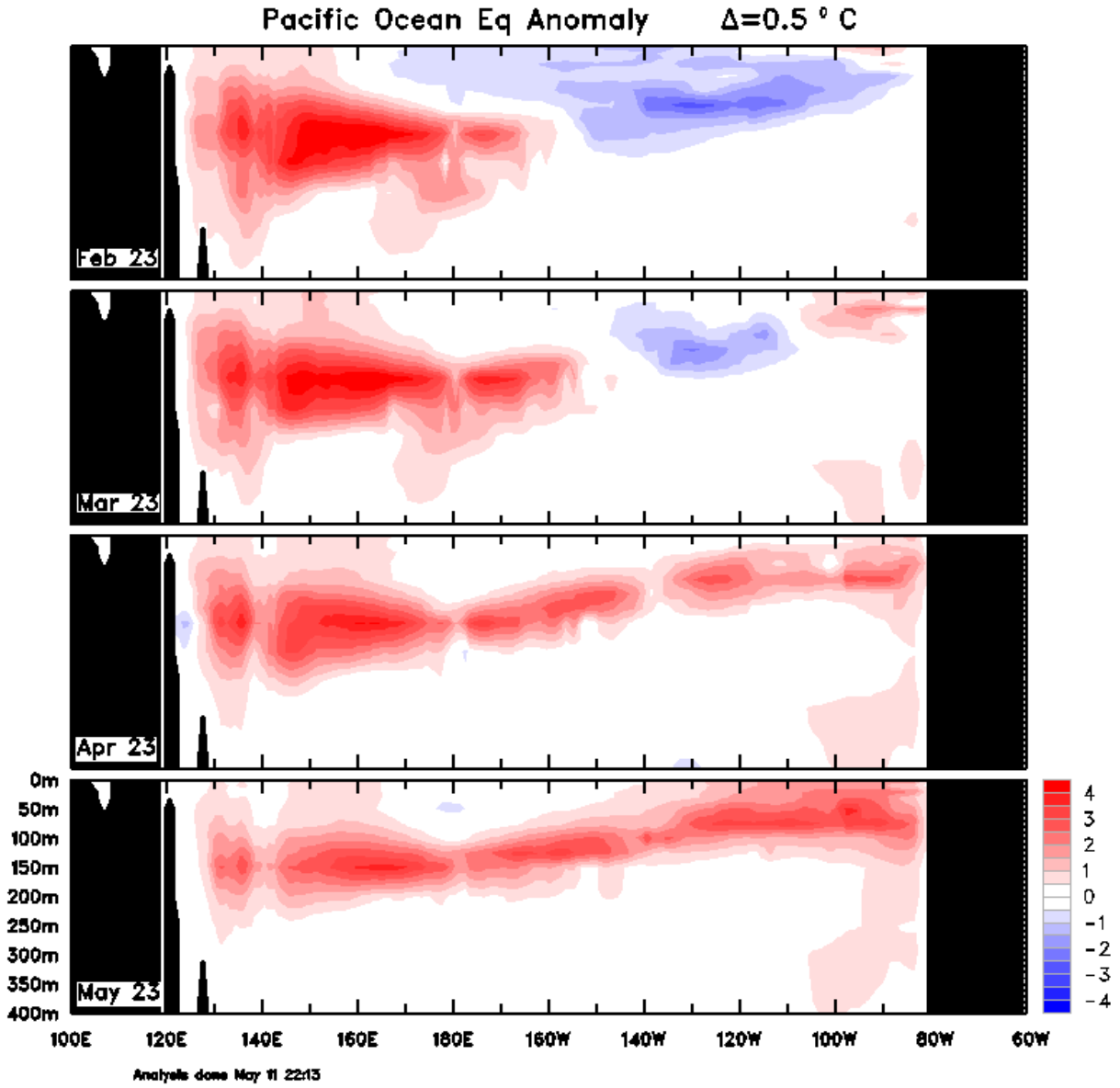
NINO INDICES SST anomalies (°C)



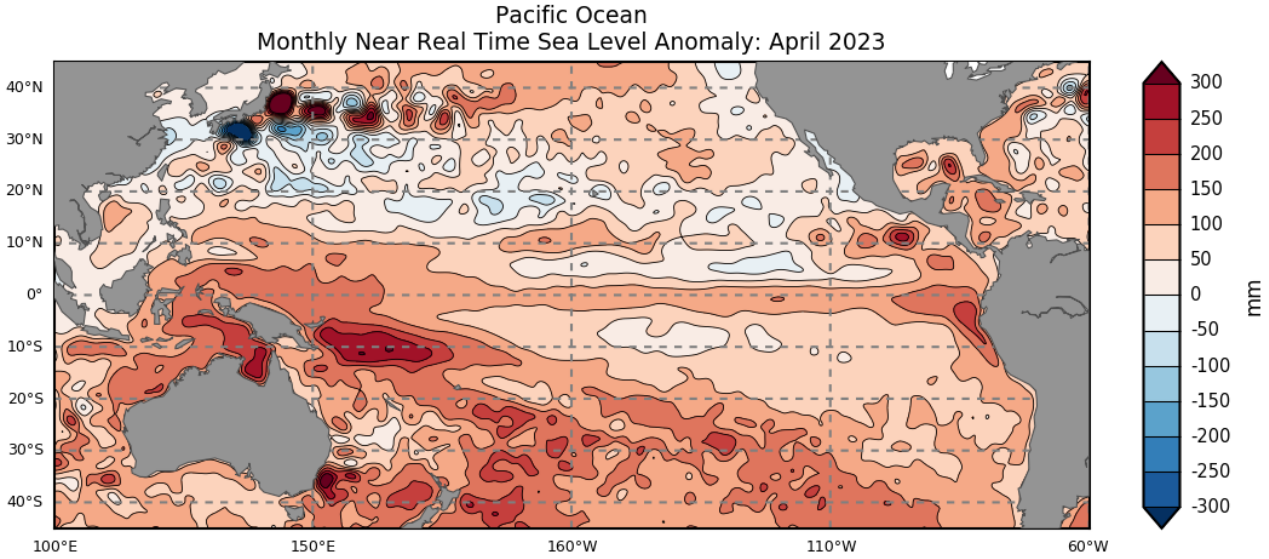
Index	Mar 2023	Apr 2023	Latest weekly
NINO3	+0.5	+0.7	+1.1
NINO3.4	+0.1	+0.3	+0.6
NINO4	0.0	+0.3	+0.4

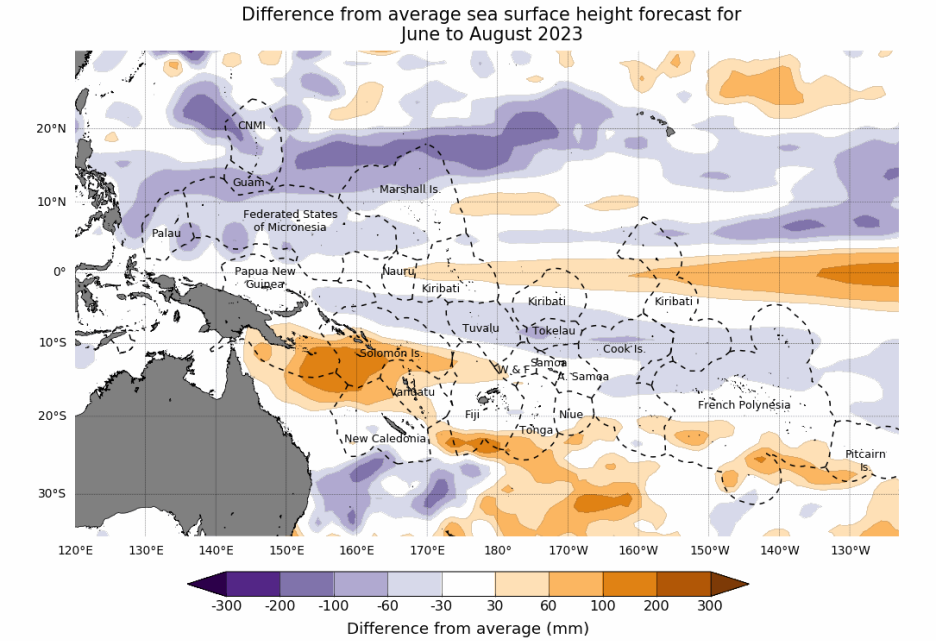
Weekly data for the week ending 14/05/2023

