

Climate and Oceans Monitoring and Prediction (COMP)

Pacific Islands - Online Climate Outlook Forum No. 74 Summary Report

Date: Thursday 14 November 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. Interactions with stakeholders (new or existing)
7. Next meeting (Wednesday 18 December) and Chair (Niue).

Participants:

The Forum was attended by 11 climate officers from 9 PIC NMSs.

Cook Islands: Turi Tutai

Fiji: Arieta Baleisolomone and Swastika Devi

Kiribati: Kamaitia Rubetaake

Niue: -

Papua New Guinea: Kila Kila

Republic of Marshall Islands: Nover Juria

Samoa: Tile Tofaeono, Junior Lepale

Solomon Islands: Lloyd Tahani

Tonga: Selusalema Vite

Tuvalu: -

Vanuatu: Melinda Natapei

The Bureau team: Elisabeth Thompson, Grant Beard, Andrew Cottrill, Grant Smith, Daniel Harrison (visiting from Sydney University), Mark Caughey, Adna Kazazic and Rod Hutchinson.

OCOOF tables were received from all 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 #70:

Observed rainfall for the one and three month periods ending October 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
Penrhyn, Cook Islands	October	343.7	73	75
Penrhyn, Cook Islands	Aug-Oct	950.7	70	74
Momote, PNG	Aug-Oct	1422.2	63	64
Majuro, RMI	Aug-Oct	668.8	3	32
Henderson, Solomon Islands	October	234	37	39
Lata, Solomon Islands	October	736	39	39
Lata, Solomon Islands	Aug-Oct	2676	39	39
Nukuálofa, Tonga	October	160.5	57	60
Sola, Vanuatu	October	657.8	55	60

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

Validation of forecasts with observed rainfall across the region for August to October 2013 showed mostly near-consistent results (27 out of 51 stations) at the eleven countries. Consistent results significantly outnumbered inconsistent results (16 versus 8 respectively). The largest inconsistency was at Misima, Papua New Guinea, where below normal rainfall was observed (243.6mm) against outlook probabilities of 12/37/51 with very high skill (LEPS=32.3%). The strongest consistent verification was at Nui, Tuvalu, where below normal rainfall was observed (342.6mm), with outlook probabilities of 66/24/10 and very high skill (LEPS=26.3%).

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

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

Overall: 16C, 27NC, 8I.

December 2013 to February 2014 Outlooks:

Of the eleven countries contributing to the OCOF, six chose the combination of SSTa 1 and 9 over August to October 2013 as the predictors for the December 2013 to February 2014 outlook, one chose SSTa 1 and 9 over one month (October), one chose NINO3.4 over the same three month period, while three chose the August to October SOI.

SCOPIC outlooks for the coming season mainly favoured tercile 2, i.e. normal; with 19.6% of stations with high probabilities in tercile 1; 37.5% in tercile 2; 33.9% of the stations with the highest probabilities in tercile 3; 1.9% of the stations with equal chance of terciles 2 and 3; and 7.1% climatological probabilities. POAMA outlooks mainly favoured tercile 3 (20 out of 34 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 next season, as predicted by most computer models.

There was a mixture of slight warming and cooling along the equator from September to October, with the latest monthly values being: NINO3 0.0°C (no change); NINO3.4 -0.1 °C (down 0.2°C); and NINO4

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+0.4 °C (up 0.1°C). The latest weekly values in NINO3, NINO3.4 and NINO4 are 0.0 °C, +0.1 °C and +0.5 °C respectively. October sub-surface temperatures were still neutral overall, with weakly positive anomalies in the central and western Pacific. Weak cool anomalies have propagated from the central Pacific to the east, which may lead to weak sea surface cooling.

The official Southern Oscillation Index (SOI) for October remained near zero at -2; a fall of 6 points from September's +4. The current approximate 30-day SOI value is -5, while the 90-day value is +1 at the time of writing.

For the second month the SPCZ has been split. One branch extended from the north of PNG to Fiji (east of the Solomon Islands), and a secondary branch also extended from well north of Samoa to French Polynesia.

The trade winds were generally a little weaker than normal across much of the Pacific, especially in the second half of October. The MJO phase diagram shows a weak signal in the Indian Ocean. There is no consensus among the models for the upcoming MJO forecast.

ENSO Update (Issued on 6th November 2013)

All atmospheric and oceanic indicators of the El Niño-Southern Oscillation (ENSO) remain within neutral bounds. While the tropical Pacific has gradually warmed over the past three to four months, it remains close to the long-term average. International climate models surveyed by the Bureau of Meteorology indicate that the tropical Pacific will warm slightly over the coming months, but remain ENSO-neutral for at least the coming southern summer.

A neutral period does not guarantee a benign or normal season. A neutral ENSO period indicates that the equatorial Pacific Ocean is not shifting the odds towards a significantly wet or dry period. However, more localised weather extremes can and do occur during neutral ENSO phases as secondary or local factors come into play.

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	Above Normal	Normal to Above Normal	Below Normal to Above Normal (very low to good skill)	Inconsistent to Near Consistent
Fiji	Normal to Above Normal Below Normal [Ono-I-Lau]	Below Normal to Above Normal	Normal to Above Normal (very low to moderate skill) Below Normal (very low skill) [Ono-I-Lau]	Inconsistent to Consistent
Kiribati	Normal to Above Normal	Below Normal to Normal	Below Normal to Normal (low to high skill)	Near Consistent to Consistent
Niue	Normal	Normal	Normal (very low skill)	Consistent
Papua New Guinea	Normal to Above Normal	Below Normal to Above Normal	Normal to Above Normal (very low to very high skill)	Inconsistent to Consistent
RMI	Below Normal	Below Normal	Normal	Near Consistent
Samoa	Below Normal to Normal	Normal to Above Normal	Normal to Above Normal (very low to low skill)	Near Consistent
Solomon Islands	Above Normal Normal[Taro]	Normal to Above Normal	Below Normal to Above Normal (very low to low skill)	Near Consistent to Consistent Inconsistent [Honiara]
Tonga	Normal to Above Normal Below Normal [Haápai]	Below Normal to Above Normal	Below Normal to Above Normal (very low skill)	Inconsistent to Consistent
Tuvalu	Normal to Above Normal	Below Normal to Normal	Below Normal (good to very high skill)	Near Consistent to Consistent
Vanuatu	Normal to Above Normal	Below Normal to Normal	Normal to Above Normal (moderate to very high skill)	Inconsistent to Consistent

[†] 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).