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# ENSO Update – OCOF 224

14 May 2026



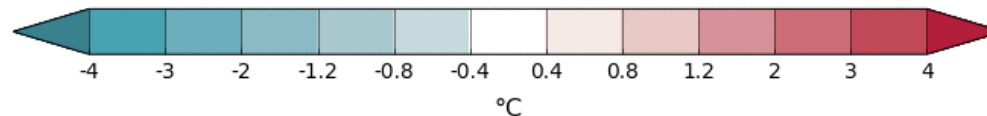
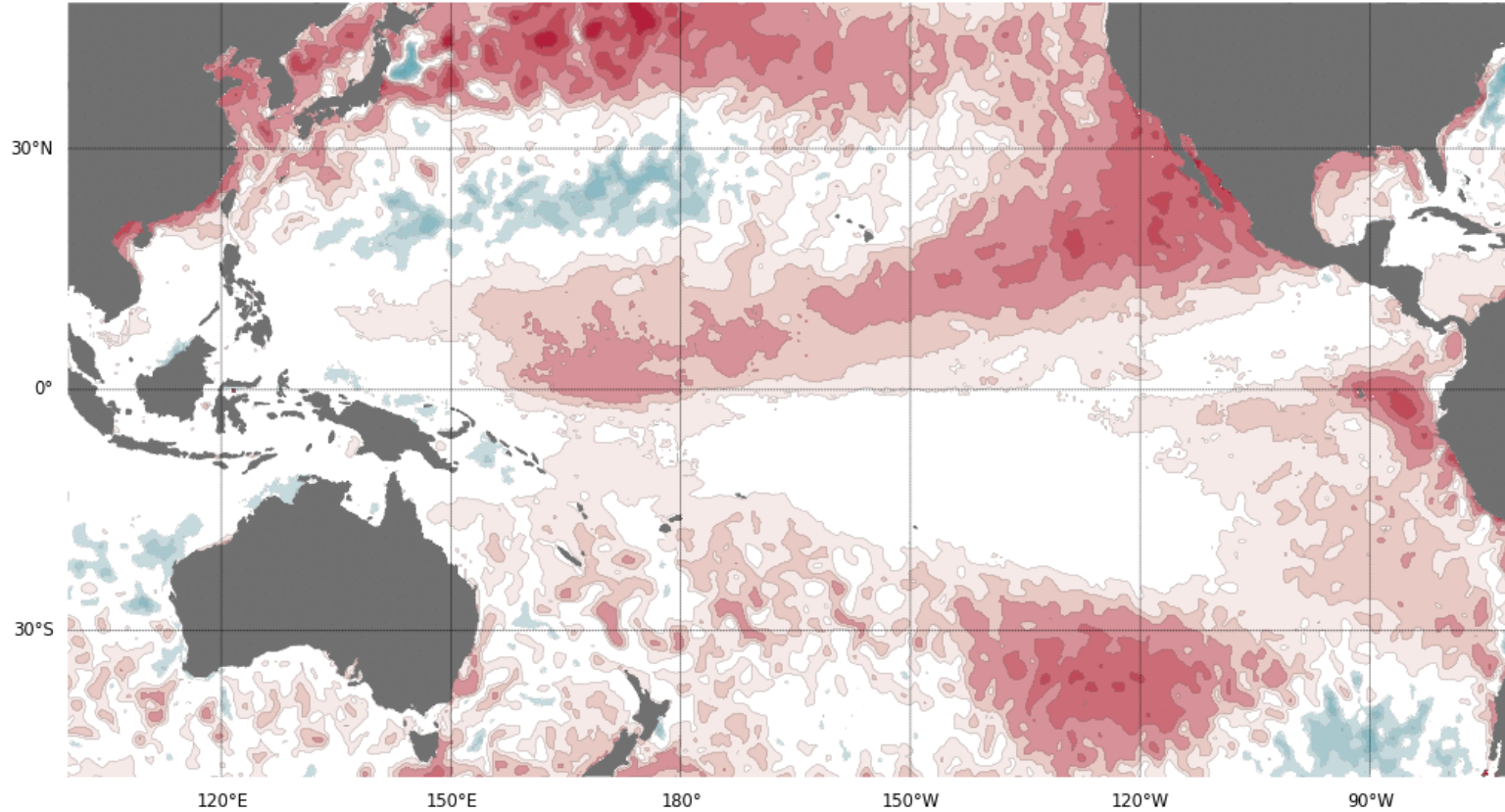
# ENSO Update

- The **El Niño–Southern Oscillation (ENSO)** is currently neutral although there are signs of possible El Niño development.
- The tropical Pacific continues to warm as models suggest a transition to El Niño during winter. However, for El Niño to be considered established, a corresponding atmospheric response would need to be observed.
- The **Madden–Julian Oscillation is weak**, but forecasts suggest it may re-strengthen over the Western Pacific and Western Hemisphere regions during late-May.
- The **Indian Ocean Dipole (IOD)** is currently neutral.
- There is an increased of tropical cyclone occurrence in the North and South Pacific using the ACCESS- S model. Areas at risk include Solomon Islands, Palau, Guam, CMNI and the YAP state in FSM.

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# April 2025 SSTs

Sea surface temperature anomaly: 01/04/2026 to 30/04/2026



Data: GAMSSA  
Climatology baseline: 1991 to 2020  
© Commonwealth of Australia 2026, Australian Bureau of Meteorology

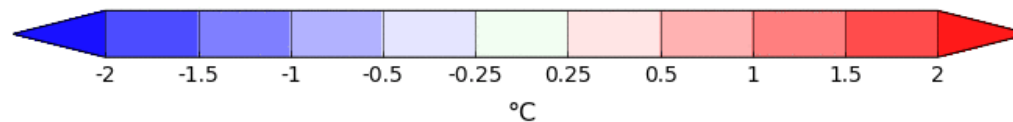
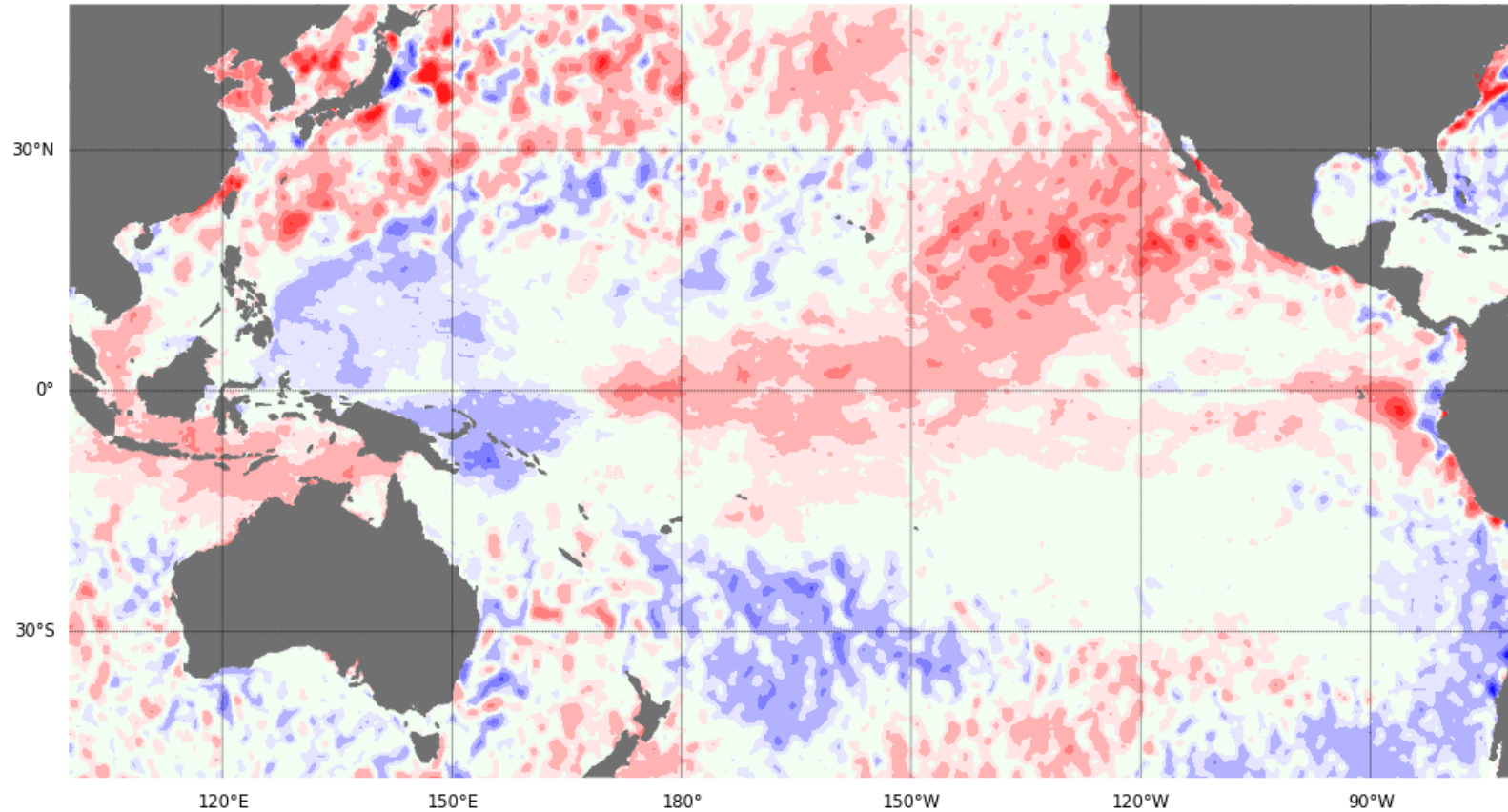
<http://www.bom.gov.au/climate>

Monthly average: April 2026  
Created: 03/05/2026

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# April – March SSTs

Change in the monthly SST anomaly: April-2026 - March-2026



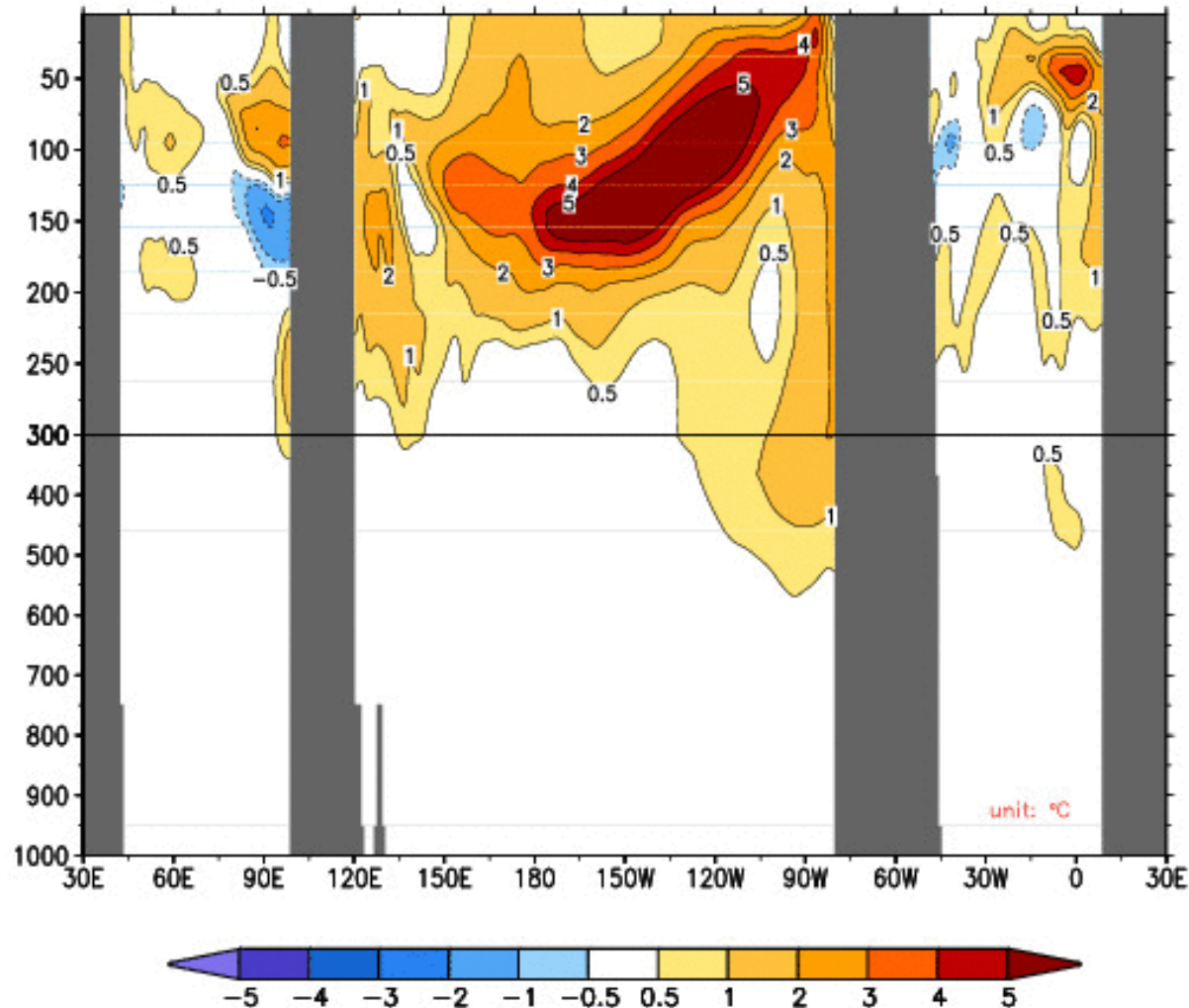
Data: GAMSSA  
Climatology baseline: 1991 to 2020  
© Commonwealth of Australia 2026, Australian Bureau of Meteorology

