

Country: Tonga

Part 1: Recent climate

TABLE 1: Monthly Rainfall

Station (include data period)	Oct-2023	Nov-2023	Dec-2023				
			Total (mm)	33%tile	67%tile	Median	Rank
	Total (mm)	Total (mm)	Rainfall (mm)				
Northern Division							
Niuafo'ou (1971-2024)	69.5	89.5	211.5	222.9	361.7	282.0	16/51
Niuaatoputapu (1947-2024)	84.0	65.5	138.5	165.2	281.3	244.2	17/72
Central Division							
Vava'u (1947-2024)	13.4	83.9	108.5	127.0	264.0	166.0	20/77
Ha'apai (1947-2024)	11.2	74.5	63.1	66.0	158.6	123.0	24/77
Southern Division							
Fua'amotu (1979-2024)	18.9	165.8	75.3	132.0	197.0	157.0	8/44
Nuku'alofa (1944-2024)	17.0	135.5	44.0	76.0	167.0	129.0	15/79

TABLE 2: Three-month Total Rainfall for October to December 2023

Station	Three-month Total		33%tile	67%tile	Median	Rank
	Rainfall (mm)					
Northern Division						
Niuafo'ou (1971-2024)	370.5	Below normal	603.3	855.0	715.0	7/49
Niuaatoputapu (1947-2024)	288.0	Below normal	532.0	746.0	622.3	5/71
Central Division						
Vava'u (1947-2024)	205.8	Below normal	393.0	618.3	544.0	7/77
Ha'apai (1947-2024)	148.8	Below normal	253.5	427.0	344.0	14/77
Southern Division						
Fua'amotu (1979-2024)	260.0	Below normal	309.0	442.0	374.0	13/44
Nuku'alofa (1944-2024)	196.5	Below normal	257.8	422.0	346.4	19/78

Part 1i. Monthly and Seasonal Outlooks for February and February to April 2024

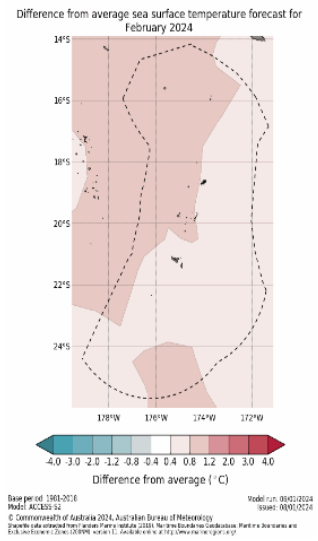
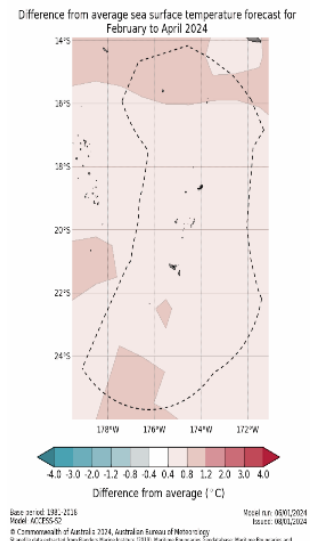
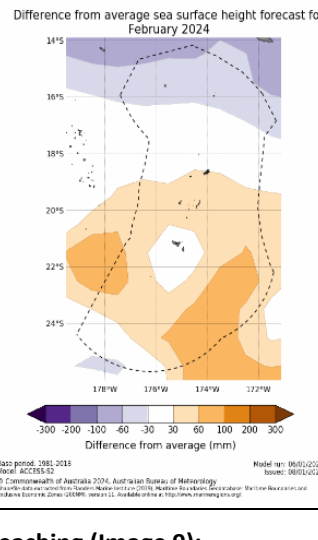
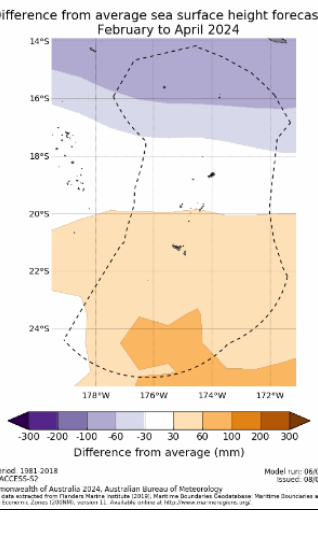
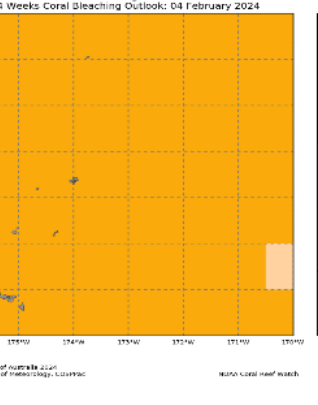
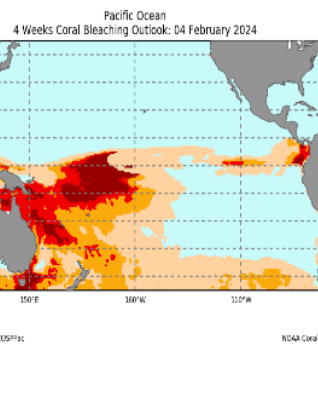
Monthly: February	Seasonal: February to April
Rainfall (Image 1)	Rainfall (Image 2)
<div><p>Tercile rainfall probabilities for February 2024</p><p>Base period: 1981-2018 Model: ACCESS-S2 © Commonwealth of Australia 2024, Australian Bureau of Meteorology Shapefile data extracted from Raster Marine Institute (2019), Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (2004), version 1.1. Available online at http://www.marine.gov.au</p><p>Model run: 06/01/2024 Issued: 06/01/2024</p></div>	<div><p>Tercile rainfall probabilities for February to April 2024</p><p>Base period: 1981-2018 Model: ACCESS-S2 © Commonwealth of Australia 2024, Australian Bureau of Meteorology Shapefile data extracted from Raster Marine Institute (2019), Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (2004), version 1.1. Available online at http://www.marine.gov.au</p><p>Model run: 06/01/2024 Issued: 06/01/2024</p></div>
Monthly Maximum temperature (Image 3):	Seasonal maximum temperature (Image 4):
<div><p>Tercile maximum temperature probabilities for February 2024</p><p>Base period: 1981-2018 Model: ACCESS-S2 © Commonwealth of Australia 2024, Australian Bureau of Meteorology Shapefile data extracted from Raster Marine Institute (2019), Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (2004), version 1.1. Available online at http://www.marine.gov.au</p><p>Model run: 06/01/2024 Issued: 06/01/2024</p></div>	<div><p>Tercile maximum temperature probabilities for February to April 2024</p><p>Base period: 1981-2018 Model: ACCESS-S2 © Commonwealth of Australia 2024, Australian Bureau of Meteorology Shapefile data extracted from Raster Marine Institute (2019), Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (2004), version 1.1. Available online at http://www.marine.gov.au</p><p>Model run: 06/01/2024 Issued: 06/01/2024</p></div>
Monthly minimum temperature (Image 5):	Seasonal minimum temperature (Image 6):
<div><p>Tercile minimum temperature probabilities for February 2024</p><p>Base period: 1981-2018 Model: ACCESS-S2 © Commonwealth of Australia 2024, Australian Bureau of Meteorology Shapefile data extracted from Raster Marine Institute (2019), Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (2004), version 1.1. Available online at http://www.marine.gov.au</p><p>Model run: 06/01/2024 Issued: 06/01/2024</p></div>	<div><p>Tercile minimum temperature probabilities for February to April 2024</p><p>Base period: 1981-2018 Model: ACCESS-S2 © Commonwealth of Australia 2024, Australian Bureau of Meteorology Shapefile data extracted from Raster Marine Institute (2019), Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (2004), version 1.1. Available online at http://www.marine.gov.au</p><p>Model run: 06/01/2024 Issued: 06/01/2024</p></div>

