

Pacific Islands - Online Climate Outlook Forum (OCOF) No. 146

Country: Papua New Guinea

TABLE 1: Monthly Rainfall

Station (include data period)	Aug-2019	Sep-2019	Oct-2019				
			Total (mm)	33%tile	67%tile	Median	Rank
	Total (mm)	Total (mm)	Rainfall (mm)				
Momase Region							
Madang (1944-2019)	87.0	14.0	96.0	202.0	284.4	251.0	12/70
Nadzab (1973-2019)	187.6	75.0	163.2	69.7	111.7	94.3	39/45
Wewak (1894-2019)	208.2	225.4		188.5	260.6	223.0	
Vanimo (1918-2019)	99.0	137.0	183.6	149.7	226.1	184.3	34/61
Highlands Region							
Goroka (1948-2019)	113.2	75.4	201.6	117.7	173.3	151.5	44/53
New Guinea Islands Region							
Momote (1949-2019)	415.4	135.8	321.6	177.8	265.0	223.0	55/66
Kavieng (1916-2019)	294.2	135.6	202.0	169.6	285.3	217.0	39/92
Southern Region							
Misima (1917-2019)	172.2	82.6	234.6	124.6	303.0	221.0	48/94
Port Moresby (1875-2019)	66.7	102.4	64.6	10.5	39.6	25.0	104/122

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

Station	Three-month Total		33%tile	67%tile	Median	Rank	SCOPIC forecast probabilities based on NINO3.4 May-June 2019				Verification: Consistent, Near- consistent, Inconsistent?
	Rainfall (mm)						B-N	N	A-N	LEPS	
Momase Region											
Madang (1944-2019)	197.0	Below normal	397.8	606.5	472.4	7/70	72	22	6	26	Consistent
Nadzab (1973-2019)	425.8	Above normal	274.3	387.8	332.0	33/44	45	29	26	2	Inconsistent
Wewak (1894-2019)			487.1	652.4	571.2		71	22	7	26	
Vanimo (1918-2019)	419.6	Below normal	484.5	554.3	521.2	14/58	36	35	29	-2	Consistent
Highlands Region											
Goroka (1948-2019)	390.2	Above normal	277.0	387.3	342.6	36/52	30	31	39	-2	Consistent
New Guinea Islands Region											
Momote (1949-2019)	872.8	Normal	649.0	901.0	756.0	42/65	30	33	37	-1	Near- consistent
Kavieng (1917-2019)	631.8	Normal	509.8	724.1	629.2	44/86	34	31	35	-2	Near- consistent
Southern Region											
Misima (1917-2019)	489.4	Normal	456.0	766.7	626.4	35/93	60	36	4	24	Near- consistent
Port Moresby (1875-2019)	233.7	Above normal	59.0	103.1	77.4	105/107	40	26	34	-1	Inconsistent

TABLE 3: Seasonal Climate Outlooks using SCOPIC for December 2019 to February 2020

Predictor and Period used: NINO3.4 for September to October 2019

Station	Below Median (prob)	Median Rainfall (mm)	Above Median (prob)		LEPS (%) [whole numbers]	Hit-rate (%) [whole numbers]
Momase Region						
Madang (1944-2019)	41	1025.8	59		9	60
Nadzab(1973-2019)	45	493.0	55		7	61
Wewak (1894-2019)	55	413.2	45		5	55
Vanimo (1918-2019)	50	812.0	50		-2	45
Highlands Region						
Goroka (1948-2019)	50	702.0	50		-2	35
New Guinea Islands Region						
Momote (1949-2019)	47	816.1	53		0	53
Kavieng (1916-2019)	42	899.8	58		10	60
Southern Region						
Misima (1917-2019)	55	764.0	45		3	58
Port Moresby (1875-2019)	62	498.0	38		18	68

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)	21	941.4	40	1112.7	39	9	44
Nadzab (1973-2019)	30	430.5	33	521.7	37	4	43
Wewak (1894-2019)	37	362.5	34	459.6	29	3	40
Vanimo (1918-2019)	34	739.4	32	921.2	34	-3	24
Highlands Region							
Goroka (1948-2019)	34	634.4	31	743.0	35	-2	18
New Guinea Islands Region							
Momote (1949-2019)	30	759.2	36	902.9	34	0	32
Kavieng (1916-2019)	22	837.3	39	970.9	39	10	42
Southern Region							
Misima (1917-2019)	36	663.1	35	879.7	29	1	35
Port Moresby (1875-2019)	38	442.0	33	596.7	29	6	44

