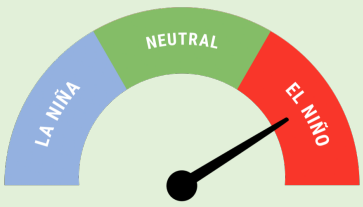
Island Climate Update

Earth Sciences New Zealand

ENSO Watch
December 2026

Recent



El Niño

After a recent brief weakening, El Niño is once again strengthening in the tropical Pacific Ocean.

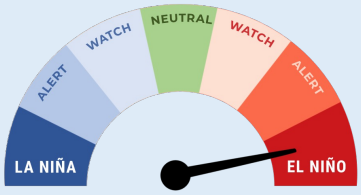
The Southern Oscillation Index (SOI) was in strong El Niño range (-1.5) from August-October 2026.

Tropical Pacific Ocean sea surface temperatures (SSTs) are in very strong El Niño range and are expected to strengthen further.

Forecast

100% chance for **El Niño** to continue during **December 2026-February 2027**

Chance for **El Niño** conditions during **January-March 2027** **100%**



El Niño

ENSO situation summary

Despite a recent dip in strength, El Niño remains in very strong status and is expected to continue strengthening. There is a 100% chance that El Niño will continue during December 2026-February 2027, and a 100% chance that El Niño will continue during January-March 2027. This El Niño may become the strongest El Niño on record.

As of 15 November 2026, the 30-day NINO3.4 Index (in the central equatorial Pacific) was 3.40˚C, in very strong El Niño range. The 30-day relative Niño 3.4 Index (RONI) was 2.42˚C, in very strong El Niño range and reflective of the central equatorial Pacific being warmer than the average of the global tropics.

The Southern Oscillation Index (SOI) was in strong El Niño range during August-October 2026 (-1.5), while the October value was -1.1.

Subsurface ocean temperatures in the equatorial Pacific continue to be well above average in the eastern part of the basin, and upper-ocean heat content anomalies are well above average in the tropical eastern Pacific.

Extremely warm water continues to be located in the eastern equatorial Pacific from the surface to depths of about 150 metres, where temperature anomalies of 7-9°C are widespread, and exceed 11°C in some places. This indicates that a very strong El Niño is occurring, and further strengthening to record levels is possible in the coming months.

During December 2026-February 2027, model guidance favours above normal or well above normal rainfall for several island groups along the equator, including parts of Papua New Guinea, Naoero, Kiribati, northern Tuvalu, Tokelau, the northern Cook Islands, and the Marquesas.

Conversely, below normal or well below normal rainfall is likely to occur for most other island groups in the Pacific, including nearly all of Micronesia and those along a line from New Caledonia east to the Pitcairn Islands. Nearly all of these island groups will also have a high chance to be extremely dry during December-February (i.e. seasonal rainfall totals below the 25th percentile). See pages 6-7 for more information.

Island Climate Update

Rainfall Watch

Earth Sciences New Zealand

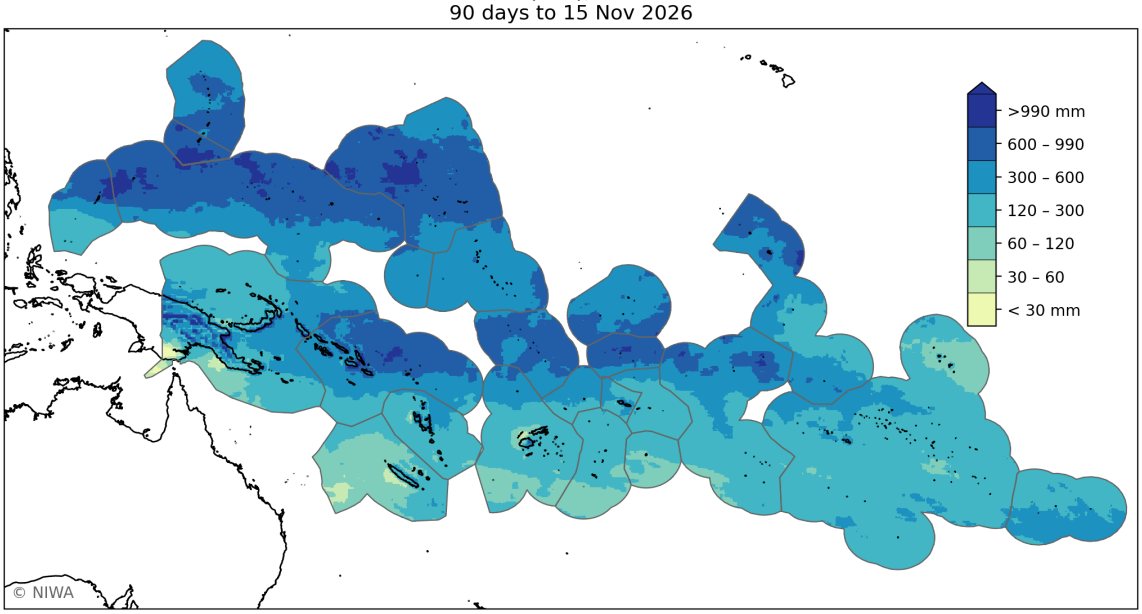
Regional situation summary (15 November 2026)

