Pacific Islands - Online Climate Outlook Forum No 120

Country: **PAPUA NEW GUINEA**

TABLE 1: Monthly Rainfall

Station (include data period)	Jun 2017 Total	Jul 2017 Total	August 2017				
			Total	33%tile Rainfall (mm)	67%tile Rainfall (mm)	Median Rainfall (mm)	Ranking
Momase Region							
Madang (1944-2017)	186.8	-	-	64.0	140.8	99.0	-
Nadzab(1973-2017)	141.0	487.6	119.6	80.8	165.0	110.2	26/44
Wewak (1894-2017)	375.6	101.0	-	113.6	211.4	146.2	-
Vanimo (1918-2017)	172.0	384.2	145.4	133.8	193.8	166.0	25/62
Highlands Region							
Goroka (1948-2017)	22.0	-	27.0	46.7	84.0	64.6	7/55
New Guinea Islands							
Momote (1949-2017)	328.8	808.4	267.0	199.8	333.0	273.6	33/68
Kavieng (1916-2017)	122.0	-	256.8	158.7	251.0	204.4	60/87
Southern Region							
Misima (1917-2017)	181.4	188.4	131.2	83.0	184.0	131.2	46/91
Port Moresby(1875-2017)	0.6	0.2	34.4	6.8	23.6	13.3	90/120

TABLE 2: Three-monthly Rainfall (Jun - Aug 2017)

Predictor NINO3.4 SST Anomalies:–Period: Mar - Apr 2017

[Please note that the data used in this verification should be sourced from table 3 of OCOF #116]

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 (1944-2017)	-	404.5	530.1	469.0	-	53/36/11 (27.2)	-
Nadzab (1973-2017)	748.2	281.2	402.7	328.0	43/43	35/33/32 (-2.9)	Inconsistent
Wewak (1894-2017)	-	467.2	618.6	537.4	-	48/33/19 (15.9)	-
Vanimo (1918-2017)	701.6	510.1	625.9	558.5	49/60	26/35/39 (1.7)	Consistent
Highlands Region							
Goroka (1948-2017)	-	169.5	283.4	191.0	-	37/31/32 (-1.2)	-
New Guinea Islands							
Momote (1949-2017)	1404.2	745.2	804.4	943.6	64/68	26/39/35 (0.9)	Near-consistent
Kavieng (1916-2017)	-	561.2	1051.2	704.5	-	31/33/36 (-1.6)	-
Southern Region							
Misima (1917-2017)	501.0	362.5	688.3	510.6	42/88	59/32/9	Near-consistent
Port Moresby (1875-2017)	35.2	55.4	102.6	81.4	21/107	41/37/22 (7.3)	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 October – December 2017

Predictors: **NINO3.4 SST Anomalies**-*Period:* **Jul – Aug 2017**

Period:Station	Below Median (prob)	Median Rainfall (mm)	Above Median (prob)		LEPS (%)	Hit-rate (%)
Momase Region						
Madang (1944-2017)	**50**	960	**50**		8.3	67.7
Nadzab(1973-2017)	48	337	**52**		2.4	59.0
Wewak (1894-2017)	48	571.8	**52**		9.7	58.6
Vanimo (1918-2017)	46	611.6	**54**		30.4	73.5
Highlands Region						
Goroka (1948-2017)	**50**	499.6	**50**		-2.2	35.6
New Guinea Islands						
Momote (1949-2017)	**50**	787.1	**50**		-1.7	30.6
Kavieng (1916-2017)	**50**	795.1	**50**		-1.6	36.5
Southern Region						
Misima(1917-2016)	**50**	635	**50**		5.3	65.1
Port Moresby(1875-2017)	**51**	212	49		31.2	68.8

Station	Below Normal (prob)	33%ile rainfall (mm)	Normal (prob)	66%ile rainfall (mm)	Above Normal (prob)	Leps (%)	Hit-rate (%)
Momase Region							
Madang (1944-2017)	31	841.1	**38**	1083.8	31	15.1	47.7
Nadzab(1973-2017)	25	310.4	32	385.0	**43**	9.2	53.8
Wewak (1894-2017)	**32**	536.2	**36**	647.4	**32**	14.6	46.6
Vanimo (1918-2017)	25	562.4	**42**	721.2	33	25.8	63.3
Highlands Region							
Goroka (1948-2017)	**33**	423.0	**33**	605.0	**34**	-2.7	8.3
New Guinea Islands							
Momote (1949-2017)	**34**	696.3	**33**	867.7	**33**	-0.9	45.2
Kavieng (1916-2017)	**34**	709.0	**32**	868.0	**34**	-1.1	36.5
Southern Region							
Misima(1917-2017)	**32**	554.9	**35**	770.1	**33**	6.9	44.4
Port Moresby(1875-2017)	32	175.2	**38**	267.2	30	23.8	57.8

TABLE 4: Seasonal Climate Outlooks using POAMA2 for Oct - Dec 2017

Station	Lower Tercile (prob)	33%ile rainfall (mm)	Middle Tercile (prob)	66%ile rainfall (mm)	Upper Tercile (prob)
Momase Region					
Madang	24	816	18	1031	**58**
Nadzab	24	252	24	347	**52**
Wewak	18	505	18	610	**64**
New Guinea Islands					
Momote	**48**	689	15	827	36
Kavieng	**48**	672	15	854	36
Southern Region					
Misima	33	506	15	649	**52**
Port Moresby	30	119	12	245	**58**
Daru	5	249	**80**	337	15

Summary Statements:

Rainfall for August 2017

Rainfall for the month of August was below normal for Goroka whilst normal to above normal for the rest of the monitoring stations in the country.

Accumulated rainfall for June to August 2017, including outlook verification

Rainfall for the last three months was below-normal for Port Moresby and normal for Misima whilst above normal for the other stations.

Forecasts were consistent at Vanimo and Port Moresby whilst near consistent for Nadzab, Momote and Misima.

The skills range from very low to moderate.

Outlook for October to December 2017:

1. SCOPIC:

The SCOPIC seasonal rainfall outlook for October to December 2017 shows:

- **Momase Region**:

    Nadzab shows the most likely outcome is above-normal, with normal rainfall the next most likely and below-normal the least likely.

    The most likely outcome for Momose is normal rainfall with above-normal the next most likely.

    There is little guidance as the chances of above-normal, normal and below-normal are similar (climatological) for Nadzab and Wewak.

- **Highlands Region:**

    There is little guidance as the chances of above-normal, normal and below-normal are similar (climatological)

- **New Guinea Islands**:

    Little guidance as the chances of above-normal, normal and below-normal are similar (climatological)

- **Southern Region:**

    The outlook offers little guidance as the chances of above-normal, normal and below-normal are similar (climatological)

    Confidence range from very low to high skill.

POAMA:

The POAMA model favours above-normal rainfall for Momase and Southern regions except for New Guinea Islands which favours below-normal and Daru with 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: $X \geq 35$