

# Pacific Islands - Ocean and Climate Outlook Forum (OCOF) No. 178

Country: Marshall Islands

## Part 1: Recent climate

**TABLE 1: Monthly Rainfall**

Station (include data period)	Apr-2022	May-2022	Jun-2022				
			Total (mm)	33%tile	67%tile	Median	Rank
	Total (mm)	Total (mm)	Rainfall (mm)				
Majuro (1954-2022)	610.1	170.7	197.6	239.4	330.7	287.3	13/68
Kwajalein (1945-2022)	208.5	334.5	248.4	176.1	259.2	205.8	49/77

**TABLE 2: Three-month Total Rainfall for April to June 2022**

Station	Three-month Total		33%tile	67%tile	Median	Rank
	Rainfall (mm)					
Majuro (1954-2022)	978.4	Normal	675.4	981.0	841.3	45/68
Kwajalein (1945-2022)	791.4	Above normal	506.6	720.4	612.2	61/78

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

Very Low:  $X < 0.0$

Low:  $0 \leq X < 5$

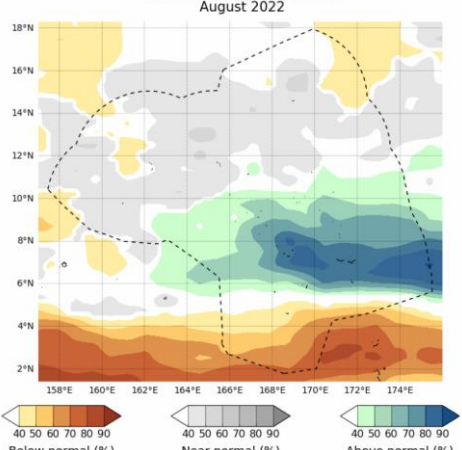
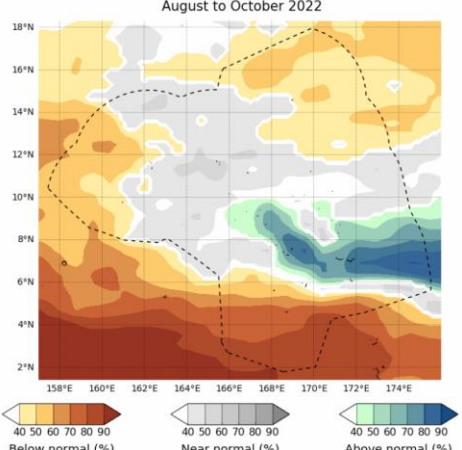
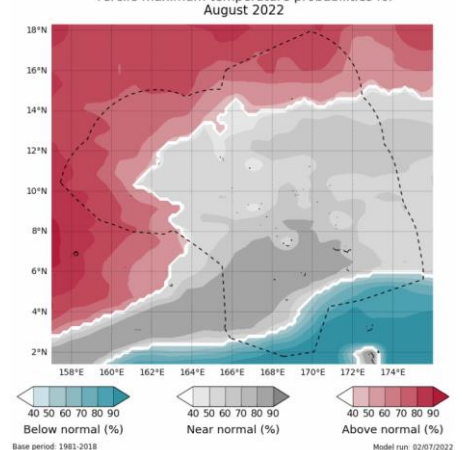
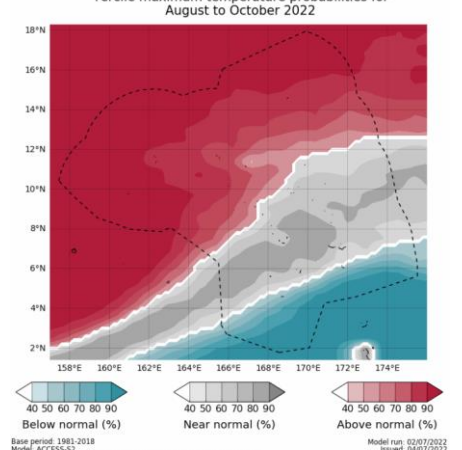
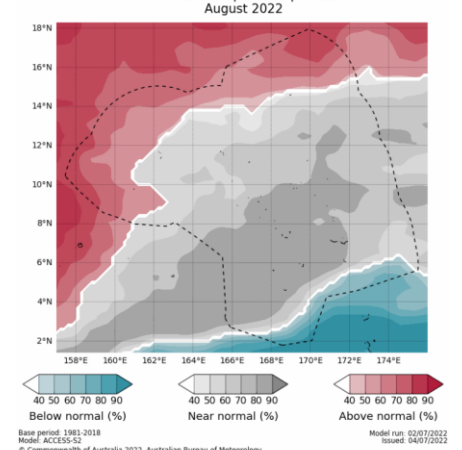
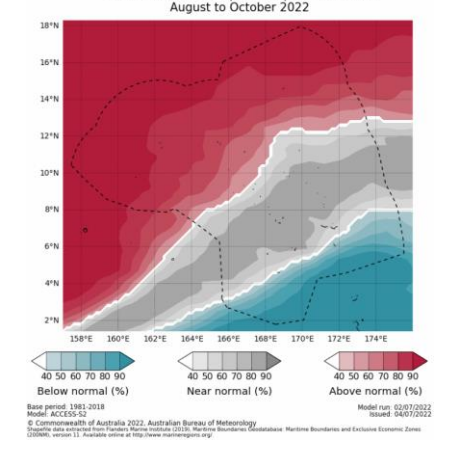
Moderate  $5 \leq X < 10$

