

**FIJI  
METEOROLOGICAL  
SERVICE**

Private Mail Bag (NAP0351)  
Nadi Airport, Fiji  
Ph: +679 6724888  
Fax: +679 6724050  
Email: [climate@met.gov.fj](mailto:climate@met.gov.fj)  
Also online at:  
<http://www.met.gov.fj>

# Fiji Climate Summary

## April 2018



Issued: May 9, 2018

Since : August 1980\*

Volume 39 : Issue 4

### 1. IN BRIEF

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.

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.

The highest total monthly rainfall of 1136.0mm was recorded at Nadarivatu, followed by 664.1mm at Monasavu, 617.7mm at Labasa Airfield, 592.7mm at Penang Mill (Rakiraki), 532.5mm at Seaqaqa, 515.5mm at Vunisea (Kadavu), while the rest of the stations recorded less than 500mm of rainfall.

Significant twenty four hour rainfall of 311.5mm was recorded at Nadarivatu on the 10<sup>th</sup>, followed by 151.1mm at

Navua on the 11<sup>th</sup>, 148.5mm at R.K.S Lodoni on the 1<sup>st</sup>, 142.5mm at Matuku on the 9<sup>th</sup>, 140.5mm at Rakiraki on the 8<sup>th</sup> and 140.0mm at Labasa Airfield on the 4<sup>th</sup>.

The mean maximum air temperatures varied from *normal* to *above normal* during the month, with fourteen out of the 23 stations recording anomalies within and equal to  $\pm 0.5^{\circ}\text{C}$ , 6 stations within  $\geq 0.6^{\circ}\text{C}$  and Udu Point was the lone station recording within  $\leq 0.6^{\circ}\text{C}$ .

Levuka managed to record its new April daily maximum temperature, replacing a previous record established in 1996 (Table 1).

The mean minimum air temperatures were generally *normal* to *above normal*, with 12 out of the 21 stations recording anomalies within and equal to  $\pm 0.5^{\circ}\text{C}$ , 6 stations within  $\geq 0.6^{\circ}\text{C}$  and 3 stations within  $\leq 0.6^{\circ}\text{C}$ .

Vanuabalavu managed to record its April new highest daily minimum temperature and its new mean monthly minimum temperature. (Table1).

### 2. WEATHER PATTERNS

The month began with tropical cyclone Josie affecting the Fiji Group. Gale force winds were experienced by Kadavu and nearby smaller islands, Matuku and Oni-I-Lau with heavy rain affecting the whole of Fiji Group. Highest rainfall recorded was 182.5mm at Nadarivatu station on the 1<sup>st</sup> in 24 hours. Tropical cyclone Josie moved away from the Fiji Group on the 3<sup>rd</sup>, however, the associated trough of low pressure and rain bands continued to affect parts of the group.

A trough of low pressure with associated cloud and rain was over the northern and eastern parts of the group. The trough affected Fiji from 04<sup>th</sup> to 06<sup>th</sup> with the highest of 175.5mm (6<sup>th</sup>) recorded at Nadarivatu, during this period. While the active trough of low pressure with associated cloud and rain remained slow moving over Fiji, a TD13, later named Tropical Cyclone Keni developed along the trough and drifted towards Fiji from the northwest.

Hurricane force winds and damaging gale force winds were experienced over the Fiji Group with heavy rain. Highest rainfall recorded was 311.5mm/hr at Nadarivatu station on the 10<sup>th</sup> in 24 hours. Strongest winds of close to 150km/hr with gusts up to 215km/hr was recorded later

on Tuesday on 10<sup>th</sup> at Vunisea station in Kadavu. Tropical Cyclone Keni severely affected the island of Vatulele, Kadavu and Ono-I\_Lau on its passage over Fiji waters.

The trough later on the 13<sup>th</sup> drifted back North as a ridge of high pressure pushed in over the group from the southwest. A South-to-South-easterly wind flow dominated the group, as the ridge established itself thereafter till the 18<sup>th</sup>.

A Shallow Tropical Disturbance TD14F was analysed to the north of Fiji on the 19<sup>th</sup>, near Rotuma and the associated trough of low pressure with cloud and rain affected the northern parts of the group. TD14F later intensified into a shallow tropical depression on the 20<sup>th</sup> but remained to the west of Fiji and did not pose any threat over the group.

A weak trough of low pressure remained slow moving over the group from the 21<sup>st</sup> as TD14F continued southwards. Associated cloud and showers affected the western, eastern and the interior parts of the group. An easterly to northeasterly wind flow than dominated from the 24<sup>th</sup> to 30<sup>th</sup>.

Rotuma was affected by series of troughs of low pressure throughout the month of April.

\*Previously known as the Fiji Islands Weather Summary

### 3. RAINFALL

The presence of two tropical cyclones within Fiji’s EEZ brought about significant amount of rainfall for various parts of the country.

Tropical cyclone Josie, started on 30<sup>th</sup> March and ended on 3<sup>rd</sup> April, which resulted in the highest 1day fall of 148.5mm at Lodon, during this period. TC Keni was present during the 8<sup>th</sup> to 11<sup>th</sup> April, resulting in a number of stations recording their highest 24hour rainfall during this period. Both cyclones were accompanied by heavy rainfall, contributing to heavy flooding in various parts of the country, damaging agriculture and infrastructures.

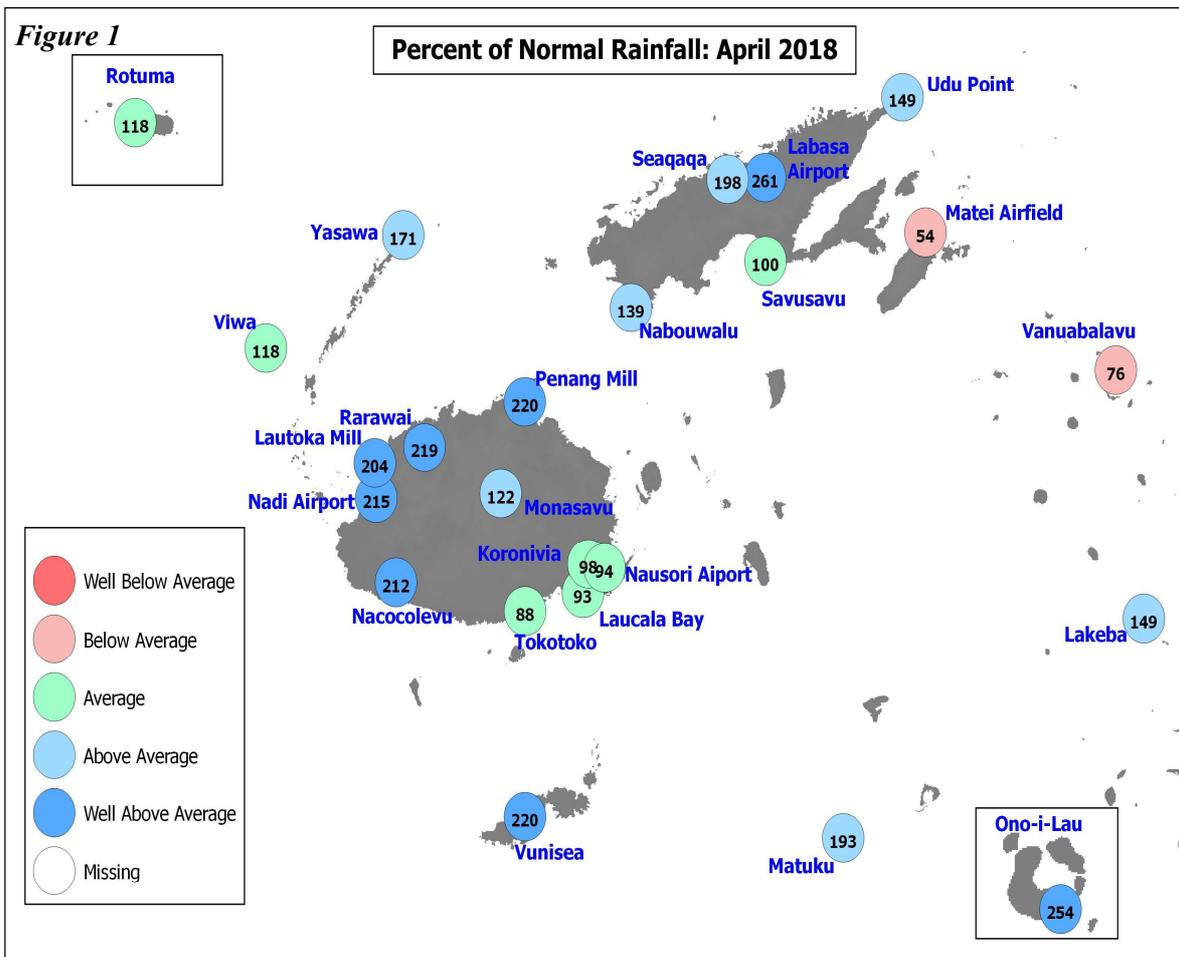
Out of the twenty four stations, seven stations recorded *well above average* rainfall, eight recorded *above average* rainfall, seven recorded *average* rainfall, while Matei Airfield and Vanuabalavu were the only two stations with *below average* rainfall. (Table 2 & Figure 1).

