

ENSO update - OCOF 178

20 July 2022

ENSO Update

Negative Indian Ocean Dipole likely; La Niña WATCH remains

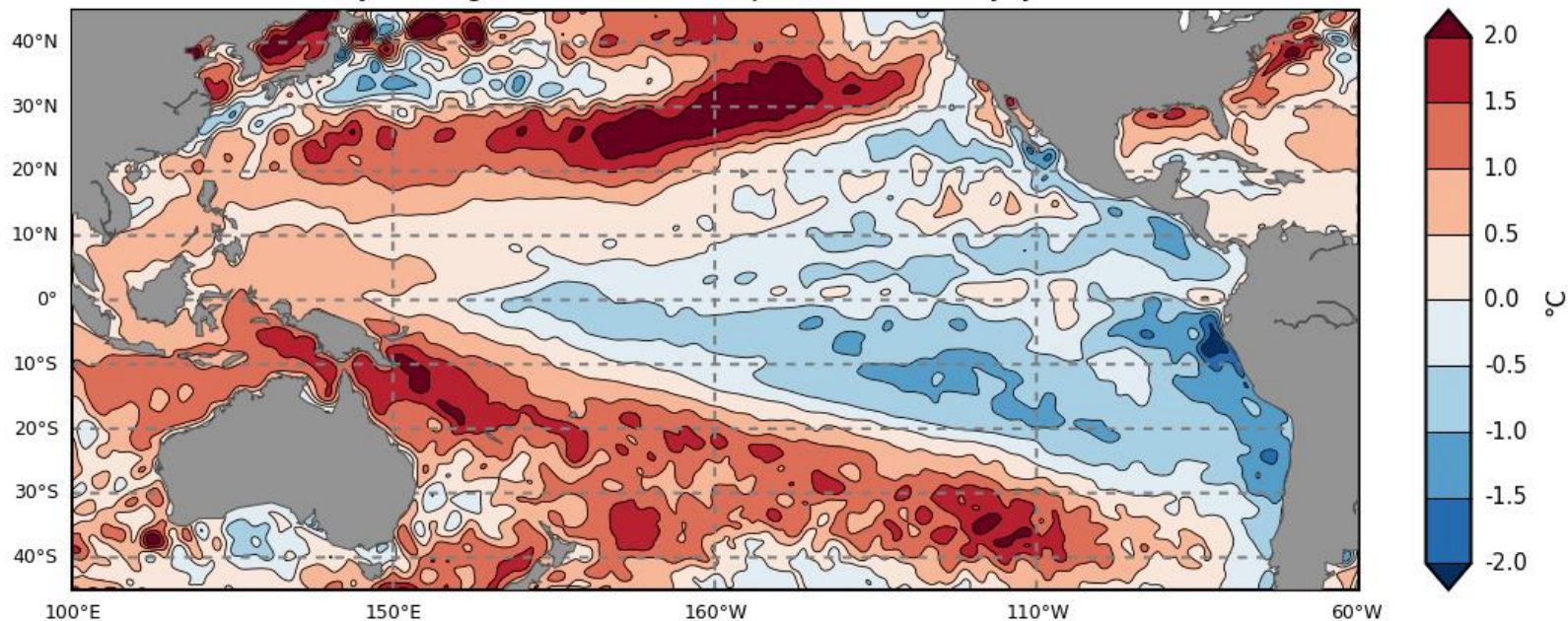


- The 2021–22 La Niña event has ended. However, observations and climate model outlooks suggest La Niña may re-form later in 2022. So the ENSO status has been moved to **La Niña WATCH**.
- El Niño–Southern Oscillation (ENSO) ocean indicators are at neutral levels. However, some atmospheric indicators, such as the Southern Oscillation Index, show a residual La Niña-like signal. Trade winds have recently re-strengthened in the central to western Pacific, partially in response to Madden–Julian Oscillation (MJO) activity.
- Most climate models surveyed by the Bureau indicate ENSO is likely to remain neutral through the southern hemisphere winter. But four of the seven models surveyed by the Bureau suggest La Niña could return in spring, with three models persisting at neutral ENSO levels.

June 2022 SSTs

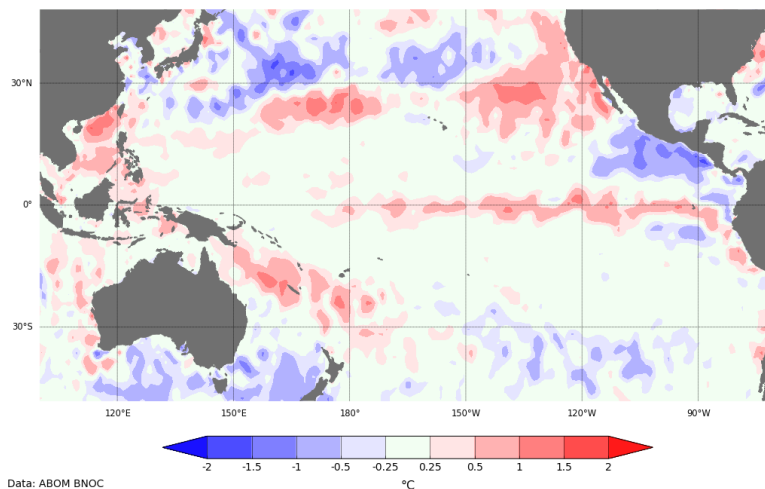
Pacific Ocean

Monthly Average Sea Surface Temperature Anomaly: June 2022



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Change in the monthly SST anomaly: June-2022 - May-2022

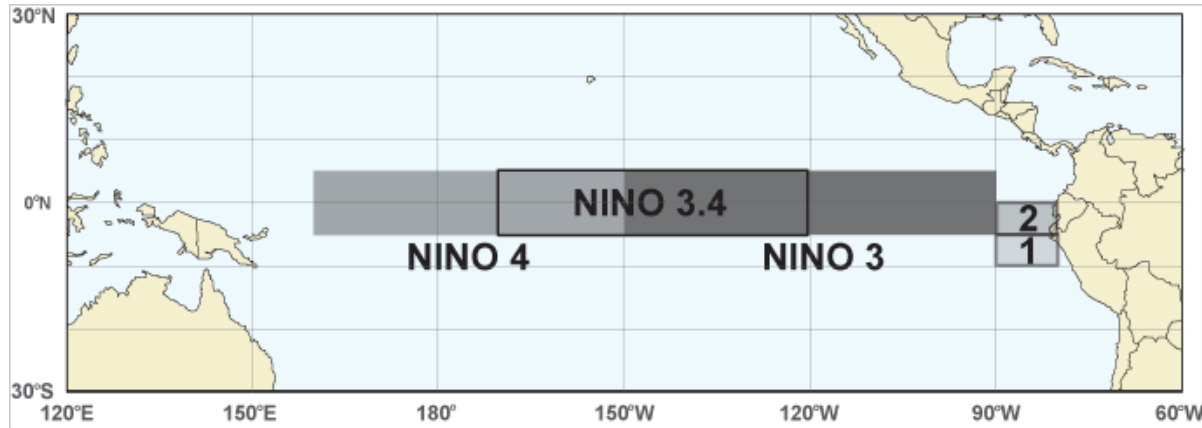


Data: ABOM BNOG
Climatology baseline: 1961 to 1990
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<http://www.bom.gov.au/climate>

Anomaly monthly difference
Created: 04/07/2022

NINO INDICES SST anomalies (°C)

