



# Fiji Meteorological Service



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## Climate Outlook for Monasavu from November 2018 to January 2019

### Current Conditions

#### Fiji's Climate

Wetter than normal conditions were experienced at majority of the sites after being considerably dry, from the 2<sup>nd</sup> half of June 2018. Rainfall activity substantially picked up during the month of October with 10 recorded more than twice the *normal* rainfall and another 6 received more than thrice the *normal* rainfall this month.

New high total monthly rainfall record for October was established at Nabouwalu, Udu Point, Matei Airfield and Monasavu this month with observations at these stations beginning in 1918, 1946, 1956 and 1980, respectively. Furthermore, a new daily high rainfall record for October was recorded at Matei Airfield.

An extended period of widespread and significant rainfall was experienced from the 13<sup>th</sup> to the 20<sup>th</sup>. During this period, Monasavu received more than 100mm of rainfall on a daily basis from the 15<sup>th</sup> to the 19<sup>th</sup>, with the highest daily rainfall of 167mm recorded on the 16<sup>th</sup>. A total of 689mm of rainfall was received in 5 days, which was more than twice the amount it usually gets in 2 months.

Monasavu received 1200.5mm of rainfall during October 2018, which was 366% of *normal*. During August to October 2018, Monasavu recorded 1503mm of rainfall, which was 175% of the *normal*, while in the past 6 months, between May to October, 2076mm was registered (129% of the *normal*).

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

Tropical Pacific Ocean is primed towards weak El Niño. Sea surface temperatures have warmed to El Niño levels over the past fortnight. However, atmospheric indicators of El Niño are largely near normal, suggesting that the ocean and atmosphere are yet to reinforce each other. The reinforcement is critical for a developing El Niño to become self-sustaining.

The cloudiness near the Dateline has generally remained below average since mid-September. While decreased cloudiness near the Date Line is the typical signal seen during La Niña, the broader pattern across the tropical Pacific is consistent with neutral ENSO. Again, this indicates that coupling is yet to occur.

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

#### El Niño-Southern Oscillation Prediction

The tropical Pacific Ocean is primed towards a weak El Niño with more than 70% chance to establish in the last quarter of 2018. This event is likely to continue through to at least most of the 1<sup>st</sup> half of 2019. If an El Niño does develop, it is likely to be a weak one.

#### SCOPIC Rainfall Predictions for Viti Levu:

##### November 2018 to January 2019:

*Below average* rainfall is favoured over most parts of western Viti Levu, while *average* or *below average* rainfall is favoured for the Central Division (Table 1).

#### Air Temperature Predictions - November 2018 to

##### January 2019

Air temperatures are likely to be *above normal* in the Fiji region (Figure 8). Occasional periods of extremely hot and humid conditions can be expected over the coming three months.

#### SCOPIC Rainfall Prediction for Monasavu:

##### Using Tercile method: November 2018 to January 2019:

There is 33% chance of *below average* or less than 1456mm of rainfall, 42% chance of *average* rainfall and 25% chance of *above average* rainfall or more than 1873mm of rainfall (*very confidence*) (Figure 1).

#### Median method: November 2018 to January 2019:

There is a 52% chance of receiving less than 1586mm of rainfall and 48% chance of receiving greater than 1586mm of rainfall (*very low confidence*) (Figure 2 & Table 1).

#### SCOPIC Rainfall Prediction for Monasavu:

##### Using the Tercile method - February to April 2019:

There is 30% chance of *below average* or less than 1265mm of rainfall, 31% chance of *average* and 39% chance of *above average* rainfall or more than 1741mm of rainfall (*low confidence*).

##### Using the Median method - February to April 2019:

There is a 47% chance of receiving less than 1563mm of rainfall and 53% chance of receiving greater than 1563mm of rainfall (*very low confidence*).

In summary, the SCOPIC model outlook at Monasavu for the November 2018 to January 2019 period is not biased towards either significantly wetter or drier than *average* conditions (*average* rainfall favoured). The rainfall guidance for most of the other parts of Viti Levu favour *average* or *below average* rainfall. The global climate models favour *average* rainfall in the Fiji region.

However, we should take note that rainfall is likely to be affected by the lag effect of the developing El Niño effect.

