

## Pacific Islands - Online Climate Outlook Forum (OCOF) No. 125

**Country Name: Tonga**

**TABLE 1: Monthly Rainfall**

Station (include data period)	January 2018						
	November 2017 Total	December 2017 Total	Total	33%tile Rainfall (mm)	67%tile Rainfall (mm)	Median Rainfall (mm)	Ranking
NIUAFO'OU	255.5	419.4	196.6	209.3	362.4	241.0	15/45
NIUATOPUTAPU	356.4	407.5	446.1	206.0	296.0	235.0	61/71
VAVA'U	162.6	271.4	321.3	172.0	293.0	239.0	51/71
HA'APAI	213.7	131.6	387.1	123.0	254.3	183.0	63/72
FUA'AMOTU	155.1	170.5	313.5	112.7	268.3	182.0	28/39
NUKU'ALOFA	72.2	101.5	446.5	115.0	249.0	187.0	69/74

**TABLE 2: Three-monthly Rainfall  
November 2017 to January 2018 213.**

[Please note that the data used in this verification should be sourced from table 3 of OCOF #121]

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	871.5	699.0	996.0	783.0	26/41	(27,36,37) 4.9	Near-consistent
NIUATOPUTAPU	1210.0	597.3	863.0	751.0	65/66	(31,36,33)16.9	Near-consistent
VAVA'U	755.3	465.5	810.0	627.0	44/70	(27,40,33)23.8	Consistent
HA'APAI	732.4	306.0	570.3	457.0	62/71	(25,40,35)25.7	Near-consistent
FUA'AMOTU	639.1	366.0	583.0	456.0	27/38	(18,41,41)18.3	Near-consistent
NUKU'ALOFA	620.2	314.3	559.0	431.0	55/74	(21,44,35)30.2	Near-consistent

Period: \*below normal/normal/above normal

Predictors and Period used for November 2017 to January 2018 Outlooks (refer to OCOF - 1.7#121): Nino 3.4 for period August – September 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  
March to May 2018**

**Predictors and Period used: Nino 3.4 for December 2017 – January 2018**

Station	Below Median (prob)	Median Rainfall (mm)	Above Median (prob)		LEPS	Hit-rate
NIUAFO'OU	55	767.0	45		1.3	62.2
NIUATOPUTAPU	50	640.5	50		-1.7	20.3
VAVA'U	45	704.0	55		0.6	56.7
HA'APAI	47	557.5	53		-1.0	48.5
FUA'AMOTU	39	501.8	61		3.3	65.8
NUKU'ALOFA	45	488.5	55		0.2	56.1

Station	Below Normal (prob)	33%ile rainfall (mm)	Normal (prob)	67%ile rainfall (mm)	Above Normal (prob)	LEPS	Hit-rate
NIUAFO'OU	34	648.7	34	801.1	32	-2.1	33.3
NIUATOPUTAPU	36	583.3	31	743.7	33	-1.4	30.5
VAVA'U	29	585.5	34	774.1	37	0.1	34.3
HA'APAI	32	443.0	29	621.0	39	-0.2	37.9
FUA'AMOTU	17	419.3	49	565.2	34	2.9	50.0
NUKU'ALOFA	26	440.8	37	549.2	37	0.5	39.4

**TABLE 4: Seasonal Climate Outlooks using POAMA2 for  
March to May 2018**

Station	Lower Tercile (prob)	33%ile rainfall (mm)	Middle Tercile (prob)	67%ile rainfall (mm)	Upper Tercile (prob)		
NIUAFO'OU	48	631	27	793	25		
NIUATOPUTAPU	48	587	27	744	25		
VAVA'U	30	586	37	762	33		
HA'APAI	30	354	37	537	33		
NUKU'ALOFA	30	361	37	503	33		

## **Summary Statements**

### **Rainfall for January 2018:**

Above normal rainfall across Tonga except at Niuafo'ou which was below normal.

### **Accumulated rainfall for November 2017 to January 2018, including outlook verification:**

#### **Northern division:**

Normal rainfall in Niuafo'ou and above normal in Niuaatoputapu; forecast was near-consistent.

#### **Central division:**

Normal rainfall in Vava'u, forecast was consistent.

Above normal in Ha'apai, forecast was near-consistent.

#### **Southern division:**

Above normal rainfall with a forecast verification of near-consistent.

### **Outlooks for March to May 2018:**

#### **1. SCOPIC:**

##### **Northern division:**

The outlook for the season shows little guidance as the chances of above-normal, normal and below-normal are similar for Niuafo'ou and Niuaatoputapu. Confidence is very low.

##### **Central division:**

The outlook for the season shows little guidance as the chances of above-normal, normal and below-normal are similar for Vava'u and Ha'apai. Confidence is low.

##### **Southern division:**

The outlook for the season for Fua'amotu shows normal is the most likely outcome, above normal is the next most likely. Confidence is low.

The outlook for the season shows near-equal likelihood of normal and above normal rainfall for Nuku'alofa. Confidence is low.

#### **2. POAMA:**

Seasonal rainfall outlook for northern division shows below-normal as the most likely outcome, with normal the next most likely. For the Central and Southern divisions there is little guidance as the chances of above-normal, normal and below-normal are 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:  $X \geq 35$