The highest total monthly rainfall of 1136.0mm was recorded at Nadarivatu, followed by 664.1mm at Monasavu, 617.7mm at Labasa Airfield, 592.7mm at Penang Mill (Rakiraki), 532.5mm at Seaqaqa, 515.5mm at Vunisea

(Kadavu), while the rest of the stations recorded less than 500mm of rainfall.

Significant twenty four hour rainfall of 311.5mm was recorded at Nadarivatu on the 10<sup>th</sup>, followed by 151.1mm at Navua on the 11<sup>th</sup>, 148.5mm at R.K.S Lodon on the 1<sup>st</sup>, 142.5mm at Matuku on the 9<sup>th</sup>, 140.5mm at Rakiraki on the 8<sup>th</sup> and 140.0mm at Labasa Airfield on the 4<sup>th</sup>.

Monasavu, in the highlands of Viti Levu managed to record the highest number of rain days (rainfall ≥0.1mm) with 29 days, followed by 25days at Rotuma, 22days at Vunisea (Kadavu) and Koronivia and 20days at Koronivia.



**Normal:** Long term average from 1971 to 2000  
**Well Below Average:** Rainfall less than 40% of normal  
**Below Average:** Rainfall between 40 to 79%  
**Rain Day:** Rainfall ≥ 0.1mm

**Average:** Rainfall between 80 to 119%  
**Above Average:** Rainfall between 120 to 199%  
**Well Above Average:** Rainfall greater than or equal to 200% of normal

## 4. AIR TEMPERATURES

### A. Maximum Daytime Air Temperatures

The mean maximum air temperatures were generally *normal to above normal* over the country with 14 out of the 23 stations recording anomalies within and equal to  $\pm 0.5^{\circ}\text{C}$ , 6 stations within  $\geq 0.6^{\circ}\text{C}$  and Udu Point was the lone station recording within  $\leq 0.6^{\circ}\text{C}$ . (Table 2 & Figures 2-5).

The warmest days on average was experienced at Vanuabalavu and Levuka with  $31.0^{\circ}\text{C}$ , followed by  $30.9^{\circ}\text{C}$  at Rotuma,  $30.8^{\circ}\text{C}$  at Nacocolevu, Lautoka, Keiyasi and Lomaivuna. On the other hand, the coolest site on average was at Nadarivatu with  $24.0^{\circ}\text{C}$ , followed by Monasavu with  $24.4^{\circ}\text{C}$ .

The highest daily maximum temperature of  $35.9^{\circ}\text{C}$  was recorded at Lomaivuna on the 3<sup>rd</sup>, followed by  $34.2^{\circ}\text{C}$  on the 4<sup>th</sup>. Keiyasi recorded its highest maximum of  $34.2^{\circ}\text{C}$  on the 23<sup>rd</sup>, followed by  $33.7^{\circ}\text{C}$  at Levuka on the 4<sup>th</sup>,  $33.4^{\circ}\text{C}$  at Nacocolevu on the 30<sup>th</sup>,  $33.1^{\circ}\text{C}$  at Viwa on the 15<sup>th</sup> and  $33.0^{\circ}\text{C}$  at Laucala Bay on the 30<sup>th</sup>. On the other hand, the lowest daily maximum temperature of  $21.5^{\circ}\text{C}$  was recorded at Nadarivatu on the 6<sup>th</sup>,  $21.6^{\circ}\text{C}$  on the 9<sup>th</sup>, followed by  $21.8^{\circ}\text{C}$  at Monasavu on the 13<sup>th</sup>.

The highest mean monthly maximum temperature positive anomaly of  $+1.4^{\circ}\text{C}$  was recorded at Ono-i-Lau and Vanuabalavu, followed by  $+0.9^{\circ}\text{C}$  at Nabouwalu (Table 2).

A new highest daily maximum temperature records for April was established at Levuka, replacing a previous record established in 1996 (Table 1).

### B. Minimum Night-time Air Temperatures

The mean minimum air temperatures were generally *normal to above normal*, with 12 out of the 21 stations recording anomalies within and equal to  $\pm 0.5^{\circ}\text{C}$ , 6 stations within  $\geq 0.6^{\circ}\text{C}$  and 3 stations within  $\leq 0.6^{\circ}\text{C}$ . (Table 2 & Figures 2-5).

The coolest nights on average was experienced at Nadarivatu with  $18.3^{\circ}\text{C}$ , followed by  $18.4^{\circ}\text{C}$  at Monasavu,  $20.5^{\circ}\text{C}$  at Nacocolevu and  $21.0^{\circ}\text{C}$  at Keiyasi. On the other hand, Vanuabalavu recorded the warmest night on average with  $25.9^{\circ}\text{C}$ , followed by  $24.3^{\circ}\text{C}$  at Viwa and Nabouwalu,  $24.2^{\circ}\text{C}$  at Matuku and  $24.0^{\circ}\text{C}$  at Savusavu Airfield and Rotuma.

The lowest daily minimum temperature of  $13.0^{\circ}\text{C}$  was recorded at Monasavu, on the 11<sup>th</sup>, followed by  $15.5^{\circ}\text{C}$  on the 13<sup>th</sup>. Nadarivatu recorded its lowest of  $15.7^{\circ}\text{C}$  on the 13<sup>th</sup>, 14<sup>th</sup> and 23<sup>rd</sup>, with apart from the 2<sup>nd</sup>, the station recorded less than  $20.0^{\circ}\text{C}$  night time temperatures throughout the month. Monasavu also managed to record less than  $20.0^{\circ}\text{C}$  night-time temperatures throughout the second half of the month. Less than  $20.0^{\circ}\text{C}$  night-time temperatures were also recorded at Nadi, Nacocolevu, Labasa Airfield, Nausori and Tokotoko, Navua.

Vanuabalavu established its new highest April daily temperature, replacing a previous record established in 2006 and a new mean monthly temperature record, replacing a previous record established in 1996 (Table 1).

