Pacific Islands - Online Climate Outlook Forum (OCOF) No. 129

Country Name: Tonga

TABLE 1: Monthly Rainfall

Station (include data period)			May 2018				
	March 2018 Total	April 2018 Total	Total	33%tile Rainfall (mm)	67%tile Rainfall (mm)	Median Rainfall (mm)	Ranking
NIUAFO'OU	179.7	222.7	73.6	136.0	206.0	155.7	9/47
NIUATOPUTAPU	271.9	275.1	90.1	126.0	189.0	152.0	9/68
VAVA'U	245.4	331.3	265.1	91.0	183.5	134.0	63/72
HA'APAI	118.0	432.1	137.1	64.0	134.0	89.4	49/71
FUA'AMOTU	392.7	519.5	68.7	63.1	165.3	110.5	14/39
NUKU'ALOFA	356.3	443.8	99.0	68.0	139.0	91.3	40/74

TABLE 2: Three-monthly Rainfall
March to May 2018

[Please note that the data used in this verification should be sourced from table 3 of OCOF #125]

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	476.0	648.7	801.1	767.0	8/46	**34,34**,32(-2.1)	Near-consistent
NIUATOPUTAPU	637.1	583.3	743.7	640.5	32/64	**36**,31,33(-1.4)	Near-Consistent
VAVA'U	841.8	585.5	774.1	704.0	54/72	29,34,**37**(0.1)	Consistent
HA'APAI	687.2	443.0	621.0	557.5	55/71	32,29,**39**(-0.2)	Consistent
FUA'AMOTU	980.9	419.3	565.2	501.8	**37/39**	17,**49**,34(2.9)	Near-consistent
NUKU'ALOFA	899.1	440.8	549.2	488.5	**72/73**	26,**37,37**(0.5)	Near-consistent

Period:*below normal/normal/above normal

Predictors and Period used for March to May 2018 Outlooks (refer to OCOF #125):
NINO3.4 SST Anomalies for December 2017-January 2018

*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 July to September 2018

Predictors and Period used: NINO3.4 SST Anomalies for April – May 2018

Station	Below Median (prob)	Median Rainfall (mm)	Above Median (prob)		LEPS	Hit-rate
NIUAFO'OU	47	336.5	**53**		0.5	57
NIUATOPUTAPU	50	283.5	**50**		-1.4	43
VAVA'U	49	345.0	**51**		-0.0	56
HA'APAI	*46*	*294.2*	***54***		*8.9*	*57*
FUA'AMOTU	46	366.5	**54**		0.2	55
NUKU'ALOFA	49	325.0	**51**		-0.7	52

Station	Below Normal (prob)	33%ile rainfall (mm)	Normal (prob)	67%ile rainfall (mm)	Above Normal (prob)	LEPS	Hit-rate
NIUAFO'OU	31	256.1	**35**	419.7	34	-1.5	32
NIUATOPUTAPU	33	210.7	33	371.0	**34**	-1.2	22
VAVA'U	33	255.0	32	398.5	**35**	0.7	31
HA'APAI	32	238.0	**34**	356.0	**34**	-1.6	35
FUA'AMOTU	36	304.7	26	415.7	**38**	-1.2	37
NUKU'ALOFA	33	277.0	33	373.0	**34**	-0.4	32

TABLE 4: Seasonal Climate Outlooks using POAMA2 for July to September 2018

Station	Lower Tercile (prob)	33%ile rainfall (mm)	Middle Tercile (prob)	67%ile rainfall (mm)	Upper Tercile (prob)		
NIUAFO'OU	12	234	5	357	**83**		
NIUATOPUTAPU	12	185	5	368	**83**		
VAVA'U	30	244	18	402	**52**		
HA'APAI	30	217	18	337	**52**		
NUKU'ALOFA	**36**	249	31	395	33		

Summary Statements

Rainfall for May 2018:

Rainfall was below normal for Niuafo'ou and Niuatoputapu, normal for Fua'amotu and Nuku'alofa and above normal for Vava'u and Ha'apai.

Accumulated rainfall for March to May 2018, including outlook verification:

Rainfall was below normal for Niuafo'ou. Normal rainfall for Niuatoputapu and above normal for the rest of the countries. Forecast was consistent in Vava'u and Ha'apai, near consistent in Niuafo'ou, Niuatoputapu, Fua'amotu and Nuku'alofa.

Outlooks for July to September 2018:

1. **SCOPIC:**

   All stations: The outlook offers little guidance for the coming season as the chance of above normal, normal and below normal are all similar. Confident is very low.

2. **POAMA:**

   Seasonal Rainfall outlook favours above normal for all stations with below normal the most likely except Nuku'alofa which shows below normal rainfall as the most likely outcome.

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: $X \geq 35$