

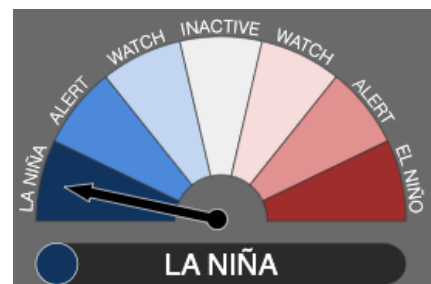


# **GILBERT ISLANDS GROUP EARLY ACTION RAINFALL WATCH- December 2022**

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## Rainfall Status to November 2022:

- Over the last **3-months** Very Dry to Seriously Dry conditions existed for some islands in the Gilberts group although there are some islands with no alert.
- Over the last **6- to 24-months**, Very Dry to Seriously Dry conditions existed for all islands in the Gilberts Group
- This is due to a **La Niña** event being in place from October 2020 to March 2021 and from November 2021 to August 2022. Kiribati experiences drier than normal conditions during La Niña. The current ENSO status is La Niña and is likely to persist into early 2023.

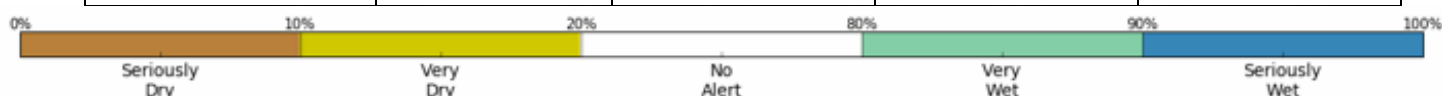


## Rainfall Outlook:

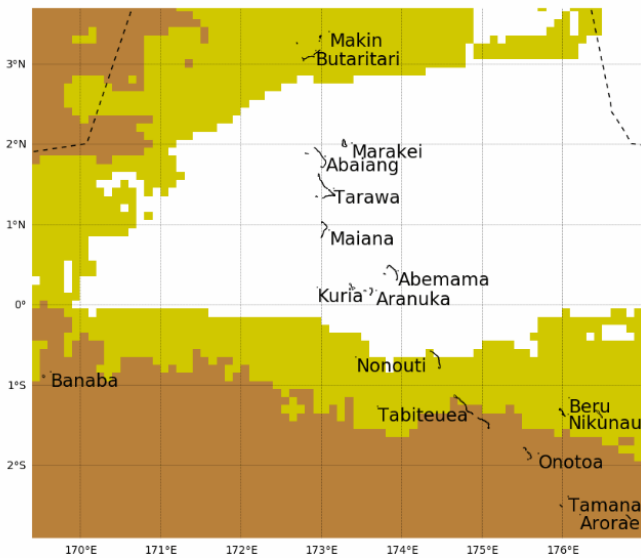
- The Very Dry conditions are likely to continue.
- For **December 2022**, there is a **high to very high chance of Very Dry conditions** throughout the Gilberts group.
- For **December 2022 to February 2023**, there is a **medium to high chance of Very Dry conditions** for the Gilbert Islands
- For **January to March 2023**, there is a **medium chance of Very Dry conditions** for islands in the far south of the Gilbert group.

