

Monthly Pacific Climate and Ocean Bulletin

February 2026



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Photo Credit: Molly Powers (SPC) Samoa Tide Gauge





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Issued 13 March 2026

- La Niña 2025-2026 is close to its end.
- A weak to moderate pulse of the Madden-Julian Oscillation (MJO) is currently located in the Maritime Continent.
- In February, the Intertropical Convergence Zone (ITCZ) and the South Pacific Convergence zone were active with the SPCZ shifted south of its normal position over Vanuatu to Fiji.
- Sea surface temperatures (SSTs) for February 2026 were generally near-normal to above-normal in most countries in the Pacific.
- The Coral bleaching Alert up to March 05 indicates 'Alert Level 2' observed over the southern Tonga, Fiji, PNG, New Caledonia, Cook Islands and French Polynesia.
- For March to May 2026, the models agree that above normal rainfall is likely or very likely over Palau, CNMI, Guam, most of FSM, RMI, southeast PNG, southern Solomon Islands, New Caledonia, Vanuatu, Fiji, Tonga, and Niue. Below normal rainfall is likely or very likely for eastern PNG, Nauru, Kiribati (Gilbert, Phoenix, and northern Line Is.), western and northern Solomon Is., Tuvalu, Tokelau, Wallis and Futuna, Samoa, American Samoa, most of Cook Is., most of French Polynesia, and Pitcairn Islands.
- The weekly tropical cyclone forecasts from the ACCESS-S model shows increased risks for Palau, FSM, and Guam for the 24 to 30 March.

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EL NIÑO–SOUTHERN OSCILLATIO



La Niña is close to its end

Click link to access [Climate Driver Update issued on 03 March 2026](#)

The 2025-2026 La Niña is close to its end. Sea surface temperatures in the central tropical Pacific have been warmer than the La Niña threshold ($-0.80\text{ }^{\circ}\text{C}$) for the past two weeks, with the latest relative Niño 3.4 index value for the week ending 1 March 2026 at $-0.67\text{ }^{\circ}\text{C}$. Recent warming in the sub-surface suggests further decline of the event is likely in the coming weeks.

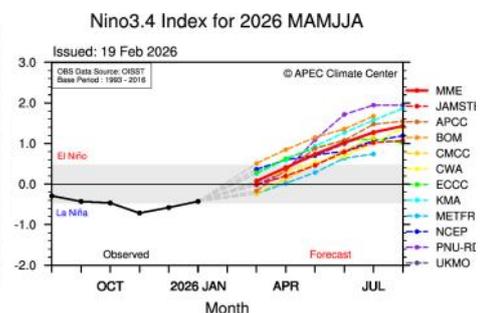
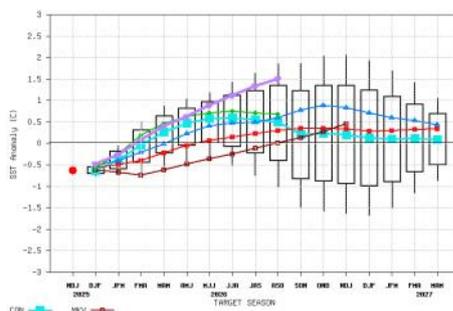
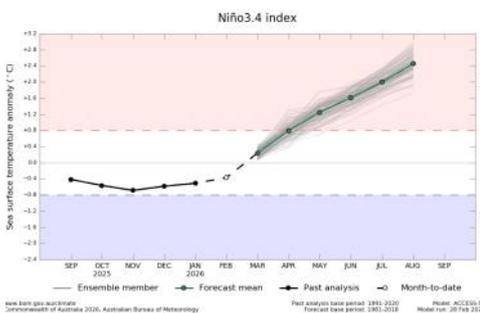
While oceanic indicators of the El Niño-Southern Oscillation (ENSO) are steadily weakening, atmospheric indicators, such as trade winds, pressure and cloud patterns in the tropical Pacific remain consistent with borderline La Niña conditions. After a brief increase, cloudiness near the Date Line has been below average for the past fortnight. Trade winds in the central equatorial Pacific have been stronger than usual in the past fortnight.

These recent changes in the tropical Pacific are consistent with model forecasts, which have indicated a general easing of La Niña during the latter part of the 2025-26 summer. All models, including the Bureau's, indicate a return to neutral ENSO conditions in early autumn. Continued warming in the tropical Pacific Ocean is forecast with a neutral ENSO state favoured through to at least late autumn. Some models suggest the possibility of El Niño development from June, but this remains uncertain given the long lead time, and the moderate spread in forecasts across models beyond autumn.

As of 1 March 2026, the Indian Ocean Dipole (IOD) index is $+0.69\text{ }^{\circ}\text{C}$, which is above the positive IOD threshold of $+0.40\text{ }^{\circ}\text{C}$. Although the IOD has remained above the positive threshold for 6 consecutive weeks, it is unlikely to strongly influence Australian rainfall at this time of year. This is due to the presence of the monsoon trough which can disrupt or override the normal east-west wind patterns in the tropical Indian Ocean from December to April. Model forecasts expect the IOD to drop below the positive threshold in mid-autumn 2026. The 30 day average of the Southern Oscillation Index (SOI) for the period ending 06 March was $+10.9$.



International Model Outlooks



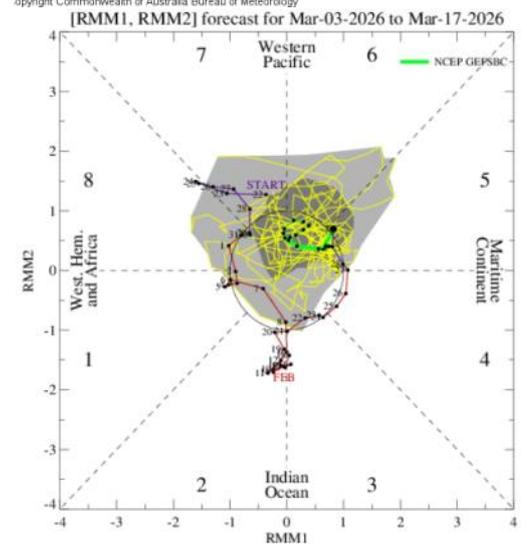
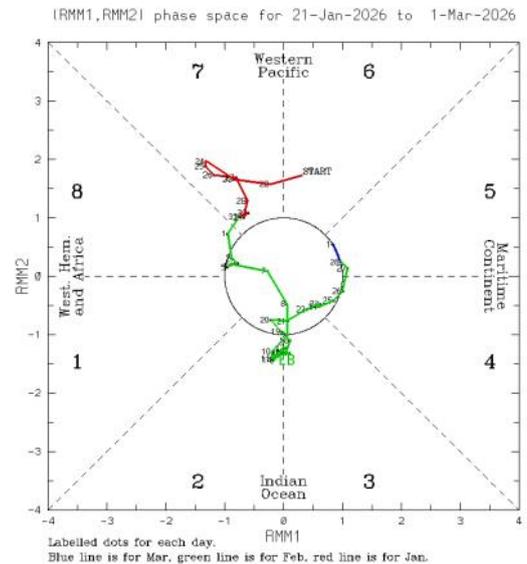
MADDEN–JULIAN OSCILLATION

Click link to access [Tropical monitoring and outlook](#) [Issued on Tuesday 10 March 2026]

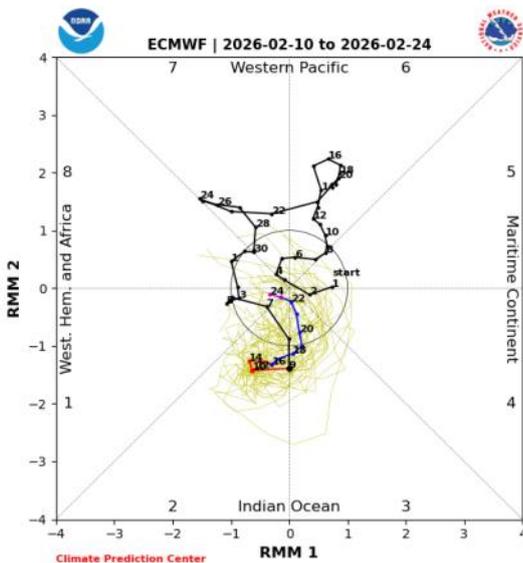
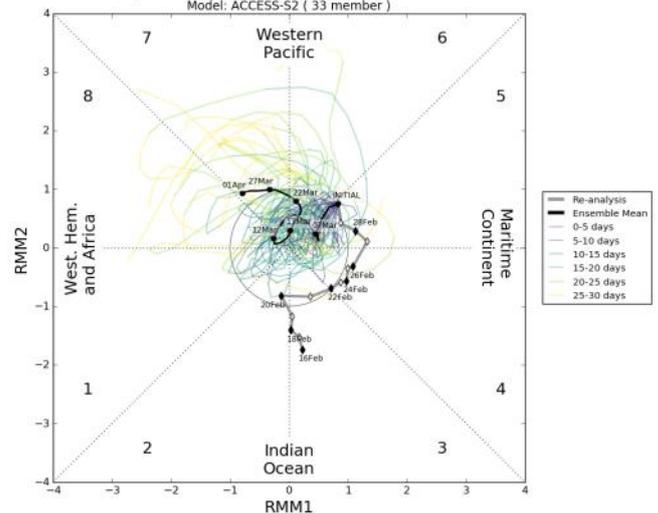
The Madden-Julian Oscillation was active during the second week of February over the Indian Ocean.

A weak to moderate pulse of the Madden-Julian Oscillation (MJO) is currently located in the Maritime Continent. The majority of models show the MJO is likely to progress into the Western Pacific, before weakening later in March. When in the Maritime Continent or Western Pacific, the MJO can increase rainfall over northern Australia, particularly northern Queensland.

This is an abbreviated version of the Tropical monitoring and outlook. Click on the *Tropical Update* for more information .



