

## Climate and Oceans Monitoring and Prediction (COMP)

### Pacific Islands - Online Climate Outlook Forum No. 71 Summary Report

**Date:** Wednesday 12 August 2013

**Time:** Australian Eastern Standard Time 11:00 (01:00 UTC)

**Main purpose for the OCOF:**

- To provide a regular forum for the ten participating PIC NMSs to discuss the current ENSO status and their seasonal climate outlooks with the COMP project team.

In addition it will serve as the online training forum on the latest SCOPIC<sup>\*</sup> developments and will give the project team and the NMSs an opportunity to discuss other project related matters/concerns.

**Agenda:**

1. Brief introduction of PIC participants and the Bureau team.
2. Brief report on current ENSO status.
3. Each NMS report on their past one and three-month's rainfall in relation to the current ENSO situation (include ranking and verification). Wherever appropriate NMS to report on their drought status.
4. Each NMS to report on their three-month outlooks (tercile and/or median).
5. Round-table discussion: addressing general concerns/queries on outlooks and SCOPIC.
6. Skill assessment of SCOPIC and POAMA.
7. Interactions with stakeholders (new or existing)
8. Next meeting (19 September) and Chair (Fiji– Alphabetical Rotation Trial).

**Participants:**

The Forum was attended by 14 climate officers from 7 PIC NMSs.

**Cook Islands:** Turi Tutai

**Fiji:** Arieta Baleisolomone, Ravind Kumar, Swastika Devi

**Kiribati:** –

**Niue:** Melissa Douglas, Hingano Laufoli

**Papua New Guinea:** Kasis Inape, Nanao Bouauka, K. Kila

**Republic of Marshall Islands:** Nover Juria

**Samoa:** Tile Tofaeono

**Solomon Islands:** Lloyd Tahani, Lucy Waiaraha and Helen Sikaiyo

**Tonga:** –

**Tuvalu:** –

**Vanuatu:** –

**The Bureau team:** Elisabeth Thompson, Grant Beard, Andrew Cottrill, Jason Smith and Tony Falkland.

OCOFC tables were received from all ten participating countries before the meeting. Tonga was unable to participate because of problems with the phone line. In addition, the Republic of Marshall Islands joined for the first time; rainfall observations were supplied but no outlook.

---

\* Seasonal Climate Outlooks in the Pacific Island Countries: climate prediction software developed under the PI-

## AUSAID PROJECT: Climate and Oceans Support Program in the Pacific (COSPPac)

### Observations and Verification of April to June outlooks from OCOF #67:

Observed rainfall for the one and three month periods ending July 2013 were discussed for each PIC. This month, several countries experienced extreme rainfall as shown in the following table:

Station	Period	Rainfall Amount (mm)	Rainfall Rank	Years of Record
Nausori Airport, Fiji	July	273.3	55	57
Lakeba, Fiji	July	188.4	61	63
Beru, Kiribati	July	17.3	3	58
Hanan Airport, Niue	July	305.8	63	64
Wewak, PNG	July	377.4	55	58
Vanimo, PNG	July	307.6	54	59
Nadzab, PNG	May to July	436.2	32	37
Wewak, PNG	May to July	1092.4	58	58
Kirakira, Solomon Islands	July	558	44	47
Lata, Solomon Islands	July	533	35	39
Munda, Solomon Islands	July	575	47	52
Niuatoputapu, Tonga	July	236.9	65	67
Vavaú, Tonga	July	221.9	62	67
Nui, Tuvalu	July	92.4	5	68
Nui, Tuvalu	May to July	302.1	4	68
Sola, Vanuatu	July	494.9	55	57
Pekoa, Vanuatu	July	365.5	42	43
Pekoa, Vanuatu	May to July	902.1	42	43
Whitegrass, Vanuatu	May to July	377.5	38	41

[Note: Quality control of the above data is not complete]

Validation of forecasts with observed rainfall across the region for May-July 2013 showed mostly near-consistent results (33 out of 51 stations) at the ten countries available at the time of writing. Consistent results outnumbered inconsistent results (13 versus 5 respectively). The largest inconsistency was at Kirakira, Solomon Islands, where above normal rainfall was observed (1118.0 mm) against outlook probabilities of 39/36/25 with high skill (LEPS=9.8%). The strongest consistent verification was at Misima, Papua New Guinea, where normal rainfall was observed (647.4 mm), with outlook probabilities of 41/47/12 and low skill (LEPS=35.7%).

A summary of results (C-consistent, NC-Near-Consistent and I-Inconsistent) for each country for the May to July 2013 outlook is as follows:

Cook Islands (1C); Fiji (2C, 9NC); Kiribati (1C, 2NC); Niue (1NC); PNG (3C, 4NC, 1I); Samoa (2C, 2NC); Solomon Islands (1C, 4NC, 2I); Tonga (5NC, 1I); Tuvalu (1C, 1NC, 1I); and Vanuatu (2C, 5NC).  
**Overall: 13C, 33NC, 5I.**

### Verification of March to May outlooks from OCOF #66:

Following on from last month, the meeting was also presented with a new analysis of SCOPIC verification data (LEPS and Hit Rates) for all the OCOF issues dating from January 2011, together with a comparison with POAMA outlooks for the subset of stations available with that system. These tables currently run a month behind the other data, so for example, the latest verification statistics are for the

## AUSAID PROJECT: Climate and Oceans Support Program in the Pacific (COSPPac)

April-June period (OCOF #66). The limited data so far indicate a slightly superior performance by POAMA.

