

Country: Tonga

Part 1: Recent climate

TABLE 1: Monthly Rainfall

| Station (include data period) | Oct-2024 | Nov-2024 | Dec-2024 | | | | |
|-------------------------------|------------|------------|---------------|---------|---------|--------|-------|
| | | | Total (mm) | 33%tile | 67%tile | Median | Rank |
| | Total (mm) | Total (mm) | Rainfall (mm) | | | | |
| Northern Division | | | | | | | |
| Niuafo'ou (1971-2024) | N/A | N/A | N/A | 220.9 | 360.3 | 281.0 | |
| Niuaatoputapu (1947-2024) | 156.0 | N/A | 141.1 | 164.2 | 279.7 | 243.0 | 19/73 |
| Central Division | | | | | | | |
| Vava'u (1947-2024) | 60.9 | 84.7 | 272.2 | 129.0 | 257.0 | 165.5 | 54/78 |
| Ha'apai (1947-2024) | 87.3 | 84.7 | 135.4 | 66.0 | 157.7 | 122.2 | 44/78 |
| | | | | | | | |
| Fua'amotu (1979-2024) | 383.7 | 145.0 | 162.0 | 74.7 | 166.3 | 122.8 | 45/25 |
| Nuku'alofa (1944-2024) | 387.0 | 126.0 | 107.5 | 129.6 | 194.2 | 153.8 | 36/81 |

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

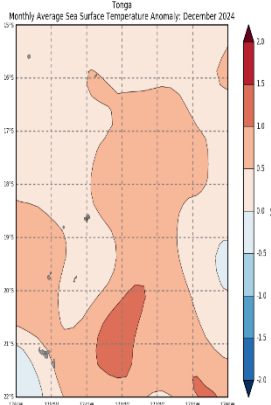
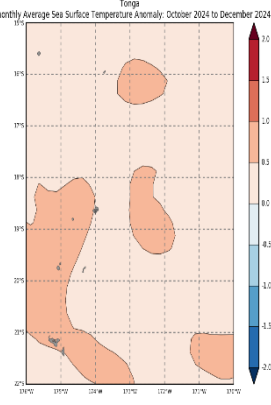
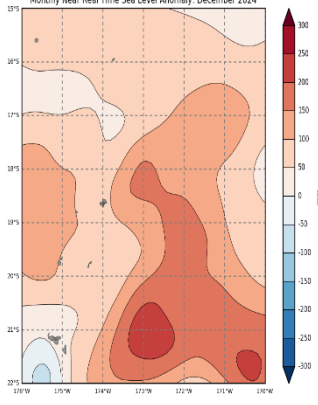
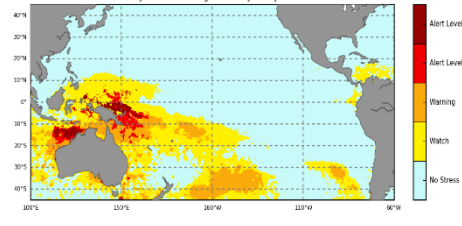
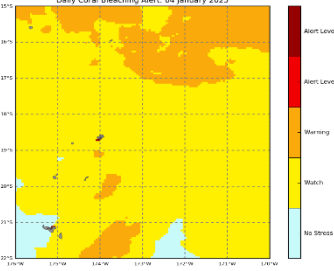
| Station | Three-month Total | | 33%tile | 67%tile | Median | Rank |
|---------------------------|-------------------|--------------|---------|---------|--------|-------|
| | Rainfall (mm) | | | | | |
| Northern Division | | | | | | |
| Niuafo'ou (1971-2024) | | | 603.3 | 855.0 | 710 | |
| Niuaatoputapu (1947-2024) | 425.6 | Below Normal | 510.7 | 742.7 | 614.5 | 16/72 |
| Central Division | | | | | | |
| Vava'u (1947-2024) | 417.8 | Normal | 397.7 | 616.5 | 530.0 | 30/78 |
| Ha'apai (1947-2024) | 307.4 | Normal | 248.5 | 425.0 | 341.2 | 34/78 |
| Southern Division | | | | | | |
| Fua'amotu (1979-2024) | 690.7 | Above normal | 287.9 | 442.1 | 371.2 | 41/45 |
| Nuku'alofa (1944-2024) | 620.5 | Above normal | 251.7 | 417.3 | 346.3 | 71/81 |

