

Pacific Islands - Ocean and Climate Outlook Forum (OCOF) No. 206

Country: Tonga

Part 1: Recent climate

TABLE 1: Monthly Rainfall

Station (include data period)	Aug-2024	Sep-2024	Oct-2024				
			Total (mm)	33%tile	67%tile	Median	Rank
	Total (mm)	Total (mm)	Rainfall (mm)				
<i>Northern Division</i>							
Niufo'ou (1971-2024)	164.5	106.5		137.0	198.0	165.0	
Niutoputapu (1947-2024)	51.5	148.5	128.5	114.3	216.5	167.0	29/75
Vava'u (1947-2024)	109.1	144.6	60.9	100.3	178.3	143.7	18/78
Ha'apai (1947-2024)	18.5	87.6	87.3	52.8	125.0	94.8	36/78
<i>Southern Division</i>							
Fua'amotu (1979-2024)	93.8	87.8	383.7	55.6	120.0	88.9	44/45
Nuku'alofa (1944-2024)	176.0	64.0	387.0	58.0	129.7	96.5	79/81

TABLE 2: Three-month Total Rainfall for August to October 2024

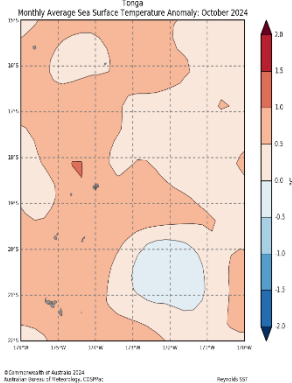
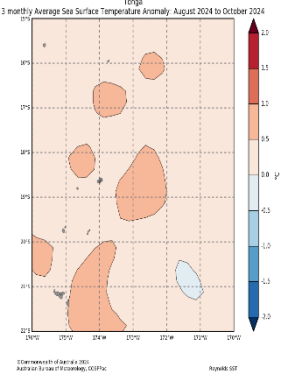
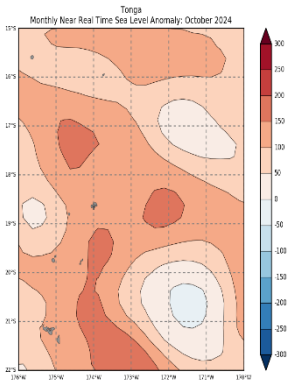
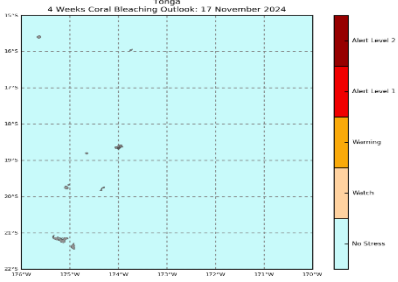
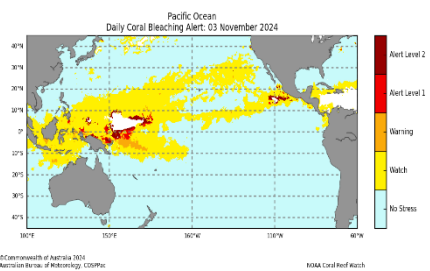
Station	Three-month Total		33%tile	67%tile	Median	Rank
	Rainfall (mm)					
<i>Northern Division</i>						
Niufo'ou (1971-2024)			313.7	475.7	402.2	
Niutoputapu (1947-2024)	328.5	Normal	272.0	510.9	340.0	36/75
<i>Central Division</i>						
Vava'u (1947-2024)	314.6	Below normal	337.2	474.6	400.0	25/78
Ha'apai (1947-2024)	193.4	Below normal	238.7	355.0	294.9	18/78
<i>Southern Division</i>						
Fua'amotu (1979-2024)	565.3	Above normal	279.6	400.0	352.4	41/45
Nuku'alofa (1944-2024)	627.0	Above normal	266.9	395.3	338.5	74/80

Part 1i. Monthly and Seasonal Outlooks for December and December to February 2025

Monthly: December	Seasonal: December to February
Rainfall (Image 1)	Rainfall (Image 2)
Monthly Maximum temperature (Image 3):	Seasonal maximum temperature (Image 4):
Monthly minimum temperature (Image 5):	Seasonal minimum temperature (Image 6):

Part 2: Recent Ocean Observation

Monthly/Three months: October 2024 and August to October 2024

<p>Monthly: October 2024</p>	<p>Last three months: August to October 2024:</p>
<p>Sea Surface Temperature Anomaly (Image 1):</p>  <p>Tonga Monthly Average Sea Surface Temperature Anomaly, October 2024</p> <p>© Commonwealth of Australia 2024 Australian Bureau of Meteorology, CSIRO/Pho</p> <p>Reynolds SST</p>	<p>Sea Surface Temperature Anomaly (Image 4):</p>  <p>Tonga 3 monthly Average Sea Surface Temperature Anomaly, August 2024 to October 2024</p> <p>© Commonwealth of Australia 2024 Australian Bureau of Meteorology, CSIRO/Pho</p> <p>Reynolds SST</p>
<p>Sea level anomaly (Image 2):</p>  <p>Tonga Monthly Near Real Time Sea Level Anomaly, October 2024</p> <p>© Commonwealth of Australia 2024 Australian Bureau of Meteorology, CSIRO/Pho</p> <p>GRACE SeaRCH/CHRS SLA</p>	
<p>Daily coral bleaching alert (Image 3):</p>  <p>Tonga 4 Weeks Coral Bleaching Outlook: 17 November 2024</p> <p>© Commonwealth of Australia 2024 Australian Bureau of Meteorology, CSIRO/Pho</p> <p>NOAA Coral Reef Watch</p>	 <p>Pacific Ocean Daily Coral Bleaching Alert: 03 November 2024</p> <p>© Commonwealth of Australia 2024 Australian Bureau of Meteorology, CSIRO/Pho</p> <p>NOAA Coral Reef Watch</p>

