ENSO Update – OCOF 223

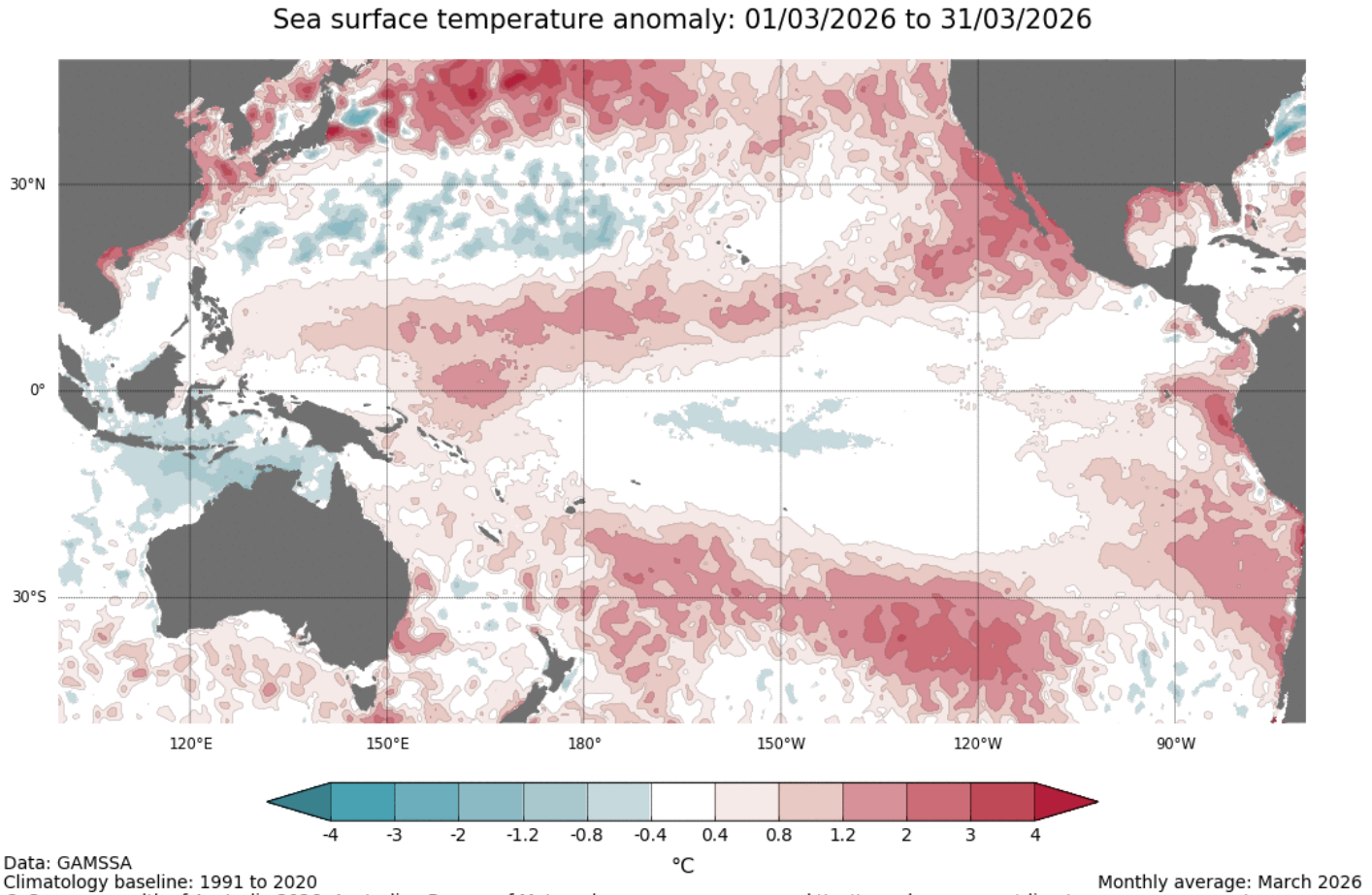
15 April 2026

ENSO Update

- The 2025–26 La Niña has ended. Collectively, oceanic and atmospheric indicators of the El Niño–Southern Oscillation (ENSO) reflect an ENSO-neutral state.
- Sea surface temperatures (SSTs) in the central tropical Pacific have been within the ENSO-neutral range (−0.80 to +0.80 °C) for the past 6 weeks, with the latest relative Niño3.4 index value for the week ending 29 March 2026 at –0.42 °C. A recent pulse of warming in the sub-surface suggests further warming of SSTs is likely in the coming weeks.
- Atmospheric indicators, such as trade winds, pressure and cloud patterns in the tropical Pacific reflect ENSO-neutral conditions. Westerly wind anomalies have extended into the central equatorial Pacific in the last fortnight and are forecast to persist in the coming weeks. This would also act to enhance warming of tropical Pacific SSTs.
- All models, including the Bureau's, forecast the tropical Pacific to continue warming in the coming months. Neutral ENSO conditions are expected to persist until at least late autumn, with all models indicating warming to levels consistent with El Niño by the end of winter. There is some variation across models in the rate at which El Niño thresholds may be reached, with some suggesting development as early as May, while others show a slower warming with thresholds not met until late winter. Ocean-atmosphere coupling (where the ocean and atmosphere act to reinforce each other) is required for a sustained El Niño state.

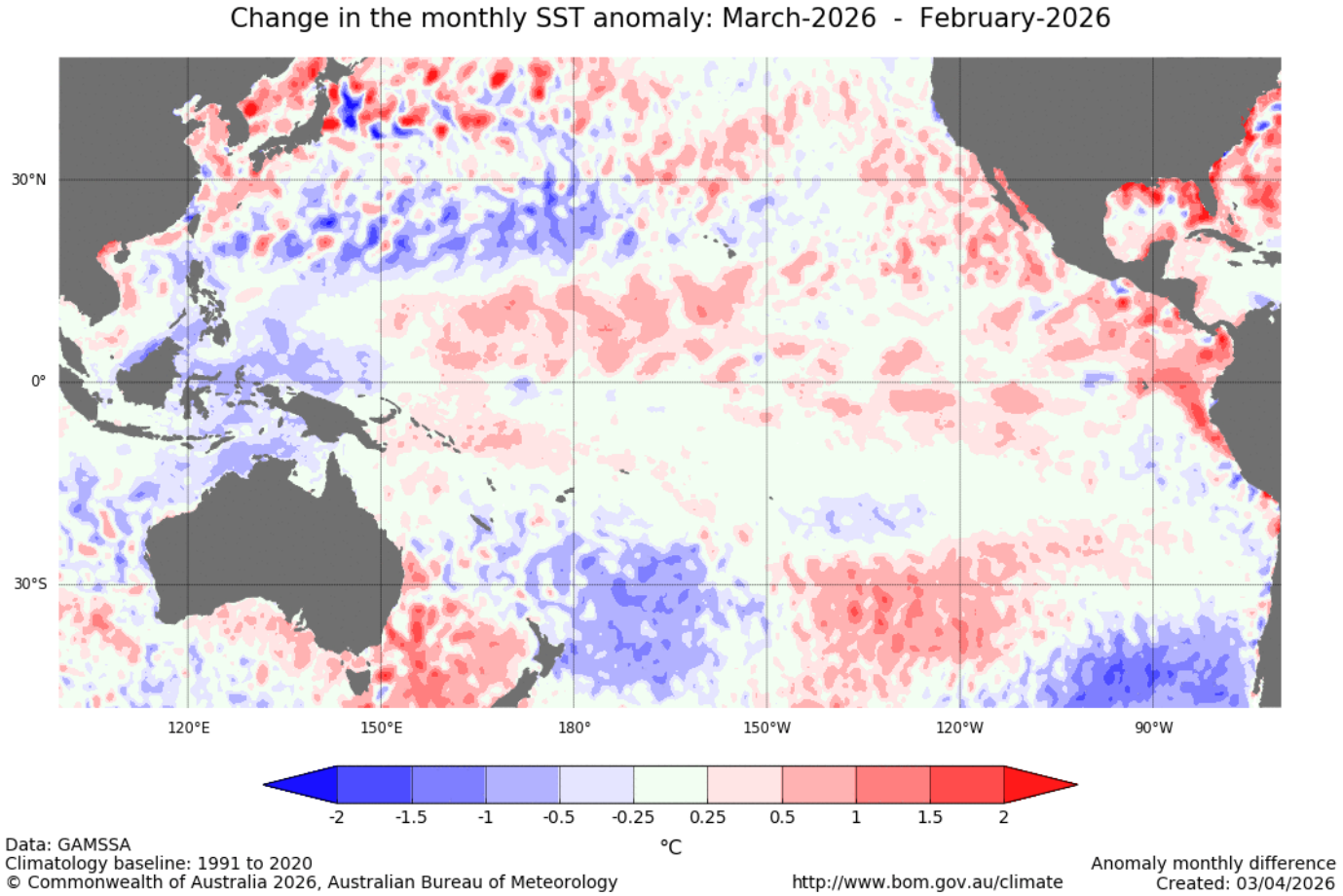
March 2026 SSTs

Warm SST's persist in the off-equatorial Pacific reflecting the La Niña signature as it continues to decay, with equatorial SSTs now largely near normal for this time of year.

