ENSO Update – OCOF 227

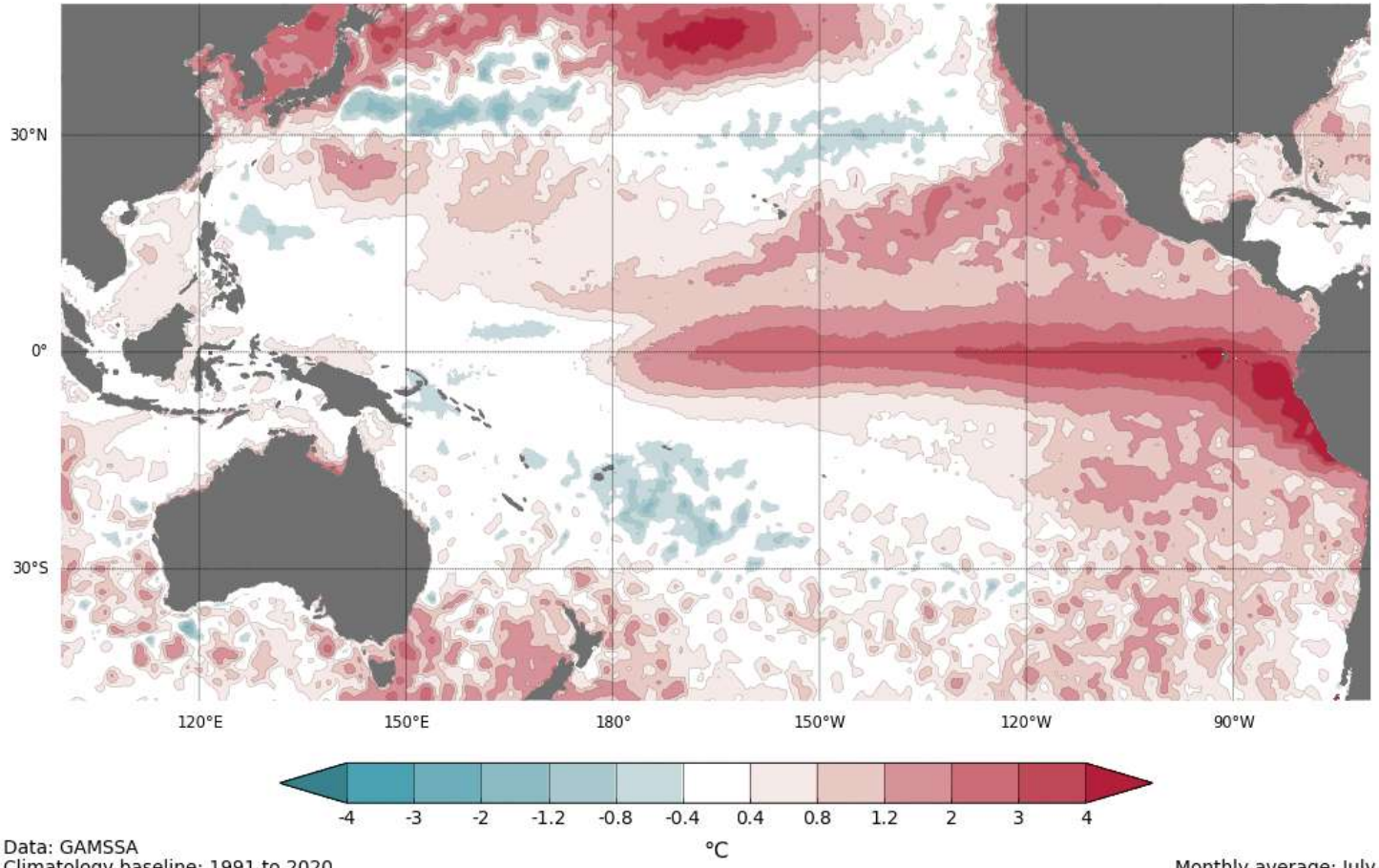
18 August 2026

ENSO Update

- El Niño is firmly established. Both oceanic and atmospheric indices now reflect values consistent with a strong El Niño, with further intensification likely during spring.
- The latest relative Niño3.4 index value for the week ending 9 August 2026 is +2.20 °C, well above the El Niño threshold (+0.80 °C). This latest value is indicative of a strong El Niño.
- All models, including the bureau's, forecast the tropical Pacific to continue warming through the southern hemisphere spring, likely peaking in late spring or summer. Given its current strength, in addition to the typical life cycle of an El Niño, this event is expected to persist into autumn 2027.
- Further warming is supported by excess heat in the sub-surface with equatorial upper ocean heat anomalies during July 2026 the highest on record (for all months on record since 1979).
- Atmospheric indicators, such as trade winds, pressure and cloud patterns are currently indicative of a strong El Niño. Trade winds are either reversed or weaker than average across the western tropical Pacific, and cloudiness is enhanced near the International Date Line and suppressed over the Maritime Continent.
- The Southern Oscillation Index (SOI), a measure of the atmospheric component of ENSO, remains strongly negative, with the latest 30-day SOI to 8 August at –25.6, significantly below the El Niño threshold of –7. The July average SOI of –29.1 was the most negative July value on record.
- Forecasts are pointing towards a very strong El Niño event, based on the extent of warming in the central tropical Pacific (Niño3.4). Models indicate this event is likely to see SSTs in this region peak at levels above the warmest observed since 1950.

