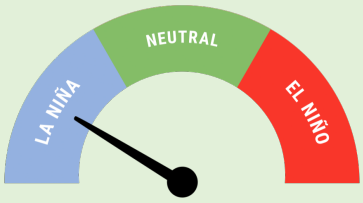
Island Climate Update

Earth Sciences New Zealand

ENSO Watch
March 2026

Recent



La Niña

Weak La Niña conditions currently remain in place in the tropical Pacific Ocean, but a return to ENSO-neutral is expected to occur soon.

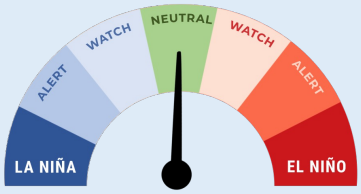
The Southern Oscillation Index (SOI) was on the La Niña side of the neutral range (+0.6) from November-January.

Tropical Pacific Ocean sea surface temperatures (SSTs) remain in the La Niña range.

Forecast

90% chance for **ENSO-neutral** conditions during **March-May 2026**

Chance for **ENSO-neutral** conditions during **April-June 2026** **90%**



ENSO-neutral

ENSO situation summary

Weak La Niña conditions currently remain in place in the tropical Pacific, but a return to ENSO-neutral is expected to occur soon. There is about a 90% chance that La Niña will dissipate to ENSO-neutral during March-May, with a 90% chance for ENSO-neutral continuing during April-June.

As of 9 February 2026, the 30-day NINO3.4 Index (in the central equatorial Pacific) was -0.48˚C, on the La Niña side of neutral. The 30-day relative Niño 3.4 Index (RONI) was -0.88˚C, in the La Niña range and reflective of the central equatorial Pacific being cooler than the average of the global tropics.

The Southern Oscillation Index (SOI) was on the La Niña side of the neutral range during November-January (+0.6), while the January value was +0.8 (also on the La Niña side of neutral).

Subsurface ocean temperatures in the equatorial Pacific are now above average nearly everywhere except for some shallow cool anomalies in the central Pacific.

Cooler than average temperatures are currently located in the central equatorial Pacific to depths of about 50 metres. However, warmer than average temperatures below 50 metres continue to rapidly progress into the central and eastern equatorial Pacific, signalling that La Niña is nearing its end.

During March-May, model guidance favours an enhancement in convective forcing over Micronesia, co-located with the warmest sea surface temperatures. This may lead to enhanced rainfall for island groups such as Palau, Guam, the Northern Marianas, Federated States of Micronesia, and the Marshall Islands.

Conversely, drier than normal or much drier than normal conditions are likely to occur for many island groups near the equator, particularly from Tuvalu east to northern French Polynesia (see pages 6-7 for more information).

Tropical cyclone season in the southwest Pacific continues through April 2026.

Island Climate Update

Rainfall Watch

Earth Sciences New Zealand

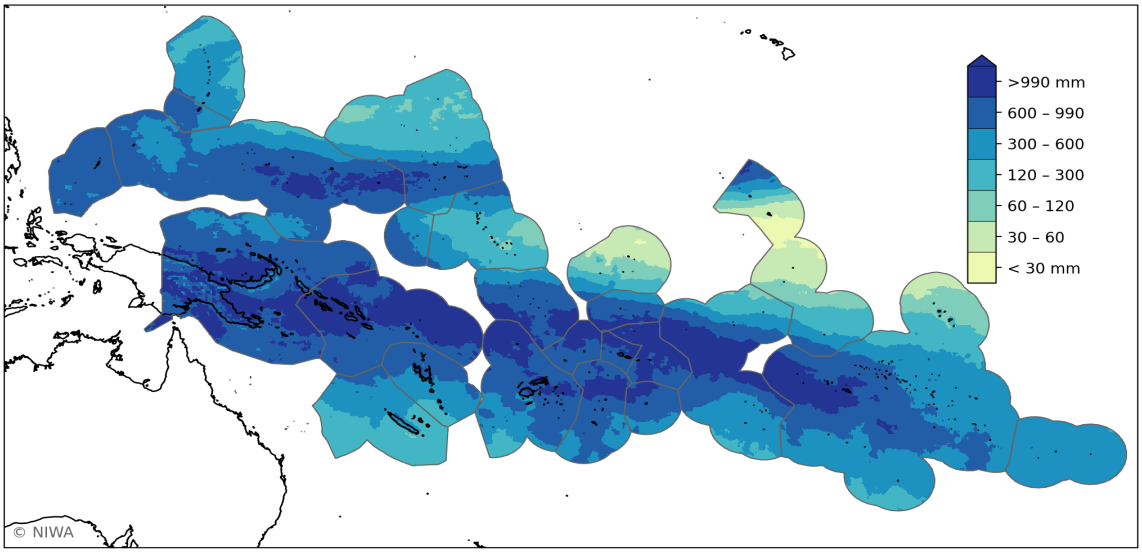
Regional situation summary (8 February 2026)

Rainfall summaries for the last month and three months are shown below.

