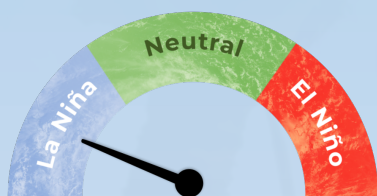


Recent



Current ENSO

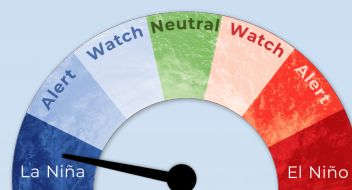
La Niña conditions were observed in the equatorial Pacific during November.

Sea surface temperatures were near the La Niña threshold in the central equatorial Pacific during November, on -0.59°C .

The Southern Oscillation Index (SOI) was $+1.1$ during November, in the La Niña range.

85%

chance for **La Niña** conditions during
December 2021 – February 2022.



Chance for ENSO neutral conditions during
March - May 2022.

65%

La Niña event

Forecast

ENSO situation summary

The NINO3.4 Index anomaly (in the central Pacific) during November (through the 28th) was -0.59°C and the Southern Oscillation Index (SOI) was $+1.1$, both near the La Niña threshold. The three-month average SOI was $+0.9$.

Upper-oceanic heat content was well below normal in the central and eastern equatorial Pacific during November as a full-basin La Niña signature matured. Modest cool anomalies persisted in the sub-surface, although the coolest water relative to normal has now surfaced or is surfacing. From an oceanic perspective, La Niña will likely peak over the next month.

Trade winds across the central Pacific were enhanced along the equator during November, particularly near and west of the International Date Line.

Based on the trends described above, NIWA has classified a La Niña event, with an 85% chance of it continuing through February. Between March-May 2022, there is a 65% chance for the re-emergence of ENSO neutral conditions.

The active phase of the Madden-Julian Oscillation (MJO) was over the western Pacific at the beginning of December. This can help to facilitate a more favourable state for tropical cyclone development. As the MJO continues to move across the Pacific during mid-to-late December, island groups, particularly in the western part of the basin such as New Caledonia and Vanuatu, should remain aware of an increased risk for regional tropical cyclone activity.



Rainfall outlook for December 2021 – February 2022

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

Near or above normal rainfall for the Northern Marianas.

Near or below normal rainfall for Wallis & Futuna.

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

Forecast

Rainfall outlook table for December 2021 – February 2022


| ISLAND | PROBABILITY (%) | | | OUTLOOK | CONFIDENCE |
|--------------------------------|-----------------|--------|-------|-------------|---------------|
| | Below | Normal | Above | | |
| Tonga | 7 | 8 | 85 | ABOVE | Moderate-High |
| Fiji | 9 | 12 | 79 | ABOVE | Moderate-High |
| Federated States of Micronesia | 11 | 11 | 78 | ABOVE | Moderate-High |
| New Caledonia | 11 | 14 | 75 | ABOVE | Moderate-High |
| Palau | 11 | 14 | 75 | ABOVE | Moderate |
| Niue | 12 | 14 | 74 | ABOVE | Moderate |
| Vanuatu South | 12 | 14 | 74 | ABOVE | Moderate |
| Vanuatu North | 12 | 14 | 74 | ABOVE | Moderate |
| Austral Islands | 16 | 16 | 68 | ABOVE | Moderate-High |
| Marshall Islands | 18 | 27 | 55 | ABOVE | High |
| Southern Cook Islands | 22 | 24 | 54 | ABOVE | Moderate-High |
| Guam | 25 | 30 | 45 | ABOVE | High |
| Northern Marianas | 15 | 40 | 45 | AVG - ABOVE | High |
| Wallis & Futuna | 37 | 33 | 30 | AVG - BELOW | Moderate-High |
| Solomon Islands | 42 | 29 | 29 | BELOW | Moderate |
| American Samoa | 49 | 27 | 24 | BELOW | Moderate |
| Samoa | 52 | 24 | 24 | BELOW | Moderate |
| Papua New Guinea | 56 | 22 | 22 | BELOW | High |
| Pitcairn Islands | 67 | 18 | 15 | BELOW | Moderate-High |
| Society Islands | 80 | 10 | 10 | BELOW | Moderate-High |
| Tokelau | 86 | 8 | 6 | BELOW | Moderate |
| Northern Cook Islands | 92 | 5 | 3 | BELOW | High |
| Tuvalu | 93 | 4 | 3 | BELOW | High |
| Tuamotu / Gambier Islands | 94 | 4 | 2 | BELOW | High |
| Marquesas | 93 | 6 | 1 | BELOW | High |
| Nauru | 98 | 1 | 1 | BELOW | High |
| Kiribati: Line Islands | 99 | 1 | 0 | BELOW | High |
| Kiribati: Phoenix Islands | 100 | 0 | 0 | BELOW | High |
| Kiribati: Gilbert Islands | 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/>

