FIJI METEOROLOGICAL SERVICE
Private Mail Bag (NAP0351)
Nadi Airport, Fiji
Ph: +679 6724888
Fax: +679 6724050
Email: climate@met.gov.fj
Also online at:
http://www.met.gov.fj

Fiji Climate Summary May 2020

Issued: June 5, 2020 **Since : August 1980*** **Volume 41 : Issue 05**

1. IN BRIEF

The El-Niño Southern Oscillation was in a neutral state during May.

Rainfall varied across the country during the month. Majority of the stations in the Western and Northern Divisions experienced wetter than usual May, with remarkably higher than usual rainfall experienced in parts of the Western Division. Yaqara and Tavua registered more than 4 and 3 times its usual total monthly rainfall, respectively, while Lautoka Mill, Rarawai Mill (Ba) and Dobuilevu recorded more than twice their *normal* rainfall.

Most of the stations in the Central Division recorded *near normal* rainfall, while the rainfall in the Eastern Division varied from *below average* to *above average*. A record high total monthly rainfall at Vanuabalavu was observed during May, with the observations at the station beginning in 1985. Rotuma recorded *below average* rainfall during the month.

Overall, out of the 27 rainfall monitoring sites, 6 experienced *below average* rainfall during the month, 5 *near average*, 11 *above average* and 5 *well above average*.

Two separate occasions of intense rainfall were recorded during the month. The first event was from the 1st till the 8th, with significant rainfall observed, particularly over northwest Viti Levu on the 7th and 8th. Over a 24-hour period on the 7th, Tavua, Nadarivatu and Yaqara recorded maximum rainfall of 139mm, 135mm and 103mm respectively, while Penang Mill registered 104mm on the 8th.

The second widespread and significant rainfall event was between 30th and 31st, with Kubulau receiving 131mm of rainfall on the 30th, followed by Nadi Airport, Savusavu Airfield and Udu Point recording a 24-hour maximum rainfall of 83mm, 78mm and 69mm, respectively, a day later.

Apart from the above two heavy downpour events, fine weather generally prevailed during rest of the month.

An episode of cool condition was experienced during the last two weeks of the month. During this period, the coolest daily minimum air temperature was registered at Nadarivatu with 13.4°C on the 23rd, followed by Monasavu with 15.4°C on the 22nd, Nacocolevu and Rarawai Mill (Ba) with both 16.5°C on the 23rd and 27th, respectively.

2. WEATHER PATTERNS

May's weather pattern was made up of cool and dry conditions, prevailing of the southeast trade winds and occasional troughs of low pressure system.

A trough of low pressure affected the Fiji group on the 1st till the 2nd with occasional showers observed mostly over the eastern and interior parts of the main islands including Taveuni, Kadavu, Lau and Lomaiviti Groups.

An easterly wind flow prevailed on the 3rd and 4th with showers over the interior and eastern parts of the main islands, fine weather with isolated afternoon showers elsewhere.

On the 5th, a trough of low pressure approached Fiji from the west, lingered around and moved away from the group on the 10th. Associated cloud and rain affected the country with significant 24-hr maximum rainfall of 138.5mm recorded in Tavua, 134.7mm in Nadarivatu and 102.5mm in Yaqara on the 8th.

On the 12th, a weak trough of low pressure just northeast of Vanua Levu affected the north-eastern parts of the group with clouds and showers, which persisted till the 14th.
On the 15th, southeast wind flow prevailed over the group till the 29th. Fine weather apart from brief showers observed over most places. In addition, cool and dry conditions were also recorded in the interior and western part of Viti-levu with Nadarivatu observed the coolest daily minimum air temperature of 13.4°C on the 23rd.

On the 30th, a trough of low pressure drifted over the group from the north and merged with another trough from the west. As a result, rain with isolated heavy falls and thunderstorms were experienced over most places.

Rotuma's weather was mainly affected by a series of weak troughs of low pressure system.

3. RAINFALL

Rainfall varied across the country during May. Majority of the stations in the Western and Northern Divisions experienced wetter than usual month, with remarkably higher than usual rainfall experienced in parts of the Western Division. Yaqara and Tavua registered more than 4 and 3 times its usual total monthly rainfall, respectively, while Lautoka Mill, Rarawai Mill (Ba) and Dobuilevu recorded more than twice their *normal* rainfall.

Most of the stations in the Central Division recorded *near normal* rainfall, while the rainfall in the Eastern Division varied from *below average* to *above average*. Rotuma recorded *below average* rainfall during the month.

Overall, out of the 27 rainfall monitoring sites, 6 experienced *below average* rainfall during the month, 5 *near average*, 11 *above average* and 5 *well above average* (Table 2, Figures 1-5).

Two active periods of rainfall were recorded during the month. The first event was from the 1st till the 8th, with significant rainfall, particularly over the northwest Viti Levu on the 7th and 8th. Over a 24-hour period on the 7th, Tavua, Nadarivatu and Yaqara recorded 139mm, 135mm and 103mm of rainfall, respectively, while Penang Mill registered 104mm of rainfall on the 8th.

