

Pacific Islands - Online Climate Outlook Forum (OCOF) No. 164

Country: Tonga

TABLE 1: Monthly Rainfall

Station (include data period)	Feb-2021	Mar-2021	Apr-2021					Rank
			Total (mm)	33%tile	67%tile	Median		
	Total (mm)	Total (mm)	Rainfall (mm)					
Northern Division								
Niuafo'ou (1971-2021)	420.2	76.6	100.4	181.0	291.0	219.0	8/50	
Niuaatoputapu (1947-2021)	418.6	186.5	113.0	170.7	304.0	229.5	12/71	
Central Division								
Vava'u (1947-2021)	336.8	179.2	127.9	178.3	269.0	219.0	18/75	
Ha'apai (1947-2021)	279.2	179.5	259.3	113.9	230.8	165.0	56/75	
Southern Division								
Fua'amotu (1979-2021)	272.9	174.4	232.0	102.0	232.6	172.0	28/42	
Nuku'alofa (1944-2021)	240.5	214	284.5	112.0	215.0	138.0	61/76	

TABLE 2: Three-month Rainfall for February to April 2021

Station	Three-month Total		33%tile	67%tile	Median	Rank	SCOPIC forecast probabilities based on NINO3.4 November-December 2020				Verification: Consistent, Near-consistent, Inconsistent?
	Rainfall (mm)						B-N	N	A-N	LEPS	
<i>Northern Division</i>											
Niuafu'ou (1971-2021)	597.2	Below normal	723.0	937.7	885.7	9/46	26	35	39	-1	Inconsistent
Niuatoputapu (1947-2021)	718.1	Normal	695.6	838.6	772.5	26/67	23	44	33	0	Consistent
<i>Central Division</i>											
Vava'u (1947-2021)	643.9	Below normal	716.8	957.2	837.0	16/74	26	37	37	1	Near-consistent
Ha'apai (1947-2021)	718.0	Normal	544.0	725.0	652.8	50/73	22	31	47	7	Near-consistent
<i>Southern Division</i>											
Fua'amotu (1979-2021)	679.3	Normal	470.5	688.0	531.0	27/41	19	31	50	8	Near-consistent
Nuku'alofa (1944-2021)	739.0	Above normal	552.0	717.9	624.5	55/75	30	25	45	1	Consistent

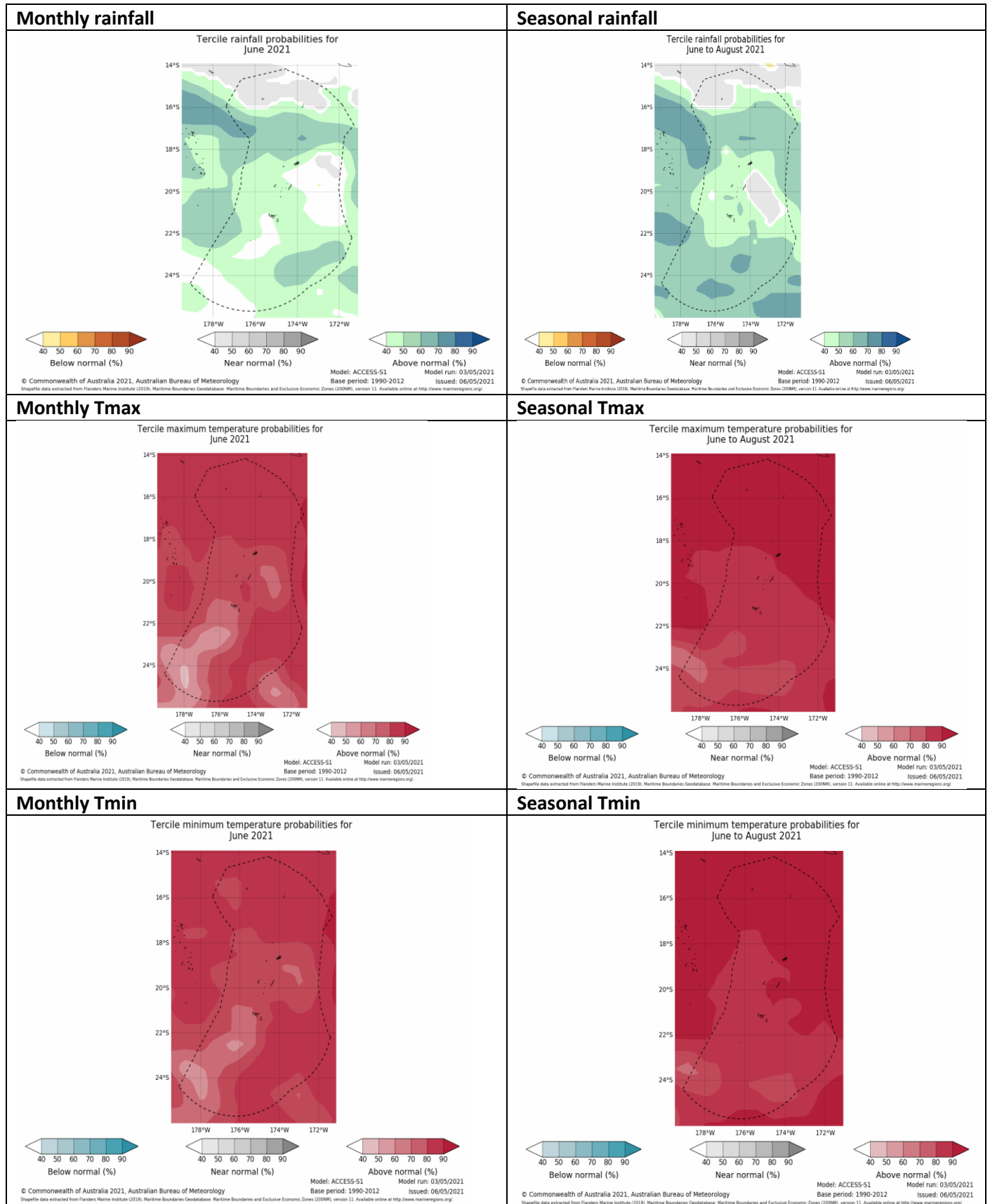
TABLE 3: Seasonal Climate Outlooks using SCOPIC for June to August 2021

