

Pacific Islands - Online Climate Outlook Forum No 103

Country: PAPUA NEW GUINEA

TABLE 1: Monthly Rainfall

Station (include data period)	March 2016						
	Jan 2015 Total	Feb 2016 Total	Total	33%tile Rainfall (mm)	67%tile Rainfall (mm)	Median Rainfall (mm)	Ranking
Momase Region							
Madang (1944-2016)	325.2	253.4	319.0	292.2	399.2	337.1	29/68
Nadzab(1973-2016)	169.2	207.2	109.4	142.0	214.0	156.3	7/41
Wewak (1894-2016)	62.4	111.0	28.8	133.2	186.0	160.6	1/60
Vanimo (1918-2016)	-	225.4	360.0	214.7	354.5	271.0	43/64
Highlands Region							
Goroka (1948-2016)	246.0	237.0	323.0	192.7	282.6	229.5	44/55
New Guinea Islands							
Momote (1949-2016)	308.0	202.2	414.6	259.4	331.3	291.4	56/66
Kavieng (1916-2016)	312.6	295.2	346.0	252.1	366.9	309.6	52/84
Southern Region							
Misima (1917-2016)	74.6	116.8	186.2	214.6	320.0	254.1	24/91
PortMoresby(1875-2016)	42.6	228.0	120.6	137.0	241.3	184.0	31/128

TABLE 2: Three-monthly Rainfall (January – March 2016)

Predictor *NINO3.4 SST Anomalies*:—Period: *October - November 2015*

[Please note that the data used in this verification should be sourced from table 3 of OCOF #99]

Station	Three-month Total	33%tile Rainfall (mm)	67%tile Rainfall (mm)	Median Rainfall (mm)	Ranking	Forecasted probs.* (include LEPS)	Verification (Consistent, Near-consistent Inconsistent?)
Momase Region							
Madang (1944-2016)	897.6	894.8	1065.0	967.2	24/68	3/51/46 (12.1)	Consistent
Nadzab (1973-2016)	485.8	434.7	529.9	470.4	22/40	9/28/63 (6.8)	Near-consistent
Wewak (1894-2016)	202.2	371.6	455.7	428.8	3/60	56/28/16 (2.4)	Consistent
Vanimo (1918-2016)	-	721.3	964.0	878.7	-	16/20/64 (3.3)	-
Highlands Region							
Goroka (1948-2016)	806.8	630.8	781.0	709.2	38/51	9/12/79 (6.4)	Consistent
New Guinea Islands							
Momote (1949-2016)	924.8	751.3	880.8	804.6	47/66	17/14/69 (3.7)	Consistent
Kavieng (1916-2016)	953.8	838.8	1011.7	936.4	44/82	9/41/50 (5.1)	Near-consistent
Southern Region							
Misima (1917-2016)	377.6	718.7	934.2	789.3	1/87	75/19/6 (9.6)	Consistent
PortMoresby (1875-2016)	391.2	510.0	635.7	573.8	18/128	52/31/17 (1.6)	Consistent

Period:*below normal/normal/above normal

Forecast is consistent when observed and predicted (tercile with the highest probability) categories coincide (are in the same tercile).

Forecast is near-consistent when observed and predicted (tercile with the highest probability) differ by only one category (i.e. terciles 1 and 2 or terciles 2 and 3).

Forecast is inconsistent when observed and predicted (tercile with the highest probability) differ by two categories (i.e. terciles 1 and 3).