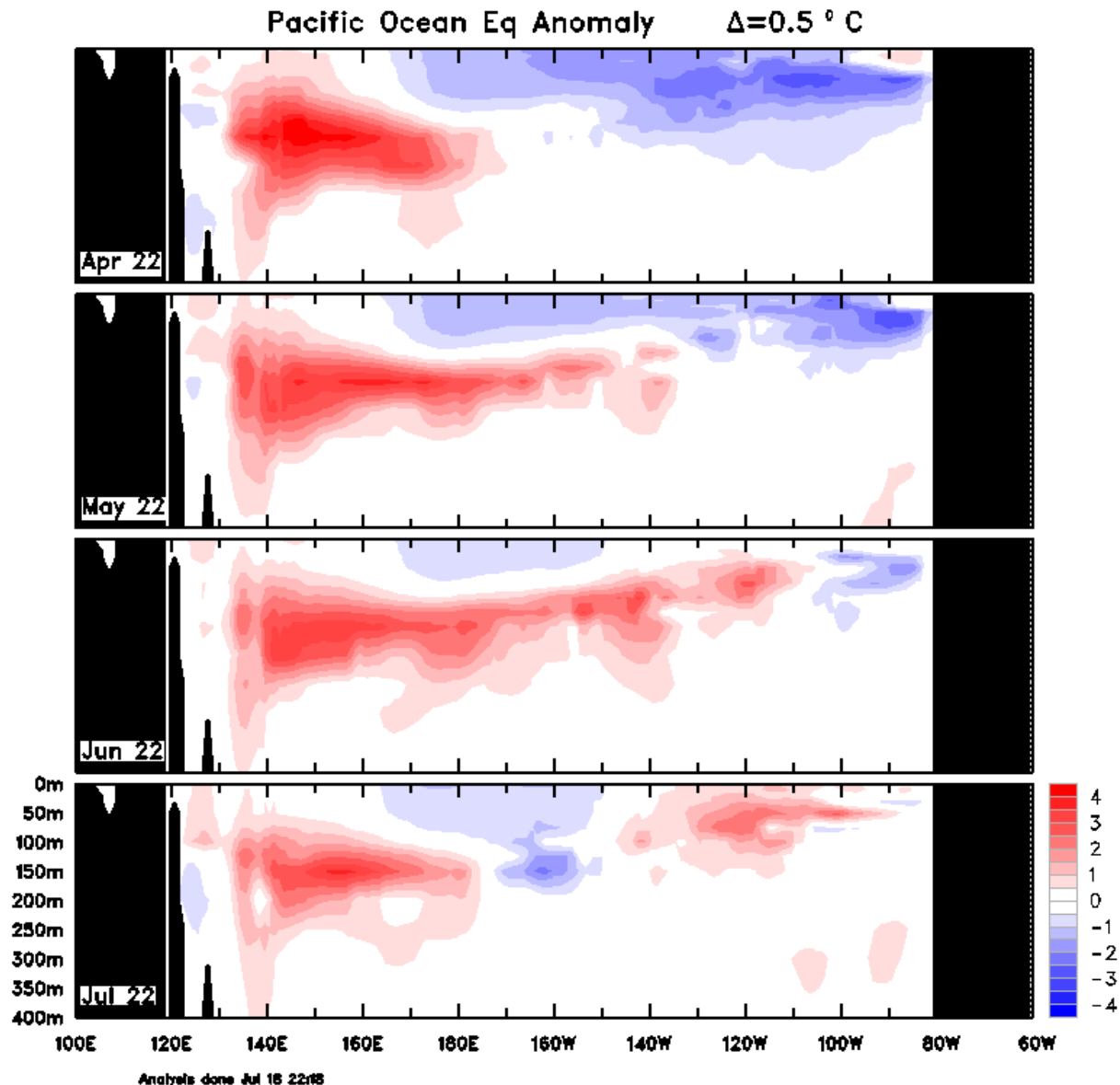


Index	May 2022	June 2022	Latest weekly
NINO3	-0.6	-0.3	0.0
NINO3.4	-0.7	-0.4	-0.3
NINO4	-0.6	-0.3	-0.6

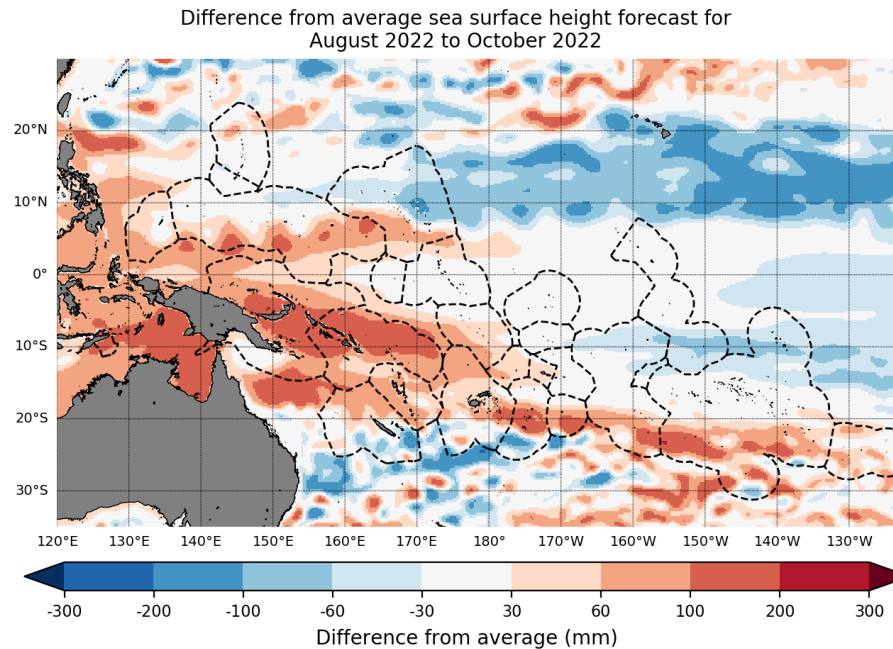
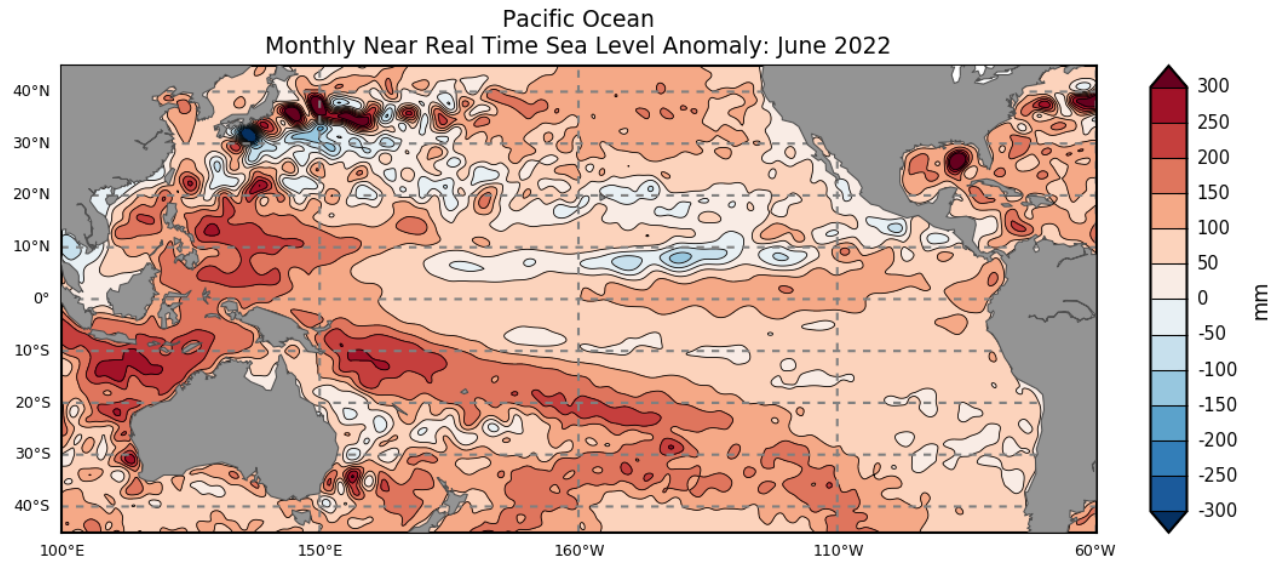
Weekly data for the
week ending 17/07/2022

