Climate and Oceans Monitoring and Prediction (COMP)

Pacific Islands - Online Climate Outlook Forum No. 101 Summary Report

Date: Tuesday 9 February 2016

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

Chair: Bureau of Meteorology

Main purpose for the OCOF:

- To provide a regular forum for the 11 participating PIC NMSs to discuss the current ENSO status, recent one and three-month rainfall, drought (if present) and their seasonal climate outlooks with other countries and the COMP project team.

In addition, it serves as an online training forum for recent SCOPIC* development and gives the project team and the NMSs an opportunity to discuss other project related matters.

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), 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. Country statements with regards to drought or drought-like conditions, drought module issues/concerns.
7. Next meeting (Tuesday 15 March - TBC) and Chair (Solomon Islands).

Participants:

The Forum was attended by 19 climate officers from six partner PIC NMSs.

Cook Islands:

Fiji: Bipen Prakash, Arieta Baleisolomone, Yogesh Maharaj, Swastika Devi

Kiribati:

Niue: Rossy Mitiepo, Mellisa Douglas, Clemencia Sioneholo, Hingano Laufoli

Papua New Guinea: Ruth Apuqahe, Agnes Diap, Nanao Bouauka

Republic of Marshall Islands:

Samoa: Tile Togaeono, Junior Lepale, Faapisa Aiono

Solomon Islands:

Tonga: Uinita Vea, Mele Lakai

Tuvalu:

Vanuatu: Shanna Joseph, Daphne Nalawas, Melinda

The Bureau team: Simon McGree, Grant Smith, Jeremy Deverell, and Elise Chandler

OCOF tables were received from 9 participating countries before the meeting.

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

Observations and Verification of November 2015 to January 2016 outlooks:

Observed rainfall for the one and three-month periods ending January 2016 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	Year of record
Tokotoko, Fiji	Jan	167	5	72
Nausori Airport, Fiji	Jan	104	3	60
Rotuma, Fiji	Jan	74	2	104
Penang Mill, Fiji	Nov-Jan	308	7	101
Labasa Airport, Fiji	Nov-Jan	356	5	56
Rotuma, Fiji	Nov-Jan	601	6	101
Kanton, Kiribati	Jan	429	53	55
Kiritimati, Kiribati	Jan	720	86	88
Tarawa, Kiribati	Jan	522	62	67
Kiritimati, Kiribati	Nov-Jan	1841	74	74
Port Moresby, PNG	Jan	43	2	128
Wewak, PNG	Nov-Jan	250	2	59
Misima, PNG	Nov-Jan	393	8	65
Port Moresby, PNG	Nov-Jan	127	3	117
Nafanua, Samoa	Nov-Jan	113	2	42
Apia, Samoa	Nov-Jan	86	2	127
Auki, Solomon Is.	Jan	109	3	55
Honiara, Solomon Is.	Jan	58	4	61
Kirakira, Solomon Is.	Jan	33	1	49
Lata, Solomon Is.	Jan	187	4	42
Munda, Solomon Is.	Jan	130	2	55
Munda, Solomon Is.	Nov-Jan	563	3	54
Niuafo'ou, Tonga	Jan	61	3	43
Niu, Tuvalu	Jan	66	2	71
Funafuti, Tuvalu	Jan	79	1	84
Sola, Vanuatu	Jan	85	2	45
Pekoa, Vanuatu	Jan	11	1	46
Lemap, Vanuatu	Jan	26	1	56
Bauerfield, Vanuatu	Jan	37	2	45
Port Vila, Vanuatu	Jan	25	2	64
Sola, Vanuatu	Nov-Jan	495	4	43
Pekoa, Vanuatu	Nov-Jan	280	3	45
Bauerfield, Vanuatu	Nov-Jan	29	2	43

[Note: The above data may not have undergone quality control]

Validation of forecasts with observed rainfall for the November to January (OCOF #97) period showed 36 consistent, 12 near-consistent and 2 inconsistent outlooks (50 stations across 9 countries).

The largest inconsistency was at Henderson, Solomon Islands where above normal rainfall was observed (832 mm) against outlook probabilities of 78/21/1 with very high skill (LEPS=27.3%). The strongest consistent verification was at Kiritimati, Kiribati where above normal rainfall was observed (1841 mm), with outlook probabilities of 0/1/99 and exceptional skill (LEPS= 41.2%).

