

Pacific Islands - Online Climate Outlook Forum (OCOF) No. 159

Country: Cook Islands

TABLE 1: Monthly Rainfall

Station (include data period)	Sep-2020	Oct-2020	Nov-2020				Rank
			Total (mm)	33%tile	67%tile	Median	
	Total (mm)	Total (mm)	Rainfall (mm)				
Penrhyn (1937-2020)	56.6	75.2	38.6	94.0	188.0	146.0	6/83
Rarotonga (1899-2020)	90.1	101.7	78.7	91.0	157.0	123.0	35/122

TABLE 2: Three-month Rainfall for September to November 2020

Station	Three-month Total		33%tile	67%tile	Median	Rank	SCOPIC forecast probabilities based on NINO3.4 June-July 2020				Verification: Consistent, Near-consistent, Inconsistent?
	Rainfall (mm)						B-N	N	A-N	LEPS	
Penrhyn (1937-2020)	170.4	Below normal	312.1	486.7	367.5	6/81	35	40	25	22	Near-consistent
Rarotonga (1899-2020)	270.5	Below normal	292.0	401.0	355.0	35/122	31	35	34	3	Near-consistent

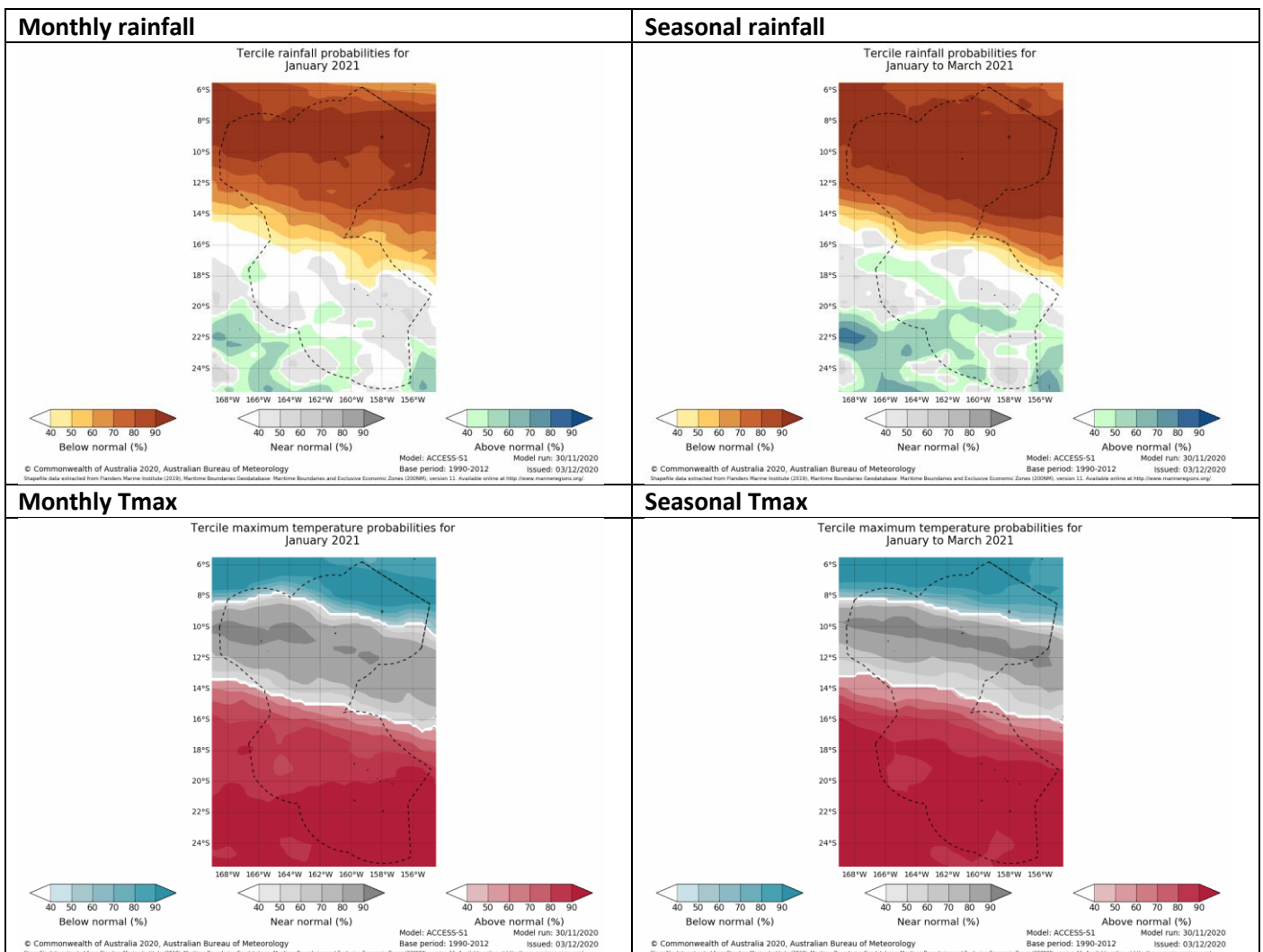
TABLE 3: Seasonal Climate Outlooks using SCOPIC for January to March 2021