MJO Index Forecast initialised: 2 March 2026
Model: ACCESS-S2 (33 member)



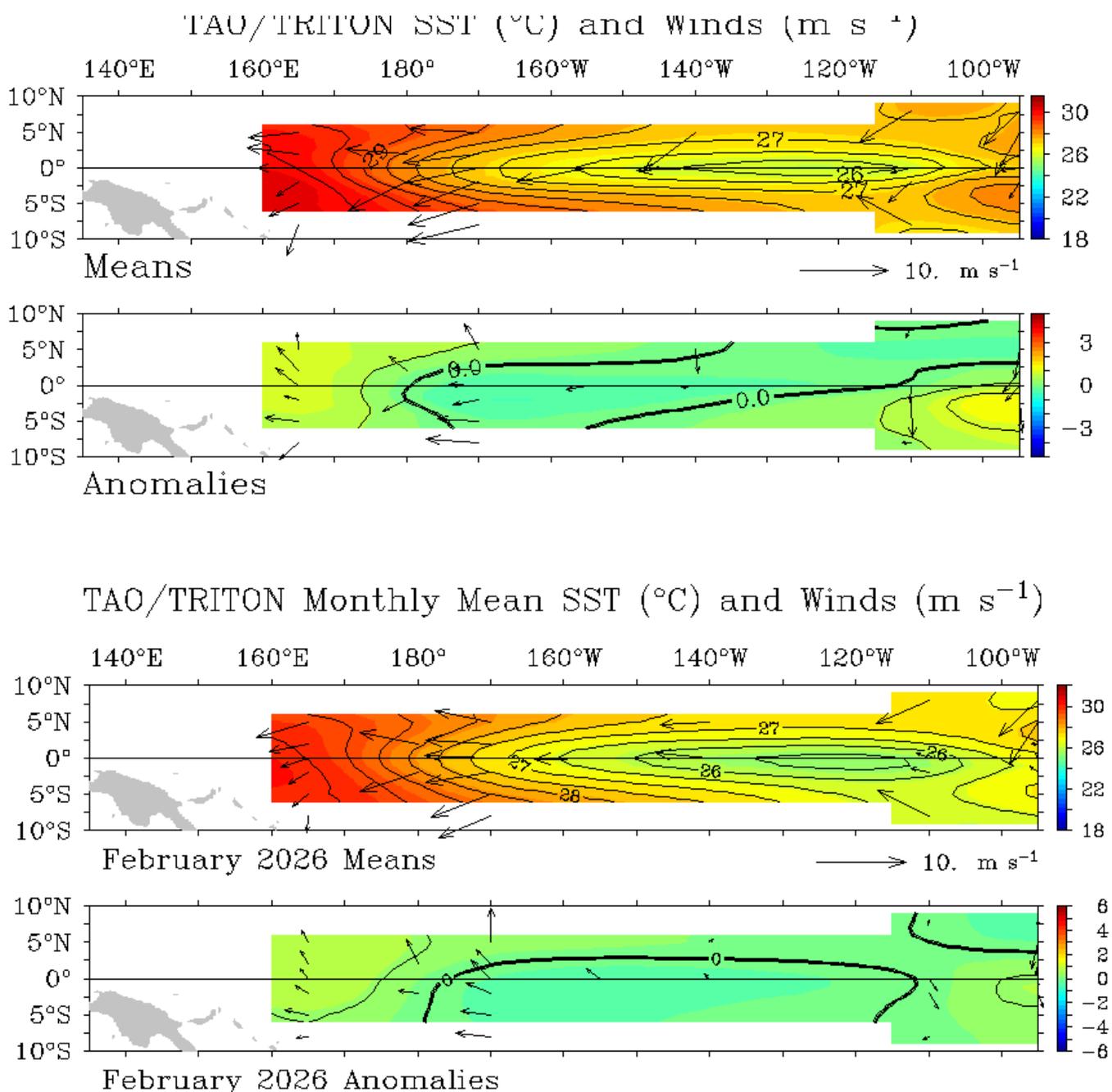


WIND

Click link to access [Wind plots link](#)

During February, the trade winds were generally above average over the western equatorial Pacific. For the five days ending 02 March 2026, the trade winds were above average over the western equatorial Pacific.

During El Niño events there is a sustained weakening, or even reversal, of the trade winds across much of the tropical Pacific, while during La Niña, there is a sustained strengthening of the trade winds.



CLOUD AND RAINFALL

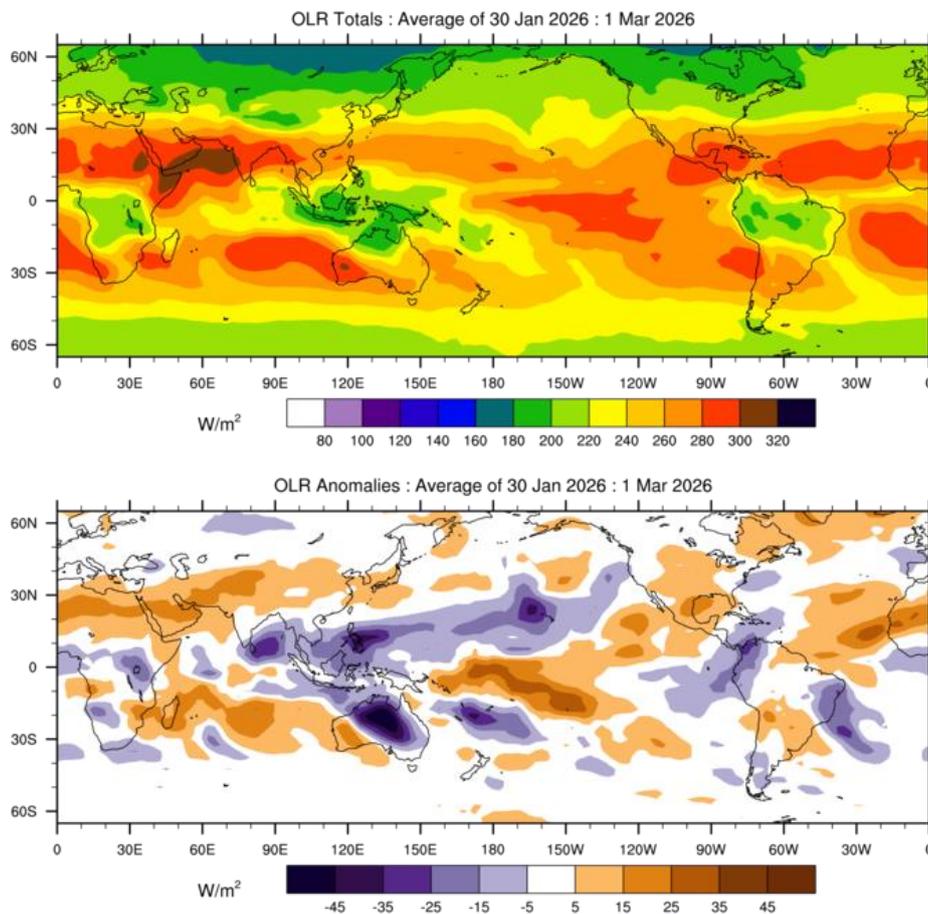
Click link to access [OLR](#)



The February 30-day OLR anomaly map shows a region of negative OLR (increased convection) spanned north-eastwards over Palau, Guam, southern CNMI, RMI, and Nauru. This aligns well with the Warm Pool and the Intertropical convergence Zone (ITCZ) which was active along its climatological position. Area of negative OLR (increased convection) was observed over New Caledonia, Vanuatu, Fiji, Tonga, and Niue indicating that the South Pacific Convergence Zone (SPCZ) was active and shifted south of its normal position. Areas of anomalously high OLR (decreased convection) were evident in a band stretched south-eastwards over Solomon Islands, Tuvalu, Kiribati, Tokelau, Samoa, Cook Islands, French Polynesia, and Pitcairn Islands.

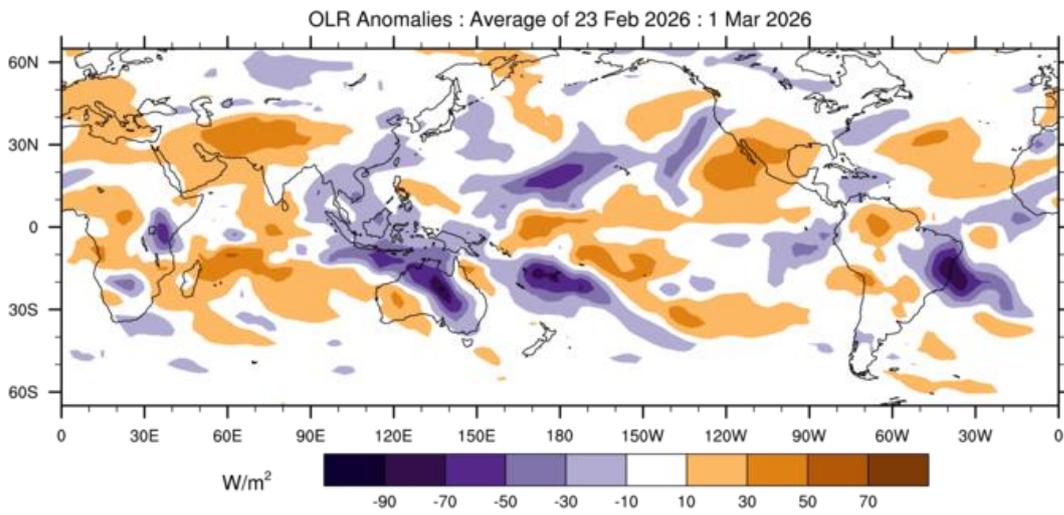
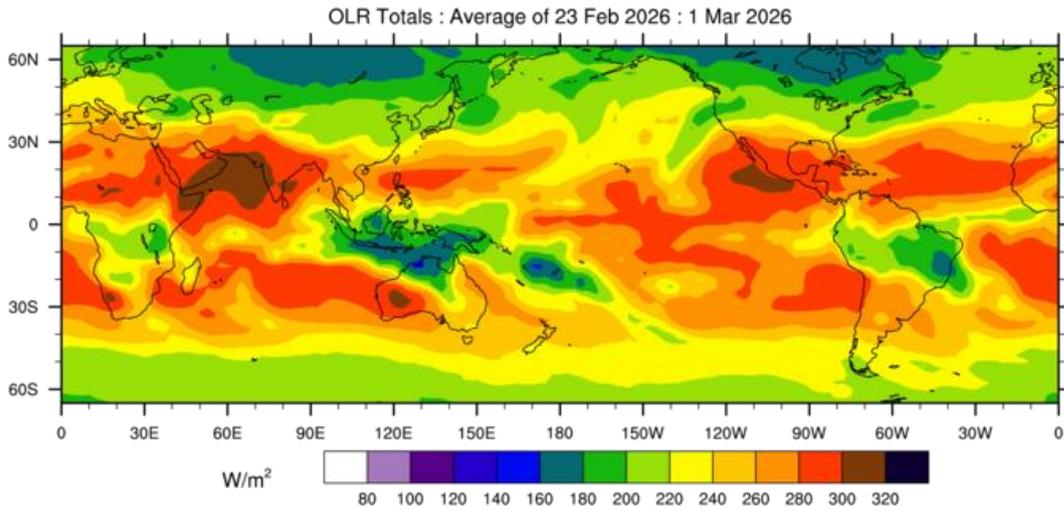
Note: Global maps of OLR below highlight regions experiencing increased or decreased cloudiness. The top panel is the total OLR in Watts per square metre (W/m^2) and the bottom panel is the anomaly (current minus the 1979-1998 climate average), in W/m^2 . In the bottom panel, negative values (blue shading) represent above normal cloudiness while positive values (brown shading) represent below normal cloudiness.

