

Pacific Islands - Online Climate Outlook Forum (OCOF) No. 154

Country: Tonga

TABLE 1: Monthly Rainfall

Station (include data period)	Apr-2020	May-2020	Jun-2020				
			Total (mm)	33%tile	67%tile	Median	Rank
	Total (mm)	Total (mm)	Rainfall (mm)				
Northern Division							
Niuafo'ou (1971-2020)	208.5	262.0	222.0	71.2	152.0	107.5	40/47
Niuaatoputapu (1947-2020)	385.1	300.7	183.7	66.4	168.0	89.5	53/74
Central Division							
Vava'u (1947-2020)	518.6	242.4	72.3	56.0	132.0	90.0	30/74
Ha'apai (1947-2020)	224.5	89.6	118.3	42.0	106.0	73.5	57/74
Southern Division							
Fua'amotu (1979-2020)	221.5	68.0	113.7	69.0	146.0	102.2	24/41
Nuku'alofa (1944-2020)	233.0	46.0	52.0	58.0	115.0	84.0	25/76

TABLE 2: Three-month Rainfall for April to June 2020

Station	Three-month Total		33%tile	67%tile	Median	Rank	SCOPIC forecast probabilities based on NINO3.4 January-February 2020				Verification: Consistent, Near- consistent, Inconsistent?
	Rainfall (mm)						B-N	N	A-N	LEPS	
Northern Division											
Niuafu'ou (1971-2020)	692.5	Above normal	493.7	641.1	578.0	35/46	33	35	32	-3	Near-consistent
Niutoputapu (1947-2020)	869.5	Above normal	433.0	609.0	535.0	63/67	32	32	36	-1	Consistent
Central Division											
Vava'u (1947-2020)	833.3	Above normal	411.0	583.2	491.0	68/74	39	34	27	4	Inconsistent
Ha'apai (1947-2020)	432.4	Normal	293.9	433.0	354.0	50/73	38	34	28	2	Near-consistent
Southern Division											
Fua'amotu (1979-2020)	403.2	Normal	340.0	513.6	455.2	19/41	42	23	35	3	Near-consistent
Nuku'alofa (1944-2020)	331.0	Normal	288.2	439.0	362.0	37/75	40	26	34	6	Near-consistent

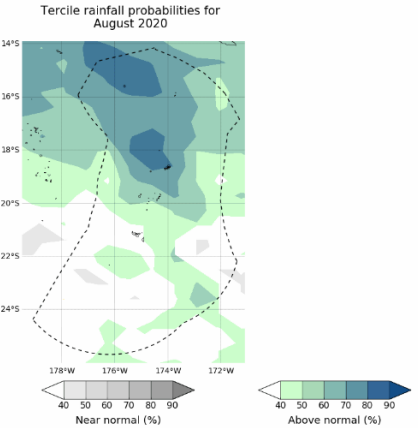
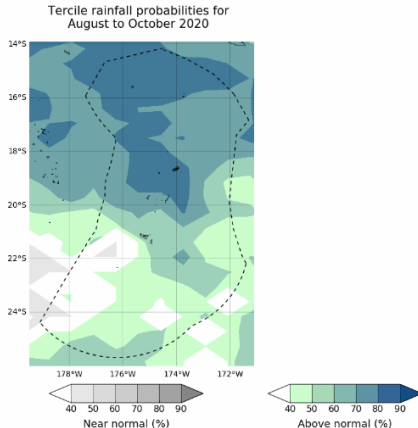
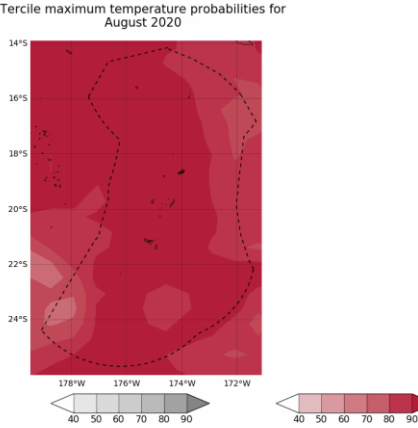
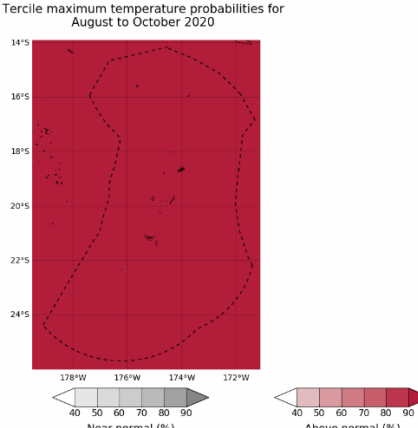
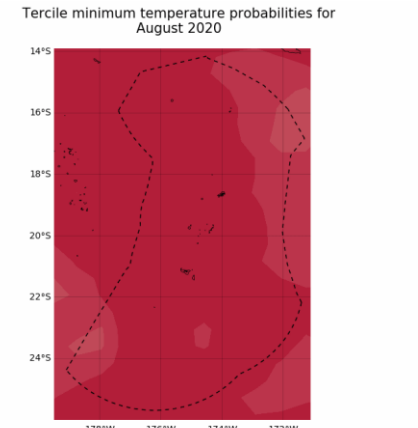
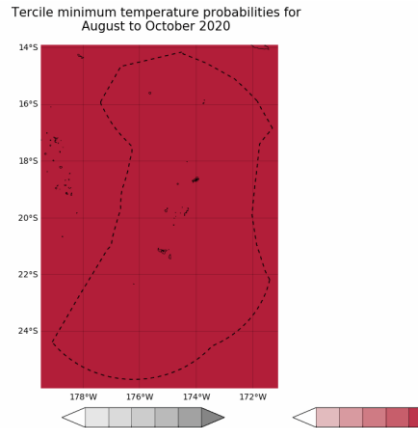
TABLE 3: Seasonal Climate Outlooks using SCOPIC for August to October 2020**Predictor and Period used: NINO3.4 for May to June 2020**

