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Fiji Climate Summary April 2019

ISO 9001:2015

ISO 9001:2015 certified Climate Services

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1. IN BRIEF

The first and the third week of April were generally dominated by the trade southeasterly winds, while the second and last week were influenced by troughs of low pressure system.

A weak El Niño event remains established within the tropical Pacific region.

Rainfall varied across the country in April, ranging from *below average* to *well above average* rainfall. Out of the 25 rainfall reporting stations, 21 stations recorded *above average* to *well above average* rainfall, while 4 stations recorded *average* to *below average* rainfall.

The highest total monthly rainfall of 1023.4mm was recorded at Tokotoko (Navua), followed by 982.5mm at Koronivia, 852.0mm at Monasavu, 836.6mm at Udu Point, 727.5mm at RKS Lodoni, 699.4mm at Matuku, 667.5mm at Nasinu, 665.7mm at Laucala Bay (Suva) and 661.0mm at Dobuilevu. On the other hand, the lowest monthly rainfall of 132.6mm was recorded at Labasa Airfield and 226.7mm at Rotuma. These were the only two stations that recorded *below average* rainfall in April.

Periods of widespread rainfall were recorded around the middle and towards the end of the month. As a result, flash floods, landslides and bridges underwater were reported in the Rewa, Navua, Korovou, Sigatoka, Rakiraki and Savusavu areas.

The highest day-time maximum temperature was registered at Keiyasi with 35.1°C on the 3rd, followed by Seaqaqa with 35.2°C on the 10th, 34.5°C at Saqani and 34.2°C at Savusavu Airfield on the 28th respectively.

Cool nights were observed mostly during the first and the third week, with most stations recording their lowest night-time temperature during this period. The lowest night-time temperature of 16.0°C was recorded at Nadarivatu on the 5th , followed by 17.5°C at Monasavu, 18.5°C at Labasa Airfield on the 24th and 19.5°C at Nacocolevu on the 4th.

2. WEATHER PATTERNS

April began with a trough of low pressure with cloud and showers affecting the Fiji group. A southeast wind flow than prevailed over the group from the 2nd till the 6th before an active trough of low pressure approached the group from the west and affected the group till the 9th with highest 24-hour rainfall of 119.5mm recorded at Nabukaluka AWS on the 6th.

A southeast wind flow than again prevailed from the 10th till 13th. Later on the 13th till the 19th, an active trough of low pressure with heavy rain and thunderstorms affected the group from the west. The highest 24-hour rainfall was recorded at Vanuabalavu and Nadi of 210.0mm and 143.2mm respectively on the 14th.

A high pressure system to the far south of Fiji than directed a moist southeast wind flow over the southern parts of the group from the 17th till the 25th. This moist southeast wind flow was further enhanced by a convergence zone that developed over the group during the Easter weekend which produced heavy rain over most parts of the country from the 19th till 21st. This again produced significant 24hour rainfall of above 100mm for most stations with Tokotoko recording the highest of 192.0mm on the 20th and Koronivia observing 138.0mm on 21st respectively.

Another trough of low pressure approached the group from the north on the 22nd which continued to enhance the moist easterlies with Udu Point recording the highest 24hour rainfall of 273.3mm on 22nd and Matuku of 181.0mm on the 23rd. The trough weakened on the 24th and the normal trade showers was restored over the group. The trough re-intensified on the 26th and again heavy rain was experienced with the highest 24 hours' rainfall of 143.0mm recorded at Penang before it eventually weakened on the 28th. The trough drifted south and a northerly wind flow temporarily dominated the group.

A predominantly cool and dry southerly wind flow pushed in from the southwest on the 29th and prevailed over the country until the 30th.

Rotuma was mainly affected by series of troughs moving over the group which produced rain and thunderstorms during most days of April.

***Previously known as the Fiji Islands Weather Summary and Monthly Weather Summary**

3. RAINFALL

During April, rainfall patterns varied across the country, ranging from *below average* to *well above average*. Out of the 25 stations, 8 stations recorded *well above average* rainfall, 13 stations observed *above average,* 2 stations reported *average* and 2 stations recorded *below average* rainfall.

The highest total monthly rainfall of 1023.4mm was recorded at Tokotoko (Navua), followed by 982.5mm at Koronivia, 852.0mm at Monasavu, 836.6mm at Udu Point, 727.5mm at RKS Lodoni, 699.4mm at Matuku, 667.5mm at Nasinu, 665.7mm at Laucala Bay (Suva) and 661.0mm at Dobuilevu. In contrast, the lowest monthly rainfall of 132.6mm was recorded at Labasa Airfield and 226.7mm at Rotuma. These were the only two stations that recorded *below average* rainfall in April.

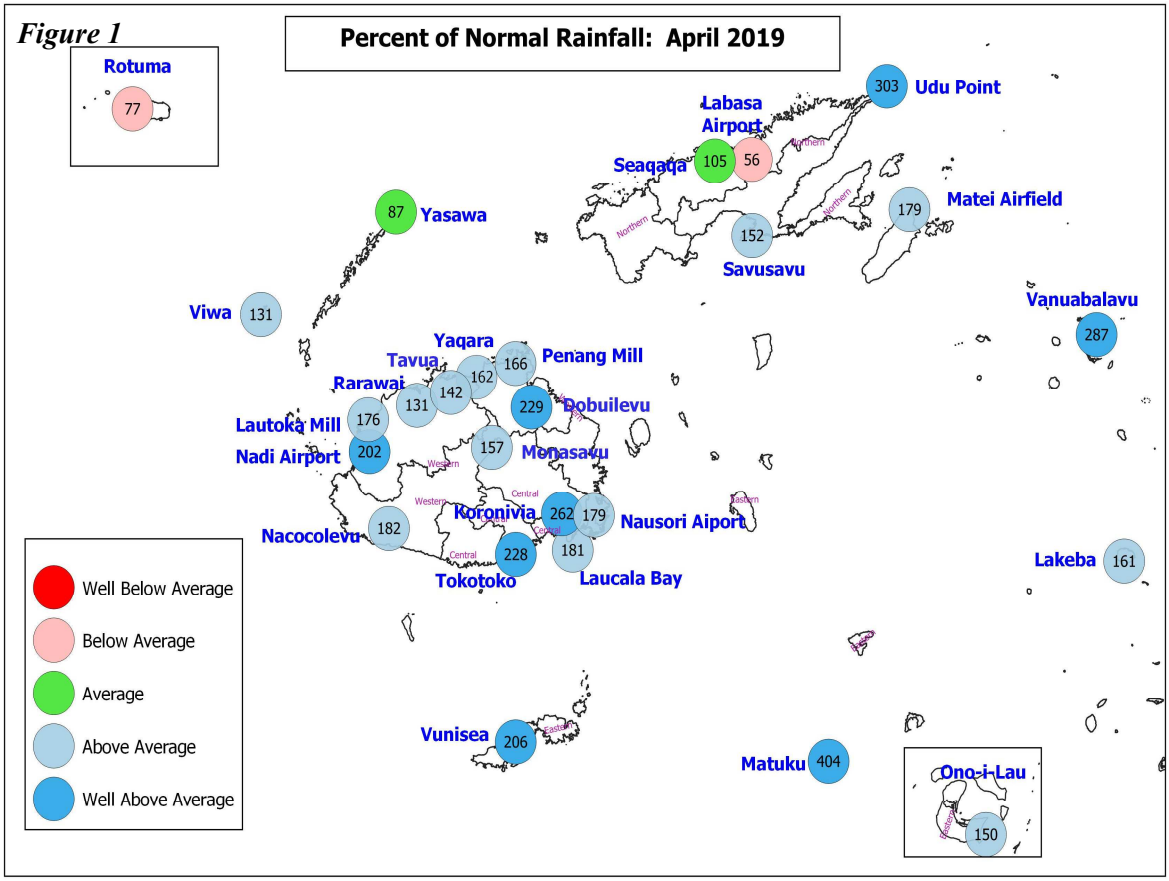
Matuku, Navua and Udu Point recorded their highest ever April total monthly rainfall, replacing previous records established in 1967, 1997 and 2002 respectively.