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

Anomaly monthly difference  
Created: 03/05/2026

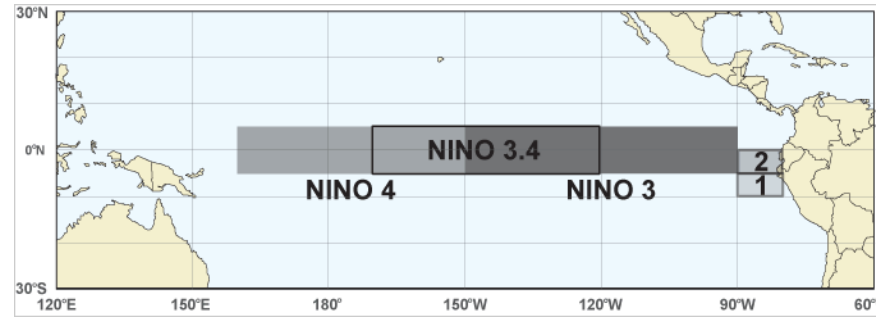
# Equatorial Pacific Sub-surface Profile

GODAS Temperature Anomaly, 04/08/2026–05/03/2026

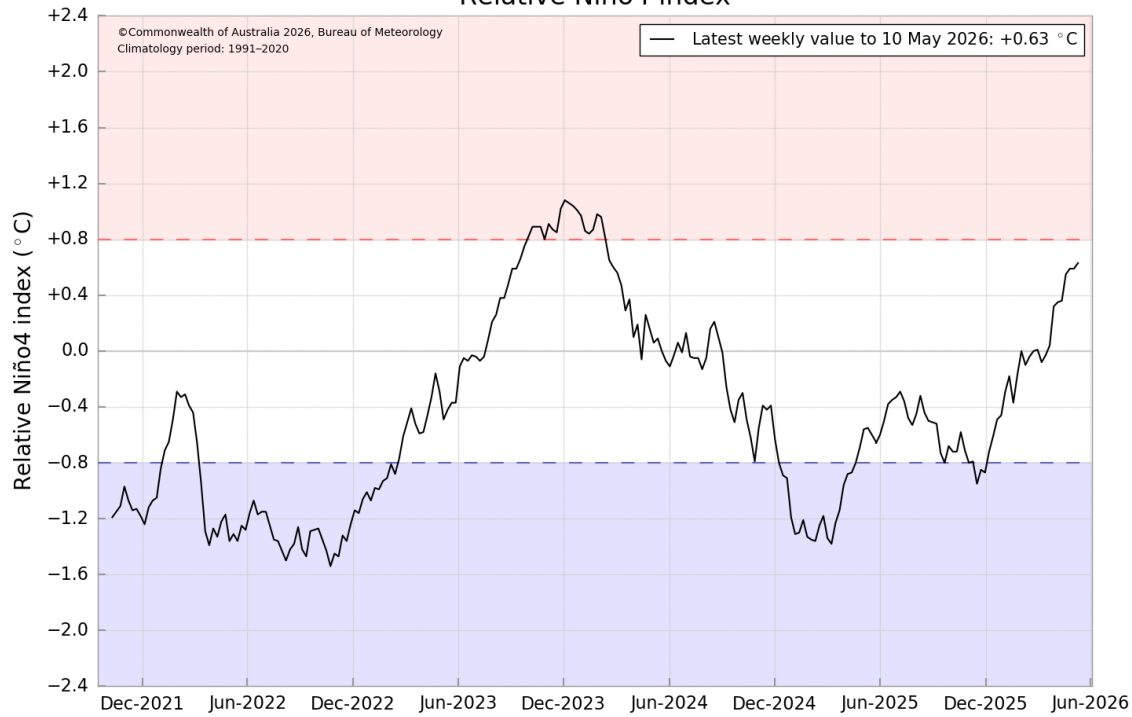


- There has been increased deep warming withing Equatorial Pacific over April.
- Warming of 5 degrees is predominate on the eastern Pacific at depths of 50-150 meters.
- Significant warmth in the sub-surface suggests further warming of SSTs is likely in the coming weeks.

