

Climate and Oceans Monitoring and Prediction (COMP)

Pacific Islands - Online Climate Outlook Forum No. 102 Summary Report

Date: Tuesday 15 March 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 12 April - TBC) and Chair (Solomon Islands).

Participants:

The Forum was attended by 22 climate officers from eight partner PIC NMSs.

Cook Islands: Bates Manea

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

Kiribati: Mauna Eria, Kamaitia Rubetaake

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

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

Republic of Marshall Islands:

Samoa: Tile Togaeono, Junior Lepale, Faapisa Aiono

Solomon Islands: Lloyd Tahani, Max Norman

Tonga: Uinita Ve'a, Mele Lakai

Tuvalu:

Vanuatu:

The Bureau team: Grant Beard, Jeremy Deverell, and Elise Chandler

OCOFC tables were received from 10 participating countries before the meeting.

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

Australian Aid Project: Climate and Oceans Support Program in the Pacific (COSPPac)

Observations and Verification of December 2015 to February 2016 outlooks:

Observed rainfall for the one and three-month periods ending February 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
Rarotonga, Cook Islands	Feb	53.2	7	118
Rarotonga, Cook Islands	Dec-Feb	146.1	7	118
Penang Mill, Fiji	Feb	607.6	97	107
Nausori Airport, Fiji	Feb	522.3	59	60
Tarawa, Kiribati	Feb	706.7	67	67
Beru, Kiribati	Feb	400.2	59	63
Kiritimati, Kiribati	Feb	490.6	89	91
Tarawa, Kiribati	Dec-Feb	1500.4	64	66
Kiritimati, Kiribati	Dec-Feb	1877.4	89	89
Misima, Papua New Guinea	Feb	116.8	2	92
Misima, Papua New Guinea	Dec-Feb	358.4	2	86
Henderson, Solomon Is.	Feb	693	42	42
Henderson, Solomon Is.	Dec-Feb	1251	38	41
Apia, Samoa	Dec-Feb	782	18	126
Niuaotupapu, Tonga	Feb	71.3	5	70
Vava'u, Tonga	Feb	463.1	66	70
Niuafo'ou, Tonga	Dec-Feb	346	2	45
Nanumea, Tuvalu	Feb	685.6	74	76
Nanumea, Tuvalu	Dec-Feb	1642.7	73	75
Pekoa, Vanuatu	Feb	83.1	4	46
Lemap, Vanuatu	Feb	43.8	2	56
Bauerfield, Vanuatu	Feb	31.2	1	44
Port Vila, Vanuatu	Feb	53.1	1	64
Sola, Vanuatu	Dec-Feb	562.1	2	42
Pekoa, Vanuatu	Dec-Feb	276.0	2	45
Lemap, Vanuatu	Dec-Feb	302.9	3	53
Bauerfield, Vanuatu	Dec-Feb	258.5	1	42
Port Vila, Vanuatu	Dec-Feb	396.2	4	63

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

Validation of forecasts with observed rainfall for the December to February (OCOF #98) period showed 33 consistent, 16 near-consistent and 3 inconsistent outlooks (52 stations across 10 countries).

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

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

Overall: 33C, 16NC, 3I.

April to June 2016 Outlooks:

Of the ten countries contributing reports to OCOF #102, the following predictors and periods were selected: Three-month average NINO3.4 (December-February) – four countries, Two-month average NINO3.4 (January-February) – five countries and one-month average NINO3.4 (February) – 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-eight percent of the 60 stations outlooks had the highest probabilities in tercile 1, 7% in tercile 2 and 20% 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: Seventy-nine percent of the 38 station outlooks favoured tercile 1, 0% tercile 2 and 21% tercile 3.

ENSO summary for the March 2016 OCOF

ENSO Status

The 2015–16 El Niño is now at moderate levels, and is likely to end in the second quarter of 2016. Close to the equator, the surface of the Pacific Ocean has now cooled by 0.5 °C in places during February. Below the ocean surface, cooler than average waters now extend into the central and eastern 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 2015-16 El Niño has been steadily declining since its peak in November/December. Climate models suggest it will continue to weaken during the autumn months, with a return to ENSO neutral likely during the second quarter of 2016.

The latest NINO3.4 outlooks (initialised in February) indicate that sea surface temperatures across the central tropical Pacific Ocean are likely to continue cooling into the austral autumn and winter. The all-model average NINO3.4 outlook for March is +1.9 °C, dropping to +1.0 °C by May. By July, the all-model average drops to –0.3 °C, which would be the first negative NINO3.4 value since February 2014. The model consensus is for ENSO neutral from winter 2016.

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

Fiji: Discussion with Bipen around TC Winston which had a severe impact on the north of Fiji's main island, Viti Levu, and surrounding Islands. One of the most devastating cyclone's in Fiji's history, Winston caused a current death toll of 44 and estimated cost of \$1 billion Fiji dollars. There was a maximum 1 minute wind of 135 knots, with a gust recorded of 165 knots. There was flooding in low lying areas with thousands still residing in evacuation centres and electricity not connected in places. Most schools have reopened although many are operating out of makeshift tents.

Observed Rainfall and Validation

Country	February 2016	December to February 2016	Verification[†] for December - February 2016 outlooks
Cook Islands	Below normal to normal	Below normal to above normal	Consistent
Fiji	Below normal to above normal	Below normal to normal	Near consistent to consistent
Kiribati	Above normal (below normal at Butaritari)	Above normal (normal at Butaritari)	Consistent with near consistent at Butaritari
Niue	Above normal	Below normal	Consistent
Papua New Guinea	Normal to above normal (below normal at Misima)	Below normal to normal (above normal at Nadzab)	Near consistent to consistent
RMI			
Samoa	Below normal to normal	Below normal	Consistent with near consistent at Afiamalu
Solomon Islands	Above normal (normal at Kirakira and below normal at Taro)	Below normal to above normal	Consistent to Inconsistent
Tonga	Below normal to above normal	Below normal to normal	Near consistent to consistent
Tuvalu	Normal to above normal	Below normal to above normal	Consistent with inconsistent at Funafuti
Vanuatu	Below normal (normal at Whitegrass)	Below normal	Consistent with near consistent at Sola

[†] 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).