



Tuvalu Meteorological Service Early Action Rainfall Watch:



Purpose: The Early Action Rainfall Watch provides a summary of recent rainfall patterns, particularly the status of drought and the rainfall outlook for the coming months. The status and outlook will be revised on a monthly basis. Contact the Tuvalu Meteorological Service (TMS) for further information.

Issued: 26/08/2023

SUMMARY:

“El Niño Alert Continues”

- The ENSO Outlook remains at El Niño Alert, with El Niño development likely during the months of Southern Spring (September, October and November). When El Niño Alert criteria have been met in the past, an El Niño event has developed around 70% of the time.
- Sea surface temperatures (SSTs) in the tropical Pacific are exceeding El Niño thresholds, with climate models indicating this is likely to continue at least through to early 2024.
- The chance of an El Niño developing in the coming season has increased.



RAINFALL STATUS: For the month of July 2023, it was a No extreme rainfall across the whole county.

Over May to July (3Months), it was **Very dry** at Nanumea, Nanumaga, Niutao, Nui, Vaitupu, and Nukufetau. **No alert** in Funafuti, and Seriously dry existed at Nukulaelae and Niulakita.

August 2022 to July 2023 (12months), it was **Seriously dry** existed Nanumea, Nanumaga, Niutao, Nui, Vaitupu, Nukufetau, Nukulaelae and Niulakita, and **Very dry** stretching over Funafuti.

Rainfall OUTLOOK: There is a **Medium** chance of very wet conditions in September 2023 at Nanumea and Niulakita. **Low** chance of extreme conditions at Nanumaga, Niutao, Nui, Vaitupu, Nukufetau, Funafuti and Nukulaelae.

There is a **High** chance of very wet conditions over the next three months (September to November 2023) at Nanumea, Nanumaga and Niutao. **Medium** chance of very wet in Nui, Vaitupu, Nukufetau, Funafuti, Nukulaelae and Niulakita.

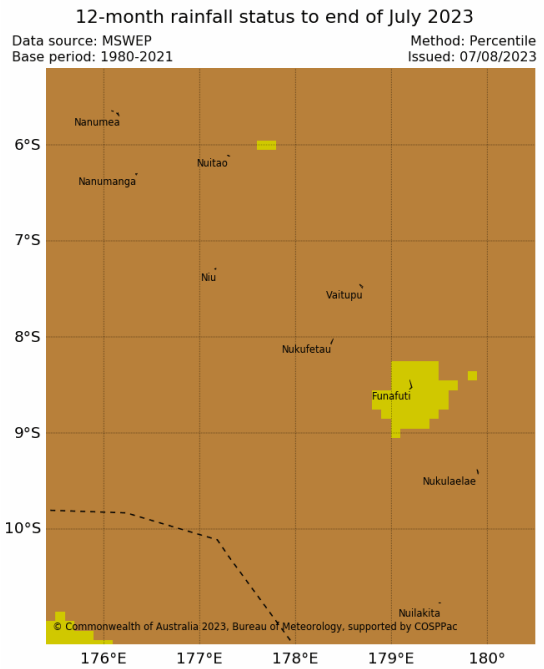
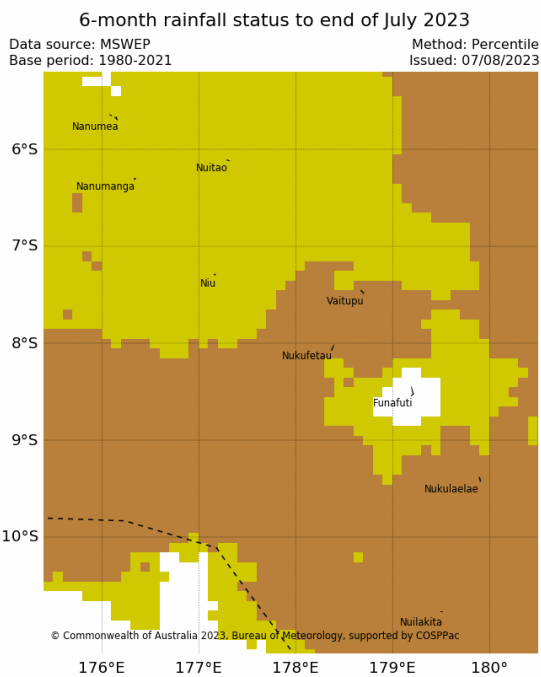
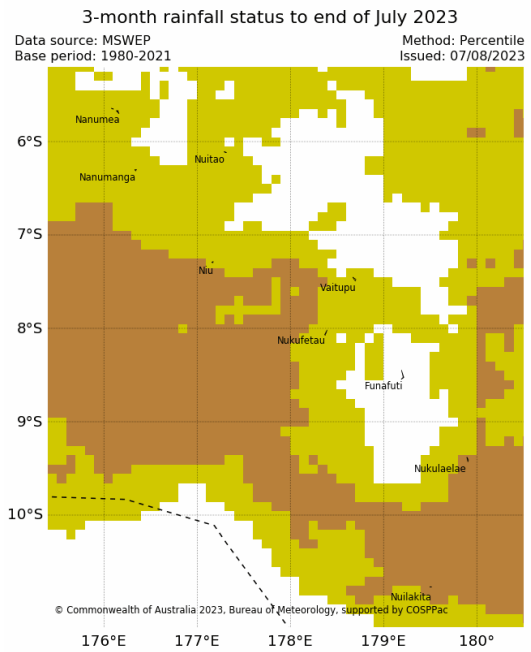
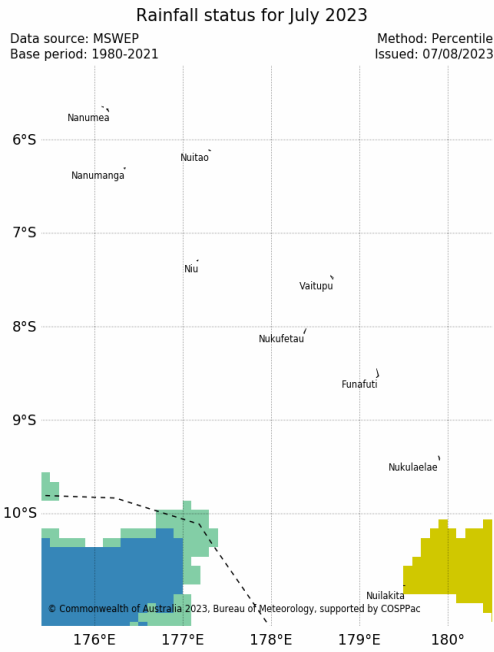
Based on the outlook, it is likely the **Low** chance of extreme rainfall experienced across part of the country excepted Nanumea was a **Medium** chance of very wet in July 2023 will extend across part of Tuvalu in September and over September to November, there is high confidence in the outlook to be **Medium to High** chance of very wet rainfall across the whole country.

