Fiji Meteorological Service

ISO 9001:2015

ISO 9001:2015 certified Climate Services

Winner - Fiji Business Excellence Prize Fiji Business Excellence Awards 2014

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Climate Outlook for Monasavu from May to July 2018

Current Conditions

Fiji's Climate

The presence of both Tropical Cyclone Josie and Tropical Cyclone Keni were the main weather feature during the month. Accompanying rainfall resulted in the generally *well above average* to *average* rainfall recorded at the various rainfall recording stations.

TC Josie affected the group from 30th March to 3rd April and TC Keni was present from the 8th to 11th April. Damaging gale force winds were recorded at various stations with flash flooding reported at various parts of the country during the passage of the two cyclones.

Out of the twenty four stations, seven stations recorded *well above average* rainfall, eight recorded *above average* rainfall, seven recorded *average* rainfall, while Matei Airfield and Vanuabalavu were the only two stations with *below average* rainfall.

Monasavu received 664.1mm of rainfall during April 2018, which was 122% of the *normal*. During February to May 2018, Monasavu recorded 1880mm of rainfall, which was 112% of *normal*, while in the past six months, between November 2017 to April 2018, 3519mm of rainfall was received (107% of the *normal*).

El Niño-Southern Oscillation (ENSO) Status

The El Niño Southern Oscillation (ENSO) currently remains neutral, neither El Niño or La Niña in the tropical Pacific Ocean. Atmospheric and oceanic indicators of ENSO are generally at neutral levels.

The sea surface temperatures are close to the long term average across the tropical Pacific Ocean and the waters beneath the surface are slightly warmer than average. Warm anomalies were present across most of the South Pacific around and south of 30°S, much of the Maritime Continent.

The sub– surface temperatures in the central and eastern equatorial Pacific Ocean has slowly warmed over the past three months. The 30days and 90days Southern Oscillation Index (SOI) are both within the neutral range (Figure 6). Trade Winds are near average across the equatorial Pacific Ocean and cloud cover has been below average since late February.

El Niño-Southern Oscillation and Monasavu Climate Predictions

El Niño-Southern Oscillation Prediction

All surveyed international climate models indicate that the Pacific Ocean sea surface temperatures will remain within the ENSO– neutral range between June to August 2018. One model indicates central and equatorial Pacific sea surface temperatures may approach El Niño threshold values during September to November 2018, however, model outlooks produced during the dry season have a lower skills than other times of the year.

SCOPIC Rainfall Predictions for Viti Levu:
May to July 2018:

Above average rainfall is favoured at majority of the sites (Table 1).

Air Temperature Predictions - May to July 2018:

Air temperatures are likely to be *above normal* in the Fiji region. However, as the country progresses into the cool/dry season, occasional bursts of significantly cool conditions could be expected over the coming three months.

SCOPIC Rainfall Prediction for Monasavu:
Using Tercile method: May to July 2018:

There is 20% chance of *below average* or less than 636mm of rainfall, 41% chance of *average* rainfall and 39% chance of *above average* rainfall or more than 787mm of rainfall (*low* confidence) (Figure 1).

Median method: May to July 2018:

There is a 42% chance of receiving less than 729mm of rainfall and 58% chance of receiving greater than 729mm of rainfall (*low* confidence) (Figure 2 & Table 1).

SCOPIC Rainfall Prediction for Monasavu:
Using the Tercile method - August to October 2018:

There is 33% chance of *below average* or less than 757mm of rainfall, 28% chance of *average* and 39% chance of *above average* rainfall or more than 901mm of rainfall (*very low* confidence).

Using the Median method - August to October 2018:

There is a 54% chance of receiving less than 831mm of rainfall and 46% chance of receiving greater than 831mm of rainfall *(very low* confidence).

In summary, the SCOPIC model forecast at Monasavu for the period May to July 2018 favours *average* or *above average* rainfall. It should be noted that the global climate models favour *average* or *below average* rainfall in the Fiji region for the same period. After the effect of lag period, rainfall is likely to be suppressed during the dry season, with increasing evaporation, as compared to the wet season.

