

## Pacific Islands - Ocean and Climate Outlook Forum (OCOF) No. 173

Country: Cook Islands

### Part 1: Recent climate

**TABLE 1: Monthly Rainfall**

Station (include data period)	Nov-2021	Dec-2021	Jan-2022				
			Total (mm)	33%tile	67%tile	Median	Rank
	Total (mm)	Total (mm)	Rainfall (mm)				
Penrhyn (1937-2022)	205.0	72.0	423.0	119.8	300.7	190.8	73/84
Rarotonga (1899-2022)	114.5	286.1	430.4	160.8	269.3	217.0	110/124

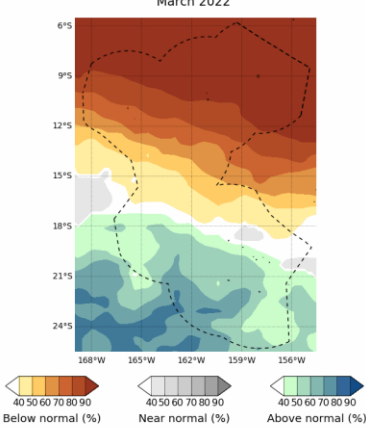
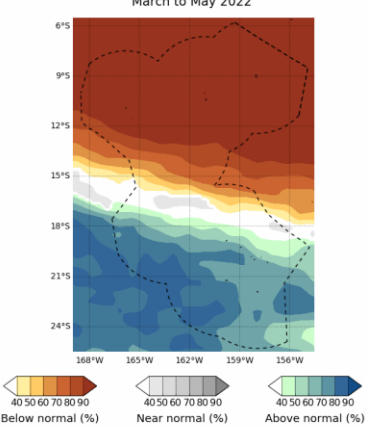
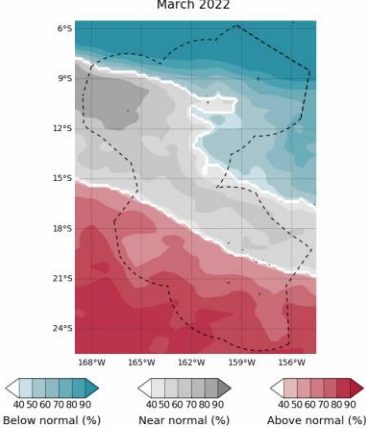
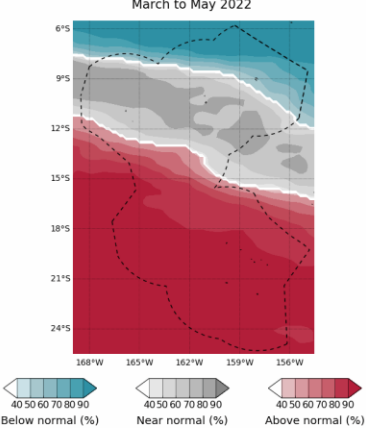
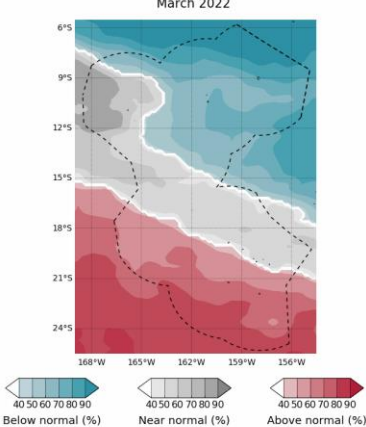
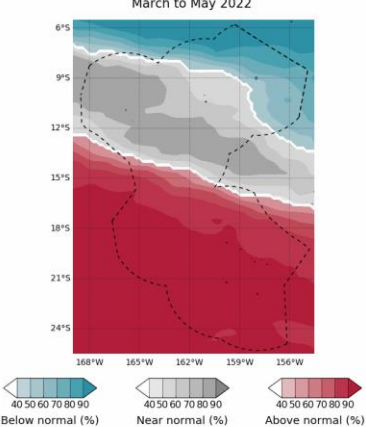
**TABLE 2: Three-month Total Rainfall for November 2021 to January 2022**

Station	Three-month Total		33%tile	67%tile	Median	Rank
	Rainfall (mm)					
Penrhyn (1937-2022)	700.0	Normal	389.1	760.7	585.4	54/84
Rarotonga (1899-2022)	831.0	Above normal	494.0	686.1	567.0	105/123

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 March and March to May 2022

