

Pacific Islands - Ocean and Climate Outlook Forum (OCOF) No. 171

Country: Papua New Guinea

Part 1: Recent climate

TABLE 1: Monthly Rainfall

Station (include data period)	Sep-2021	Oct-2021	Nov-2021				Rank
			Total (mm)	33%tile	67%tile	Median	
	Total (mm)	Total (mm)	Rainfall (mm)				
Momase Region							
Madang (1944-2021)	143.0			279.0	366.0	327.2	
Nadzab (1973-2021)	181.6			80.1	113.5	90.0	
Wewak (1956-2021)	185.6	235.2	387.8	153.8	236.8	197.5	64/65
Vanimo (1918-2021)	118.6		287.2	162.9	242.2	202.0	55/65
Highlands Region							
Goroka (1948-2021)	44.4			132.0	183.3	156.0	
New Guinea Islands Region							
Momote (1949-2021)	268.8	161.4	186.4	192.3	290.7	239.5	22/73
Kavieng (1916-2021)	184.6		162.4	200.0	271.0	233.0	20/94
Southern Region							
Misima (1917-2021)	238.8	153.8	108.4	124.6	225.4	167.4	23/96
Port Moresby (1875-2021)	69.0	95.5	171.9	22.2	81.8	45.9	113/124

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: $X \geq 35$

TABLE 2: Three-month Total Rainfall for September to November 2021

Station	Three-month Total		33%tile	67%tile	Median	Rank
	Rainfall (mm)					
Momase Region						
Madang (1944-2021)			618.0	836.3	690.3	
Nadzab (1973-2021)			239.9	340.0	291.2	
Wewak (1894-2021)	808.6	Above normal	529.7	670.5	592.7	56/63
Vanimo (1918-2021)	726.2	Above normal	502.5	640.2	547.7	53/61
Highlands Region						
Goroka (1948-2021)			355.0	483.6	423.0	
New Guinea Islands Region						
Momote (1949-2021)	616.6	Below normal	645.0	787.8	730.5	21/73
Kavieng (1917-2021)	584.2	Normal	555.0	773.8	686.0	38/92
Southern Region						
Misima (1917-2021)	501.0	Normal	494.5	800.5	680.9	30/95
Port Moresby (1875-2021)	336.4	Above normal	82.4	156.6	110.0	111/113

