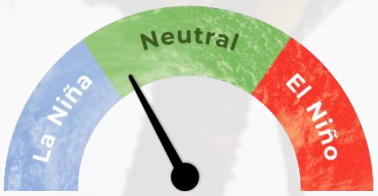
The Island Climate Update

ENSO Watch
September 2020

Recent



Current ENSO

ENSO-neutral conditions continued during August, however a La Niña-like signature was observed across the equatorial Pacific Ocean.

Sea surface temperatures (SSTs) were cooler than average in the central and eastern equatorial Pacific Ocean.

The Southern Oscillation Index (SOI) was +0.9 in August (near the La Niña threshold). The 3-month average SOI was +0.2 (neutral).

Forecast

57% chance for **La Niña** conditions continuing to develop during **September-November 2020.**

Chance for **La Niña** conditions during **December 2020-February 2021.** **46%**

La Niña Alert

ENSO situation summary

During August, the NINO3.4 Index anomaly (in the central Pacific) was -0.42˚C. The NINO 1+2 Index (eastern Pacific) was -0.85°C. Upper-oceanic heat content remained lower than normal in the eastern and central equatorial Pacific with a substantial decrease observed in the east-central part of the basin. Overall, the pattern is well aligned with a developing La Niña event.

Trade winds during August were stronger than normal across the equatorial Pacific, particularly in the central part of the basin. This contributed to upwelling, which led to cooling sea surface temperatures, representing an oceanic trend in the La Niña direction. This pattern is expected to continue into austral spring, with enhanced trade winds occurring over the central equatorial Pacific (e.g. Kiribati, Nauru) – this may mean that the coolest ocean temperatures, with respect to average, end up occurring there.

Rainfall and convection continued to be below normal across much of the equatorial Pacific during August. This was surrounded by isolated areas of above normal rainfall to the north, south and west, including a more active than normal South Pacific Convergence Zone, particularly to the east of the International Dateline. The pattern was La Niña-like in nature, although it is apparent that the atmosphere has yet to fully couple to the ocean with some variability continuing.

Based on the consensus from international models, the probability for La Niña conditions is 57% for the September-November period, an increase of 3% from last month. For the December 2020-February 2021 period, the probability for La Niña is 46% and 43% for ENSO-neutral conditions.

Based on the observations and forecast guidance, a La Niña Alert is in place as of September 2020.

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The Island Climate Update

Rain Watch
September 2020

Forecast

Rainfall outlook for September – November 2020

Below normal rainfall for Northern Marianas, Guam, Nauru, Kiribati (Gilbert, Phoenix, and Line Islands), Tuvalu, Tokelau, Marquesas Islands, Austral Islands and Pitcairn Islands.

Near or below normal rainfall for Tuamotu/Gambier Islands.

Near or above normal rainfall for New Caledonia.

Above normal rainfall for Palau, Marshall Islands, Papua New Guinea, Solomon Islands, Northern and Southern Vanuatu, Fiji, Wallis & Futuna, Samoa, American Samoa, Tonga, Niue, Northern and Southern Cook Islands, and the Society Islands.

No clear guidance (climatology forecast) for Federated States of Micronesia.

Rainfall outlook table for September – November 2020

ISLAND	PROBABILITY (%)			OUTLOOK	CONFIDENCE
	Below	Normal	Above		
Fiji	14	18	68	ABOVE	High
Samoa	16	18	66	ABOVE	Moderate-High
Wallis & Futuna	16	18	66	ABOVE	Moderate-High
American Samoa	17	17	66	ABOVE	Moderate-High
Tonga	17	21	62	ABOVE	High
Papua New Guinea	12	27	61	ABOVE	High
Solomon Islands	21	21	58	ABOVE	Moderate-High
Vanuatu South	21	28	51	ABOVE	High
Palau	23	26	51	ABOVE	Moderate-High
Vanuatu North	22	29	49	ABOVE	Moderate-High
Society Islands	25	27	48	ABOVE	Moderate-High
Niue	23	31	46	ABOVE	Moderate-High
Southern Cook Islands	23	31	46	ABOVE	High
Marshall Islands	27	31	42	ABOVE	High
Northern Cook Islands	28	30	42	ABOVE	Moderate-High
New Caledonia	23	41	36	AVG - ABOVE	High
FSM	32	34	34	CLIMATOLOGY	High
Tuamotu Islands	41	32	27	AVG - BELOW	High
Austral Islands	36	32	32	BELOW	High
Tokelau	44	28	28	BELOW	Moderate
Northern Marianas	43	30	27	BELOW	Moderate-High
Guam	47	28	25	BELOW	Moderate-High
Pitcairn Islands	53	26	21	BELOW	High
Tuvalu	64	18	18	BELOW	Moderate-High
Marquesas	70	25	5	BELOW	High
Kiribati: Line Islands	90	8	2	BELOW	High
Nauru	96	2	2	BELOW	High
Kiribati: Phoenix Islands	96	3	1	BELOW	High
Kiribati: Gilbert Islands	98	1	1	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/

