

Pacific Islands - Ocean and Climate Outlook Forum (OCOF) No. 170

Country: Tuvalu

Part 1: Recent climate

TABLE 1: Monthly Rainfall

Station (include data period)	Aug-2021	Sep-2021	Oct-2021				
			Total (mm)	33%tile	67%tile	Median	Rank
	Total (mm)	Total (mm)	Rainfall (mm)				
Nanumea (1941-2021)	173.9	59.7	144.9	94.7	187.7	140.4	44/80
Nui (1946-2021)	168.7	133.0	201.6	143.4	219.3	182.4	46/76
Funafuti (1933-2021)	383.7	228.4	463.5	202.4	292.8	258.2	85/89
Niulakita (1953-2021)	423.2	178.4	155.1	207.7	310.3	260.0	14/69

TABLE 2: Three-month Total Rainfall for August to October 2021

Station	Three-month Total		33%tile	67%tile	Median	Rank
	Rainfall (mm)					
Nanumea (1941-2021)	378.5	Normal	364.8	582.0	503.4	28/80
Nui (1946-2021)	503.3	Normal	498.1	718.3	567.4	28/76
Funafuti (1933-2021)	1075.6	Above normal	599.2	799.6	675.9	79/89
Niulakita (1953-2021)	756.7	Normal	578.2	829.1	683.6	41/69