Periods of widespread rainfall were observed across the country around the middle and towards the end of the month. Heavy rain started over the Central and Northern Divisions before spreading to other parts of the country. In addition, reports of flooding, landslides, bridges underwater were received for the following areas; Savusavu, Rewa, Navua, Tailevu North, Sigatoka and Rakiraki.

Significant one day falls of more than 100mm were recorded at various locations around the country, namely at Udu Point (273.2mm) and Saqani (213.5mm) on the 22nd, Matuku (200mm) on the 17th, Navua (192.0mm) and RKS Lodoni (181.0mm) on the 20th.

The number of rainy days (rainfall ≥0.1mm) during April ranged from 13 to 26 days. Monasavu recorded the highest with 26 rain days, 24 at Koronivia, Nausori Airport, Nasinu, Matei Airfield and Rotuma, 23 at Tokotoko (Navua) and Laucala Bay, 22 at Wainikoro, Kadavu and Rakiraki, 21at Dobuilevu, RKS Lodoni, Nadarivatu and Udu Point and 20 at Nacocolevu, Sigatoka, Matuku and Saqani. The lowest number of rain days was recorded at Tavua (13 days) followed by Yasawa-i-Rara (14 days).

Figure 1



Normal: *Long term average from 1971 to 2000*
Above Average: *Rainfall between 120 to 199%*
Average: *Rainfall between 80 to 119%*
Below Average: *Rainfall between 40 to 79%*
Rain Day: *Rainfall ≥ 0.1mm*
Well Below Average: *Rainfall less than 40% of normal*
Well Above Average: *Rainfall greater than or equal to 200% of normal*

4. AIR TEMPERATURES

A. Maximum Daytime Air Temperatures

In April, generally *normal* to *above normal* day-time temperatures were observed at various temperature recording stations. Out of the 21 stations, 16 stations recorded anomalies within ≥0.6˚C, while the rest reported anomalies within ± 0.5˚C. (Table 2 & Figures 2-5).

The warmest days on average were at Seaqaqa with 32.9° C, followed by Keiyasi (32.5°C), Labasa Airfield (32.2°C), Rarawai Mill, Ba (32.1°C) and Yaqara (32.0°C). On the other hand, the coolest day time temperatures on average was at Monasavu with 25.1°C, followed by Nadarivatu (25.7°C) and Ono-i-Lau (28.8°C).

During the first and last week of April, most stations recorded their warmest day-time temperatures. The highest daily day-time maximum temperature was registered at Keiyasi with 35.6°C on the 3rd, followed by Seaqaqa with 35.2°C on the 10th, 34.5°C at Saqani and 34.2°C at Savusavu Airfield on the 28th respectively. On the contrary, the lowest day-time temperatures were recorded in the interior of Viti Levu, with the lowest of 21.5°C from Monasavu on the 20th and 22.2°C from Nadarivatu on the 7th.

Tokotoko (Navua) and Savusavu Airfield recorded their new highest ever daily day-time temperatures, 34.2°C (32.7°C) was established at Savusavu (Tokotoko-Navua) replacing the 1991 (2006) record of 33.9°C (32.6°C) (Table 1).

B. Minimum Night-time Air Temperatures

For the night-time temperatures, *normal* to *above normal* temperatures were observed at various stations, with 15 stations recorded anomalies within ≥ 0.6˚C, 4 stations had anomalies within ±0.5C, while Rotuma and Viwa were the only two stations recording *below normal* temperatures. (Table 2 & Figures 2-5).

The coolest night on average during the month was observed at Nadarivatu with 19.0°C, followed by Monasavu (19.7°C), Nacocolevu (22.4°C) and Keiyasi (22.7°C). On the other hand, the warmest night on average was recorded at Udu Point with 24.9°C, followed by Saqani and Vaturekuka (24.8°C), Laucala Bay (24.6°C) and Lakeba (24.4°C).

Cool nights were experienced mostly during the first and the third week of April, with most stations recording their lowest night-time temperature during this period. The lowest night-time temperature was recorded at Nadarivatu with 16.0°C on the 5th, followed by Monasavu (17.5°C) and Labasa Airfield (18.5°C) on the 24th and Nacocolevu (19.5° C) on the 4th. In contrast, Vanuabalavu registered the warmest daily night-time temperature of 27.7°C on the 17th, followed by Korolevu (27.4°C) on the 2nd and Yasawa-i-Rara (27.1°C) on the 29th.

Laucala Bay and Nadi Airport recorded their new average monthly night-time temperature, 23.7°C (24.6°C) was recorded at Nadi Airport (Laucala Bay - Suva) replacing a previous record of 23.2°C (24.3°C) established in 1988 (2002), (Table 1).