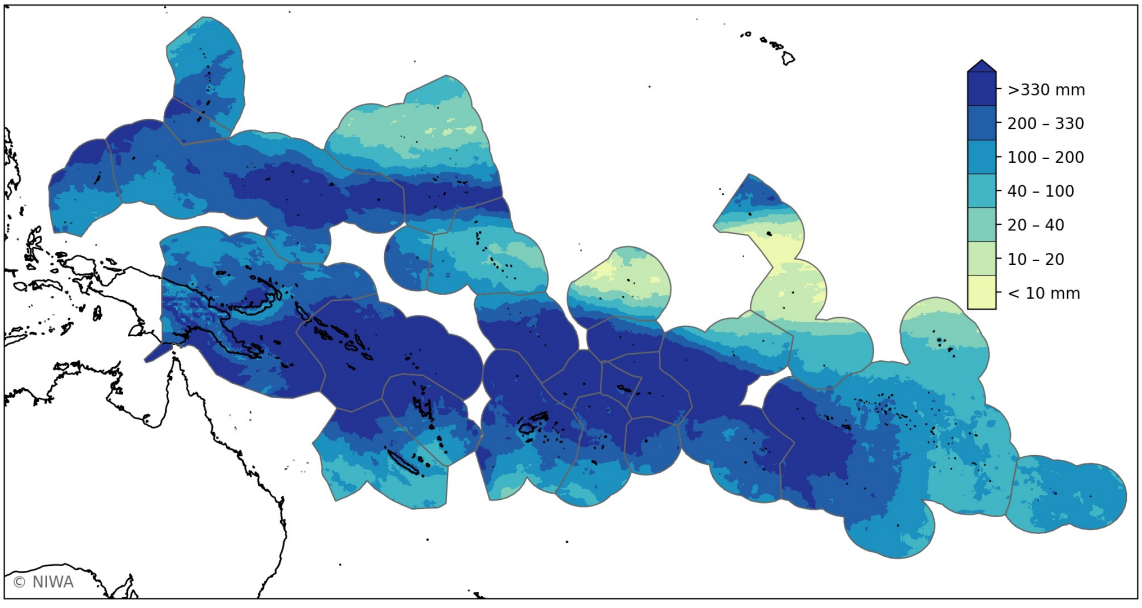
During the 90 days ending 8 February (top plot), over 990 mm of rain fell across parts of the eastern Federated States of Micronesia (FSM), parts of Papua New Guinea (PNG), the Solomon Islands, northern Fiji, southern Tuvalu, Samoa, American Samoa, and Society Islands. Less than 60 mm of rain was observed in Kiribati (parts of the northern and central Line Islands).

During the 30 days ending 8 February (bottom plot), over 330 mm of rain fell across central and eastern FSM, southern Marshall Islands, parts of PNG, Solomon Islands, northern Vanuatu, northern Fiji, northern Tonga, Tuvalu, Tokelau, Wallis and Futuna, Samoa, American Samoa, parts of the northern and southern Cook Islands, and Society Islands. Less than 40 mm of rain fell in the northern Marshall Islands, Kiribati (parts of the Phoenix and Line Islands), and Marquesas.

