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# ENSO Update – OCOF 222

11 March 2026



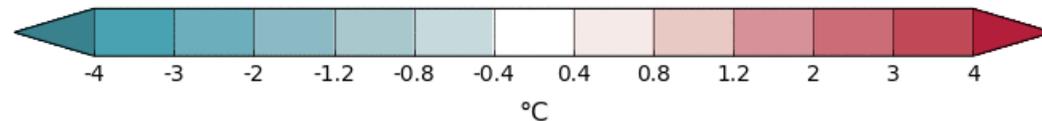
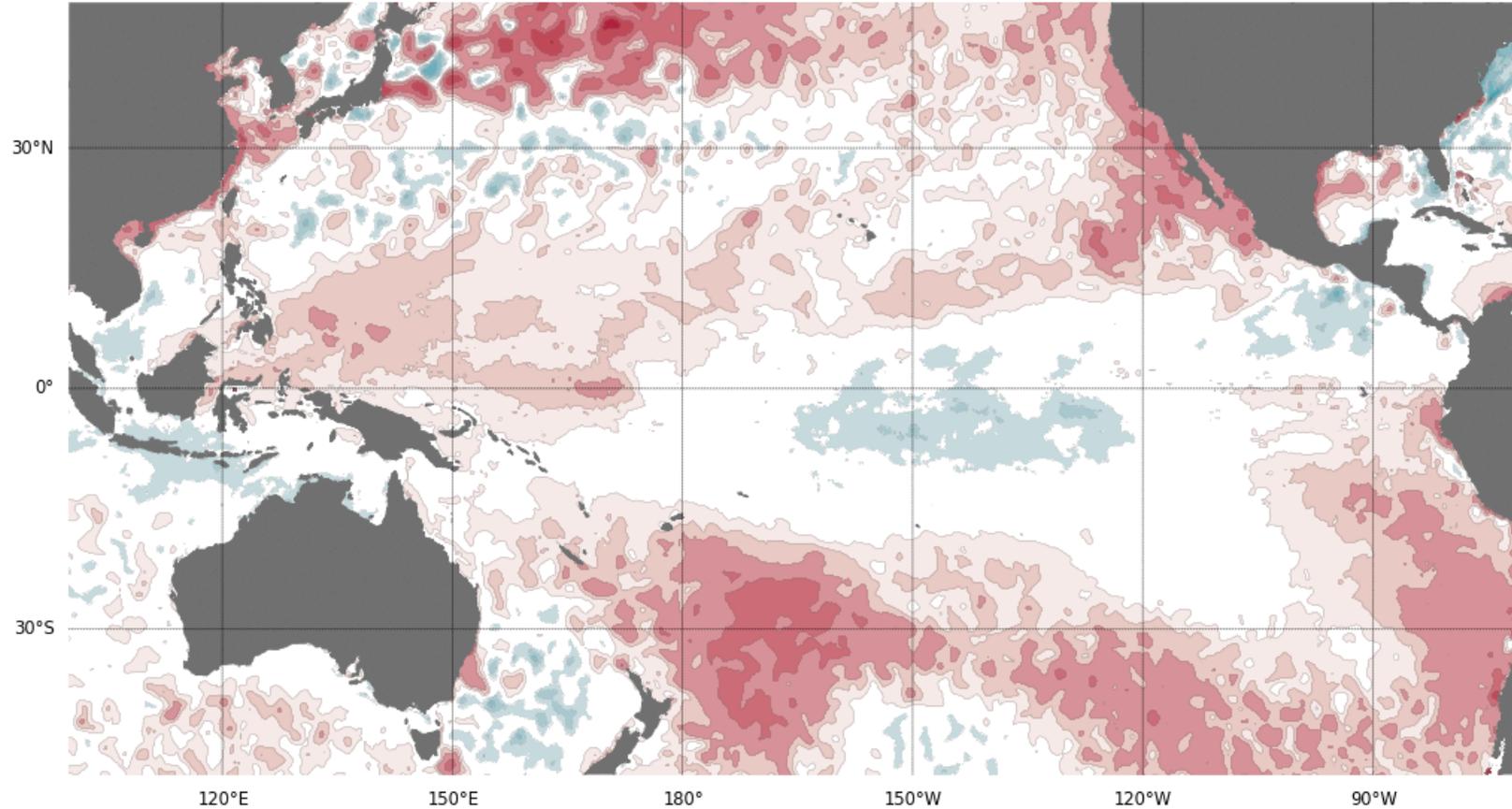
# ENSO Update

- The 2025–26 La Niña is close to ending. Sea surface temperatures in the central tropical Pacific have been fluctuating around the La Niña threshold ( $-0.80\text{ }^{\circ}\text{C}$ ) since late January.
- Atmospheric indicators, such as trade winds, pressure and cloud patterns in the tropical Pacific, are consistent with borderline La Niña conditions. Recent warming in the sub-surface suggests that the event is likely to decline further in the coming weeks.
- These recent changes in the tropical Pacific are consistent with model forecasts, indicating a general easing of La Niña during the latter part of the 2025–26 summer.
- All models indicate a return to neutral ENSO conditions later this month or in early autumn. Continued warming in the tropical Pacific is forecast, with a neutral ENSO state favoured in early autumn.
- Some models suggest the possibility of El Niño development from June. It should be noted that this is a very long lead time for this prediction, and forecasts beyond autumn are highly uncertain.
- The Indian Ocean Dipole (IOD) index is  $+0.86\text{ }^{\circ}\text{C}$ , above the positive IOD threshold. IOD events typically do not occur from December to April. These positive values are not expected to form an event. Model forecasts expect the IOD to remain neutral until at least June 2026.
- The MJO is weak in the Western Pacific. Preliminary forecast has the MJO returning becoming weakly active in the western Pacific from mid-March.

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# February 2026 SSTs

Sea surface temperature anomaly: 01/02/2026 to 28/02/2026

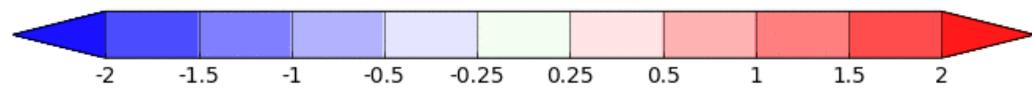
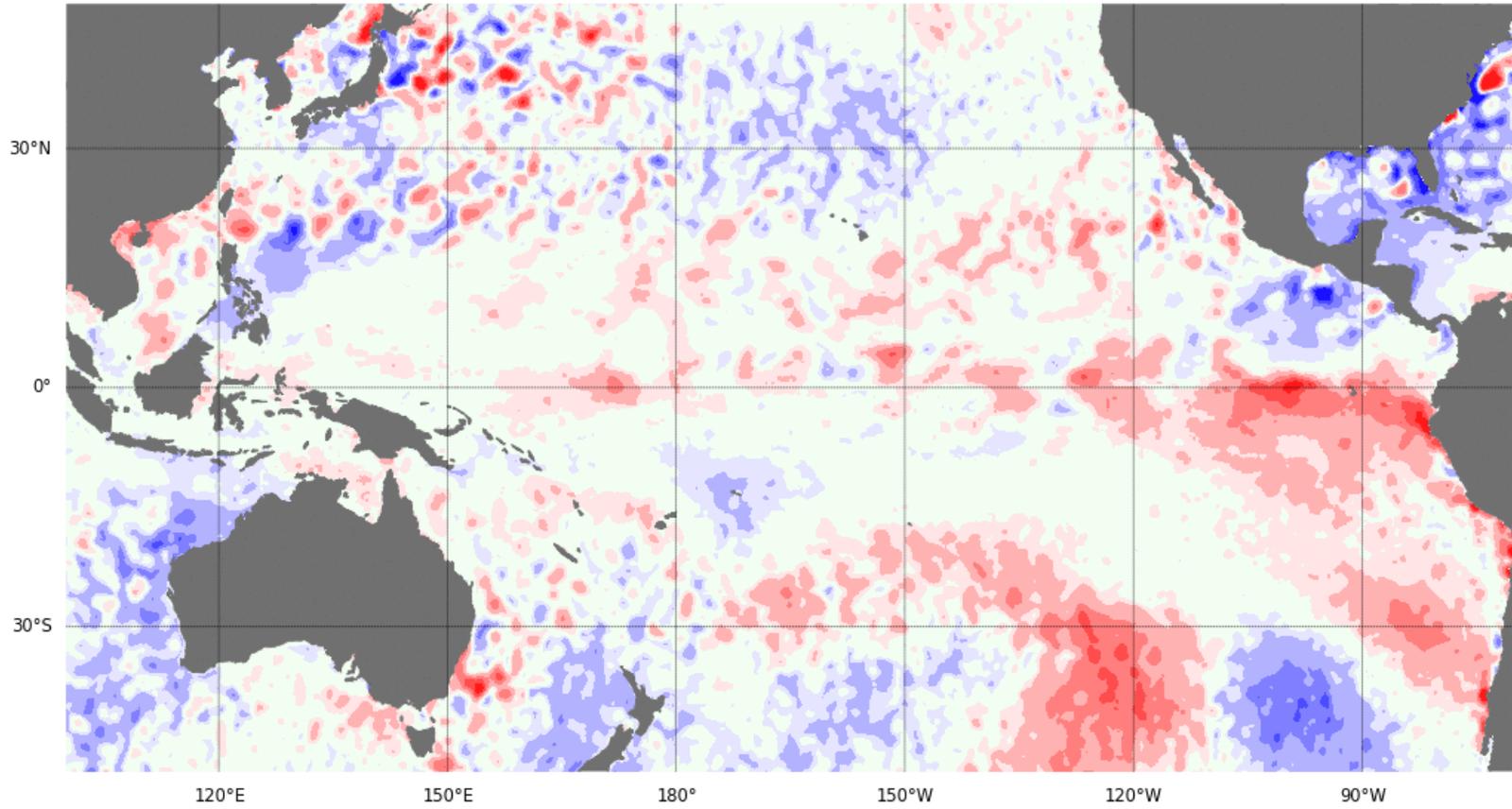


Data: GAMSSA  
Climatology baseline: 1991 to 2020  
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Monthly average: February 2026  
Created: 03/03/2026  
<http://www.bom.gov.au/climate>