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

Very Low: $X < 0.0$

Low: $0 \leq X < 5$

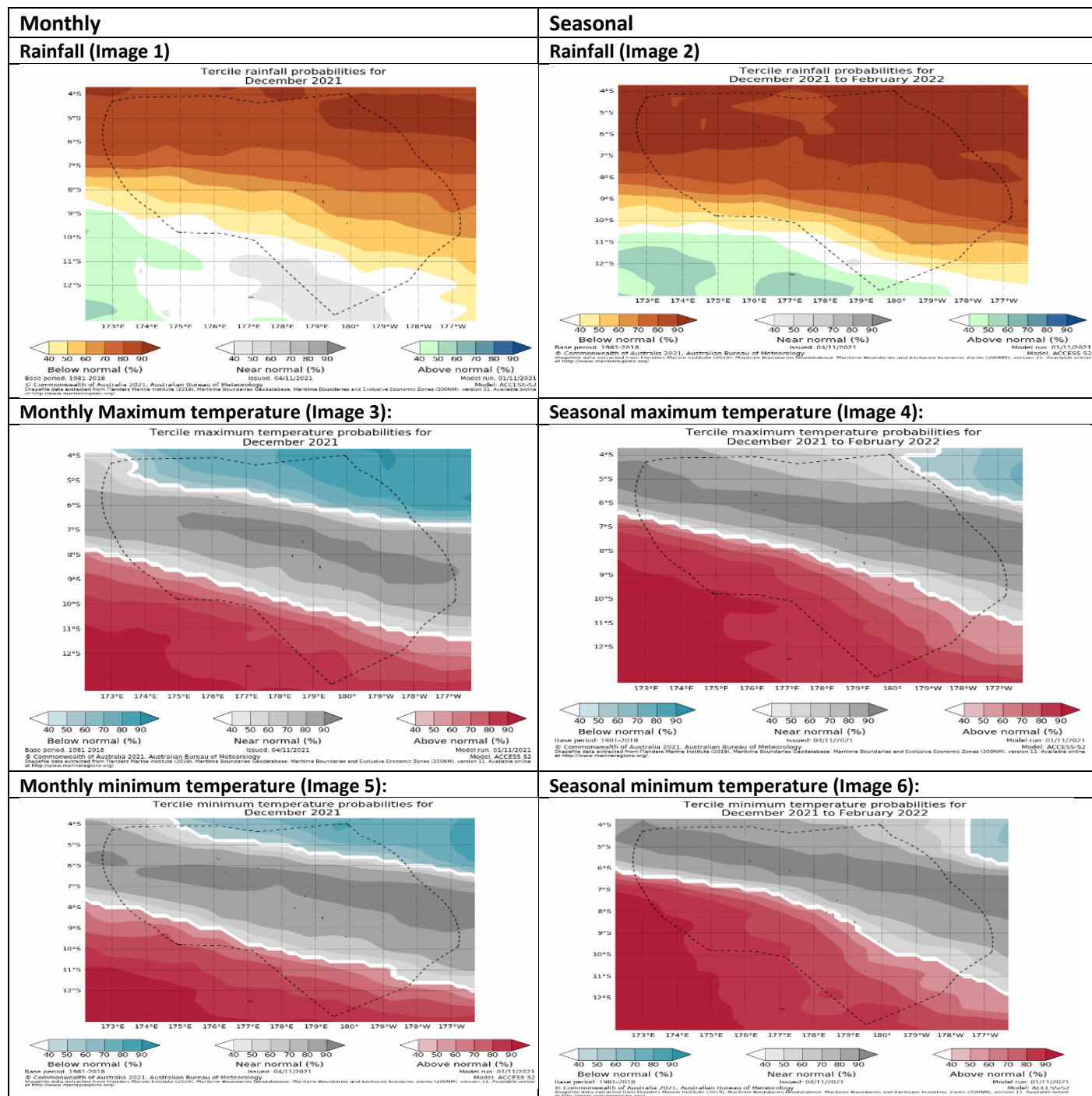
Moderate $5 \leq X < 10$

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 December and December 2021 to February 2022



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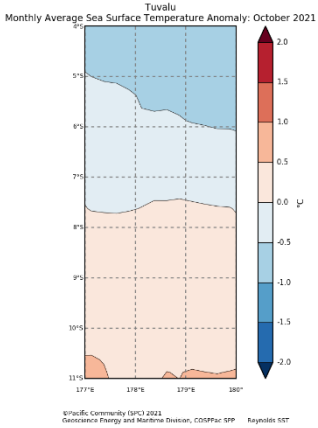
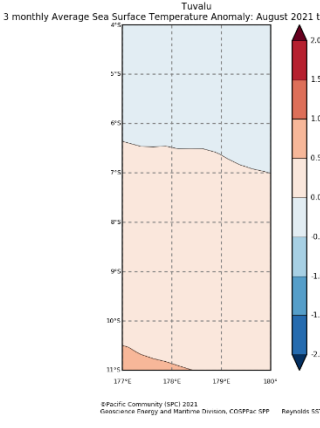
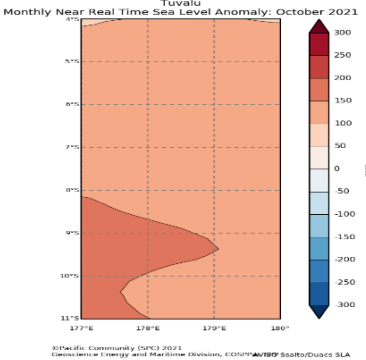
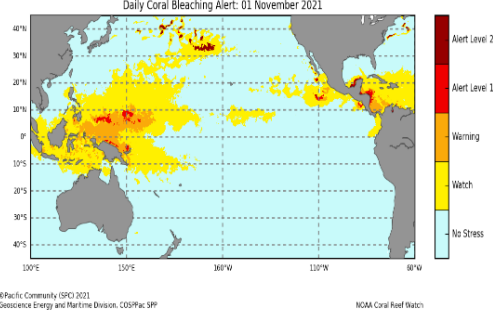
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Part 2: Recent Ocean summary statement

Monthly: October 2021

Monthly: October	Last three months: August to October 2021:
<p>Sea Surface Temperature (Image 1):</p>  <p>Tuvalu Monthly Average Sea Surface Temperature Anomaly: October 2021</p> <p>©Pacific Community (SPC) 2021 Geoscience Energy and Maritime Division, COSPac SPP Reynolds SST</p>	<p>Sea Surface Temperature (Image 4):</p>  <p>Tuvalu 3 monthly Average Sea Surface Temperature Anomaly: August 2021 to October 2021</p> <p>©Pacific Community (SPC) 2021 Geoscience Energy and Maritime Division, COSPac SPP Reynolds SST</p>
<p>Sea level (Image 2):</p>  <p>Tuvalu Monthly Near Real Time Sea Level Anomaly: October 2021</p> <p>©Pacific Community (SPC) 2021 Geoscience Energy and Maritime Division, COSPac SPP AVISO Sea Level</p>	
<p>Daily coral bleaching alert (Image 3):</p>  <p>Pacific Ocean Daily Coral Bleaching Alert: 01 November 2021</p> <p>©Pacific Community (SPC) 2021 Geoscience Energy and Maritime Division, COSPac SPP NOAA Coral Reef Watch</p>	

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Part 2i. Monthly and Seasonal Outlooks for December and December 2021 to February 2022