Cumulative rainfall (mm), source: MSWEP 2.8.0
90 days to 08 Feb 2026



Cumulative rainfall (mm), source: MSWEP 2.8.0
30 days to 08 Feb 2026

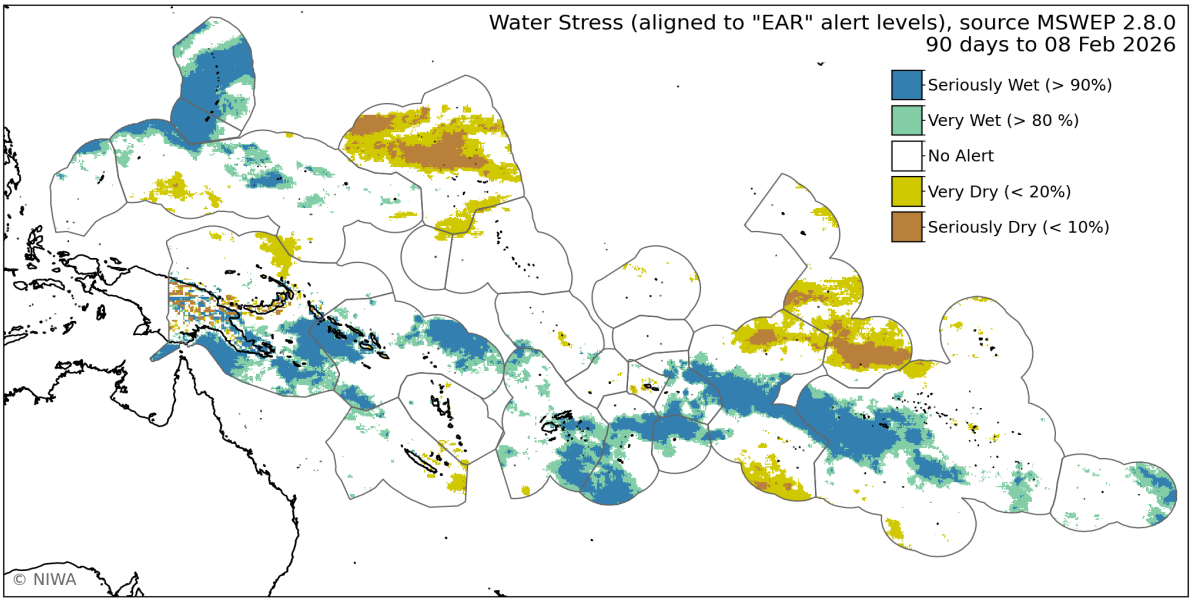


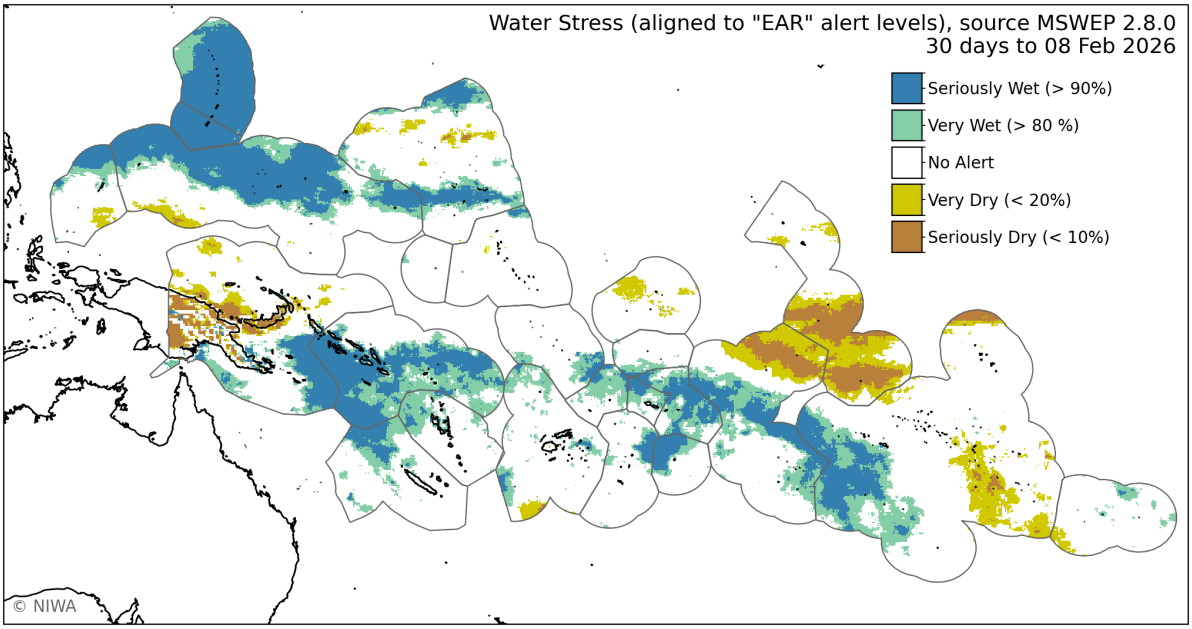
EAR regional situation summary (8 February 2026)

Cumulative rainfall categories aligned to the Early Action Rainfall (EAR) Watch over the last 90 and 30 days are shown in the plots below.

During the 90 days ending 8 February (top plot), seriously dry or very dry conditions affected the northern Marshall Islands, parts of PNG, isolated parts of New Caledonia and Tuvalu, Samoa, parts of the northern and southern Cook Islands, central Line Islands, and isolated parts of the Tuamotu Archipelago.

During the 30 days ending 8 February (bottom plot), seriously dry or very dry conditions affected isolated parts of the northern Marshall Islands, much of PNG, northern Cook Islands, central Line Islands, and parts of the Tuamotu Archipelago.