Equatorial Pacific sub-surface profile

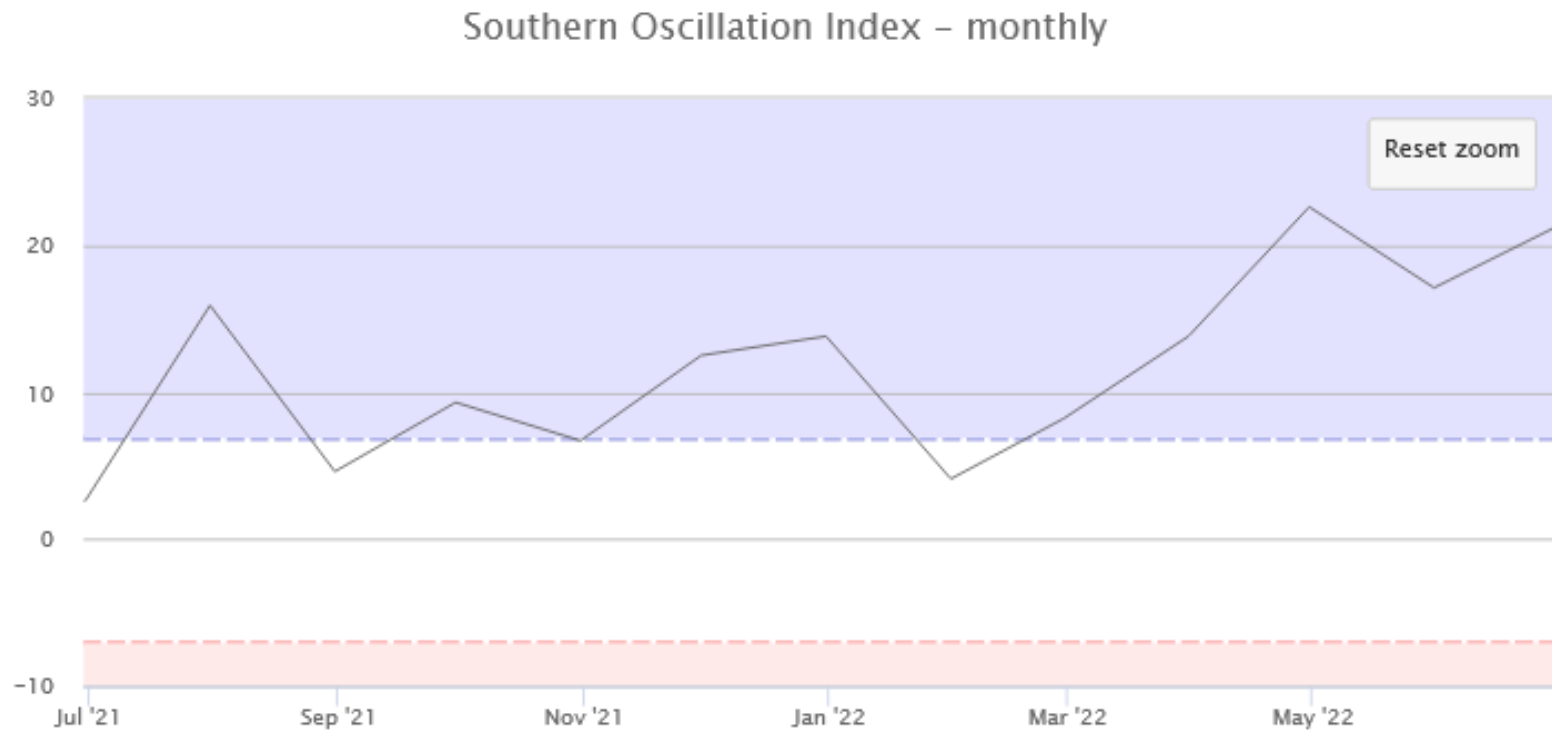
Bureau of Meteorology



June 2022 Sea Level Anomaly



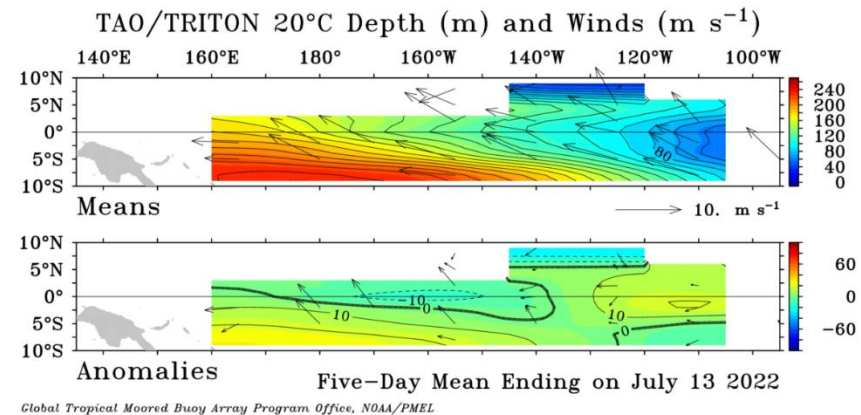
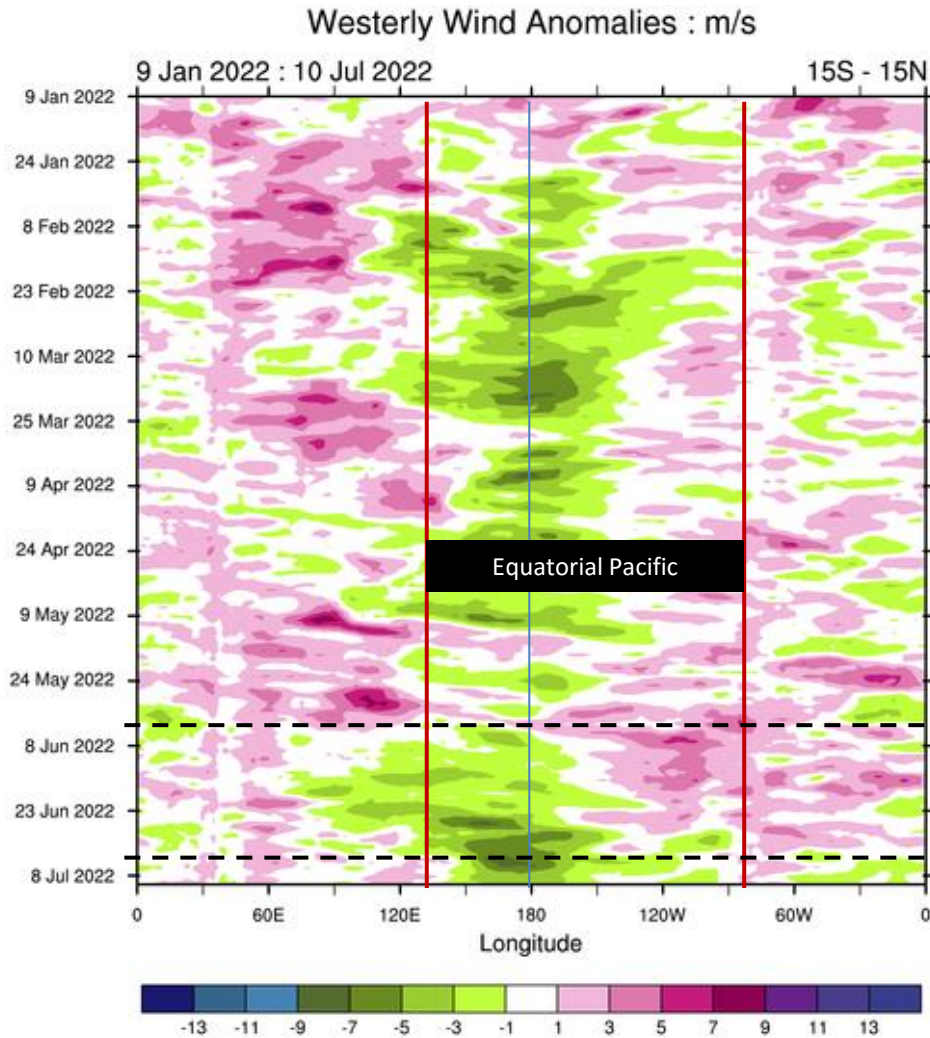
Southern Oscillation Index



Southern Oscillation Index monthly data												
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2022	+4.1	+8.2	+13.8	+22.6	+17.1	+21.2	-	-	-	-	-	-
2021	+16.5	+11.5	-0.3	+2.0	+3.6	+2.6	+15.9	+4.6	+9.3	+6.7	+12.5	+13.8

