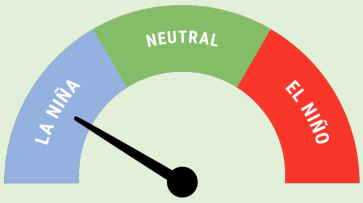
Island Climate Update

Earth Sciences New Zealand

ENSO Watch
December 2025

Recent



La Niña

La Niña conditions are now in place in the tropical Pacific Ocean, but La Niña is likely to be short-lived.

The Southern Oscillation Index (SOI) was in the neutral range (+0.8) from September-November.

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

Forecast

50% chance for **La Niña** conditions to continue during **December 2025-February 2026**

Chance for **ENSO-neutral** conditions during **January-March 2026** **70%**

La Niña Watch

ENSO situation summary

Conditions in the tropical Pacific reached La Niña in late October, and La Niña remains in place, but this event is likely to be short-lived. There is about a 50% chance that La Niña conditions will continue during December 2025-February 2026, with a 70% chance that the tropical Pacific will return to ENSO-neutral conditions during January-March 2026.

As of 18 November 2025, the 30-day NINO3.4 Index (in the central equatorial Pacific) was -0.67˚C, near the La Niña range. The 30-day relative Niño 3.4 Index (RONI) was -0.92˚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 in the neutral range during September-November (+0.8), while the preliminary November value was +1.2 (in the La Niña range).

Subsurface ocean temperatures in the equatorial Pacific remain above average in the western part of the basin with cooler than average temperatures in the east.

Notably cooler than average temperatures are currently located in the eastern equatorial Pacific at depths of 50-200 metres. These cool water temperatures indicate a tropical Pacific in a La Niña state.

During early December, a pulse of the Madden-Julian Oscillation (MJO) is predicted to move across the western Pacific, which may result in an enhancement in convective activity and rainfall.

During December-February, model guidance favours an enhancement in convective forcing over the western Pacific and parts of Melanesia consistent with La Niña and co-located with the warmest sea surface temperatures. This may lead to enhanced rainfall for island groups such as Palau, the Federated States of Micronesia, and southern Papua New Guinea east to parts of French Polynesia.

Conversely, drier than normal conditions are likely to occur for most island groups near the equator, including Kiribati, Tuvalu, Tokelau, northern Cook Islands, and northern French Polynesia (see pages 6-7 for more information).

Island Climate Update

Rainfall Watch

Earth Sciences New Zealand

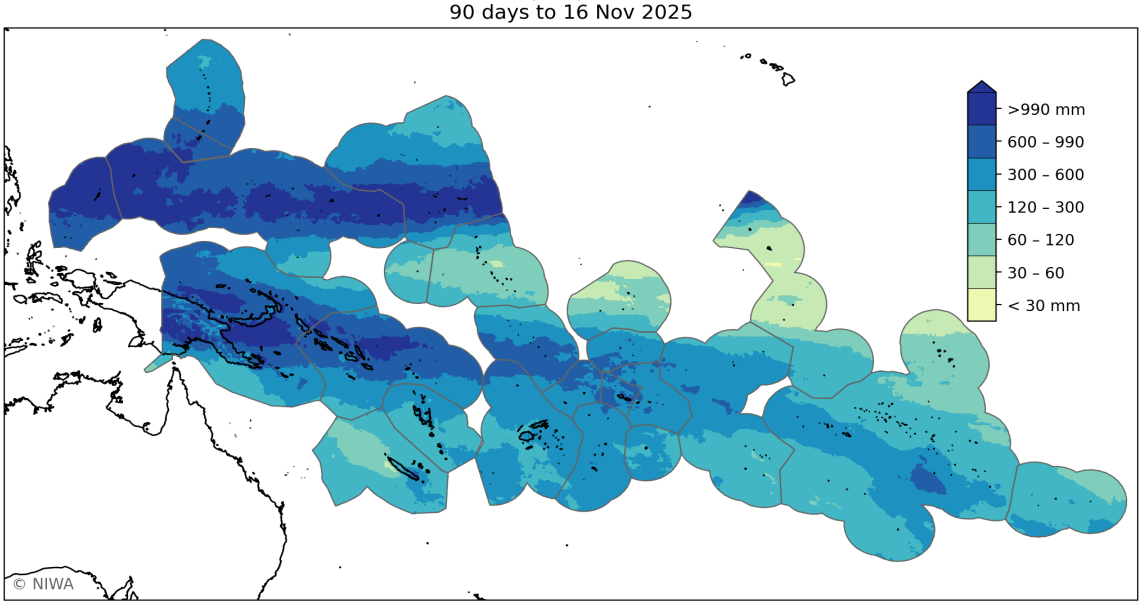
Regional situation summary (16 November 2025)