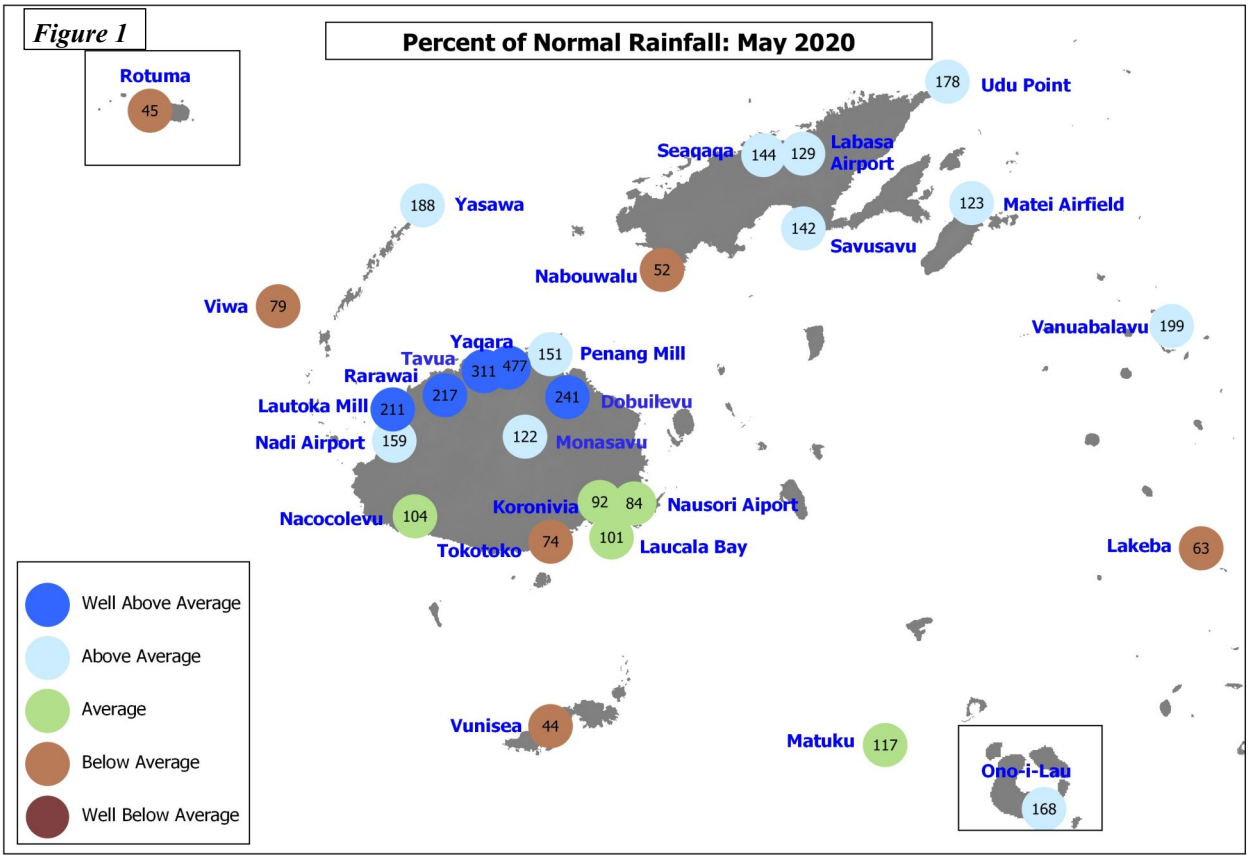
The second widespread and significant rainfall event was between 30th and 31st, with Kubulau receiving 131mm of rainfall on the 30th, followed by Nadi Airport, Savusavu Airfield and Udu Point recording a 24-hour rainfall of 83mm, 78mm and 69mm, respectively, a day later.

The highest total monthly rainfall was registered at Monasavu with 355mm, followed by Nadarivatu with 310mm, RKS with 304mm, and Yaqara, Dobuilevu and Udu Point with all 303mm. On the other hand, Vunisea (Kadavu) recorded the least amount of rainfall during the month with 76mm, followed by Sigatoka with 81mm, Viwa with 82mm and Lakeba with 87mm.

A record high total monthly rainfall at Vanuabalavu for May was recorded during the month, with the observations at the station beginning in 1985 (Table 1).

Rotuma recorded the highest number of rain days (rainfall ≥0.1mm) during the month with 25 days, followed by Matei Airfield (Taveuni) and Vanuabalavu with 21, and Koronivia, Saqani and Nadarivatu with all 20. On the other hand, for the least number of rainy days, Nadi Airport experienced 7 rain days, followed by Sigatoka, Momi, Keiyasi and Lautoka Mill with all 8 each, and Tavua with 9.

Figure 1



Normal: *Long term average from 1981 to 2010*
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

Normal or *above normal* mean monthly maximum air temperatures were observed at majority of the places during the month. Of the 20 climate stations, 11 recorded anomalies ≥+0.5°C, 8 within ±0.5°C, while Udu Point was the lone station with a negative anomaly (Table 2 & Figures 2-5).

Labasa Airfield recorded the warmest days on average with 32.0°C, followed by Seaqaqa with 31.9°C, Rotuma with 31.6°C, Wainikoro with 30.9°C and Viwa with 30.8°C. In contrast, Monasavu recorded the coolest daytime temperature on average with a mean monthly maximum temperature of 23.5°C, followed by Nadarivatu with 24.7°C, Ono-i-Lau with 27.5°C, Vunisea (Kadavu) with 28.2°C and, Matuku, Koro Island and Rakiraki with all 28.3°C.

Levuka recorded the highest daily maximum air temperature with 34.0°C on the 7th, followed by Wainikoro with 33.6°C on the 14th, Seaqaqa with 33.5°C on the 14th, Yasawa-i-Rara with 33.4°C on the 9th, Labasa Airfield with 33.2°C on the 31st, Saqani and Rotuma with both 33.0°C on the 6th and 25th, respectively. In contrast, the coolest daytime temperature was registered at Monasavu with 19.7°C on the 19th, followed by Nadarivatu with 21.9°C on the 19th, Kubulau and Koro Island with both 24.4°C on the 21st, and Ono-i-Lau with 24.5°C on the 19th.

Labasa Airfield recorded a new high mean monthly maximum air temperature for May during the month, with the observation at the station beginning in 1956 (Table 1).

B. Minimum Night-time Air Temperatures

Generally *normal* or *above normal* mean monthly minimum air temperatures were recorded across the country during the month. Out of the 20 stations, 10 recorded anomalies ≥+0.5°C, 9 within ±0.5°C, while Ono-i-Lau was the only site with *negative* anomaly (–1.2°C) (Table 2 & Figures 2-5).

The coolest place on average was Nadairvatu with a mean monthly minimum air temperature of 16.9°C, followed by Monasavu with 17.9°C, Nacocolevu with 19.9°C, Keiyasi with 20.3°C, Sigatoka with 20.6°C and Ono-i-Lau with 20.8°C. On the other hand, the warmest nights on average was at Rotuma with a mean monthly minimum air temperature of 26.1°C, followed by Nabouwalu with 24.4°C, Viwa with 24.2°C, Saqani and Udu Point with 24.0°C.

An episode of cool condition was experienced during the last two weeks of the month. During this period, the coolest daily minimum air temperature was registered at Nadarivatu with 13.4°C on the 23rd, followed by Monasavu with 15.4°C on the 22nd, Nacocolevu and Rarawai Mill (Ba) with both 16.5°C on the 23rd and 27th, respectively, and Keiyasi with 16.6°C on the 23rd. Warm nights were periodically observed during the month. The warmest minimum air temperature was observed at Rotuma with 27.4°C on the 12th, followed by Viwa with 26.4°C and Lakeba with 26.1°C, both on the 8th.