Island Climate Update

Water Stress Watch

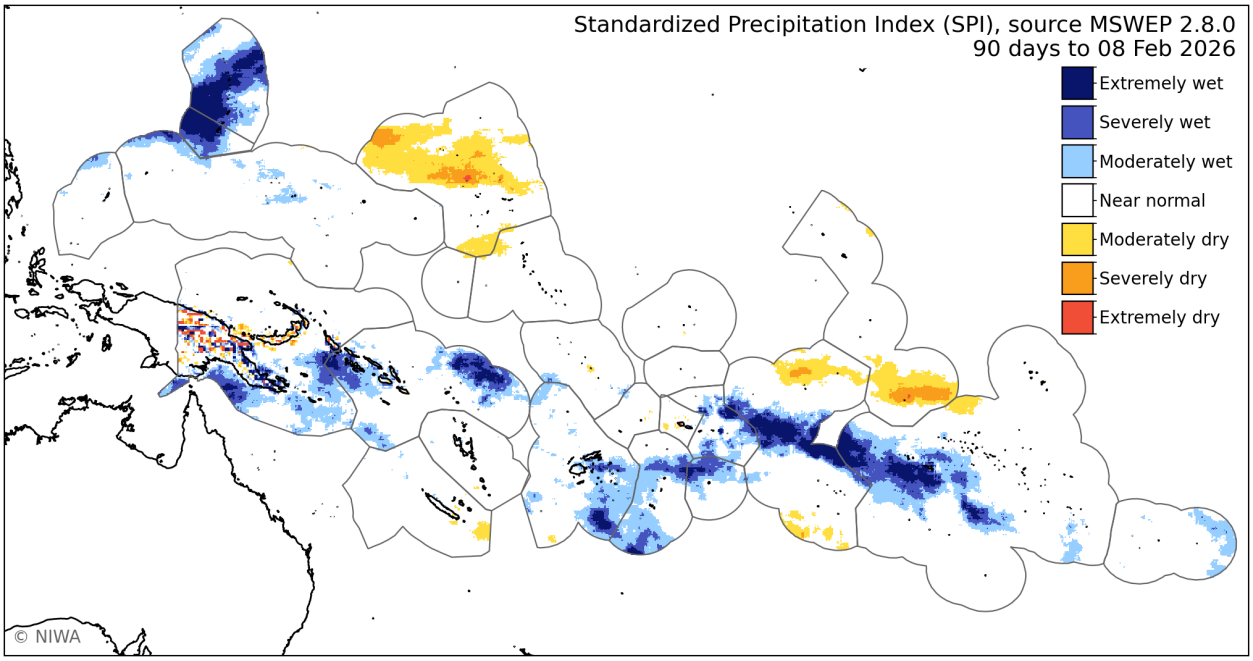
Earth Sciences New Zealand

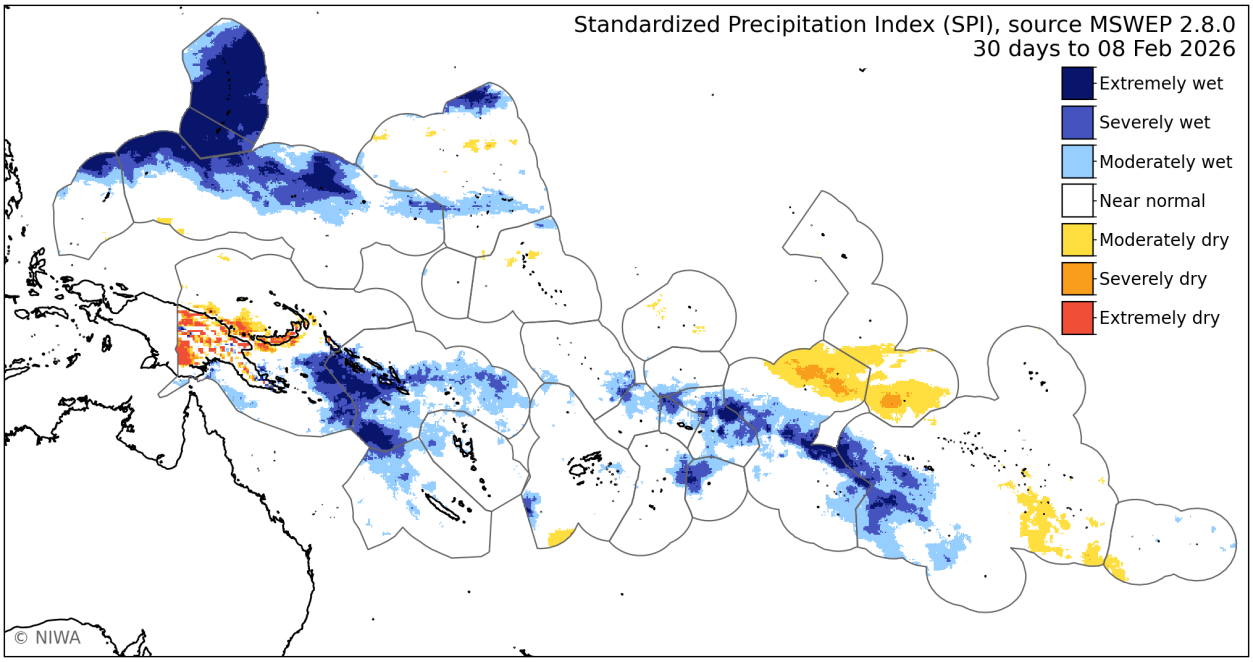
SPI Regional situation summary (8 February 2026)

The Standardized Precipitation Index (SPI) categories for cumulative rainfall over the last 90 and 30 days are shown in the plots below.