TABLE 1. CLIMATE RECORDS ESTABLISHED IN APRIL 2019

Element	Station	Observed (record)	On	Rank	Previous (record)	Year	Records Began
Total Monthly Rainfall	Udu Point	836.6mm	-	New High	814.5mm	2002	1946
Total Monthly Rainfall	Tokotoko, Navua	1023.4mm	-	New High	837.6mm	1997	1992
Total Monthly Rainfall	Matuku	699.4mm	-	New High	459.9mm	1967	1951
Daily Maximum Temperature	Savusavu	34.2°C	28th	New High	33.9°C	1991	1956
Daily Maximum Temperature	Navua	32.7°C	17th	New High	32.6°C	2006	1992
Mean Monthly Min Temperature	Nadi Airport	23.7°C	-	New High	23.2°C	1988	1942
Mean Monthly Min Temperature	Laucala Bay (Suva)	24.6°C	-	New High	24.3°C	2002	1942

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 2019

	RAINFALL				AIR TEMPERATURES								SUNSHINE	
	TOTAL	*	RAIN DAYS +	MAX. FALL MM ON	AVERAGE DAILY MAX. C	# C	MIN. C	# C	EXTREME MAX. C	ON	MIN. C	ON	TOTAL HRS	* %
NADI AIRPORT	324	202	17	143 14	31.4	0.7	23.7	1.9	33.2	25	22.2	30	179	91
SUVA/LAUCALA BAY	666	181	23	101 20	30.1	0.2	24.6	1.3	33.6	28	22.6	21	133	87
NACOCOLEVU	284	182	20	117 14	31.6	1.4	22.4	0.9	33.8	18	19.5	4	159	94
ROTUMA	227	77	24	21 20	31.5	1.0	24.0	-0.8	32.4	26	21.4	20	165	90
VIWA	302	131	16	58 18	31.4	1.1	24.0	-0.8	33.3	28	22.0	14		
UDU POINT	837	303	21	273 22	30.1	-0.1	24.9	0.7	31.7	9	22.5	20		
SAVUSAVU AIRFIELD	397	152	16	131 22	30.4	0.6	24.3	1.1	34.2	28	22.7	5		
LABASA AIRFIELD	133	56	15	23 22	32.2	1.2	21.1	-0.2	33.5	3	18.5	24		
NABOUWALU	OBSERVER ON ANNUAL LEAVE													
KORONIVIA	983	262	24	169 20	30.1	0.6	23.3	1.0	33.0	12	20.5	4		
NAUSORI AIRPORT	647	179	24	132 20	30.3	1.0	23.6	1.1	33.0	28	20.5	27		
NAVUA/TOKOTOKO	1023	228	23	192 20	30.4	0.4	23.1	2.1	32.7	17	21.0	5		
MONASAVU	852	157	26	124 26	25.1	1.0	19.7	1.2	28.0	28	17.5	5		
LAUTOKA AES	329	176	17	92 14	31.6	1.1	24.0	1.1	33.0	1	22.5	4		
BA/RARAWAI MILL	271	131	19	63 25	32.1	0.6	22.9	1.7	33.7	10	20.5	4		
PENANG MILL	447	166	22	143 26	31.0	1.4	24.1	0.9	33.1	8	23.0	30		
MATEI AIRFIELD	540	179	24	120 21	30.3	0.8	24.4	0.6	31.9	28	22.4	14		
VANUABALAVU	OBSERVER ON ANNUAL LEAVE													
LAKEBA	332	161	19	107 23	30.5	1.2	24.4	0.6	32.9	8	22.2	6		
YASAWA	251	87	14	56 16	31.7	2.0	24.1	-0.1	33.6	12	21.7	29		
VUNISEA	483	206	22	109 23	29.3	0.4	23.9	1.2	32.3	28	22.1	5		
MATUKU	699	404	20	200 17	29.5	0.3	24.2	0.3	31.0	8	22.0	6		
ONO-I-LAU	236	150	18	108 14	28.8	0.6	23.2	-0.4	31.6	8	21.5	30		
LEVUKA AWS	U/S				U/S		U/S							
YAQARA AWS	284	162	17	72 21	32.0		24.3		33.5	11	22.8	5		
KEIYASI AWS	U/S				32.5		22.7		35.6	3	20.0	4		
LOMAIVUNA AWS	U/S		U/S		U/S		24.4		U/S		21.9	4		
NADARIVATU AWS	502		21	119 14	25.7		19.0		27.6	3	16.0	5		
RKS LODONI AWS	728		21	181 20	30.0		23.3		33.1	29	21.4	4		
MOMI AWS	255		17	91 14	30.9		24.2		32.4	3	22.7	4		
KOROLEVU AWS	U/S				U/S				U/S					
KORO ISLAND AWS	U/S				30.1		24.0		32.7	28	22.4	20		
SIGATOKA AWS	284		20	99 14	30.6		23.1		33.1	28	20.4	4		
RAKIRAKI AWS	445		19	120 26	U/S		U/S							
WAINIKORO AWS	467		22	158 21	31.5		23.1		33.2	5	20.4	4		
SAQANI AWS	546		20	214 22	30.8		24.8		34.5	28	23.2	20		
VATUREKUKA AWS	220		17	49 2	31.3		24.8		32.8	10	23.2	20		
KUBULAU AWS	U/S				U/S		U/S							
SEAQAQA TB3	283	105	19	58 14	32.9		23.1		35.2	10	20.4	4		
DOBUILEVU TB3	661	229	21	137 26										
NASINU TB3	668		24	132 20										
TAVUA TB3	244	142	13	75 14										

	TEMPERATURE(C)			HUMIDITY	WIND	SUN	RAD
	MEAN	DRY (AVERAGE | WET AT 9AM)	RH%	VP	KT	%OF POS	MJ/ SQ.M
NADI AIRPORT	27.5	27.7	25.1	81	29.9	5.1	47	14.4
SUVA/LAUCALA BAY	27.4	27.7	25.6	84	31.1		35	17.6
NACOCOLEVU	27.0	27.7	25.5	83	30.8		42	20
ROTUMA	27.7	28.8	25.4	76	29.8	3.7	45	20
VIWA	27.7	28.7	26.3	82	32.4	6.3		
UDU POINT	27.5	28.2	26.0	83	31.8	7.5		
SAVUSAVU AIRFIELD	27.3	28.1	25.9	83	31.6			
LABASA AIRFIELD	26.7	28.6	25.7	79	30.8			
NABOUWALU	OBSERVER ON A/L							
KORONIVIA	26.7	27.6	25.5	84	30.9			
NAUSORI AIRPORT	27.0	27.4	25.5	85	31.1	4.1		
NAVUA/TOKOTOKO	26.8	27.8	25.6	84	31.2			
MONASAVU	22.4	22.6	21.3	89	24.4			
LAUTOKA AES	27.8	28.2	26.3	108	32.8			
BA/RARAWAI MILL	27.5	27.2	25.0	84	30.1			
PENANG MILL	27.5	27.7	25.5	83	30.8			
MATEI AIRFIELD	27.4	28.5	26.2	83	32.3			
VANUABALAVU	OBSERVER ON A/L							
LAKEBA	27.4	28.8	25.9	79	31.1	4.3		
YASAWA	27.9	28.5	26.0	82	31.8	9.4		
VUNISEA	26.6	27.0	25.2	87	30.6	8.5		
MATUKU	26.8	27.4	25.0	82	29.8	4.7		
ONO-I-LAU	26.0	27.0	25.1	86	30.5	10.4		

