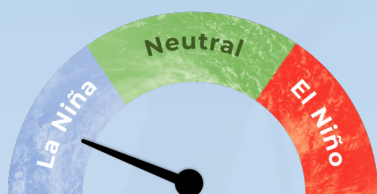


## Recent



Current ENSO

La Niña conditions strengthened in the equatorial Pacific during August.

Both sea surface temperatures (SSTs) and the Southern Oscillation Index (SOI) were in the La Niña range.

Very strong trade winds continued during August and additional strengthening of La Niña is likely.

# 80%

chance for **La Niña** conditions during **September – November 2022**.



Chance for **La Niña** conditions during **December 2022 – February 2023**

# 60%

**La Niña event**

## Forecast

### ENSO situation summary

The NINO3.4 Index anomaly (in the central equatorial Pacific) over the last month (through 31 August) was  $-1.00^{\circ}\text{C}$  (climatology: 1991-2020), showing a strong cooling trend compared to July. In the last four decades, only four Augusts had cooler central equatorial Pacific SSTs than 2022, including August 2010, 1999, 1998, and 1988.

The provisional August monthly SOI was +1.3 and +1.7 from June-August (climatology: 1991-2020), both in the La Niña range.

Trade winds across the central equatorial Pacific were much stronger than normal during August by as much 10-15 knots, like July. This fostered the restrengthening of oceanic La Niña. Strong to very strong trade winds are predicted to continue during spring with a high likelihood for cooling seas.

In the subsurface central equatorial Pacific, substantially cooler than average waters ( $-3^{\circ}\text{C}$  to  $-5^{\circ}\text{C}$ ) persisted and expanded eastward. These cooler waters are expected to migrate toward the surface over the next month or two, leading to further decreases in SSTs. Oceanic La Niña will likely grow stronger by late spring.

Taking these factors into account, La Niña conditions are very likely to continue during September-November (75-80% chance). During December-February, there is a 55-60% chance for La Niña. A “triple dip” La Niña (three consecutive La Niña events from 2020-2022) is very likely, the first since 1998-2000. It is worth noting that tropical weather patterns during winter 2022 showed relatively strong similarities with those of 1998.

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# NIWA

Taihoro Nukurangi

## Rainfall outlook for September – November 2022

**Above normal rainfall** for Palau, Papua New Guinea, Vanuatu North and South, New Caledonia, Fiji, Tonga, Niue, Southern Cook Islands, and Austral Islands.

**Near normal or below normal rainfall** for Solomon Islands, Marshall Islands, and Society Islands.

**Below normal rainfall** for Northern Marianas, Guam, Federated States of Micronesia, Nauru, Kiribati, Tuvalu, Wallis and Futuna, Tokelau, Samoa, American Samoa, Northern Cook Islands, Tuamotu/Gambier Islands, Marquesas, and Pitcairn Islands.