July 2026 Observed SSTs

Sea surface temperature anomaly: 01/07/2026 to 31/07/2026

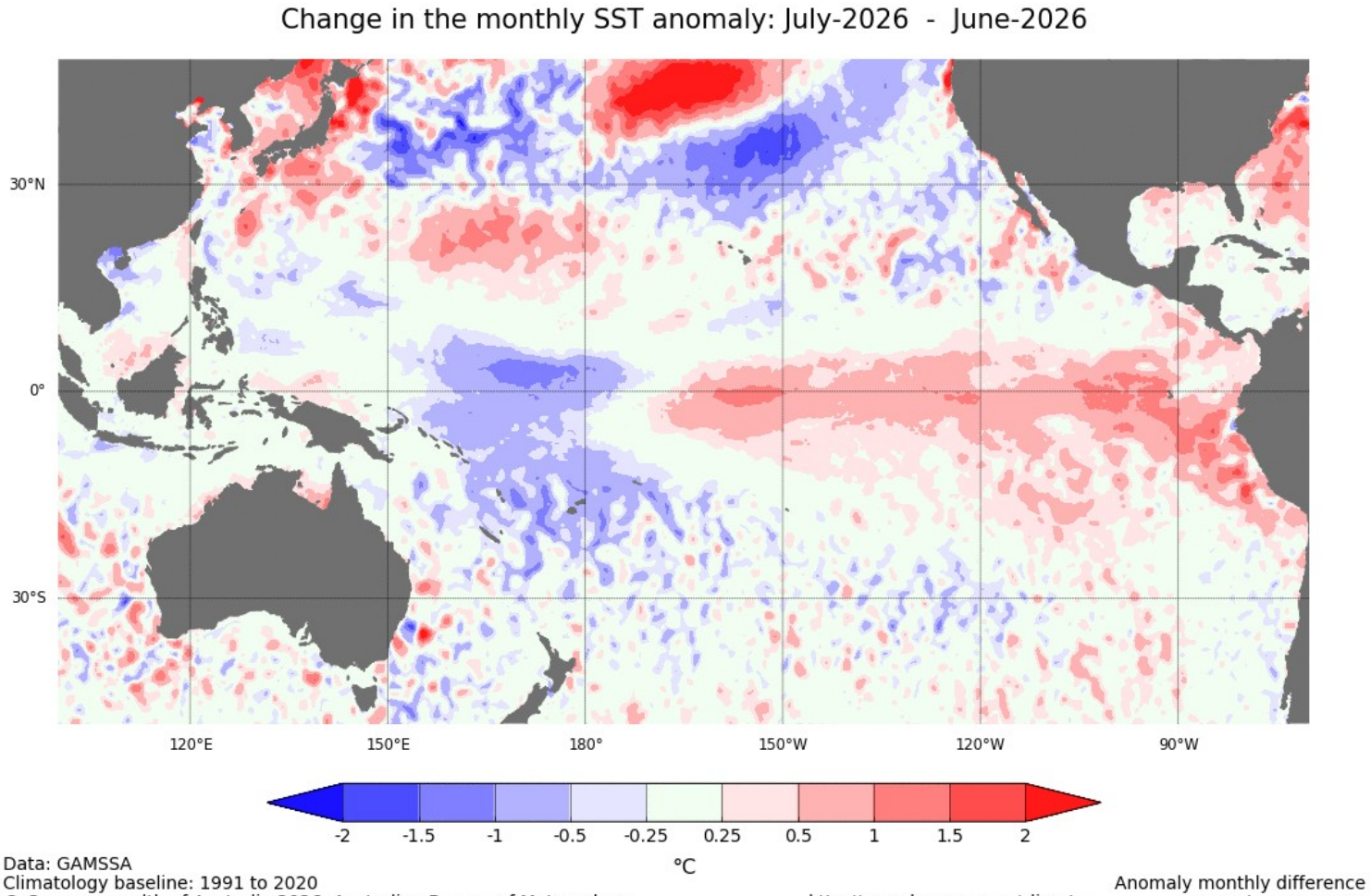


Data: GAMSSA
Climatology baseline: 1991 to 2020

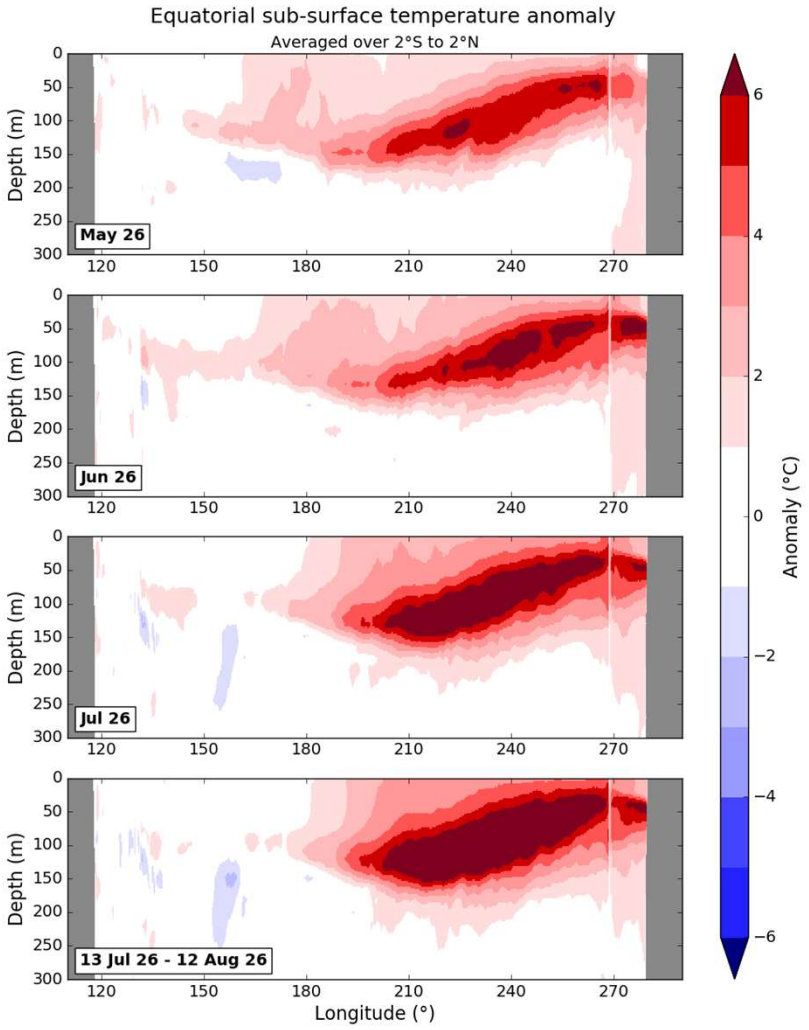
http://www.bom.gov.au/climate

Monthly average: July 2026
Created: 03/08/2026

July – June SSTs



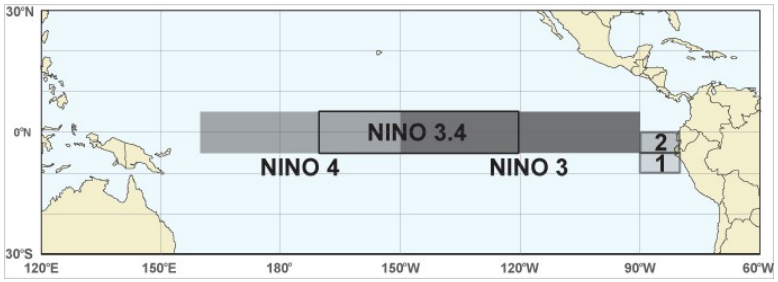
Equatorial Pacific Sub-surface Profile

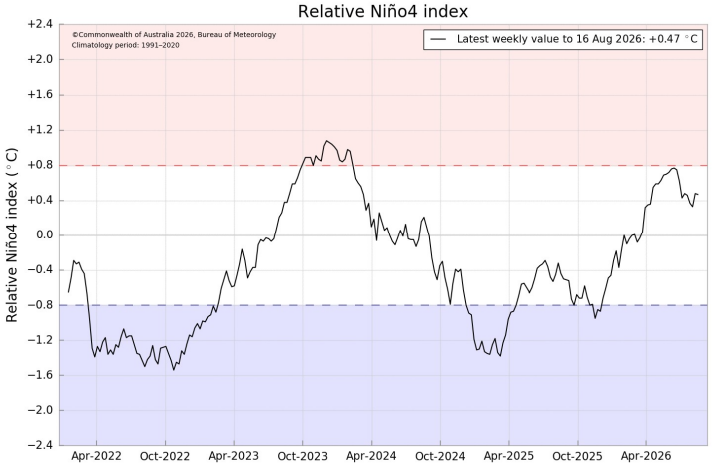


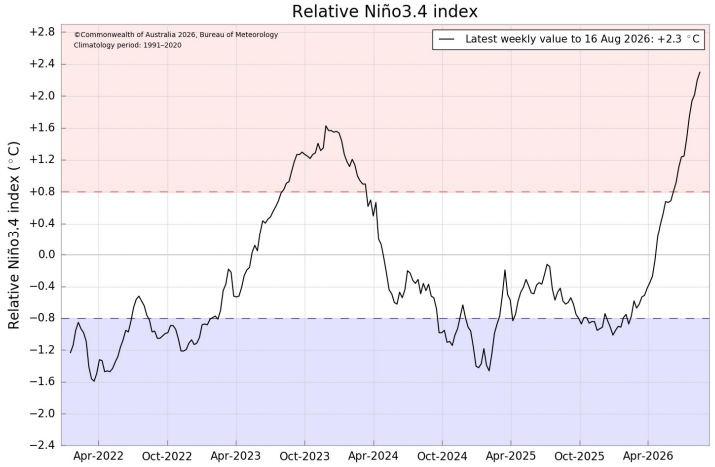
Created: 17/08/2026

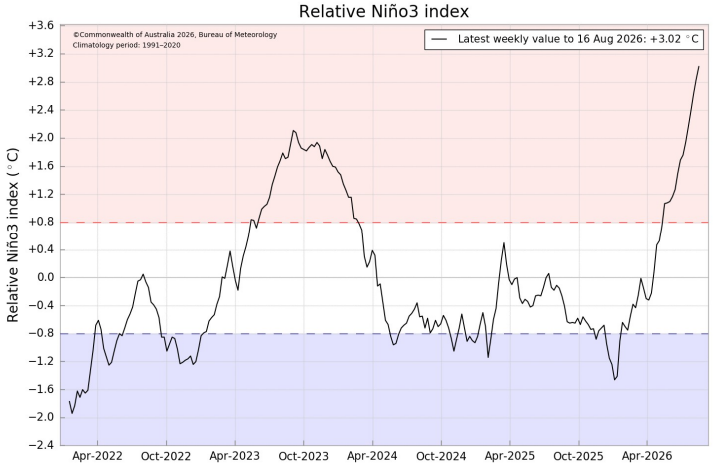
Data: ACCESS-S2 ocean reanalysis
Climatology baseline: 1981 to 2018

