

Pacific Islands - Ocean and Climate Outlook Forum (OCOF) No. 192

Country: Tuvalu

Part 1: Recent climate

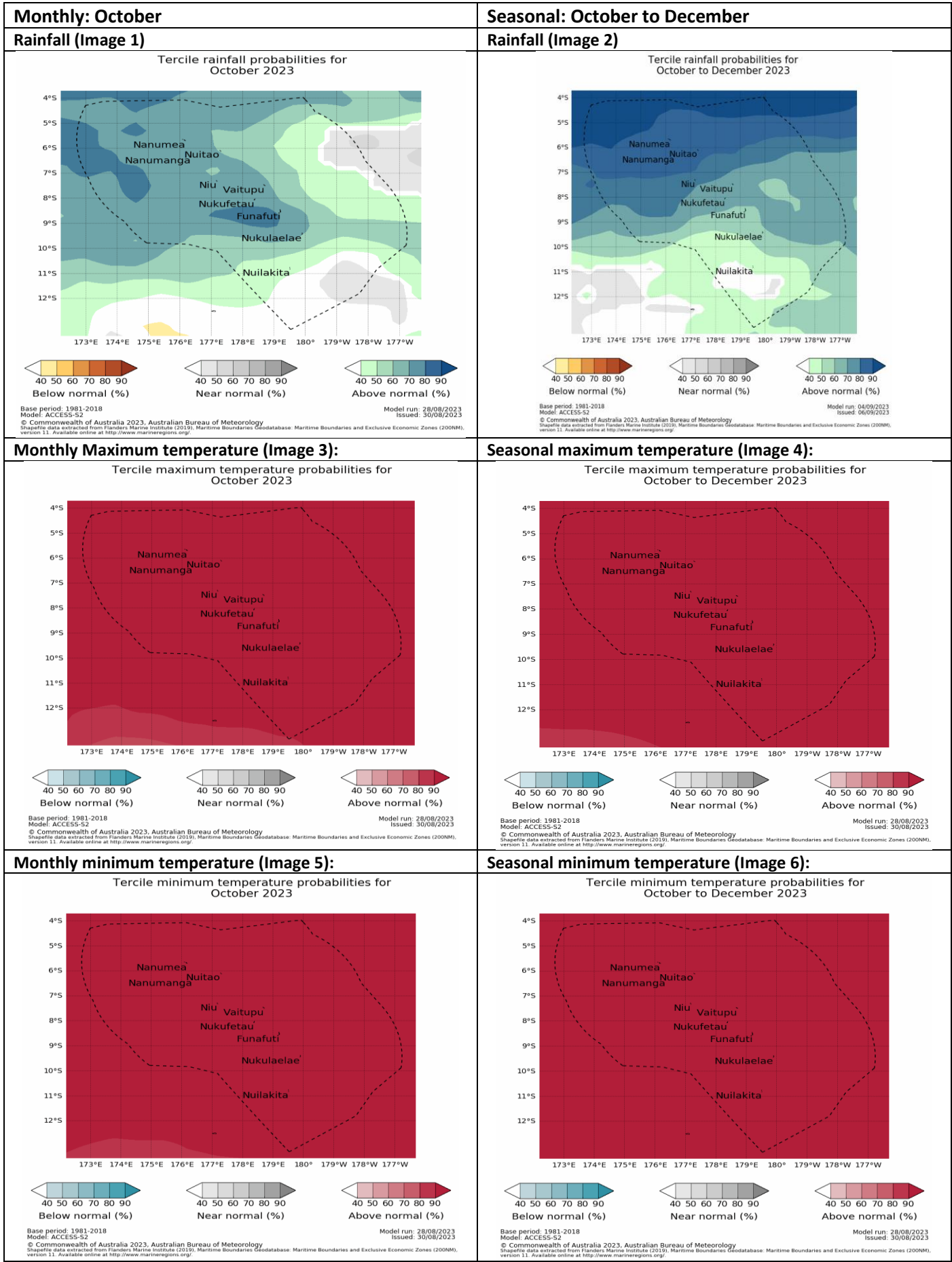
TABLE 1: Monthly Rainfall

| Station (include data period) | Jun-2023 | Jul-2023 | Aug-2023 | | | | Rank |
|-------------------------------|------------|------------|---------------|---------|---------|--------|-------|
| | | | Total (mm) | 33%tile | 67%tile | Median | |
| | Total (mm) | Total (mm) | Rainfall (mm) | | | | |
| Nanumea (1941-2023) | 104.2 | 123.5 | 136.0 | 147.4 | 213.2 | 184.7 | 21/82 |
| Nui (1946-2023) | 109.5 | 156.1 | 117.8 | 141.2 | 263.1 | 192.6 | 17/78 |
| Funafuti (1933-2023) | 74.1 | 289.0 | 106.0 | 189.9 | 296.9 | 221.9 | 9/91 |
| Niulakita (1953-2023) | 60.5 | 99.4 | 375.3 | 147.0 | 259.3 | 218.0 | 63/71 |

