

Pacific Islands - Online Climate Outlook Forum (OCOF) No. 148

Country: Papua New Guinea

TABLE 1: Monthly Rainfall

Station (include data period)	Oct-2019	Nov-2019	Dec-2019				Rank
			Total (mm)	33%tile	67%tile	Median	
	Total (mm)	Total (mm)	Rainfall (mm)				
Momase Region							
Madang (1944-2019)	96.0	294.2	296.4	344.3	452.2	385.7	20/71
Nadzab (1973-2019)	163.2	90.0	90.2	122.8	192.3	155.5	11/45
Wewak (1956-2019)		319.6	165.8	121.5	174.5	142.6	40/64
Vanimo (1918-2019)	183.6	156.0	271.0	197.1	290.7	252.3	40/66
Highlands Region							
Goroka (1948-2019)	201.6	154.4	154.0	162.2	249.7	179.9	16/52
New Guinea Islands Region							
Momote (1949-2019)	321.6	294.2	240.6	260.4	339.8	288.5	17/66
Kavieng (1916-2019)	202.0	557.4	206.4	259.3	346.5	317.8	13/93
Southern Region							
Misima (1917-2019)	234.6		238.2	171.7	257.0	220.5	56/94
Port Moresby (1875-2019)	64.6	87.8	0.8	90.9	161.0	129.0	1/129

TABLE 2: Three-month Rainfall for October to December 2019

Station	Three-month Total		33%tile	67%tile	Median	Rank	SCOPIC forecast probabilities based on NINO3.4 July-August 2019				Verification: Consistent, Near-consistent, Inconsistent?
	Rainfall (mm)						B-N	N	A-N	LEPS	
<i>Momase Region</i>											
Madang (1944-2019)	686.6	Below normal	841.0	1084.9	976.7	7/70	45	35	20	16	Consistent
Nadzab (1973-2019)	343.4	Normal	317.0	401.4	342.8	23/44	44	16	40	6	Near-consistent
Wewak (1956-2019)			536.2	647.8	572.0		41	40	19	13	
Vanimo (1918-2019)	610.6	Normal	581.6	721.2	635.1	29/59	43	40	17	15	Near-consistent
<i>Highlands Region</i>											
Goroka (1948-2019)	510.0	Normal	429.3	601.6	522.4	25/49	32	34	34	-3	Near-consistent
<i>New Guinea Islands Region</i>											
Momote (1949-2019)	856.4	Normal	689.0	866.9	784.6	40/66	33	38	29	-1	Consistent
Kavieng (1917-2019)	965.8	Above normal	712.7	867.7	802.0	76/91	33	37	30	-2	Near-consistent
<i>Southern Region</i>											
Misima (1917-2019)			546.0	732.0	631.0		40	35	25	7	
Port Moresby (1875-2019)	153.2	Below normal	172.0	291.0	202.2	37/115	49	42	9	32	Consistent

TABLE 3: Seasonal Climate Outlooks using SCOPIC for February to April 2020

Predictor and Period used: NINO3.4 for November to December 2019

Station	Below Median (prob)	Median Rainfall (mm)	Above Median (prob)		LEPS (%) [whole numbers]	Hit-rate (%) [whole numbers]
Momase Region						
Madang (1944-2019)	49	1046.4	51		-1	50
Nadzab(1973-2019)	45	455.2	55		1	58
Wewak (1956-2019)	53	475.9	47		-1	57
Vanimo (1918-2019)	47	834.6	53		-1	55
Highlands Region						
Goroka (1948-2019)	41	664.8	59		5	61
New Guinea Islands Region						
Momote (1949-2019)	51	801.4	49		-2	45
Kavieng (1916-2019)	45	893.5	55		2	54
Southern Region						
Misima (1917-2019)	61	827.2	39		11	61
Port Moresby (1875-2019)	59	535.6	41		8	62

Station	Below Normal (prob)	33%ile Rainfall (mm)	Normal (prob)	67%ile Rainfall (mm)	Above Normal (prob)	LEPS (%) [whole numbers]	Hit-rate (%) [whole numbers]
Momase Region							
Madang (1944-2019)	29	939.5	37	1151.4	34	-1	41
Nadzab (1973-2019)	27	392.4	37	497.8	36	1	33
Wewak (1956-2019)	37	433.9	30	519.7	33	-1	44
Vanimo (1918-2019)	29	725.2	34	911.8	37	2	36
Highlands Region							
Goroka (1948-2019)	27	610.0	35	745.4	38	2	26
New Guinea Islands Region							
Momote (1949-2019)	36	759.0	31	934.9	33	-1	21
Kavieng (1916-2019)	26	820.6	37	957.2	37	2	28
Southern Region							
Misima (1917-2019)	41	707.9	39	946.6	20	10	42
Port Moresby (1875-2019)	43	471.9	31	592.9	26	10	46

TABLE 4: Seasonal Climate Outlooks using POAMA2 for February to April 2020

Station	Below Normal (prob)	33%ile Rainfall (mm)	Normal (prob)	67%ile Rainfall (mm)	Above Normal (prob)
Momase Region					
Madang	46	904.0	21	1154.0	33
Nadzab	36	319.0	18	464.0	46
Wewak	45	428.0	13	575.0	42
New Guinea Islands Region					
Momote	52	720.0	21	844.0	27
Kavieng	55	774.0	12	989.0	33
Southern Region					
Misima	73	708.0	12	930.0	15
Port Moresby	49	465.0	12	593.0	39
Daru	5	872.0	80	1015.0	15

Summary Statements

Rainfall for December 2019:

Rainfall was below-normal to normal recorded across PNG. Port Moresby recorded its driest December in 129 years of record. The previous lowest was 2.8 mm in 1940.

Accumulated rainfall for October to December 2019, including outlook verification:

Below-normal to normal rainfall was recorded at most parts of the country, except for Kavieng which recorded above-normal rainfall. Madang recorded its seventh driest October to December on record.

The rainfall outlooks issued in September were generally near-consistent or consistent.

Misima's and Wewak's three-month totals were unavailable.

Outlooks for February to April 2020:

1. SCOPIC:

Misima: The outlook shows a near-equal likelihood of below-normal and normal rainfall. Above-normal is the least likely.

Nadzab, Goroka and Kavieng: The outlook shows a near-equal likelihood of above-normal and normal rainfall. Below-normal is the least likely.

Port Moresby: The outlook shows below-normal as the most likely outcome, with normal the next most likely. Above-normal is the least likely.

Madang, Wewak, Vanimo and Momote: The outlook offers little guidance as the chances of above-normal, normal and below-normal are similar.

Confidence range from very low to moderate skill.

2. POAMA:

Nadzab: The outlook favours above-normal.

Daru: The outlook favours normal rainfall.

Wewak: A mixed outlook with similar chances of below-normal and above-normal rainfall; normal is the least likely.

All other stations: The outlook generally favours below-normal rainfall.

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

Product	Date: December 2019	Stakeholder	Total Number of Participants	Number of male	Number of female
Climate Bulletin	Nil				
EAR Watch		Govt, UN Agencies, NGOs, Private sector, Media and Universities	116	76	40
Monthly Climate Briefing	Nil				
Ocean Bulletin	N/A				
Total			116	76	40