During the 90 days ending 8 February (top plot), extremely dry or severely dry conditions occurred in parts of the northern Marshall Islands and parts of PNG.

During the 30 days ending 8 February (bottom plot), extremely dry or severely dry conditions occurred in much of PNG.



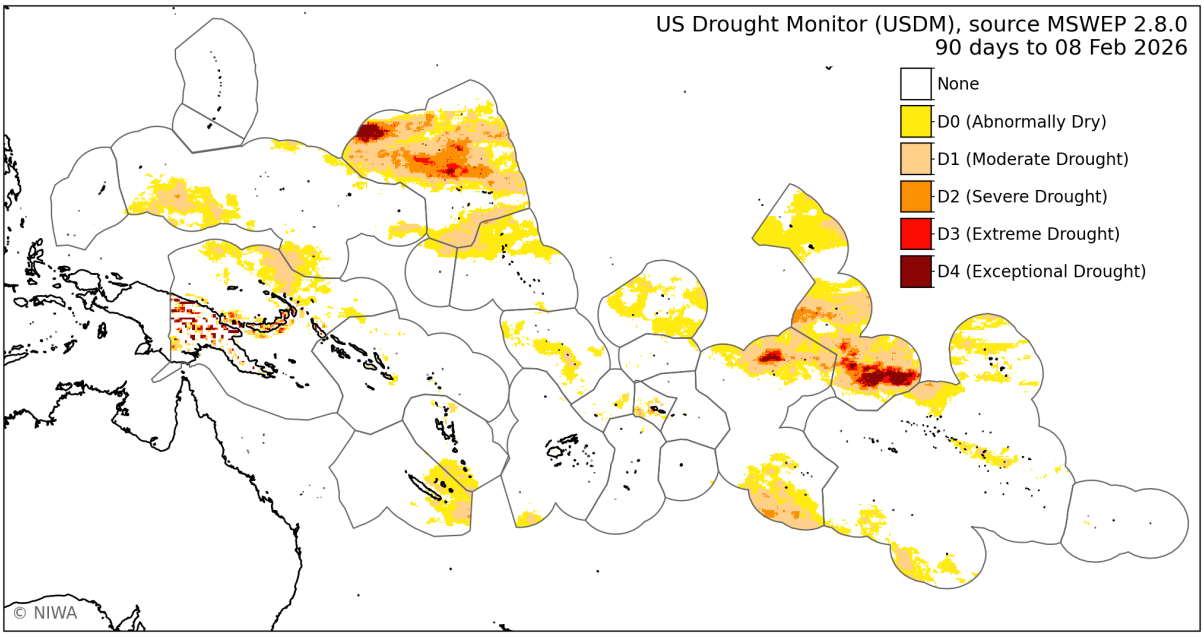


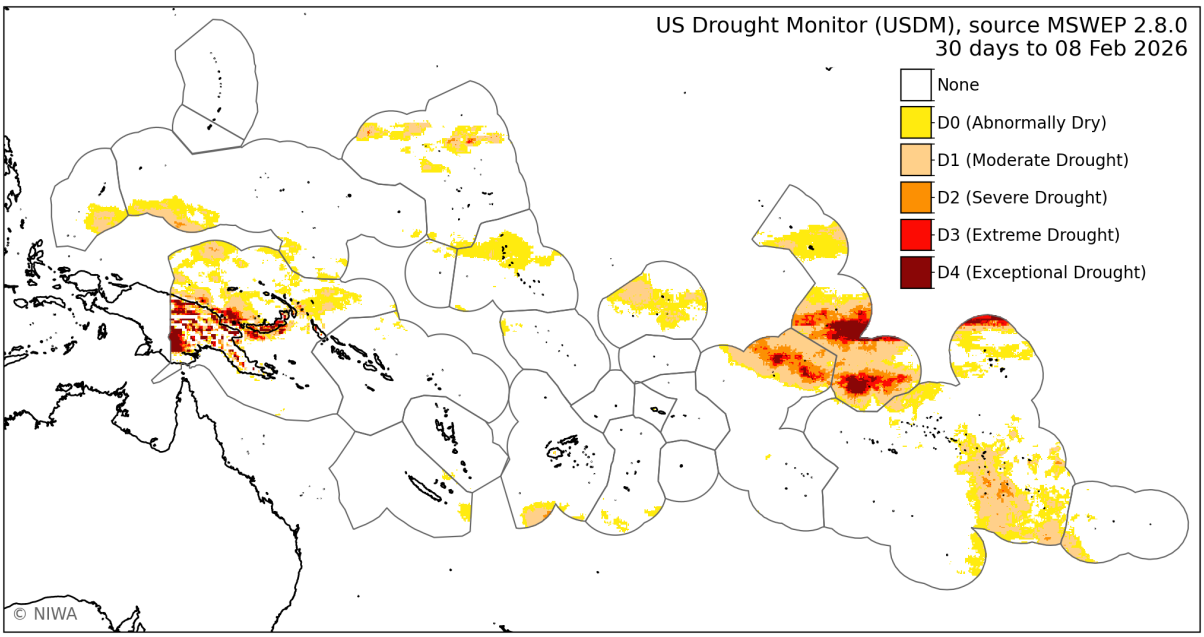
USDM Regional situation summary (8 February 2026)

The US Drought Monitor Index (USDM) categories for cumulative rainfall over the last 90 and 30 days are shown in the plots below.

