

Climate and Oceans Monitoring and Prediction (COMP)

Pacific Islands - Online Climate Outlook Forum No. 82 Summary Report

Date: Thursday 17 July 2014

Time: Australian Eastern Standard Time 11:00AM (01:00 UTC)

Chair: Republic of Marshall Islands

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 1 and 3 months rainfall in relation to the current ENSO situation (include ranking and verification), and their three-month outlooks. Wherever appropriate NMS to report on their drought status.
4. Round-table discussion: addressing general concerns/queries on outlooks and SCOPIC.
5. Feedback on COSPPac products and Services.
6. Interactions with stakeholders (new or existing).
7. Next meeting (Thursday 21 August) and Chair (Cook Islands).

Participants:

The Forum was attended by 17 climate officers from 10 PIC NMSs.

Cook Islands:

Fiji: Arieta Baleisolomone, Bipendra Prakash

Kiribati: Ueneta Toorua

Niue: Melissa Douglas and Rossy Mitiepo

Papua New Guinea: Kisolet Posanau, Kila Kila and Nanao Bouauka

Republic of Marshall Islands: Nover Juria

Samoa: Faapisa Aiono and Sunny Seuseu

Solomon Islands: Noel and Max (At the Bureau office in Melbourne)

Tonga: Selusalema Vite

Tuvalu: Meelina Ailesi, Eli Ene

Vanuatu: Melinda Natapei

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

OCOFC 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 2014 outlooks from OCOF #78:

Observed rainfall for the one and three month periods ending June 2014 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	June	33.2	5	76
Nadi, Fiji	June	1.3	5	73
Yasawa-i-Rara, Fiji	June	3.4	4	62
Nausori Airport, Fiji	Apr-Jun	415.2	5	58
Kanton, Kiribati	June	217.2	54	57
Vanimo, PNG	June	339	56	60
Momote, PNG	June	639.6	65	66
Kirakira, Solomon Islands	June	33.2	5	76
Munda, Solomon Islands	June	445	49	53
Auki, Solomon Islands	Apr-Jun	1010	52	52
Henderson, Solomon Islands	Apr-Jun	704	39	39
Honiara, Solomon Islands	Apr-Jun	1087	59	60
Munda, Solomon Islands	Apr-Jun	1298	53	53
Niuafo'ou, Tonga	June	33.4	3	44
Niulakita, Tuvalu	Apr-Jun	337	3	62
Nui, Tuvalu	Apr-Jun	193.9	2	69
Bauerfield, Vanuatu	June	51.4	5	42
Whitegrass, Vanuatu	June	19.3	4	43
Sola, Vanuatu	Apr-Jun	807.9	4	41
Pekoa, Vanuatu	Apr-Jun	309.8	4	44
Whitegrass, Vanuatu	Apr-Jun	86.5	4	43

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

Validation of forecasts with observed rainfall across the region for April to June 2014 showed mostly near consistent results (21 out of 55 stations) at the nine countries. Consistent results equalled inconsistent results (both 17 out of 55). The largest inconsistency was at Aneityum, Vanuatu, where below normal rainfall was observed (335.6mm) against outlook probabilities of 18/18/64 with moderate skill (LEPS=7.0%). The strongest consistent verification was at Vava'u, Tonga, where above normal rainfall was observed (376.4mm), with outlook probabilities of 14/37/49 and moderate skill (LEPS=8.5%).

A summary of results (C-consistent, NC-Near Consistent and I-Inconsistent) for each country for the February to April 2014 outlook is as follows:

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

Overall: 17C, 21NC, 17I.

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August to October 2014 Outlooks:

Of the nine countries contributing to the OCOF, six chose NINO3.4 over May to June 2014 as the predictors for the August to October 2014 outlook, two chose NINO3.4 over April to June 2014; one chose SSTa 1 and 9 over one month (June), one chose the April to June 2014 SOI, and one chose the May to June 2014 SOI.

SCOPIE outlooks for the coming season mainly favoured below normal rainfall, with 43% of stations with high probabilities in tercile 1, 11% in tercile 2, 15% of the stations had the highest probabilities for tercile 3, and 27% of the stations had similar probabilities in all terciles. The remainder of the outlooks had equal probabilities for two terciles. POAMA outlooks favoured tercile 2 (19 out of 32 stations) for the coming season.

Current climate patterns:

Sea surface temperatures (SSTs), ENSO status and outlook

The equatorial Pacific continued to warm in the east during June. Warm anomalies are present across the entire equatorial Pacific, although cooling over the past two weeks has seen a return to near-average temperatures in the central Pacific.

