

Country: Vanuatu

Part 1: Recent climate

TABLE 1: Monthly Rainfall

Station (include data period)	Sep-2022	Oct-2022	Nov-2022				
			Total (mm)	33%tile	67%tile	Median	Rank
	Total (mm)	Total (mm)	Rainfall (mm)				
Northern Region							
Sola (1971-2022)	198.1	395.5	241.7	306.1	494.1	424.6	12/50
Pekoa (1971-2022)	126.3	556.8	256.4	124.3	218.2	183.1	40/52
Lamap (1961-2022)	131.0	428.0	229.5	90.9	146.5	120.0	51/62
Southern Region							
Bauerfield (1972-2022)	146.2	472.4	331.9	103.8	180.9	134.9	46/50
Port Vila (1953-2022)	75.0	354.5		74.2	156.6	118.0	
Whitegrass (1972-2022)	39.7	68.6	150.0	29.6	84.8	46.6	45/52
Aneityum (1952-2022)	151.6	179.0	148.0	59.0	147.9	102.0	48/71

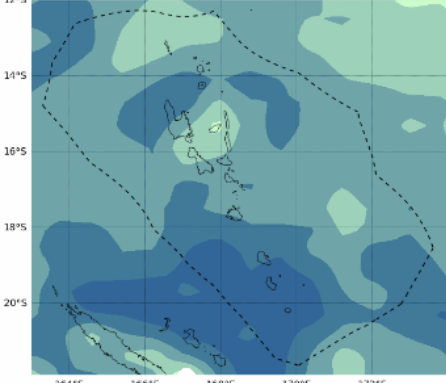
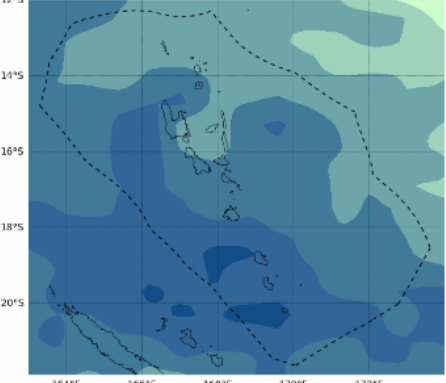
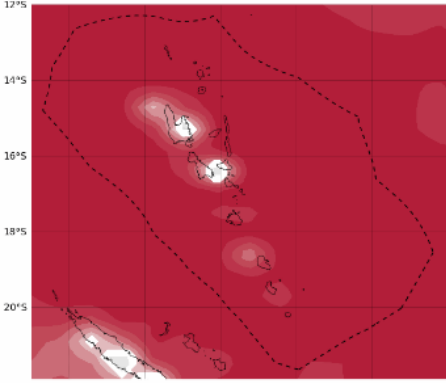
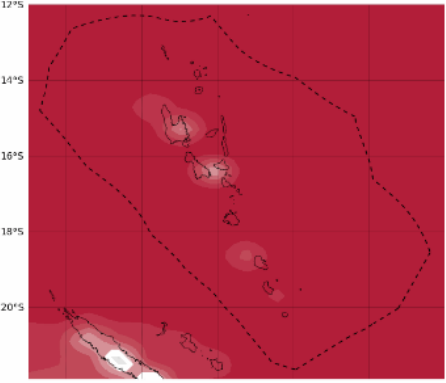

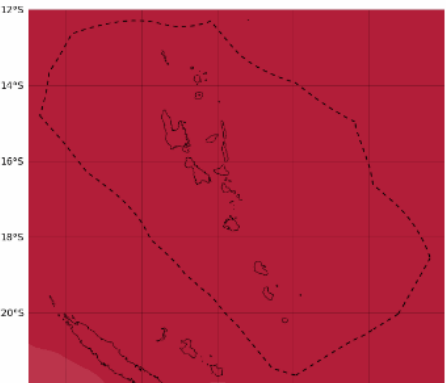
TABLE 2: Three-month Total Rainfall for September to November 2022