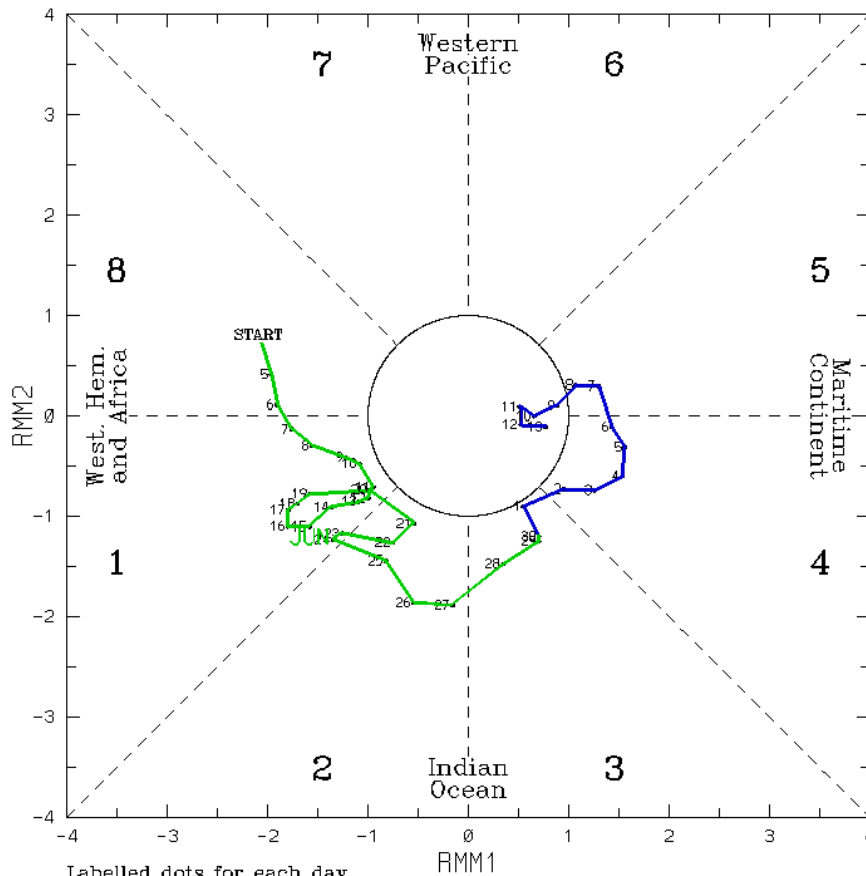
At 16 July 2022: 30-day SOI = +14; 90-day SOI = +17

Equatorial Trade Winds



Madden-Julian Oscillation

(RMM1,RMM2) phase space for 4-Jun-2022 to 13-Jul-2022

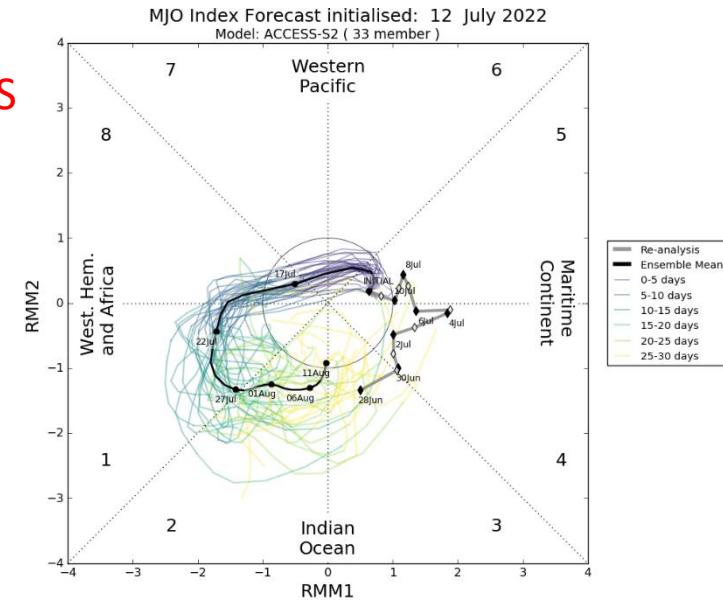


Labelled dots for each day.

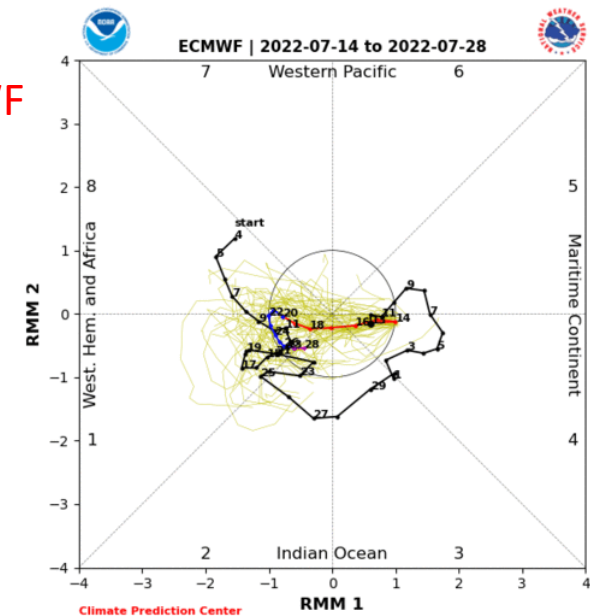
Blue line is for Jul, green line is for Jun, red line is for May.

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2022

ACCESS

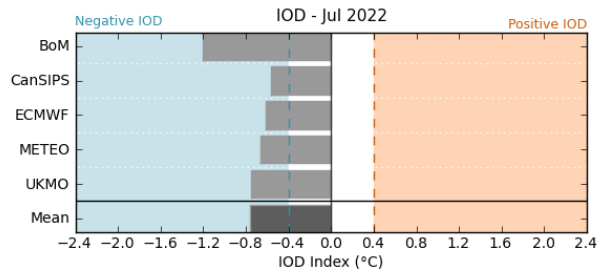


ECMWF

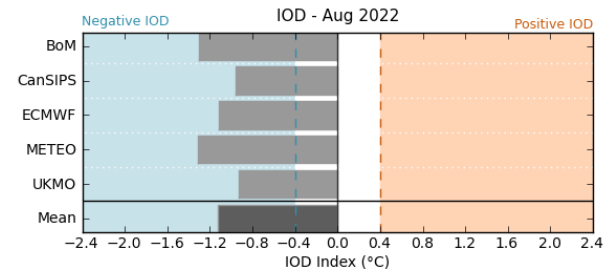


Climate Prediction Center

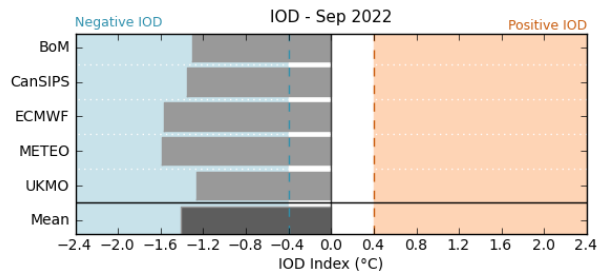
Indian Ocean Dipole (IOD)



