

Country: Cook Islands

Part 1: Recent climate

TABLE 1: Monthly Rainfall

Station (include data period)	Aug-2023	Sep-2023	Oct-2023				
			Total (mm)	33%tile	67%tile	Median	Rank
	Total (mm)	Total (mm)	Rainfall (mm)				
Penrhyn (1937-2023)	55.2	74.2	107.2	91.3	169.3	131.9	37/85
Rarotonga (1899-2023)	50.2	104.5	93.2	67.0	132.0	95.8	62/125

TABLE 2: Three-month Total Rainfall for August to October 2023

Station	Three-month Total		33%tile	67%tile	Median	Rank
	Rainfall (mm)					
Penrhyn (1937-2023)	236.6	Below normal	289.3	427.4	341.0	19/84
Rarotonga (1899-2023)	247.9	Below normal	277.0	386.0	338.0	35/125

Part 1i. Monthly and Seasonal Outlooks for December and December 2023 to February 2024

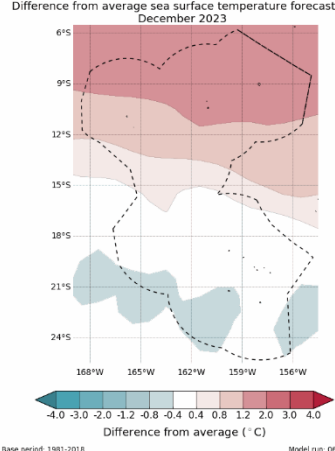
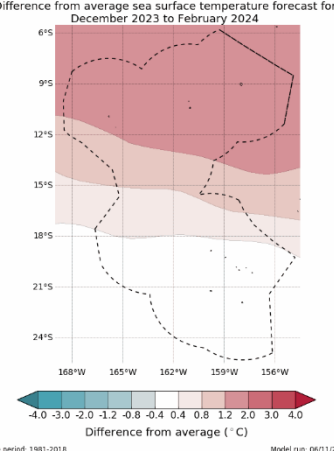
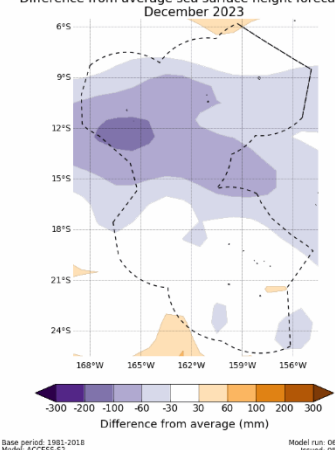
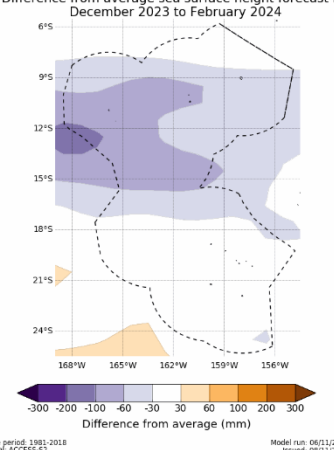
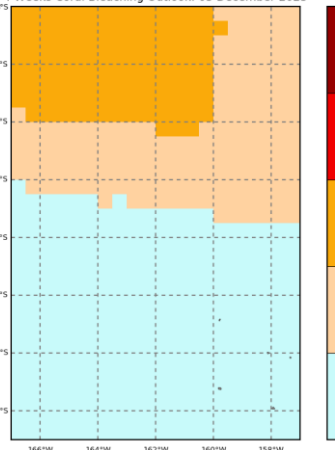
Monthly: December	Seasonal: December to February
Rainfall (Image 1)	Rainfall (Image 2)
<p>Tercile rainfall probabilities for December 2023</p> <p>Base period: 1981-2018 Model: ACCESS-S2 © Commonwealth of Australia 2023, Australian Bureau of Meteorology Shapefile data extracted from Flinders Marine Institute (2019). Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (200NM), version 1.1. Available online at http://www.maritimesg.org</p>	<p>Tercile rainfall probabilities for December 2023 to February 2024</p> <p>Base period: 1981-2018 Model: ACCESS-S2 © Commonwealth of Australia 2023, Australian Bureau of Meteorology Shapefile data extracted from Flinders Marine Institute (2019). Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (200NM), version 1.1. Available online at http://www.maritimesg.org</p>
Monthly Maximum temperature (Image 3):	Seasonal maximum temperature (Image 4):
<p>Tercile maximum temperature probabilities for December 2023</p> <p>Base period: 1981-2018 Model: ACCESS-S2 © Commonwealth of Australia 2023, Australian Bureau of Meteorology Shapefile data extracted from Flinders Marine Institute (2019). Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (200NM), version 1.1. Available online at http://www.maritimesg.org</p>	<p>Tercile maximum temperature probabilities for December 2023 to February 2024</p> <p>Base period: 1981-2018 Model: ACCESS-S2 © Commonwealth of Australia 2023, Australian Bureau of Meteorology Shapefile data extracted from Flinders Marine Institute (2019). Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (200NM), version 1.1. Available online at http://www.maritimesg.org</p>
Monthly minimum temperature (Image 5):	Seasonal minimum temperature (Image 6):
<p>Tercile minimum temperature probabilities for December 2023</p> <p>Base period: 1981-2018 Model: ACCESS-S2 © Commonwealth of Australia 2023, Australian Bureau of Meteorology Shapefile data extracted from Flinders Marine Institute (2019). Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (200NM), version 1.1. Available online at http://www.maritimesg.org</p>	<p>Tercile minimum temperature probabilities for December 2023 to February 2024</p> <p>Base period: 1981-2018 Model: ACCESS-S2 © Commonwealth of Australia 2023, Australian Bureau of Meteorology Shapefile data extracted from Flinders Marine Institute (2019). Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (200NM), version 1.1. Available online at http://www.maritimesg.org</p>