OLR Total and Anomalies, 30 Day OLR

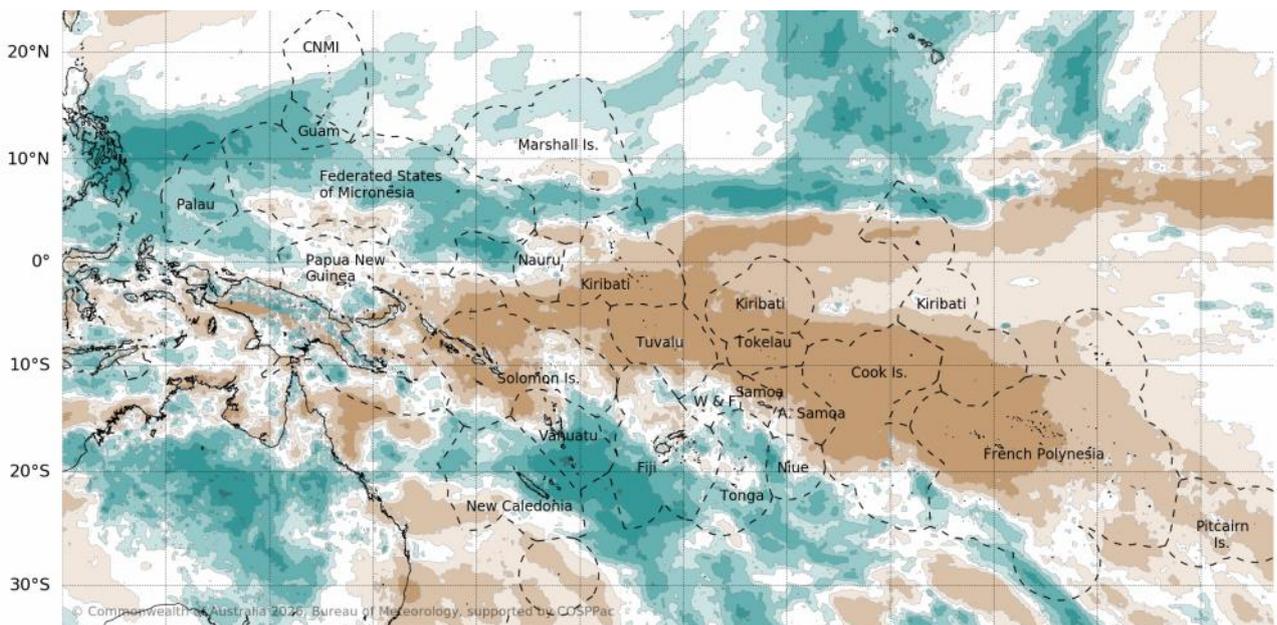


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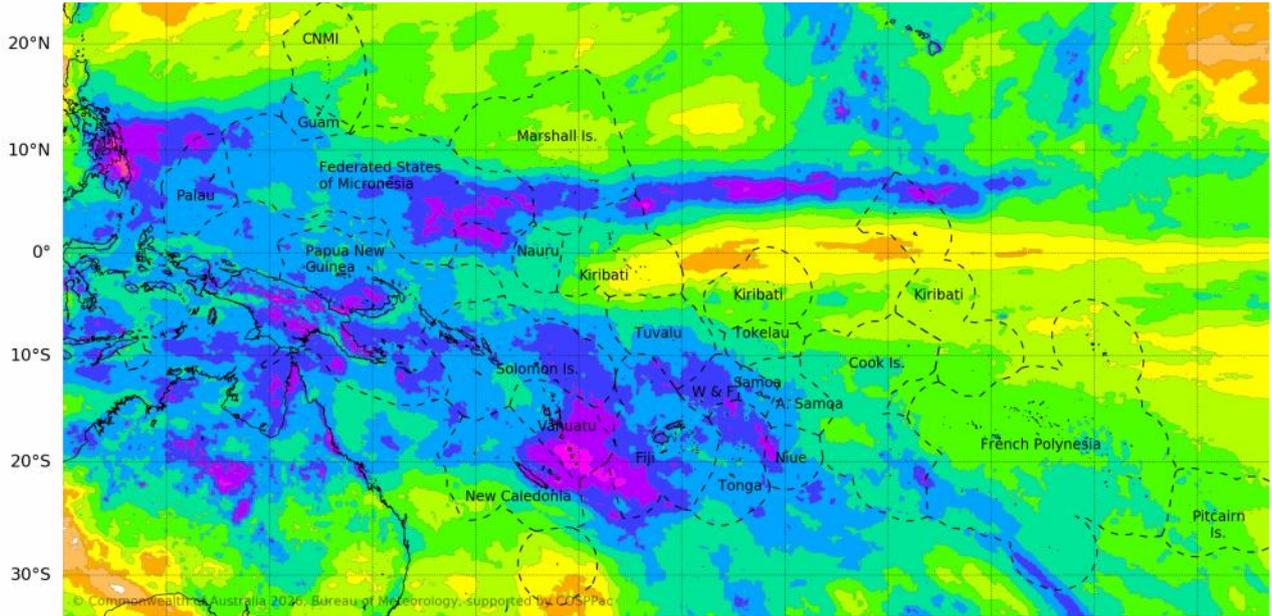
OLR Total and Anomalies, 7 Day OLR



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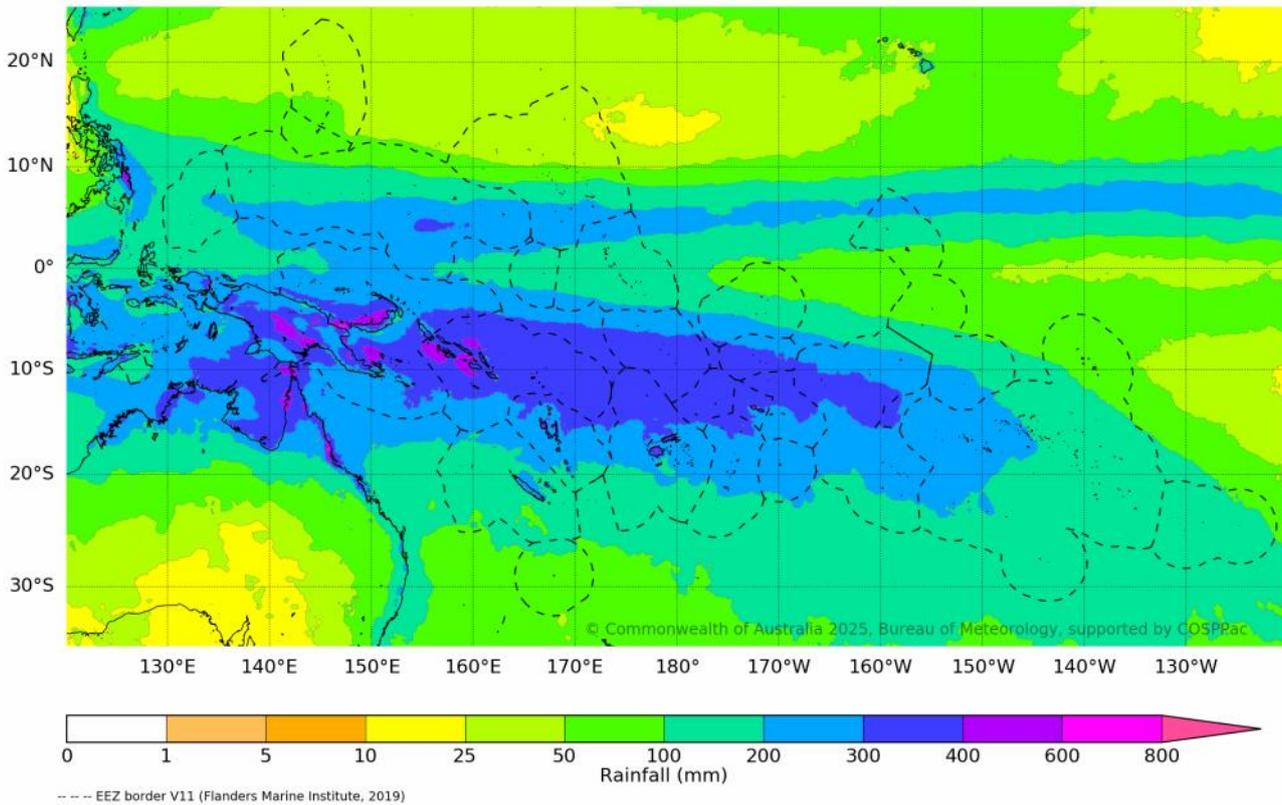
30-Day Rainfall Accumulated



Base period: 1981-2021
Data source: MSWEP

Monthly rainfall climatology for February

Issued: 15/06/2025



Global and Pacific ACCESS-S outlook and Pacific Climate Monitoring - ACCESS-S precipitation:

<http://access-s.clide.cloud/>

OCEAN CONDITIONS

SEA SURFACE TEMPERATURE



Click link to access [Pacific Community COSPPac Ocean Portal](#)

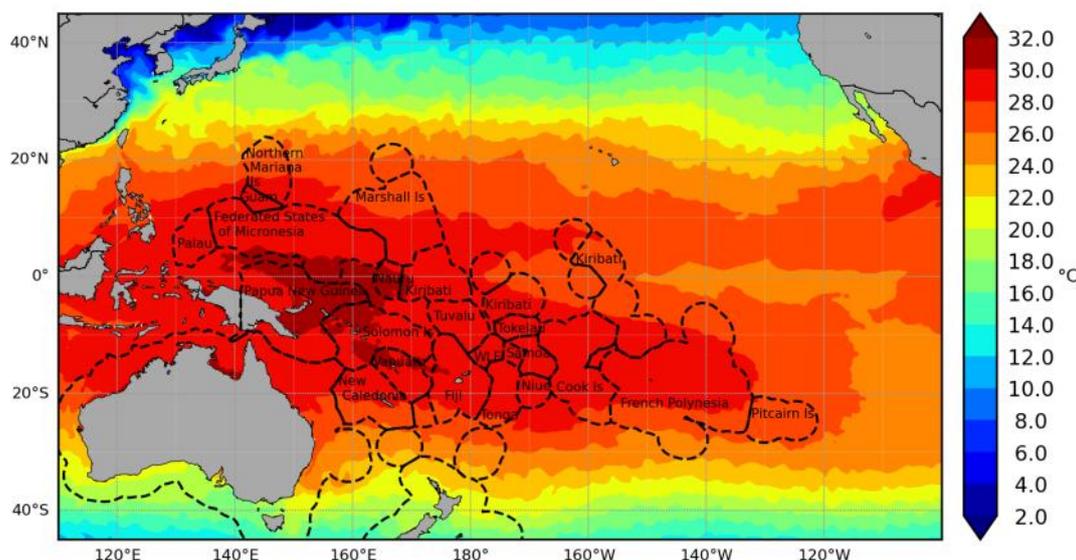
Sea surface temperatures (SSTs) for February 2026 were generally near-normal to above-normal in most countries in the Pacific.