Good:  $10 \leq X < 15$

High:  $15 \leq X < 25$

Very High:  $25 \leq X < 35$  Exceptional:  $X \geq 35$

## Part 1i. Monthly and Seasonal Outlooks for August and August to October 2022

Monthly: August	Seasonal: August to October
Rainfall (Image 1)	Rainfall (Image 2)
<p>Tercile rainfall probabilities for August 2022</p>  <p>Base period: 1981-2018 Model: ACCESS-S2 © Commonwealth of Australia 2022, Australian Bureau of Meteorology Geospatial data extracted from: Australian Maritime Institute (2019), Maritime Boundaries and Exclusive Economic Zones (2019M), version 1.1. Available online at <a href="http://www.maritime.gov.au">http://www.maritime.gov.au</a></p>	<p>Tercile rainfall probabilities for August to October 2022</p>  <p>Base period: 1981-2018 Model: ACCESS-S2 © Commonwealth of Australia 2022, Australian Bureau of Meteorology Geospatial data extracted from: Australian Maritime Institute (2019), Maritime Boundaries and Exclusive Economic Zones (2019M), version 1.1. Available online at <a href="http://www.maritime.gov.au">http://www.maritime.gov.au</a></p>
Monthly Maximum temperature (Image 3):	Seasonal maximum temperature (Image 4):
<p>Tercile maximum temperature probabilities for August 2022</p>  <p>Base period: 1981-2018 Model: ACCESS-S2 © Commonwealth of Australia 2022, Australian Bureau of Meteorology Geospatial data extracted from: Australian Maritime Institute (2019), Maritime Boundaries and Exclusive Economic Zones (2019M), version 1.1. Available online at <a href="http://www.maritime.gov.au">http://www.maritime.gov.au</a></p>	<p>Tercile maximum temperature probabilities for August to October 2022</p>  <p>Base period: 1981-2018 Model: ACCESS-S2 © Commonwealth of Australia 2022, Australian Bureau of Meteorology Geospatial data extracted from: Australian Maritime Institute (2019), Maritime Boundaries and Exclusive Economic Zones (2019M), version 1.1. Available online at <a href="http://www.maritime.gov.au">http://www.maritime.gov.au</a></p>
Monthly minimum temperature (Image 5):	Seasonal minimum temperature (Image 6):
<p>Tercile minimum temperature probabilities for August 2022</p>  <p>Base period: 1981-2018 Model: ACCESS-S2 © Commonwealth of Australia 2022, Australian Bureau of Meteorology Geospatial data extracted from: Australian Maritime Institute (2019), Maritime Boundaries and Exclusive Economic Zones (2019M), version 1.1. Available online at <a href="http://www.maritime.gov.au">http://www.maritime.gov.au</a></p>	<p>Tercile minimum temperature probabilities for August to October 2022</p>  <p>Base period: 1981-2018 Model: ACCESS-S2 © Commonwealth of Australia 2022, Australian Bureau of Meteorology Geospatial data extracted from: Australian Maritime Institute (2019), Maritime Boundaries and Exclusive Economic Zones (2019M), version 1.1. Available online at <a href="http://www.maritime.gov.au">http://www.maritime.gov.au</a></p>