Predictor and Period used: NINO3.4 for March to April 2021

Station	Below Median (prob)	Median Rainfall (mm)	Above Median (prob)		LEPS (%) [whole numbers]	Hit-rate (%) [whole numbers]
<i>Northern Division</i>						
Niuafu'ou (1971-2021)	51	361.0	49		-2	42
Niuatoputapu (1947-2021)	51	316.0	49		-2	40
<i>Central Division</i>						
Vava'u (1947-2021)	49	308.0	51		-1	48
Ha'apai (1947-2021)	44	278.0	56		0	55
<i>Southern Division</i>						
Fua'amotu (1979-2021)	54	353.0	46		-2	59
Nuku'alofa (1944-2021)	53	298.2	47		-1	58

Station	Below Normal (prob)	33%ile Rainfall (mm)	Normal (prob)	67%ile Rainfall (mm)	Above Normal (prob)	LEPS (%) [whole numbers]	Hit-rate (%) [whole numbers]
<i>Northern Division</i>							
Niuafu'ou (1971-2021)	32	275.5	43	417.0	25	-1	33
Niuatoputapu (1947-2021)	28	244.0	42	369.0	30	-1	31
<i>Central Division</i>							
Vava'u (1947-2021)	29	249.7	38	353.7	33	-1	31
Ha'apai (1947-2021)	34	198.7	30	311.4	36	-1	31
<i>Southern Division</i>							
Fua'amotu (1979-2021)	37	285.4	35	402.3	28	4	39
Nuku'alofa (1944-2021)	36	238.0	34	375.0	30	6	38

TABLE 4: Monthly and Seasonal Climate Outlooks using ACCESS-S for June to August 2021



Summary Statements

Rainfall for April 2021:

Below normal rainfall was recorded in the Northern Division and Vava'u, while above normal rainfall was recorded in Ha'apai and Nuku'alofa. Fua'amotu recorded normal rainfall.

Accumulated rainfall for February to April 2021, including outlook verification:

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

The verification of the outlook issued in January was consistent at Nuku'alofa and Niuatoputapu, near-consistent in the Central Division and Fua'amotu, and inconsistent at Niuafu'ou.

Outlooks for June to August 2021:

1. SCOPIC:

Niuafu'ou: The outlook for the season shows normal as the most likely outcome, with below normal the next most likely. Above normal is the least likely.

Niuatoputapu: The outlook for the season shows normal as the most likely outcome with above normal the next most likely. Below normal is the least likely.

Other stations: The outlook offers little guidance as the chances of above normal, normal and below normal rainfall are similar.

2. ACCESS-S:

Monthly rainfall:

Above normal rainfall is the most likely outcome for the southern, central divisions and Niuatoputapu. Near normal rainfall is the most likely outcome for Niuafu'ou.

Monthly maximum and minimum temperatures:

Above normal temperatures for June are favoured across most of the country, including all the main islands.

Seasonal rainfall:

For June to August, above normal rainfall is the most likely outcome for the southern, central Divisions, and Niuatoputapu. Near-normal rainfall is the most likely outcome for Niuafu'ou.

Seasonal maximum and minimum temperatures:

Above normal temperatures for June to August are favoured across most of the country, including all the main islands.

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: $X \geq 35$

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

Product	Date: April 2021	Stakeholder	Total Number of Participants	Number of male	Number of female
Climate Bulletin	17/04/21	Government Ministries, NGOs, Media, General public	104	59	45
EAR Watch					
Monthly Climate Briefing					
Ocean Bulletin	17/04/21	Government Ministries, NGOs, Media, General public	104	59	45
Total			104	118	90