**TABLE 1. CLIMATE RECORDS ESTABLISHED IN APRIL 2018**

<u>Element</u>	<u>Station</u>	<u>Observed (record)</u>	<u>On</u>	<u>Rank</u>	<u>Previous (record)</u>	<u>Year</u>	<u>Records Began</u>
Daily Maximum Temperature	Levuka	$33.7^{\circ}\text{C}$	4 <sup>th</sup>	New High	$32.6^{\circ}\text{C}$	1996	1970
Daily Minimum Temperature	Vanuabalavu	$27.7^{\circ}\text{C}$	6 <sup>th</sup>	New High	$27.1^{\circ}\text{C}$	2006	1985
Mean Monthly Min Temperature	Vanuabalavu	$25.9^{\circ}\text{C}$	-	New High	$25.2^{\circ}\text{C}$	1996	1985

*Note: All comparisons in this summary are with respect to "Climatic Normals". This is defined to be the average climate condition over a 30-year period. Fiji uses 1971-2000 period as its "climatic normal" period, unless otherwise stated.*

**TABLE 2. DAILY CLIMATE REPORTING SITES: SUMMARY FOR APRIL 2018**

	RAINFALL					AIR TEMPERATURES								SUNSHINE	
	TOTAL	RAIN	MAX.	MAX.		AVERAGE DAILY				EXTREME		TOTAL	*		
	MM	%	+ DAYS	MM	ON	MAX.	#	MIN.	#	MAX.	MIN.	HRS	%		
NADI AIRPORT	344	215	15	86	7	30.2	-0.5	22.5	0.7	31.8	16	18.6	14	206	104
SUVA/LAUCALA BAY	341	93	16	110	11	29.8	-0.1	23.8	0.5	33.0	30	22.4	22	145	94
NACOCOLEVU	331	212	14	98	10	30.8	0.6	20.5	-1.0	33.4	30	16.7	13	190	112
ROTUMA	348	118	25	49	7	30.9	0.4	24.0	-0.8	32.5	30	22.0	8	81	44
VIWA	272	118	12	90	9	30.6	0.3	23.6	-1.2	33.1	15	2.4	29	0	0
UDU POINT	364	132	17	72	7	28.9	-1.3	24.0	-0.2	31.3	3	21.7	13		
SAVUSAVU AIRFIELD	260	100	14	75	9	29.4	-0.4	24.0	0.8	31.9	5	22.0	28		
LABASA AIRFIELD	618	261	13	140	4	30.5	-0.5	22.2	0.9	33.0	23	17.0	15		
NABOUWALU	418	139	17	64	2	29.9	0.9	24.3	0.3	32.6	3	21.4	14		
KORONIVIA	368	98	22	107	7	29.8	0.3	U/S		32.5	30	U/S			
NAUSORI AIRPORT	341	94	18	85	7	29.4	0.1	22.7	0.2	31.7	30	18.9	16		
NAVUA/TOKOTOKO	394	88	12	151	11	30.5	0.5	22.6	1.6	32.0	2	19.0	14		
MONASAVU	664	122	29	128	10	24.4	0.3	18.4	-0.1	28.4	22	13.0	11		
LAUTOKA AES	382	204	13	123	9	30.8	0.3	U/S		32.5	18				
BA/RARAWAI MILL	453	219	12	137	6	31.1	-0.4	U/S		32.5	23				
PENANG MILL	593	220	17	141	8	30.2	0.6	23.3	0.1	31.1	11	21.2	28		
MATEI AIRFIELD	164	54	17	39	9	29.6	0.1	23.7	-0.1	31.9	5	22.1	28		
VANUABALAVU	151	76	16	31	1	31.0	1.4	25.9	1.5	32.8	30	23.0	12		
LAKEBA	307	149	16	98	6	29.4	0.1	23.3	-0.5	31.3	2	20.2	16		
LEVUKA	352	122	20	77	9	29.9	0.2	23.4	-0.8	33.7	4	21.6	16		
VUNISEA	516	220	22	112	1	29.5	0.6	23.9	1.2	32.0	6	21.9	19		
MATUKU	334	193	17	143	9	28.9	-0.3	24.2	0.3	30.4	6	22.5	13		
ONO-I-LAU	409	260	18	117	10	29.6	1.4	23.3	-0.3	31.9	29	21.7	14		
YASAWA-I-RARA	359	171	16	87	6										
SEAQAQA	533	198	16	102	1										

	TEMPERATURE( C)					WIND	SUN RAD	
	DRY WET		RH% VP		KT		%OF	MJ/
	MEAN (AVERAGE AT 9AM)							
NADI AIRPORT	26.3	27.0	23.9	77	27.3	6.8	54	19.3
SUVA/LAUCALA BAY	26.8	27.3	24.8	81	29.4	0.0	38	18.2
NACOCOLEVU	25.6	27.0	24.6	82	29.1	0.0	52	22
ROTUMA	27.4	28.2	25.3	79	30.0	3.7	24	16
VIWA	27.1	28.1	25.2	80	30.0	5.2		
UDU POINT	26.4	27.2	24.8	82	29.6	10.4		
SAVUSAVU AIRFIELD	26.7	27.1	24.3	79	28.3			
LABASA AIRFIELD	26.3	27.3	24.8	82	29.4			
NABOUWALU	27.1	27.6	24.9	80	29.5	8.0		
KORONIVIA		27.0	24.3	80	28.3			
NAUSORI AIRPORT	26.1	26.8	24.1	80	28.1	5.0		
NAVUA/TOKOTOKO	26.5	27.4	24.9	81	29.5			
MONASAVU	21.4	21.3	20.2	90	22.8			
LAUTOKA AES		28.3	25.0	76	29.3			
BA/RARAWAI MILL		26.9	23.6	77	26.8			
PENANG MILL	26.8	26.8	24.2	80	28.3			
MATEI AIRFIELD	26.6	27.6	24.7	78	28.8			
VANUABALAVU	28.4	29.1						
LAKEBA	26.3	27.3	24.7	80	29.1	5.5		
LEVUKA	26.7	26.5						
VUNISEA	26.7	26.9	24.0	79	27.8	9.7		
MATUKU	26.6	27.1	23.9	76	27.3	7.3		
ONO-I-LAU	26.5	26.3						

MEAN TEMPERATURE IS (MAX+MIN)/2; WIND IS MEAN SPEED AT 06,12,18,24 HOURS.  
 \$ :SOLAR RADIATION CALCULATED FROM SUNSHINE DURATION. # :DEPARTURE FROM LONG-TERM AVERAGES (1971-2000). + :NUMBER OF DAYS WITH 0.1 MM OR MORE RAIN. \* :PERCENT OF LONG-TERM AVERAGES. BLUE FONT: MISSING RECORDS OF LESS THAN OR EQUAL TO 5 DAYS.

