

Pacific Islands - Ocean and Climate Outlook Forum (OCOF) No. 182

Country: Cook Islands

Part 1: Recent climate

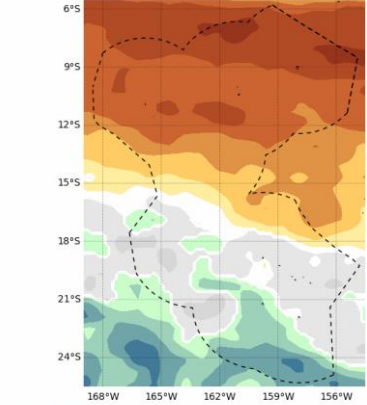
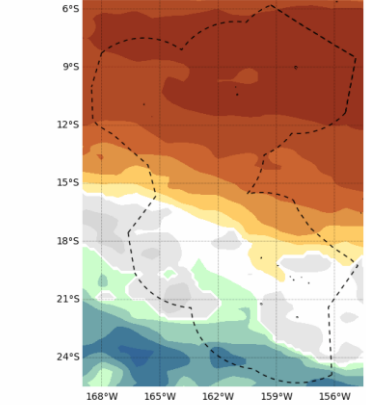
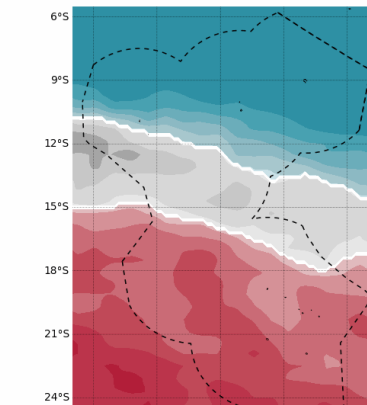
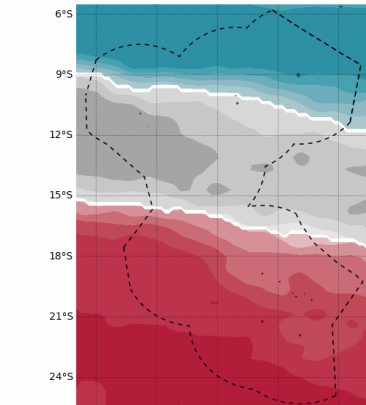
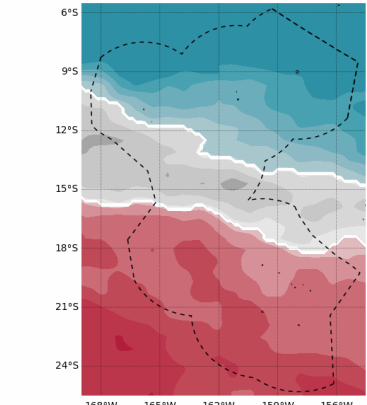
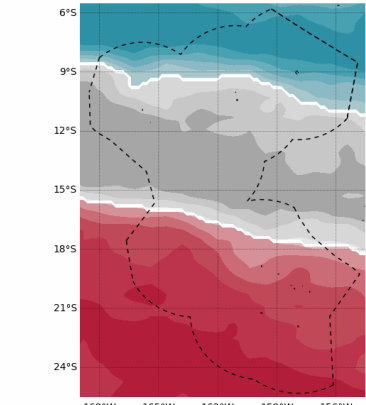
TABLE 1: Monthly Rainfall

Station (include data period)	Aug-2022	Sep-2022	Oct-2022				
			Total (mm)	33%tile	67%tile	Median	Rank
	Total (mm)	Total (mm)	Rainfall (mm)				
Penrhyn (1937-2022)	18.0	115.4	29.8	90.7	169.3	125.0	4/84
Rarotonga (1899-2022)	268.4	54.4	122.6	63.3	121.1	86.8	77/124