Rotuma recorded a new high mean monthly minimum air temperature for May, with the observation at the station beginning in 1933 (Table 1).

TABLE 1. CLIMATE RECORDS ESTABLISHED IN MAY 2020

Element	Station	Observed (record)	On	Rank	Previous (record)	Year	Records Began
Total Monthly Rainfall	Vanuabalavu	276.5mm	-	New High	265.4mm	2002	1985
Mean Monthly Max Temperature	Labasa Airfield	32.0°C	-	New High	31.9°C	2019	1956
Mean Monthly Min Temperature	Rotuma	26.1°C	-	New High	26.0°C	2017	1933

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 1981-2010 period as its "climatic normal" period.

TABLE 2. DAILY CLIMATE REPORTING SITES: SUMMARY FOR MAY 2020

	RAINFALL					AIR TEMPERATURES								SUNSHINE	
	TOTAL	RAIN *	DAYS +	MAX. FALL MM	MAX. FALL ON	AVERAGE DAILY MAX.	#	MIN.	#	EXTREME MAX.	MAX. ON	EXTREME MIN.	MIN. ON	TOTAL HRS	* %
	MM	%				C	C	C	C	C		C			
NADI AIRPORT	156	159	7	83	31	29.8	0.1	21.9	1.2	31.7	4	18.9	27	215	105
SUVA/LAUCALA BAY	238	101	19	48	7	28.6	-0.2	23.1	0.5	32.3	9	21.0	24	87	58
NACOCOLEVU	90	104	10	27	31	U/S		19.9	0.0	U/S		16.5	23	178	111
ROTUMA	140	45	25	30	9	31.6	1.2	26.1	1.3	33.0	25	25.2	31	177	92
VIWA	82	79	10	34	31	30.8	1.2	24.2	0.1	32.8	9	22.0	21		
UDU POINT	303	178	17	70	12	29.0	-0.5	24.0	0.3	31.2	7	22.3	22		
SAVUSAVU AIRFIELD	264	142	19	88	2	(RR - AWOS DATA)									
LABASA AIRFIELD	133	129	11	40	17	32.0	1.6	21.5	1.2	33.2	30	18.0	23		
NABOUWALU	89	52	15	32	2	29.1	0.9	24.4	0.9	32.0	6	22.2	22		
KORONIVIA	211	92	20	74	8	28.7	0.3	21.7	0.2	32.0	9	19.5	23		
NAUSORI AIRPORT	197	84	15	70	8	28.4	0.3	21.7	0.3	31.2	9	18.9	30		
NAVUA/TOKOTOKO	203	74	16	71	6	INSUFFICIENT DATA									
MONASAVU	355	122	17	104	2	23.5	0.7	17.9	0.5	26.8	14	15.4	22		
LAUTOKA AES	188	211	8	67	31	30.4	0.6	22.2	0.6	31.5	4	19.5	27		
BA/RARAWAI MILL	211	217	9	68	5	30.7	0.0	20.9	1.4	32.6	28	16.5	27		
PENANG MILL	248	151	12	104	8	29.8	0.9	23.0	0.9	31.4	14	20.8	24		
MATEI AIRFIELD	242	123	21	66	2	29.1	0.3	23.6	0.5	31.5	10	22.0	21		
VANUABALAVU	277	199	21	64	8	29.3	0.7			31.6	14				
LAKEBA	87	63	15	21	9	29.2	1.0	22.8	-0.0	32.0	6	19.2	12		
YASAWA	151	188	11	50	8	30.7	1.2	23.2	-0.1	33.4	9	19.5	3		
VUNISEA	76	44	15	15	6	28.2	0.6	22.0	0.3	31.0	5	17.6	23		
MATUKU	176	117	12	52	31	28.3	0.3	22.4	-0.4	31.3	19	18.5	23		
ONO-I-LAU	202	168	14	92	5	27.5	0.4	20.8	-1.2	30.0	9	18.7	19		
YAQARA AWS	303	477	10	103	7	30.7		23.1		32.6	10	20.9	22		
LEVUKA AWS	196		18	73	1	30.5		23.6		34.0	7	21.9	21		
KEIYASI AWS	110		8	23	31	30.7		20.3		33.0	30	16.6	27		
LOMAIVUNA AWS	U/S					U/S		U/S		U/S		U/S			
NADARIVATU AWS	310		20	135	7	24.7		16.9		26.8	10	13.4	23		
RKS LODONI AWS	304		16	64	8	29.2		21.7		31.9	9	19.7	12		
MOMI AWS	89		8	34	31	U/S		22.0		U/S		19.4	23		
KOROLEVU AWS	U/S					U/S		U/S		U/S		U/S			
KORO ISLAND AWS	U/S					28.3		23.0		31.4	9	19.7	2		
SIGATOKA AWS	81		8	21	31	28.6		20.6		31.8	9	17.1	23		
RAKIRAKI AWS	129		19	61	2	28.3		22.5		30.5	9	20.9	23		
WAINIKORO AWS	110		12	31	31	30.9		22.4		33.6	14	20.2	27		
SAQANI AWS	225		20	61	13	30.4		24.0		33.0	6	21.7	1		
VATUREKUKA AWS	111		12	23	8	29.4		21.8		31.9	7	18.8	27		
KUBULAU AWS	277		19	131	30	28.7		22.9		32.7	9	20.7	6		
SEAQAQA AWS	171	144	15	50	8	31.9		23.0		33.5	14	18.2	27		
DOBUILEVU TB3	303	241	10	85	8										
NASINU TB3	223		15	58	8										
TAVUA TB3	240	311	9	139	7										

