

Pacific Islands - Online Climate Outlook Forum (OCOF) No.93

Country Name: Tonga

TABLE 1: Monthly Rainfall

Station (include data period)			May 2015				
	Mar 2015 Total	Apr 2015 Total	Total	33%tile Rainfall (mm)	67%tile Rainfall (mm)	Median Rainfall (mm)	Ranking
Northern Division							
Niuafo'ou (1971-2014)	244.6	248.2	200.0	135.8	208.0	159.0	26/44
Niuaotoputapu (1947-2014)	167.0	329.1	144.4	119.0	181.0	152.0	32/67
Central Division							
Vava'u (1947-2014)	227.8	81.0	59.8	91.0	176.3	133.0	12/69
Ha'apai (1947-2014)	199.8	36.6	54.5	66.8	114.0	89.0	20/68
Southern Division							
Nukuálofa (1944-2014)	193.5	29.8	75.6	64.0	138.0	87.2	31/71
Fuaámotu (1980-2014)	232.4	17.1	88.5	54.9.3	165.3	122.0	17/36

Period: *below normal/normal/above normal

**TABLE 2: Three-monthly Rainfall
March - May2015**

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

[Please note that the data used in this verification should be sourced from table 3 of OCOF #89]

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)	692.8	644.5	808.0	768.0	17/43	(31,28,41)(-0.05)	Near Consistent
Niuatoputapu (1947-2015)	640.5	568.7	743.7	629.0	32/66	(27, 37,36)(-0.3)	Consistent
Central Division							
Vava'u (1947-2015)	368.6	585.5	928.0	705.4	6/69	(38,33,29)(0.5)	Consistent
Ha'apai (1947-2015)	290.9	443.0	608.8	556.0	6/68	(36, 39,25)(0.8)	Near consistent
Southern Division							
Nukuálofa(1944-2015)	298.9	442.0	552.0	488.5	9/71	(41,28,31)(0.8)	Consistent
Fuaámotu(1980-2015)	338.0	426.0	580.03	507.4	6/36	(45,23,32)(4.8)	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
July - September 2015**

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

Station	Below Normal (prob)	33%ile rainfall (mm)	Normal (prob)	66%ile rainfall (mm)	Above Normal (prob)	LEPS (%)	Hit-rate (%)
Northern Division							
Niuafu'ou (1971-2015)	36	245.8	29	412.7	35	-3.3	43.8
Niuatoputapu (1947-2015)	32	209.0	38	365.0	30	-3.2	12.5
Central Division							
Vava'u (1947-2015)	38	254.0	43	397.7	19	-0.5	30.3
Ha'apai (1947-2015)	52	211.0	27	299.0	21	1.6	36.4
Southern Division							
Nuku'alofofa(1944-2015)	34	275.0	48	378.0	18	-1.4	42.4
Fua'amotu(1980-2015)	43	274.0	30	421.0	27	-1.2	21.2

Seasonal Climate Outlook:

July – September 2015- Median Table:

Predictors and Period used: NINO 3.4 (April – May 2015)

Station	Below Median (prob)	Median rainfall (mm)	Above Median (prob)	LEPS	Hit-rate
Northern Division					
Niuafu'ou (1971-2015)	60	335.2	40	-2.9	43.8
Niuatoputapu (1947-2015)	43	286.0	57	-2.5	62.5
Central Division					
Vava'u (1947-2015)	68	328.5	32	2.7	57.6
Ha'apai (1947-2015)	77	237	23	9.4	60.6
Southern Division					
Nuku'alofofa (1944-2015)	55	322.9	45	-2.8	51.5
Fua'amotu Airport (1980-2015)	62	371.0	38	-0.6	60.6

**TABLE 4: Seasonal Climate Outlooks using POAMA2 for
Jul – Sep 2015**

Station	Lower Tercile (prob)	33%ile rainfall (mm)	Middle Tercile (prob)	66%ile rainfall (mm)	Upper Tercile (prob)
Nukuálofa	18	248	77	395	5
Ha’apai	24	217	71	337	5
Vava’u	24	243	71	401	5
Niuatoputapu	15	185	79	368	6
Niuafo’ou	15	234	79	356	6

Summary Statements

Rainfall for May 2015:

Northern division: Normal

Central division: Below normal

Southern division: Normal

Accumulated rainfall for March - May 2015, including outlook verification:

Northern division: Normal and the forecast was near consistent

Central division: Below normal and the forecast was near consistent

Southern division: Below normal and the forecast was consistent

Outlooks for July - September 2015:

1. SCOPIC:

The seasonal rainfall outlook for July – September 2015 shows:

Northern division:

There is little guidance for the coming season as the chances of below normal, normal and below normal are similar. Confidence is very low.

Central division:

The seasonal rainfall outlook shows the most likely outcome is normal rainfall for Vava’u and below normal rainfall for Ha’apai. Confidence is very low to low.

Southern division:

The seasonal rainfall outlook shows the most likely outcome is below normal in Fua’amotu, and normal for Nuku’alofa. Confidence is very low.

2. POAMA:

Northern division: Normal

Central division: Normal

Southern division: 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: $X \geq 35$