Observed Relative NINO Indices

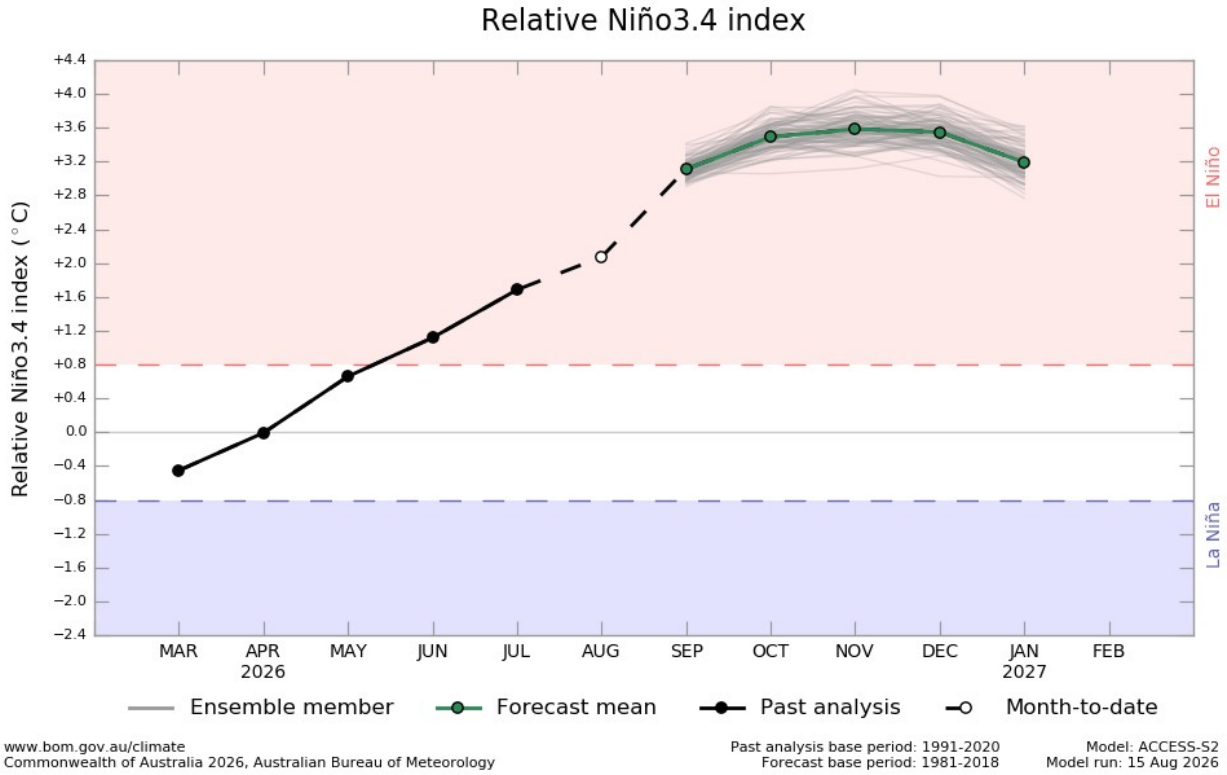






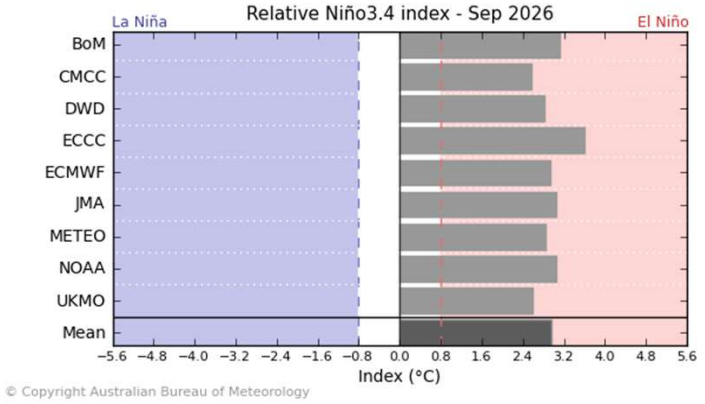


Relative ENSO Outlook

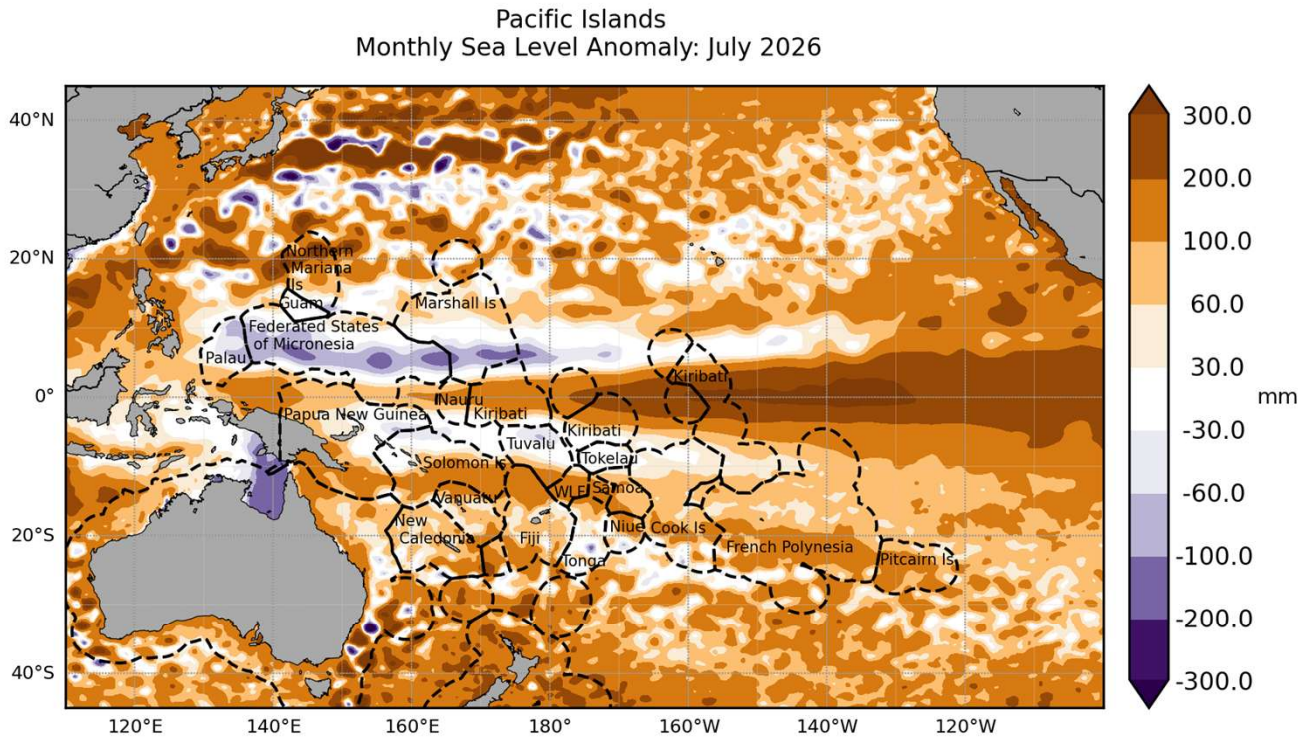


La Nina is associated with **increased rainfall** across the far western Pacific.

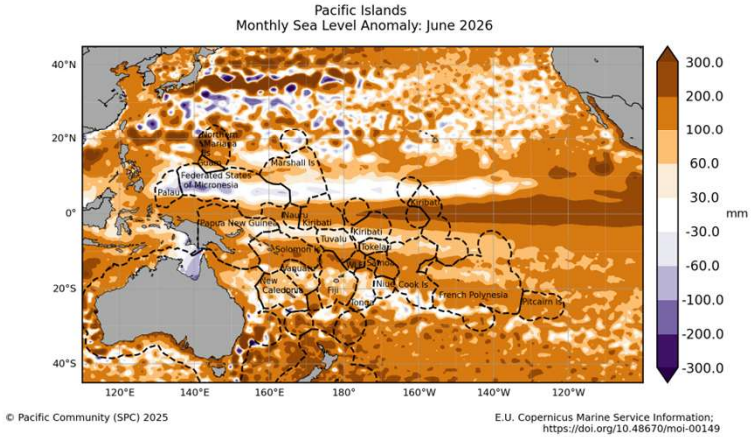
El Nino is associated with **decreased rainfall** across the far western Pacific.