Forecast

## Rainfall outlook table for September – November 2022

| ISLAND                    | PROBABILITY (%) |        |       | OUTLOOK     | CONFIDENCE    |
|---------------------------|-----------------|--------|-------|-------------|---------------|
|                           | Below           | Normal | Above |             |               |
| Vanuatu North             | 1               | 5      | 94    | ABOVE       | High          |
| Vanuatu South             | 3               | 6      | 91    | ABOVE       | High          |
| New Caledonia             | 2               | 11     | 87    | ABOVE       | High          |
| Fiji                      | 4               | 13     | 83    | ABOVE       | Moderate-High |
| Tonga                     | 8               | 15     | 77    | ABOVE       | Moderate-High |
| Papua New Guinea          | 9               | 18     | 73    | ABOVE       | High          |
| Niue                      | 19              | 19     | 62    | ABOVE       | Moderate-High |
| Southern Cook Islands     | 25              | 30     | 45    | ABOVE       | Moderate-High |
| Austral Islands           | 30              | 30     | 40    | ABOVE       | High          |
| Palau                     | 30              | 30     | 40    | ABOVE       | Moderate      |
| Solomon Islands           | 37              | 32     | 31    | AVG - BELOW | Moderate      |
| Marshall Islands          | 37              | 36     | 27    | AVG - BELOW | High          |
| Society Islands           | 40              | 33     | 27    | AVG - BELOW | Moderate-High |
| Northern Marianas         | 53              | 24     | 23    | BELOW       | High          |
| Wallis & Futuna           | 52              | 26     | 22    | BELOW       | Moderate      |
| American Samoa            | 57              | 22     | 21    | BELOW       | Moderate      |
| Samoa                     | 62              | 19     | 19    | BELOW       | Moderate-High |
| Guam                      | 64              | 20     | 16    | BELOW       | Moderate-High |
| Pitcairn Islands          | 68              | 18     | 14    | BELOW       | High          |
| FSM                       | 59              | 28     | 13    | BELOW       | High          |
| Tuamotu Islands           | 80              | 12     | 8     | BELOW       | High          |
| Kiribati: Line Islands    | 85              | 12     | 3     | BELOW       | High          |
| Tokelau                   | 96              | 2      | 2     | BELOW       | High          |
| Marquesas                 | 88              | 11     | 1     | BELOW       | High          |
| Northern Cook Islands     | 97              | 3      | 0     | BELOW       | High          |
| Tuvalu                    | 98              | 2      | 0     | BELOW       | High          |
| Kiribati: Gilbert Islands | 99              | 1      | 0     | BELOW       | High          |
| Nauru                     | 99              | 1      | 0     | BELOW       | High          |
| Kiribati: Phoenix 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.

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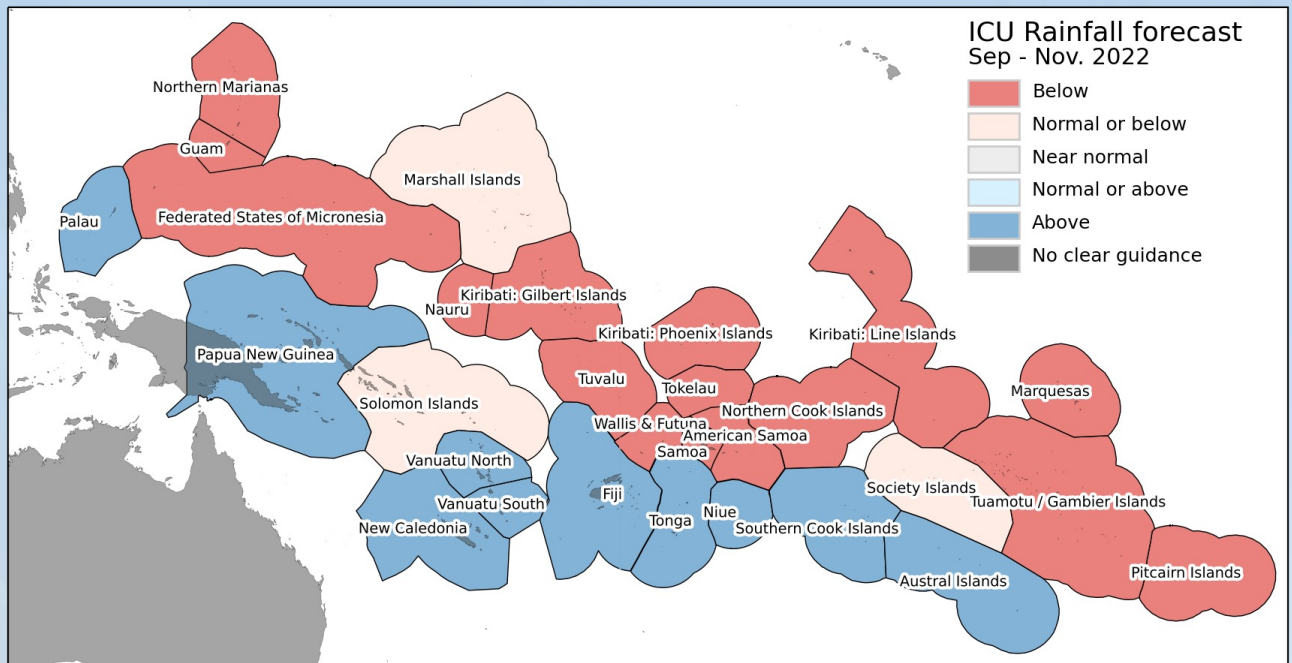
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Taihoro Nukurangi