Part 2: Recent Ocean Observation

Monthly/Three months: October and August to October 2023

<p>Monthly: October</p>	<p>Last three months: August to October 2023:</p>
<p>Sea Surface Temperature (Image 1):</p>	<p>Sea Surface Temperature (Image 4):</p>
<div><p>Cook Islands</p><p>Monthly Average Sea Surface Temperature Anomaly: October 2023</p><p>©Commonwealth of Australia 2023 Australian Bureau of Meteorology, COSPPac</p><p>Reynolds SST</p></div>	<div><p>Cook Islands</p><p>3 monthly Average Sea Surface Temperature Anomaly: August 2023 to October 2023</p><p>©Commonwealth of Australia 2023 Australian Bureau of Meteorology, COSPPac</p><p>Reynolds SST</p></div>
<p>Sea level (Image 2):</p>	<p>Daily coral bleaching alert (Image 3):</p>
<div><p>Cook Islands</p><p>Monthly Near Real Time Sea Level Anomaly: October 2023</p><p>©Commonwealth of Australia 2023 Australian Bureau of Meteorology, COSPPac</p><p>AVISO SsaltoDuacs SLA</p></div>	<div><p>Cook Islands</p><p>Daily Coral Bleaching Alert: 08 November 2023</p><p>©Commonwealth of Australia 2023 Australian Bureau of Meteorology, COSPPac</p><p>NOAA Coral Reef Watch</p></div>

Part 2i. Monthly and Seasonal Outlooks for December and December 2023 to February 2024

