



# Fiji Meteorological Service



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## Climate Outlook for Monasavu from June to August 2017

### Current Conditions

#### Fiji's Climate

The weather during May was dominated by easterly wind flow and transient troughs of low pressure systems. As a result, the windward facing coasts of the larger islands experienced Trade showers on most of the days, while the leeward side experienced mainly fine weather.

Overall, rainfall during the month varied across the country with 6 out of 23 stations recorded *below average*, 8 *average* and 9 *above average* rainfall.

An active trough of low pressure resulted in significant rainfall across the country on the May 21<sup>st</sup> and 22<sup>nd</sup>. During this period, Monasavu registered 101.2mm of rainfall on the 22<sup>nd</sup>.

Monasavu recorded 179% (534.1mm) of its *normal* rainfall during last month (Figure 3). Over the last three months (March to May 2017), Monasavu recorded 1194.8mm of rainfall (82% of *normal*), while in the past six months (December 2016 to May 2017), 3475.9mm of rainfall was received (111% of the *normal*) (Figures 3-5).

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

The sea surface temperatures for May in the western half of the equatorial Pacific Ocean were close to average, while weak warm anomalies, leaning towards El Niño like conditions were present in the eastern Pacific. The waters below the surface of the eastern equatorial Pacific Ocean were warmer than average at the end of May, which may lead to further warming of the ocean surface in the coming weeks.

The Southern Oscillation Index (SOI) for May 2017 was +0.5, with the 5-month running mean of -0.3 (Figure 6), which is well within the ENSO-neutral range.

Fiji often, but not always, experiences drier than normal conditions during an El Niño event, which can lead to various levels of drought, especially during moderate to strong event. Prolonged dry conditions are often associated with wild fires, water stressed crops, streams that stop flowing and water wells that dry up. If the tropical Pacific remains warmer than average, but El Niño thresholds are not quite met, some El Niño-like effects on Fiji are still possible during this dry season.

### El Niño-Southern Oscillation and Monasavu Climate Predictions

#### El Niño-Southern Oscillation Prediction

El Niño still remains possible for the second half of 2017. While some models forecast sea surface temperatures in the central Pacific will continue to warm in the coming months and reach or exceed the El Niño threshold by September to November 2017, others still favour the continuation of neutral conditions throughout 2017 with none favouring La Niña conditions. However, all models have eased the amount of warming likely, compared to outlooks issued earlier in the year. Therefore, neutral conditions are expected to continue till June to August 2017 period and there is an equal likelihood of El Niño and ENSO-neutral conditions thereafter.

#### SCOPIC Rainfall Predictions for Viti Levu:

##### June to August 2017:

*Average* or *below average* rainfall is favoured for Viti Levu through the June to August 2017 period.

#### SCOPIC Air Temperature Predictions for Viti Levu:

##### June to August 2017:

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

#### SCOPIC Rainfall Prediction for Monasavu:

##### Using Tercile method: June to August 2017:

There is 34% chance of *below average* or less than 588mm

of rainfall, 35% chance of *average* rainfall and 31% chance of *above average* rainfall or more than 737mm of rainfall (*very low* confidence) (Figure 1).

##### Using Median method - June to August 2017:

There is a 55% chance of receiving less than 667mm of rainfall and 45% chance of receiving greater than 667mm of rainfall (*low* confidence) (Figure 2 & Table 1).

#### SCOPIC Rainfall Prediction for Monasavu:

##### Using the Tercile method - September to November 2017:

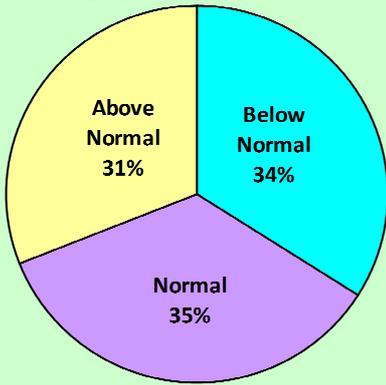
There is 38% chance of *below average* or less than 882mm of rainfall, 32% chance of *average* and 30% chance of *above average* rainfall or more than 1202mm of rainfall (*low* confidence).