	TEMPERATURE(C) MEAN	DRY (AVERAGE AT 9AM)	WET (AVERAGE AT 9AM)	HUMIDITY RH% (AVERAGE AT 9AM)	VP (AVERAGE AT 9AM)	WIND KT	SUN %OF POS	RAD MJ/ SQ.M
NADI AIRPORT	25.9	26.0	23.1	77	26.1	5.2	64	12.9
SUVA/LAUCALA BAY	25.9	26.1	23.5	80	27.0		26	6$
NACOCOLEVU		25.9	23.7	83	27.7		53	15$
ROTUMA	28.8	29.4	26.8	81	33.3		52	16$
VIWA	27.5	27.6	24.8	79	29.1			
UDU POINT	26.5	27.2	25.0	83	30.1			
SAVUSAVU AIRFIELD	NIL OBSERVATION							
LABASA AIRFIELD	26.7	27.6	24.7	78	29.0			
NABOUWALU	26.8	27.2	24.6	81	29.1			
KORONIVIA	25.2	26.0	23.7	82	27.5			
NAUSORI AIRPORT	25.0	25.4	23.4	84	27.3	2.1		
NAVUA/TOKOTOKO	INSUFFICIENT DATA							
MONASAVU	20.7	20.7	19.5	89	21.7			
LAUTOKA AES	26.3	28.3	24.5	72	27.8			
BA/RARAWAI MILL	25.8	25.5	23.3	82	26.9			
PENANG MILL	26.4	26.2	23.6	80	27.3			
MATEI AIRFIELD	26.4	27.2	25.0	83	30.0			
VANUABALAVU	24.8	27.2	24.7	81	29.2			
LAKEBA	26.0	27.3	24.4	78	28.3			
YASAWA	26.9	27.5	25.3	84	30.6			
VUNISEA	25.1	25.9	22.9	76	25.5			
MATUKU	25.4	26.3	23.9	81	27.8			
ONO-I-LAU	24.1	25.6	23.7	84	27.8			