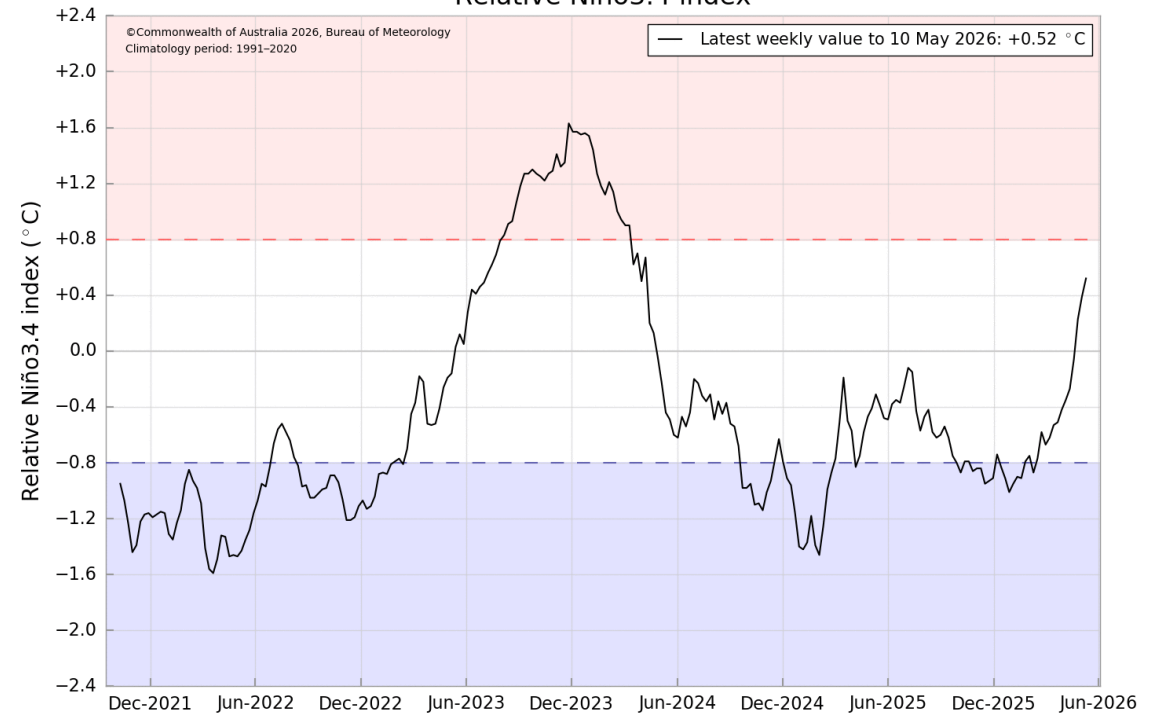
# Observed Relative NINO Indices



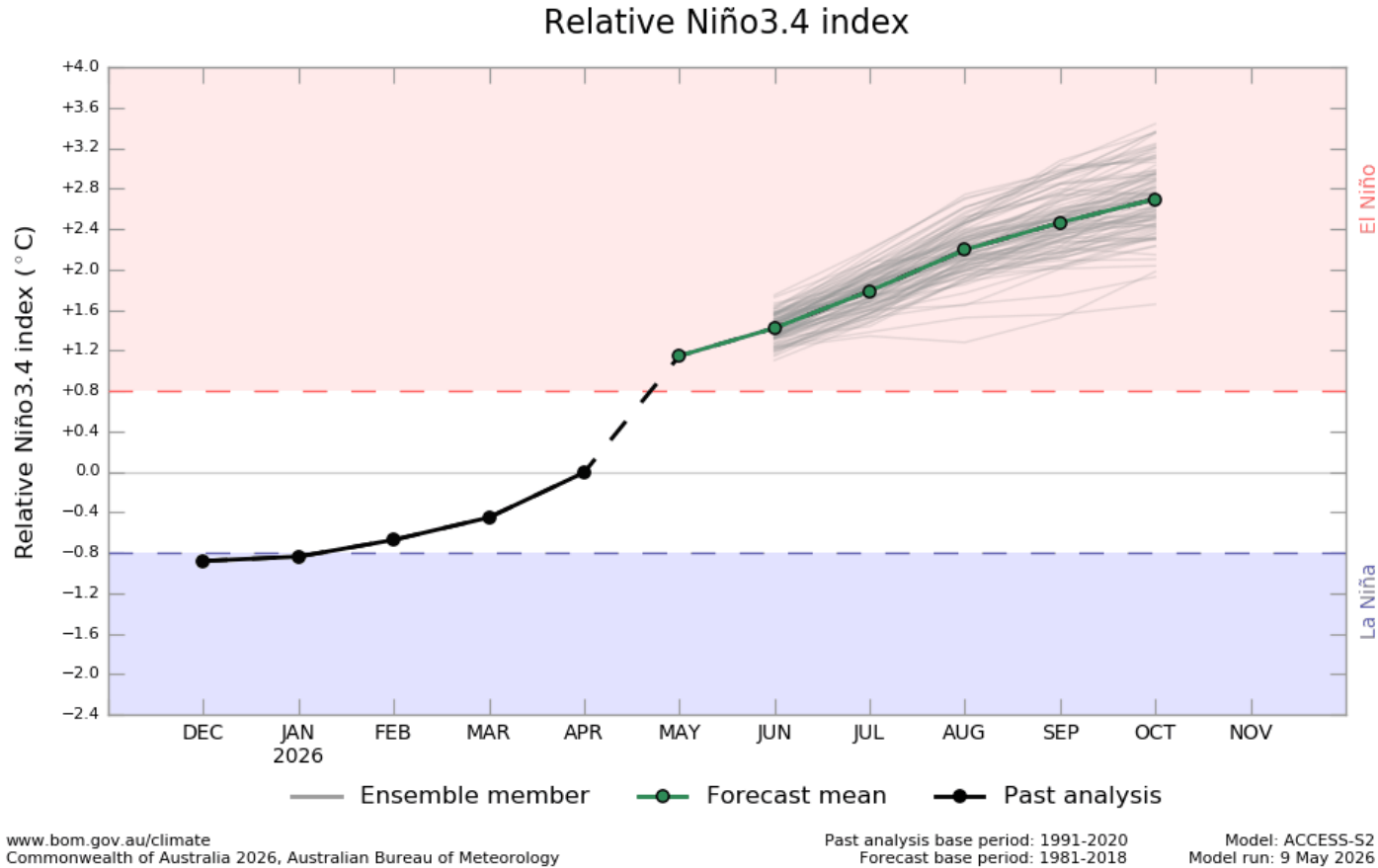
Relative Niño4 index



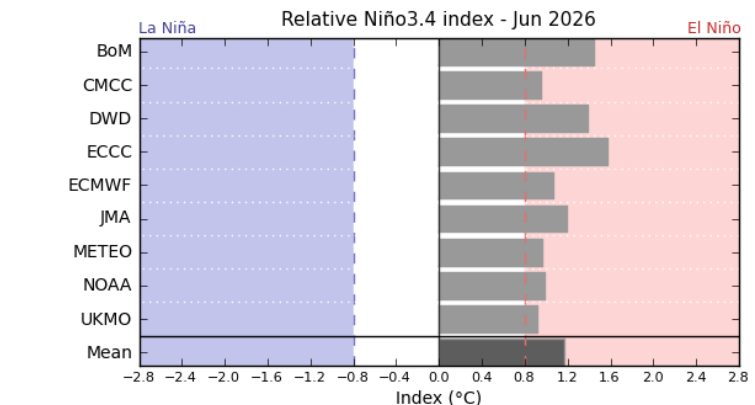
Relative Niño3.4 index



# Relative ENSO Outlook



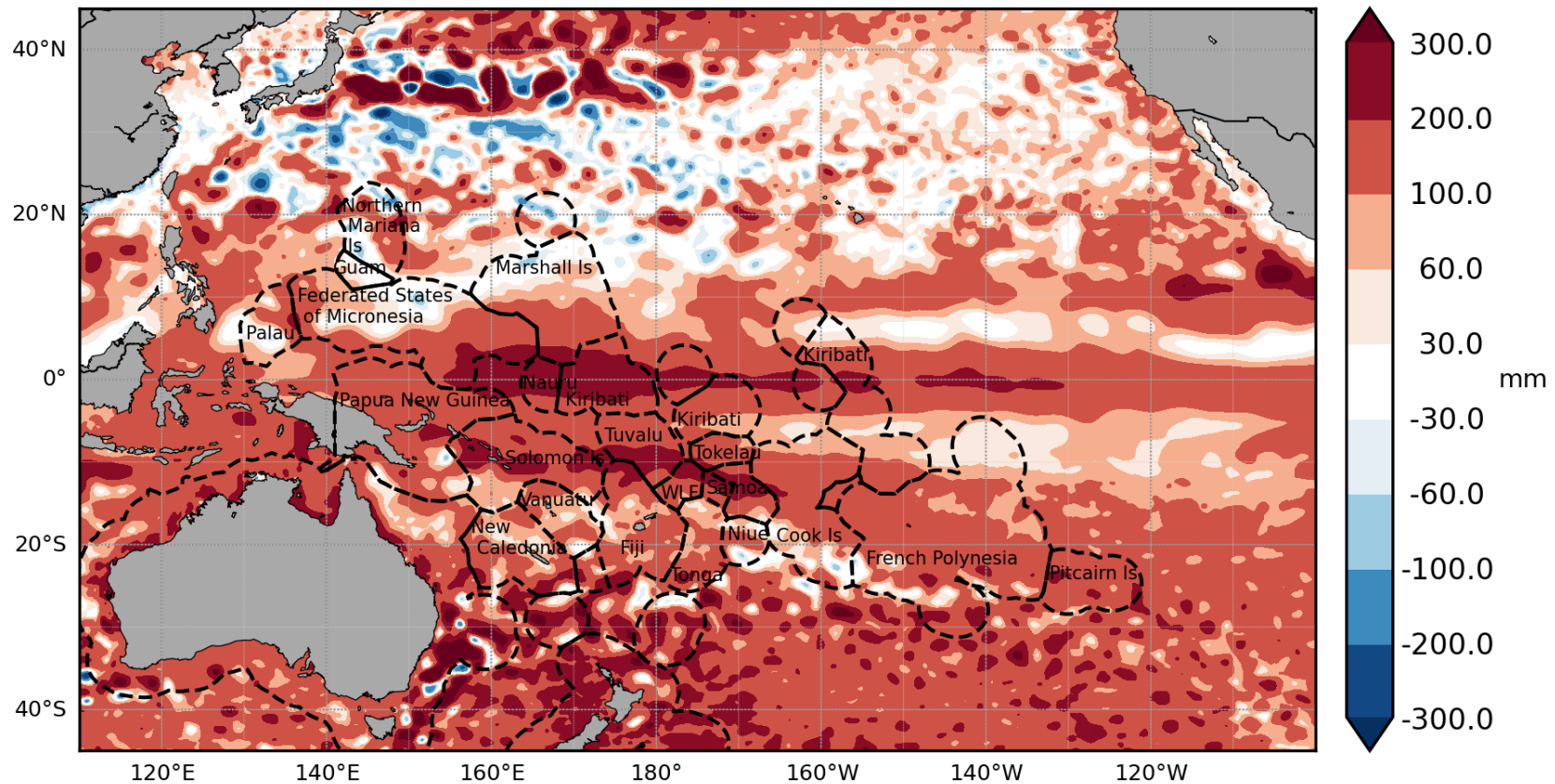
- All models, including the Bureau's, forecast the tropical Pacific to continue warming in the coming months, with SSTs likely to reach El Niño thresholds by early winter.
- However, for El Niño to be considered established, a corresponding atmospheric response would need to be observed.



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# April 2026 Sea Level Anomaly

Pacific Islands  
Monthly Sea Level Anomaly: April 2026



© Pacific Community (SPC) 2025

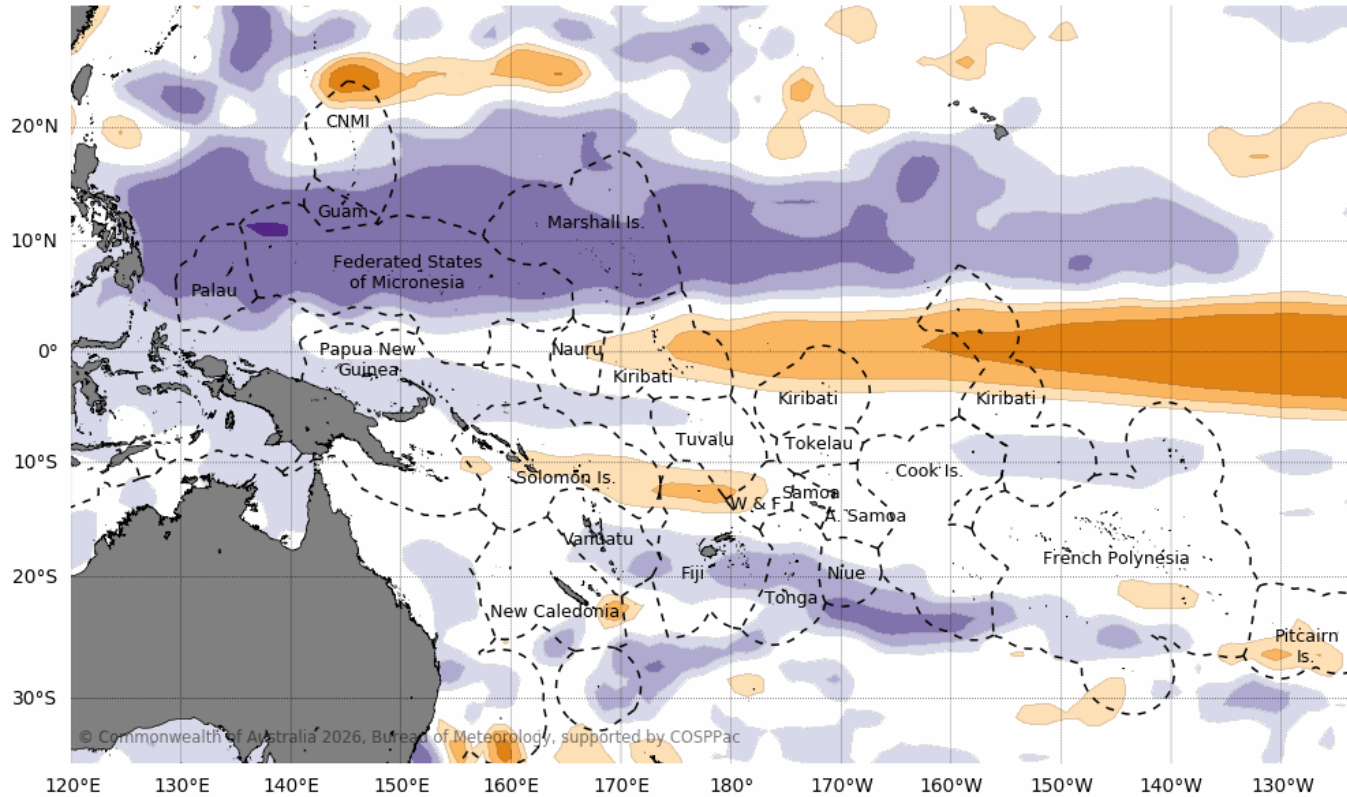
E.U. Copernicus Marine Service Information;  
<https://doi.org/10.48670/moi-00149>

# Seasonal Outlook: Sea Surface Height Anomaly

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

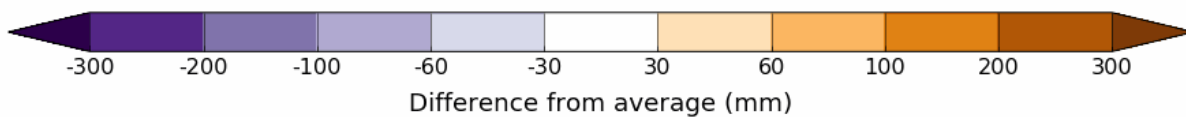
Base period: 1981-2018  
Model: ACCESS-S2

Model run: 04/05/2026  
Issued: 06/05/2026



- SSH greater than 100mm is expected to occur in the northern Line Islands from June to August.
- SSH less than -100mm from June to August is forecasted to occur in:
  - Palau
  - FSM
  - Guam
  - RMI
  - Southern Cook Islands