Equatorial Pacific sub-surface profile
Bureau of Meteorology



April 2023 Sea Level Anomaly

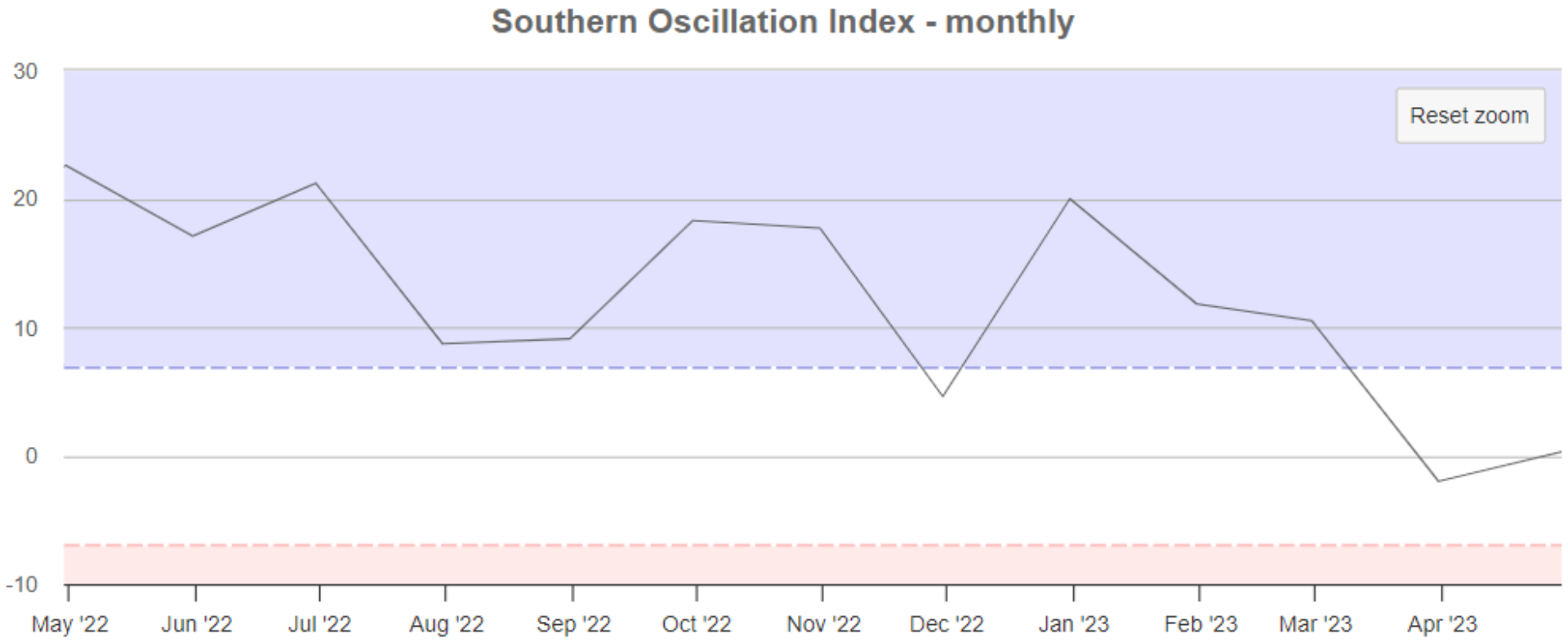




Base period: 1981-2018
Model: ACCESS-S2
Model run: 08/05/2023
Issued: 10/05/2023

Shapefile data extracted from Flanders Marine Institute (2019), Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (200NM), version 11. Available online at http://www.marineregions.org/.

Southern Oscillation Index

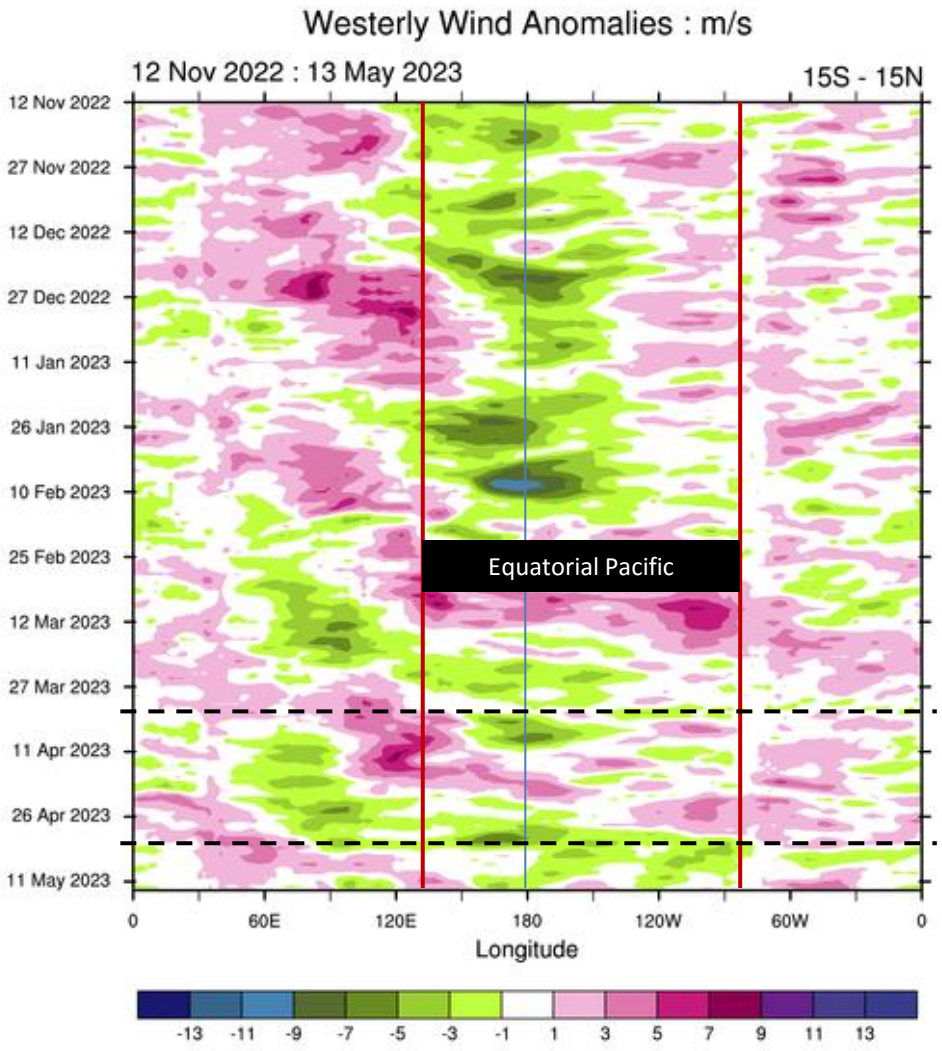


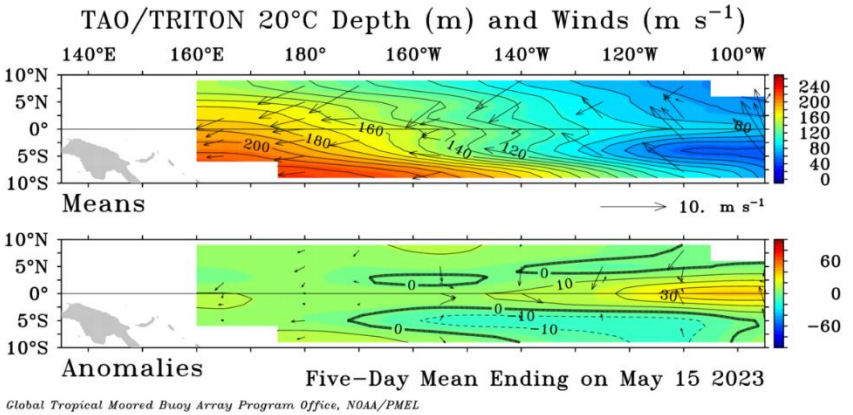
Southern Oscillation Index monthly data

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2023	+11.8	+10.5	−2.0	+0.3	-	-	-	-	-	-	-	-
2022	+4.1	+8.2	+13.8	+22.6	+17.1	+21.2	+8.7	+9.1	+18.3	+17.7	+4.6	+20.0