July 2026 Sea Level Anomaly

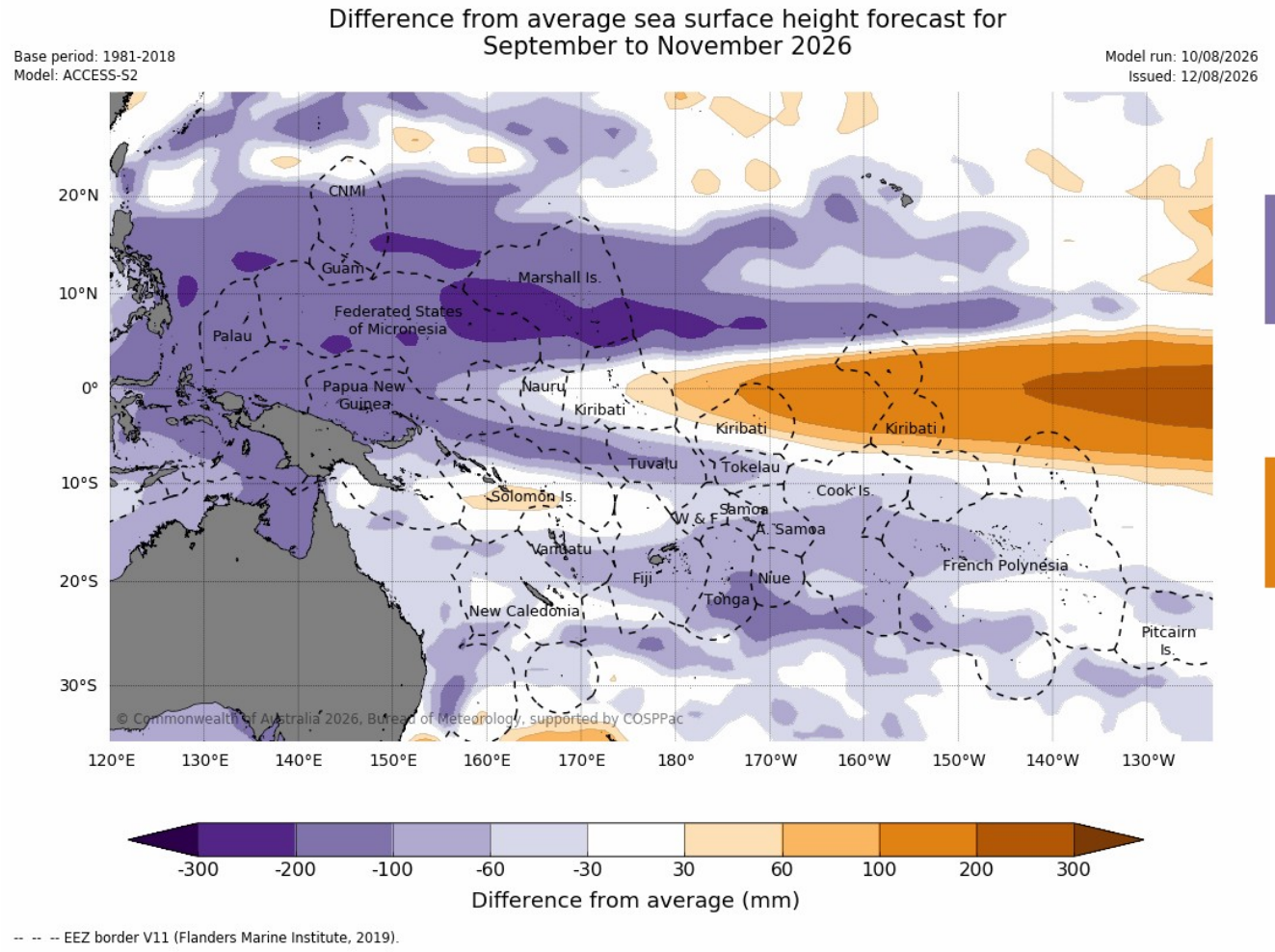


E.U. Copernicus Marine Service Information;
https://doi.org/10.48670/moi-00149



E.U. Copernicus Marine Service Information;
https://doi.org/10.48670/moi-00149

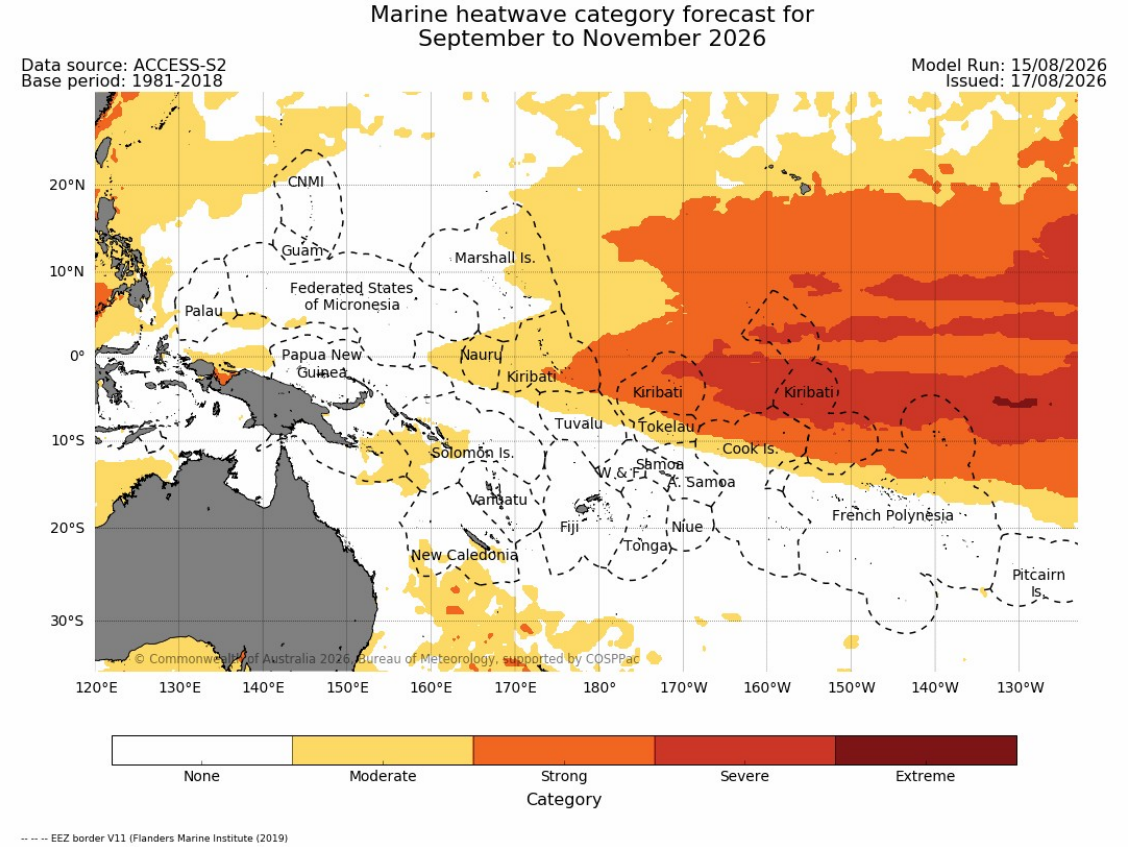
Seasonal Outlook: Sea Surface Height Anomaly



Decrease in average SSH

Increase in average SSH

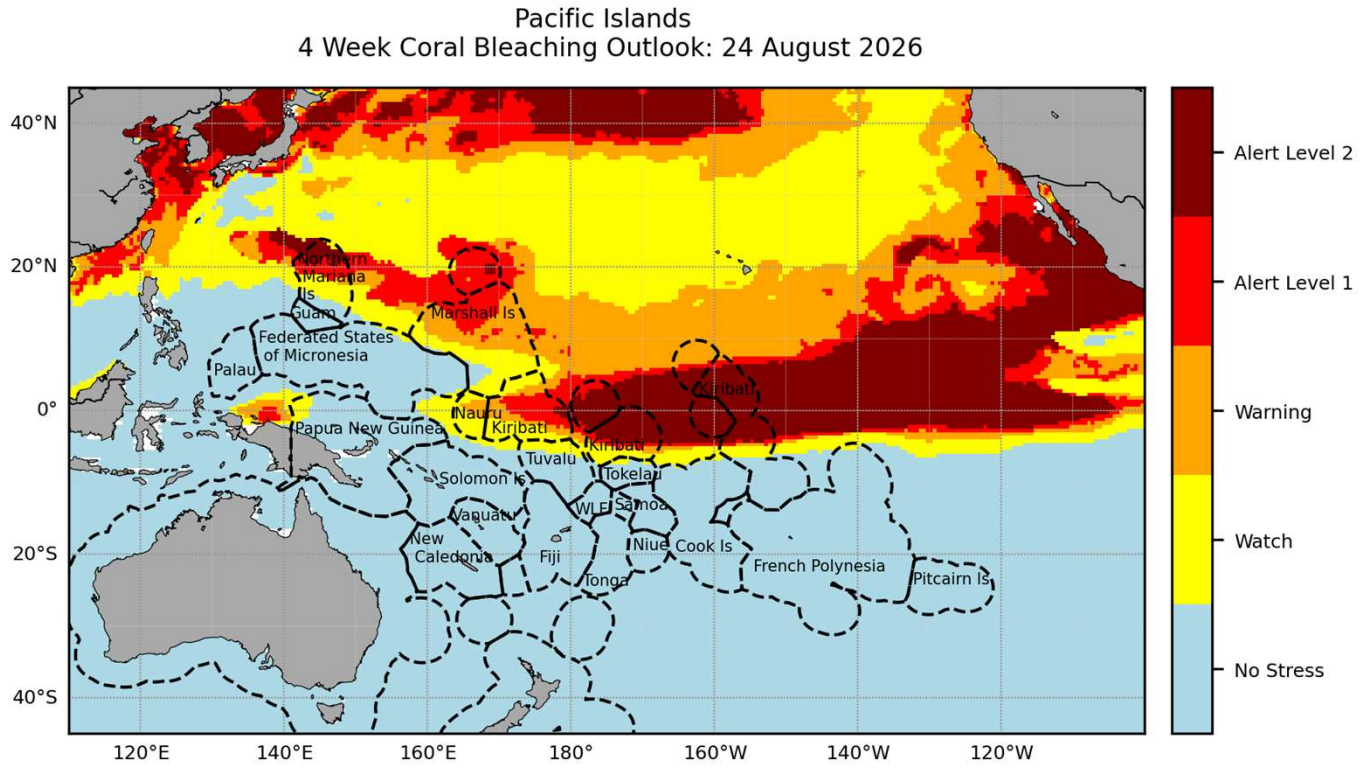
Marine Heatwaves

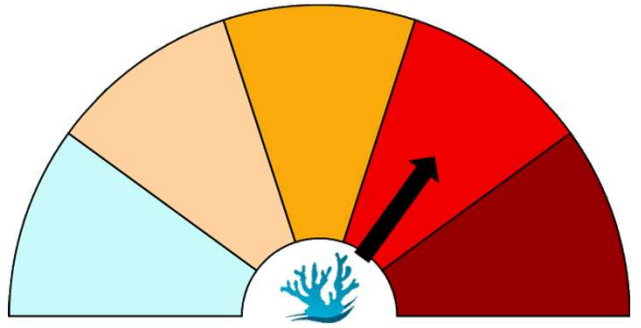


Marine Heatwaves are prolonged periods of anomalously high sea surface temperature (SST).

Impacts from marine heatwaves include death of marine flora and fauna, mass coral bleaching and reduces capacity for provision of ecological goods and services.

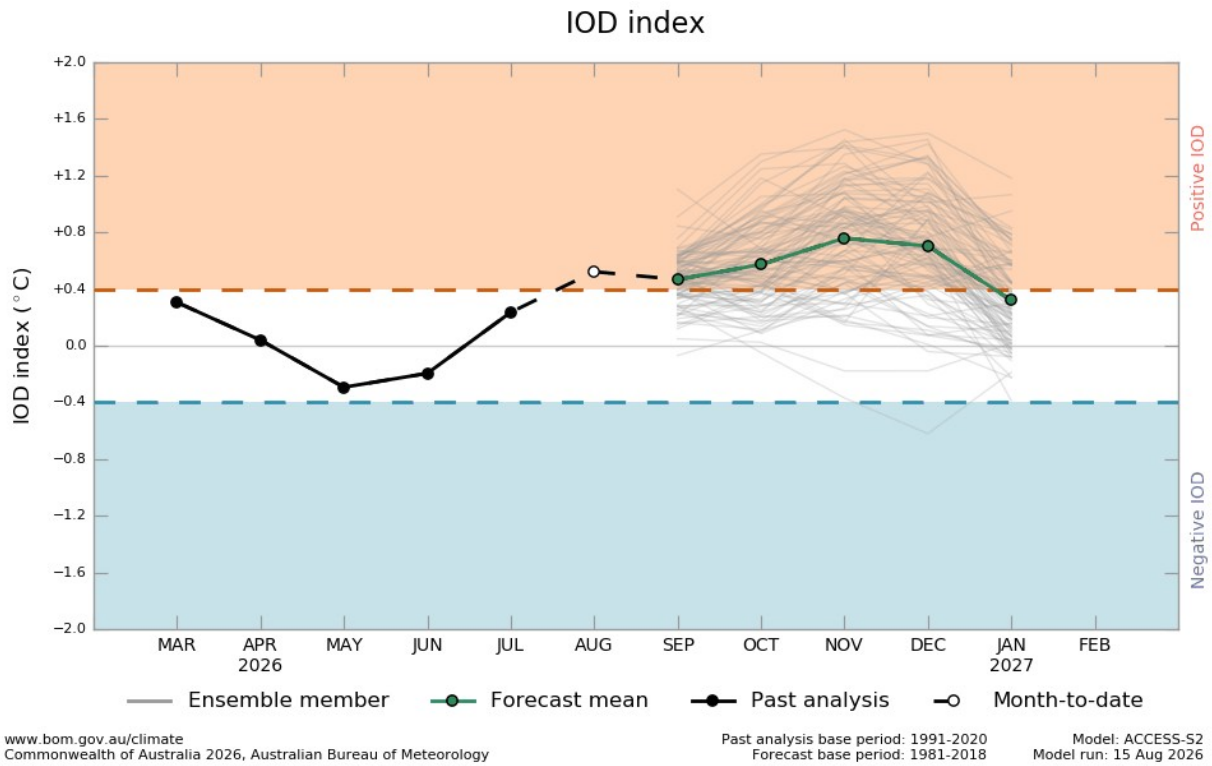
Coral Bleaching





Alert Level	Effect
No Data	No alert data available
No Stress	No thermal stress
Bleaching Watch	Low-level thermal stress
Bleaching Warning	Coral bleaching possible
Bleaching Alert Level 1	Coral bleaching likely
Bleaching Alert Level 2	Coral mortality likely

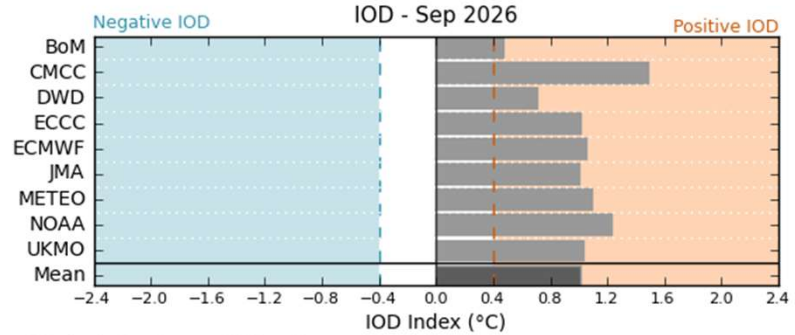
Indian Ocean Dipole (IOD)



The peak of the **IOD** is **Sep-Oct** in the southern hemisphere. Decaying with the onset of the monsoon.