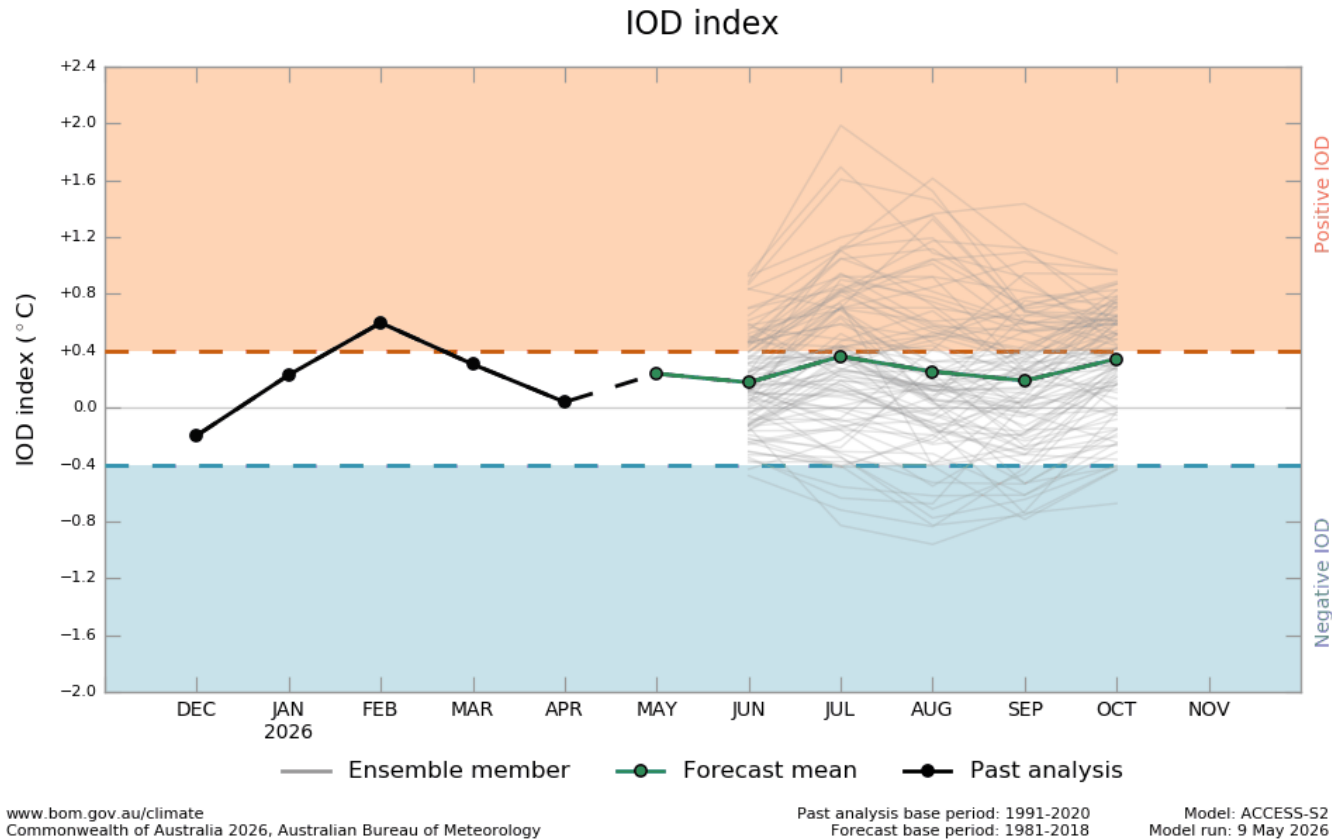
© Commonwealth of Australia 2026, Bureau of Meteorology, supported by COSPPac



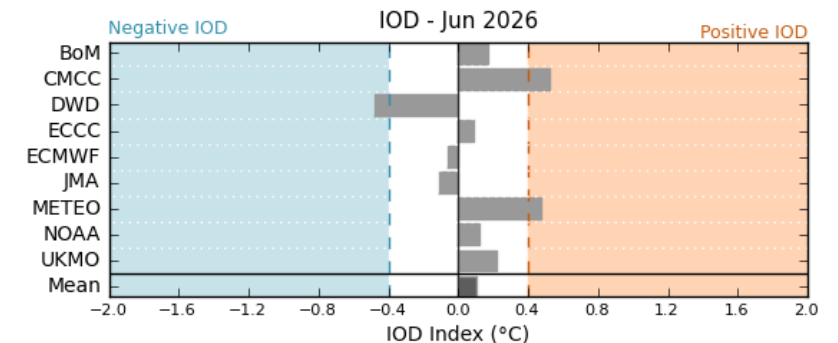
Difference from average (mm)

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

# Indian Ocean Dipole (IOD)



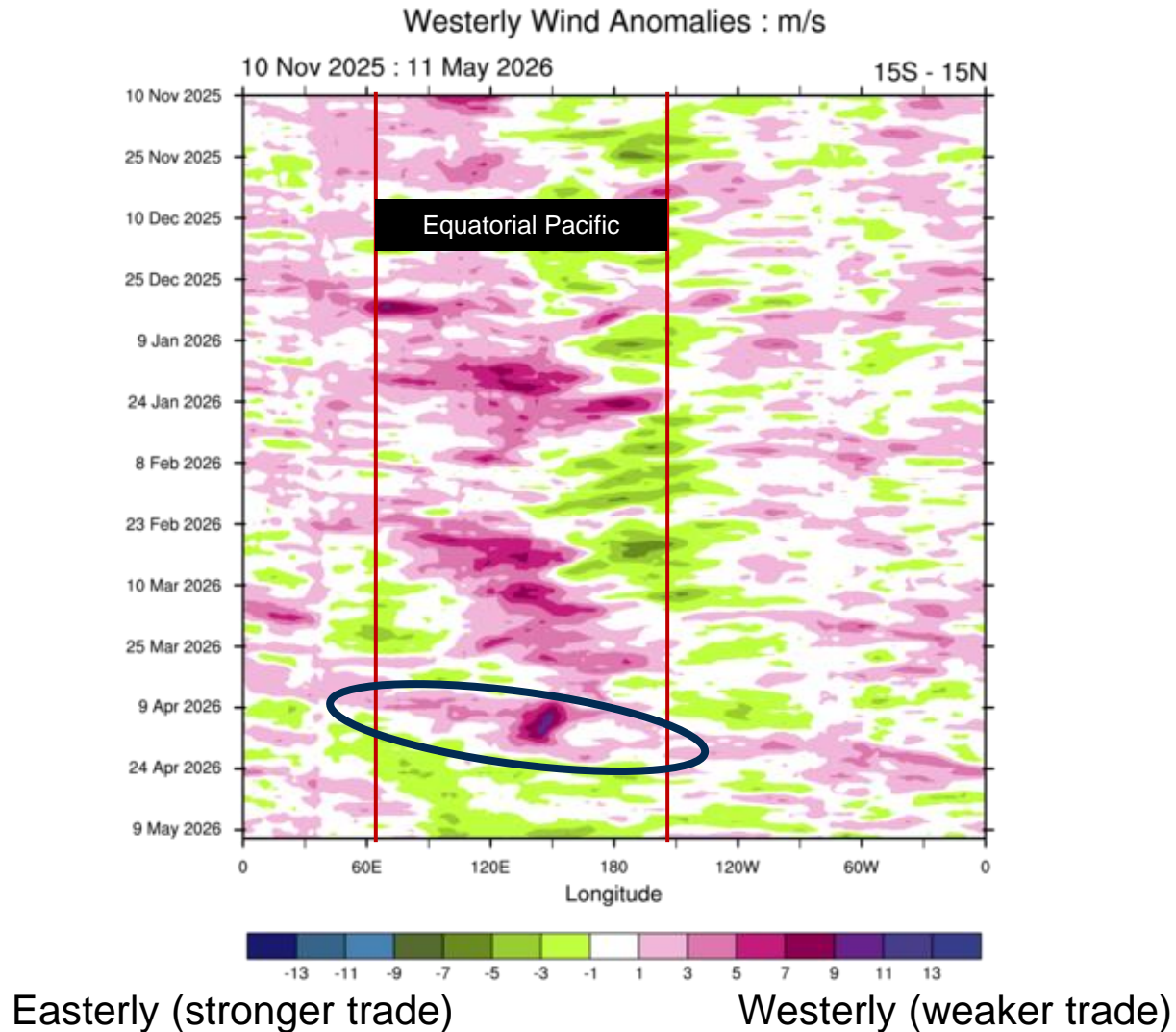
- The Indian Ocean Dipole (IOD) is currently neutral.
- Most models indicate the IOD is likely to remain neutral until at least early winter, with the development of a positive IOD event possible during winter–spring
- Model forecasts show a large variation in both timing and strength of this potential event, reflected in the broad range of possible outcomes.



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# Wind Anomalies

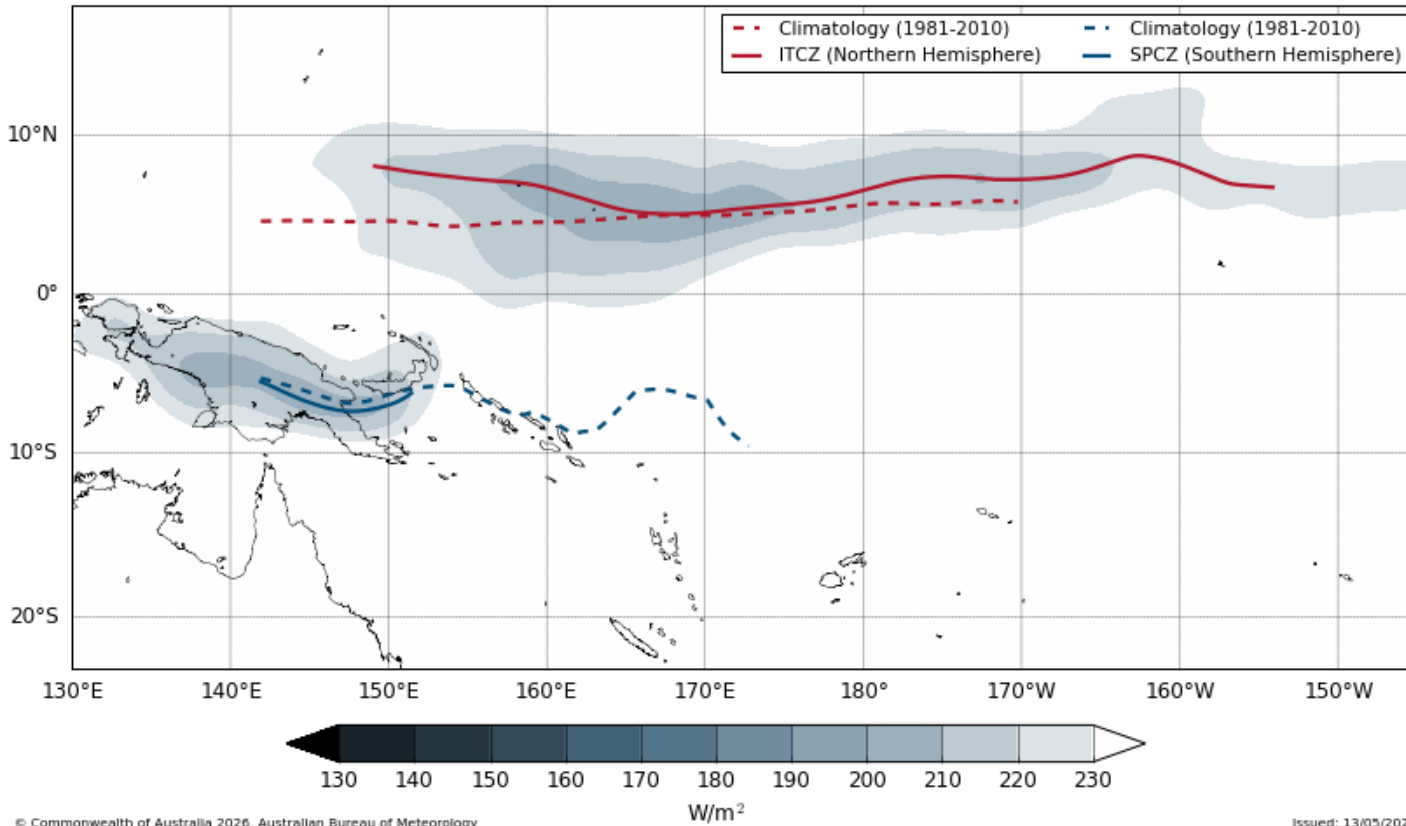


- Winds at the start of April were dominated by a strong westerlies (Pink).
- These westerlies coincided with an MJO in the Western Pacific, TC Malia and Typhoon Sinlaku.
- Westerlies protruded across the entire Pacific in this event.
- From late April to present there has been a shift to easterlies (Green) across the Pacific

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# ITCZ and SPCZ

30 Day Average Outgoing Longwave Radiation (OLR) minimum to 2026-05-10



**ITZC** is slightly north of its climatology, currently located over FSM.

**SPZC** is aligned with its climatology for this time of year and it is located over PNG.

More clouds

Less clouds

# Madden – Julian Oscillation



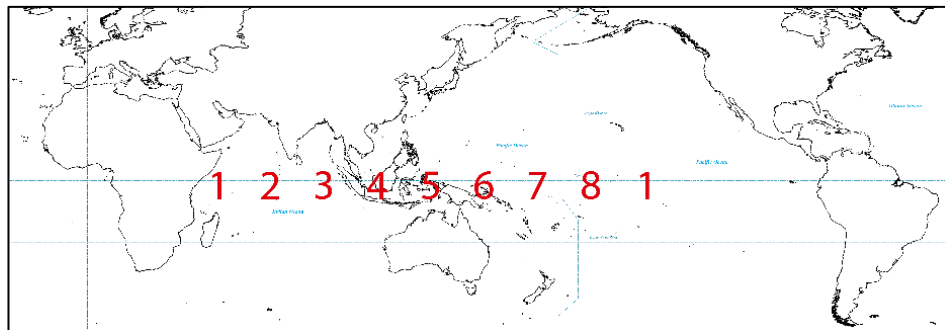
The **MJO** is weak in **Phase 2** Indian Ocean. Preliminary forecast has return to **Phase 6** Western Pacific late .



