

# Pacific Islands - Online Climate Outlook Forum (OCOF) No. 165

Country: Tonga

TABLE 1: Monthly Rainfall

Station (include data period)	Mar-2021	Apr-2021	May-2021				
			Total (mm)	33%tile	67%tile	Median	Rank
	Total (mm)	Total (mm)	Rainfall (mm)				
Northern Division							
Niuafo'ou (1971-2021)	76.6	100.4	466.2	136.0	208.0	160.0	50/50
Niuatoputapu (1947-2021)	186.5	113.0	212.3	126.0	177.0	152.0	52/71
Vava'u (1947-2021)	179.2	127.9	221.4	99.1	192.3	140.0	60/75
Ha'apai (1947-2021)	179.5	259.3	235.2	68.0	134.0	92.3	70/74
Fua'amotu (1979-2021)	174.4	232.0	213.5	68.2	165.3	99.0	35/42
Nuku'alofa (1944-2021)	214.0	284.5	132.1	68.2	138.7	94.0	50/77

**TABLE 2: Three-month Rainfall for March to May 2021**

station	Three-month Total		33%tile	67%tile	Median	Rank	SCOPIC forecast probabilities based on NINO3.4 Dec 2020-Jan 2021				Verification: Consistent, Near- consistent, Inconsistent?
	Rainfall (mm)						B-N	N	A-N	LEPS	
Northern Division											
Niuafu'ou (1971-2021)	643.2	Normal	639.8	801.1	758.0	18/49	34	35	31	-2	Consistent
Niuaotoputapu (1947-2021)	511.8	Below normal	583.3	743.2	630.0	14/67	36	32	32	-1	Consistent
Central Division											
Vava'u (1947-2021)	528.5	Below normal	594.3	800.0	707.1	18/75	30	31	39	0	Inconsistent
Ha'apai (1947-2021)	674.0	Above normal	443.0	639.0	557.5	53/74	31	27	42	1	Consistent
Southern Division											
Fua'amotu (1979-2021)	619.9	Above normal	423.3	588.0	508.0	30/42	19	49	32	1	Near-consistent
Nuku'alofa (1944-2021)	630.6	Above normal	453.0	597.0	514.5	61/76	24	37	39	2	Consistent

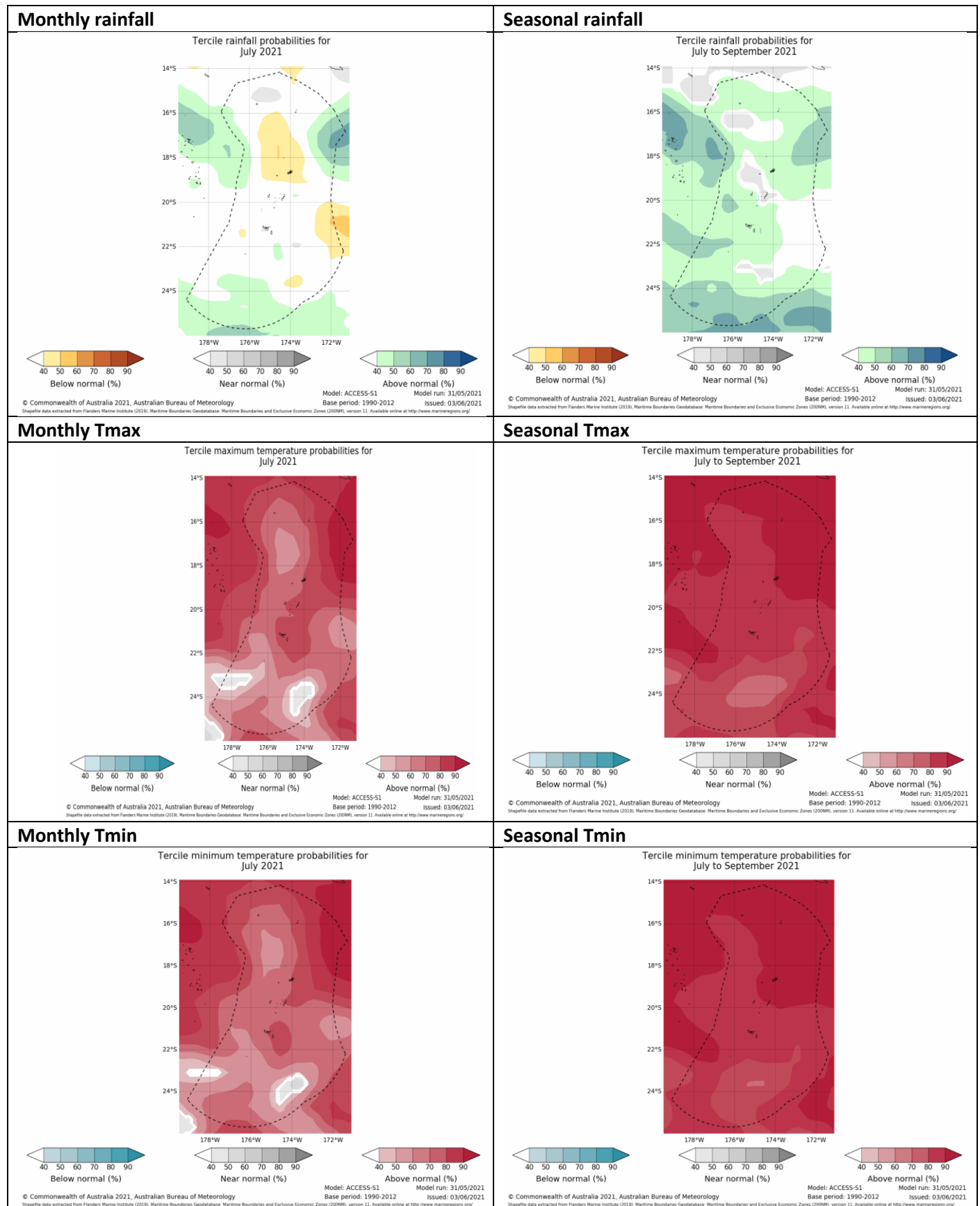
**TABLE 3: Seasonal Climate Outlooks using SCOPIC for July to September 2021**