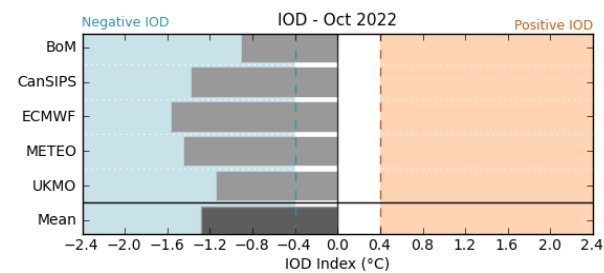
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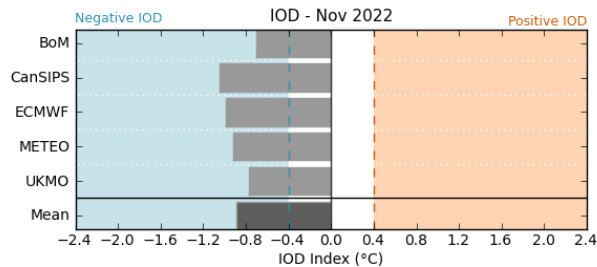
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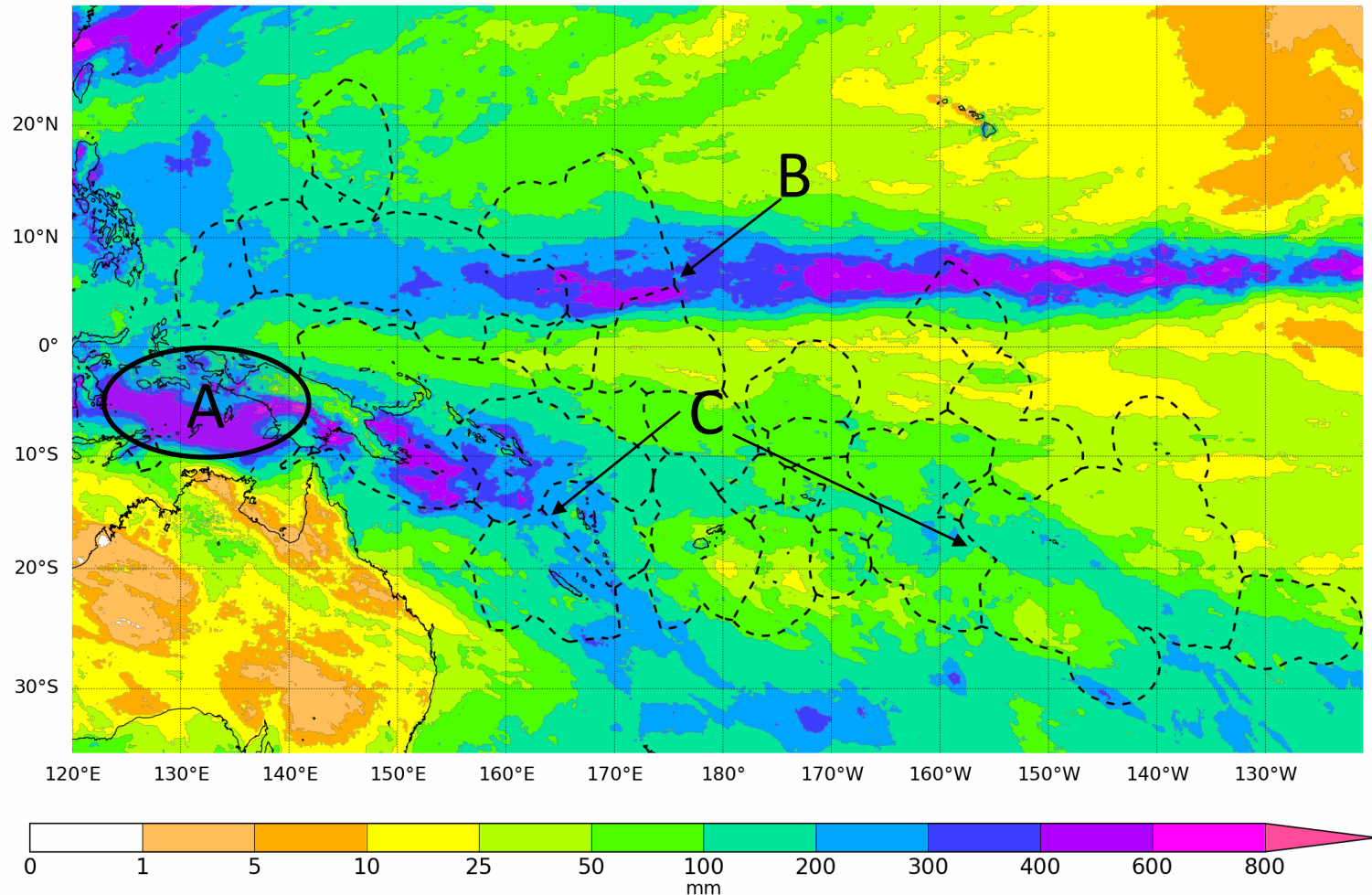
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Satellite Rainfall June 2022

1-month total rainfall ending June 2022



Source: MSWEP

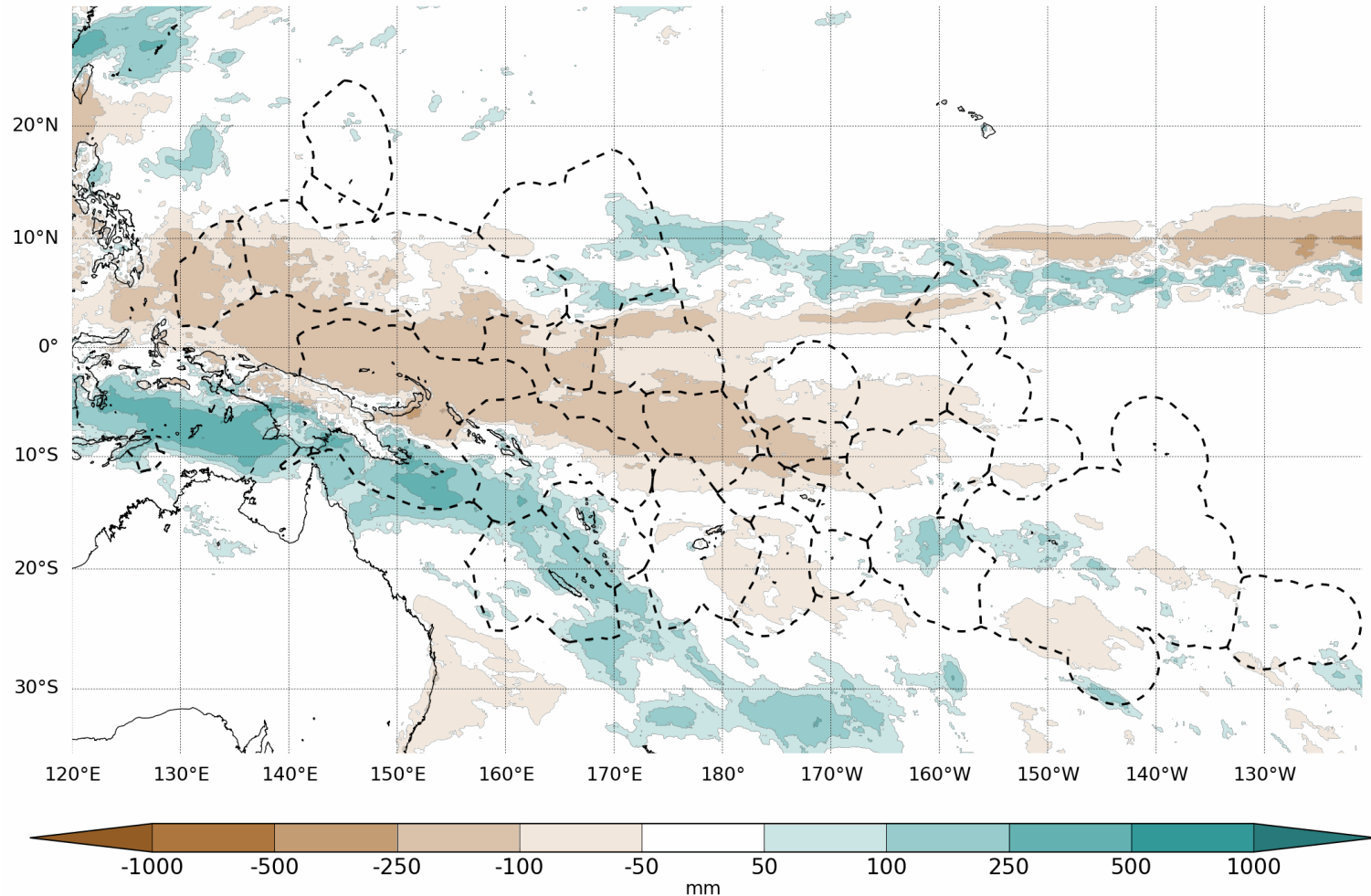
Map created: 07/07/2022 (UTC)

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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 June 2022

