

Climate and Oceans Monitoring and Prediction (COMP)

Pacific Islands - Online Climate Outlook Forum No. 73 Summary Report

Date: Thursday 17 October 2013

Time: Australian Eastern Daylight Saving Time 12:00PM (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-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 (Thursday 14 November) and Chair (Niue).

Participants:

The Forum was attended by 11 climate officers from 8 PIC NMSs.

Cook Islands: -

Fiji: Swastika Devi, Bipendra Prakash and Ravind Kumar

Kiribati: Ueneta Toorua (Chair)

Niue: Hingano Laufoli

Papua New Guinea: Kila Kila

Republic of Marshall Islands: Nover Juria

Samoa: Tile Tofaeono, Junior Lepale

Solomon Islands: -

Tonga: Mele Lakai

Tuvalu: Eli Ene

Vanuatu: -

The Bureau team: Elisabeth Thompson, Grant Beard, Andrew Cottrill, Grant Smith, Isabelle Jeanne and Rod Hutchinson.

OCOFC tables were received from nine of the eleven participating countries before the meeting.

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

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Observations and Verification of April to June outlooks from OCOF #69:

Observed rainfall for the one and three month periods ending September 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
Vunisea, Fiji	Sep	372.5	77	78
Tokotoko, Fiji	Jul-Sep	955.3	63	68
Hanan Airport, Niue	Jul-Sep	541.9	60	64
Nadzab, PNG	Sep	223.2	37	38
Wewak, PNG	Sep	42.8	4	58
Momote, PNG	Sep	530.4	64	65
Misima, PNG	Sep	20.4	2	88
Momote, PNG	Jul-Sep	1561.4	64*	64
Nafanua, Samoa	Jul-Sep	770.3	39	41
Lata, Solomon Islands	Sep	1404	39*	39
Lata, Solomon Islands	Jul-Sep	2474	39*	39
Vavaú, Tonga	Jul-Sep	639.8	65	67
Nui, Tuvalu	Sep	113.5	2	68

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

Validation of forecasts with observed rainfall across the region for July to September 2013 showed mostly near-consistent results (23 out of 46 stations) at the ten countries available at the time of writing. Consistent results significantly outnumbered inconsistent results (20 versus 3 respectively). The largest inconsistency was at Lautoka Mill, Fiji, where below normal rainfall was observed (101.8mm) against outlook probabilities of 25/26/49 with moderate skill (LEPS=5.8%). The strongest consistent verification was at Honiara, Solomon Islands, where normal rainfall was observed (300mm), with outlook probabilities of 24/50/26 and low skill (LEPS=0.2%).

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

Cook Islands (2NC); Fiji (5C, 4NC, 2I); Kiribati (2C, 1NC); Niue (1NC); PNG (6C, 2NC); RMI (1NC); Samoa (1C, 3NC); Solomon Islands (3C, 3NC, 1I); Tonga (2C, 4NC); Tuvalu (1C, 2NC); and Vanuatu (N/A).

Overall: 20C, 23NC, 3I.

Verification of May to July outlooks from OCOF #68:

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 May-July period (OCOF #68). The limited data so far indicate a slightly superior performance by POAMA.

November 2013 to January 2014 Outlooks:

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Of the ten countries available at the time of writing, four chose the combination of SSTa 1 and 9 over July to September 2013 as the predictors for the November 2013 to January 2014 outlook, one chose SSTa 1 and 9 over one month (September), one chose NINO3.4 over the same three month period, while four chose the July to September SOI.

SCOPIIC outlooks for the coming season mainly favoured tercile 3, i.e. above normal; with 22% of stations with high probabilities in tercile 1; 12% in tercile 2; 62% of the stations with the highest probabilities in tercile 3; and 4% of the stations with equal chance of terciles 2 and 3. POAMA outlooks mainly favoured tercile 3 (12 out of 23 stations) 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 rest of 2013 and into the New Year, as predicted by most computer models.

The main NINO indices changed by a maximum of 0.4°C from August to September indicating slight warming along the equator, with the latest monthly values being: NINO3 0.0°C (up 0.4°C); NINO3.4 +0.1 °C (up 0.2°C); and NINO4 +0.3 °C (no change). The latest weekly values in NINO3, NINO3.4 and NINO4 are 0.0 °C, -0.3 °C and +0.2 °C respectively. September sub-surface temperatures were neutral, with a slight increase in cool anomalies in the east and the development of weak cool anomalies in the central Pacific.

The official Southern Oscillation Index (SOI) for September is stabilised near zero at +4, a rise of 4.5 points from August's -0.5. The current approximate 30-day SOI value is +5, while the 90-day value is +4 as of 17 October.

The SPCZ was displaced slightly southwest of its normal location in September, stretching from just north of PNG, across the northern Solomon Islands to Fiji. A secondary branch also extended due east from the region north of Samoa. The region over the southern Solomon Islands, southern Papua New Guinea and Kiribati experienced decreased cloud amounts during September. Increased cloud amounts were evident over the Papua New Guinea islands, northern Solomon Islands, Fiji, Tonga, and the Northern Cook Islands.

The trade winds have gradually increased in strength right across the Pacific Basin during September. The MJO is currently non-existent, within the centre circle of the phase diagram. Most forecasts have it remaining weak for the coming week, with some models suggesting a strengthening into phases 1 and 8 following that.

ENSO Update (Issued on 8th October 2013)

The El Niño-Southern Oscillation (ENSO) remains neutral (neither El Niño nor La Niña), with virtually all indicators at near-normal levels. International climate models surveyed by the Bureau of Meteorology suggest that the tropical Pacific will remain ENSO-neutral for the remainder of spring and the austral 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

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Observed Rainfall and Validation

Country	September 2013	Jul-Sep 2013	Outlooks Issued for Jul-Sep 2013 (skill level)	Verification [†] for Jul-Sep 2013 outlooks
Cook Islands	Normal to Above Normal	Normal to Above Normal	Normal to Above Normal (very low to good skill)	Near Consistent
Fiji	Normal to Above Normal Below Normal [Penang Mill & Nabouwalu]	Below Normal to Above Normal	Normal to Above Normal (very low to moderate skill)	Inconsistent to Consistent
Kiribati	Normal to Above Normal	Below Normal to Normal	Below Normal to Normal (very low to high skill)	Near Consistent to Consistent
Niue	Normal	Above Normal	Normal (very low skill)	Near Consistent
Papua New Guinea	Below Normal to Above Normal	Normal to Above Normal Below Normal [Misima]	Normal to Above Normal (very low to exceptional skill)	Near Consistent to Consistent
RMI	Below Normal	Below Normal	Equal chance of Above and Below Normal	Near Consistent
Samoa	Normal	Above Normal	Normal to Above Normal (very low skill)	Near Consistent to Consistent
Solomon Islands	Below Normal to Above Normal	Normal to Above Normal Below Normal [Henderson]	Below Normal to Normal (very low to low skill)	Near Consistent to Consistent Inconsistent [Auki]
Tonga	Below Normal to Above Normal	Normal to Above Normal	Below Normal to Above Normal (very low skill)	Near Consistent to Consistent
Tuvalu	Below Normal	Below Normal to Normal	Below Normal (low to good skill)	Near Consistent to Consistent
Vanuatu				

[†] 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).