Pacific Islands - Ocean and Climate Outlook Forum (OCOF) No. 187

Country: Tonga

Part 1: Recent climate

TABLE 1: Monthly Rainfall

Station (include data period)	Jan-2023	Feb-2023	Mar-2023				
			Total (mm)	33%tile	67%tile	Median	Rank
	Total (mm)	Total (mm)	Rainfall (mm)				
Northern Division							
Niuafo'ou (1971-2023)	243.4	219.5	328.0	208.0	330.0	265.4	34/51
Niuatoputapu (1947-2023)	219.3	156.0	369.5	175.1	271.7	226.5	55/72
Central Division							
Vava'u (1947-2023)	207.2	419.5	295.7	224.0	343.0	285.0	39/77
Ha'apai (1947-2023)	245.7	299.3	221.6	179.5	313.0	233.8	36/77
Southern Division							
Fua'amotu (1979-2023)	215.7	498.1	295.5	162.0	253.0	190.9	35/44
Nuku'alofa (1944-2023)	282.5	421.0	304.0	190.0	268.7	226.0	61/79

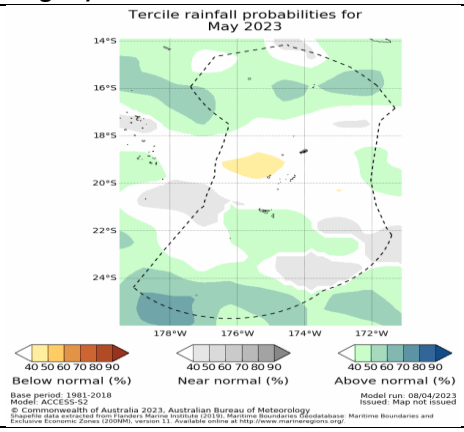
TABLE 2: Three-month Total Rainfall for January to March 2023

Station	Three-month Total		33%tile	67%tile	Median	Rank
	Rainfall (mm)					
Northern Division						
Niuafo'ou (1971-2023)	790.9	Normal	732.0	953.6	883.0	21/46
Niuatoputapu (1947-2023)	744.8	Normal	642.4	938.4	805.4	32/72
Central Division						
Vava'u (1947-2023)	922.4	Normal	721.1	937.3	854.8	48/76
Ha'apai (1947-2023)	766.6	Normal	566.0	788.0	660.0	49/77
Southern Division						
Fua'amotu (1979-2023)	1009.3	Above normal	477.0	791.0	710.3	37/44
Nuku'alofa (1944-2023)	1007.5	Above normal	518.0	853.0	685.0	71/79

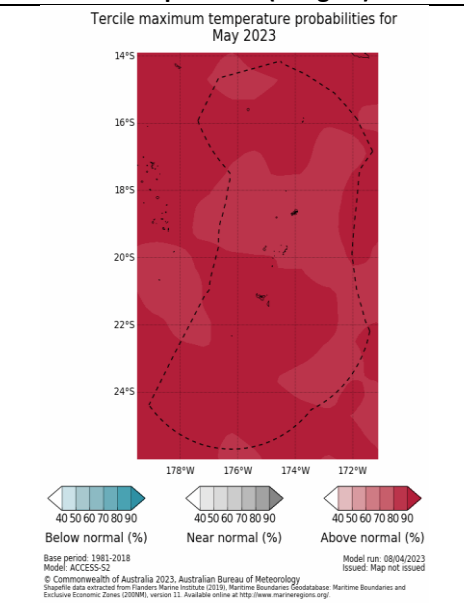
Part 1i. Monthly and Seasonal Outlooks for May and May to July 2023

Monthly: May

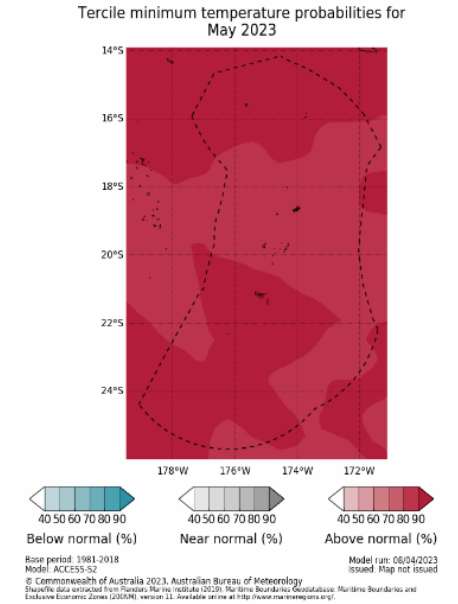
Rainfall (Image 1)



