

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

Country: Tuvalu

Part 1: Recent climate

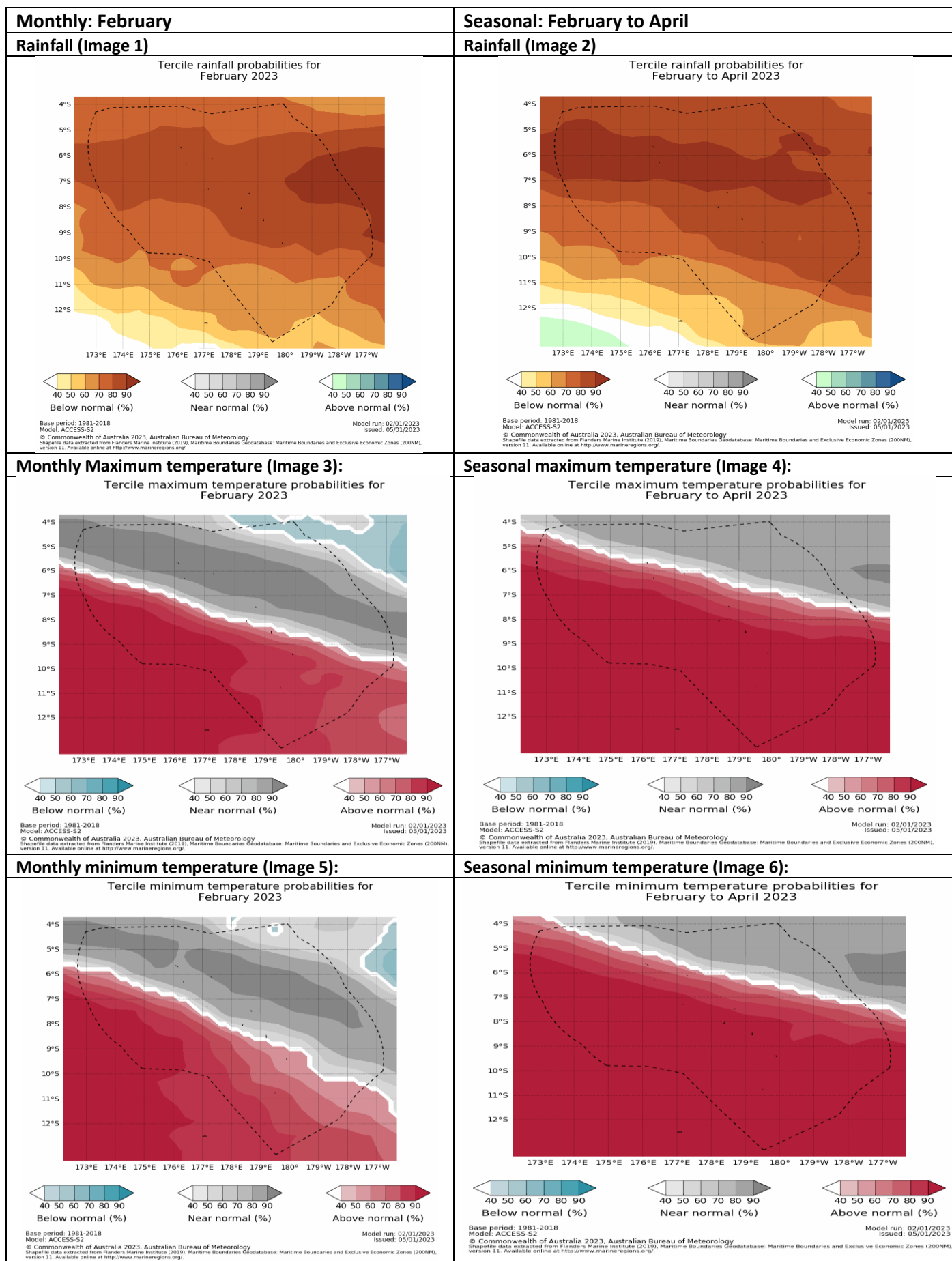
TABLE 1: Monthly Rainfall

Station (include data period)	Oct-2022	Nov-2022	Dec-2022				Rank
			Total (mm)	33%tile	67%tile	Median	
	Total (mm)	Total (mm)	Rainfall (mm)				
Nanumea (1941-2022)	18.9	29.9	172.9	206.4	374.7	292.8	21/81
Nui (1946-2022)	38.3	206.2	268.7	265.9	417.2	308.6	28/77
Funafuti (1933-2022)	109.9	124.7	331.9	305.6	436.4	347.0	38/90
Niulakita (1953-2022)	236.1	187.8	337.4	234.6	361.1	291.6	41/69