# February – January SSTs

Change in the monthly SST anomaly: February-2026 - January-2026

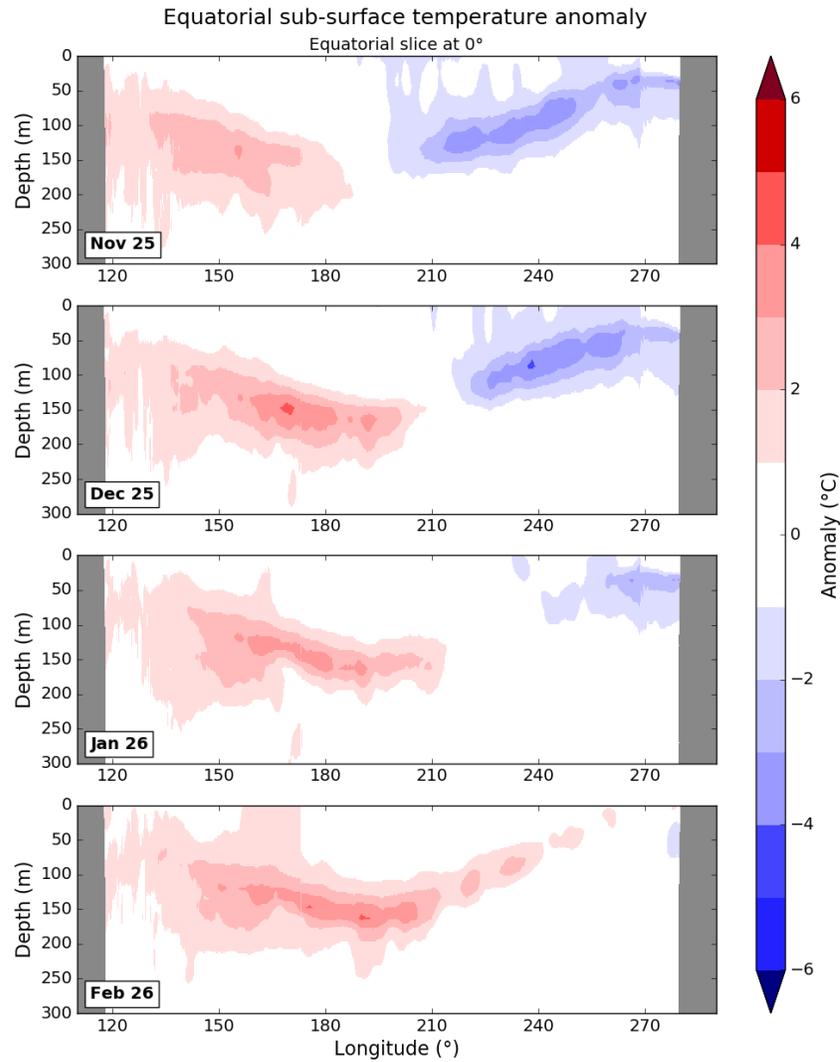


Data: GAMSSA  
Climatology baseline: 1991 to 2020  
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<http://www.bom.gov.au/climate>

Anomaly monthly difference  
Created: 03/03/2026

# Equatorial Pacific Sub-surface Profile



Created: 05/03/2026

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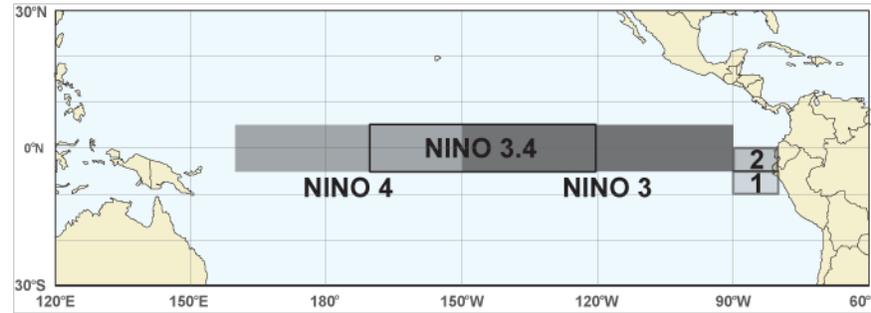
Data: ACCESS-S2 ocean reanalysis  
Climatology baseline: 1981 to 2018

Cooler water in the eastern Pacific continues to recede as we transition into ENSO neutral.

Cooler than average waters beneath the surface of the eastern tropical Pacific can be a sign of La Niña development.

Warmer than average waters beneath the surface of the eastern Pacific can be a sign of El Niño development.

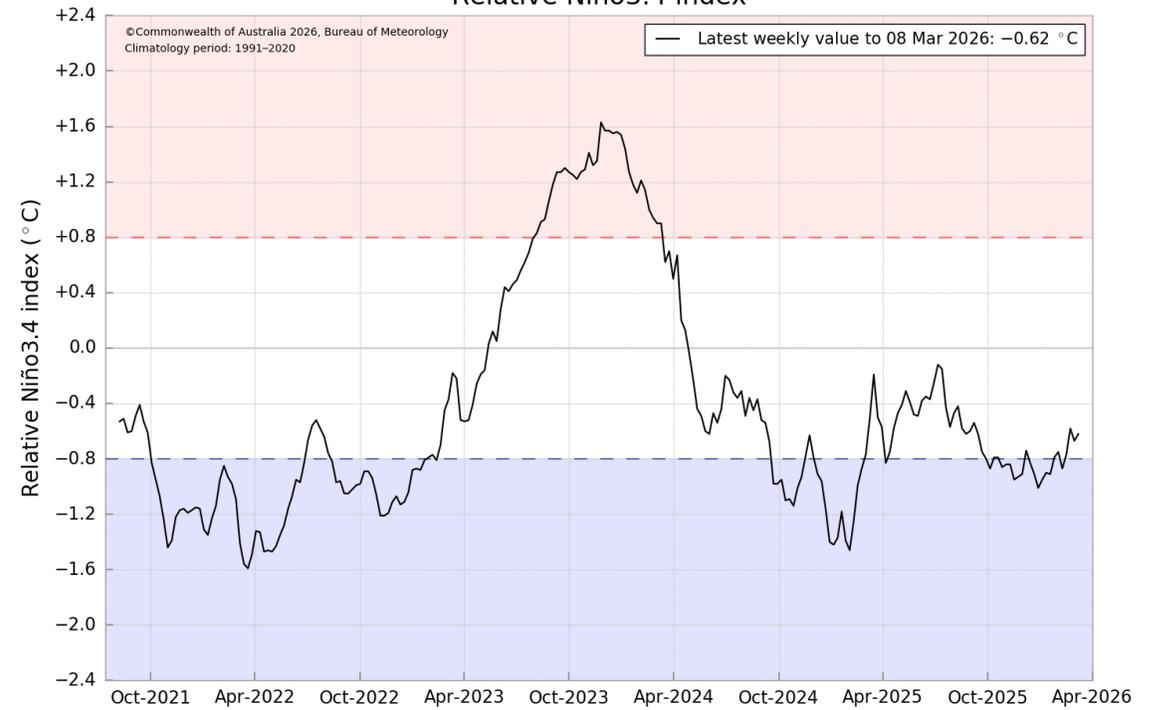
# Observed Relative NINO Indices



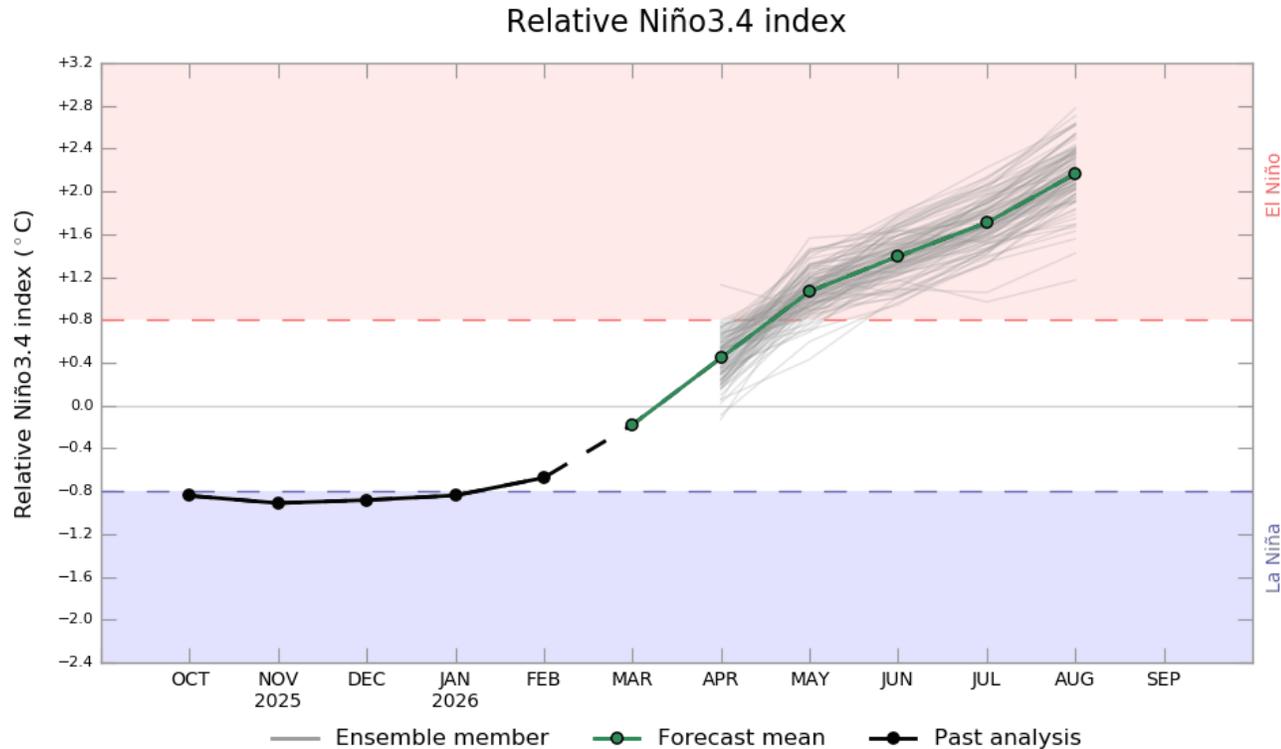
Relative Niño4 index



Relative Niño3.4 index



# Relative ENSO Outlook



www.bom.gov.au/climate  
Commonwealth of Australia 2026, Australian Bureau of Meteorology

Past analysis base period: 1991-2020  
Forecast base period: 1981-2018

Model: ACCESS-S2  
Model run: 8 Mar 2026



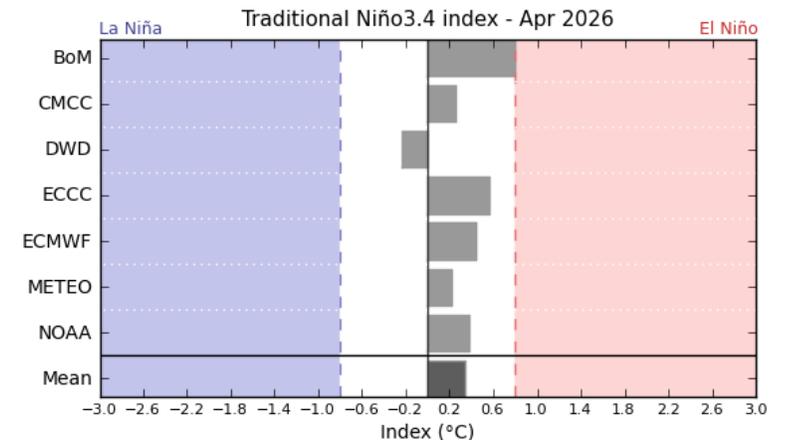
The peak of the **IOD** is **Sep-Oct** in the southern hemisphere. Decaying with the onset of the monsoon.



