



Fiji Meteorological Service



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Climate Outlook for Monasavu from February to April 2018

Current Conditions

Fiji's Climate

A typical La Niña like rainfall pattern was observed during January, with widespread rainfall recorded in various parts of the country.

However this was not enough, as rainfall recorded at various stations were generally *average to below average* and more rain is needed to overcome the rainfall deficiencies of the past dry season.

Vanuabalavu was the lone station with *well above average* rainfall, 2 recorded *above average* rainfall, 12 recorded *average* rainfall and 9 recorded *below average* rainfall.

In January 2018, Monasavu recorded 569.7mm of rainfall, which was 93% of the *normal*. During November 2017 to January 2018, Monasavu recorded 1726mm of rainfall, which was 111% of *normal*, while in the past six months, between August 2017 to January 2018, 2431mm of rainfall was received (99% of the *normal*).

El Niño-Southern Oscillation (ENSO) Status

Weak La Niña conditions continued in the tropical Pacific during

January 2018. Sea surface temperatures showed a weak La Niña pattern, with below average sea surface temperatures (SSTs) in the central and eastern equatorial Pacific Ocean, but have warmed slightly compared to December 2017.

Subsurface ocean waters also warmed during January but remained broadly consistent with weak La Niña conditions. Sub-surface temperatures show a pool of slightly warmer than average water in the western equatorial Pacific between 100 and 150 m below the surface. However, the sub-surface cool anomalies in the central to eastern equatorial Pacific have largely dissipated in the past fortnight.

Likewise, atmospheric indicators such as trade winds and cloudiness show clear La Niña characteristics. Trade winds were slightly stronger than average across the equatorial Pacific, particularly in the western Pacific while the Southern Oscillation Index (SOI) for January was +8.9, that is, consistent with the persistence of weak La Niña conditions..

La Niña events are usually associated with enhanced rainfall activity over Fiji. However, with a weak event, less influence on Fiji's rainfall is likely.

El Niño-Southern Oscillation and Monasavu Climate Predictions

El Niño-Southern Oscillation Prediction

The consensus from international models is that weak La Niña condition is likely over February to April 2018. The chance for ENSO neutral conditions increases over May to July 2018 period. Overall, this suggests that a continued decay of La Niña conditions can be expected in the coming months.

SCOPIC Rainfall Predictions for Viti Levu:

February to April 2018:

Above average rainfall is favored over the western half of Viti Levu, while rainfall can be highly variable on the eastern side (Table 1).

SCOPIC Air Temperature Predictions for Viti Levu:

February to April 2018:

The SCOPIC model outlook for air temperatures suggest that air temperatures can be highly variable in the coming months with occasional periods of hotter than usual daytime temperatures (Tables 2 & 3). However, the global climate models are generally favoring *above normal* air temperature in the Fiji region.

SCOPIC Rainfall Prediction for Monasavu:

Using Tercile method: February to April 2018:

There is 38% chance of *below average* or less than 1247mm of rainfall, 37% chance of *average* rainfall and 25% chance

of *above average* rainfall or more than 1716mm of rainfall (*low confidence*) (Figure 1).

Median method: February to April 2018:

There is a 57% chance of receiving less than 1512mm of rainfall and 43% chance of receiving greater than 1512mm of rainfall (*low confidence*) (Figure 2 & Table 1).

SCOPIC Rainfall Prediction for Monasavu:

Using the Tercile method - May to July 2018:

There is 15% chance of *below average* or less than 636mm of rainfall, 42% chance of *average* and 43% chance of *above average* rainfall or more than 787mm of rainfall (*moderate confidence*).

Using the Median method - April to June 2018:

There is a 36% chance of receiving less than 729mm of rainfall and 64% chance of receiving greater than 729mm of rainfall (*moderate confidence*).

In summary, the SCOPIC model forecast at Monasavu for the period February to April 2018 predicts *average to below average* rainfall. However, global climate models predict *average or above average* rainfall in the Fiji region over the same period. Considering that we are in the midst of cyclone and wet season and persistence of weak La Niña conditions, enhanced rainfall is likely over the country in the next three months.