Station	Three-month Total		33%tile	67%tile	Median	Rank
	Rainfall (mm)					
Northern Region						
Sola (1971-2022)	835.3	Below normal	899.0	1198.2	1034.2	16/49
Pekoa (1971-2022)	939.5	Above normal	335.8	524.9	441.5	47/52
Lamap (1961-2022)	788.5	Above normal	280.3	409.5	333.4	59/61
Southern Region						
Bauerfield (1972-2022)	950.5	Above normal	237.5	437.0	332.4	49/50
Port Vila (1953-2022)			236.2	393.7	305.5	
Whitegrass (1972-2022)	258.3	Above normal	117.2	214.4	153.0	39/50
Aneityum (1952-2022)	478.6	Above normal	265.6	425.0	351.8	54/71

NB: The X LEPS % score has been categorised as follows:

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Part 1i. Monthly and Seasonal Outlooks for January and January to March 2023

Monthly: January	Seasonal: January to March
Rainfall (Image 1)	Rainfall (Image 2)
<p>Tercile rainfall probabilities for January 2023</p>  <p>Below normal (%) Near normal (%) Above normal (%)</p> <p>Base period: 1981-2018 Model: ACCF55-S2 © Commonwealth of Australia 2022, Australian Bureau of Meteorology Tropics data produced from Ensemble Mean version 2019. Windows boundaries: Statistical: Maritime Boundaries and Excluded Economic Zones: 120000, version 1.1. Available online at http://www.marinegaza.org. Model run: 03/12/2022 Issued: 05/12/2022</p>	<p>Tercile rainfall probabilities for January to March 2023</p>  <p>Below normal (%) Near normal (%) Above normal (%)</p> <p>Base period: 1981-2018 Model: ACCF55-S2 © Commonwealth of Australia 2022, Australian Bureau of Meteorology Tropics data produced from Ensemble Mean version 2019. Windows boundaries: Statistical: Maritime Boundaries and Excluded Economic Zones: 120000, version 1.1. Available online at http://www.marinegaza.org. Model run: 03/12/2022 Issued: 05/12/2022</p>
Monthly Maximum temperature (Image 3):	Seasonal maximum temperature (Image 4):
<p>Tercile maximum temperature probabilities for January 2023</p>  <p>Below normal (%) Near normal (%) Above normal (%)</p> <p>Base period: 1981-2018 Model: ACCF55-S2 © Commonwealth of Australia 2022, Australian Bureau of Meteorology Tropics data produced from Ensemble Mean version 2019. Windows boundaries: Statistical: Maritime Boundaries and Excluded Economic Zones: 120000, version 1.1. Available online at http://www.marinegaza.org. Model run: 03/12/2022 Issued: 05/12/2022</p>	<p>Tercile maximum temperature probabilities for January to March 2023</p>  <p>Below normal (%) Near normal (%) Above normal (%)</p> <p>Base period: 1981-2018 Model: ACCF55-S2 © Commonwealth of Australia 2022, Australian Bureau of Meteorology Tropics data produced from Ensemble Mean version 2019. Windows boundaries: Statistical: Maritime Boundaries and Excluded Economic Zones: 120000, version 1.1. Available online at http://www.marinegaza.org. Model run: 03/12/2022 Issued: 05/12/2022</p>
Monthly minimum temperature (Image 5):	Seasonal minimum temperature (Image 6):
<p>Tercile minimum temperature probabilities for January 2023</p>  <p>Below normal (%) Near normal (%) Above normal (%)</p> <p>Base period: 1981-2018 Model: ACCF55-S2 © Commonwealth of Australia 2022, Australian Bureau of Meteorology Tropics data produced from Ensemble Mean version 2019. Windows boundaries: Statistical: Maritime Boundaries and Excluded Economic Zones: 120000, version 1.1. Available online at http://www.marinegaza.org. Model run: 03/12/2022 Issued: 05/12/2022</p>	<p>Tercile minimum temperature probabilities for January to March 2023</p>  <p>Below normal (%) Near normal (%) Above normal (%)</p> <p>Base period: 1981-2018 Model: ACCF55-S2 © Commonwealth of Australia 2022, Australian Bureau of Meteorology Tropics data produced from Ensemble Mean version 2019. Windows boundaries: Statistical: Maritime Boundaries and Excluded Economic Zones: 120000, version 1.1. Available online at http://www.marinegaza.org. Model run: 03/12/2022 Issued: 05/12/2022</p>