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

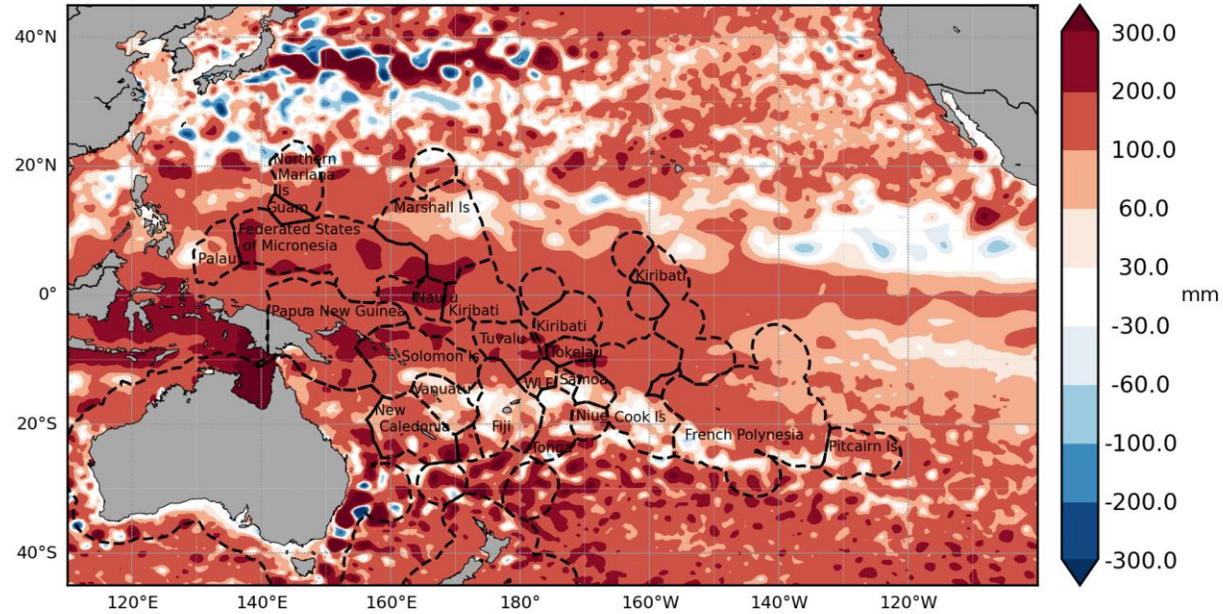


**El Nino** is associated with **decreased rainfall** across the far western Pacific.



# February 2026 Sea Level Anomaly

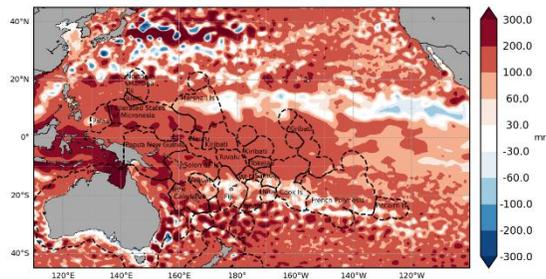
Pacific Islands  
Monthly Sea Level Anomaly: February 2026



© Pacific Community (SPC) 2025

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

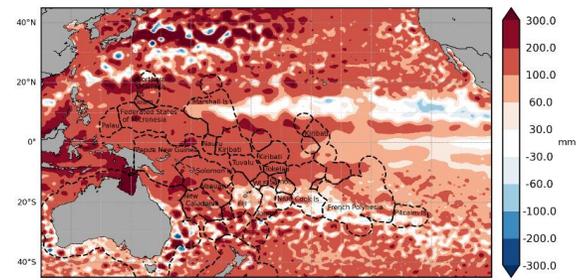
Pacific Islands  
Monthly Sea Level Anomaly: January 2026



© Pacific Community (SPC) 2025

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

Pacific Islands  
Monthly Sea Level Anomaly: December 2025



© Pacific Community (SPC) 2025

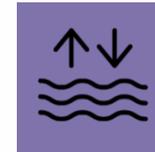
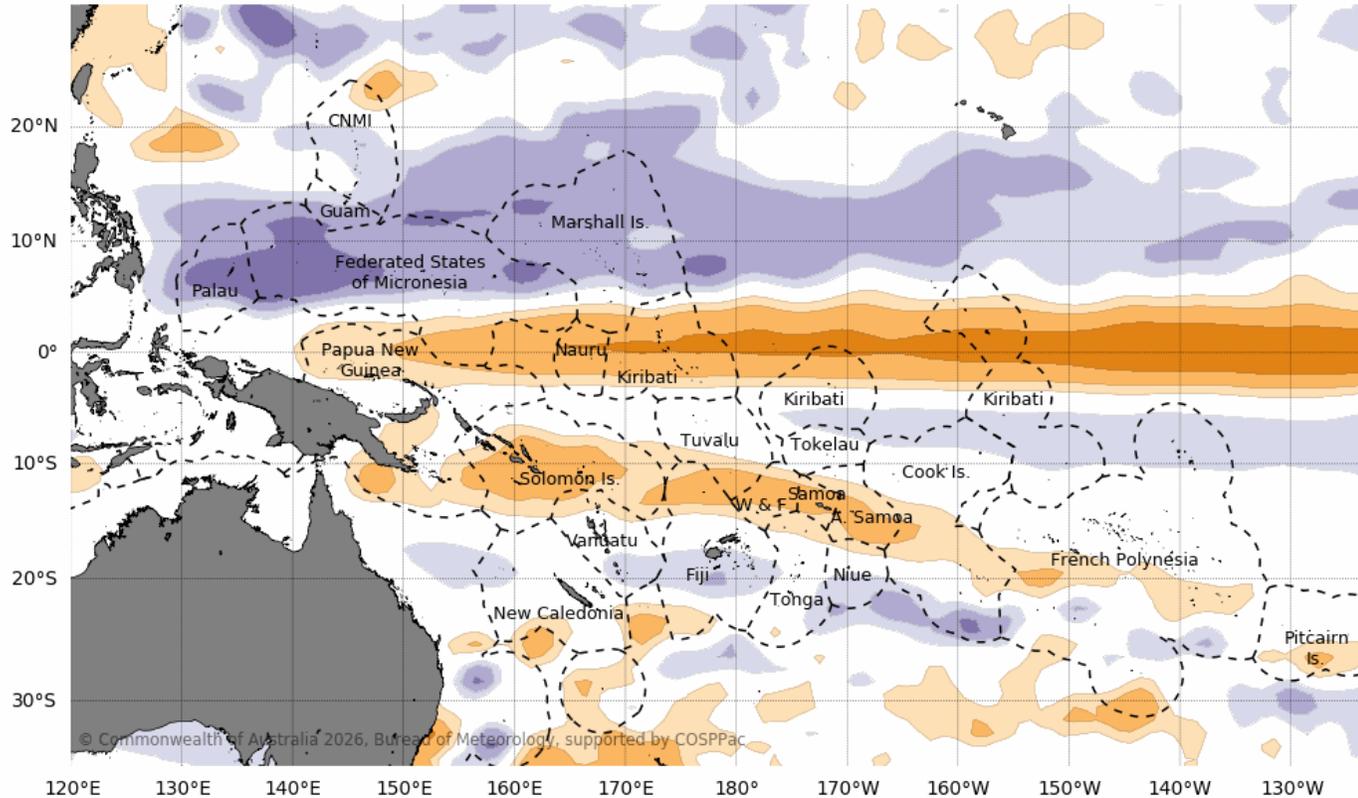
Generated using E.U. Copernicus Marine Service Information;  
<https://doi.org/10.48670/moi-00149>

# Seasonal Outlook: Sea Surface Height Anomaly

Difference from average sea surface height forecast for  
April to June 2026

Base period: 1981-2018  
Model: ACCESS-S2

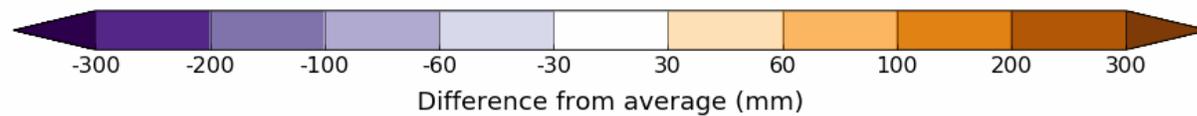
Model run: 07/03/2026  
Issued: 09/03/2026



**Decrease in average SSH**

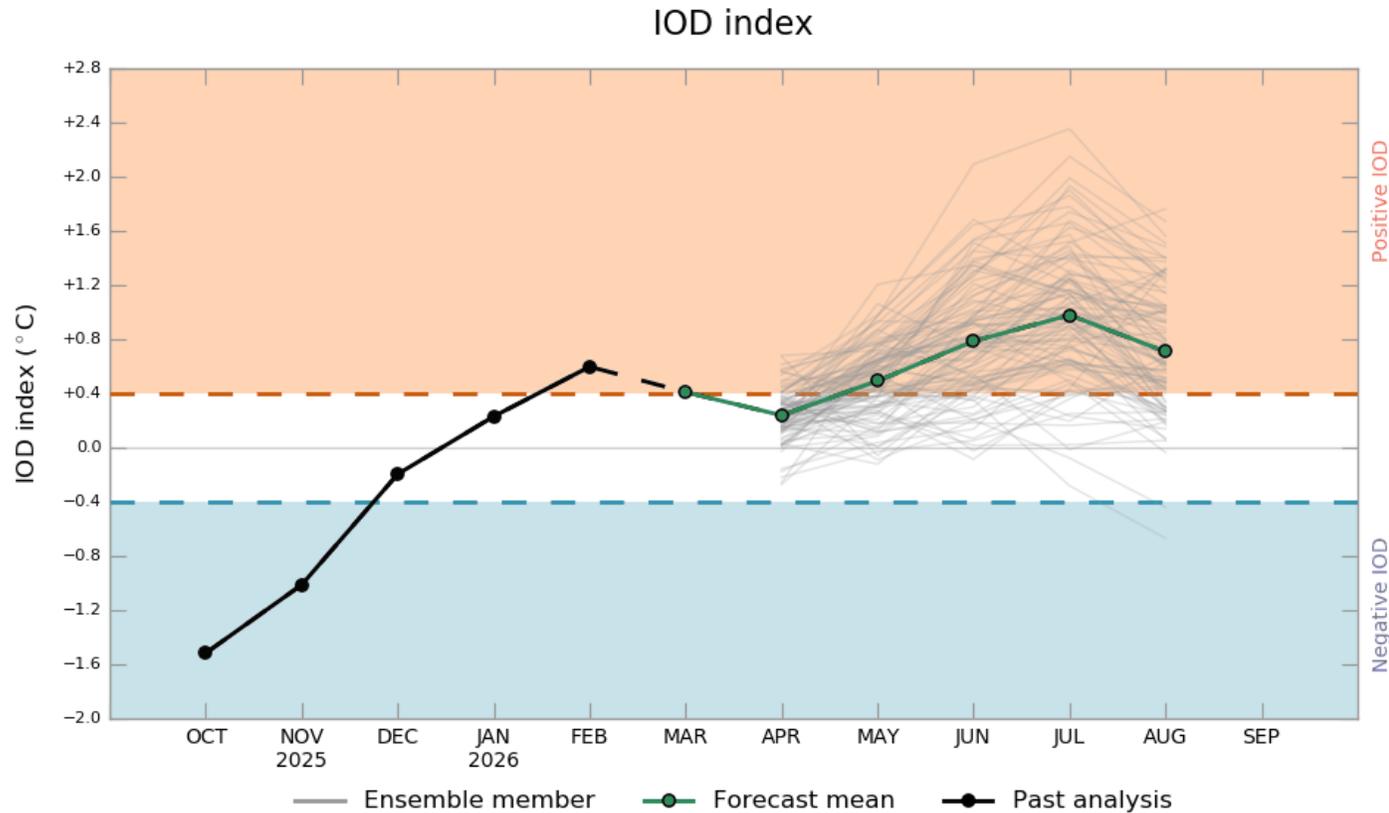


**Increase in average SSH**



-- EEZ border V11 (Flanders Marine Institute, 2019).

