

Pacific Islands - Ocean and Climate Outlook Forum (OCOF) No. 183

Country: Marshall Islands

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)				
Majuro (1954-2022)	450.1	476.5	310.1	287.8	381.1	326.6	31/69
Kwajalein (1945-2022)	186.4	457.7	230.9	234.8	327.2	277.9	23/78

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

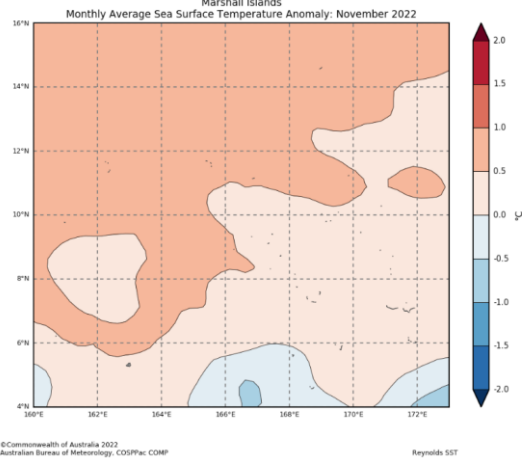
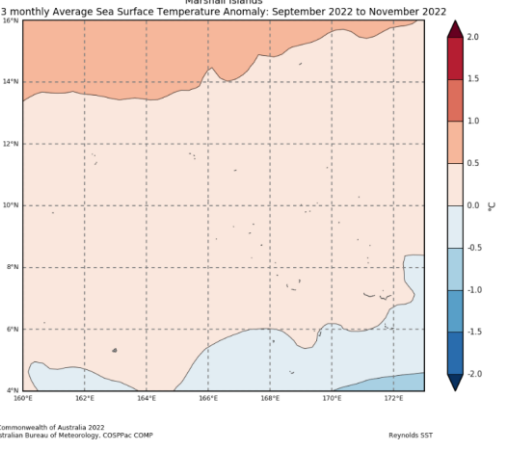
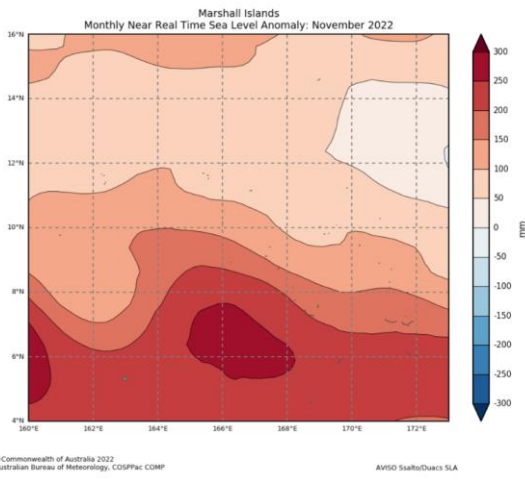
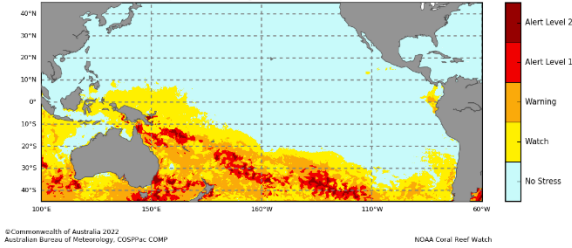
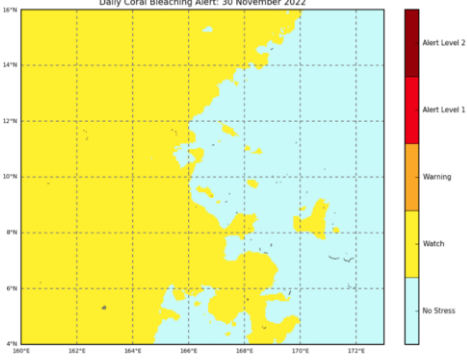
Station	Three-month Total		33%tile	67%tile	Median	Rank
	Rainfall (mm)					
Majuro (1954-2022)	1236.7	Above normal	912.6	1098.8	994.7	59/69
Kwajalein (1945-2022)	875.0	Normal	799.3	931.6	845.6	43/78

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>Base period: 1981-2018 Model: ACCESS-S2 © Commonwealth of Australia 2022, Australian Bureau of Meteorology Shapefile data extracted from Flinders Marine Institute (2019). Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (200NM), version 11. Available online at http://www.maritimerregions.org/ Model run: 03/12/2022 Issued: 05/12/2022</p>	<p>Tercile rainfall probabilities 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 Flinders Marine Institute (2019). Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (200NM), version 11. Available online at http://www.maritimerregions.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>Base period: 1981-2018 Model: ACCESS-S2 © Commonwealth of Australia 2022, Australian Bureau of Meteorology Shapefile data extracted from Flinders Marine Institute (2019). Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (200NM), version 11. Available online at http://www.maritimerregions.org/ Model run: 03/12/2022 Issued: 05/12/2022</p>	<p>Tercile maximum temperature probabilities 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 Flinders Marine Institute (2019). Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (200NM), version 11. Available online at http://www.maritimerregions.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>Base period: 1981-2018 Model: ACCESS-S2 © Commonwealth of Australia 2022, Australian Bureau of Meteorology Shapefile data extracted from Flinders Marine Institute (2019). Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (200NM), version 11. Available online at http://www.maritimerregions.org/ Model run: 03/12/2022 Issued: 05/12/2022</p>	<p>Tercile minimum temperature probabilities 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 Flinders Marine Institute (2019). Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (200NM), version 11. Available online at http://www.maritimerregions.org/ Model run: 03/12/2022 Issued: 05/12/2022</p>

