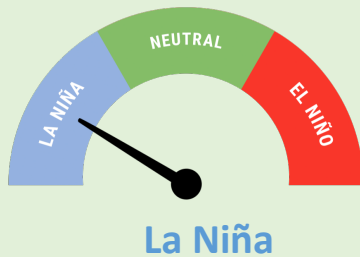


# Island Climate Update



**ENSO Watch**  
March 2025

Recent



La Niña is currently in place, but it is likely to be short-lived.

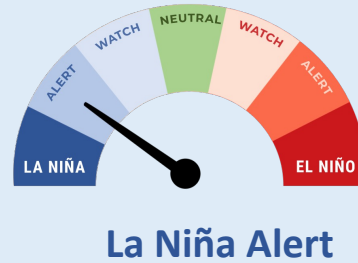
The Southern Oscillation Index (SOI) was in the La Niña range (+0.6) from December-February.

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

**65%** chance for **ENSO neutral** conditions to develop during **March-May 2025**

Chance for **La Niña** conditions continuing during **March-May 2025**

**35%**



Forecast

## ENSO situation summary

The ocean and atmosphere are in a weak La Niña state that will likely be brief, primarily focused on the central Pacific (i.e., La Niña “Modoki”). There is a 35% chance that La Niña will continue through March-May 2025 and a 65% chance that ENSO-neutral conditions will return.

As of 17 February, the 30-day NINO3.4 Index (in the central equatorial Pacific) was  $-0.65^{\circ}\text{C}$ , slightly in the La Niña range. The 30-day relative Niño 3.4 Index (RONI) was  $-1.20^{\circ}\text{C}$ , reflective of the central equatorial Pacific being significantly cooler than the average of the global tropics.

The Southern Oscillation Index (SOI) was in the La Niña range during December-February (+0.6), while the February value was +1.0 (in the La Niña range).

The subsurface equatorial Pacific is  $2^{\circ}\text{C}$  to  $4^{\circ}\text{C}$  cooler than average just below the surface in the east of the basin, while above average upper oceanic heat content continues in western parts of the Pacific basin, which is a La Niña signature.

The South Pacific Convergence Zone (SPCZ) was located well south of its climatological normal position during February.

During March-May, model guidance favours an enhancement in convective forcing over the western Pacific and Maritime Continent, consistent with La Niña-like patterns. This may lead to enhanced rainfall for some island groups such as Palau, Guam, Northern Marianas, Federated States of Micronesia, Marshall Islands, and southern Papua New Guinea east to Niue. However, drier than normal conditions are likely to persist for island groups along the equator (see pages 6-7 for more information).

Tropical cyclone season continues through April 2025. Tropical cyclone chances may be greatest in the Southwest Pacific through early March with cyclone chances increasing again in late March as a pulse of the Madden-Julian Oscillation (MJO) enters the western Pacific.

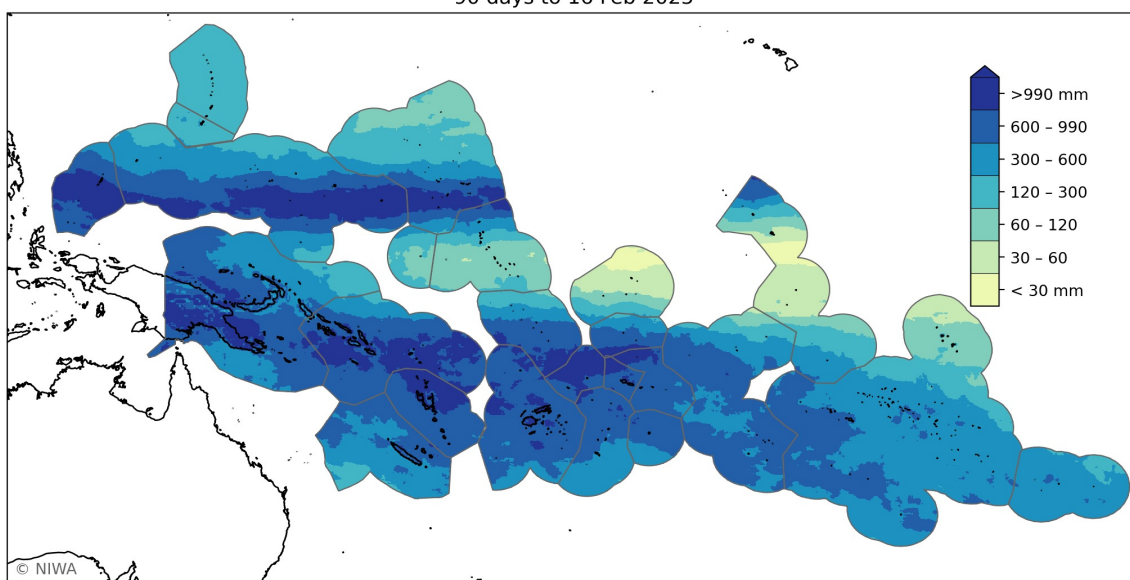
### Regional situation summary (16 February 2025)