TABLE 2: Three-month Total Rainfall for June to August 2023

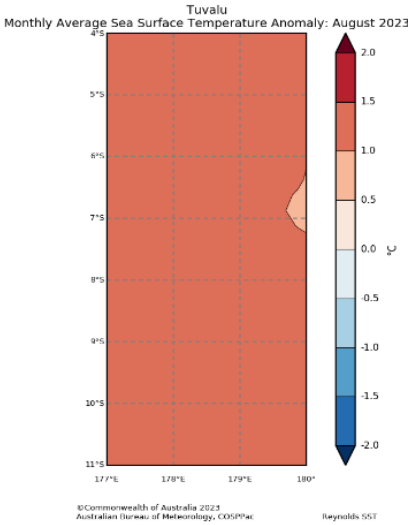
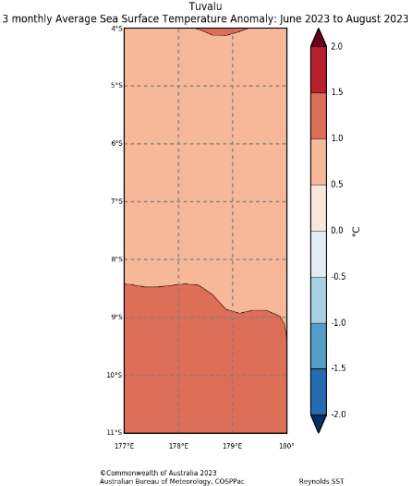
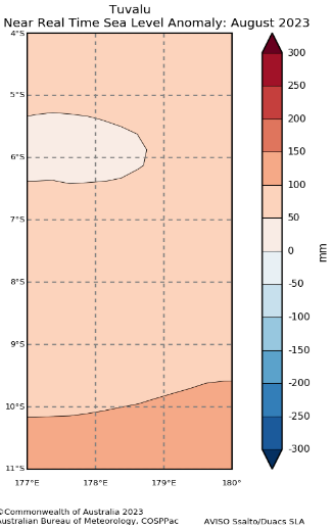
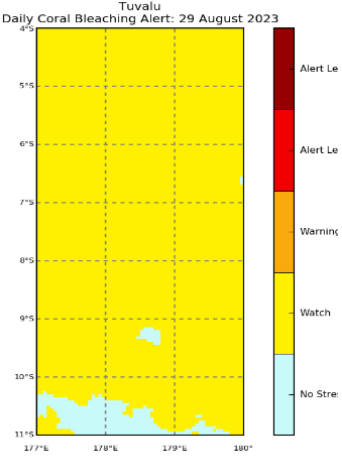
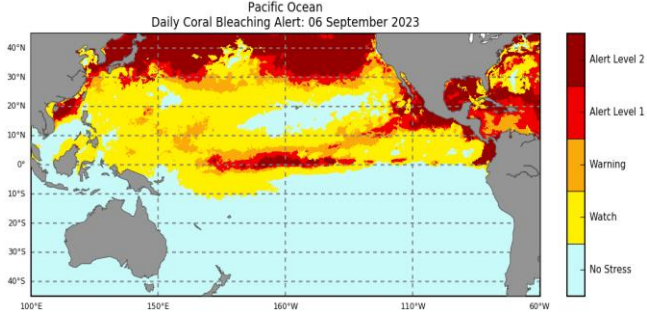
| Station | Three-month Total | | 33%tile | 67%tile | Median | Rank |
|-----------------------|-------------------|--------------|---------|---------|--------|-------|
| | Rainfall (mm) | | | | | |
| Nanumea (1941-2023) | 363.7 | Below normal | 426.9 | 704.3 | 534.7 | 18/82 |
| Nui (1946-2023) | 383.4 | Below normal | 486.2 | 728.0 | 646.5 | 15/78 |
| Funafuti (1933-2023) | 469.1 | Below normal | 586.1 | 807.1 | 711.0 | 15/91 |
| Niulakita (1953-2023) | 535.2 | Below normal | 538.4 | 757.8 | 623.8 | 23/71 |