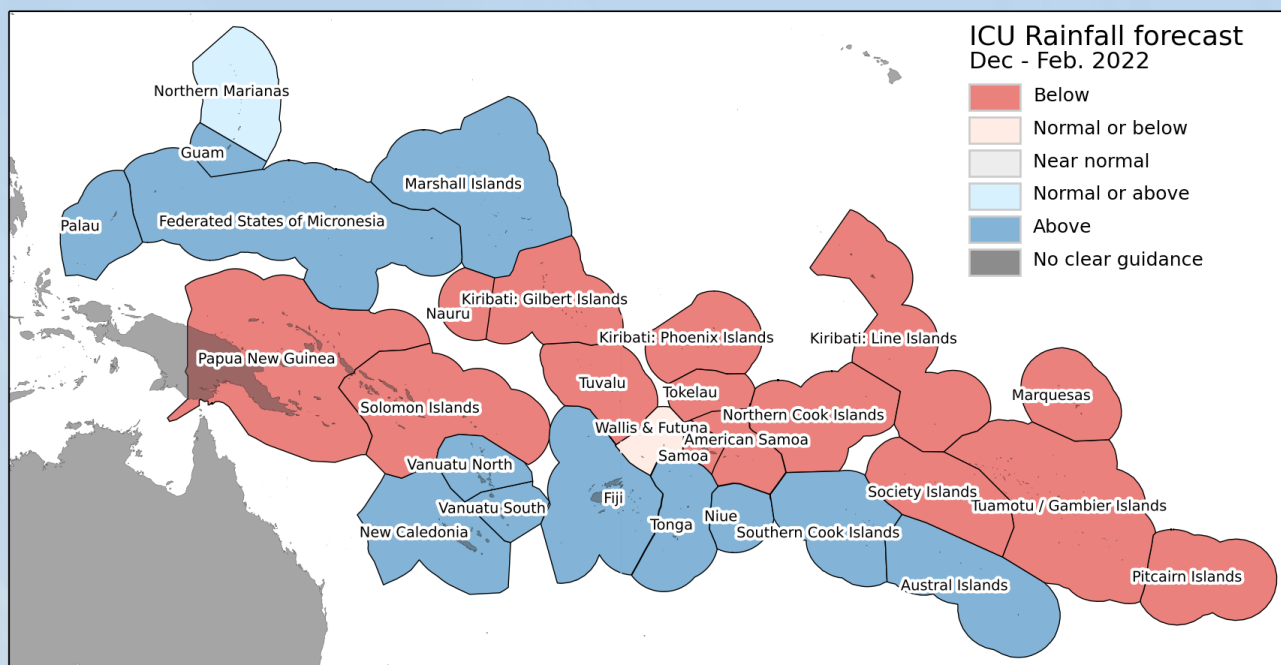


NIWA
Taihoro Nukurangi

The Island Climate Update

Drought Watch
December 2021

December 2021 – February 2022 rainfall forecast

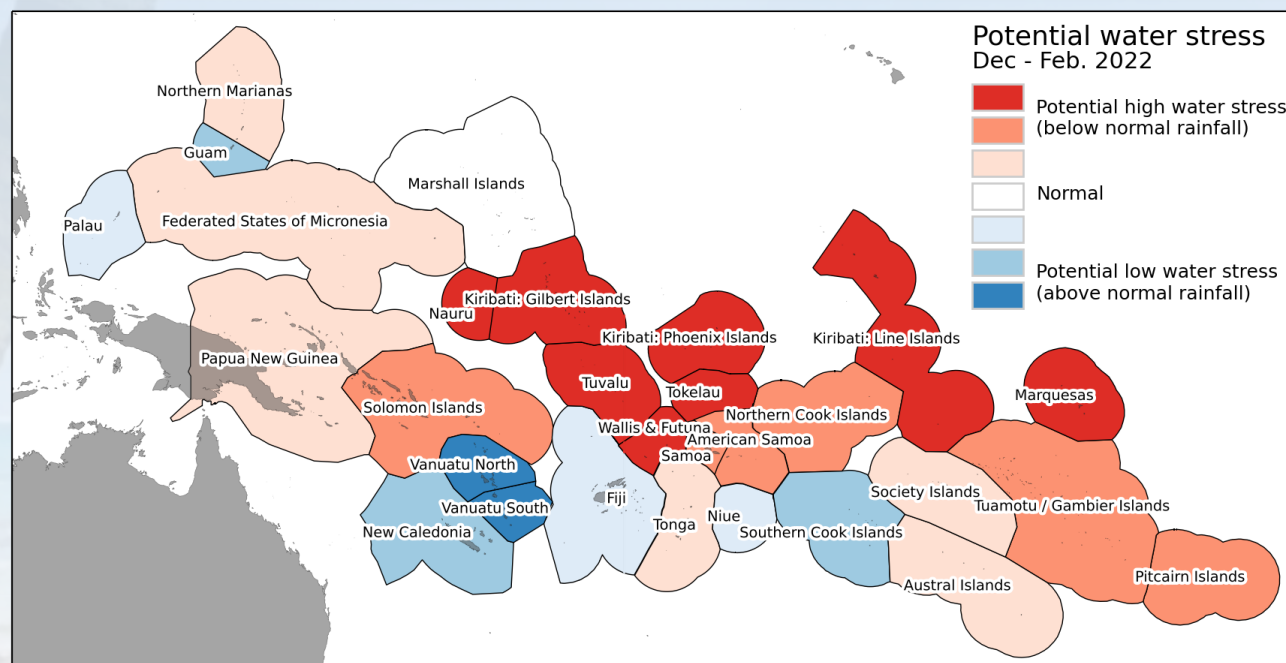


Regional drought potential advisory

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

Parts of several island groups may experience high water stress over the next three months, including **Nauru, Tuvalu, Kiribati, Tokelau, Wallis & Futuna, and Marquesas.**

In addition, **Solomon Islands, Samoa, American Samoa, Northern Cook Islands, Tuamotu/Gambier Islands, and Pitcairn Islands** may also experience water stress. These countries have received low rainfall over part of the past six months and dry conditions are possible over the next three-month period.



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