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

Station	Three-month Total		33%tile	67%tile	Median	Rank
	Rainfall (mm)					
Nanumea (1941-2022)	221.7	Below normal	525.9	759.0	625.5	9/81
Nui (1946-2022)	513.2	Below normal	704.0	907.4	791.4	12/77
Funafuti (1933-2022)	566.5	Below normal	808.7	1010.3	893.4	10/90
Niulakita (1953-2022)	761.3	Normal	760.3	960.0	832.2	24/68

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

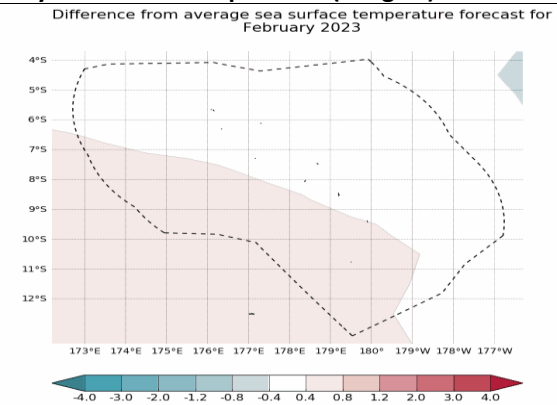
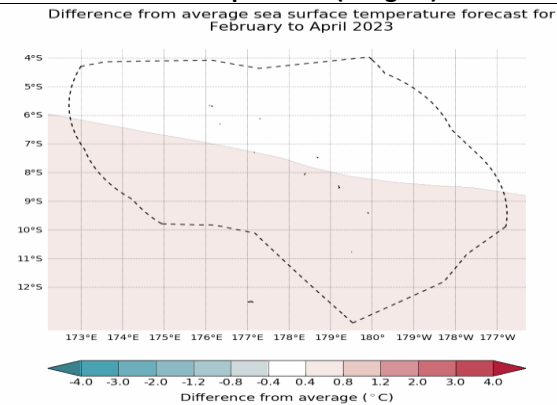
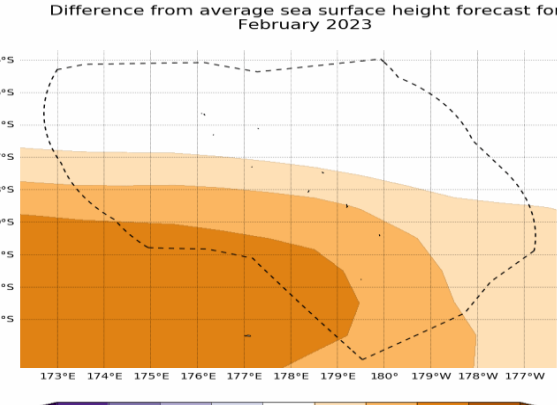
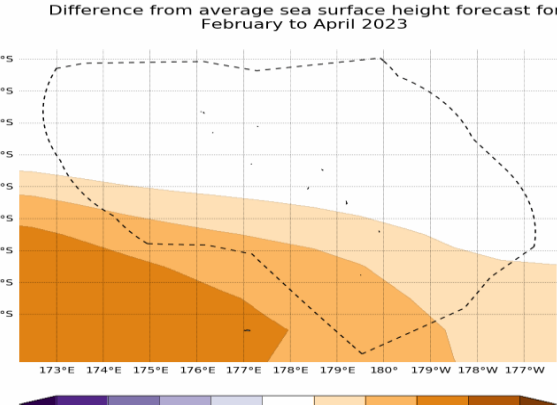
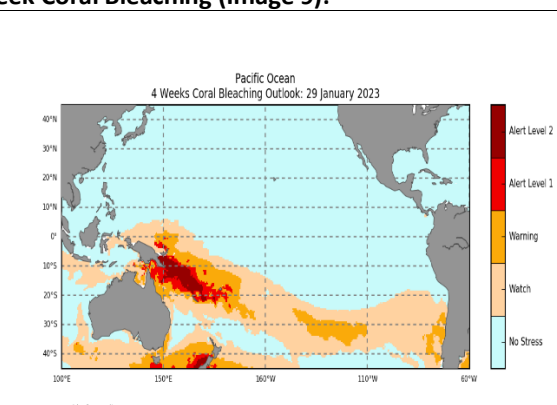
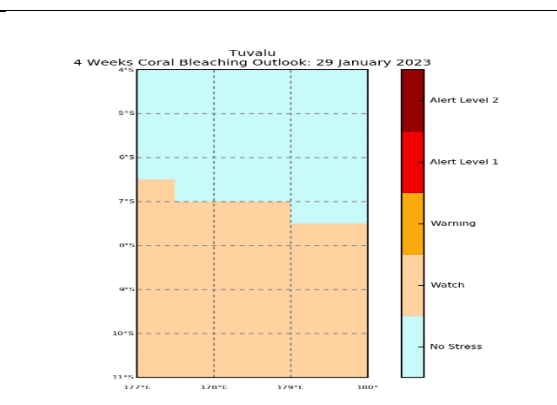


