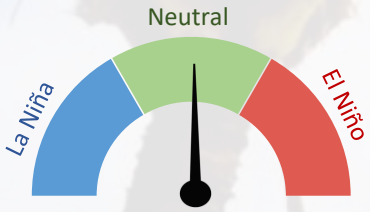
The Island Climate Update

ENSO Watch
December 2019

Recent



Current ENSO

ENSO-neutral conditions continued during November 2019.

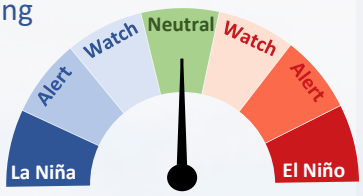
Sea surface temperatures (SSTs) warmed during November in the central Pacific but were still in the neutral range.

The Southern Oscillation Index (SOI) was -1.0 in November (in El Niño territory). The 3-month average SOI was -0.9.

Forecast

70% chance for **ENSO-neutral** conditions persisting during **December 2019 – February 2020.**

Chance for **ENSO-neutral** conditions during **March – May 2020.** **63%**



Neutral

ENSO situation summary

ENSO-neutral conditions continued during November 2019, although the Southern Oscillation Index (SOI) dipped into El Niño territory and sea surface temperatures (SSTs) were on the El Niño side of neutral.

The NINO3.4 Index (in the central Pacific) for the month of November was +0.64˚C, an increase compared to October. Warmth was steadfast in the NINO4 region (west-central Pacific) with a monthly value of +0.89˚C. Upper-oceanic heat content anomalies remained above average to the west of the Date Line. East of the Date Line, upper-oceanic heat content decreased to neutral or slightly negative anomalies over the past month.

While the ENSO status will most likely “neutral” over the next season, the atmosphere may respond to warmer than average SSTs in the tropical western Pacific Ocean.

During the first 10 days of December, weaker than normal trade winds are forecast in the vicinity of the NINO3 and NINO3.4 regions. Stronger than normal trade winds are then forecast across much of the basin from mid-December.

According to the consensus from international models, ENSO-neutral conditions are most likely (70% chance) for the December 2019 – February 2020 period. For the March – May 2020 period, the probability for ENSO-neutral conditions is 63% and 55% for the June – August 2020 period.

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The Island Climate Update

Rain Watch
December 2019

Rainfall outlook for December 2019 – February 2020

Forecast

Below normal rainfall for Solomon Islands, Southern Vanuatu, New Caledonia, Kiribati (Gilbert, Phoenix, Line Islands), Wallis and Futuna, Tokelau, Samoa, American Samoa, Niue, Northern and Southern Cook Islands, Society Islands, Tuamotu Archipelago, the Marquesas and Pitcairn Islands.

Near or below normal rainfall for Tonga and the Austral Islands.

Near normal rainfall for Papua New Guinea.

Near or above normal rainfall for Fiji, Guam and the Northern Marianas Islands.

Above normal rainfall for the Marshall Islands, the Federated States of Micronesia, Palau and Northern Vanuatu.

No clear guidance for Tuvalu and Nauru.

Rainfall outlook table for December 2019 – February 2020

ISLAND	PROBABILITY (%)			OUTLOOK	CONFIDENCE
	Below	Normal	Above		
Marshall Islands	1	5	94	ABOVE	High
FSM	14	15	71	ABOVE	Moderate-High
Palau	26	30	44	ABOVE	Moderate
Vanuatu North	29	29	42	ABOVE	Moderate-High
Fiji	30	33	37	AVG - ABOVE	Moderate-High
Guam	28	37	35	AVG - ABOVE	Moderate-High
Northern Marianas	29	36	35	AVG - ABOVE	High
Papua New Guinea	28	39	33	NEAR NORMAL	High
Tuvalu	33	33	34	CLIMATOLOGY	Moderate
Nauru	35	33	32	CLIMATOLOGY	Moderate
Tonga	35	35	30	AVG - BELOW	Moderate-High
Austral Islands	35	36	29	AVG - BELOW	High
Wallis & Futuna	39	31	30	BELOW	Moderate-High
Society Islands	39	31	30	BELOW	Moderate-High
Solomon Islands	42	32	26	BELOW	Moderate-High
Tuamotu Islands	46	28	26	BELOW	Moderate-High
Tokelau	47	27	26	BELOW	Moderate
Kiribati: Line Islands	45	30	25	BELOW	High
Niue	45	30	25	BELOW	Moderate
Vanuatu South	47	28	25	BELOW	Moderate-High
American Samoa	50	25	25	BELOW	Moderate-High
Samoa	48	28	24	BELOW	Moderate-High
Southern Cook Islands	48	28	24	BELOW	Moderate-High
Pitcairn Islands	50	29	21	BELOW	Moderate-High
Northern Cook Islands	53	26	21	BELOW	Moderate-High
Kiribati: Gilbert Islands	59	21	20	BELOW	Moderate
New Caledonia	60	20	20	BELOW	Moderate-High
Kiribati: Phoenix Islands	82	10	8	BELOW	High
Marquesas	88	7	5	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.