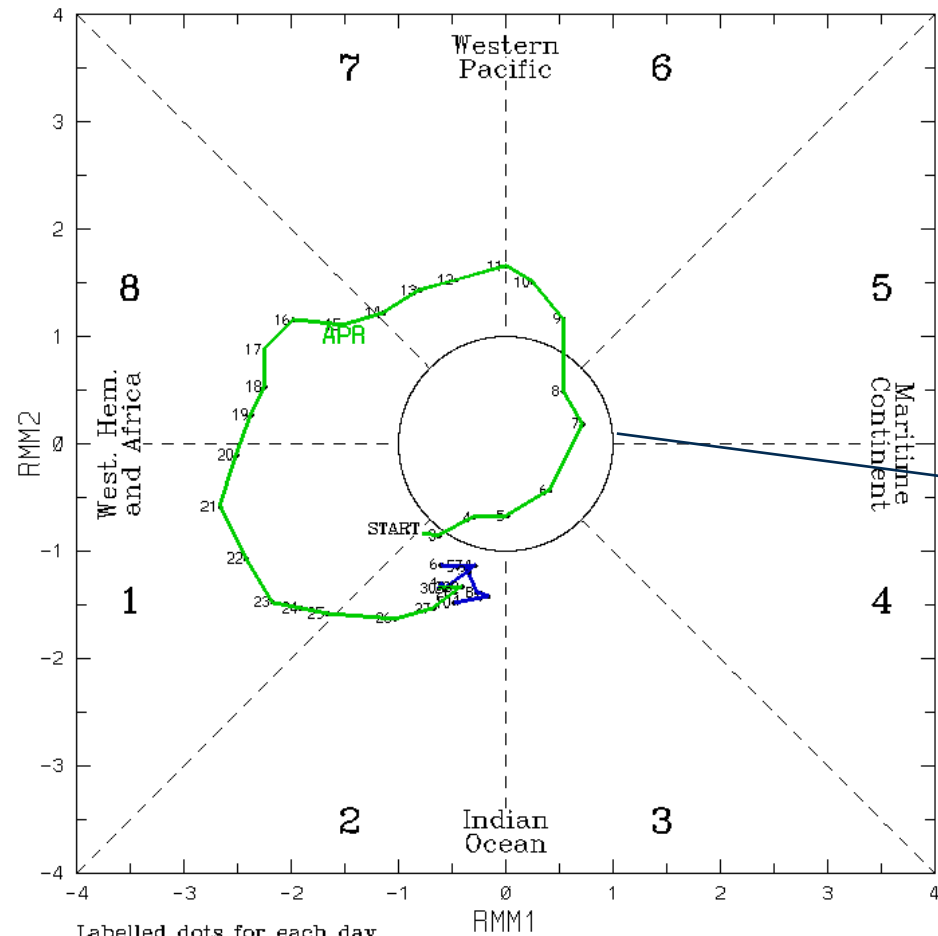
Phases **6, 7 and 8** are typically associated with **increased rainfall** across the Pacific.



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



(RMM1,RMM2) phase space for 2-Apr-2026 to 11-May-2026

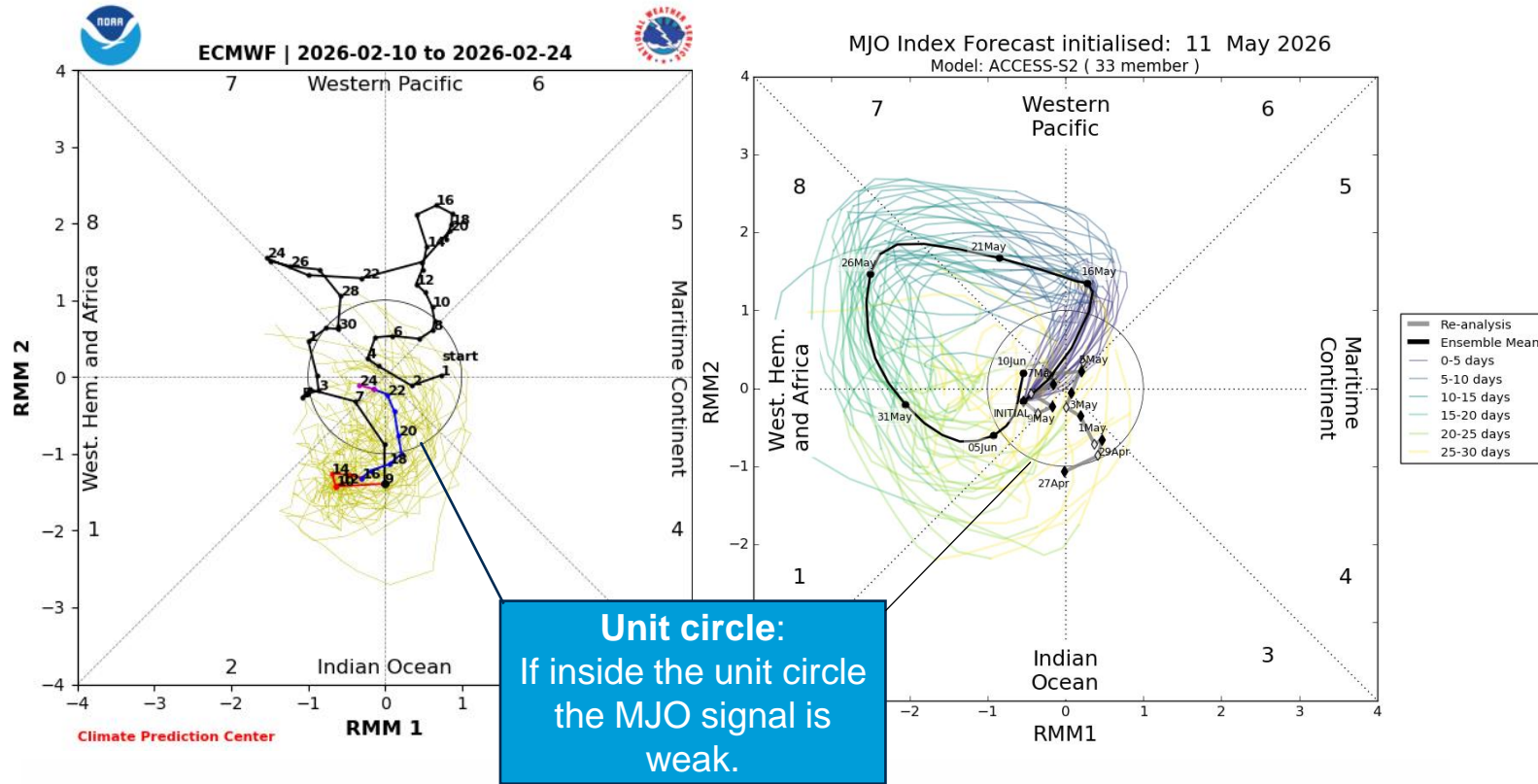


Labelled dots for each day.  
Blue line is for May, green line is for Apr, red line is for Mar.

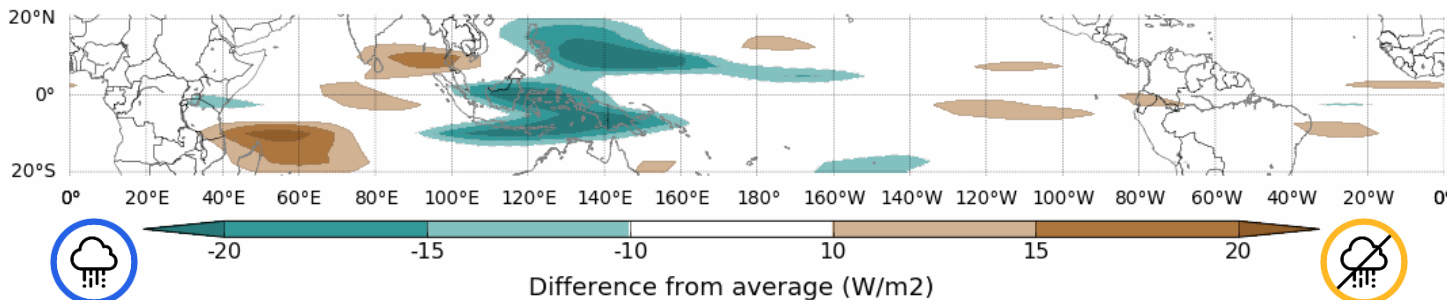
(C) Copyright Commonwealth of Australia Bureau of Meteorology

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

# Madden – Julian Oscillation



- The Madden–Julian Oscillation is weak, but forecasts suggest it may re-strengthen over the Western Pacific and Western Hemisphere regions during late-May.
- If this occurs, associated westerly wind anomalies over the western Pacific could support further warming of tropical Pacific for El Niño development.