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

Station	Below Median (prob)	Median Rainfall (mm)	Above Median (prob)		LEPS (%) [whole numbers]	Hit-rate (%) [whole numbers]
<i>Northern Division</i>						
Niuafo'ou (1971-2021)	47	340.0	53		-1	51
Niutoputapu (1947-2021)	50	287.6	50		-2	18
<i>Central Division</i>						
Vava'u (1947-2021)	47	345.0	53		0	55
Ha'apai (1947-2021)	40	294.2	60		7	55
<i>Southern Division</i>						
Fua'amotu (1979-2021)	42	371.0	58		-1	51
Nuku'alofa (1944-2021)	50	328.0	50		-1	42

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>							
Niuafo'ou (1971-2021)	27	261.9	41	430.2	32	-1	34
Niutoputapu (1947-2021)	32	214.3	32	371.0	36	-1	35
<i>Central Division</i>							
Vava'u (1947-2021)	34	257.7	28	398.5	38	0	39
Ha'apai (1947-2021)	30	238.0	33	356.0	37	0	34
<i>Southern Division</i>							
Fua'amotu (1979-2021)	38	304.7	26	421.0	36	-2	29
Nuku'alofa (1944-2021)	32	278.3	31	388.7	37	0	37

**TABLE 4: Monthly and Seasonal Climate Outlooks using ACCESS-S for July to September 2021**



## **Summary Statements**

### **Rainfall for May 2021:**

Above normal rainfall occurred over most of the country, with the exception of Nuku'alofa where rainfall was normal. Niuafo'ou recorded its highest May rainfall in 50 years of its record, while Ha'apai had its fifth highest.

### **Accumulated rainfall for March to May 2021, including outlook verification:**

Rainfall was above normal in Ha'apai and the Southern Division, (Fua'amotu & Nuku'alofa), while normal rainfall occurred in Niuafo'ou. Below normal rainfall occurred at Niuatoputapu and Vava'u.

The outlook issued in February was verified as inconsistent at Vava'u, near-consistent in Fua'amotu, and consistent for the rest of the country.

### **Outlooks for July to September 2021:**

#### **1. SCOPIC:**

Niuafo'ou: 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.

Fua'amotu: The outlook for season is mixed, with similar chances for below normal and above normal totals; normal is the least likely outcome.

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:**

The outlook for July shows below normal rainfall is the most likely outcome for Vava'u. The outlook offers little guidance for the rest of the country.

##### **Monthly maximum and minimum temperatures:**

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

##### **Seasonal rainfall:**

The outlook for July to September shows above normal is the most likely outcome for Nuku'alofa and Fua'amotu in the South, and parts of the small islands of Ha'apai, Vava'u, Niuafo'ou and Niuatoputapu. Near-normal rainfall is the most likely outcome for the rest Ha'apai.

##### **Seasonal maximum and minimum temperatures:**

Above normal temperatures are favoured across the country for July to September 2021.

**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**

<b>Product</b>	<b>Date: May 2021</b>	<b>Stakeholder</b>	<b>Total Number of Participants</b>	<b>Number of male</b>	<b>Number of female</b>
Climate Bulletin		General public	132	66	34
EAR Watch					
Monthly Climate Briefing					
Ocean Bulletin		General public	132	66	34
<b>Total</b>			<b>132</b>	<b>132</b>	<b>68</b>