During the 90 days ending 8 February (top plot), extreme or exceptional drought occurred in the northern Marshall Islands and parts of PNG.

During the 30 days ending 8 February (bottom plot), extreme or exceptional drought occurred in much of PNG, northern Cook Islands, and central Line Islands.





Island Climate Update

Water Stress Outlook

Earth Sciences New Zealand

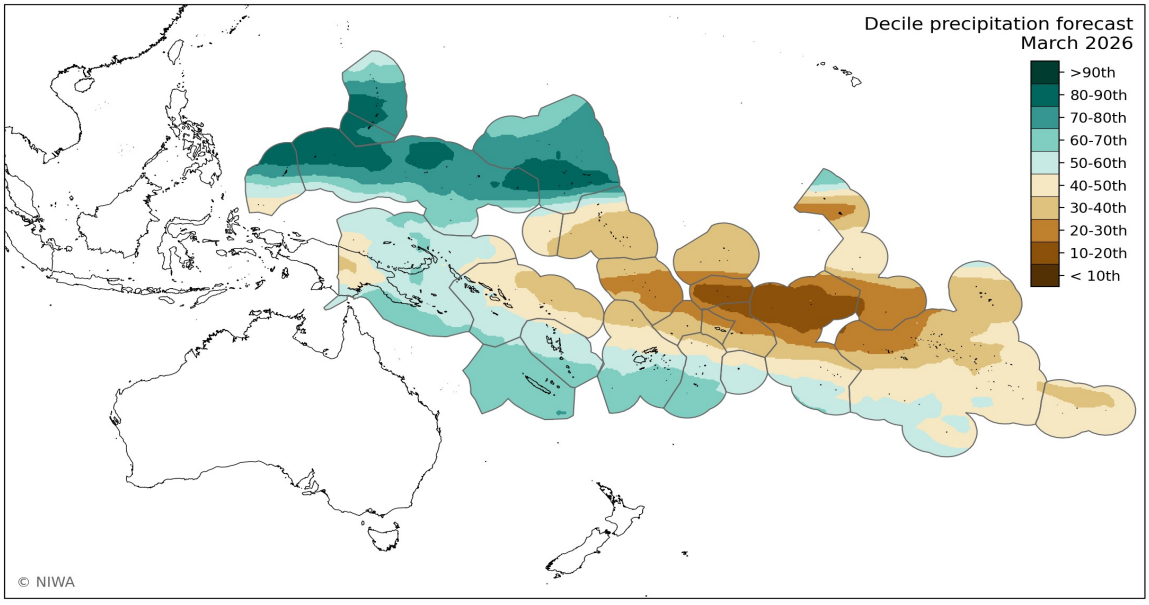
March 2026 forecast & probabilities of rainfall < 25th percentile

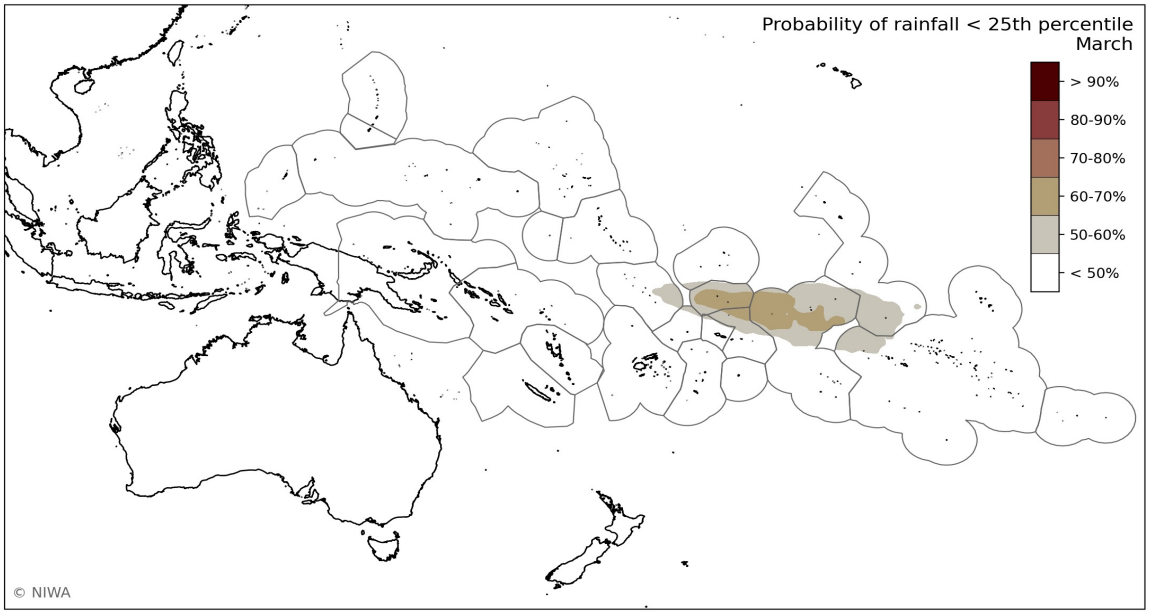
During March, significantly below normal rainfall is favoured in Kiribati (Gilbert, Phoenix, and Line Islands), Tuvalu, Tokelau, northern Cook Islands, northern Fiji, Wallis and Futuna, Samoa, American Samoa, Society Islands, much of the Tuamotu Archipelago, and Marquesas.

