

Pacific Islands - Ocean and Climate Outlook Forum (OCOF) No. 185

Country: Papua New Guinea

Part 1: Recent climate

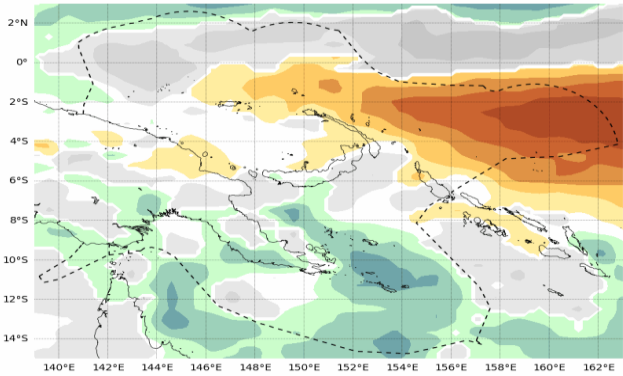
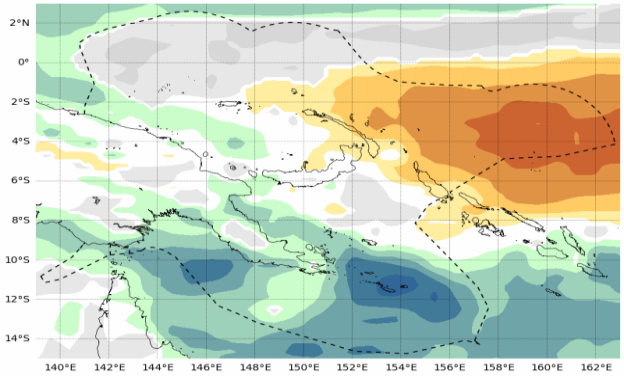
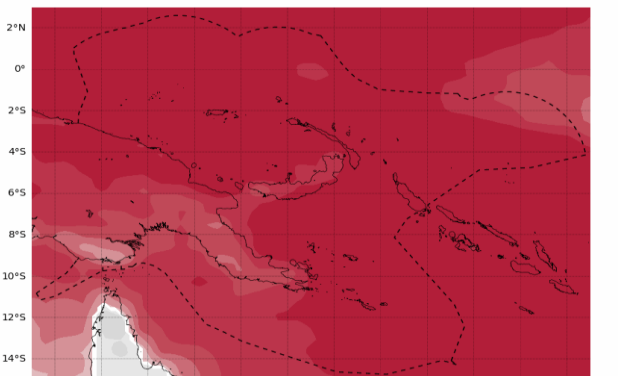
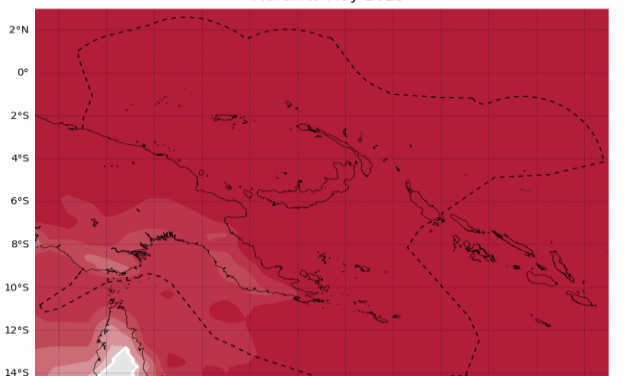
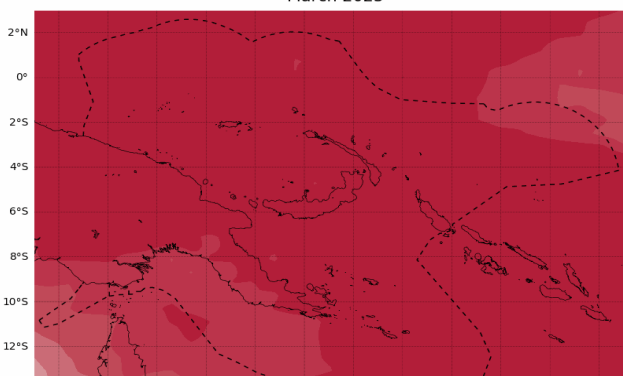
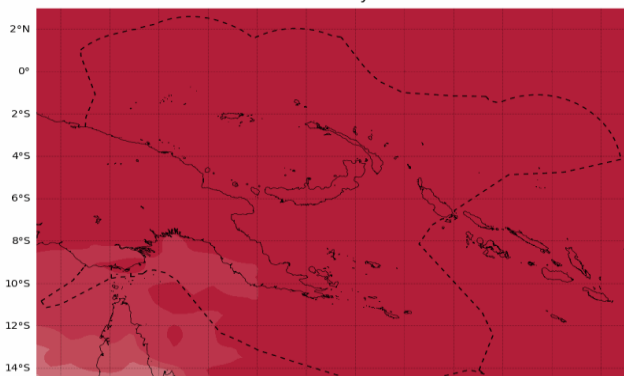
TABLE 1: Monthly Rainfall