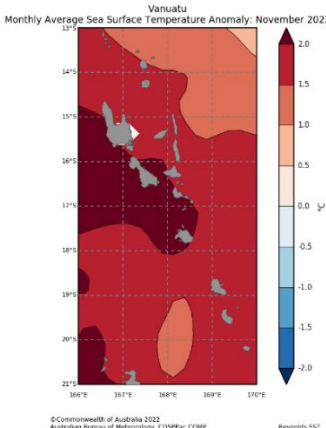
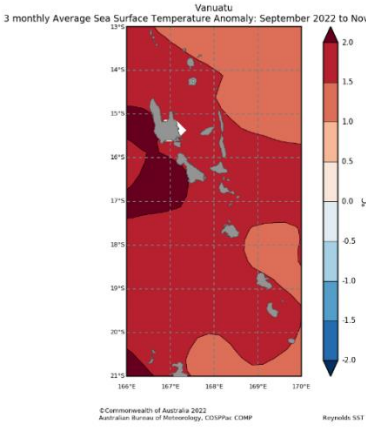
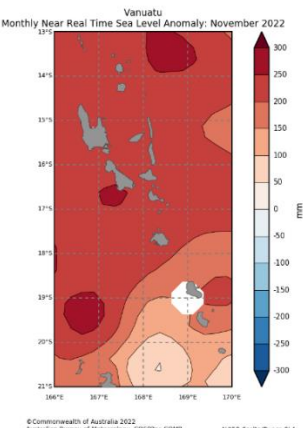
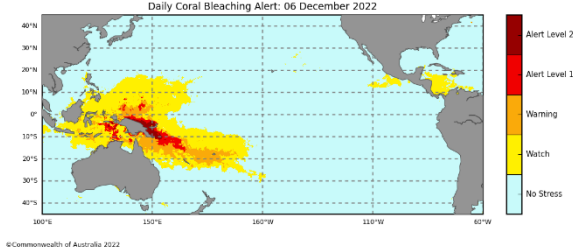
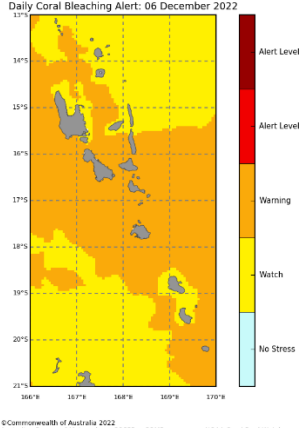
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Part 2: Recent Ocean Observation