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

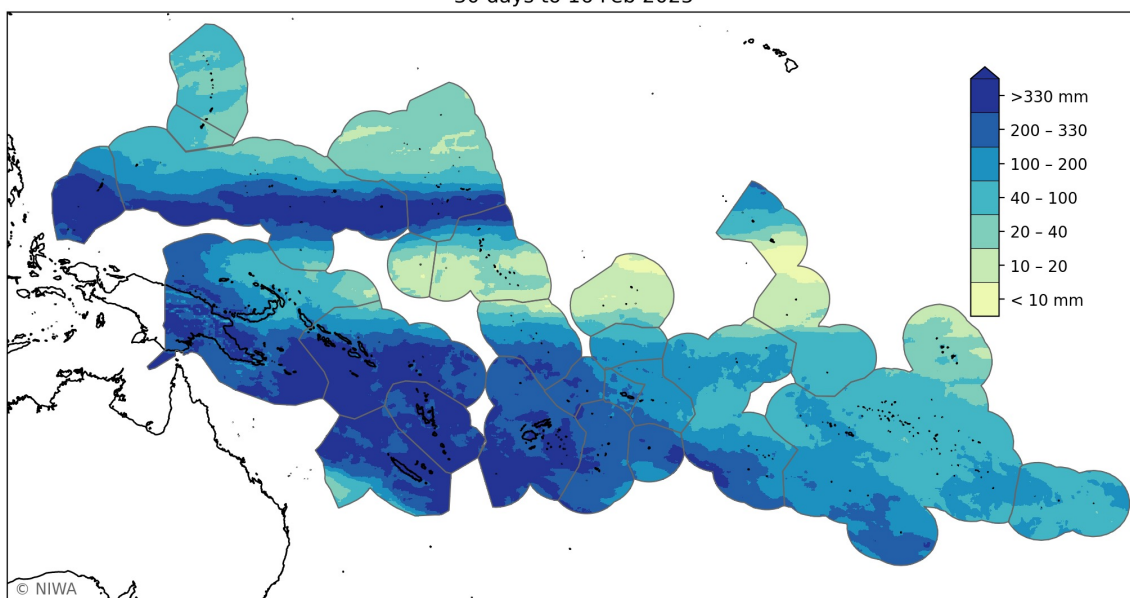
During the 90 days ending 16 February (top plot), over 990 mm of rain fell across Palau, parts of the Federated States of Micronesia (FSM), southern Marshall Islands, parts of Papua New Guinea (PNG), Solomon Islands, northern Vanuatu, parts of Fiji, southern Tuvalu, Samoa, and northern American Samoa. Less than 60 mm of rain was observed in Kiribati (parts of the Phoenix Islands and northern and central Line Islands).

During the 30 days ending 16 February (bottom plot), over 330 mm of rain fell across Palau, parts of FSM, southern Marshall Islands, parts of PNG, Solomon Islands, Vanuatu, New Caledonia, parts of Fiji, and southern Tuvalu. Less than 40 mm of rain fell in the northern Marshall Islands, Nauru, Kiribati (Gilbert, Phoenix, and parts of the northern and central Line Islands), and Marquesas.