Near-normal SSTs were observed over countries including Kiribati (part of Gilbert Islands, Phoenix, and part of Line Islands), part of Tuvalu, part of Solomon Islands and northern Tokelau, northern Cook Island, northern French Polynesia, and part of American Samoa. Below-normal SSTs were observed over central Line Islands. All other areas, including the remaining parts of the countries above, experienced above-normal SSTs.

A band of the highest on record were observed over north-eastern water of New Zealand, with patches over southern Tonga, Niue, Vanuatu, Solomon Islands, FSM, northern Palau, northern PNG, eastern Marshall Islands, Guam and Northern Mariana. The SSTs in decile 10 (very much above average) observed over most of the western Pacific countries include Palau, FSM, RMI, part of PNG, Nauru and in the South Pacific include Vanuatu, New Caledonia, most part of Fiji, Tonga, Niue, southern Cook islands and part of central French Polynesia. Above-average (8-9) deciles were observed over the remaining part of PNG, Solomon Islands, most of New Caledonia, most of Vanuatu, Tuvalu, southern Tokelau, northern Fiji, part of southern Cook Islands, and most parts of central and southern French Polynesia. Average SSTs (4-7) observed over Kiribati (eastern part of Gilbert Is., Phoenix, and most of Line Is.), northern Cook Islands, part of Pitcairn islands and part of northern French Polynesia.

Mean Sea Surface Temperature

Pacific Islands
Monthly Sea Surface Temperature: February 2026



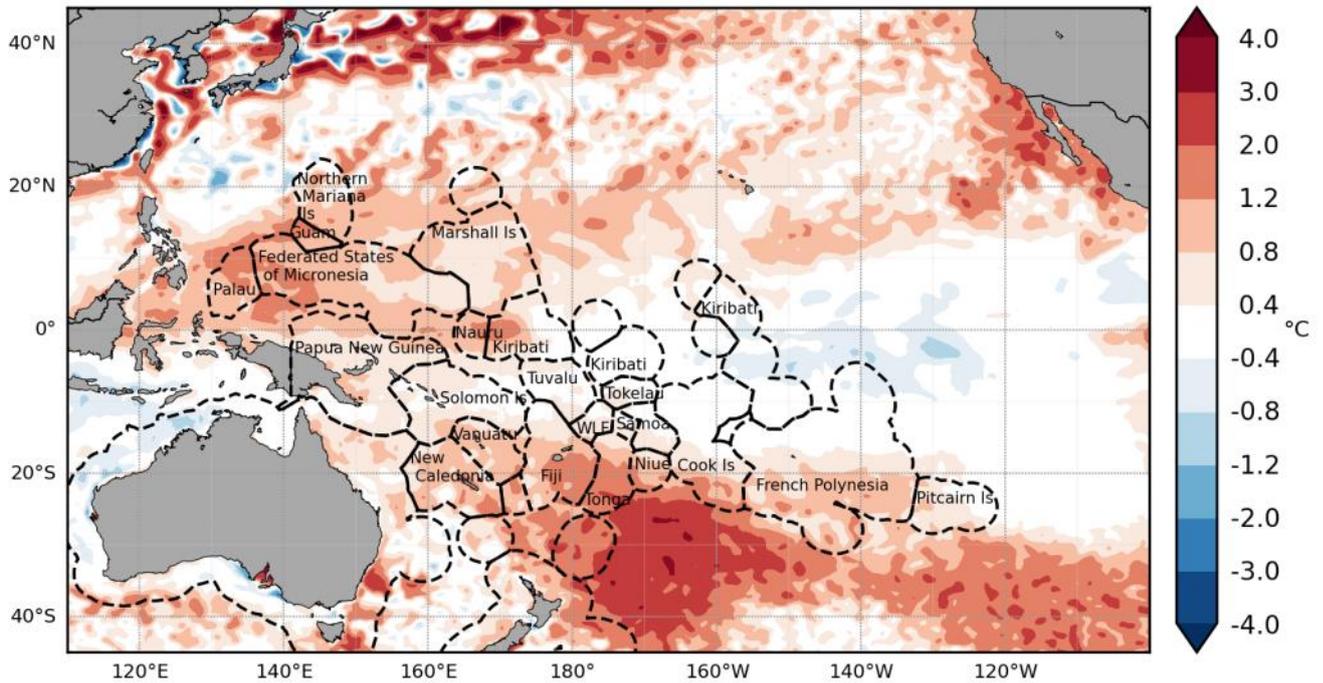
OCEAN CONDITIONS

Click link to access [SEA SURFACE TEMPERATURE](#)

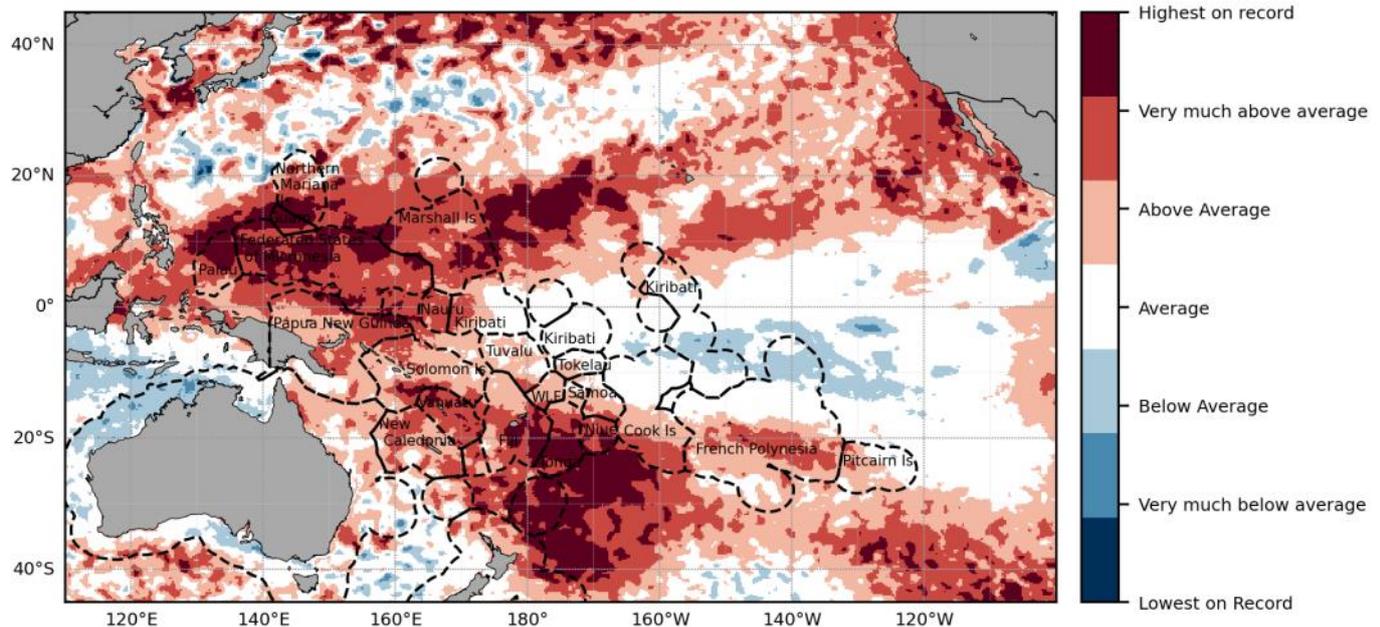


Anomalous Sea Surface Temperature

Pacific Islands
Monthly Sea Surface Temperature Anomalies: February 2026



Pacific Islands
Monthly Average Sea Surface Temperature Decile: February 2026



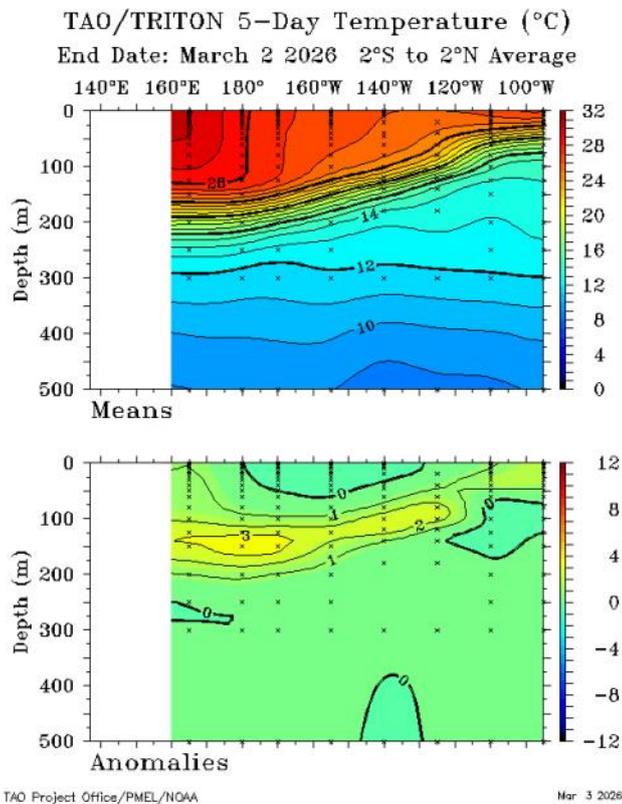
OCEAN CONDITIONS

SUB SURFACE

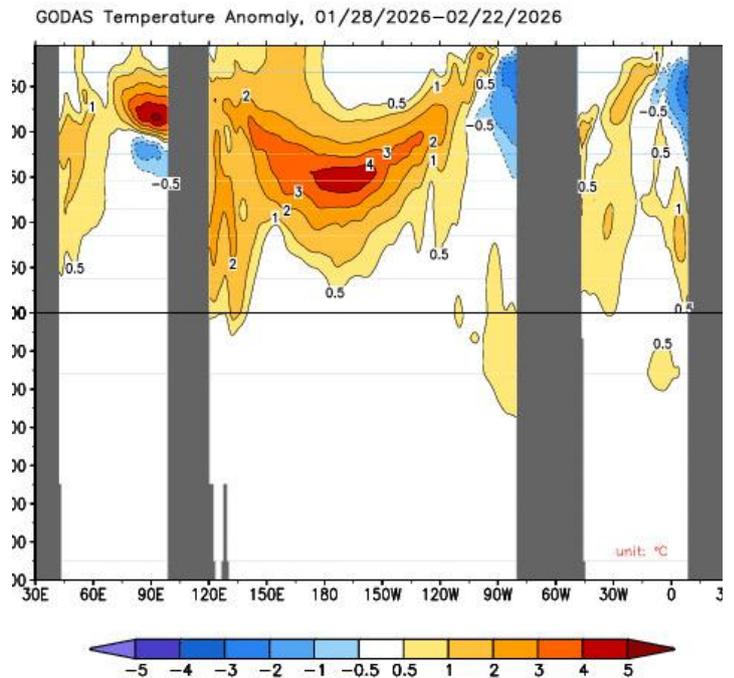


During the period from January 28 to February 22, cool subsurface temperature anomaly of 0.5 to 3°C was observed in the far eastern tropical Pacific, off the South American coast. This anomaly extended down to 150 meters, with a maximum cooling of 3°C between 25 and 50 meters depth. In contrast, the far western Pacific featured a warm subsurface anomaly of 0.5 to 3°C between the surface and 300 meters depth, peaking at 4°C around 150 meters depth near the 180° longitudes.

