

Country: Marshall Islands

Part 1: Recent climate

TABLE 1: Monthly Rainfall

Station (include data period)	Feb-2023	Mar-2023	Apr-2023				
			Total (mm)	33%tile	67%tile	Median	Rank
	Total (mm)	Total (mm)	Rainfall (mm)				
Majuro (1954-2023)	241.6	282.4	361.4	211.1	328.2	263.1	52/69
Kwajalein (1945-2023)	33.5	112.5	250.7	117.4	208.5	147.0	59/79

TABLE 2: Three-month Total Rainfall for February to April 2023

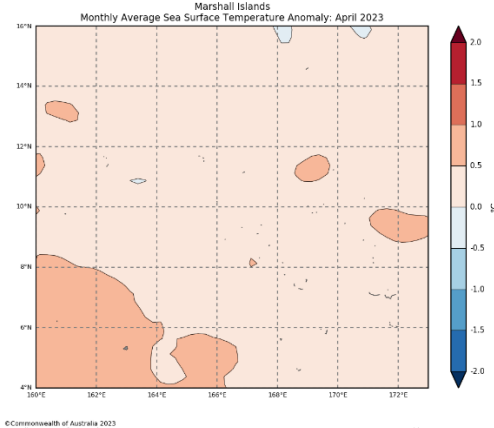
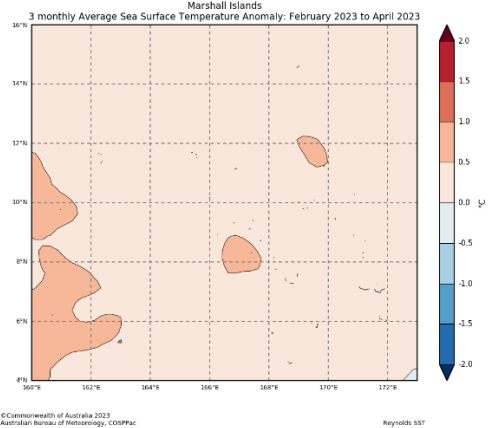
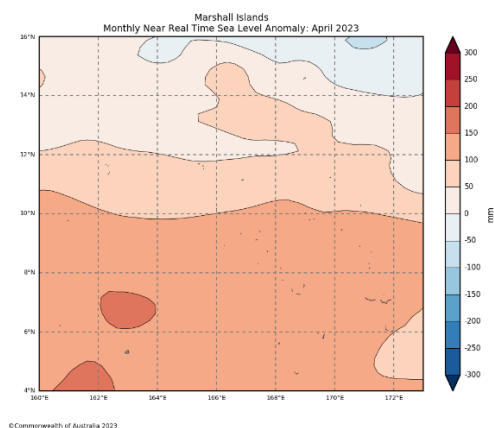
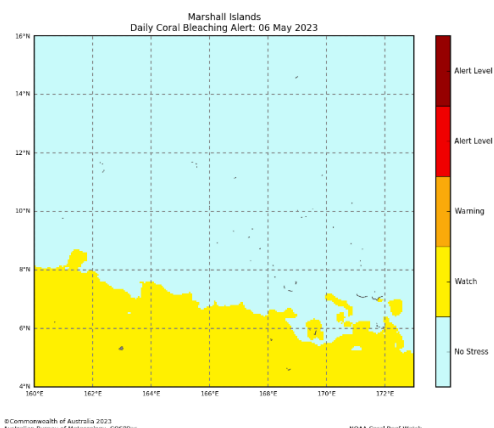
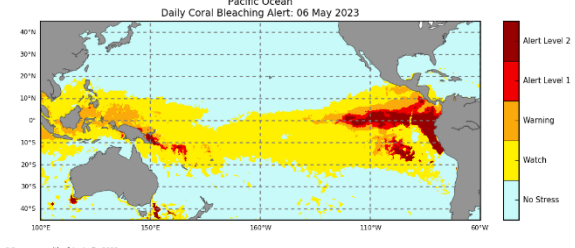
Station	Three-month Total		33%tile	67%tile	Median	Rank
	Rainfall (mm)					
Majuro (1954-2023)	885.4	Above normal	559.5	785.3	668.4	53/69
Kwajalein (1945-2023)	396.7	Normal	257.1	440.6	368.3	44/79