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

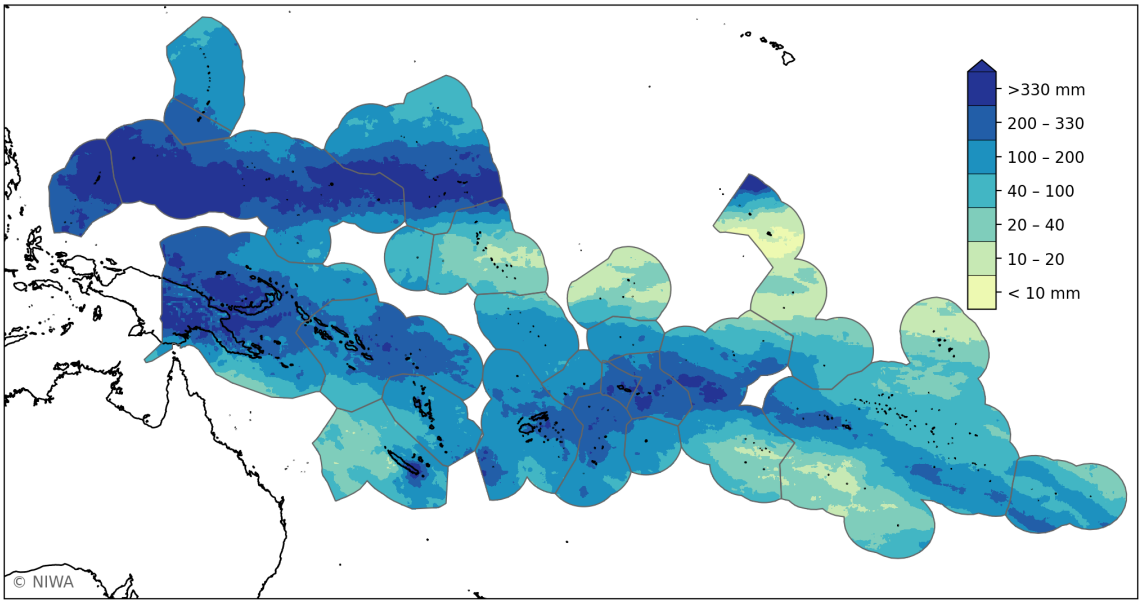
During the 90 days ending 16 November (top plot), over 990 mm of rain fell across Palau, Guam, much of the Federated States of Micronesia (FSM), southern Marshall Islands, and parts of Papua New Guinea (PNG) and the Solomon Islands. Less than 60 mm of rain was observed in parts of eastern Kiribati (Line Islands).

During the 30 days ending 16 November (bottom plot), over 330 mm of rain fell across Palau, much of FSM, southern Marshall Islands, parts of PNG, New Caledonia, and Samoa. Less than 40 mm of rain fell in Kiribati (Gilbert, Phoenix, and Line Islands), Southern Cook Islands, Austral Islands, and Marquesas.