Figure1: SCOPIC-3month Rainfall Outlook (Tercile Method) November to January 2018  
T1: 1456mm T2: 1873mm

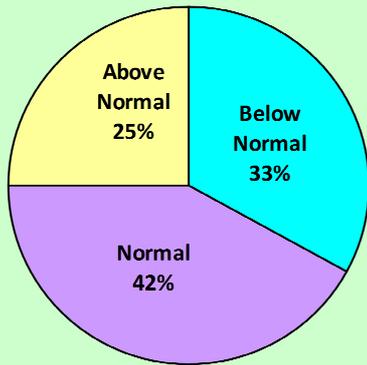


Figure2: SCOPIC-3month Rainfall Outlook (Median Method) November to January 2018  
Median Rainfall 1586mm

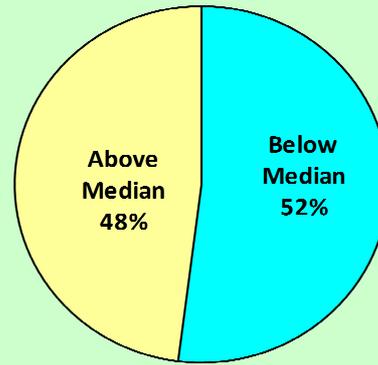


Figure 3 Monthly Rainfall Distribution for Monasavu from October 2017 to October 2018

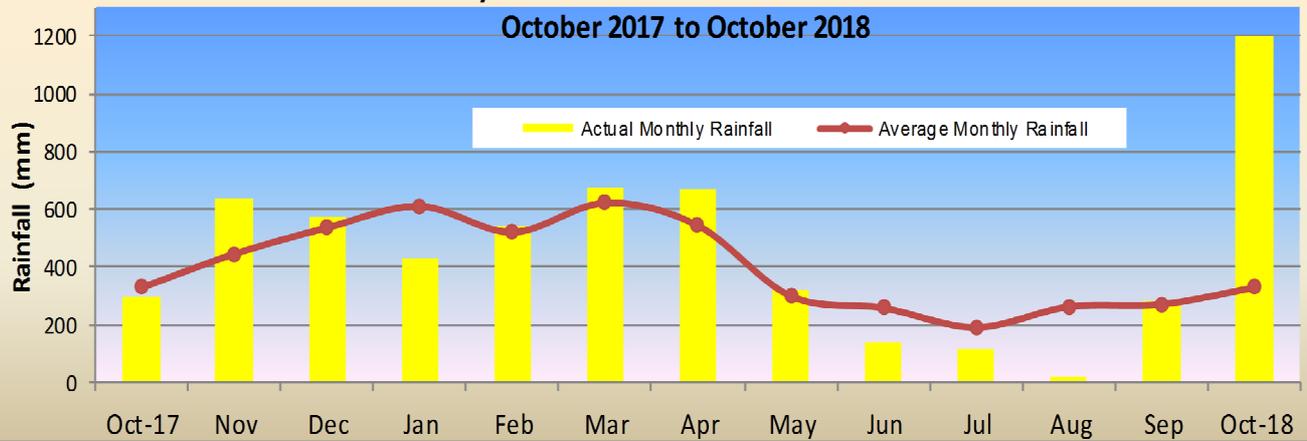
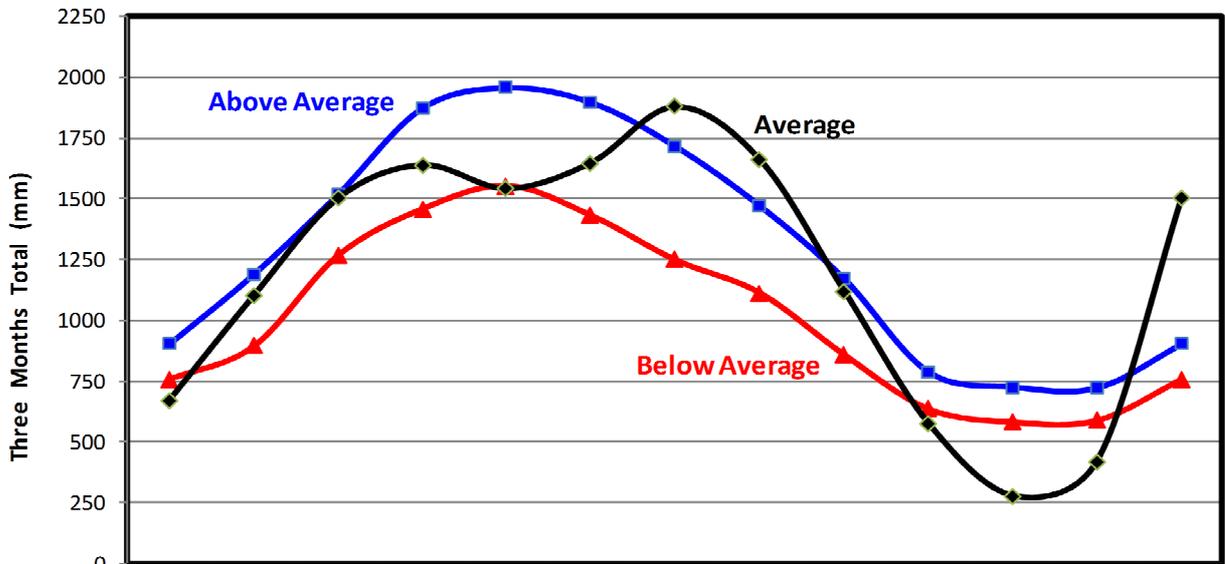