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

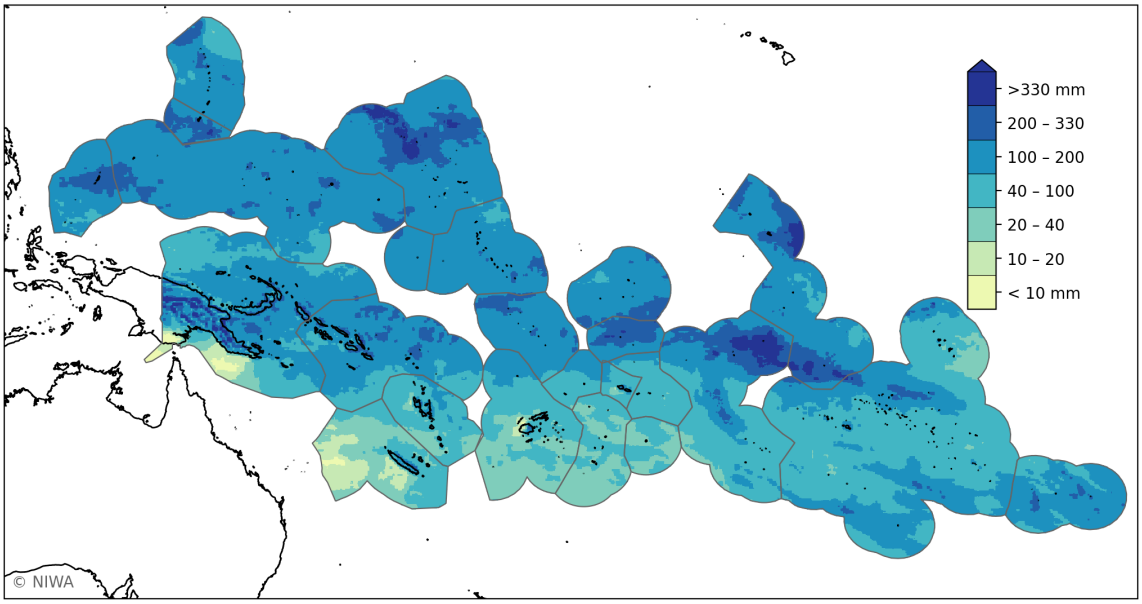
During the 90 days ending 15 November (top plot), over 990 mm of rain fell in isolated parts of the Federated States of Micronesia (FSM), Marshall Islands, Tokelau, and northern Cook Islands. Less than 60 mm of rain was observed in isolated portions of southern Papua New Guinea (PNG) and Fiji.

During the 30 days ending 15 November (bottom plot), over 330 mm of rain fell in isolated parts of the Marshall Islands and northern Cook Islands. Less than 40 mm of rain fell in parts of southern PNG, and isolated parts of New Caledonia, southern Vanuatu, Fiji, Tonga, and Niue.