# Part 2: Recent Ocean Observation

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

<p><b>Monthly: December</b></p>	<p><b>Last three months: October to December 2022:</b></p>
<p><b>Sea Surface Temperature (Image 1):</b></p> <p>Tuvalu Monthly Average Sea Surface Temperature Anomaly: December 2022</p> <p>©Commonwealth of Australia 2023 Australian Bureau of Meteorology, COSPPac COMP Reynolds SST</p>	<p><b>Sea Surface Temperature (Image 4):</b></p> <p>Tuvalu 3 monthly Average Sea Surface Temperature Anomaly: October 2022 to December 2022</p> <p>©Commonwealth of Australia 2023 Australian Bureau of Meteorology, COSPPac COMP Reynolds SST</p>
<p><b>Sea level (Image 2):</b></p> <p>Tuvalu Monthly Near Real Time Sea Level Anomaly: December 2022</p> <p>©Commonwealth of Australia 2023 Australian Bureau of Meteorology, COSPPac COMRUSO SeaLevelSLA</p>	
<p><b>Daily coral bleaching alert (Image 3):</b></p> <p>Pacific Ocean Daily Coral Bleaching Alert: 04 January 2023</p> <p>©Commonwealth of Australia 2023 Australian Bureau of Meteorology, COSPPac COMP NOAA Coral Reef Watch</p>	<p><b>Daily Coral Bleaching Alert: 03 January 2023</b></p> <p>Tuvalu Daily Coral Bleaching Alert: 03 January 2023</p> <p>©Commonwealth of Australia 2023 Australian Bureau of Meteorology, COSPPac COMNOAA Coral Reef Watch</p>

