

## Pacific Islands - Online Climate Outlook Forum (OCOF) No. 104

**Country Name: Tonga**

### TABLE 1: Monthly Rainfall

Station (include data period)	April 2016						
	February 2016 Total	March 2016 Total	April 2016 Total	33%tile Rainfall (mm)	67%tile Rainfall (mm)	Median Rainfall (mm)	Ranking
<b>Northern Division</b>							
Niuafo'ou	133.3	271.2	449.3	162.7	307	214	40/46
Niutoputapu	71.3	125.6	369.0	163.1	283	220	56/70
<b>Central Division</b>							
Vava'u	463.1	189.3	226.2	154.1	261.7	208	39/70
Ha'apai	307.8	233.8	111.2	114.5	237.3	170	22/70
<b>Southern Division</b>							
Nuku'alofa	351.5	127.9	238.5	106.7	199.7	136	55/72
Fua'amotu	228.8	139.6	238.1	95.3	219.5	167.5	25/37

### TABLE 2: Three-monthly Rainfall February to April 2016

[Please note that the data used in this verification should be sourced from table 3 of OCOF #100]

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?)
<b>Northern Division</b>							
Niuafo'ou	853.8	724.4	938.9	888.4	19/46	59,12,29(1)	Near consistent
Niutoputapu	565.9	645	900	756	13/70	74,24,2(16.9)	Consistent
<b>Central Division</b>							
Vava'u	878.6	690.3	878.3	815	45/70	62,22,16(3.3)	Near consistent
Ha'apai	652.8	514.3	708	646	37/70	71,24,5 (9.6)	Near consistent
<b>Southern Division</b>							
Nuku'alofa	717.9	542.7	678.7	607	52/72	47,37,16(1.5)	Near consistent
Fua'amotu	606.5	455.3	675.7	508.5	23/37	79,16,6(10.4)	Near consistent

Period: \*below normal/normal/above normal

Predictors and Period used for February to April 2016 Outlooks (refer to OCOF #100):

\* 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  
Feb 2016 - Apr 2016**

Predictors and Period used: NINO 3.4 (Nov - Dec 2015)

Station	<b>Below Normal (prob)</b>	<b>33%ile rainfall (mm)</b>	<b>Normal (prob)</b>	<b>66%ile rainfall (mm)</b>	<b>Above Normal (prob)</b>	<b>LEPS (%)</b>	<b>Hit-rate (%)</b>
<i><b>Northern Division</b></i>							
Niuafo'ou (1971-2016)	35	274.4	16	415	49	-1.9	32.5
Niuaatoputapu (1947-2016)	<b>59</b>	233.7	13	354.1	28	0.6	46.2
<i><b>Central Division</b></i>							
Vava'u (1947-2016)	<b>51</b>	250.3	24	347.7	25	-0.1	18.2
Ha'apai (1947-2016)	31	190.7	<b>52</b>	306.1	17	0	33.3
<i><b>Southern Division</b></i>							
Nukuálofa(1944-2016)	<b>37</b>	245.7	30	364.7	33	-1.7	7.6
Fuaámotu(1980-2016)	32	270.7	<b>38</b>	399	30	-3.2	16.7

**TABLE 3: Seasonal Climate Outlooks using SCOPIC for  
June to August 2016**

**Predictors and Period used: NINO 3.4 March to April**

Station	Below Median (prob)	Median Rainfall (mm)	Above Median (prob)	LEPS	Hit-rate
<b>Northern Division</b>					
Niuafo'ou (1971-2016)	61	348.5	39	-2.1	30
Nlutopotapu (1947-216)	56	306.8	44	-1.4	41.5
<b>Central Division</b>					
Vava'u (1947-2016)	65	307	35	0	51.5
Ha'apai(1947-2016)	75	275	25	1.1	57.6
<b>Southern Division</b>					
Nuku'alofa(1944-2016)	54	298	46	-1.4	45.5
Fua'amotu (1980-2016)	51	351	49	-2.9	11.1

**TABLE 4: Seasonal Climate Outlooks using POAMA2 for  
June to August 2016**

Station	Lower Tercile (prob)	33%ile rainfall (mm)	Middle Tercile (prob)	66%ile rainfall (mm)	Upper Tercile (prob)
<b>Northern Division</b>					
Niuafo'ou	64	249	18	417	18
Nlutopotapu	64	248	18	363	18
<b>Central Division</b>					
Vava'u	79	272	16	344	5
Ha'apai	79	207	16	324	5
<b>Southern Division</b>					
Nuku'alofa	79	261	15	402	6

### **Summary Statements**

#### **Rainfall for April 2016:**

Northern division: Above normal

Central division: Normal rainfall at Vava'u and below normal at Ha'apai.

Southern division: Above normal.

## Accumulated rainfall for February to April 2016, including outlook verification:

**Northern division:** Normal at Niuafu'ou and Below Normal at Niuatoputapu. Forecast was near consistent in Niuafu'ou and consistent at Niuatoputapu.

**Central division:** Above normal at Vava'u and Normal at Ha'apai. Forecast was near consistent

**Southern division:** Above normal at Nuku'alofa and Normal at Fua'amotu. Forecast was near consistent.

## Outlooks for June to August 2016:

### 1. SCOPIC:

**Northern division:** The seasonal outlook shows is above normal in Niuafu'ou and below normal in Niuatoputapu. Confidence is very low to low.

**Central division:** The seasonal outlook shows below normal in Vava'u and normal in Ha'apai. Confidence is very low.

**Southern division:** The seasonal outlook shows below normal in Nuku'alofa and normal in Fua'amotu. Confidence is very low.

### 2. POAMA:

POAMA seasonal outlook for all stations for June to August 2016 shows below normal rainfall is favoured across Tonga.

**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:  $X \geq 35$