Station (include data period)	Nov-2022	Dec-2022	Jan-2023				
			Total (mm)	33%tile	67%tile	Median	Rank
	Total (mm)	Total (mm)	Rainfall (mm)				
Momase Region							
Madang (1944-2022)				274.8	377.7	335.7	
Nadzab (1973-2023)	95.6	108.8	45.6	137.8	182.5	155.8	3/49
Wewak (1956-2023)	145.2	78.6	116.2	111.2	162.8	141.0	26/68
Vanimo (1918-2023)	151.4	241.8	186.6	214.8	342.5	283.0	21/72
Highlands Region							
Goroka (1948-2022)	190.2	241.0		194.7	262.6	225.0	
New Guinea Islands Region							
Momote (1949-2023)	141.2	407.6	163.0	238.7	316.5	273.0	14/72
Kavieng (1916-2023)	111.8	313.8	238.8	256.2	358.4	317.2	28/92
Southern Region							
Misima (1917-2022)				175.0	305.4	265.1	
Port Moresby (1875-2023)	65.5	281.3	204.2	153.0	235.0	195.0	84/135

TABLE 2: Three-month Total Rainfall for November 2022 to January 2023

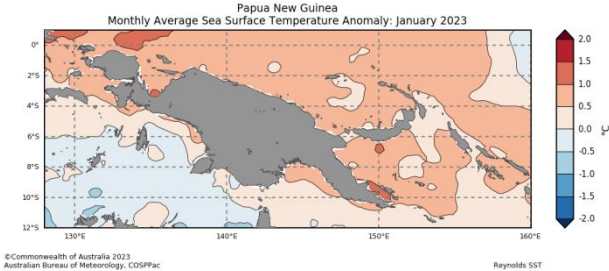
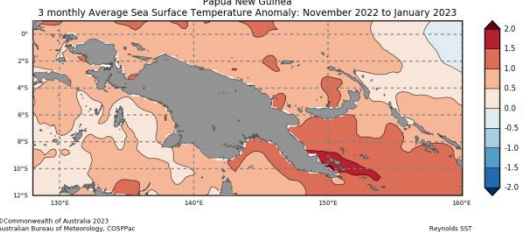
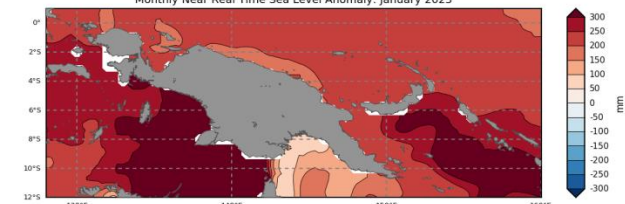
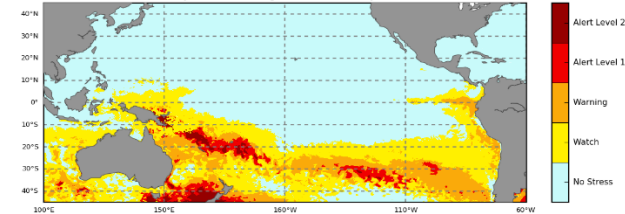
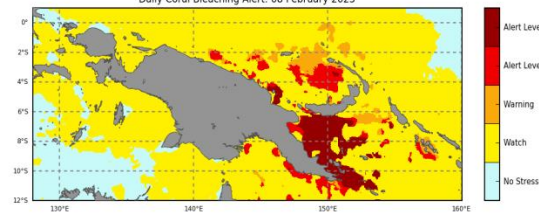
Station	Three-month Total	33%tile	67%tile	Median	Rank	
	Rainfall (mm)					
Momase Region						
Madang (1944-2023)			953.0	1120.0	1036.4	
Nadzab (1973-2023)	250.0	Below normal	381.5	465.3	404.4	3/48
Wewak (1894-2023)	340.0	Below normal	441.3	557.5	489.8	8/66
Vanimo (1918-2023)	579.8	Below normal	674.9	854.8	743.7	15/64
Highlands Region						
Goroka (1948-2022)			536.5	644.4	597.2	
New Guinea Islands Region						
Momote (1949-2023)	711.8	Below normal	730.2	885.5	821.8	22/72
Kavieng (1917-2023)	664.4	Below normal	777.0	949.9	846.6	15/90
Southern Region						
Misima (1917-2022)			748.7	602.4	672.3	
Port Moresby (1875-2023)	551.0	Above normal	344.1	483.4	403.0	110/123