Part 2: Recent Ocean Observation

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

Monthly: November	Last three months: September to November 2022:
<p>Sea Surface Temperature (Image 1):</p>  <p>©Commonwealth of Australia 2022 Australian Bureau of Meteorology, COSPac COMP</p> <p>Reynolds SST</p>	<p>Sea Surface Temperature (Image 4):</p>  <p>©Commonwealth of Australia 2022 Australian Bureau of Meteorology, COSPac COMP</p> <p>Reynolds SST</p>
<p>Sea level (Image 2):</p>  <p>©Commonwealth of Australia 2022 Australian Bureau of Meteorology, COSPac COMP</p> <p>AVISO SeaWiFS SLA</p>	
<p>Daily coral bleaching alert (Image 3):</p>  <p>©Commonwealth of Australia 2022 Australian Bureau of Meteorology, COSPac COMP</p> <p>NOAA Coral Reef Watch</p>	 <p>©Commonwealth of Australia 2022 Australian Bureau of Meteorology, COSPac COMP</p> <p>NOAA Coral Reef Watch</p>

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

Monthly: January	Seasonal: January to March
<div>Monthly sea surface temperature (Image 5):</div> <div><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 Geospatial data sourced from Natural Marine Institute (2019), Maritime Boundaries Databank: Maritime Boundaries and Exclusive Economic Zones (2019), version 1.1. Available online at http://www.marine.gov.au</p><p>Model run: 03/12/2022 Issued: 05/12/2022</p></div>	<div>Seasonal sea surface temperature (Image 6):</div> <div><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 Geospatial data sourced from Natural Marine Institute (2019), Maritime Boundaries Databank: Maritime Boundaries and Exclusive Economic Zones (2019), version 1.1. Available online at http://www.marine.gov.au</p><p>Model run: 03/12/2022 Issued: 05/12/2022</p></div>
<div>Monthly sea level (Image 7):</div> <div><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 Geospatial data sourced from Natural Marine Institute (2019), Maritime Boundaries Databank: Maritime Boundaries and Exclusive Economic Zones (2019), version 1.1. Available online at http://www.marine.gov.au</p><p>Model run: 03/12/2022 Issued: 05/12/2022</p></div>	<div>Seasonal sea level (Image 8):</div> <div><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 Geospatial data sourced from Natural Marine Institute (2019), Maritime Boundaries Databank: Maritime Boundaries and Exclusive Economic Zones (2019), version 1.1. Available online at http://www.marine.gov.au</p><p>Model run: 03/12/2022 Issued: 05/12/2022</p></div>
<div>4-week Coral Bleaching (Image 9):</div> <div><p>Pacific Ocean 4 Weeks Coral Bleaching Outlook: 01 January 2023</p><p>© Commonwealth of Australia 2022 Australian Bureau of Meteorology, COSPac COMP</p><p>NOAA Coral Reef Watch</p></div>	<div>Marshall Islands 4 Weeks Coral Bleaching Outlook: 01 January 2023</div> <p>© Commonwealth of Australia 2022 Australian Bureau of Meteorology, COSPac COMP</p> <p>NOAA Coral Reef Watch</p>

Summary Statement

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

Normal rainfall was recorded at Majuro in November, while below normal rainfall was recorded at Kwajalein. For the last three months, above normal rainfall was recorded at Majuro and normal rainfall was recorded at Kwajalein.

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

Monthly /Seasonal rainfall and temperature Outlook statements

The rainfall for January to March is very likely to be above normal for most atolls in the Marshall Islands. In the northern islands, the outlook offers little guidance for the month of January as the chances of above-normal, normal and below-normal are similar.

Maximum and minimum temperatures during January and averaged for January to March are very likely to be above normal for most of the Marshall Islands.

Part 2: Recent Ocean summary statement

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

November ocean temperatures around the southern Marshalls, including Majuro, were 0.0 to 0.5 °C above average, while SSTs of 0.5 to 1.0°C above average were experienced by the northern islands, including Kwajalein.

Averaged over September to November, ocean temperatures across most of the Marshall Islands were 0.0 to 0.5°C above normal.

November sea levels were up to 100mm above normal across the northern half of the Marshall Islands, and between 100mm and 300mm above normal across the southern half.

Coral Bleaching alert was on WATCH status for the western chain of islands in the Republic during the month of November.

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

Ocean Variable statement

Ocean temperatures around the Marshall Islands in January and averaged over January to March, are predicted to be up to 0.8°C above normal.

Sea levels in January and averaged over January to March, are predicted to be around 30mm to 100mm below average in the north and east, grading to 30mm to 100mm above average in the south. Majuro and Kwajalein are in a region where sea levels are predicted to be within 30mm of normal.

The Coral Bleaching outlook is in NO STRESS status across the Marshall Islands.

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
Climate Bulletin					
EAR Watch					
Monthly Climate Briefing	11/21/2022	Chief Secretary Office and National Disaster Management Office.	6	2	4
Ocean Outlook					
Climate data request					
Total			6	2	4