Climate and Oceans Monitoring and Prediction (COMP)

Pacific Islands - Online Climate Outlook Forum No. 69 Summary Report

Date: Wednesday 13 June 2013

Time: Australian Eastern Daylight Saving 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* 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-months 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 (18 July) and Chair (Tuvalu– Alphabetical Rotation Trial).

Participants:

The Forum was attended by fourteen climate officers from eight PIC NMSs.

Cook Islands: Turi Tutai

Fiji: Bhawna Chand, Bipendra Prakash, Arieta Baleisolomone

Kiribati: Ueneta Toorua, Kamaitia Rubetaake

Niue: Melissa Douglas

Papua New Guinea: Kisolel Posanau, K. Kila, Nanao Bouauka

Samoa: Cecilia Amosa

Solomon Islands: Lloyd Tahani

Tonga: Selusalema Vite, Sione Tu'ungafasi,

Tuvalu: -

Vanuatu: -

The Bureau team: Elisabeth Thompson, Grant Beard, Molly Powers, Jason Smith, Shannon McNamara, Karen Bennett and Andrew Cotrill.

OCOF tables were received from eight participating countries before the meeting.

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

Observations and Verification of March to May outlooks from OCOF #65:

Observed rainfall for the one and three month periods ending May 2013 were discussed for each PIC, together with the seasonal rainfall outlooks for July-September 2013 at one-month lead using SCOPIC. This month, several countries experienced extreme rainfall: the Momase Region of Papua New Guinea had the wettest March to May period in 37 years record for Nadzab, the 3rd wettest March to May period in 57 years at Wewak, and the 6th wettest March to May period in 58 years at Vanimo; Kiribati had the 7th wettest March to May in 87 years of record in Kiritimati; for March to May Solomon Islands had the wettest period in 51 years of record at Auki, the 2nd wettest period in 38 years of record at Henderson, and the 6th wettest period in 38 years of record at Lata. For May, the Solomon Islands had the 2nd lowest rainfall in 36 years of record at Taro; the Cook Islands had the 2nd driest March to May period in 115 years of record at Rarotonga; and Niue had the 7th driest May in 64 years of record at Hanan Airport.

Validation of forecasts with observed rainfall across the region for March-May 2013 showed mostly near-consistent results at the eight countries available at the time of writing. Consistent results outnumbered inconsistent results (14 versus 9 respectively). The largest inconsistency was at Beru, Kiribati, where tercile 1 was observed (140.6 mm) against outlook probabilities of 11/30/59 with very high skill (LEPS=26.0%). The strongest consistent verification was at Hanan Airport, Niue, where below normal rainfall was observed (482.3 mm), with outlook probabilities of 48/16/36 and low skill (LEPS=4.8%).

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

Cook Islands (1C, 1I); Fiji (3C, 7NC, 2I); Kiribati (1C, 2NC, 1I); Niue (1C); PNG (3C, 5NC); Samoa (4NC); Solomon Islands (2C, 2NC, 3I); Tonga (3C, 1NC, 2I); Tuvalu (N/A); and Vanuatu (4C, 2NC, 1I). **Overall: 18C, 23NC, 10I**.

Verification of February to April outlooks from OCOF #64:

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 February-April period (OCOF #64). The limited data so far indicate a slightly superior performance by POAMA.

July to September 2013 Outlooks

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

There was a tendency for POAMA to produce high probabilities in the outlooks, with the majority favouring terciles 2 and 3. SCOPIC produced a majority of tercile 2 outlooks, with 11.3% favouring Below Normal, 56.6% Normal, 30.2% Above Normal, and 1.9% of the stations with equal probabilities of terciles 1 and 3.

Current climate patterns

The current ENSO situation was discussed. A neutral pattern, which has persisted since the middle of 2012, is expected to persist into the middle of 2013, as predicted by most computer models. The development of a La Niña remains possible later in 2013. NINO3 cooled by 0.5 °C from April to May to a value of –0.4 °C. In contrast, NINO3.4 dropped by 0.1°C to around zero, while NINO4 was +0.1 °C for May. The latest weekly values in NINO3, NINO3.4 and NINO4 are –0.5 °C, 0.0 °C and +0.2 °C respectively. The Southern Oscillation Index (SOI) reached a 30-day value of +14 and a 90-day value of +6 as of 12 June. Some of the text of the most recent ENSO Wrap-Up is shown below.

The SPCZ was ill-defined during May – one branch, displaced to the southwest, extended east-southeast from New Caledonia effectively missing most of the partner countries. There was a region of

suppressed convection to the east of this, as well as over most of the ITCZ and parts of the Solomon Islands.

MJO analyses showed a moderately strong pulse over the Indian Ocean and Maritime Continent in the first half of May; it has generally been non-existent since then. Model forecasts of the MJO mainly show it remaining weak or non-existent for around the next two to four weeks.

ENSO Update (Issued on 4th June 2013) – **A warming eastern Indian Ocean points to a developing negative IOD**

All atmospheric and oceanic indicators of ENSO have remained neutral (neither El Niño nor La Niña) since mid-2012. While most models suggest that neutral conditions will continue in 2013, it remains possible that a La Niña event could develop later in the year.

In the tropical Indian Ocean, warmer-than-average ocean temperatures have persisted in the east, while in recent weeks, ocean temperatures in the western Indian Ocean have cooled slightly. As a result of this pattern, the IOD index has been below –0.4 °C since mid-May. If this index remains at or below –0.4 °C until late July, 2013 will be classified as a negative IOD year. Four of the five models surveyed point to a negative IOD during the southern winter-spring period.

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

Observed Rainfall and Validation

Country	May 2013	Mar-May 2013	Outlooks Issued for Mar-May 2013 (skill level)	Verification† for Mar-May 2013 outlooks
Cook Islands	Below Normal to Normal	Below Normal	Below Normal (Rarotonga – low skill) Above Normal (Penrhyn – moderate skill)	Consistent (Rarotonga) Inconsistent (Penrhyn)
Fiji	Below Normal to Above Normal	Below Normal (Central Division) Normal to Above Normal	Below Normal to Normal (low to good skill) Climatology (Suva and Nausori Airport – very low skill) Above Normal (Rotuma– very low skill)	Inconsistent to Consistent
Kiribati	Below Normal Above Normal (Kiritimati)	Below Normal Normal (Tarawa) Above Normal (Kiritimati)	Normal to Above Normal (moderate to high skill)	Inconsistent to Consistent
Niue	Below Normal	Below Normal	Below Normal (moderate skill)	Consistent
Papua New Guinea	Below Normal to Above Normal	Above Normal Below Normal (Kavieng) Normal (Misima)	Normal to Above Normal (very low to low skill) Below Normal (Misima – high skill)	Near Consistent to Consistent
Samoa	Normal to Above Normal	Normal Below Normal (Faleolo)	Equal Below and Above Normal (very low skill) Normal to Above Normal (Faleolo – very low skill)	Near Consistent
Solomon Islands	Below Normal to Normal	Normal to Above Normal	Below Normal to Normal (very low to good skill) Above Normal (Munda –very low skill)	Inconsistent to Consistent
Tonga	Below Normal to Normal	Below Normal to Above Normal	Above Normal (Northern Division – very low to low skill) Below Normal to Normal (very low to low skill)	Inconsistent to Consistent
Tuvalu				
Vanuatu	Normal to Above Normal	Above Normal	Normal to Above Normal (very low to good skill) Below Normal (Port Vila – low skill)	Near Consistent to Consistent Inconsistent (Port Vila)

† 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).