

## Pacific Islands - Online Climate Outlook Forum (OCOF) No. 122

**Country Name: Tonga**

**TABLE 1: Monthly Rainfall**

Station (include data period)	October 2017						
	August 2017 Total	September 2017 Total	Total	33%tile Rainfall (mm)	67%tile Rainfall (mm)	Median Rainfall (mm)	Ranking
Niuafo'ou	126.7	171.3	550.2	137.0	187.0	157.0	45/45
Niuaatoputapu	72.2	133.5	379.6	112.0	212.0	156.0	62/68
Vava'u	264.0	193.6	128.9	99.0	172.0	139.3	34/71
Ha'apai	141.9	100.7	153.1	60.0	123.0	94.8	59/71
Fua'amotu	66.4	200.3	136.0	48.3	111.0	74.0	31/38
Nuku'alofa	72.4	209.9	43.0	54.0	129.0	84.0	18/74

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

[Please note that the data used in this verification should be sourced from table 3 of OCOF #118]

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	848.2	321.7	467.0	402.2	43/45	(35,33,32)-2.6	Inconsistent
Niuaatoputapu	585.3	271.0	497.0	332.3	55/68	(44,32,24)-0.0	Inconsistent
Vava'u	586.5	311.0	473.8	392.5	62/71	(37,32,31)-1.4	Inconsistent
Ha'apai	395.7	236.0	355.0	292.7	54/71	(41,40,19)4.4	Inconsistent
Fua'amotu	402.7	280.0	410.0	347.0	25/38	(31,37,32)-2.9	Consistent
Nuku'alofa	404.7	265.6	397.8	342.5	31/73	(38,38,24)1.6	Near Consistent

Period: \*below normal/normal/above normal

Predictors and Period used for August to October 2017 Outlooks (refer to OCOF #118):

**NINO 3.4 for May-June 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  
December 2017 to February 2018**

**Predictors and Period used: NINO 3.4 for September - October**

Station	<b>Below Median (prob)</b>	<b>Median Rainfall (mm)</b>	<b>Above Median (prob)</b>		<b>LEPS</b>	<b>Hit-rate</b>
Niufo'ou	44	844.2	56		5.4	62.5
Niuatoputapu	44	728.0	56		12.4	71.0
Vava'u	44	741.0	56		13.0	69.7
Ha'apai	39	575.1	61		32.3	73.1
Fua'amotu	29	561.0	71		37.4	75.7
Nuku'alofa	39	558.0	61		29.9	70.1

Station	<b>Below Normal (prob)</b>	<b>33%ile rainfall (mm)</b>	<b>Normal (prob)</b>	<b>67%ile rainfall (mm)</b>	<b>Above Normal (prob)</b>	<b>LEPS</b>	<b>Hit-rate</b>
Niufo'ou	23	722.0	39	951.0	38	4.3	35.0
Niuatoputapu	20	633.0	40	889.0	40	20.3	46.8
Vava'u	28	613.3	35	893.5	37	20.6	59.1
Ha'apai	20	435.0	41	678.0	39	23.3	55.2
Fua'amotu	21	420.0	35	786.3	44	22.0	48.6
Nuku'alofa	24	441.0	38	725.0	38	24.6	53.7

**TABLE 4: Seasonal Climate Outlooks using POAMA2 for  
December 2017 to February 2018**

Station	<b>Lower Tercile (prob)</b>	<b>33%ile rainfall (mm)</b>	<b>Middle Tercile (prob)</b>	<b>67%ile rainfall (mm)</b>	<b>Upper Tercile (prob)</b>		
Niufo'ou	15	671	21	933	64		
Niuatoputapu	15	618	21	823	64		
Vava'u	6	596	15	882	79		
Ha'apai	6	347	15	618	79		
Nuku'alofa	5	384	5	642	90		

## Summary Statements

### **Rainfall for October 2017:**

**Above normal rainfall** in Niuafou'ou, Niuatoputapu, Ha'apai and Fua'amotu.  
Normal rainfall in Vava'u and **below normal** in Nuku'alofa.

### **Accumulated rainfall for August to October 2017, including outlook verification:**

**Normal** rainfall in Fua'amotu and Nuku'alofa. Forecast was consistent in Fua'amotu and near consistent in Nuku'alofa.

**Above normal** rainfall in Niuafou'ou, Niuatoputapu, Vava'u and Ha'apai. Forecast was all inconsistent.

### **Outlooks for December 2017 to February 2018:**

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

The outlook offers **near equal likelihood** of normal and above normal rainfall for Niuafou'ou, Niuatoputapu, Vava'u and Ha'apai and Nuku'alofa with high confidence for all except for Niuatoputapu with a low confidence.

For Fua'amotu, **above normal rainfall** is the most likelihood outcome with normal as the next most likely. Confidence of the outlook is high.

Above normal rainfall is the most likely outcome for Fua'amotu with high confidence.

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

Seasonal outlook for the period December to February for 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:  $X \geq 35$