# Fiji Meteorological Service

ISO 9001:2008 certified Climate Services

Volume: 13 Issue: 04
April 7, 2017

## *Climate Outlook for Monasavu from April to June 2017*

## Current Conditions

**Fiji's Climate**

ENSO neutral conditions persisted during March 2017. However, certain aspects of the atmosphere displayed some weak La Niña like characteristics.

Rainfall during March 2017 was *average* to *above average* over most parts of the country, with 17 out of the 25 stations recording *average* rainfall and six *above average* rainfall. The exception to this were Lakeba and Ono-i-Lau in the Lau Group, where *below average* rainfall was received.

Monasavu recorded 80% (496.9mm) of its *normal* rainfall during last month (Figure 3). Over the last three months (January to March 2017), Monasavu recorded 1674.7mm of rainfall (96% of *normal*), while in the past six months (October 2016 to March 2017), 3585.4mm of rainfall was received (117% of the *normal*) (Figures 3-5).

The mean maximum air temperature at Monasavu during March 2017 was *near normal*, while the mean minimum air temperature was *above normal*.

**El Niño-Southern Oscillation (ENSO) Status**

The sea surface temperatures (SSTs) are currently near normal in the central equatorial Pacific Ocean, while warm anomalies are in the western and eastern equatorial Pacific. The SSTs in the far eastern Pacific along the coast of Peru are at record warm levels with some referring to it as a 'coastal El Niño'. During the last two months, negative subsurface temperature anomalies have dissipated across the equatorial Pacific Ocean and warmer than normal anomalies are now evident.

Convection in the equatorial Pacific are leaning towards a weak La Niña like conditions, with below normal cloud cover near the Dateline and above normal cloud cover in the Indonesian region. The Trade winds were enhanced over the western equatorial Pacific, a feature typical of a La Niña event. However, the Southern Oscillation Index (SOI) have been generally within the neutral range since mid-October 2016, with the latest 30-day average to 4th April 2017 at +2.6 (Figure 6).

## El Niño-Southern Oscillation and Monasavu Climate Predictions

**El Niño-Southern Oscillation Prediction**

ENSO neutral conditions are favoured to persist through the April to June 2017 period. During the second half of the year, majority of the climate models are predicting El Niño conditions to develop. However, it must be noted that this outlook overlaps the ENSO transition months during which most models have their lowest forecast accuracy. Therefore, continuation of the ENSO neutral conditions cannot be ruled out. Chances of La Niña developing is very low.

**SCOPIC Rainfall Predictions for Viti Levu:**
**April to June 2017:**

Rainfall outlook for Viti Levu is not significantly biased towards either *above average* or *below average* rainfall (Table 1).

**SCOPIC Air Temperature Predictions for Viti Levu:**
**April to June 2017:**

Air temperatures are favoured to be around *normal* through the April to June 2017 period (Tables 2 & 3).

**SCOPIC Rainfall Prediction for Monasavu:**
**Using Tercile method: April to June 2017:**

There is 29% chance of *below average* or less than 905.5mm of rainfall, 36% chance of *average* rainfall and 35% chance of *above average* rainfall or more than 1181.8mm of rainfall (*low* confidence) (Figure 1).

**Using Median method - April to June 2017:**

There is a 48% chance of receiving less than 989.4mm of rainfall and 52% chance of receiving greater than 989.4mm of rainfall (*very low* confidence) (Figure 2 & Table 1).

**SCOPIC Rainfall Prediction for Monasavu:**
**Using the Tercile method - July to September 2017:**

There is 34% chance of *below average* or less than 590.9mm of rainfall, 33% chance of *average* and 33% chance of *above average* rainfall or more than 736.5mm of rainfall (*very low* confidence).

**Using the Median method - July to September 2017:**

There is a 54% chance of receiving less than 663.5mm of rainfall and 46% chance of receiving greater than 663.5mm of rainfall (*low* confidence).

In summary, the SCOPIC model is not biased towards either significantly wetter or drier than *average* conditions at Monasavu for both April to June and July to September 2017 periods. In such situation, decisions based on long term climatology is recommended. The country is now progressing into the dry season. Thus, the amount of rainfall in the coming months will decrease in comparison to what have been received in the last few months.

