

Pacific Islands - Online Climate Outlook Forum (OCOF) No.90

Country Name: Tonga

TABLE 1: Monthly Rainfall

Station (include data period)			February 2015				
	Dec 2014 Total	Jan 2014 Total	Total	33%tile Rainfall (mm)	67%tile Rainfall (mm)	Median Rainfall (mm)	Ranking
Northern Division							
Niuafou'ou (1971-2014)	204.4	46.5	244.7	205	300	238	23/42
Niuaotoputapu (1947-2014)	65.4	210.4	190.3	190	267	224	24/68
Central Division							
Vava'u (1947-2014)	122.4	281.9	415.6	181	278	214	61/69
Ha'apai (1947-2014)	32.2	191.9	351.0	136	234	187	64/69
Southern Division							
Nukuálofa (1944-2014)	20.5	95.8	228.6	151	251	215	39/71
Fuaámotu (1980-2014)	24.0	75.5	160.8	139	237	185	17/36

Period: *below normal/normal/above normal

**TABLE 2: Three-monthly Rainfall
December- February 2015**

Predictors and Period used:NINO 3.4 (Sep to Oct 2014)

[Please note that the data used in this verification should be sourced from table 3 of OCOF #86]

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)	496	738	951	845	6/38	(33,33,34)(1.1)	Near consistent
Niuatoputapu (1947-2015)	466	649.7	889	731	11/63	(32,35,33)(13.4)	Near consistent
Central Division							
Vava'u (1947-2015)	820	608	891	723	42/67	(34,40,26)(24.5)	Consistent
Ha'apai (1947-2015)	575	435	678	575	35/68	(32,38,30)(21.4)	consistent
Southern Division							
Nukuálofa(1944-2015)	345	441	739	568	13/71	(33,40,27)(24.3)	Near consistent
Fuaámotu(1980-2015)	261	426	809	583	4/35	(34,35,31)(14.7)	Near 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
April-June 2015**

Predictors and Period used: NINO 3.4 (January to February 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>							
Niuafo'ou (1971-2015)	37	488	31	646	33	-2.1	30
Niuaatoputapu (1947-2015)	34	425	31	605	35	-2.2	24.1
<i>Central Division</i>							
Vava'u (1947-2015)	40	391	36	524	24	4.7	36.9
Ha'apai (1947-2015)	40	293	37	419	23	5.2	39.1
<i>Southern Division</i>							
Nukuálofa(1944-2015)	47	283	21	433	32	7.9	46.2
Fuaámotu(1980-2015)	48	340	20	526	32	10.5	55.9

Seasonal Climate Outlook:

April to June 2015- Median Table:

Predictors and Period used: NINO 3.4 (January – February 2015)

Station	Below Median (prob)	Median rainfall (mm)	Above Median (prob)	LEPS	Hit-rate
<i>Northern Division</i>					
Niuafo'ou (1971-2015)	50	582	50	-2.5	32.5
Niuaotupapu (1947-2015)	52	535	48	-1.1	56.9
<i>Central Division</i>					
Vava'u (1947-2015)	59	476	41	5.7	53.8
Ha'apai (1947-2015)	57	352	43	1.6	51.6
<i>Southern Division</i>					
Nuku'alofa (1944-2015)	60	330	40	5.8	56.9
Fua'amotu Airport (1980-2015)	63	485	37	11.1	65

TABLE 4: Seasonal Climate Outlooks using POAMA2 for April – June 2015

Station	Lower Tercile (prob)	33%ile rainfall (mm)	Middle Tercile (prob)	66%ile rainfall (mm)	Upper Tercile (prob)
Nuku'alofa	46	259	24	414	30

Summary Statements

Rainfall for February 2015:

Northern division: Normal

Central division: Above normal

Southern division: Normal

Accumulated rainfall for December 2014 – February 2015, including outlook verification:

Northern division: Below normal

Central division: Normal

Southern division: Below normal

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

Outlooks for April – June 2015:

1. SCOPIC:

The seasonal rainfall outlook for April to June 2015 shows:

Northern division:

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

Central division:

The seasonal rainfall outlook shows the most likely outcome is below normal, with normal the next most likely. Confidence is low.

Southern division:

The seasonal rainfall outlook shows the most likely outcome is below normal, with above normal the next most likely. Confidence of the outlook is moderate.

2. POAMA:

- The seasonal rainfall outlook shows the most likely outcome is below normal, with above normal the next most likely.

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: $X \geq 35$