

# Pacific Islands - Ocean and Climate Outlook Forum (OCOF) No. 197

Country: Vanuatu

## Part 1: Recent climate

**TABLE 1: Monthly Rainfall**

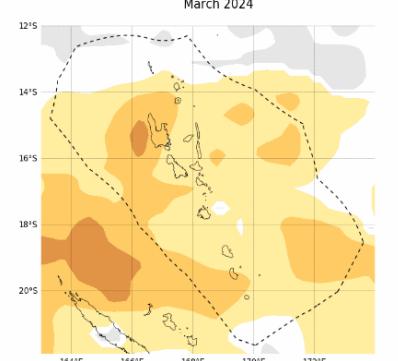
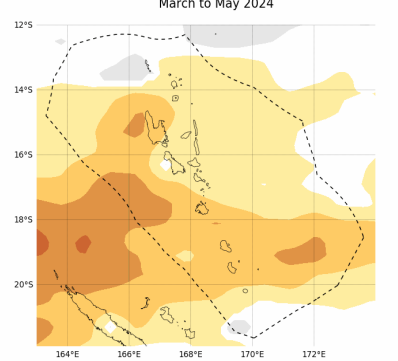
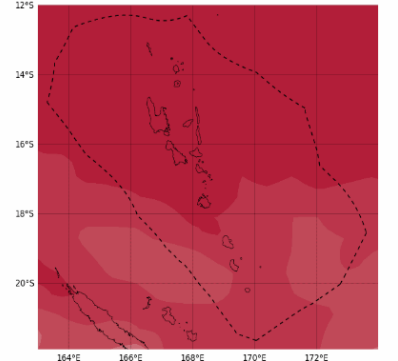
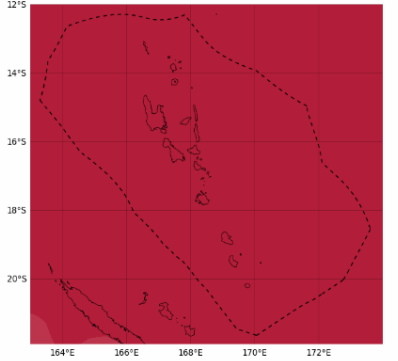
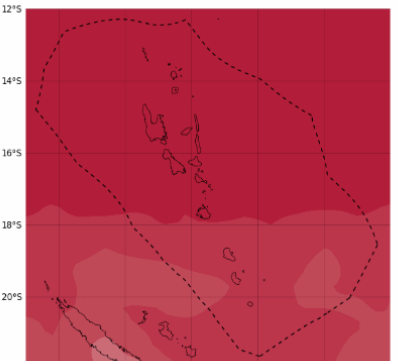
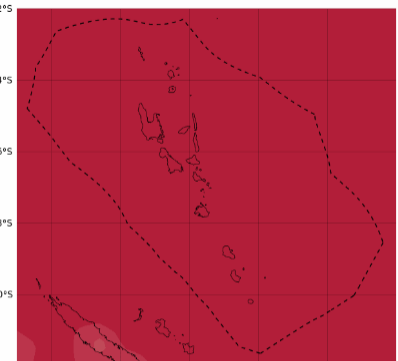
Station (include data period)	Nov-2023	Dec-2023	Jan-2024				Rank
			Total (mm)	33%tile	67%tile	Median	
	Total (mm)	Total (mm)	Rainfall (mm)				
<b>Northern Region</b>							
Sola (1971-2024)	267.8	235.6	450.8	317.0	449.9	379.9	35/52
Pekoa (1971-2024)	33.7	237.5	506.2	238.1	340.4	287.9	47/54
Lamap (1961-2022)				169.1	274.4	213.6	
<b>Southern Region</b>							
Bauerfield (1972-2024)	72.4	201.7	224.5	205.2	336.5	257.2	22/53
Port Vila (1953-2024)	47.5	146.5	291.0	199.9	330.3	243.2	43/72
Whitegrass (1972-2024)	7.3	29.9	148.3	111.4	225.3	168.9	22/53
Aneityum (1952-2024)	25.2	94.3	67.8	158.5	355.3	251.4	6/73