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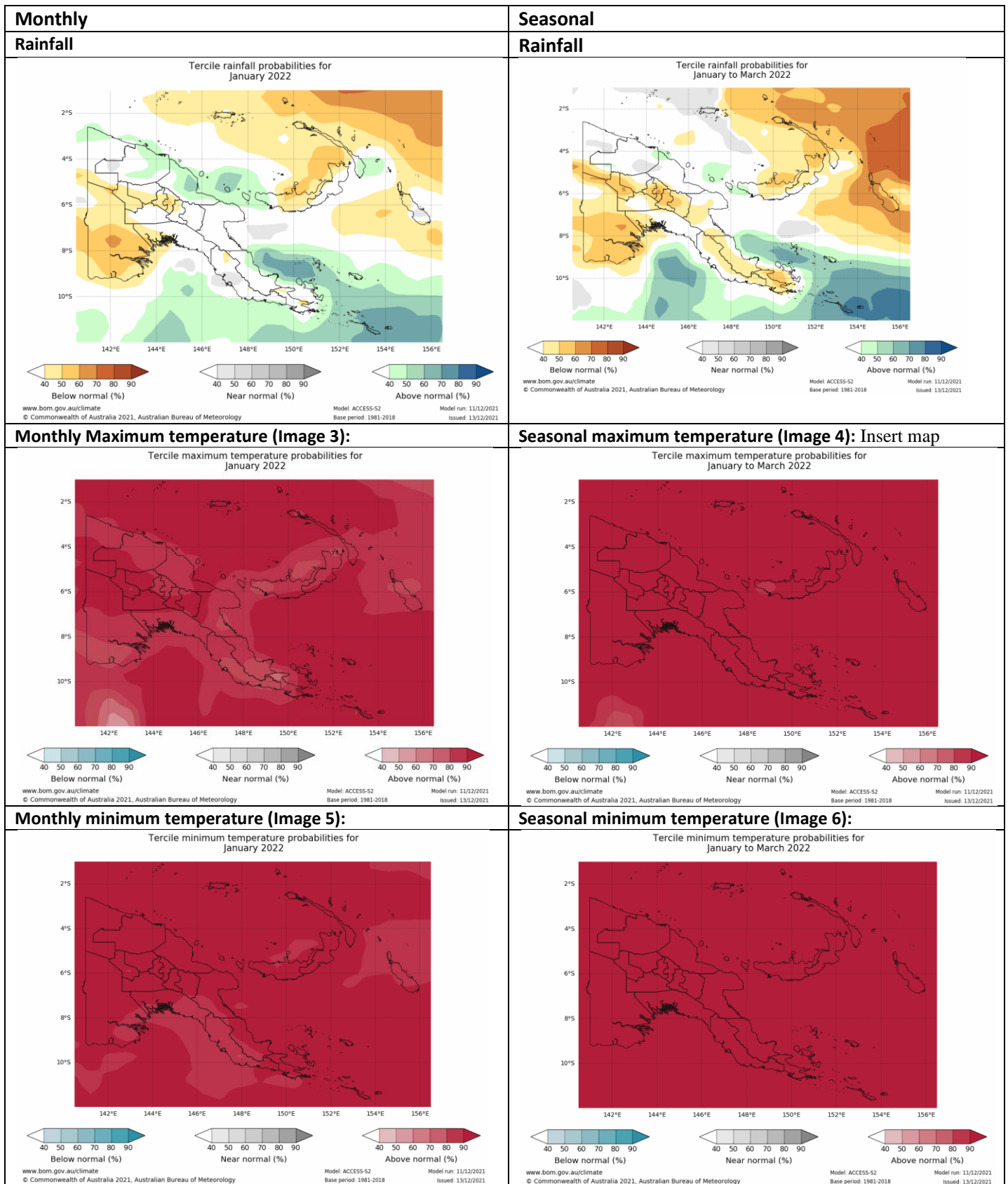
Moderate $5 \leq X < 10$

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

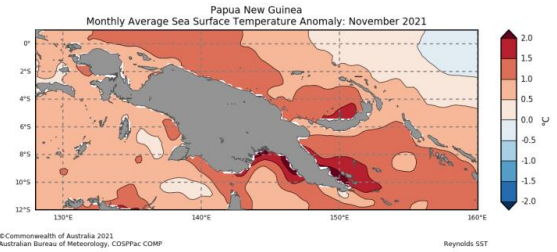
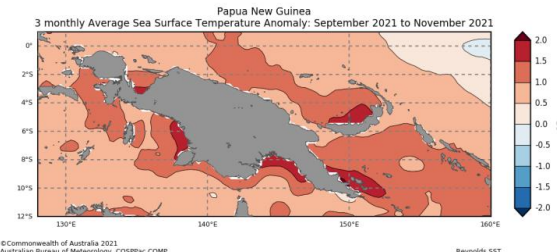
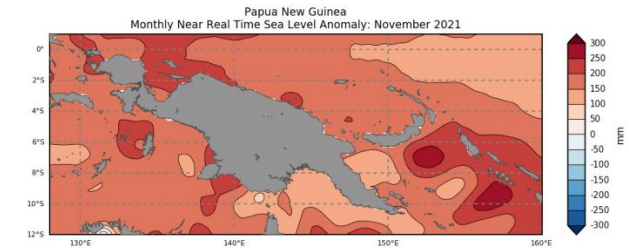
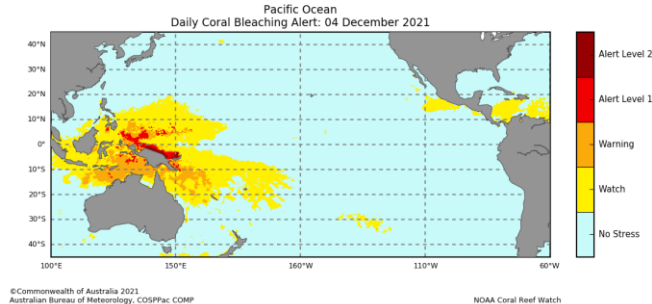