Monthly Maximum temperature (Image 3):

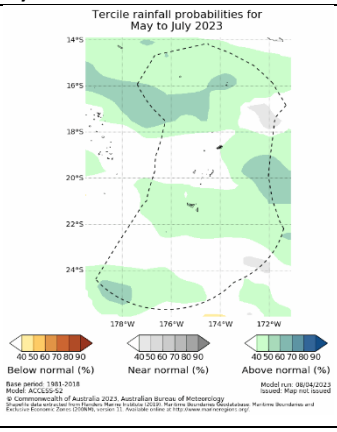


Monthly minimum temperature (Image 5):

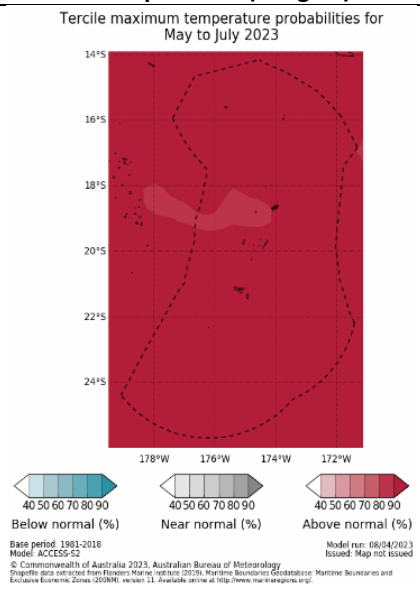


Seasonal: May to July

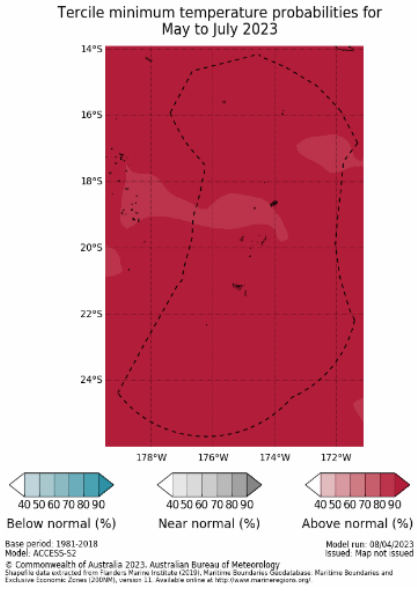
Rainfall (Image 2)



Seasonal maximum temperature (Image 4):

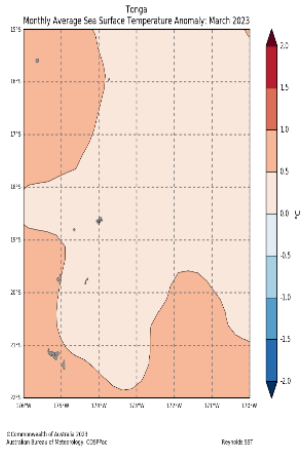
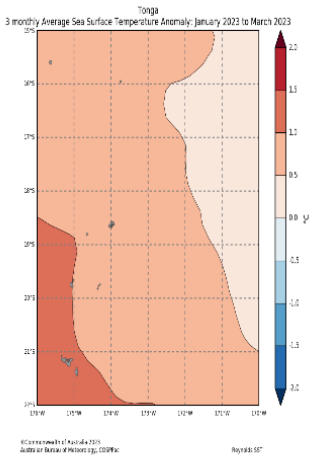
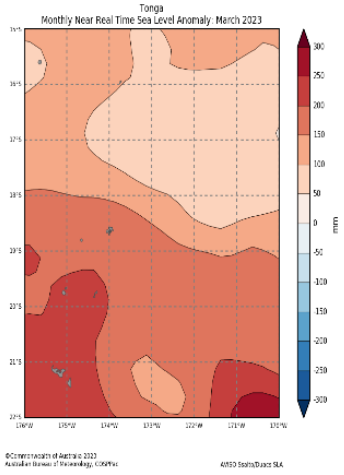
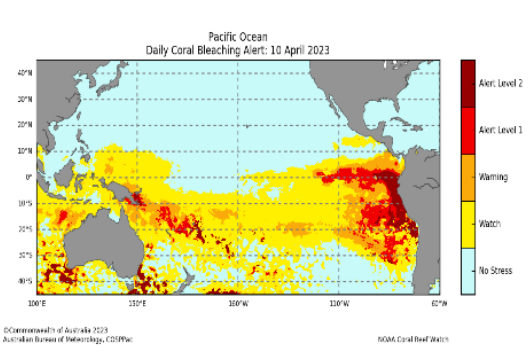
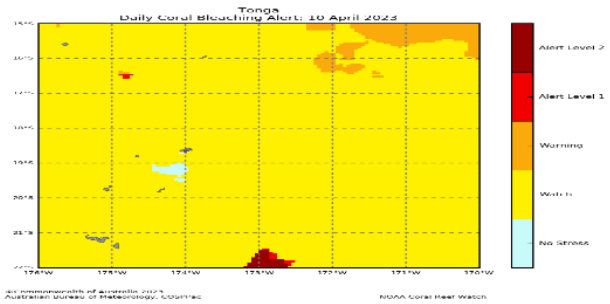