Present rainfall totals to 1 decimal place

**TABLE 2: Three-month Total Rainfall for November 2023 to January 2024**

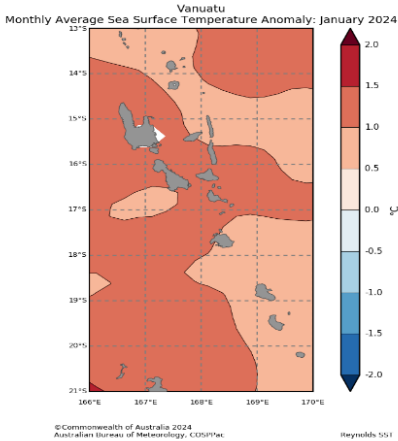
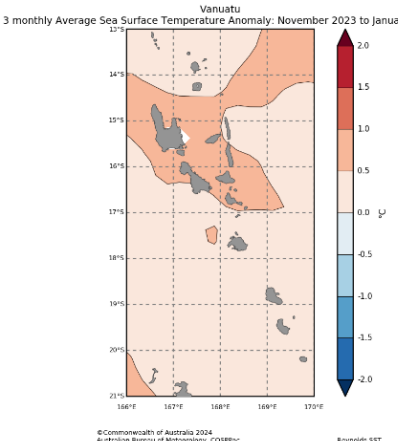
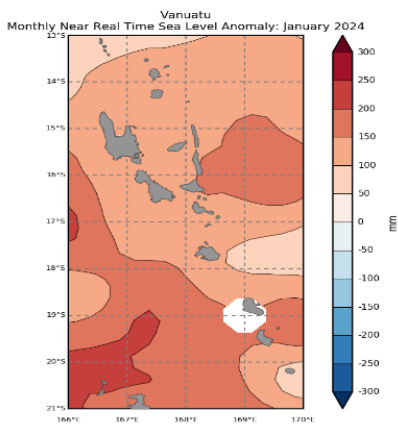
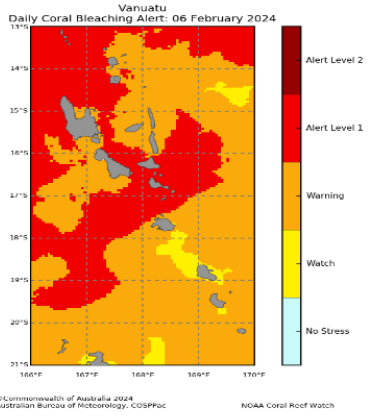
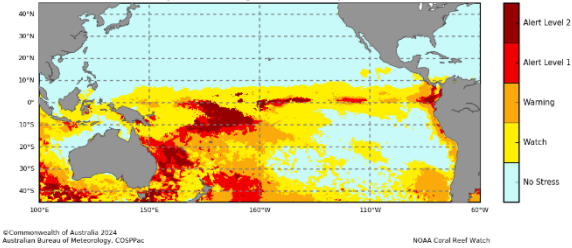
Station	Three-month Total		33%tile	67%tile	Median	Rank
	Rainfall (mm)					
<b>Northern Region</b>						
Sola (1971-2024)	954.2	Below normal	1045.6	1357.6	1186.8	15/49
Pekoa (1971-2024)	777.4	Normal	599.0	818.4	626.0	33/52
Lamap (1961-2024)			436.6	551.3	478.6	
<b>Southern Region</b>						
Bauerfield (1972-2024)	498.6	Normal	450.8	695.5	602.8	20/51
Port Vila (1953-2024)	485.0	Normal	432.9	678.0	573.9	29/71
Whitegrass (1972-2024)	185.5	Below normal	268.0	419.0	335.6	8/52
Aneityum (1952-2024)	187.3	Below normal	442.8	693.1	602.3	3/72