# Indian Ocean Dipole (IOD)



www.bom.gov.au/climate  
Commonwealth of Australia 2026, Australian Bureau of Meteorology

Past analysis base period: 1991-2020  
Forecast base period: 1981-2018

Model: ACCESS-S2  
Model run: 8 Mar 2026



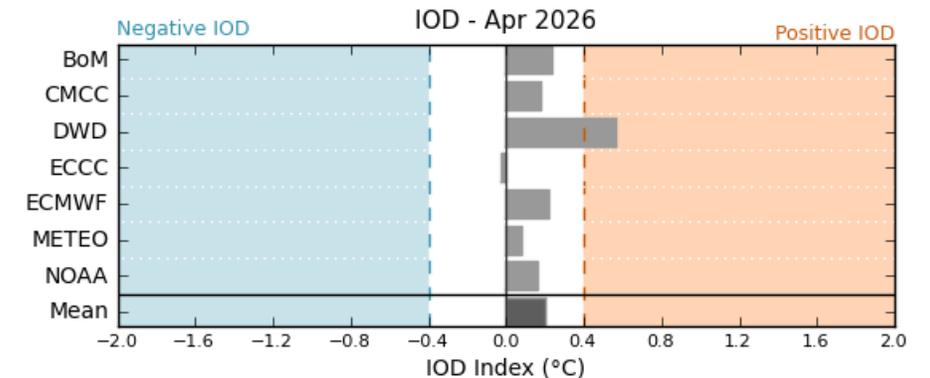
The peak of the **IOD** is **Sep-Oct** in the southern hemisphere. Decaying with the onset of the monsoon.



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



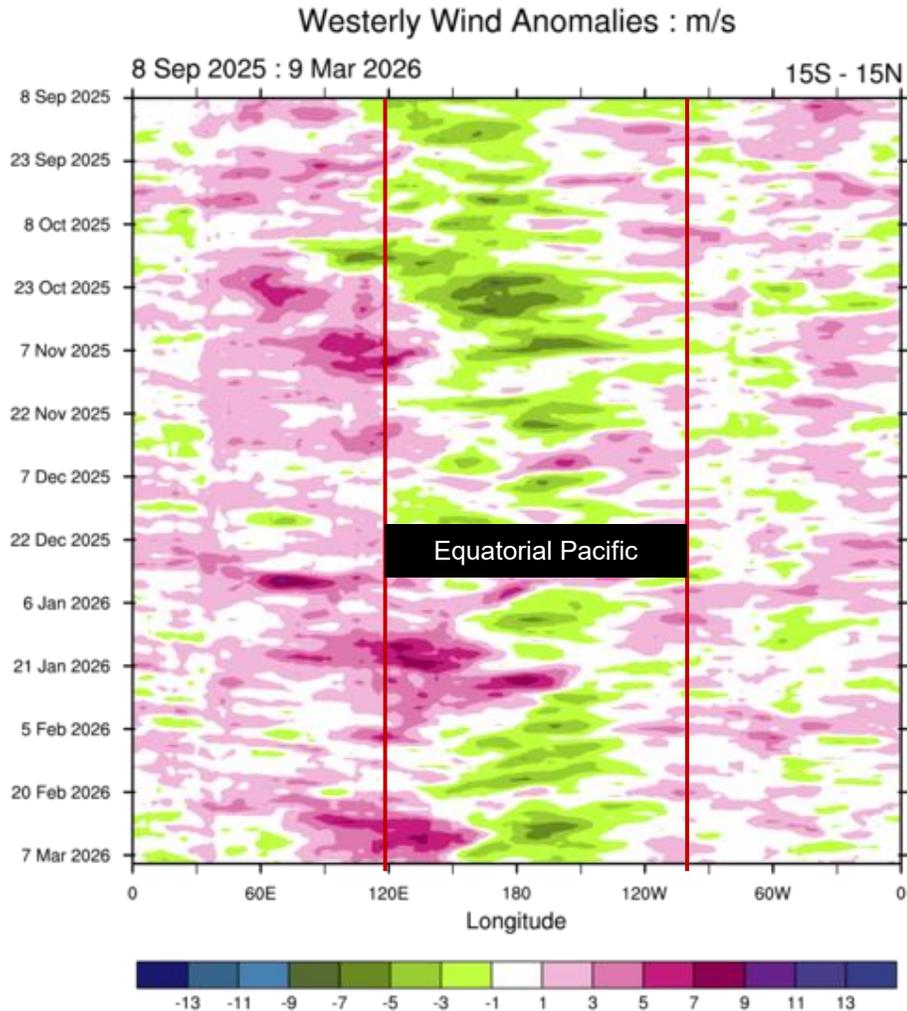
**IOD positive** is associated with **decreased rainfall** across the far western Pacific.



© Copyright Australian Bureau of Meteorology

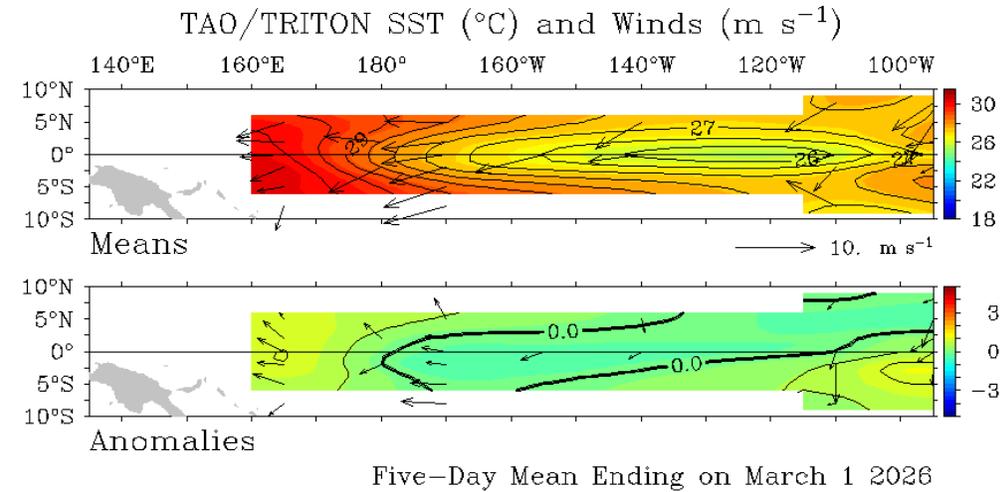


# Wind Anomalies



Easterly (stronger trade)

Westerly (weaker trade)



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

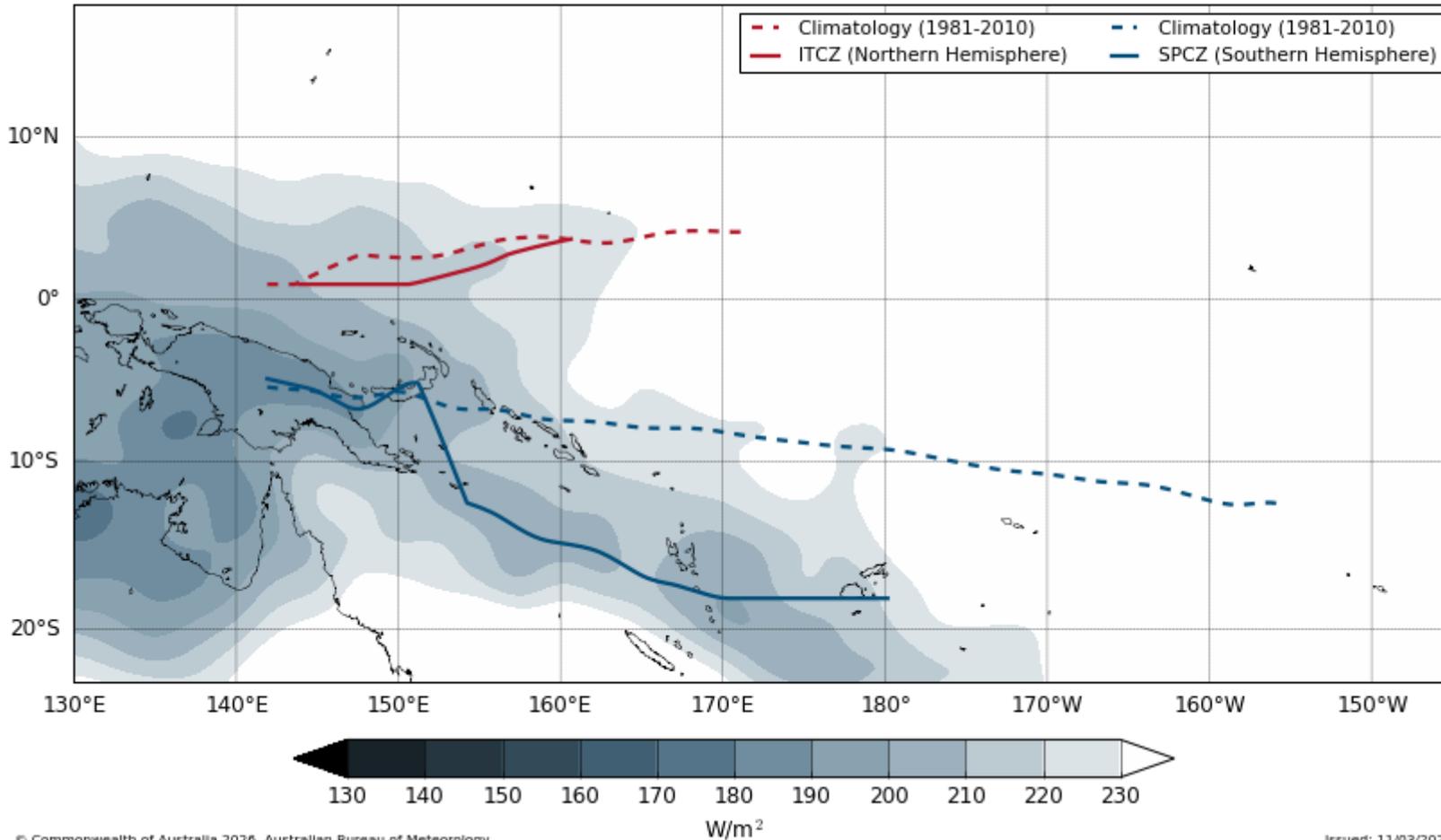


Stronger trade winds (green) hinders cloud development and the potential for rain.