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

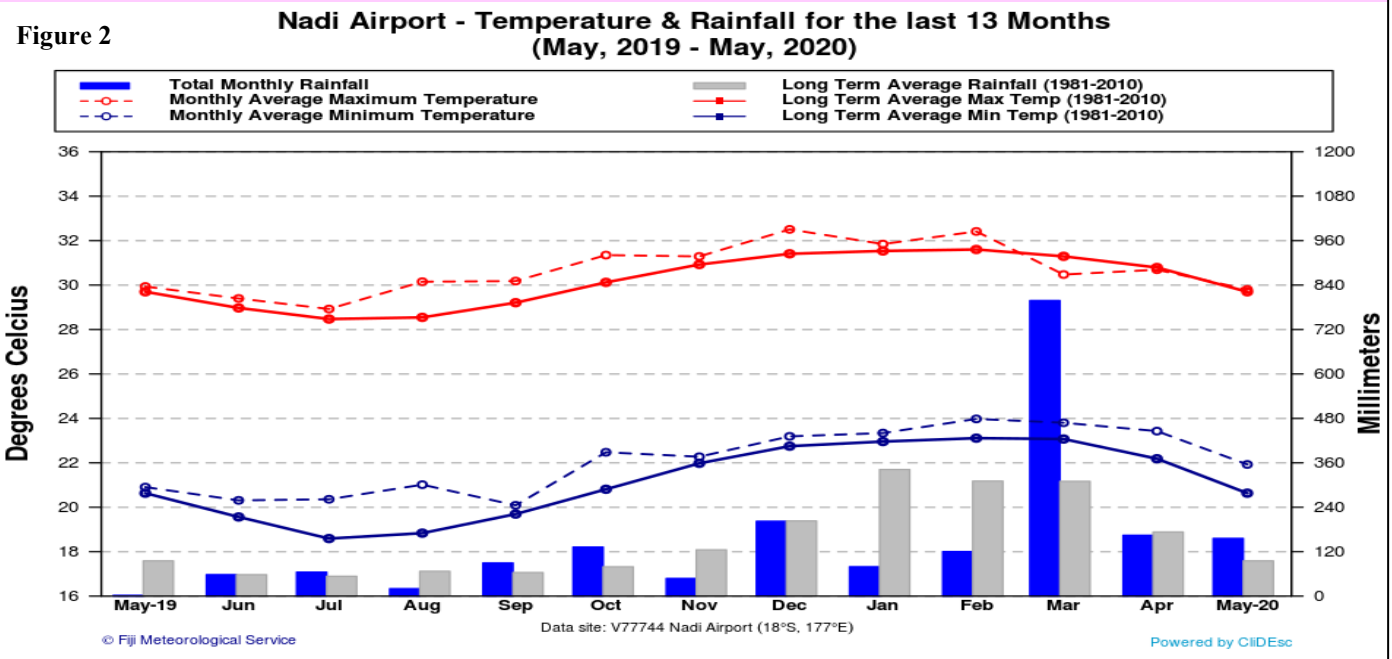


Figure 3

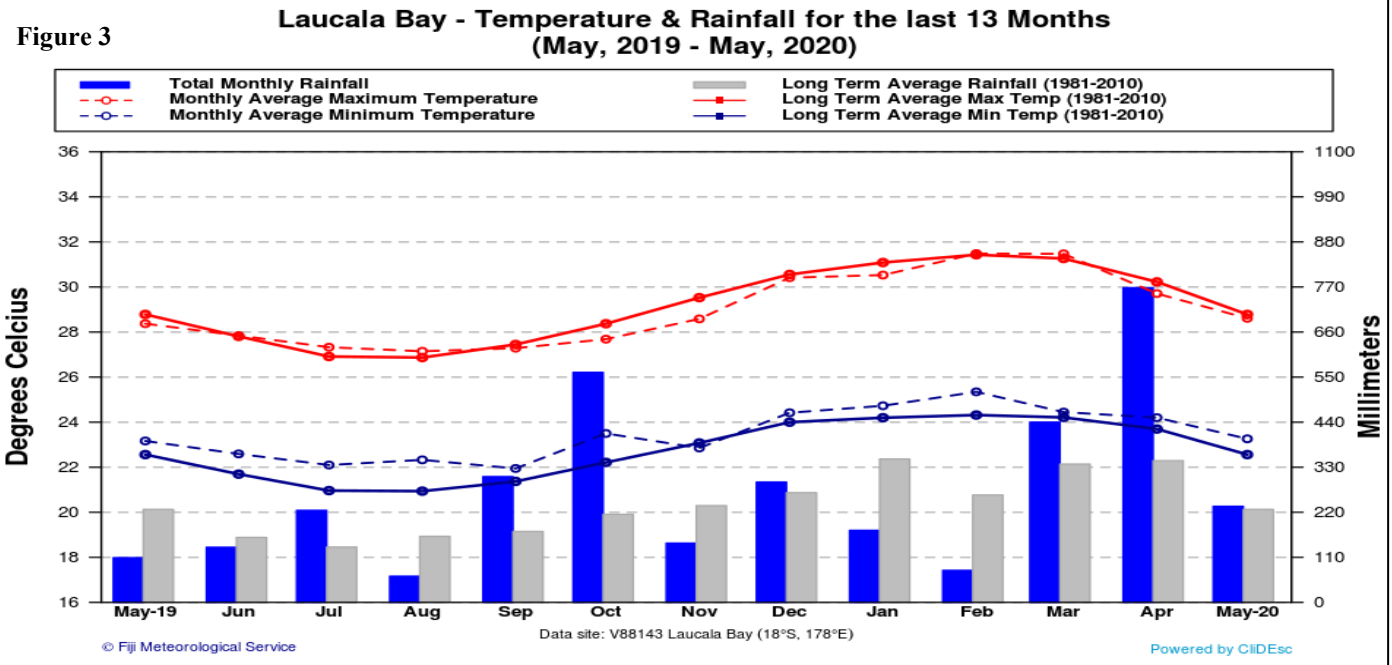


Figure 4

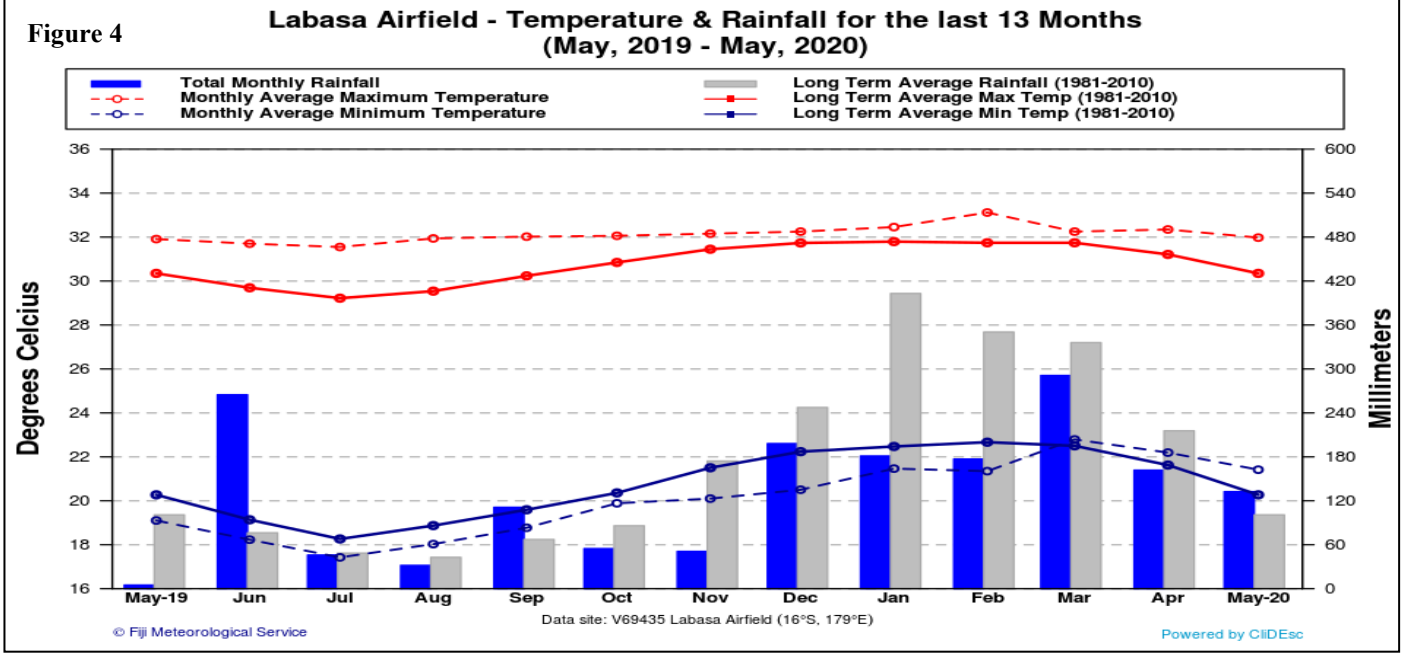
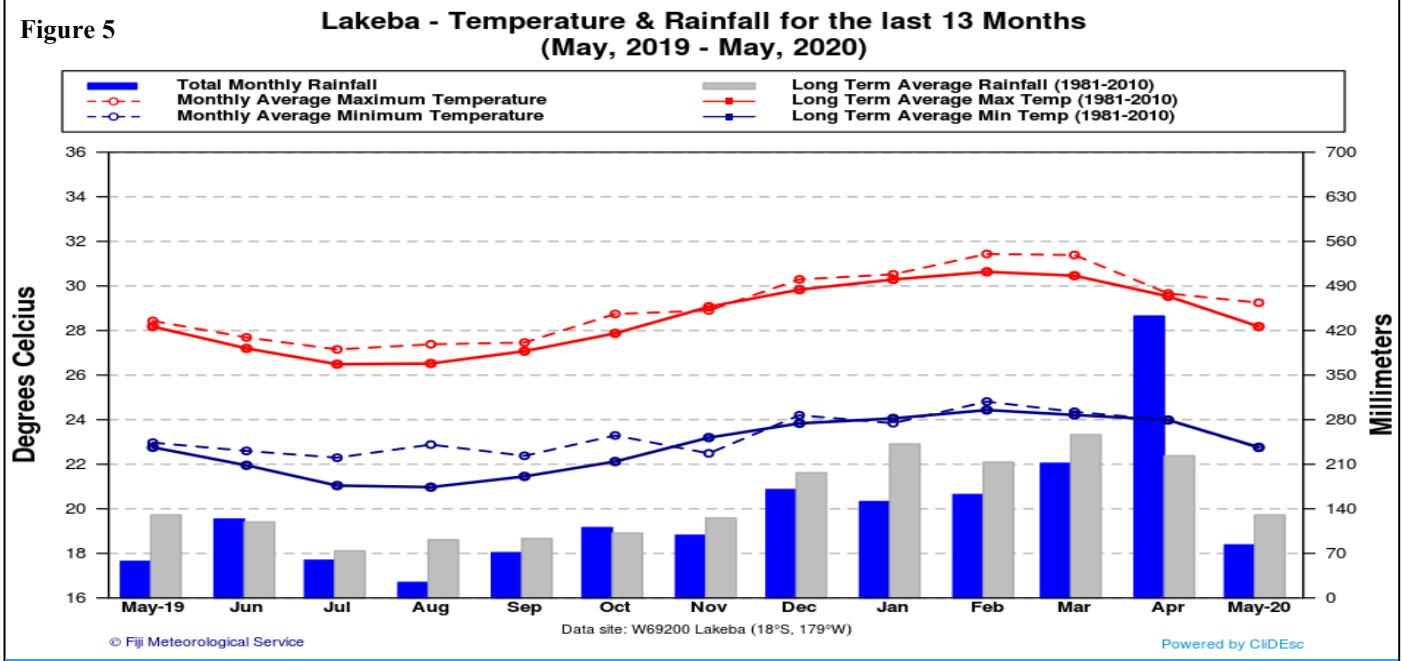