TABLE 2: Three-month Total Rainfall for August to October 2022

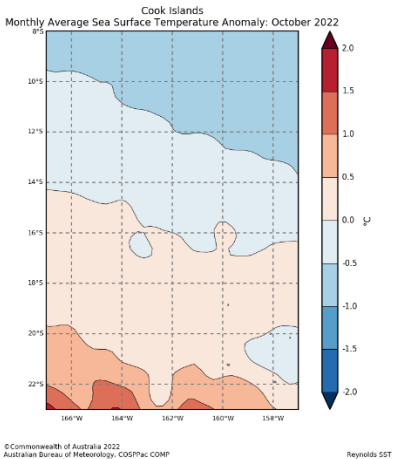
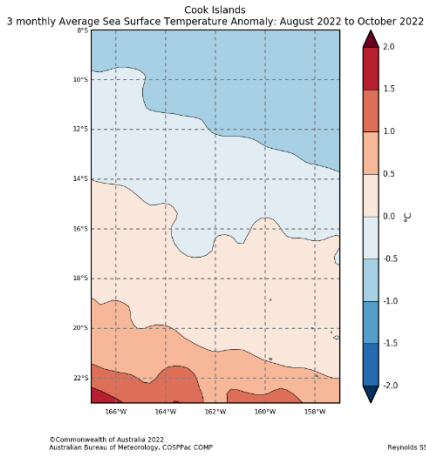
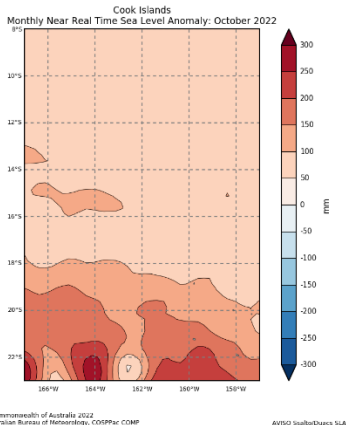
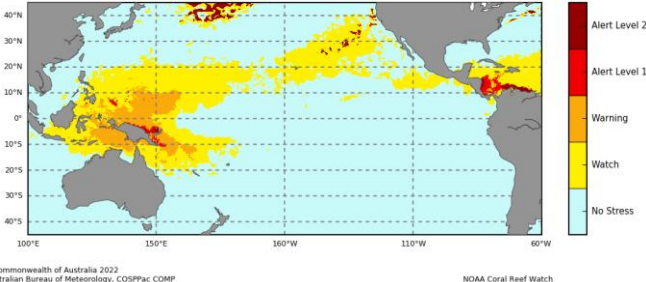
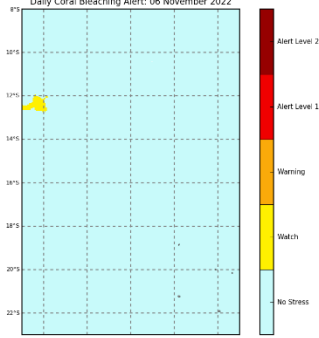
Station	Three-month Total		33%tile	67%tile	Median	Rank
	Rainfall (mm)					
Penrhyn (1937-2022)	163.2	Below normal	292.0	418.0	338.0	6/83
Rarotonga (1899-2022)	445.4	Above normal	255.5	373.3	323.6	100/124

Part 1i. Monthly and Seasonal Outlooks for December 2022 and December 2022 to February 2023

Monthly: December	Seasonal: December to January
Rainfall (Image 1)	Rainfall (Image 2)
<p>Tercile rainfall probabilities for December 2022</p>  <p>Base period: 1981-2018 Model: ACCESS-S2 Shapfile data extracted from Flanders Marine Institute (2019), Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (200NM), version 11. Available online at http://www.maritimeregions.org/</p> <p>Model run: 05/11/2022 Issued: 07/11/2022</p>	<p>Tercile rainfall probabilities for December 2022 to February 2023</p>  <p>Base period: 1981-2018 Model: ACCESS-S2 Shapfile data extracted from Flanders Marine Institute (2019), Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (200NM), version 11. Available online at http://www.maritimeregions.org/</p> <p>Model run: 05/11/2022 Issued: 07/11/2022</p>
Monthly Maximum temperature (Image 3):	Seasonal maximum temperature (Image 4):
<p>Tercile maximum temperature probabilities for December 2022</p>  <p>Base period: 1981-2018 Model: ACCESS-S2 Shapfile data extracted from Flanders Marine Institute (2019), Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (200NM), version 11. Available online at http://www.maritimeregions.org/</p> <p>Model run: 05/11/2022 Issued: 07/11/2022</p>	<p>Tercile maximum temperature probabilities for December 2022 to February 2023</p>  <p>Base period: 1981-2018 Model: ACCESS-S2 Shapfile data extracted from Flanders Marine Institute (2019), Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (200NM), version 11. Available online at http://www.maritimeregions.org/</p> <p>Model run: 05/11/2022 Issued: 07/11/2022</p>
Monthly minimum temperature (Image 5):	Seasonal minimum temperature (Image 6):
<p>Tercile minimum temperature probabilities for December 2022</p>  <p>Base period: 1981-2018 Model: ACCESS-S2 Shapfile data extracted from Flanders Marine Institute (2019), Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (200NM), version 11. Available online at http://www.maritimeregions.org/</p> <p>Model run: 05/11/2022 Issued: 07/11/2022</p>	<p>Tercile minimum temperature probabilities for December 2022 to February 2023</p>  <p>Base period: 1981-2018 Model: ACCESS-S2 Shapfile data extracted from Flanders Marine Institute (2019), Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (200NM), version 11. Available online at http://www.maritimeregions.org/</p> <p>Model run: 05/11/2022 Issued: 07/11/2022</p>