Figure 2

**Nadi Airport - Temperature & Rainfall for the last 13 Months  
(April, 2017 - April, 2018)**

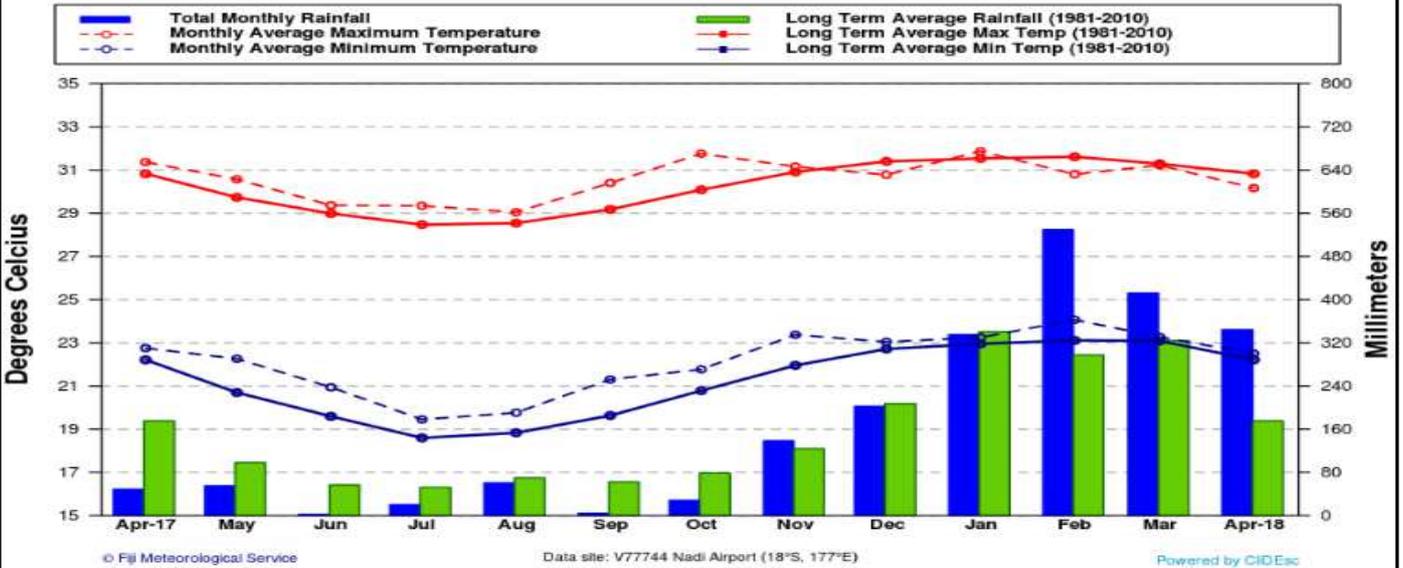


Figure 3

**Labasa Airfield - Temperature & Rainfall for the last 13 Months  
(April, 2017 - April, 2018)**

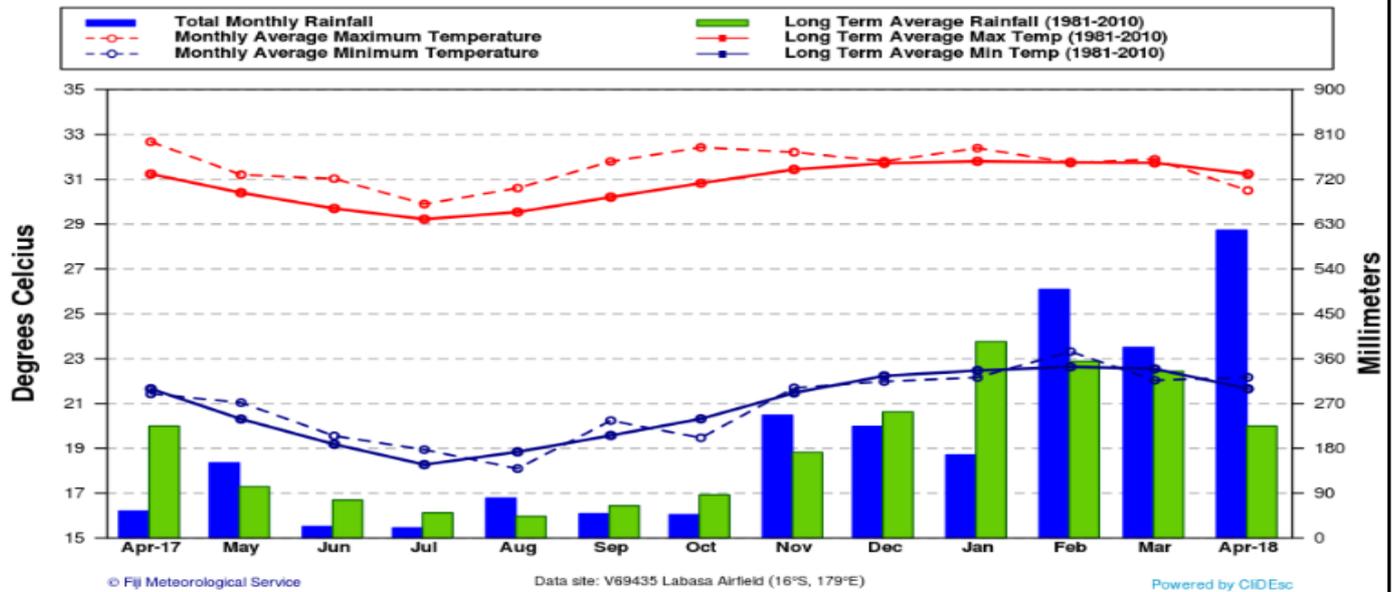


Figure 4

**Laucala Bay - Temperature & Rainfall for the last 13 Months  
(April, 2017 - April, 2018)**

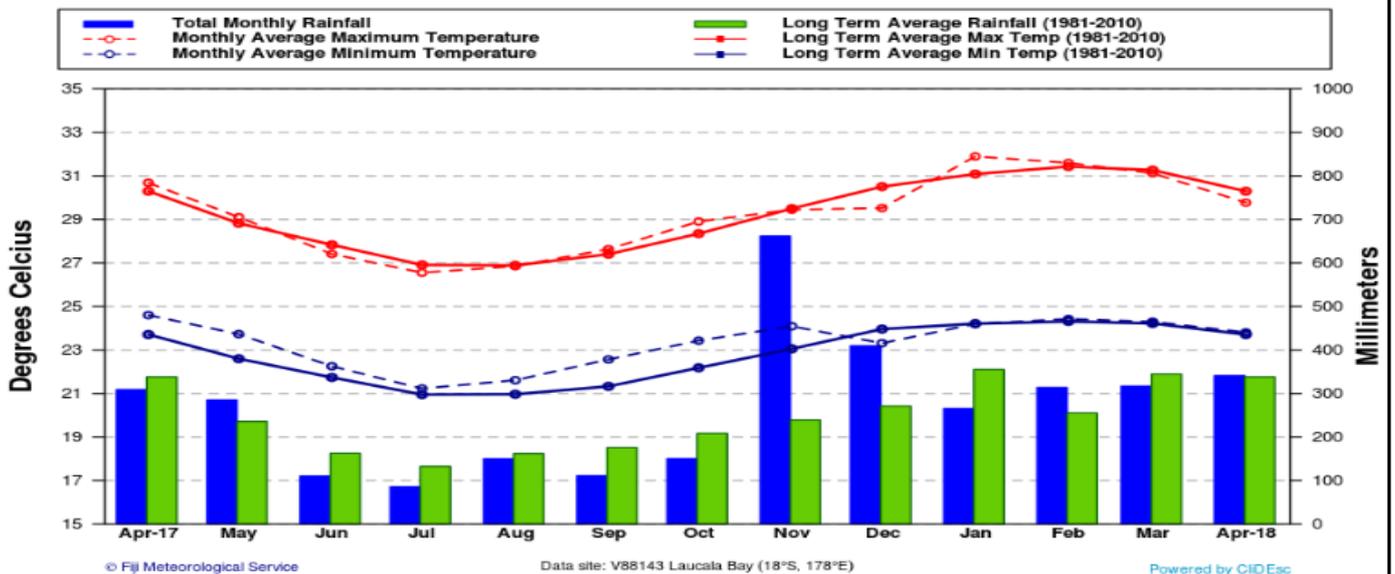
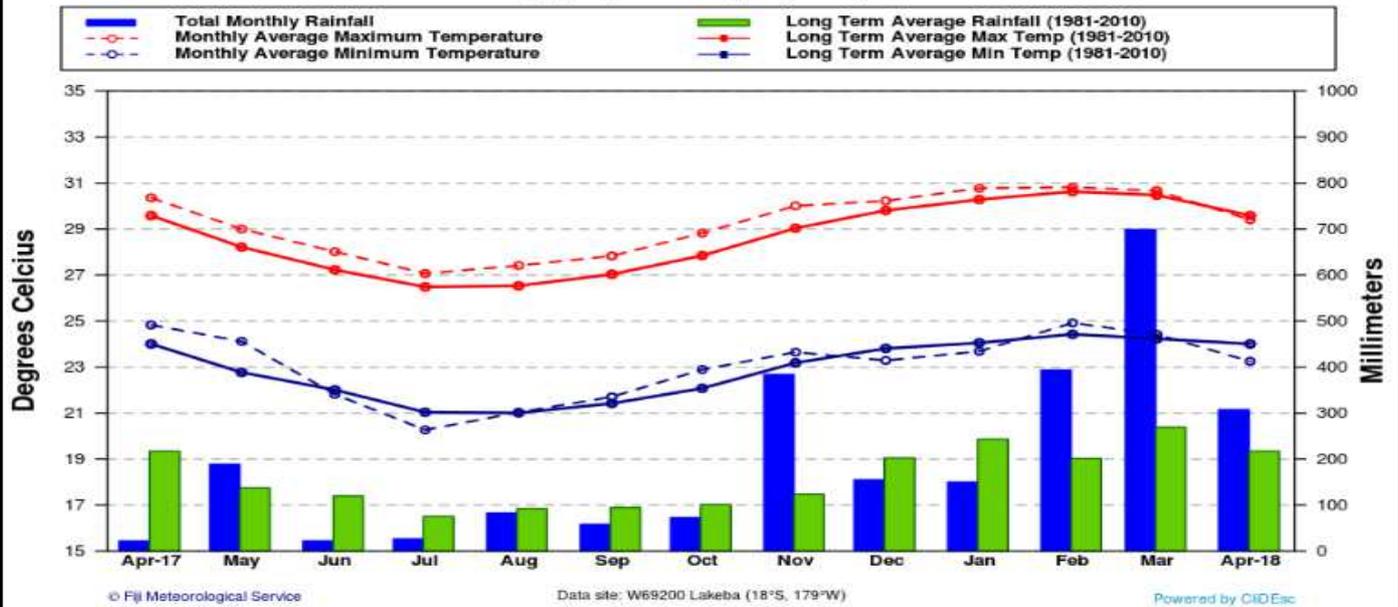


Figure 5

Lakeba - Temperature & Rainfall for the last 13 Months  
(April, 2017 - April, 2018)



## 6. RELATIVE HUMIDITY AT 0900HOURS

The 9am average relative humidity (RH) ranged from 76% to 90% during the month (Table 2).

