

## 1. IN BRIEF

Generally cool and dry conditions were experienced across Fiji during the month, with very low rainfall and cool temperatures observed at various parts of the country. However, rain was observed on few occasions due to the passage of troughs of low pressure system and broad southeast trade winds.

Drier than usual conditions were experienced at Rotuma, Yasawa-i-Rara, Nadi, Lautoka, Tavua, Yaqara, Laucala Bay, Seaqaqa, Labasa, Lakeba and Matuku. However, the rest of the country received *average to well above average* rainfall. Rotuma, Tavua and Yaqara, Yasawa-i-Rara and Matuku registered less than half their *normal* monthly rainfall, while Vanuabalavu registered more than twice its *normal* monthly rainfall.

Overall, out of the 24 rainfall monitoring stations that recorded in, in time for the compilation of bulletin, 3 recorded *well below average* rainfall, 8 *below average*, 6 *average*, 6 *above average*, and 1 station recorded *well above average* rainfall

The highest monthly rainfall of 341.0mm was observed at Monasavu, followed by 260mm at Lomaivuna, 214.7mm at Vanuabalavu and 203.5mm at Navua.

On temperatures, the highest day-time temperature of 33.4°C was observed at RKS Lodoni on the 9<sup>th</sup>, followed by 33.0°C, at Rarawai Mill (Ba) and Navua, on the 5<sup>th</sup> and 9<sup>th</sup> respectively. The coolest night-time temperature of 12.7°C was recorded at Nadarivatu on the 21<sup>st</sup>, followed by Monasavu with 13.5°C, Labasa Airport with 15.0°C, Lomaivuna with 15.1°C and Vaturekuka (Labasa) with 15.4°C, all on the 22<sup>nd</sup>.

Southeasterly winds were dominant at Nadi Airport while easterly winds were the most observed winds at Nausori Airport during August, with light to moderate wind strength recorded at both stations (Figure 8).

Warmer than normal sea surface temperature anomalies were observed across most of the Fiji Group (Figure 9).

## 2. WEATHER PATTERNS

The weather in August was mostly influenced by troughs of low pressure, broad southeast trade winds and cool southerlies. A weak trough of low pressure had been affecting the central and eastern parts of the Fiji group with occasional showers on the first three days of the month.

An easterly wind flow prevailed thereafter till the 4<sup>th</sup> when a trough of low pressure with occasional showers and thunderstorms affected the country from the west and gradually moved east and departed the country on the 5<sup>th</sup>. A significant 24 hour rainfall was reported at Vanuabalavu with 163.6mm on the 5<sup>th</sup>. An easterly wind flow prevailed afterwards till the 9<sup>th</sup> bringing cloudy periods with brief showers over the interior and eastern parts of the larger islands. Fine weather prevailed elsewhere with afternoon showers and thunderstorms. A trough of low pressure affected the Fiji group from the west on the 10<sup>th</sup> with occasional showers and few thunderstorms and gradually moved east to the rest of the country till the 11<sup>th</sup>.

A cool southerly wind prevailed thereafter on the 12<sup>th</sup> and 13<sup>th</sup> bringing mostly fine weather apart from brief showers over most parts of the country with cooler nights. The

winds turned southeast on the 14<sup>th</sup> till the 16<sup>th</sup> with cloudy periods and some showers on the interior and eastern parts of the larger islands. Fine weather prevailed elsewhere.

From the 15<sup>th</sup> to the 24<sup>th</sup>, a strong wind warning was in force for most land areas exposed to the southeast trade winds with strong wind warning also in force for all Fiji waters. This was brought about by a high pressure system to the south of Fiji. A weak trough of low pressure affected the country on the 17<sup>th</sup> with cloudy periods and isolated occasional showers over Fiji.

An east to southeast wind flow dominated the country thereafter on the 18<sup>th</sup> till the 30<sup>th</sup>. This brought cloudy periods with some showers over the interior and eastern parts of the larger islands. Fine weather prevailed elsewhere with isolated afternoon or evening showers.

The weather for Rotuma was affected by a series of troughs of low pressure which brought occasional showers and few thunderstorms. The southeast trades and moist easterlies also dominated Rotuma which brought fine weather apart from brief showers over the island.

### 3. RAINFALL

Typical Dry Season rainfall was experienced at Rotuma, Yasawa-i-Rara, Nadi, Lautoka, Tavua, Yaqara, Laucala Bay, Seaqaqa, Labasa, Lakeba and Matuku. The rest of the country received *average to well above average* rainfall. Rotuma, Tavua and Yaqara, Yasawa-i-Rara and Matuku registered less than half their *normal* monthly rainfall. In contrast, Vanuabalavu registered more than twice its *normal* monthly rainfall.