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

| Monthly: February | Seasonal: February to April |
|---|---|
| Rainfall (Image 1) | Rainfall (Image 2) |
| <div><p>Tercile rainfall probabilities for February 2025</p><p>Base period: 1981-2018 Model: ACCESS-S2 Model run: 06/01/2025 Issued: 09/01/2025</p><p>16°S 17°S 18°S 19°S 20°S 21°S</p><p>177°W 176°W 175°W 174°W 173°W</p><p>Below normal (%) Near normal (%) Above normal (%)</p><p>— — EEZ border V11 (Flanders Marine Institute, 2019).</p></div> | <div><p>Tercile rainfall probabilities for February to April 2025</p><p>Base period: 1981-2018 Model: ACCESS-S2 Model run: 06/01/2025 Issued: 09/01/2025</p><p>16°S 17°S 18°S 19°S 20°S 21°S</p><p>177°W 176°W 175°W 174°W 173°W</p><p>Below normal (%) Near normal (%) Above normal (%)</p><p>— — EEZ border V11 (Flanders Marine Institute, 2019).</p></div> |
| Monthly Maximum temperature (Image 3): | Seasonal maximum temperature (Image 4): |
| <div><p>Tercile maximum temperature probabilities for April 2025</p><p>Base period: 1981-2018 Model: ACCESS-S2 Model run: 06/01/2025 Issued: 09/01/2025</p><p>16°S 17°S 18°S 19°S 20°S 21°S</p><p>177°W 176°W 175°W 174°W 173°W</p><p>Below normal (%) Near normal (%) Above normal (%)</p><p>— — EEZ border V11 (Flanders Marine Institute, 2019).</p></div> | <div><p>Tercile maximum temperature probabilities for February to April 2025</p><p>Base period: 1981-2018 Model: ACCESS-S2 Model run: 06/01/2025 Issued: 09/01/2025</p><p>16°S 17°S 18°S 19°S 20°S 21°S</p><p>177°W 176°W 175°W 174°W 173°W</p><p>Below normal (%) Near normal (%) Above normal (%)</p><p>— — EEZ border V11 (Flanders Marine Institute, 2019).</p></div> |
| Monthly minimum temperature (Image 5): | Seasonal minimum temperature (Image 6): |
| <div><p>Tercile minimum temperature probabilities for April 2025</p><p>Base period: 1981-2018 Model: ACCESS-S2 Model run: 06/01/2025 Issued: 09/01/2025</p><p>16°S 17°S 18°S 19°S 20°S 21°S</p><p>177°W 176°W 175°W 174°W 173°W</p><p>Below normal (%) Near normal (%) Above normal (%)</p><p>— — EEZ border V11 (Flanders Marine Institute, 2019).</p></div> | <div><p>Tercile minimum temperature probabilities for February to April 2025</p><p>Base period: 1981-2018 Model: ACCESS-S2 Model run: 06/01/2025 Issued: 09/01/2025</p><p>16°S 17°S 18°S 19°S 20°S 21°S</p><p>177°W 176°W 175°W 174°W 173°W</p><p>Below normal (%) Near normal (%) Above normal (%)</p><p>— — EEZ border V11 (Flanders Marine Institute, 2019).</p></div> |

Part 2: Recent Ocean Observation

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

| | | | |
|---|--|--|--|
| Monthly: December 2024 | | Last three months: October to December 2024: | |
| Sea Surface Temperature Anomaly (Image 1): | | Sea Surface Temperature Anomaly (Image 4): | |
| <div><p>Tonga</p><p>Monthly Average Sea Surface Temperature Anomaly: December 2024</p><p>© Commonwealth of Australia 2025 Australian Bureau of Meteorology, CSIRO/PSF</p><p>Reynolds SST</p></div> | | <div><p>Tonga</p><p>3 monthly Average Sea Surface Temperature Anomaly: October to December 2024</p><p>© Commonwealth of Australia 2025 Australian Bureau of Meteorology, CSIRO/PSF</p><p>Reynolds SST</p></div> | |
| Sea level anomaly (Image 2): | | | |
| <div><p>Tonga</p><p>Monthly Near Real Time Sea Level Anomaly: December 2024</p><p>© Commonwealth of Australia 2025 Australian Bureau of Meteorology, CSIRO/PSF</p><p>AVISO SeaWiFS/SeaWiFS</p></div> | | | |
| Daily coral bleaching alert (Image 3): | | | |
| <div><p>Pacific Ocean</p><p>Daily Coral Bleaching Alert: 04 January 2025</p><p>© Commonwealth of Australia 2025 Australian Bureau of Meteorology, CSIRO/PSF</p><p>NOAA Coral Reef Watch</p></div> | | <div><p>Tonga</p><p>Daily Coral Bleaching Alert: 04 January 2025</p><p>© Commonwealth of Australia 2025 Australian Bureau of Meteorology, CSIRO/PSF</p><p>NOAA Coral Reef Watch</p></div> | |