Seasonal minimum temperature (Image 6):

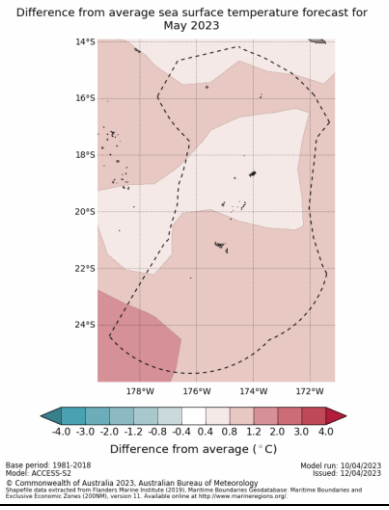
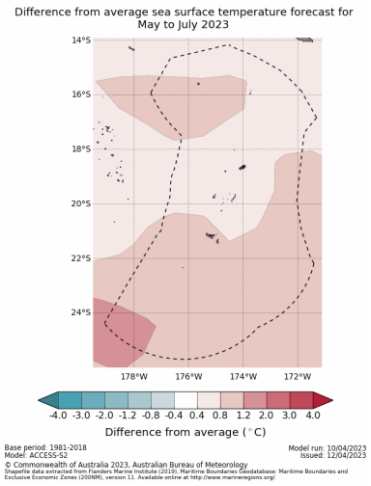
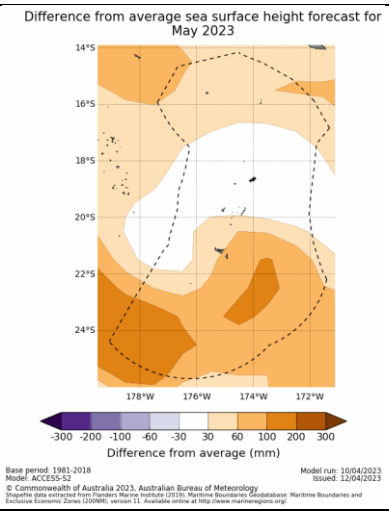
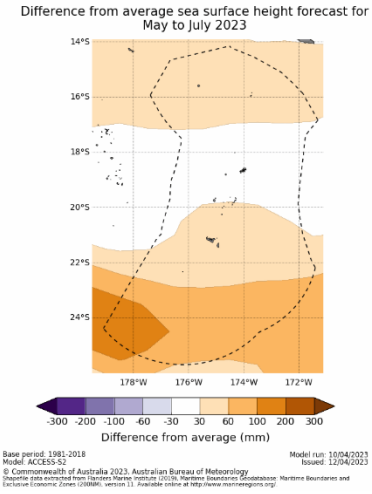
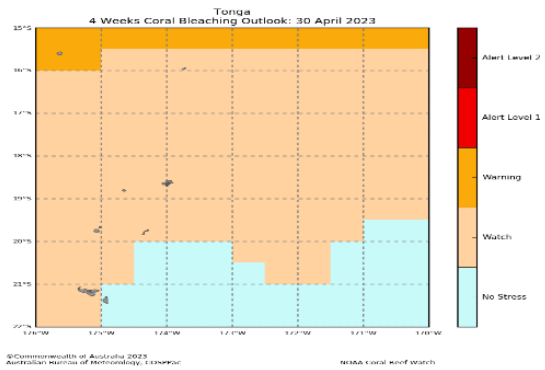
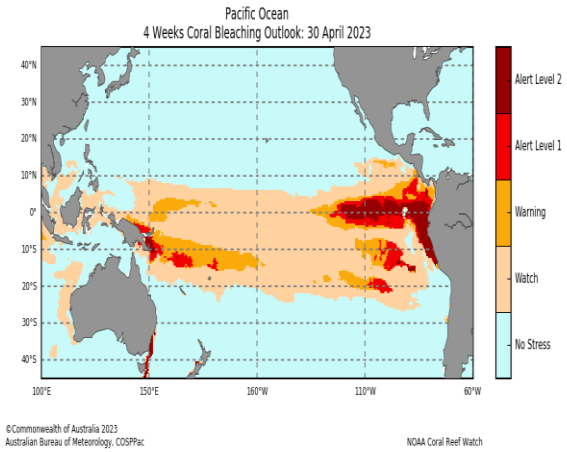


