

Pacific Islands - Online Climate Outlook Forum (OCOF) No. 158

Country: Cook Islands

TABLE 1: Monthly Rainfall

Station (include data period)	Aug-2020	Sep-2020	Oct-2020				
			Total (mm)	33%tile	67%tile	Median	Rank
	Total (mm)	Total (mm)	Rainfall (mm)				
Penrhyn (1937-2020)	92.0	56.6	75.2	91.3	174.3	125.0	18/82
Rarotonga (1899-2020)	181.2	90.1	101.7	62.0	123.0	83.9	66/122

TABLE 2: Three-month Rainfall for August to October 2020

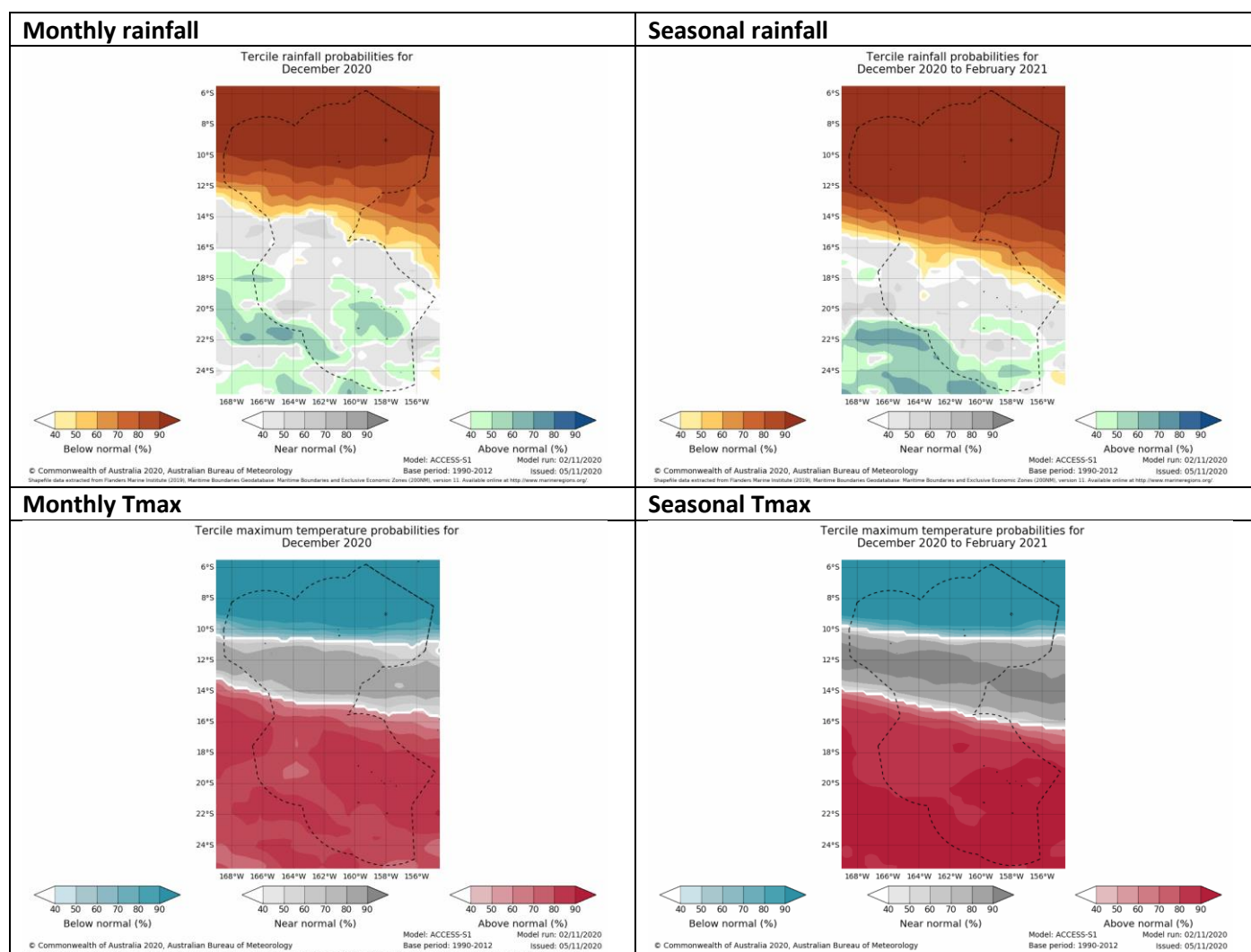
Station	Three-month Total		33%tile	67%tile	Median	Rank	SCOPIC forecast probabilities based on NINO3.4 May-June 2020				Verification: Consistent, Near- consistent, Inconsistent?
	Rainfall (mm)						B-N	N	A-N	LEPS	
Penrhyn (1937-2020)	223.8	Below normal	292.3	427.4	338.0	15/81	36	35	29	6	Consistent
Rarotonga (1899-2020)	373.0	Normal	250.5	374.0	313.0	76/122	30	35	35	3	Near-consistent