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. U/S: UNSERVICEABLE

Figure 2

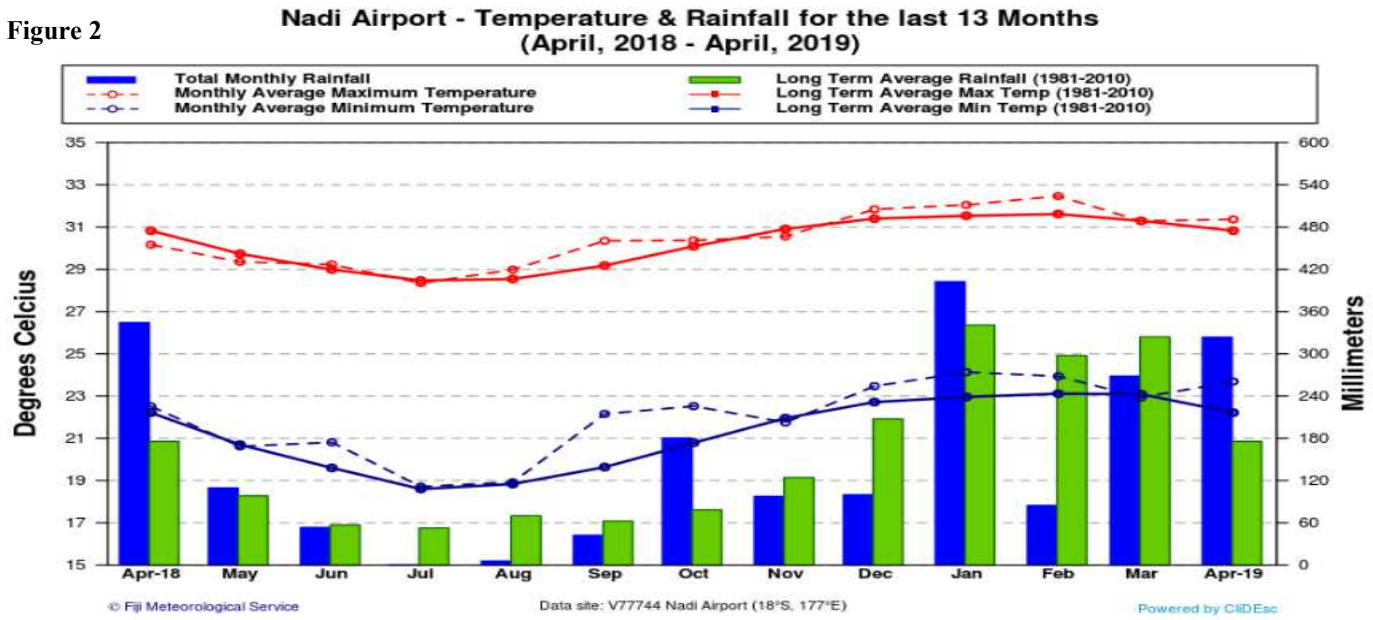


Figure 3