### Rainfall status for the last 3-months, 6-months, 12-months, and 24-months

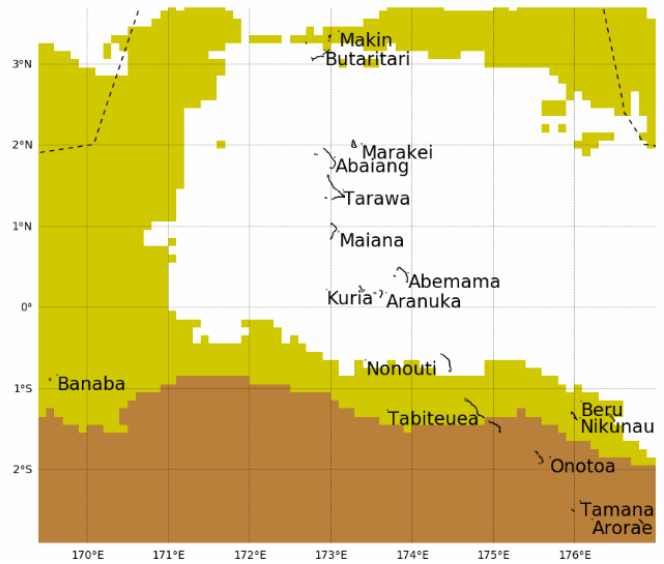
|                        | <b>3-months</b><br>September to<br>November<br>2022 | <b>6-months</b><br>June to<br>November 2022 | <b>12-months</b><br>December 2021<br>to November<br>2022 | <b>24-months</b><br>December 2020<br>to November<br>2022 |
|------------------------|---|---|--|--|
| <b>Makin</b>           | Very Dry  | Very Dry                                    | Seriously Dry  | Very Dry   |
| <b>Butaritari</b>      | Very Dry  | No Alert                                    | Seriously Dry  | Very Dry to<br>Seriously Dry                             |
| <b>Marakei</b>         | No Alert  | No Alert                                    | Seriously Dry  | Seriously Dry  |
| <b>Abaiang</b>         | No Alert  | No Alert                                    | Seriously Dry  | Seriously Dry  |
| <b>Tarawa</b>          | No Alert  | No Alert                                    | Seriously Dry  | Seriously Dry  |
| <b>Maiana</b>          | No Alert  | No Alert                                    | Seriously Dry  | Seriously Dry  |
| <b>Kuria</b>           | No Alert  | No Alert                                    | Seriously Dry  | Seriously Dry  |
| <b>Aranuka</b>         | No Alert  | No Alert                                    | Seriously Dry  | Seriously Dry  |
| <b>Abemama</b>         | No Alert  | No Alert                                    | Seriously Dry  | Seriously Dry  |
| <b>Nonouti</b>         | Very Dry  | No Alert                                    | Very Dry to<br>Seriously Dry                             | Seriously Dry  |
| <b>Tabiteuea North</b> | Very Dry to<br>Seriously Dry                        | Very Dry                                    | Seriously Dry  | Seriously Dry  |
| <b>Tabiteuea South</b> | Seriously Dry                                       | Seriously Dry                               | Seriously Dry  | Seriously Dry  |
| <b>Onotoa</b>          | Seriously Dry                                       | Seriously Dry                               | Seriously Dry  | Seriously Dry  |
| <b>Beru</b>            | Very Dry  | Very Dry                                    | Seriously Dry  | Seriously Dry  |
| <b>Nikunau</b>         | Very Dry  | Very Dry                                    | Seriously Dry  | Seriously Dry  |
| <b>Tamana</b>          | Seriously Dry                                       | Seriously Dry                               | Seriously Dry  | Seriously Dry  |
| <b>Arorae</b>          | Seriously Dry                                       | Seriously Dry                               | Seriously Dry  | Seriously Dry  |
| <b>Banaba</b>          | Seriously Dry                                       | Very Dry                                    | Seriously Dry  | Seriously Dry  |



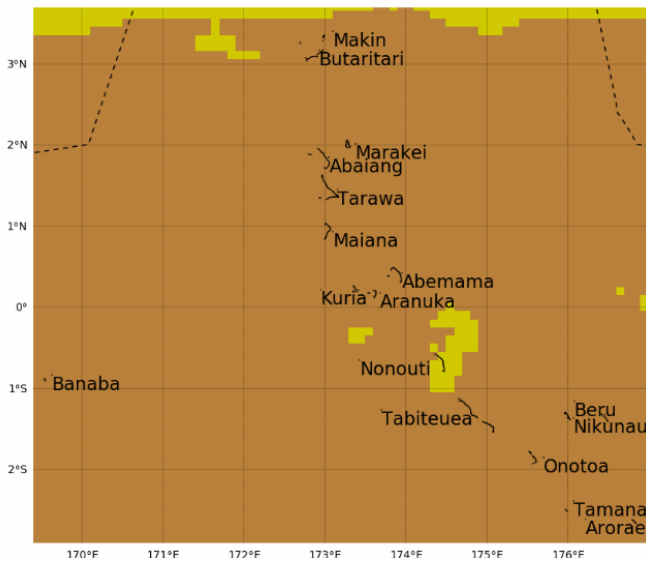
3-month rainfall status to end of November 2022