# Observed Rainfall – August 2025

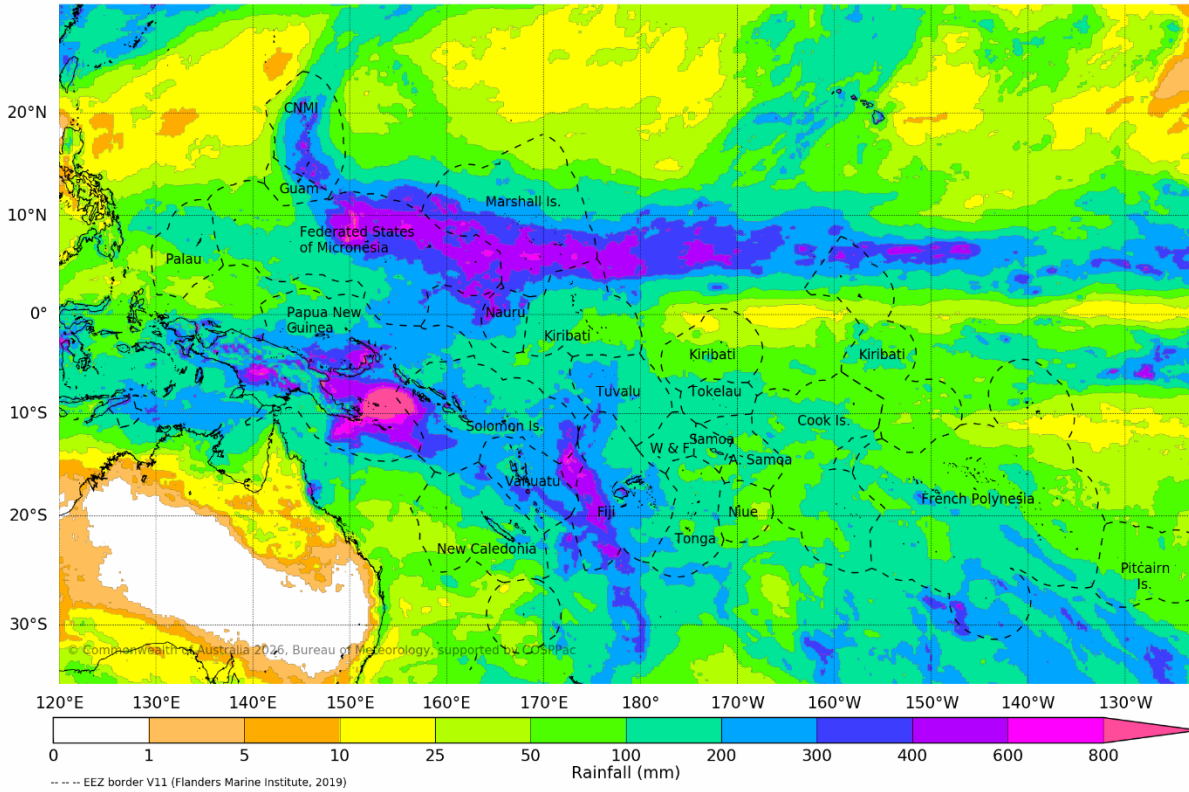
Observed

Percentile

1-month total rainfall ending April 2026

Data source: MSWEP

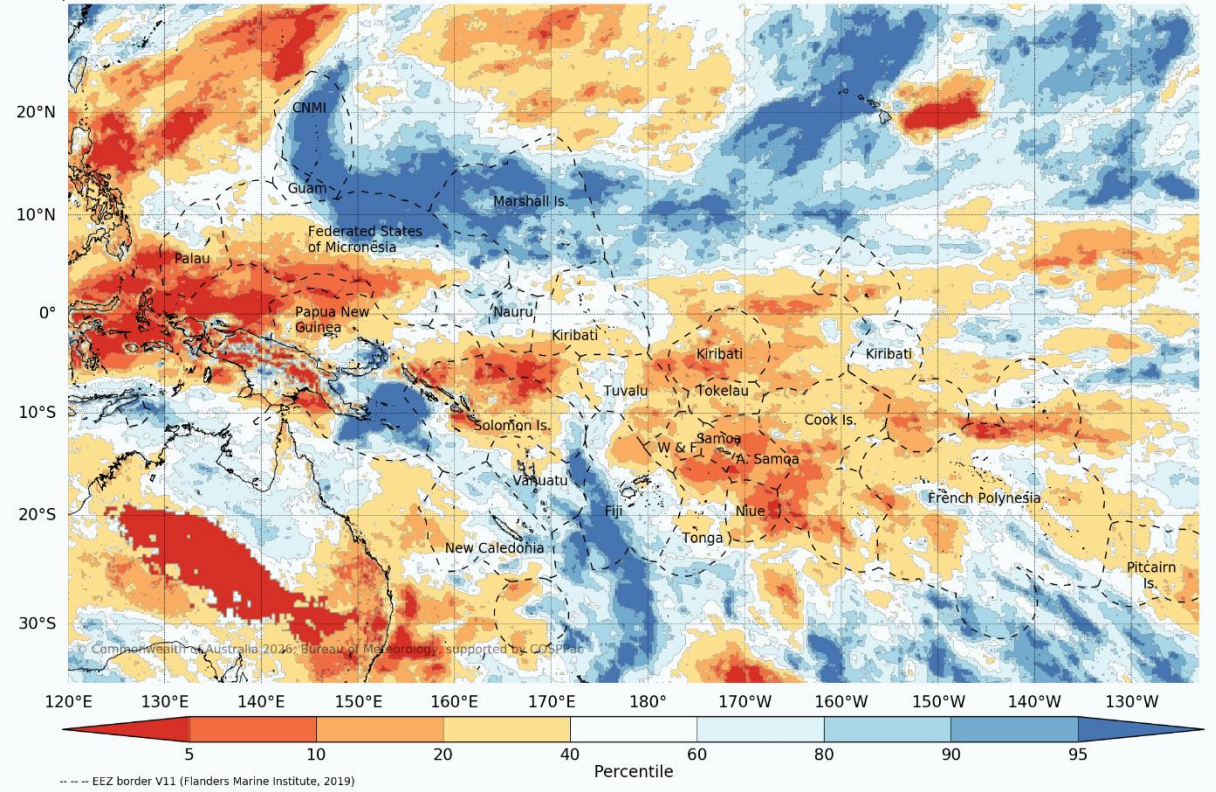
Issued: 08/05/2026



1-month Percentile to end of April 2026

Data source: MSWEP  
Base period: 1981-2021

Issued: 08/05/2026

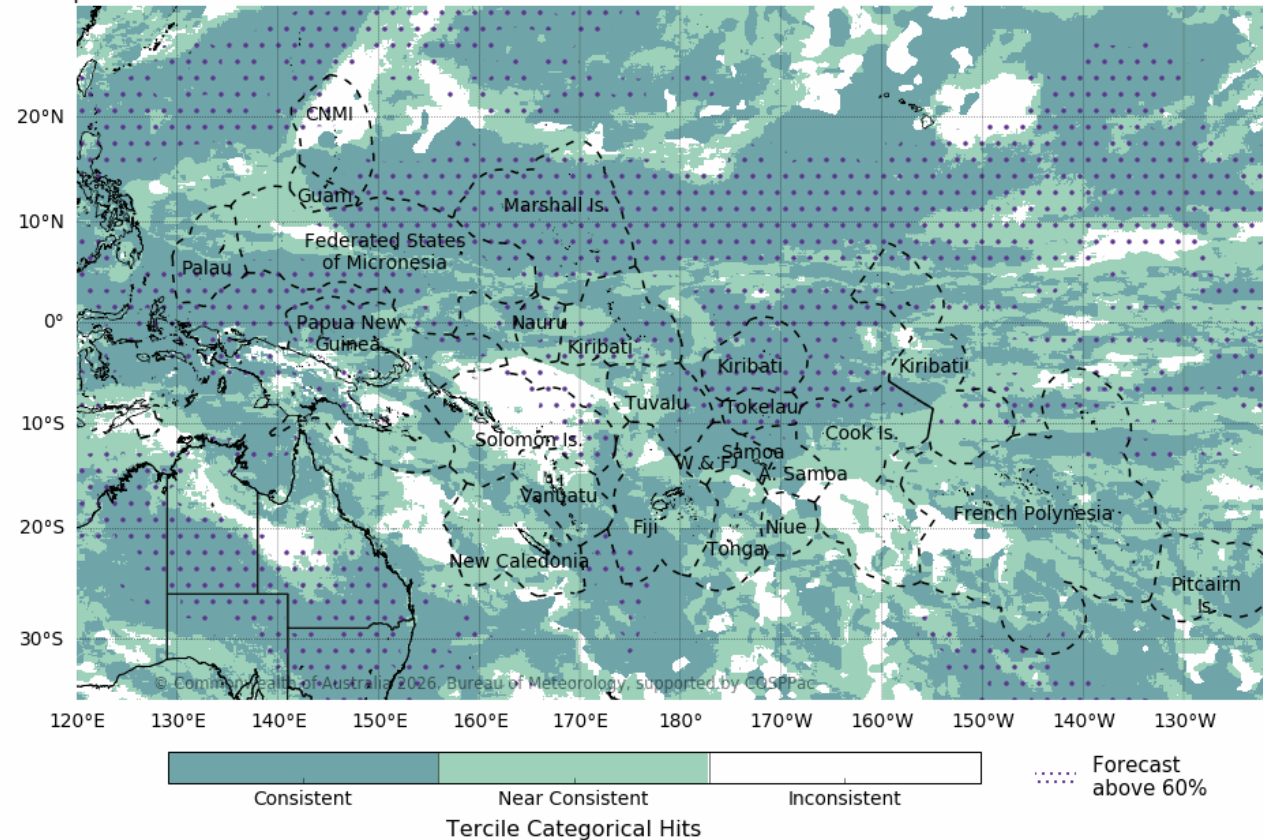


# Outlook Verification – April

Near real-time tercile verification hit rate: rainfall April 2026

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

Model Run: 01/04/2026  
Issued: 12/05/2026



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

The Verification plot shows where the forecast matched the observed rainfall for April. **Areas that had a skill verification greater than 60% include:**

- RMI
- Central FSM
- Eastern Solomon Islands
- Tokelau
- Southern Palau
- Nauru
- Southern tip of Fiji
- Northern Cook Islands
- Southern Gilbert Islands
- Phoenix Islands
- Northern French Polynesia
- Line Islands

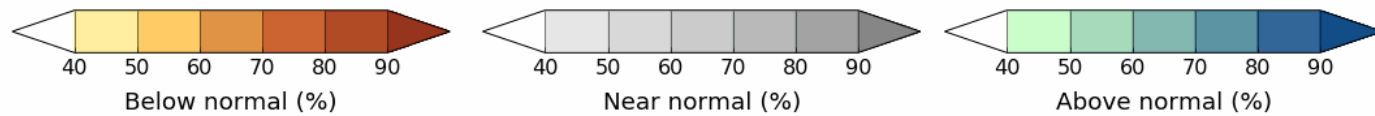
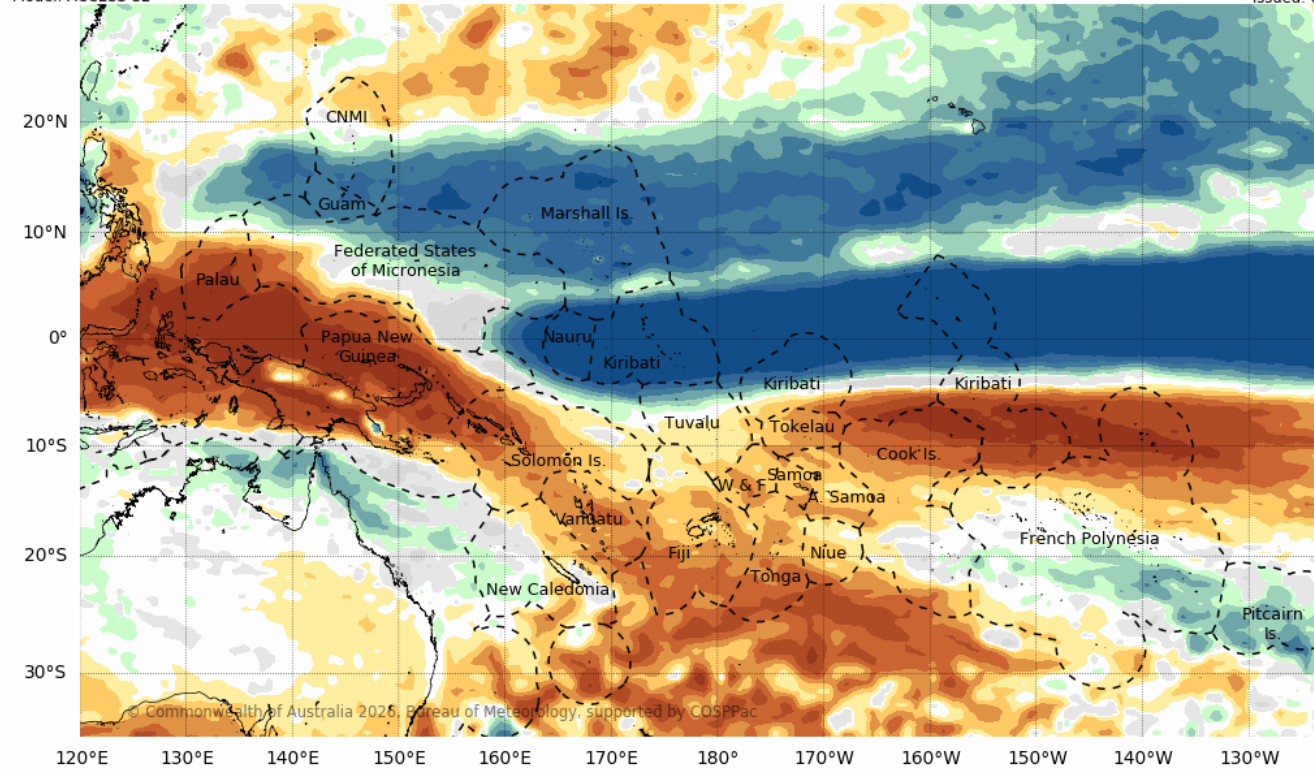
# Model Rainfall Predictions (MJJA)