Weekly Temperatures Mean and Anomalies



Monthly Temperatures Anomalies



Bureau of Meteorology Sea Temperature Analysis: <http://www.bom.gov.au/marine/sst.shtml>

TAO/TRITON Data Display: <http://www.pmel.noaa.gov/tao/jsdisplay/>

OCEAN CONDITIONS

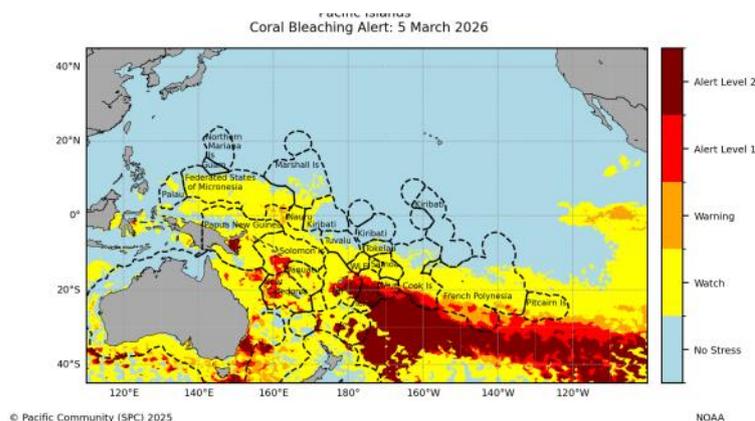
CORAL BLEACHING



On March 9, 2026, the daily Coral Bleaching Alert status indicates areas of 'Alert Level 2' have been observed over the southern half of Tonga and Fiji, and PNG, with patches over New Caledonia, the southern edges of the EEZs of the Cook Islands and French Polynesia. Patches of 'Alert Level 1' over part of Fiji, Tonga, Solomon Islands, Vanuatu, New Caledonia, the southern Cook Islands, southern French Polynesia and PNG. 'Warning' Status for Rotuman (Fiji), the southern Cook Islands and the southern French Polynesia, Nauru, the FSM, and the southern Pitcairn Islands. For the remaining countries, the status is 'Watch' to 'No Stress'. For the four week outlook leading up to 30 March, Alert Levels 1 and 2 are expected to persist over Fiji, all of Tonga and Niue, the southern Cook Islands, southeastern Vanuatu, with patches over Papua New Guinea and French Polynesia. Alert Level 1 conditions are forecast for parts of American Samoa, Fiji, and most of Vanuatu, as well as southern French Polynesia and Samoa, with additional patches over FSM and Nauru. A Warning status is issued for Nauru, the Solomon Islands, parts of Samoa, the Cook Islands, and French Polynesia. All remaining countries are expected to be under Watch or No Stress conditions.

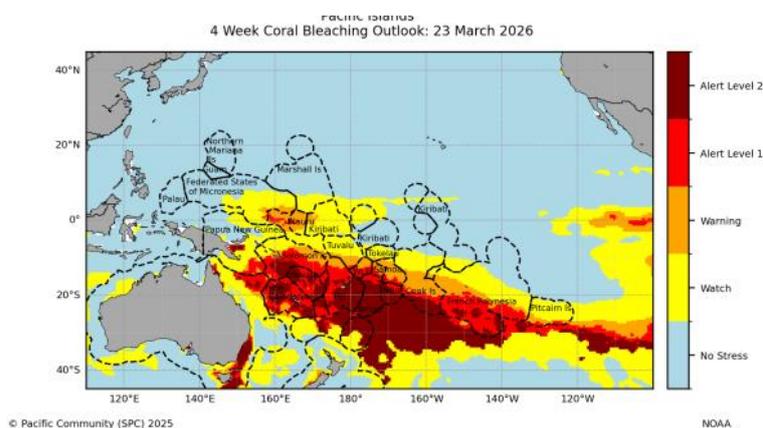
Daily Coral Bleaching Alert

(Source: [Pacific Community COSPPac Ocean Portal Coral Bleaching](#))



4 Weeks Coral Bleaching Outlook

(Source: [Pacific Community COSPPac Ocean Portal](#))



OCEAN CONDITIONS

OCEAN SURFACE CURRENTS AND SEA LEVEL

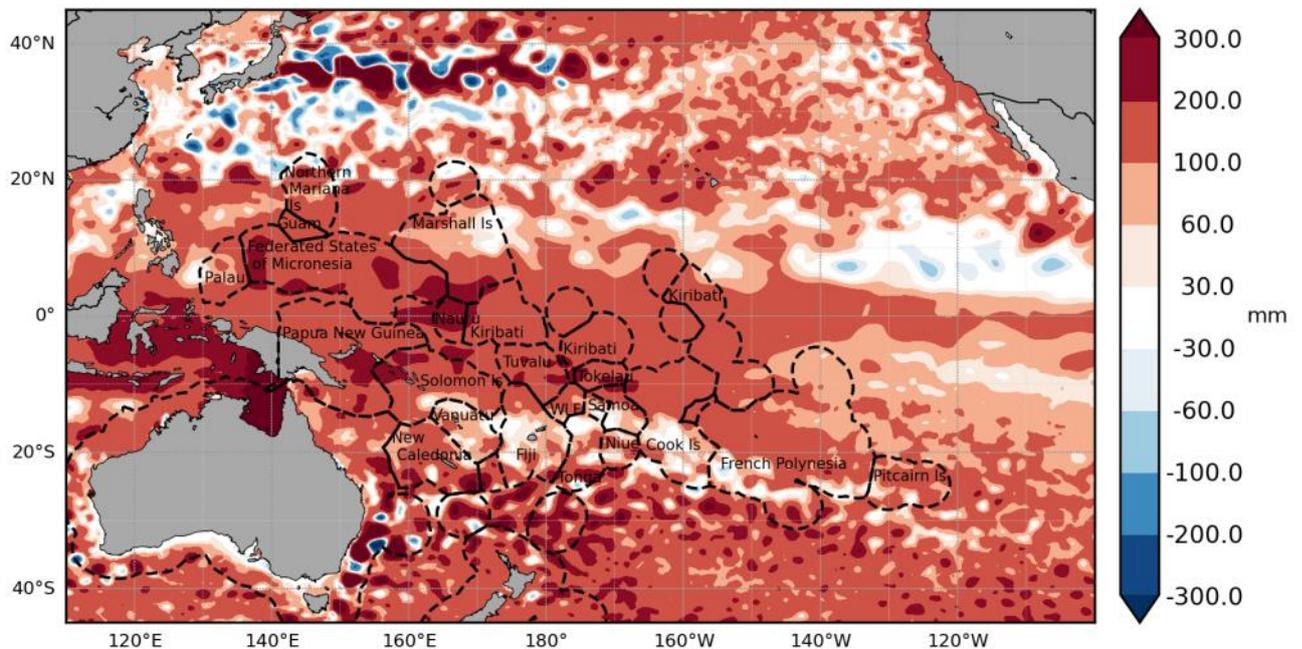
In February, sea levels were generally above normal across the Pacific region. However, patches of near-normal sea levels were recorded in the South Pacific, including Vanuatu, Fiji, Tonga, Niue, Samoa, American Samoa, the southern Cook Islands, southern French Polynesia, and in the north, including the eastern Marshall Islands and Palau.

Patches of positive sea level anomalies exceeding +200 mm were observed in FSM, PNG, Solomon Islands, New Caledonia, Nauru, Tuvalu, Tokelau, Fiji, French Polynesia, and southern Tonga. The rest of the countries not mentioned earlier, and the remaining parts of the countries mentioned already, experienced sea levels up to +200mm.

Monthly Sea Level Anomalies

Source: [Pacific Community COSPPac Ocean Portal](#)

Pacific Islands
Monthly Sea Level Anomaly: February 2026



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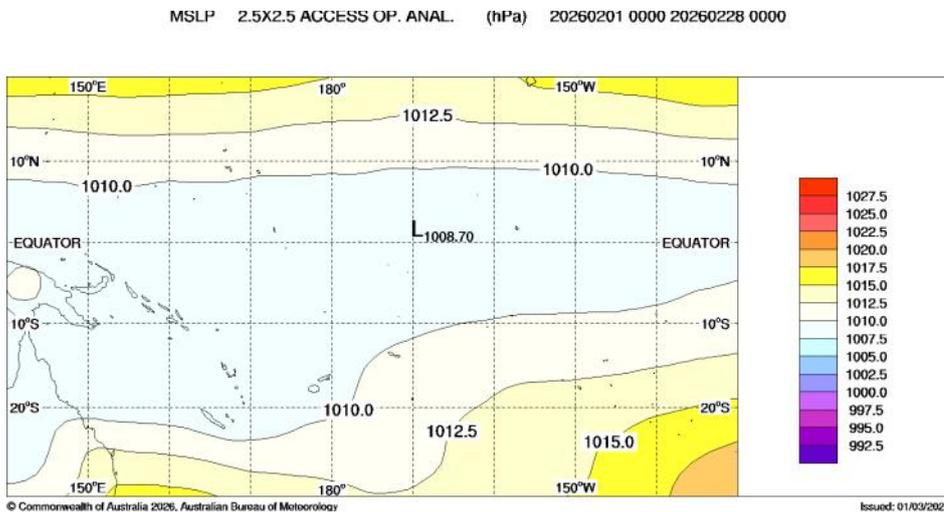
Generated using E.U. Copernicus Marine Service Information;
<https://doi.org/10.48670/moi-00149>

