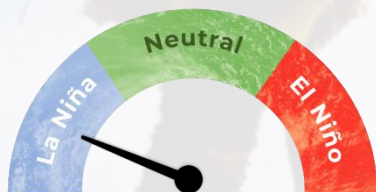


Recent



Current ENSO

Moderate La Niña conditions continued in the tropical Pacific during December 2020.

Sea surface temperatures (SSTs) in the equatorial Pacific remained cooler than average during December but increased slightly.

The Southern Oscillation Index (SOI) was +1.6 in December (in the La Niña range). The 3-month average SOI was +0.9.

**92%** chance for **La Niña** conditions continuing during **January-March 2021**.

Chance for **ENSO NEUTRAL** conditions during **April-June 2021**.

**66%**



La Niña

Forecast

## ENSO situation summary

The NINO3.4 Index anomaly (in the central Pacific) for the last month (through the 3<sup>rd</sup> of January) was -0.84°C, increasing from -1.03°C from last month. This likely means that the oceanic La Niña has peaked—however, La Niña's influence on the atmosphere is expected to last for months to come. Overall, below average SSTs continued in the central Pacific, consistent with a non-traditional central Pacific (i.e. Modoki) La Niña.

During December, the Madden-Julian Oscillation (MJO) was active over the Maritime Continent, extending into the West Pacific and associated with the development of two tropical cyclones, Yasa and Zazu, and some flooding rainfall in the Southwest Pacific. In January, MJO activity is favoured over the Indian Ocean. This is because of persistently warmer than average ocean waters across the Indian Ocean and the non-traditional style of La Niña. Tropical cyclone development is unlikely in the Southwest Pacific over the next several weeks, but the MJO may reach the basin by the end of the month, increasing the chance for development and associated heavy rainfall for some island groups.

In December, the South Pacific Convergence Zone was displaced northeast of its climatological position, atypical of La Niña. For high islands, the potential for landslides and river flooding is higher than normal this wet season in the off-equatorial South Pacific (New Caledonia, Vanuatu, Fiji, Tonga, Niue, and southern Cook Islands) due to the expected wetter than normal conditions.

Based on the consensus from international models, the probability for the continuation of La Niña is 92% for January-March. During April-June, ENSO-neutral becomes most likely at 66%.

## Rainfall outlook for January – March 2021

**Below normal rainfall** for American Samoa, Samoa, Solomon Islands, Pitcairn Islands, Society Islands, Papua New Guinea, Tuamotu Archipelago, Tuvalu, Northern Cook Islands, Kiribati (Gilbert, Phoenix, and Line Islands), Tokelau, Marquesas, and Nauru.

**Near or below normal rainfall** for Guam.

**Near normal rainfall** for Northern Marianas.

**Above normal rainfall** for New Caledonia, Tonga, Palau, Vanuatu, FSM, Fiji, Austral Islands, Marshall Islands, Niue, Southern Cook Islands, and Wallis & Futuna.

Forecast

## Rainfall outlook table for January – March 2021


ISLAND	PROBABILITY (%)			OUTLOOK	CONFIDENCE
	Below	Normal	Above		
New Caledonia	9	13	78	ABOVE	Moderate-High
Tonga	13	13	74	ABOVE	Moderate-High
Palau	13	15	72	ABOVE	Moderate
Vanuatu South	13	16	71	ABOVE	Moderate-High
FSM	14	17	69	ABOVE	Moderate
Fiji	16	16	68	ABOVE	Moderate-High
Austral Islands	15	19	66	ABOVE	High
Marshall Islands	19	21	60	ABOVE	Moderate-High
Vanuatu North	20	20	60	ABOVE	Moderate-High
Niue	19	24	57	ABOVE	Moderate-High
Southern Cook Islands	22	22	56	ABOVE	Moderate-High
Wallis & Futuna	27	27	46	ABOVE	Moderate
Northern Marianas	26	45	29	NEAR NORMAL	High
Guam	40	34	26	AVG - BELOW	High
American Samoa	37	32	31	BELOW	Moderate
Samoa	38	31	31	BELOW	Moderate
Solomon Islands	48	28	24	BELOW	Moderate
Pitcairn Islands	52	24	24	BELOW	High
Society Islands	73	14	13	BELOW	Moderate-High
Papua New Guinea	68	21	11	BELOW	High
Tuamotu Islands	86	9	5	BELOW	High
Tuvalu	95	3	2	BELOW	High
Northern Cook Islands	95	3	2	BELOW	High
Kiribati: Line Islands	97	2	1	BELOW	High
Tokelau	98	1	1	BELOW	High
Marquesas	99	1	0	BELOW	High
Kiribati: Phoenix Islands	100	0	0	BELOW	High
Kiribati: Gilbert Islands	100	0	0	BELOW	High
Nauru	100	0	0	BELOW	High