Figure1: SCOPIC-3month Rainfall Outlook (Tercile Method) Feb to Apr 2018
T1: 1247mm T2: 1716mm

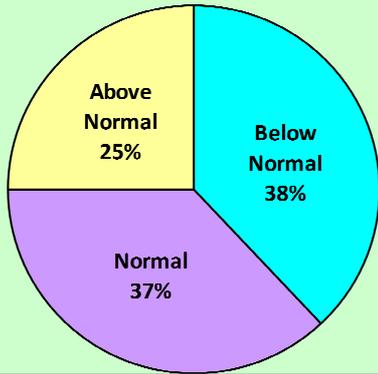


Figure2: SCOPIC-3month Rainfall Outlook (Median Method) Feb to Apr 2018
Median Rainfall 1612mm

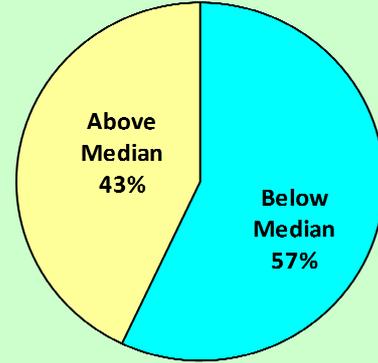


Figure 3 Monthly Rainfall Distribution for Monasavu from January 2017 to January 2018

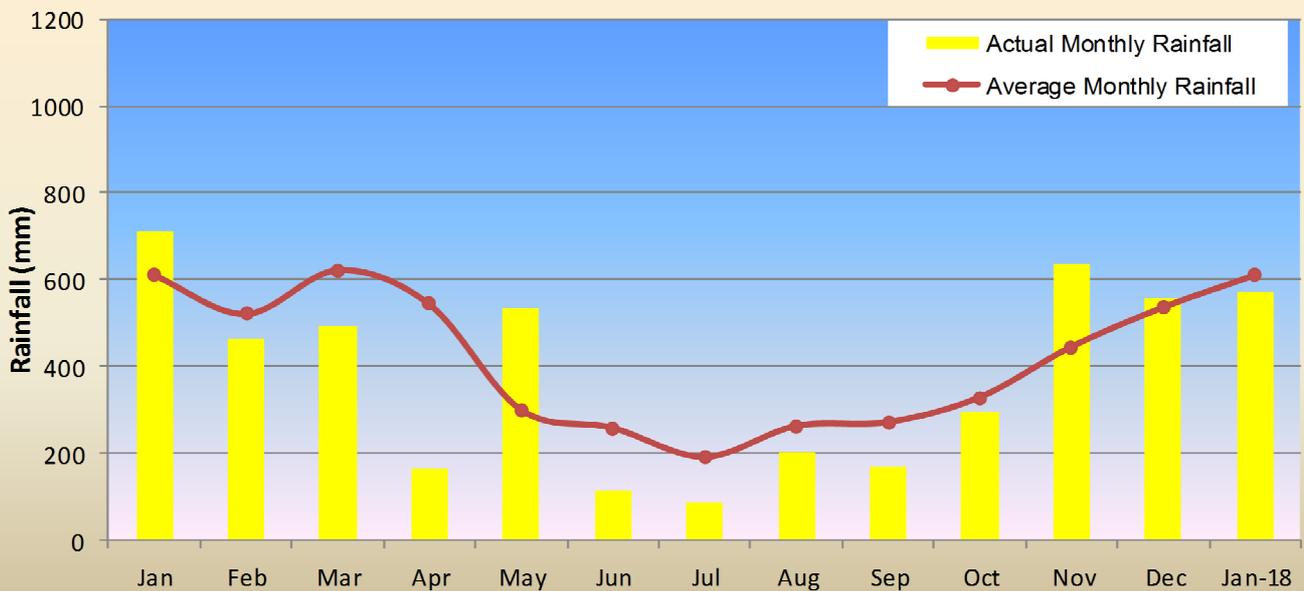


Figure 4 Actual and Long Term Average (LTA) Cumulative Rainfall for Monasavu (January 2017 to January 2018)