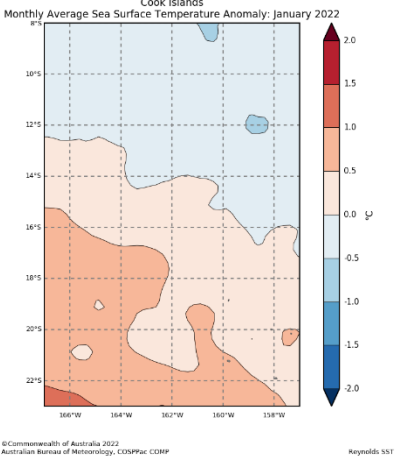
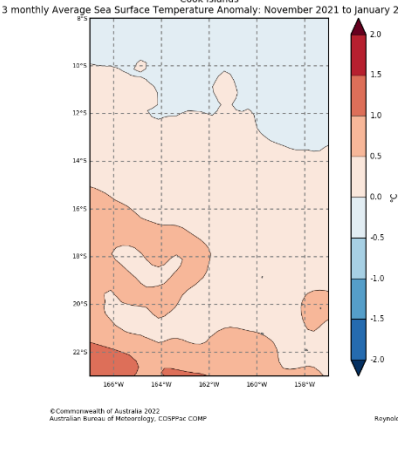
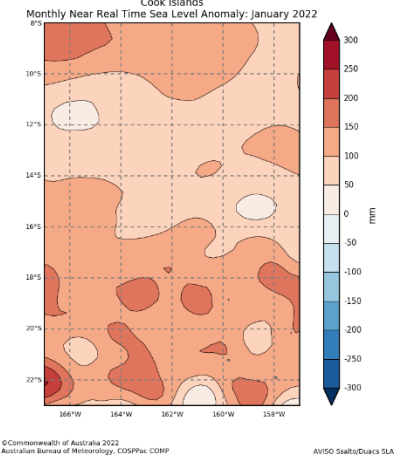
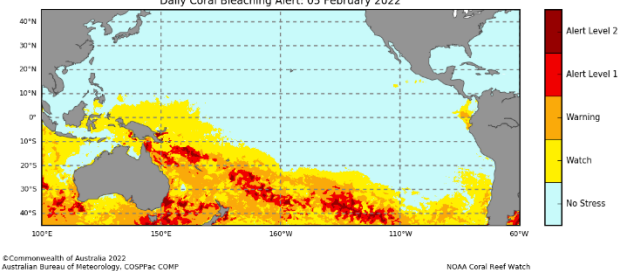
Monthly: March	Seasonal: March to May
Rainfall (Image 1)	Rainfall (Image 2)
<p>Tercile rainfall probabilities for March 2022</p>  <p>Base period: 1981-2018 Model: ACCESS-S2 © Commonwealth of Australia 2022, Australian Bureau of Meteorology Geospatial data extracted from Geospatial Metadata (2019), Maritime Boundaries Geodatabase, Maritime Boundaries and Exclusive Economic Zones (2004), version 1.1. Available online at <a href="http://www.marine.gov.au">http://www.marine.gov.au</a></p>	<p>Tercile rainfall probabilities for March to May 2022</p>  <p>Base period: 1981-2018 Model: ACCESS-S2 © Commonwealth of Australia 2022, Australian Bureau of Meteorology Geospatial data extracted from Geospatial Metadata (2019), Maritime Boundaries Geodatabase, Maritime Boundaries and Exclusive Economic Zones (2004), version 1.1. Available online at <a href="http://www.marine.gov.au">http://www.marine.gov.au</a></p>
Monthly Maximum temperature (Image 3):	Seasonal maximum temperature (Image 4):
<p>Tercile maximum temperature probabilities for March 2022</p>  <p>Base period: 1981-2018 Model: ACCESS-S2 © Commonwealth of Australia 2022, Australian Bureau of Meteorology Geospatial data extracted from Geospatial Metadata (2019), Maritime Boundaries Geodatabase, Maritime Boundaries and Exclusive Economic Zones (2004), version 1.1. Available online at <a href="http://www.marine.gov.au">http://www.marine.gov.au</a></p>	<p>Tercile maximum temperature probabilities for March to May 2022</p>  <p>Base period: 1981-2018 Model: ACCESS-S2 © Commonwealth of Australia 2022, Australian Bureau of Meteorology Geospatial data extracted from Geospatial Metadata (2019), Maritime Boundaries Geodatabase, Maritime Boundaries and Exclusive Economic Zones (2004), version 1.1. Available online at <a href="http://www.marine.gov.au">http://www.marine.gov.au</a></p>
Monthly minimum temperature (Image 5):	Seasonal minimum temperature (Image 6):
<p>Tercile minimum temperature probabilities for March 2022</p>  <p>Base period: 1981-2018 Model: ACCESS-S2 © Commonwealth of Australia 2022, Australian Bureau of Meteorology Geospatial data extracted from Geospatial Metadata (2019), Maritime Boundaries Geodatabase, Maritime Boundaries and Exclusive Economic Zones (2004), version 1.1. Available online at <a href="http://www.marine.gov.au">http://www.marine.gov.au</a></p>	<p>Tercile minimum temperature probabilities for March to May 2022</p>  <p>Base period: 1981-2018 Model: ACCESS-S2 © Commonwealth of Australia 2022, Australian Bureau of Meteorology Geospatial data extracted from Geospatial Metadata (2019), Maritime Boundaries Geodatabase, Maritime Boundaries and Exclusive Economic Zones (2004), version 1.1. Available online at <a href="http://www.marine.gov.au">http://www.marine.gov.au</a></p>