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



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

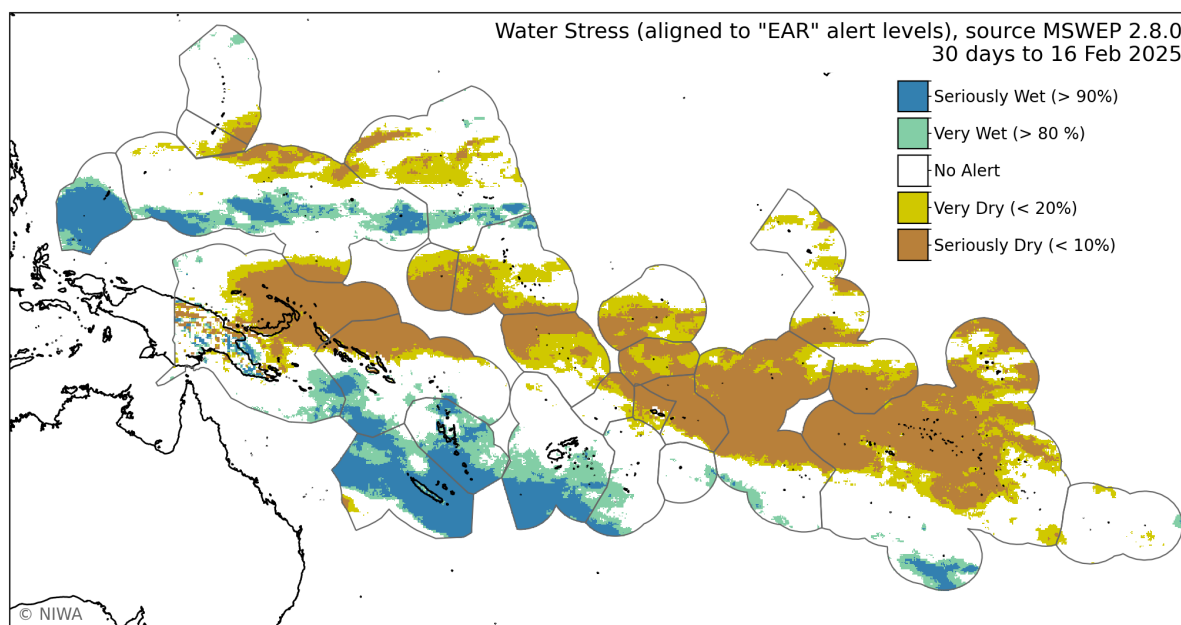
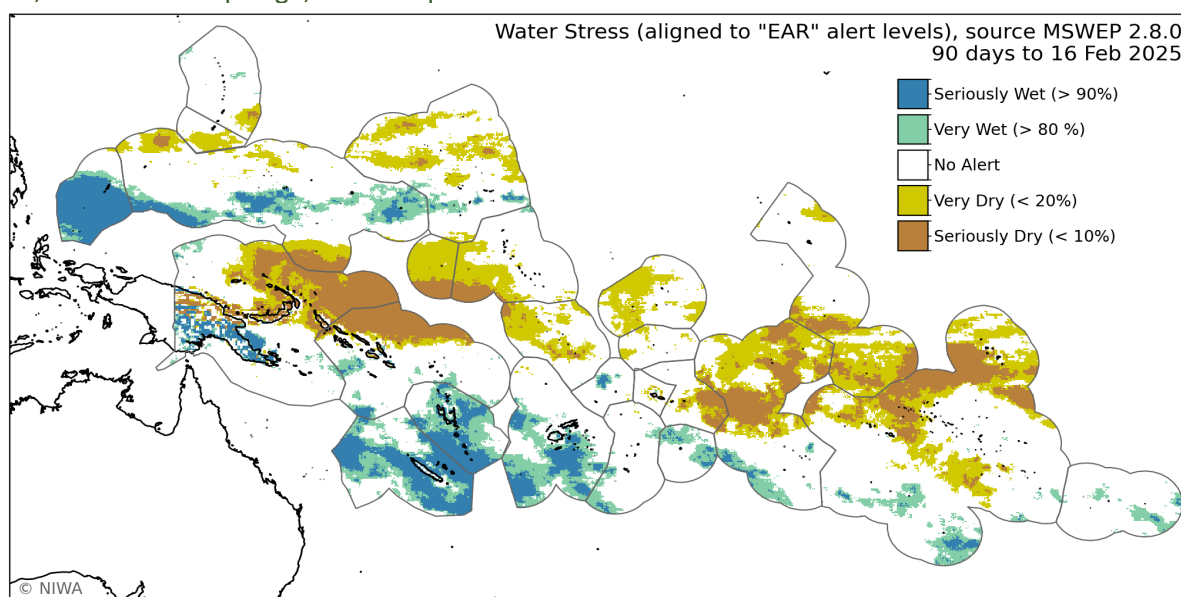


### EAR regional situation summary (16 February 2025)

Cumulative rainfall thresholds 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 February (top plot), seriously dry or very dry conditions affected southern FSM, northern Marshall Islands, northern PNG, northern Solomon Islands, Nauru, Kiribati (western Gilbert and Phoenix Islands), Tuvalu, Samoa, American Samoa, northern Cook Islands, Society Islands, parts of the Tuamotu Archipelago, and Marquesas.

During the 30 days ending 16 February (bottom plot), seriously dry or very dry conditions affected parts of FSM, northern Marshall Islands, northern PNG, northern Solomon Islands, Nauru, Kiribati (parts of the Gilbert, Phoenix, and central Line Islands), Tuvalu, Tokelau, Samoa, American Samoa, northern Cook Islands, Society Islands, Tuamotu Archipelago, and Marquesas.