Cumulative rainfall (mm), source: MSWEP 2.8.0
90 days to 15 Nov 2026



Cumulative rainfall (mm), source: MSWEP 2.8.0
30 days to 15 Nov 2026



Island Climate Update

Water Stress Watch

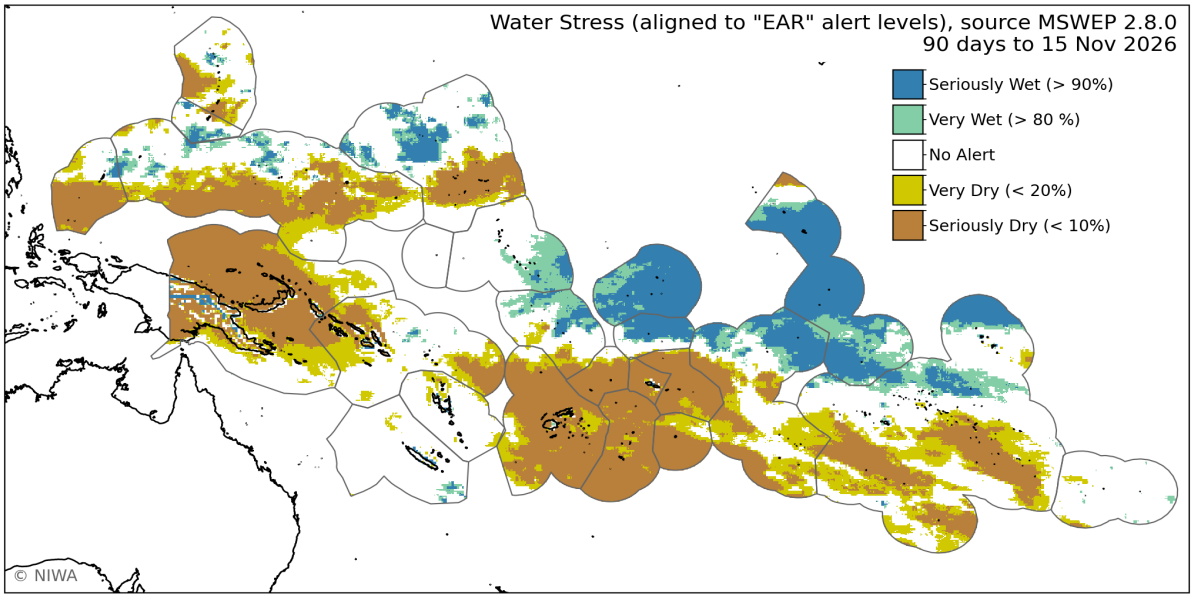
Earth Sciences New Zealand

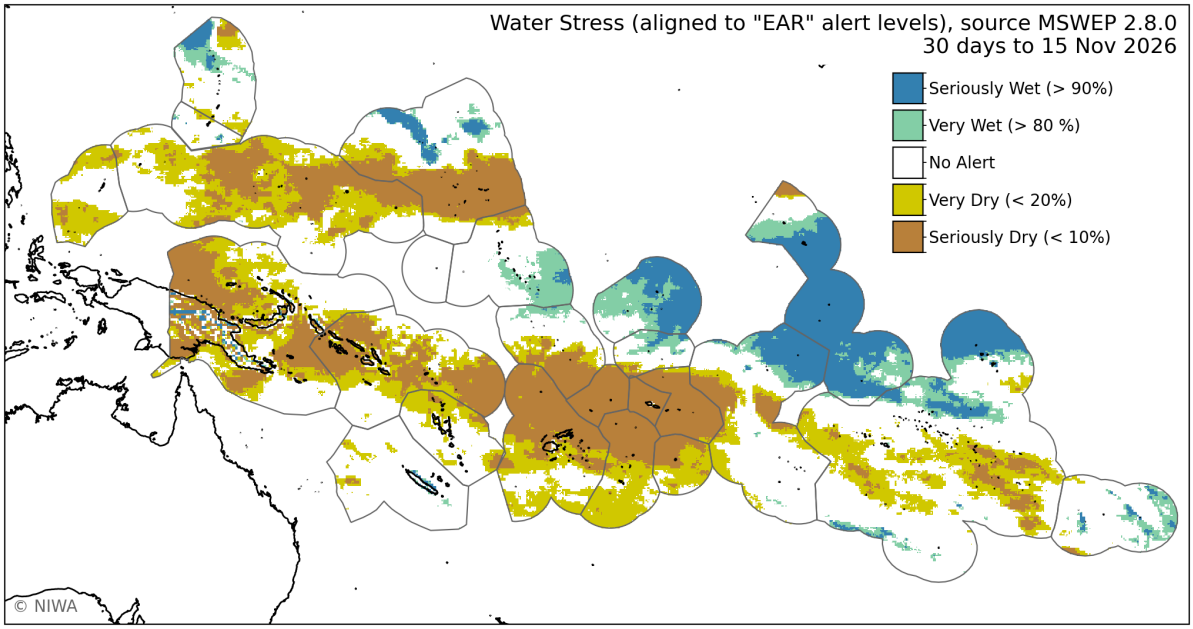
EAR regional situation summary (15 November 2026)

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 15 November (top plot), seriously dry or very dry conditions affected the Northern Marianas, southern Palau, parts of FSM, the southern Marshall Islands, PNG, much of the Solomon Islands, northern Vanuatu, Fiji, Tonga, Niue, southern Tuvalu, Wallis and Futuna, Samoa, American Samoa, southern Cook Islands, Austral Islands, and parts of the Tuamotu Archipelago.

During the 30 days ending 15 November (bottom plot), seriously dry or very dry conditions affected southern Palau, much of FSM, southern Marshall Islands, much of PNG, the Solomon Islands, northern Vanuatu, Fiji, Tonga, Niue, southern Tuvalu, Wallis and Futuna, Samoa, American Samoa, and parts of the Austral Islands and Tuamotu Archipelago.





