Pacific Islands - Ocean and Climate Outlook Forum (OCOF) No. 184

Country: Tonga

Part 1: Recent climate

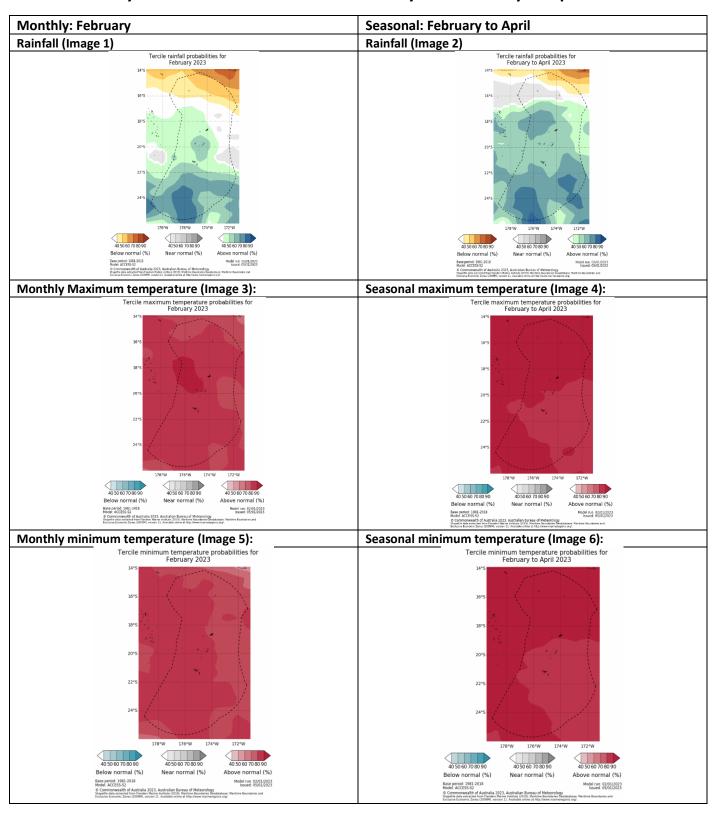
TABLE 1: Monthly Rainfall

Station (include data period)	Oct-2022	Nov- 2022	Dec-2022				
			Total (mm)	33%tile	67%tile	Median	DI-
	Total (mm)	Total (mm)		Rank			
	Northern Division						
Niuafo'ou (1971-2022)	88.0	85.5	71.2	224.0	363.0	283.0	2/50
Niuatoputapu (1947-2022)	224.0	205.4	128.5	166.0	283.0	245.5	15/71
Central Division							
Vava'u (1947-2022)	164.3	194.2	389.2	125.5	250.0	165.5	63/76
Ha'apai (1947-2022)	406.0	175.0	282.0	66.0	156.9	122.2	63/76
Southern Division							
Fua'amotu (1979-2022)	194.0	224.3	279.4	130.7	191.5	153.8	39/43
Nuku'alofa (1944-2022)	281.8	77.4	386.5	75.3	165.7	126.0	74/78

TABLE 2: Three-month Total Rainfall for October to December 2022

Station	Three-month Total		33%tile	67%tile	Median	Rank	
Northern Division							
Niuafo'ou (1971-2022)	244.7	Below normal	632.3	855.9	711.0	2/48	
Niuatoputapu (1947-2022)	557.9	Normal	521.3	746.0	631.2	29/70	
Central Division							
Vava'u (1947-2022)	747.7	Above normal	381.3	614.8	530.0	59/76	
Ha'apai (1947-2022)	863.0	Above normal	251.0	423.0	341.2	74/76	
Southern Division							
Fua'amotu (1979-2022)	697.7	Above normal	298.5	439.4	371.5	40/43	
Nuku'alofa (1944-2022)	745.7	Above normal	251.7	417.3	346.0	72/77	