# Part 1i. Monthly and Seasonal Outlooks for March and March to May 2024

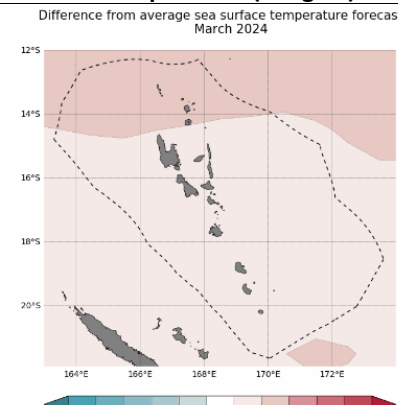
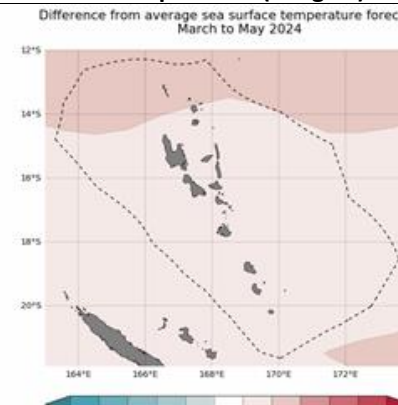
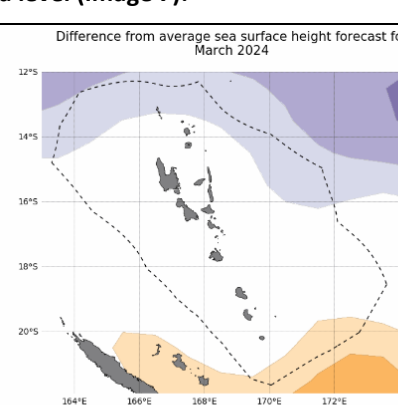
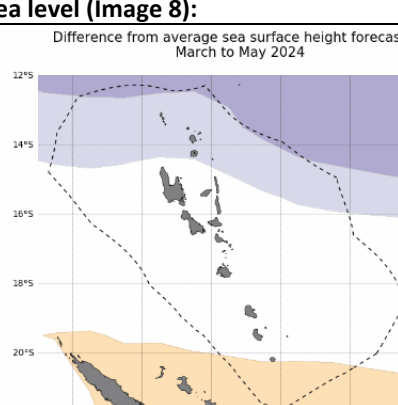
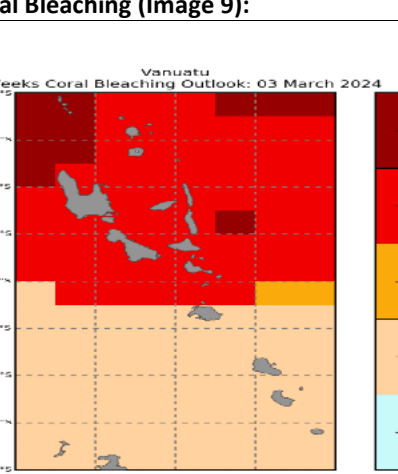
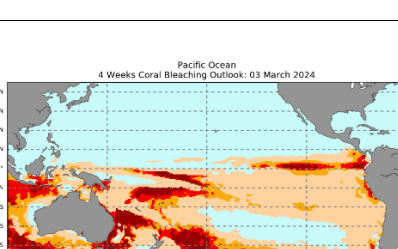
Monthly: March	Seasonal: March to May
<b>Rainfall (Image 1)</b>	<b>Rainfall (Image 2)</b>
<p style="text-align: center;">Tercile rainfall probabilities for March 2024</p>  <p style="text-align: center;"> <span style="display: inline-block; width: 30px; height: 10px; background: linear-gradient(to right, yellow, orange, red); border: 1px solid black; margin-right: 5px;"></span> 40 50 60 70 80 90 Below normal (%)         <span style="display: inline-block; width: 30px; height: 10px; background: linear-gradient(to right, lightgray, gray, darkgray); border: 1px solid black; margin-right: 5px; margin-left: 20px;"></span> 40 50 60 70 80 90 Near normal (%)         <span style="display: inline-block; width: 30px; height: 10px; background: linear-gradient(to right, lightblue, blue, darkblue); border: 1px solid black; margin-left: 20px;"></span> 40 50 60 70 80 90 Above normal (%)       </p> <p style="font-size: small;">         Base period: 1981-2018          Model: ACCESS-S2          © Commonwealth of Australia 2024, Australian Bureau of Meteorology          Shapefile data extracted from Flanders Marine Institute (2019), Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (2009M), version 11. Available online at <a href="http://www.marinegaps.org">http://www.marinegaps.org</a>.          Model run: 05/02/2024          Issued: 07/02/2024       </p>	<p style="text-align: center;">Tercile rainfall probabilities for March to May 2024</p>  <p style="text-align: center;"> <span style="display: inline-block; width: 30px; height: 10px; background: linear-gradient(to right, yellow, orange, red); border: 1px solid black; margin-right: 5px;"></span> 40 50 60 70 80 90 Below normal (%)         <span style="display: inline-block; width: 30px; height: 10px; background: linear-gradient(to right, lightgray, gray, darkgray); border: 1px solid black; margin-right: 5px; margin-left: 20px;"></span> 40 50 60 70 80 90 Near normal (%)         <span style="display: inline-block; width: 30px; height: 10px; background: linear-gradient(to right, lightblue, blue, darkblue); border: 1px solid black; margin-left: 20px;"></span> 40 50 60 70 80 90 Above normal (%)       </p> <p style="font-size: small;">         Base period: 1981-2018          Model: ACCESS-S2          © Commonwealth of Australia 2024, Australian Bureau of Meteorology          Shapefile data extracted from Flanders Marine Institute (2019), Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (2009M), version 11. Available online at <a href="http://www.marinegaps.org">http://www.marinegaps.org</a>.          Model run: 05/02/2024          Issued: 07/02/2024       </p>
<b>Monthly Maximum temperature (Image 3):</b>	<b>Seasonal maximum temperature (Image 4):</b>
<p style="text-align: center;">Tercile maximum temperature probabilities for March 2024</p>  <p style="text-align: center;"> <span style="display: inline-block; width: 30px; height: 10px; background: linear-gradient(to right, lightblue, blue, darkblue); border: 1px solid black; margin-right: 5px;"></span> 40 50 60 70 80 90 Below normal (%)         <span style="display: inline-block; width: 30px; height: 10px; background: linear-gradient(to right, lightgray, gray, darkgray); border: 1px solid black; margin-right: 5px; margin-left: 20px;"></span> 40 50 60 70 80 90 Near normal (%)         <span style="display: inline-block; width: 30px; height: 10px; background: linear-gradient(to right, red, darkred, maroon); border: 1px solid black; margin-left: 20px;"></span> 40 50 60 70 80 90 Above normal (%)       </p> <p style="font-size: small;">         Base period: 1981-2018          Model: ACCESS-S2          © Commonwealth of Australia 2024, Australian Bureau of Meteorology          Shapefile data extracted from Flanders Marine Institute (2019), Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (2009M), version 11. Available online at <a href="http://www.marinegaps.org">http://www.marinegaps.org</a>.          