

Pacific Islands - Online Climate Outlook Forum (OCOF) No. 120

Country Name: Tonga

TABLE 1: Monthly Rainfall

Station (include data period)	August 2017						
	June 2017 Total	July 2017 Total	August 2017 Total	33%tile Rainfall (mm)	67%tile Rainfall (mm)	Median Rainfall (mm)	Ranking
Niuafou'ou	113.8	143.6	126.7	53	147	86	31/45
Niuatoputapu	233.5	75.3	72.2	59	131	70	36/70
Vava'u	126.1	161.6	264.0	62	127	87	67/71
Ha'apai	67.6	69.5	141.9	59	114	94	57/71
Fua'amotu	51.9	66.2	66.4	79	149	100	11/38
Nuku'alofa	35.5	75.8	72.4	68	137	102	26/73

TABLE 2: Three-monthly Rainfall
June 2017 to August 2017

[Please note that the data used in this verification should be sourced from table 3 of OCOF #116

Predictors and Period used for March 2017 to April 2017 Outlooks

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?)
Niuafou'ou	384.1	271	415	336	23/42	(36,28,36) -2.1	Near consistent
Niuatoputapu	381.0	236	352	312	50/70	(39,28,33) 0.2	Inconsistent
Vava'u	551.7	251	353	308	62/71	(37,30,33) -1.0	Inconsistent
Ha'apai	279.0	191	314	277	38/71	(33,37,30) -1.0	Consistent

* 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).

Fua'amotu	184.5	271	401	353	5/38	(32,34, 34) -2.8	Inconsistent
Nuku'alofa	183.7	249	368	298	12/73	(34,31, 35) -1.6	Inconsistent

Period: *below normal/normal/above normal

TABLE 3: Seasonal Climate Outlooks using SCOPIC for October to December 2017-Tercile Method

Predictors and Period used: NINO 3.4 (July - August 2017)

Station	Below Normal (prob)	33%ile rainfall (mm)	Normal (prob)	66%ile rainfall (mm)	Above Normal (prob)	LEPS (%)	Hit-rate (%)
Niuafo'ou (1971-2017)	32	639	33	826	34	0.1	23.8
Niutopotapu (1947-2017)	33	533	35	746	33	6.3	45.2
Vava'u (1947-2017)	31	378	39	613	30	20.3	52.2
Ha'apai (1947-2017)	31	246	39	421	30	19.4	55.2
Fuaámotu(1980-2017)	14	277	45	437	42	33.3	54.1
Nukuálofa(1944-2017)	24	281	43	419	33	30.3	62.7

Station	Below Median (prob)	Median Rainfall (mm)	Above Median (prob)	LEPS	Hit-rate
Niuafo'ou (1971-2017)	48	556	52	2.4	45.2
Niutopotapu (1947-217)	50	482	50	14.3	69.4
Vava'u (1947-2017)	49	413	51	18.9	74.6
Ha'apai (1947-2017)	49	297.5	51	20.7	71.6
Fua'amotu (1980-2017)	44	34	56	13.6	64.9
Nuku'alofa (1944-2017)	49	340.5	51	22.7	71.6

TABLE 4: Seasonal Climate Outlooks using POAMA2 for October to December 2017

Station	Lower Tercile (prob)	33%ile rainfall (mm)	Middle Tercile (prob)	66%ile rainfall (mm)	Upper Tercile (prob)
Niuafo'ou	42	517	5	719	53
Niutopotapu					
Vava'u	39	376	9	599	52
Ha'apai	39	235	9	363	52
Nuku'alofa	49	229	18	380	33

Summary Statements:

Rainfall for August 2017:

Northern division: Normal.

Central division: Above normal in Vava'u and normal in Ha'apai.

Southern division: Below Normal in Fua'amotu and normal in Nuku'alofa.

Accumulated rainfall for June to August 2017, including outlook verification:

Northern division: Normal in Niuafu'ou. Forecast was near consistent
Above normal in Niuatoputapu. Forecast was inconsistent.

Central division: Above Normal in Vava'u, Forecast inconsistent
Normal in Ha'apai and near consistent.

Southern division: Below normal and forecast was inconsistent

Outlooks for October to December 2017:

1. SCOPIC:

Northern division: Outlook offers little guidance as a chances of below normal, normal and above normal rainfall are similar. Confidence is low.

Central division: Outlook offers little guidance as a chances of below normal, normal and above normal rainfall are similar. Confidence is moderate to good.

Southern division: At Fua'amotu the outlook shows a near equal likelihood of above normal and normal rainfall. For Nuku'alofa, the outlook shows below normal is the most likely outcome. Confidence is moderate to high

2. POAMA: Above normal for all stations except for Nuku'alofa where the outlook is for below normal rainfall for the season.

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: $X \geq 35$