Station	Below Median (prob)	Median Rainfall (mm)	Above Median (prob)		LEPS (%) [whole numbers]	Hit-rate (%) [whole numbers]
<i>Northern Division</i>						
Niuafo'ou (1971-2020)	49	407.9	51		-1	51
Niuaatoputapu (1947-2020)	47	340.0	53		7	67
<i>Central Division</i>						
Vava'u (1947-2020)	50	400.0	50		-1	56
Ha'apai (1947-2020)	47	284.5	53		9	56
<i>Southern Division</i>						
Fua'amotu (1979-2020)	50	353.0	50		-3	43
Nuku'alofa (1944-2020)	48	342.5	52		4	59

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 (1971-2020)	33	323.0	34	475.7	33	-2	34
Niuaatoputapu (1947-2020)	32	277.0	34	513.4	34	2	48
<i>Central Division</i>							
Vava'u (1947-2020)	33	330.0	33	473.8	34	-1	33
Ha'apai (1947-2020)	33	236.0	33	355.0	34	4	40
<i>Southern Division</i>							
Fua'amotu (1979-2020)	34	280.0	33	402.7	33	-3	33
Nuku'alofa (1944-2020)	33	267.4	33	399.3	34	1	33

Monthly and Seasonal Climate Outlooks using ACCESS-S for August to October 2020

The maps are provided in the PowerPoint document labelled ACCESS-S outlooks_2020-06

Monthly rainfall	Seasonal rainfall
<p><i>Insert map</i></p>  <p>Model: ACCESS-S1 Base period: 1990-2012 Model run: 29/06/2020 Issued: 02/07/2020</p>	<p><i>Insert map</i></p>  <p>Model: ACCESS-S1 Base period: 1990-2012 Model run: 29/06/2020 Issued: 02/07/2020</p>
Monthly Tmax	Seasonal Tmax
<p><i>Insert map</i></p>  <p>Model: ACCESS-S1 Base period: 1990-2012 Model run: 29/06/2020 Issued: 02/07/2020</p>	<p><i>Insert map</i></p>  <p>Model: ACCESS-S1 Base period: 1990-2012 Model run: 29/06/2020 Issued: 02/07/2020</p>
Monthly Tmin	Seasonal Tmin
<p><i>Insert map</i></p>  <p>Model: ACCESS-S1 Base period: 1990-2012 Model run: 29/06/2020 Issued: 02/07/2020</p>	<p><i>Insert map</i></p>  <p>Model: ACCESS-S1 Base period: 1990-2012 Model run: 29/06/2020 Issued: 02/07/2020</p>

Summary Statements

Rainfall for June 2020:

Above normal rainfall occurred in the Northern Division and at Ha'apai, while normal rainfall fell at Vava'u and Fua'amotu, and below normal was recorded at Nuku'alofa.

Accumulated rainfall for April to June 2020, including outlook verification:

Rainfall was above normal for Northern Division and Vava'u, and normal for the rest of the country.

Outlooks for August to October 2020:

1. SCOPIC:

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

2. ACCESS-S:

Monthly rainfall:

Above average rainfall is favoured in August for the northern part of the group, especially Niuatoputapu, Niuafo'ou and Vava'u, while above average rainfall is the most likely outcome for Ha'apai. There is little guidance for the Southern Division.

Monthly maximum and minimum temperature:

A warmer than average August favoured across the country.

Seasonal rainfall:

Above average rainfall is favoured for August to October across the country.

Seasonal maximum and minimum temperature:

A warmer than average August to October is favoured across 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: $X \geq 35$

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

Product	Date: June 2020	Stakeholder	Total Number of Participants	Number of male	Number of female
Climate Bulletin					
EAR Watch					
Monthly Climate Briefing					
Ocean Bulletin					
Total					