Part 2: Recent Ocean Observation

Monthly/Three months: December and October to December 2023

<p>Monthly: December</p>	<p>Last three months: October to December 2023:</p>
<p>Sea Surface Temperature (Image 1):</p>	<p>Sea Surface Temperature (Image 4):</p>
<p>Sea level (Image 2):</p>	
<p>Daily coral bleaching alert (Image 3):</p>	

Part 2i. Monthly and Seasonal Outlooks for February and February to April 2024

Monthly: February	Seasonal: February to April
<p>Monthly sea surface temperature (Image 5):</p> 	<p>Seasonal sea surface temperature (Image 6):</p> 
<p>Monthly sea level (Image 7):</p> 	<p>Seasonal sea level (Image 8):</p> 
<p>4-week Coral Bleaching (Image 9):</p> 	

Summary Statement

Monthly and last three months: December 2023/October to December 2023 statement

For December 2023, below normal rainfall was recorded across the country.

For October to December, below normal rainfall was recorded across Tonga. Niuatoputapu recorded its fifth lowest October to December rainfall in 71 years, while Vava'u had its seventh lowest.

Part 1i. Monthly and Seasonal Outlooks for February and February to April 2024

Monthly /Seasonal rainfall and temperature Outlook statements

The outlook for February offers little guidance for Tonga's main islands, but below normal rainfall is likely for central and southern parts of the EEZ.

The outlook for February to April rainfall also offers little guidance for most of Tonga, with above normal rainfall likely in small patches scattered across the EEZ.

Maximum and minimum temperatures during February and averaged over February to April are very likely to be above normal over all of Tonga.

Part 2: Recent Ocean summary statement

Monthly and last three months: December 2023/October to December 2023

December ocean temperatures around Tonga were 0.0 to 2.0°C above normal.

Averaged over October to December, ocean temperatures around Tonga were 0.0 to 1.0°C above normal.

December sea levels around Tonga were 50mm to 300mm above normal.

Coral bleaching alert shows 'Watch' status for Tonga waters.

Part 2i. Monthly and Seasonal Outlooks for February and February to April 2024

Ocean Variable statement

February and averaged over February to April ocean temperatures around Tonga are predicted to be 0.4 to 1.2°C above normal.

February sea levels around Niuafu'ou and Niuatoputapu are predicted to be 60mm to 30mm below normal, and sea levels around Vava'u, Ha'apai, Tongatapu and 'Eua are predicted to be upmost 60mm above normal.

Averaged over February to April, sea levels around Niuafu'ou and Niuatoputapu are predicted to be 100mm to – 30mm, below normal around Vava'u is predicted to be near normal, and around Ha'apai, Tongatapu and 'Eua are predicted to be 30mm to 60mm above normal.

Coral bleaching outlook shows 'Warning' for the next four weeks.

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

Product	Date: December 2023	Stakeholder	Total Number of Participants	Number of Male	Number of Female	Comments (If there are comments from you Stakeholders)
Climate Bulletin	3 Dec.	Government ministries, NGOs, Media Private Sector.	155	118	37	
EAR Watch						
Monthly Climate Briefing						
Ocean Outlook	3 Dec.	Government ministries, NGOs, Media Private Sector.	155	118	37	
Climate data request						
Total			310	236	74	