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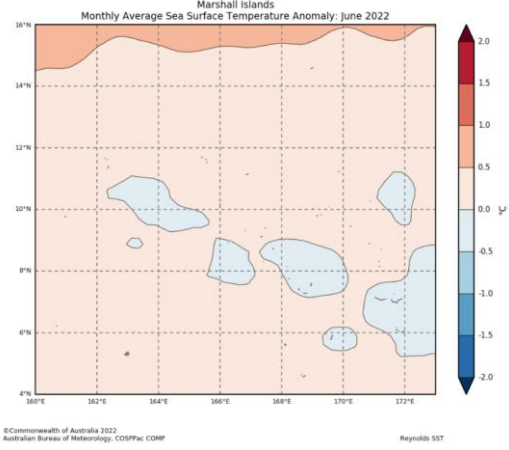
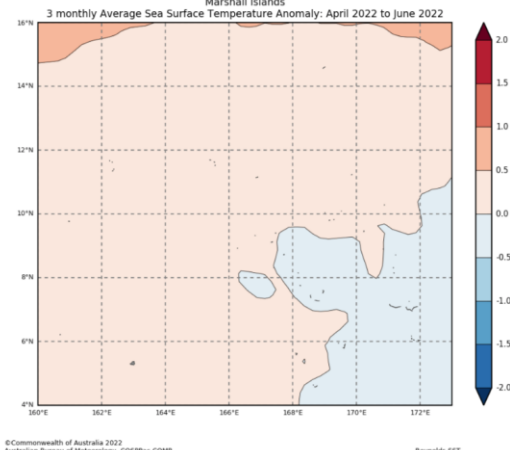
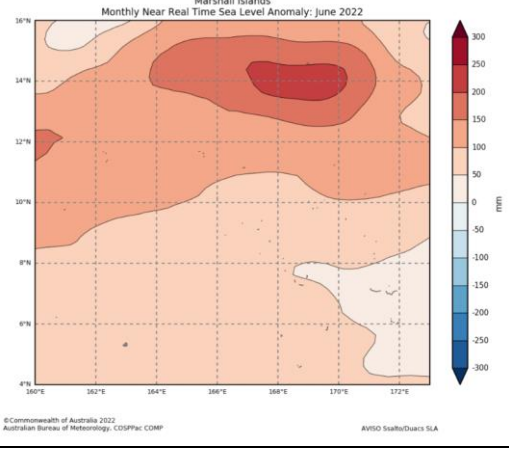
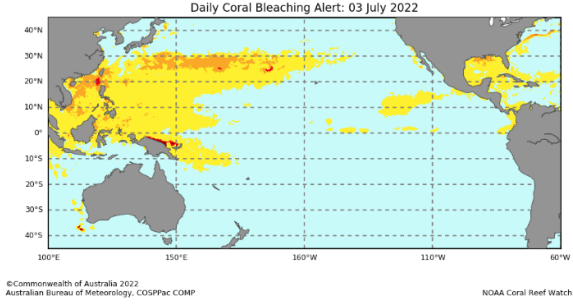
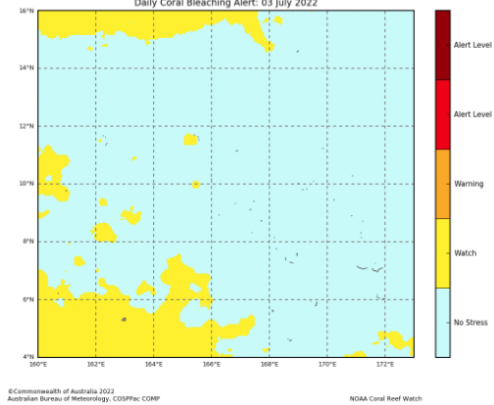
Good:  $10 \leq X < 15$