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 2021</p> <p>Base period: 1981-2018 © Commonwealth of Australia 2021, Australian Bureau of Meteorology Sea surface data extracted from Tropical Rainfall Measuring Mission (TRMM) 3B42, version 7.1. Available online at http://www.nasa.gov/data/3B42/</p> <p>Issued: 03/11/2021 Model run: 01/11/2021 Model: ACCESS-S2</p>	<p>Difference from average sea surface temperature forecast for December 2021 to February 2022</p> <p>Base period: 1981-2018 © Commonwealth of Australia 2021, Australian Bureau of Meteorology Sea surface data extracted from Tropical Rainfall Measuring Mission (TRMM) 3B42, version 7.1. Available online at http://www.nasa.gov/data/3B42/</p> <p>Issued: 03/11/2021 Model run: 01/11/2021 Model: ACCESS-S2</p>
Monthly sea level (Image 7):	Seasonal sea level (Image 8):
<p>Difference from average sea surface height forecast for December 2021</p> <p>© Commonwealth of Australia 2021 Bureau of Meteorology</p> <p>Model: ACCESS-S2 Base Period: 1981-2018</p> <p>Model Run: 27/10/2021 Issued: Map not issued</p>	<p>Difference from average sea surface height forecast for December 2021 to February 2022</p> <p>© Commonwealth of Australia 2021 Bureau of Meteorology</p> <p>Model: ACCESS-S2 Base Period: 1981-2018</p> <p>Model Run: 27/10/2021 Issued: Map not issued</p>
4-week Coral Bleaching (Image 9):	
<p>Pacific Ocean 4 Weeks Coral Bleaching Outlook: 21 November 2021</p> <p>© Pacific Community (SPC) 2021 Geoscience and Maritime Division, COSPAR SPP</p> <p>NOAA Coral Reef Watch</p>	

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Summary Statement

Monthly and last three months: October 2021/August to October statement (Highly significant changes)

October 2021

Above Normal rainfall recorded at Funafuti, Normal rainfall recorded at Nanumea and Nui, while Below normal rainfall was recorded at Niulakita. Funafuti recorded its fifth wettest October on record.

August to October 2021:

During the last three months from August to October, normal rainfall recorded at Nanumea, Nui and Niulakita while above normal rainfall recorded at Funafuti.

Part 1i. Monthly and Seasonal Outlooks for December and December 2021 to February 2022

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

The Monthly outlook is very likely to be below normal rainfall for the Northern and Central part of Tuvalu, while the outlook for the Southern part of Tuvalu is likely to be below normal. For the seasonal outlook rainfall is very likely to be below normal for the whole group of Tuvalu from Nanumea to Niulakita.

Monthly and Seasonal outlook is very likely to be near normal maximum temperature for Northern and Central while very likely to be above normal maximum rainfall for the southern group of Tuvalu.

The monthly and seasonal outlook is very likely to be near normal minimum temperature for the Northern and central group, while the Southern group of Tuvalu is very likely to be above normal.

Part 2: Recent Ocean summary statement

Monthly and last three months: October/August to October 2021 (Highly significant changes)

In the month of October, Northern group of Tuvalu experienced cooler than normal SST, central group experienced normal SST while Southern group experienced warmer than normal SST. Significant warm SST were experienced in the west side of the southern group of Tuvalu from August to October. Highest SSTs were 0.5 to 1.0 degrees above average and located at the west side of the Southern group of Tuvalu. No thermal stress for coral bleaching at the Northern part of Tuvalu, while watch coral bleaching experienced at the central and southern part of Tuvalu.

Part 2i. Monthly and Seasonal Outlooks for December and December 2021 to February 2022

Ocean Variable statement (Highly significant changes)

The outlook for the Tuvalu sea level anomaly shows a significant difference of 30 to 200 mm in the south for December and out to February. Coral bleaching watch for southern areas of Tuvalu. Northern and Central part is under no stress.

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

Product	Date: October 2021	Stakeholder	Total Number of Participants	Number of male	Number of female
Climate Bulletin		Met staffs Disaster Members All civil servants and kaupule members	6 9	5 6	1 3
EAR Watch		Met staffs Disaster Members All civil servants and kaupule members	6 9	5 6	1 3
Monthly Climate Briefing		Met staffs Disaster Members All civil servants and kaupule members	6 9	5 6	1 3
Ocean Outlook		Met staffs Disaster Members All civil servants and kaupule members	6 9	5 6	1 3
Climate data request		Met staffs Disaster Members All civil servants and kaupule members	6 9	5 6	1 3
Total			60	40	20

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