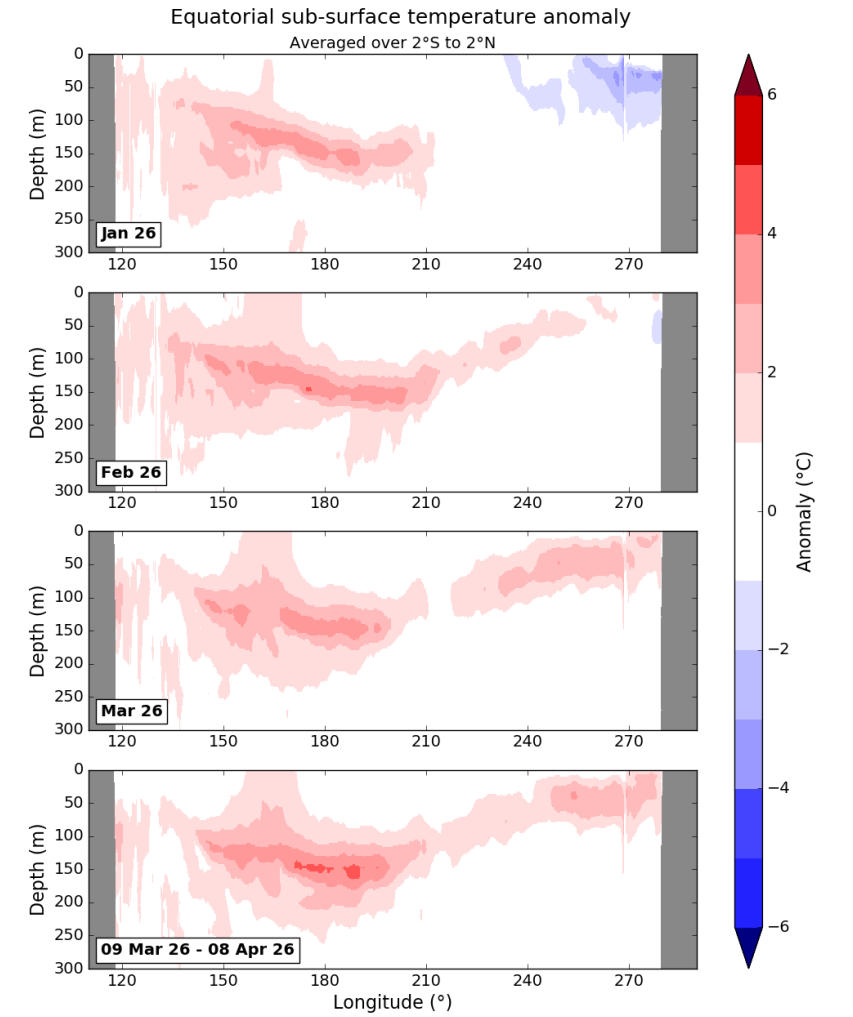


March – February 2026 SSTs

The equatorial Pacific has warmed during March when compared to February, with SST's having cooled in the far western Pacific and the off-equatorial regions reflecting the weakening La Niña.

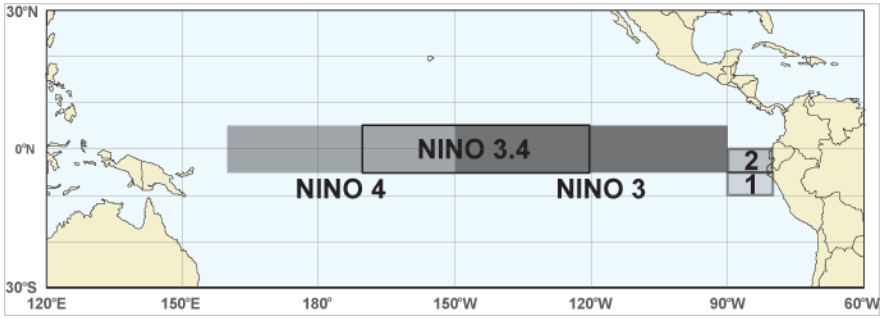


Equatorial Pacific Sub-surface Profile

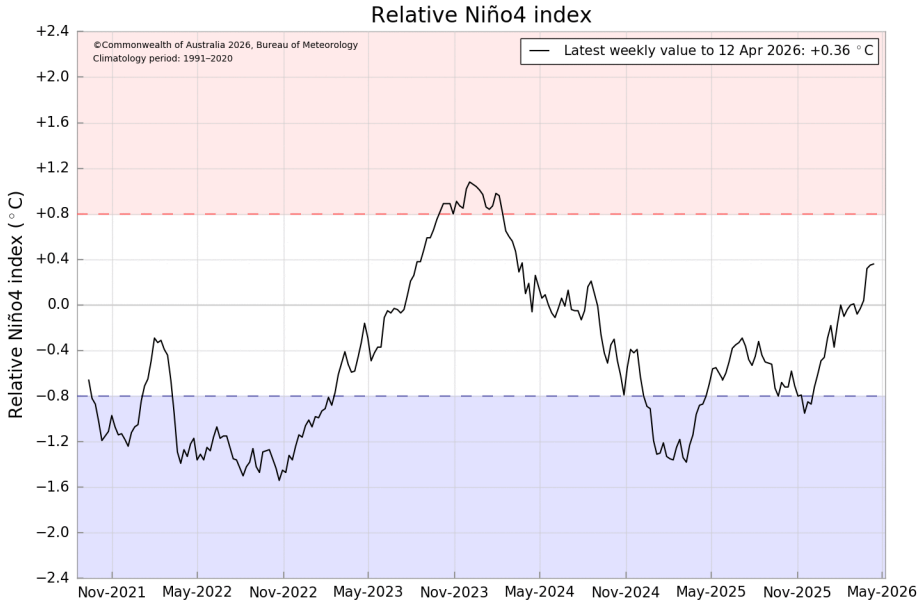


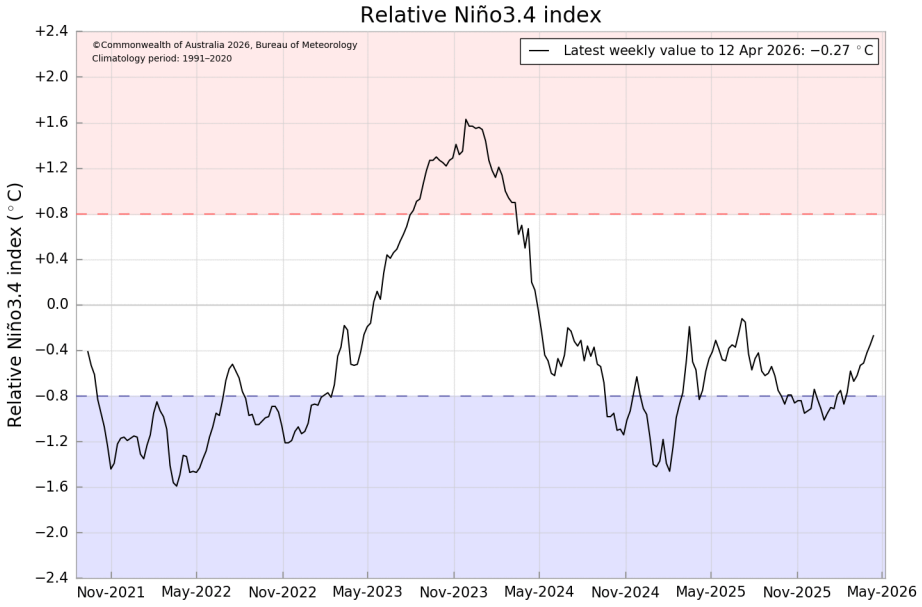
The sub-surface slice down to 300m depth across the Pacific shows the warm water that has persisted in the western and central Pacific during 2026 at about 150m depth. The warm water has propagated eastwards reaching the surface in the eastern Pacific during March 2026.