Island Climate Update

Water Stress Watch

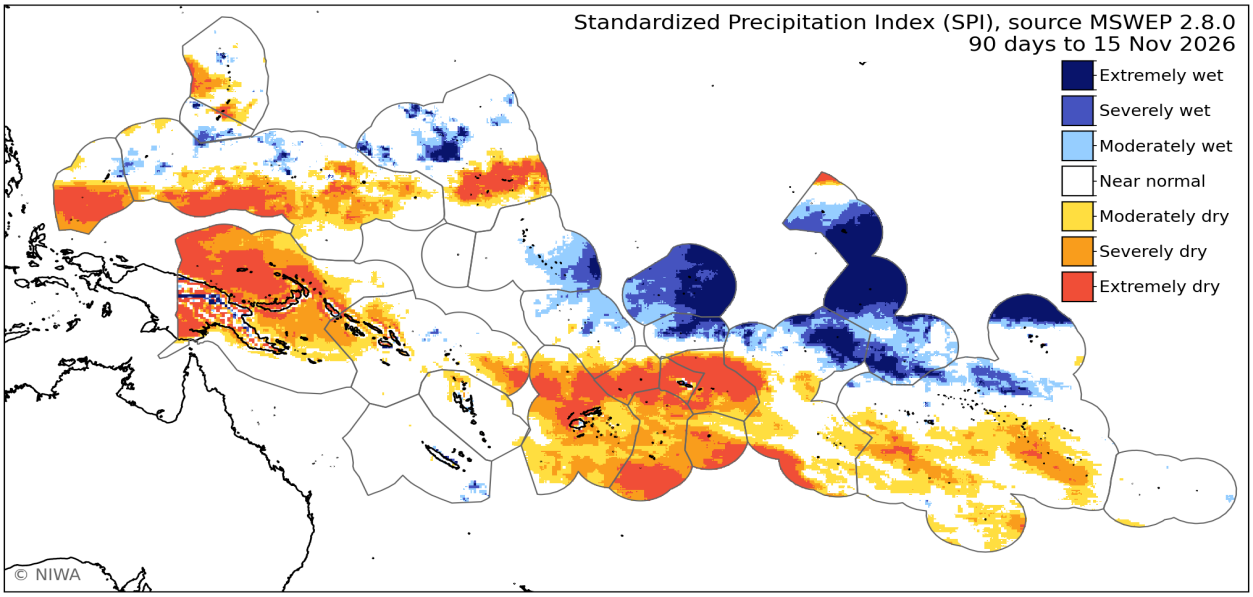
Earth Sciences New Zealand

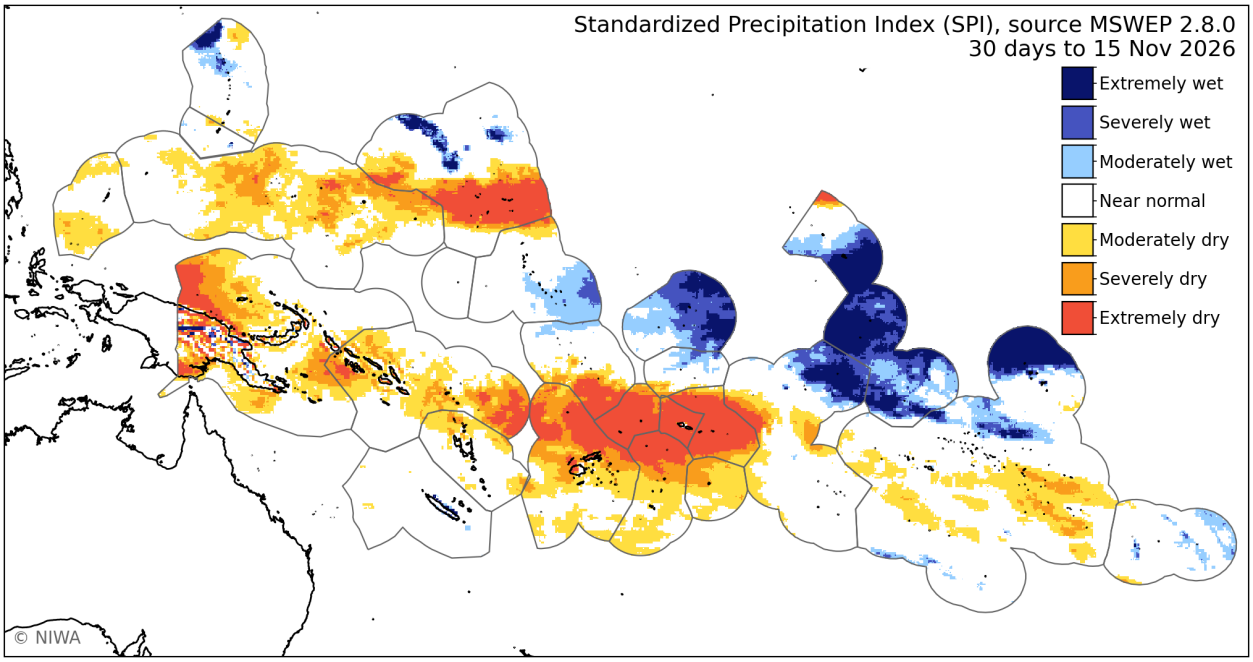
SPI Regional situation summary (15 November 2026)