Cumulative rainfall (mm), source: MSWEP 2.8.0
90 days to 16 Nov 2025



Cumulative rainfall (mm), source: MSWEP 2.8.0
30 days to 16 Nov 2025

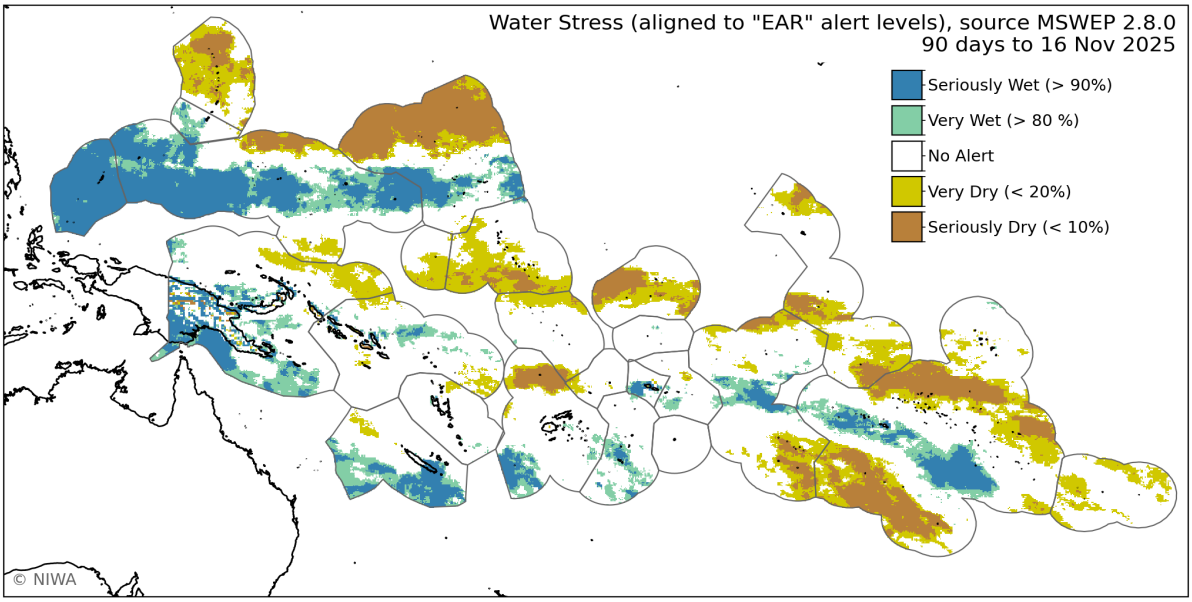


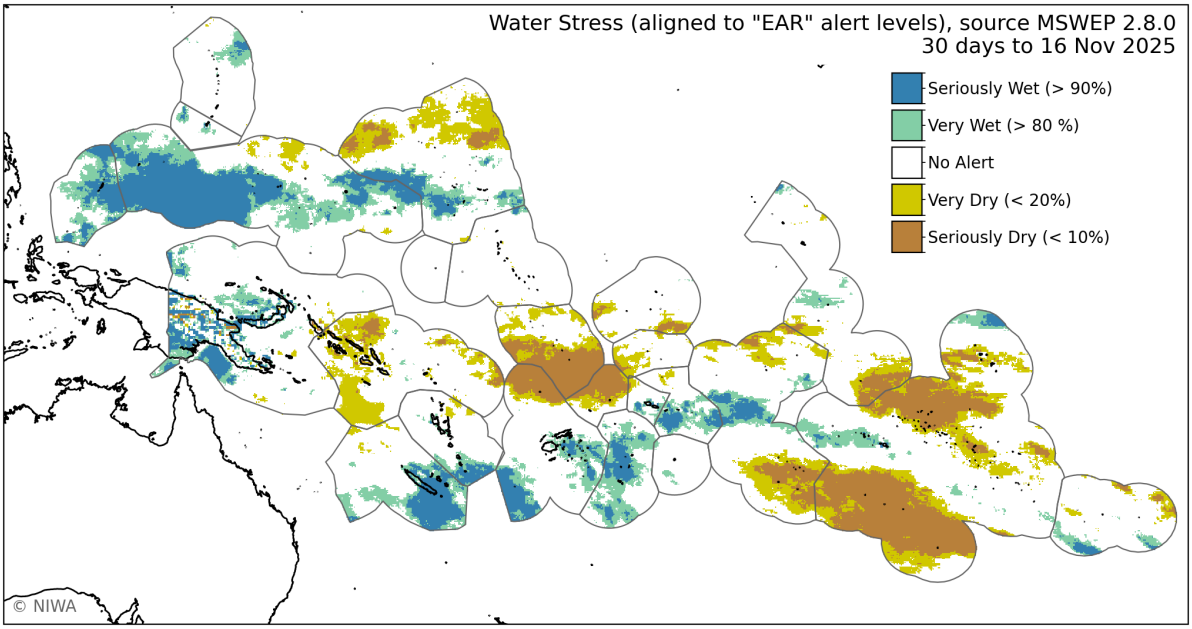
EAR regional situation summary (16 November 2025)

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 16 November (top plot), seriously dry or very dry conditions affected parts of the Northern Marianas, far southern FSM, northern Marshall Islands, northern PNG, isolated parts of the Solomon Islands, Nauru, Kiribati (Gilbert, Phoenix, and central Line Islands), northern Fiji, southern Cook Islands, Austral Islands, northern Tuamotu Archipelago, and parts of the Pitcairn Islands.

During the 30 days ending 16 November (bottom plot), seriously dry or very dry conditions affected the northern Marshall Islands, eastern PNG, Solomon Islands, northern Fiji, southern Tuvalu, Wallis and Futuna, southern Cook Islands, Austral Islands, northern Tuamotu Archipelago, and Marquesas.