IOD negative is associated with **increased rainfall** across the far western Pacific.

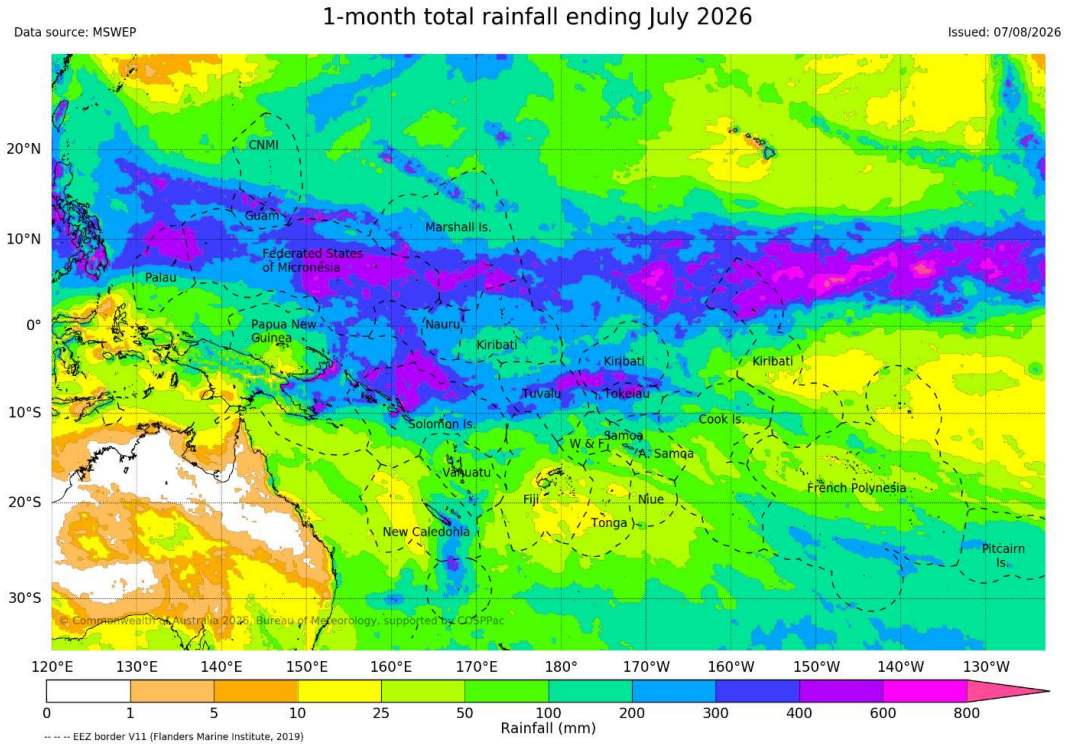
IOD positive is associated with **decreased rainfall** across the far western Pacific.