1-month total rainfall anomaly ending June 2022



Source: MSWEP

Base period: 1980-2021

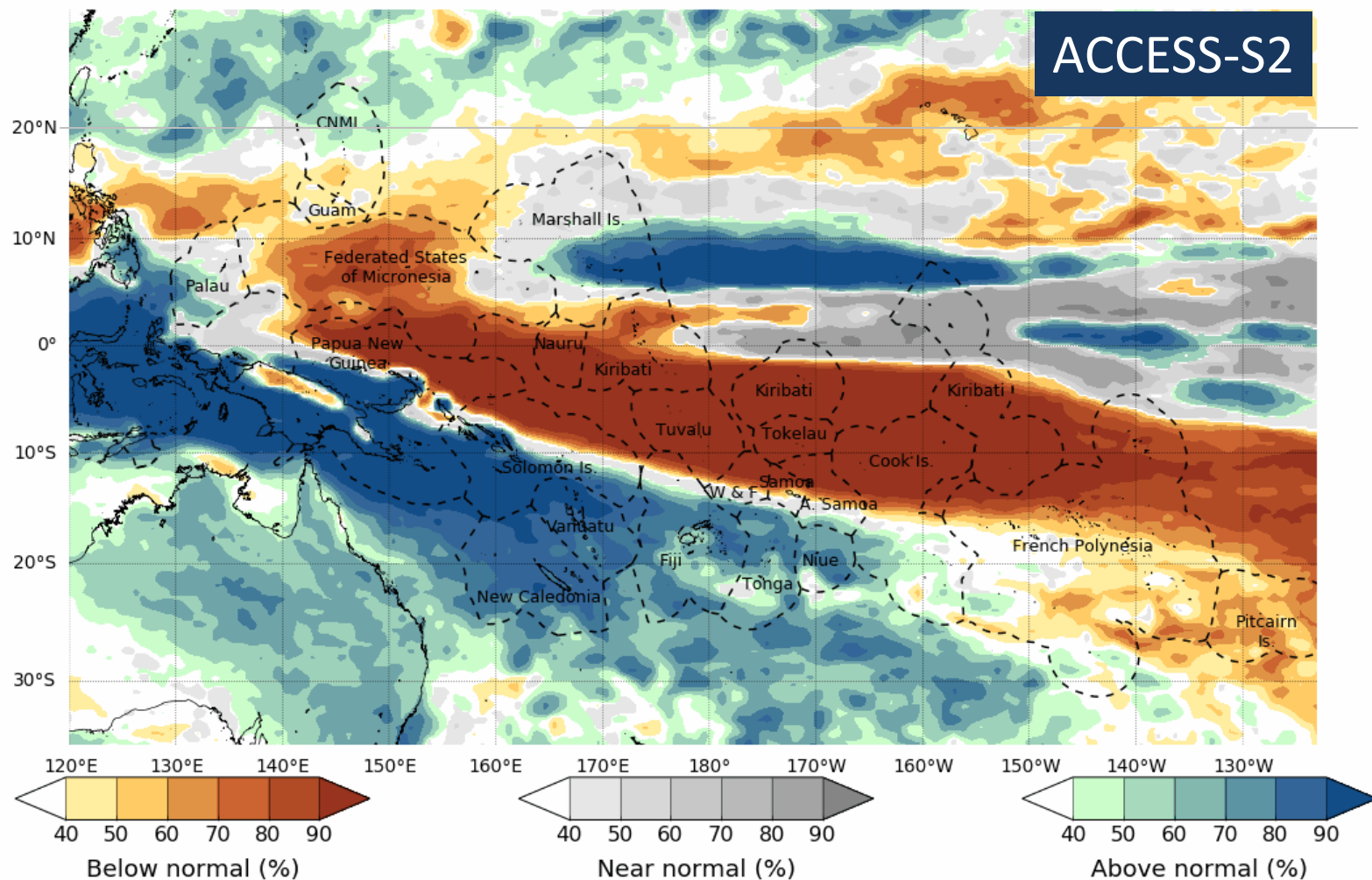
Map created: 07/07/2022 (UTC)

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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 (JAS)

Tercile rainfall probabilities for
July to September 2022



Base period: 1981-2018

Model: ACCESS-S2

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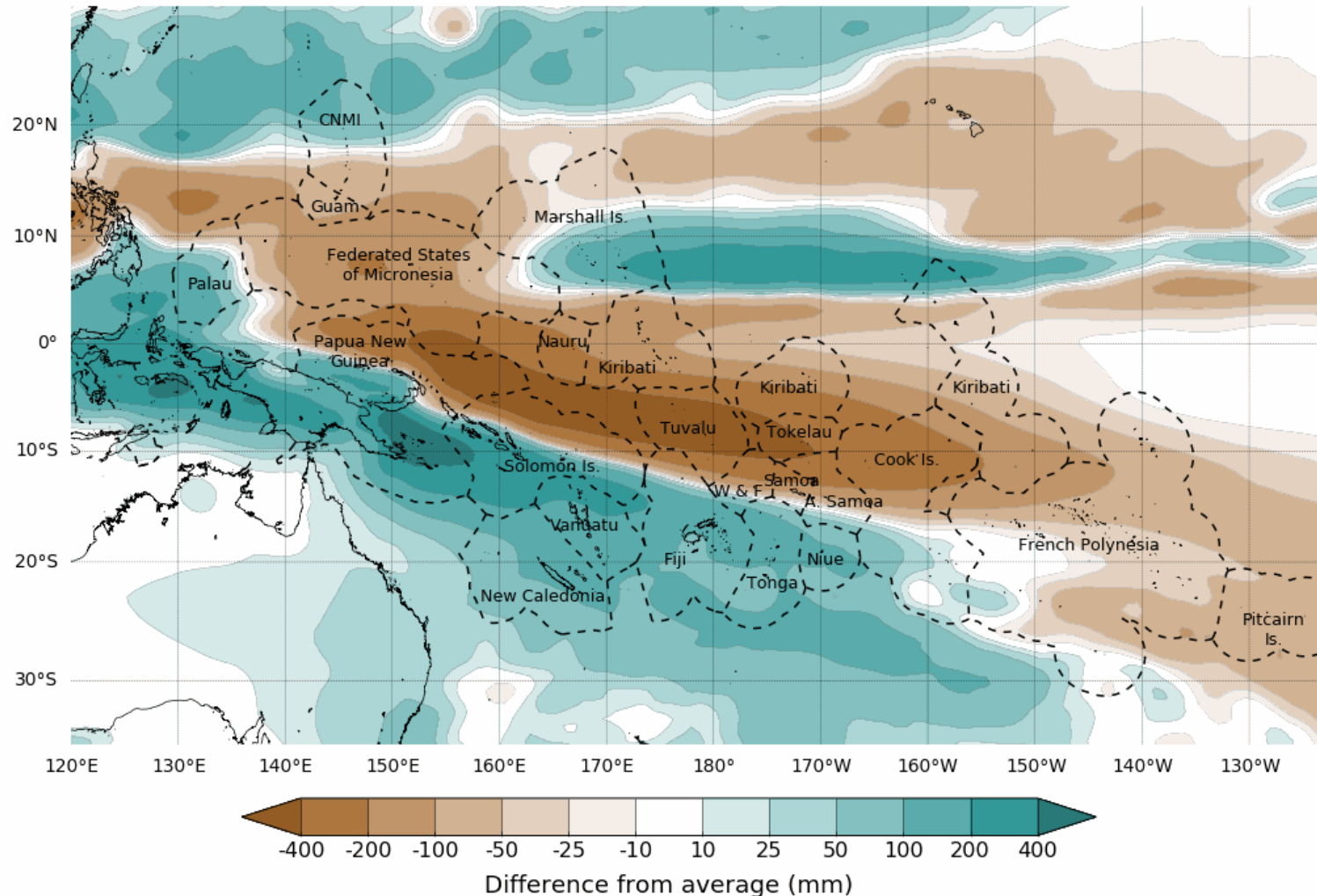
Model run: 27/06/2022

Issued: 30/06/2022

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 (JAS)