Observed Relative NINO Indices

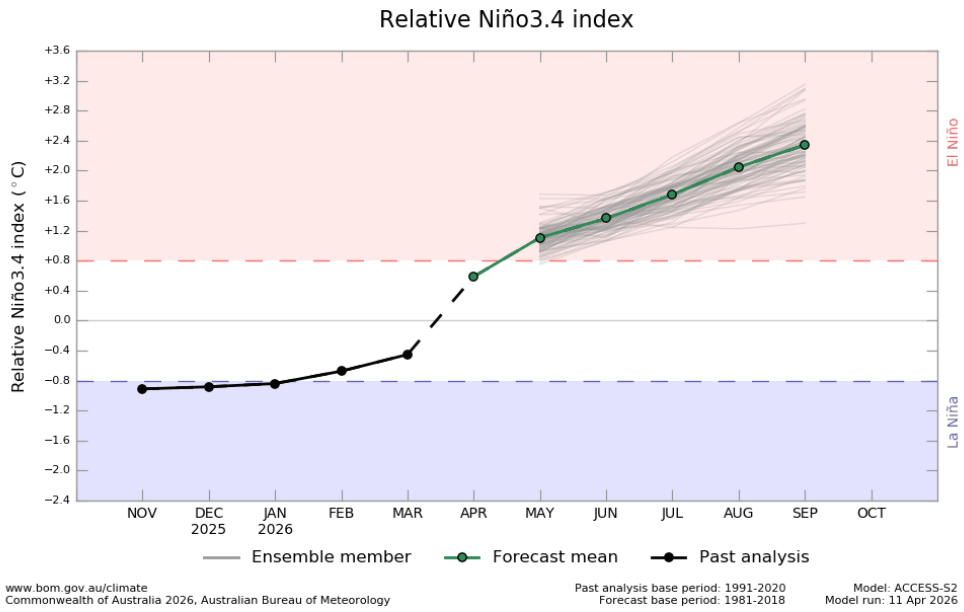


The relative Nino indices indicate significant warming in the central and western Pacific (NINO 4, NINO 3.4) during 2026 as the La Niña weakens towards ENSO-neutral.





Relative ENSO Outlook

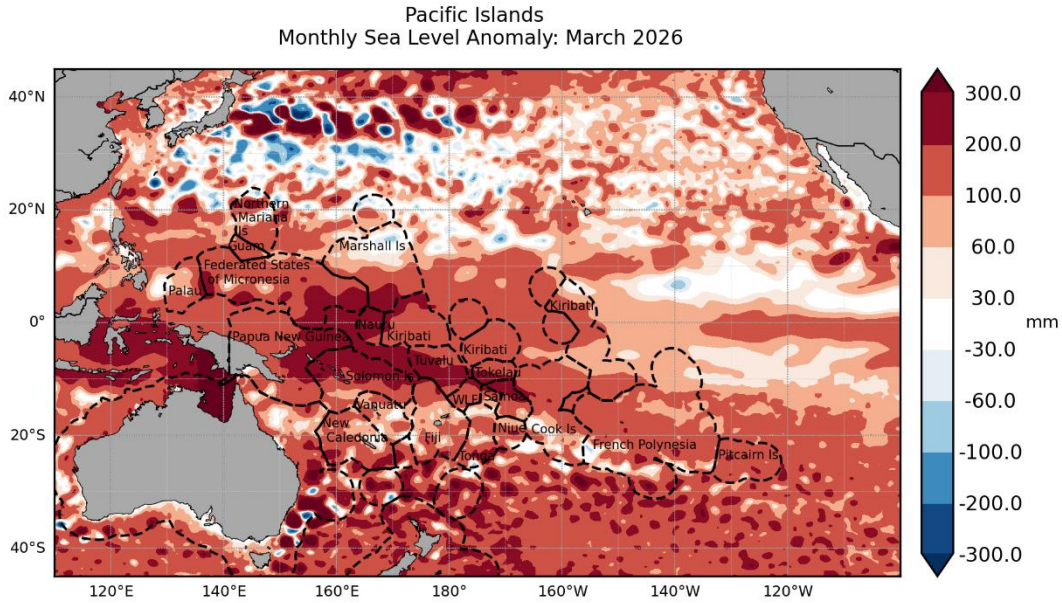


The tropical Pacific is ENSO-neutral, that is neither at La Niña not El Niño levels. El Niño is predicted to develop over the coming months.

El Niño is associated with **increased rainfall** across the eastern and central Pacific.

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

August 2026 Sea Level Anomaly



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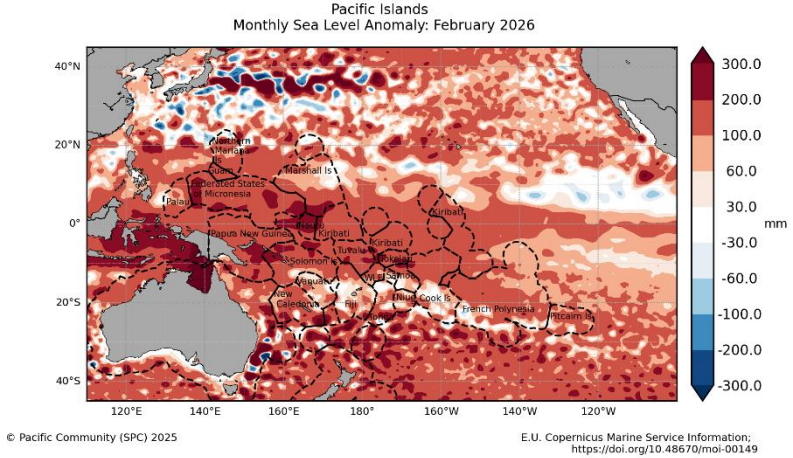
E.U. Copernicus Marine Service Information; https://doi.org/10.48670/moi-00149

Positive sea levels above 200mm were experienced over Nauru, southeastern FSM, southern RMI, eastern PNG, the northern half of the Solomon Is., most of Tuvlua, southern Tokelau and northern American Samoa during March 2026.



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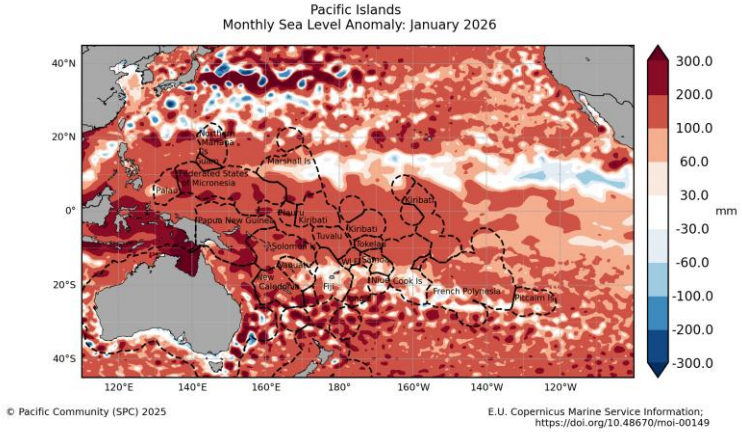