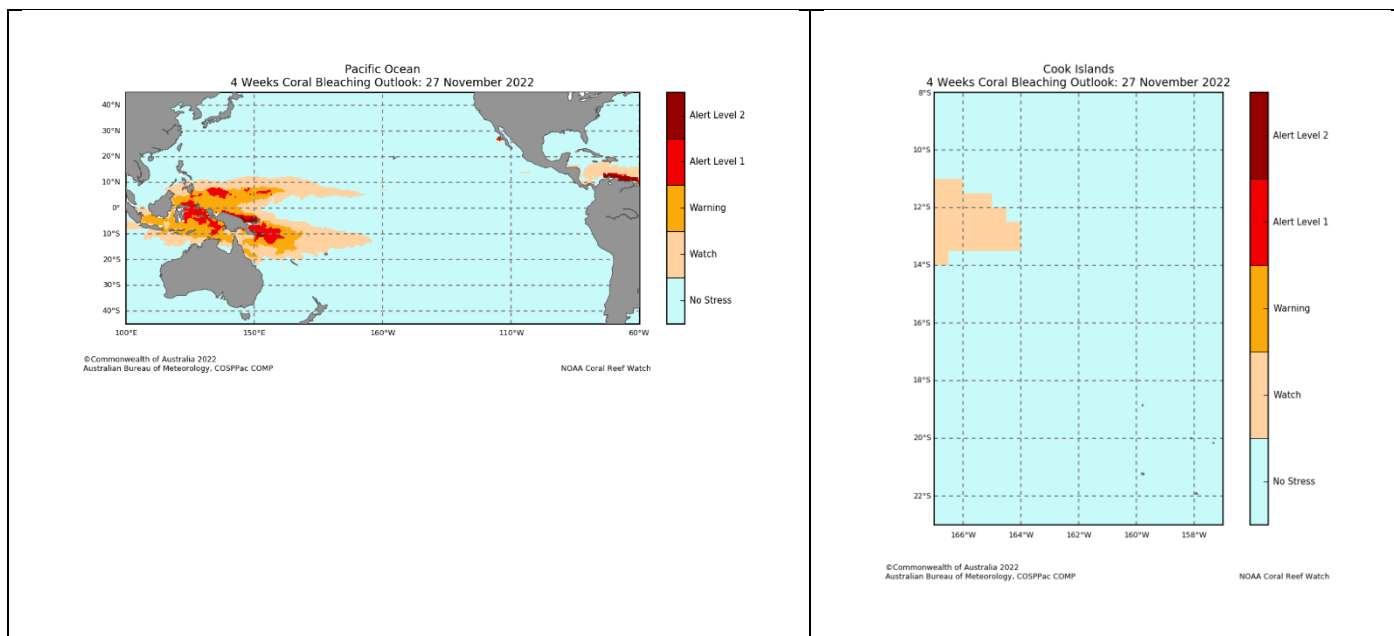
Part 2: Recent Ocean Observation

Monthly/Three months: October 2022 and August to October 2022

Monthly: October	Last three months: August to October 2022:
<p data-bbox="108 297 512 324">Sea Surface Temperature (Image 1):</p>  <p data-bbox="304 824 699 840">©Commonwealth of Australia 2022 Australian Bureau of Meteorology, COSPPac COMP Reynolds SST</p>	<p data-bbox="917 297 1321 324">Sea Surface Temperature (Image 4):</p>  <p data-bbox="1027 824 1406 840">©Commonwealth of Australia 2022 Australian Bureau of Meteorology, COSPPac COMP Reynolds SST</p>
<p data-bbox="108 913 328 940">Sea level (Image 2):</p>  <p data-bbox="320 1406 683 1422">©Commonwealth of Australia 2022 Australian Bureau of Meteorology, COSPPac COMP AVISO SeaWiFS SLA</p>	
<p data-bbox="108 1494 518 1520">Daily coral bleaching alert (Image 3):</p>  <p data-bbox="172 1883 746 1899">©Commonwealth of Australia 2022 Australian Bureau of Meteorology, COSPPac COMP NOAA Coral Reef Watch</p>	 <p data-bbox="1034 1955 1369 1971">©Commonwealth of Australia 2022 Australian Bureau of Meteorology, COSPPac COMP NOAA Coral Reef Watch</p>