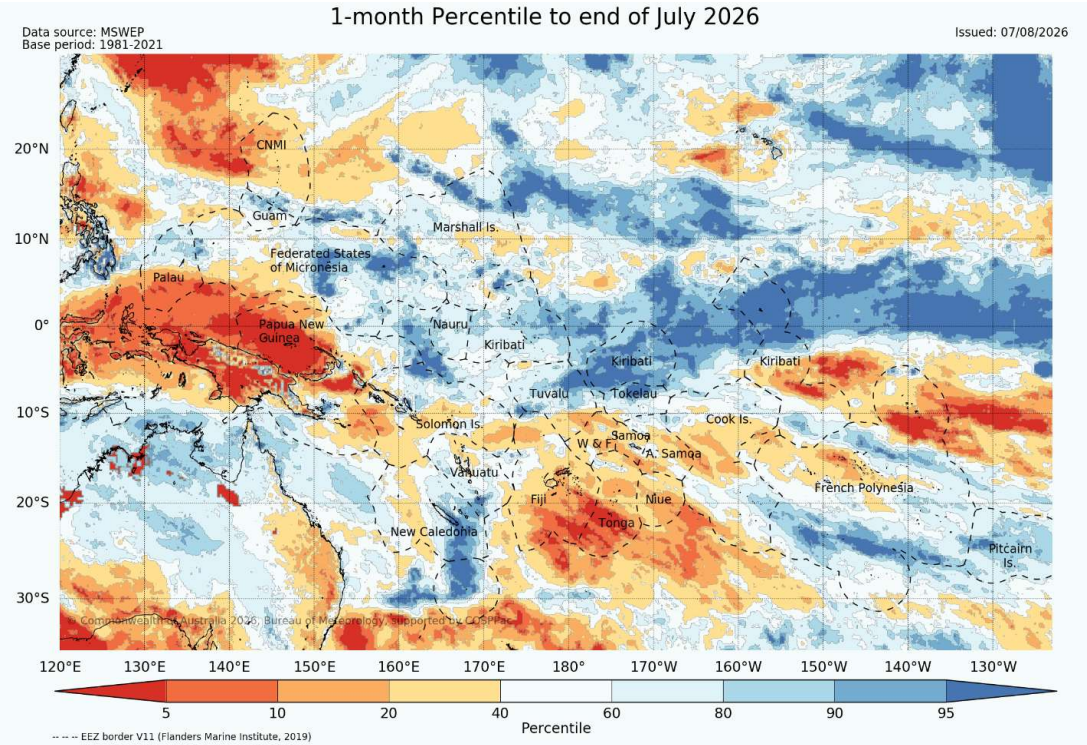
Atmosphere Outlook

Observed Rainfall – July 2026

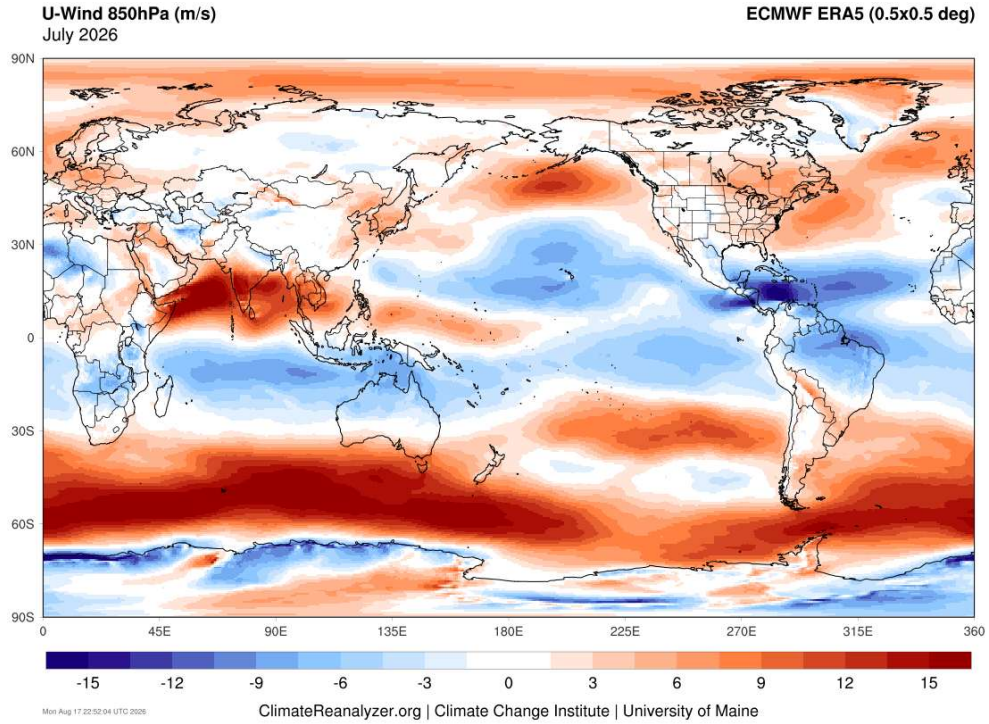
Observed

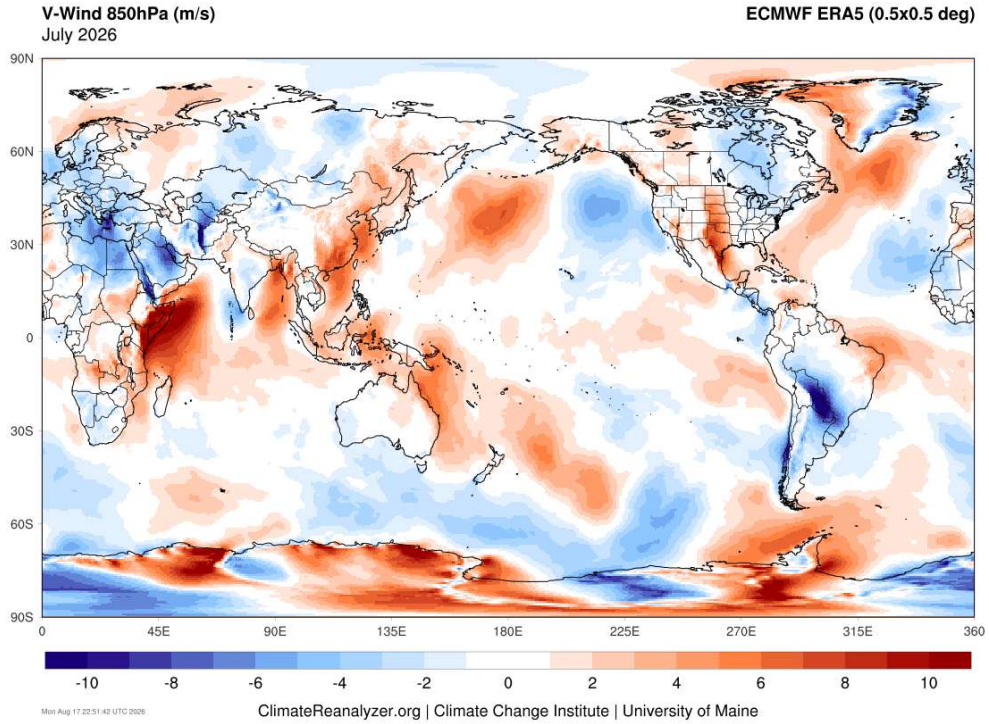


Percentile



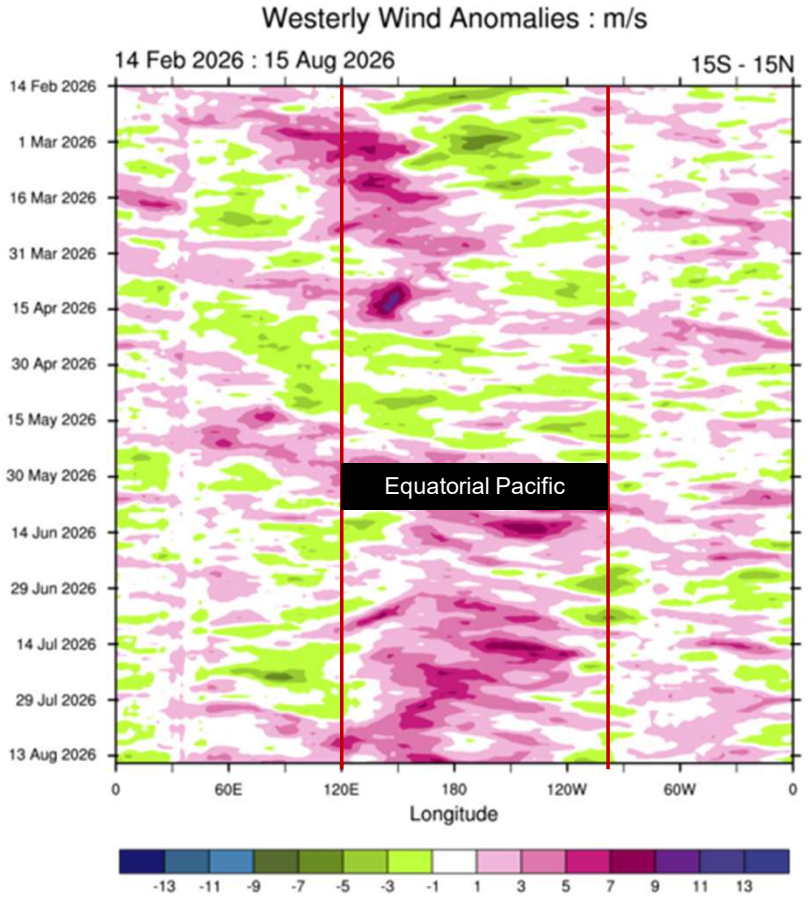
Wind observations – July 2026





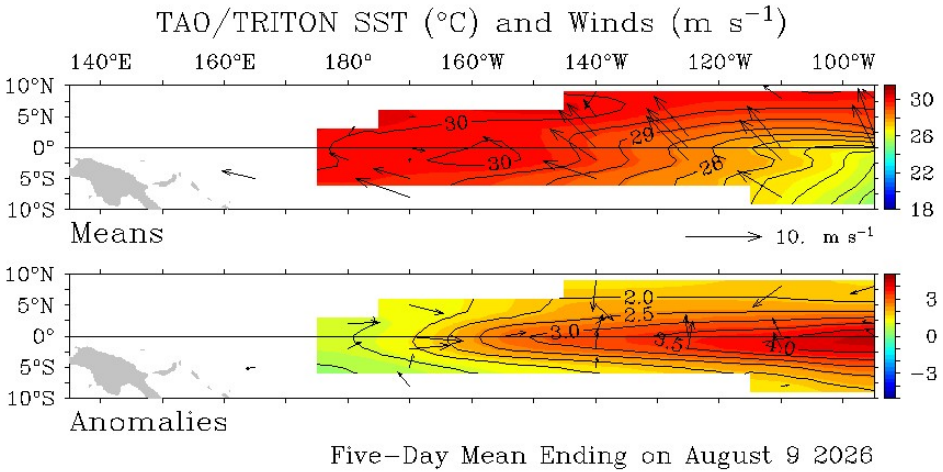
- U winds: east-west component of the wind vector, positive (red) u-wind value means air moves toward the east
- V winds: north-south component of the wind vector, positive (red) v-wind value means air moves towards the north

Wind Anomalies



Easterly (stronger trade)

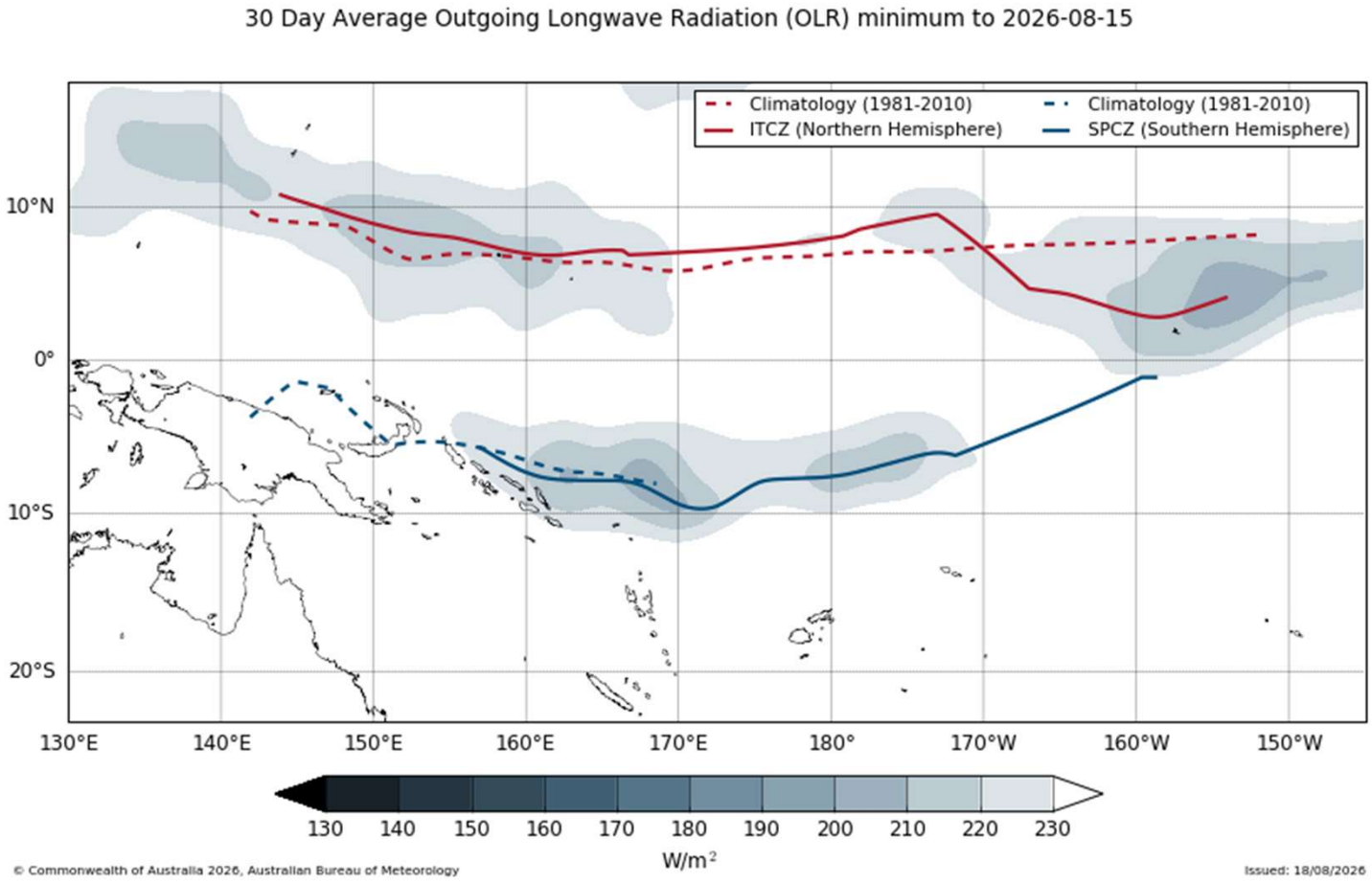
Westerly (weaker trade)



Weaker trade winds (pink) allow for the development of more clouds and potential for rain.

Stronger trade winds (green) hinders cloud development and the potential for rain.

ITCZ and SPCZ



More clouds

Less clouds

Intertropical Convergence Zone (ITCZ) is the area around the equator where trade winds from the northern and southern hemisphere collide. This area consists of high convection systems that can bring, rainfall, thunderstorms and tropical cyclones to Pacific Islands.

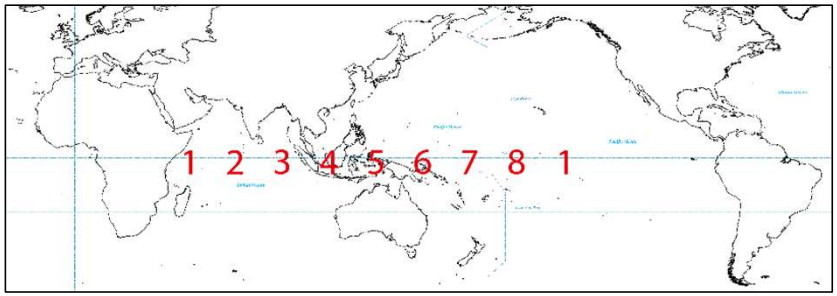
South Pacific Convergence Zone (SPCZ) is an area in the southern Pacific that has high convective activity. Likewise, when active the SPCZ can bring, rainfall, thunderstorms and tropical cyclones to South Pacific Islands.