Figure1: SCOPIC-3month Rainfall Outlook (Tercile Method)
May to July 2018
T1: 636mm T2: 787mm

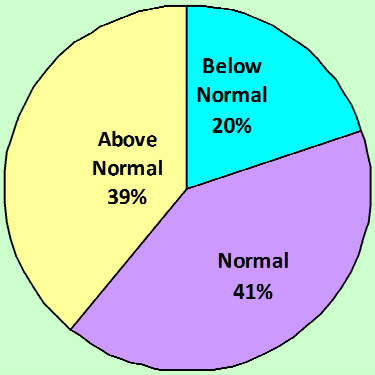


Figure2: SCOPIC-3month Rainfall Outlook (Median Method) May to July 2018
Median Rainfall 729mm

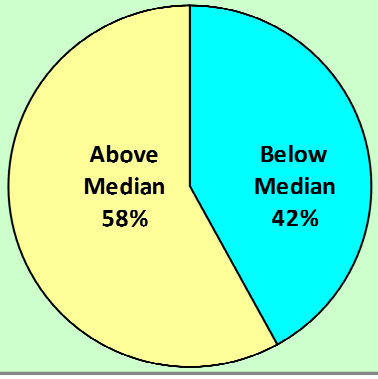


Figure 3

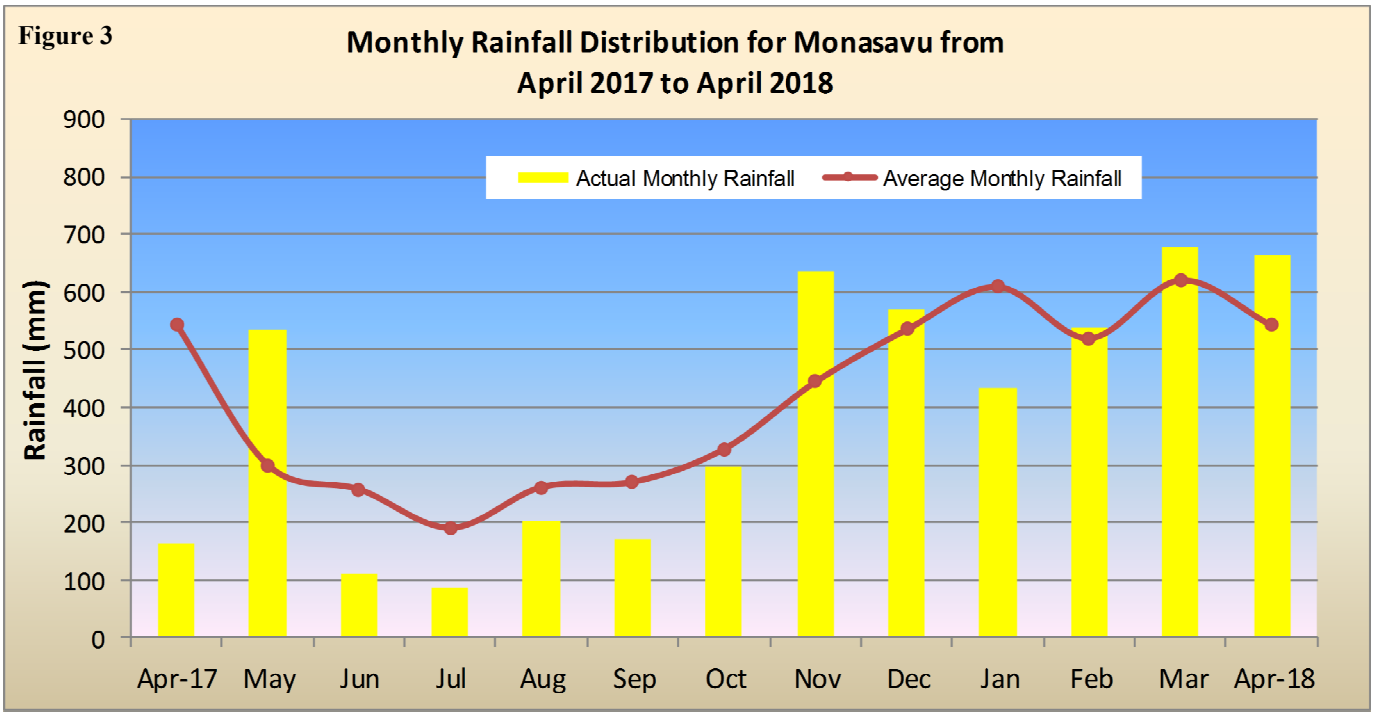


Figure 4

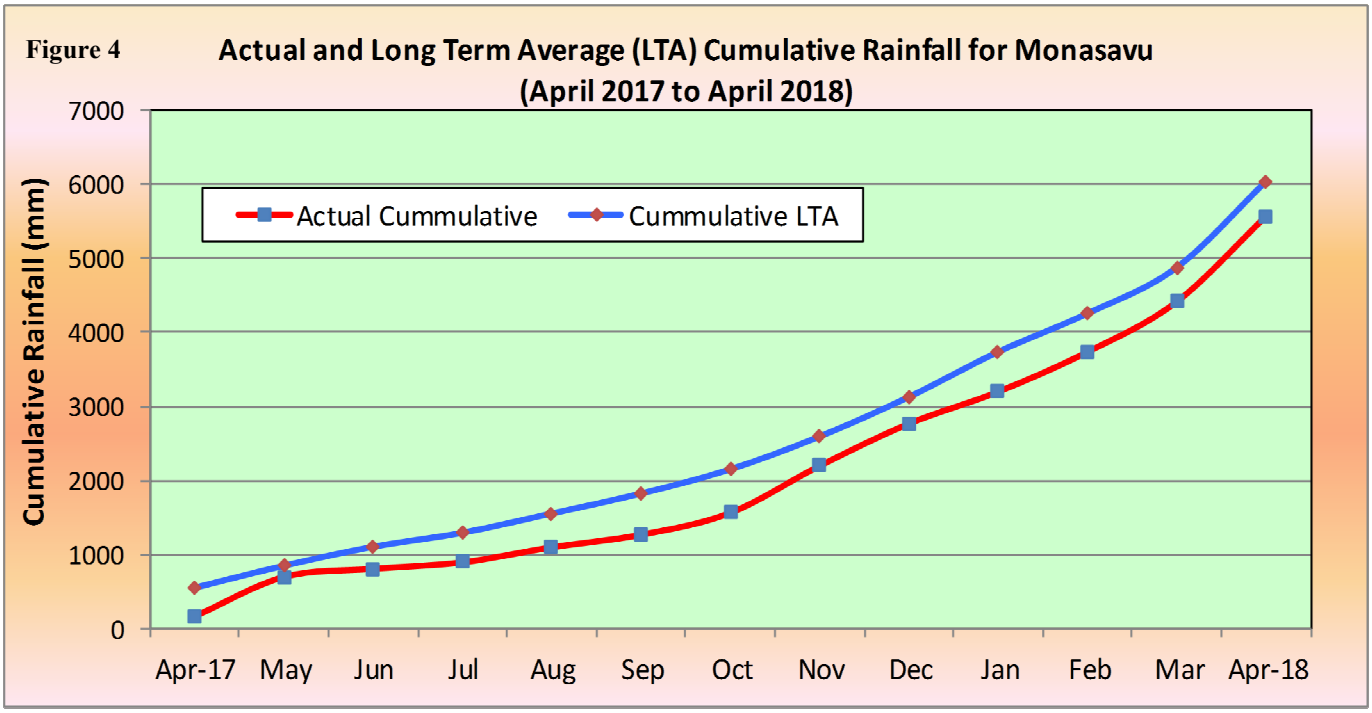
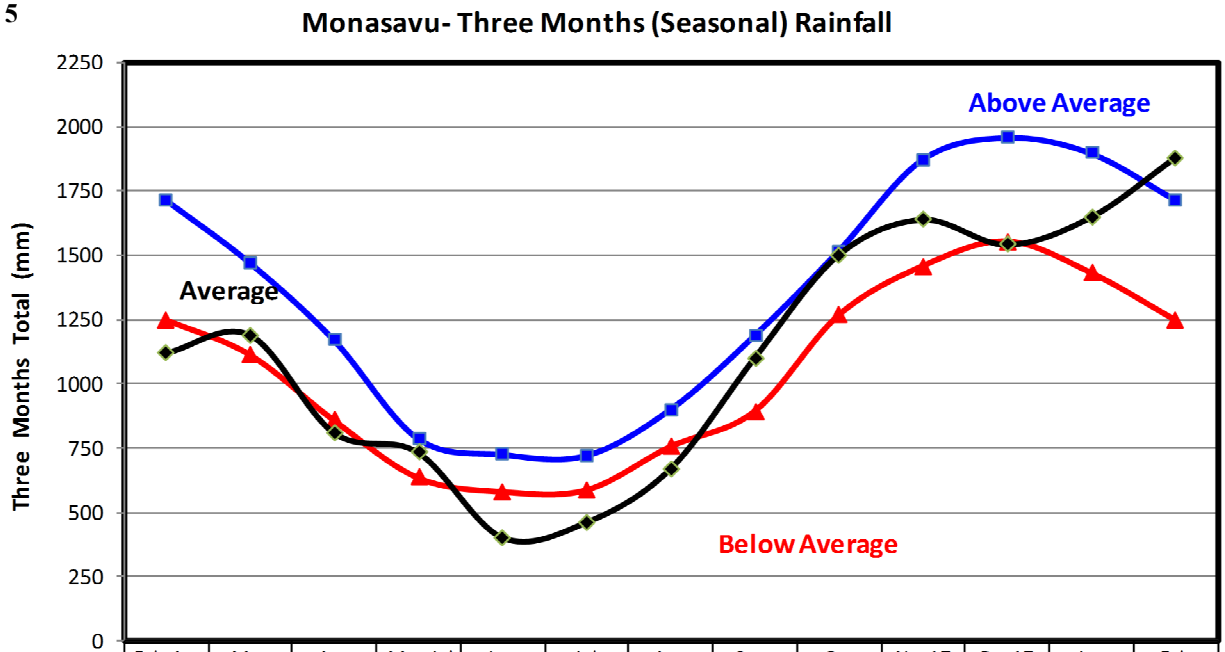