Island Climate Update

Water Stress Watch

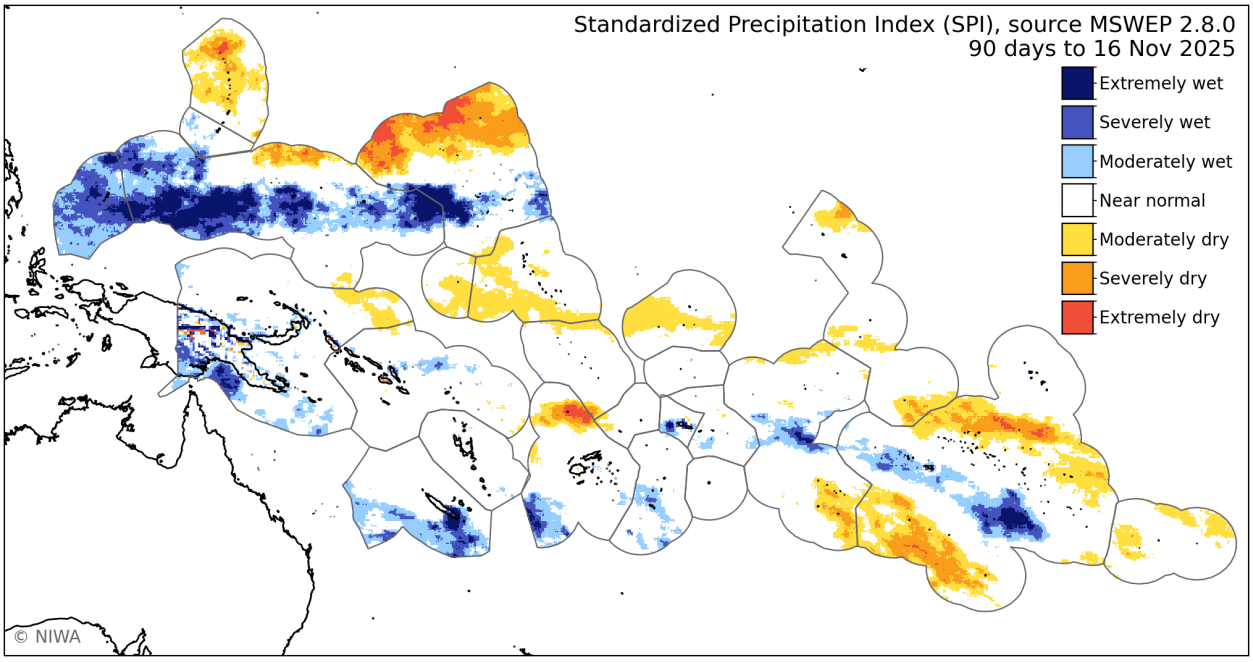
Earth Sciences New Zealand

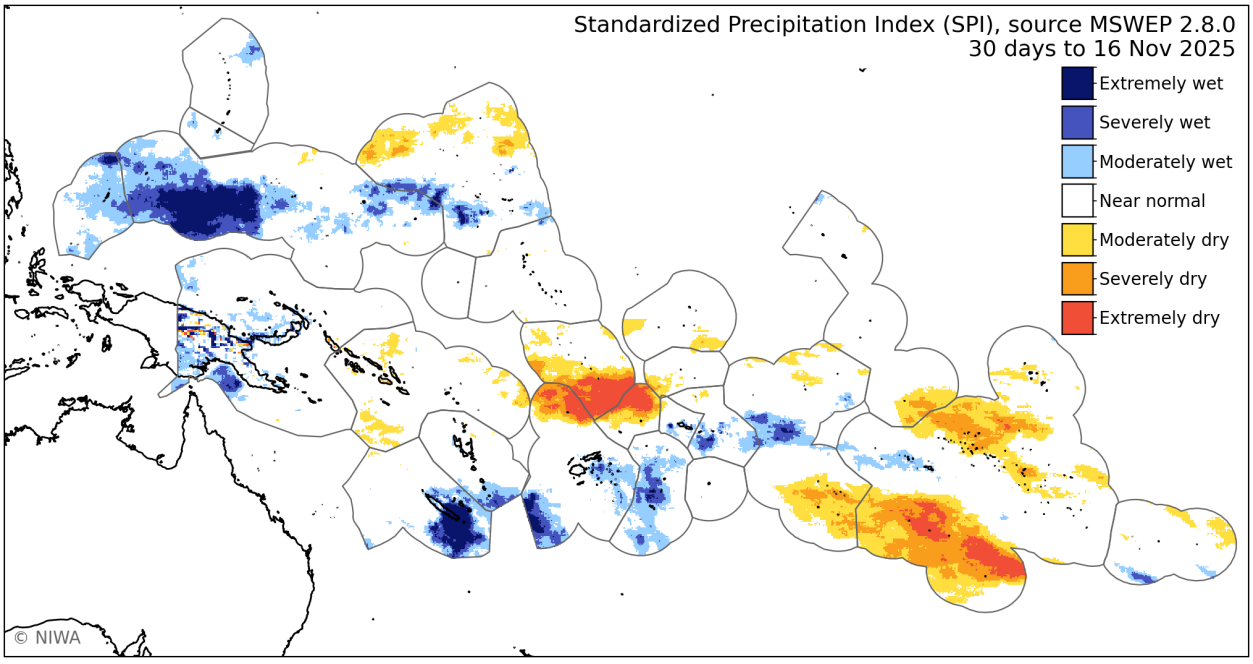
SPI Regional situation summary (16 November 2025)