At 15 May 2023: 30-day SOI = –6; 90-day SOI = –1

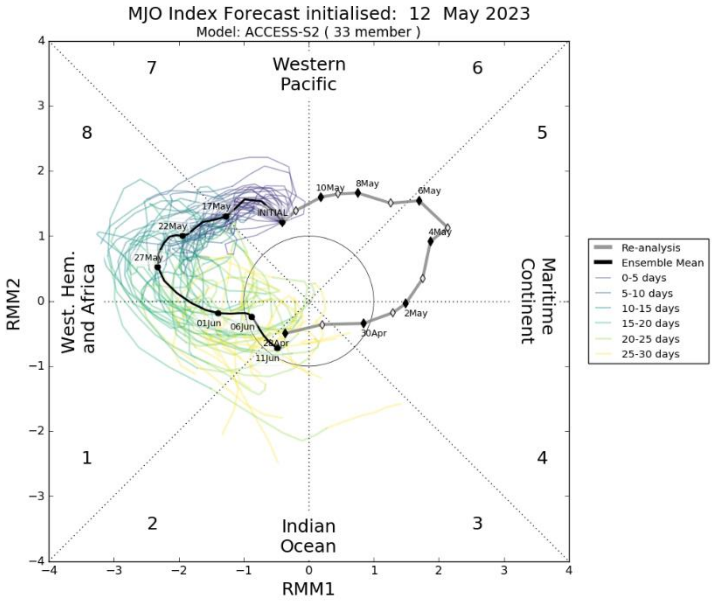
Equatorial Trade Winds

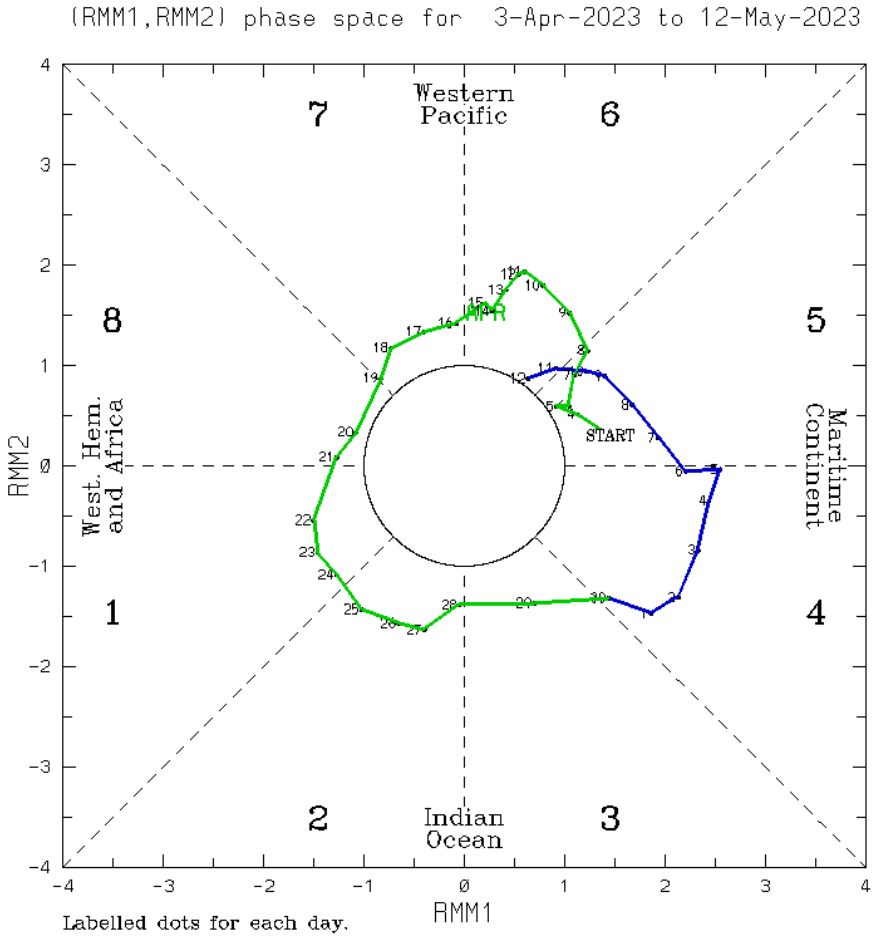




Madden-Julian Oscillation

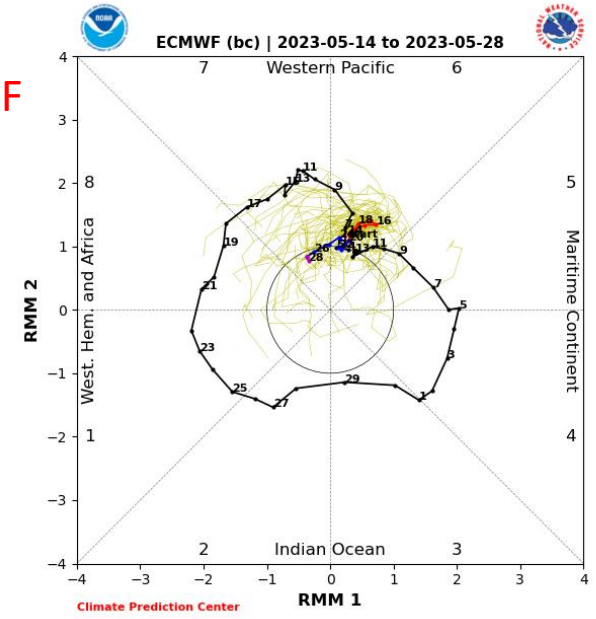
ACCESS



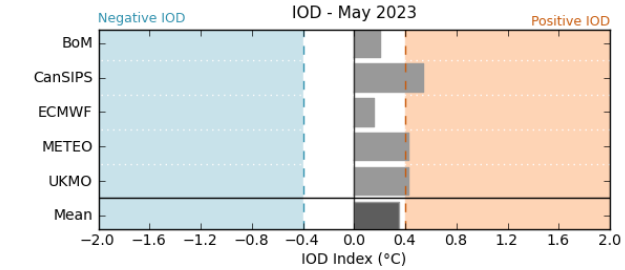


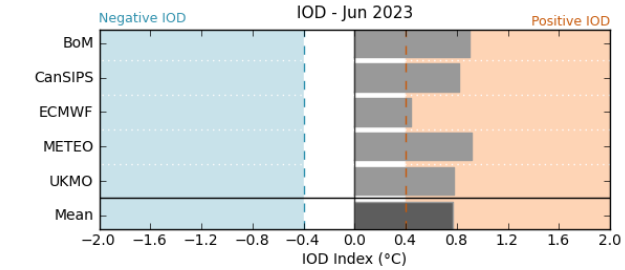
2023

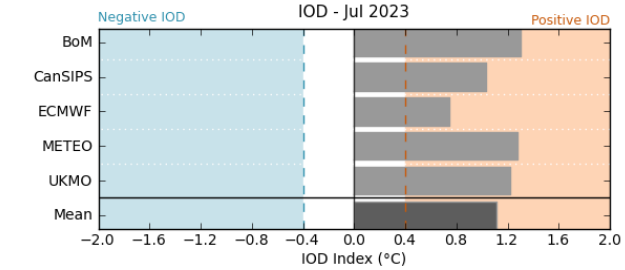
ECMWF

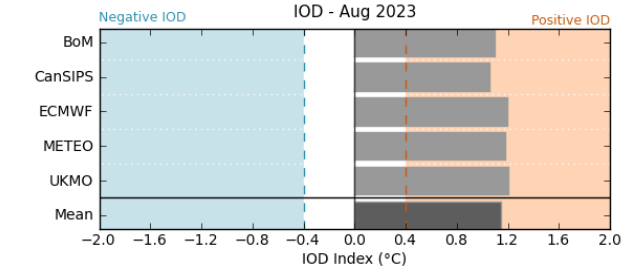


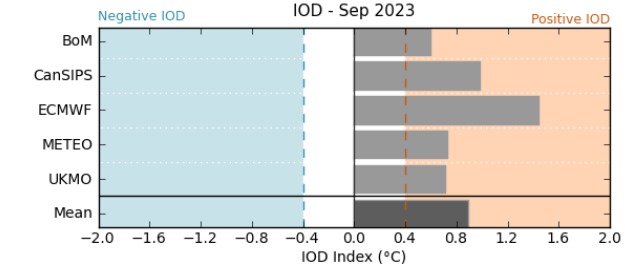
Indian Ocean Dipole (IOD)