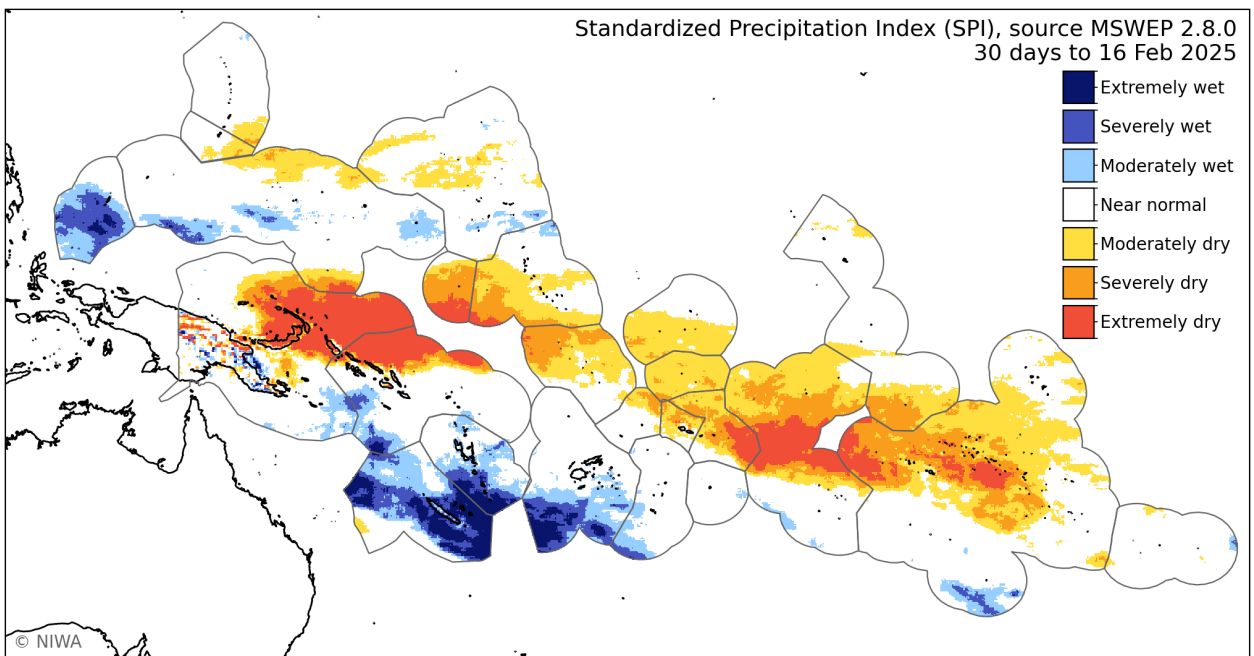
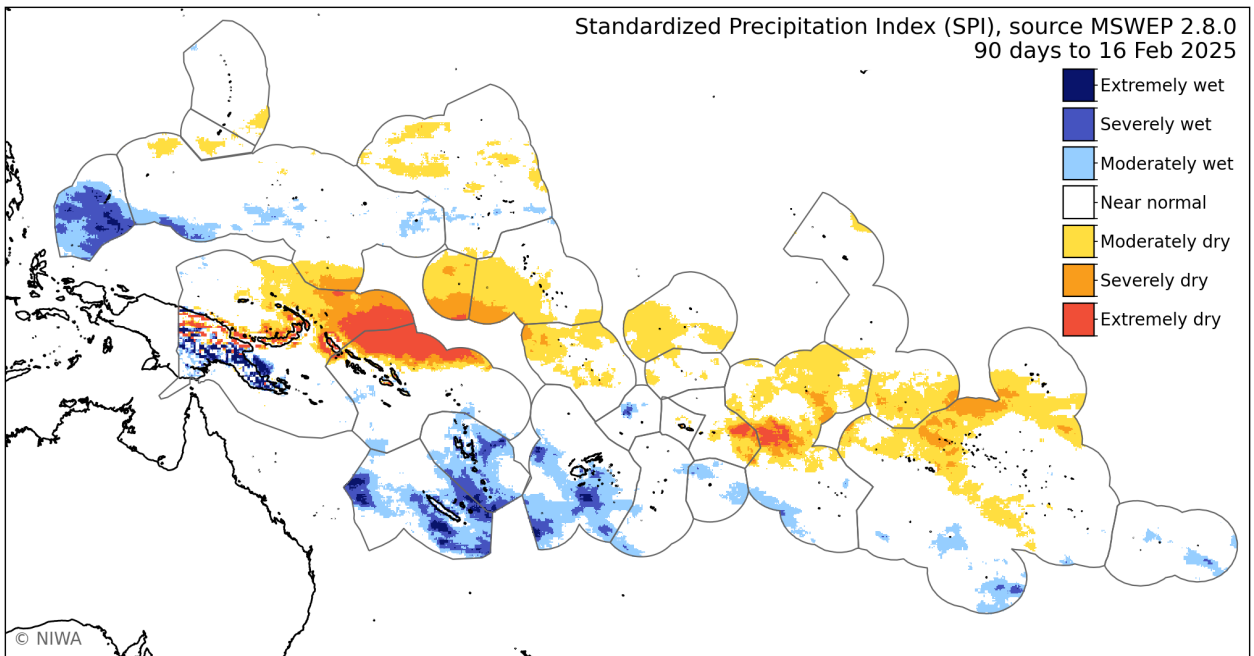


### SPI Regional situation summary (16 February 2025)

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

During the 90 days ending 16 February (top plot), extremely dry or severely dry conditions occurred in northern PNG, northern Solomon Islands, isolated parts of the northern Cook Islands, and western Tuamotu Archipelago.