Figure1: SCOPIC-3month Rainfall Outlook (Tercile Method) April to June 2017
T1: 905.5mm T2: 1181.8mm

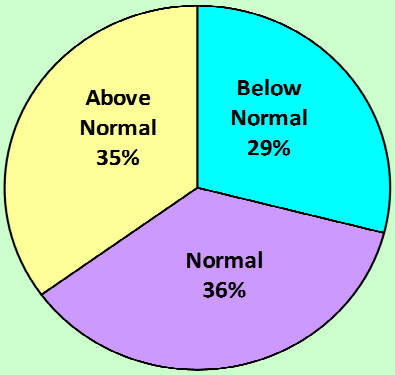



Figure2: SCOPIC-3month Rainfall Outlook (Median Method) April to June 2017
Median Rainfall 989.4 mm

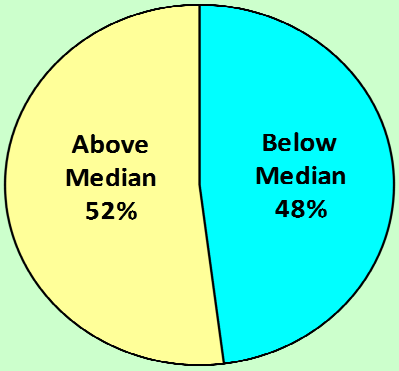



Figure 3

Monthly Rainfall Distribution for Monasavu from March 2016 to March 2017

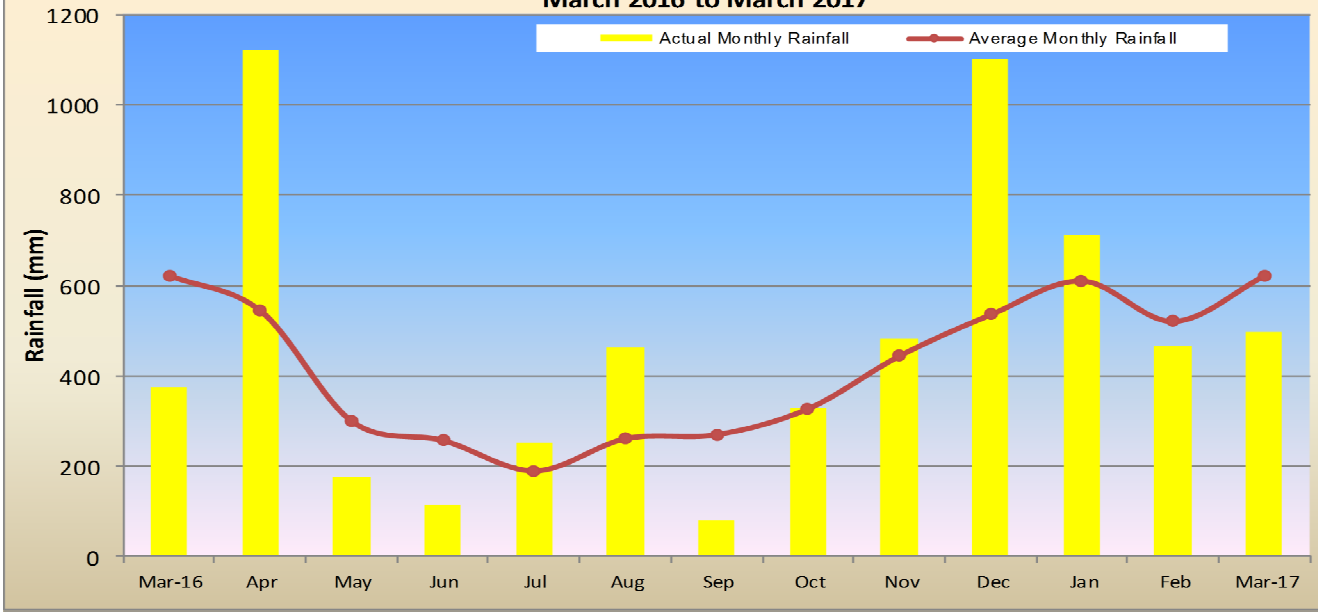



Figure 4

Actual and Long Term Average (LTA) Cumulative Rainfall for Monasavu (March 2016 to March 2017)