### **September to November 2013 Outlooks:**

Of the ten countries available at the time of writing, seven chose the combination of SSTa 1 and 9 over May to July 2013 as the predictors for the September to November 2013 outlook, one chose the combination of SSTa1 and 9 over one month (July 2013), while two chose the May to July SOI.

SCOPIC outlooks for the coming season mainly favoured tercile 3, i.e. above normal; with 16.1% of stations with high probabilities in tercile 1; 17.9% in tercile 2; and 66.1% of the stations with the highest probabilities in tercile 3. POAMA outlooks for the selection of sites available mainly favoured terciles 2 and 3 for the coming season.

### **Current climate patterns:**

The current ENSO situation was discussed. A neutral pattern, which has persisted since the middle of 2012, is expected to persist for the next three months, as predicted by all computer models. The current pattern has a slight La Niña flavour, particularly the positive SOI and the reduced cloud around the equatorial Date Line.

The main NINO indices only changed by 0.1°C from June to July, with the latest monthly values being: NINO3 -0.3 °C (up 0.1°C); NINO3.4 -0.1 °C (down 0.1°C); and NINO4 +0.2 °C (up 0.1°C). The latest weekly values in NINO3, NINO3.4 and NINO4 are -0.5 °C, -0.2 °C and +0.1 °C respectively. Sub-surface temperatures were also clearly neutral in July, although during early August there has been some cooling along the thermocline in the central and eastern Pacific.

The official Southern Oscillation Index (SOI) for July was +8, a fall of six points from June's +14. Nevertheless the SOI is consistently positive, with three consecutive values of +8 or higher from May to July. In fact, since +11 in March the only neutral SOI reading was zero in April. The approximate 30-day SOI value is +7, while the 90-day value is +9 as of 13 August. Recently, the positive SOI has been almost entirely a result of above average pressure at Tahiti, rather than below average pressure at Darwin.

The SPCZ was well-defined in July and displaced to the southwest of its normal location. It stretched from just north of PNG, across the Solomon Islands to Samoa and Niue. A secondary branch extended southeast from the region to the north of French Polynesia. Reduced cloud amounts were evident over Kiribati, Federated States of Micronesia, Tuvalu and Tokelau.

The MJO has been absent from 10 July until the time of writing. This behaviour was not forecast by the models last month, which were calling for an increase in amplitude from around 20 July. The current model outlooks are varied in their outlooks, although there's a slight preference for a strengthening MJO in the African sector or Indian Ocean during the next week or so.

### *ENSO Update (Issued on 13<sup>th</sup> August 2013)*

The El Niño-Southern Oscillation (ENSO) clearly remains in the neutral phase despite some indicators (e.g. eastern Pacific sea surface temperatures, Southern Oscillation Index (SOI) and cloudiness near the Date Line) approaching La Niña thresholds at times in recent months.

Climate models surveyed by the Bureau of Meteorology indicate further cooling of waters in the tropical Pacific is unlikely. Hence, the current ENSO-neutral conditions are expected to continue through the austral spring and into summer.

For up to date information on the state of ENSO please refer to the links below;

BoM ENSO Wrap Up - <http://www.bom.gov.au/climate/enso/>

BoM model survey - <http://www.bom.gov.au/climate/ahead/ENSO-summary.shtml>

IRI model summary - [http://iri.columbia.edu/climate/ENSO/currentinfo/SST\\_table.html](http://iri.columbia.edu/climate/ENSO/currentinfo/SST_table.html)

AUSAID PROJECT: Climate and Oceans Support Program in the Pacific (COSPPac)

**Observed Rainfall and Validation**

Country	July 2013	May-Jul 2013	Outlooks Issued for May-Jul 2013 (skill level)	Verification <sup>†</sup> for May-Jul 2013 outlooks
<b>Cook Islands</b>	Above Normal	Above Normal	Above Normal (low skill)	Consistent
<b>Fiji</b>	Below Normal to Above Normal	Normal to Above Normal Below Normal – Ono-I-Lau	Below Normal to Above Normal (moderate to high skill)	Near Consistent to Consistent
<b>Kiribati</b>	Below Normal	Below Normal to Normal	Below Normal to Normal (low to good skill)	Near Consistent to Consistent
<b>Niue</b>	Above Normal	Above Normal	Normal (low skill)	Near Consistent
<b>Papua New Guinea</b>	Normal to Above Normal Below Normal-Port Moresby	Normal to Above Normal Below Normal-Port Moresby	Below Normal to Above Normal (very low to exceptional skill)	Near consistent to Consistent Inconsistent - Nadzab
<b>Samoa</b>	Normal to Above Normal	Above Normal Normal -Afiamalu	Climatology (very low skill) Normal to Above Normal (very low to moderate skill)	Near Consistent to Consistent
<b>Solomon Islands</b>	Normal to Above Normal	Below Normal to Normal	Below Normal to Above Normal (very low to moderate skill)	Inconsistent to Near Consistent Consistent -Munda
<b>Tonga</b>	Normal to Above Normal	Below Normal to Above Normal	Normal to Above Normal (very low to high skill)	Near Consistent Inconsistent - Fuaámotu
<b>Tuvalu</b>	Below Normal to Above Normal	Below Normal to Above Normal	Below Normal to Normal (very low to very high skill)	Inconsistent to Consistent
<b>Vanuatu</b>	Normal to Above Normal	Above Normal	Normal to Above Normal (low to good skill)	Near Consistent to Consistent

<sup>†</sup> Forecast is consistent when observed and predicted (tercile with the highest probability) categories coincide (are in the same tercile).

Forecast is near-consistent 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 inconsistent when observed and predicted (tercile with the highest probability) differ by two categories (i.e. terciles 1 and 3).