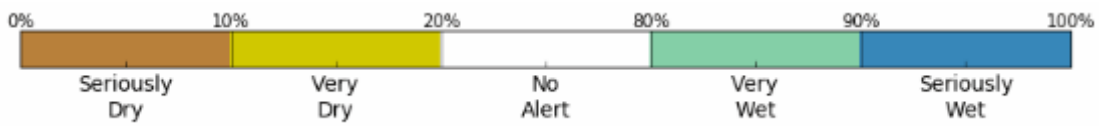
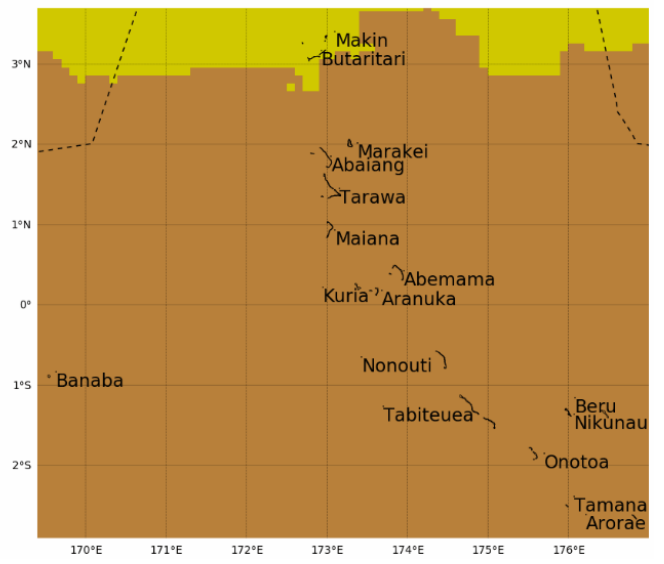
6-month rainfall status to end of November 2022



12-month rainfall status to end of November 2022



24-month rainfall status to end of November 2022



Data source: MSWEP

Method: Percentile

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Shapefile data extracted from Flanders Marine Institute (2019), Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (200NM), version 11. Available online at <https://www.marine-geo.org/>

Model Run: 01/10/2022

Base period: 1980-2021

## Information on the Maps

### Rainfall Monitoring maps

Kiribati's rainfall status is assessed using the MSWEP dataset available via <http://www.gloh2o.org/mswep/>. MSWEP is a global precipitation dataset at 0.1° resolution, available from 1979 that combines data from rain gauges, satellite observations and reanalysis. The data is processed and presented in Percentile Index form by the Australian and New Zealand DFAT Climate and Ocean Support Program in the Pacific. 'No Alert' is assigned where rainfall was between the 20<sup>th</sup> and 80<sup>th</sup> percentile for the period in question.

## **Time periods and impacts**

**3 months is most relevant for** rainwater tanks and wells (water quality decreases).

The following health impacts have been experienced in the past: influenza, eye diseases e.g., red eye, diarrhea, water borne diseases.

**6 months is most relevant for** wells near coastlines which become brackish and slight increase in salinity at the Bonriki water reserve

The following health impacts have been experienced in the past: crop pest outbreak and livestock production decreases.

**12 months is most relevant for** smaller fruits size, bush fires in coconut trees and toddy production decreases

The following socio-economic impacts have been experienced in the past: fish mortality rate due to increase in seawater salinity