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 16 November (top plot), extremely dry or severely dry conditions occurred in the northern Marshall Islands, isolated parts of the Solomon Islands, far northern Fiji, parts of the southern Cook Islands and the Austral Islands, and northern Tuamotu Archipelago.

During the 30 days ending 16 November (bottom plot), extremely dry or severely dry conditions occurred in far northern Fiji, southern Tuvalu, southern Cook Islands, Austral Islands, and parts of the Tuamotu Archipelago.



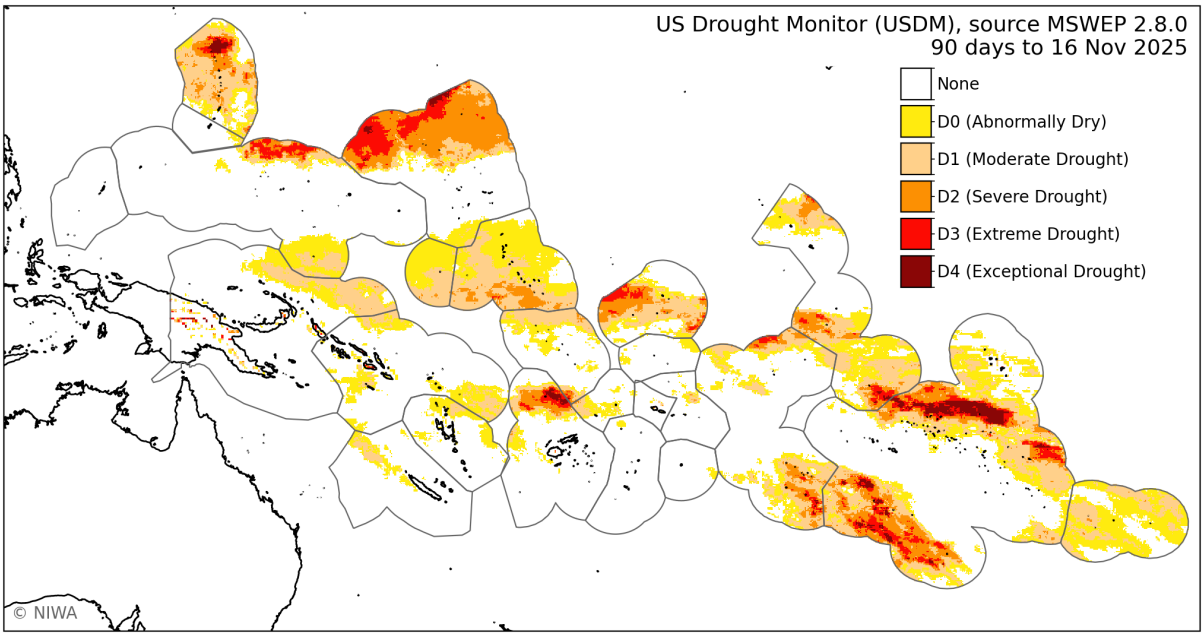


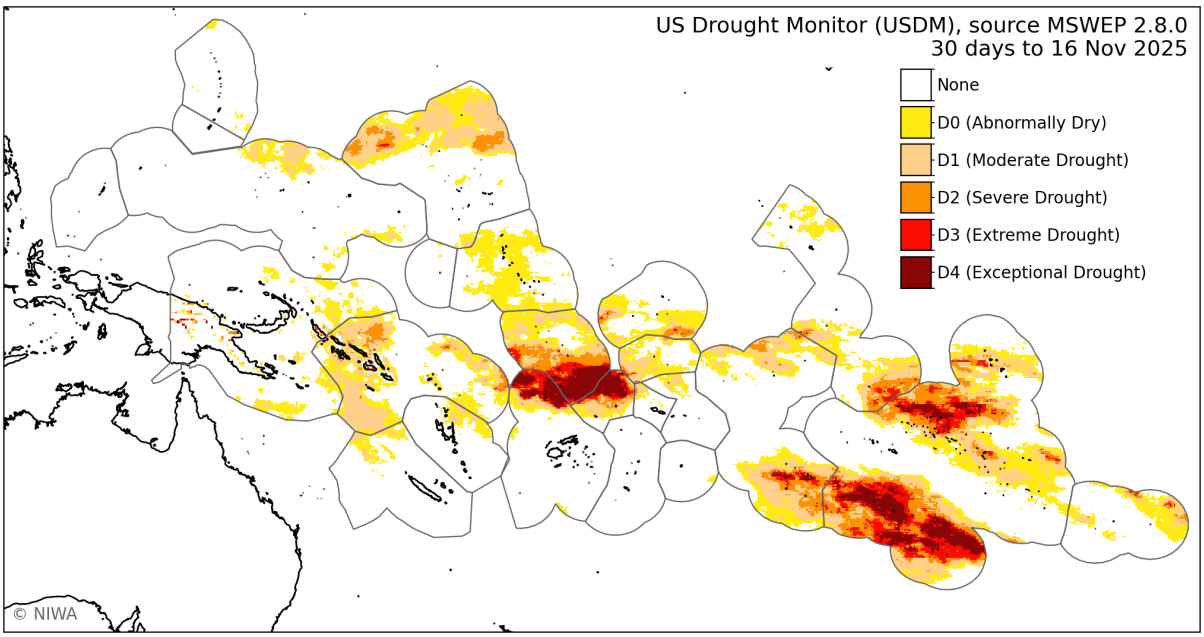
USDM Regional situation summary (16 November 2025)