ACCESS-S2

Tercile rainfall probabilities for June to August 2026

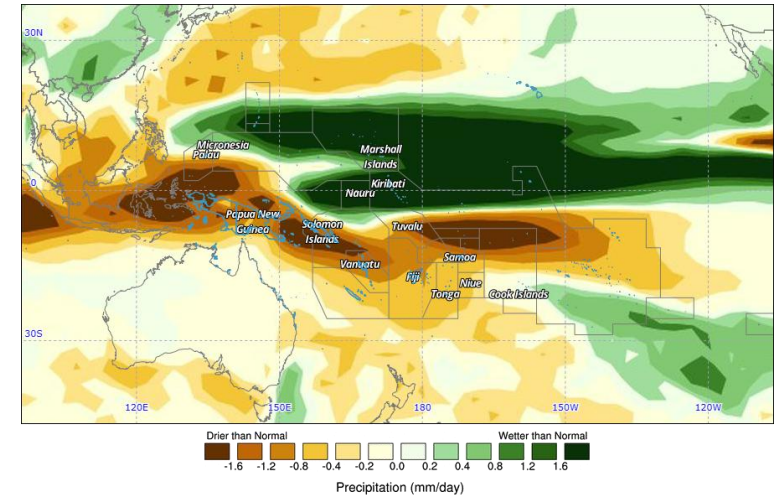
Base period: 1981-2018  
Model: ACCESS-S2

Model run: 04/05/2026  
Issued: 06/05/2026



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

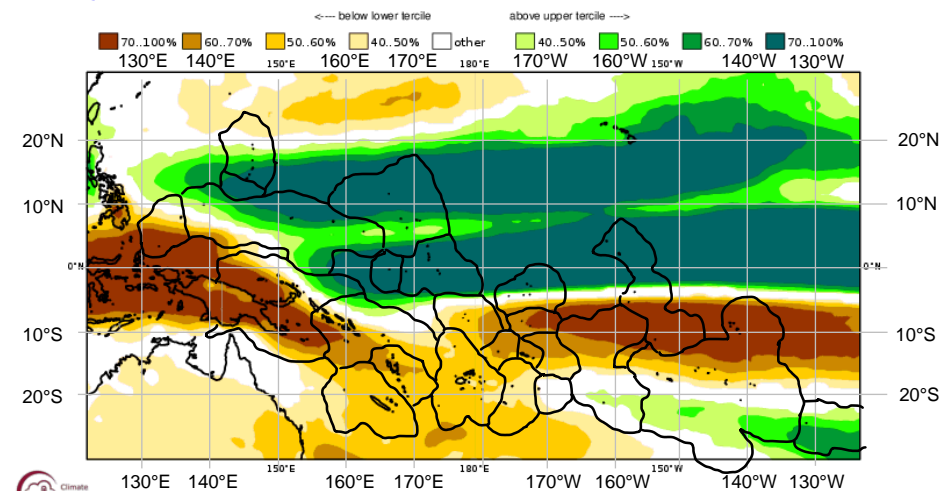
CLIKP



Year: 2026, Season: MJJ, Lead Month: 3, Method: SCM  
Model: APCC, BOM, CMCC, CWA, ECC, NASA, NCEP  
Generated using CLIKP (2026-5-13) © APEC Climate Center

C3S

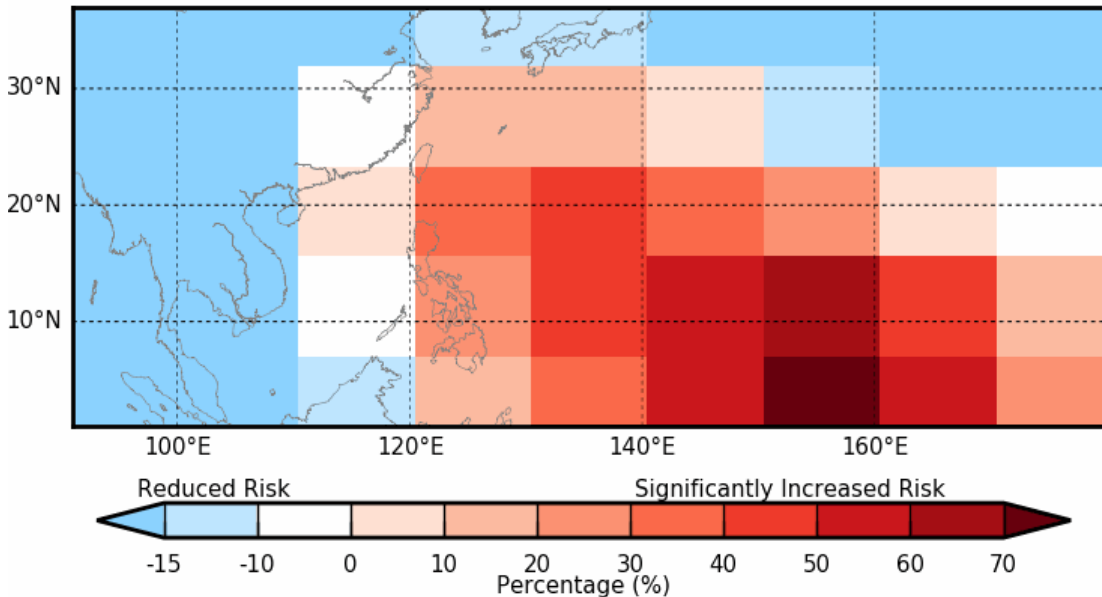
C3S multi-system seasonal forecast ECMWF/Met Office/Météo-France/CMCC/DWD/NCEP/JMA/ECCC/BOM  
Prob(most likely category of precipitation)  
Nominal forecast start: 01/05/26  
Unweighted mean



# TC Outlooks – Two Weeks

## North Pacific

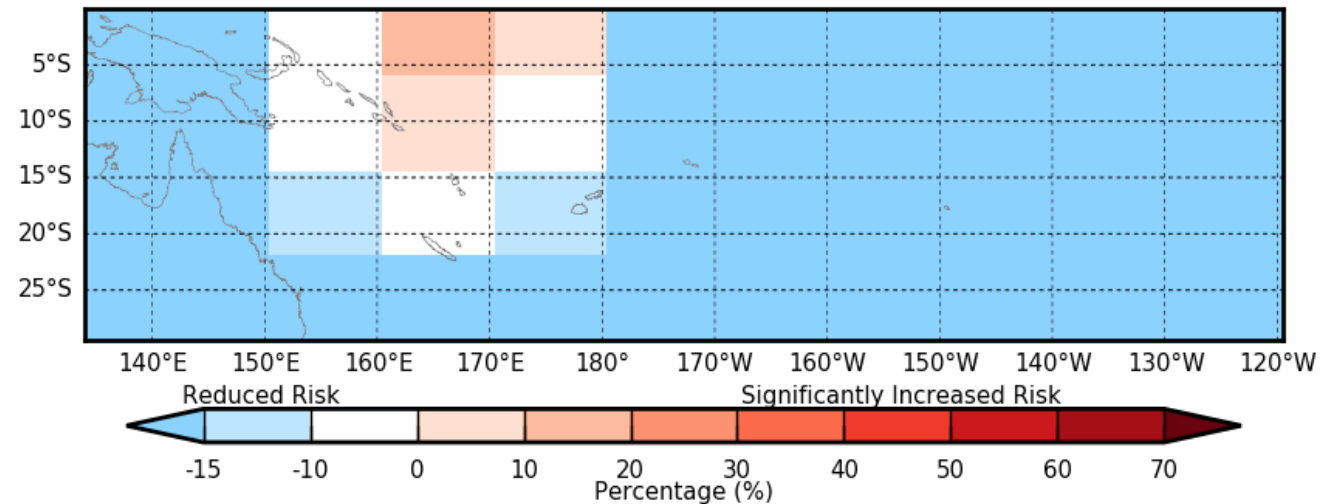
Difference from normal chance of Tropical Cyclone's in the Northern Pacific  
Forecast period: 19/05/2026 - 25/05/2026



Calibrated Model anomaly probability in overlapping 15 x 20 degree boxes  
© Commonwealth of Australia 2026, Australian Bureau of Meteorology Model: ACCESS\_S2 Model Run: 11/05/2026 Issued: 13/05/2026

## South Pacific

Difference from normal chance of Tropical Cyclone's in the South Pacific  
Forecast period: 19/05/2026 - 25/05/2026



Calibrated Model anomaly probability in overlapping 15 x 20 degree boxes  
© Commonwealth of Australia 2026, Australian Bureau of Meteorology Model: ACCESS\_S2 Model Run: 11/05/2026 Issued: 13/05/2026

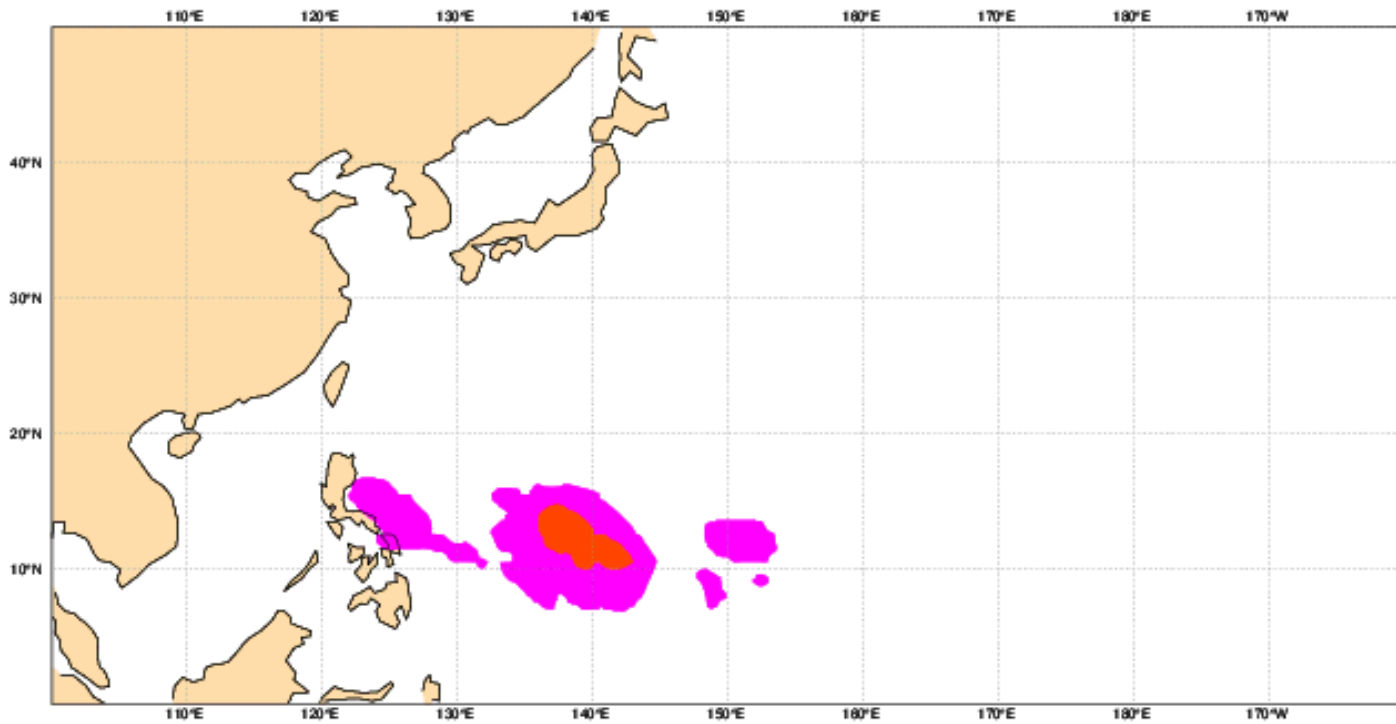
There is an increased of tropical cyclone occurrence in the North and South Pacific using the ACCESS- S model. Areas at risk include Solomon Islands, Palau, Guam, CMNI and the YAP state in FSM.