A summary of results (C-consistent, NC-Near Consistent, I-Inconsistent, NA-not available) for each country for the November to January 2016 outlook is as follows:

Cook Islands (NA); Fiji (7C, 4NC); Kiribati (3C, 1NC); Niue (1C); PNG (4C, 2NC, 1I); RMI (NA); Samoa (2C, 2NC); Solomon Islands (5C, 1NC, 1I); Tonga (5C,1NC); Tuvalu (2C,1NC) and Vanuatu (7C).

Overall: 36C, 12NC, 2I.

March to May 2016 Outlooks:

Of the nine countries contributing reports to OCOF #101, the following predictors and periods were selected: Three-month average NINO3.4 (November-January) – four countries, Two-month average NINO3.4 (December-January) – four countries and one-month average NINO3.4 (January) – one country. NINO3.4 two-month average is recommended as this predictor/period is associated with the highest three-month outlook skill on a regional scale.

Sixty-four percent of the 55 stations outlooks had the highest probabilities in tercile 1, 7% in tercile 2 and 24% in tercile 3. The remaining 5% had either near equal probabilities in two terciles, near equal probabilities in three terciles or a mixed outlook.
POAMA outlooks: Sixty-four percent of the 45 station outlooks favoured tercile 1, 2% tercile 2 and 27% tercile 3. The remaining 7% had either near equal probabilities in two terciles, near equal probabilities in three terciles or a mixed outlook.

ENSO summary for the February 2016 OCOF

ENSO Status

El Niño remains strong, but continues its gradual decline. Close to the equator, the surface of the Pacific Ocean has now cooled by 0.5 °C since the El Niño peaked in late 2015. Below the ocean surface, cooler than average waters now extend into the central tropical Pacific Ocean. In the atmosphere, trade winds have recently returned to near-normal levels in the central and eastern Pacific, although the Southern Oscillation Index (SOI) has been strongly negative in recent weeks. During Australia's northern wet season, it is not unusual to see big fluctuations in the SOI due to the passage of tropical systems, and hence its value may not be representative of the overall ENSO state.

ENSO Outlook

The latest NINO3.4 outlooks (initialised in January) indicate that sea surface temperatures across the central tropical Pacific Ocean are likely to cool into the austral autumn and winter. The all-model average NINO3.4 outlook for February is +2.4 °C, dropping to +1.4 °C by April. By June, the all-model average drops to +0.1°C, well below the El Niño threshold, with only one out of eight surveyed models forecasting a value indicative of El Niño. This model suggests a slightly later return to neutral.

For more information please see:

COSPPac monthly climate bulletin at http://www.bom.gov.au/cosppac/comp/bulletin/index.shtml

Bureau of Meteorology ENSO wrapup at http://www.bom.gov.au/climate/enso/

Other Discussion

Samoa: Clarification of wording with regards to the El Nino decline going forward and how to approach a possible La Nina later in the year.

Fiji: Release in March/April of the next draft of the drought bulletin, currently looking at quarterly releases going to monthly where required. Suggestion from the Bureau to consider monthly releases throughout the year.

Query from several countries with regards to the next release of the SCOPIC software and future CLide software/hardware

Observed Rainfall and Validation

Country	January 2016	November to January 2016	Verification† for November - January 2016 outlooks
Cook Islands			
Fiji	Below normal (above normal at Nadi airport)	Below normal to normal	Consistent to near consistent
Kiribati	Above normal	Above normal (normal at Butaritari)	Consistent to near consistent
Niue	Below normal	Below normal	Consistent
Papua New Guinea	Below normal to normal	Below normal to normal (above normal at Nadzab)	Mostly consistent
RMI			
Samoa	Below normal	Normal (below normal at Faleolo)	Consistent to near consistent
Solomon Islands	Below normal	Below normal to normal (above normal at Henderson)	Mostly consistent
Tonga	Below normal	Below normal (normal at Niuatoputapu)	Consistent to near consistent
Tuvalu	Below normal	Normal (above normal at Nanumea)	Consistent to near consistent
Vanuatu	Below normal	Below normal	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).