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 16 November (top plot), extreme or exceptional drought occurred in the northern Marshall Islands, isolated parts of PNG and the Solomon Islands, far northern Fiji, southern Cook Islands, Austral Islands, and northern Tuamotu Archipelago.

During the 30 days ending 16 November (bottom plot), extreme or exceptional drought occurred in far northern Fiji, southern Tuvalu, southern Cook Islands, Austral Islands, and northern Tuamotu Archipelago.





Island Climate Update

Water Stress Outlook

Earth Sciences New Zealand

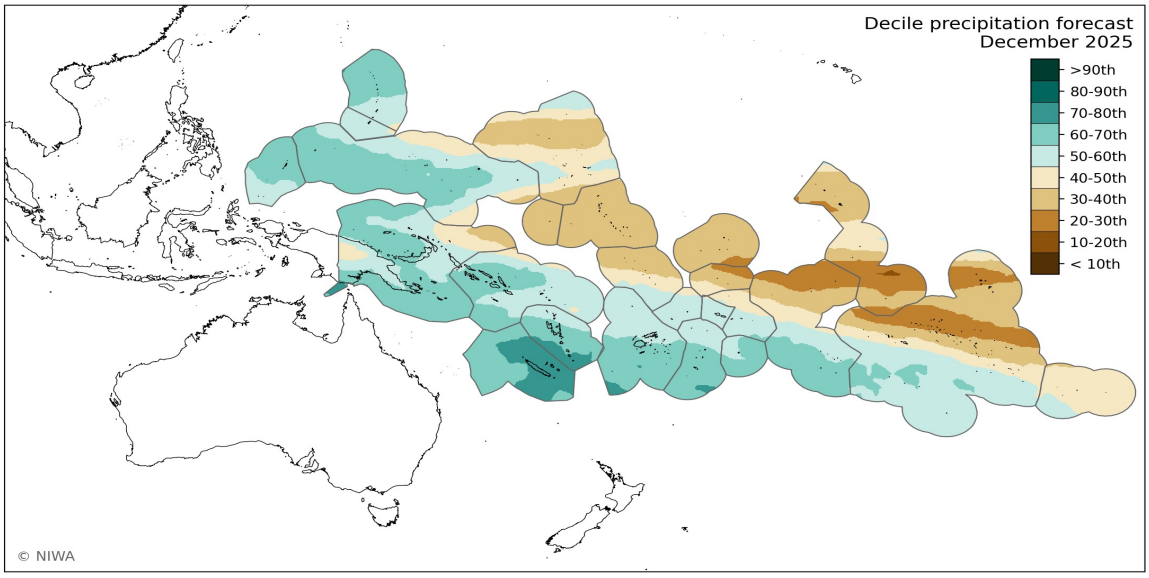
December 2025 forecast & probabilities of rainfall < 25th percentile