Model run: 05/02/2024          Issued: 07/02/2024       </p>	<p style="text-align: center;">Tercile maximum temperature probabilities for March to May 2024</p>  <p style="text-align: center;"> <span style="display: inline-block; width: 30px; height: 10px; background: linear-gradient(to right, lightblue, blue, darkblue); border: 1px solid black; margin-right: 5px;"></span> 40 50 60 70 80 90 Below normal (%)         <span style="display: inline-block; width: 30px; height: 10px; background: linear-gradient(to right, lightgray, gray, darkgray); border: 1px solid black; margin-right: 5px; margin-left: 20px;"></span> 40 50 60 70 80 90 Near normal (%)         <span style="display: inline-block; width: 30px; height: 10px; background: linear-gradient(to right, red, darkred, maroon); border: 1px solid black; margin-left: 20px;"></span> 40 50 60 70 80 90 Above normal (%)       </p> <p style="font-size: small;">         Base period: 1981-2018          Model: ACCESS-S2          © Commonwealth of Australia 2024, Australian Bureau of Meteorology          Shapefile data extracted from Flanders Marine Institute (2019), Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (2009M), version 11. Available online at <a href="http://www.marinegaps.org">http://www.marinegaps.org</a>.          Model run: 05/02/2024          Issued: 07/02/2024       </p>
<b>Monthly minimum temperature (Image 5):</b>	<b>Seasonal minimum temperature (Image 6):</b>
<p style="text-align: center;">Tercile minimum temperature probabilities for March 2024</p>  <p style="text-align: center;"> <span style="display: inline-block; width: 30px; height: 10px; background: linear-gradient(to right, lightblue, blue, darkblue); border: 1px solid black; margin-right: 5px;"></span> 40 50 60 70 80 90 Below normal (%)         <span style="display: inline-block; width: 30px; height: 10px; background: linear-gradient(to right, lightgray, gray, darkgray); border: 1px solid black; margin-right: 5px; margin-left: 20px;"></span> 40 50 60 70 80 90 Near normal (%)         <span style="display: inline-block; width: 30px; height: 10px; background: linear-gradient(to right, red, darkred, maroon); border: 1px solid black; margin-left: 20px;"></span> 40 50 60 70 80 90 Above normal (%)       </p> <p style="font-size: small;">         Base period: 1981-2018          Model: ACCESS-S2          © Commonwealth of Australia 2024, Australian Bureau of Meteorology          Shapefile data extracted from Flanders Marine Institute (2019), Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (2009M), version 11. Available online at <a href="http://www.marinegaps.org">http://www.marinegaps.org</a>.          Model run: 05/02/2024          Issued: 07/02/2024       </p>	<p style="text-align: center;">Tercile minimum temperature probabilities for March to May 2024</p>  <p style="text-align: center;"> <span style="display: inline-block; width: 30px; height: 10px; background: linear-gradient(to right, lightblue, blue, darkblue); border: 1px solid black; margin-right: 5px;"></span> 40 50 60 70 80 90 Below normal (%)         <span style="display: inline-block; width: 30px; height: 10px; background: linear-gradient(to right, lightgray, gray, darkgray); border: 1px solid black; margin-right: 5px; margin-left: 20px;"></span> 40 50 60 70 80 90 Near normal (%)         <span style="display: inline-block; width: 30px; height: 10px; background: linear-gradient(to right, red, darkred, maroon); border: 1px solid black; margin-left: 20px;"></span> 40 50 60 70 80 90 Above normal (%)       </p> <p style="font-size: small;">         Base period: 1981-2018          Model: ACCESS-S2          © Commonwealth of Australia 2024, Australian Bureau of Meteorology          Shapefile data extracted from Flanders Marine Institute (2019), Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (2009M), version 11. Available online at <a href="http://www.marinegaps.org">http://www.marinegaps.org</a>.          Model run: 05/02/2024          Issued: 07/02/2024       </p>