Part 1i. Monthly and Seasonal Outlooks for March and March to May 2023

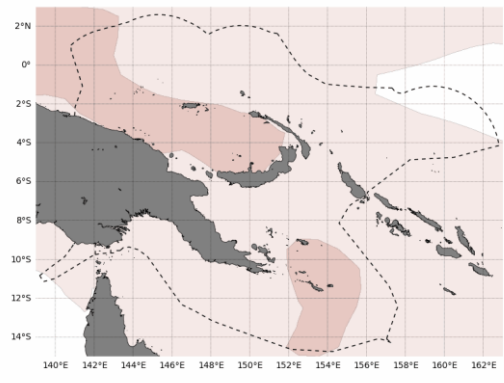
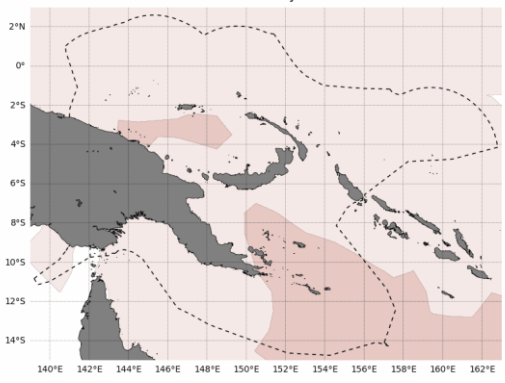
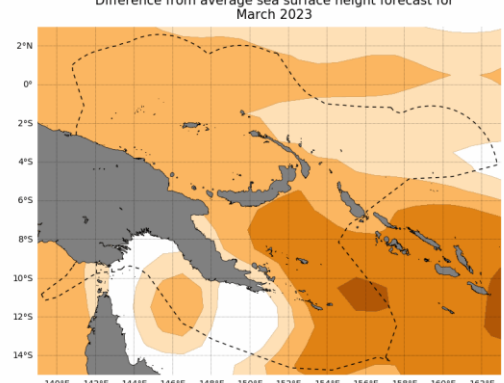
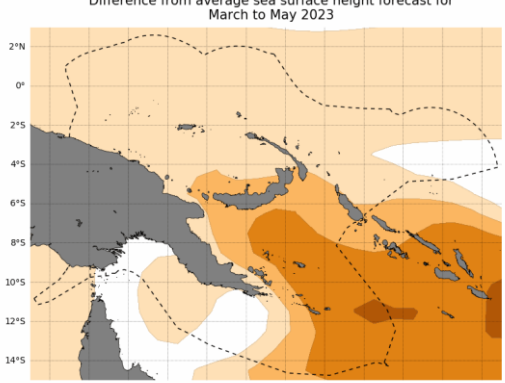
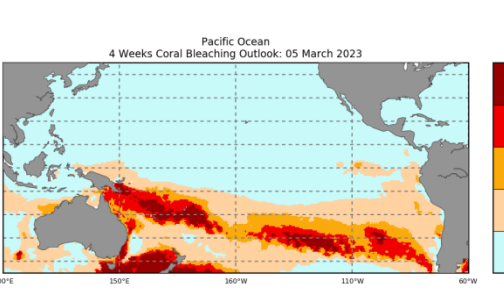
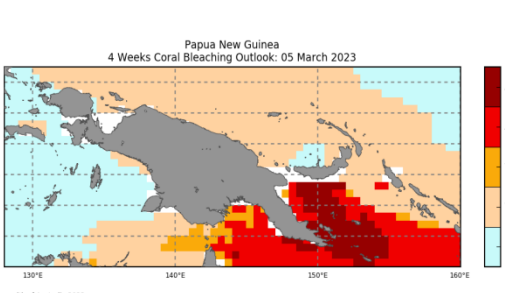
Monthly: March	Seasonal: March to May
Rainfall (Image 1)	Rainfall (Image 2)
<p>Tercile rainfall probabilities for March 2023</p>  <p>Base period: 1981-2018 Model: ACCESS-S2 © Commonwealth of Australia 2023, Australian Bureau of Meteorology Shapefile data extracted from Flanders Marine Institute (2019), Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (200NM), version 11. Available online at http://www.maritimerregions.org/</p> <p>Model run: 06/02/2023 Issued: 09/02/2023</p>	<p>Tercile rainfall probabilities for March to May 2023</p>  <p>Base period: 1981-2018 Model: ACCESS-S2 © Commonwealth of Australia 2023, 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.maritimerregions.org/</p> <p>Model run: 06/02/2023 Issued: 09/02/2023</p>
Monthly Maximum temperature (Image 3):	Seasonal maximum temperature (Image 4):
<p>Tercile maximum temperature probabilities for March 2023</p>  <p>Base period: 1981-2018 Model: ACCESS-S2 © Commonwealth of Australia 2023, 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.maritimerregions.org/</p> <p>Model run: 06/02/2023 Issued: 09/02/2023</p>	<p>Tercile maximum temperature probabilities for March to May 2023</p>  <p>Base period: 1981-2018 Model: ACCESS-S2 © Commonwealth of Australia 2023, 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.maritimerregions.org/</p> <p>Model run: 06/02/2023 Issued: 09/02/2023</p>
Monthly minimum temperature (Image 5):	Seasonal minimum temperature (Image 6):
<p>Tercile minimum temperature probabilities for March 2023</p>  <p>Base period: 1981-2018 Model: ACCESS-S2 © Commonwealth of Australia 2023, 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.maritimerregions.org/</p> <p>Model run: 06/02/2023 Issued: 09/02/2023</p>	<p>Tercile minimum temperature probabilities for March to May 2023</p>  <p>Base period: 1981-2018 Model: ACCESS-S2 © Commonwealth of Australia 2023, 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.maritimerregions.org/</p> <p>Model run: 06/02/2023 Issued: 09/02/2023</p>