# The Island Climate Update

Drought Watch

September 2022

## September – November 2022 rainfall forecast

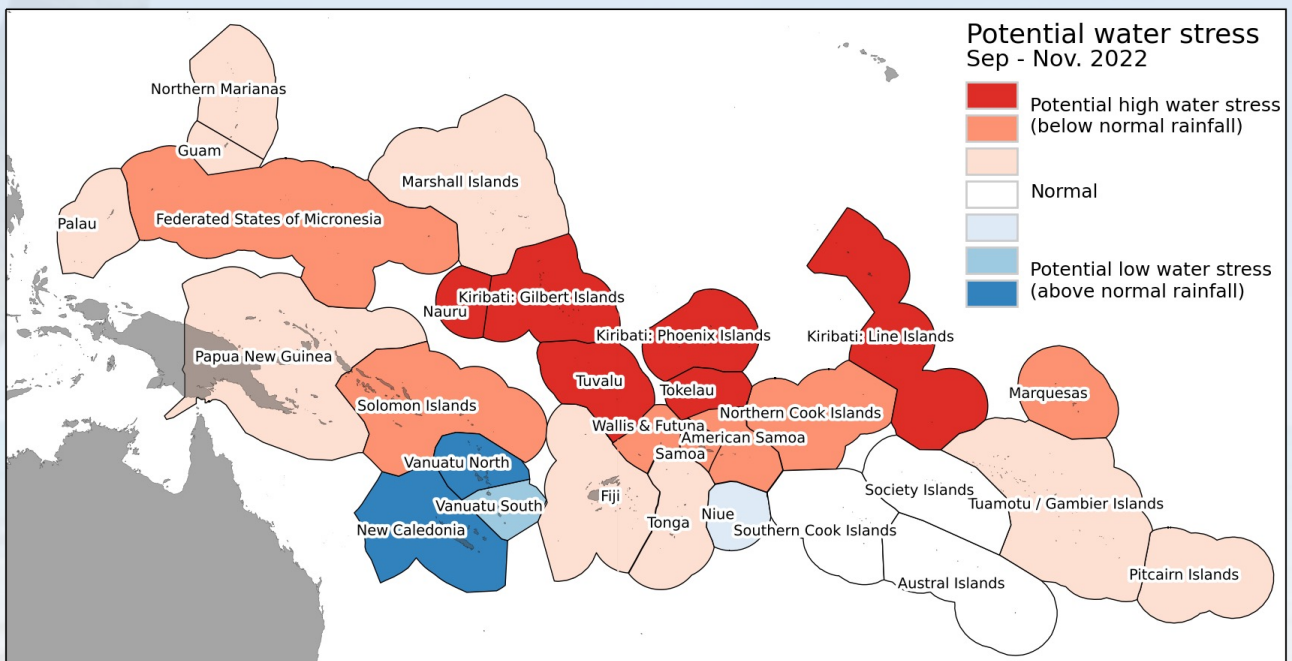


### Regional drought potential advisory

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, Kiribati, Tuvalu, and Tokelau.**

In addition, **Federated States of Micronesia, Solomon Islands, Wallis & Futuna, Samoa, American Samoa, Northern Cook Islands, and Marquesas** 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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