Rainfall observed for the last month, 3-months, 6-months and 12-months

The table below provides information on rainfall received over specific periods in the last 12 months, whether a station is in drought or a very wet period (opposite of drought). If a station is in drought warning, this indicates an increased chances of drought in the coming months, especially when approaching the dry season. The time periods are associated with different drought impacts presented below the tables.

Past Rainfall Status					Very Dry/Wet Rainfall Outlook		
1-month July 2023	3-months May 2023 to July	6-months February to July 2023	12-months August 2022 to July 2023			September 2023	September 2023 to November 2023
					Tuvalu Islands	Chance of extreme	Chance of extreme
No extreme	Very Dry	Very Dry	Seriously Dry		Nanumea	Medium Chance of very wet	High Chance of very wet
No extreme	Very Dry	Very Dry	Seriously Dry		Nanumaga	Low chance of extreme	High Chance of very wet
No extreme	Very Dry	Very Dry	Seriously Dry		Niutao	Low chance of extreme	High Chance of very wet
No extreme	Very Dry	Very Dry	Seriously Dry		Nui	Low chance of extreme	Medium Chance of very wet
No extreme	Very Dry	Seriously Dry	Seriously Dry		Vaitupu	Low chance of extreme	Medium Chance of very wet
No extreme	Very Dry	Seriously Dry	Seriously Dry		Nukufetau	Low chance of extreme	Medium Chance of very wet
No extreme	No Alert	No Alert	Very Dry		Funafuti	Low chance of extreme	Medium Chance of very wet
No extreme	Seriously Dry	Seriously Dry	Seriously Dry		Nukulaelae	Low chance of extreme	Medium Chance of very wet
No extreme	Seriously Dry	Seriously Dry	Seriously Dry		Niulakita	Medium Chance of very wet	Medium Chance of very wet

ACCESS-S Rainfall Summary for July, 2023.



Data source: MSWEP
Method: Percentile
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Shapfile data extracted from Flanders Marine Institute (2019), Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (200NM), version 11. Available online at <http://www.marinerregions.org/>

Model Run: 01/01/2023
Base period: 1980-2021

Time periods and impacts:

1 – month period is most relevant for shallow rooted crops (e.g. eggplant, cabbage, tomatoes, spring onions, watermelons, cucumber), small water tanks (e.g. 1000galloons) and household water cisterns. The following secondary health and social-economic have been associated with drought at the 1-month period. Diarrhoea, skin rash, cough and fever, red eye, desalination plant (increased power demand and higher water costs for households), health of babies and elderly people declines, schools close and construction stops.

2 – months period is most relevant for bottle gourd,pawpaw, banana, chicken, pigs and community cisterns. The following secondary social-economic and health impacts have been associated with drought at the 2-months period. Community gatherings stop, increased in community disputes over water and limited or no employment.

3 – months period is most relevant for pumpkin, groundwater and ponds. The following secondary social-economic and health impacts have been associated with drought at the 3-months period. Crimes increase e.g. water stealing, government offices close and national events postponed.