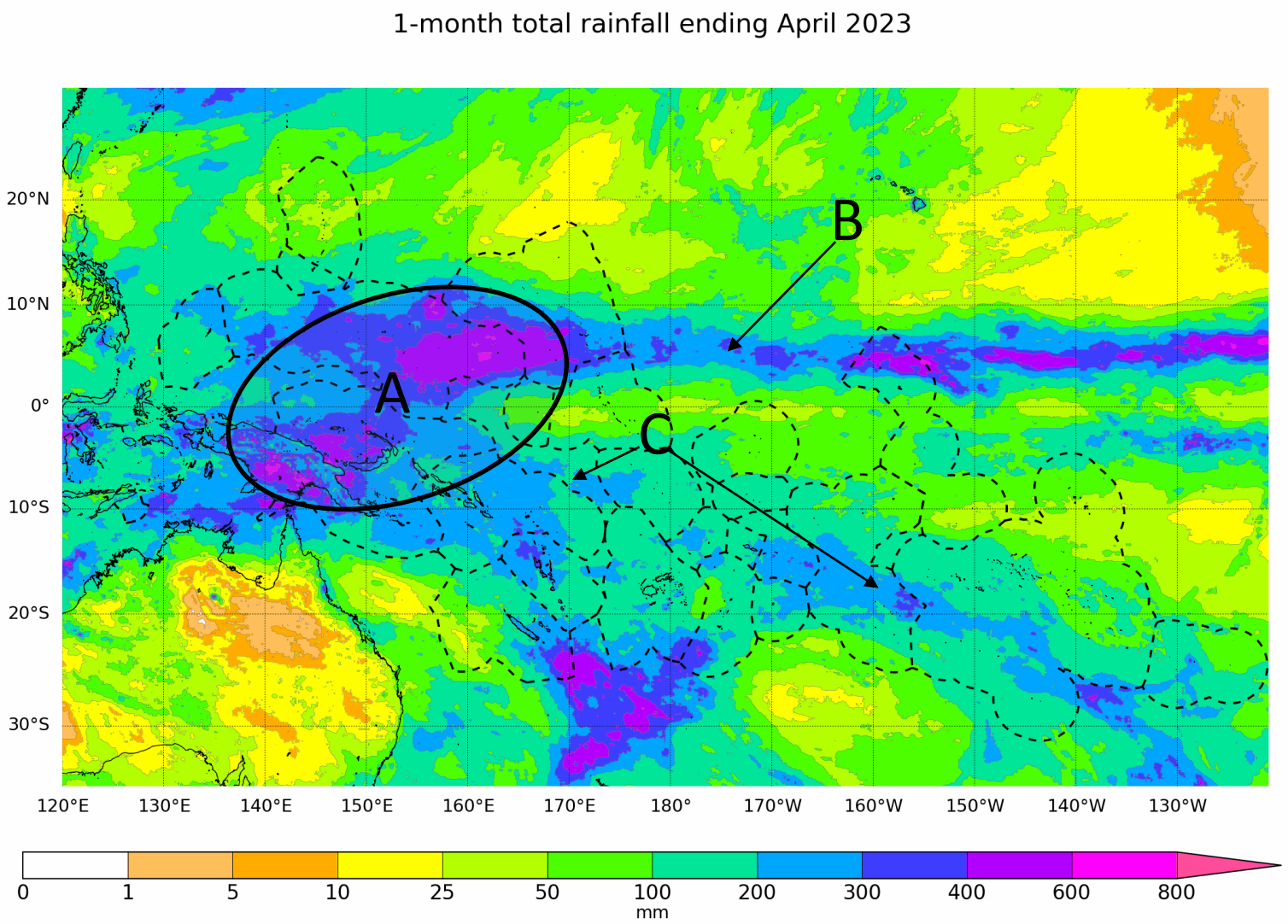








Satellite Rainfall April 2023

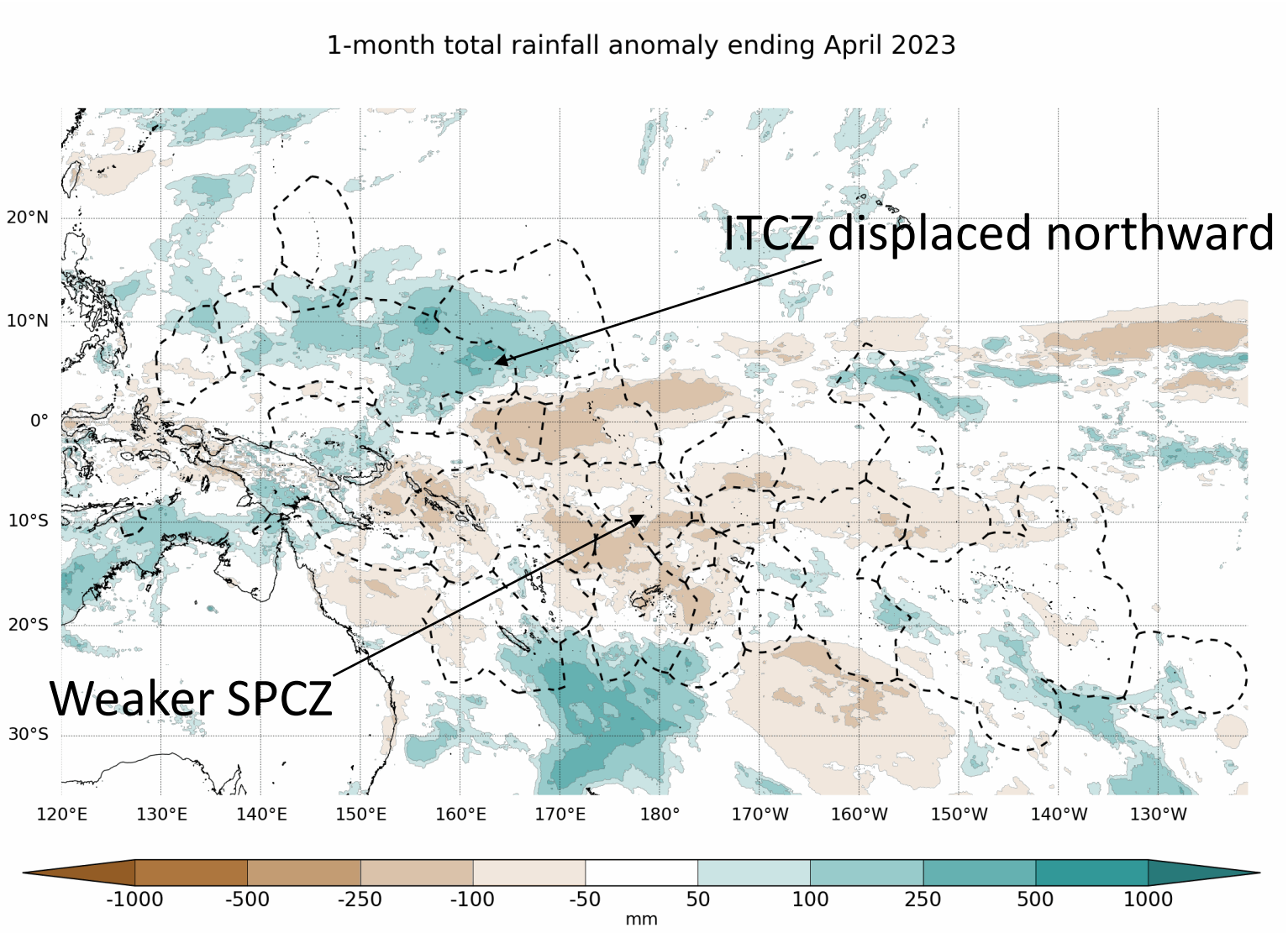


Data source: MSWEP

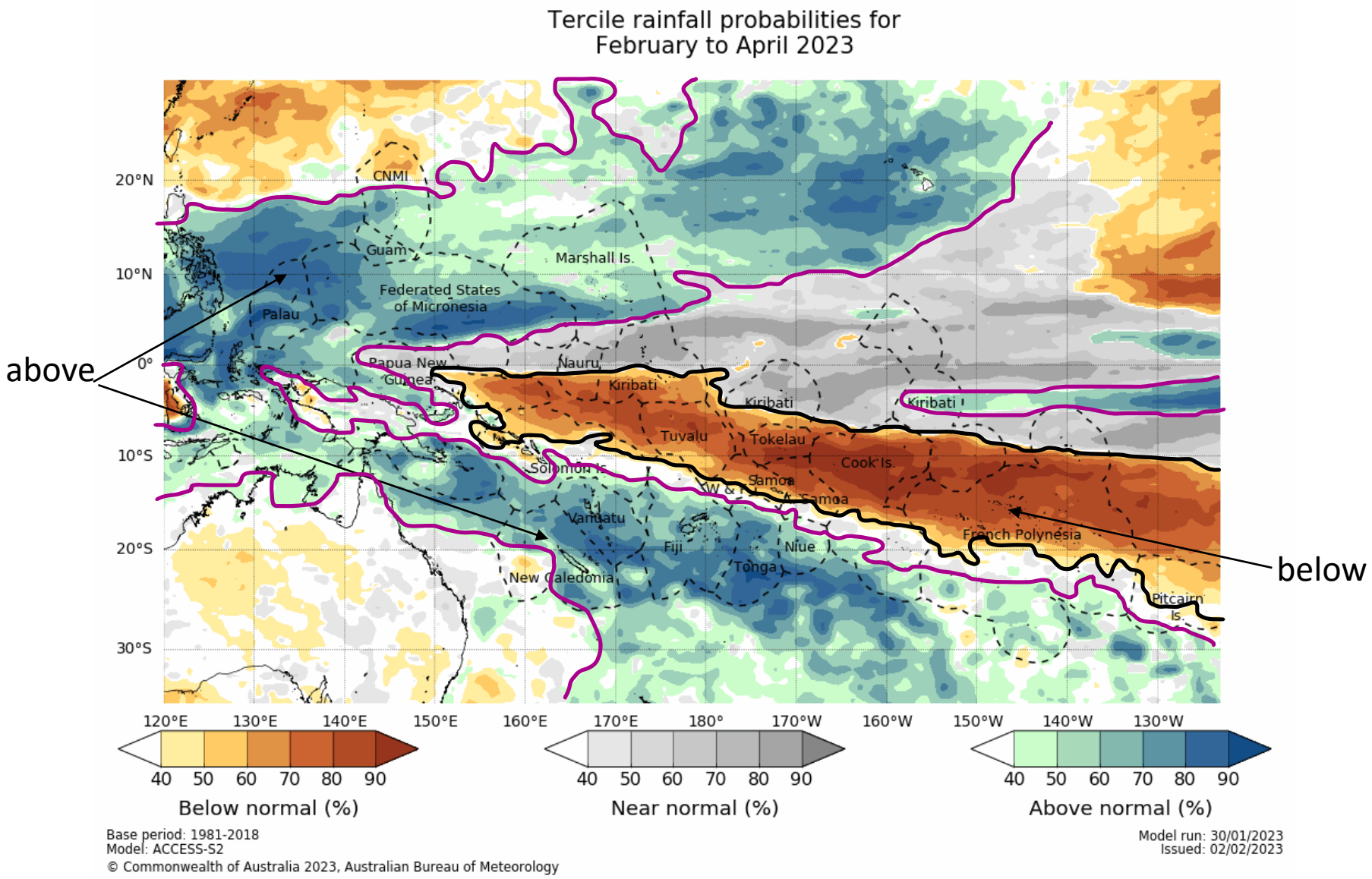
Run: 07/05/2023

Shapefile data extracted from Flanders Marine Institute (2019), Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (200NM), version 11. Available online at http://www.marineregions.org/.