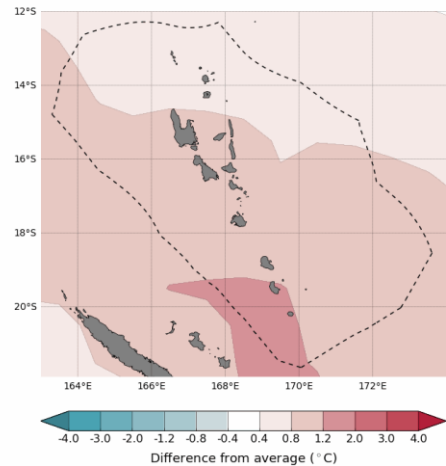
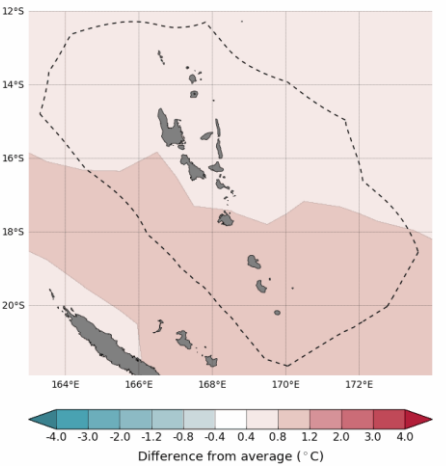
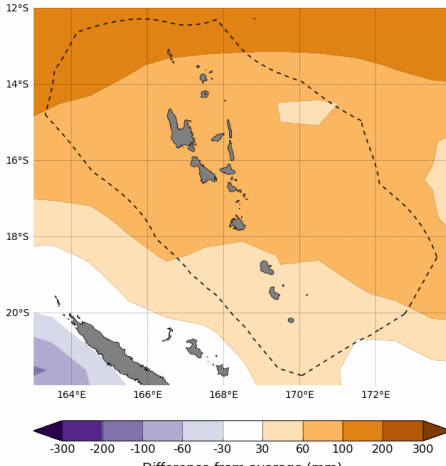
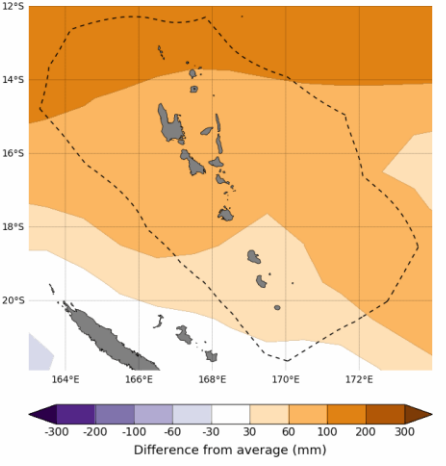
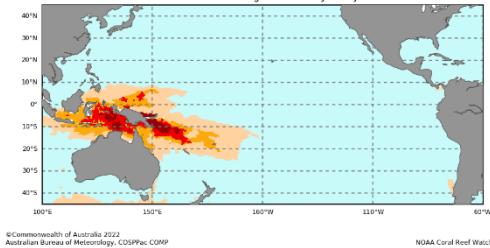
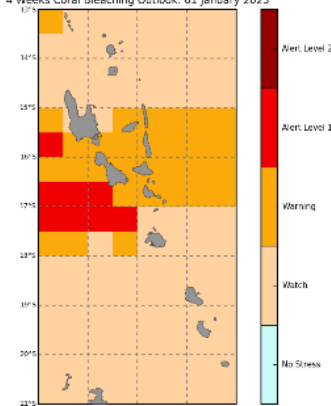
Monthly/Three months: November 2022 and September to November 2022

Monthly: November	Last three months: September to November 2022:
Sea Surface Temperature (Image 1): <div></div>	Sea Surface Temperature (Image 4): <div></div>
Sea level (Image 2): <div></div>	
Daily coral bleaching alert (Image 3): <div></div>	<div></div>

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Part 2i. Monthly and Seasonal Outlooks for January and January to March 2023