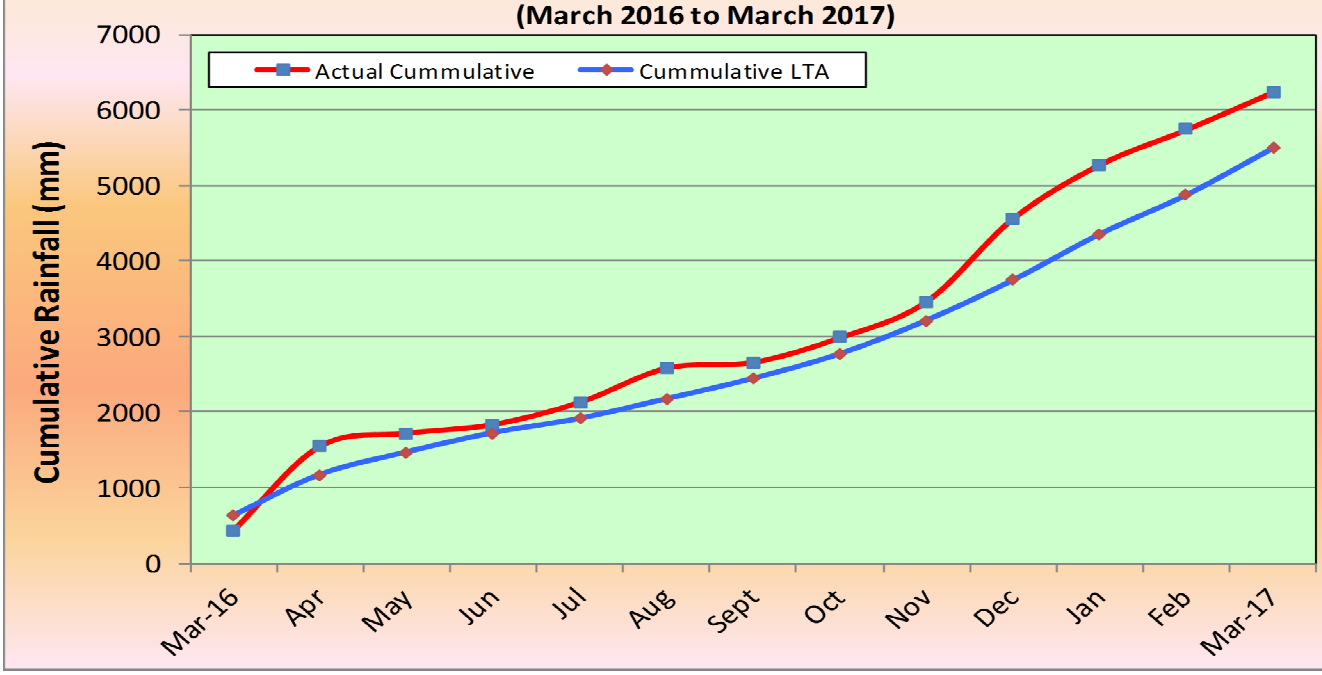
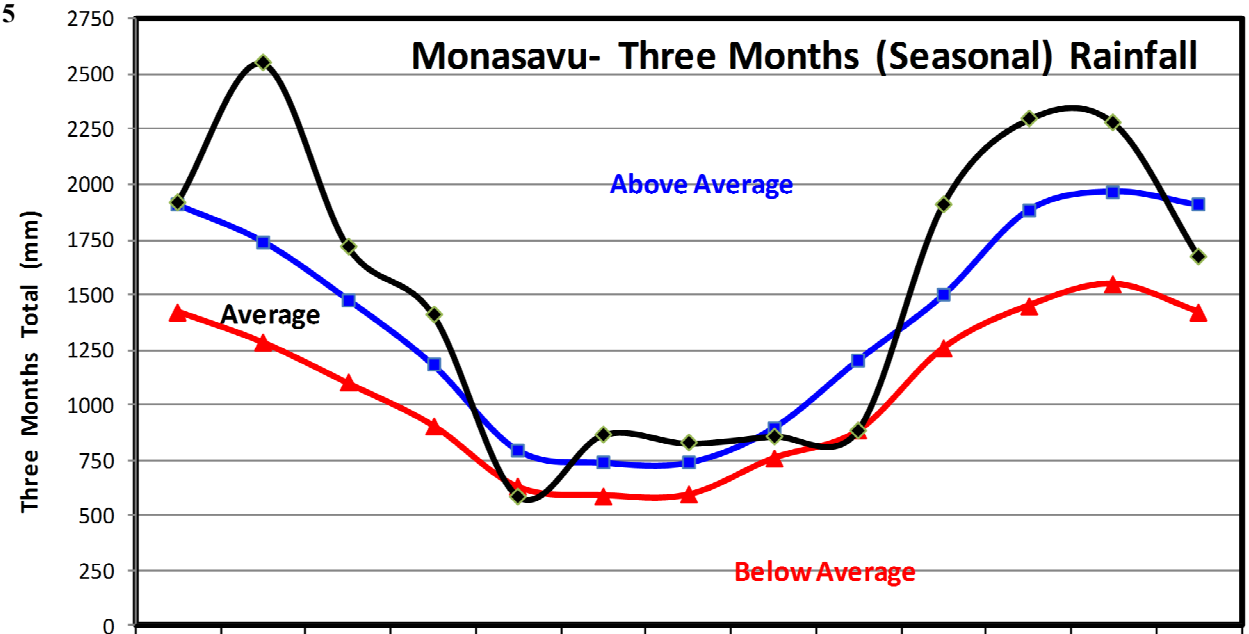