High:  $15 \leq X < 25$

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Part 2: Recent Ocean observations

Monthly: June 2022

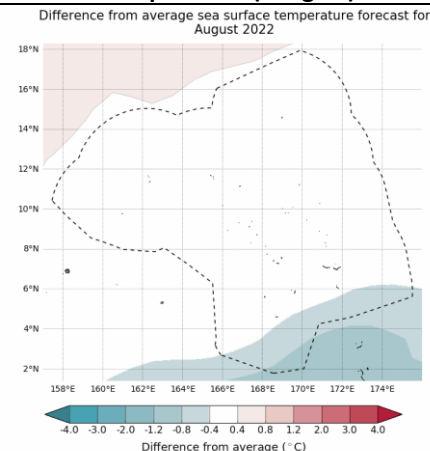
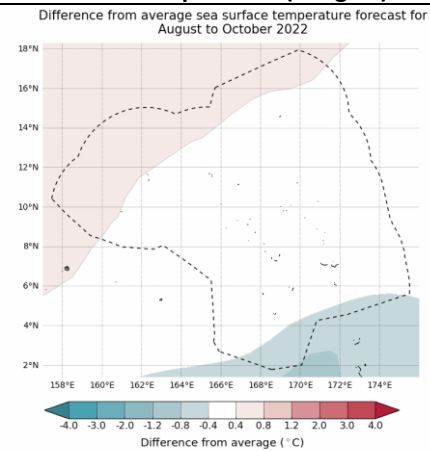
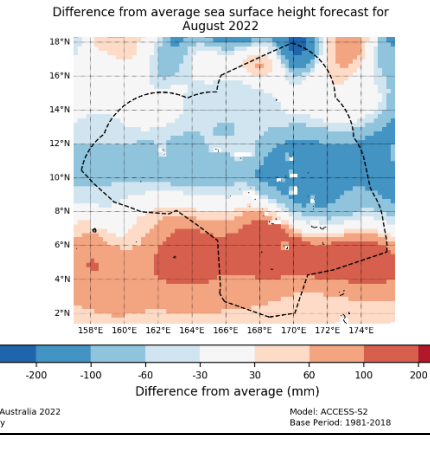
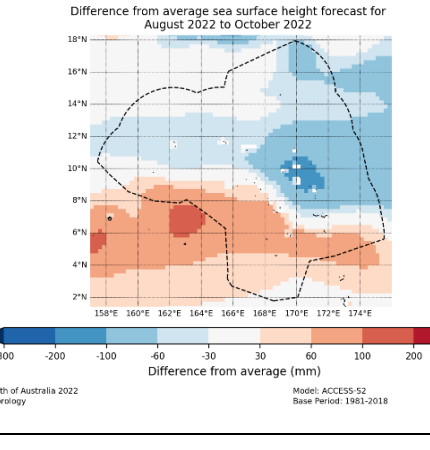
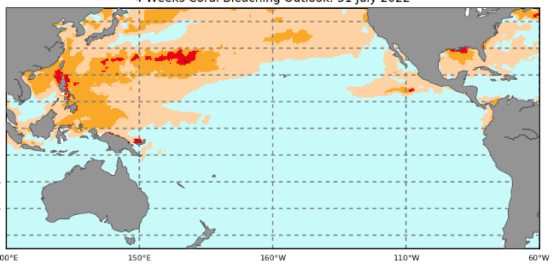
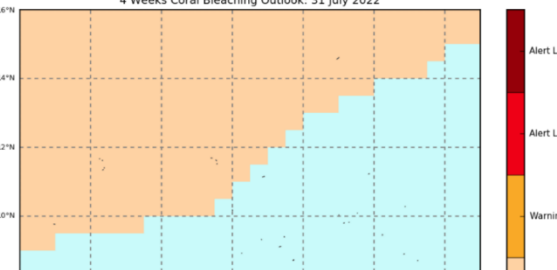
<b>Monthly: June</b>		<b>Last three months: April to June 2022:</b>	
<b>Sea Surface Temperature (Image 1):</b>		<b>Sea Surface Temperature (Image 4):</b>	
 <p>Marshall Islands Monthly Average Sea Surface Temperature Anomaly: June 2022</p> <p>©Commonwealth of Australia 2022 Australian Bureau of Meteorology, COSPac COMP</p> <p>Reynolds SST</p>		 <p>Marshall Islands 3 monthly Average Sea Surface Temperature Anomaly: April 2022 to June 2022</p> <p>©Commonwealth of Australia 2022 Australian Bureau of Meteorology, COSPac COMP</p> <p>Reynolds SST</p>	
<b>Sea level (Image 2):</b>			
 <p>Marshall Islands Monthly Near Real Time Sea Level Anomaly: June 2022</p> <p>©Commonwealth of Australia 2022 Australian Bureau of Meteorology, COSPac COMP</p> <p>AVISO SeaWiFS/QuikSCAT SLA</p>			
<b>Daily coral bleaching alert (Image 3):</b>			
 <p>Pacific Ocean Daily Coral Bleaching Alert: 03 July 2022</p> <p>©Commonwealth of Australia 2022 Australian Bureau of Meteorology, COSPac COMP</p> <p>NOAA Coral Reef Watch</p>		 <p>Marshall Islands Daily Coral Bleaching Alert: 03 July 2022</p> <p>©Commonwealth of Australia 2022 Australian Bureau of Meteorology, COSPac COMP</p> <p>NOAA Coral Reef Watch</p>	

