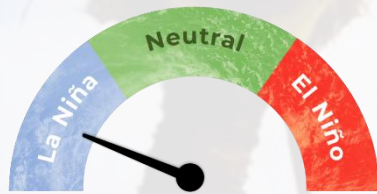


### Recent



Current ENSO

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

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

The Southern Oscillation Index (SOI) was +0.8 in November (on the La Niña side of neutral). The 3-month average SOI was +0.7.

**97%** chance for **La Niña** conditions continuing during **December 2020-February 2021**.

Chance for **La Niña** conditions during **March-May 2021**. **57%**



La Niña

### Forecast

## ENSO situation summary

During November, the NINO3.4 Index anomaly (central Pacific) was  $-1.02^{\circ}\text{C}$ . The NINO 1+2 Index (eastern Pacific) was  $-0.54^{\circ}\text{C}$ . The most unusually cool SSTs have now shifted into the central Pacific. While the pattern is consistent with La Niña, its flavour may be more of the central Pacific (i.e. Modoki) variety. Upper-oceanic heat content continued to decrease in the east-central part of the Pacific basin. Meanwhile, the western Pacific warm pool, a signature of La Niña, intensified.

Trade winds during November were enhanced across the west-central equatorial Pacific (e.g. Nauru, Kiribati), but were closer to normal in the east. This contributed to additional cooling of SSTs in the NINO3.4 region. Trade winds are expected to remain strong into January, with La Niña conditions likely peaking in early 2021.

Rainfall and convection were well below normal in the west-central equatorial Pacific for the second consecutive month, aligned with La Niña. The South Pacific Convergence Zone was again displaced to the south during November. Above normal rainfall also occurred in countries north of the Equator, a hallmark of canonical La Niña conditions. For high islands, the potential for landslides and river flooding is higher than normal this coming wet season in the off-equatorial South Pacific (New Caledonia, Vanuatu, Fiji, Samoa and southern Cook Islands), especially when a tropical disturbance follows a prolonged period of wetter than normal conditions.

Based on the consensus from international models, the probability for La Niña conditions is 97% for the December February 2021 period. For the March-May 2021 period, the probability for La Niña is 57% and 42% for ENSO-neutral conditions.

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/>



**NIWA**  
Taihoro Nukurangi

## Rainfall outlook for December 2020 – February 2021

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

**Near or above normal rainfall** for Northern Marianas and Guam.

**Above normal rainfall** for Palau, Federated States of Micronesia, Marshall Islands, New Caledonia, Vanuatu (North and South), Fiji, Wallis and Futuna, Tonga, Samoa, American Samoa, Niue, Southern Cook Islands, and Austral Islands.

**No clear guidance** for Solomon Islands.

## Rainfall outlook table for December 2020 – February 2021


ISLAND	PROBABILITY (%)			OUTLOOK	CONFIDENCE
	Below	Normal	Above		
Palau	6	10	84	ABOVE	Moderate-High
FSM	8	8	84	ABOVE	Moderate-High
New Caledonia	9	11	80	ABOVE	Moderate-High
Fiji	11	11	78	ABOVE	Moderate-High
Vanuatu South	9	14	77	ABOVE	Moderate
Tonga	12	13	75	ABOVE	Moderate-High
Marshall Islands	14	15	71	ABOVE	Moderate-High
Vanuatu North	15	16	69	ABOVE	Moderate
Niue	16	16	68	ABOVE	Moderate-High
Southern Cook Islands	16	18	66	ABOVE	Moderate-High
Austral Islands	17	19	64	ABOVE	High
Wallis & Futuna	18	18	64	ABOVE	Moderate
Samoa	25	27	48	ABOVE	Moderate
American Samoa	25	28	47	ABOVE	Moderate
Northern Marianas	19	40	41	AVG - ABOVE	High
Guam	27	32	41	AVG - ABOVE	High
Solomon Islands	36	32	32	CLIMATOLOGY	Moderate
Pitcairn Islands	58	22	20	BELOW	Moderate-High
Papua New Guinea	64	18	18	BELOW	High
Society Islands	72	15	13	BELOW	Moderate-High
Tuamotu Islands	90	7	3	BELOW	High
Northern Cook Islands	94	3	3	BELOW	High
Tuvalu	97	2	1	BELOW	High
Tokelau	98	1	1	BELOW	High
Marquesas	97	3	0	BELOW	High
Kiribati: Phoenix Islands	100	0	0	BELOW	High
Kiribati: Line 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/>