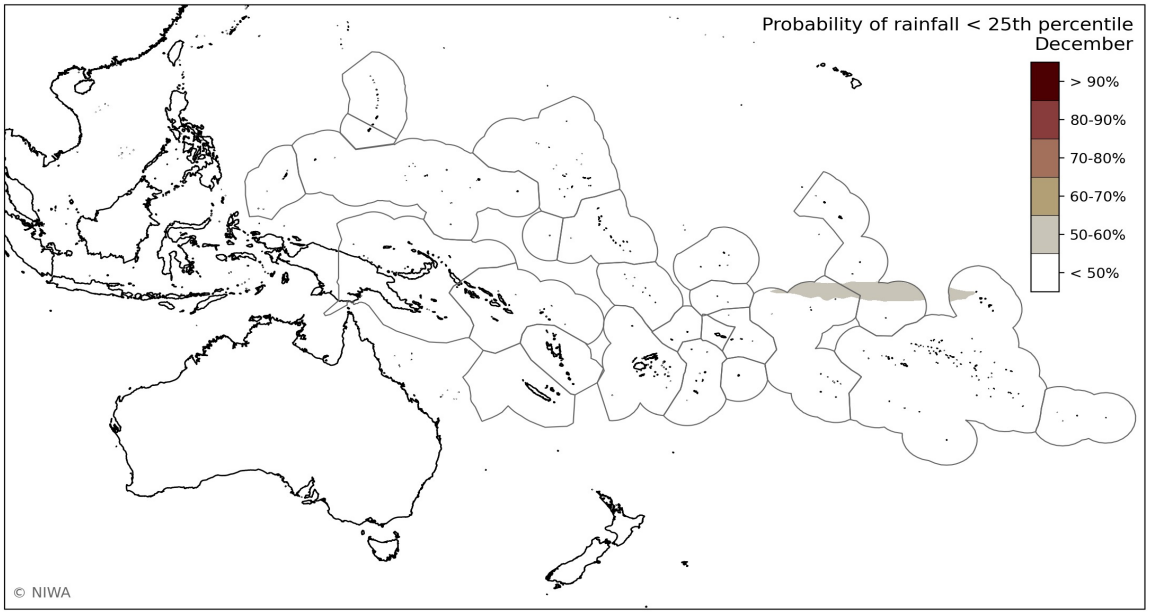
During December, significantly below normal rainfall is favoured in the northern Marshall Islands, Nauru, Kiribati (Gilbert, Phoenix, and Line Islands), northern Tuvalu, Tokelau, northern Cook Islands, Society Islands, Tuamotu Archipelago, and Marquesas.

Significantly above normal rainfall is favoured in Palau, much of FSM, parts of PNG and the Solomon Islands, New Caledonia, Vanuatu, southern Fiji, much of Tonga, and the southern Cook Islands.

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

For December, the highest chances for very dry conditions are located in a small portion of the northern Cook Islands.





Island Climate Update

Water Stress Outlook

Earth Sciences New Zealand

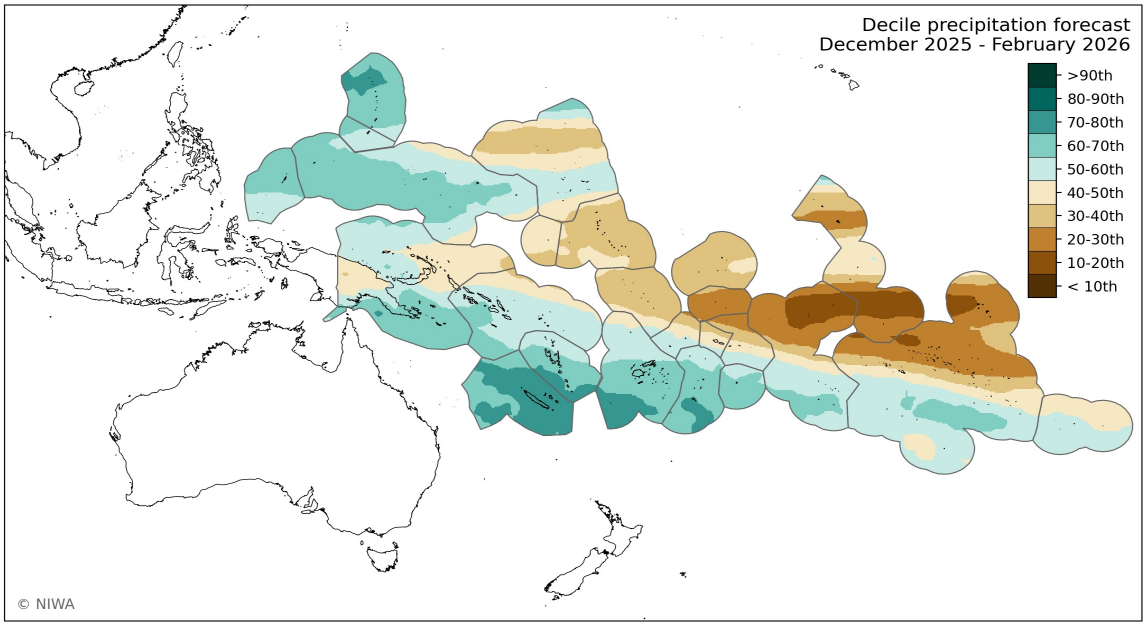
Dec-Feb forecast & probabilities of rainfall < 25th percentile

