Pacific Islands - Ocean and Climate Outlook Forum (OCOF) No. 181

Country: Tonga

Part 1: Recent climate

TABLE 1: Monthly Rainfall

Station (include data period)	Jul-2022	Aug- 2022	Sep-2022					
			Total (mm)	33%tile	67%tile	Median	Donk	
	Total (mm)	Total (mm)	Rainfall (mm)				- Rank '	
Northern Division								
Niuafo'ou (1971-2022)	83.0	93.0	43.3	81.0	156.6	115.0	7/50	
Niuatoputapu (1947-2022)	92.0	104.0	178.0	53.7	132.1	101.0	61/73	
Central Division								
Vava'u (1947-2022)	74.7	105.9	57.5	80.6	173.3	112.6	15/76	
Ha'apai (1947-2022)	21.0	32.0	94.0	57.3	133.1	92.0	39/76	
Southern Division								
Fua'amotu (1979-2022)	22.5	91.6	96.1	80.7	145.0	106.4	19/43	
Nuku'alofa (1944-2022)	20.5	37.9	50.5	78.3	146.0	103.0	14/78	

TABLE 2: Three-month Total Rainfall for July to September 2022

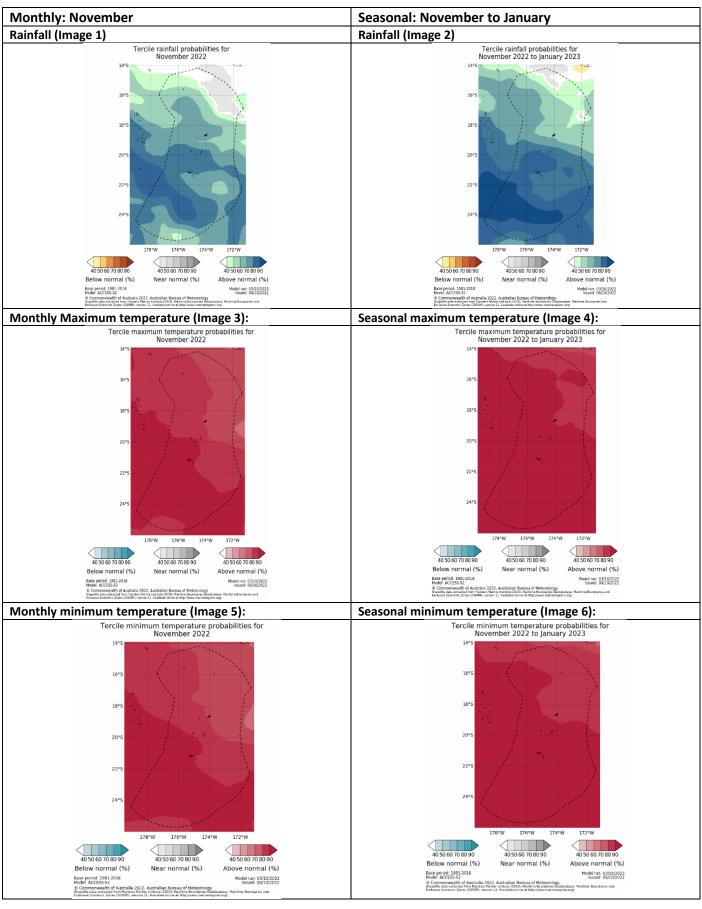
Station	Three-month Total		33%tile	67%tile	Median	Rank	
Northern Division							
Niuafo'ou (1971-2022)	219.3	Below normal	257.2	426.4	338.5	10/49	
Niuatoputapu (1947- 2022)	374.0	Above normal	214.7	368.0	289.2	48/73	
Central Division							
Vava'u (1947-2022)	238.1	Below normal	258.3	402.7	346.0	20/76	
Ha'apai (1947-2022)	147.0	Below normal	238.5	351.0	293.8	10/76	
Southern Division							
Fua'amotu (1979-2022)	210.2	Below normal	311.3	419.0	366.5	8/43	
Nuku'alofa (1944-2022)	108.9	Below normal	276.3	383.3	326.5	3/78	

NB: The X LEPS % score has been categorised as follows:

 $Very \ Low: \ X < 0.0 \\ Low: \ 0 \le X < 5 \\ Moderate \ 5 \le X < 10 \\ Good: \ 10 \le X < 15 \\ High: \ 15 \le X < 25 \\$