Figure 5



	Feb-Apr 17	Mar-May17	Apr-Jun17	May-Jul 17	Jun-Aug17	Jul-Sep17	Aug-Oct17	Sept-Nov17	Oct-Dec17	Nov17-Jan18	Dec17-Feb18	Jan-Mar18	Feb-Apr18
Tercile 2 (T2)	1716.0	1471.4	1171.1	787.2	725.3	721.3	901.0	1188.2	1517.8	1873.1	1957.3	1896.9	1716.0
Tercile 1 (T1)	1247.3	1112.0	858.2	635.8	581.7	588.4	756.8	893.2	1265.7	1456.2	1551.7	1429.7	1247.3
Actuall Rainfall	1119.6	1189.9	809.6	732.5	402.1	460.0	669.0	1100.2	1502.1	1639.3	1542.0	1648.8	1880

The tercile values have been calculated from January 1980 to January 2018 data. In the tercile method, three months rainfall is arranged from the lowest on record to highest on record. The observed three months rainfall below tercile 1 (T1) is considered to be below average, while rainfall above tercile 2 (T2) is considered to be above average. By this method, extreme conditions either wet or dry is flagged by T1 and T2 boundary.

Figure 6

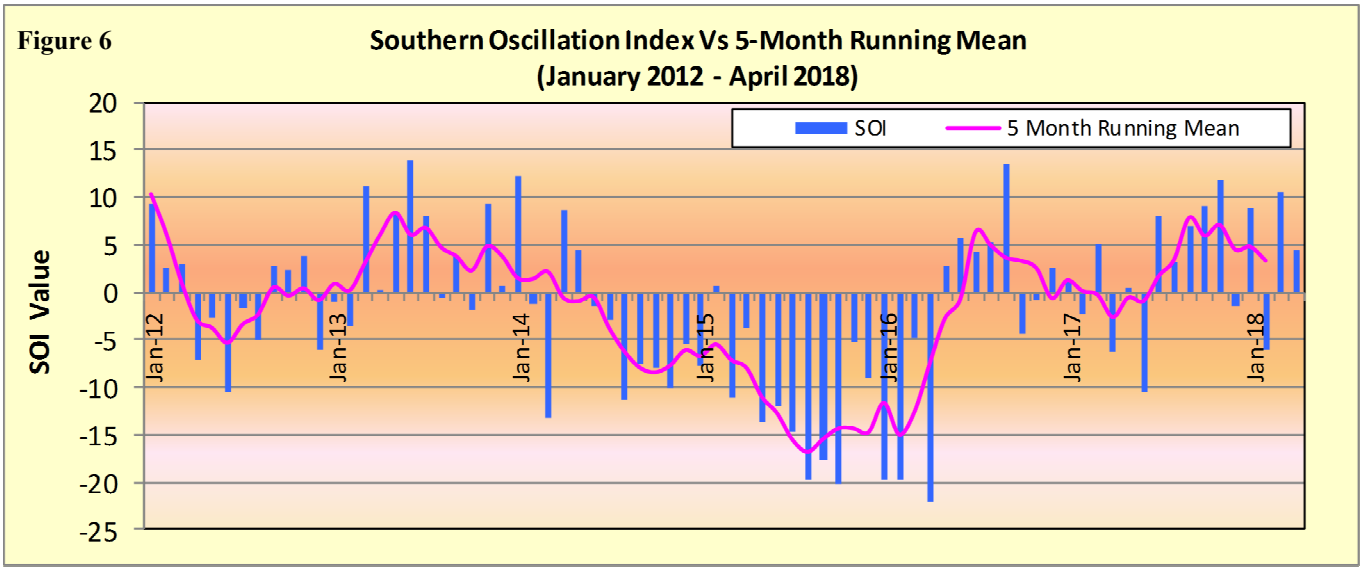


Figure 7

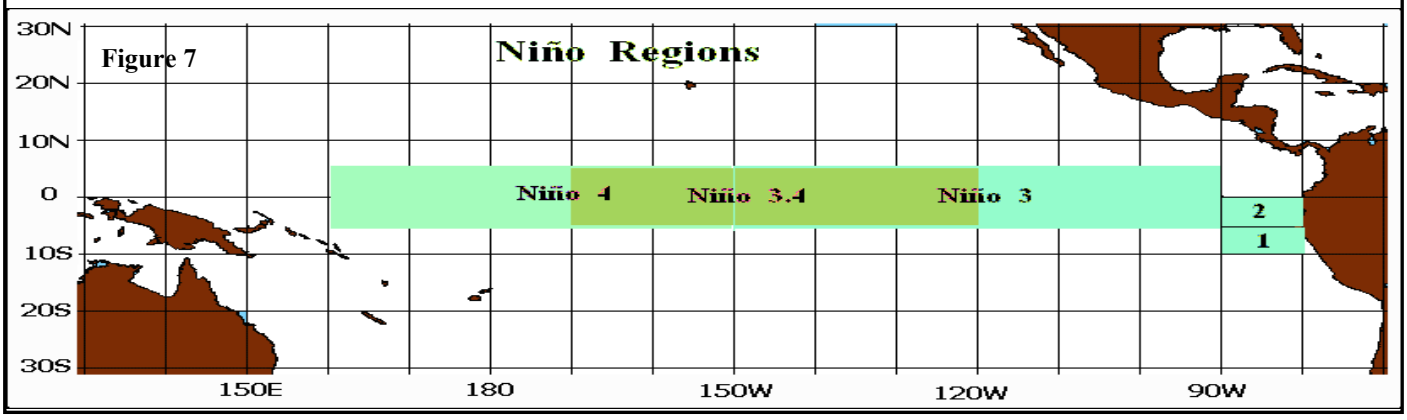
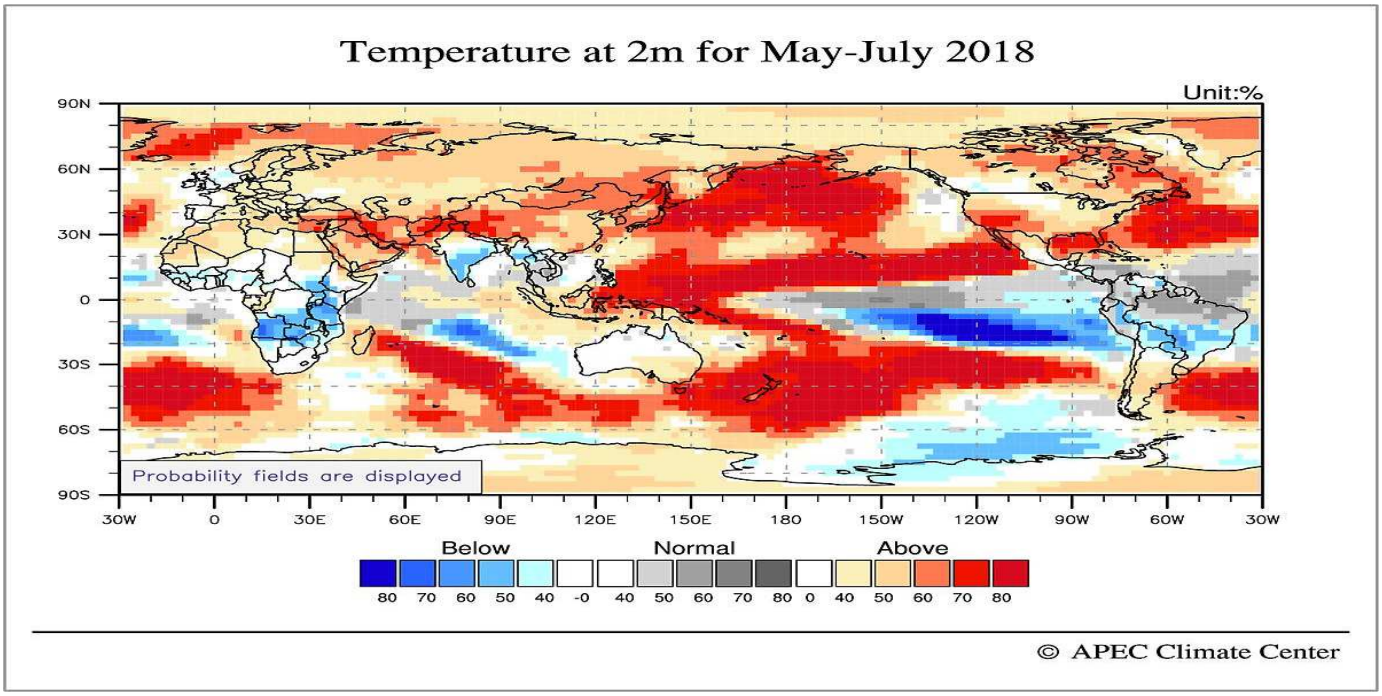


Table 1: Rainfall Predictions from May to July 2 018

Rainfall	Below Average (%)	Average (Median) (mm)	Above Average (%)
Monasavu Dam	42	729	58
Nadi Airport	31	184	69
Penang Mill	37	247	63
Laucala Bay (Suva)	32	505	68
Nacocolevu (Sigatoka)	36	244	64

Figure 8: Air Temperature Prediction from May to July 2018



Multi-model ensemble for air temperature predictions. Source APEC Climate Centre.

Climate bulletins issued by the Climate Services Division of Fiji Meteorological Service include:

1) *Fiji Climate Summary at http://www.met.gov.fj/Summary1.pdf (issued monthly)*
2) *Fiji Climate Outlook at http://www.met.gov.fj/Outlook1.pdf (issued monthly)*
3) *Climate Outlook for Monasavu at http://www.met.gov.fj/Monasavu1.pdf (issued monthly)*
4) *Fiji Sugarcane Rainfall Outlook at http://www.met.gov.fj/SOutlook.pdf (issued quarterly)*
5) *ENSO Update at http://www.met.gov.fj/ENSO_Update.pdf (issued every second month)*
6) *Fiji Annual Climate Summary at http://www.met.gov.fj/Summary2.pdf (issued annually)*

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