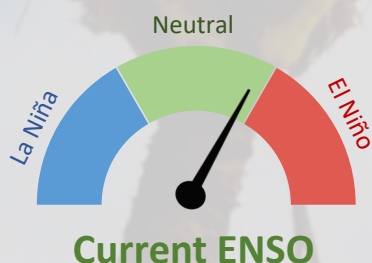


Recent



The equatorial Pacific Ocean remains warmer than normal and exceeds the conventional El Niño thresholds.

However, the atmosphere has yet not caught up with the ocean.

The Southern Oscillation Index (SOI) was on the La Niña side of neutral in December 2018.

96% chance for El Niño conditions during January – March 2019.

Chance for El Niño conditions during April – June 2019 **85%**



Forecast

ENSO situation summary

Over the past month, **sea surface temperatures** (SSTs) in the central Pacific have remained **above normal** with the NINO3.4 index anomalies currently exceeding $+0.8^{\circ}\text{C}$. This marks the fourth consecutive month SST anomalies in the central Pacific have exceeded 0.7°C , which meets the technical **oceanic** definition for El Niño.

Warmer than average subsurface ocean waters persisted in the month of December 2018. The integrated heat content anomalies (over the top 300m of the ocean) in the equatorial Pacific are slightly weaker than they were at the beginning of November 2018, with anomalies exceeding 1.5°C now restricted to the eastern Pacific between 130°W and 115°W .

The **coupling between the ocean and the atmosphere**, necessary for the development of the ENSO (El Niño – Southern Oscillation) phenomenon, **has not eventuated**. Almost all atmospheric indicators are well under the conventional El Niño thresholds. The latest **Southern Oscillation Index** (SOI) is currently (December 2018) **positive** with a value of $+0.8$ (*i.e.*, close to **La Niña** conventional thresholds). The trade winds have been slightly weaker than normal (westerly anomalies) but not persistently so, and the convection and rainfall anomaly patterns are inconsistent with a traditional El Niño, with enhanced convective activity and rainfall in the western Pacific.

The consensus from international models is for **weak to moderate oceanic El Niño conditions** to persist over next three-month period (**96% chance over January – March 2019**), but it is unclear whether the atmosphere will eventually catch up with the ocean and lead to a fully coupled El Niño – Southern Oscillation (ENSO) phenomenon.

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Rainfall outlook for January – March 2019

Below normal rainfall for Palau, Guam, central Kiribati (Phoenix Islands), New Caledonia, Niue, Samoa, American Samoa, the Society Islands, the northern Cook Islands, the Tuamotu archipelago and the Marquesas.

Normal or below normal rainfall for the northern Marianas Islands, Wallis and Futuna and Tonga.

Near normal rainfall for southern Vanuatu.

Above normal rainfall for the Marshall Island, Papua New Guinea, the Solomon Islands, northern Vanuatu, Nauru, eastern Kiribati (Line Islands) and Western Kiribati (Gilbert Islands), Tuvalu, Fiji and the Austral Islands.

No strong guidance (i.e. climatological forecast) for the Federated States of Micronesia, Tokelau, the southern Cook Islands and Pitcairn.