Significantly above normal rainfall is favoured in much of Palau, Guam, Northern Marianas, FSM, the Marshall Islands, New Caledonia, southern Vanuatu, southern Fiji, and southern Tonga.

All other island groups are expected to see near normal rainfall amounts during March.

For March, the highest chances for very dry conditions are located in Tokelau, northern American Samoa, and northern Cook Islands.





Island Climate Update

Water Stress Outlook

Earth Sciences New Zealand

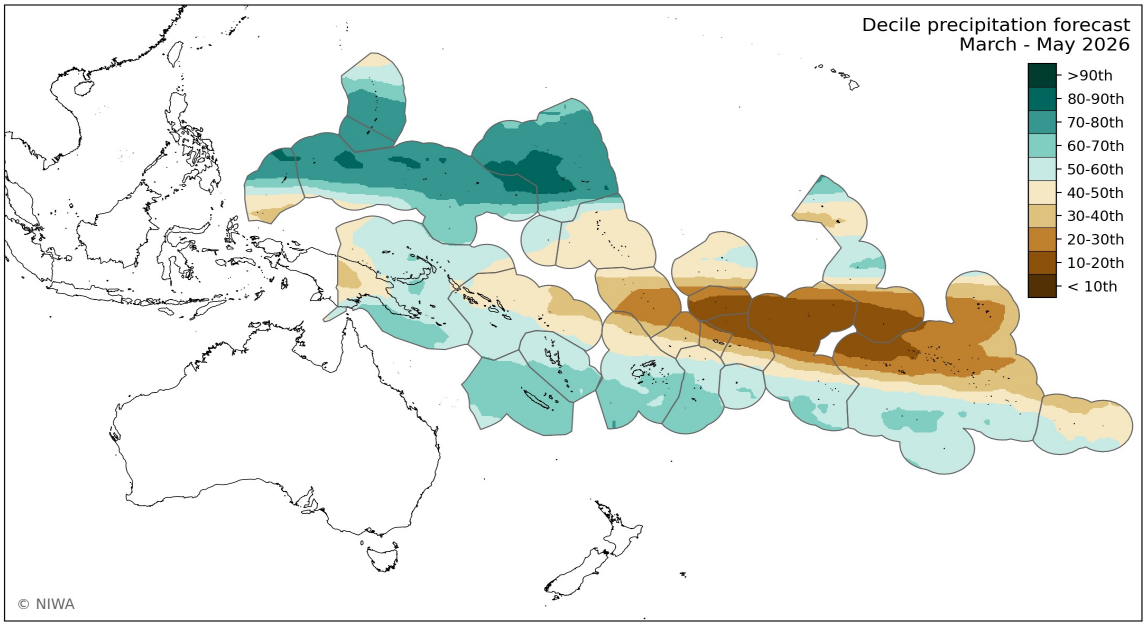
Mar-May 2026 forecast & probabilities of rainfall < 25th percentile

