Climate and Oceans Monitoring and Prediction (COMP)

Pacific Islands - Online Climate Outlook Forum No. 68 Summary Report

Date: Wednesday 15 May 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 (13 June) and Chair (Tuvalu – Alphabetical Rotation Trial).

Participants:

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

Cook Islands: Turi Tutai

Fiji: Ravind Kumar, Bhawna Chand

Kiribati: Ueneta Toorua, Kamaitia Rubetaake

Niue: Hingano Laufoli, Rossy Mitiepo

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

Samoa: Cecilia Amosa, Junior Lepale

Solomon Islands: -

Tonga: Mele Lakai

Tuvalu: -

Vanuatu: Melinda Natapei

The Bureau team: Elisabeth Thompson, Grant Beard, Isabelle Jeanne 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.

Summary of the Discussion:

Observed rainfall for the one and three month periods ending April 2013 were discussed for each PIC, together with the seasonal rainfall outlooks for June-August 2013 at one month lead using SCOPIC. This month, several countries experienced extreme rainfall: the driest February to April period in 115 years of record in Rarotonga, Cook Islands; the 4th driest February to April rainfall in 74 years in Penrhyn, Cook Islands; the 2nd driest April in 58 years of record at the Labasa Airfield, Fiji; the 5th driest April in a 63 year record in Hanan Airport, Niue; the 4th highest rainfall in April in 87 years of record at Kiritimati, Kiribati; and the highest rainfall in both 39 and 64 years of record respectively at Nadzab and Momote, Papua New Guinea.

There was a tendency for POAMA2 to produce high probabilities in terciles 2 and 3 for all stations, while SCOPIC-generated outlooks produced a range of predictions within all terciles with: 15.2% favouring Below Normal, 34.8% Normal, 39.1% Above Normal, and 10.9% of the stations with climatological predictions.

Validation of forecasts with observed rainfall across the region for February-April 2013 showed mostly near-consistent results [62.5%] at the eight countries available at the time of writing. Consistent results clearly outnumbered inconsistent results (16 versus 4 respectively). The largest inconsistency was at Lamap, Vanuatu, where tercile 3 was observed (937.9 mm) against outlook probabilities of 47/36/17 with low skill (LEPS=3.4%). The strongest consistent verification was at Niuafoóu, Tonga, where above normal rainfall was observed (1079.5 mm) with outlook probabilities of 30/13/57 and low skill (LEPS=3.8%).

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

Cook Islands (1C, 1NC); Fiji (3C, 9NC); Kiribati (3C, 2NC); Niue (1NC); PNG (4C, 3NC, 1I); Samoa (4NC); Solomon Islands (N/A); Tonga (3C, 1NC, 2I); Tuvalu (N/A); and Vanuatu (2C, 4NC, 1I).
Overall: 16C, 25NC, 4I.

Of the eight countries available at the time of writing, seven chose the combination of SSTa 1 and 9 over February to April 2013 as the predictors for the June to August 2013 outlook, while the other chose the February to April SOI.

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 January-March period (OCOF #63). The limited data so far indicate a slightly superior performance by POAMA.

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, as predicted by most computer models. There was only a slight change, between 0°C and 0.2°C, in the monthly NINO index values from March to April, the values for the latter being NINO3 (+0.1°C), NINO3.4 (+0.1°C) and NINO4 (zero). The latest weekly values in NINO3, NINO3.4 and NINO4 are –0.1°C, +0.1°C and 0.0°C respectively. The Southern Oscillation Index (SOI) reached a 30-day value to May 14 of –1.0 and a 90-day value of +6.5. Most ENSO prediction models indicate a persistence of a neutral ENSO pattern well into the southern autumn and into early winter. Some of the text of the most recent ENSO Wrap-Up is shown below.

Papua New Guinea, Fiji, and Samoa all mentioned that recently they'd participated in fruitful discussions with numerous stakeholders in regard to seasonal rainfall outlooks or drought warnings.

ENSO Update (Issued on 7th May 2013) – ENSO neutral; a negative IOD slightly favoured
The tropical Pacific has remained in a neutral El Niño-Southern Oscillation (ENSO) state since mid 2012. All atmospheric and oceanic indicators of ENSO are currently well within neutral values. International climate models surveyed by the Bureau of Meteorology favour an ENSO-neutral state persisting into the southern hemisphere winter.

Following record high ocean temperatures around Australia during the summer, oceans have remained warmer than average, with January to April 2013 the warmest such period on record. Warm ocean surface temperatures around the continent may enhance local rainfall under favourable conditions.

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	April 2013	Feb-Apr 2013	Outlooks Issued for Feb-Apr 2013 (skill level)	Verification† for Feb-Apr 2013 outlooks
Cook Islands	Below Normal	Below Normal	Below Normal to Normal (low to high skill)	Near Consistent to Consistent
Fiji	Below Normal to Normal Penang Mill – Above Normal	Normal to Above Normal	Normal and Climatology (Very low to good skill)	Near Consistent to Consistent
Kiribati	Normal to Above Normal	Normal to Above Normal	Normal to Above Normal (Good to exceptional skill)	Near Consistent to Consistent
Niue	Below Normal	Normal	Above Normal (Moderate skill)	Near Consistent
Papua New Guinea	Above Normal Kavieng - Normal	Normal to Above Normal	Momase Region and New Guinea Islands Normal to Above Normal (Very low to low skill) Southern Region Below Normal (Low to very high skill)	Near Consistent to Consistent Port Moresby - Inconsistent
Samoa	Normal to Above Normal Faleolo - Below Normal	Below Normal to Normal	Climatology Afiamalu – Above Normal (Very low to low skill)	Near Consistent
Solomon Islands	N/A	N/A	N/A	N/A
Tonga	Below Normal Niuafoóu - Above Normal Niuatoputapu - Normal	Below Normal to Above Normal	Below Normal to Above Normal (Low to good skill)	Inconsistent to Consistent
Tuvalu	N/A	N/A	N/A	N/A
Vanuatu	Southern Region- Above Normal Sola and Pekoa – Below Normal Lamap -Normal	Northern Region – Above Normal Southern Region- Normal Whitegrass – Above Normal	Below Normal to Normal (Very low to low skill) Sola - Above Normal (Very low skill)	Near Consistent to Consistent Inconsistent in Lamap

† 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).