Pacific Islands - Online Climate Outlook Forum (OCOF) No. 90

<u>**Country Name**</u>: **Cook Islands**

TABLE 1: Monthly Rainfall

Station (include data period)			February 2015				
	December 2014 Total	January 2015 Total	Total	33%tile Rainfall (mm)	67%tile Rainfall (mm)	Median Rainfall (mm)	Ranking
Penrhyn (1937-Feb 2015)	247.8	426.6	206.4	100.3	289.7	187.8	41/77
Rarotonga (1899-Feb 2015)	235.9	353.3	42.9	161.7	241.3	209.0	5/87

TABLE 2: Three-monthly Rainfall
December 2014 to February 2015
[Please note that the data used in this verification should be sourced from table 3 of OCOF #86]

Station	Three-month Total	33%tile Rainfall (mm)	67%tile Rainfall (mm)	Median Rainfall (mm)	Ranking	Forecast probs.* (include LEPS)	Verification[*] (Consistent, Near-consistent Inconsistent?
Penrhyn	880.8	408.0	837.2	633.0	54/77	5/44/51 (40.1%)	Consistent
Rarotonga	632.1	559.0	757.0	663.0	38/86	41/36/23 (7.6%)	Near-consistent

<u>Period</u>:*below normal/normal/above normal

<u>Predictors and Period used for December 2014 to February 2015 Outlooks (refer to OCOF #86)</u>: **NINO 3.4 Sept-Oct (2 months)**

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[*] Forecast is <u>consistent</u> when observed and predicted (tercile with the highest probability) categories coincide (are in the same tercile).
Forecast is <u>near-consistent</u> when observed and predicted (tercile with the highest probability) differ by only one category (i.e. terciles 1 and 2 or terciles 2 and 3).
Forecast is <u>inconsistent</u> when observed and predicted (tercile with the highest probability) differ by two categories (i.e. terciles 1 and 3).

TABLE 3: Seasonal Climate Outlooks using SCOPIC for April to June 2015

Predictors and Period used: Nino 3.4 Jan-Feb (2-months)

Station	Below Median (prob)	Median Rainfall (mm)	Above Median (prob)		LEPS	Hit-rate
Penrhyn	34%	383.0	66%		14.8%	69.8%
Aitutaki	57%	393.3	43%		2.7%	59.4%
Rarotonga	59%	423.5	41%		5.0%	53.8%

Station	Below Normal (prob)	33%ile rainfall (mm)	Normal (prob)	66%ile rainfall (mm)	Above Normal (prob)	LEPS	Hit-rate
Penrhyn	19%	316.5	19%	523.5	**47%**	15.2%	50.8%
Aitutaki	**41%**	308.0	30%	503.7	29%	3.4%	40.6%
Rarotonga	**39%**	375.0	**34%**	484.3	**28%**	1.5%	36.9%

TABLE 4: Seasonal Climate Outlooks using POAMA2 for April to June 2015

Station	Lower Tercile (prob)	33%ile rainfall (mm)	Middle Tercile (prob)	66%ile rainfall (mm)	Upper Tercile (prob)		
Penrhyn	9%	370	**51%**	576	39%		
Aitutaki	**33%**	308	**34%**	504	**33%**		
Rarotonga	**43%**	403	24%	475	33%		

Summary Statements
Rainfall for February 2015:
Penrhyn experienced normal rainfall for the month of February with 206.4mm, and Rarotonga below normal rainfall for the same period with the amount of 42.9mm recorded.

Rarotonga is currently experiencing a drought at the 12-month percentile (for large plants/trees, rivers, deep wells and reservoirs) that is ranked the 4th most severe amongst all those recorded. The drought has been current for 27 months since Dec 2012. The first warning that this drought could occur was 41 months ago in Oct 2011. At least 272mm of rainfall is required in March 2015 to end this drought.

Accumulated rainfall for December 2014 to February 2015, including outlook verification:
Penrhyn rainfall for the period Dec-Feb was above normal and Rarotonga recorded normal rainfall for the period. Outlook verification was consistent forecast for Penrhyn (exceptional), near consistent forecast for Rarotonga (moderate skill)

Outlooks for April to June 2015:
1. **SCOPIC:** Penrhyn seasonal rainfall outlook for Apr-Jun 2015 shows that the most likely outcome is above normal. Aitutaki outlook shows that the most likely outcome is below normal and for Rarotonga shows that the most likely outcome is climatology forecast. Confidence in the outlooks during this period is high for Penrhyn, low for Aitutaki and Rarotonga.

2. **POAMA:** the most likely rainfall outcome for Penrhyn is normal, climatology for Aitutaki and below normal for Rarotonga.

B: The X LEPS % score has been categorised as follows:

Very Low: X < 0.0   Low: 0 ≤ X < 5   Moderate 5 ≤ X < 10   Good: 10 ≤ X < 15   High: 15≤ X < 25

Very High: 25 ≤X < 35   Exceptional: X ≥ 35