The monthly average RH in the **Western Division** ranged between 77% and 90%, while the daily values were between 41% to 99%. Rakiraki and Ba recorded negative anomalies of -5.3% and -1.3%, Nacocolevu recorded normal anomalies, while the rest of the stations recorded anomalies greater than +1% anomaly.

The monthly average RH in the **Central Division** ranged between 80% and 81%, with the daily values between 56% to 100%. Below *normal* RH was recorded across the Central Division as all stations recorded anomalies within ± 5% of the *normal*. -4.1% was recorded at Nausori Airport, -3.5% at Koronivia, -3.2% at Navua and -1.7% at Laucala Bay (Suva).

The monthly average RH in the **Northern Division** ranged from 78% to 83%, with daily values from 54% to 97%. The RH departures in the Northern Division were -3% at Sasuvavu Airfield, -2.1% at Matei Airfield and -1.0% at Nabouwalu. Labasa recorded normal anomaly, while Udu Point recorded positive anomaly of +3%.

In the **Eastern Division**, the mean monthly average RH ranged from 76% and 80%, while the daily values ranged from 54% to 98%. Lakeba recorded +2.6% anomaly, normal at Matuku and -1.6% at Vunisea, Kadavu.

The mean monthly RH at **Rotuma** was 79%, while the daily values ranged between 70% and to 99%.

## 7. SUNSHINE

*Normal to below normal* bright sunshine hours were recorded at the 4 sunshine recording stations. Nacocolevu, Nadi Airport, Laucala Bay and Rotuma registered 112%, 104%, 94% and 44% of the *normal* bright sunshine hours, respectively (Table 2).

Nadi Airport recorded 1206.0hours of total bright sunshine, with a mean of 6.9 hours/day. The highest sunshine hours of 11.0hours was recorded on the 4<sup>th</sup>, 22<sup>nd</sup> and 28<sup>th</sup>, followed by 10.8 hours on the 14<sup>th</sup> and the 29<sup>th</sup> and 10.7 hours on the 17<sup>th</sup>. On the other hand, overcast condition was recorded on the 6<sup>th</sup> and likewise from the 8<sup>th</sup> to 10<sup>th</sup>.

Laucala Bay recorded 144.8hours of total monthly bright sunshine, with a mean of 4.8 hours/day. The longest duration of bright sunshine of 10.5hours was recorded on the 3<sup>rd</sup>, followed by 9.8hours on the 23<sup>rd</sup> and 9.1 hours on the 4<sup>th</sup> and 23<sup>rd</sup>. Overcast conditions with no bright sunshine

was recorded on the 1<sup>st</sup>, 8<sup>th</sup> to 10<sup>th</sup> and likewise on the 20<sup>th</sup>.

The total monthly bright sunshine at Nacocolevu was 189.6hours, with a daily mean of 6.5hours/day. The longest duration of 11.0hours was recorded on the 3<sup>rd</sup>, followed by 10.0 hours on the 23<sup>rd</sup>. On the other hand, overcast conditions with no bright sunshine hours was recorded on the 1<sup>st</sup> and 23<sup>rd</sup>.

Rotuma recorded 81.2hours of sunshine during the month, with the mean of 2.9hours. The longest sunshine hours of 8.8 hours was recorded on the 28<sup>th</sup> and 30<sup>th</sup>, followed by 8.2 hours on the 29<sup>th</sup> and 7.1 hours on the 27<sup>th</sup>. Overcast conditions with no bright sunshine hours were recorded on 11 days of the month.

## 8. WIND SUMMARY

The 10-minute average wind statistics recorded every three hours at Nadi Airport during the month showed that the easterly winds were dominant, accounting for 28.8% of the total observations. This was followed by westerly winds with 16.3% of the observations and north-easterly winds accounting for 11.7% of total observations (Figure 6(a)). Calm conditions were recorded on 10.8% of the instances. The wind strengths were generally *gentle to moderate*, with *strong breeze* also recorded on 5% of observations (Figure 6a & 6b).

Wind strengths at Nausori Airport were mostly *light to moderate* and at times reaching *strong breeze* in strength.

Satellite data showed variable wind anomalies were present in the Fiji region during the month (Figure 13).

At Nausori Airport, south-easterly winds were dominant, accounting for 21.7% of observations, followed by calm winds with 15.8% of the observations, easterly winds with 13.3% and north-easterly with 12.5% of observations.

*Note:*  
*light air:* 1-3 knots, *light breeze:* 4-6 knots, *gentle breeze:* 7-10 knots, *moderate breeze:* 11-16 knots, *fresh breeze:* 17-21 knots, *strong breeze:* 22-27 knots, *near gale:* 28-33 knots; *gale:* 34-40 knots; *strong gale:* 41-47 knots

Figure 6(a) Surface Wind Direction for Nadi Airport, Fiji. (WMO 91680 Lat 17° 45'35"South Long 177° 26'42"East Height above MSL 22m)

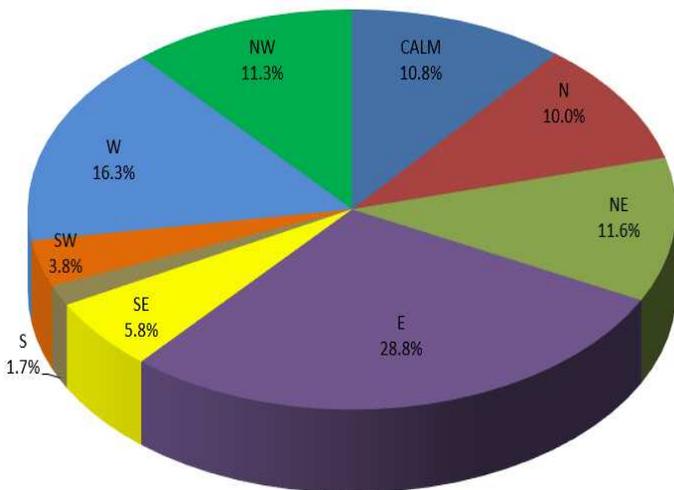


Figure 6(b) Surface Wind Speed for Nadi Airport, Fiji. (WMO 91680 Lat 17° 45'35"South Long 177° 26'42"East Height above MSL 22m)

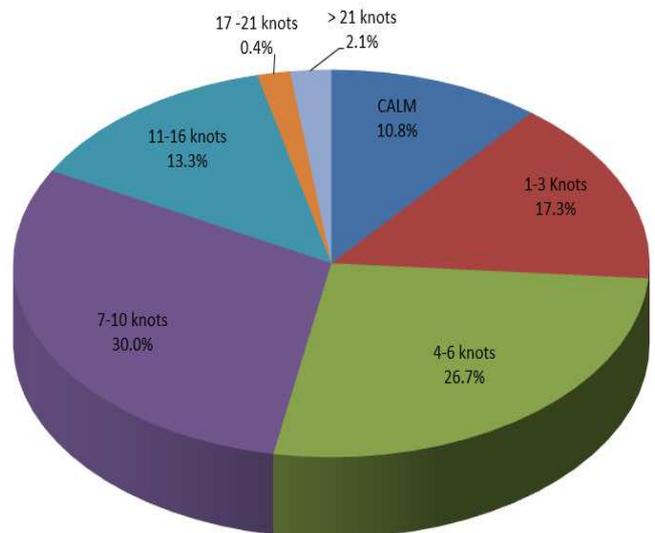


Figure 7(a) Surface Wind Direction for Nausori Airport, Fiji. (WMO 91683 Lat 18° 02'47"South Long 178° 33'33"East Height above MSL 3m)