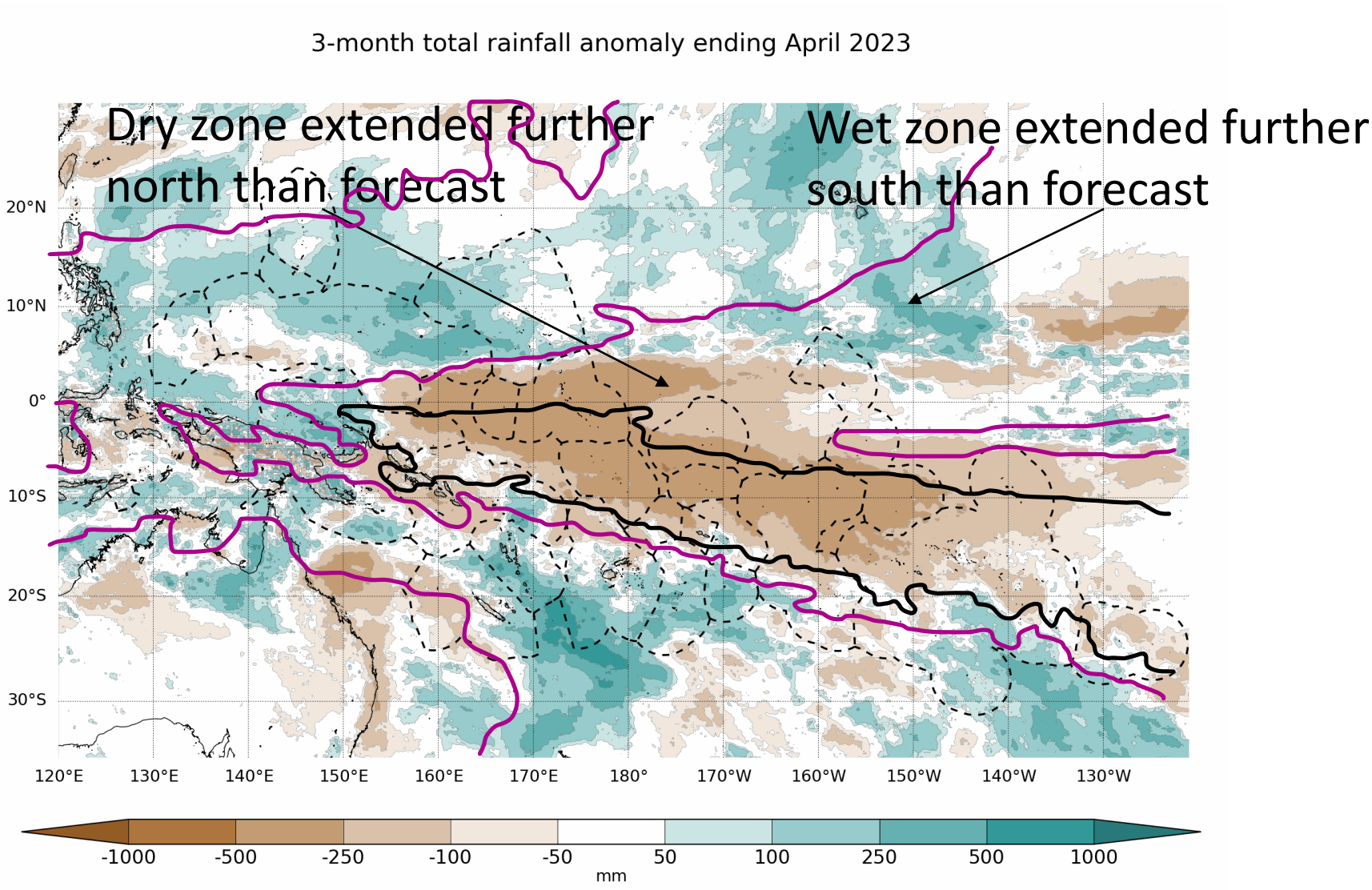
Satellite Rainfall Anomaly April 2023



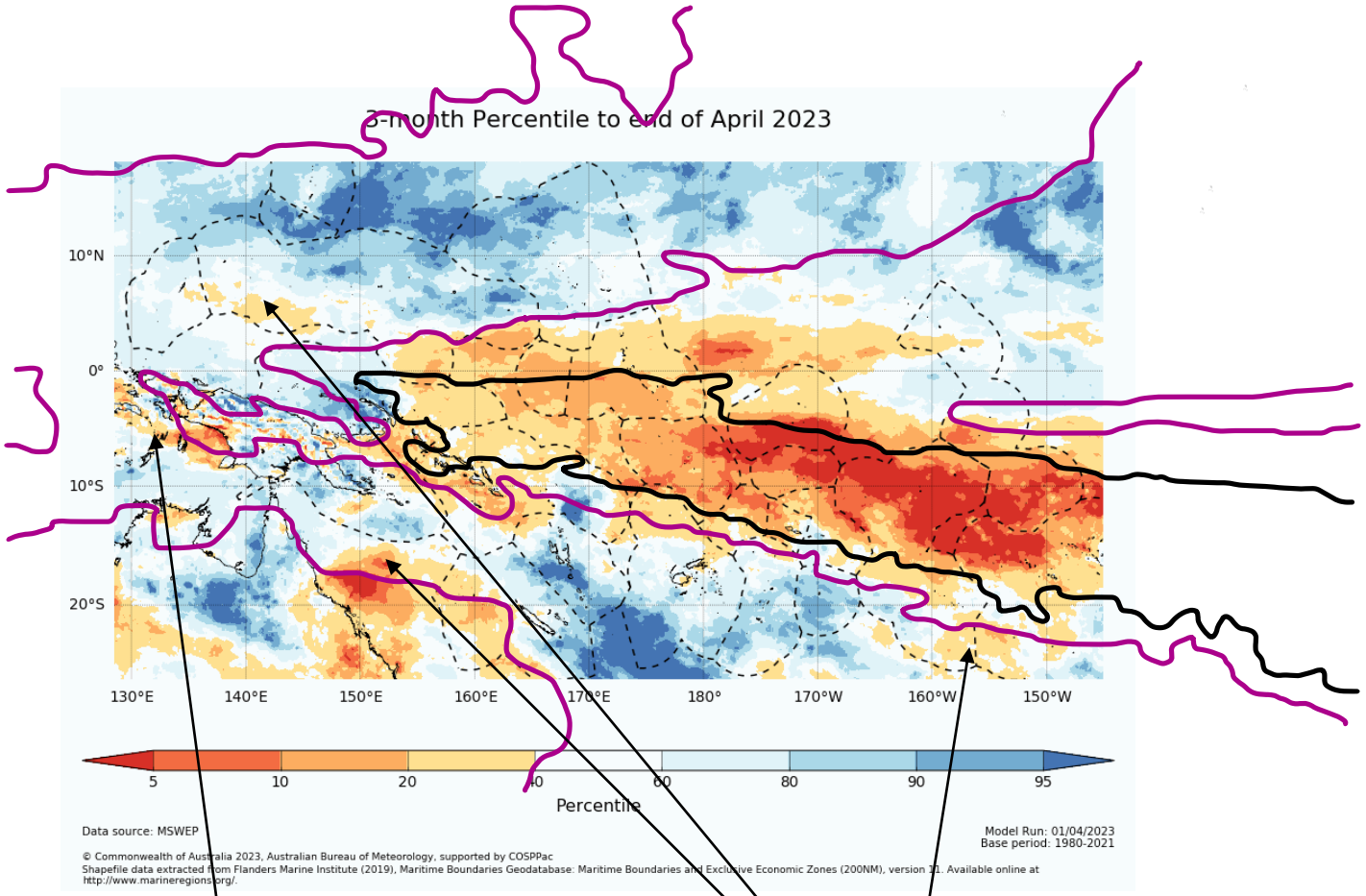
Forecast Verification: Feb-Apr



Forecast Verification: Feb-Apr

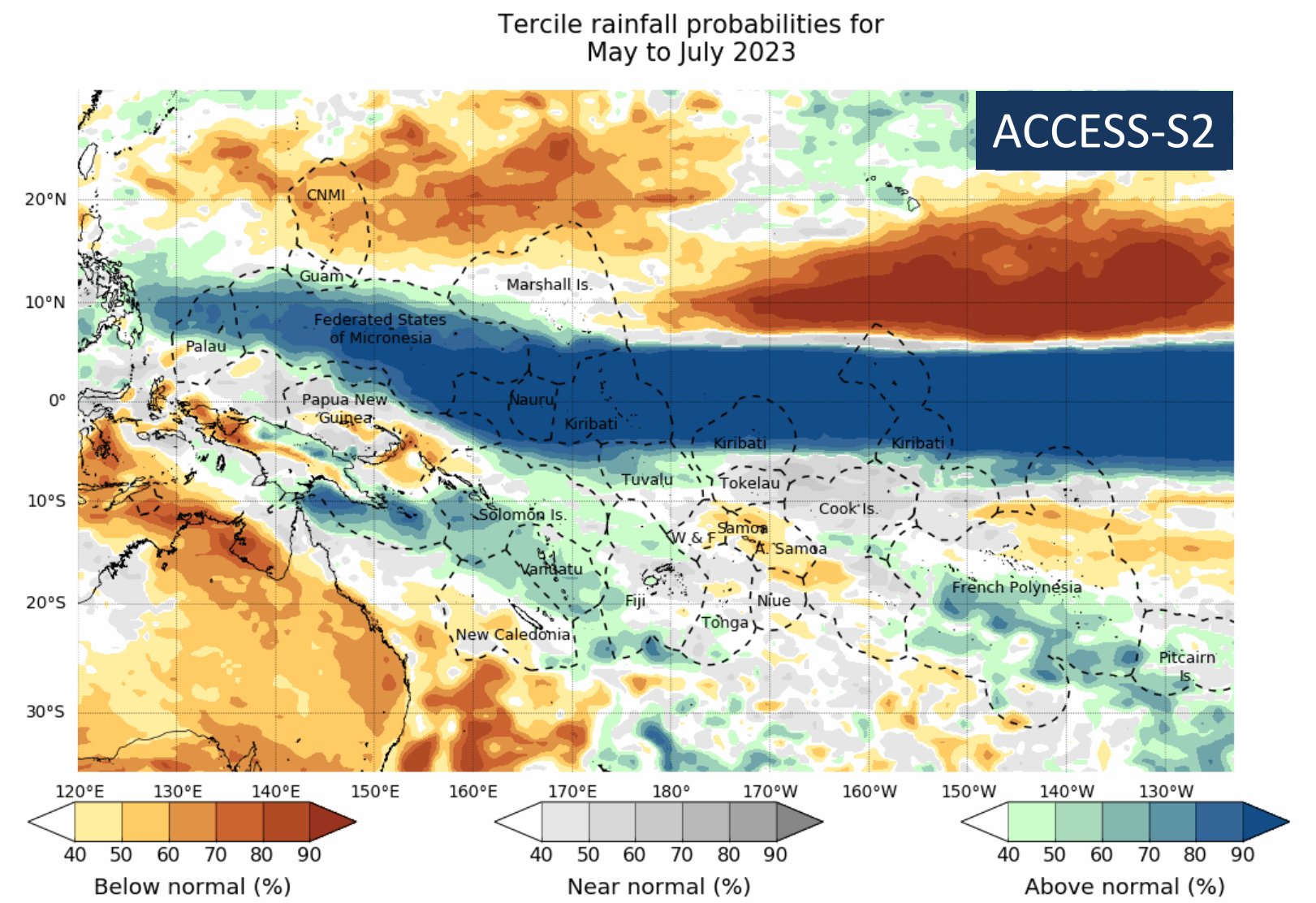


Forecast Verification: Feb-Apr



Below average patches where above average was favoured

