

Pacific Islands - Ocean and Climate Outlook Forum (OCOF) No. 185

Country: Palau

Part 1: Recent climate

TABLE 1: Monthly Rainfall

Station (include data period)	Nov-2022	Dec-2022	Jan-2023				Rank
			Total (mm)	33%tile	67%tile	Median	
	Total (mm)	Total (mm)	Rainfall (mm)				
Koror Airport (1951-2023)	210.8	245.1	430.0	185.2	301.0	231.6	60/72

TABLE 2: Three-month Total Rainfall for November 2022 to January 2023

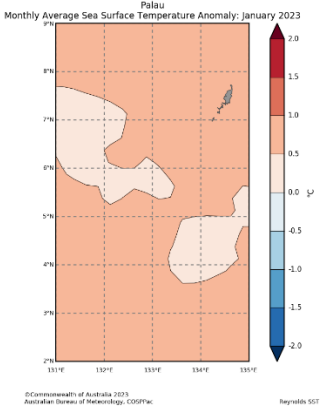
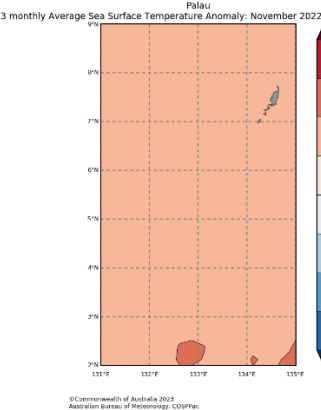
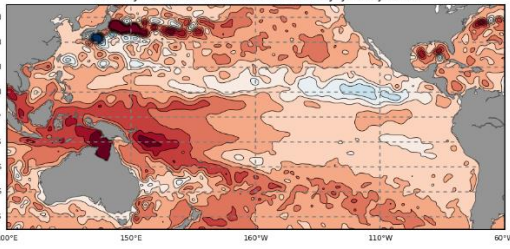
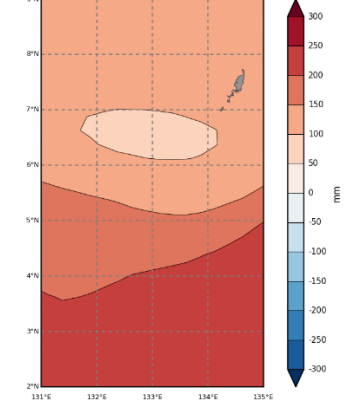
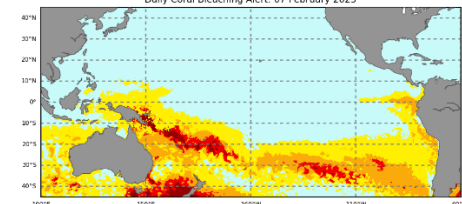
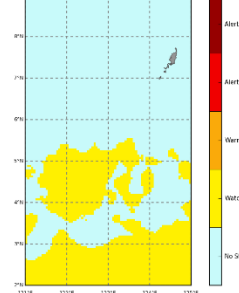
Station	Three-month Total		33%tile	67%tile	Median	Rank
	Rainfall (mm)					
Koror Airport (1951-2023)	885.9	Normal	773.3	965.1	861.6	38/72