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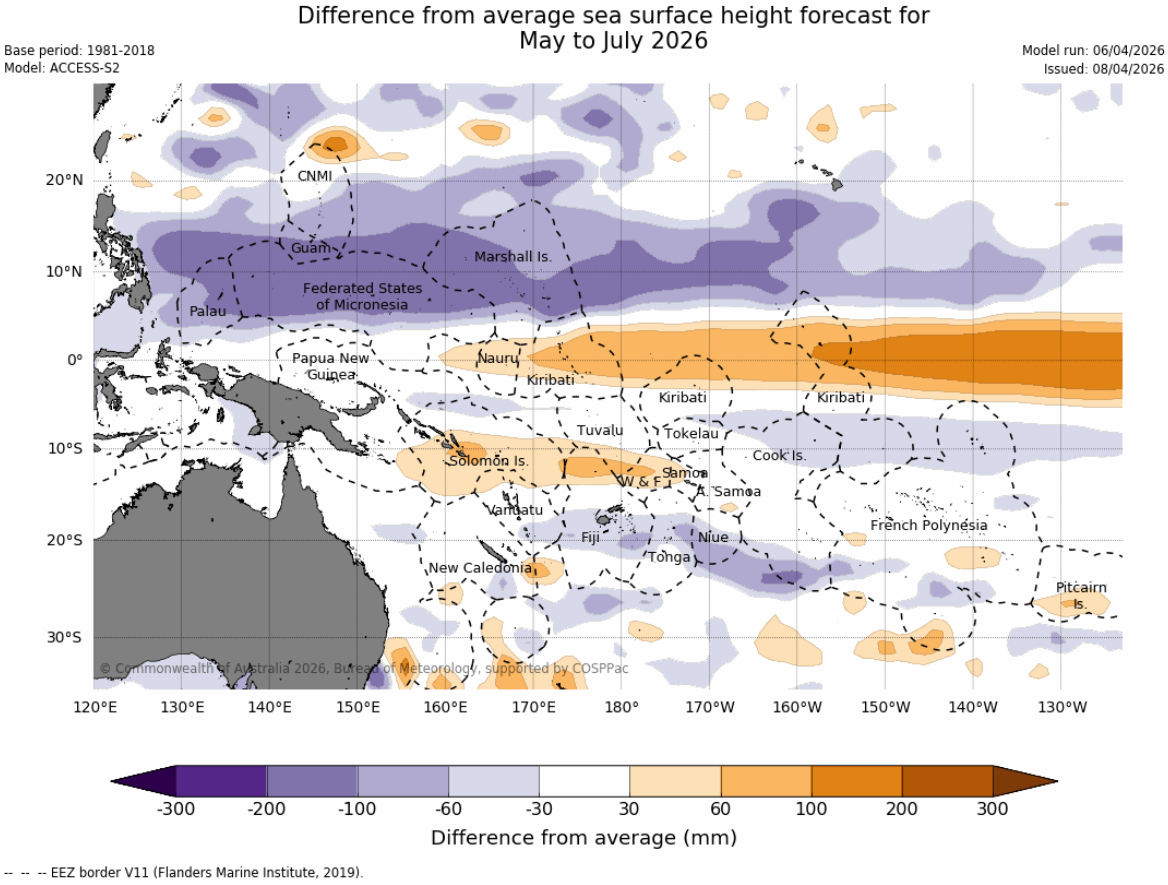
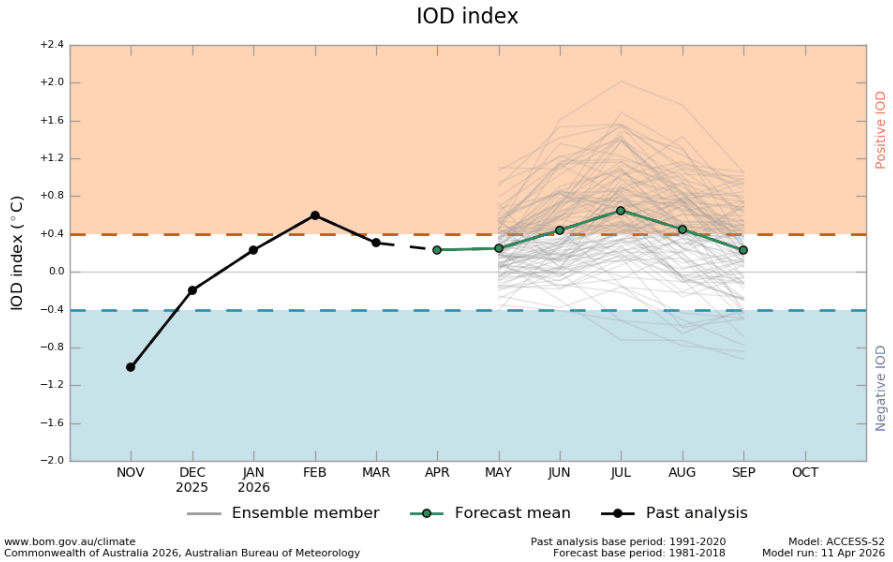
Seasonal Outlook: Sea Surface Height Anomaly



The sea surface height is forecast to be up to 200mm lower than usual for parts of Palau, Guam, FSM and central RMI for May to July.

Indian Ocean Dipole (IOD)



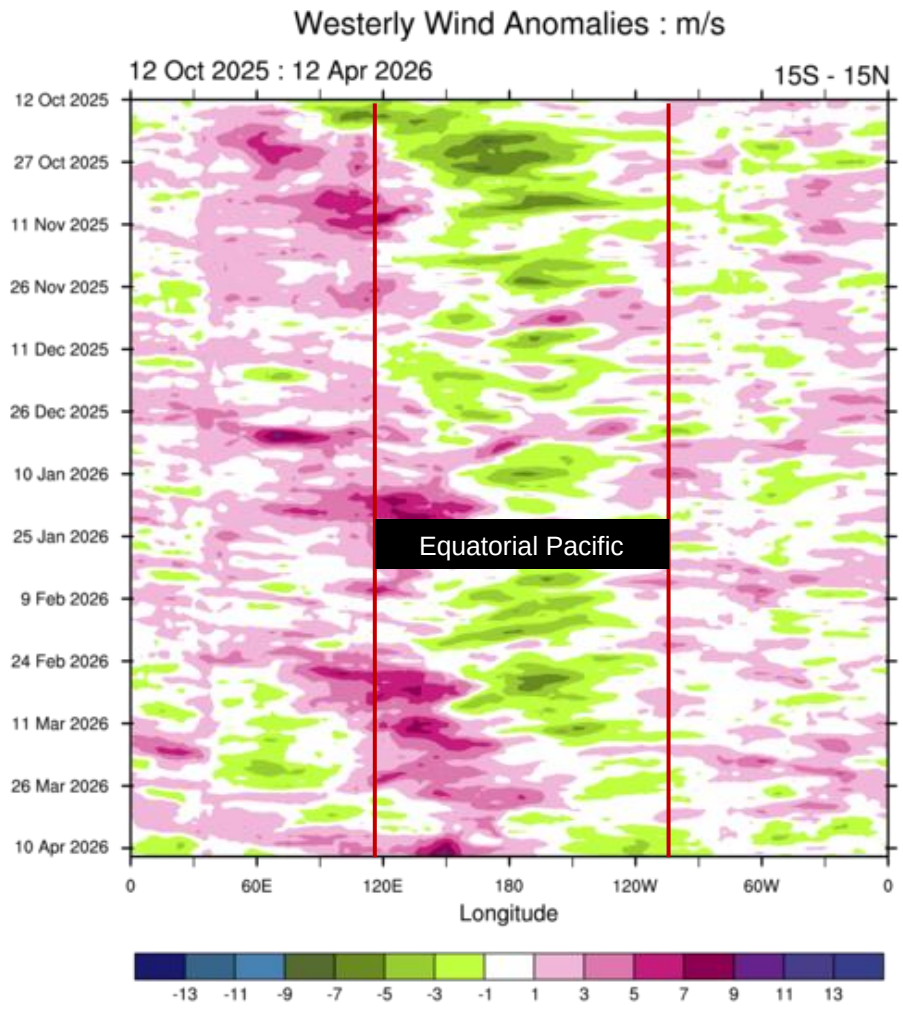
The peak of the **IOD** is **Sep-Oct** in the southern hemisphere. Decaying with the onset of the monsoon.

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

Wind Anomalies



Easterly (stronger trade)

Westerly (weaker trade)

Trade winds west of the Date Line have been persistently weaker than usual through 2026. The MJO moving into the Western Pacific in recent days has further weakened trade winds (Pink shading at the bottom of the plot).

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.

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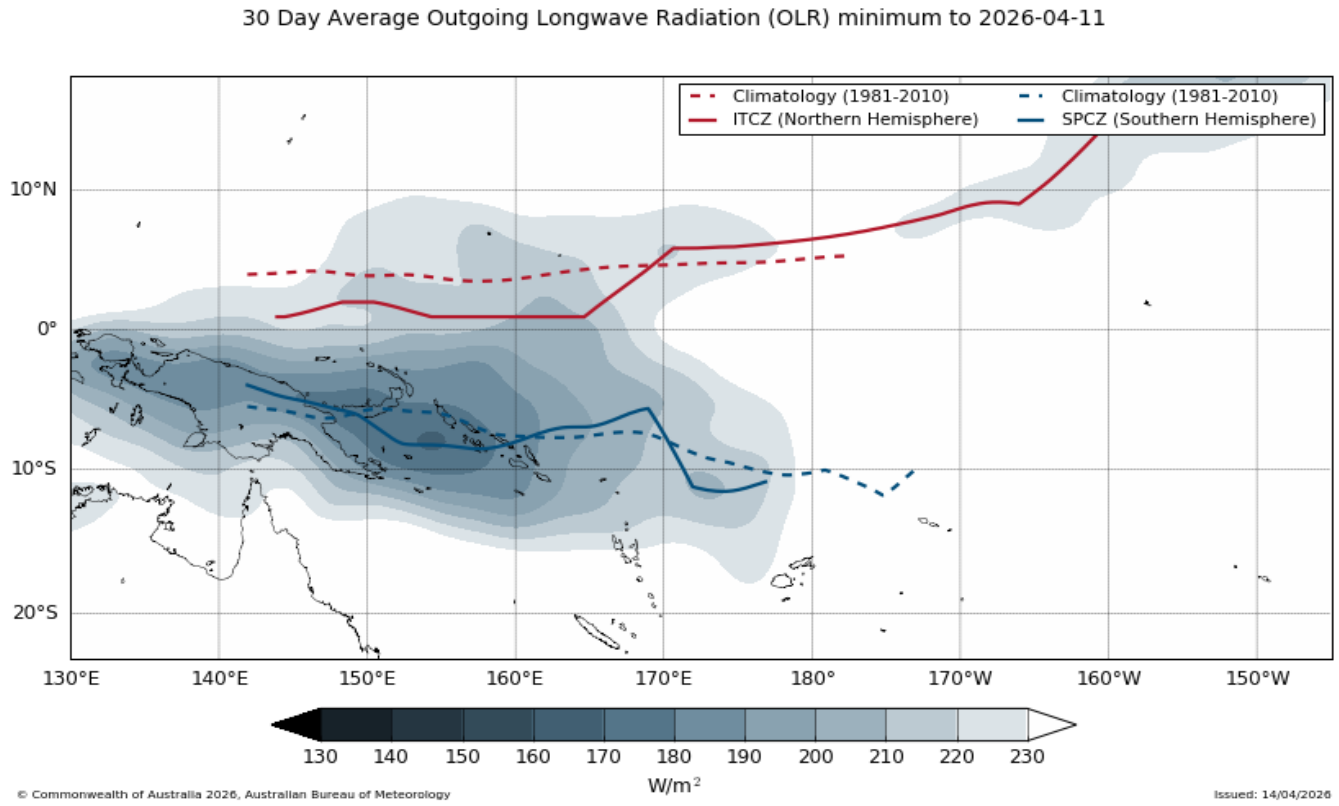
ITCZ and SPCZ

The ITCZ is located south of its usual position for this time of year over FSM and western RMI.
The SPCZ is located close to its climatological position.