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 15 November (top plot), extremely dry or severely dry conditions occurred in southern Palau, the Northern Marianas, parts of FSM, southern Marshall Islands, much of PNG, Solomon Islands, northern Vanuatu, Fiji, Tonga, Niue, southern Tuvalu, Wallis and Futuna, Samoa, American Samoa, and parts of the Austral Islands and Tuamotu Archipelago.

During the 30 days ending 15 November (bottom plot), extremely dry or severely dry conditions occurred in central and eastern FSM, southern Marshall Islands, parts of PNG, Solomon Islands, northern Vanuatu, parts of Fiji and Tonga, Niue, southern Tuvalu, Wallis and Futuna, Samoa, American Samoa, and parts of the Tuamotu Archipelago.



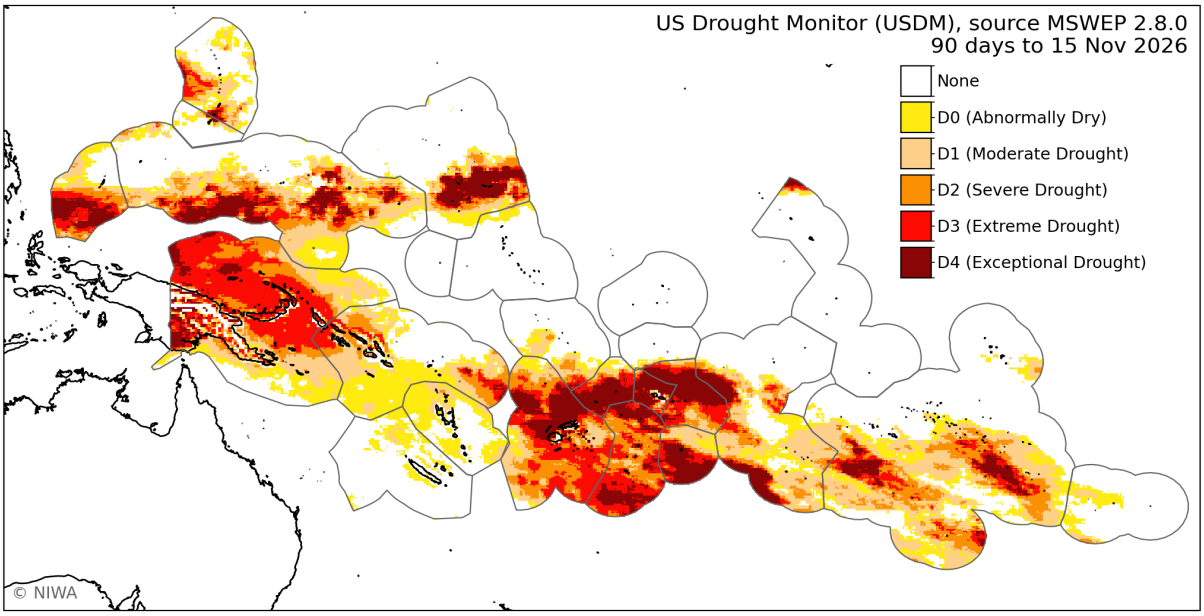


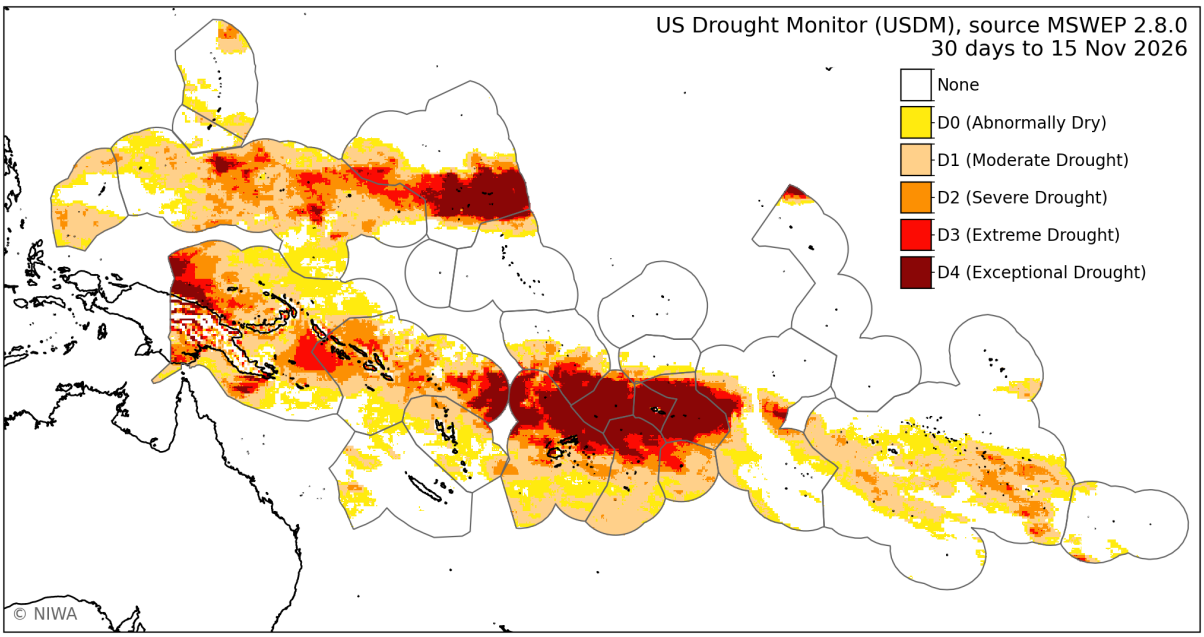
USDM Regional situation summary (15 November 2026)