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

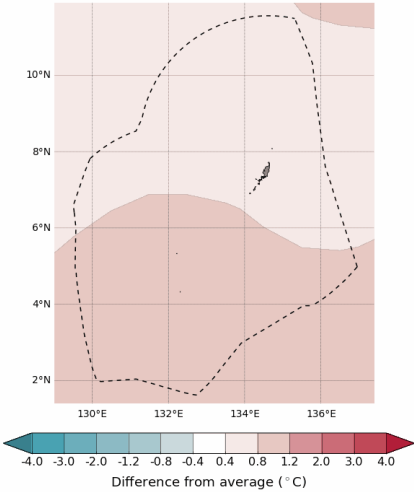
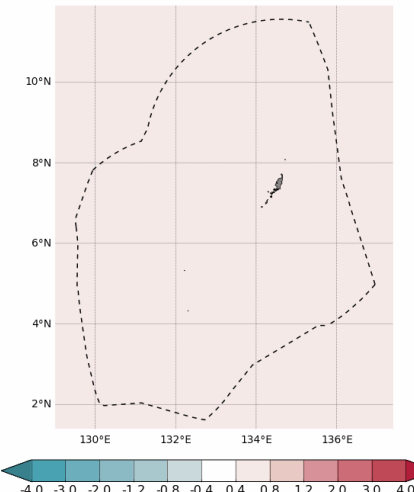
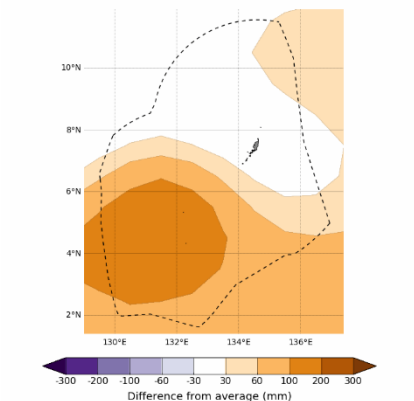
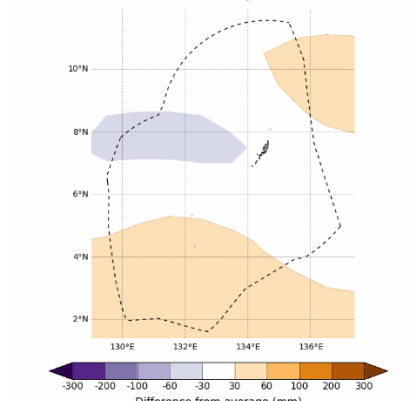
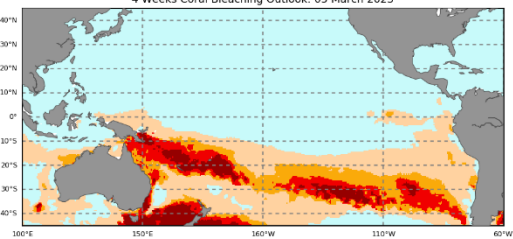
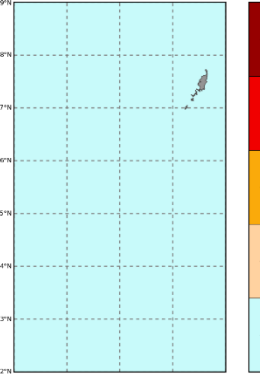
Monthly: March	Seasonal: March to May
<p>Rainfall (Image 1)</p> <p>Tercile rainfall probabilities for March 2023</p> <p>10°N 8°N 6°N 4°N 2°N</p> <p>130°E 132°E 134°E 136°E</p> <p>Below normal (%) Near normal (%) Above normal (%)</p> <p>Base period: 1981-2018 Model: ACCESS-S2 © Commonwealth of Australia 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: 06/02/2023 Issued: 09/02/2023</p>	<p>Rainfall (Image 2)</p> <p>Tercile rainfall probabilities for March to May 2023</p> <p>10°N 8°N 6°N 4°N 2°N</p> <p>130°E 132°E 134°E 136°E</p> <p>Below normal (%) Near normal (%) Above normal (%)</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: 06/02/2023 Issued: 09/02/2023</p>
<p>Monthly Maximum temperature (Image 3):</p> <p>Tercile maximum temperature probabilities for March 2023</p> <p>10°N 8°N 6°N 4°N 2°N</p> <p>130°E 132°E 134°E 136°E</p> <p>Below normal (%) Near normal (%) Above normal (%)</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: 06/02/2023 Issued: 09/02/2023</p>	<p>Seasonal maximum temperature (Image 4):</p> <p>Tercile maximum temperature probabilities for March to May 2023</p> <p>10°N 8°N 6°N 4°N 2°N</p> <p>130°E 132°E 134°E 136°E</p> <p>Below normal (%) Near normal (%) Above normal (%)</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: 06/02/2023 Issued: 09/02/2023</p>
<p>Monthly minimum temperature (Image 5):</p> <p>Tercile minimum temperature probabilities for March 2023</p> <p>10°N 8°N 6°N 4°N 2°N</p> <p>130°E 132°E 134°E 136°E</p> <p>Below normal (%) Near normal (%) Above normal (%)</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: 06/02/2023 Issued: 09/02/2023</p>	<p>Seasonal minimum temperature (Image 6):</p> <p>Tercile minimum temperature probabilities for March to May 2023</p> <p>10°N 8°N 6°N 4°N 2°N</p> <p>130°E 132°E 134°E 136°E</p> <p>Below normal (%) Near normal (%) Above normal (%)</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: 06/02/2023 Issued: 09/02/2023</p>

Part 2: Recent Ocean Observation

Monthly/Three months: January 2023 and November 2022 to January 2023

Monthly: January	Last three months: November 2022 to January 2023:
<p>Sea Surface Temperature (Image 1):</p>  <p>Palau Monthly Average Sea Surface Temperature Anomaly: January 2023</p> <p>©Commonwealth of Australia 2023 Australian Bureau of Meteorology, COSPPac</p> <p>Reynolds SST</p>	<p>Sea Surface Temperature (Image 4):</p>  <p>Palau 3 monthly Average Sea Surface Temperature Anomaly: November 2022 to January 2023</p> <p>©Commonwealth of Australia 2023 Australian Bureau of Meteorology, COSPPac</p> <p>Reynolds SST</p>
<p>Sea level (Image 2):</p>  <p>Pacific Ocean Monthly Near Real Time Sea Level Anomaly: January 2023</p> <p>©Commonwealth of Australia 2023 Australian Bureau of Meteorology, COSPPac</p> <p>AVISO SeaWiFS/Quicks SLA</p>	 <p>Palau Monthly Near Real Time Sea Level Anomaly: January 2023</p> <p>©Commonwealth of Australia 2023 Australian Bureau of Meteorology, COSPPac</p> <p>AVISO SeaWiFS/Quicks SLA</p>
<p>Daily coral bleaching alert (Image 3):</p>	
 <p>Pacific Ocean Daily Coral Bleaching Alert: 07 February 2023</p> <p>©Commonwealth of Australia 2023 Australian Bureau of Meteorology, COSPPac</p> <p>NOAA Coral Reef Watch</p>	 <p>Palau Daily Coral Bleaching Alert: 07 February 2023</p> <p>©Commonwealth of Australia 2023 Australian Bureau of Meteorology, COSPPac</p> <p>NOAA Coral Reef Watch</p>