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Part 2i. Monthly and Seasonal Outlooks for August and August to October 2022

Monthly: August	Seasonal: August to October
<p>Monthly sea surface temperature (Image 5):</p>  <p>Difference from average sea surface temperature forecast for August 2022</p> <p>Base period: 1981-2018 Model: ACCESS-S2 © Commonwealth of Australia 2022, Australian Bureau of Meteorology Diagnostic data extracted from Flanders Marine Institute (2018). Maritime Boundary Geodatabase: Maritime Boundaries and Exclusive Economic Zones (2006), version 1.1. Available online at <a href="http://www.marinegovernance.org">http://www.marinegovernance.org</a>.</p> <p>Model run: 16/07/2022 Issued: 18/07/2022</p>	<p>Seasonal sea surface temperature (Image 6):</p>  <p>Difference from average sea surface temperature forecast for August to October 2022</p> <p>Base period: 1981-2018 Model: ACCESS-S2 © Commonwealth of Australia 2022, Australian Bureau of Meteorology Diagnostic data extracted from Flanders Marine Institute (2018). Maritime Boundary Geodatabase: Maritime Boundaries and Exclusive Economic Zones (2006), version 1.1. Available online at <a href="http://www.marinegovernance.org">http://www.marinegovernance.org</a>.</p> <p>Model run: 16/07/2022 Issued: 18/07/2022</p>
<p>Monthly sea level (Image 7):</p>  <p>Difference from average sea surface height forecast for August 2022</p> <p>© Commonwealth of Australia 2022 Bureau of Meteorology</p> <p>Model: ACCESS-S2 Base Period: 1981-2018</p> <p>Model Run: 28/06/2022 Issued: 12/07/2022</p>	<p>Seasonal sea level (Image 8):</p>  <p>Difference from average sea surface height forecast for August 2022 to October 2022</p> <p>© Commonwealth of Australia 2022 Bureau of Meteorology</p> <p>Model: ACCESS-S2 Base Period: 1981-2018</p> <p>Model Run: 28/06/2022 Issued: 12/07/2022</p>
<p>4-week Coral Bleaching (Image 9):</p> <p>Pacific Ocean 4 Weeks Coral Bleaching Outlook: 31 July 2022</p>  <p>© Commonwealth of Australia 2022 Australian Bureau of Meteorology, COSPac COMP</p> <p>NOAA Coral Reef Watch</p>	<p>Marshall Islands 4 Weeks Coral Bleaching Outlook: 31 July 2022</p>  <p>© Commonwealth of Australia 2022 Australian Bureau of Meteorology, COSPac COMP</p> <p>NOAA Coral Reef Watch</p>