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 15 November (top plot), extreme or exceptional drought occurred in the Northern Marianas, southern Palau, parts of FSM, southern Marshall Islands, much of PNG, northern Solomon Islands, Fiji, Tonga, Niue, southern Tuvalu, Wallis and Futuna, Samoa, American Samoa, Austral Islands, and parts of the Tuamotu Archipelago.

During the 30 days ending 15 November (bottom plot), extreme or exceptional drought occurred in parts of FSM, southern Marshall Islands, parts of PNG, Solomon Islands, Fiji, northern Tonga, Niue, southern Tuvalu, Wallis and Futuna, Samoa, American Samoa, and parts of the Tuamotu Archipelago.





Island Climate Update

Water Stress Outlook

Earth Sciences New Zealand

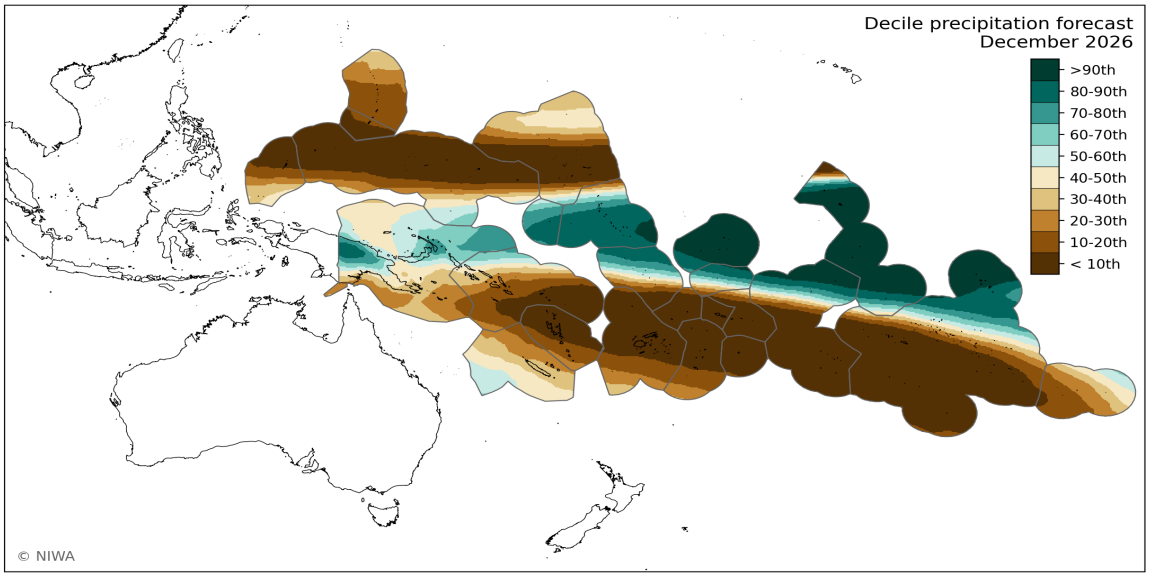
December 2026 forecast & probabilities of rainfall < 25th percentile