Very High: $25 \le X < 35$ Exceptional: $X \ge 35$

Part 1i. Monthly and Seasonal Outlooks for November and November to January 2023



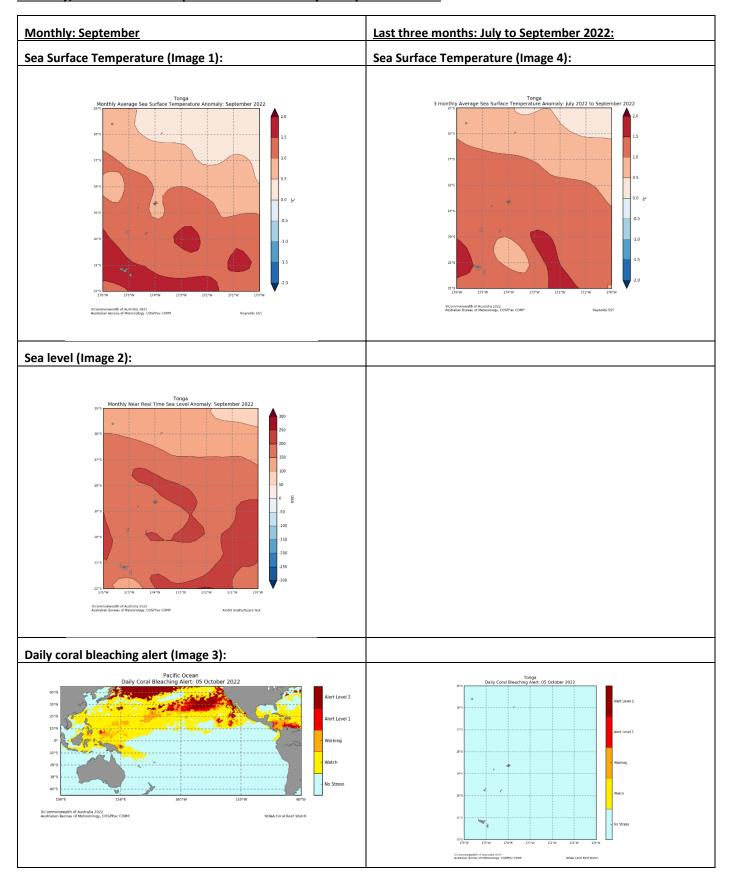
NB: The X LEPS % score has been categorised as follows:

 $Very \ Low: \ X < 0.0 \qquad \qquad Low: \ 0 \le X < 5 \qquad \qquad Moderate \ 5 \le X < 10 \qquad \qquad Good: \ 10 \le X < 15 \qquad High: \ 15 \le X < 25 \qquad \qquad Low: \ 0 \le X < 10 \qquad \qquad Good: \ 10 \le X < 10 \qquad \qquad Good: \ 10 \le X < 10 \qquad Good: \ 1$

