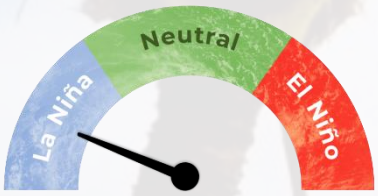
The Island Climate Update

ENSO Watch
February 2021

Recent



Current ENSO

Moderate La Niña conditions continued in the tropical Pacific during January 2021.

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

The Southern Oscillation Index (SOI) was +1.7 in January (in the La Niña range). The 3-month average SOI was +1.4.

Forecast

70% chance for **La Niña** conditions continuing during **February-April 2021.**

Chance for **ENSO neutral** conditions during **May-July 2021.** **66%**

La Niña

ENSO situation summary

The NINO3.4 Index anomaly (in the central Pacific) during January was -0.81˚C, increasing slightly compared to the previous month. Notably, the most unusually cool SSTs were located in the west-central equatorial Pacific, consistent with a non-traditional central Pacific La Niña, also known as Modoki. While the oceanic La Niña has peaked, the atmospheric expression of La Niña is expected to continue for at least the next three months.

In the subsurface equatorial Pacific, ocean temperatures increased for the second consecutive month in the east. Conversely, in the west-central Pacific, the cool pool intensified slightly at depth. This suggests that the trend away from La Niña will be slow rather than abrupt. Enhanced tropical trade winds continued during January and are expected to continue through March – this will keep La Niña's cooler than average sea temperatures in place for several months to come.

The Madden-Julian Oscillation (MJO) became active in the western Pacific at the very end of January, resulting in the formation of three tropical cyclones (Ana, Bina, and Lucas). During February, increased convection is expected to continue in the western Pacific. This may cause additional tropical cyclone activity and associated heavy rainfall, storm surge and high winds for some island groups, mainly from Fiji westward to Vanuatu and New Caledonia.

Based on the consensus from international models, the probability for the continuation of La Niña is 70% for February-April. During May-July, ENSO-neutral becomes most likely at 66%.

NIWA
Taihoro Nukurangi

The Island Climate Update

Rain Watch
February 2021

Forecast

Rainfall outlook for February-April 2021

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

Near or below normal rainfall for Wallis & Futuna.

Near or above normal rainfall for Northern Marianas and Guam.

Above normal rainfall for Palau, Federated States of Micronesia, Marshall Islands, New Caledonia, Vanuatu, Fiji, Tonga, Niue, Southern Cook Islands, and Austral Islands.

Rainfall outlook table for February-April 2021

ISLAND	PROBABILITY (%)			OUTLOOK	CONFIDENCE
	Below	Normal	Above		
New Caledonia	11	11	78	ABOVE	Moderate-High
Palau	12	12	76	ABOVE	Moderate
Vanuatu South	12	13	75	ABOVE	Moderate-High
FSM	13	16	71	ABOVE	Moderate-High
Austral Islands	15	18	67	ABOVE	High
Tonga	14	20	66	ABOVE	Moderate-High
Southern Cook Islands	18	18	64	ABOVE	Moderate-High
Vanuatu North	17	20	63	ABOVE	Moderate-High
Fiji	18	21	61	ABOVE	Moderate-High
Niue	21	27	52	ABOVE	Moderate-High
Marshall Islands	24	26	50	ABOVE	Moderate-High
Northern Marianas	14	39	47	AVG - ABOVE	High
Guam	27	37	36	AVG - ABOVE	Moderate-High
Wallis & Futuna	40	32	28	AVG - BELOW	Moderate
Pitcairn Islands	44	31	25	BELOW	High
Samoa	55	23	22	BELOW	Moderate
American Samoa	56	22	22	BELOW	Moderate
Solomon Islands	59	21	20	BELOW	Moderate-High
Papua New Guinea	61	21	18	BELOW	High
Society Islands	81	11	8	BELOW	Moderate-High
Kiribati: Line Islands	84	9	7	BELOW	High
Tuamotu Islands	89	6	5	BELOW	High
Northern Cook Islands	92	4	4	BELOW	High
Tokelau	93	5	2	BELOW	High
Tuvalu	95	3	2	BELOW	High
Marquesas	97	2	1	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.