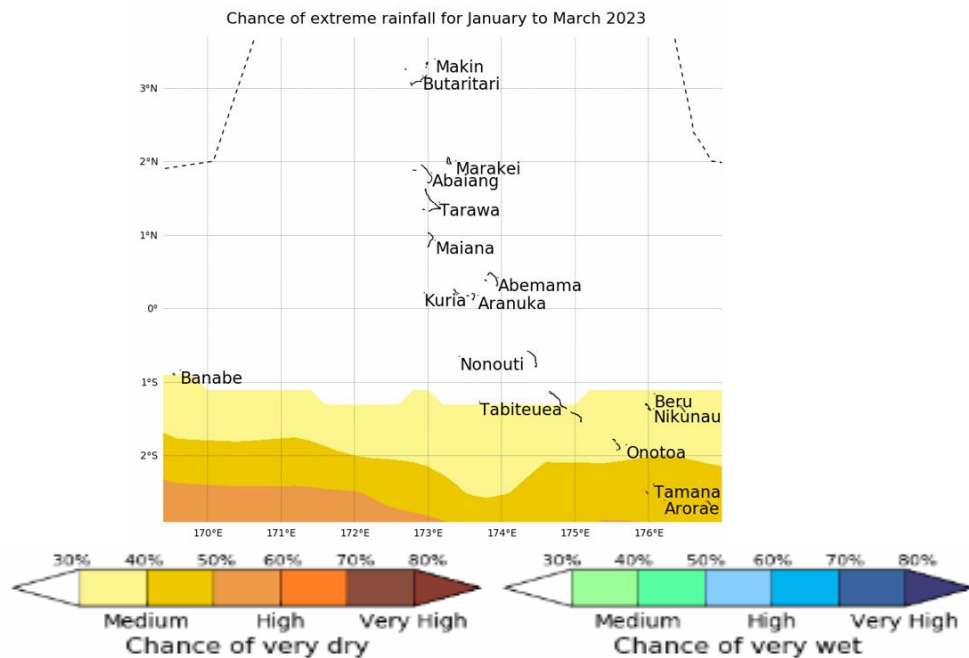
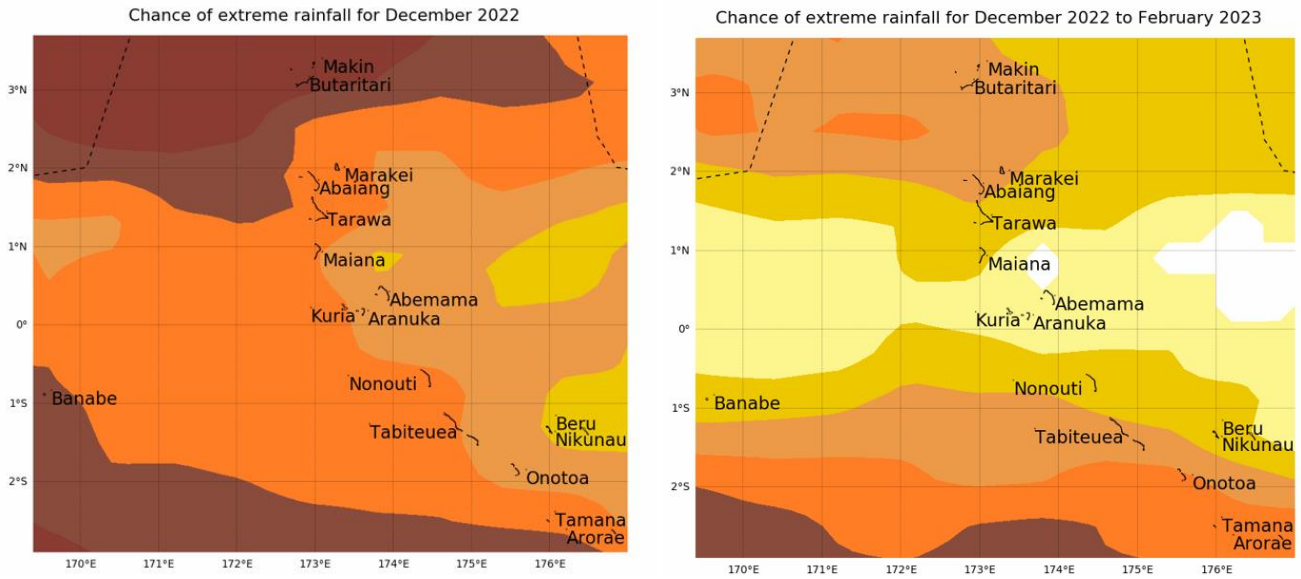
Other monitored indicators:

**24 months is most relevant for** groundwater supplies and deep-rooted trees e.g., coconuts and breadfruit.

The following socio-economic impacts have been experienced in the past: national water rationing

Allow for uncertainty associated with island size, topography, geology and soil type.