Note: Rainfall estimates for Pacific Islands for the next three months are given in terms of tercile probabilities (e.g. 20:30:50). These are derived from the averages of several global climate models. They correspond to the odds of the observed rainfall being in the lowest one third of the distribution, the middle one third, or the highest one third of the distribution. For the long term average, it is equally likely (33% chance) that conditions in any of the three terciles will occur. \*If conditions are climatology, we expect an equal chance of the rainfall being in any tercile.

The Island Climate Update bulletin is currently being produced by NIWA in association with the Pacific Island Meteorological Services and other supporting meteorological organisations.

The Island Climate Update is prepared as soon as possible following the end of the month, once the data and information are received from the Pacific Island meteorological services. Delays in data collection and communication occasionally arise. While every effort is made to verify observational data, NIWA 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 advisory and its contents.

The contents of this advisory and the Island Climate Update may be freely disseminated provided the source is acknowledged.

For more information see: <https://www.niwa.co.nz/pacific-rim/publications>  <https://www.facebook.com/IslandClimateUpdate/>



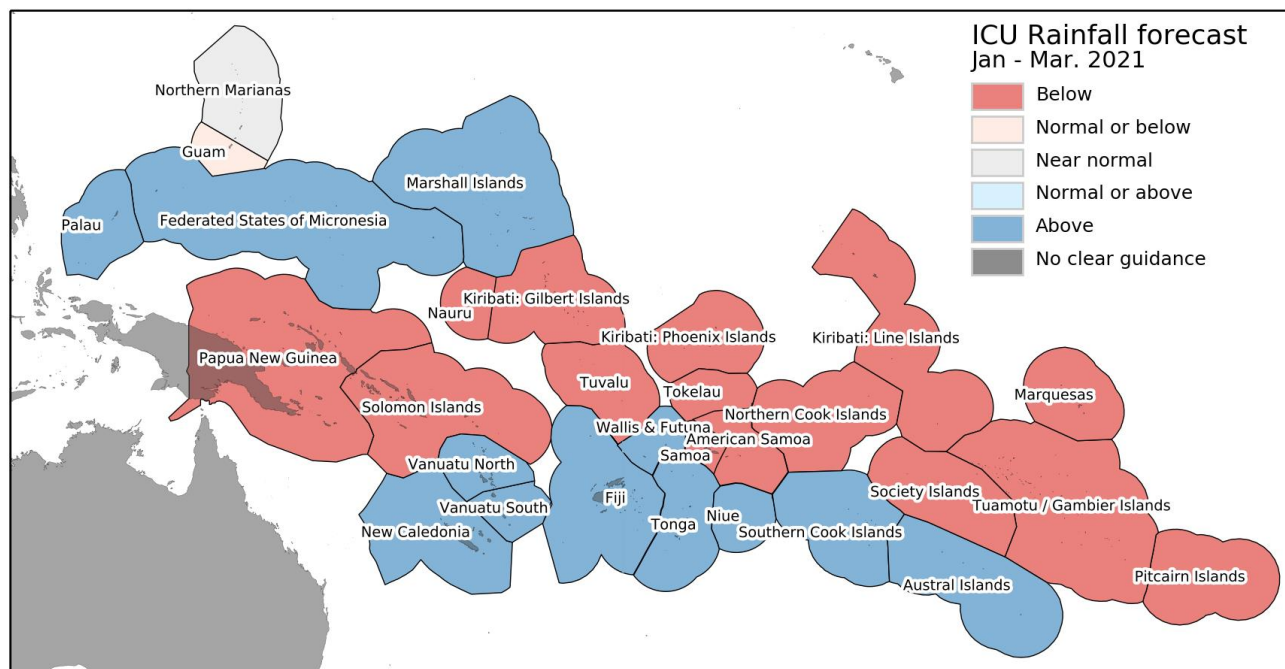
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Taihoro Nukurangi