**NIWA**  
Taihoro Nukurangi

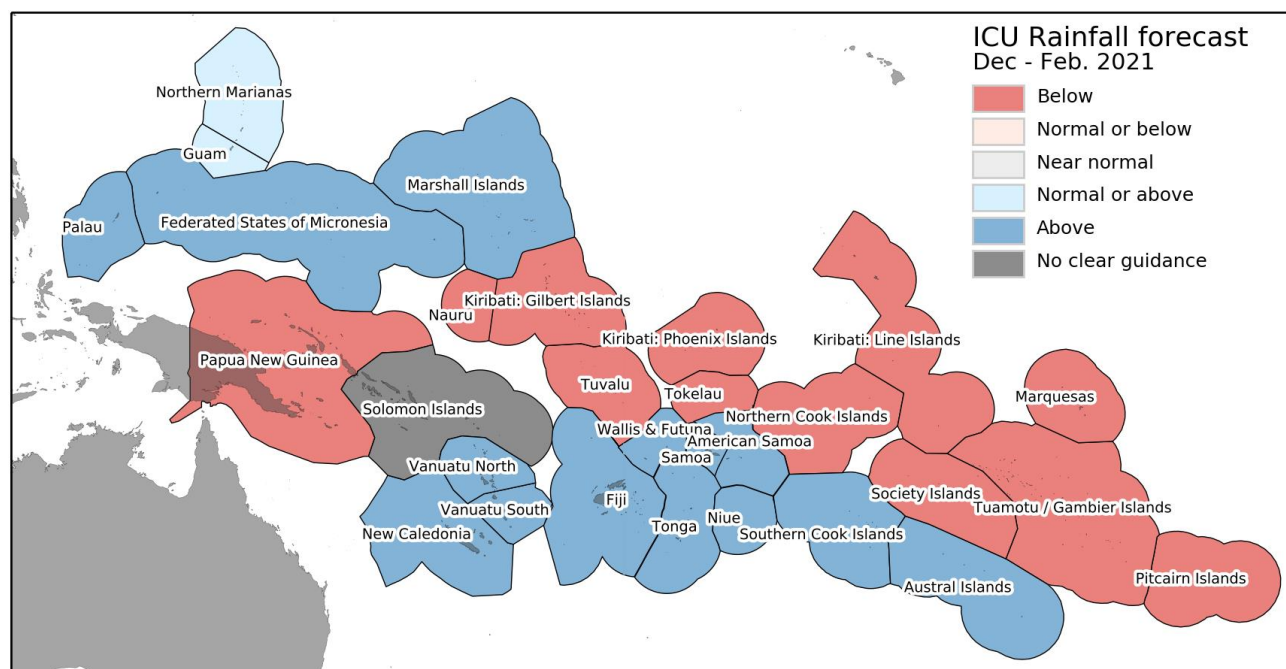


# The Island Climate Update

Drought Watch

December 2020

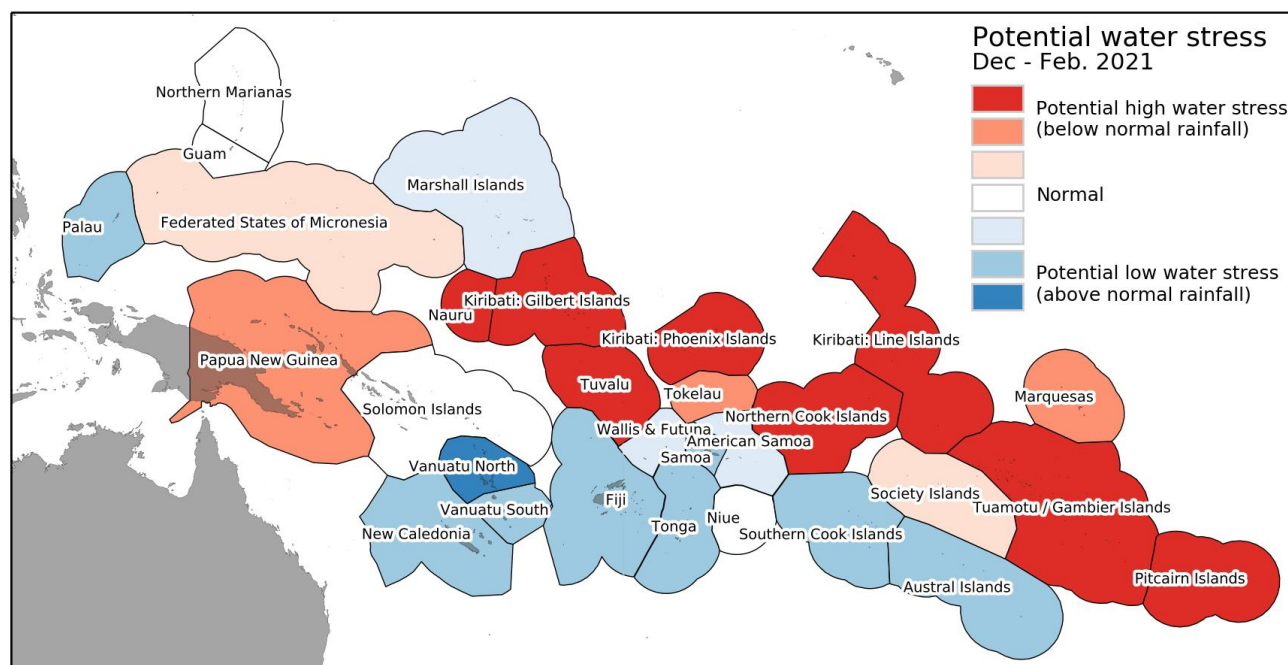
## December 2020 – February 2021 rainfall forecast



## 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, Northern Cook Islands, 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.



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/>



**NIWA**

Taihoru Nururangi