

## Climate and Oceans Monitoring and Prediction (COMP)

### Pacific Islands - Online Climate Outlook Forum No. 66 Summary Report

**Date:** Thursday 14 March 2013

**Time:** Australian Eastern Daylight Saving Time 12:00 (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>7</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. Discussion of Red Cross proposal.
3. Brief report on current ENSO status.
4. Each NMS report on their past 1 and 3 months rainfall in relation to the current ENSO situation (include ranking and verification). Wherever appropriate NMS to report on their drought status.
5. Each NMS to report on their three-month outlooks (tercile and/or median).
6. Round-table discussion: addressing general concerns/queries on outlooks and SCOPIC.
7. Skill assessment of SCOPIC and POAMA.
8. Interactions with stakeholders (new or existing)
9. Next meeting (9 April) and Chair (Solomon Islands – Alphabetical Rotation Trial).

**Participants:**

The Forum was attended by twelve climate officers from five PIC NMSs.

**Cook Islands:** –

**Fiji:** Arieta Daphne, Swastika Devi, Bipendra Prakash, Ravind Kumar

**Kiribati:** –

**Niue:** –

**Papua New Guinea:** Kila Kila, Nanao Bouauka, Ruth Apuqahe

**Samoa:** Tile Tofaeono (Chair), Junior Lepale, Cecilia Amosa

**Solomon Islands:** –

**Tonga:** Sione Tu'ungafasi

**Tuvalu:** –

**Vanuatu:** Melinda Natapei, Rebecca McNaught (Red Cross)

**The Bureau team:** Elisabeth Thompson, Grant Beard, Jason Smith and Janita Pahalad

OCOFC tables were received from seven participating countries before the meeting.

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

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### Summary of the Discussion:

A few countries were unable to provide attendees this month due to leave and the PACCSAP workshop in the Solomon Islands.

Observed rainfall for the one and three month periods ending February 2013 were discussed for each PIC, together with the seasonal rainfall outlooks for April-June 2013 at one month lead using SCOPIC. Rainfall extremes at both ends of the spectrum were experienced in the Pacific Islands during February: With 588 mm Nausori Airport (Fiji) had its wettest February in 57 years of record, while Penrhyn and Rarotonga in the Cook Islands were fifth and eighth driest (respectively) for February. In addition Misima in Papua New Guinea recorded its seventh lowest February rainfall.

The POAMA2 experimental outlook for April-June 2013 interpolated to the Pacific Island countries was also presented. There was a tendency for POAMA2 to produce high probabilities in tercile 2, while SCOPIC-generated outlooks produced a range of shifts towards tercile 1 or tercile 3.

Validation of forecasts with observed rainfall across the region for December 2012-February 2013 showed mostly near-consistent results at the seven countries available at the time of writing. Consistent results clearly outnumbered inconsistent results (17 versus 5 respectively). The largest inconsistency was at Hanan Airport (Niue) where tercile 1 was observed (516 mm) against outlook probabilities of 29/17/54 with high skill (LEPS=18%). The strongest consistent verification was at Rarotonga (Cook Islands), where normal rainfall was observed (588 mm) with outlook probabilities of 15/81/4 and moderate skill (LEPS=7%). NMSs mainly chose the combination of SSTa 1 and 9 for August-October 2012 as the predictors for the December 2012-February 2013 outlooks. SSTa 1 and 9 for December 2012 to February 2013 were also mainly chosen as the predictors for the forthcoming April to June 2013 outlooks. A summary of results (C-consistent, NC-Near-Consistent and I-Inconsistent) for each country for the December to February outlook is as follows:

Cook Islands (1C, 1NC); Fiji (8C, 4NC, 1I); Kiribati (N/A); Niue (1I); PNG (1C, 5NC, 2I); Samoa (4NC); Solomon Islands (N/A); Tonga (3C, 3NC); Tuvalu (N/A); and Vanuatu (4C, 2NC, 1I).

**Overall: 17C, 19NC, 5I.**

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 November-January period (OCOF #61). The results show that POAMA outperformed SCOPIC for the December to February period, while also being superior over the 13 issues available from January 2011.

Grant Beard discussed the current ENSO situation. A neutral pattern has persisted since the middle of 2012 and is predicted to persist into the middle of 2013, with most computer models indicating modest warming. There was little change in the monthly NINO index values from January to February, the values for the latter being NINO3 (-0.3°C), NINO3.4 (-0.2°C) and NINO4 (zero). The latest weekly values in NINO3 and NINO3.4 are +0.3°C and +0.1°C respectively. The Southern Oscillation Index (SOI) has been rising steadily, although it remains neutral: 30-day value of +11 and 90-day value of +1. Most ENSO prediction models indicate a persistence of a neutral ENSO pattern well into the southern winter. Some of the text of the most recent ENSO Wrap-Up is shown below.

### ENSO Update (Issued on 12<sup>th</sup> March 2013)

#### Neutral ENSO state persists in tropical Pacific

Atmospheric and oceanic indicators of the El Niño-Southern Oscillation (ENSO) generally continue within the neutral range. The recent increase in the Southern Oscillation Index (SOI) has been due to persistent high pressure weather systems in the central Pacific Ocean, and is not considered indicative of the broadscale climate. The SOI is known to be volatile at this time of year.

Climate models indicate the tropical Pacific is likely to remain ENSO-neutral through the first part of the southern hemisphere autumn. While it is known that predictions from dynamical models during the April through June period have lower skill, all models currently agree that an ENSO-neutral state is the most likely scenario for the next season.

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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)

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**Observed Rainfall and Validation**

| Country                 | February 2013  | Dec-Feb 2012/13  | Outlooks Issued for Dec-Feb 2012/13 (skill level)               | Verification <sup>†</sup> for Dec-Feb 2012/13 outlooks |
|-------------------------|--|--|---|--|
| <b>Cook Islands</b>     | Below Normal   | Normal   | Normal to above normal (moderate to very high)                  | Near-consistent to consistent                          |
| <b>Fiji</b>             | Below normal to normal in the north; mainly above normal elsewhere | Mostly normal  | Mainly near-normal or climatology (low to high)                 | Consistent to near-consistent                          |
| <b>Kiribati</b>         | N/A  | N/A  | Above normal (very high)  | N/A  |
| <b>Niue</b>             | Normal   | Below normal   | Above normal (high)   | Inconsistent   |
| <b>Papua New Guinea</b> | Normal except below normal in the south                            | Normal to above normal   | Mainly normal to below normal (low to moderate)                 | Mostly near-consistent                                 |
| <b>Samoa</b>            | Normal to below normal   | Above normal   | Normal (low to very high)                                       | Near-consistent  |
| <b>Solomon Islands</b>  | N/A  | N/A  | Mixed from below normal to above normal (very low to very high) | N/A  |
| <b>Tonga</b>            | Above normal to normal   | Above normal   | Mainly normal (good to very good)                               | Consistent to near-consistent                          |
| <b>Tuvalu</b>           | N/A  | N/A  | Mainly normal (very low to very good)                           | N/A  |
| <b>Vanuatu</b>          | Above normal to normal in the north; normal to below in the south  | Above normal to normal in the north; below normal in the south | Below normal (low to very high)                                 | Consistent to near-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).