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## Summary Statement

### Monthly and last three months: June 2022/April to June 2022 statement (Highly significant changes)

Below normal rainfall was recorded at Majuro in June 2022, while normal rainfall was recorded at Kwajalein. For April to June, Majuro recorded normal rainfall, while Kwajalein recorded above normal rainfall.

## Part 1i. Monthly and Seasonal Outlooks for August and August to October 2022

### Monthly /Seasonal rainfall and temperature Outlook statements (Highly significant changes)

The outlooks for August and August to October show rainfall is likely to be above normal at both Majuro and Kwajalein. The outlooks, however, are different for most other parts of RMI's EEZ, with normal rainfall the most likely outcome for the islands further north of Kwajalein, including Bikini and Enewetak atolls. South of 5°N (for Aug) and 6°N (for Aug-Oct), the outlooks indicate below average rainfall as the most likely outcome.

The monthly maximum and minimum temperature outlooks show August temperatures are likely to be near normal for the majority of the Marshall Islands. The seasonal maximum and minimum temperature outlooks also indicate near-normal temperatures for Majuro and Kwajalein, but for the islands north of Kwajalein, the outlooks show a strong chance of above normal temperatures.

## Part 2: Recent Ocean summary statement

### Monthly and last three months: June/April to June 2022 (Highly significant changes)

For June and April to June, SSTs were near-normal across the Marshall Islands.

June sea levels were ranging from 50 to 100 mm above average across the southern half of RMI, and between 100 mm and 250 mm above normal in the north.

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The entire Marshall Islands placed in NO STRESS status for Coral Bleaching during the month of June.

## Part 2i. Monthly and Seasonal Outlooks for August and August to October 2022

### Ocean Variable statement (Highly significant changes)

The monthly and seasonal outlooks show near-normal SSTs for most of the Marshall Islands during August and August to October.

For the northern and central Marshall Islands, the monthly and seasonal outlooks indicate below average sea levels of 30 to 200 mm. The southern parts of the EEZ, the outlook shows significant sea levels around 60 to 100 mm above average for August, while 100mm to 200mm above average for August to October.

*Coral bleaching outlook is on watch status for the islands located on the farthest northern and southern parts of Marshall Islands, with the remaining on no thermal stress status.*

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

Product	Date: June 2022	Stakeholder	Total Number of Participants	Number of male	Number of female
Climate Bulletin					
EAR Watch					
Monthly Climate Briefing	6/22/2022	Office of the Chief Secretary and the NDMO	6	4	2
Ocean Outlook					
Climate data request					
<b>Total</b>			<b>6</b>	<b>4</b>	<b>2</b>

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