More clouds

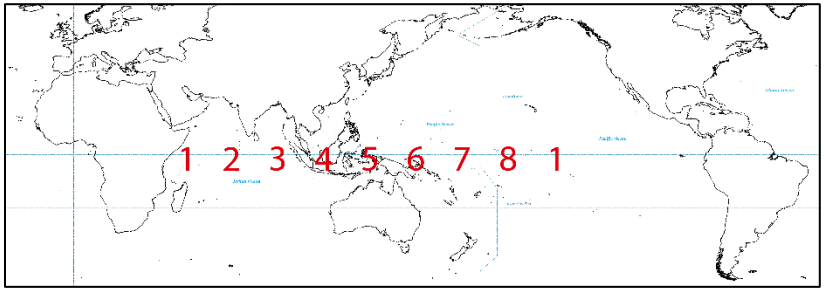
Less clouds

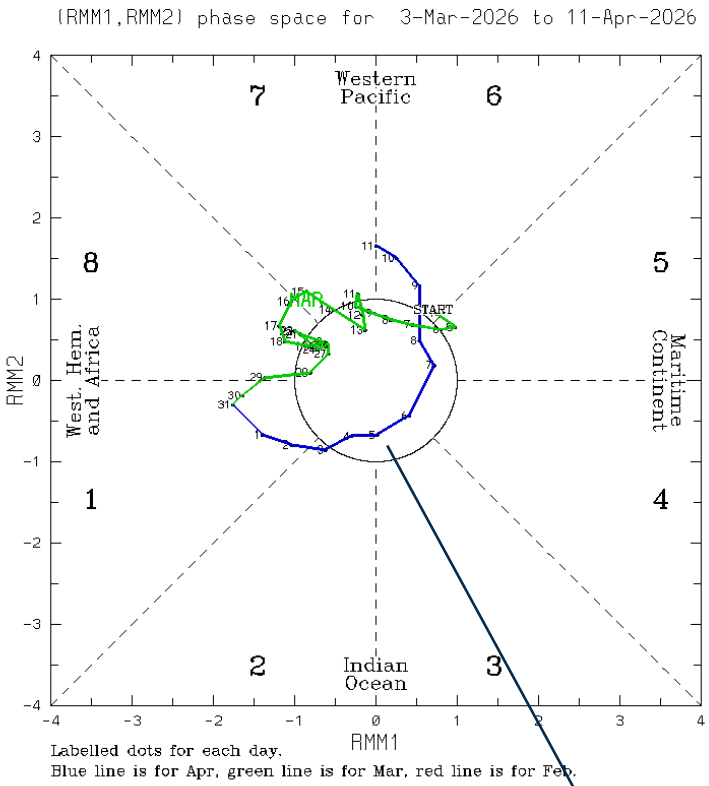
Madden – Julian Oscillation

The **MJO** is in **Phase 6/7** over the Pacific Ocean. The forecast indicates the MJO will move eastwards and out of the Western Pacific over the coming weeks.

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.





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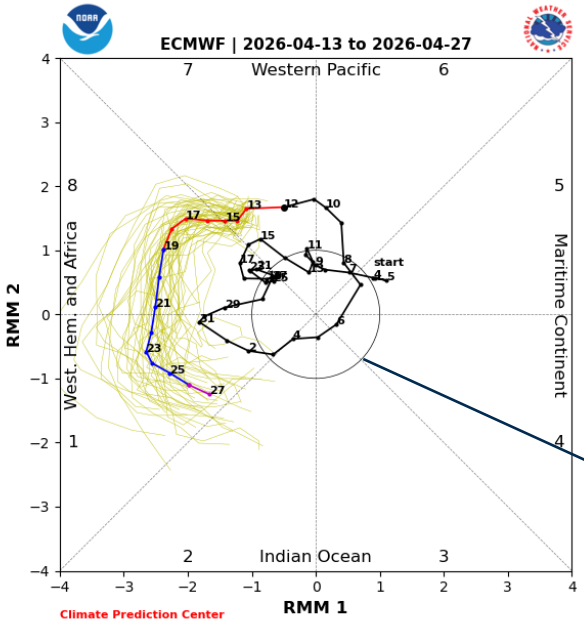
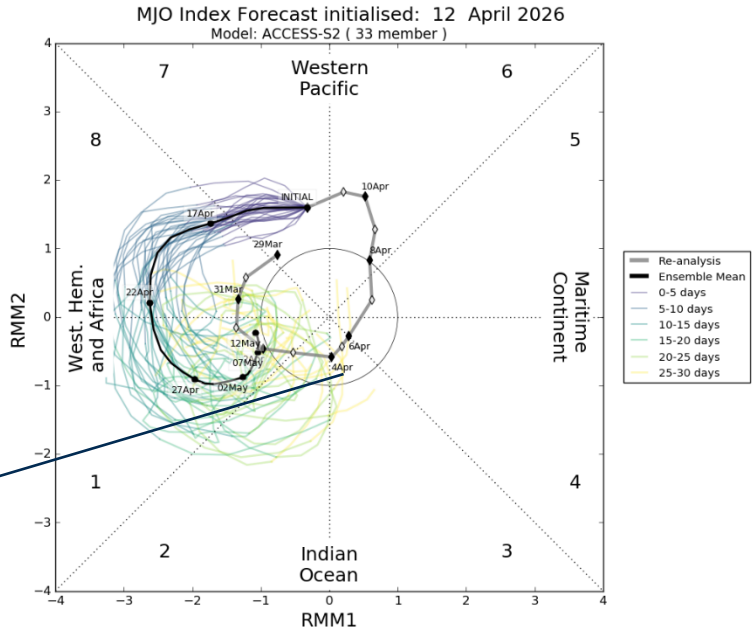
Unit circle:
If inside the unit circle the MJO signal is weak

Madden – Julian Oscillation

The MJO is currently located over the Western Pacific and is forecast to propagate eastwards and out of the region in the coming week.



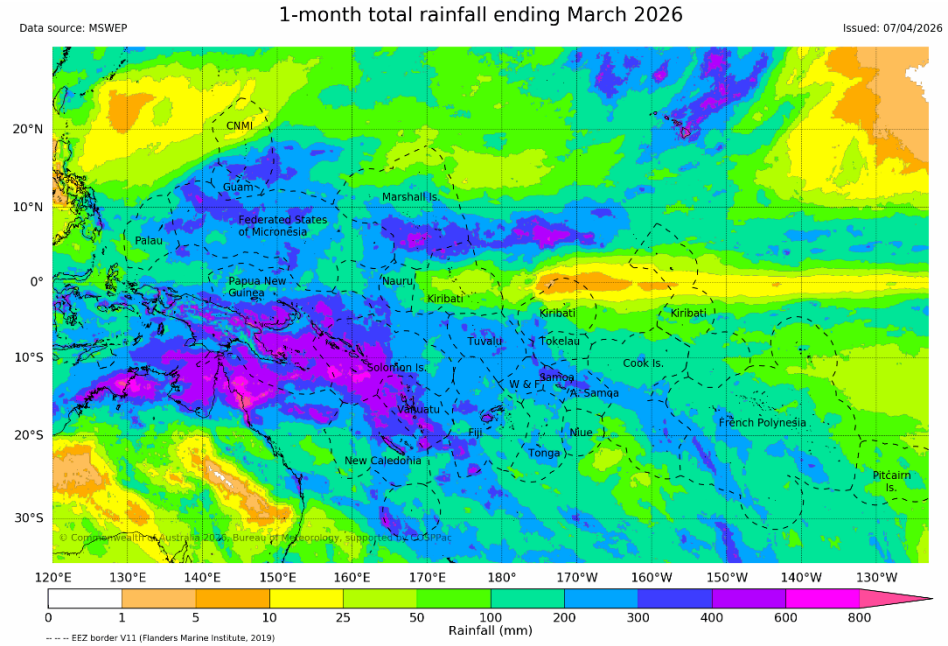
Unit circle:
If inside the unit circle the MJO signal is weak