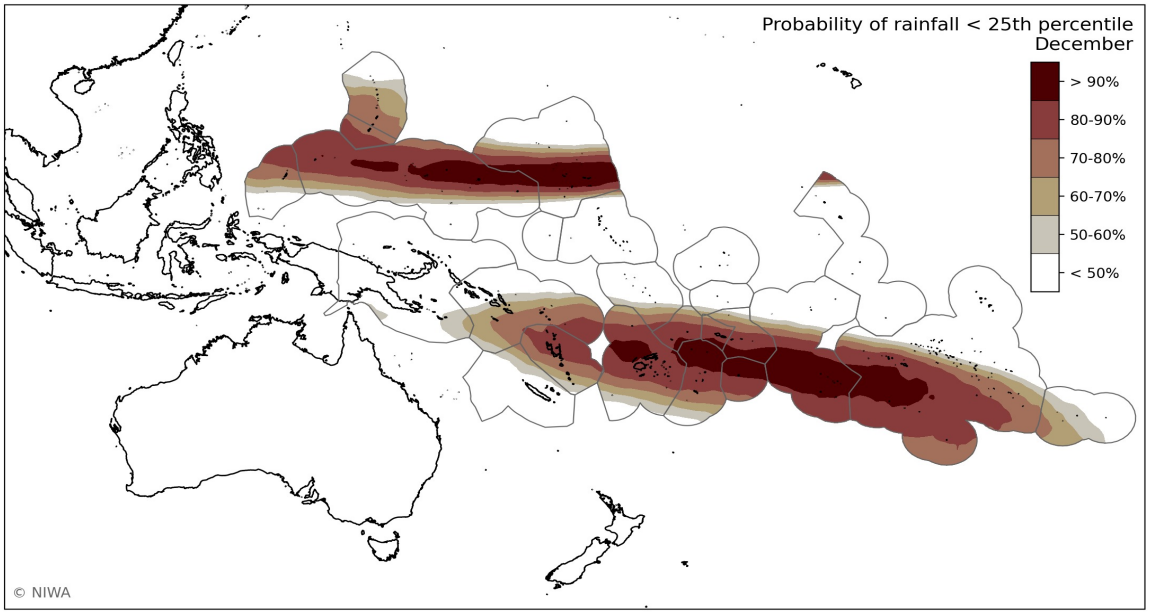
During December, significantly below normal rainfall is favoured in Palau, Guam, the Northern Marianas, FSM, Marshall Islands, southern PNG, Solomon Islands, New Caledonia, Vanuatu, Fiji, Tonga, Niue, southern Tuvalu, Wallis and Futuna, Samoa, American Samoa, southern Cook Islands, Austral Islands, Society Islands, much of the Tuamotu Archipelago, and Pitcairn Islands.

Significantly above normal rainfall is favoured in parts of PNG, Naoero, Kiribati (Gilbert, Phoenix, and Line Islands), northern Tuvalu, Tokelau, northern Cook Islands, and Marquesas.

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

During December, the highest chances for very dry conditions are located in northern Palau, Guam, the Northern Marianas, FSM, Marshall Islands, southern Solomon Islands, Vanuatu, Fiji, Tonga, Niue, southern Tuvalu, Wallis and Futuna, Samoa, American Samoa, southern Cook Islands, Austral Islands, Society Islands, part of the Tuamotu Archipelago, and Pitcairn Islands.