##### Using the Median method - September to November 2017:

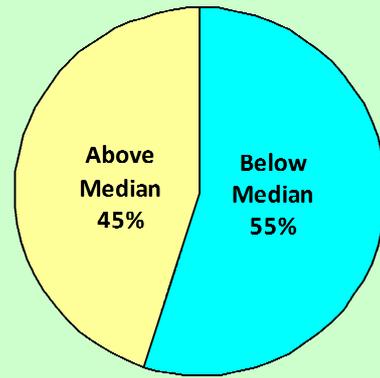
There is a 58% chance of receiving less than 1077mm of rainfall and 42% chance of receiving greater than 1077mm of rainfall (*low* confidence).

In summary, the SCOPIC model does not provide clear guidance for rainfall at Monasavu through the June to August 2017 period. However, it favours for *average* or *below average* rainfall for the rest of Viti Levu through the same period. On the other hand, the global climate models favour *average* rainfall in the Fiji region.

**Figure1: SCOPIC-3month Rainfall Outlook (Tercile Method)**  
 June to August 2017  
 T1: 588.4mm T2: 736.6mm



**Figure2: SCOPIC-3month Rainfall Outlook (Median Method) June to August 2017**  
 Median Rainfall 666.8 mm



**Figure 3 Monthly Rainfall Distribution for Monasavu from May 2016 to May 2017**



**Figure 4 Actual and Long Term Average (LTA) Cumulative Rainfall for Monasavu (May 2016 to May 2017)**

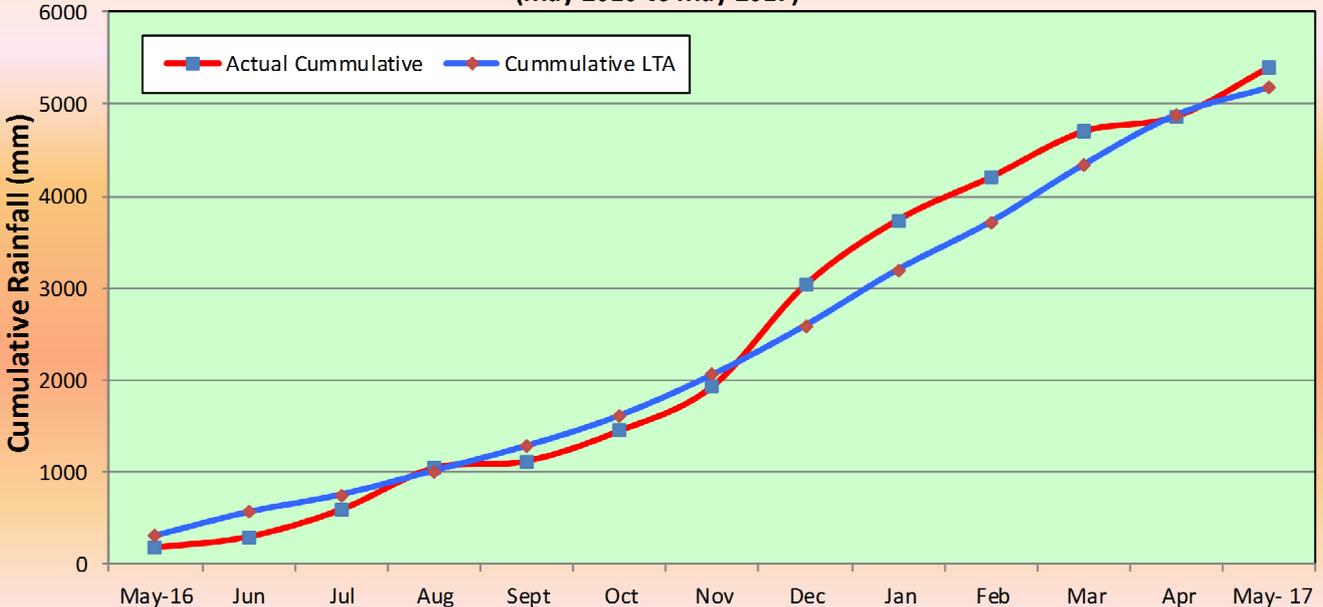
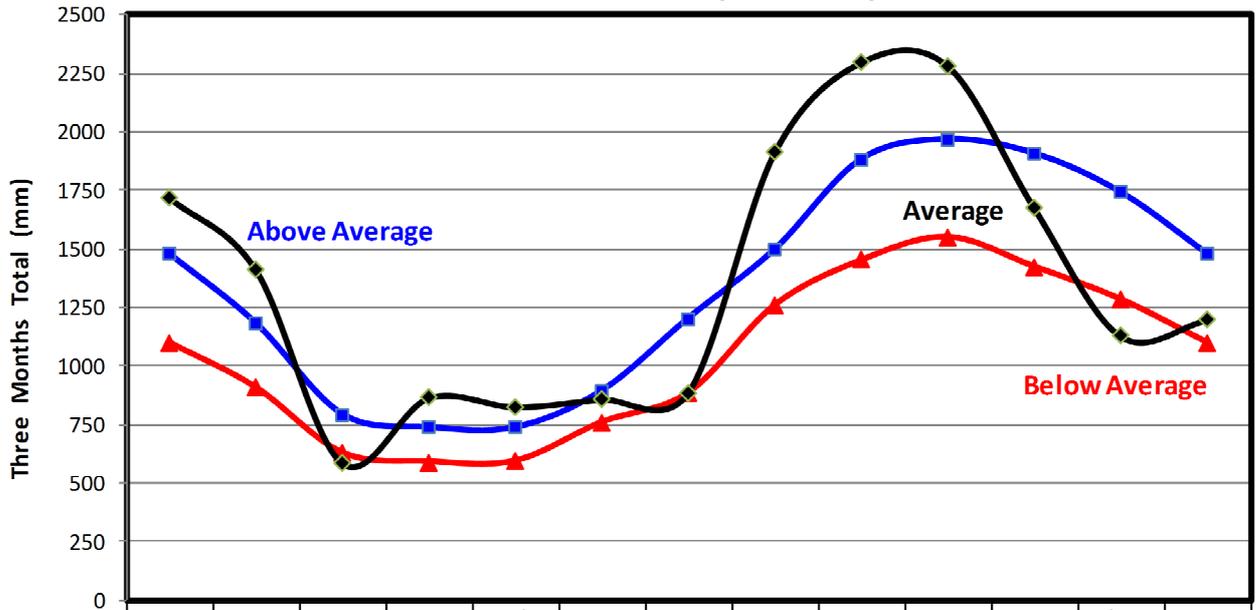