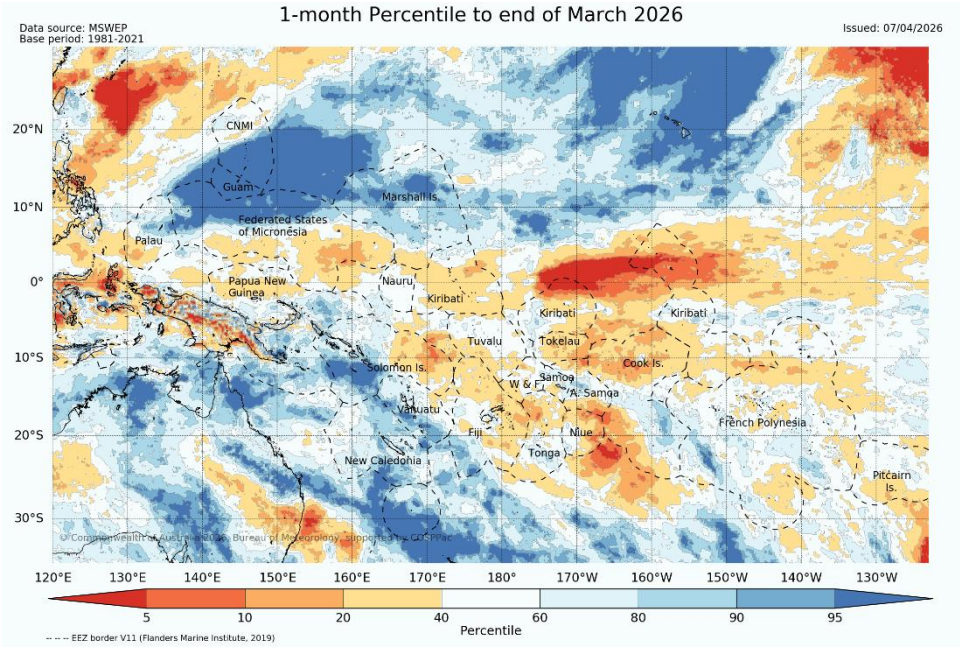


Observed Rainfall – March 2026

Observed

Percentile

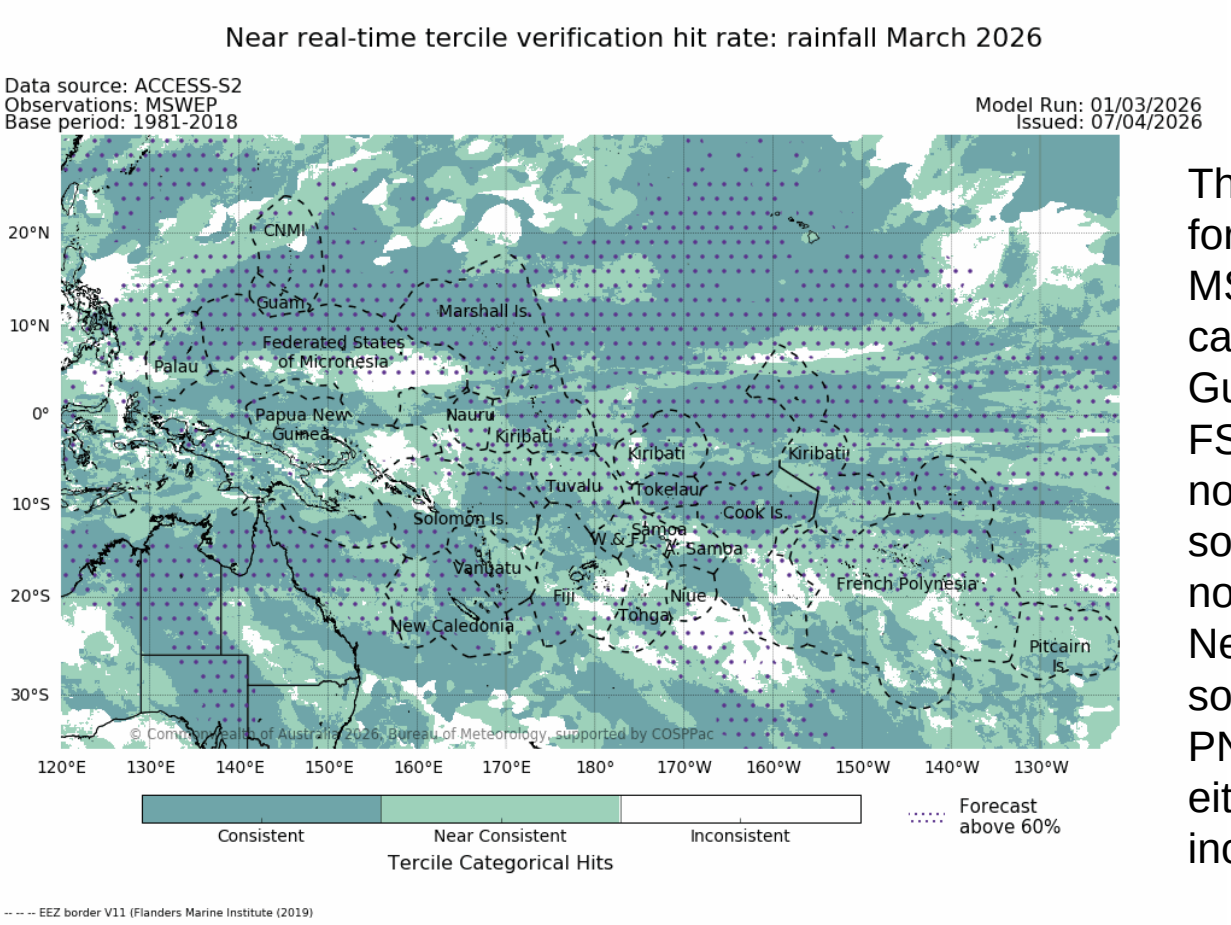




Rainfall totals above 400 mm were recorded in March over parts of PNG, the Solomon Is., Vanuatu, New Caledonia, central RMI and far western FSM.

Rainfall totals were significantly higher than usual over Guam, southern CNMI, northern FSM, northern RMI, southern Solomon Is., parts of Vanuatu and New Caledonia.

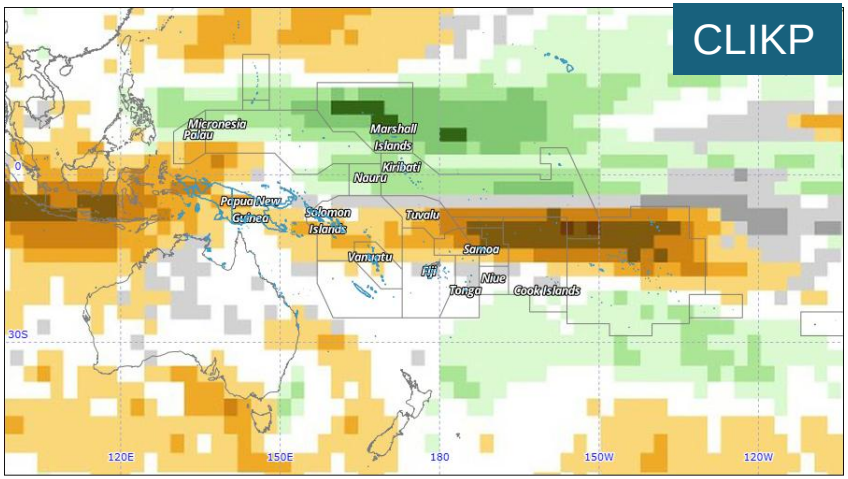
Forecast Verification – March

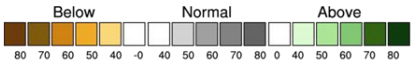


The ACCESS-S2 rainfall forecast for March when compared with MSWEP had a consistent tercile category over most of Palau, Guam, southern CNMI, northern FSM, RMI, most of Kiribati, northern Cook Is., Tokelau, southern American Samoa, northern Niue, parts of Fiji, most of New Caledonia, western Vanuatu, southern Solomon Is., and northern PNG. Elsewhere the forecast was either near consistent or inconsistent with observations.