June SST anomaly values were NINO3 +0.9°C (up 0.2°C), NINO3.4 +0.6°C (up 0.1 °C) and NINO4 +0.5°C (down 0.2°C). The latest weekly values to 8 June are NINO3 +0.9°C, NINO3.4 +0.3°C, NINO4 +0.4°C.

While the majority of climate models suggest El Niño remains likely for the spring of 2014, most have eased their predicted strength. If an El Niño were to occur, it is increasingly unlikely to be a strong event.

Tropical subsurface

Sub-surface temperature anomalies (to June) show warm temperature anomalies across the top 100 m of the equatorial Pacific between the Date Line and the South American coast. Some cooling of the central and eastern equatorial Pacific has taken place over the past month, but sub-surface waters remain more than 3 °C warmer than average in a large part of the eastern equatorial Pacific. The latest TAO/TRITON 5-day subsurface anomalies shows waters in the eastern equatorial Pacific are warmer than average in the top 75 m. Water in part of this area is more than 3 °C warmer than average. Further west, sub-surface temperatures are generally near average to slightly below average.

Southern Oscillation Index (SOI)

The SOI currently remains neutral. The June 2014 value was -1.5; a slight fall from +4.4 in May. The current approximate 30-day SOI value is -7.7, while the 90-day value is +1.7.

Trade Winds

Weak westerly wind anomalies are present over part of the western tropical Pacific, on and to the north of the equator, and near-average across the remainder of the tropical Pacific. If these westerly winds continued they could drive further warming of surface waters in the central and eastern Pacific.

Modes of Variability

South Pacific Convergence Zone (SPCZ), West Pacific Monsoon (WPM), Intertropical Convergence Zone (ITCZ)

Outgoing Longwave Radiation (OLR) and TRMM observations for the last 30 days show enhanced ITCZ activity in the western north Pacific and near the Date Line also above the equator. In the South Pacific the SPCZ is enhanced over the northern Solomon Islands but suppressed further southeast.

Madden Julian Oscillation (MJO)

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A weak Madden Julian Oscillation (MJO) signal has appeared over Southeast-Asia during the past week, moving slowly eastwards towards the western Pacific Ocean where it has become inactive to some extent. The weak MJO event may have contributed somewhat to the enhanced tropical convection across Southeast-Asia and the northwest Pacific Ocean during this period.

Climate models indicate the MJO will remain weak and continue to move slowly eastwards over the western Pacific this week, although some models indicate it will weaken to indiscernible strength in coming days. This suggests that tropical activity over Southeast-Asia and the northwest Pacific Ocean will possibly remain enhanced over the next week, elevating the risk of tropical cyclone development over the region.

ENSO Update (Issued on 15th July 2014)

Warming of the tropical Pacific Ocean over the past several months primed the climate system for an El Niño in 2014. However, a general lack of atmospheric response over the last month has resulted in some cooling of the tropical Pacific Ocean.

While the majority of climate models suggest El Niño remains likely for the spring of 2014, most have eased their predicted strength. If an El Niño were to occur, it is increasingly unlikely to be a strong event.

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	Jun	Apr-Jun 2014	Verification [†] for Apr-Jun 2014 outlooks
Cook Islands	Below Normal to Normal	Normal	Near Consistent
Fiji	Below Normal to Normal Above Normal [Rotuma]	Below Normal to Normal	Inconsistent to Consistent
Kiribati	Above Normal	Above Normal	Inconsistent to Near Consistent
Niue	Above Normal	Normal	Near Consistent
Papua New Guinea	Below Normal & Above Normal Normal [Port Moresby]	Below Normal & Above Normal Normal [Nadzab]	Inconsistent to Consistent
RMI	Normal	Above Normal	Near Consistent to Consistent
Samoa	Below Normal to Normal	Normal to Above Normal	Near Consistent to Consistent
Solomon Islands	Below Normal Above Normal [Munda & Taro]	Normal to Above Normal Below Normal [Lata]	Inconsistent to Consistent
Tonga	Below Normal to Normal [Above Normal Nukuálofa]	Below Normal to Normal [Above Normal Nukuálofa]	Near Consistent to Consistent [Inconsistent Vavaú]
Tuvalu	Below Normal to Normal	Below Normal	Consistent
Vanuatu	Below Normal to Normal	Below Normal	Inconsistent to Near 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).