Figure 5



5. DAILY RAISED PAN EVAPORATION

Figure 6

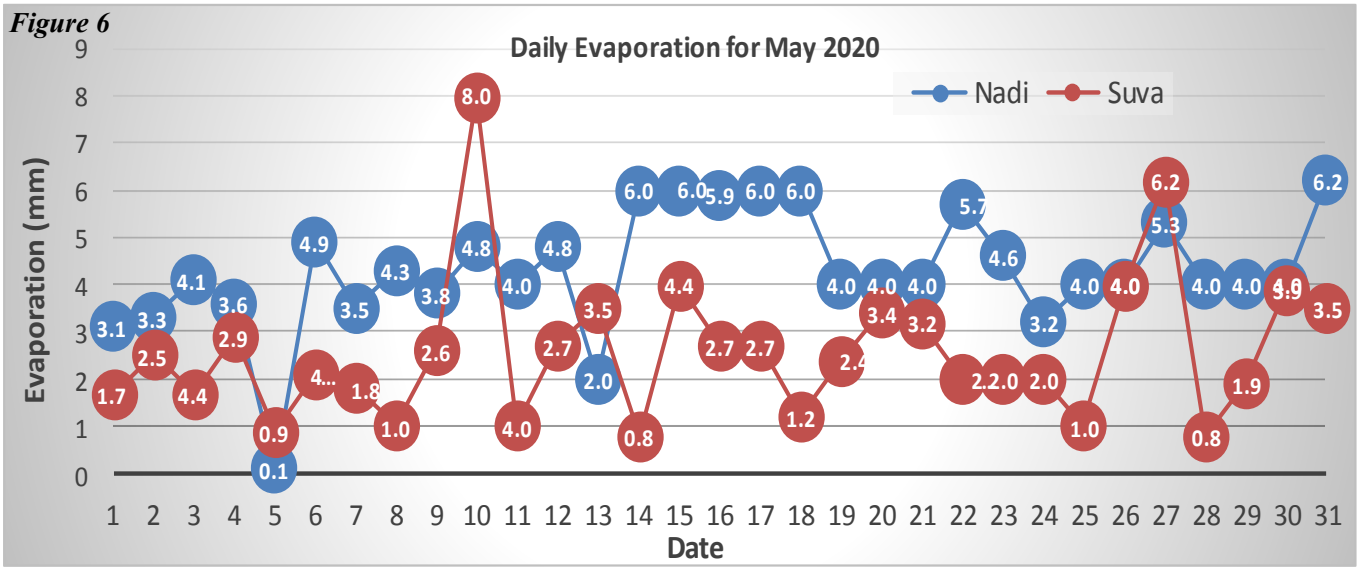


Figure 6: The total monthly raised pan evaporation at Nadi Airport was 133.2mm, with the highest daily evaporation of 6.2mm recorded on the 31st. Laucala Bay (Suva) recorded total monthly raised pan evaporation of 80.1mm,with the highest daily evaporation of 8.0mm on the 10th.

6. SOLAR RADIATION

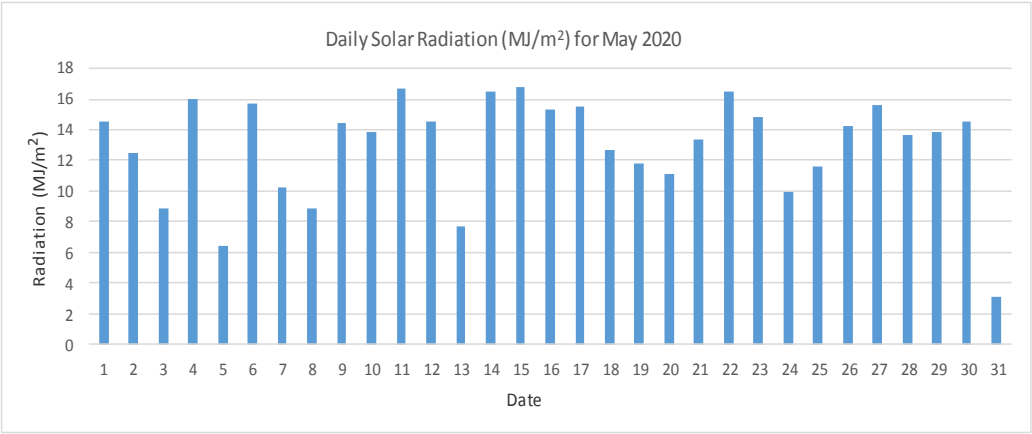


Figure 7:

The mean daily solar radiation at Nadi Airport during the month was 12.9MJ/m^2 compared to 14.5MJ/m^2 over 30 year average (1981-2010).