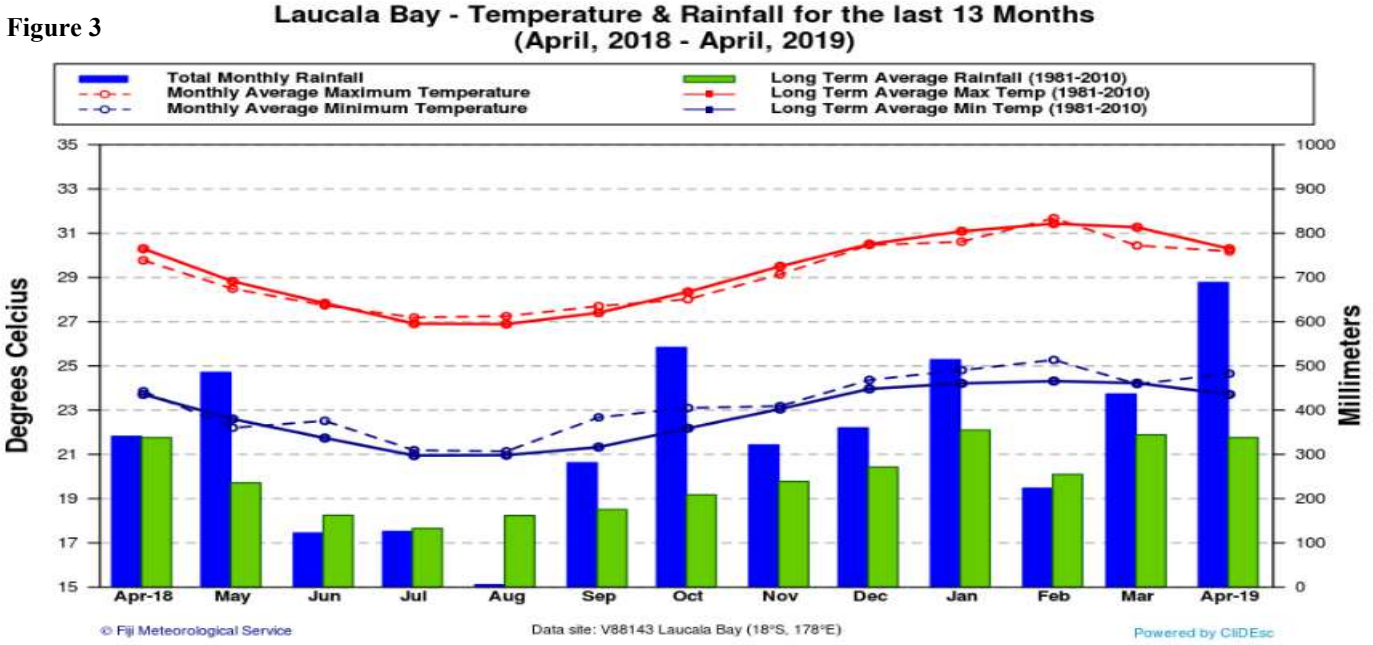


Figure 4

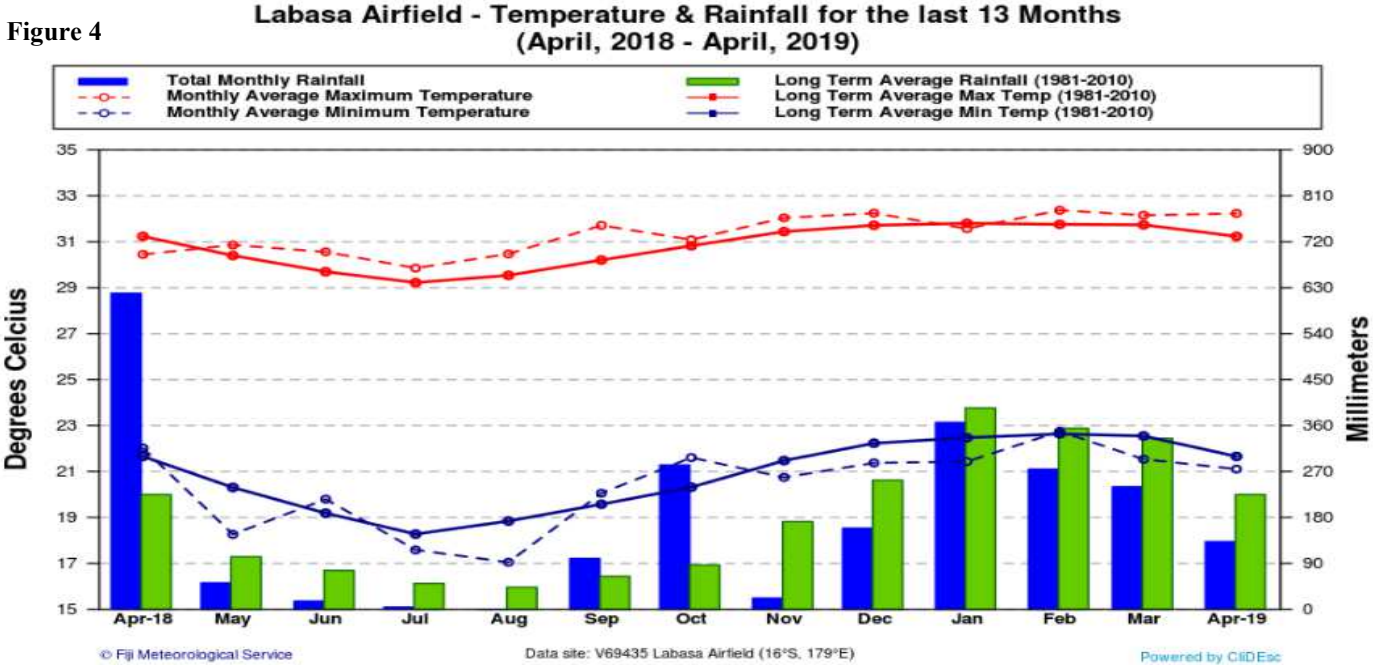
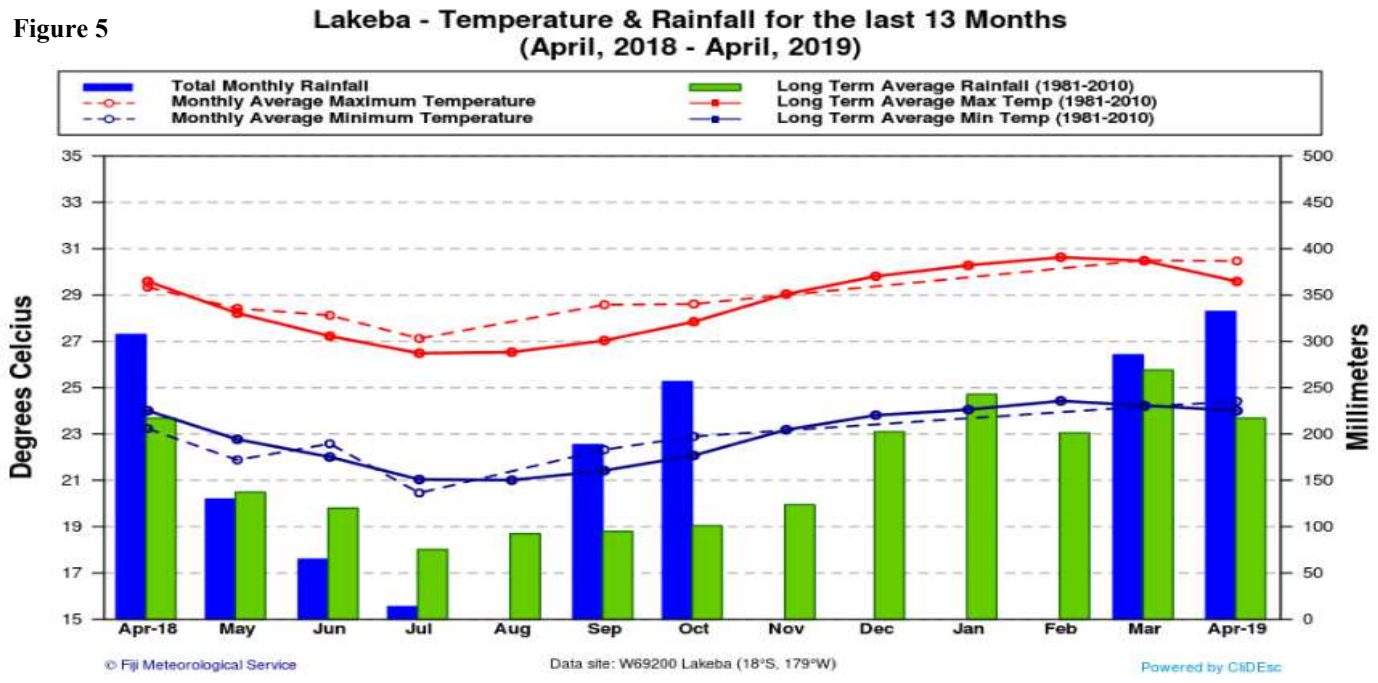