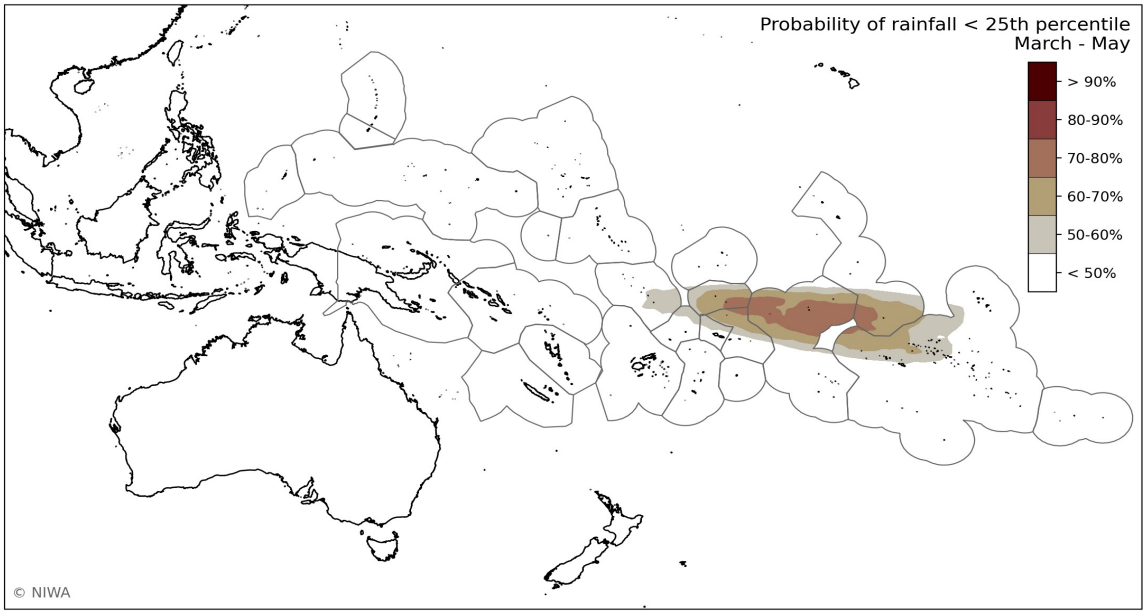
During March-May, significantly below normal rainfall is favoured in Kiribati (northern Line Islands), Tuvalu, Tokelau, northern Fiji, Wallis and Futuna, Samoa, American Samoa, northern Cook Islands, Society Islands, Tuamotu Archipelago, and Marquesas.

Significantly above normal rainfall is favoured in much of Palau, Guam, Northern Marianas, FSM, the Marshall Islands, New Caledonia, southern Vanuatu, southern Fiji, southern Tonga, and parts of the Austral Islands.

All other island groups are expected to see near normal rainfall amounts during March-May.

For March-May, the highest chances for very dry conditions are located in southern Tuvalu, Tokelau, northern American Samoa, northern Cook Islands, as well as parts of the Society Islands and northern Tuamotu Archipelago.





Island Climate Update

Earth Sciences New Zealand

About

Understanding the Island Climate Update bulletin

The ICU utilises rainfall data from the Multi-Source Weighted-Ensemble Precipitation (MSWEP) and a multi-model ensemble forecast utilising 550+ members derived from ten global climate models available from the Copernicus Data Store.

Bulletin page	Description
Rainfall watch	Rainfall plots are derived from MSWEP data. Regional rainfall accumulation is shown for the last 30 days (1 month) and 90 days (3 months).
Water stress watch	Plots are derived from MSWEP data. Different Pacific Island Meteorological Services use different approaches to defining drought and water stress. Current regional water stress classifications are shown for the Early Action Rainfall (Page 3), Standard Precipitation Index (Page 4), and US Drought Monitoring (Page 5) alert levels for the last 90 and 30 days of accumulated rainfall.
Water stress outlook	Outlook water stress classifications are based on both realtime rainfall data and a multi-model ensemble forecast derived from ten global climate models for the next month and three months. The top plots on each page show the rainfall decile band for the next 1 and 3 months for which the cumulative probability derived from the multi-model ensemble forecasts reaches 50%. The bottom plots bring together conditions over the past 3 months and forecast conditions over the next month: • Current water stress conditions potentially easing: Past 3 month accumulation less than 25th percentile. 1 month / seasonal accumulation forecast greater than 25th percentile. • Areas moving into water stress: Past 3 month accumulation between the 40th and 25th percentile. 1 month / seasonal accumulation forecast less than 25th percentile. • Current water stress conditions persisting: Past 3 month accumulation less than 25th percentile. 1 month / seasonal accumulation forecast less than 25th percentile. The final page shows the probability that forecast rainfall over the next 1 or 3 months is within the lowest 25% of cumulative rainfall over the same period (a measure of the confidence in a low rainfall forecast).
Online Resources	**Additional regional and country-level resources are available online**: • Daily updated plots for 30, 60, 90, 180 and 365 day: accumulative rainfall, number of dry days, number of days since last rainfall > 1 mm, EAR, SPI and USDM indices. • A range of probabilistic one to five monthly and seasonal forecast plots updated around the 11th of each month. • Click here for the imagery and here for the underlying forecast data [forecast].

WMO

Earth Sciences New Zealand is the Network co-lead for the WMO RA V Regional Climate Centre Node on Long Range Forecast and consortium member for nodes on Climate Monitoring, Operational Data Services, and Training.

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The Island Climate Update bulletin and associated video and products are prepared before the end of each month. Delays in data availability occasionally arise. While every effort is made to verify the data, Earth Sciences New Zealand does not guarantee the accuracy and reliability of the analysis and forecast information presented and accepts no liability for any losses incurred through the use of this bulletin and its contents.

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