

Pacific Islands - Online Climate Outlook Forum (OCOF) No. 130

Country Name: Tonga

TABLE 1: Monthly Rainfall

Station (include data period)	April-2018	May-2018	June 2018				
			Total (mm)	33%tile	67%tile	Median Rainfall (mm)	Ranking
	Total (mm)	Total (mm)	Rainfall (mm)				
Niuafo'ou (1971-2018)	222.7	73.6	74.2	66.1	149.1	107.5	17/45
Niuaatoputapu (1947-2018)	275.1	90.1	31.1	67.6	163.3	91.0	7/72
Vava'u (1947-2018)	331.3	265.1	39.5	56.3	134.0	91.0	16/72
Ha'apai (1947-2018)	432.1	137.1	79.3	42.0	107.3	73.0	39/72
Fua'amotu (1979-2018)	519.5	68.7	244.6	68.3	142.5	96.2	37/39
Nuku'alofa (1944-2018)	443.8	108.6	182.7	58.0	111.0	77.3	67/74

**TABLE 2: Three-monthly Rainfall
April to June 2018**

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)?
Niuafo'ou (1971-2018)	370.5	496.5	638.6	578.0	5/44	33,30,37 (-3.2)	Inconsistent
Niuaatoputapu (1947-2018)	396.3	437.0	617.0	542.0	17/65	35,33,32 (-1.7)	Consistent
Vava'u (1947-2018)	635.9	390.5	544.3	479.0	54/72	27,32,41 (3.3)	Consistent
Ha'apai (1947-2018)	648.5	293.0	427.0	353.0	66/71	27,34,39 (2.7)	Consistent
Fua'amotu (1979-2018)	832.8	282.7	511.4	440.0	37/39	18,46,36 (4.3)	Near-consistent
Nuku'alofa (1944-2018)	735.1	281.7	433.7	329.7	70/73	17, 47, 36 (5.5)	Near-consistent

[Please note that the data used in this verification should be sourced from table 3 of OCOF #126]

Period: *below normal/normal/above normal

Predictors and Period used for April to June 2018 Outlooks (refer to OCOF #126):

* 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 August to October 2018

Predictors and Period used: NINO3.4 Anomalies for May to June 2018

Station	Below Median (prob)	Median Rainfall (mm)	Above Median (prob)			LEPS	Hit-rate
Niuafo'ou (1971-2018)	51	578.0	49			-2	51
Niuafo'ou (1971-2018)	51	578.0	49			-2	51
Niuafo'ou (1971-2018)	51	578.0	49			-2	51
Niuafo'ou (1971-2018)	51	578.0	49			-2	51
Niuafo'ou (1971-2018)	51	578.0	49			-2	51
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Niuafo'ou (1971-2018)	51	578.0	49			-2	51
Niuafo'ou (1971-2018)	51	578.0	49			-2	51
Niuafo'ou (1971-2018)	51	578.0	49			-2	51

Station	Below Normal (prob)	33%ile rainfall (mm)	Normal (prob)	67%ile rainfall (mm)	Above Normal (prob)	LEPS	Hit-rate
Niuafo'ou (1971-2018)	34	330.3	32	472.3	34	-2	17
Niuafo'ou (1971-2018)	34	330.3	32	472.3	34	-2	17
Niuafo'ou (1971-2018)	34	330.3	32	472.3	34	-2	17
Niuafo'ou (1971-2018)	34	330.3	32	472.3	34	-2	17
Niuafo'ou (1971-2018)	34	330.3	32	472.3	34	-2	17
Niuafo'ou (1971-2018)	34	330.3	32	472.3	34	-2	17
Niuafo'ou (1971-2018)	34	330.3	32	472.3	34	-2	17
Niuafo'ou (1971-2018)	34	330.3	32	472.3	34	-2	17
Niuafo'ou (1971-2018)	34	330.3	32	472.3	34	-2	17
Niuafo'ou (1971-2018)	34	330.3	32	472.3	34	-2	17

TABLE 4: Seasonal Climate Outlooks using POAMA2 for August to October 2018

Station	Lower Tercile (prob)	33%ile rainfall (mm)	Middle Tercile (prob)	67%ile rainfall (mm)	Upper Tercile (prob)		
NIUAFO'OU	42	309.0	13	465.0	45		
NIUATOPUTAPU	42	277.0	13	390.0	45		
VAVA'U	45	280.0	18	475	36		
HA'APAI	45	200.0	19	285.0	36		
NUKU'ALOFA	39	238.0	22	363.0	39		

Summary Statements

Rainfall for June 2018:

Rainfall was below normal in Niuatoputapu and Vava'u, Normal in Niuafu'ou and Ha'apai and above normal in Fua'amotu and Nuku'alofa

Accumulated rainfall for April to June 2018, including outlook verification:

Rainfall was below normal in Niuafu'ou and Niuatoputapu, forecast was inconsistent in Niuafu'ou and consistent in Niuatoputapu. Above normal rainfall was recorded over the rest of Tonga with forecast being near consistent in Fua'amotu and Nuku'alofa and consistent in Vava'u and Ha'apai.

Outlooks for August to October 2018:

1. SCOPIC:

The outlook offers little guidance as the chances of above-normal, normal and below-normal are similar for all of Tonga.

2. POAMA:

The rainfall outlook for the season shows above normal is the most likely outcome for Niuafu'ou and Niuatoputapu, and below normal is the most likely outcome for the rest of the country.

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: $X \geq 35$