Part 2: Recent Ocean Observation

Monthly/Three months: January 2023 and November 2022 to January 2023

Monthly: January	Last three months: November 2022 to January 2023:
<p>Sea Surface Temperature (Image 1):</p>  <p>©Commonwealth of Australia 2023 Australian Bureau of Meteorology, COSPPac</p> <p>Reynolds SST</p>	<p>Sea Surface Temperature (Image 4):</p>  <p>©Commonwealth of Australia 2023 Australian Bureau of Meteorology, COSPPac</p> <p>Reynolds SST</p>
<p>Sea level (Image 2):</p>  <p>©Commonwealth of Australia 2023 Australian Bureau of Meteorology, COSPPac</p> <p>AVISO SeaWiFS SLA</p>	
<p>Daily coral bleaching alert (Image 3):</p>  <p>©Commonwealth of Australia 2023 Australian Bureau of Meteorology, COSPPac</p> <p>NOAA Coral Reef Watch</p>	 <p>©Commonwealth of Australia 2023 Australian Bureau of Meteorology, COSPPac</p> <p>NOAA Coral Reef Watch</p>

Part 2i. Monthly and Seasonal Outlooks for March and March to May 2023

Monthly: March	Seasonal: March to May
Monthly sea surface temperature (Image 5):	Seasonal sea surface temperature (Image 6):
<p>Difference from average sea surface temperature forecast for March 2023</p>  <p>Difference from average (°C)</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 11. Available online at http://www.marinegaps.org/</p> <p>Model run: 11/02/2023 Issued: 13/02/2023</p>	<p>Difference from average sea surface temperature forecast for March to May 2023</p>  <p>Difference from average (°C)</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 11. Available online at http://www.marinegaps.org/</p> <p>Model run: 11/02/2023 Issued: 13/02/2023</p>
Monthly sea level (Image 7):	Seasonal sea level (Image 8):
<p>Difference from average sea surface height forecast for March 2023</p>  <p>Difference from average (mm)</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 11. Available online at http://www.marinegaps.org/</p> <p>Model run: 11/02/2023 Issued: 13/02/2023</p>	<p>Difference from average sea surface height forecast for March to May 2023</p>  <p>Difference from average (mm)</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 11. Available online at http://www.marinegaps.org/</p> <p>Model run: 11/02/2023 Issued: 13/02/2023</p>
4-week Coral Bleaching (Image 9):	
<p>Pacific Ocean 4 Weeks Coral Bleaching Outlook: 05 March 2023</p>  <p>Alert Level 2 Alert Level 1 Warning Watch No Stress</p> <p>©Commonwealth of Australia 2023 Australian Bureau of Meteorology, COSPPac</p> <p>NOAA Coral Reef Watch</p>	<p>Papua New Guinea 4 Weeks Coral Bleaching Outlook: 05 March 2023</p>  <p>Alert Level 2 Alert Level 1 Warning Watch No Stress</p> <p>©Commonwealth of Australia 2023 Australian Bureau of Meteorology, COSPPac</p> <p>NOAA Coral Reef Watch</p>

Summary Statement

Monthly and last three months: January 2023/November 2022 to January 2023 statement

Rainfall for January was below normal at Nadzab, Vanimo, Momote and Kavieng, whilst it was near-normal at Wewak and Port Moresby.