Monthly: December	Seasonal: December to February
Monthly sea surface temperature (Image 5):	Seasonal sea surface temperature (Image 6):
<div><p>Difference from average sea surface temperature forecast for December 2023</p><p>Base period: 1981-2018 Model: ACCESS-G2 © Commonwealth of Australia 2023, Australian Bureau of Meteorology Datafile data extracted from Australian Marine Institute (2023), Maritime Boundaries Geodatabase, Maritime Boundaries and Exclusive Economic Zones (2004), version 1.1. Available online at http://www.marine.gov.au</p><p>Model run: 06/11/2023 Issued: 06/11/2023</p></div>	<div><p>Difference from average sea surface temperature forecast for December 2023 to February 2024</p><p>Base period: 1981-2018 Model: ACCESS-G2 © Commonwealth of Australia 2023, Australian Bureau of Meteorology Datafile data extracted from Australian Marine Institute (2023), Maritime Boundaries Geodatabase, Maritime Boundaries and Exclusive Economic Zones (2004), version 1.1. Available online at http://www.marine.gov.au</p><p>Model run: 06/11/2023 Issued: 06/11/2023</p></div>
Monthly sea level (Image 7):	Seasonal sea level (Image 8):
<div><p>Difference from average sea surface height forecast for December 2023</p><p>Base period: 1981-2018 Model: ACCESS-G2 © Commonwealth of Australia 2023, Australian Bureau of Meteorology Datafile data extracted from Australian Marine Institute (2023), Maritime Boundaries Geodatabase, Maritime Boundaries and Exclusive Economic Zones (2004), version 1.1. Available online at http://www.marine.gov.au</p><p>Model run: 06/11/2023 Issued: 06/11/2023</p></div>	<div><p>Difference from average sea surface height forecast for December 2023 to February 2024</p><p>Base period: 1981-2018 Model: ACCESS-G2 © Commonwealth of Australia 2023, Australian Bureau of Meteorology Datafile data extracted from Australian Marine Institute (2023), Maritime Boundaries Geodatabase, Maritime Boundaries and Exclusive Economic Zones (2004), version 1.1. Available online at http://www.marine.gov.au</p><p>Model run: 06/11/2023 Issued: 06/11/2023</p></div>
4-week Coral Bleaching (Image 9):	
<div><p>Cook Islands 4 Weeks Coral Bleaching Outlook: 03 December 2023</p><p>©Commonwealth of Australia 2023 Australian Bureau of Meteorology, COSPPac</p><p>NOAA Coral Reef Watch</p></div>	

Summary Statement

Monthly and last three months: October 2023/August to October 2023 statement

The rainfall for October was near-normal over both Penrhyn and Rarotonga stations, while for the past three months, rainfall was below normal at both these stations.

Part 1i. Monthly and Seasonal Outlooks for December and December 2023 to February 2024

Monthly /Seasonal rainfall and temperature Outlook statements

The rainfall for December is likely or very likely to be above normal over Penrhyn and most of the Northern Cooks, and below normal for Rarotonga and the Southern Cooks. The rainfall for December 2023 to February 2024 is very similar to the December outlook, but with even stronger chances of above normal rainfall in the north.

Maximum and minimum temperatures during December are very likely to be above normal for the Northern Cooks including Penrhyn station, and below normal for Rarotonga and the Southern Cooks.

Maximum and minimum temperatures averaged over December 2023 to February 2024 are likely or very likely to be above normal over much of the Cook Islands, apart from Rarotonga and Mangaia where the outlook offers little guidance.

Part 2: Recent Ocean summary statement

Monthly and last three months: October 2023/August to October 2023

October and averaged August to October ocean temperatures around the Cooks were 0.0 to 1.0°C above normal
October sea levels around the Cooks were 0.0mm to 150.0mm above normal.

Part 2i. Monthly and Seasonal Outlooks for December and December to February 2024

Ocean Variable statement

December ocean temperatures around Penrhyn are predicted to be 1.2 to 2.0°C above normal, and -0.8 to 0.4°C for Rarotonga.

Averaged over December to February, ocean temperatures around Penrhyn are predicted to be 1.2 to 2.0°C above normal, and -0.4 to 0.4°C for Rarotonga.

Monthly and 3 monthly sea levels around Penrhyn are predicted to be -60mm to -30mm below normal and -30mm to 30mm for Rarotonga.

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

Product	Date: October 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						
Ocean Outlook						
Climate data request						
Total						