Rainfall outlook table for January – March 2019

ISLAND	PROBABILITY (%)			OUTLOOK	CONFIDENCE
	Below	Normal	Above		
Nauru	4	5	91	ABOVE	High
Kiribati (Eastern)	3	16	81	ABOVE	High
Kiribati (Western)	12	12	76	ABOVE	High
Tuvalu	16	17	67	ABOVE	High
Papua New Guinea	12	25	63	ABOVE	High
Fiji	21	26	53	ABOVE	High
Austral Islands	24	26	50	ABOVE	Moderate-High
Solomon Islands	25	26	49	ABOVE	Moderate-High
Vanuatu (North)	24	30	46	ABOVE	Moderate
Marshall Islands	25	29	46	ABOVE	Moderate-High
Tokelau	31	34	35	CLIMATOLOGY	Moderate
Pitcairn Island	34	33	33	CLIMATOLOGY	Moderate
FSM	34	33	33	CLIMATOLOGY	Moderate
Cook Islands (Southern)	32	36	32	CLIMATOLOGY	Moderate
Vanuatu (South)	31	38	31	NEAR NORMAL	Moderate
Tonga	38	33	29	AVG - BELOW	Moderate
N. Marianas	40	37	23	AVG - BELOW	Moderate
Wallis & Futuna	40	31	26	AVG - BELOW	Moderate
Central Kiribati (Phoenix)	40	31	29	BELOW	Moderate-High
Niue	42	30	28	BELOW	Moderate
Samoa	43	29	28	BELOW	Moderate
New Caledonia	43	29	28	BELOW	Moderate
Society Islands	42	31	27	BELOW	Moderate-High
American Samoa	44	29	27	BELOW	Moderate
Guam	47	27	26	BELOW	Moderate-High
Palau	48	28	24	BELOW	Moderate-High
Cook Islands (Northern)	60	23	17	BELOW	Moderate-High
Tuamotu Islands	67	18	15	BELOW	High
Marquesas	89	8	3	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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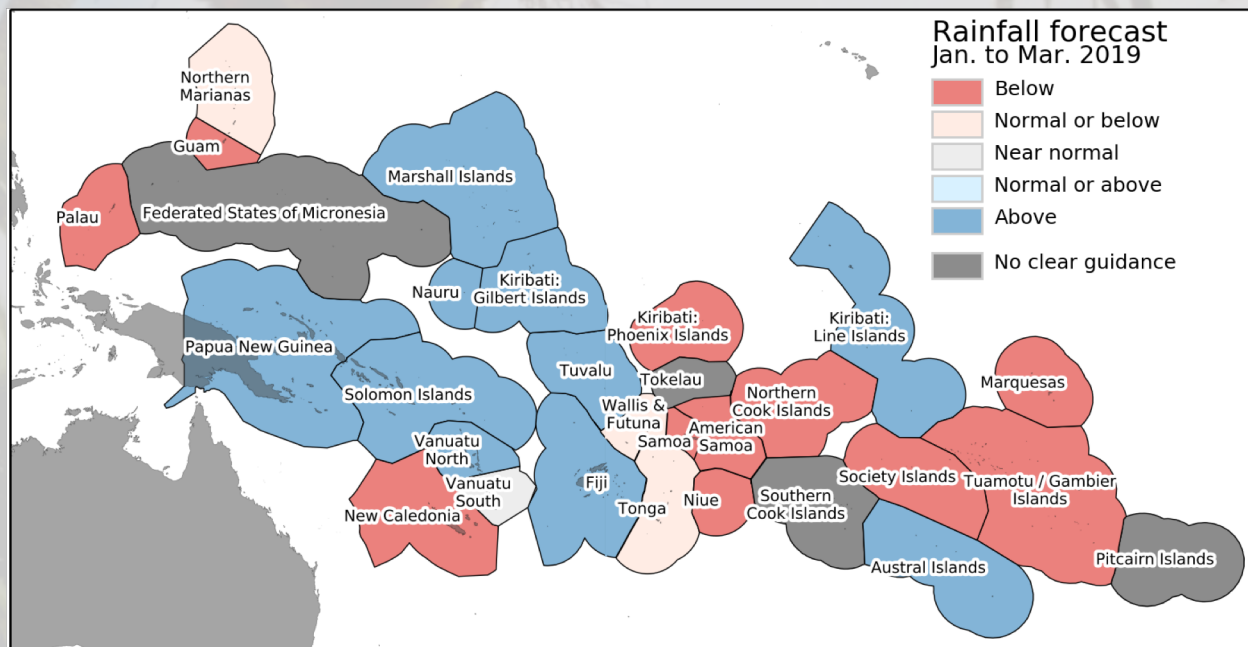
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The Island Climate Update

Drought Watch

January 2019

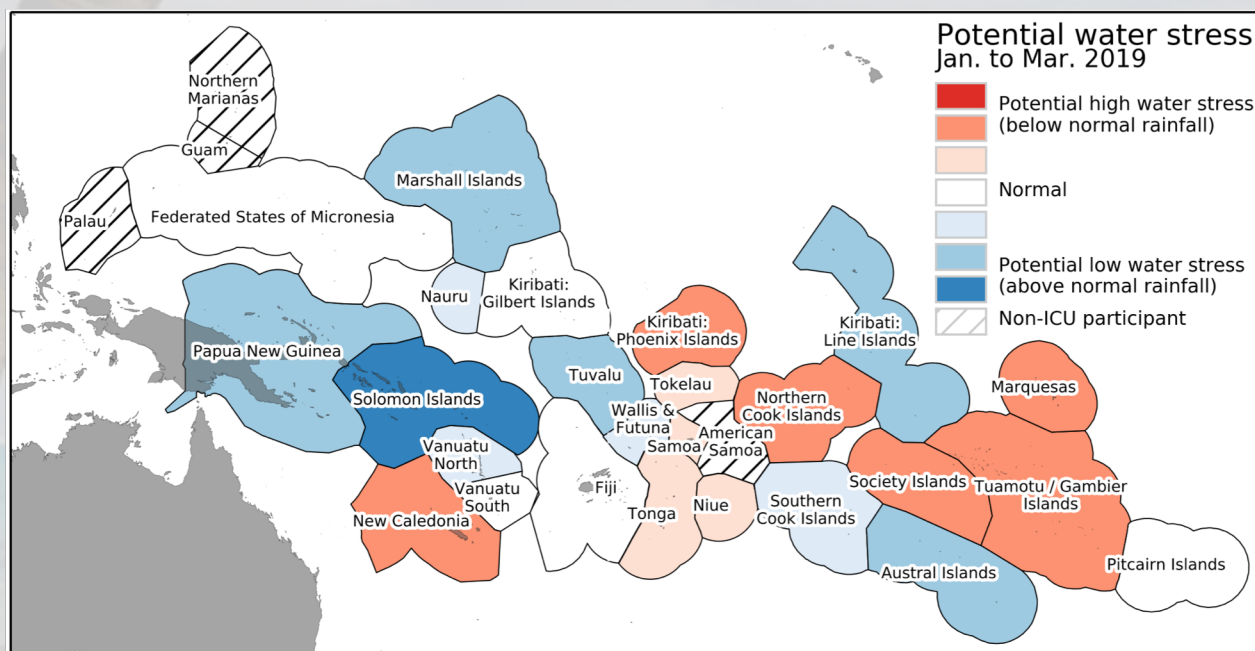
January to March 2019 rainfall forecast



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, Central Kiribati (Phoenix Islands), the northern Cook Islands, the Society Islands, the Tuamotu archipelago and the Marquesas**, as they have received low rainfall over part of the past 6 months, and dry conditions are forecast for the next three months period (January – March 2019)



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