Nadzab recorded its third driest January on record.

January rainfall was not available for Goroka, Misima and Madang.

Rainfall for November to January was above normal at Port Moresby and below normal at all other monitoring stations.

Nadzab posted its third driest and Wewak its eighth driest November to January on record. November to January rainfall totals for Goroka, Misima and Madang were not available.

Part 1i. Monthly and Seasonal Outlooks for March and March to May 2023

Monthly /Seasonal rainfall and temperature Outlook statements

Rainfall for March is likely to be below normal over the New Guinea Islands region, Madang, and patches of the East and West Sepik. In Morobe, the Highlands and Southern regions, March's rainfall is likely to be near-normal to above normal.

The rainfall for March to May is likely to be above normal over Morobe and the Southern region, but below normal in Bougainville, New Ireland and Manus. In East Sepik, West Sepik and Madang, the outlook offers little guidance as the chances of above normal, below normal and near normal are similar.

Maximum and minimum temperatures during March and averaged over March to May are likely to be above normal over all parts of PNG.

Part 2: Recent Ocean summary statement

Monthly and last three months: January 2023/November 2022 to January 2023

January ocean temperatures around PNG were 0.5°C to 1.0°C above normal. In northern waters of Milne Bay, the ocean temperatures were 0.5 to 1.5°C.

Averaged over November to January, ocean temperatures around PNG were 0.5 to 2.0°C above normal.

January sea levels around PNG were 50mm to above 300mm above normal.

PNG has a 'watch to Alert level 2' coral bleaching status.

Part 2i. Monthly and Seasonal Outlooks for March and March to May 2023

Ocean Variable statement

March ocean temperatures around PNG are predicted to be 0.4 to 1.2°C above normal.

Averaged over March to May, ocean temperatures around PNG are predicted to be 0.4 to 1.2°C above normal.

March sea levels around PNG are predicted to be 30mm to 100mm above normal, with far eastern waters reaching upmost 300mm above normal.

Averaged over March to May, sea levels around PNG are predicted to be 30mm to 100mm above normal, with far eastern waters reaching upmost 300mm above normal.

The four-week coral bleaching outlook to 5 March shows PNG has a 'watch to Alert level 2' status.

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

Product	Date: January 2023	Stakeholder	Total Number of Participants	Number of male	Number of female
Seasonal Climate Outlook	15 th	Govt: National Disaster Centre, Dept. of Agriculture and Livestock, Climate Change Development Authority, National Agriculture Research Institute, Dept. of Transport, Dept. Of Mineral Policy and Geohazard Management, Dept. of Works, PNG Fire, National Maritime Safety Authority, Civil Aviation Safety Authority, PNG Forest Authority, National Capital District Commission, PNG Customs Authority, National Dept. Of Health, Dept. of Education, Centre for Environmental Protection Authority, Water PNG. UN agencies: UNDP, IOM, UNOCH. Private: PNG Air Services Limited, ExxonMobil, Ok Tedi Mining Ltd, PNG Power Ltd, Global Construction Ltd, Datec, InterOil, Air Niugini, Bank South Pacific, Kina Bank, SMEC, PNG Ports, Media and Universities.	171	130	41
Drought Update	26 th	Govt: National Disaster Centre, Dept. of Agriculture and Livestock, Climate Change Development Authority, National Agriculture Research Institute, Dept. of Transport, Dept. Of Mineral Policy and Geohazard Management, Dept. of Works, PNG Fire, National Maritime Safety Authority, Civil Aviation Safety Authority, PNG Forest Authority, National Capital District Commission, PNG Customs Authority, National Dept. Of Health, Dept. of Education, Centre for Environmental Protection	120	75	45

		Authority, Water PNG. UN agencies: UNDP, IOM, UNOCH. Private: PNG Air Services Limited, ExxonMobil, Ok Tedi Mining Ltd, PNG Power Ltd, Global Construction Ltd, Datec, InterOil, Air Niugini, Bank South Pacific, Kina Bank, SMEC, PNG Ports, Media and Universities			
Total			291	205	86