Part 1i. Monthly and Seasonal Outlooks for June and June to August 2023

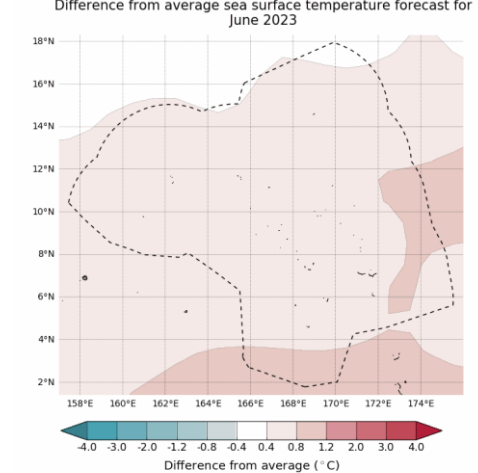
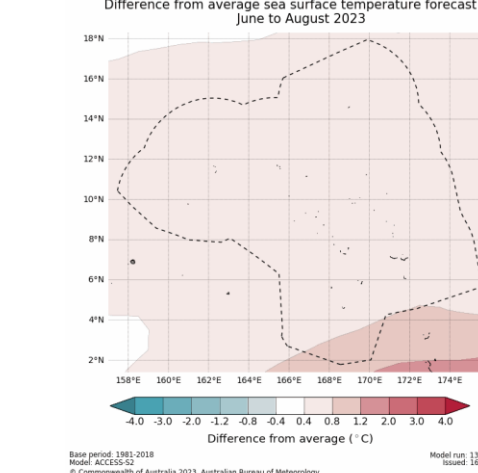
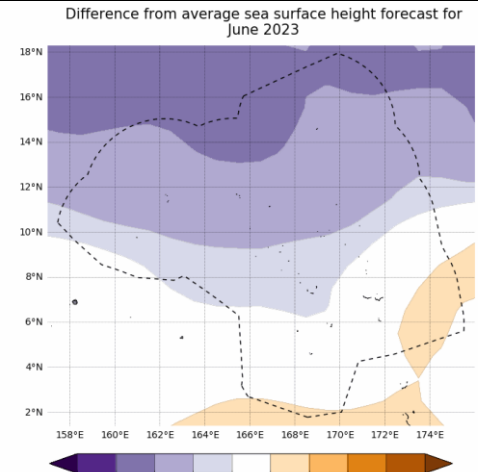
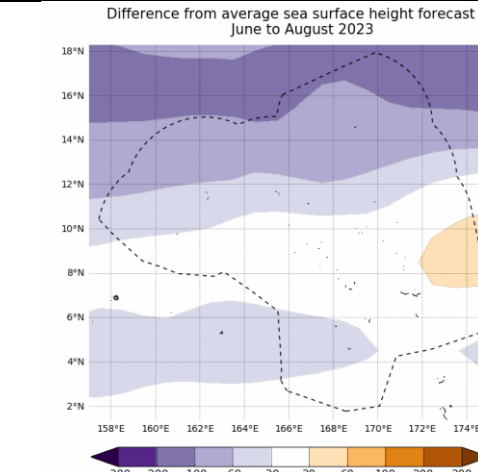
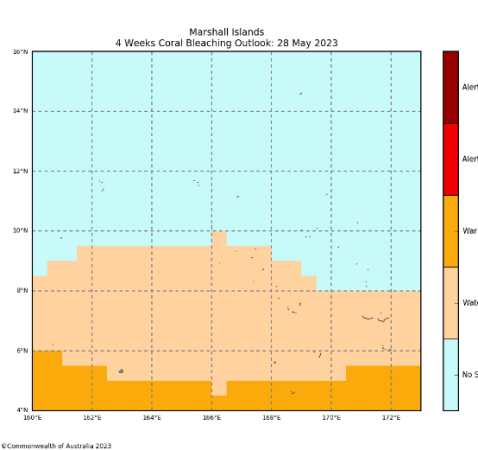
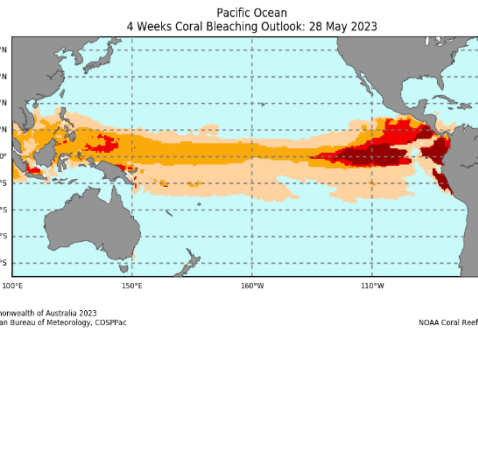
Monthly: June	Seasonal: June to August
Rainfall (Image 1)	Rainfall (Image 2)
<p>Tercile rainfall probabilities for June 2023</p> <p>Base period: 1981-2018 Model: ACCESS-S2 © Commonwealth of Australia 2023, Australian Bureau of Meteorology Shapefile data extracted from Flanders Marine Institute (2019), Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (200NM), version 11. Available online at <a href="http://www.maritimeregions.org/">http://www.maritimeregions.org/</a> Model run: 06/05/2023 Issued: Map not issued</p>	<p>Tercile rainfall probabilities for June to August 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 <a href="http://www.maritimeregions.org/">http://www.maritimeregions.org/</a> Model run: 06/05/2023 Issued: Map not issued</p>
Monthly Maximum temperature (Image 3):	Seasonal maximum temperature (Image 4):
<p>Tercile maximum temperature probabilities for June 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 <a href="http://www.maritimeregions.org/">http://www.maritimeregions.org/</a> Model run: 06/05/2023 Issued: Map not issued</p>	<p>Tercile maximum temperature probabilities for June to August 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 <a href="http://www.maritimeregions.org/">http://www.maritimeregions.org/</a> Model run: 06/05/2023 Issued: Map not issued</p>
Monthly minimum temperature (Image 5):	Seasonal minimum temperature (Image 6):
<p>Tercile minimum temperature probabilities for June 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 <a href="http://www.maritimeregions.org/">http://www.maritimeregions.org/</a> Model run: 06/05/2023 Issued: Map not issued</p>	<p>Tercile minimum temperature probabilities for June to August 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 <a href="http://www.maritimeregions.org/">http://www.maritimeregions.org/</a> Model run: 06/05/2023 Issued: Map not issued</p>

