

# Pacific Islands - Ocean and Climate Outlook Forum (OCOF) No. 209

Country: Tonga

Part 1: Recent climate

**TABLE 1: Monthly Rainfall**

Station (include data period)	Nov-2024	Dec-2024	Jan-2025				Rank
	Total (mm)	Total (mm)	Total (mm)	33%tile	67%tile	Median	
			Rainfall (mm)				
<i>Northern Division</i>							
Niuafu'ou (1971-2025)				209.3	359.7	244.2	
Niutoputapu (1947-2025)	156.0	141.1	623.9	210.9	296.0	239.5	78/78
<i>Central Division</i>							
Vava'u (1947-2025)	155.6	272.2	249.6	173.0	313.5	244.0	40/79
Ha'apai (1947-2025)	84.7	135.4	178.8	124.3	250.8	195.4	35/79
<i>Southern Division</i>							
Fua'amotu (1979-2025)	145.0	162.0	236.7	132.6	304.2	200.8	26/46
Nuku'alofa (1944-2025)	126.0	107.5	121.0	129.5	257.7	198.0	27/81

**TABLE 2: Three-month Total Rainfall for November 2024 to January 2025**

Station	Three-month Total		33%tile	67%tile	Median	Rank
	Rainfall (mm)					
<i>Northern Division</i>						
Niuafu'ou (1971-2025)	N/A	N/A	691.9	950.0	783.0	
Niutoputapu (1947-2025)	921.0	Above normal	584.6	833.7	745.0	56/73
<i>Central Division</i>						
Vava'u (1947-2025)	677.4	Normal	474.2	813.0	638.5	41/78
Ha'apai (1947-2025)	398.9	Normal	326.5	570.9	457.5	33/78
<i>Southern Division</i>						
Fua'amotu (1979-2025)	543.7	Normal	392.1	633.8	482.9	26/45
Nuku'alofa (1944-2025)	354.5	Normal	325.3	575.3	435.8	30/81

# Part 1i. Monthly and Seasonal Outlooks for March and March to May 2025

Monthly: March	Seasonal: March to May
<b>Rainfall (Image 1)</b>	<b>Rainfall (Image 2)</b>
<p>Tercile rainfall probabilities for March 2025</p> <p>Base period: 1981-2018 Model: ACCESS-S2 Model run: 03/02/2025 Issued: 05/02/2025</p> <p>177°W 176°W 175°W 174°W 173°W</p> <p>40 50 60 70 80 90 40 50 60 70 80 90 40 50 60 70 80 90</p> <p>Below normal (%) Near normal (%) Above normal (%)</p> <p>--- EEZ border V11 (Flanders Marine Institute, 2019).</p>	<p>Tercile rainfall probabilities for March to May 2025</p> <p>Base period: 1981-2018 Model: ACCESS-S2 Model run: 03/02/2025 Issued: 05/02/2025</p> <p>177°W 176°W 175°W 174°W 173°W</p> <p>40 50 60 70 80 90 40 50 60 70 80 90 40 50 60 70 80 90</p> <p>Below normal (%) Near normal (%) Above normal (%)</p> <p>--- EEZ border V11 (Flanders Marine Institute, 2019).</p>
<b>Monthly Maximum temperature (Image 3):</b>	<b>Seasonal maximum temperature (Image 4):</b>
<p>Tercile maximum temperature probabilities for March 2025</p> <p>Base period: 1981-2018 Model: ACCESS-S2 Model run: 03/02/2025 Issued: 05/02/2025</p> <p>177°W 176°W 175°W 174°W 173°W</p> <p>40 50 60 70 80 90 40 50 60 70 80 90 40 50 60 70 80 90</p> <p>Below normal (%) Near normal (%) Above normal (%)</p> <p>--- EEZ border V11 (Flanders Marine Institute, 2019).</p>	<p>Tercile maximum temperature probabilities for March to May 2025</p> <p>Base period: 1981-2018 Model: ACCESS-S2 Model run: 03/02/2025 Issued: 05/02/2025</p> <p>177°W 176°W 175°W 174°W 173°W</p> <p>40 50 60 70 80 90 40 50 60 70 80 90 40 50 60 70 80 90</p> <p>Below normal (%) Near normal (%) Above normal (%)</p> <p>--- EEZ border V11 (Flanders Marine Institute, 2019).</p>
<b>Monthly minimum temperature (Image 5):</b>	<b>Seasonal minimum temperature (Image 6):</b>
<p>Tercile minimum temperature probabilities for March 2025</p> <p>Base period: 1981-2018 Model: ACCESS-S2 Model run: 03/02/2025 Issued: 05/02/2025</p> <p>177°W 176°W 175°W 174°W 173°W</p> <p>40 50 60 70 80 90 40 50 60 70 80 90 40 50 60 70 80 90</p> <p>Below normal (%) Near normal (%) Above normal (%)</p> <p>--- EEZ border V11 (Flanders Marine Institute, 2019).</p>	<p>Tercile minimum temperature probabilities for March to May 2025</p> <p>Base period: 1981-2018 Model: ACCESS-S2 Model run: 03/02/2025 Issued: 05/02/2025</p> <p>177°W 176°W 175°W 174°W 173°W</p> <p>40 50 60 70 80 90 40 50 60 70 80 90 40 50 60 70 80 90</p> <p>Below normal (%) Near normal (%) Above normal (%)</p> <p>--- EEZ border V11 (Flanders Marine Institute, 2019).</p>