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# ITCZ and SPCZ

30 Day Average Outgoing Longwave Radiation (OLR) minimum to 2026-03-08



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Issued: 11/03/2026

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



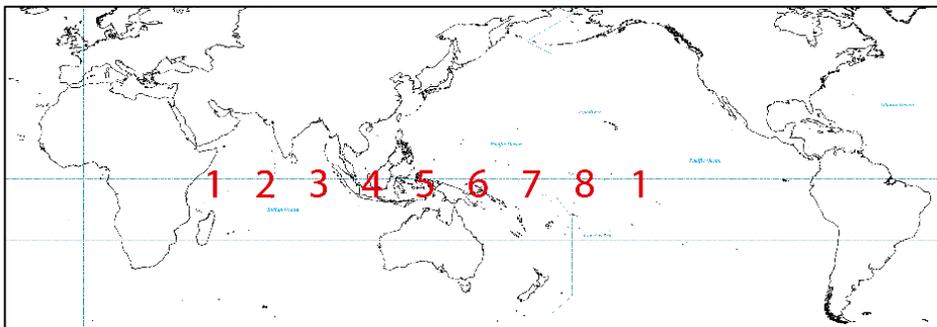
The **MJO** is weak in **Phase 6** Western Pacific. Preliminary forecast has weak **Phase 7** Western Pacific mid March.



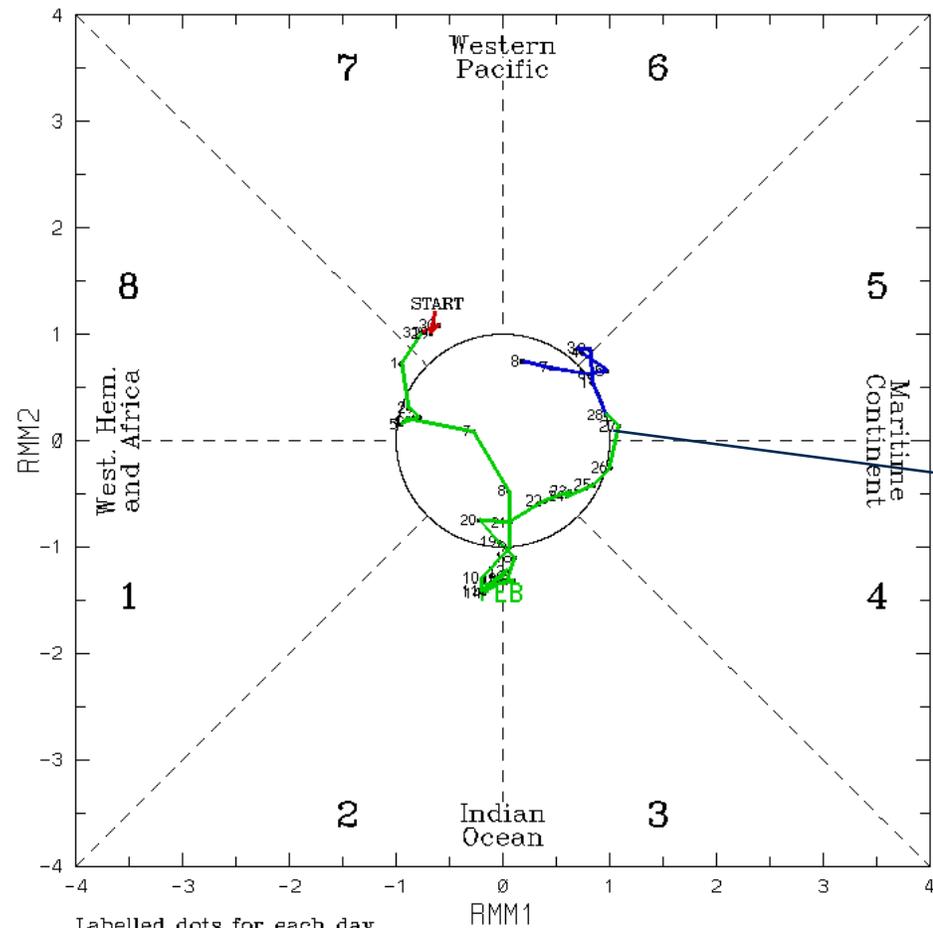
Phases **6, 7 and 8** are typically associated with **increased rainfall** across the Pacific.



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



(RMM1, RMM2) phase space for 28-Jan-2026 to 8-Mar-2026

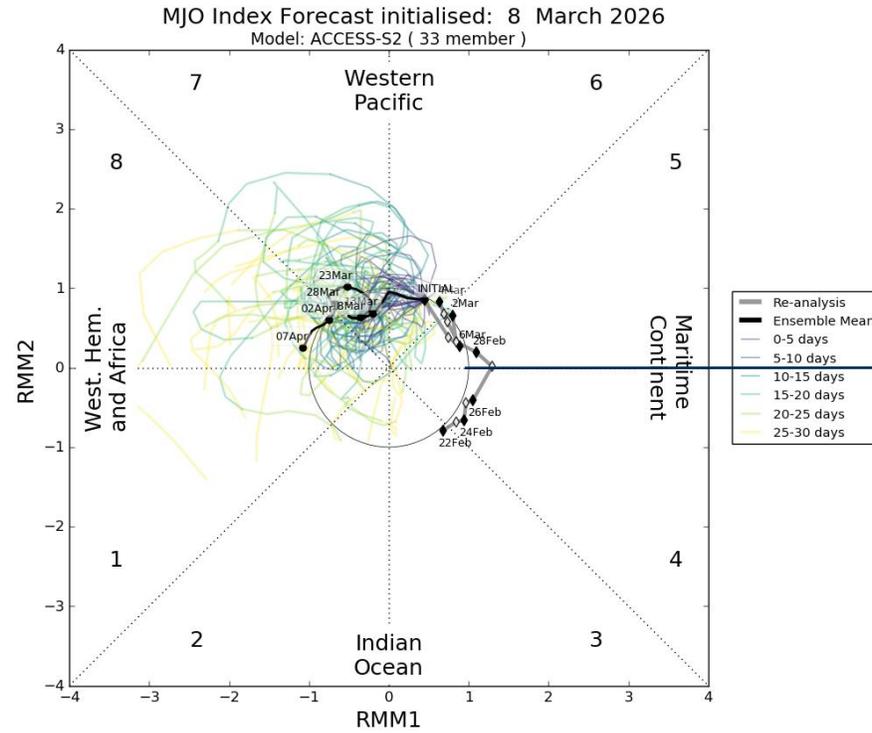
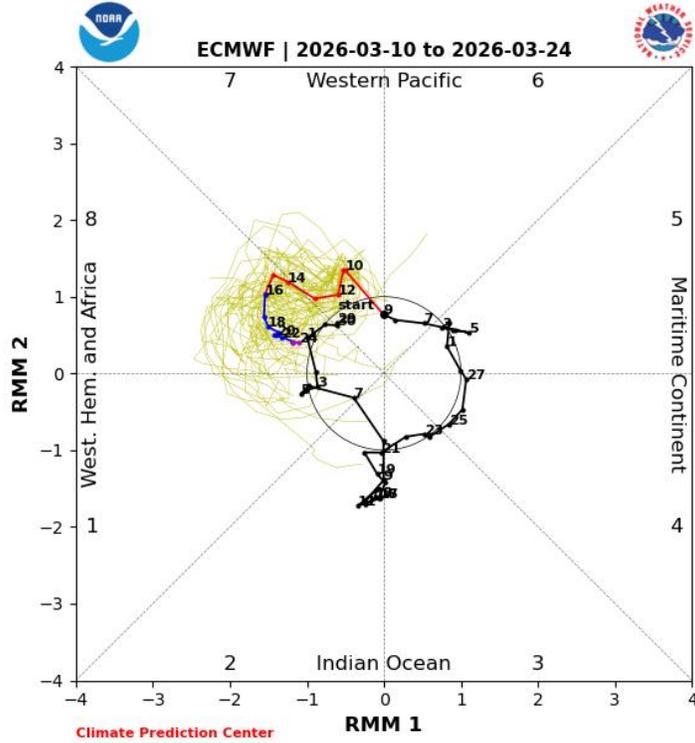


Labelled dots for each day.  
Blue line is for Mar, green line is for Feb, red line is for Jan.

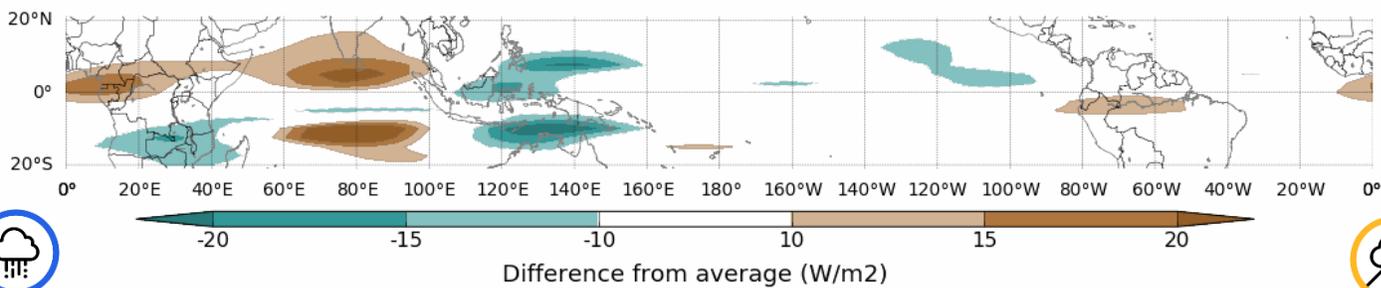
Unit circle:  
If inside the unit circle the MJO signal is weak

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# Madden – Julian Oscillation