Figure 5

Monasavu- Three Months (Seasonal) Rainfall



	Mar- May16	Apr- Jun16	May- Jul16	Jun- Aug16	Jul- Sep16	Aug- Oct16	Sep- Nov16	Oct- Dec16	Nov16- Jan17	Dec16- Feb17	Jan- Mar17	Feb-Apr 17	Mar- May17
—■— Below Average	1477.6	1181.8	792.9	736.6	736.5	892.7	1202.3	1496.9	1881.9	1967.6	1906.9	1740.9	1477.6
—▲— Average	1097.6	905.5	626.0	588.4	590.9	756.0	882.3	1257.9	1450.8	1550.1	1423.1	1283.1	1097.6
—◆— Actual Rainfall	1719.4	1411.3	585.2	862.6	824.9	856.9	885.4	1910.7	2295.6	2281.1	1674.7	1126.9	1194.8

The tercile values have been calculated from January 1980 to May 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

Southern Oscillation Index Vs 5-Month Running Mean  
(January 2012 - May 2017)

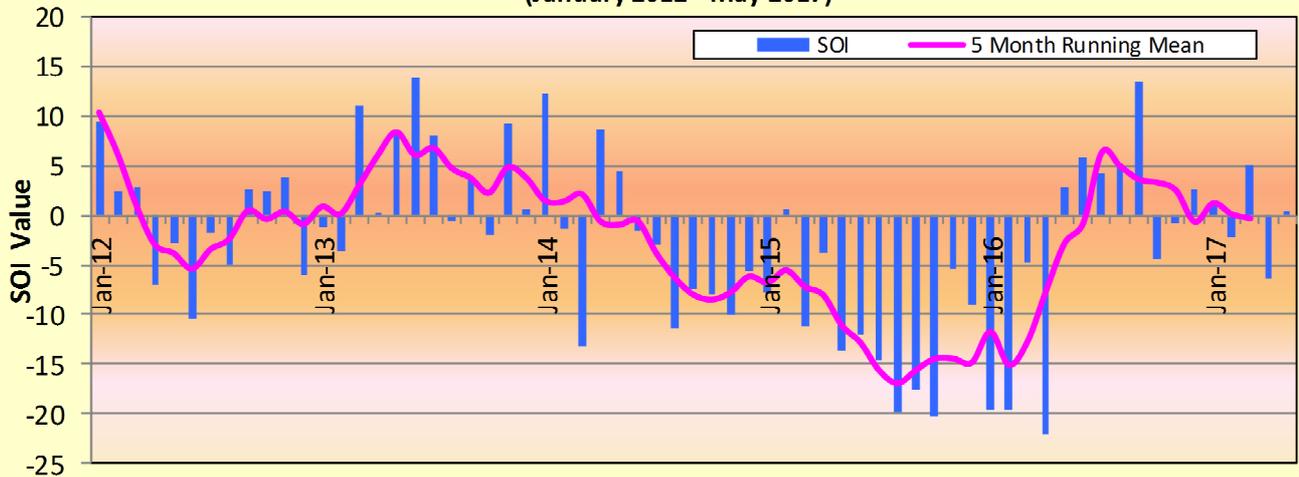
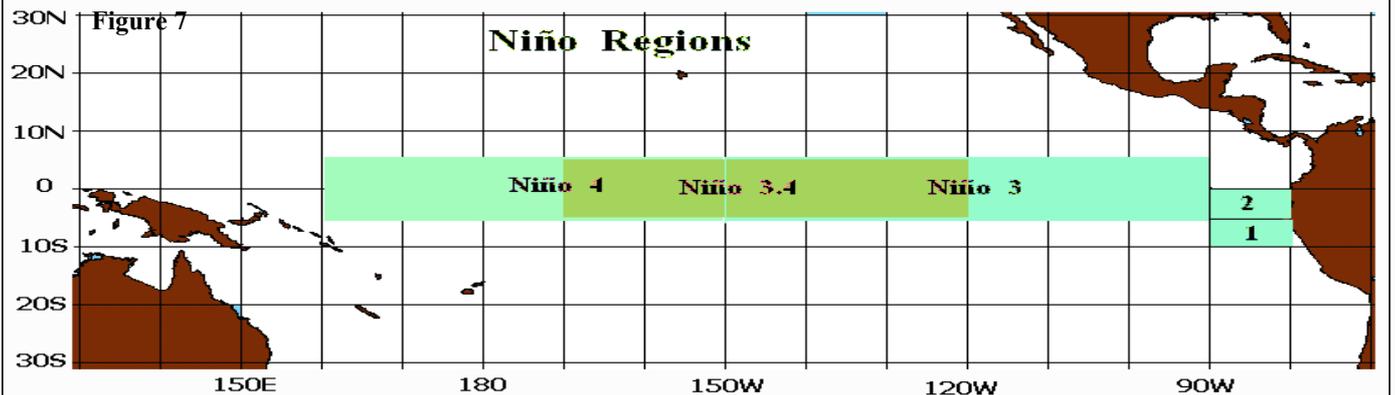


Figure 7

Niño Regions



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

Rainfall	Below Average (%)	Average (Median) (mm)	Above Average (%)
Monasavu Dam	55	667	45
Nadi Airport	55	168	45
Penang Mill	53	185	47
Laucala Bay (Suva)	59	436	41
Nacocolevu (Sigatoka)	55	235	45

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

MAXIMUM TEMPERATURE	Below Average (%)	Average (Median) (°C)	Above Average (%)
Monasavu	54	21.6	46
Laucala Bay (Suva)	59	26.9	41
Nadi Airport	60	28.7	40

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

MINIMUM TEMPERATURE	Below Average (%)	Average (Median) (°C)	Above Average (%)
Monasavu	52	16.0	48
Laucala Bay (Suva)	56	20.9	44
Nadi Airport	59	19.0	41

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](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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