

Pacific Islands - Online Climate Outlook Forum (OCOF) No. 161

Country: Cook Islands

TABLE 1: Monthly Rainfall

Station (include data period)	Nov-2020	Dec-2020	Jan-2021				
			Total (mm)	33%tile	67%tile	Median	Rank
	Total (mm)	Total (mm)	Rainfall (mm)				
Penrhyn (1937-2021)	38.6	13.0	83.4	122.3	301.4	199.8	18/83
Rarotonga (1899-2021)	78.7	76.8	58.2	162.0	269.7	220.0	5/123

TABLE 2: Three-month Rainfall for November 2020 to January 2021

Station	Three-month Total		33%tile	67%tile	Median	Rank	SCOPIC forecast probabilities based on NINO3.4 August-September 2020				Verification: Consistent, Near- consistent, Inconsistent?
	Rainfall (mm)						B-N	N	A-N	LEPS	
Penrhyn (1937-2021)	135.0	Below normal	409.0	763.6	592.2	1/83	48	38	14	24	Consistent
Rarotonga (1899-2021)	213.7	Below normal	502.0	686.6	581.5	3/122	23	34	43	13	Inconsistent

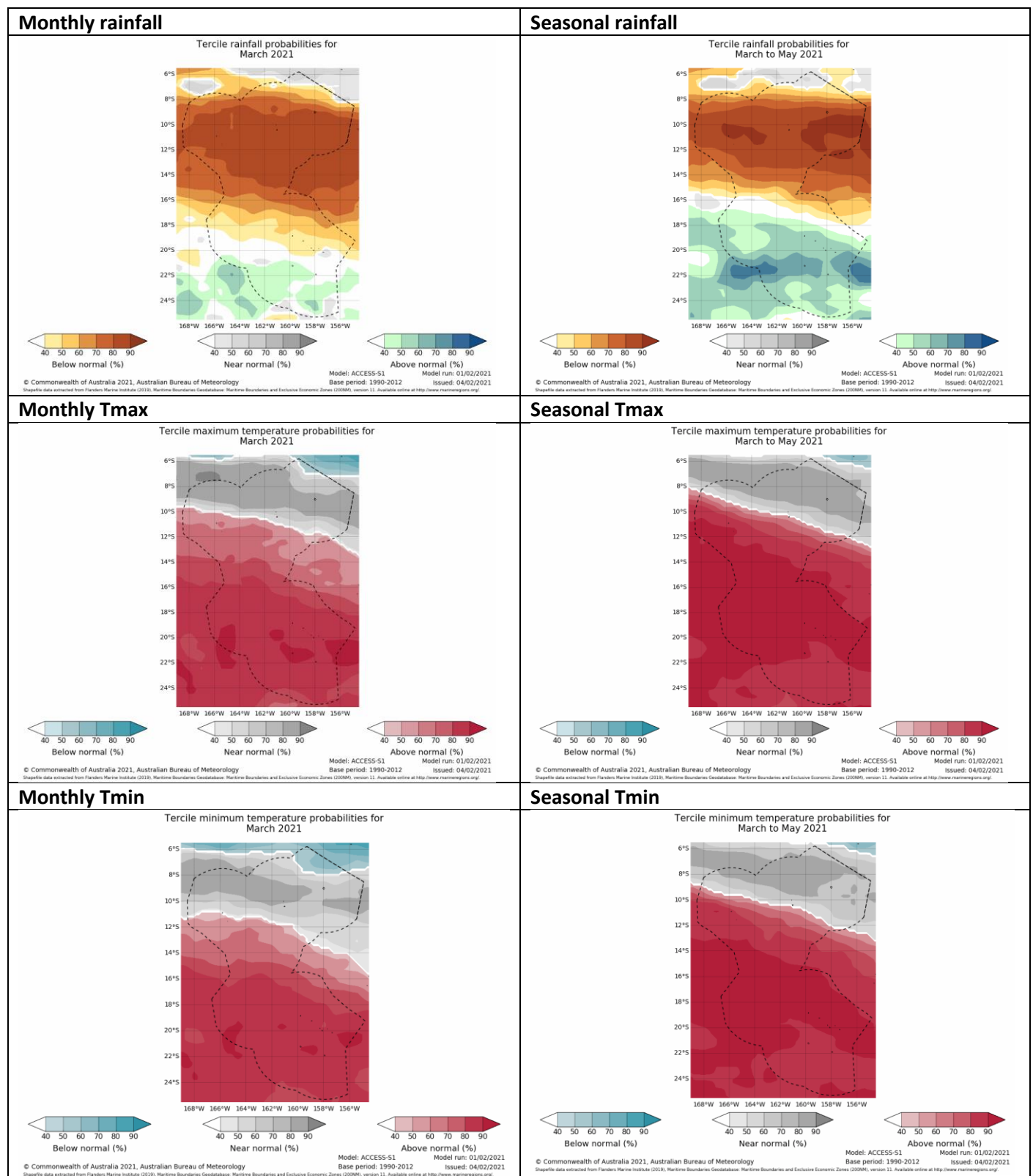
TABLE 3: Seasonal Climate Outlooks using SCOPIC for March to May 2021