Part 1i. Monthly and Seasonal Outlooks for February and February to April 2023

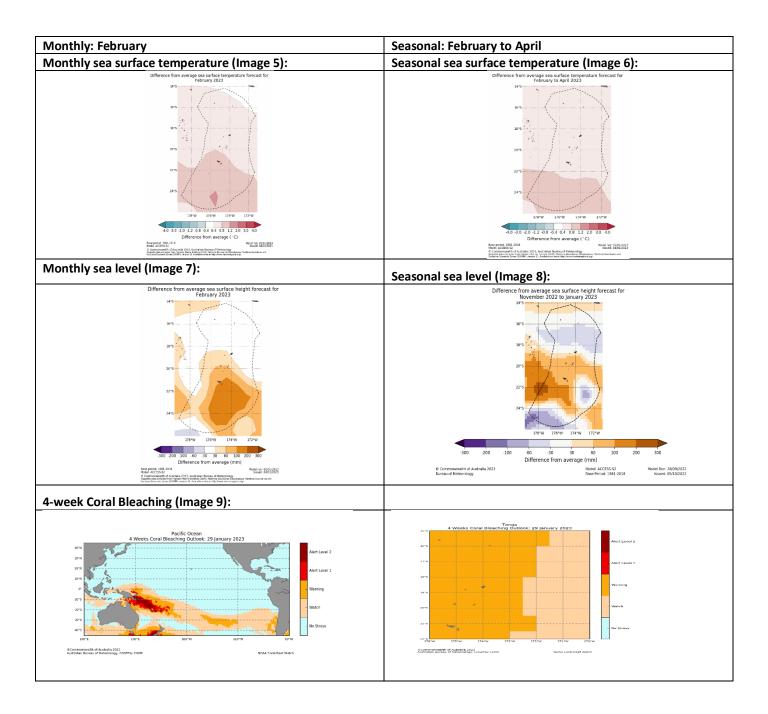


Part 2: Recent Ocean Observation

Monthly/Three months: December 2022 and October to December 2022

Monthly: December	Last three months: October to December 2022:
Sea Surface Temperature (Image 1):	Sea Surface Temperature (Image 4):
Monthly Near Real Time Sea Level Anomaly: December 2022 320 320 320 320 320 320 320	3 monthly Average Sea Surface Temperature Avoranly September 2022 to November 2022 22 33 343 343 345 4.5 4.5 4.5 6.5 6.5 6.5 6.5 6
Sea level (Image 2):	
Morethy Near Real Time See Level Aromaly December 2027 20 20 20 20 20 20 20 20 20	
Daily coral bleaching alert (Image 3):	
Daily Coral Bleaching Alert: 04 January 2023 Alert Level 2 Alert Level 1 Warning Watch Warning Watch Warning Watch Warning Watch Warning Watch Watch	A Weeks Coral Bleaching Outdool: 29 January 2023 Alert Level 2 Alert Level 1 Werning Worth Jon Sove S

Part 2i. Monthly and Seasonal Outlooks for February and February to April 2023



Summary Statement

Monthly and last three months: December 2022/October to December 2022 statement

December rainfall was below normal at Niuafo'ou and Niuatoputapu, and above normal for the rest of the country. Niuafo'ou had its second lowest December rainfall on record, while Fua'amotu had its sixth highest and Nuku'alofa its fifth highest December rainfall on record.

October to December rainfall was below normal at Niuafo'ou, normal at Niuatoputapu, and above normal for the rest of Tonga. Niuafo'ou had its second lowest October to December rainfall, while Ha'apai had its third highest, Fua'amotu its fourth highest, and Nuku'alofa its sixth highest October to December rainfall on record.

Part 1i. Monthly and Seasonal Outlooks for February and February to April 2023

Monthly /Seasonal rainfall and temperature Outlook statements

Rainfall in February and over February to April is likely or very likely to be above normal over central and southern Tonga. In the Northern Division, however, February rainfall is likely to be below normal, while the three-month total is likely to be near-normal.

Maximum and minimum temperatures in February and averaged over February to April are very likely to be above normal throughout Tonga.

Part 2: Recent Ocean summary statement

Monthly and last three months: December/October to December 2022

Most of Tonga experienced above average SST in the month of December and for the last three months, October to December 2022.

Highest SSTs were over 2 degrees above average spanning from the southwest to central division. Similarly, sea level was also above normal for December, reaching a maximum of over 250mm above average.

Part 2i. Monthly and Seasonal Outlooks for February and February to April 2023

Ocean Variable statement

The monthly and seasonal SST outlooks for Tonga forecast SSTs to be average in the north and up to 1.2degrees Celsius above average in the south for February and February to April 2023.

The monthly and seasonal sea surface height outlooks forecast near-normal sea surface heights in northern Tonga, and sea surface heights of up to 200 mm above normal just to the east of Tongatapu for February, and up to 200mm above to the south in February to April 2023.

The 4 weeks coral bleaching outlook to 29th January shows watch and warning for Tonga

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

Product	Date: December 2022	Stakeholder	Total Number of Participants	Number of male	Number of female
Climate Bulletin	3 Jan	Government ministries, NGOs,Media, Private sector	155	118	37
EAR Watch					

Monthly Climate Briefing					
Ocean Outlook	3 Jan	Government ministries, NGOs,Media, Private sector	155	118	37
Climate data request					
Total 310 236 74					74