Difference from average rainfall forecast for
July to September 2022



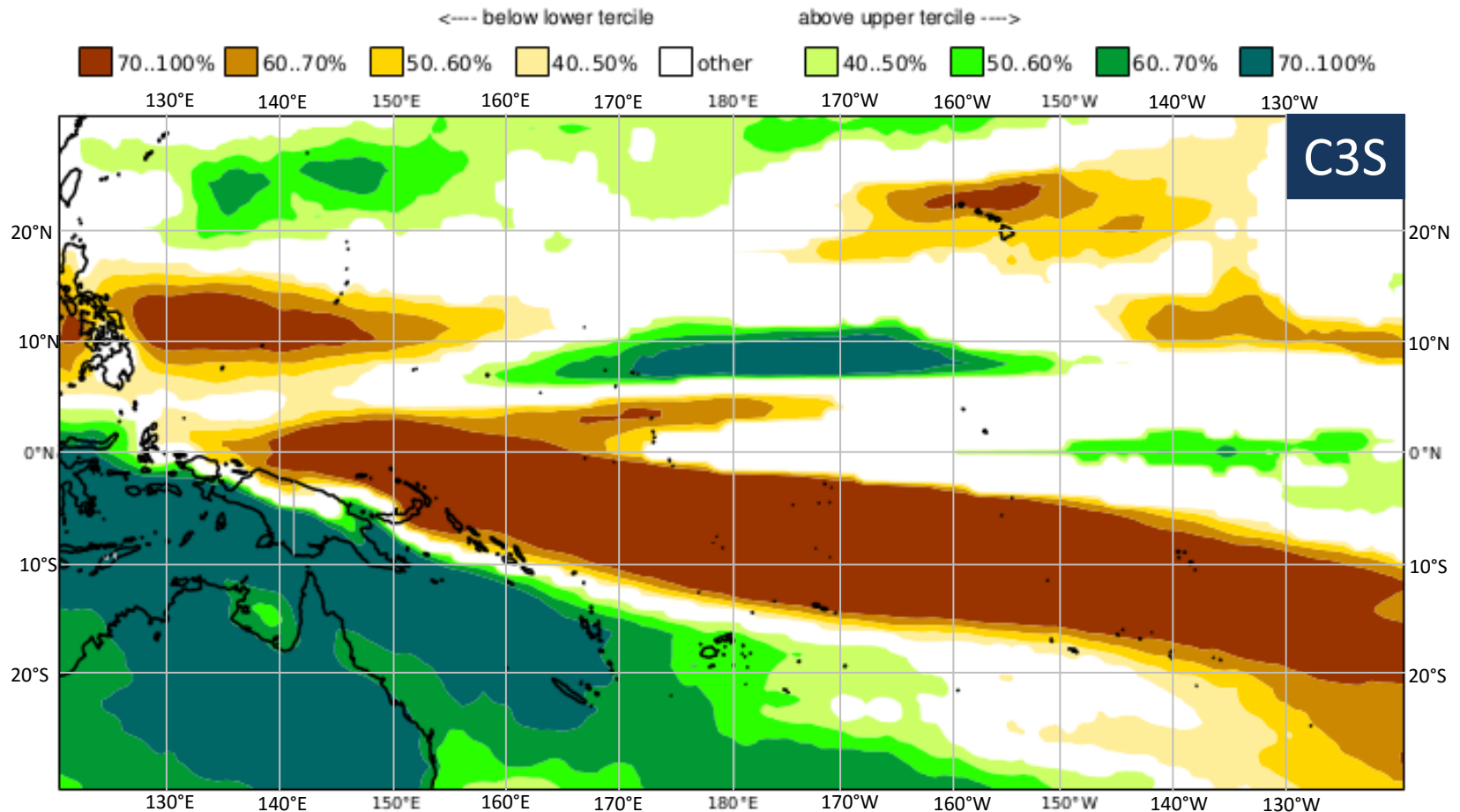
Base period: 1981-2018
Model: ACCESS-S2
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Model run: 27/06/2022
Issued: 30/06/2022

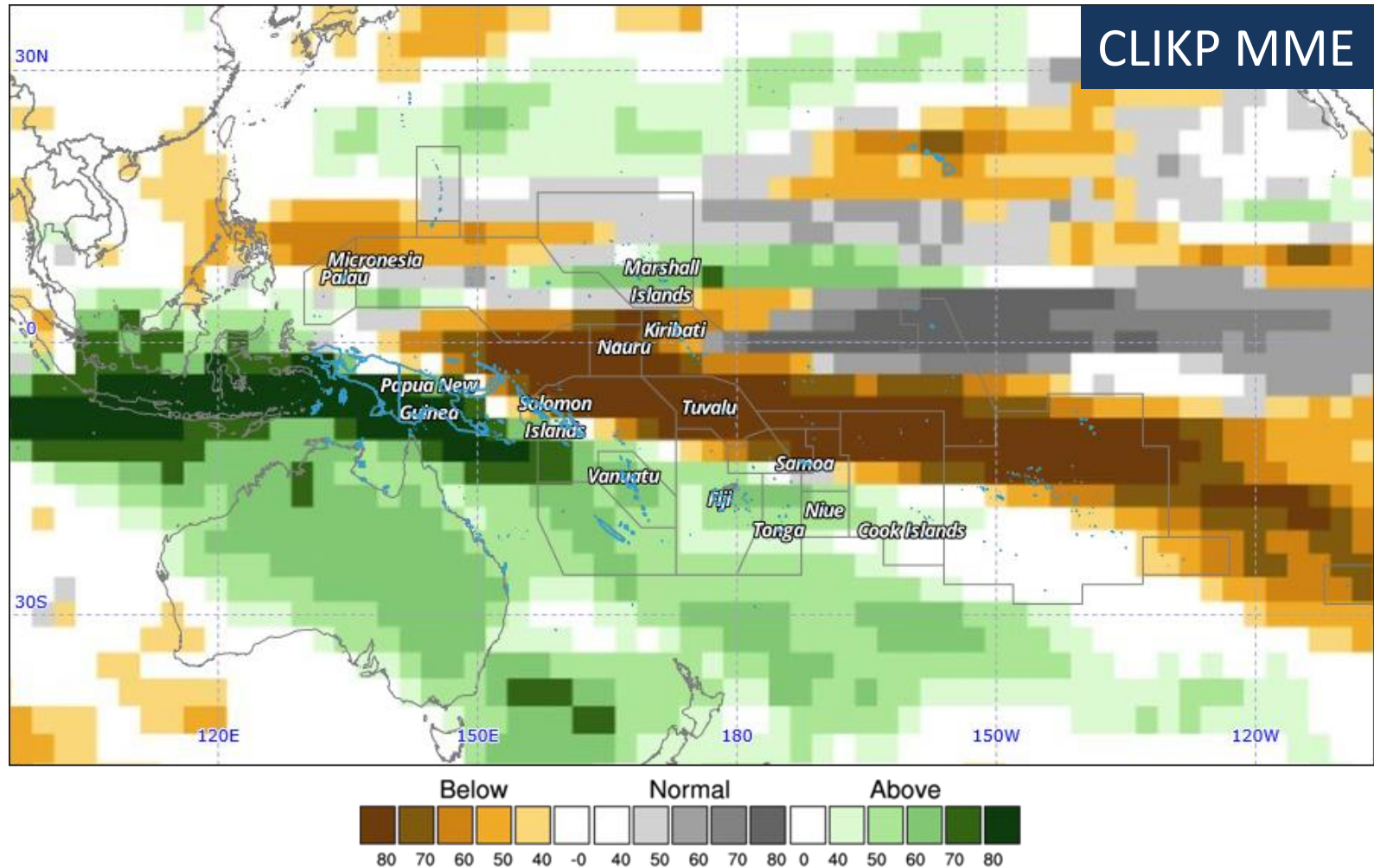
Shapefile data extracted from Flanders Marine Institute (2019), Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (200NM), version 11. Available online at <http://www.marineregions.org/>.