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Part 2: Recent Ocean summary statement

Monthly: November 2021

Monthly: November	Last three months: September to November 2021:
<p>Sea Surface Temperature (Image 1):</p>  <p>Papua New Guinea Monthly Average Sea Surface Temperature Anomaly: November 2021</p> <p>©Commonwealth of Australia 2021 Australian Bureau of Meteorology, COSPPac COMP</p> <p>Reynolds SST</p>	<p>Sea Surface Temperature (Image 4):</p>  <p>Papua New Guinea 3 monthly Average Sea Surface Temperature Anomaly: September 2021 to November 2021</p> <p>©Commonwealth of Australia 2021 Australian Bureau of Meteorology, COSPPac COMP</p> <p>Reynolds SST</p>
<p>Sea level (Image 2):</p>  <p>Papua New Guinea Monthly Near Real Time Sea Level Anomaly: November 2021</p> <p>©Commonwealth of Australia 2021 Australian Bureau of Meteorology, COSPPac COMP</p> <p>AVISO SeaWiFS SLA</p>	
<p>Daily coral bleaching alert (Image 3):</p>  <p>Pacific Ocean Daily Coral Bleaching Alert: 04 December 2021</p> <p>©Commonwealth of Australia 2021 Australian Bureau of Meteorology, COSPPac COMP</p> <p>NOAA Coral Reef Watch</p>	

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

<p>Monthly: January</p>	<p>Seasonal: January to March</p>
<p>Monthly sea surface temperature (Image 5):</p> <p>Difference from average sea surface temperature forecast for January 2022</p> <p>Base period: 1981-2018 Model: ACCESS-S2 © Commonwealth of Australia 2021, Australian Bureau of Meteorology Shapefile data extracted from Flanders Marine Institute (2019), Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (200NM), version 11. Available online at http://www.marineregions.org/</p> <p>Model run: 04/12/2021 Issued: 06/12/2021</p>	<p>Seasonal sea surface temperature (Image 6):</p> <p>Difference from average sea surface temperature forecast for January to March 2022</p> <p>Base period: 1981-2018 Model: ACCESS-S2 © Commonwealth of Australia 2021, Australian Bureau of Meteorology Shapefile data extracted from Flanders Marine Institute (2019), Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (200NM), version 11. Available online at http://www.marineregions.org/</p> <p>Model run: 04/12/2021 Issued: 06/12/2021</p>
<p>Monthly sea level (Image 7):</p> <p>Difference from average sea surface height forecast for January 2022</p> <p>© Commonwealth of Australia 2021 Bureau of Meteorology</p> <p>Model: ACCESS-S2 Base Period: 1981-2018</p> <p>Model Run: 28/11/2021 Issued: 07/12/2021</p>	<p>Seasonal sea level (Image 8):</p> <p>Difference from average sea surface height forecast for January 2022 to March 2022</p> <p>© Commonwealth of Australia 2021 Bureau of Meteorology</p> <p>Model: ACCESS-S2 Base Period: 1981-2018</p> <p>Model Run: 28/11/2021 Issued: 07/12/2021</p>
<p>4-week Coral Bleaching (Image 9):</p> <p>Pacific Ocean 4 Weeks Coral Bleaching Outlook: 26 December 2021</p> <p>© Commonwealth of Australia 2021 Australian Bureau of Meteorology, COSPPac CORP</p> <p>NDA Coral Reef Watch</p>	

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Summary Statement

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

Monthly: November 2021 statement

Below normal rainfall was recorded at Momote, Kavieng, and Misima. Above normal rainfall was registered at Wewak, Vanimo, and Port Moresby for the month of November. Wewak received its 2nd wettest November on record.