MEAN SEA LEVEL PRESSURE

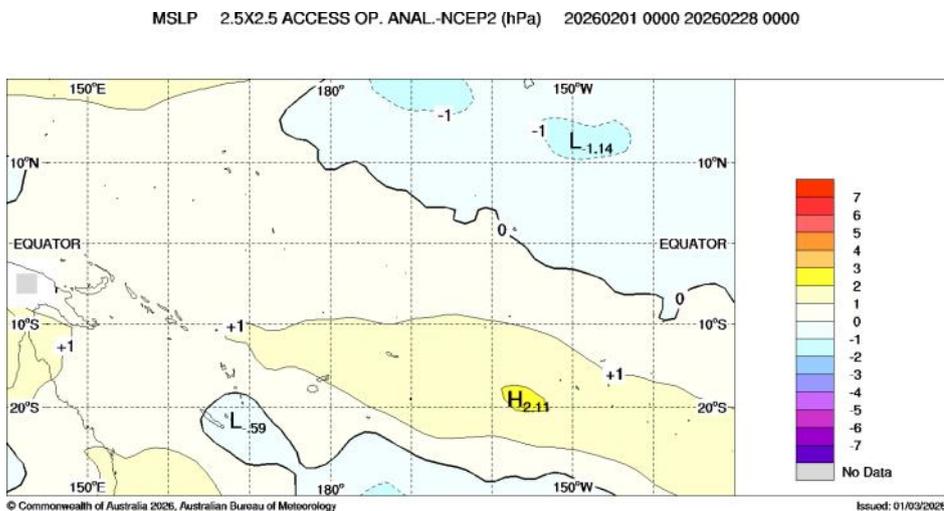
The February sea level pressure (MSLP) anomaly map displays negative anomalies of 1 hPa or greater over southern Hawaii in the north Pacific and south of Tonga in the south Pacific. Positive anomalies of 1 hPa or greater were present over north of Fiji and extend eastwards to Pitcairn Islands.

Areas of above (below) average MSLP usually coincide with areas of suppressed (enhanced) convection and rain throughout the month.

Mean



Anomalous



Bureau of Meteorology South Pacific Circulation Patterns: <http://www.bom.gov.au/cgi-bin/climate/cmb.cgi?variable=mslp&area=spac&map=anomaly&time=latest>

SEASONAL RAINFALL OUTLOOK

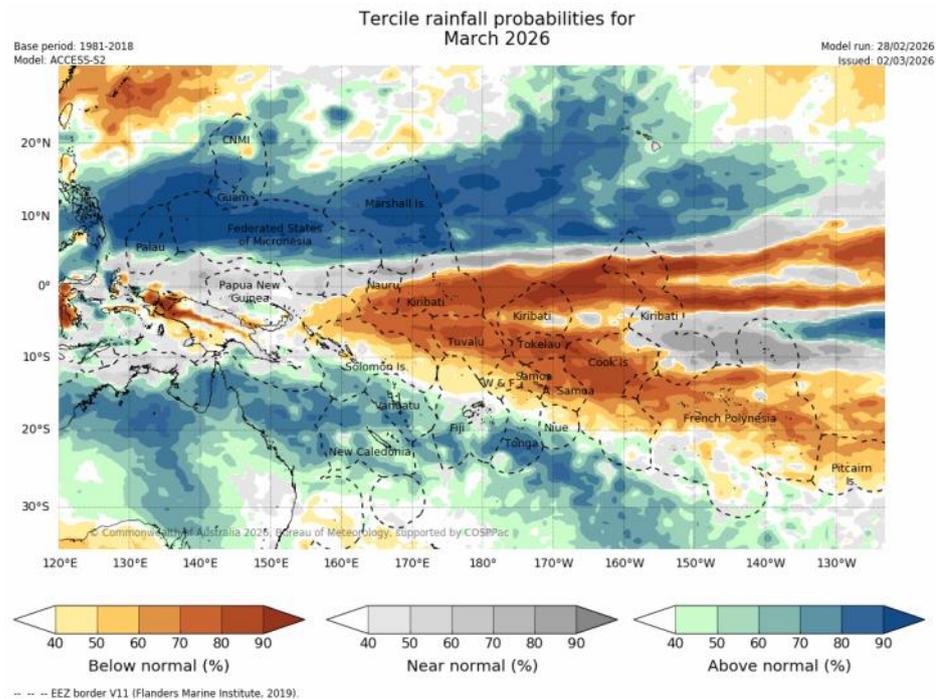
March—May 2026



The ACCESS-S model forecast for March 2026, shows above normal rainfall is likely or very likely for Palau, CNMI, Guam, most of FSM, and RMI in the northern Pacific. Above normal rainfall is likely or very likely over southeast PNG, southern Solomon Islands, New Caledonia, Vanuatu, Fiji, Tonga, and Niue. Patches of above normal rainfall is likely or very likely over southern Cook Is., and southern French Polynesia. Below normal rainfall is likely or very likely in a band stretching eastwards from eastern PNG, Nauru, Kiribati (Gilbert, Phoenix, and northern Line Is.), western and northern Solomon Is., Tuvalu, Tokelau, Wallis and Futuna, Samoa, American Samoa, most of Cook Is., most of French Polynesia, and Pitcairn Islands.

The ACCESS-S three-month rainfall outlook (March to May 2026) is very similar to the April outlook except the below normal rainfall region is smaller stretching south-eastwards from Tuvalu, Tokelau, Samoa, American Samoa, northern Cook Is., Kiribati (southern Phoenix and southern Line Is.), northern French Polynesia, and northern Pitcairn Islands.

Monthly [ACCESS-S](#) Maps



The Copernicus multi-model outlook for March to May 2026 is very similar to the ACCESS-S outlook.

The APEC Climate Centre multi-model outlook (March to May 2026) is similar to the ACCESS-S and Copernicus Multi-model outlook.

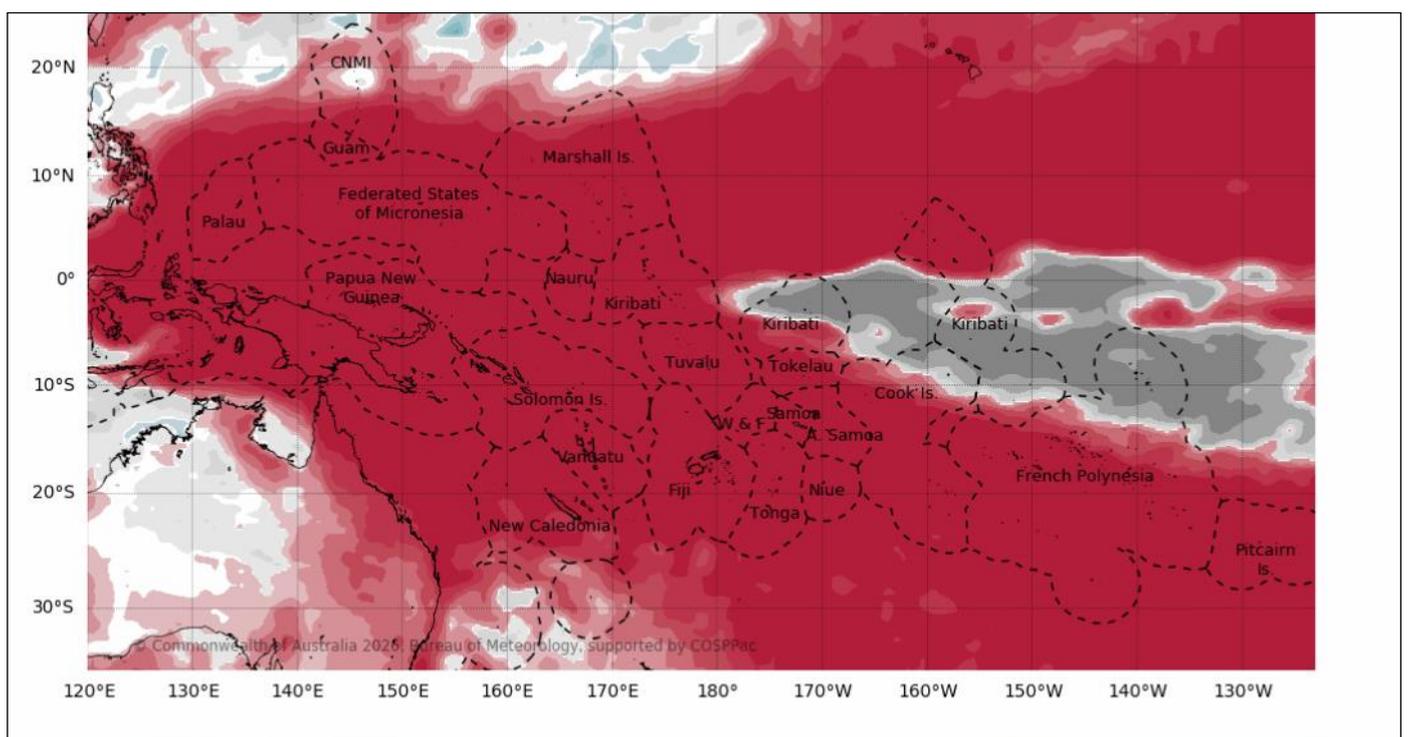
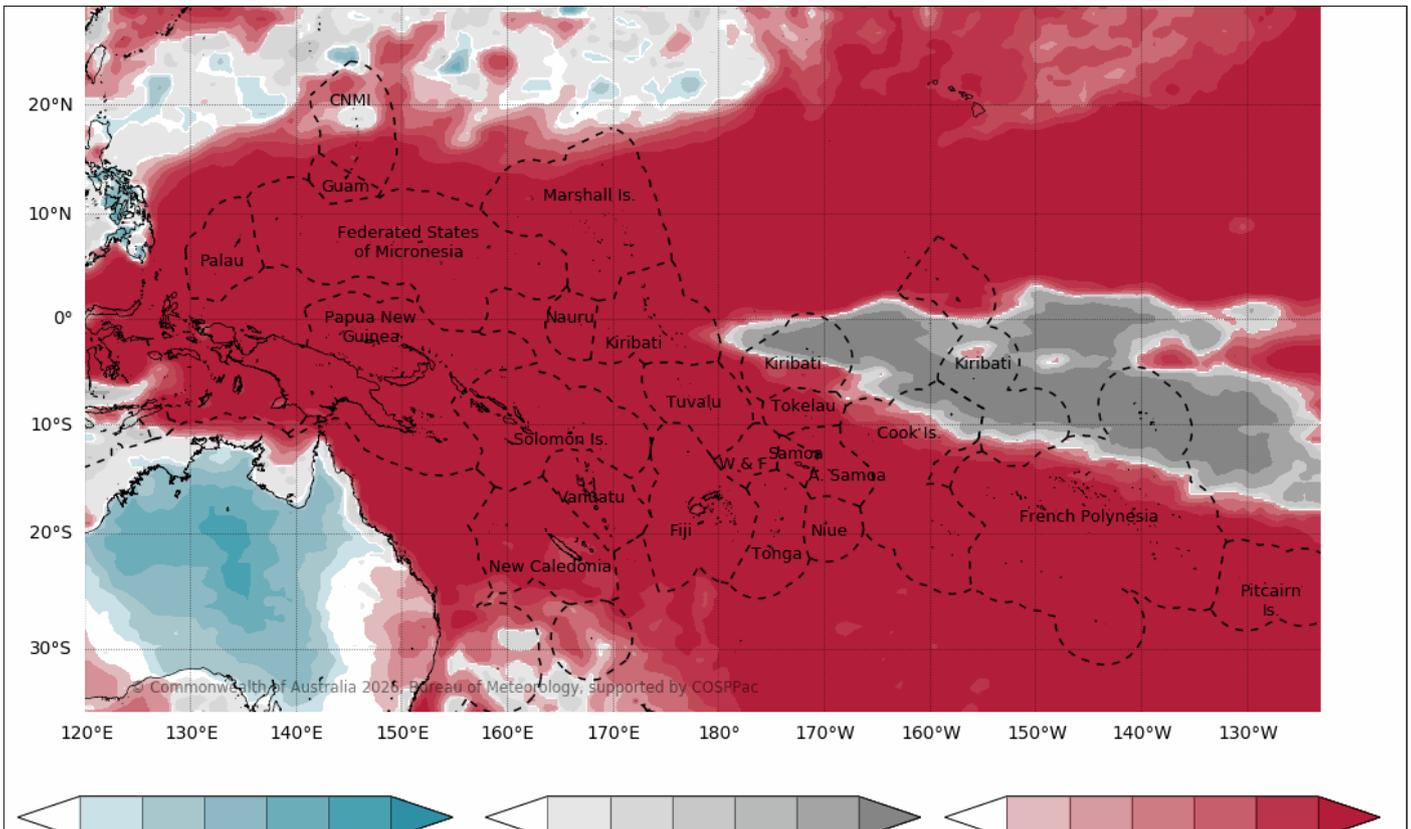
For March to May 2026, the models agree that above normal rainfall is likely or very likely over Palau, CNMI, Guam, most of FSM, RMI, southeast PNG, southern Solomon Islands, New Caledonia, Vanuatu, Fiji, Tonga, and Niue. Below normal rainfall is likely or very likely for eastern PNG, Nauru, Kiribati (Gilbert, Phoenix, and northern Line Is.), western and northern Solomon Is., Tuvalu, Tokelau, Wallis and Futuna, Samoa, American Samoa, most of Cook Is., most of French Polynesia, and Pitcairn Islands.