During the 30 days ending 16 February (bottom plot), extremely dry or severely dry conditions occurred in northern PNG, northern Solomon Islands, Nauru, Kiribati (western Gilbert Islands), northern Tuvalu, Samoa, American Samoa, northern Cook Islands, Society Islands, and Tuamotu Archipelago.

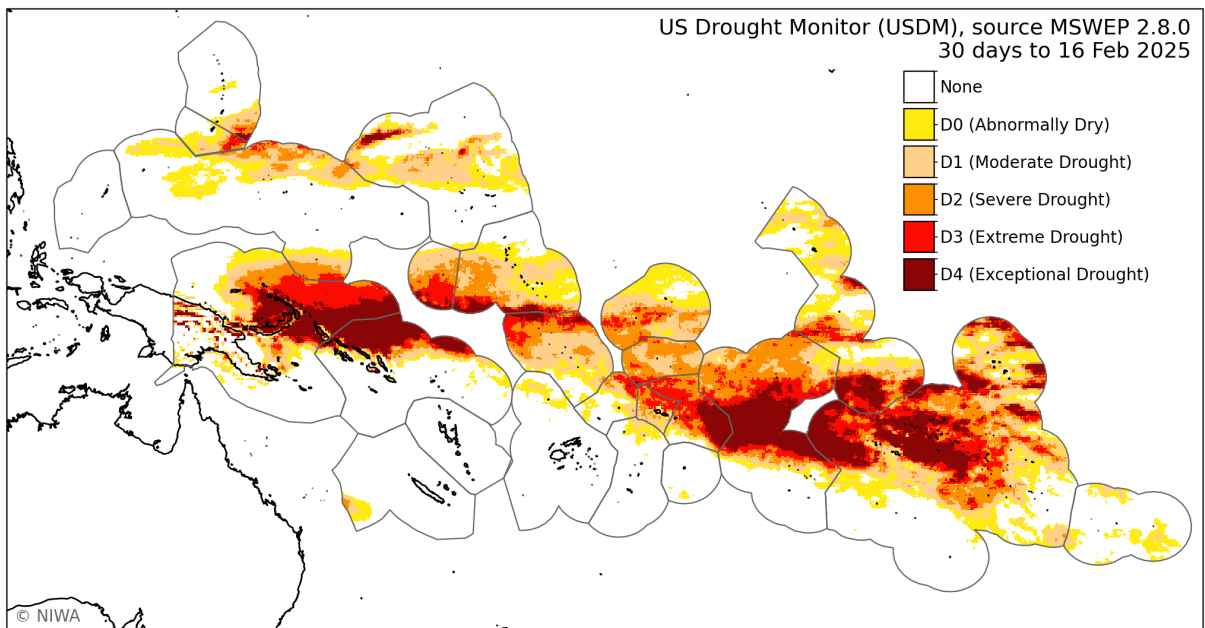
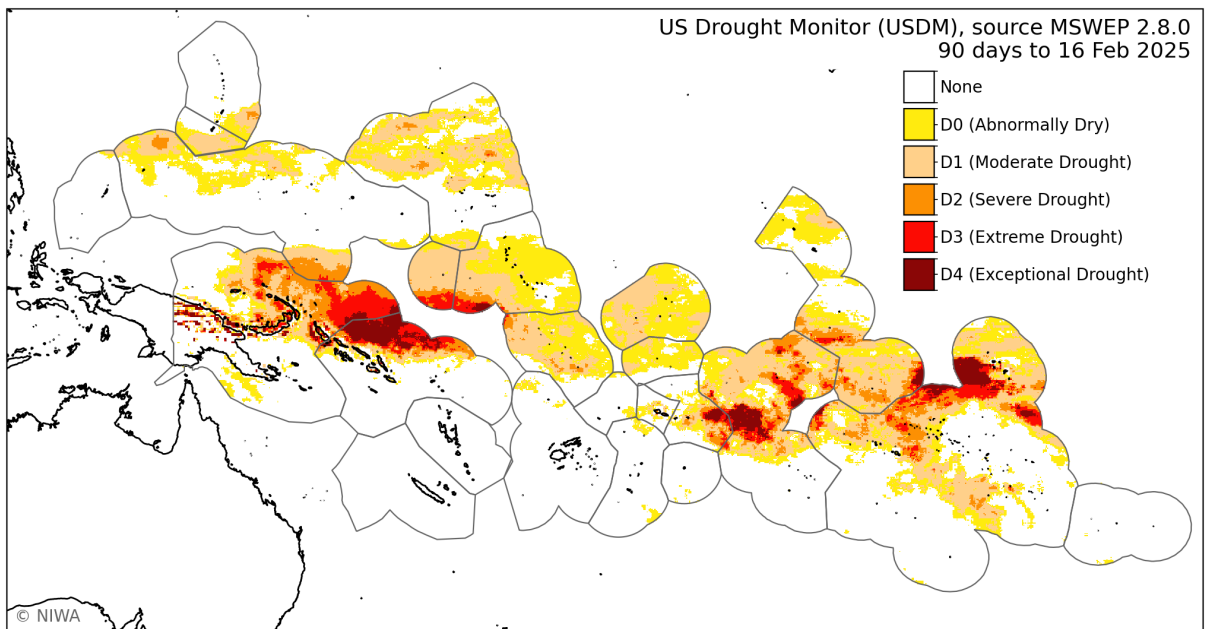