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

Monthly: March	Seasonal: March to May
<p>Monthly sea surface temperature (Image 5):</p> <p>Difference from average sea surface temperature forecast for March 2023</p>  <p>Base period: 1981-2018 Model: ACCESS-S2 © Commonwealth of Australia 2023, Australian Bureau of Meteorology Shapellie 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: 06/02/2023 Issued: 08/02/2023</p>	<p>Seasonal sea surface temperature (Image 6):</p> <p>Difference from average sea surface temperature forecast for March to May 2023</p>  <p>Base period: 1981-2018 Model: ACCESS-S2 © Commonwealth of Australia 2023, Australian Bureau of Meteorology Shapellie 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: 06/02/2023 Issued: 08/02/2023</p>
<p>Monthly sea level (Image 7):</p> <p>Difference from average sea surface height forecast for March 2023</p>  <p>Base period: 1981-2018 Model: ACCESS-S2 © Commonwealth of Australia 2023, Australian Bureau of Meteorology Shapellie 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: 06/02/2023 Issued: 08/02/2023</p>	<p>Seasonal sea level (Image 8):</p> <p>Difference from average sea surface height forecast for March to May 2023</p>  <p>Base period: 1981-2018 Model: ACCESS-S2 © Commonwealth of Australia 2023, Australian Bureau of Meteorology Shapellie 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: 06/02/2023 Issued: 08/02/2023</p>
<p>4-week Coral Bleaching (Image 9):</p> <p>Pacific Ocean 4 Weeks Coral Bleaching Outlook: 05 March 2023</p>  <p>©Commonwealth of Australia 2023 Australian Bureau of Meteorology, COSPPac</p> <p>NOAA Coral Reef Watch</p>	<p>Palau 4 Weeks Coral Bleaching Outlook: 05 March 2023</p>  <p>©Commonwealth of Australia 2023 Australian Bureau of Meteorology, COSPPac</p> <p>NOAA Coral Reef Watch</p>

Summary Statement

Monthly and last three months: January 2023/November 2022 to January 2023 statement

Koror recorded above normal rainfall for January 2023, and near-normal for the period November 2022 to January 2023.

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

Monthly /Seasonal rainfall and temperature Outlook statements

March rainfall and March to May rainfall are both very likely to be above normal across Palau.

Maximum and minimum temperatures during March and averaged over March to May are very likely to be above normal across Palau.

Part 2: Recent Ocean summary statement

Monthly and last three months: January 2023/November 2022 to January 2023

January ocean temperatures around Palau were 0.5 to 1.0°C above normal.

Averaged over November to January, ocean temperatures around Palau were 0.5 to 1.0°C above normal.

January sea levels around Palau were 100mm to 250mm above normal.

Coral bleaching status on 'Watch' for southern Palau.

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

Ocean Variable statement

March ocean temperatures around Palau are predicted to be 0.8 to 1.2°C above normal, with southern Palau reaching upmost 2.0°C.

Averaged over March to May, ocean temperatures around Palau are predicted to be 0.4 to 0.8°C above normal.

March sea levels around the southwest islands of Palau are predicted to be 100mm to 200mm above normal.

Averaged over March to May, sea levels around the southwest islands are predicted to be 30mm to 100mm above normal.

Coral bleaching outlook predicts no thermal stress for Palau.

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

Product	Date: January 2023	Stakeholder	Total Number of Participants	Number of male	Number of female
EAR Watch	12	National Emergency Committee (NEC) <ul style="list-style-type: none"> • Office of the Vice President • Office of the President • NEMO Coordinator • National Weather Service • Bureau of Budget and Planning • Bureau of Tourism • Bureau of Commercial Development • Attorney General’s Office • Bureau of Youth, Applied Arts and Careers • Bureau of Public Health • Bureau of Public Work • Bureau of Public Safety • Palau Community College • Bureau of Education Administration • Palau Public Utility Corporation • Palau National Communication Corporation • Bureau of Foreign Affairs& Trade • Bureau of Domestic Affairs • Bureau of Agriculture • Governors Association • Palau Red Cross Society • Environment Quality Protection Board • Bureau of Aviation • Division of Property and Supply • Palau Chamber of Commerce • Palau Visitor’s Authority • Bureau of Customs & Boarder Protection Koror State Government	28	19	9
		TOTAL	28	19	9