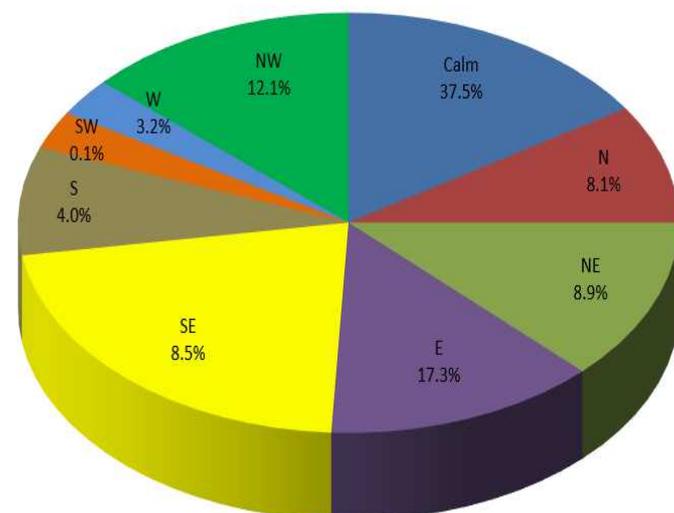
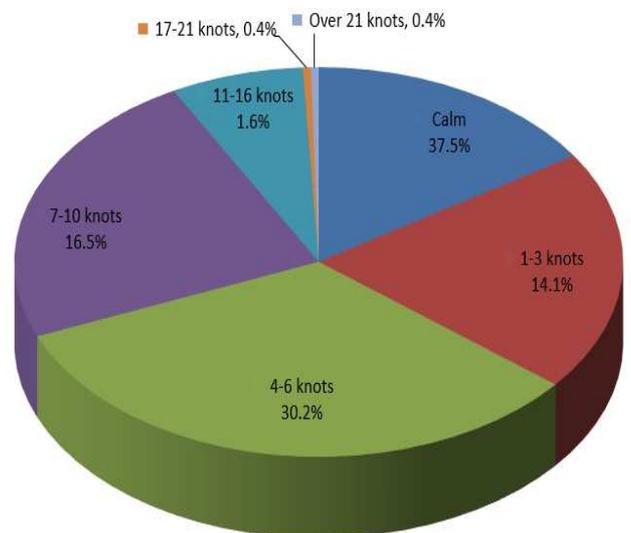
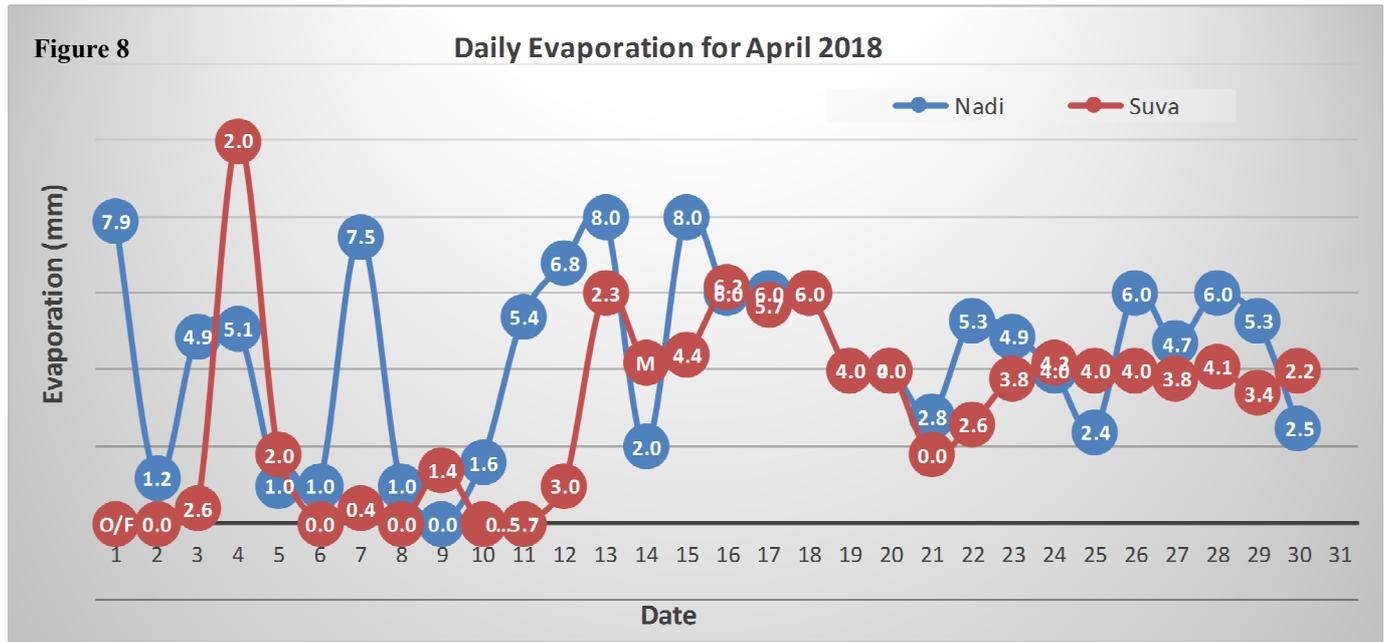


Figure 7(b) Surface Wind Speed for Nausori Airport, Fiji. (WMO 91683 Lat 18° 02'47"South Long 178° 33'33"East Height above MSL 3m)



9. EVAPORATION



The total monthly raised pan evaporation at Nadi Airport was 131.3mm, with the highest of 8.0mm recorded on the 15<sup>th</sup>. Laucala Bay recorded total monthly evaporation of 91.2mm, with the highest daily evaporation of 10.0mm on the 4<sup>th</sup>.

10. RADIATION

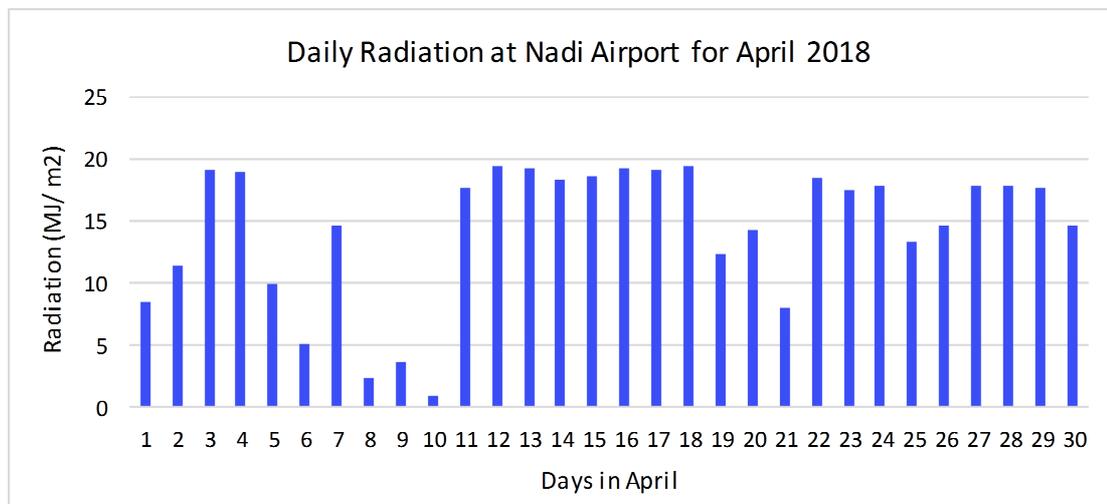


Figure 9:

The mean daily solar radiation at Nadi Airport was 14.3MJ/m<sup>2</sup>, compared to 17.1MJ/m<sup>2</sup> over 30 year average (1971-2000).