SEASONAL TEMPERATURE OUTLOOK

March—May 2026



Monthly Tmax and Tmin **ACCESS-S** Maps

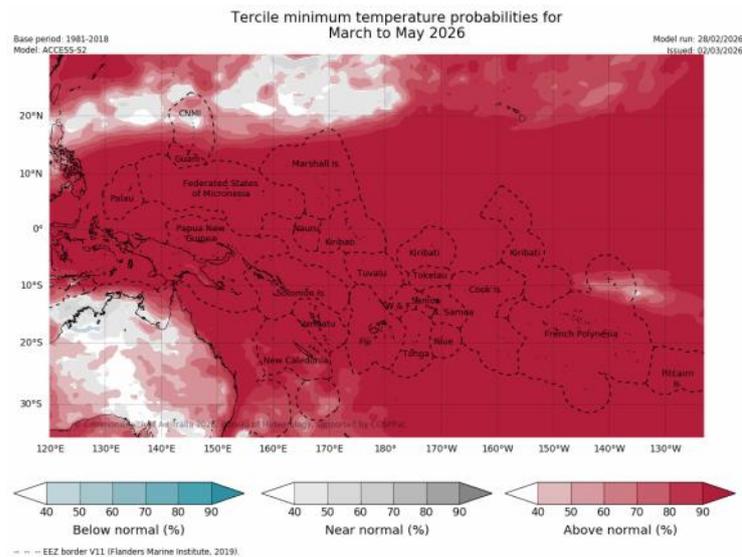
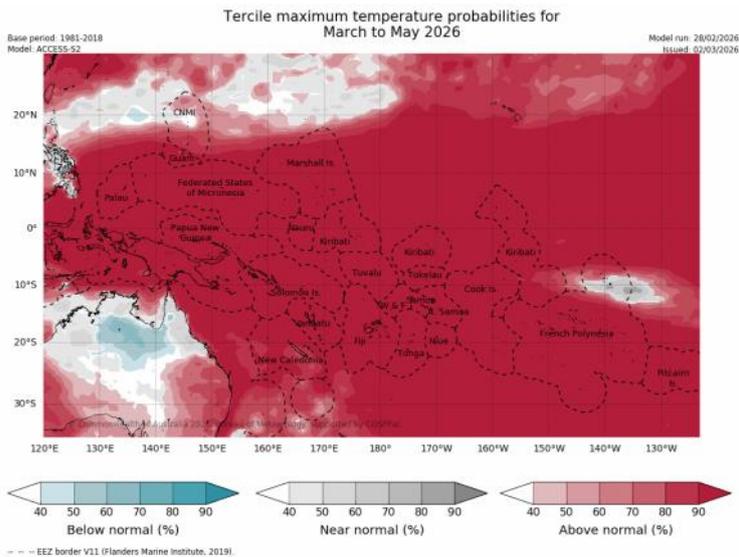
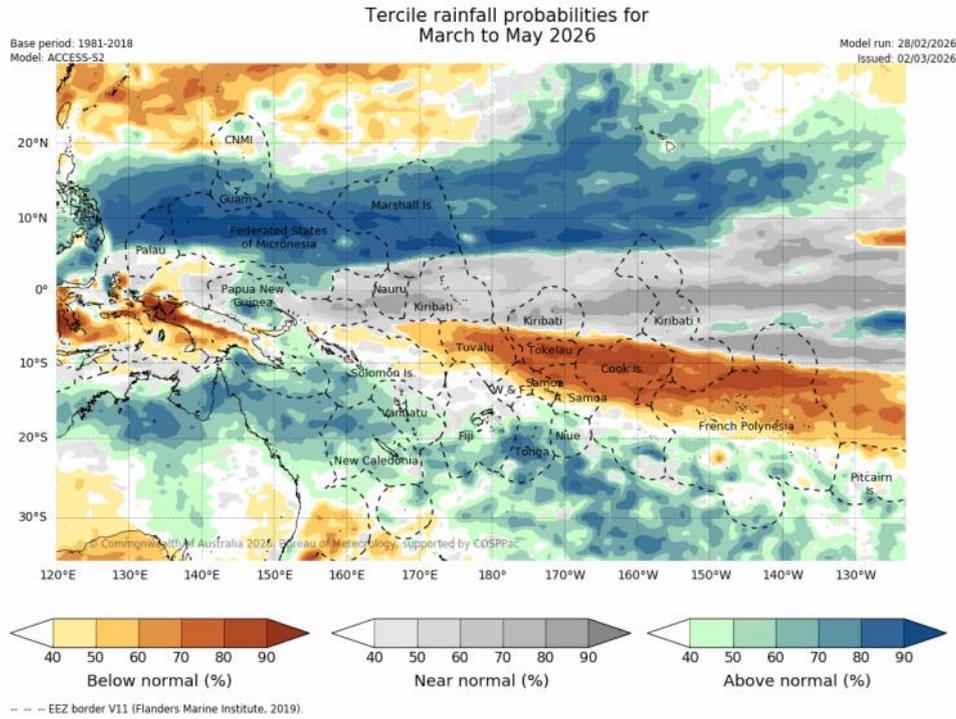


SEASONAL RAINFALL OUTLOOK

March—May 2026



Seasonal ACCESS-S maps



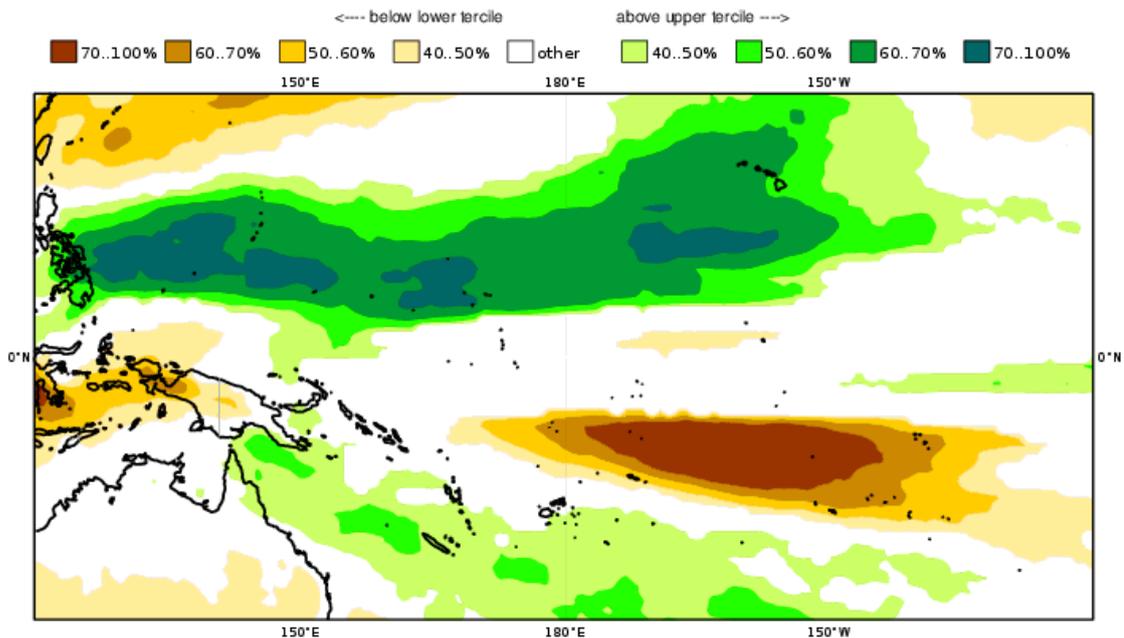
About ACCESS-S <http://access-s.climate.cloud/>