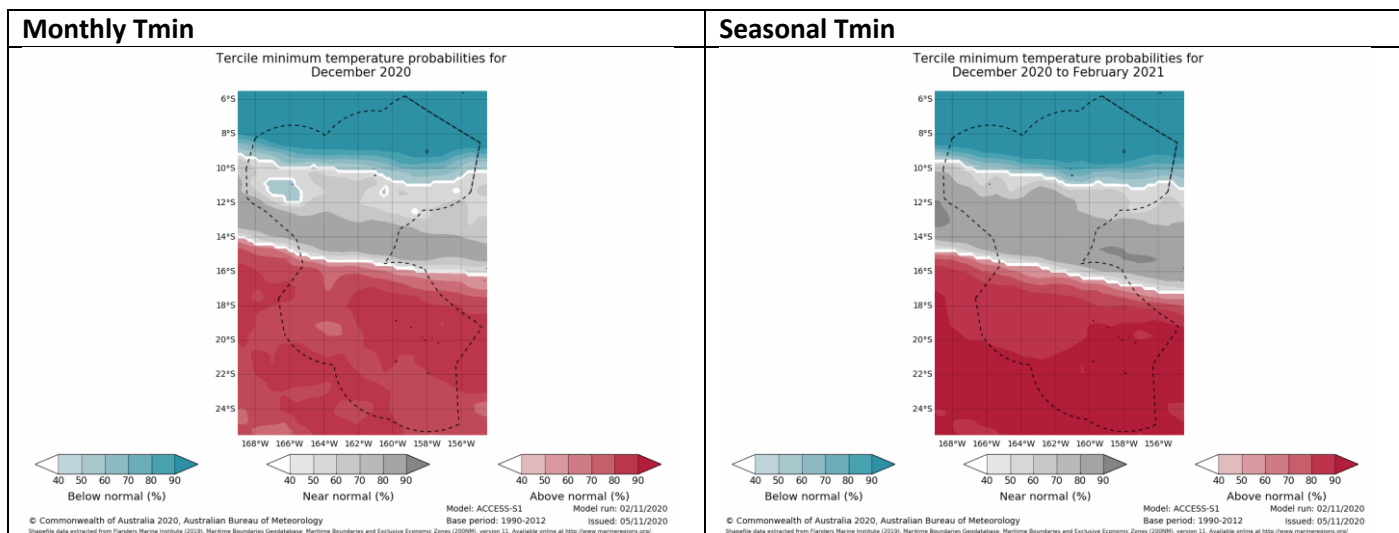
TABLE 3: Seasonal Climate Outlooks using SCOPIC for December 2020 to February 2021
Predictor and Period used: NINO3.4 for September to October 2020

Station	Below Median (prob)	Median Rainfall (mm)	Above Median (prob)		LEPS (%) [whole numbers]	Hit-rate (%) [whole numbers]
Penrhyn (1937-2020)	78	647.5	22		26	67
Rarotonga (1899-2020)	27	653.0	73		19	67

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)	65	528.0	26	879.0	9	31	56
Rarotonga (1899-2020)	20	553.0	32	744.0	48	10	43

TABLE 4: Monthly and Seasonal Climate Outlooks using ACCESS-S for December 2020 to February 2021





Summary Statements

Rainfall for October 2020:

Rainfall for October 2020 was below normal for Penrhyn and normal for Rarotonga.

Accumulated rainfall for August to October 2020, including outlook verification:

Accumulated rainfall for the period of August to October 2020 was below normal for Penrhyn and normal for Rarotonga.

The outlook issued in July was verified as consistent for Penrhyn and near-consistent for Rarotonga.

Outlooks for December 2020 to February 2021:

1. SCOPIIC:

The rainfall outlook for Penrhyn favours below normal rainfall. Rarotonga's outlook shows above normal rainfall as the most likely outcome, with normal rainfall as the next most likely. Below normal is the least likely.

Forecast confidence is very high for Penrhyn and good for Rarotonga.

2. ACCESS-S:

Monthly rainfall:

The December outlook for Penrhyn favours below normal rainfall (90% chance), and for Rarotonga it favours above normal rainfall with a 50-60% chance. For large areas across the southern half of the Cook Is EEZ, the outlook indicates near-normal rainfall as the most likely outcome.

Seasonal rainfall:

For the December 2020 – February 2021 period, the outlook favours below normal rainfall over the northern Cook Islands, including Penrhyn, and near-normal rainfall over much of the central and southern Cook Islands region. There are also patches in the south, including Rarotonga, showing above normal rainfall (40-50% chance) as the most likely outcome.

Monthly maximum and minimum temperatures:

Over the southern half of the Cook Islands, including Rarotonga, above normal maximum and minimum temperatures are favoured during December, but over the far north of the region, below normal temperatures are favoured, including at Penrhyn. In between these areas is a zone where near-normal temperatures are favoured.

Seasonal maximum and minimum temperatures:

The seasonal temperature outlook pattern is very similar to the monthly pattern: below-normal temperatures are favoured for Penrhyn, while Rarotonga sits in a large area where above normal maximum and minimum temperatures are favoured for the coming three months. And a zone favouring near-normal sits between the two.

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: October 2020	Stakeholder	Total Number of Participants	Number of male	Number of female
Climate Bulletin		Ministry of Transport	32	20	12
EAR Watch		Cook Islands Government	Unknown	?	?
Monthly Climate Briefing					
Ocean Bulletin					
Total			32	20	12