Part 2: Recent Ocean Observation

Monthly/Three months: April and February to April 2023

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

Part 2i. Monthly and Seasonal Outlooks for June and June to August 2023

Monthly: June	Seasonal: June to August
<p>Monthly sea surface temperature (Image 5):</p> <p>Difference from average sea surface temperature forecast for June 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 (2018), Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (2004N), version 11. Available online at <a href="http://www.maritimesg.org">http://www.maritimesg.org</a>.</p> <p>Model run: 13/05/2023 Issued: 16/05/2023</p>	<p>Seasonal sea surface temperature (Image 6):</p> <p>Difference from average sea surface temperature forecast for June to August 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 (2018), Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (2004N), version 11. Available online at <a href="http://www.maritimesg.org">http://www.maritimesg.org</a>.</p> <p>Model run: 13/05/2023 Issued: 16/05/2023</p>
<p>Monthly sea level (Image 7):</p> <p>Difference from average sea surface height forecast for June 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 (2018), Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (2004N), version 11. Available online at <a href="http://www.maritimesg.org">http://www.maritimesg.org</a>.</p> <p>Model run: 13/05/2023 Issued: 16/05/2023</p>	<p>Seasonal sea level (Image 8):</p> <p>Difference from average sea surface height forecast for June to August 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 (2018), Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (2004N), version 11. Available online at <a href="http://www.maritimesg.org">http://www.maritimesg.org</a>.</p> <p>Model run: 13/05/2023 Issued: 16/05/2023</p>
<p>4-week Coral Bleaching (Image 9):</p> <p>Marshall Islands 4 Weeks Coral Bleaching Outlook: 28 May 2023</p>  <p>© Commonwealth of Australia 2023 Australian Bureau of Meteorology, COSPPac</p> <p>NOAA Coral Reef Watch</p>	<p>Pacific Ocean 4 Weeks Coral Bleaching Outlook: 28 May 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: April 2023/February to April 2023 statement**

Above normal rainfall was recorded at both stations for the month of April. For February to April, above normal rainfall was recorded at Majuro, while Kwajalein's total was near-normal.

## **Part 1i. Monthly and Seasonal Outlooks for June and June to August 2023**

### **Monthly /Seasonal rainfall and temperature Outlook statements**

June rainfall is likely or very likely to be above normal over the southern atolls in the Marshalls. In most parts of the central and northern Marshalls, including Majuro and Kwajalein, June's rainfall is likely or very likely to be below normal.

The rainfall for June to August is likely or very likely to be above normal over the south and west of the country, including Majuro and Kwajalein, while below normal is likely or very likely in the northern atolls. Separating these two regions is a narrow strip where rainfall is likely to be near-normal or where there is little guidance.

Maximum and minimum temperatures during June and averaged over June to August are very likely to be above normal across the Marshall Islands.

## **Part 2: Recent Ocean summary statement**

### **Monthly and last three months: April 2023/February to April 2023**

April ocean temperatures around the Marshalls were near normal.

Averaged over February to April, ocean temperatures around the Marshall Islands were near normal.

April sea levels around the central and southern RMI were 100mm to 150mm above normal, while 50mm to 100mm above normal in the northernmost RMI.

Coral bleaching was at WATCH Status for the southern RMI's water and No Thermal Status for the rest of the RMI's EEZ.

## **Part 2i. Monthly and Seasonal Outlooks for June and June to August 2023**

### **Ocean Variable statement**

June ocean temperatures across the RMI are predicted to be 0.4 to 0.8°C above normal, while 0.8 to 1.2°C above normal in the southernmost waters in the RMI.

Averaged over June to August, ocean temperatures across the RMI are predicted to be 0.4 to 0.8°C above normal.

June sea levels around the northern RMI and central RMI including Kwajalein are predicted to be -30mm to -100mm below normal, while -30mm to 30mm near normal for Majuro and southern atolls.

Averaged over June to August, sea levels around the northern and southern atolls in the RMI are predicted to be -30mm to -100mm below normal, while -30mm to 30mm near normal is predicted for atolls in the central RMI including Majuro and Kwajalein.

Coral bleaching outlook, a WARNING Status for the southern waters of the RMI, while a WATCH Status for the central RMI and NO STRESS Status for the Northern RMI.

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

Product	Date: April 2023	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	04/24/23	Chief Secretary Office and National Disaster Management Office	7	4	3	
Ocean Outlook						
Climate data request						
<b>Total</b>			<b>6</b>	<b>4</b>	<b>3</b>	