# The Island Climate Update

## January – March 2021 rainfall forecast

# Drought Watch

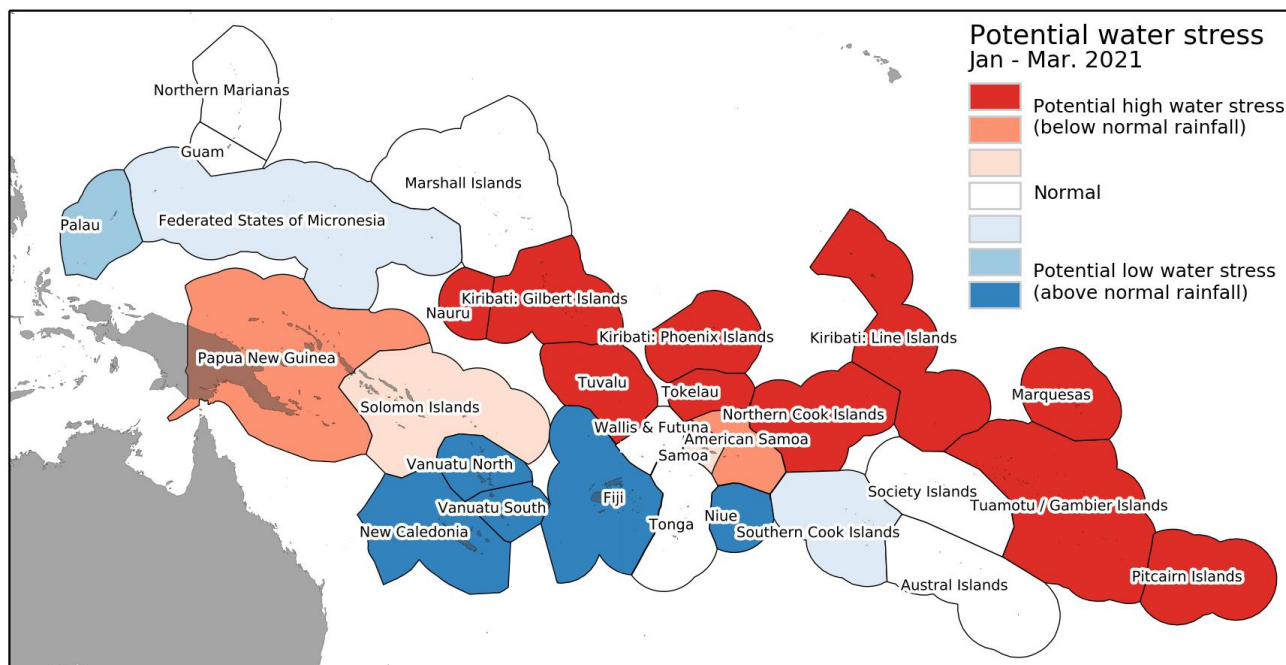
## January 2021



## Regional drought potential advisory

Based on rainfall anomaly classification over the past six months and forecast rainfall anomaly classification over the next 3 months

Many of the countries in the central and eastern part of the Pacific Region may expect high water stress over the next three months, including **Nauru, Kiribati (Gilbert, Phoenix and Line Islands), Tuvalu, Tokelau, Northern Cook Islands, Tuamotu/Gambier Islands, Marquesas, and Pitcairn Islands. Papua New Guinea and American Samoa** may also experience water stress. These countries have received low rainfall over part of the past six months, and dry conditions are forecast for the next three-month period.



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