Climate and Oceans Monitoring and Prediction (COMP)

Pacific Islands - Online Climate Outlook Forum No. 76
Summary Report

Date: Thursday 23 January 2014

Time: Australian Eastern Daylight Saving Time 12:00PM (01:00 UTC)

Main purpose for the OCOF:

- To provide a regular forum for the eleven 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 (Thursday 20 February) and Chair (Solomon Islands).

Participants:

The Forum was attended by 21 climate officers from 10 PIC NMSs.

Cook Islands: Turi Tutai

Fiji: Bipendra Prakash, Arieta Baleisolomone and Ravind Kumar

Kiribati: Kamaitia Rubetaake, Ueneta Toorua

Niue: Rossy Mitiepo, Hingano Laufoli, Sean Tukutama and Robert Togiamana

Papua New Guinea: Nanao Bouauka

Republic of Marshall Islands: Nover Juria

Samoa: Sunny Seuseu, Tile Tofaeono and Junior Lepale

Solomon Islands: -

Tonga: Seluvaia Finaulahi and Uinita Vea

Tuvalu: Hilia Vavae, Eli Ene and Meelina Ailesi

Vanuatu: Melinda Natapei

The Bureau team: Elisabeth Thompson, Simon McGree, Melissa Matthews and Grant Smith.

OCOF tables were received from all of the eleven 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.

Observations and Verification of June to August outlooks from OCOF #72:

Observed rainfall for the one and three month periods ending December 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
Rarotonga (Cook Islands)	Dec	35.5	5	115
Ono-I-Lau (Fiji)	Dec	393.9	66	68
Kiritimati (Kiribati)	Dec	0.7	5	80
Majuro (RMI)	Dec	146.3	4	32
Majuro (RMI)	Oct to Dec	701.3	5	32
Auki (Solomon Islands)	Dec	107	2	50
Taro (Solomon Islands)	Dec	300	33	36
Fuaámotu (Tonga)	Dec	251.8	30	34
Fuaámotu (Tonga)	Oct to Dec	591.9	30	34

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

Validation of forecasts with observed rainfall across the region for October to December 2013 showed mostly near-consistent results (27 out of 55 stations) at the eleven countries. Consistent results significantly outnumbered inconsistent results (22 versus 6 respectively). The largest inconsistency was at Honiara, Solomon Islands, where below normal rainfall was observed (323mm) against outlook probabilities of 6/22/72 with high skill (LEPS=24.9%). The strongest consistent verification was at Fuaámotu, Tonga, where above normal rainfall was observed (591.9mm), with outlook probabilities of 8/13/79 and very high skill (LEPS=28.1%).

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

Cook Islands (1NC, 1I); Fiji (6C, 5NC); Kiribati (5NC); Niue (1NC); PNG (4C, 3NC, 1I); RMI (1I); Samoa (1C, 3NC); Solomon Islands (1C, 5NC, 1I); Tonga (4C, 1NC, 1I); Tuvalu (1C, 1NC, 1I); and Vanuatu (5C, 2NC).
Overall: 22C, 27NC, 6I.

February to April 2014 Outlooks:

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

SCOPIC outlooks for the coming season mainly favoured tercile 3, i.e. above normal; with 12% of stations with high probabilities in tercile 1; 31% in tercile 2; 36% of the stations with the highest probabilities in tercile 3; 11% of the stations with equal chance of terciles 2 and 3; 5% of the stations with equal chance of terciles 1 and 2; and 5% climatological probabilities. POAMA outlooks mainly favoured tercile 2 (18 out of 29 stations) and tercile 1 (8 out of 29 stations) for the coming season.

Current climate patterns:

The El Niño-Southern Oscillation (ENSO) state remains neutral, with all indicators close to their long-term averages. International models surveyed indicate this state is likely to persist into the austral autumn (March-May).