# Part 2: Recent Ocean Observation

## Monthly/Three months: January 2024 and November 2023 to January 2024

Monthly: January 2024	Last three months: November 2023 to January 2024:
<p><b>Sea Surface Temperature (Image 1):</b></p>  <p>Vanuatu Monthly Average Sea Surface Temperature Anomaly: January 2024</p> <p>©Commonwealth of Australia 2024 Australian Bureau of Meteorology, COSPPac</p> <p>Reynolds SST</p>	<p><b>Sea Surface Temperature (Image 4):</b></p>  <p>Vanuatu 3 monthly Average Sea Surface Temperature Anomaly: November 2023 to January 2024</p> <p>©Commonwealth of Australia 2024 Australian Bureau of Meteorology, COSPPac</p> <p>Reynolds SST</p>
<p><b>Sea level (Image 2):</b></p>  <p>Vanuatu Monthly Near Real Time Sea Level Anomaly: January 2024</p> <p>©Commonwealth of Australia 2024 Australian Bureau of Meteorology, COSPPac</p> <p>AVISO SeaLevelBack SLA</p>	
<p><b>Daily coral bleaching alert (Image 3):</b></p>  <p>Vanuatu Daily Coral Bleaching Alert: 06 February 2024</p> <p>©Commonwealth of Australia 2024 Australian Bureau of Meteorology, COSPPac</p> <p>NOAA Coral Reef Watch</p>	 <p>Pacific Ocean Daily Coral Bleaching Alert: 06 February 2024</p> <p>©Commonwealth of Australia 2024 Australian Bureau of Meteorology, COSPPac</p> <p>NOAA Coral Reef Watch</p>