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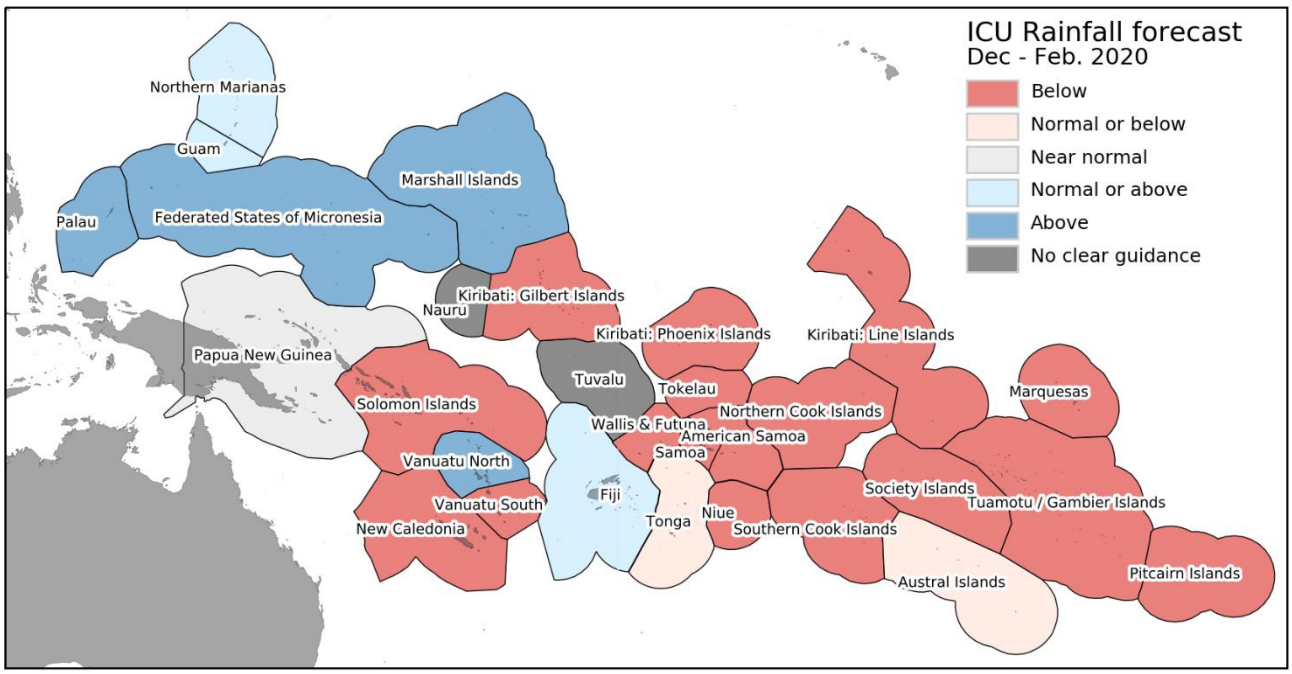
The Island Climate Update

Drought Watch
December 2019

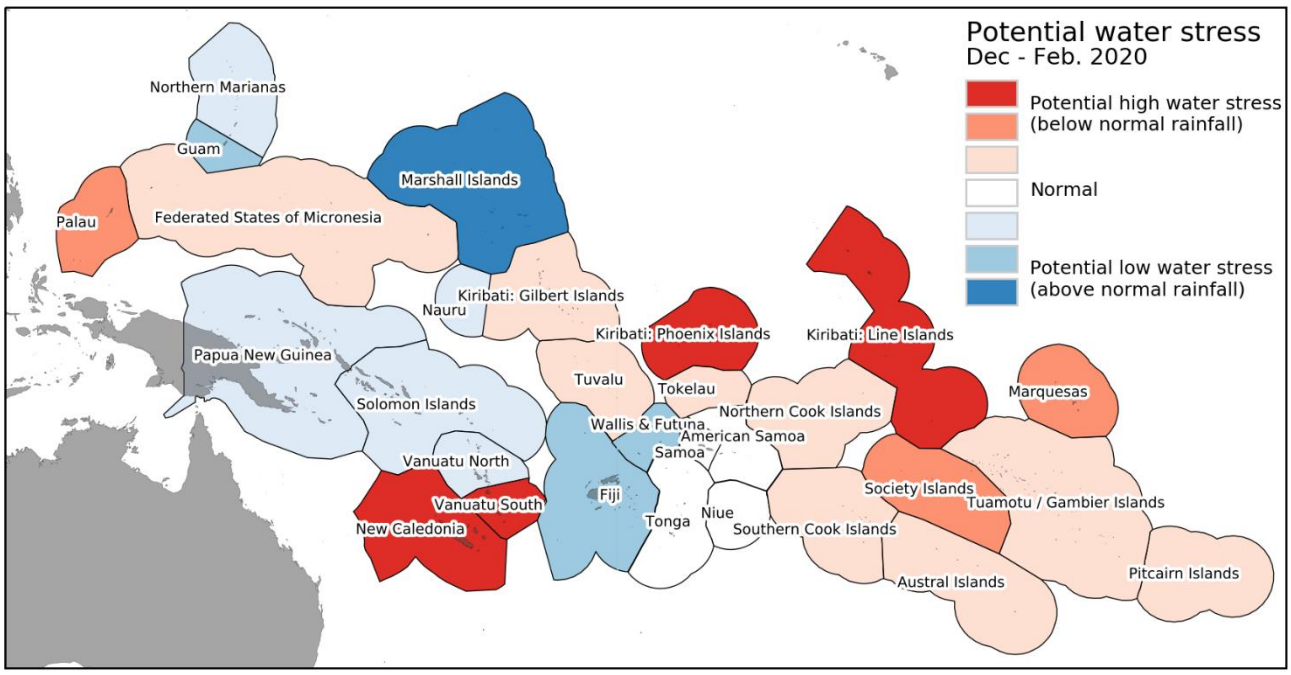
December 2019 to February 2020 rainfall forecast



Regional drought potential advisory

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

Countries to watch for potential water stress are **New Caledonia, Southern Vanuatu, Kiribati (Phoenix Islands, Line Islands), the Society Islands and the Marquesas Islands** as they have received low rainfall over part of the past six months, and dry conditions are forecast for the next three month period (December 2019 to February 2020). Despite the above normal rainfall forecast for **Palau**, water stress is expected to remain high over the next three months.



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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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