7. WIND SUMMARY

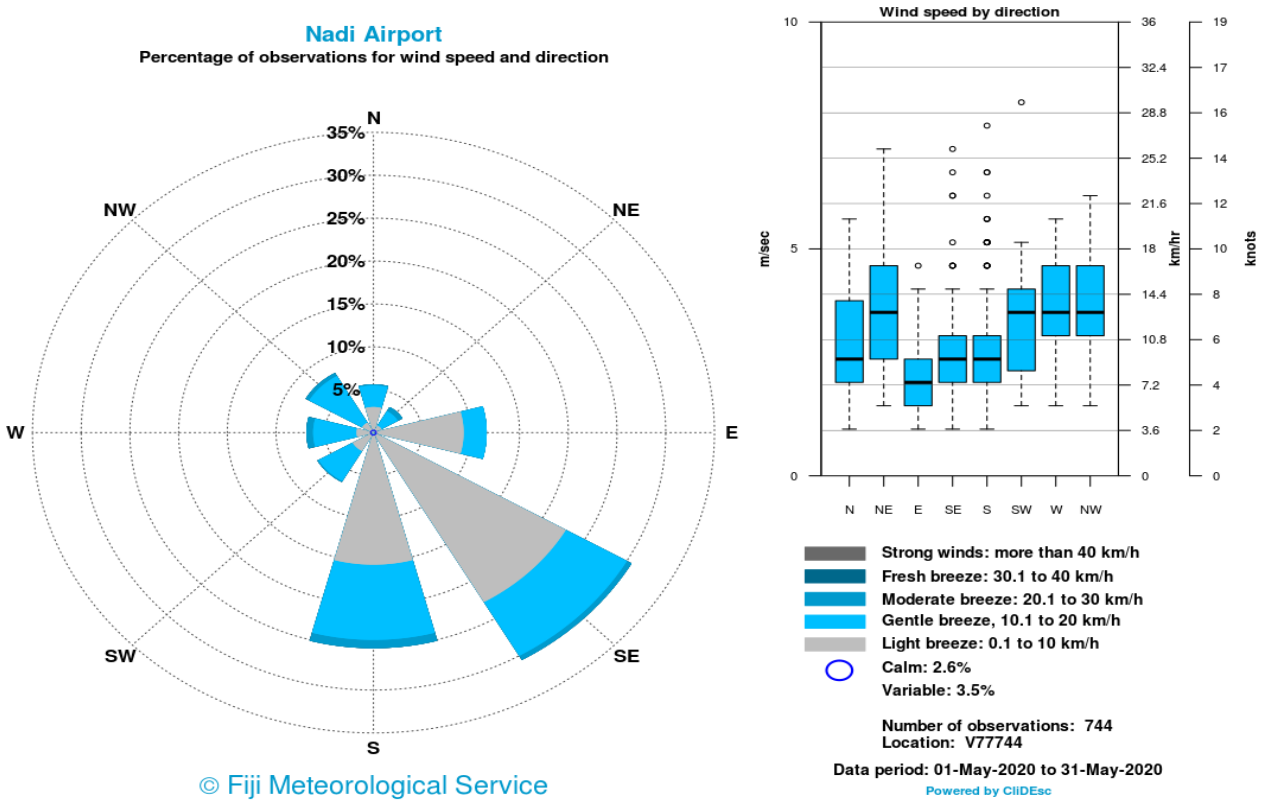


Figure 8a: The hourly wind observations at Nadi Airport during the month showed southeasterly winds as the most dominant, followed by winds from the south. The wind strength were light to moderate at Nadi Airport during the month.

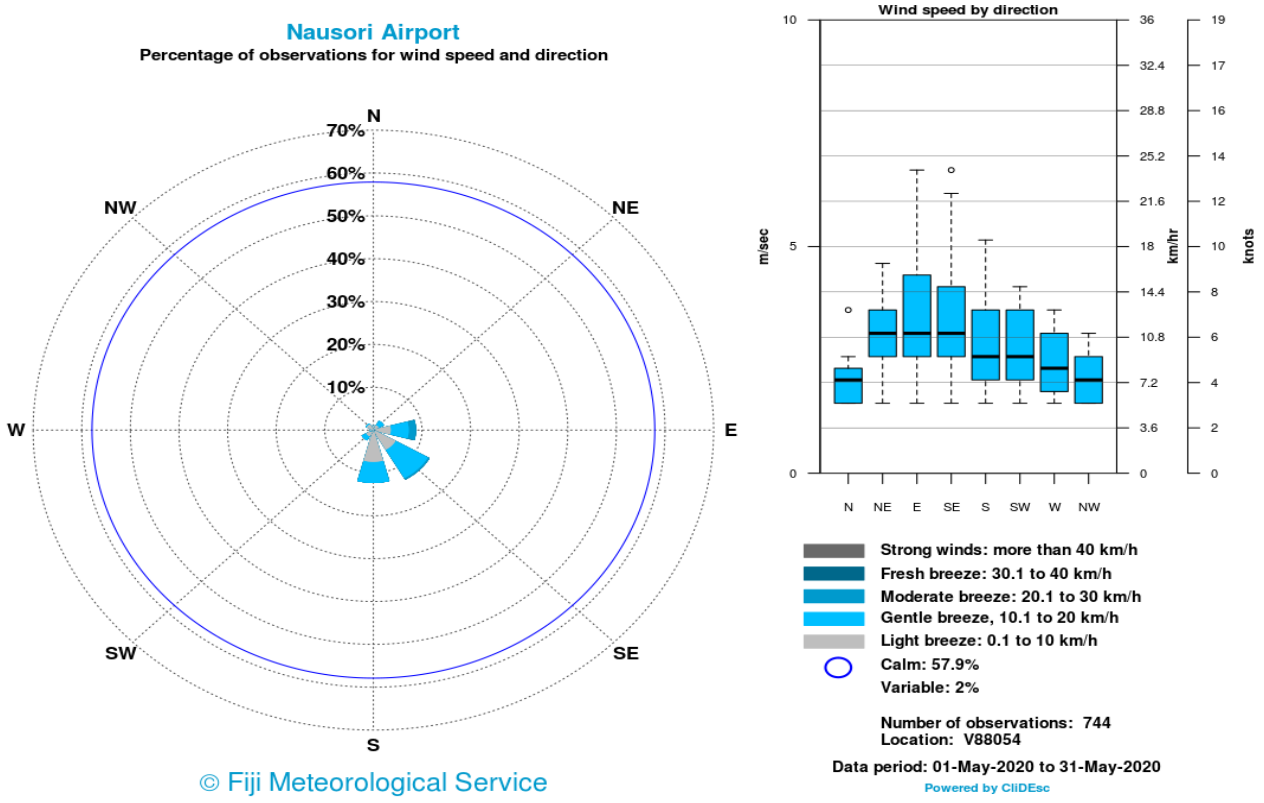


Figure 8b: Calm wind conditions accounted for around 58% of the total observations, followed by winds from the southeast and south. The wind strength were light to moderate at the station during the month.