# Part 2i. Monthly and Seasonal Outlooks for March and March to May 2024

Monthly: March	Seasonal: March to May
<p><b>Monthly sea surface temperature (Image 5):</b></p>  <p>Difference from average sea surface temperature forecast for March 2024</p> <p>Base period: 1981-2018 Model: ACCESS-S2 © Commonwealth of Australia 2024, Australian Bureau of Meteorology Spatial data extracted from Tropical Marine Analysis (TMA) Training Site in Geospatial, Maritime Boundaries and Exclusive Economic Zones (2020M), version 11. Available online at <a href="http://www.marine.gov.au">http://www.marine.gov.au</a></p> <p>Model run: 05/02/2024 Issued: 07/02/2024</p>	<p><b>Seasonal sea surface temperature (Image 6):</b></p>  <p>Difference from average sea surface temperature forecast for March to May 2024</p> <p>Base period: 1981-2018 Model: ACCESS-S2 © Commonwealth of Australia 2024, Australian Bureau of Meteorology Spatial data extracted from Tropical Marine Analysis (TMA) Training Site in Geospatial, Maritime Boundaries and Exclusive Economic Zones (2020M), version 11. Available online at <a href="http://www.marine.gov.au">http://www.marine.gov.au</a></p> <p>Model run: 05/02/2024 Issued: 07/02/2024</p>
<p><b>Monthly sea level (Image 7):</b></p>  <p>Difference from average sea surface height forecast for March 2024</p> <p>Base period: 1981-2018 Model: ACCESS-S2 © Commonwealth of Australia 2024, Australian Bureau of Meteorology Spatial data extracted from Tropical Marine Analysis (TMA) Training Site in Geospatial, Maritime Boundaries and Exclusive Economic Zones (2020M), version 11. Available online at <a href="http://www.marine.gov.au">http://www.marine.gov.au</a></p> <p>Model run: 05/02/2024 Issued: 07/02/2024</p>	<p><b>Seasonal sea level (Image 8):</b></p>  <p>Difference from average sea surface height forecast for March to May 2024</p> <p>Base period: 1981-2018 Model: ACCESS-S2 © Commonwealth of Australia 2024, Australian Bureau of Meteorology Spatial data extracted from Tropical Marine Analysis (TMA) Training Site in Geospatial, Maritime Boundaries and Exclusive Economic Zones (2020M), version 11. Available online at <a href="http://www.marine.gov.au">http://www.marine.gov.au</a></p> <p>Model run: 05/02/2024 Issued: 07/02/2024</p>
<p><b>4-week Coral Bleaching (Image 9):</b></p>  <p>Vanuatu 4 Weeks Coral Bleaching Outlook: 03 March 2024</p> <p>Alert Level 2 Alert Level 1 Warning Watch No Stress</p> <p>© Commonwealth of Australia 2024 Australian Bureau of Meteorology, COSPPac NOAA Coral Reef Watch</p>	 <p>Pacific Ocean 4 Weeks Coral Bleaching Outlook: 03 March 2024</p> <p>Alert Level 2 Alert Level 1 Warning Watch No Stress</p> <p>© Commonwealth of Australia 2024 Australian Bureau of Meteorology, COSPPac NOAA Coral Reef Watch</p>

## Summary Statement

### Monthly and last three months: January 2024/November 2023 to January 2024 statement

The rainfall for January was above normal at Sola and Pekoa, near-normal at Bauerfield, Port Vila and Whitegrass, and below normal at Aneityum, which recorded its sixth driest January in 73 years.

For the past three months, rainfall was near-normal to below normal. Aneityum recorded its third driest November to January period in 72 years.

## Part 1i. Monthly and Seasonal Outlooks for March and March to May 2024

### Monthly /Seasonal rainfall and temperature Outlook statements

The rainfall for March is likely to be below normal over Tafea, Shefa, Malampa, Penama and parts of Torba Provinces. It is very likely, however, to be below normal over Sanma province.

The rainfall for March to May is likely or very likely to be below normal over the country.

Maximum and minimum temperatures during March, and the March to May period, is very likely to be above normal over the whole country.

## Part 2: Recent Ocean summary statement

### Monthly and last three months: January 2024/November 2023 to January 2024

January ocean temperatures around Vanuatu were 0.5 to 1.5°C above normal.

Averaged over November to January, ocean temperatures around Vanuatu were utmost 1.0 °C above normal.

January sea levels around Vanuatu were 50mm to 200mm are above normal.

Coral bleaching is at Alert 1 over parts of the Torba, Sanma, Malampa and Shefa. Elsewhere remains at Warning.

## Part 2i. Monthly and Seasonal Outlooks for March and March to May 2024

### Ocean Variable statement

March, and averaged over March to May, ocean temperatures around Vanuatu are predicted to be 0.4 to 1.2°C above normal.

March sea levels around Vanuatu are predicted to be within the near normal range over most of the country.

Averaged over March to May, sea levels around northern Vanuatu are predicted to be 30mm to 60mm below normal range. Elsewhere is predicted to be within near normal range.

Coral bleaching outlook is forecasted to be in Alert 1 for the northern region, and Watch for the southern region.

## IN BRIEF for Teleconference

- Rainfall was mainly near-normal to below normal in January and over November to January, apart from some above normal January totals in the Northern Region.
- Rainfall is likely or very likely to be below normal in March and over March to May.
- Air temperatures are very likely to be above normal in March and over March to May.
- SSTs were above normal for January and November to January. The outlook predicts above normal SSTs for March and March to May 2024.
- Sea-surface heights (SSH) were above normal for January. Near-normal to above normal sea surface heights are predicted for March and March to May.
- Coral bleaching alert and outlook predicts to be Alert 1 for northern Vanuatu.

**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	Comments (If there are comments from you Stakeholders)
Climate Bulletin						
EAR Watch						
Monthly Climate Briefing						
Ocean Outlook						
Climate data request						
<b>Total</b>						