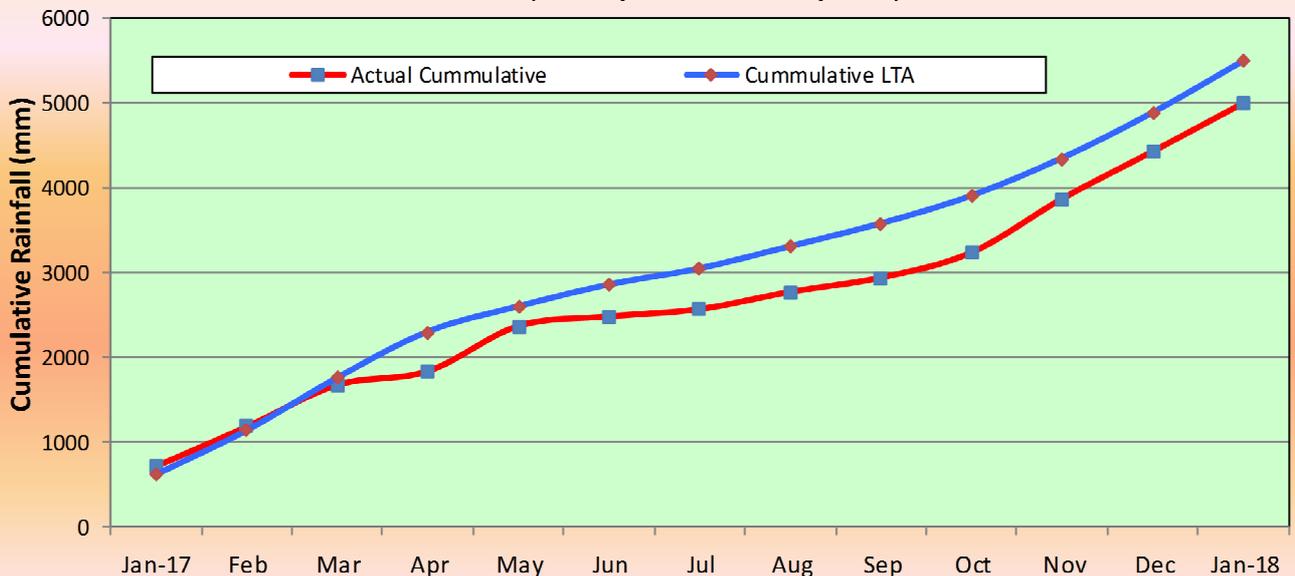
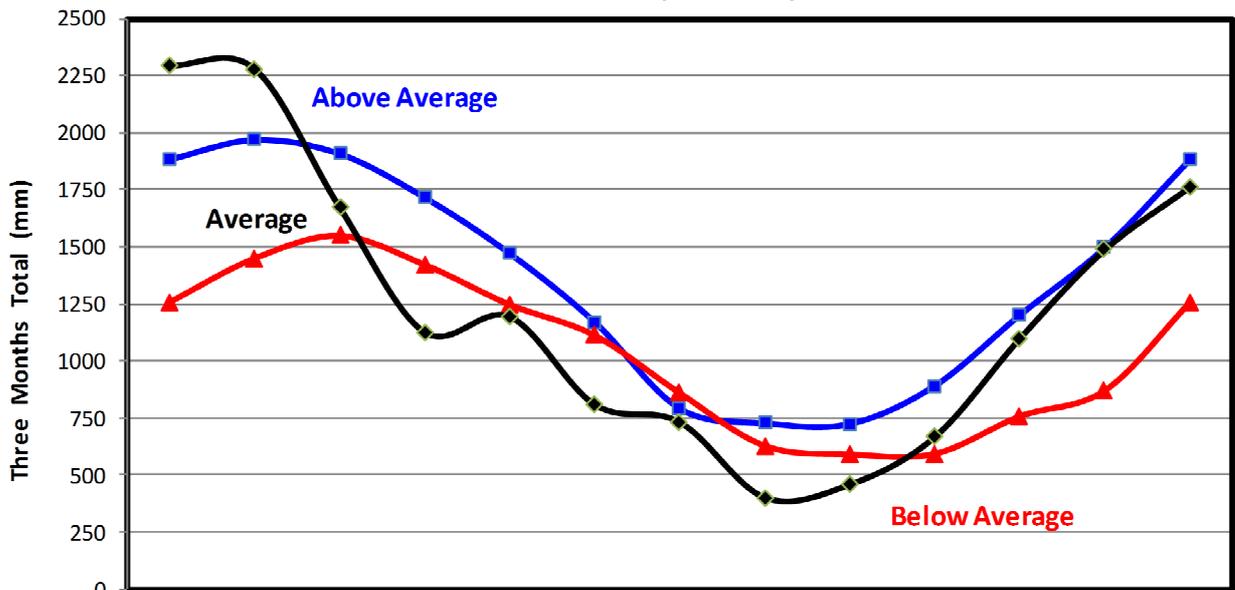


Figure 5

Monasavu- Three Months (Seasonal) Rainfall



	Nov16- Jan17	Dec16- Feb17	Jan- Mar17	Feb-Apr 17	Mar- May17	Apr- Jun17	May-Jul 17	Jun- Aug16	Jul- Sep17	Aug- Oct17	Sept- Nov17	Oct- Dec17	Nov17- Jan18
—■— Tercile 2 (T2)	1881.9	1967.6	1906.9	1716.0	1471.4	1171.1	792.9	728.6	725.5	892.7	1202.3	1496.9	1881.9
—▲— Tercile 1 (T1)	1257.9	1450.8	1550.1	1423.1	1247.3	1112.0	858.2	626.0	588.4	590.9	756.0	869.9	1257.9
—◆— Actual Rainfall	2295.6	2281.1	1674.7	1126.9	1194.8	809.6	732.5	402.1	459.1	668.1	1099.3	1488.5	1762.5

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

Southern Oscillation Index Vs 5-Month Running Mean
(January 2012 - January 2018)