# Part 2: Recent Ocean Observation

## Monthly/Three months: January 2025 and November 2024 to January 2025

<p><b>Monthly: January 2025</b></p>	<p><b>Last three months: November 2024 to January 2025:</b></p>
<p><b>Sea Surface Temperature Anomaly (Image 1):</b></p> <p>© Commonwealth of Australia 2025 Australian Bureau of Meteorology - COSRPac NOAA SST</p>	<p><b>Sea Surface Temperature Anomaly (Image 4):</b></p> <p>© Commonwealth of Australia 2025 Australian Bureau of Meteorology - COSRPac NOAA SST</p>
<p><b>Sea level anomaly (Image 2):</b></p> <p>© Commonwealth of Australia 2025 Australian Bureau of Meteorology - COSRPac NOAA SeaLevelSEA</p>	
<p><b>Daily coral bleaching alert (Image 3):</b></p> <p>© Commonwealth of Australia 2025 Australian Bureau of Meteorology - COSRPac NOAA Coral Reef Watch</p>	<p>© Commonwealth of Australia 2025 Australian Bureau of Meteorology - COSRPac NOAA Coral Reef Watch</p>

# Part 2i. Monthly and Seasonal Outlooks for March and March to May 2025

Monthly: March	Seasonal: March to May
<p><b>Monthly sea surface temperature anomaly (Image 5):</b></p> <p>Difference from average sea surface temperature forecast for March 2025</p> <p>Base period: 1961-2018 Model run: 03/03/2025 Model: ACCESS-S2 Issue#: 05/02/2025</p> <p>© Commonwealth of Australia 2025, Bureau of Meteorology, supported by CSIRO</p> <p>--- EEZ border V11 (Henders Marine Institute, 2019)</p>	<p><b>Seasonal sea surface temperature anomaly (Image 6):</b></p> <p>Difference from average sea surface temperature forecast for March to May 2025</p> <p>Base period: 1961-2018 Model run: 03/03/2025 Model: ACCESS-S2 Issue#: 05/02/2025</p> <p>© Commonwealth of Australia 2025, Bureau of Meteorology, supported by CSIRO</p> <p>--- EEZ border V11 (Henders Marine Institute, 2019)</p>
<p><b>Monthly sea level anomaly (Image 7):</b></p> <p>Difference from average sea surface height forecast for March 2025</p> <p>Base period: 1993-2019 Model run: 03/03/2025 Model: ACCESS-S2 Issue#: 05/02/2025</p> <p>© Commonwealth of Australia 2025, Bureau of Meteorology, supported by CSIRO</p> <p>--- EEZ border V11 (Henders Marine Institute, 2019)</p>	<p><b>Seasonal sea level anomaly (Image 8):</b></p> <p>Difference from average sea surface height forecast for March to May 2025</p> <p>Base period: 1993-2019 Model run: 03/03/2025 Model: ACCESS-S2 Issue#: 05/02/2025</p> <p>© Commonwealth of Australia 2025, Bureau of Meteorology, supported by CSIRO</p> <p>--- EEZ border V11 (Henders Marine Institute, 2019)</p>
<p><b>4-week Coral Bleaching (Image 9):</b></p> <p>Pacific Ocean 4 Weeks Coral Bleaching Outlook: 02 March 2025</p> <p>© Commonwealth of Australia 2025 Australian Bureau of Meteorology, CSIRO</p> <p>NOAA Coral Reef Watch</p>	<p><b>Tonga</b></p> <p>4 Weeks Coral Bleaching Outlook: 02 March 2025</p> <p>© Commonwealth of Australia 2025 Australian Bureau of Meteorology, CSIRO</p> <p>NOAA Coral Reef Watch</p>