Part 1i. Monthly and Seasonal Outlooks for October and October to December 2023

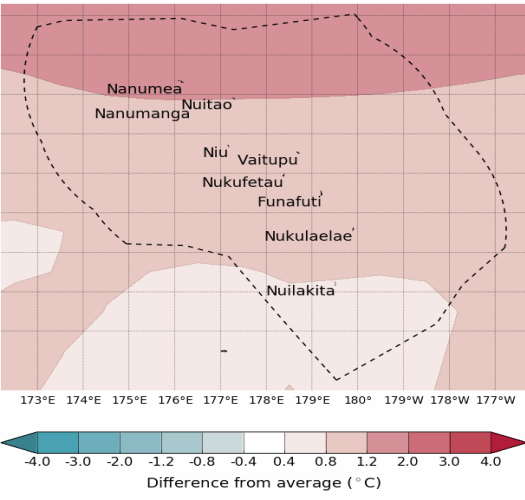
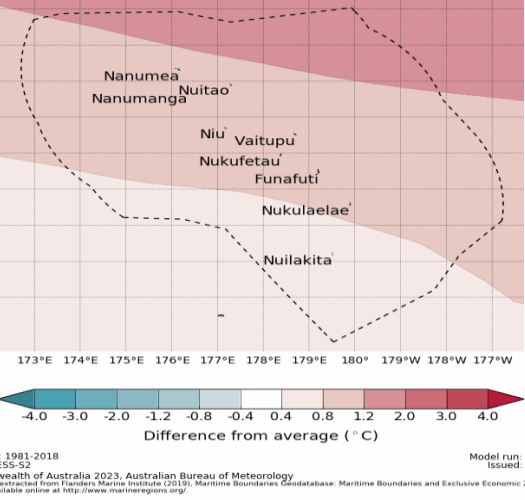
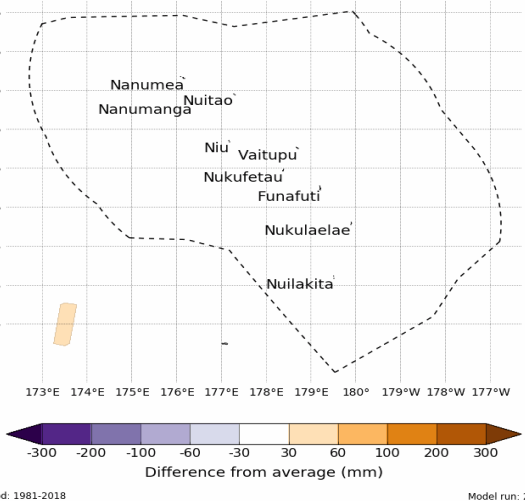
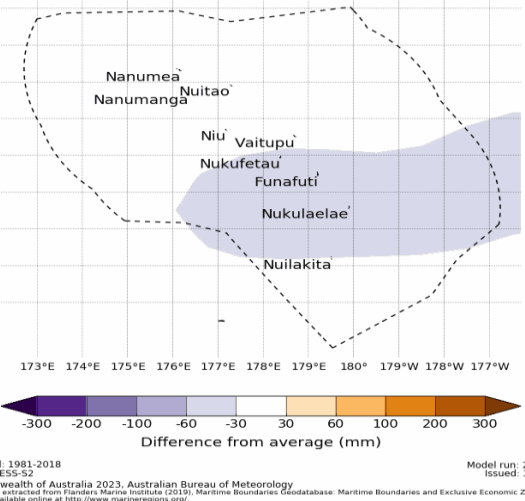
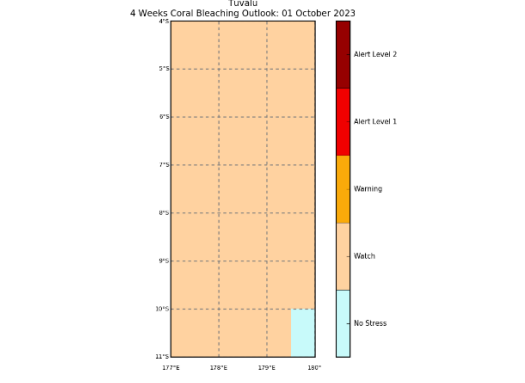
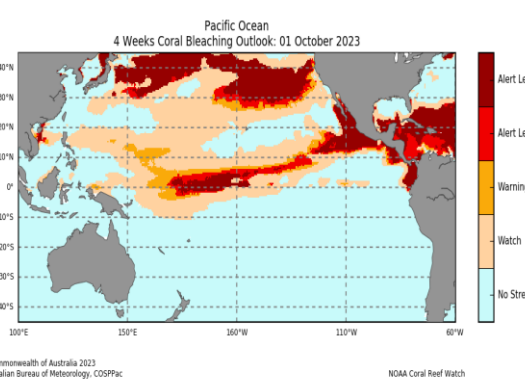