Model Rainfall Predictions (MJJ)

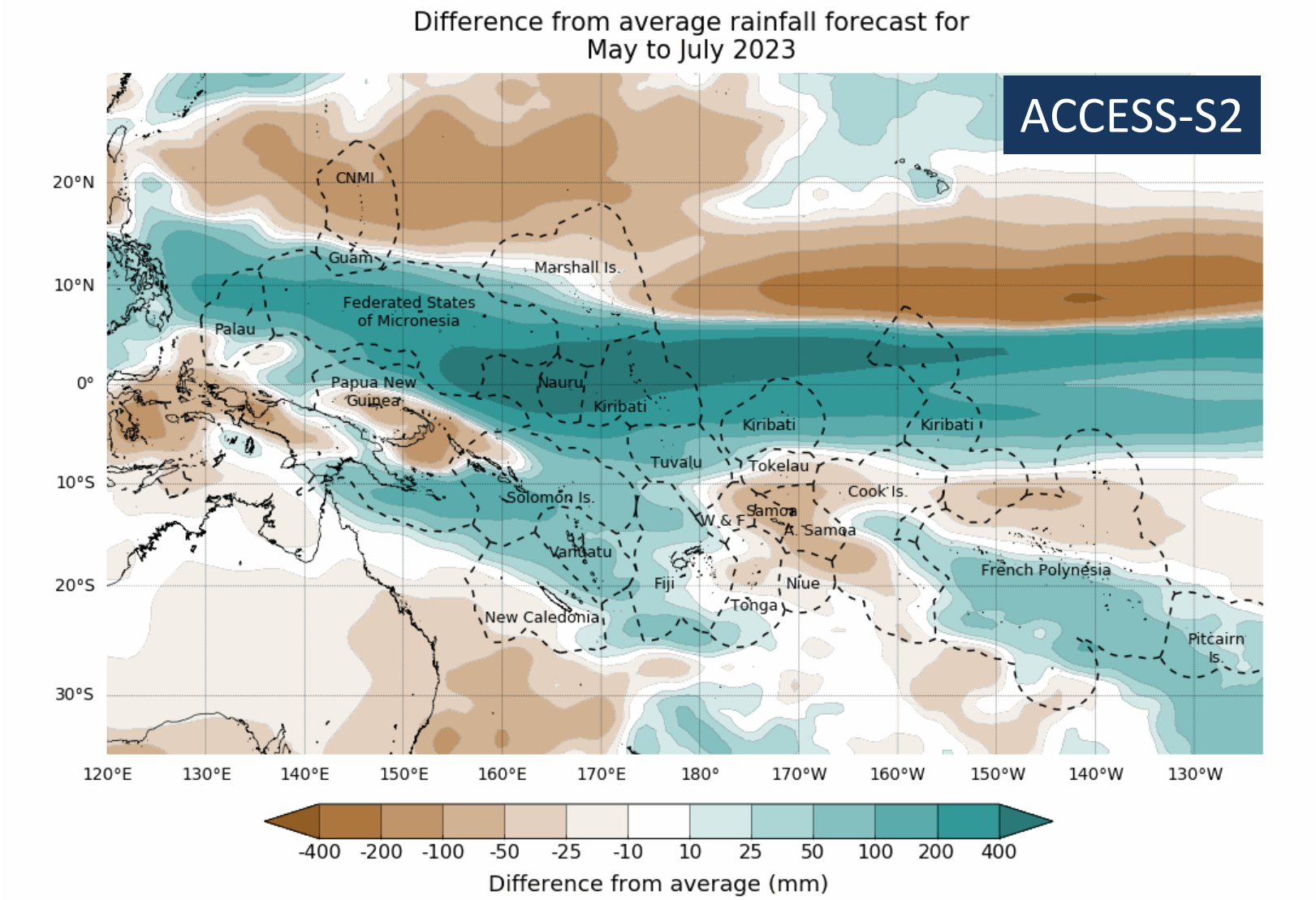


Base period: 1981-2018
Model: ACCESS-S2

Model run: 01/05/2023
Issued: 04/05/2023

Shapefile data extracted from Flanders Marine Institute (2019), Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (200NM), version 11. Available online at http://www.marineregions.org/.