### USDM Regional situation summary (16 February 2025)

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

During the 90 days ending 16 February (top plot), extreme or exceptional drought occurred in northern PNG, northern Solomon Islands, northern Cook Islands, western Tuamotu Archipelago, and parts of the Marquesas.

During the 30 days ending 16 February (bottom plot), extreme or exceptional drought occurred in isolated parts of the Marshall Islands, northern PNG, northern Solomon Islands, Kiribati (parts of the Phoenix and central Line Islands), northern Tuvalu, Samoa, American Samoa, northern Cook Islands, Society Islands, and Tuamotu Archipelago.



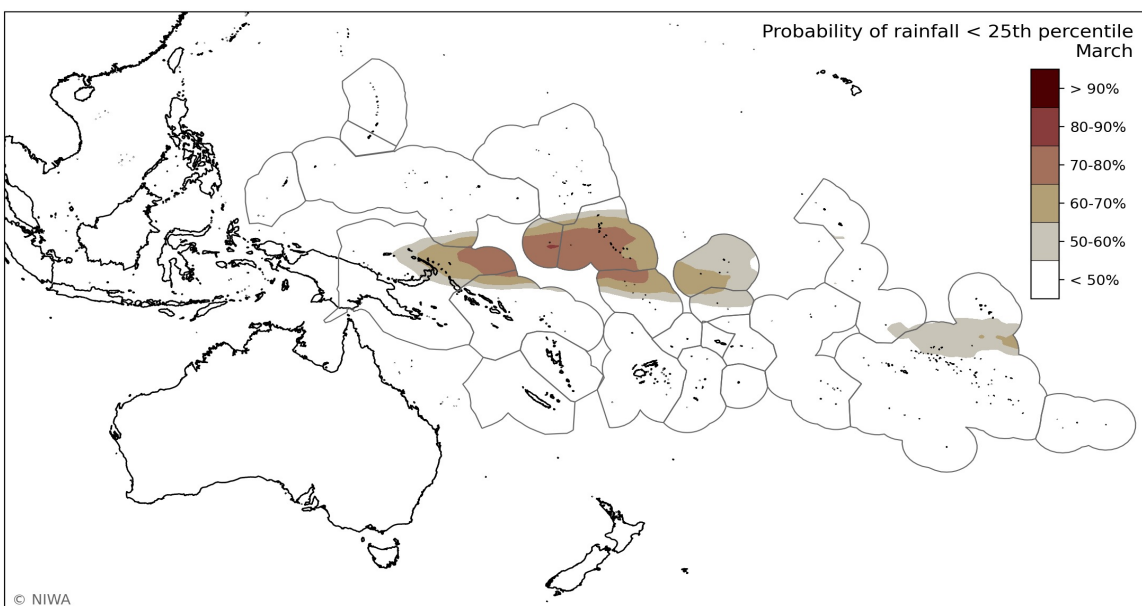
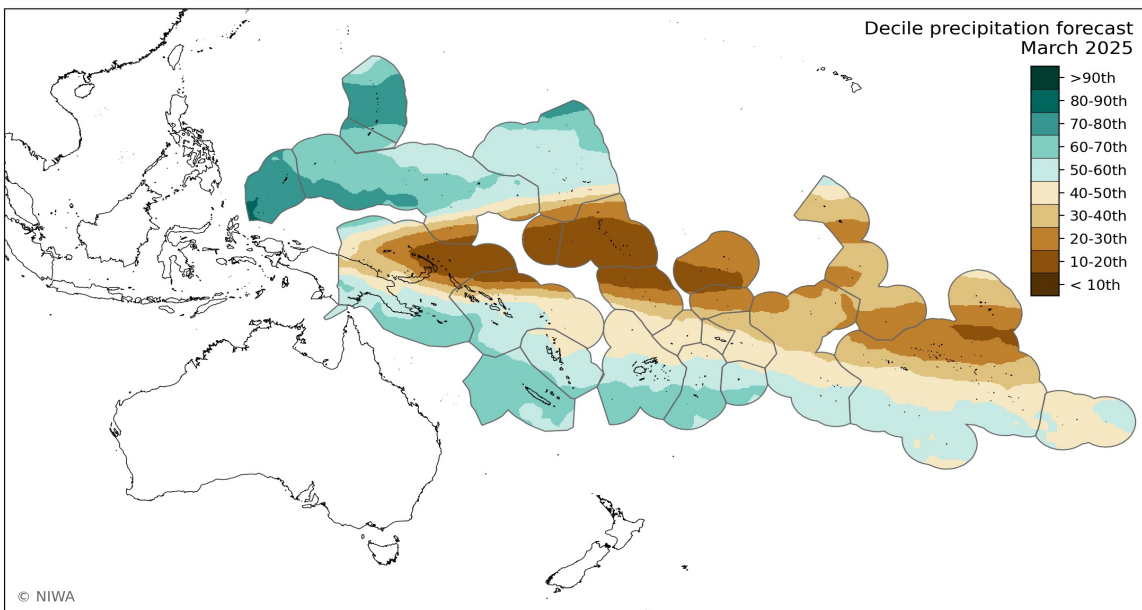
### March 2025 forecast & probabilities of rainfall < 25<sup>th</sup> percentile