Part 2: Recent Ocean Observation

Monthly/Three months: August and June to August 2023

| Monthly: August | Last three months: June to August 2023: |
|---|---|
| <p>Sea Surface Temperature (Image 1):</p>  <p>Tuvalu Monthly Average Sea Surface Temperature Anomaly: August 2023</p> <p>©Commonwealth of Australia 2023 Australian Bureau of Meteorology, COSPPac Reynolds SST</p> | <p>Sea Surface Temperature (Image 4):</p>  <p>Tuvalu 3 monthly Average Sea Surface Temperature Anomaly: June 2023 to August 2023</p> <p>©Commonwealth of Australia 2023 Australian Bureau of Meteorology, COSPPac Reynolds SST</p> |
| <p>Sea level (Image 2):</p>  <p>Tuvalu Near Real Time Sea Level Anomaly: August 2023</p> <p>©Commonwealth of Australia 2023 Australian Bureau of Meteorology, COSPPac AVISO SeaWiFS/SIA</p> | |
| <p>Daily coral bleaching alert (Image 3):</p>  <p>Tuvalu Daily Coral Bleaching Alert: 29 August 2023</p> <p>©Commonwealth of Australia 2023 Australian Bureau of Meteorology, COSPPac NOAA Coral Reef Watch</p> |  <p>Pacific Ocean Daily Coral Bleaching Alert: 06 September 2023</p> <p>©Commonwealth of Australia 2023 Australian Bureau of Meteorology, COSPPac NOAA Coral Reef Watch</p> |

Part 2i. Monthly and Seasonal Outlooks for October and October to December 2023

| Monthly: October | Seasonal: October to December |
|--|--|
| <p>Monthly sea surface temperature (Image 5):</p> <p>Difference from average sea surface temperature forecast for October 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 http://www.maritimerregions.org/</p> <p>Model run: 28/08/2023 Issued: 30/08/2023</p> | <p>Seasonal sea surface temperature (Image 6):</p> <p>Difference from average sea surface temperature forecast for October to December 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 http://www.maritimerregions.org/</p> <p>Model run: 28/08/2023 Issued: 30/08/2023</p> |
| <p>Monthly sea level (Image 7):</p> <p>Difference from average sea surface height forecast for October 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 http://www.maritimerregions.org/</p> <p>Model run: 28/08/2023 Issued: 30/08/2023</p> | <p>Seasonal sea level (Image 8):</p> <p>Difference from average sea surface height forecast for October to December 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 http://www.maritimerregions.org/</p> <p>Model run: 28/08/2023 Issued: 30/08/2023</p> |
| <p>4-week Coral Bleaching (Image 9):</p> <p>Tuvalu 4 Weeks Coral Bleaching Outlook: 01 October 2023</p>  <p>© Commonwealth of Australia 2023 Australian Bureau of Meteorology, COSPPac NOAA Coral Reef Watch</p> | <p>Pacific Ocean 4 Weeks Coral Bleaching Outlook: 01 October 2023</p>  <p>© Commonwealth of Australia 2023 Australian Bureau of Meteorology, COSPPac NOAA Coral Reef Watch</p> |

Summary Statement

Monthly and last three months: August 2023/June to August 2023 statement

The rainfall for August and June to August was mainly below normal over, Tuvalu. The only exception was at Niulakita where August rainfall above normal.