11. SEA SURFACE TEMPERATURE (SST)

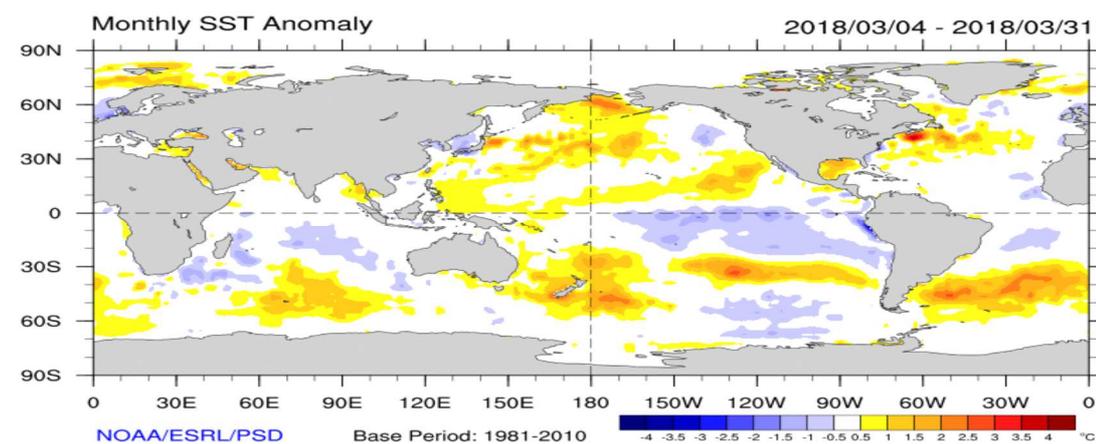


Figure 10:

Normal SSTs were present in the northern parts of Fiji Waters, while slightly above normal waters were present to the south (base period: 1981-2010).

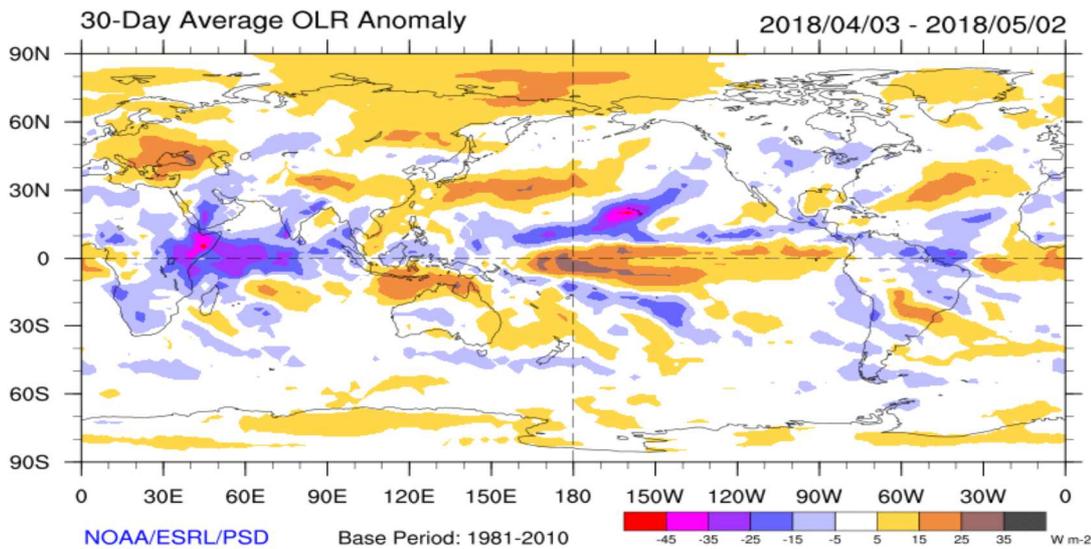
Source: <http://www.esrl.noaa.gov/psd/map/clim/st.shtml>

## 12. CLOUD COVER

**Figure 11:**

OLR anomalies indicate presence of slightly above normal cloud cover in the Fiji region during the month (Fiji: ~17°S, 180°) (base period: 1981-2010).

Source: <http://www.esrl.noaa.gov/psd/map/clim/olr.shtml>

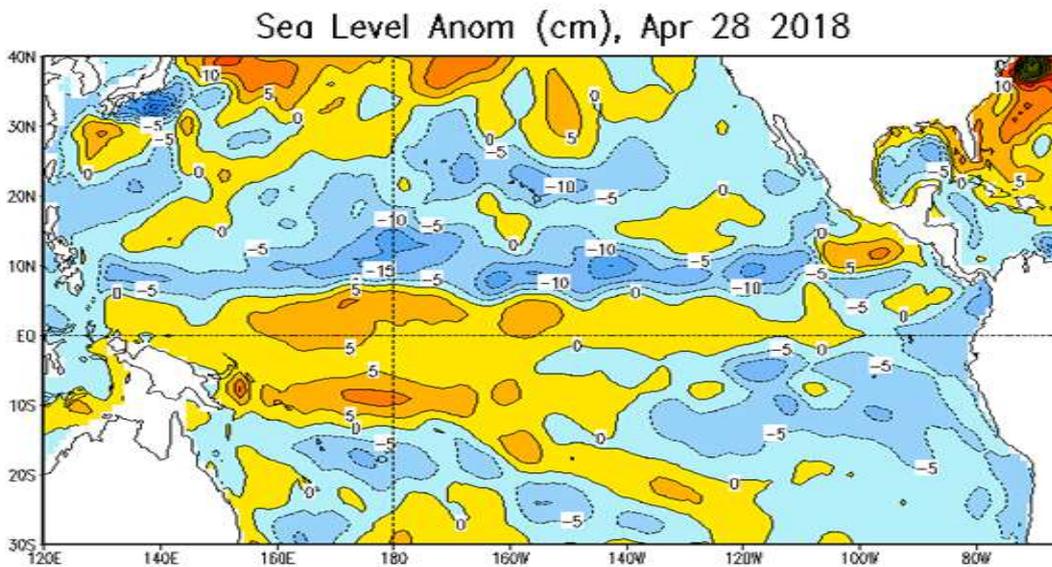


## 13. SEA LEVEL

**Figure 12:**

Below normal sea level anomalies persisted in the Fiji Waters during the month (base period: 1981-2010).

Source: [http://www.cpc.ncep.noaa.gov/products/analysis\\_monitoring/ocean/weeklyenso\\_clim\\_81-10/wksl\\_anm.gif](http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/ocean/weeklyenso_clim_81-10/wksl_anm.gif)

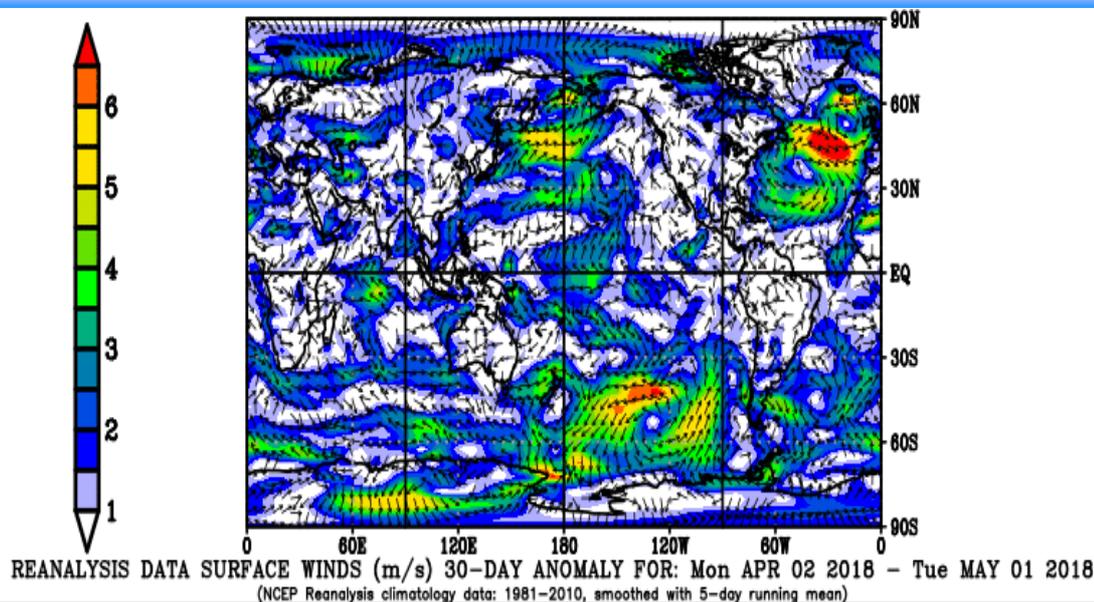


## 14. WIND ANOMALIES

**Figure 13:**

Reanalysis data show variable winds were present in the Fiji region during the month (Fiji: ~17°S, 180°) (base period: 1981-2010).