## Summary Statement

### Monthly and last three months: January 2025/November 2024 to January 2025 statement

January 2025 rainfall was below normal rainfall was recorded at Nuku'alofa, normal rainfall was recorded at Vava'u, Ha'apai and Fua'amotu, while above normal recorded at Niuatoputapu. Niuatoputapu recorded its highest January rainfall on record.

November 2024 to January 2025 rainfall was above normal for Niuatoputapu, and normal for the rest of country.

## Part 1i. Monthly and Seasonal Outlooks for March and March to May 2025

### Monthly /Seasonal rainfall and temperature Outlook statements

Rainfall in March is likely to be above normal for Tongatapu and part of the central division, while near normal rainfall likely over Niuatoputapu and part of the central division. Rainfall over March to May is like to be above normal over northern Tonga, and very likely to be above normal over southern Tonga.

Maximum and minimum temperatures March and averaged over March to May is very likely to be above normal across the country.

## Part 2: Recent Ocean summary statement

### Monthly and last three months: January 2025/November 2024 to January 2025

January sea surface temperatures around Tonga were utmost 0.0 to 1.5°C above normal.

Averaged over November 2024 to January 2025, sea surface temperatures around Tonga were utmost 0.0 to 1.0°C above normal.

January sea levels were 50 to 250mm above normal

A Coral Bleaching Alert is on "Warning" for the group.

## Part 2i. Monthly and Seasonal Outlooks for March and March to May 2025

### Ocean Variable statement

March sea surface temperatures around Tonga are predicted to be 0.4 to 1.2°C above normal.

Averaged over March to May, sea surface temperatures around Tonga are predicted to be 0.8 to 1.2°C above normal.

March and averaged over March to May, sea levels around –the main groups are –30 to 30mm near-normal.

Coral Bleaching outlook indicates Alert Level 1 status for the next 12 weeks.

### In brief for Teleconference

- Rainfall was mostly normal for January, and November to January period.

- The rainfall outlook generally indicates little guidance to near normal rainfall over the northern Tonga and central Tonga, while above normal rainfall likely over southern Tonga in March. The outlook is very likely to be above normal for Tonga in March to May
- SSTs were above normal for January and November to January. The outlook shows above normal SSTs for the next one and three months.
- Sea levels were above normal for January. Near normal sea levels are predicted for March and March to May.
- Coral Bleaching 4-week outlook shows an “Alert Level 1”

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

Product	Date: January 2024	Stakeholder	Total Number of Participants	Number of Male	Number of Female	Disability	Age group	Comments (If there are comments from you Stakeholders)
Climate Bulletin	3 January.	Government Ministries, NGOs,Media ,Private Sector	225	188	37			
EAR Watch								
Monthly Climate Briefing								
Ocean Outlook	3 Jan.	Government Ministries, NGOs,Media ,Private Sector	225	188	37			
Climate data request								
<b>Total</b>			<b>450</b>	<b>376</b>	<b>74</b>			