Part 2i. Monthly and Seasonal Outlooks for December and December to February 2025

Monthly: December	Seasonal: December to February
Monthly sea surface temperature anomaly (Image 5):	Seasonal sea surface temperature anomaly (Image 6):
<p>Difference from average sea surface temperature forecast for December 2024</p> <p>Base period: 1981-2018 Model: ACCESS-S2 Model run: 04/11/2024 Issue: 04/11/2024</p> <p>© Commonwealth of Australia 2024. Bureau of Meteorology, supported by CSIRO/PMO</p> <p>--- EEZ border V11 (Flinders Marine Institute, 2019)</p>	<p>Difference from average sea surface temperature forecast for December 2024 to February 2025</p> <p>Base period: 1981-2018 Model: ACCESS-S2 Model run: 04/11/2024 Issue: 04/11/2024</p> <p>© Commonwealth of Australia 2024. Bureau of Meteorology, supported by CSIRO/PMO</p> <p>--- EEZ border V11 (Flinders Marine Institute, 2019)</p>
Monthly sea level anomaly (Image 7):	Seasonal sea level anomaly (Image 8):
<p>Difference from average sea surface height forecast for December 2024</p> <p>Base period: 1981-2018 Model: ACCESS-S2 Model run: 04/11/2024 Issue: 04/11/2024</p> <p>© Commonwealth of Australia 2024. Bureau of Meteorology, supported by CSIRO/PMO</p> <p>--- EEZ border V11 (Flinders Marine Institute, 2019)</p>	<p>Difference from average sea surface height forecast for December 2024 to February 2025</p> <p>Base period: 1981-2018 Model: ACCESS-S2 Model run: 04/11/2024 Issue: 04/11/2024</p> <p>© Commonwealth of Australia 2024. Bureau of Meteorology, supported by CSIRO/PMO</p> <p>--- EEZ border V11 (Flinders Marine Institute, 2019)</p>
4-week Coral Bleaching (Image 9):	
<p>4 Weeks Coral Bleaching Outlook: 17 November 2024</p> <p>© Commonwealth of Australia 2024. Australian Bureau of Meteorology, CSIRO/PMO</p> <p>NOAA Coral Reef Watch</p>	<p>4 Weeks Coral Bleaching Outlook: 17 November 2024</p> <p>© Commonwealth of Australia 2024. Australian Bureau of Meteorology, CSIRO/PMO</p> <p>NOAA Coral Reef Watch</p>

Summary Statement

Monthly and last three months: October 2024/August to October 2024 statement

The rainfall for October was above normal at Fua'amotu and Nuku'alofa, near normal rainfall at Niuatoputapu and Ha'apai, below normal rainfall for Vava'u. Fua'amotu recorded the second, while Nuku'alofa recorded its third highest October rainfall on record.

August to October rainfall was above normal at Nuku'alofa and Fua'amotu, near normal for Niuatoputapu, below normal rainfall at Vava'u and Ha'apai. Nuku'alofa had its seventh and Fua'amotu had its fifth highest August to October rainfall on record.

Part 1i. Monthly and Seasonal Outlooks for December and December to February 2025

Monthly /Seasonal rainfall and temperature Outlook statements

Rainfall in December is likely to be above normal for Tongatapu and Va'vau, while near normal rainfall is likely over Ha'aai and Niuafou and Niua. Rainfall over December to February is very likely to be above normal for all of Tonga, except for northern Tonga and Tofua with near normal rainfall likely.

Maximum and minimum temperatures December and averaged over December to February, are very likely to be above normal across the country.

Part 2: Recent Ocean summary statement

Monthly and last three months: October 2024/August to October 2024

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

Averaged over August to October, sea surface temperatures around Tonga were utmost 1.0°C above normal.

October sea levels were 50 to 200mm above normal

Coral Bleaching is at "No Stress"

Part 2i. Monthly and Seasonal Outlooks for December and December to January 2025

Ocean Variable statement

December and averaged over December to January, sea surface temperatures around Tonga are predicted to be 0.4 to 1.2°C above normal.

December and averaged December to January sea levels are predicted to be -30mm to 30mm near- normal over Tongatapu, 30 to 100mm above normal to the south of Tongatapu and 30 to 60mm below normal over northern Tonga.

IN BRIEF for Teleconference

- Rainfall was generally normal to above normal for October and below normal and above normal for October to December.
- The rainfall outlook generally indicates above normal most likely in December over December to February, with normal rainfall likely for northern region and part of the central region over the same two periods.

- SSTs were above normal for October and August to October. The outlook shows above normal SSTs for the next one and three months.
- Sea levels were above normal for October. Near normal to above normal sea levels are predicted for December and December to January.

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

Product	Date: October 2024	Stakeholder	Total Number of Participants	Number of Male	Number of Female	Comments (If there are comments from you Stakeholders)
Climate Bulletin	3 October	Government ministries, NGOs, Media, Private Sector	155	188	37	
EAR Watch						
Monthly Climate Briefing						
Ocean Outlook	3 October	Government ministries, NGOs, Media, Private Sector	155	188	37	
Climate data request						
Total			310	236	74	