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



**Brown** shows areas of decreased clouds and convection

**Green** shows areas of increased clouds and convection.

# Observed Rainfall – February 2026

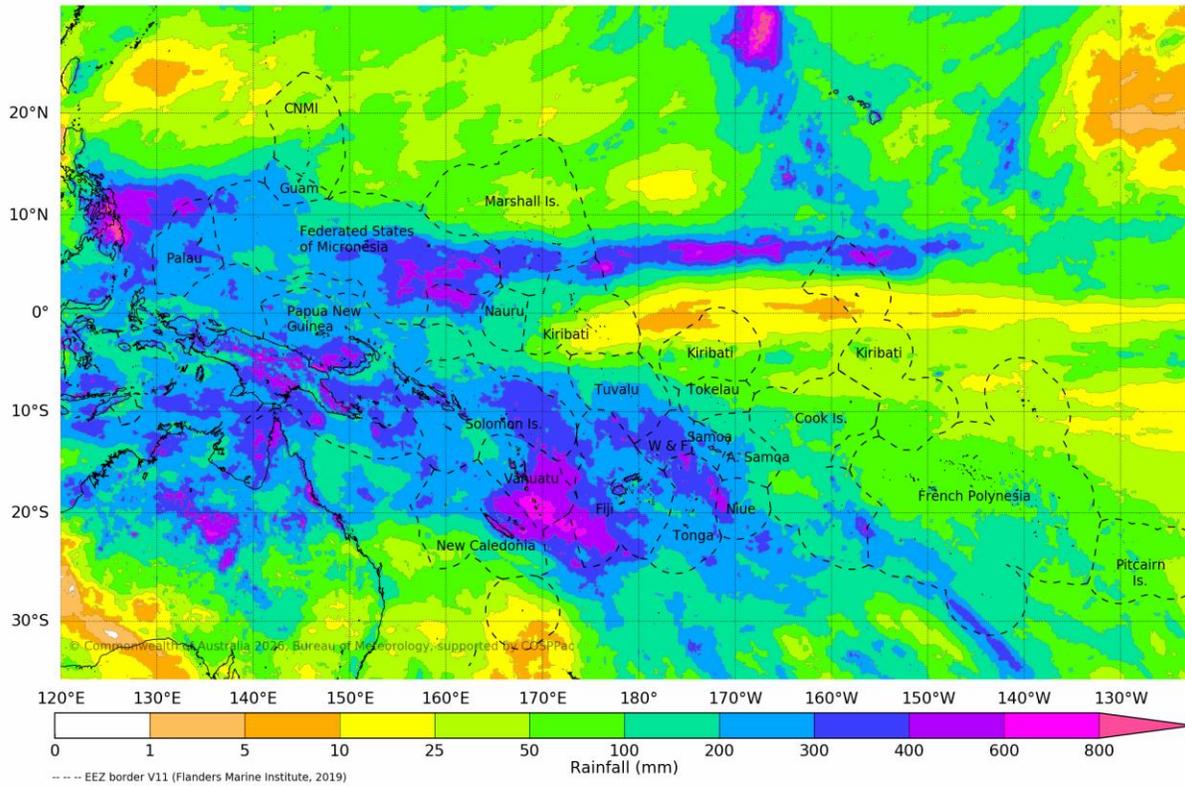
Observed

Percentile

1-month total rainfall ending February 2026

Data source: MSWEP

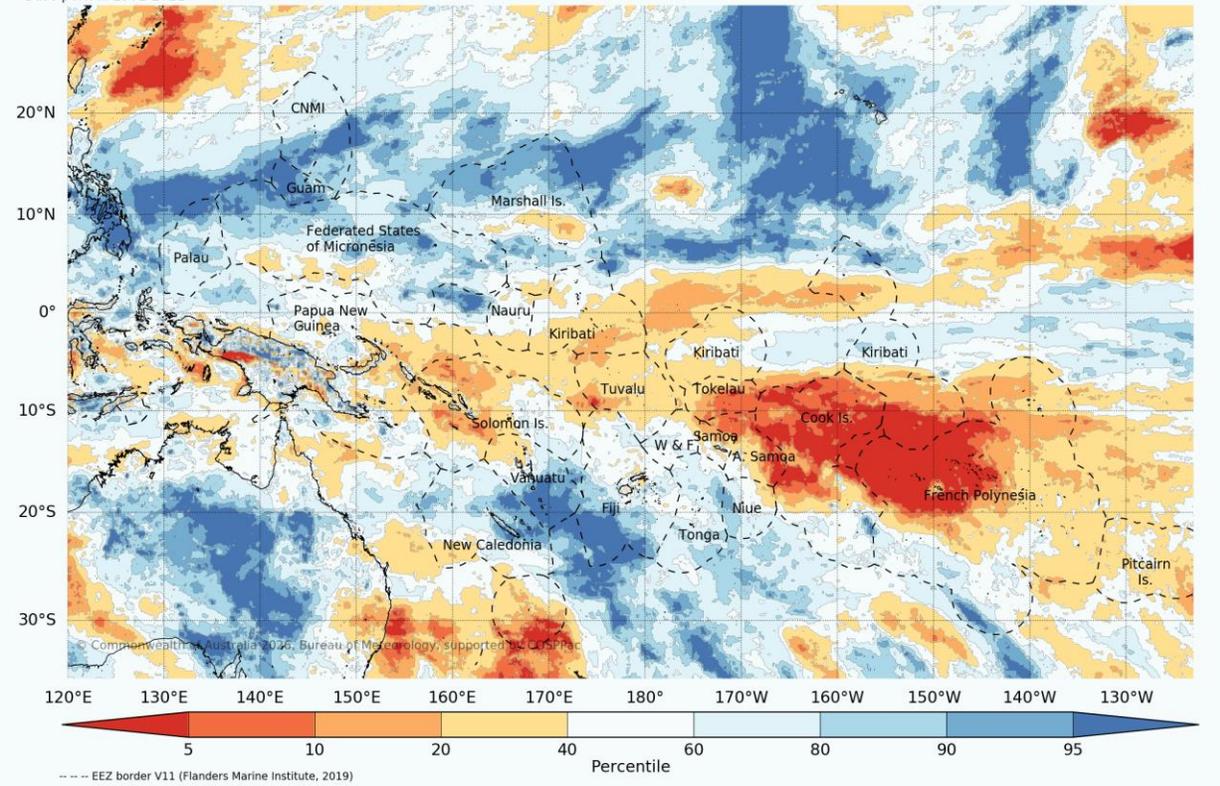
Issued: 07/03/2026



1-month Percentile to end of February 2026

Data source: MSWEP  
Base period: 1981-2021

Issued: 07/03/2026



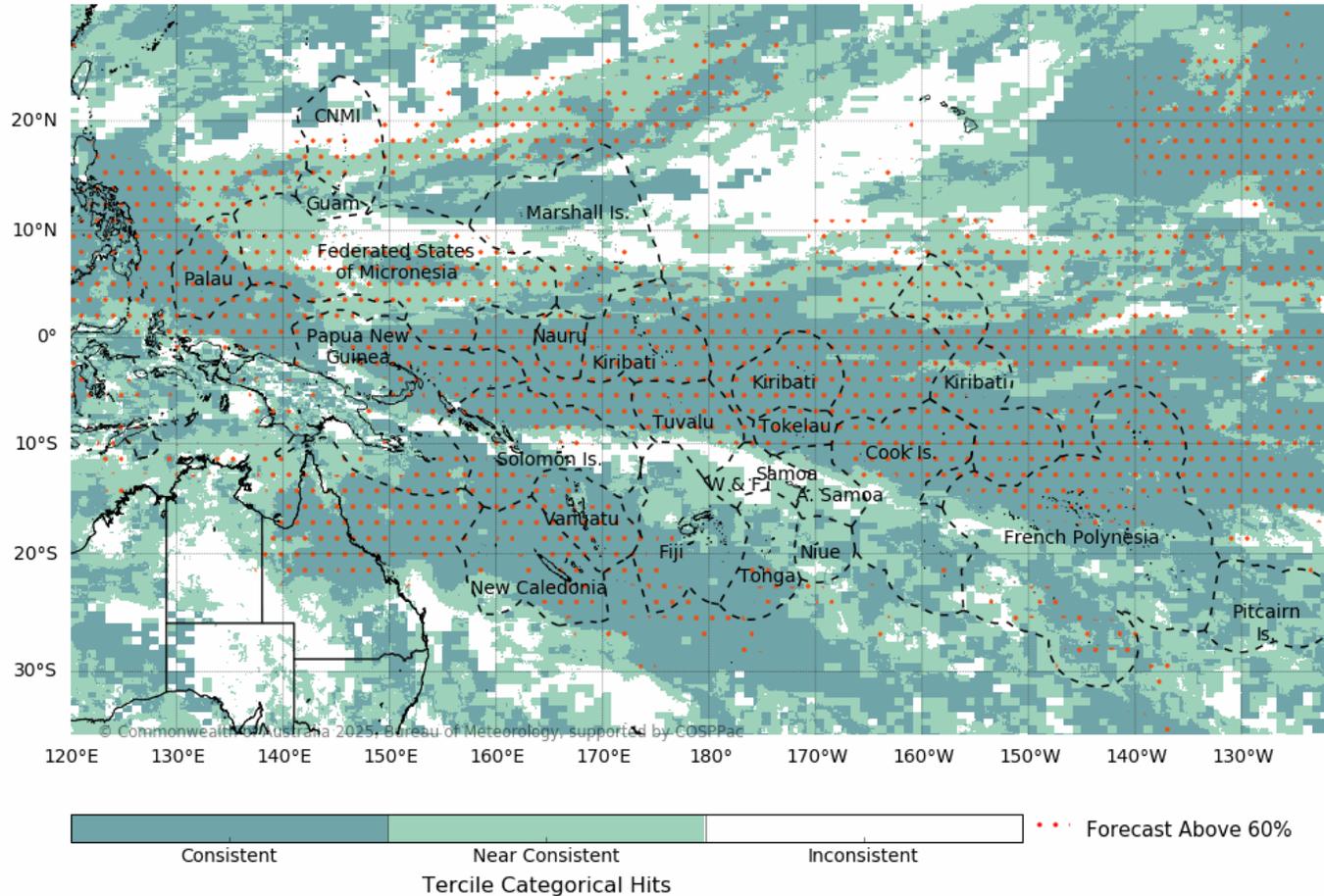
# Outlook Verification – February

Near real-time tercile verification hit rate: rainfall February 2025

Data source: ACCESS-S2  
Observations: MSWEP

Base period: 1981-2018

Model Run: 01/02/2025  
Issued: 10/03/2025



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

**Dots** identify where there was a strong outlook above 60%.

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.marinerregions.org/>.

