Pacific Islands - Online Climate Outlook Forum (OCOF) No. 144

Country: Tonga

TABLE 1: Monthly Rainfall

Station (include data period)	Jun-2019	Jul-2019	Aug-2019				
			Total (mm)	33%tile	67%tile	Median	Rank
	Total (mm)	Total (mm)	Rainfall (mm)				
Northern Division							
Niuafo'ou (1971-2019)	256.2	404.4	65.5	63.0	126.7	88.5	18/47
Niuatoputapu (1947-2019)	265.2	143.3	90.9	53.0	102.7	72.2	44/72
Central Division							
Vava'u (1947-2019)	111.5	300.6	109.7	61.7	127.0	84.0	44/73
Ha'apai (1947-2019)	91.6	254.8	57.1	61.0	114.7	85.8	23/73
Southern Division							
Fua'amotu (1979-2019)	106.3	329.2	62.8	68.5	143.5	95.0	12/40
Nuku'alofa (1944-2019)	87.9	340.6	56.5	67.0	136.3	100.0	24/75

TABLE 2: Three-month Rainfall for June to August 2019

Station	Three-month Total		33%tile	67%tile	Median	Rank	SCOPIC forecast probabilities based on NINO3.4 March-April 2019				Verification: Consistent, Near-consistent, Inconsistent?
	Rainfall (mm)						B-N	N	A-N	LEPS	
Northern Division											
Niuafo'ou (1971-2019)	726.1	Above normal	274.4	415.0	335.9	42/44	40	20	40	-2	Near-consistent
Niuatoputapu (1947-2019)	499.4	Above normal	240.7	361.7	313.0	63/72	44	25	31	-1	Inconsistent
Central Division											
Vava'u (1947-2019)	521.8	Above normal	250.3	353.3	307.5	62/73	40	27	33	-1	Inconsistent
Ha'apai (1947-2019)	403.5	Above normal	193.7	308.8	276.5	62/73	35	40	25	-1	Near-consistent
Southern Division											
Fua'amotu (1979-2019)	498.3	Above normal	270.7	399.0	349.0	34/40	33	32	35	-3	Consistent
Nuku'alofa (1944-2019)	485.0	Above normal	238.0	364.7	298.0	68/75	30	35	35	-1	Near-consistent

TABLE 3: Seasonal Climate Outlooks using SCOPIC for October to December 2019
Predictor and Period used: NINO3.4 for July to August 2019

Station	Below Median (prob)	Median Rainfall (mm)	Above Median (prob)		LEPS (%) [whole numbers]	Hit-rate (%) [whole numbers]
Northern Division						
Niuafo'ou (1971-2019)	55	715.0	45		3	50
Niuatoputapu (1947-2019)	61	640.0	39		14	67
Central Division						
Vava'u (1947-2019)	64	546.0	36		17	67
Ha'apai (1947-2019)	63	354.0	37		15	64
Southern Division						
Fua'amotu (1979-2019)	57	369.0	43		12	59
Nuku'alofa (1944-2019)	67	346.6	33		23	73

Station	Below Normal (prob)	33%ile Rainfall (mm)	Normal (prob)	67%ile Rainfall (mm)	Above Normal (prob)	LEPS (%) [whole numbers]	Hit-rate (%) [whole numbers]
Northern Division							
Niuafo'ou (1971-2019)	35	649.3	35	855.9	30	-1	27
Niuatoputapu (1947-2019)	40	535.0	36	746.0	24	6	42
Central Division							
Vava'u (1947-2019)	44	381.3	40	614.8	16	20	54
Ha'apai (1947-2019)	44	253.3	39	431.7	17	18	57
Southern Division							
Fua'amotu (1979-2019)	40	298.5	35	439.4	25	31	62
Nuku'alofa (1944-2019)	51	289.4	33	418.3	16	30	57

TABLE 4: Seasonal Climate Outlooks using POAMA2 for October to December 2019

Station	Below Normal (prob)	33%ile Rainfall (mm)	Normal (prob)	67%ile Rainfall (mm)	Above Normal (prob)
Niuafo'ou	5	517.0	5	719.0	90
Niuatoputapu	5	446.0	5	693.0	90
Vava'u	21	376.0	5	599.0	74
Ha'apai	21	235.0	5	363.0	74
Nuku'alofa	36	229.0	22	380.0	42

Summary Statements

Rainfall for August 2019:

Normal rainfall was recorded for Niuafo'ou, Niuatoputapu and Vava'u, while below normal rainfall occurred at Ha'apai, Fua'amotu and Nuku'alofa.

Accumulated rainfall for June to August 2019, including outlook verification:

Rainfall was above normal for all stations. The forecast issued in May was Consistent for Fua'amotu, Inconsistent for Niuatoputapu and Vava'u, and Near-consistent for Niuafo'ou, Ha'apai and Nuku'alofa.

Outlooks for October to December 2019:

1. **SCOPIC:**

    Niuatoputapu, Vava'u, Ha'apai, Fua'amotu, Nuku'alofa: The outlook for the season shows that below normal is the most likely outcome with normal as the next most likely. Above normal is the least likely outcome.

    Niuafo'ou: The outlook offers little guidance as the chances of above-normal, normal and below-normal are similar

2. **POAMA:** The outlook favours above normal rainfall across the country.

NB: The X LEPS % score has been categorised as follows:

Very Low: X < 0.0   Low: 0 ≤ X < 5   Moderate 5 ≤ X < 10   Good: 10 ≤ X < 15   High: 15≤ X < 25

Very High: 25 ≤X < 35 Exceptional: X ≥ 35

Table: 5 Stakeholder Engagement- Evaluations of how effective NMS engage with stakeholders

Product	Date: August 2019	Stakeholder	Total Number of Participants	Number of male	Number of female
Climate Bulletin	22/08/2019	General public	95	61	34
EAR Watch					
Monthly Climate Briefing					
Ocean Bulletin	22/08/2019	General public	95	61	34
		Total	95		