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## Part 2: Recent Ocean summary statement

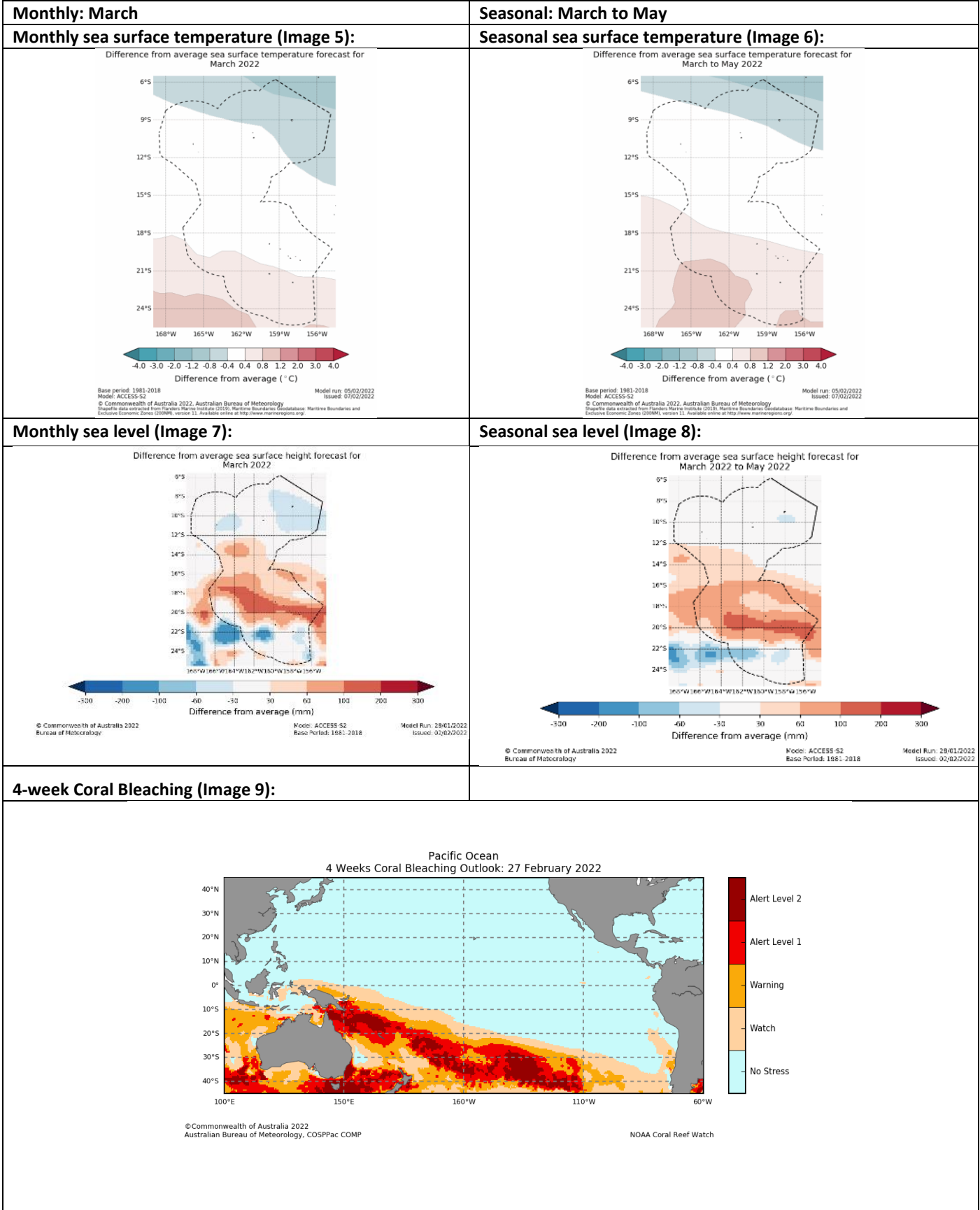
### Monthly: January 2022

Monthly: January	Last three months: November 2021 to January 2022:
<p><b>Sea Surface Temperature (Image 1):</b></p>  <p>©Commonwealth of Australia 2022 Australian Bureau of Meteorology, COSPPac COMP</p> <p>Reynolds SST</p>	<p><b>Sea Surface Temperature (Image 4):</b></p>  <p>©Commonwealth of Australia 2022 Australian Bureau of Meteorology, COSPPac COMP</p> <p>Reynolds SST</p>
<p><b>Sea level (Image 2):</b></p>  <p>©Commonwealth of Australia 2022 Australian Bureau of Meteorology, COSPPac COMP</p> <p>AVISO SeaLands SLA</p>	
<p><b>Daily coral bleaching alert (Image 3):</b></p>  <p>©Commonwealth of Australia 2022 Australian Bureau of Meteorology, COSPPac COMP</p> <p>NOMA Coral Reef Watch</p>	

## Part 2i. Monthly and Seasonal Outlooks for March and March to May 2022

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## Summary Statement

### Monthly and last three months: January 2022/November 2021 to January 2022 statement (Highly significant changes)

Above normal rainfall was recorded at both Penrhyn and Rarotonga station for January 2022. For November 2021 to January 2022, accumulated rainfall was normal for Penrhyn and above normal for Rarotonga.

## Part 1i. Monthly and Seasonal Outlooks for March and March to May 2022

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

Rainfall outlook for next month and three months is very likely to be below normal for Penrhyn and above normal for Rarotonga.

Temperature pattern outlooks is similar for next month and next three months which is very likely to be near normal for central and majority of the Cooks, Penrhyn is very likely to be below normal. Above normal is very likely for Rarotonga.

## Part 2: Recent Ocean summary statement

### Monthly and last three months: January/November 2021 to January 2022 (Highly significant changes)

#### Sea Surface Temperature statement

The northern Cooks experienced below average SST and the Southern Cooks had above average SST for January 2022. Significant warm SSTs was experienced in the southern Cooks. Highest SSTs were 0.5 to 1.0 degrees above average.