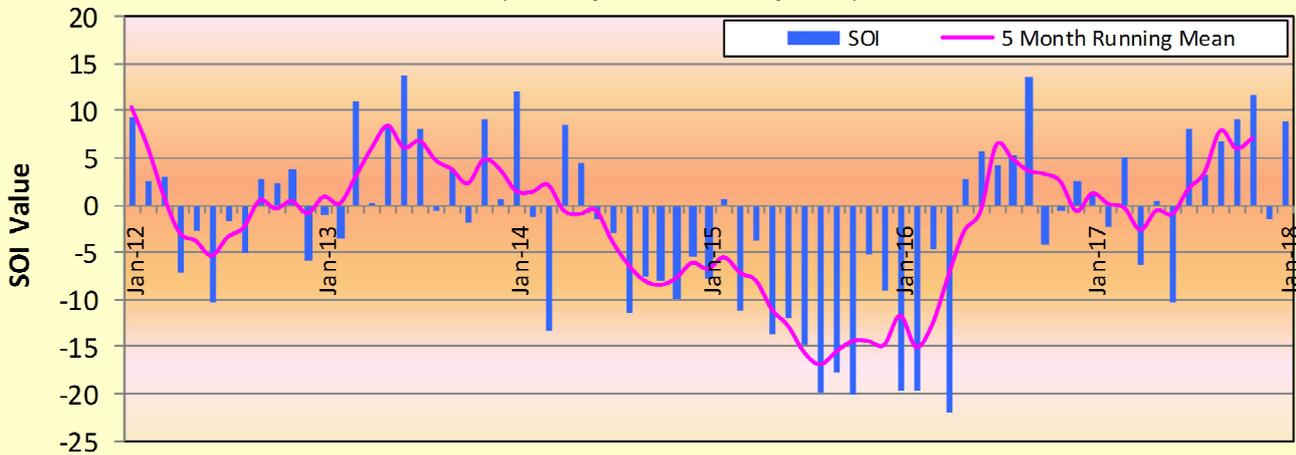


Figure 7

Niño Regions

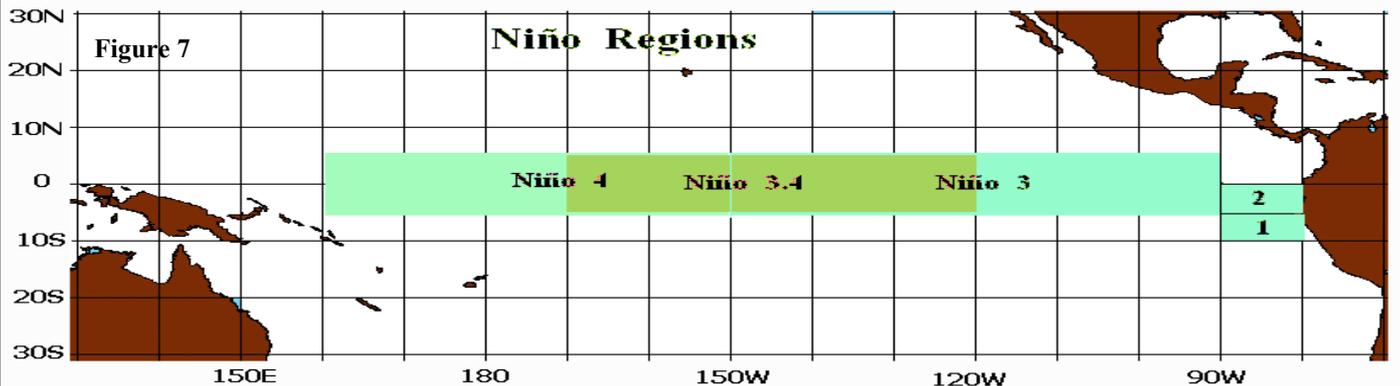


Table 1: Rainfall Predictions from February to April 2018

Rainfall	Below Average (%)	Average (Median) (mm)	Above Average (%)
Monasavu Dam	57	1512	43
Nadi Airport	38	797	62
Penang Mill	37	993	63
Laucala Bay (Suva)	51	946	49
Nacocolevu (Sigatoka)	34	672	66

Table 2: Maximum Air Temperature Predictions from February to April 2018

MAXIMUM TEMPERATURE	Below Average (%)	Average (Median) (°C)	Above Average (%)
Monasavu	46	25.5	54
Laucala Bay (Suva)	52	30.4	48
Nadi Airport	74	31.1	26

Table 3: Minimum Air Temperature Predictions from February to April 2018

MINIMUM TEMPERATURE	Below Average (%)	Average (Median) (°C)	Above Average (%)
Monasavu	42	19.2	58
Laucala Bay (Suva)	61	23.7	39
Nadi Airport	58	22.4	42

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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