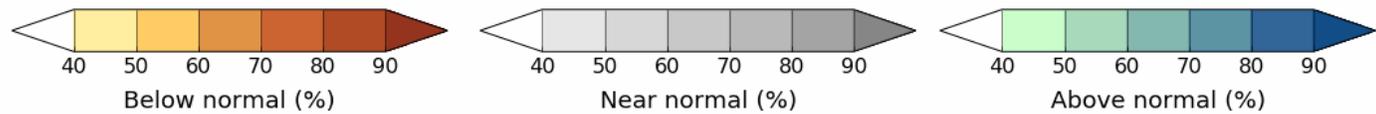
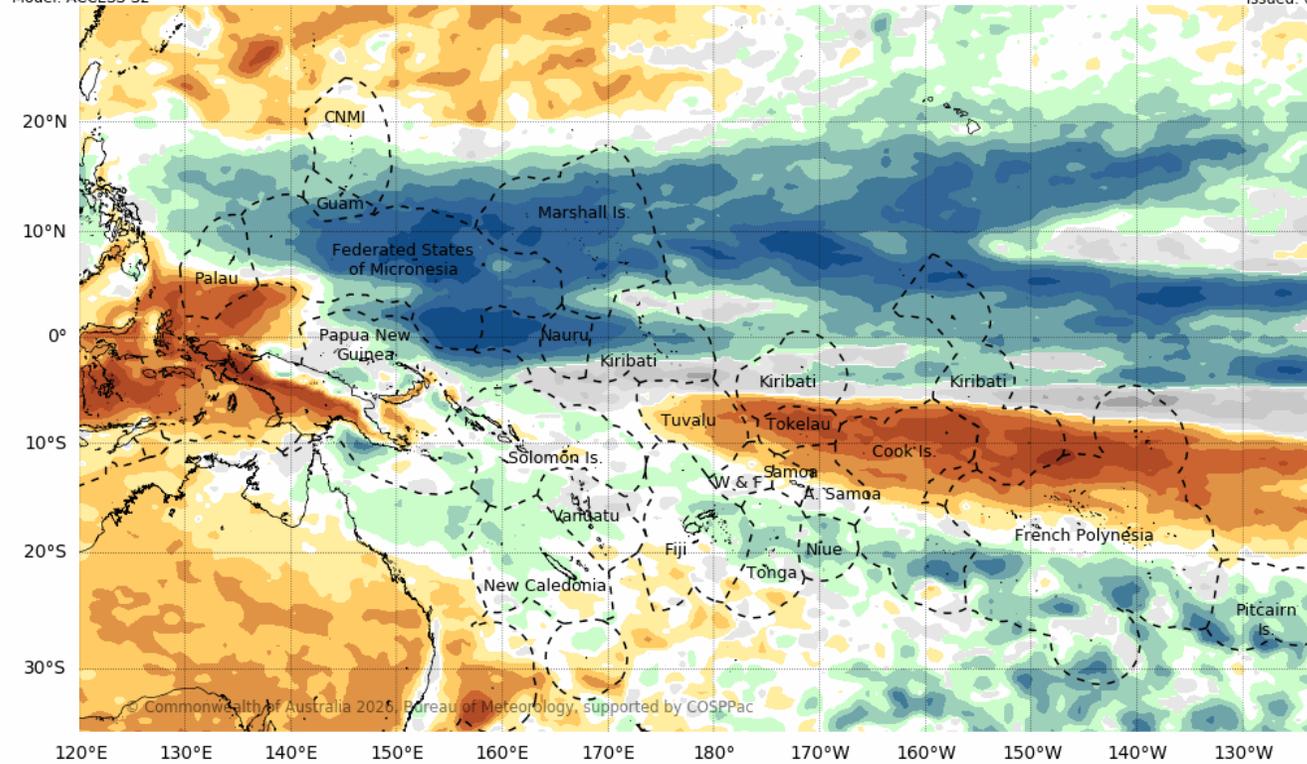
# Model Rainfall Predictions (April to June)

ACCESS-S2

Tercile rainfall probabilities for April to June 2026

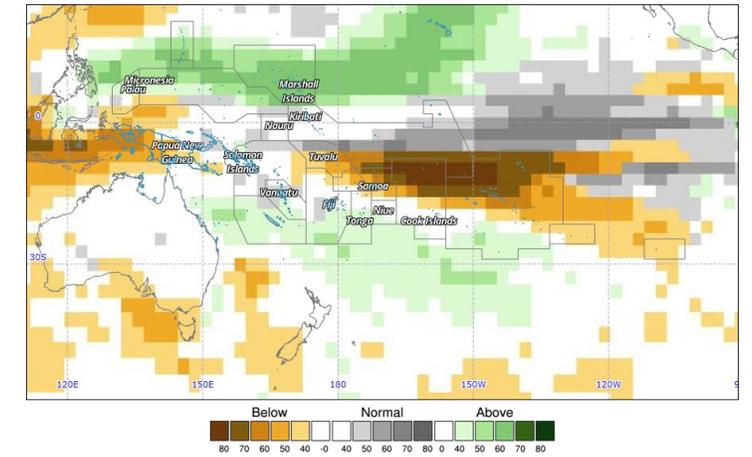
Base period: 1981-2018  
Model: ACCESS-S2

Model run: 07/03/2026  
Issued: 09/03/2026



--- EEZ border V11 (Flanders Marine Institute, 2019).

CLIKP

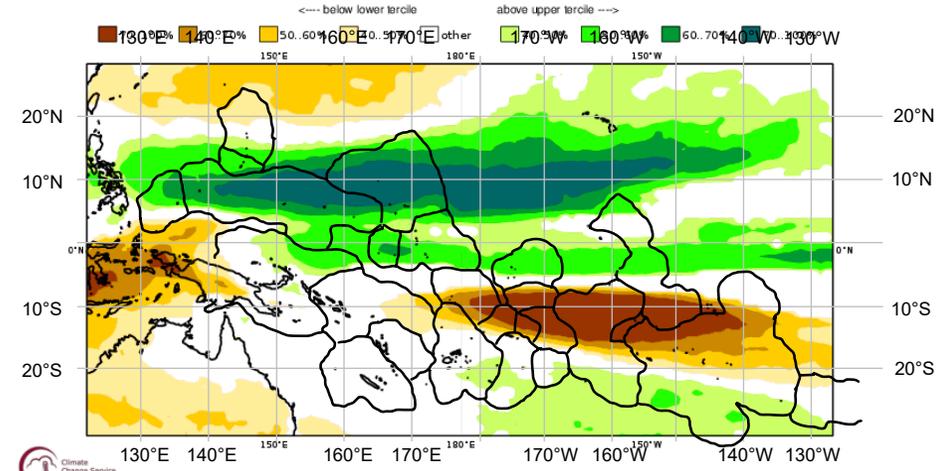


Year: 2026, Season: MAM, Lead Month: 3, Method: GAUS  
Model: APCC, BOM, CMCC, CMA, ECCO, NCEP, PNU  
Generated using CLIKP (2026-3-10) © APEC Climate Center

C3S

C3S multi-system seasonal forecast ECMWF/Met Office/Météo-France/CMCC/DWD/NCEP/ECCC/BOM  
Prob (most likely category of precipitation) AMJ 2026

Nominal forecast start: 01/03/26  
Unweighted mean



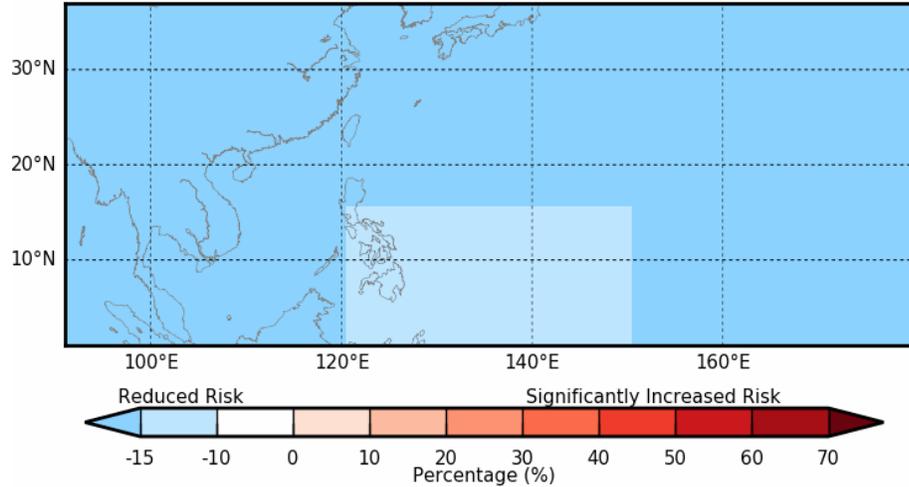
Climate Change Service  
climate.copernicus.eu

# TC Outlooks – Two Weeks

## North Pacific

## South Pacific

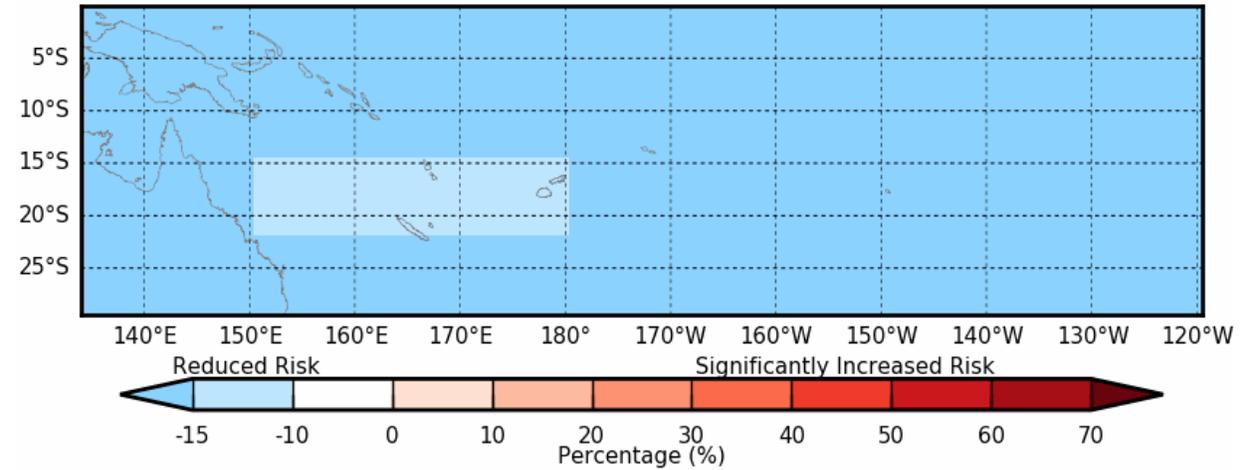
Difference from normal chance of Tropical Cyclone's in the Northern Pacific  
Forecast period: 16/03/2026 - 22/03/2026



Calibrated Model anomaly probability in overlapping 15 x 20 degree boxes  
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Model: ACCESS\_S2 Model Run: 08/03/2026 Issued: 10/03/2026

Difference from normal chance of Tropical Cyclone's in the South Pacific  
Forecast period: 16/03/2026 - 22/03/2026