Model Rainfall Predictions (JAS)

C3S multi-system seasonal forecast ECMWF/Met Office/Météo-France/CMCC/DWD/NCEP/JMA/ECCC
Prob(most likely category of precipitation) JAS 2022
Nominal forecast start: 01/06/22
Unweighted mean



Model Rainfall Predictions (JAS)



Year: 2022, Season: JAS, Lead Month: 3, Method: GAUS

Model: APCC, CMCC, MSC, NCEP, PNU

Generated using CLIK® (2022-7-12)

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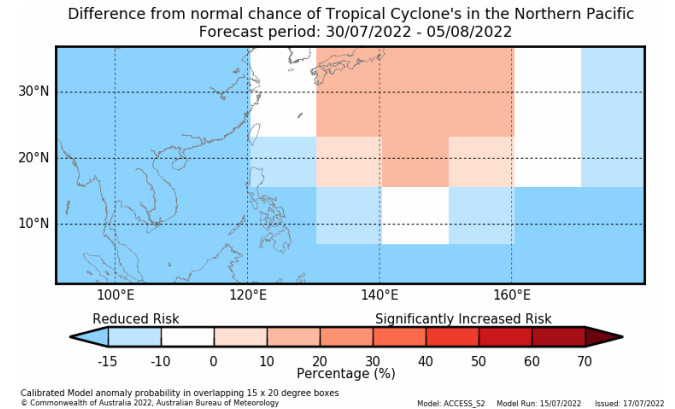
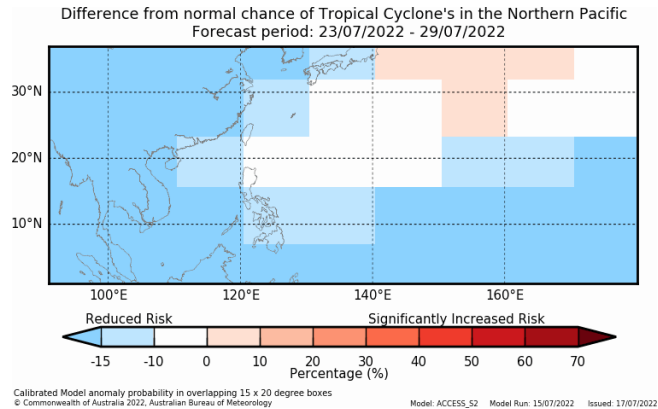
Model Rainfall Predictions (JAS)

July to September 2022			
	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			

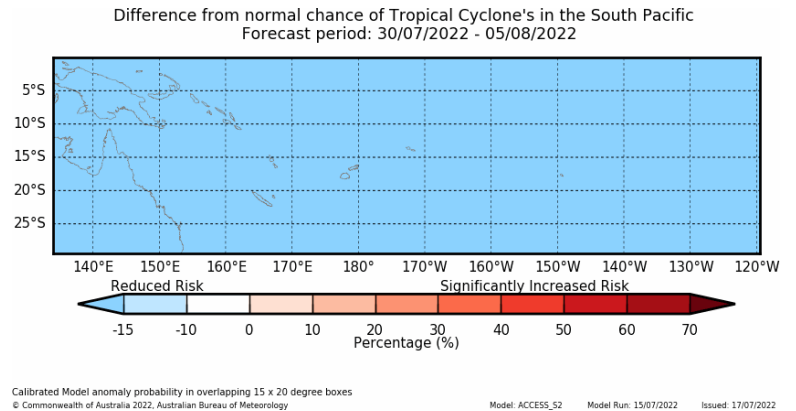
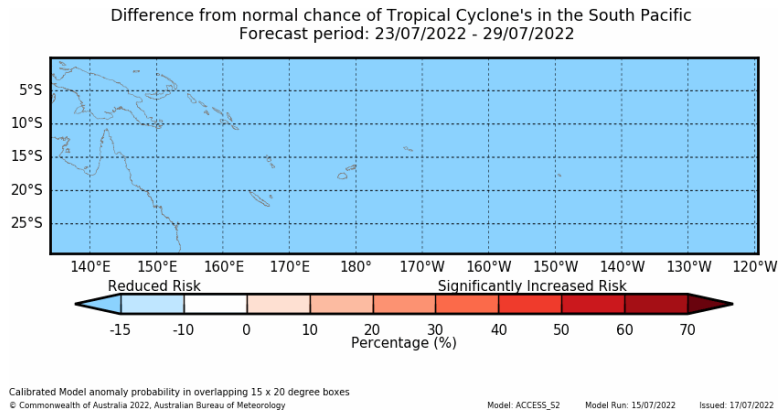
	41-50%	51-60%	61-70%	71-80%	81-90%	>90%
Below normal						
Near-normal						
Above normal						

TCC Outlooks

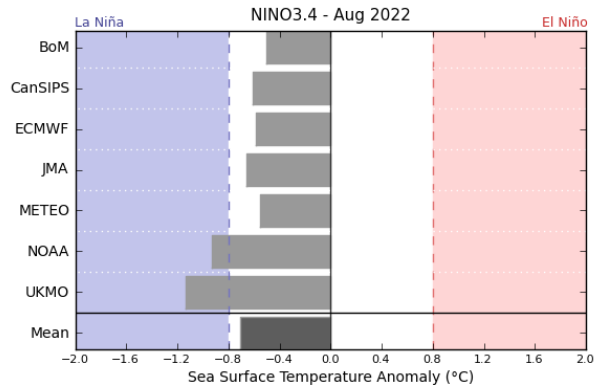
Northwest Pacific



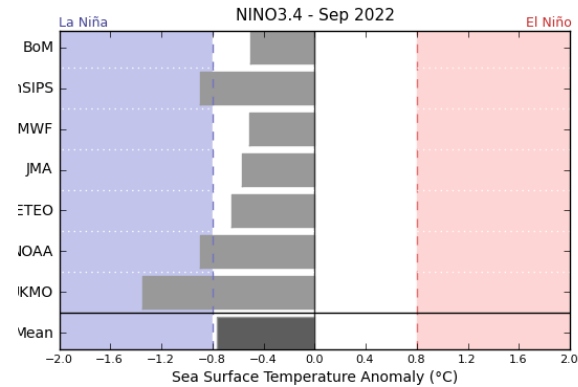
South Pacific



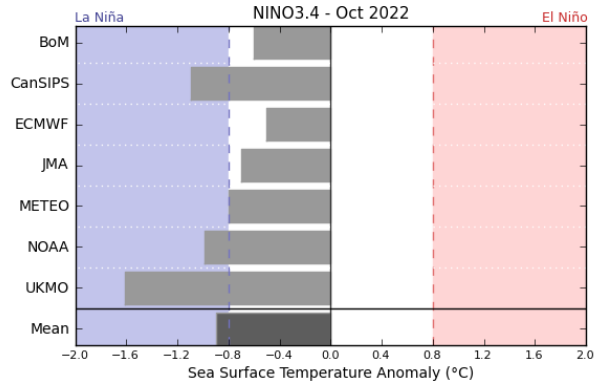
Climate Model Summary



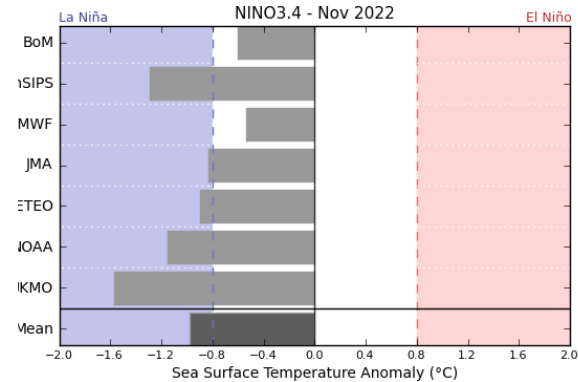
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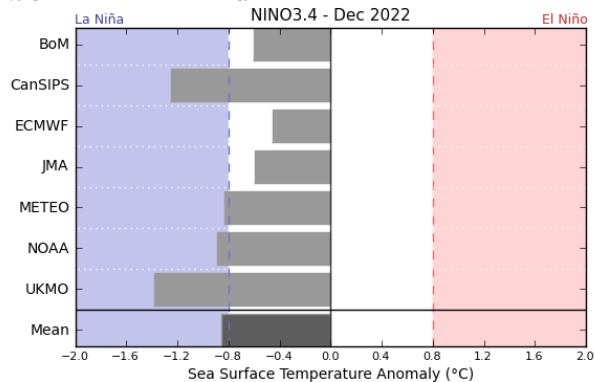
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