SEASONAL RAINFALL OUTLOOK

March—May 2026

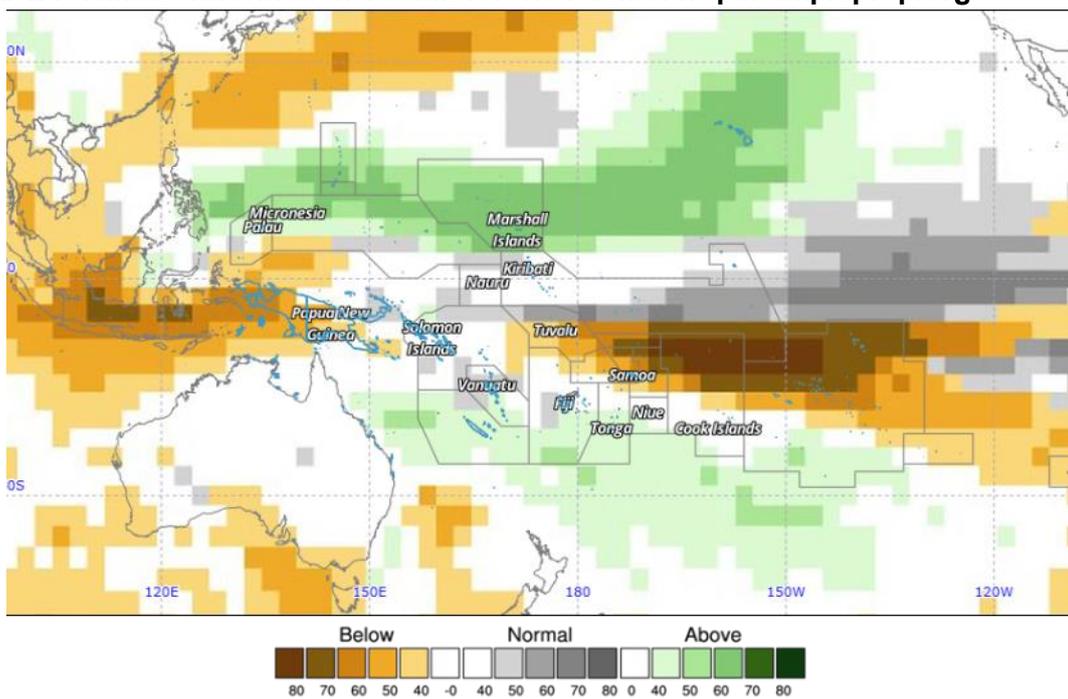


Copernicus (C3S multi-system)-Rainfall
 Prob(most likely category of precipitation) MAM 2026
 Nominal forecast start: 01/02/26
 Unweighted mean



Copernicus Rainfall: <https://climate.copernicus.eu/charts/>

APEC Climate Information Toolkit for the Pacific: <http://clikp.sprep.org/>



Year: 2026, Season: MAM, Lead Month: 3, Method: GAUS
 Model: APCC, BOM, CMCC, CWA, ECCS, NCEP, PNU
 Generated using CLIK® (2026-3-9)

© APEC Climate Center

TROPICAL CYCLONE

2024/2025 Season



The northwest Pacific (WNP) tropical cyclone season is year-round, with most cyclones occurring between May and December. 2025 TC activity in the WNP basin has, so far, been indicative of a climate pattern shifting towards La Niña, with TC genesis and tracks favouring areas west and north of the U.S.-Affiliated Pacific Islands (USAPI). TC impacts have been minimal for the USAPI thus far in 2025. The 2025/26 Southwest Pacific tropical cyclone (TC) season begins on 1 November 2025. Out-of-season TCs are rare during La Niña events. For the coming season normal to below normal numbers of TCs are favoured across the Southwest Pacific. Significant differences are expected between the western and eastern halves of the basin. The risk of impact from a TC is expected to be higher near the Coral Sea, and around New Caledonia and Vanuatu. Normal to reduced risk is anticipated for the central part of the basin, and reduced risk is expected for the eastern part of the basin.

Analogue years suggest multiple TCs could intensify to at least category 3 strength. Cyclone Urmil Category 2 was the first cyclone of the season affecting Vanuatu, New Caledonia and Tonga from the 25 - 30 February. Monitoring multi-week weekly TC outlooks through the season is highly recommended as well as monitoring daily weather forecasts when the chance of TC occurrence is higher than normal.

It's important to remember that history shows that tropical cyclones can happen outside the normal cyclone season, and it does not take a severe cyclone to produce severe impacts. Coastal and river flooding rainfall can occur with a distant, weak, or former cyclone, especially if the system is slow-moving. Communities should remain vigilant, and follow forecast information provided by their National Meteorological and Hydrological Service (NMHS).

The weekly tropical cyclone forecasts from the ACCESS-S model shows increased risks for Palau, FSM, and Guam for the 24 to 30 March

Individual Model Links

UKMO Global long-range model probability maps: <http://www.metoffice.gov.uk/research/climate/seasonal-to-decadal/gpc-outlooks/glob-seas-prob>

ECMWF Rain (Public charts) - Long range forecast: <http://www.ecmwf.int/en/forecasts/charts/seasonal/rain-public-charts-long-range-forecast>

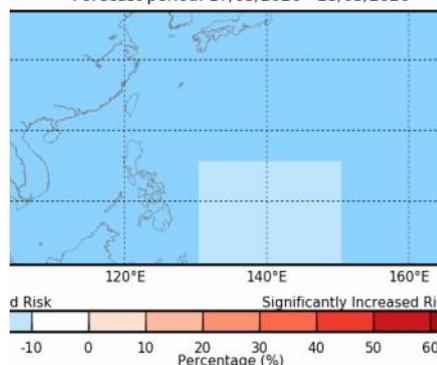
POAMA Pacific Seasonal Prediction Portal: <http://poama.bom.gov.au/experimental/pasap/index.shtml>

APEC Climate Center (APCC): <http://www.apcc21.org/eng/service/6mon/ps/japcc030703.jsp>

NASA GMAO GEOS-5: <http://gmao.gsfc.nasa.gov/research/ocean/>

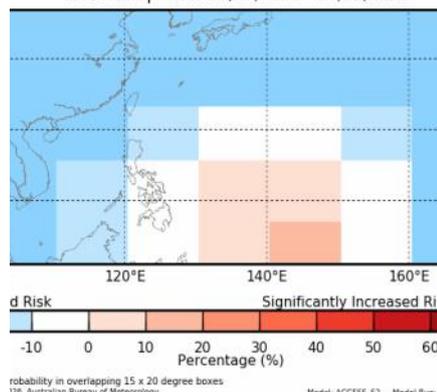
ACCESS-S Weekly Forecasts –Northwest Pacific

Difference from normal chance of Tropical Cyclone's in the Northwest Pacific
Forecast period: 17/03/2026 - 23/03/2026



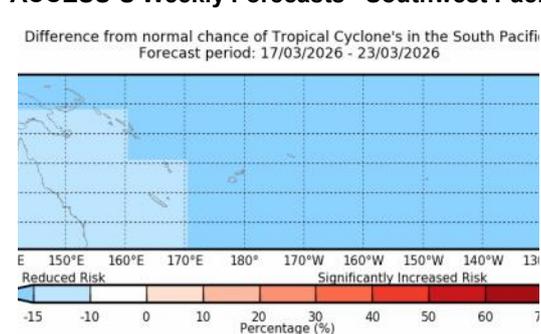
ACCESS-S Weekly Forecasts –Southwest Pacific

Difference from normal chance of Tropical Cyclone's in the Southwest Pacific
Forecast period: 24/03/2026 - 30/03/2026



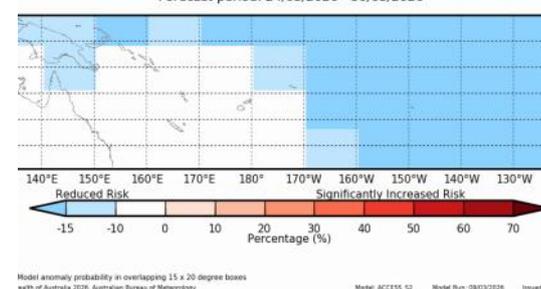
ACCESS-S Weekly Forecasts –Southwest Pacific

Difference from normal chance of Tropical Cyclone's in the South Pacific
Forecast period: 17/03/2026 - 23/03/2026



ACCESS-S Weekly Forecasts –Southwest Pacific

Difference from normal chance of Tropical Cyclone's in the South Pacific
Forecast period: 24/03/2026 - 30/03/2026



OTHER INFORMATION

Southern Oscillation Index

The Southern Oscillation Index, or SOI, gives an indication of the development and intensity of El Niño and La Niña events across the Pacific Basin. The SOI is calculated using the difference in air pressure between Tahiti and Darwin. Sustained negative values of the SOI below -7 often indicate El Niño episodes. These negative values are usually accompanied by sustained warming of the central and/or eastern tropical Pacific Ocean, and a decrease in the strength of the Pacific Trade Winds. Sustained positive values of the SOI greater than $+7$ are typical of La Niña episodes. They are associated with stronger Pacific Trade Winds and sustained cooling of the central and eastern tropical Pacific Ocean. In contrast, ocean temperatures to the north of Australia usually become warmer than normal.

Multivariate ENSO Index (MEI)

The Climate Diagnostics Center Multivariate ENSO Index (MEI) is derived from a number of parameters typically associated with El Niño and La Niña. Sustained negative values indicate La Niña, and sustained positive values indicate El Niño.

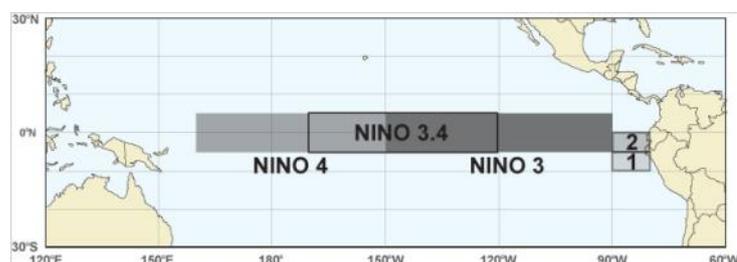
20 degrees Celsius Isotherm Depth

The 20°C Isotherm Depth is the depth at which the water temperature is 20°C. This measurement is important, as the 20°C isotherm usually occurs close to the thermocline, the region of most rapid change of temperature with depth, or the division between the mixed surface layer and deep ocean. A 20°C isotherm that is deeper than normal (positive anomaly) implies a greater heat content in the upper ocean, while a shallower 20°C isotherm (negative anomaly) implies a lower-than-normal heat content in the upper ocean.

Regions

SST measurements may refer to the NINO1, 2, 1+2, 3, 3.4 or 4 regions. These descriptions simply refer to the spatially averaged SST for the region described. The NINO regions (shown in the figure below) cover the following areas:

Region	Latitude	Longitude
NINO1	5-10°S	80-90°W
NINO2	0-5°S	80-90°W
NINO3	5°N to 5°S	150-90°W
NINO3.4	5°N to 5°S	120-170°W
NINO4	5°N to 5°S	160°E to 150°W



NOTE: NINO1+2 is the combined areas 1 and 2