#### Sea level statement

Higher than average sea levels was experienced across the whole Cook Islands.

#### Daily bleaching alert statement

A 'no stress' coral bleaching alert status was seen throughout the region.

#### Last three months Sea Surface Temperature statement

For the October to December 2021 period, similar to the monthly pattern of warmer than average SSTs were experienced in the Cook Islands, with the exception of Penrhyn.

## Part 2i. Monthly and Seasonal Outlooks for March and March to May 2022

### Ocean Variable statement (Highly significant changes)

#### Monthly sea surface temperature statement

Monthly outlook for the Cook Islands shows a significant temperature difference of -0.8 to 0.8°C for March 2022.

#### Seasonal Sea Surface Temperature statement

Seasonal outlook is similar to the monthly outlook. The outlook for the Cooks archipelago shows SSTs are likely to be close to average for the March to May 2022 period.

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### Monthly sea level statement

Outlook across the Cooks shows sea surface heights are likely to be below average for Penrhyn and above normal for Rarotonga in March.

### Seasonal sea level statement

Similar patterns to the monthly outlook, sea surface heights are likely to be below average Penrhyn and above normal for Rarotonga for March to May 2022 period.

### 4-weeks Coral Bleaching statement

The outlook for the Cook Islands shows a watch alert for central and southern coasts, no stress for Penrhyn

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

Product	Date: January 2022	Stakeholder	Total Number of Participants	Number of male	Number of female
Climate Bulletin		Ministry of Transport	29	17	12
EAR Watch		C.I Govt. Stakeholders Public	?	?	?
Monthly Climate Briefing		Climate Change	8	2	6
Ocean Outlook					
Climate data request					
Total			37	19	18

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