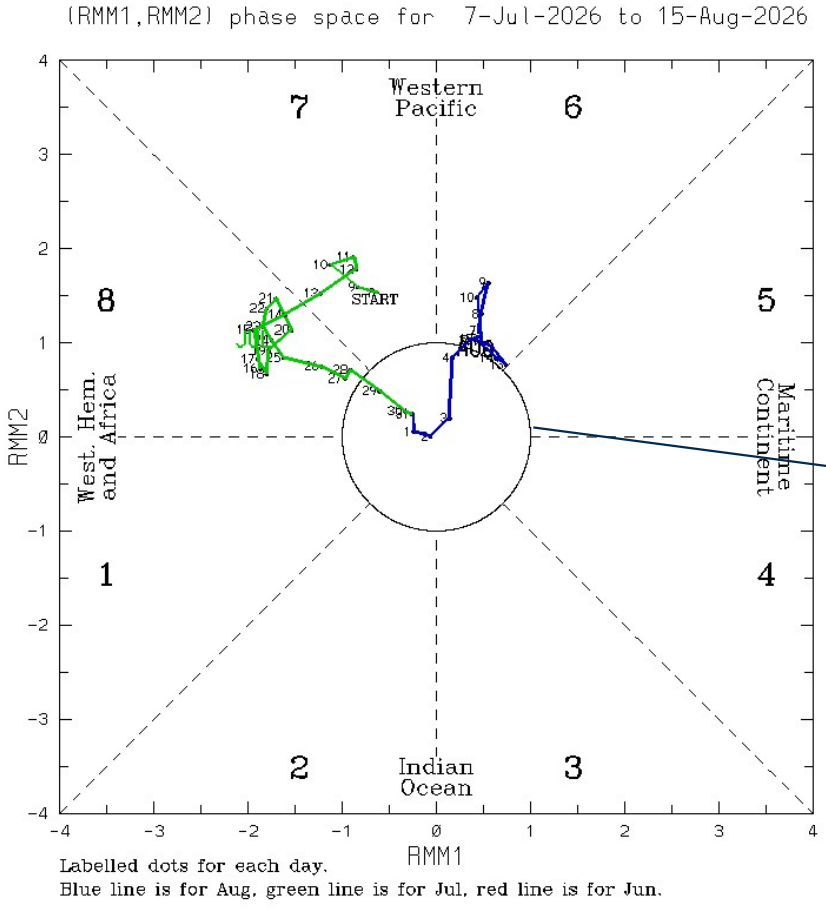
Madden – Julian Oscillation

The **MJO** is in **phase 6**.

Phases **6, 7 and 8** are typically associated with **increased rainfall** across the Pacific.

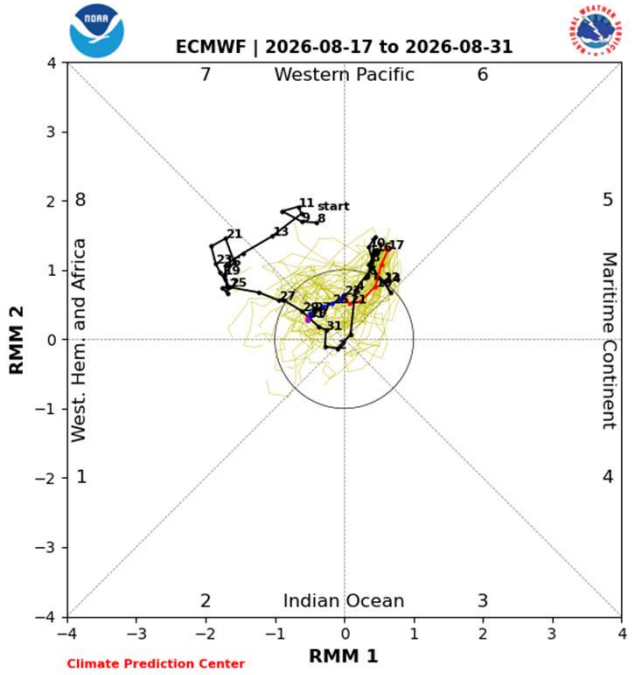
Phases **2, 3 and 4** are typically associated with **decreased rainfall** across the Pacific.

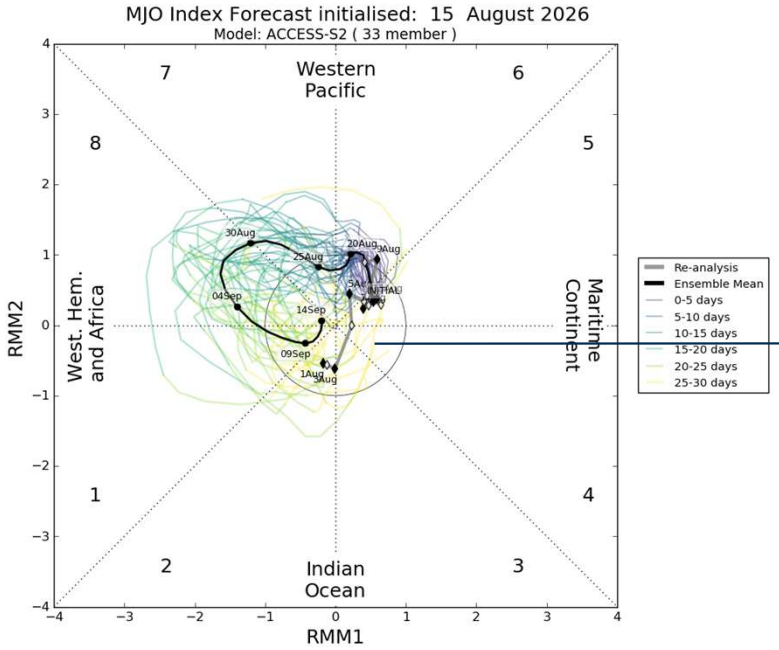




Unit circle: If inside the unit circle the MJO signal is weak

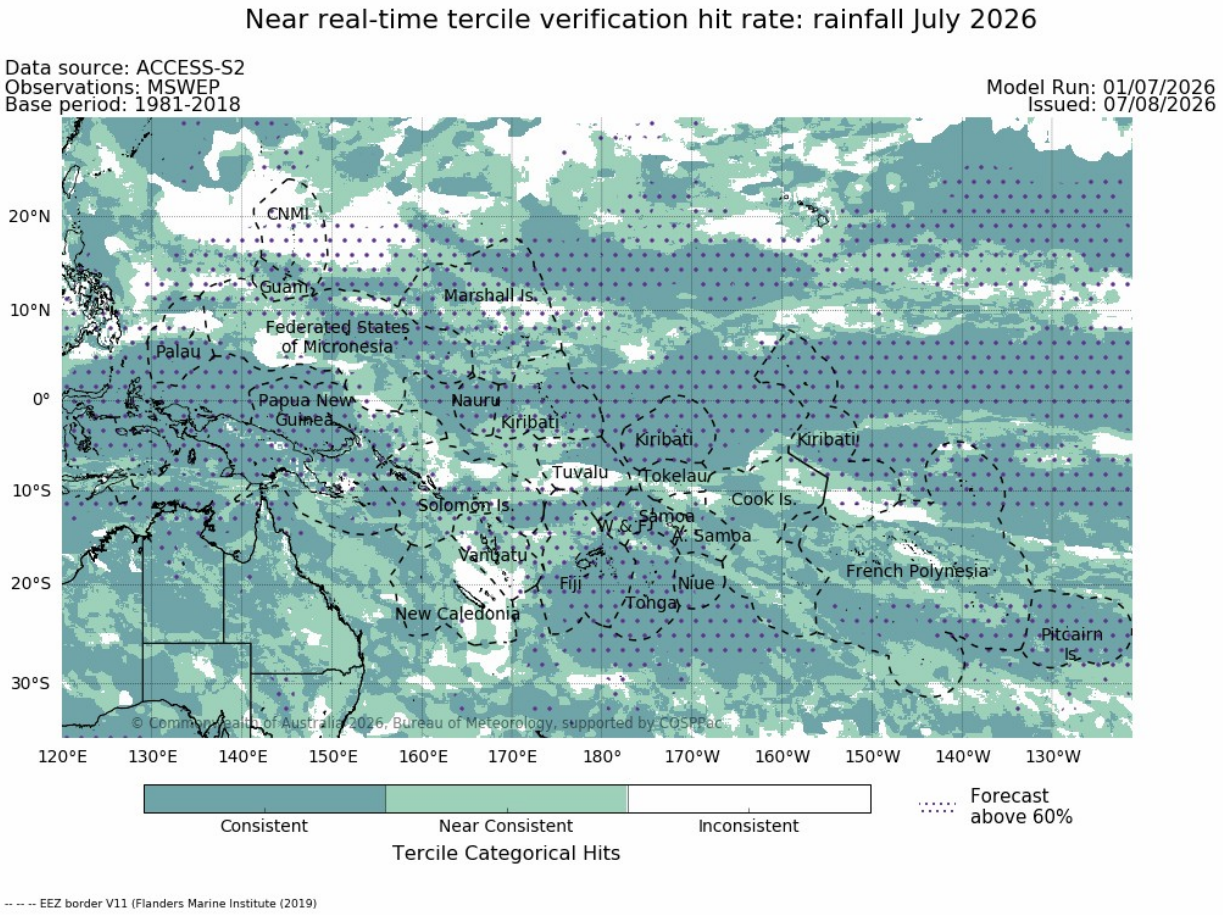
Madden – Julian Oscillation





Unit circle:
If inside the unit circle the MJO signal is weak.