Island Climate Update

Water Stress Outlook

Earth Sciences New Zealand

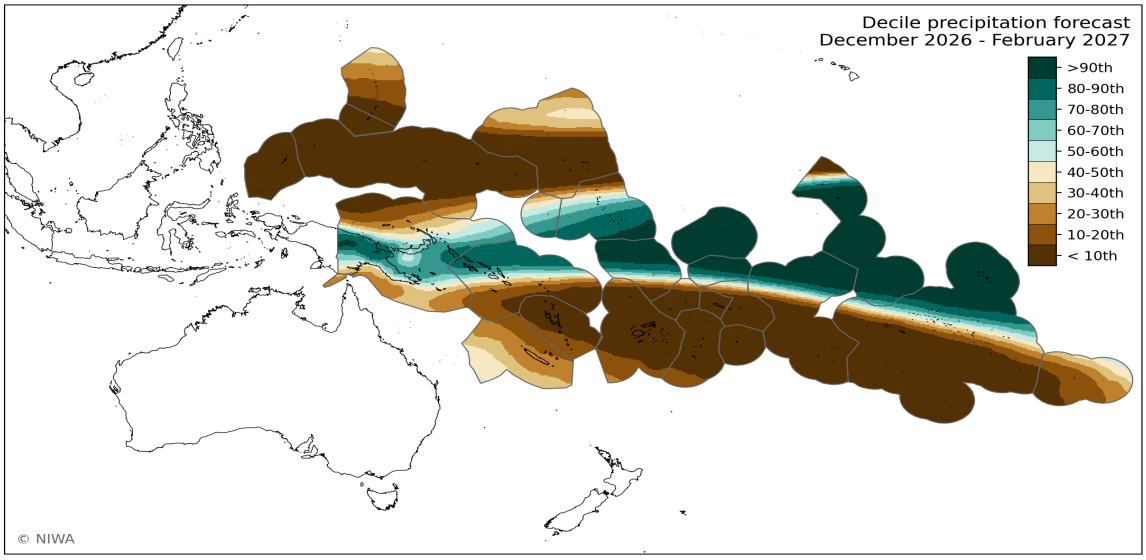
Dec-Feb forecast & probabilities of rainfall < 25th percentile

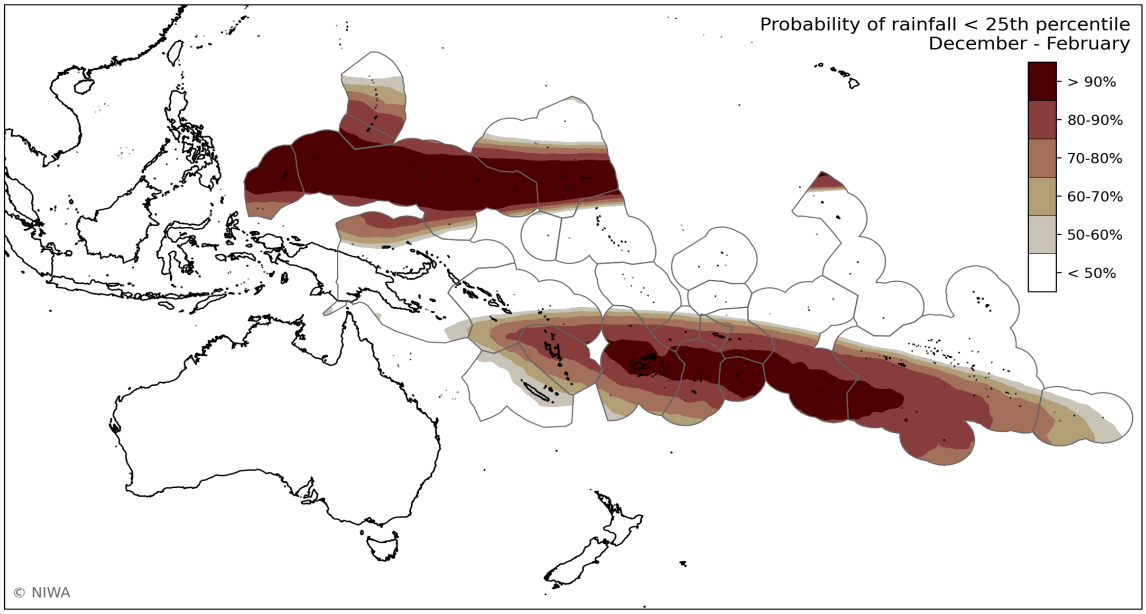
During December 2026-February 2027, significantly below normal rainfall is favoured in Palau, Guam, the Northern Marianas, FSM, Marshall Islands, small parts of PNG, southern Solomon Islands, New Caledonia, Vanuatu, Fiji, southern Tuvalu, Wallis and Futuna, Tonga, Niue, Samoa, American Samoa, southern Cook Islands, Austral Islands, Society Islands, part of the Tuamotu Archipelago, and Pitcairn Islands.

Significantly above normal rainfall is favoured in parts of PNG, northern Solomon Islands, Naoero, Kiribati (Gilbert, Phoenix, and Line Islands), northern Tuvalu, Tokelau, northern Cook Islands, northern Tuamotu Archipelago, and Marquesas.

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

During December-February, the highest chances for very dry conditions are located in Palau, Guam, the Northern Marianas, FSM, Marshall Islands, southern Solomon Islands, New Caledonia, Vanuatu, Fiji, southern Tuvalu, Wallis and Futuna, Tonga, Niue, Samoa, American Samoa, southern Cook Islands, Austral Islands, Society Islands, parts of the Tuamotu Archipelago, and Pitcairn Islands.





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 700+ 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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