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

| Monthly: February | Seasonal: February to April |
|---|--|
| Monthly sea surface temperature anomaly (Image 5): | Seasonal sea surface temperature anomaly (Image 6): |
| <div><p>Difference from average sea surface temperature forecast for February 2025</p><p>Base period: 1981-2018 Model: ACCESS-S2 Model run: 06/01/2025 Issued: 08/01/2025</p><p>© Commonwealth of Australia 2025, Bureau of Meteorology, supported by CSIRO/PM</p><p>— EEZ border V1.1 (Henderson Marine Institute, 2019)</p></div> | <div><p>Difference from average sea surface temperature forecast for February to April 2025</p><p>Base period: 1981-2018 Model: ACCESS-S2 Model run: 06/01/2025 Issued: 08/01/2025</p><p>© Commonwealth of Australia 2025, Bureau of Meteorology, supported by CSIRO/PM</p><p>— EEZ border V1.1 (Henderson Marine Institute, 2019)</p></div> |
| Monthly sea level anomaly (Image 7): | Seasonal sea level anomaly (Image 8): |
| <div><p>Difference from average sea surface height forecast for February 2025</p><p>Base period: 1981-2018 Model: ACCESS-S2 Model run: 06/01/2025 Issued: 08/01/2025</p><p>© Commonwealth of Australia 2025, Bureau of Meteorology, supported by CSIRO/PM</p><p>— EEZ border V1.1 (Henderson Marine Institute, 2019)</p></div> | <div><p>Difference from average sea surface height forecast for February to April 2025</p><p>Base period: 1981-2018 Model: ACCESS-S2 Model run: 06/01/2025 Issued: 08/01/2025</p><p>© Commonwealth of Australia 2025, Bureau of Meteorology, supported by CSIRO/PM</p><p>— EEZ border V1.1 (Henderson Marine Institute, 2019)</p></div> |
| 4-week Coral Bleaching (Image 9): | |
| <div><p>Pacific Ocean 4 Weeks Coral Bleaching Outlook: 26 January 2025</p><p>© Commonwealth of Australia 2025 Australian Bureau of Meteorology, CSIRO/PM</p><p>NOAA Coral Reef Watch</p></div> | <div><p>Tonga 4 Weeks Coral Bleaching Outlook: 26 January 2025</p><p>© Commonwealth of Australia 2025 Australian Bureau of Meteorology, CSIRO/PM</p><p>NOAA Coral Reef Watch</p></div> |

Summary Statement

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

The rainfall for December was above normal at Vava'u, near normal rainfall at Fua'amotu and Ha'apai, below normal rainfall for Nuku'alofa and Niutoputapu.

October to December rainfall was above normal at Nuku'alofa and Fua'amotu, near normal for Vava'u and Ha'apai, and below normal at Niutoputapu.

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

Monthly /Seasonal rainfall and temperature Outlook statements

Rainfall in February is likely to be above normal for Tongatapu, Ha'apai and Vavau, while little guidance for Niuafo'ou and Niutoputapu. Rainfall over February to April is likely or very likely to be above normal for Tongatapu, Ha'apai and Vava'u. The rainfall outlook for Niuafo'ou and Niutoputapu offers little guidance.

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: December 2024/October to December 2024

December sea surface temperatures around Tonga were utmost 1.5°C above normal.

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

December sea levels were utmost 250mm above normal

Coral Bleaching Alert is at "warning" for northern Tonga and "Watch" for the rest of the group.

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

Ocean Variable statement

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

February and averaged February to April sea levels are predicted to be near- normal over Tongatapu, Vavau and Haapai group, 30 to 200mm above normal to the south of Tongatapu and 30 to 60mm below normal over northern Tonga.

IN BRIEF for Teleconference

- Rainfall was generally below normal, normal and above normal for October and October to December.
- The rainfall outlook generally indicates above normal most likely in December over December to February in the central and southern part of Tonga while normal rainfall likely or little guidance for northern region and part of the central region over the same two periods.
- SSTs were above normal for December and October to December. The outlook shows above normal SSTs for the next one and three months.
- Sea levels were above normal for February. Sea levels are predicted to range from below normal to near normal and above normal sea levels for December and February to April

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

| Product | Date: December 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 Dec. | Government Ministries, NGOs, Media, Private Sector | 225 | 188 | 37 | | | |
| EAR Watch | | | | | | | | |
| Monthly Climate Briefing | | | | | | | | |
| Ocean Outlook | 3 Dec | Government Ministries, NGOs,Media Private Sector | 225 | 188 | 37 | | | |
| Climate data request | | | | | | | | |
| Total | | | 450 | 376 | 74 | | | |