

## Pacific Islands - Ocean and Climate Outlook Forum (OCOF) No. 202

Country: Cook Islands

Part 1: Recent climate

**TABLE 1: Monthly Rainfall**

Station (include data period)	Apr-2024	May-2024	Jun-2024				Rank
			Total (mm)	33%tile	67%tile	Median	
	Total (mm)	Total (mm)	Rainfall (mm)				
Penrhyn (1937-2024)	224.0	134.4	144.2	97.0	167.8	128.0	52/86
Rarotonga (1899-2024)	220.3	80.6	82.0	63.0	114.0	88.6	53/126

**TABLE 2: Three-month Total Rainfall for April to June 2024**

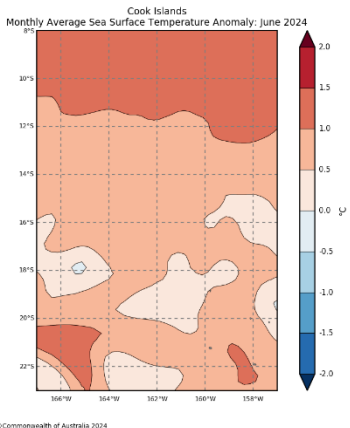
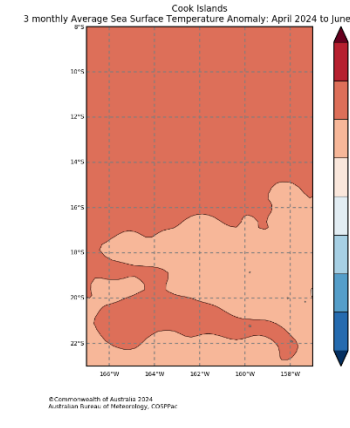
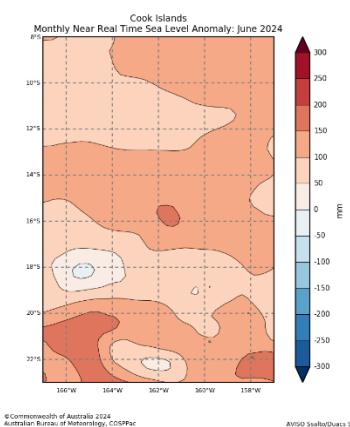
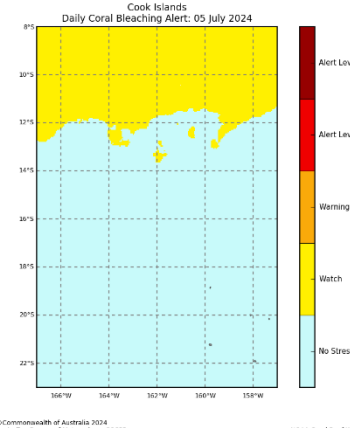
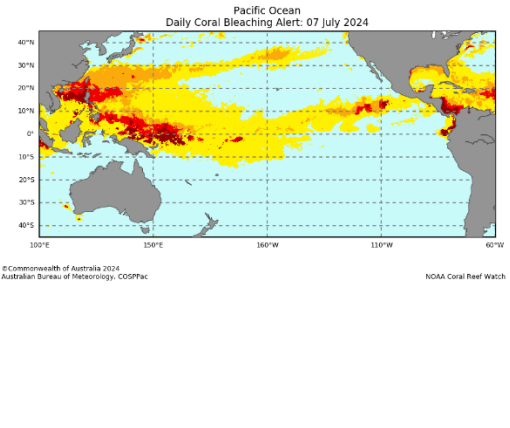
Station	Three-month Total		33%tile	67%tile	Median	Rank
	Rainfall (mm)					
Penrhyn (1937-2024)	502.6	Normal	313.5	529.3	394.4	54/84
Rarotonga (1899-2024)	382.9	Below normal	390.4	482.0	426.5	45/126

