

Pacific Islands - Online Climate Outlook Forum (OCOF) No. 144

Country: Papua New Guinea

TABLE 1: Monthly Rainfall

Station (include data period)	Jun-2019	Jul-2019	Aug-2019				Rank
			Total (mm)	33%tile	67%tile	Median	
	Total (mm)	Total (mm)	Rainfall (mm)				
Momase Region							
Madang (1944-2019)			87.0	62.4	142.1	100.6	33/70
Nadzab (1973-2019)	177.4	77.6	187.6	79.9	142.6	111.0	37/46
Wewak (1894-2019)	147.2	58.8	208.2	115.2	209.7	141.5	42/64
Vanimo (1918-2019)	179.8	206.8	99.0	139.2	193.0	166.0	11/64
Highlands Region							
Goroka (1948-2019)	86.0	45.2	113.2	47.7	84.0	65.2	44/56
New Guinea Islands Region							
Momote (1949-2019)	318.0	195.6	415.4	221.0	326.0	270.7	56/65
Kavieng (1916-2019)	351.8	212.8	294.2	156.8	246.7	204.0	72/88
Southern Region							
Misima (1917-2019)	93.8	131.4	172.2	79.6	153.0	107.8	60/94
Port Moresby (1875-2019)	82.8	26.8	66.7	6.8	31.6	14.0	115/120

TABLE 2: Three-month Rainfall for Juneto August 2019

Station	Three-month Total	33%tile	67%tile	Median	Rank	SCOPIIC forecast probabilities based on NINO3.4 March-April 2019				Verification: Consistent, Near-consistent, Inconsistent?	
	Rainfall (mm)					B-N	N	A-N	LEPS		
<i>Momase Region</i>											
Madang (1944-2019)			402.0	535.2	471.0		77	20	3	31	
Nadzab (1973-2019)	442.6	Above normal	294.9	402.7	328.5	32/45	34	35	31	-3	Near-consistent
Wewak (1894-2019)	414.2	Below normal	487.0	619.1	557.0	14/64	58	29	13	10	Consistent
Vanimo (1918-2019)	485.6	Below normal	518.3	632.5	566.8	18/62	26	33	41	-1	Inconsistent
<i>Highlands Region</i>											
Goroka (1948-2019)	244.4	Normal	170.6	245.2	191.0	35/52	42	26	32	-1	Near-consistent
<i>New Guinea Islands Region</i>											
Momote (1949-2019)	929.0	Normal	813.0	1069.0	973.0	30/64	20	38	42	1	Near-consistent
Kavieng (1917-2019)	858.8	Above normal	577.9	784.1	709.8	71/87	32	25	43	-1	Consistent
<i>Southern Region</i>											
Misima (1917-2019)	397.4	Normal	331.8	548.0	463.2	35/91	64	30	6	23	Near-consistent
Port Moresby (1875-2019)	176.3	Above normal	55.0	109.6	87.1	98/106	56	29	15	9	Inconsistent

TABLE 3: Seasonal Climate Outlooks using SCOPIC for October to December 2019

Predictor and Period used: NINO3.4 for July to August 2019

Station	Below Median (prob)	Median Rainfall (mm)	Above Median (prob)		LEPS (%) [whole numbers]	Hit-rate (%) [whole numbers]
Momase Region						
Madang (1944-2019)	61	976.7	39		9	69
Nadzab (1973-2019)	52	342.8	48		-2	51
Wewak (1894-2019)	59	572.0	41		9	57
Vanimo (1918-2019)	67	635.1	33		25	69
Highlands Region						
Goroka (1948-2019)	51	522.4	49		-2	47
New Guinea Islands Region						
Momote (1949-2019)	49	784.6	51		-2	22
Kavieng (1916-2019)	52	802.0	48		-2	45
Southern Region						
Misima (1917-2019)	59	631.0	41		7	64
Port Moresby (1875-2019)	72	202.2	28		29	72