Figure 4 Monasavu- Three Months (Seasonal) Rainfall



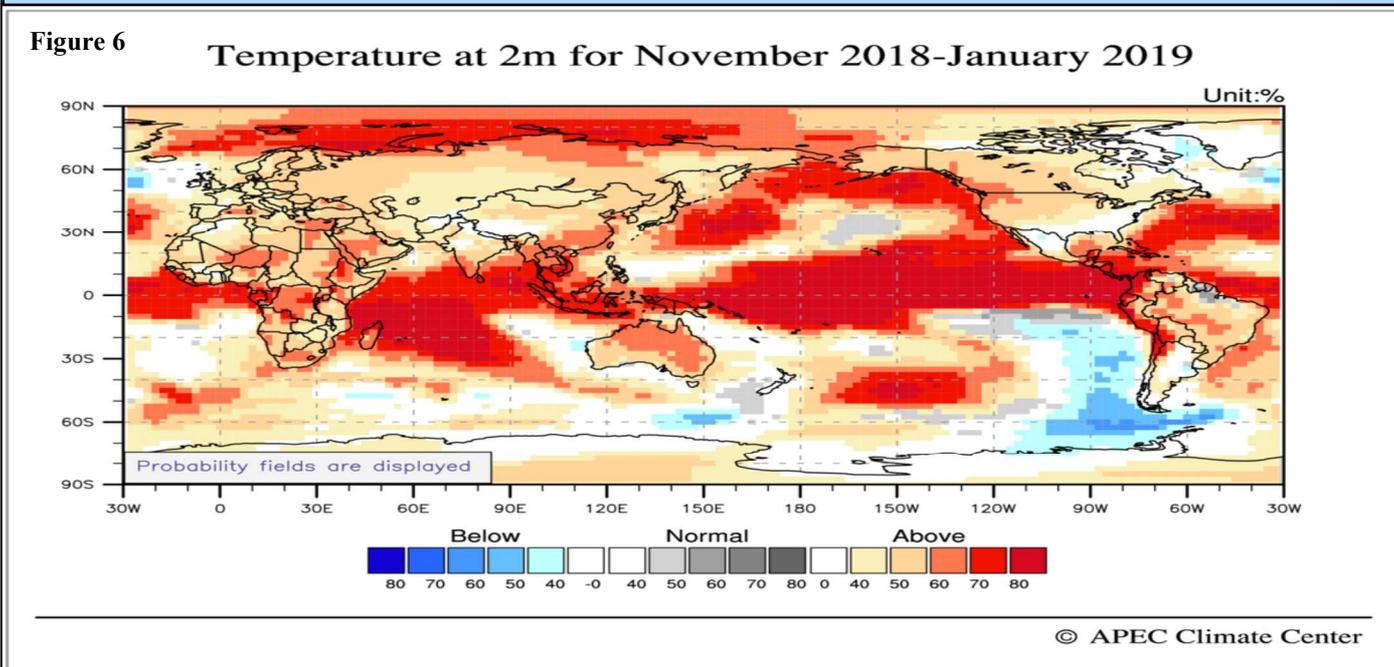
	Aug-Oct17	Sep-Nov17	Oct-Dec17	Nov17-Jan18	Dec17-Feb18	Jan-Mar18	Feb-Apr18	Mar-May18	Apr-Jun18	May-Jul18	Jun-Aug18	Jul-Sep18	Aug-Oct18
Tercile 2 (T2)	901.0	1188.2	1517.8	1873.1	1957.3	1896.9	1716.0	1471.4	1171.1	787.2	725.3	721.3	901.0
Tercile 1 (T1)	756.8	893.2	1265.7	1456.2	1551.7	1429.7	1247.3	1112.0	858.2	635.8	581.7	588.4	756.8
Actual Rainfall	669.0	1100.2	1502.1	1639.3	1542.0	1648.8	1880	1662	1120	572.9	274.4	419	1502.7

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.

**Table 1: Rainfall Predictions from November to January 2019**

Rainfall	Below Average (%)	Average (Median) (mm)	Above Average (%)
Monasavu Dam	52	1586	48
Nadi Airport	82	664	18
Penang Mill	70	722	30
Laucala Bay (Suva)	62	910	38
Nacocolevu (Sigatoka)	83	601	17

**Figure 8: Air Temperature Prediction from October to December 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](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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