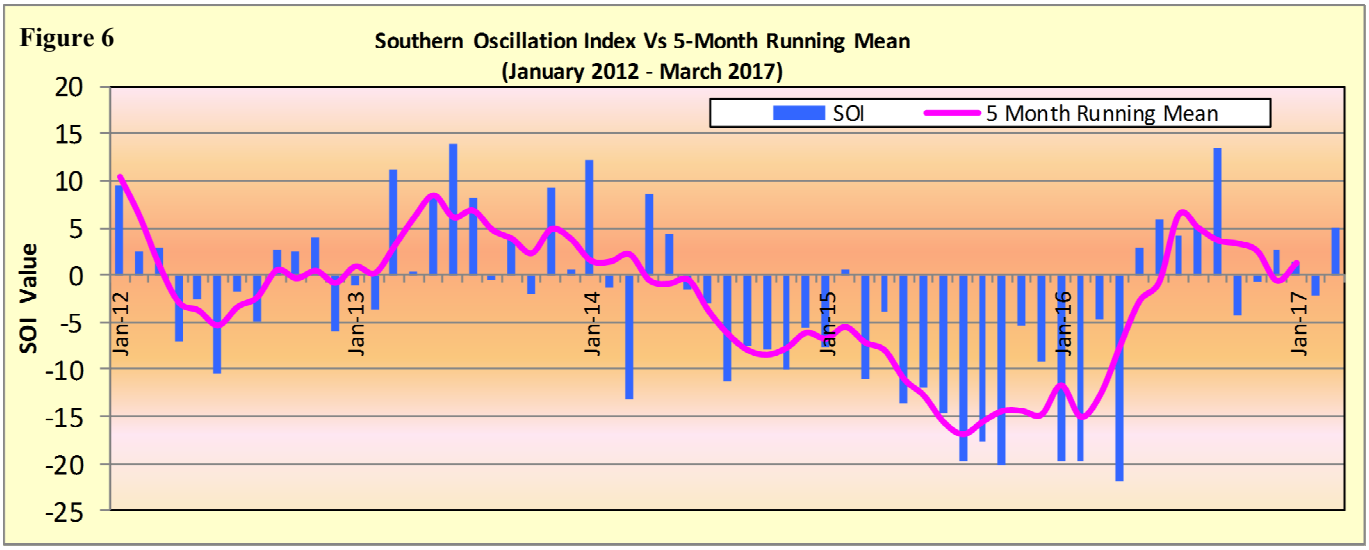
Figure 5




| | Jan-Mar16 | Feb-Apr16 | Mar-May16 | Apr-Jun16 | May-Jul16 | Jun-Aug16 | Jul-Sep16 | Aug-Oct16 | Sep-Nov16 | Oct--Dec16 | Nov16-Jan17 | Dec16-Feb17 | Jan-Mar17 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tercile 2 | 1906.9 | 1740.9 | 1477.6 | 1181.8 | 792.9 | 736.6 | 736.5 | 892.7 | 1202.3 | 1496.9 | 1881.9 | 1967.6 | 1906.9 |
| Tercile 1 | 1423.1 | 1283.1 | 1097.6 | 905.5 | 626.0 | 588.4 | 590.9 | 756.0 | 882.3 | 1257.9 | 1450.8 | 1550.1 | 1423.1 |
| Actuall Rainfall | 1921.9 | 2550.7 | 1719.4 | 1411.3 | 585.2 | 862.6 | 824.9 | 856.9 | 885.4 | 1910.7 | 2295.6 | 2281.1 | 1674.7 |

*The tercile values have been calculated from January 1980 to February 2017 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



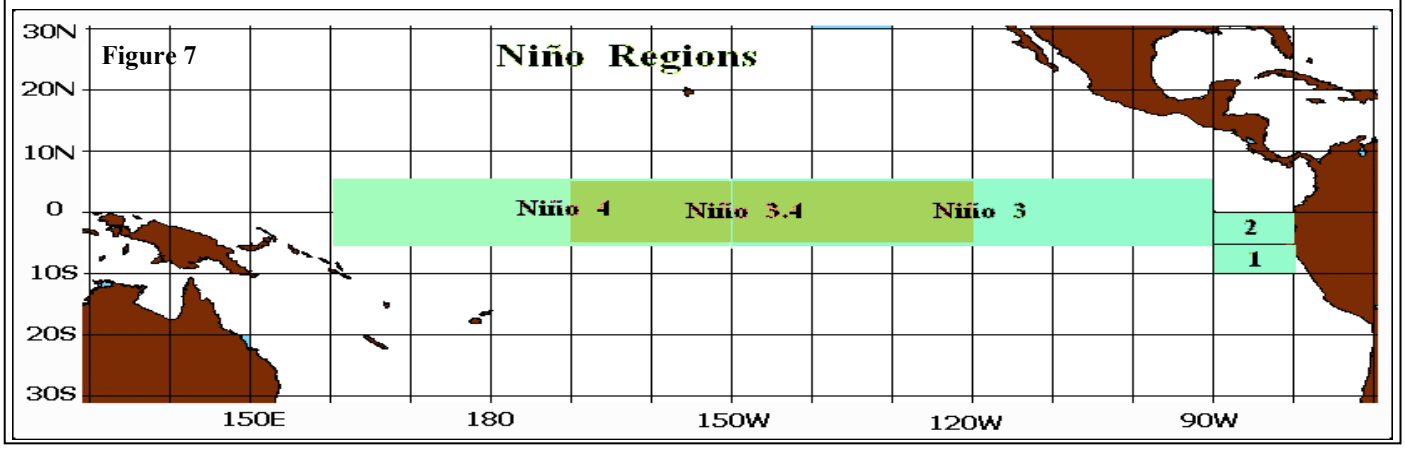



**Table 1: Rainfall Predictions from April to June 2017**

| Rainfall | Below Average (%) | Average (Median) (mm) | Above Average (%) |
|---|---|---|---|
| Monasavu Dam | 48 | 989.4 | 52 |
| Nadi Airport | 48 | 314.4 | 52 |
| Penang Mill | 49 | 422.6 | 51 |
| Laucala Bay (Suva) | 48 | 732.4 | 52 |
| Nacocolevu (Sigatoka) | 49 | 345.0 | 51 |

**Table 2: Maximum Air Temperature Predictions from April to June 2017**

| MAXIMUM TEMPERATURE | Below Average (%) | Average (Median) (˚C) | Above Average (%) |
|---|---|---|---|
| Monasavu | 49 | 23.2 | 51 |
| Laucala Bay (Suva) | 50 | 28.5 | 50 |
| Nadi Airport | 52 | 29.7 | 48 |

**Table 3: Minimum Air Temperature Predictions from April to June 2017**

| MINIMUM TEMPERATURE | Below Average (%) | Average (Median) (˚C) | Above Average (%) |
|---|---|---|---|
| Monasavu | 46 | 17.6 | 54 |
| Laucala Bay (Suva) | 50 | 22.3 | 50 |
| Nadi Airport | 50 | 20.7 | 50 |

**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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