Very High: 25 ≤X < 35 Exceptional: X ≥ 35

Part 2: Recent Ocean Observation

Monthly/Three months: September 2022 and July to September 2022

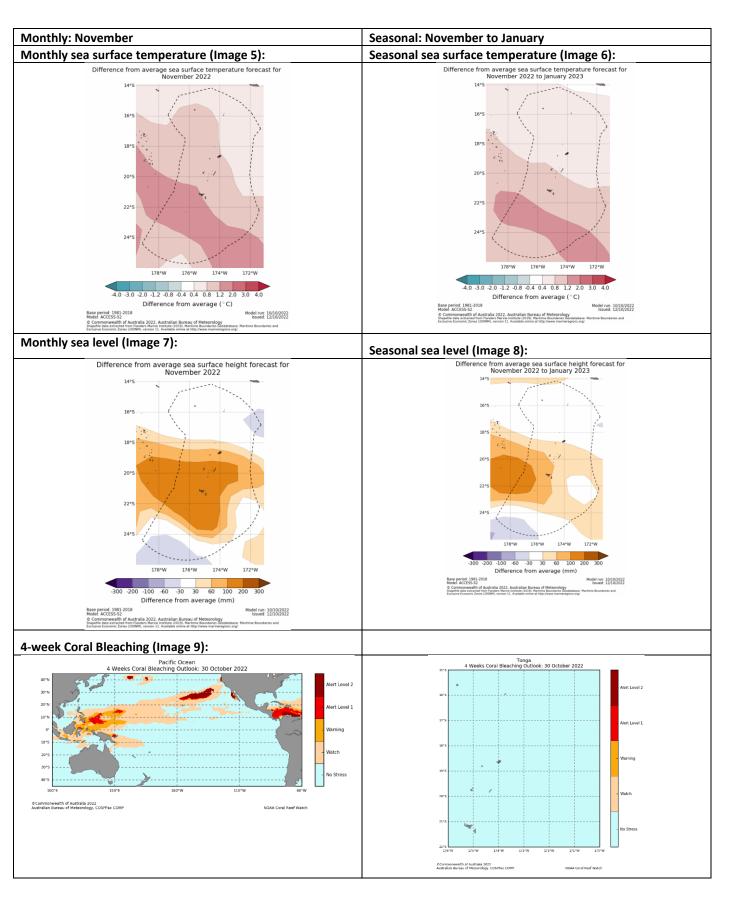


NB: The X LEPS % score has been categorised as follows:

Very Low: X < 0.0 Low: $0 \le X < 5$ Moderate $5 \le X < 10$ Good: $10 \le X < 15$ High: $15 \le X < 25$

Very High: $25 \le X < 35$ Exceptional: $X \ge 35$

Part 2i. Monthly and Seasonal Outlooks for November and November to January 2023



NB: The X LEPS % score has been categorised as follows:

Very Low: X < 0.0 Low: $0 \le X < 5$ Moderate $5 \le X < 10$ Good: $10 \le X < 15$ High: $15 \le X < 25$

Very High: 25 ≤X < 35 Exceptional: X ≥ 35

Summary Statement

Monthly and last three months: September 2022/July to September 2022 statement

September rainfall was above normal at Niuatoputapu, normal at Ha'apai and Fua'amotu, and below normal at Niuafo'ou, Vava'u and Nuku'alofa.

For July to September, above normal rainfall was recorded at Niuatoputapu and below normal rainfall was recorded for the rest of Tonga. Nuku'alofa recorded its third lowest rainfall for July to September on record.

Part 1i. Monthly and Seasonal Outlooks for November and November to January 2023

Monthly /Seasonal rainfall and temperature Outlook statements

Tonga's rainfall for November and over the November to January 2023 period is likely or very likely to be above normal across the country, especially in the south.

Part 2: Recent Ocean summary statement

Monthly and last three months: September/July to September 2022

Tonga experienced above average SSTs in September and July to September 2022. Differences from normal ranged from 0 to 0.5°C above in the northeast of the region, to 1.5°C to 2.0°C above in parts of the south.

Sea level anomaly was also above normal for September, reaching a maximum of 250mm above average.

Part 2i. Monthly and Seasonal Outlooks for September and September to January 2023

The monthly and seasonal SST outlooks for Tonga forecast above normal SSTs ranging from 0.4 to 2.0 degrees Celsius above average for November and November to January 2023.

The monthly and seasonal sea surface height outlooks forecast near-normal sea surface heights in northern Tonga, and sea surface heights of 30mm to 100mm above normal over Tongatapu, Ha'apai and Vava'u. In addition, the southern EEZ of Tonga is forecast to have sea levels ranging from -30mm below normal.

Coral bleaching outlook for Tonga reveals no thermal stress.

TABLE 3: Stakeholder Engagement- Evaluations of how effective NMS engage with stakeholders

Product	Date: September 2022	Stakeholder	Total Number of Participants	Number of male	Number of female
Climate Bulletin	3 September	Government ministries, NGOs, Media, Private sectors	155	118	37
EAR Watch					
Monthly Climate Briefing					
Ocean Outlook	3 September	Government ministries, NGOs,Media, Private sectors	155	118	37
Climate data request					
		Total	310	236	74

 $Very \ Low: \ X < 0.0 \qquad \qquad Low: \ 0 \le X < 5 \qquad \qquad Moderate \ 5 \le X < 10 \qquad \qquad Good: \ 10 \le X < 15 \qquad High: \ 15 \le X < 25$

Very High: $25 \le X < 35$ Exceptional: $X \ge 35$