TABLE 4: Seasonal Climate Outlooks using POAMA2 for December 2019 to February 2020

Station	Below Normal (prob)	33%ile Rainfall (mm)	Normal (prob)	67%ile Rainfall (mm)	Above Normal (prob)
<i>Momase Region</i>					
Madang	33	940.0	40	1110.0	27
Nadzab	33	416.0	18	504.0	49
Wewak	64	381.0	15	461.0	21
<i>New Guinea Islands Region</i>					
Momote	42	753.0	13	872.0	45
Kavieng	45	846.0	7	956.0	48
<i>Southern Region</i>					
Misima	12	646.0	21	881.0	67
Port Moresby	42	423.0	9	508.0	49
Daru	10	634.0	52	804.0	38

Summary Statements

Rainfall for October 2019:

Below normal was received at Madang. Normal was received at Vanimo, Misima and the New Guinea Islands Region whilst the rest of the monitoring stations received above normal. [Alternative wording to consider: Rainfall was generally normal to above normal across PNG, apart from Madang where the October total was below normal.]

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

Below normal was received at Madang and Vanimo. Normal was received at Misima and the New Guinea Islands Region, whilst above normal was received at the remaining monitoring stations.

The forecasts issued in July were consistent at Madang, Vanimo and Goroka, Near-consistent at New Guinea Islands Region and Misima, but Inconsistent at Nadzab and Port Moresby.

Outlooks for December 2019 to February 2020:

1. SCOPIC:

Madang & Kavieng: The outlook shows a near-equal likelihood of above normal and normal. Below normal is the least likely.

Nadzab, Wewak, Vaimo, Goroka, Momote, Misima & Port Moresby: The outlook offers little guidance as the chances of above normal, normal and below normal are similar.

Confidence range from very low to moderate.

2. POAMA:

Wewak: The outlook favours below normal.

Nadzab, Misima, Port Moresby: Above normal is the favoured or most likely outcome, with below normal being the next most likely at Nadzab and Port Moresby, and normal the next most likely for Misima.

Madang: Normal is the most likely outcome with below normal the next most likely.

Daru: Normal is favoured, with above normal the next most likely outcome.

New Guinea Islands: The outlook is "mixed" as the chances of above normal and below normal are similar; normal is the least likely.

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: October 2019	Stakeholder	Total Number of Participan ts	Numb er of male	Numb er of female
EAR Watch	30 th October	Govt: National Disaster Centre, Dept. of Transport, National Agriculture Research Institute, Dept. of Agriculture and Livestock, Provincial DisasterCoordinators, Civil Aviation SafetyAuthority, Climate Change DevelopmentAuthority, Dept. of Mineral Policy and GeohazardManagment, PNG DFAT, Centre of Environmental Protection Authority, National Capital District Commision, Dept. of Education. UN Agencies : UNDP, FAO, IOM, Oxfam. NGOs : Childfund, WVI, PNGRC. Private: Pacific Hydo Services, PNG Power, Ok TediMining Ltd, Media. Aus DFAT and Universities	108	70	38

EAR Watch (Circulated by DMT secretariat)	30 th October	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
Climate Risk & Early Warning Systems (CREWS) 2 nd Workshop	22 nd – 23 rd October	Govt: National Disaster Center, NMSA, Dept. Of Agriculture and Livestock, PNG Red Cross, UPNG, UNDP, IOM, CEPA, Ok Tedi Mine, World Vision. Eda Ranu, NARI, Cocoa Board, Fresh Produce Development Agency, Coffee Industry, Caritas PNG PNG DFAT, , WMO, BoM, RIMES Bangkok, ACAIR, NWS staff	43	32	11
PNG NWS Strategic plan Launch	22 nd October	Govt: National Disaster Center, NMSA, Dept. Of Agriculture and Livestock, PNG Red Cross, UPNG, UNDP, IOM, CEPA, Ok Tedi Mine, World Vision. Eda Ranu, NARI, Cocoa Board, Fresh Produce Development Agency, Coffee Industry, PNG DFAT, WMO, BoM, RIMES Bangkok, ACAIR, NWS staff, Media	73	48	25
National Climate Outlook Forum	24 th October	Govt: National Disaster Center, NMSA, PNG Red Cross, UPNG, World Vision, NARI, Cocoa Board, Coffee Industry, WMO, BoM, RIMES Bangkok, ACAIR, NWS staff	37	26	11
Total			313		