During March, significantly below normal rainfall is favoured in southern FSM, southern Marshall Islands, northern PNG, northern Solomon Islands, Nauru, Kiribati (Gilbert Islands, Phoenix Islands, 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, Guam, Northern Marianas, much of FSM, northern Marshall Islands, southern PNG, New Caledonia, southern Fiji, and southern Tonga.

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

For March, the highest chances for very dry conditions are located across far northern PNG, Nauru, Kiribati (Gilbert and Phoenix Islands), northern Tuvalu, northern Tokelau, and northern Tuamotu Archipelago.





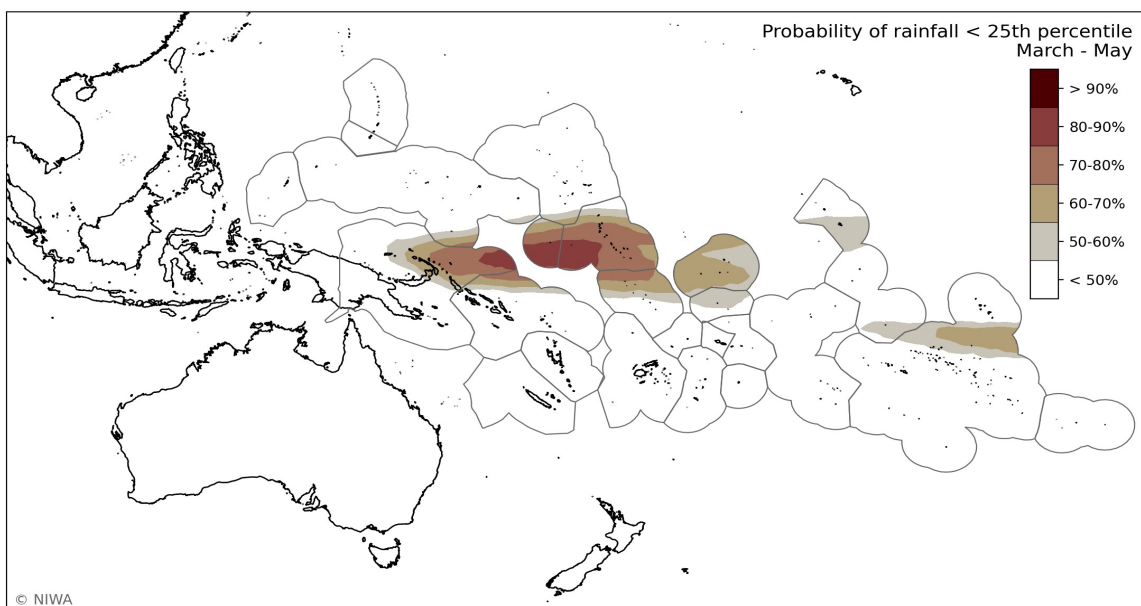
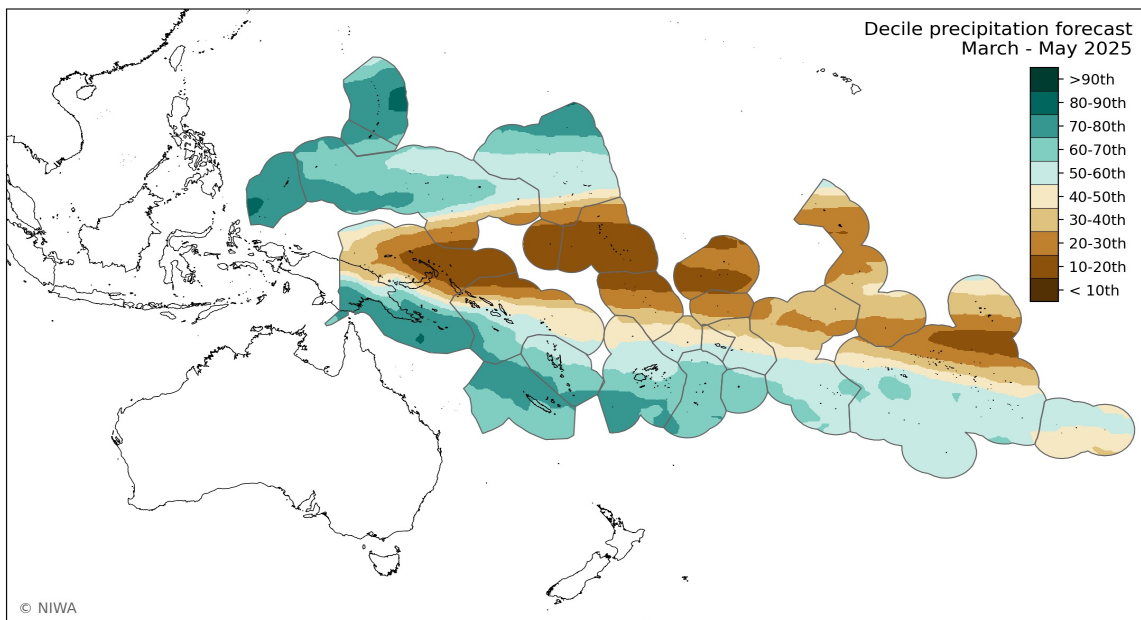
### Mar-May 2025 forecast & probabilities of rainfall < 25<sup>th</sup> percentile