8. SEA SURFACE TEMPERATURE (SST)

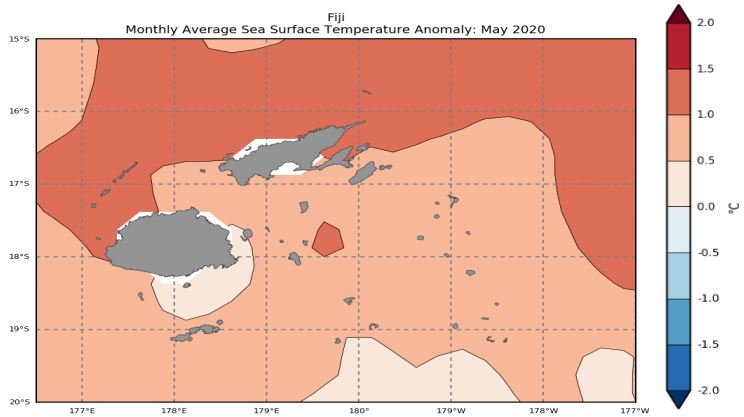


Figure 9:

SSTs were *above normal* in the Fiji Waters during the month. While anomalies between +0.5°C to +1.0°C were present in most of the Fiji Waters, some areas had anomalies greater than +1.0°C.

Source:http:// oceanportal.spc.int/ portal/

9. CLOUD COVER

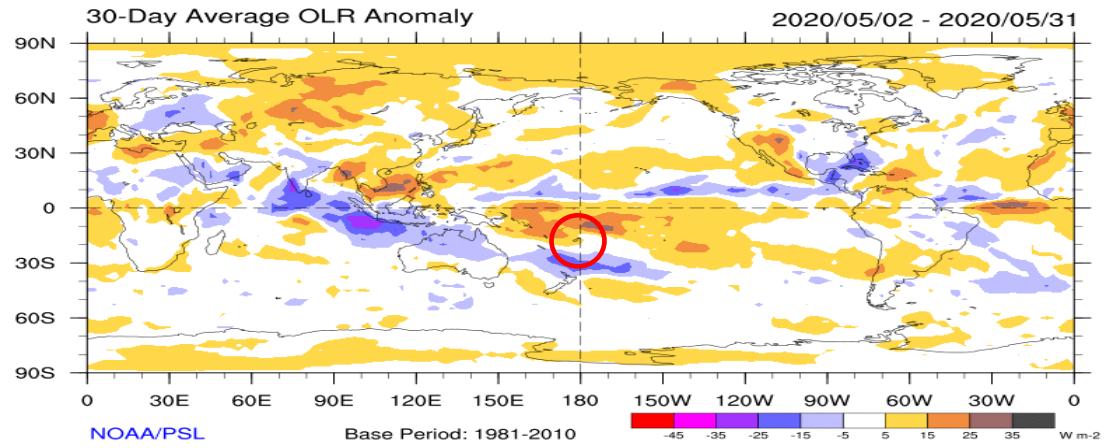


Figure 10:

Slightly *below normal* cloud cover were present over the Fiji region during the month (*Fiji in red circle*).

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

10. SEA LEVEL

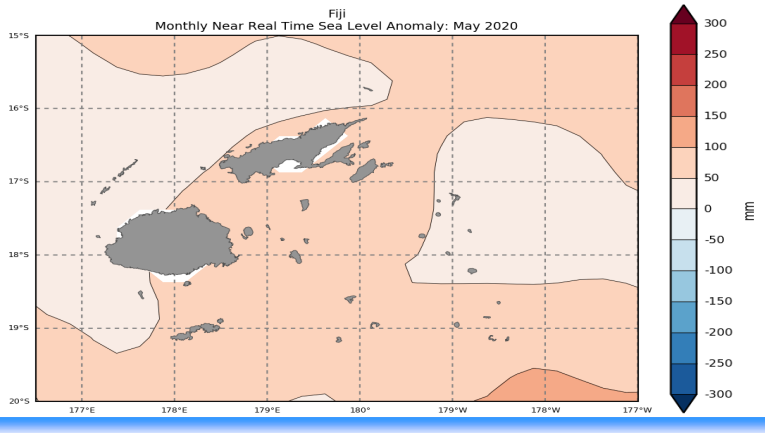


Figure 11:

Sea levels were *above normal* in most of the Fiji Waters during the month.

Source: http:// oceanportal.spc.int/portal/ app.html#sealevel

11. WIND ANOMALIES

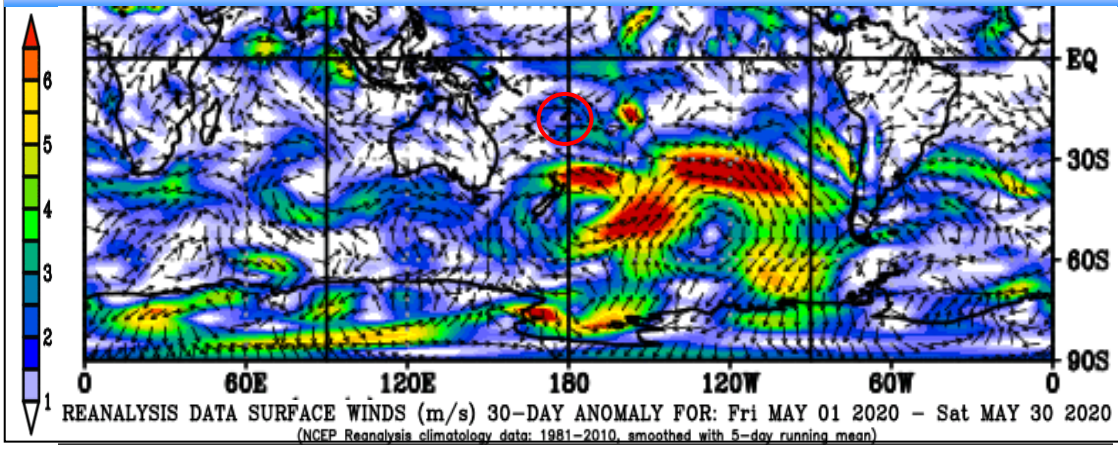


Figure 12:

Westerly wind anomalies of up to 2m/s were recorded in the Fiji region during the month (base period: 1981-2010) (*Fiji in red circle*).

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