Model Rainfall Predictions (XXX)

CLIKP





Year: 2026, Season: AMJ, Lead Month: 3, Method: GAUS
Model: APCC, BOM, CMCC, CWA, ECCC, NASA, NCEP, PNU
Generated using CLIK(P) (2026-4-14)

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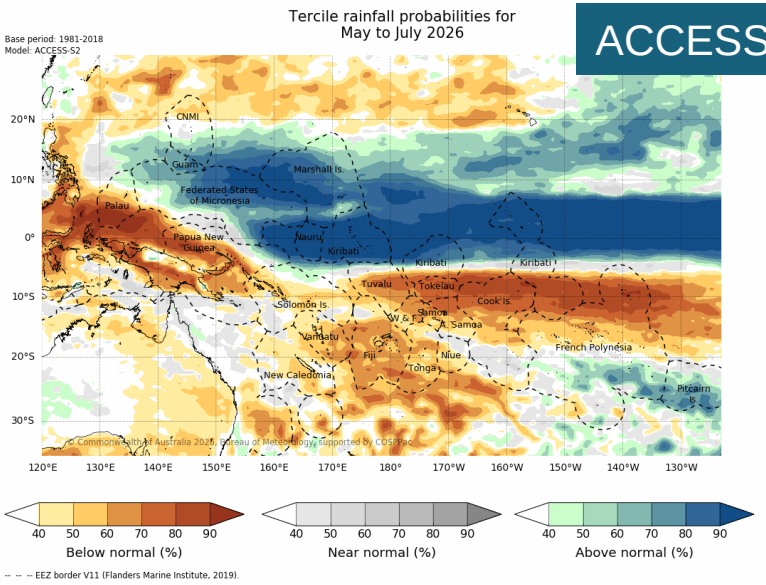
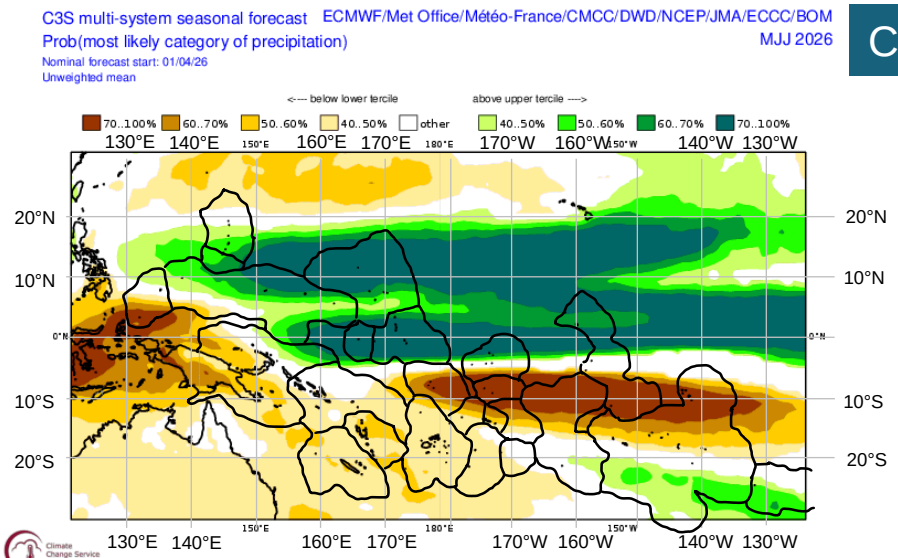
ACCESS-S2

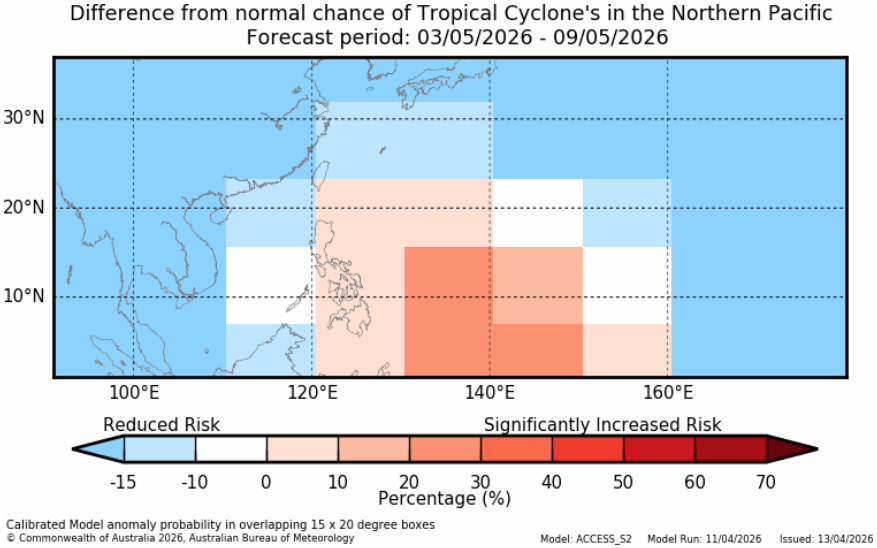


C3S



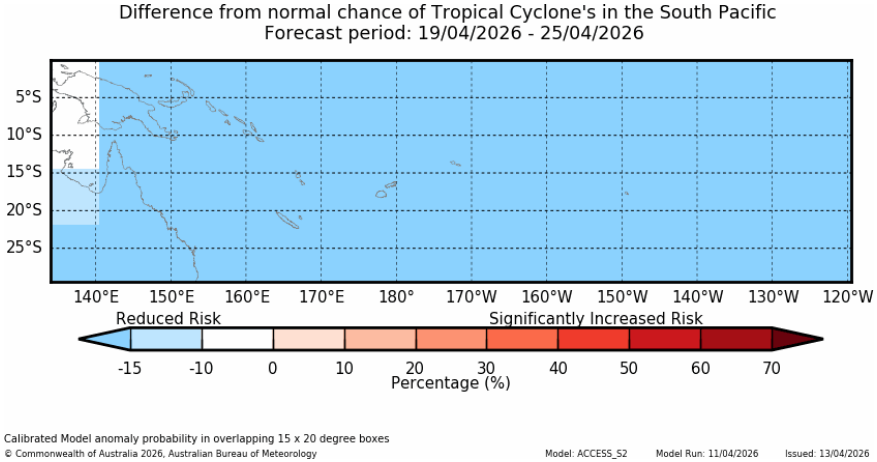
TC Outlooks

North Pacific



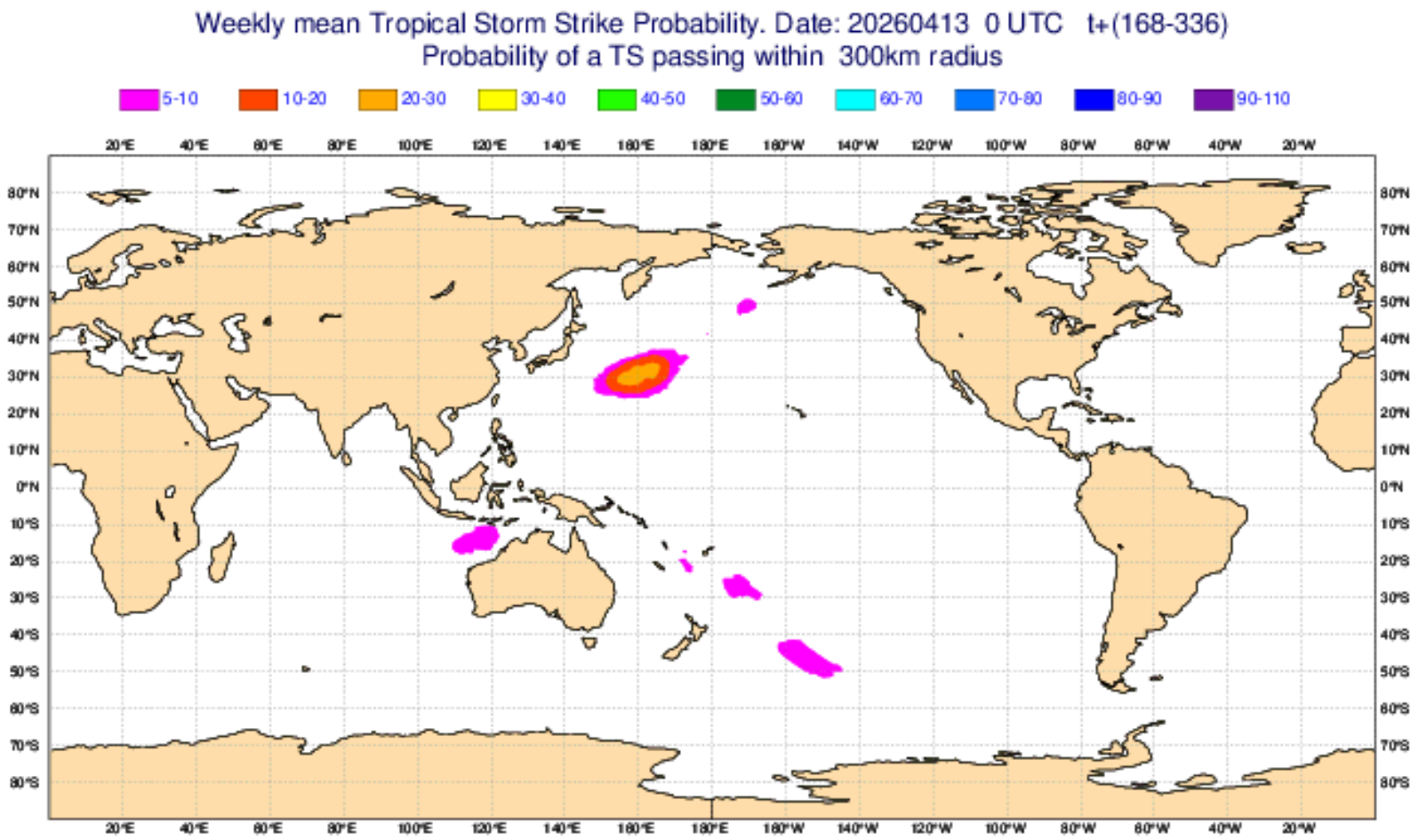
The **TC outlook** for the NW Pacific shows increased risk of TC formation for the week of 3-9 May 2026.