During March-May, significantly below normal rainfall is favoured in southern FSM and the Marshall Islands, northern PNG, far northern Solomon Islands, Nauru, Kiribati, Tuvalu, Tokelau, northern American Samoa, northern Cook Islands, Tuamotu Archipelago, and Marquesas.

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

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

For March-May, the highest chances for very dry conditions are located across far northern PNG, Nauru, Kiribati (Gilbert, Phoenix, and northern Line Islands), northern Tuvalu, northern Tokelau, and northern Tuamotu Archipelago.



# Island Climate Update



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 nine global climate models available from the [Copernicus Data Store](#).

Bulletin page	Description
<b>Rainfall watch</b>	Rainfall plots are derived from MSWEP data. Regional rainfall accumulation is shown for the last 30 days (1 month) and 90 days (3 months).
<b>Water stress watch</b>	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.
<b>Water stress outlook</b>	<p>Outlook water stress classifications are based on both the satellite rainfall data and a multi-model ensemble forecast derived from nine global climate models for the next month and three months.</p> <p>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%.</p> <p>The bottom plots bring together conditions over the past 3 months and forecast conditions over the next month:</p> <ul style="list-style-type: none"> <li>• Current water stress conditions potentially easing: Past 3 month accumulation less than 25<sup>th</sup> percentile. 1 month / seasonal accumulation forecast greater than 25<sup>th</sup> percentile.</li> <li>• Areas moving in to water stress: Past 3 month accumulation between the 40<sup>th</sup> and 25<sup>th</sup> percentile. 1 month / seasonal accumulation forecast less than 25<sup>th</sup> percentile.</li> <li>• Current water stress conditions persisting: Past 3 month accumulation less than 25<sup>th</sup> percentile. 1 month / seasonal accumulation forecast less than 25<sup>th</sup> percentile.</li> </ul> <p>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).</p>
<p>Online Resources</p>	<p><b>Additional regional and country-level resources are available online:</b></p> <ul style="list-style-type: none"> <li>• Daily updated plots for 30, 60, 90, 180 and 365 day: accumulative rainfall, number of dry days, number of days since last rainfall &gt; 1 mm, EAR, SPI and USDM indices.</li> <li>• A range of probabilistic one to five monthly and seasonal forecast plots updated around the 11<sup>th</sup> of each month.</li> <li>• Click <a href="#">here for the imagery</a> and here for the underlying data [<a href="#">observations</a>, <a href="#">forecast</a>].</li> </ul>



NIWA 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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