Difference from Average (MJJ)

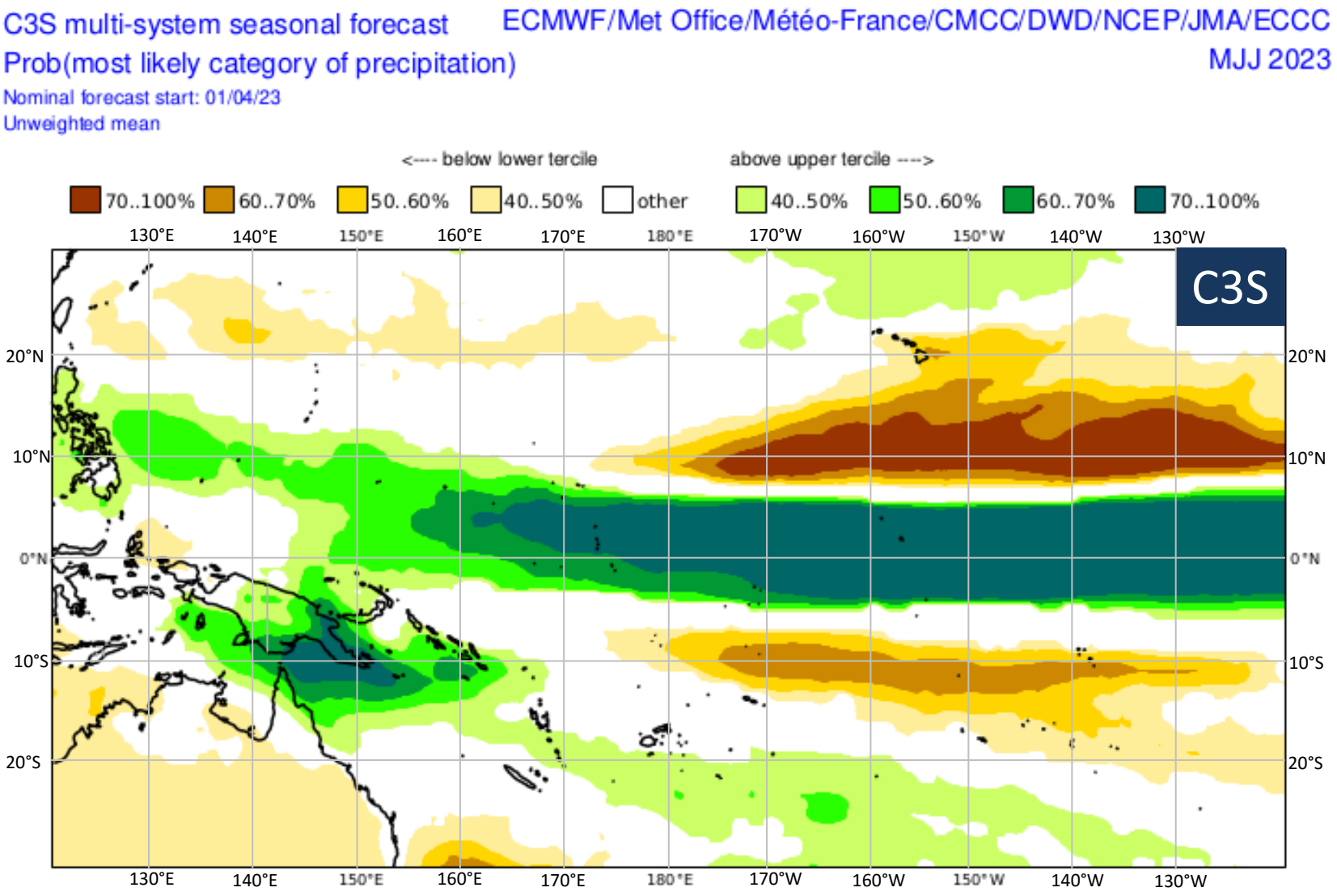


Base period: 1981-2018
Model: ACCESS-S2

Model run: 01/05/2023
Issued: 04/05/2023

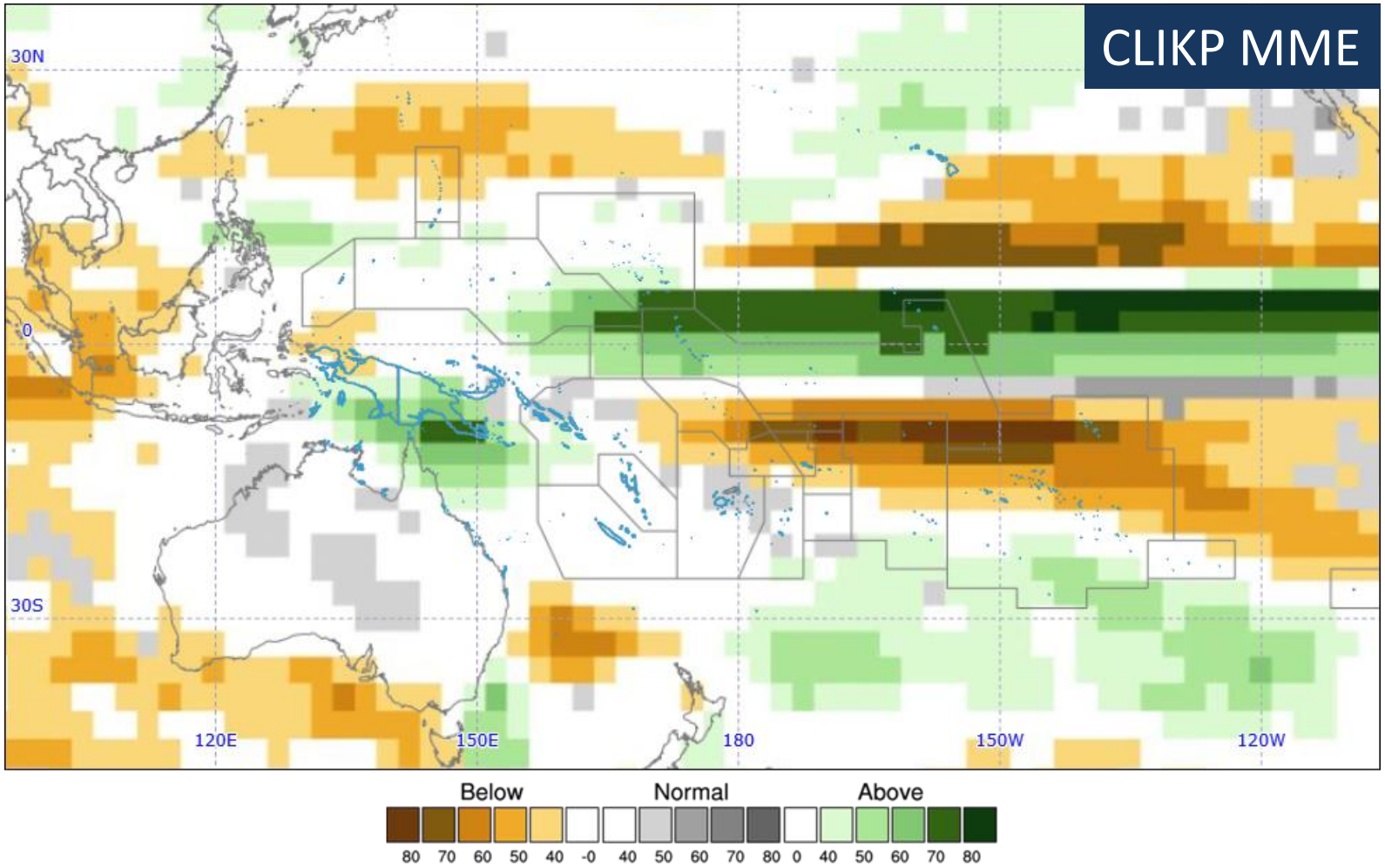
Shapefile data extracted from Flanders Marine Institute (2019), Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (200NM), version 11. Available online at http://www.marineregions.org/.