Figure 5



5. DAILY RAISED PAN EVAPORATION

Figure 6

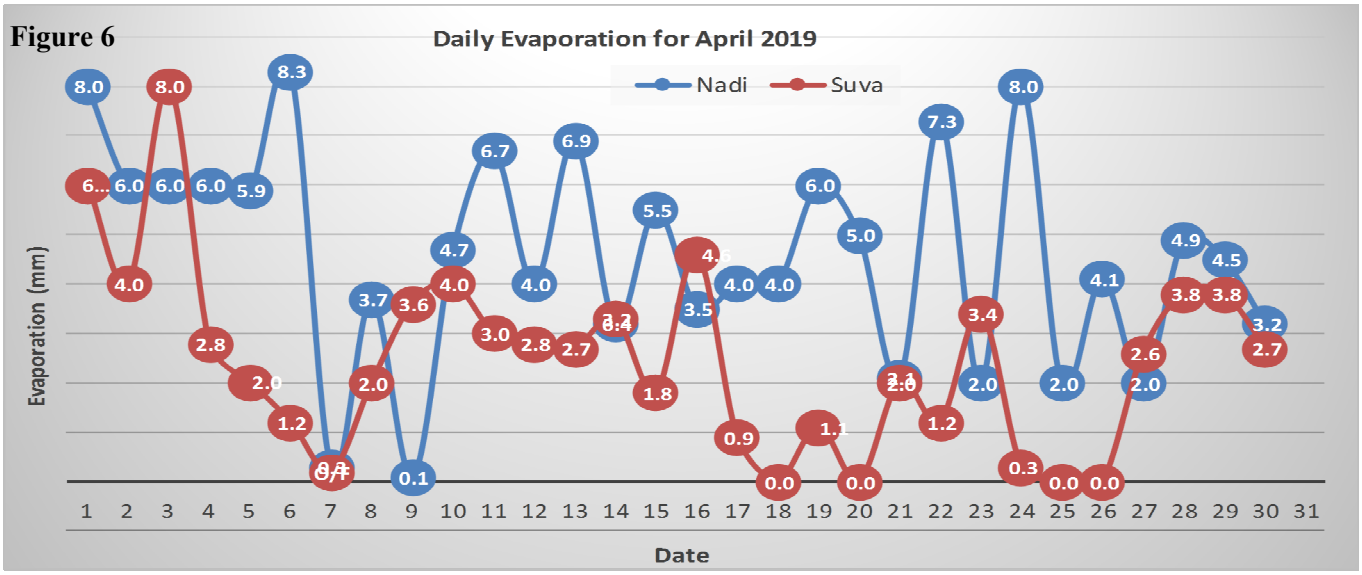


Figure 6: The total monthly raised pan evaporation at Nadi Airport was 137.9mm, with the highest of 8.3mm recorded on the 6th. Laucala Bay recorded a total monthly evaporation of 73.8mm, with the highest daily evaporation of 8.0mm on the 3rd.

6. SOLAR RADIATION

Figure 7

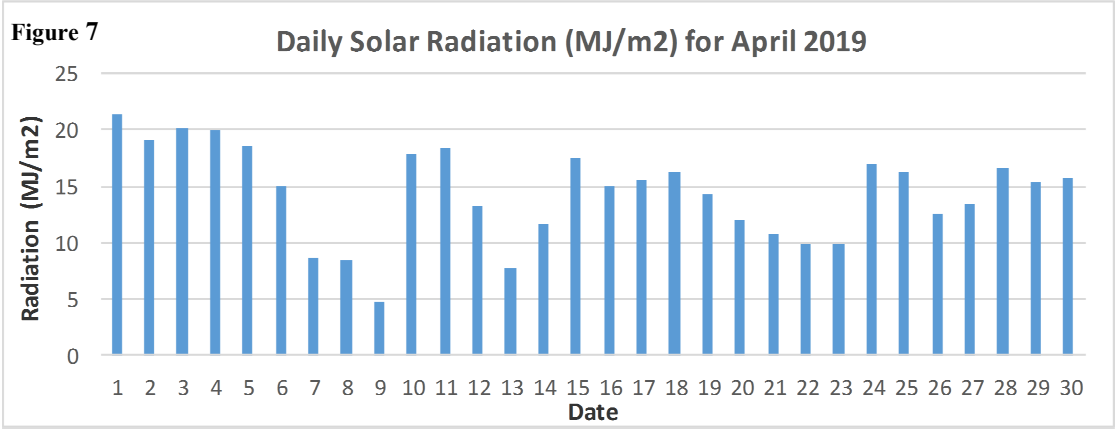


Figure 7: The mean daily solar radiation at Nadi Airport during April was 14.5MJ/m² compared to 17.1MJ/m² over 30 year average (1971-2000).