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

<p><b>Monthly: February</b></p> <p><b>Monthly sea surface temperature (Image 5):</b></p> <p>Difference from average sea surface temperature forecast for February 2023</p>  <p>Base period: 1981-2018 Model: ACCESS-S2 © Commonwealth of Australia 2023. Australian Bureau of Meteorology Shapefile data extracted from Flanders Marine Institute (2019). Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (200NM), version 11. Available online at <a href="http://www.maritimeregions.org/">http://www.maritimeregions.org/</a></p> <p>Model run: 02/01/2023 Issued: 04/01/2023</p>	<p><b>Seasonal: February to April</b></p> <p><b>Seasonal sea surface temperature (Image 6):</b></p> <p>Difference from average sea surface temperature forecast for February to April 2023</p>  <p>Base period: 1981-2018 Model: ACCESS-S2 © Commonwealth of Australia 2023. Australian Bureau of Meteorology Shapefile data extracted from Flanders Marine Institute (2019). Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (200NM), version 11. Available online at <a href="http://www.maritimeregions.org/">http://www.maritimeregions.org/</a></p> <p>Model run: 02/01/2023 Issued: 04/01/2023</p>
<p><b>Monthly sea level (Image 7):</b></p> <p>Difference from average sea surface height forecast for February 2023</p>  <p>Base period: 1981-2018 Model: ACCESS-S2 © Commonwealth of Australia 2023. Australian Bureau of Meteorology Shapefile data extracted from Flanders Marine Institute (2019). Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (200NM), version 11. Available online at <a href="http://www.maritimeregions.org/">http://www.maritimeregions.org/</a></p> <p>Model run: 02/01/2023 Issued: 04/01/2023</p>	<p><b>Seasonal sea level (Image 8):</b></p> <p>Difference from average sea surface height forecast for February to April 2023</p>  <p>Base period: 1981-2018 Model: ACCESS-S2 © Commonwealth of Australia 2023. Australian Bureau of Meteorology Shapefile data extracted from Flanders Marine Institute (2019). Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (200NM), version 11. Available online at <a href="http://www.maritimeregions.org/">http://www.maritimeregions.org/</a></p> <p>Model run: 09/01/2023 Issued: 11/01/2023</p>
<p><b>4-week Coral Bleaching (Image 9):</b></p> <p>Pacific Ocean 4 Weeks Coral Bleaching Outlook: 29 January 2023</p>  <p>© Commonwealth of Australia 2023 Australian Bureau of Meteorology, COSPPac CDRP NOAA Coral Reef Watch</p>	<p><b>4 Weeks Coral Bleaching Outlook: 29 January 2023</b></p> <p>Tuvalu</p>  <p>© Commonwealth of Australia 2023 Australian Bureau of Meteorology, COSPPac CDRP NOAA Coral Reef Watch</p>

## **Summary Statement**

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

December: Below normal rainfall was observed at Nanumea, while Nui, Funafuti and Niulakita observed normal rainfall.

October to December: Below normal rainfall was observed at Nanumea, Nui and Funafuti, while Niulakita observed normal rainfall.

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

### **Monthly /Seasonal rainfall and temperature Outlook statements**

The rainfall for February and February to April is likely or very likely to be below normal over the whole country.

Monthly maximum and minimum temperatures are likely or very likely to be near normal over the northern and the central group, while the southern group is likely to be above normal.

Seasonal maximum and minimum temperatures are likely or very likely to be above normal over the whole country

## **Part 2: Recent Ocean summary statement**

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

Sea surface temperature around Tuvalu in December and averaged over October-December ranged from near-normal in central regions up to 1.0 °C below normal in the north, and up to 1.0 °C above normal in the south.

Sea levels around Tuvalu were 100 mm to 200 mm above normal in December.

Coral bleaching reveals Watch status for the southern part of Tuvalu.

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

### **Ocean Variable statement**

The monthly and seasonal sea surface temperature outlooks for February and February to April predict near-normal SSTs in the northeast half of the country, and 0.4 to 0.8 °C above normal in the southwest half.

February sea levels are forecast to increase southwards from near-normal for the northern group to 100 mm to 200 mm above normal in the southwest of the region.

Averaged over February to April sea levels are forecast to be near-normal over the northern half of the country, increasing to 60 mm to 100 mm above average in the south.

The Coral Bleaching outlook reveals Watch status for the southern part of Tuvalu.

**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		MET Staffs	22	17	5
		Disaster Dept	2	2	
		TRC	2	1	1
		TuCAN	1	1	
		Agriculture	2		2
		All Civil Servants			
		All Kaupule Secretary			
EAR Watch		MET Staffs	22	17	5
		Disaster Dept	2	2	
		TRC	2	1	1
		TuCAN	1	1	
		Agriculture	2		2
		All Civil Servants			
		All Kaupule Secretary			
Monthly Climate Briefing		MET Staffs	22	17	5
		Disaster Dept	2	2	
		TRC	2	1	1
		TuCAN	1	1	
		Agriculture	2		2
		All Civil Servants			
		All Kaupule Secretary			
Ocean Outlook		MET Staffs	22	17	5
		Disaster Dept	2	2	
		TRC	2	1	1
		TuCAN	1	1	
		Agriculture	2		2
		All Civil Servants			
		All Kaupule Secretary			
Climate data request	02/12/22	APCC's (Peta)	1		1
	09/12/22	Tuvalu Climate Change	1	1	
<b>Total</b>			<b>116</b>	<b>85</b>	<b>33</b>