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)	45	841.0	35	1084.9	20	16	50
Nadzab (1973-2019)	44	317.0	16	401.4	40	6	54
Wewak (1894-2019)	41	536.2	40	647.8	19	13	49
Vanimo (1918-2019)	43	581.6	40	721.2	17	15	60
Highlands Region							
Goroka (1948-2019)	32	429.3	34	601.6	34	-3	19
New Guinea Islands Region							
Momote (1949-2019)	33	689.0	38	866.9	29	-1	39
Kavieng (1916-2019)	33	712.7	37	867.7	30	-2	39
Southern Region							
Misima (1917-2019)	40	546.0	35	732.0	25	7	43
Port Moresby (1875-2019)	49	172.0	42	291.0	9	32	63

TABLE 4: Seasonal Climate Outlooks using POAMA2 for October to December 2019

Station	Below Normal (prob)	33%ile Rainfall (mm)	Normal (prob)	67%ile Rainfall (mm)	Above Normal (prob)
Momase Region					
Madang	30	816.0	28	1031.0	42
Nadzab	30	252.0	22	347.0	48
Wewak	52	505.0	12	610.0	36
New Guinea Islands Region					
Momote	36	689.0	31	827.0	33
Kavieng	42	672.0	16	854.0	42
Southern Region					
Misima	5	506.0	10	649.0	85
Port Moresby	27	119.0	18	245.0	55
Daru	15	249.0	28	337.0	57

Summary Statements

Rainfall for August 2019:

Above normal rainfall was recorded at most monitoring stations, with the exceptions of Wewak which recorded normal, and Vanimo which recorded below normal rainfall. Port Moresby recorded its sixth wettest August in 120 years of observations.

Accumulated rainfall for June to August 2019, including outlook verification:

Below normal rainfall was recorded at Wewak and Vanimo whilst normal rainfall was recorded at Goroka, Momote and Misima. Above normal rainfall was received at the remaining stations.

The outlook issued in May was consistent at Wewak and Kavieng; near-consistent at Nadzab, Goroka, Momote and Misima, but inconsistent at Vanimo and Port Moresby.

Port Moresby had its ninth wettest June-August period in 120 years of record.

A three-month total was not available for Madang station.

Outlooks for October to December 2019:

1. SCOPIC:

Madang, Nadzab, Misima, Port Moresby: The outlook shows below normal rainfall as the most likely outcome with normal the next most likely. Above normal is the least likely except for Nadzab.

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

Goroka, Momote, Kavieng: The outlook offers little guidance as the chances of above normal, normal and below normal are similar (Climatology).

Confidence range from very low to very high.

2. POAMA:

Wewak: The model favours below normal rainfall.

Misima, Port Moresby and Daru: The outlook favours above normal rainfall.

Madang and Nadzab: The outlook shows above normal as the most likely outcome, with below normal the next most likely. Normal is the least likely.

Kavieng: The outlook is mixed as it shows a near-equal likelihood of above normal and below normal rainfall. Normal is the least likely.

Momote: The outlook offers little guidance as the chances of above normal, normal and below normal is similar.

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: August 2019	Stakeholder	Total Number of Participants	Number of male	Number of female
Climate Bulletin	August 7	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. UN agencies: UNDP, IOM, UNOCHA. Private: PNG Air Services Limited, ExxonMobil, Ok Tedi Mining Ltd, PNG Power Ltd, Global Construction Ltd, Datec, Interoil, Air Niugini, Bank South Pacific, PNG Ports, Media and Universities.	201	147	54
EAR Watch	August 23	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 Management, 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:	70	45	25

		Pacific Hydo Services, PNG Power, Ok Tedi Mining Ltd, Media. Aus DFAT and Universities			
EAR Watch (circulated by DMT secretariat)	August 24	Govt: National Disaster Center, Dept. Of Agriculture and Livestock, PNG Defence Force, PNG Disability Sector Coalition. UN agencies: UN Resident Coordinators Office, UNDP, IOM, UNICEF, UN Women, WHO, UNFPA, UNFAO, UNDSS, OHCHR, OCHA-ROAP, WFP, UNHCR. NGOs: Care Int'l, Childfund, Oxfam, Plan Int'l, SAVE the Children, WVI. ICRC, IFRC and PNGRC. Faith-based Orgs: Caritas Australia/CPP. Development Partners: UK Embassy, World Bank, DFAT, EU, Japan, MFAT, USAID and ECHO. Private : ExxonMobil	52	37	15
Monthly Climate Briefing	Nil				
Ocean Bulletin	N/A				
Total			323	229	94