Rainfall data is not available for Madang, Nadzab,

Last three months: September to November Statement

Rainfall was below normal at Momote while above normal rainfall at Wewak, Vanimo and Port Moresby. Normal rainfall was recorded at Misima and Kavieng.

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

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

Monthly rainfall outlook statements

The outlook for PNG (except for Western and NGI) for January offers little guidance as the chances of above normal, normal and below normal are similar. Below normal rainfall is likely for Western, Parts of Highlands, West New Britain, New Ireland, and Momote. Above normal rainfall is likely for Madang and the Islands of Milne Bay.

Seasonal rainfall statements

Rainfall outlooks for Western, highlands and NGI region for January to March is likely to be below normal while above normal for Islands of Milne Bay. The Outlook offers little guidance for Vanimo, Wewak, and Madang.

Monthly and Seasonal Temperature statements

The maximum and minimum temperature outlook for PNG for January and January to March is very likely to be above normal.

Part 2: Recent Ocean summary statement

Monthly and last three months: November/September to November 2021 (Highly significant changes)

Sea surface temperature statement

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Most of PNG experienced above-average SST in the month of November. Significant warm SSTs were experienced on the western side of Milne Bay, moving across the Bismark Sea to the north of New Britain island. The highest SSTs were 1.5 degrees above average and located off the coast of Gulf, Milne Bay, and New Britain Provinces.

Sea level statement

The sea level anomaly across PNG in November was higher than normal, with the majority of the waters ranging from 100 to 250 mm above average.

Daily bleaching alert statement

PNG has a 'warning to alert level 2' coral bleaching alert status for much of the region.

Last three months sea surface temperature

Warmer than average SSTs were experienced in PNG ranging from 0.5 to 1.5 degrees above average.

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

Ocean Variable statement (*Highly significant changes*)

Monthly sea surface temperature statement

The outlook for PNG shows a significant temperature difference of 0.4 to 1.2 degrees for January.

Seasonal sea surface temperature statement

The outlook for PNG shows a significant temperature difference of 0.4 degrees for January to March 2022.

Monthly sea level statement

The outlook across PNG shows sea surface heights are likely to be above average for January. In the Bismarck Sea, it is predicted to reach 0.1 to 0.2 meters above normal with the potential for coastal flooding during the spring tide cycle in early January.

Seasonal sea level statement

The outlook across PNG shows sea surface heights are likely to be normal to above average for January to March 2022 and is predicted to reach 0.1 to 0.2 meters above normal.

4-week coral bleaching

The outlook for PNG shows a 'warning to alert level 2' coral bleaching alert status for much of the region.

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

Product	Date: November 2021	Stakeholder	Total Number of Participants	Number of male	Number of female
Climate Bulletin					
EAR Watch	30th	Govt: National Disaster Centre, Dept. Of Transport, National Agriculture Research Institute, Dept. Of Agriculture and Livestock, Provincial Disaster Coordinators, Civil Aviation Safety Authority, Climate Change Development Authority, Dept. Of Mineral Policy and Geohazard Managment, PNG DFAT, Centre of Environmental Protection Authority, National Capital District Commission, Dept. of Education. UN Agencies : UNDP, FAO, IOM, Oxfam. NGOs: Childfund, WVI, PNGRC. Private: Pacific Hydo Services, PNG Power, Ok Tedi Mining Ltd, Media. Aus DFAT, DAL Provincial Officers	140	91	49
Monthly Climate Briefing					
Ocean Outlook					
Climate data request					
Total			140	91	49

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