Part 2: Recent Ocean Observation

Monthly/Three months: March and January to March 2023

Monthly: March	Last three months: January to March 2023:
Sea Surface Temperature (Image 1):	**Sea Surface Temperature (Image 4):**
	
Sea level (Image 2):	
	
Daily coral bleaching alert (Image 3):	
	

Part 2i. Monthly and Seasonal Outlooks for May and May to July 2023

Monthly: May	Seasonal: May to July
Monthly sea surface temperature (Image 5):	**Seasonal sea surface temperature (Image 6):**
	
Monthly sea level (Image 7):	**Seasonal sea level (Image 8):**
	
4-week Coral Bleaching (Image 9):	
	

Summary Statement

Monthly and last three months: March 2023/January to March 2023 statement

March rainfall was below normal at Niuafo'ou, Vava'u and Ha'apai, above normal for the rest of the Country. Fua'amotu fad its ninth highest March on record respectively.

January to March rainfall was below normal at Niuafo'ou, Niuatoputapu, Vava'u and Ha'apai, above normal for Fua'amotu and Nuku'alofa. Fua'amotu had its seventh highest and Nuku'alofa its eighth highest January to March rainfall on record respectively.

Part 1i. Monthly and Seasonal Outlooks for May and May to July 2023

Monthly /Seasonal rainfall and temperature Outlook statements

May rainfall is likely to be above normal over the northern islands and parts of the Southern Division. In the Central Division, however, the outlook offers little guidance for May rainfall.

May to July rainfall is likely to be above normal over the Northern and Southern Divisions. In the Central Division, Ha'apai's May to July rainfall is likely to be near-normal, but there is little guidance for Vava'u.

Maximum and minimum temperatures during May and averaged over May to July, are very likely to be above normal across the country.

Part 2: Recent Ocean summary statement

Monthly and last three months: March 2023/January to March 2023

March ocean temperature around Tonga were utmost 1.0°C above normal.

Averaged over January to March 2023, ocean temperatures were utmost 1.5°C above normal.

February sea levels around Tonga were 100mm to 250mm above normal.

Coral bleaching alert reveals 'Alert level 2' for Tonga, with 'Watch to Alert 1' for remaining waters,

Part 2i. Monthly and Seasonal Outlooks for May and May to July 2023

Ocean Variable statement

May and averaged May to July ocean temperatures around Tonga are predicted to be 0.4 to 1.2°C above normal.

May and average May to July sea levels around Tonga are predicted to be near normal in northern Tonga, with sea surface heights of up to 200mm for southern Tonga.

The 4 weeks coral bleaching outlook to 30th April 2023 shows 'Warning' for far northern waters, and 'Watch' status for majority of Tonga.

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

Product	Date: March 2023	Stakeholder	Total Number of Participants	Number of male	Number of female
Climate Bulletin	3 March	Government ministries, NGOs, Media, Private sector	155	118	37
EAR Watch					
Monthly Climate Briefing					
Ocean Outlook	3 March	Government ministries, NGOs, Media, Private sector	155	118	37
Climate data request					
		Total	**310**	**236**	**74**