Source: [https://www.esrl.noaa.gov/psd/map/images/rnl/sfcwnd\\_30b.rnl.html](https://www.esrl.noaa.gov/psd/map/images/rnl/sfcwnd_30b.rnl.html)



**15. TROPICAL CYCLONE JOSIE: 30 MARCH– 02 APRIL**

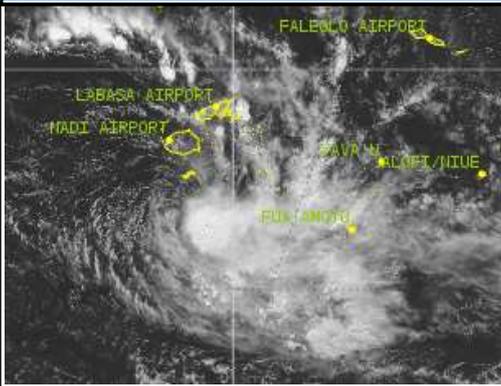


Figure 14: TC Josie located further south of Fiji. Source: Visible– Channel 03.

Tropical cyclone Josie was the fifth tropical cyclone to form in the South Pacific Ocean for the 2017/18 season. Tropical depression TD12F intensified into Tropical cyclone Josie and reached a maximum intensity of category one with maximum sustained winds estimated to be 45 knots and gusts to 60 knots while in RSMC Nadi’s Area of Responsibility.

TC Josie affected Vanuatu from 30<sup>th</sup> March to 1<sup>st</sup> of April as a depression. At around 1200UTC on April 01<sup>st</sup>, TD13F was upgraded into a tropical cyclone as it moved towards Fiji. Tropical cyclone Josie had maximum wind close to the center of 40 knots on 31<sup>st</sup> of March at 1800 UTC and had gales extending to about a maximum of 120 Nautical miles in the northeastern quadrant.

During TC Josie, the maximum flood level of 7.82m was recorded at Toge station at 2pm while the maximum flood level of 8.27m was recorded at Ba FSC station after 2 hours later. It took 7 hours for the flood level at Ba FSC Station to reach the maximum flood height after the flood warning was issued and 11 hours for the recession period. Two significant hourly rainfall was recorded at 8am (119.5mm) and 9am (114mm) at Toge station on the 1<sup>st</sup> of April.

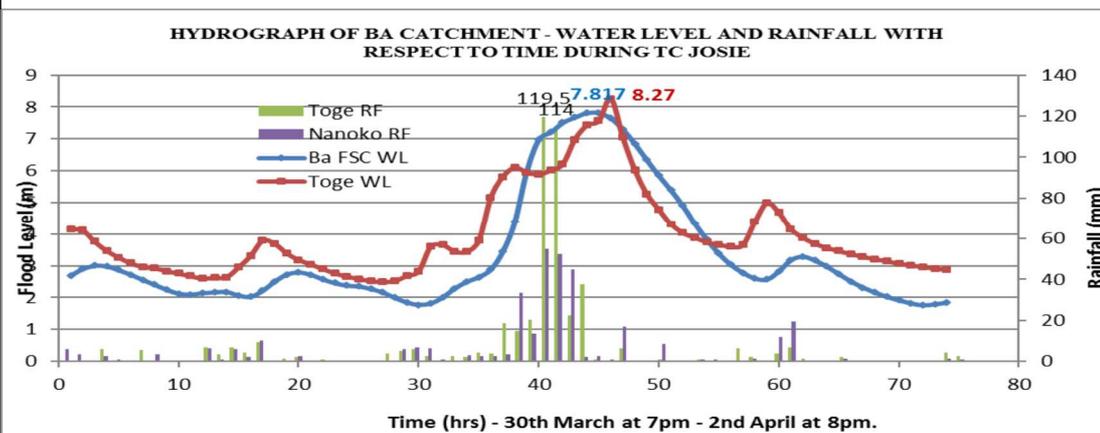


Figure 15: Hydrograph of Ba Station during TC Josie.

For the Nadi catchment, maximum flood height of 4.4m was recorded at Yavuna station and Votualevu recorded 11.0m at 12midday on 1<sup>st</sup> April. The low lying areas, including Nadi Town was flooded.

For the Tuva catchment, Emuri recorded the highest of 10.54m at 11am on 1<sup>st</sup> April.

**16. TROPICAL CYCLONE KENI: 8– 11 APRIL, 2018**

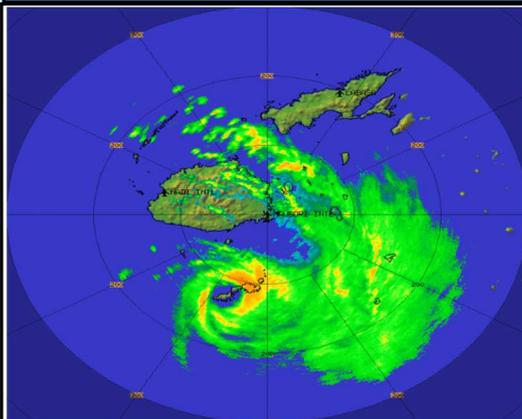


Figure 15: Radar image of the cyclone, making landfall at Kadavu.

Tropical Cyclone Keni was the third cyclone to affect the Fiji Group during the 2017/18 tropical cyclone season after Josie and Gita. TC Keni reached a maximum intensity as a category 3 system with sustained winds estimated to be 85 knots and gusts to 120 knots as it moved over the southwestern parts of the Fiji Group. The cyclone recorded a lowest pressure of 959.9hectopascals at Vunisea.

Along with the hurricane force winds associated with Keni, damaging heavy swells and large storm surges devastated Kadavu and Ono-I-Lau. About 75% of houses were damaged or destroyed in Kadavu and Ono-I-Lau. Keni caused one death in Fiji.

Cyclone Keni made a significant impact on the Southern parts of the Fiji Group especially over Kadavu and Ono-I-Lau. On early Tuesday, 10<sup>th</sup> April, Severe Tropical Cyclone Keni moved over Fiji waters from the west. During the 10-11<sup>th</sup> April the cyclone tracked east-southeast over just southwest of Viti Levu, over Kadavu and just west of Ono-I-Lau. TC Keni caused extensive damage especially to the agricultural sector and infrastructure over Kadavu and Ono-I-Lau.

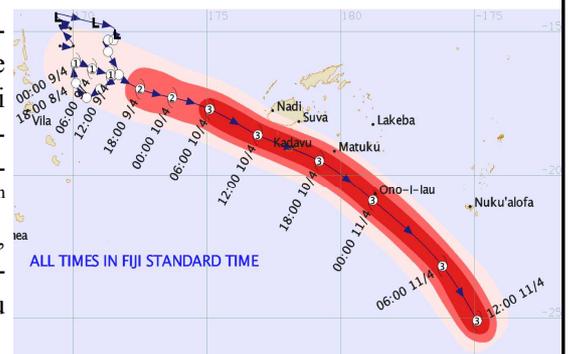


Figure 2: TC Keni track map.