Part 1i. Monthly and Seasonal Outlooks for October and October to December 2023

Monthly /Seasonal rainfall and temperature Outlook statements

The rainfall for October and for October to December is likely or very likely to be above normal over Tuvalu.

Maximum and minimum temperatures during October and averaged over October to December are likely or very likely to be above normal over Tuvalu.

Part 2: Recent Ocean summary statement

Monthly and last three months: August 2023/June to August 2023

August ocean temperatures around Tuvalu groups were 1.0 to 1.5°C above normal, with a very little portion of 0.5 to 1.0°C in the Eastern part of Tuvalu EEZ.

Averaged over June to August, ocean temperatures at the Northern and Central group were 0.5 to 1.0°C above normal, while for the Southern group of Tuvalu was 1.0 to 1.5°C above normal.

August sea levels in the Northern and Central group of Tuvalu were 50mm to 100mm above normal. In the Southern group of Tuvalu, the sea level rise was 100mm to 150mm above normal, and near normal at the North-West side of Tuvalu.

Coral Bleaching Alert reveals watch status around Tuvalu waters.

Part 2i. Monthly and Seasonal Outlooks for October and October to December 2023

Ocean Variable statement

October ocean temperatures at Northern group are predicted to be 0.8 to 2.0°C above normal. In the Central and Southern group are predicted to be 0.8 to 1.2°C above normal, with exception of Niulakita is predicted to be 0.4 to 0.8°C above normal.

Averaged over October to December, ocean temperatures around the Northern, Central and Southern Group are predicted to be 0.8 to 1.2°C above normal with exception of Niulakita predicted to be 0.4 to 0.8°C above normal.

October sea levels around Tuvalu are predicted to be -30mm to 30mm near normal.

Averaged over October to December, sea levels in the Northern and Central group are predicted to be -30mm to 30mm near normal and for the Southern group are predicted to be -30 to -60mm above normal.

Coal Bleaching Outlook on watch status across most of Tuvalu for the next four weeks.

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

| Product | Date: August 2023 | Stakeholder | Total Number of Participants | Number of Male | Number of Female | Comments (If there are comments from you Stakeholders) | |
|--------------------------------|----------------------------|--------------------------|------------------------------------|-------------------|---------------------|--|--|
| Climate Bulletin | 31 st August | MET Staff | 24 | 13 | 11 | | |
| | | Disaster Dept | 2 | 2 | | | |
| | | TRC | 2 | | 2 | | |
| | | TuCAN | 1 | 1 | | | |
| | | Agriculture | 2 | | 2 | | |
| | | All Civil Servants | All Staff | | | | |
| | | All-Kaupule Secretary | 13 | 7 | 6 | | |
| EAR Watch | 31 st August | MET Staff | 24 | 13 | 11 | | |
| | | Disaster Dept | 2 | 2 | | | |
| | | TRC | 2 | | 2 | | |
| | | TuCAN | 1 | 1 | | | |
| | | Agriculture | 2 | | 2 | | |
| | | All Civil Servants | All Staff | | | | |
| | | All-Kaupule Secretary | 13 | 7 | 6 | | |
| Monthly Climate Briefing | | | | | | | |
| Ocean Outlook | 31 st August | MET Staff | 24 | 13 | 11 | | |
| | | Disaster Dept | 2 | 2 | | | |
| | | TRC | 2 | | 2 | | |
| | | TuCAN | 1 | 1 | | | |
| | | Agriculture | 2 | | 2 | | |
| | | All Civil Servants | All Staff | | | | |
| | | All-Kaupule Secretary | 13 | 7 | 6 | | |
| Climate data request | | | | | | | |
| Total | | | 132 | 69 | 63 | | |