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Sea surface temperatures (SSTs) for December 2013 were near average along most of the equatorial Pacific (similar to November 2013). December values were NINO3 +0.1°C (up 0.1°C), NINO3.4 +0.1°C (down 0.1°C) and NINO4 +0.3°C (down 0.2°C). The latest weekly values are NINO3 –0.2°C, NINO3.4 –0.4°C, NINO4 –0.1°C. December sub-surface temperatures were cooler than average east of the Date Line. Even further cooling has taken place in the days to 22 January with negative anomalies greater than –3°C below 100m centred on 135°W (north of French Polynesia). This has and may continue to lead to cooler surface temperatures in this region. Weak warm anomalies are present throughout most of the water column west of the Date Line.

The official Southern Oscillation Index (SOI) for December was +0.6; a fall of 8 points from November's +9.2. The current approximate 30-day SOI value is +9.0 (the recent rise is due to a tropical low over Darwin this week), while the 90-day value is +5.7.

Over the last 30 days (to 22 January) the SPCZ has been close to its mean position and more active than normal for this time of year.

The ITCZ appears to be suppressed east of Kosrae (FSM).

The trade winds are close to average across the tropical Pacific (for the 5 days ending 21 January).

The MJO signal strengthened slightly over the Australian region last week then moved slowly eastwards. Climate models indicate the MJO will continue to strengthen over the tropical Pacific this week, but remain almost stationary with only slight eastward propagation, before weakening again in five to eight days. This is not typical behaviour for a strong MJO pulse. It is possible the climate models and MJO analysis tools are picking up the effects of other tropical waves over the Maritime Continent and western Pacific.

ENSO Update (Issued on 14th January 2014)

The El Niño–Southern Oscillation (ENSO) remains in a neutral state, with all indicators well within neutral bounds. International climate models surveyed by the Bureau indicate this neutral ENSO state is likely to persist into the austral autumn. Some models suggest the central Pacific Ocean may warm during the southern autumn and winter, while others remain near average. However, forecasts that span the March to May period have lower skill than forecasts at other times of year, and hence long-range model outlooks need to be used with more caution at this time of year. The Bureau will continue to monitor the ENSO state closely as forecasts become more reliable.

ENSO events (El Niño and La Niña) usually follow a typical life cycle. Events usually begin to develop during the austral autumn and winter months, mature during spring and summer, and rapidly weaken by the end of the following autumn

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	December 2013	Oct-Dec 2013	Outlooks Issued for Oct-Dec 2013 (skill level)	Verification[†] for Oct-Dec 2013 outlooks
Cook Islands	Below Normal to Above Normal	Below Normal to Above Normal	Below Normal to Normal (moderate to high skill)	Inconsistent to Near Consistent
Fiji	Normal to Above Normal	Normal to Above Normal	Above Normal (moderate to high skill) Normal (very low skill) [Rotuma]	Near Consistent to Consistent
Kiribati	Normal to Above Normal Below Normal [Kiritimati]	Normal to Above Normal	Below Normal to Normal (high to exceptional skill)	Near Consistent
Niue	Above Normal	Normal	Above Normal (good skill)	Near Consistent
Papua New Guinea	Normal to Above Normal	Normal to Above Normal Below Normal [Misima]	Normal to Above Normal (low to very high skill) Below Normal (low skill) [Kavieng]	Near Consistent to Consistent Inconsistent [Misima]
RMI	Below Normal	Below Normal	Above Normal (high skill)	Inconsistent
Samoa	Normal to Above Normal	Normal to Above Normal	Above Normal (moderate to good skill)	Near Consistent to Consistent
Solomon Islands	Below Normal to Normal Above Normal [Taro]	Below Normal to Normal Above Normal [Lata]	Normal to Above Normal (very low to very high skill)	Near Consistent to Consistent Inconsistent [Honiara]
Tonga	Above Normal	Normal to Above Normal Below Normal [Haápai]	Above Normal (low to very high skill)	Near Consistent to Consistent Inconsistent [Haápai]
Tuvalu	Normal to Above Normal	Below Normal and Above Normal	Below Normal to Normal (very low to very high skill)	Near Consistent to Consistent Inconsistent [Niulakita]
Vanuatu	Below Normal to Normal Above Normal [Aneityum]	Normal to Above Normal	Above Normal (good to exceptional skill)	Near Consistent to Consistent

[†] Forecast is underlined 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).