# Weekly ECMWF TC Forecast

## North Pacific

Weekly mean Tropical Storm Strike Probability. Date: 20260512 0 UTC t+(144-312)  
Probability of a TS passing within 300km radius

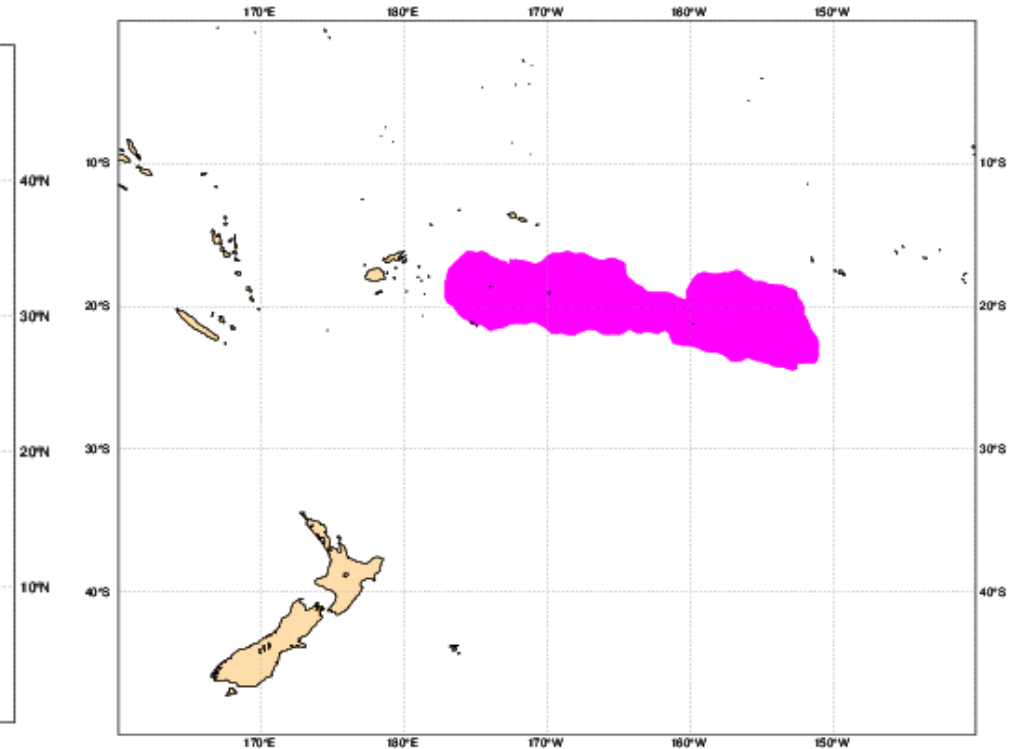
5-10 10-20 20-30 30-40 40-50 50-60 60-70 70-80 80-90 90-110



## South Pacific

Weekly mean Tropical Storm Strike Probability. Date: 20260512 0 UTC t+(144-312)  
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

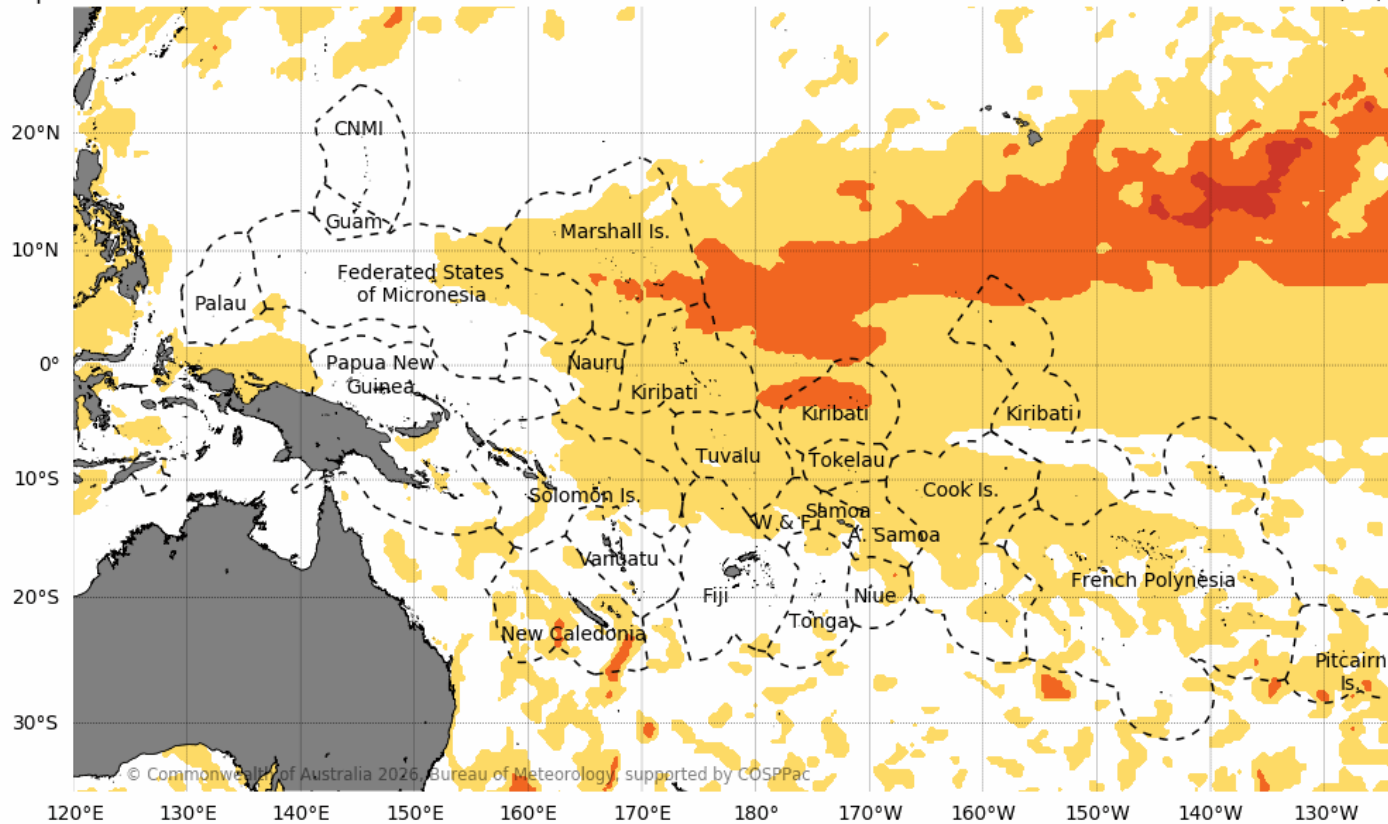


# Marine Heatwaves

Marine heatwave category forecast for June 2026

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

Model Run: 09/05/2026  
Issued: 11/05/2026

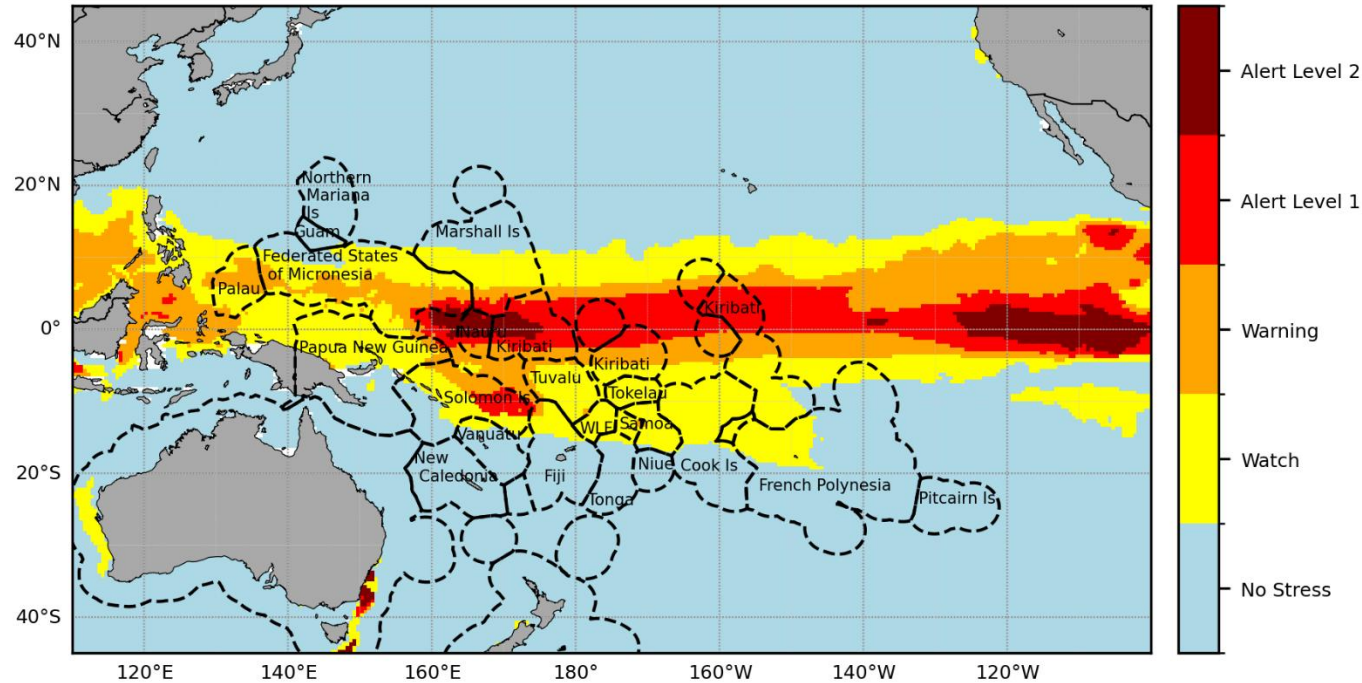


## For June strong marine heatwaves are forecasted for:

- South-eastern RMI
- Northern corner of Gilbert Islands
- Northern Phoenix Islands
- Northern Line Islands
- Localised areas in
  - Pitcairn Islands
  - New Caledonia

# Coral Bleaching

Pacific Islands  
4 Week Coral Bleaching Outlook: 18 May 2026



**The 4 Week Coral Bleaching Outlook indicates the following areas are:**

- Alert 2
  - Nauru
  - Western Gilbert Islands
- Alert 1
  - South-eastern Solomon Islands
  - Gilbert Islands
  - Northern Phoenix and Line Islands
  - Nauru
  - Southern tip of RMI
  - Eastern tip of FSM

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NOAA

# ENSO Update

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- The tropical Pacific continues to warm as models suggest a transition to El Niño during winter. However, for El Niño to be considered established, a corresponding atmospheric response would need to be observed.
- The **Madden–Julian Oscillation is weak**, but forecasts suggest it may re-strengthen over the Western Pacific and Western Hemisphere regions during late-May.
- The **Indian Ocean Dipole (IOD)** is currently neutral.
- There is an increased of tropical cyclone occurrence in the North and South Pacific using the ACCESS- S model. Areas at risk include Solomon Islands, Palau, Guam, CMNI and the YAP state in FSM.

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# Thank you

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