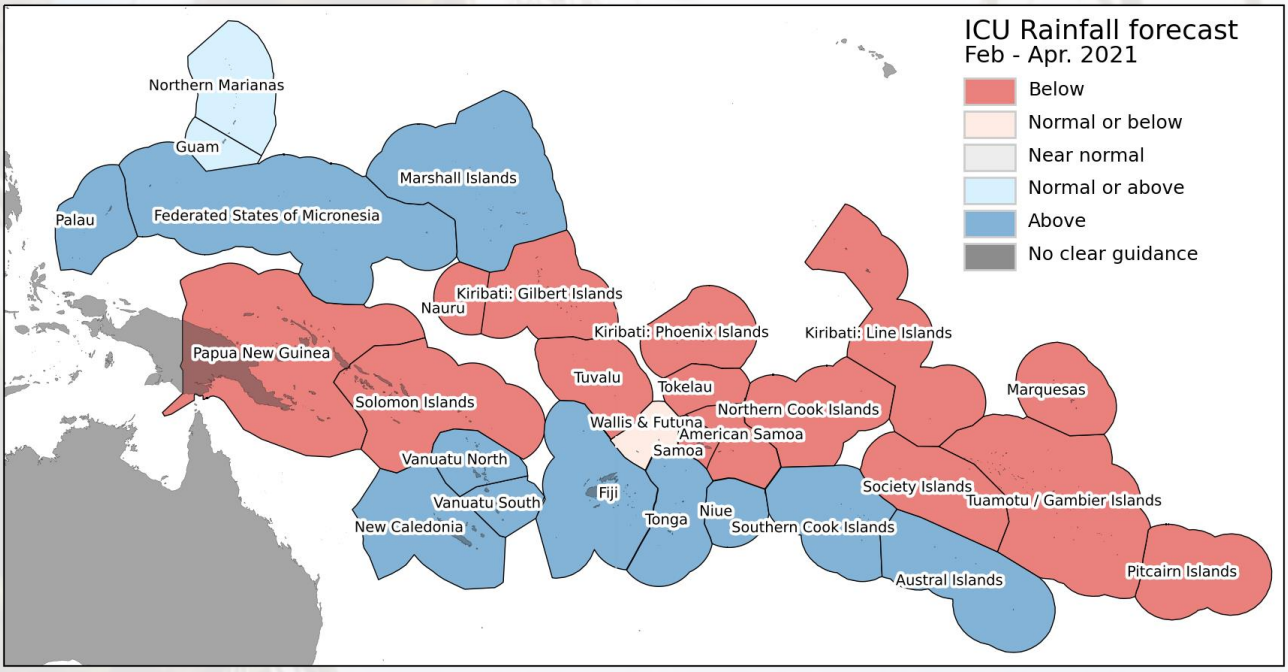
For more information see: https://www.niwa.co.nz/pacific-rim/publications https://www.facebook.com/IslandClimateUpdate/

NIWA
Taihoro Nukurangi

The Island Climate Update

Drought Watch
February 2021

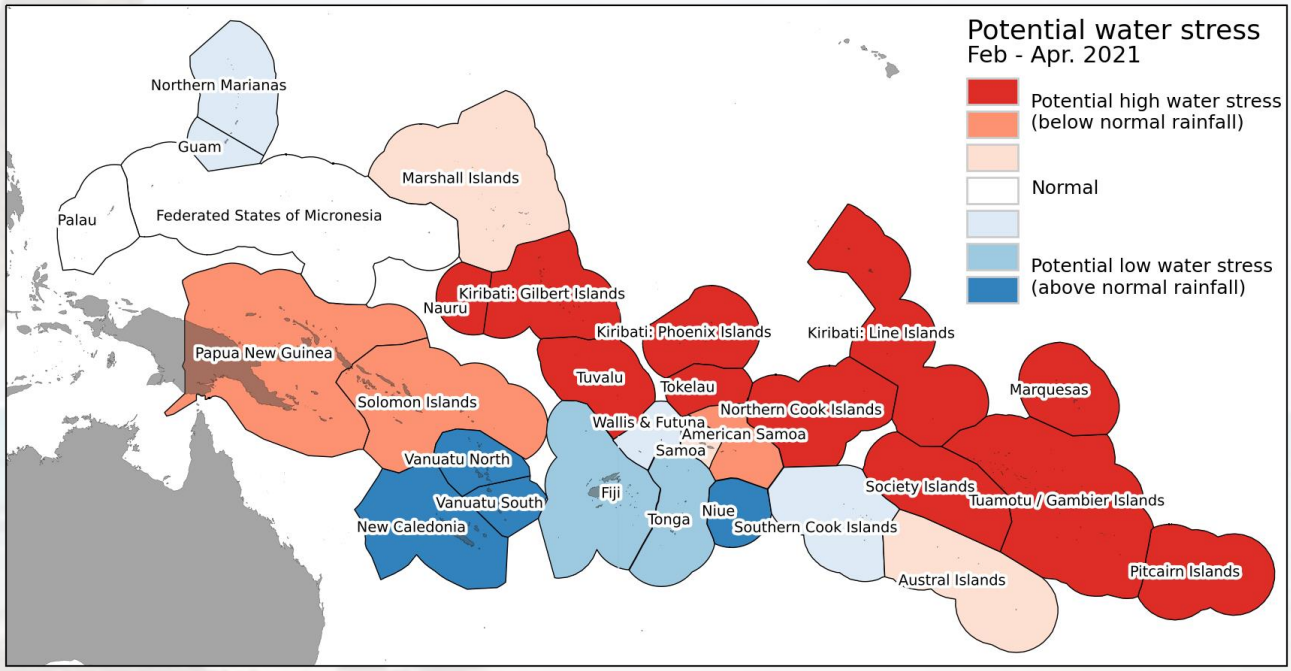
February-April 2021 rainfall forecast



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, Society Islands, Tuamotu/Gambier Islands, Marquesas, and Pitcairn Islands. Papua New Guinea, Solomon Islands 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.



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.

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

NIWA
Taihoro Nukurangi