Monthly: January	Seasonal: January to March
<p>Monthly sea surface temperature (Image 5):</p> <p>Difference from average sea surface temperature forecast for January 2023</p>  <p>Base period: 1981-2018 Model: ACCESS-S2 © Commonwealth of Australia 2022, 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.maritimeregions.org/</p> <p>Model run: 10/12/2022 Issued: 12/12/2022</p>	<p>Seasonal sea surface temperature (Image 6):</p> <p>Difference from average sea surface temperature forecast for January to March 2023</p>  <p>Base period: 1981-2018 Model: ACCESS-S2 © Commonwealth of Australia 2022, 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.maritimeregions.org/</p> <p>Model run: 10/12/2022 Issued: 12/12/2022</p>
<p>Monthly sea level (Image 7):</p> <p>Difference from average sea surface height forecast for January 2023</p>  <p>Base period: 1981-2018 Model: ACCESS-S2 © Commonwealth of Australia 2022, 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.maritimeregions.org/</p> <p>Model run: 10/12/2022 Issued: 12/12/2022</p>	<p>Seasonal sea level (Image 8):</p> <p>Difference from average sea surface height forecast for January to March 2023</p>  <p>Base period: 1981-2018 Model: ACCESS-S2 © Commonwealth of Australia 2022, 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.maritimeregions.org/</p> <p>Model run: 10/12/2022 Issued: 12/12/2022</p>
<p>4-week Coral Bleaching (Image 9):</p> <p>Pacific Ocean 4 Weeks Coral Bleaching Outlook: 01 January 2023</p>  <p>© Commonwealth of Australia 2022 Australian Bureau of Meteorology, CSIRO/CSIRO</p> <p>NOAA Coral Reef Watch</p>	<p>Vanuatu 4 Weeks Coral Bleaching Outlook: 01 January 2023</p>  <p>© Commonwealth of Australia 2022 Australian Bureau of Meteorology, CSIRO/CSIRO</p> <p>NOAA Coral Reef Watch</p>

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Summary Statement

Monthly and last three months: November 2022/September to November 2022 statement

The rainfall observed at all stations for November and September to November was above normal, except for Sola where rainfall was below normal. Bauerfield recorded its fifth wettest November and second wettest September to November on record, while Pekoa station recorded its sixth wettest September to November period. In addition, Lamap had its third wettest September to November.

Part 1i. Monthly and Seasonal Outlooks for January and January to March 2023

Monthly /Seasonal rainfall and temperature Outlook statements

January rainfall is *likely or very likely* to be above normal over Vanuatu.

The rainfall for January to March is *very likely* to be above normal over the whole country.

Maximum temperatures for January are very *likely* to be above normal over most of the country, except for east Santo, S/E Malekula and S/W Ambrym where there is little guidance as the chances of above normal, normal, and below normal are similar.

Minimum temperatures for January are very likely to be above normal over the whole country.

Maximum and minimum temperatures averaged over January to March are very likely to be above normal over Vanuatu.

Part 2: Recent Ocean summary statement

Monthly and last three months: November/September to November 2022

The November, and September to November ocean temperatures around Vanuatu were 1.5 to above 2.0°C above normal.

November sea levels around Tafea province were 50mm to 150mm above normal, while the rest of the country experienced much higher sea level differences of 200 mm – 300 mm above normal.

The daily coral bleaching alert is on 'Warning' status as of 6th December 2022.

Part 2i. Monthly and Seasonal Outlooks for January and January to March 2023

Ocean Variable statement

The month of January, and January to March ocean temperatures around Vanuatu are predicted to be 0.4 to 1.2°C above normal.

January, and January to March sea level around Vanuatu are predicted to be 30 to 100 mm above normal.

Coral bleaching outlook for 1st January 2022 is forecasted at 'Alert 1' for South Santo and Malampa Province, and 'Warning' status for Penama Province, with remainder on 'Watch' for most of the country.

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

Product	Date: November 2022	Stakeholder	Total Number of Participants	Number of male	Number of female
Vanuatu EAR Watch Workshop	17 – 22 nd	VMGD/Van-KIRAP, COSPPac, National University of Vanuatu, World Vision, New Zealand High Commission, Australian High Commission, Vanuatu Society for People with Disability, Fisheries Department	26	13	13
PICASO and Klik- P Training	7 – 11 th	VMGD, SPREP	10	6	4
Total			36	19	17

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