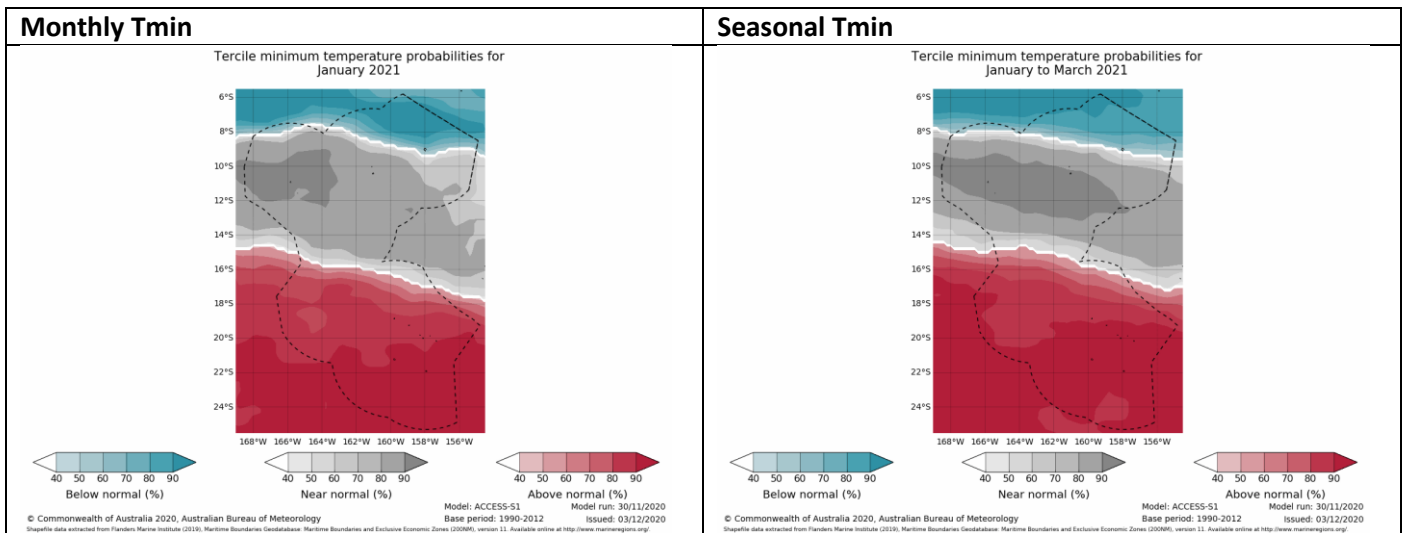
Predictor and Period used: NINO3.4 for October to November 2020

Station	Below Median (prob)	Median Rainfall (mm)	Above Median (prob)		LEPS (%) [whole numbers]	Hit-rate (%) [whole numbers]
Penrhyn (1937-2020)	78	654.0	22		22	66
Rarotonga (1899-2020)	40	649.0	60		2	53

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 (1937-2020)	71	497.5	22	830.8	7	31	56
Rarotonga (1899-2020)	19	536.3	39	741.4	42	5	41

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





Summary Statements

Rainfall for November 2020:

Rainfall for November 2020 was below normal for both Penrhyn and Rarotonga stations. Penrhyn recorded its sixth driest November on record.

Accumulated rainfall for September to November 2020, including outlook verification:

Accumulated rainfall for the period of September to November 2020 was below normal for both Penrhyn and Rarotonga stations. Penrhyn recorded its sixth driest September to November period on record.

Verification of the outlook issued in August was near-consistent for both Penrhyn and Rarotonga stations.

Outlooks for January to March 2021:

1. SCOPIC:

The rainfall outlook for Penrhyn favours below normal rainfall. Rarotonga's outlook shows near-equal chances of above normal and normal rainfall; below normal is the least likely.

Forecast confidence is very high for Penrhyn and moderate skill for Rarotonga.

2. ACCESS-S:

Monthly rainfall:

The **January** outlook for the Cook Islands favours below normal across the northern half of the country, including Penrhyn. Over the southern half of the country, the outlook shows a mix of regions where normal rainfall or above normal rainfall are the most likely, together with areas where there is no clear guidance. Rarotonga is situated in an area where above normal rainfall is the most likely outcome.

Seasonal rainfall:

For the **January - March** 2021 period, the outlook pattern is very similar to that for January: it favours below normal rainfall over the northern Cook Islands, including Penrhyn, and scattered areas of near-normal, above normal rainfall, and little guidance over the central and southern Cook Islands. At Rarotonga, above normal rainfall is the most likely outcome.

Monthly maximum and minimum temperatures:

Over the southern Cook Islands, including Rarotonga, above normal maximum and minimum temperatures are favoured during **January**, but over the far northern Cook Islands, including at Penrhyn, below normal temperatures are favoured. Near-normal temperatures are favoured in a broad region of the central to northern Cook Islands.

Seasonal maximum and minimum temperatures:

The seasonal temperature outlook pattern is very similar to the monthly pattern: below-normal temperatures is the most likely outcome for Penrhyn, while Rarotonga sits in a large area where above normal maximum and minimum temperatures are favoured for the coming three months. Near-normal temperatures are favoured in a broad region of the central to northern Cook 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: November 2020	Stakeholder	Total Number of Participants	Number of male	Number of female
Climate Bulletin		Ministry of Transport	32	20	12
EAR Watch		Cook Island Gouvernement	Unknown	?	?
Monthly Climate Briefing					
Ocean Bulletin					
Total			32	20	12