South Pacific



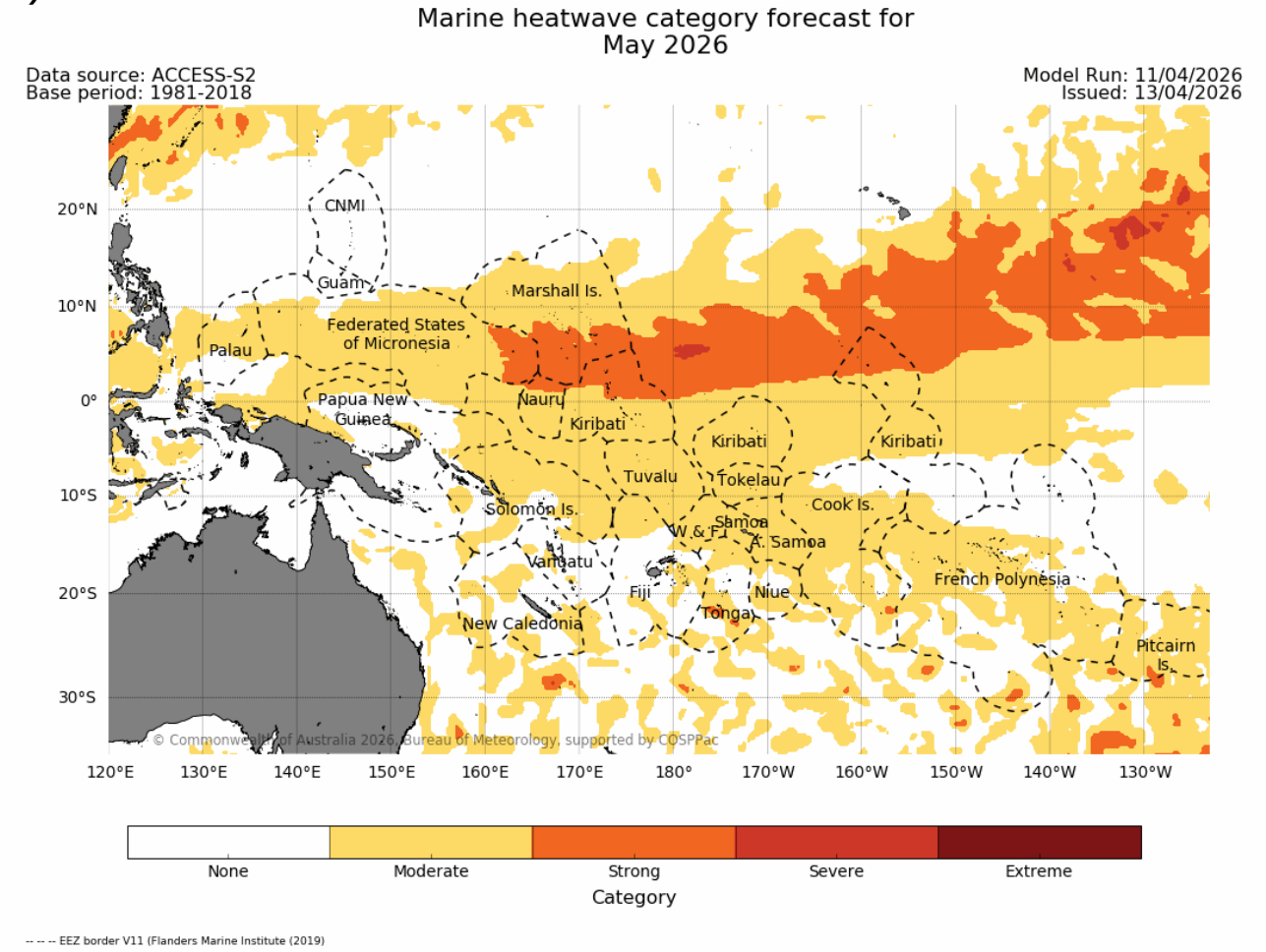
The **TC outlook** for the South Pacific shows near normal or reduced risk of TC formation for the week of 19-25 April 2026.

Weekly ECMWF TC Forecast: 20-27 April 2026



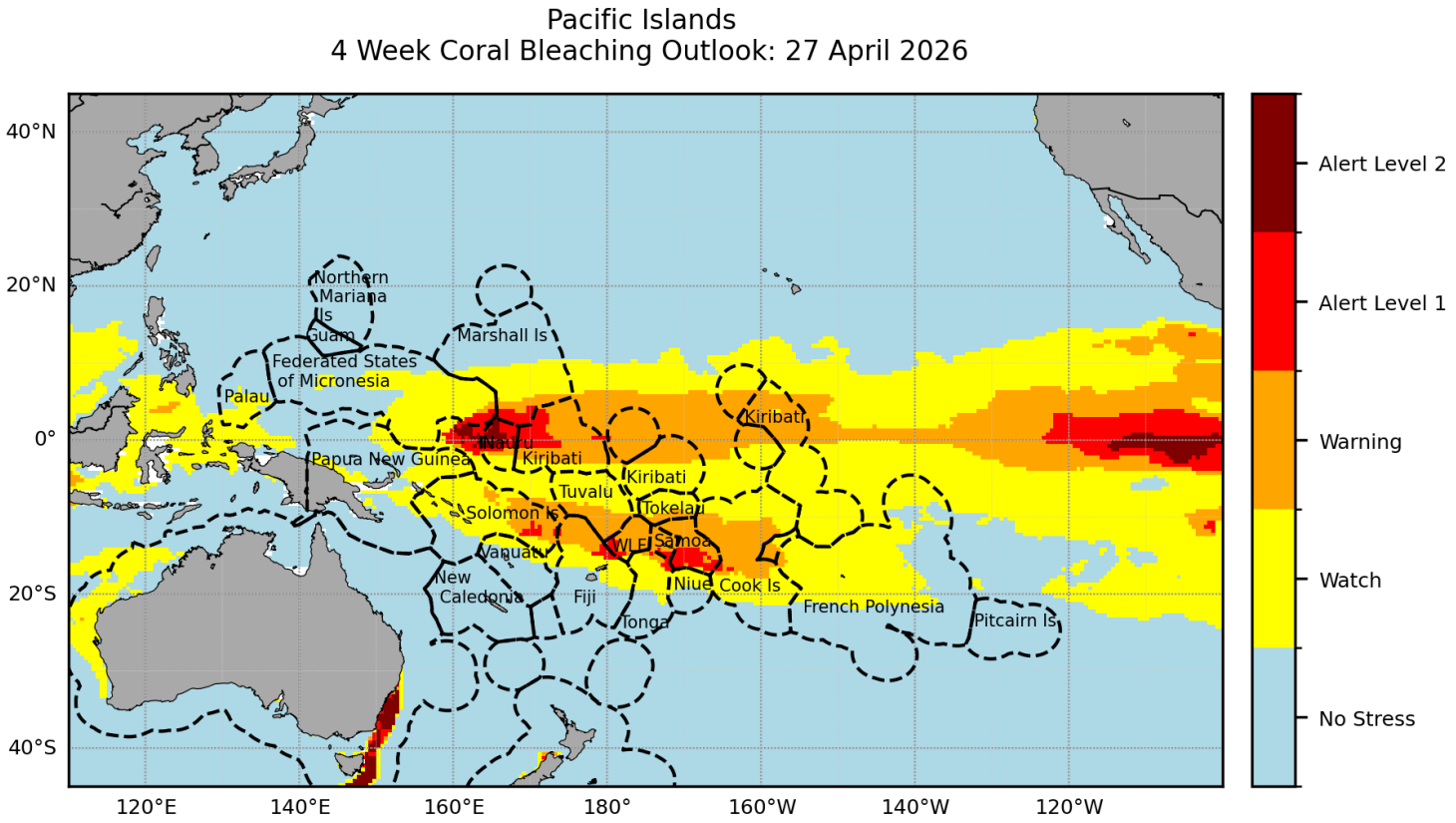
Marine Heatwaves

The Marine heatwave forecast for May 2026 is in the Strong category for eastern FSM southern RMI, northern Nauru and northern Gilbert and Line Is. (Kiribati).



Coral Bleaching

The Coral Bleaching forecast for the 4 weeks to 27 April 2026 is for Alert level over Nauru, western Gilbert Is. (Kiribati), southeastern Solomon Is., far northern Fiji, and southern American Samoa.



Thank you

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