7. WIND SUMMARY

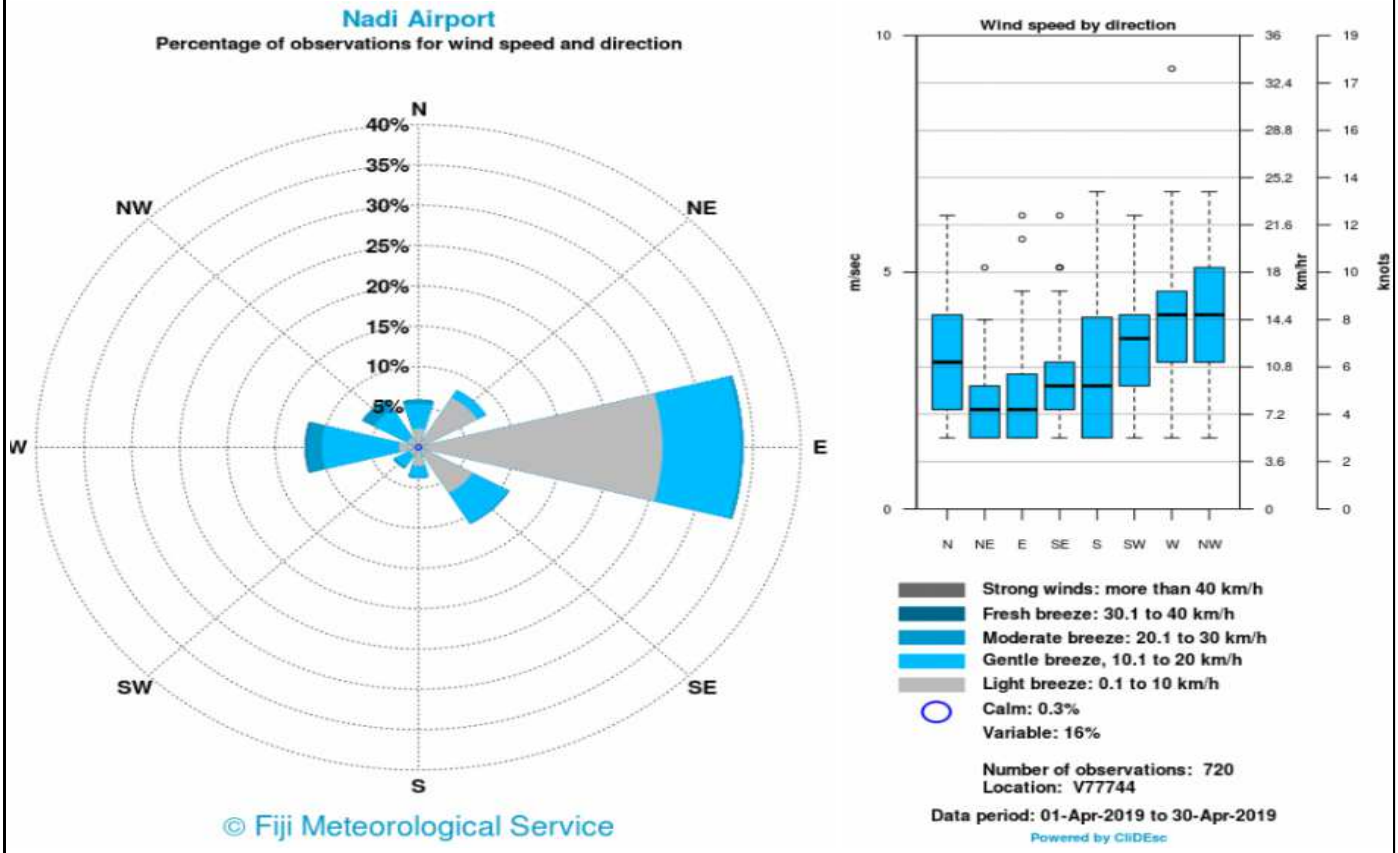


Figure 8a: Easterly winds were most dominant at the Nadi Airport during the month, followed by westerly, then southeasterly winds. Wind strengths ranged from light to moderate.

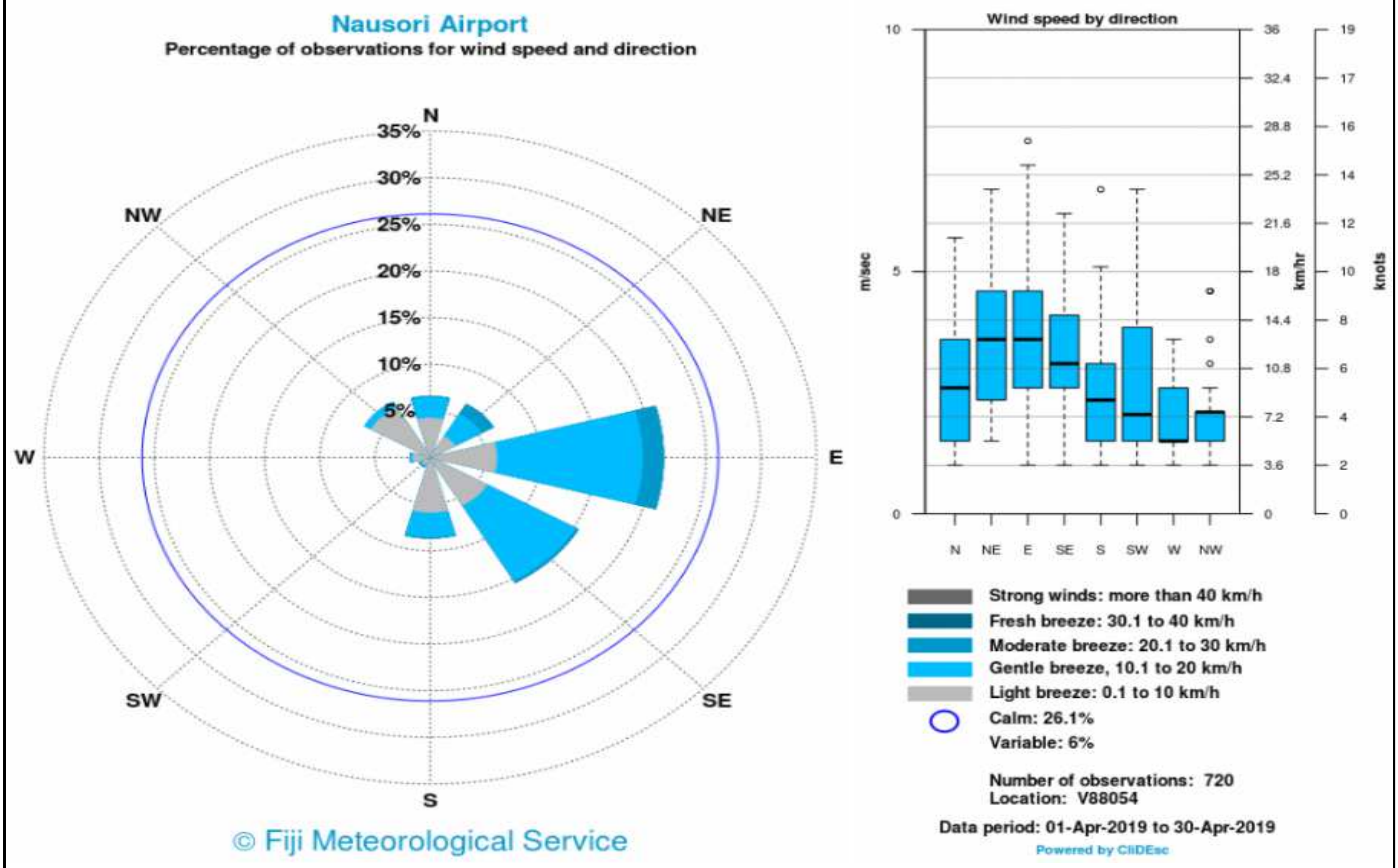


Figure 8b: Easterly winds were most dominant at the Nausori Airport during the month, followed by south-easterly, then southerly winds. Wind speeds ranged from light to moderate.

8. SEA SURFACE TEMPERATURE (SST)

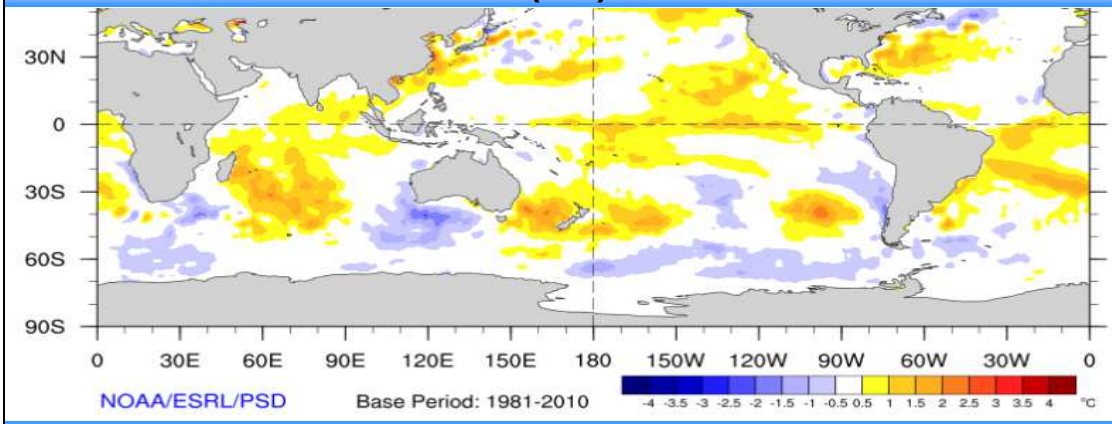


Figure 9: *Slightly above normal* SSTs were present in most parts of the Fiji Group (base period: 1981-2010).