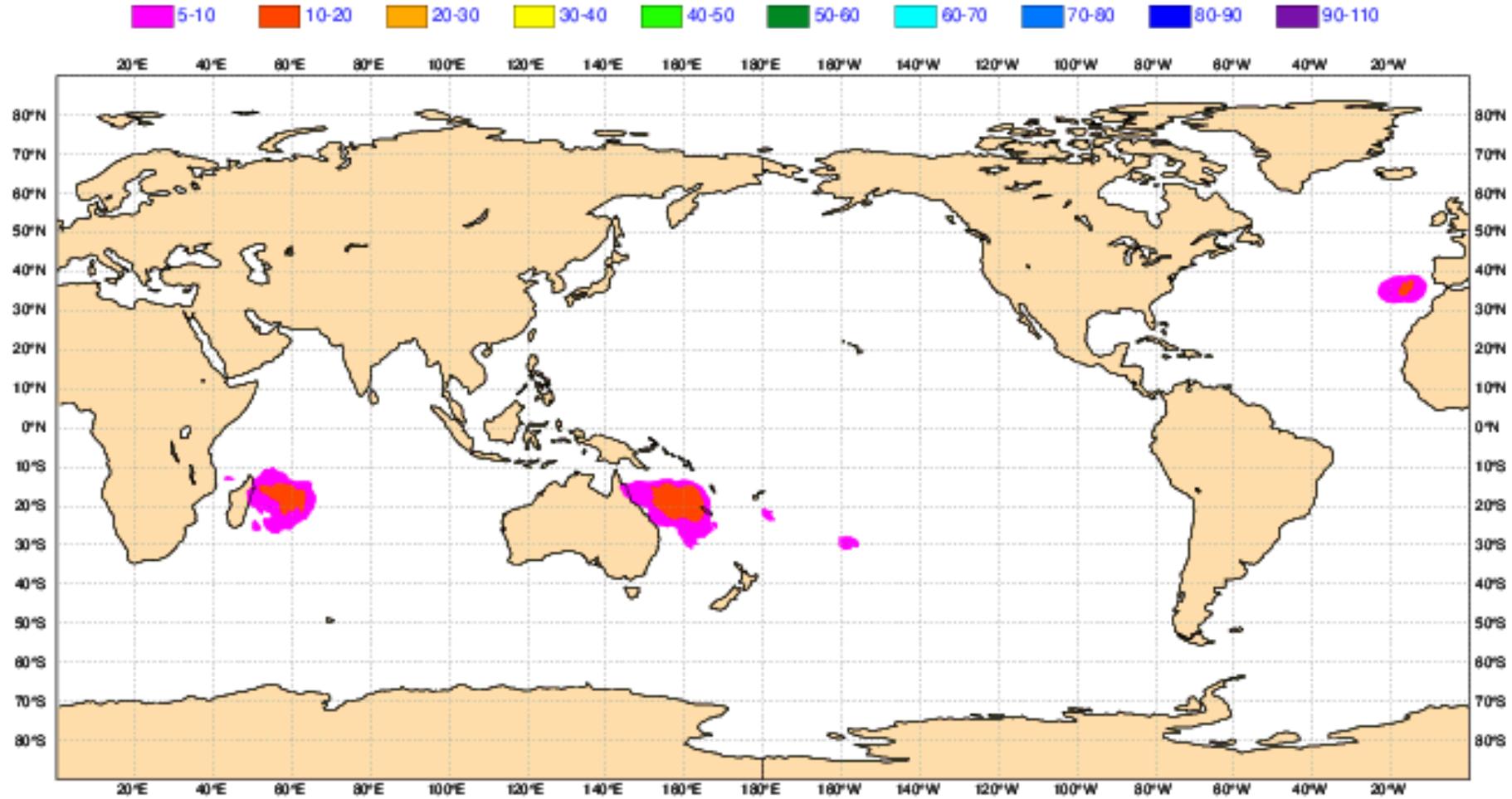


Calibrated Model anomaly probability in overlapping 15 x 20 degree boxes  
© Commonwealth of Australia 2026, Australian Bureau of Meteorology

Model: ACCESS\_S2 Model Run: 08/03/2026 Issued: 10/03/2026

# Weekly ECMWF TC Forecast

Weekly mean Tropical Storm Strike Probability. Date: 20260310 0 UTC t+(144-312)  
Probability of a TS passing within 300km radius

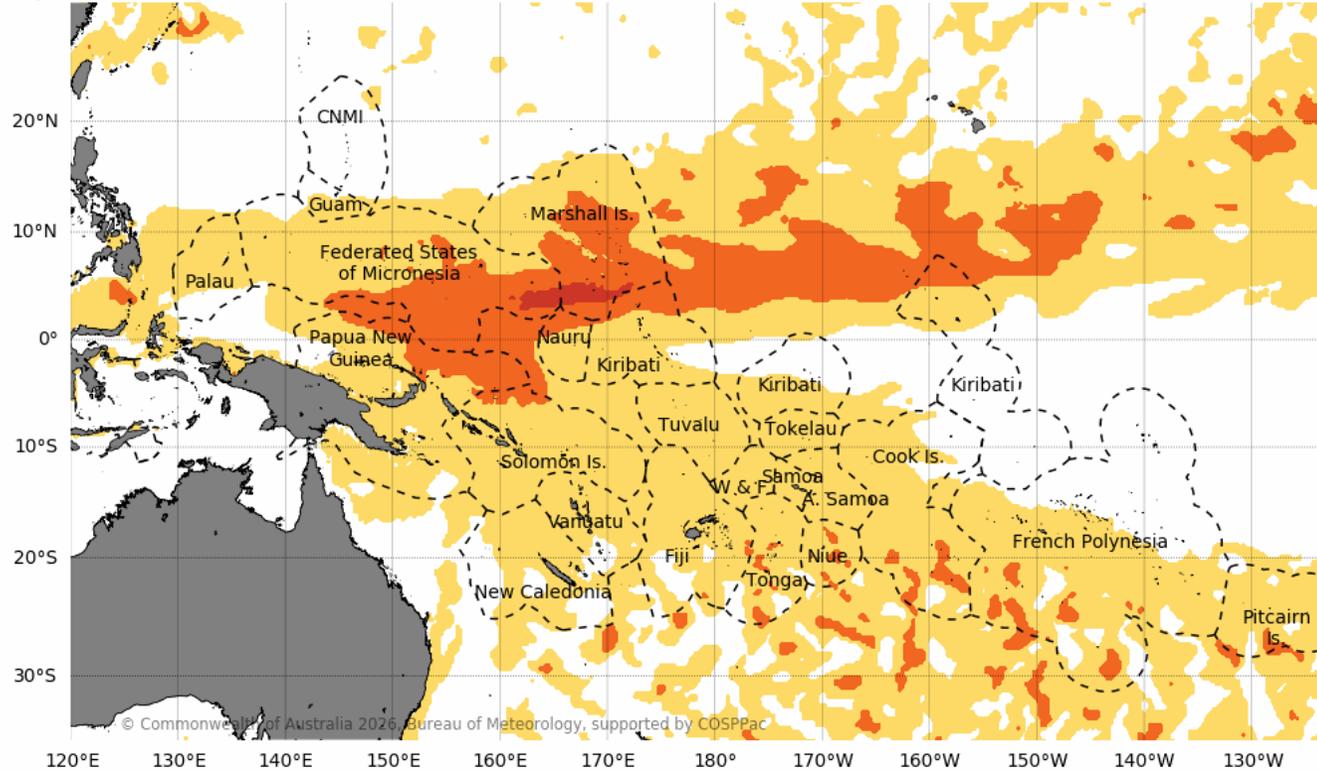


# Marine Heatwaves

Marine heatwave category forecast for April 2026

Data source: ACCESS-S2  
Base period: 1981-2018

Model Run: 07/03/2026  
Issued: 09/03/2026



-- -- EEZ border V11 (Flanders Marine Institute (2019))

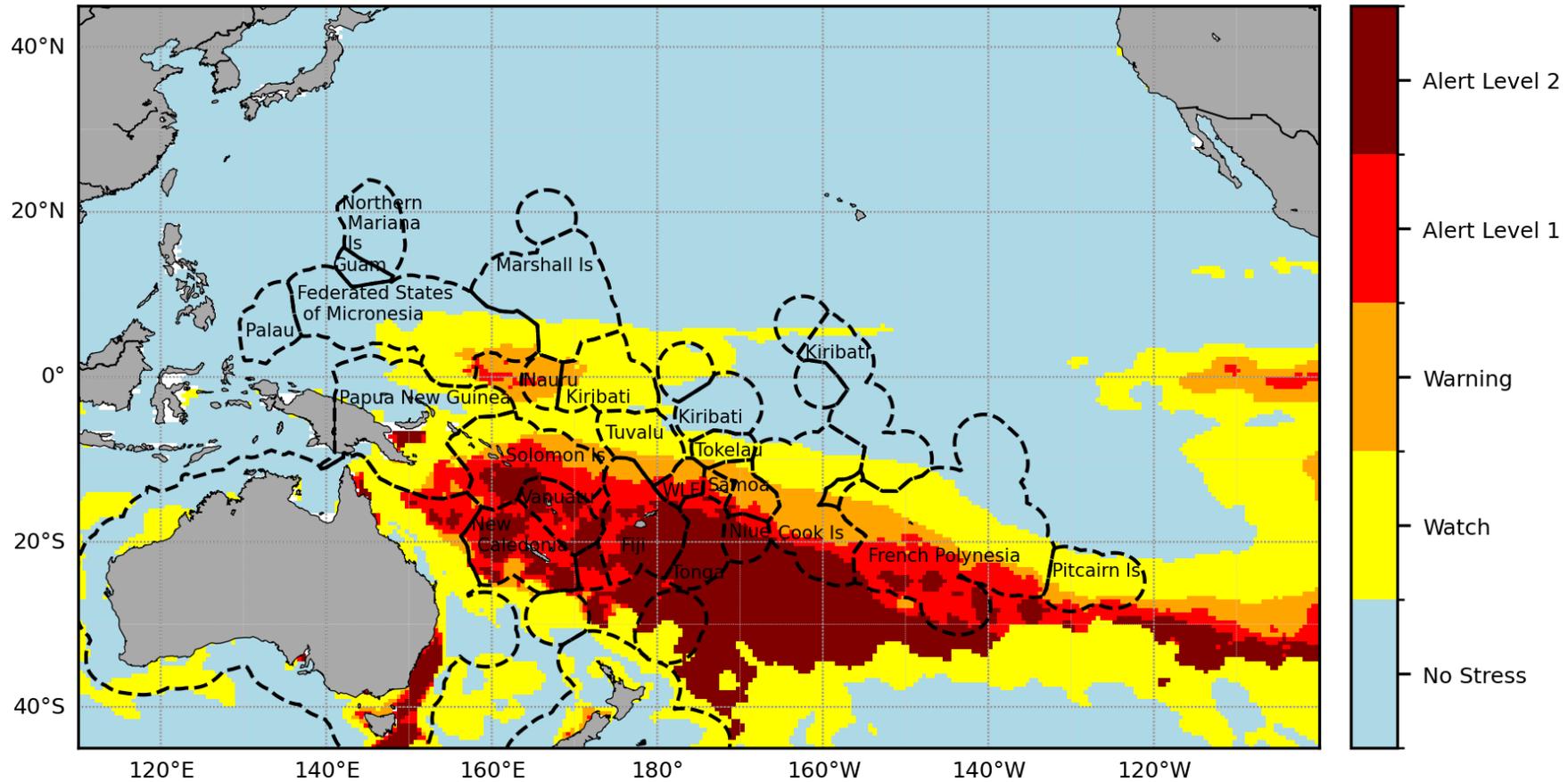
**Marine Heatwaves** are prolonged periods of anomalously high sea surface temperature (SST).

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

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# Coral Bleaching

Pacific Islands  
4 Week Coral Bleaching Outlook: 23 March 2026



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# Thank you

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