

Pacific Islands - Online Climate Outlook Forum (OCOF) No.94

Country Name: Tonga

TABLE 1: Monthly Rainfall

Station (include data period)			June 2015				
	Apr 2015 Total	May 2015 Total	Total June 2015	33%tile Rainfall (mm)	67%tile Rainfall (mm)	Median Rainfall (mm)	Ranking
Northern Division							
Niuafo'ou (1971-2014)	248.2	200.0	116.6	57.0	152.0	91.8	26/44
Niuaotoputapu (1947-2014)	329.1	144.4	85.3	61.7	137.7	88.1	32/67
Central Division							
Vava'u (1947-2014)	81.0	59.8	51.2	56.3	134.0	90.0	21/69
Ha'apai (1947-2014)	36.6	54.5	104.1	41.3	107.3	71.0	44/68
Southern Division							
Nukuálofa (1944-2014)	29.8	75.6	86.7	58.0	111.0	76.7	40/71
Fuaámotu (1980-2014)	17.1	88.5	135.4	68.3	142.2	91.3	24/36

Period: *below normal/normal/above normal

**TABLE 2: Three-monthly Rainfall
April – June 2015**

Predictors and Period used: NINO 3.4 (Jan – Feb 2015)

[Please note that the data used in this verification should be sourced from table 3 of OCOF #90]

Station	Three-month Total	33%tile Rainfall (mm)	67%tile Rainfall (mm)	Median Rainfall (mm)	Ranking	Forecast probs.* (include LEPS)	Verification ¹ (Consistent, Near-consistent or Inconsistent)
Northern Division							
Niuafo'ou (1971-2015)	564.8	475.9	638.1	557.41	21/43	37,31,33 (-2.1)	Near consistent
Niuatoputapu (1947-2015)	558.8	420.7	592.7	530.6	39/66	34,31,35 (-2.2)	Near consistent
Vava'u (1947-2015)	192.0	390.5	524.3	476.0	4/69	40,36,24 (4.7)	Consistent
Ha'apai (1947-2015)	195.2	293.0	427.0	352.0	8/68	40,37,23 (5.2)	Consistent
Nukuálofa(1944-2015)	191.5	283.0	435.0	331.7	9/71	47,21,32 (7.9)	Consistent
Fuaámotu(1980-2015)	241.0	305.3	526.2	474.0	7/36	48,20,32 (10.5)	Consistent

¹Forecast 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
Aug - October 2015**

Predictors and Period used: NINO 3.4 (May-June 2015)

Station	Below Normal (prob)	33%ile rainfall (mm)	Normal (prob)	66%ile rainfall (mm)	Above Normal (prob)	LEPS (%)	Hit-rate (%)
<i>Northern Division</i>							
Niuafu'ou (1971-2015)	34	312.9	41	463	25	-3.7	31.3
Niuatoputapu (1947-2015)	51	246	37	476	12	3	41.9
<i>Central Division</i>							
Vava'u (1947-2015)	45	306.3	26	471.2	29	-2.9	39.4
Ha'apai (1947-2015)	34	234	55	353.3	11	1.2	36.4
<i>Southern Division</i>							
Nuku'álofa(1944-2015)	39	262	37	397	24	-3.4	6.1
Fuaámotu(1980-2015)	35	276	27	404.8	38	-3.6	9.7

Seasonal Climate Outlook:

Aug – October 2015- Median Table:

Predictors and Period used: NINO 3.4 (May - June 2015)

Station	Below Median (prob)	Median rainfall (mm)	Above Median (prob)	LEPS	Hit-rate
Northern Division					
Niuafu'ou (1971-2015)	40	395.8	60	-2.3	56.3
Niutopotapu (1947-2015)	66	331.5	34	1.4	58.1
Central Division					
Vava'u (1947-2015)	63	381.5	37	-1.1	57.6
Ha'apai (1947-2015)	71	273.5	29	2.1	48.5
Southern Division					
Nuku'alofa (1944-2015)	60	342.5	40	-1.9	45.5
Fua'amotu Airport (1980-2015)	50	347	50	-3.2	27.3

TABLE 4: Seasonal Climate Outlooks using POAMA2 for Aug – Oct 2015

Station	Lower Tercile (prob)	33%ile rainfall (mm)	Middle Tercile (prob)	66%ile rainfall (mm)	Upper Tercile (prob)
Niuafu'ou	30.3	309	64.7	465	5
Niutopotapu	30.3	277	61.7	390	5
Vava'u	27.3	280	63.6	475	9.1
Ha'apai	27.3	200	63.6	285	9.1
Nuku'alofa	33.3	238	61.7	363	5.0

Summary Statements

Rainfall for June 2015:

Northern division: Normal

Central division: Below normal in Vava'u and Normal in Ha'apai

Southern division: Normal

Accumulated rainfall for April - June 2015, including outlook verification:

Northern division: Normal and the forecast was near consistent

Central division: Below normal and the forecast was consistent

Southern division: Below normal and the forecast was consistent

The SCOPIIC forecasts for the last three months were near consistent at 2 stations, and 4 Consistent.

Outlooks for August - October 2015:

1. SCOPIIC:

The seasonal rainfall outlook for June to August 2015 shows:

Northern division:

The seasonal rainfall outlook shows the most likely outcome for the Northern division is for normal in Niuafu'ou and below normal for Niuatopotapu. Confidence is low.

Central division:

The seasonal rainfall outlook shows the most likely outcome for the Central division is for below normal in Vava'u and normal for Ha'apai. Confidence is low.

Southern division:

The seasonal rainfall outlook for Fua'amotu is mixed and offers little guidance, as there are similar chances for below-normal and above-normal totals. Confidence in the outlook is low. The outlook is for below normal to normal rainfall for Nuku'alofa. Confidence is very low.

2. POAMA:

POAMA seasonal outlook for all stations for August to October 2015 shows the most likely is Normal.

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: $X \geq 35$