

Pacific Islands - Online Climate Outlook Forum (OCOF) No. 124

Country Name: Tonga

TABLE 1: Monthly Rainfall

Station (include data period)	December 2017						
	October 2017 Total	November 2017 Total	Total	33%tile Rainfall (mm)	67%tile Rainfall (mm)	Median Rainfall (mm)	Ranking
NIUAFO'OU	550.2	255.5	419.4	225.3	354.5	282.0	38/45
NIUATOPUTAPU	379.6	356.4	407.5	172.7	281.3	243.0	56/66
VAVA'U	128.9	162.6	271.4	122.4	243.0	165.5	51/71
HA'APAI	153.1	213.7	131.6	66.0	161.8	119.0	41/71
FUA'AMOTU	136.0	155.1	170.5	128.0	188.7	150.5	23/38
NUKU'ALOFA	43.0	72.2	101.5	74.0	172.1	129.0	32/74

**TABLE 2: Three-monthly Rainfall
October to December 2017**

[Please note that the data used in this verification should be sourced from table 3 of OCOF #120]

Station	Three-month Total	33%tile Rainfall (mm)	67%tile Rainfall (mm)	Median Rainfall (mm)	Ranking	Forecast probs.* (include LEPS)	Verification* (Consistent, Near-consistent Inconsistent)?
NIUAFO'OU	1225.1	638.7	826.0	710.0	43/43	(33,33,34) 0.1	Near consistent
NIUATOPUTAPU	1143.5	533.0	746.0	640.0	64/66	(33,34,33) 6.3	Near consistent
VAVA'U	562.9	378.0	613.0	530.0	40/71	(31,39,30) 0.3	Consistent
HA'APAI	498.4	246.0	421.0	347.0	57/71	(31,39,30) 19.4	Near consistent
FUA'AMOTU	461.6	277.4	436.8	364.0	29/38	(14,44,42) 33.3	Near consistent
NUKU'ALOFA	216.7	281.0	419.0	346.7	20/74	(24,43,33) 30.3	Near consistent

Period: *below normal/normal/above normal

Predictors and Period used for October to December 2017 Outlooks: July-August 2017

* 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 using SCOPIC for 30153043
February to April 2018**

Predictors and Period used: NINO3.4 SST Anomalies (November – December 2017)

Station	Below Median (prob)	Median Rainfall (mm)	Above Median (prob)		LEPS	Hit-rate
NIUAFO'OU	41	888.3	59		4.2	57.1
NIUATOPUTAPU	44	756.0	56		1.6	55.7
VAVA'U	44	826.2	56		1.5	59.7
HA'APAI	42	652.0	58		2.5	53.7
FUA'AMOTU	37	511.0	63		7.8	65.8
NUKU'ALOFA	46	609.5	54		-0.4	53.0

Station	Below Normal (prob)	33%ile rainfall (mm)	Normal (prob)	67%ile rainfall (mm)	Above Normal (prob)	LEPS	Hit-rate
NIUAFO'OU	30	733.0	32	937.7	38	0.2	38.1
NIUATOPUTAPU	27	687.9	41	843.3	32	0.6	44.3
VAVA'U	26	699.0	35	906.7	39	2.5	38.8
HA'APAI	25	544.0	30	711.0	45	8.6	43.3
FUA'AMOTU	20	460.6	33	679.0	47	10.2	44.7
NUKU'ALOFA	31	543.3	32	681.0	37	-0.4	36.4

**TABLE 4: Seasonal Climate Outlooks using POAMA2 for
February to April 2018**

Station	Lower Tercile (prob)	33%ile rainfall (mm)	Middle Tercile (prob)	67%ile rainfall (mm)	Upper Tercile (prob)		
NIUAFO'OU	39	718.0	9	950.0	52		
NIUATOPUTAPU	39	667.0	9	808.0	52		
VAVA'U	30	679.0	24	878.0	46		
HA'APAI	30	458.0	24	617.0	46		
FUA'AMOTU							
NUKU'ALOFA	21	420.0	24	583.0	55		

Summary Statements

Rainfall for December 2017:

Above normal rainfall in the Niuas and Vava'u.
Normal rainfall in Ha'apai, Fua'amotu and Nuku'alofa.

Accumulated rainfall for October to December 2017, including outlook verification:

Above normal rainfall over the Niuas, Ha'apai and Fua'amotu. Forecast was near-consistent at all four sites.
Normal rainfall in Vava'u. Forecast was consistent.
Below normal in Nuku'alofa, forecast was near-consistent

Outlooks for February to April 2018:

1. SCOPIC:

At Vava'u, Ha'apai, Fua'amotu and Nuku'alofa, the outlook shows above-normal as the most likely outcome, with normal rainfall the next most likely. At Niuatoputapu it is the reverse, with normal the most likely followed by above-normal.

The outlook offers little guidance for Niuafou'ou as the chances of above-normal, normal and below-normal are similar.

2. POAMA:

The outlook for the season for all of Tonga favours above-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: $X \geq 35$