Source: http://www.esrl.noaa.gov/psd/map/clim/sst.shtml

9. SEA LEVEL

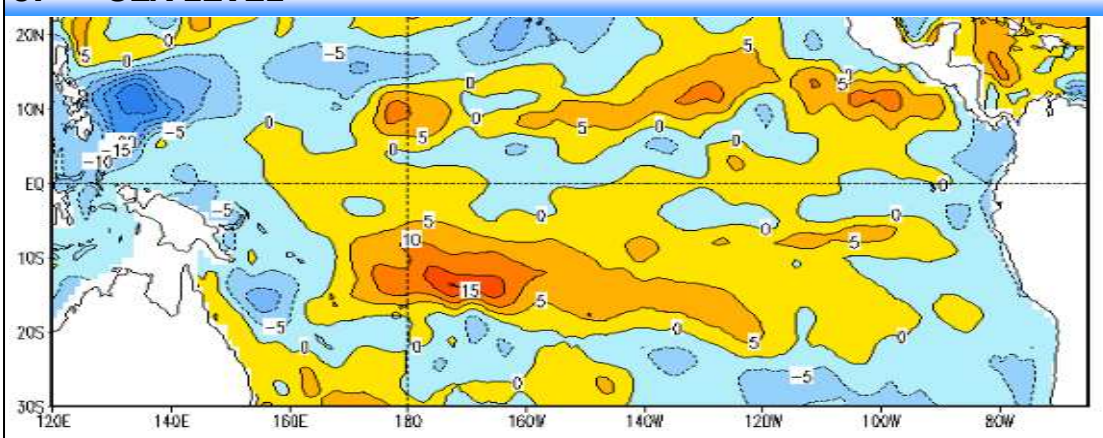


Figure 10: Sea level anomalies of 0 to +5cm were present in the Fiji Waters (base period: 1981-2010).

Source: http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/ocean/weeklyenso_clim_81-10/wksl_anm.gif

10. CLOUD COVER

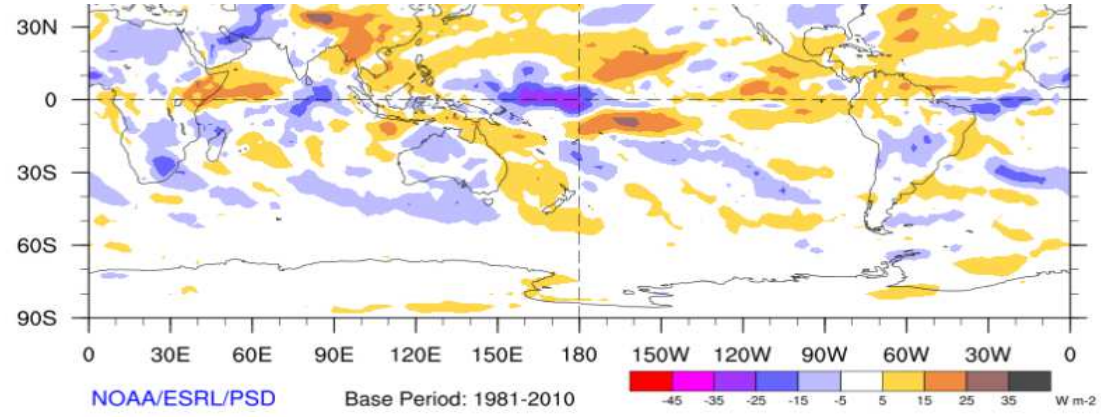


Figure 11: OLR anomalies indicate presence of slightly *above normal* cloud cover in most of the Fiji region (Fiji: ~17ºS, 180º) (base period: 1981-2010).

https://www.esrl.noaa.gov/psd/map/clim/olr.shtml

11. WIND ANOMALIES

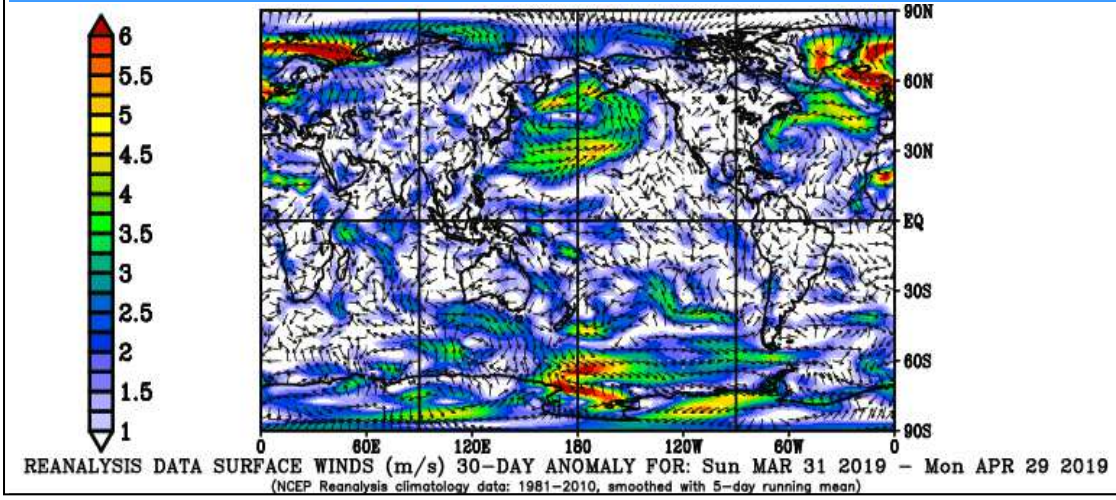


Figure 12: Variable winds anomalies of up to 3–s were present in the Fiji region (Fiji: ~17ºS, 180º) (base period: 1981-2010).

Source: https://www.esrl.noaa.gov/psd/map/images/rnl/sfcwnd_30b.rnl.html