Part 2i. Monthly and Seasonal Outlooks for December 2022 and December 2022 to February 2023

Monthly: December	Seasonal: December to February
Monthly sea surface temperature (Image 5):	Seasonal sea surface temperature (Image 6):
<p>Difference from average sea surface temperature forecast for December 2022</p> <p>Base period: 1981-2018 Model: ACCESS-S2 © Commonwealth of Australia 2022, Australian Bureau of Meteorology Seafile data extracted from Flinders Marine Institute (2019), Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (200NM), version 11. Available online at http://www.maritimergions.org</p> <p>Model run: 05/11/2022 Issued: 07/11/2022</p>	<p>Difference from average sea surface temperature forecast for December 2022 to February 2023</p> <p>Base period: 1981-2018 Model: ACCESS-S2 © Commonwealth of Australia 2022, Australian Bureau of Meteorology Seafile data extracted from Flinders Marine Institute (2019), Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (200NM), version 11. Available online at http://www.maritimergions.org</p> <p>Model run: 05/11/2022 Issued: 07/11/2022</p>
Monthly sea level (Image 7):	Seasonal sea level (Image 8):
<p>Difference from average sea surface height forecast for December 2022</p> <p>Base period: 1981-2018 Model: ACCESS-S2 © Commonwealth of Australia 2022, Australian Bureau of Meteorology Seafile data extracted from Flinders Marine Institute (2019), Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (200NM), version 11. Available online at http://www.maritimergions.org</p> <p>Model run: 05/11/2022 Issued: 07/11/2022</p>	<p>image8.ocean.ssha. seasonal.access-s.pr</p> <p>Difference from average sea surface height forecast for December 2022 to February 2023</p> <p>Base period: 1981-2018 Model: ACCESS-S2 © Commonwealth of Australia 2022, Australian Bureau of Meteorology Seafile data extracted from Flinders Marine Institute (2019), Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (200NM), version 11. Available online at http://www.maritimergions.org</p> <p>Model run: 07/11/2022 Issued: 09/11/2022</p>
4-week Coral Bleaching (Image 9):	



Summary Statement

Monthly and last three months: October 2022/August to October 2022 statement

Below normal rainfall was recorded at Penrhyn for October 2022 and for the 3-month period of August to October 2022. In contrast, rainfall was above normal at Rarotonga for October 2022, and the 3-month period (August-October 2022). Penrhyn station recorded its fourth driest October and sixth driest August to October on record.

Part 1i. Monthly and Seasonal Outlooks for December 2022 and December 2022 to February 2023

Monthly /Seasonal rainfall and temperature Outlook statements

The rainfall for December and December to February rainfall are very likely to be below normal over Penrhyn. In Rarotonga, the outlook for December rainfall is likely to be above normal, while December to February's rainfall is likely to be near-normal.

Maximum and minimum temperatures during December and averaged over December to February are very likely to be below normal over Penrhyn and above normal for Rarotonga.

Part 2: Recent Ocean summary statement

Monthly and last three months: October/August to October 2022

October ocean temperatures around the Penrhyn were 0.5 to 1°C below normal, and 0.0 to 0.5°C above normal around Rarotonga

Averaged over August to October, is similar to monthly summary.

October sea levels around all Cooks waters were 50mm to 200mm above normal.

Part 2i. Monthly and Seasonal Outlooks for December 2022 and December 2022 to February 2023

Ocean Variable statement

December and averaged over December to February ocean temperatures around Penrhyn is predicted to be -0.4 to -0.8°C below normal, and between 0.4 to 0.8°C above normal around Rarotonga.

December sea levels around Penrhyn are predicted to be -30mm to -100mm below normal and 30mm to 100mm above normal for Rarotonga.

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

Product	Date: October 2022	Stakeholder	Total Number of Participants	Number of male	Number of female
Climate Bulletin		MoT (Ministry of Transport)	29	17	12
EAR Watch		C.I Govt. Stakeholders and Public	?	?	?
Monthly Climate Briefing		Climate Change	8	2	6
Ocean Outlook					
Climate data request		MMR (Ministry of Marine Resources)	1		1
Total			38	19	19