# Part 1i. Monthly and Seasonal Outlooks for August and August to October 2024

Monthly: August	Seasonal: August to October
<p><b>Rainfall (Image 1)</b></p> <p>Tercile rainfall probabilities for August 2024</p> <p>Base period: 1981-2018 Model: ACCESS-S2 Model run: 06/07/2024 Issued: 08/07/2024</p> <p>© Commonwealth of Australia 2024, Bureau of Meteorology, supported by COSPPac</p> <p>165°W 162°W 159°W</p> <p>40 50 60 70 80 90</p> <p>Below normal (%) Near normal (%) Above normal (%)</p> <p>-- EEZ border V11 (Flanders Marine Institute, 2019)</p>	<p><b>Rainfall (Image 2)</b></p> <p>Tercile rainfall probabilities for August to October 2024</p> <p>Base period: 1981-2018 Model: ACCESS-S2 Model run: 06/07/2024 Issued: 08/07/2024</p> <p>© Commonwealth of Australia 2024, Bureau of Meteorology, supported by COSPPac</p> <p>165°W 162°W 159°W</p> <p>40 50 60 70 80 90</p> <p>Below normal (%) Near normal (%) Above normal (%)</p> <p>-- EEZ border V11 (Flanders Marine Institute, 2019)</p>
<p><b>Monthly Maximum temperature (Image 3):</b></p>	<p><b>Seasonal maximum temperature (Image 4):</b></p>
<p>Tercile maximum temperature probabilities for August 2024</p> <p>Base period: 1981-2018 Model: ACCESS-S2 Model run: 06/07/2024 Issued: 08/07/2024</p> <p>© Commonwealth of Australia 2024, Bureau of Meteorology, supported by COSPPac</p> <p>165°W 162°W 159°W</p> <p>40 50 60 70 80 90</p> <p>Below normal (%) Near normal (%) Above normal (%)</p> <p>-- EEZ border V11 (Flanders Marine Institute, 2019)</p>	<p>Tercile maximum temperature probabilities for August to October 2024</p> <p>Base period: 1981-2018 Model: ACCESS-S2 Model run: 06/07/2024 Issued: 08/07/2024</p> <p>© Commonwealth of Australia 2024, Bureau of Meteorology, supported by COSPPac</p> <p>165°W 162°W 159°W</p> <p>40 50 60 70 80 90</p> <p>Below normal (%) Near normal (%) Above normal (%)</p> <p>-- EEZ border V11 (Flanders Marine Institute, 2019)</p>
<p><b>Monthly minimum temperature (Image 5):</b></p>	<p><b>Seasonal minimum temperature (Image 6):</b></p>
<p>Tercile minimum temperature probabilities for August 2024</p> <p>Base period: 1981-2018 Model: ACCESS-S2 Model run: 06/07/2024 Issued: 08/07/2024</p> <p>© Commonwealth of Australia 2024, Bureau of Meteorology, supported by COSPPac</p> <p>165°W 162°W 159°W</p> <p>40 50 60 70 80 90</p> <p>Below normal (%) Near normal (%) Above normal (%)</p> <p>-- EEZ border V11 (Flanders Marine Institute, 2019)</p>	<p>Tercile minimum temperature probabilities for August to October 2024</p> <p>Base period: 1981-2018 Model: ACCESS-S2 Model run: 06/07/2024 Issued: 08/07/2024</p> <p>© Commonwealth of Australia 2024, Bureau of Meteorology, supported by COSPPac</p> <p>165°W 162°W 159°W</p> <p>40 50 60 70 80 90</p> <p>Below normal (%) Near normal (%) Above normal (%)</p> <p>-- EEZ border V11 (Flanders Marine Institute, 2019)</p>

# Part 2: Recent Ocean Observation

## Monthly/Three months: June 2024 and April to June 2024

Monthly: June 2024	Last three months: April to June 2024:
<p><b>Sea Surface Temperature (Image 1):</b></p>  <p>Cook Islands Monthly Average Sea Surface Temperature Anomaly: June 2024</p> <p>©Commonwealth of Australia 2024 Australian Bureau of Meteorology, COSPPac</p> <p>Reynolds SST</p>	<p><b>Sea Surface Temperature (Image 4):</b></p>  <p>Cook Islands 3 monthly Average Sea Surface Temperature Anomaly: April 2024 to June 2024</p> <p>©Commonwealth of Australia 2024 Australian Bureau of Meteorology, COSPPac</p> <p>Reynolds SST</p>
<p><b>Sea level (Image 2):</b></p>  <p>Cook Islands Monthly Near Real Time Sea Level Anomaly: June 2024</p> <p>©Commonwealth of Australia 2024 Australian Bureau of Meteorology, COSPPac</p> <p>AVISO SeaWiFS/QuikSCAT SLA</p>	
<p><b>Daily coral bleaching alert (Image 3):</b></p>  <p>Cook Islands Daily Coral Bleaching Alert: 05 July 2024</p> <p>©Commonwealth of Australia 2024 Australian Bureau of Meteorology, COSPPac</p> <p>NOAA Coral Reef Watch</p>	 <p>Pacific Ocean Daily Coral Bleaching Alert: 07 July 2024</p> <p>©Commonwealth of Australia 2024 Australian Bureau of Meteorology, COSPPac</p> <p>NOAA Coral Reef Watch</p>