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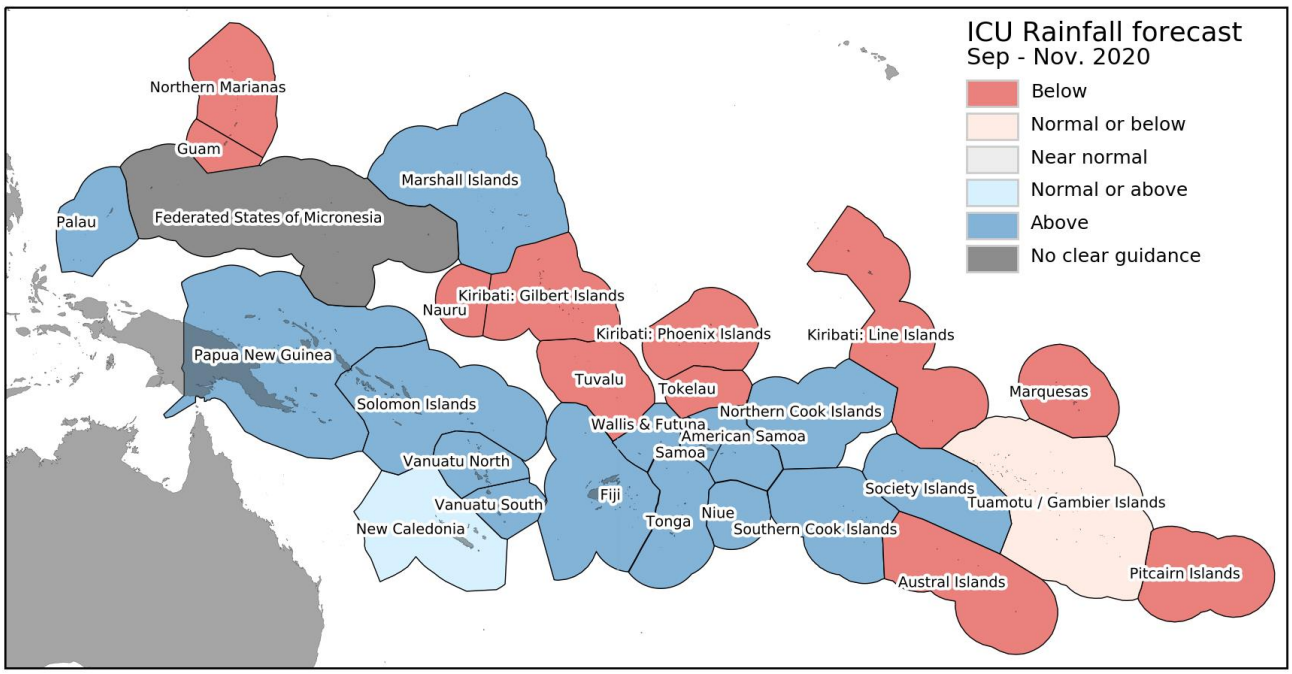
The Island Climate Update

Drought Watch
September 2020

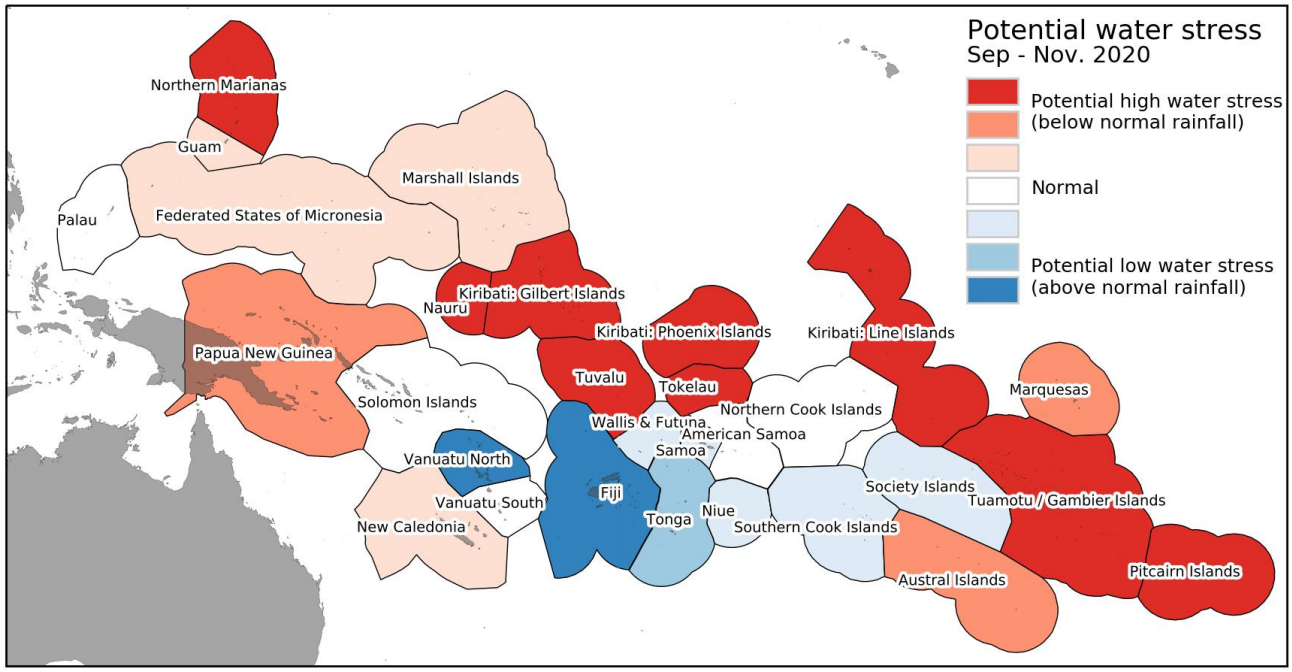
September – November 2020 rainfall forecast



Regional drought potential advisory

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

Water stress has receded somewhat for some countries in the southern part of the Pacific Region, but many of the countries in the northern and eastern part of the Pacific Region may still expect high water stress over the next three months, including **Northern Marianas, Nauru, Kiribati (Gilbert, Phoenix and Line Islands), Tuvalu, Tokelau, Tuamotu/Gambier Islands and Pitcairn Islands.** 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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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.

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