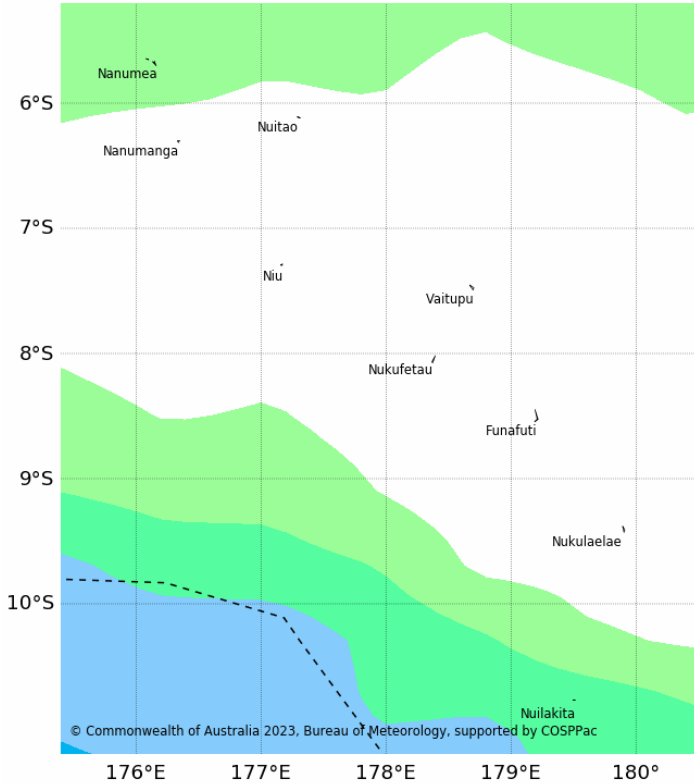
6 – months period is most relevant for large trees (e.g. breadfruits, pulaka, taro). The following secondary social-economic and health impacts have been associated with drought at the 6-months periods. Meteorological balloon flights stop, interislands shipping delays, entry of visitors to Tuvalu restricted.

12- months period is most relevant for felo, dragon fruits, pandanus, coconuts and ofega.

Very dry/Wet Rainfall Outlooks for September, and September to November 2023

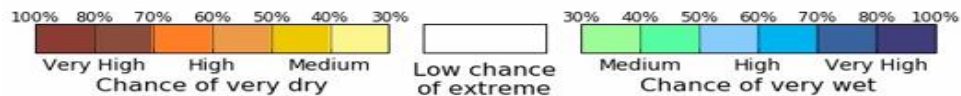
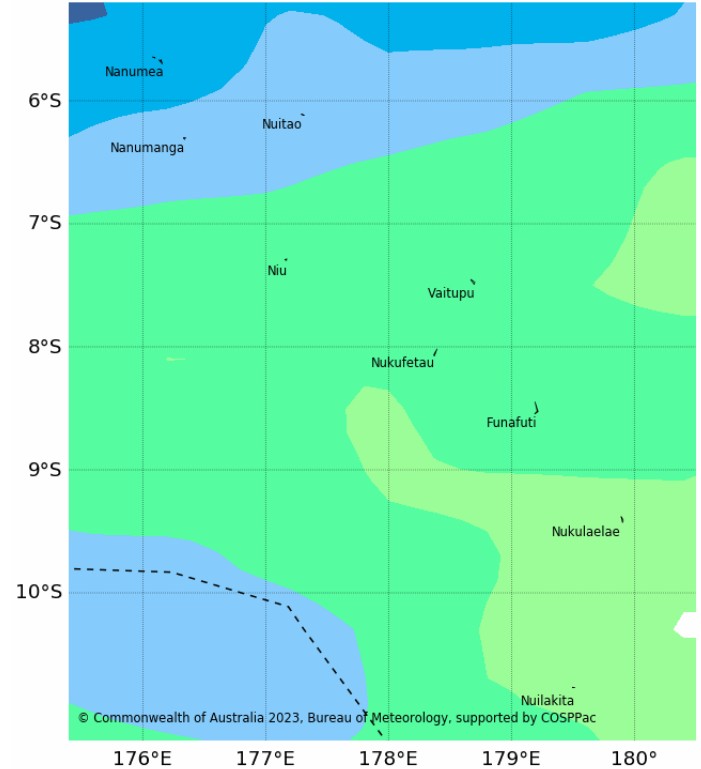
Chance of extreme rainfall for September 2023

Data source: ACCESS-S2 Model Run: 01/08/2023
Base period: 1981-2018 Issued: 03/08/2023



Chance of extreme rainfall for September to November 2023

Data source: ACCESS-S2 Model Run: 01/08/2023
Base period: 1981-2018 Issued: 03/08/2023



Outlook Status

The outlook provides the likelihood of receiving above normal to normal rainfall over the next three months and the following three months. The outlook does not indicate the amount of rainfall that may be received, how intense the rain may be in any one event, nor how it may vary from month to month.

Rainfall Status

- Estimates of moisture/water stress are based on recent rainfall compared with historical observations using the Percentile (Decile) Index.
- *Definitions:* "Very Dry" = rainfall in the lowest 20% of the historical record for that location and season, "Very Wet" = rainfall in the highest 20% for that location and season, "Seriously Dry" = rainfall in the lowest 10% of the historical record for that location and season, "Seriously Wet" = rainfall in the highest 10% for that location and season.

Contact Tuvalu Meteorological Service for further information:

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