TABLE 3: Seasonal Climate Outlooks for May to July 2016

Predictors: [NINO3.4 SST Anomalies-Period: February - March 2016](#)

Period:Station	Below Median (prob)	Median Rainfall (mm)	Above Median (prob)		LEPS (%)	Hit-rate (%)
Momase Region						
Madang (1944-2016)	90	746.1	10		12.2	59.8
Nadzab(1973-2016)	59	288.0	41		-2.1	64.1
Wewak (1894-2016)	81	630.4	19		4.9	60.0
Vanimo (1918-2016)	40	608.3	60		-1.5	52.0
Highlands Region						
Goroka (1948-2016)	68	232.0	32		-0.5	51.1
New Guinea Islands						
Momote (1949-2016)	53	874.5	47		-1.5	45.5
Kavieng (1916-2016)	47	725.2	53		-1.8	50.9
Southern Region						
Misima(1917-2016)	99	625.4	1		33.7	74.4
Port Moresby(1875-2016)	80	118.2	20		2.7	56.1

Station	Below Normal (prob)	33%ile rainfall (mm)	Normal (prob)	66%ile rainfall (mm)	Above Normal (prob)	Leps (%)	Hit-rate (%)
Momase Region							
Madang (1944-2016)	84	641.2	15	821.4	1	19.2	54.0
Nadzab(1973-2016)	28	269.2	46	377.7	26	-3.5	23.1
Wewak (1894-2016)	68	553.9	23	677.3	9	5.6	45.0
Vanimo (1918-2016)	16	569.5	41	685.5	43	-0.6	30.0
Highlands Region							
Goroka (1948-2016)	61	199.8	25	278.9	14	1.6	42.6
New Guinea Islands							
Momote (1949-2016)	11	791.8	66	1015.7	23	0.1	39.4
Kavieng (1916-2016)	37	632.7	8	819.5	55	0.1	49.1
Southern Region							
Misima(1917-2016)	94	488.0	6	849.0	0	34.2	55.6
Port Moresby(1875-2016)	55	81.4	36	149.7	9	4.3	43.9

TABLE 4: Seasonal Climate Outlooks using POAMA2 for May to July 2016

Station	Lower Tercile (prob)	33%ile rainfall (mm)	Middle Tercile (prob)	66%ile rainfall (mm)	Upper Tercile (prob)
Momase Region					
Madang	49	626	6	787	45
Nadzab	42	241	12	300	46
Wewak	30	575	43	667	27
New Guinea Islands					
Momote	33	796	30	1046	37
Kavieng	33	636	12	805	55
Southern Region					
Misima	79	453	12	622	9
Port Moresby	64	90	6	151	30
Daru	5	222	86	394	9

Summary Statements:

Rainfall for March 2016

During the month of March, observed rainfall was below normal at Southern Region and two stations in the Momase Region, normal at Madang and Kavieng, above normal at Vanimo, Goroka and Momote. Wewak recorded its lowest rainfall (ranking 1/60).

Accumulated rainfall for January to March 2016, including outlook verification

Rainfall for the last three months was below normal to normal whilst Momote and Goroka received above normal. Misima recorded its lowest three months rainfall total (ranking 1/87).

Forecasts were mostly consistent across the country with low to good skills whilst two stations forecasted near-consistent with moderate skills.

Outlook for – May to July 2016:

1. SCOPIC:

The SCOPIC seasonal rainfall outlook for May to July 2016 shows:

- **Momase Region:** Below normal is favoured for Madang and Wewak. For Nadzab, normal is the most likely outcome with similar chances for below normal and above normal. For Vanimo, the most likely outcome is above normal, with normal the next most likely.
- **New Guinea Islands:** Normal is favoured for Momote whilst above normal is favoured for Kavieng.
- **Southern Region:** Below normal is favoured for the region.
- **Highlands Region:** Below normal is favoured for the region.
- Confidence range from very low to very high.

2. POAMA:

The POAMA model favours similar chances of below normal and above normal for Madang and Nadzab. Normal favoured for Wewak and Daru. Below normal favoured for Misima and Port Moresby. Above normal favoured for Kavieng and little guidance is offered for Momote as chances of above normal, normal and below normal are similar.

SCOPIC Drought Watch

The 6 month aggregate drought index using Standardized Precipitation Index (SPI) method for the period May to July 2016 shows that Momote is ranked 2nd most severe since June 2015. Port Moresby is ranked 3rd most severe since November 2015. Wewak and Kavieng are ranked 4th most severe since May and June 2015 respectively.

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: $X \geq 35$