Predictor and Period used: NINO3.4 for December 2020 to January 2021

Station	Below Median (prob)	Median Rainfall (mm)	Above Median (prob)		LEPS (%) [whole numbers]	Hit-rate (%) [whole numbers]
Penrhyn (1937-2021)	62	488.6	38		6	59
Rarotonga (1899-2021)	32	575.0	68		11	63

Station	Below Normal (prob)	33%ile Rainfall (mm)	Normal (prob)	67%ile Rainfall (mm)	Above Normal (prob)	LEPS (%) [whole numbers]	Hit-rate (%) [whole numbers]
Penrhyn (1937-2021)	42	377.7	36	675.3	22	5	38
Rarotonga (1899-2021)	22	498.5	35	626.0	43	6	39

TABLE 4: Monthly and Seasonal Climate Outlooks using ACCESS-S for March to May 2021



Summary Statements

Rainfall for January 2021:

Rainfall for January was below normal for both Penrhyn and Rarotonga stations. This was the fifth driest January for Rarotonga in 123 years of record.

Accumulated rainfall for November 2020 to January 2021, including outlook verification:

Accumulated rainfall for this period was significantly below normal for both Rarotonga and Penrhyn. It was the driest Nov – Jan period on record at Penrhyn (83 years of record), and the third driest for Rarotonga.

The verification of the outlook issued in October was consistent at Penrhyn and inconsistent for Rarotonga.

Outlooks for March to May 2021:

1. SCOPIC:

The rainfall outlook for Penrhyn shows below normal rainfall as most likely outcome, with normal the next most likely. Above normal is the least likely. The reverse is true for Rarotonga where the outlook shows above normal rainfall as the most likely outcome, with normal the next most likely. Below normal is the least likely.

Forecast confidence is low for Penrhyn and moderate for Rarotonga.

2. ACCESS-S:

Monthly rainfall:

The March outlook for the Cook Islands favours below normal across the northern two-thirds of the country, including Penrhyn. Over the remaining southern part of the country, the outlook shows a mix of areas where above normal rainfall is the most likely, or there's little guidance. Rarotonga is situated in an area where above normal rainfall is the most likely outcome.

Seasonal rainfall:

For the March - May 2021 period, the outlook also favours below normal rainfall over the northern Cook Islands, including Penrhyn, while above normal rainfall is favoured across the southern half of the country, including Rarotonga.

Monthly maximum and minimum temperatures:

Over the central and southern Cook Islands, including Rarotonga, above normal maximum and minimum temperatures are favoured during March, but over the far northern Cook Islands, including at Penrhyn, near-normal temperatures are favoured.

Seasonal maximum and minimum temperatures:

The seasonal temperature outlook pattern is very similar to the monthly pattern: near-normal temperatures are favoured over the far northern part of the country, including Penrhyn, while Rarotonga sits in a large area where above normal maximum and minimum temperatures are favoured for the coming three months.

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: January 2021	Stakeholder	Total Number of Participants	Number of male	Number of female
Climate Bulletin		Ministry of Transport	30	20	10
EAR Watch		Cook Islands Govt.	Unknown	?	?
Monthly Climate Briefing					
Ocean Bulletin					
Total			30	20	10