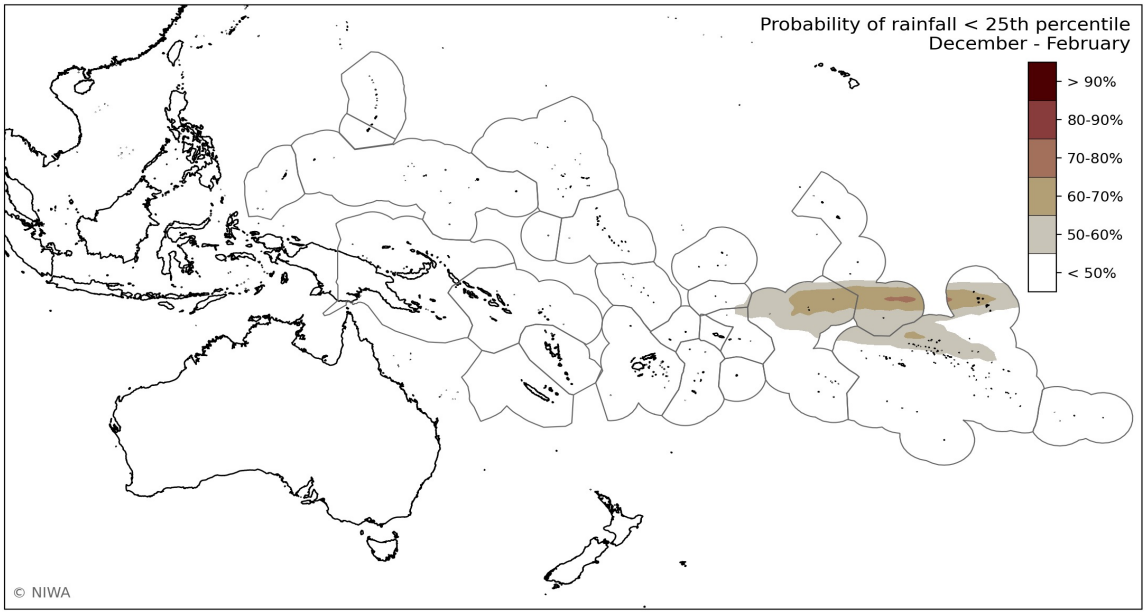
During December-February, significantly below normal rainfall is favoured in the northern Marshall Islands, Kiribati (Gilbert, Phoenix, and Line Islands), Tuvalu, Tokelau, northern American Samoa, northern Cook Islands, Society Islands, Tuamotu Archipelago, and Marquesas.

Significantly above normal rainfall is favoured in Palau, the Northern Marianas, western and central FSM, southern PNG, New Caledonia, most of Vanuatu, Fiji, and Tonga, Niue, and parts of the southern Cook Islands.

All other island groups are expected to see near normal rainfall amounts during December-February.

For December-February, the highest chances for very dry conditions are located in the northern Cook Islands, northern Tuamotu Archipelago, and Marquesas.





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.

Development and production of the ICU is supported by Earth Sciences New Zealand Strategic Science Investment Funding under contract PRAS2401.

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.

Contact

islandclimateupdate@comms.niwa.co.nz

https://niwa.co.nz/climate/island-climate-update

https://www.facebook.com/IslandClimateUpdate

https://twitter.com/ICU_NIWA