# Part 2i. Monthly and Seasonal Outlooks for August and August to October 2024

Monthly: August	Seasonal: August to October
<p><b>Monthly sea surface temperature (Image 5):</b></p> <p>Difference from average sea surface temperature forecast for August 2024</p> <p>Base period: 1981-2018 Model: ACCESS-S2 Model run: 06/07/2024 Issued: 08/07/2024</p> <p>© Commonwealth of Australia 2024. Bureau of Meteorology, supported by COSPPac.</p> <p>--- EEZ border V11 (Flanders Marine Institute, 2019).</p>	<p><b>Seasonal sea surface temperature (Image 6):</b></p> <p>Difference from average sea surface temperature forecast for August to October 2024</p> <p>Base period: 1981-2018 Model: ACCESS-S2 Model run: 06/07/2024 Issued: 08/07/2024</p> <p>© Commonwealth of Australia 2024. Bureau of Meteorology, supported by COSPPac.</p> <p>--- EEZ border V11 (Flanders Marine Institute, 2019).</p>
<p><b>Monthly sea level (Image 7):</b></p> <p>Difference from average sea surface height forecast for August 2024</p> <p>Base period: 1981-2018 Model: ACCESS-S2 Model run: 06/07/2024 Issued: 08/07/2024</p> <p>© Commonwealth of Australia 2024. Bureau of Meteorology, supported by COSPPac.</p> <p>--- EEZ border V11 (Flanders Marine Institute, 2019).</p>	<p><b>Seasonal sea level (Image 8):</b></p> <p>Difference from average sea surface height forecast for August to October 2024</p> <p>Base period: 1981-2018 Model: ACCESS-S2 Model run: 06/07/2024 Issued: 08/07/2024</p> <p>© Commonwealth of Australia 2024. Bureau of Meteorology, supported by COSPPac.</p> <p>--- EEZ border V11 (Flanders Marine Institute, 2019).</p>
<p><b>4-week Coral Bleaching (Image 9):</b></p> <p>Cook Islands 4 Weeks Coral Bleaching Outlook: 21 July 2024</p> <p>Alert Level 2 Alert Level 1 Warning Watch No Stress</p> <p>© Commonwealth of Australia 2024 Australian Bureau of Meteorology, COSPPac</p> <p>NOAA Coral Reef Watch</p>	<p><b>4-week Coral Bleaching (Image 9):</b></p> <p>Pacific Ocean 4 Weeks Coral Bleaching Outlook: 21 July 2024</p> <p>Alert Level 2 Alert Level 1 Warning Watch No Stress</p> <p>© Commonwealth of Australia 2024 Australian Bureau of Meteorology, COSPPac</p> <p>NOAA Coral Reef Watch</p>

## Summary Statement

### Monthly and last three months: June 2024/April to June 2024 statement

The rainfall for June was near-normal over both Penrhyn and Rarotonga stations. Meanwhile, rainfall over the past three months of April to June was near-normal over Penrhyn and below normal over Rarotonga.

## Part 1i. Monthly and Seasonal Outlooks for August and August to October 2024

### Monthly /Seasonal rainfall and temperature Outlook statements

August rainfall is likely to be above normal over central to northern Cook Islands, and in a few patches of the south. Near-normal rainfall is likely in the far north, including Penrhyn, while the outlook offers little guidance for Rarotonga.

The rainfall for August to October is likely to be above normal in the lower north and central Cook Islands, as well as in the southwest. Near-normal rainfall is likely in the southeast and in the upper northern Cooks, except in the far northeast, including Penrhyn, where below normal rainfall is likely. Once again there is little guidance for Rarotonga.

Maximum and minimum temperatures during August and averaged over August to October are very likely to be above normal over the Cook Islands.

## Part 2: Recent Ocean summary statement

### Monthly and last three months: June 2024/April to June 2024

June and April to June Ocean temperatures around Penrhyn and Rarotonga were 0.5 to 1.5°C above normal.

June sea levels around both Penrhyn and Rarotonga were 50mm to 150mm above normal.

There is a coral bleaching 'Watch' for Penrhyn.

## Part 2i. Monthly and Seasonal Outlooks for August and August to October 2024

### Ocean Variable statement

August ocean temperatures around Penrhyn is predicted to be 0.8 to 1.2°C above normal, and 0.4 to 0.8°C above normal around Rarotonga.

Averaged over August to October, ocean temperatures around both Penrhyn and Rarotonga is predicted to be 0.4 to 0.8°C above normal.

August and averaged August to October, sea levels around both Penrhyn and Rarotonga are predicted to be -30mm to 30mm near-normal.

### IN BRIEF for Teleconference

- Rainfall in June and over April to June was mainly near-normal.
- Above normal rainfall is likely for the central to lower northern Cook Islands in August and August to October.
- SSTs were above normal for June and April to June. The outlook shows continued above-normal SSTs.

- Sea-surface heights (SSHs) showed above normal for June and April to June period. SSHs are predicted to be near-normal for the next one and three months.
- ‘Watch’ level coral bleaching for Penrhyn, outlook suggests ‘No Stress’.

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

Product	Date: June 2024	Stakeholder	Total Number of Participants	Number of Male	Number of Female	Comments (If there are comments from you Stakeholders)
Climate Bulletin						
EAR Watch		Red Cross, Island Council and Executive Officers, To Tatou Vai, etc.....	43	?	?	
Monthly Climate Briefing		Climate Change	8	?	?	
Ocean Outlook						
Climate data request		Ministry of Marine Resources, Local Newspaper	2		2	
<b>Total</b>			<b>53</b>	<b>?</b>	<b>?</b>	