Model Rainfall Predictions (MJJ)



Climate Change Service
climate.copernicus.eu

Model Rainfall Predictions (MJJ)



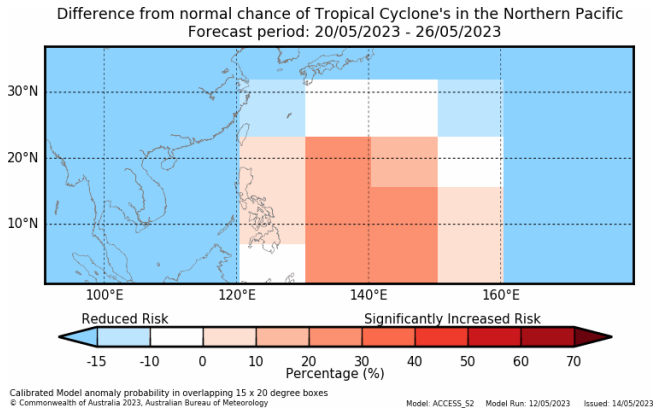
Model Rainfall Predictions (MJJ)

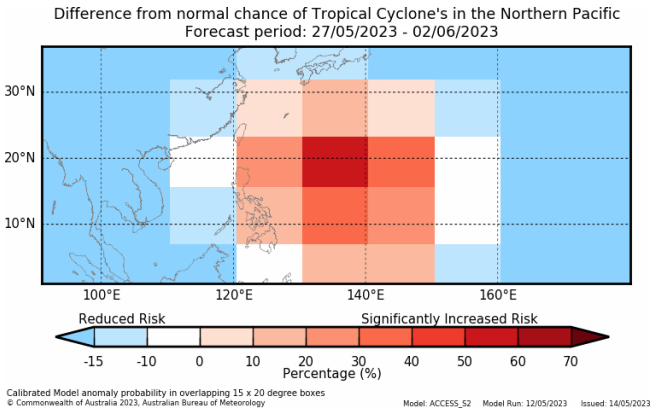
May to July 2023	ACCESS-S	C3S	CLIKP
Cook Is North			
Cook Is South			
Fiji West			
Fiji Central			
Fiji East			
Fiji North			
Fiji Rotuma			
FSM West			
FSM Central			
FSM East			
Kiribati West			
Kiribati Central			
Kiribati East			
RMI North			
RMI Central			
RMI South			
Nauru			
Niue			
Palau			
PNG Momase			
PNG Is			
PNG South			
PNG Highlands			
Samoa			
Solomon Is West			
Solomon Is Central			
Solomon Is East			
Tonga North			
Tonga Central			
Tonga South			
Tuvalu North			
Tuvalu Central			
Tuvalu South			
Vanuatu North			
Vanuatu South			

	41-50%	51-60%	61-70%	71-80%	81-90%	>90%
Below normal						
Near-normal						
Above normal						

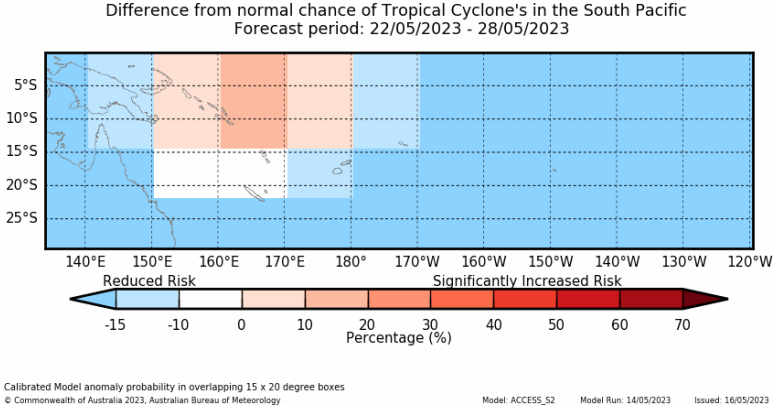
TC Outlooks

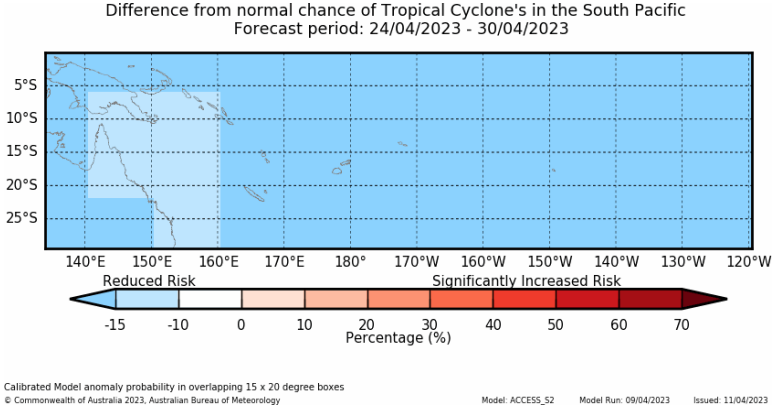
Northwest Pacific



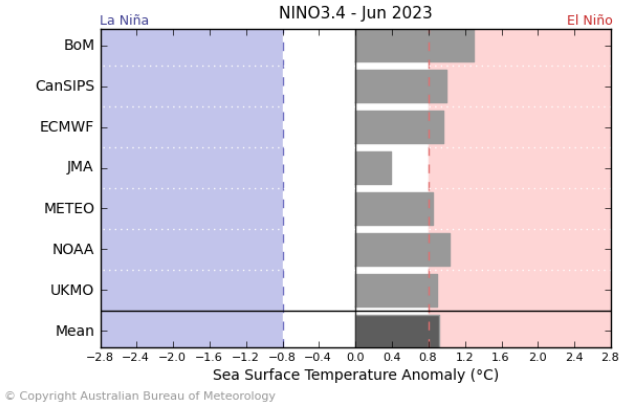


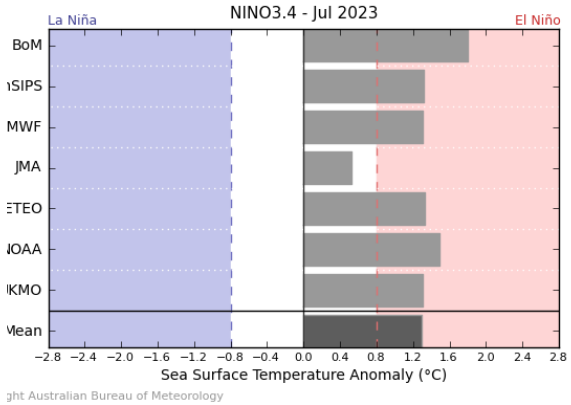
South Pacific

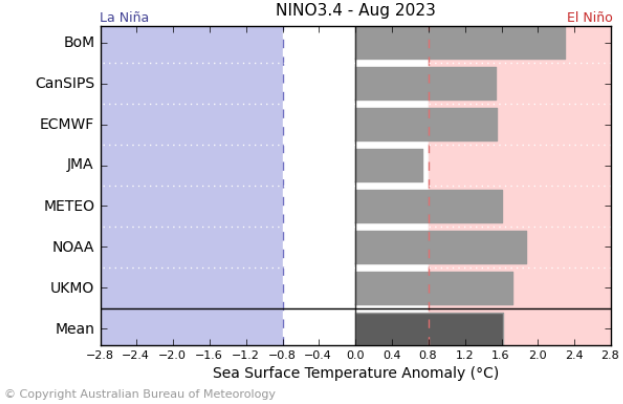


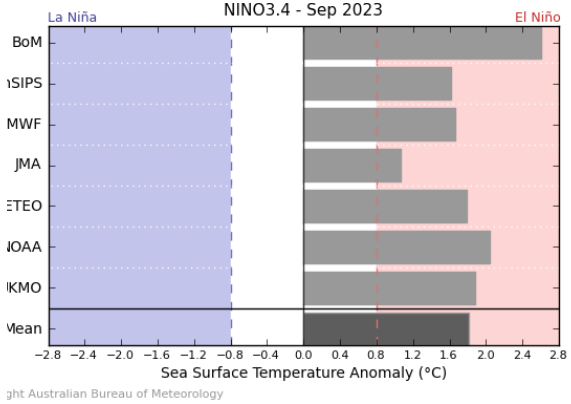


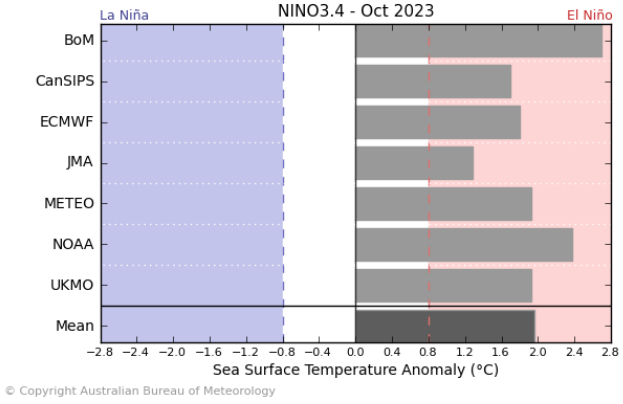
Climate Model Summary











IRI Climate Model Summary