# Rainfall Outlooks December 2022, December 2022 to February 2023 and January to March 2023



Data source: ACCESS-S2  
 Issued: 04/12/2022

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Shapefile data extracted from Flanders Marine Institute (2019), Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (200NM), version 11. Available online at <http://www.maritimeregions.org/>

Model Run: 01/12/2022  
 Base period: 1981-2018

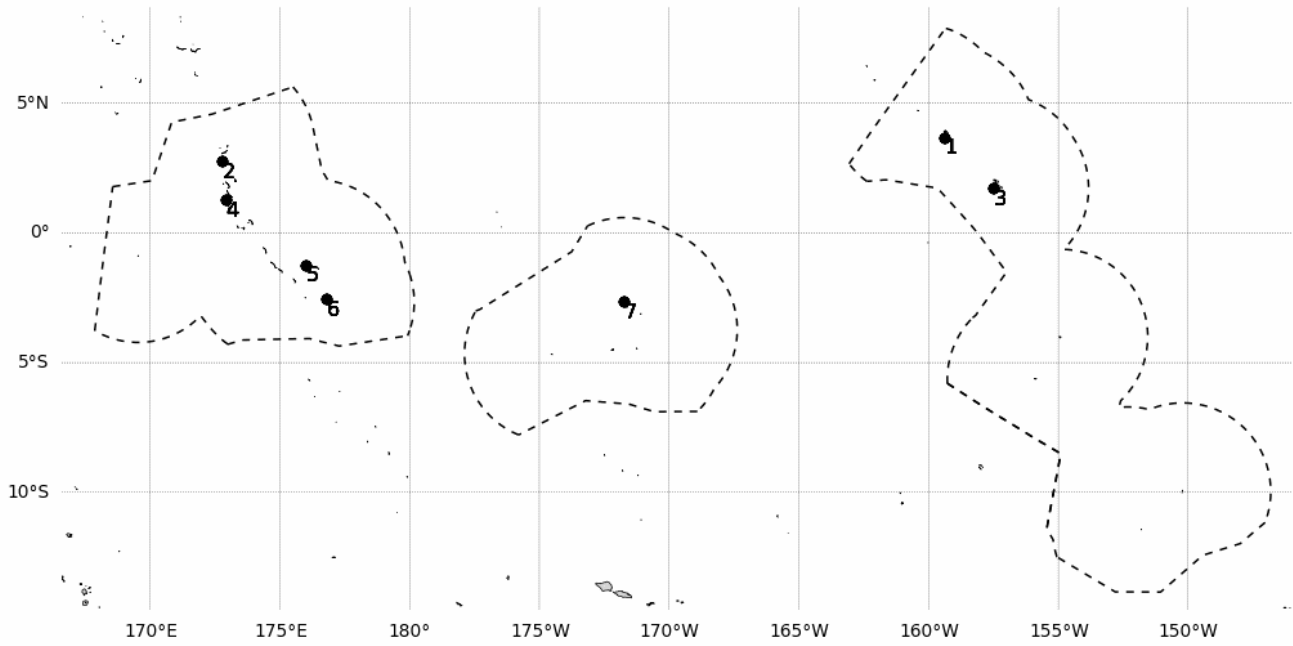
## Information on the Maps

### Forecast for Extreme Rainfall maps

The chance of extremes outlook maps presents the likelihood of very wet or very dry conditions. They are displayed by the chance that the outlook will result in rainfall in the top or bottom 20% of historical observations for the selected outlook period. Where there is white shading, it is less likely there will be either very wet or very dry conditions, rainfall is likely to be close to normal in this case. A very high chance of very dry (very wet) conditions is associated with the highest likelihood of rainfall being in the lowest (highest) 20% on record. A medium chance of very dry (very wet) conditions is associated with a lower but reasonable chance of rainfall being in the lowest (highest) 20% on record.

The outlooks have been produced using the Australian Bureau of Meteorology ACCESS-S2 model <http://www.bom.gov.au/climate/ahead/about/model/access.shtml>.

# Kiribati Reference Map



Tabuaeran 1. ,Butaritari 2. ,Kiritimati 3. ,Tarawa 4. ,Beru 5. ,Arorae 6. ,Kanton 7.