Outlook Verification – July

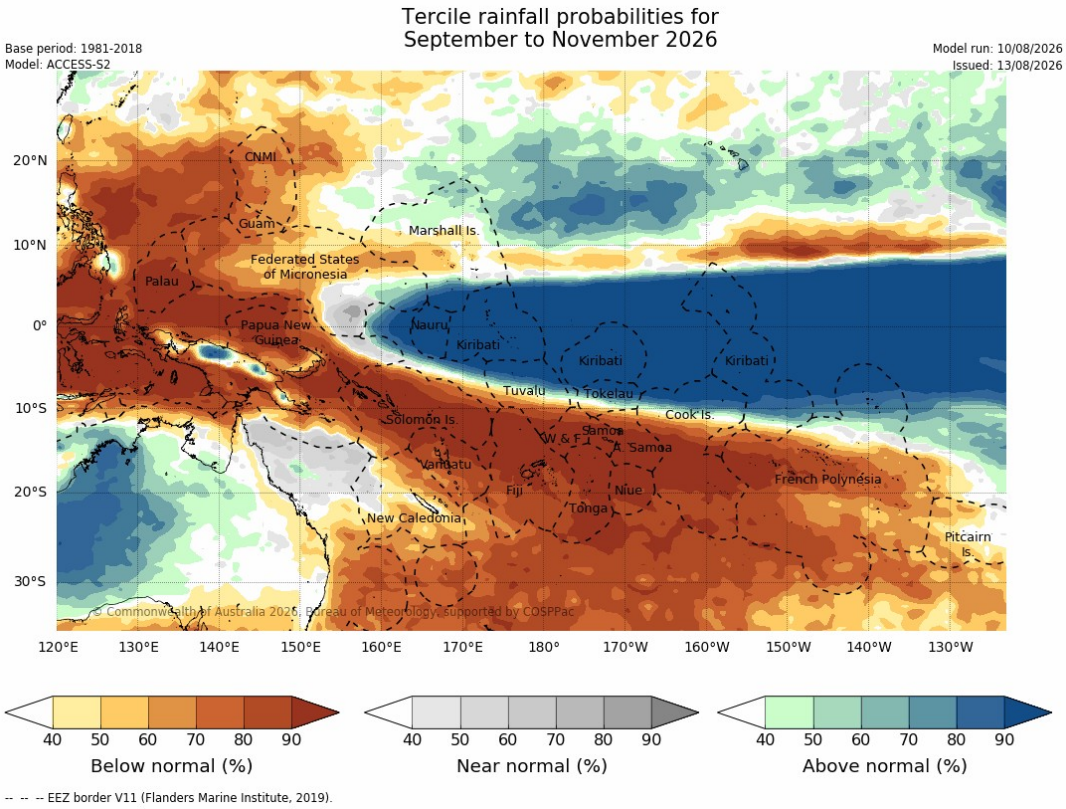


Verification map is based on the ACCESS-S outlook. The greener the area the outlook picked the correct tercile category.

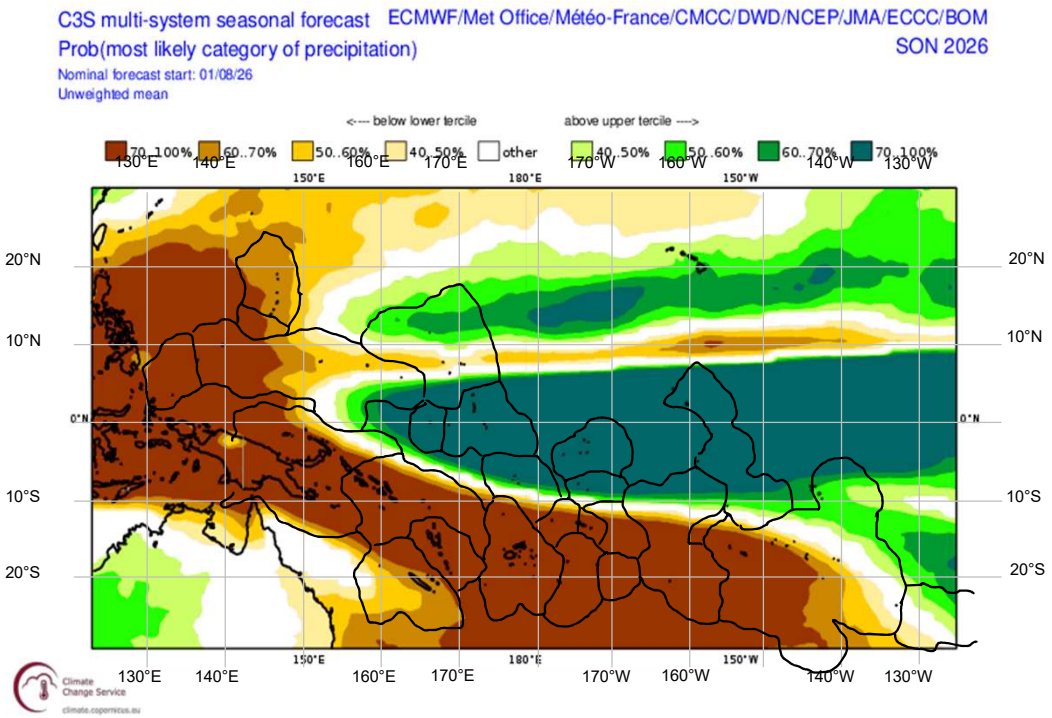
Dots identify were there was a strong outlook above 60%.

Model Rainfall Predictions (SON 2026)

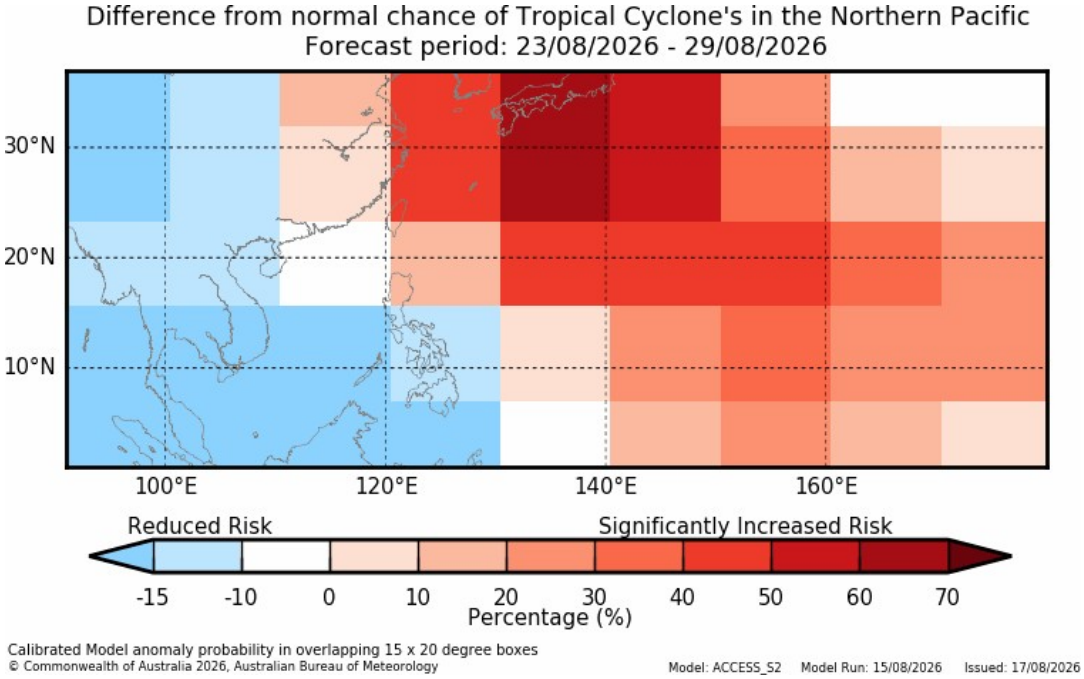
ACCESS-S2

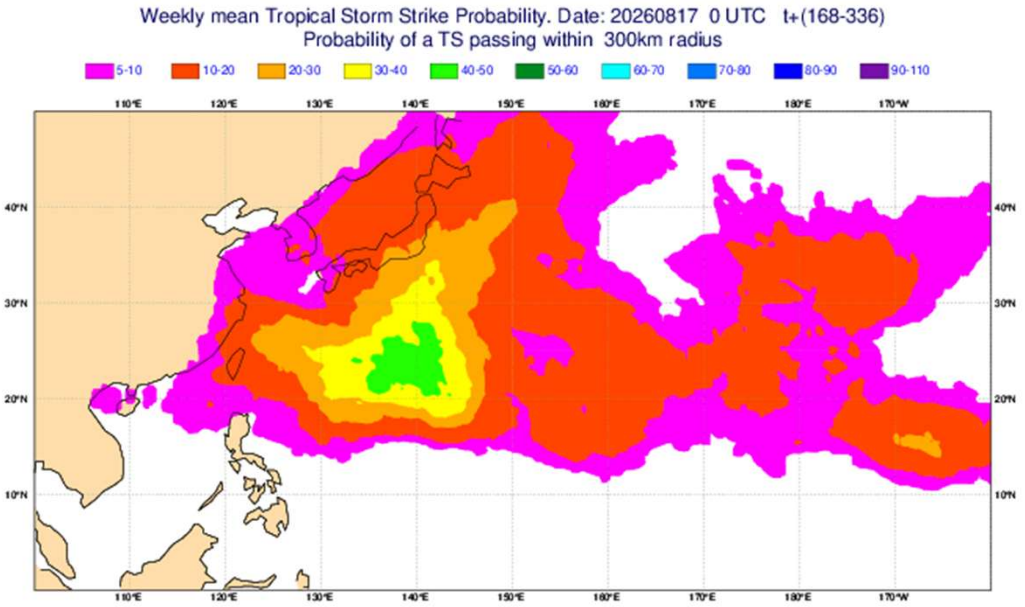


C3S



TC Outlooks


Difference from normal chance of Tropical Cyclone's in the Northern Pacific
Forecast period: 23/08/2026 - 29/08/2026
30°N
20°N
10°N
100°E
120°E
140°E
160°E
Reduced Risk
Significantly Increased Risk
-15
-10
0
10
20
30
40
50
60
70
Percentage (%)
Calibrated Model anomaly probability in overlapping 15 x 20 degree boxes
© Commonwealth of Australia 2026, Australian Bureau of Meteorology
Model: ACCESS_S2
Model Run: 15/08/2026
Issued: 17/08/2026


Weekly mean Tropical Storm Strike Probability. Date: 20260817 0 UTC t+(168-336)
Probability of a TS passing within 300km radius
5-10
10-20
20-30
30-40
40-50
50-60
60-70
70-80
80-90
90-110

Thank you

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