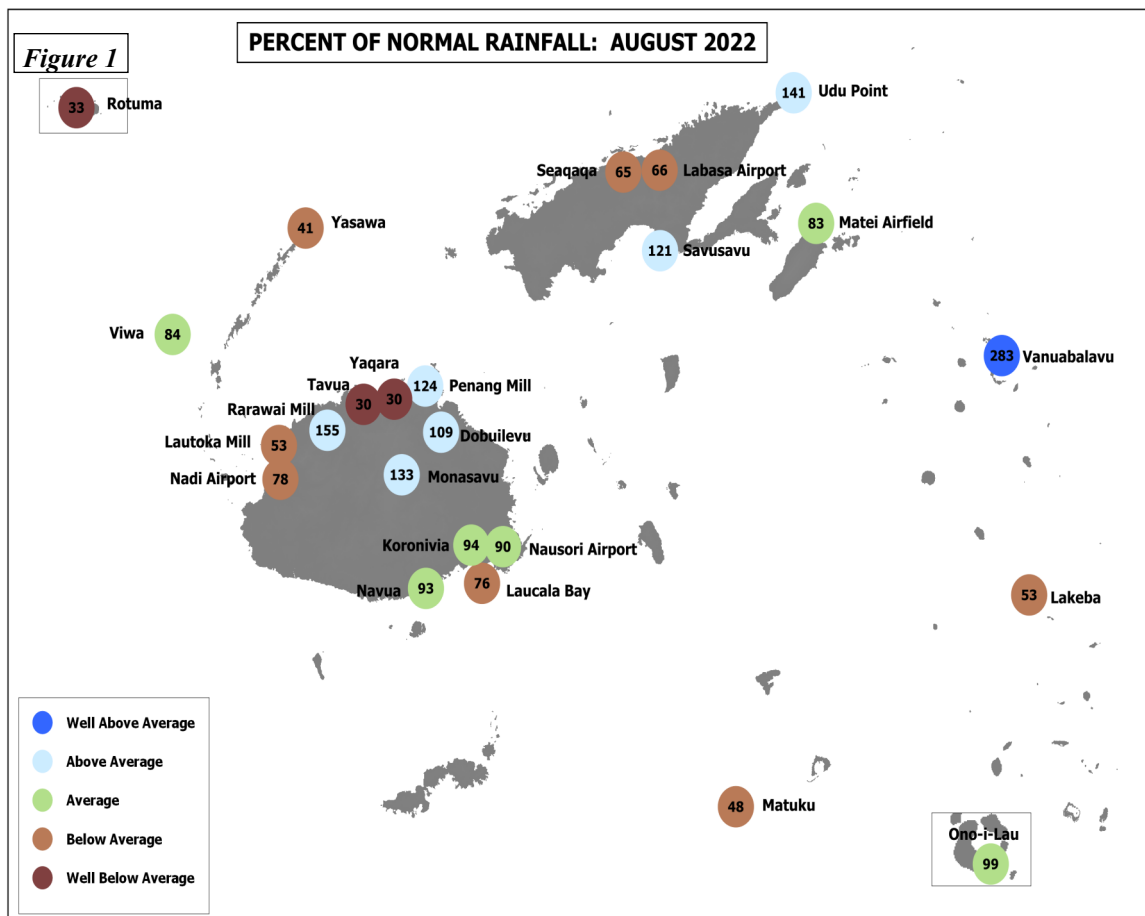
Overall, out of the 24 rainfall monitoring stations that recorded in, in time for the compilation of bulletin, 3 recorded *well below average* rainfall, 8 *below average*, 6 *average*, 6 *above average*, and 1 station recorded *well above average* rainfall (Table 2, Figures 1-5).

The highest monthly rainfall of 341.0mm was observed at Monasavu, followed by Lomaivuna with 260.0mm, Vanuabalavu with 214.7mm, Navua with 203.5mm, Koronivia with 149.5mm, Nadarivatu with 145.5mm, RKS Lodonu with 136.5mm, Korolevu and Nasinu both with 136.0mm, Nausori Airport with 133.8mm and Savusavu Airfield with 123.8mm. On the other hand, Tavua and Yaqara recorded the month's lowest total monthly rainfall of 19.5mm, followed by Yasawa-i-Rara with 23.0mm, Labasa Airport with 28.7mm, Seaqaqa with 31.5mm, Vaturekuka (Labasa) with

32.0mm, Wainikoro with 35.0mm, Lautoka Mill with 40.9mm, Lakeba with 48.9mm and Nadi Airport with 54.2mm (Table 2).

Koronivia recorded its highest number of rain days (rainfall  $\geq 0.1$ mm) with 28 days, followed by Monasavu with 27 days, Laucala Bay (Suva) with 26 days, Nausori Airport and Lomaivuna both with 25 days, Nasinu, Ono-i-Lau and Levuka all with 22 days and Rotuma with 21 days. Consequently, Nadi, Lautoka Mill and Tavua recorded the least number of rain days with 3 days, followed by Momi with 4 days, Sigatoka and Rarawai Mill (Ba) with 5 days, Yaqara with 7 days, Yasawa-i-Rara with 8 days, Wainikoro with 9 days, Vaturekuka (Labasa), Viwa and Matuku all with 10 days, Labasa Airport with 11 days, Korolevu with 12 days, and Saqani with 13 days.

Vanuabalavu recorded its highest daily rainfall of 163.6mm on the 5<sup>th</sup> since observations began in 1985 (Table 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  $\geq 0.1$ mm

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 Day-time Air Temperatures

*Above normal* day-time air temperatures were observed at most parts of Fiji during the month. Out of the 20 climate stations that reported in time for the analysis of data, 19 recorded anomalies  $\geq +0.5^{\circ}\text{C}$  and Udu Point was the lone station with anomaly within  $\pm 0.5^{\circ}\text{C}$ .

The warmest days on average were recorded at Lautoka Mill with  $31.0^{\circ}\text{C}$ , followed by RKS Lodonu with  $30.9^{\circ}\text{C}$ , Rarawai Mill (Ba) with  $30.8^{\circ}\text{C}$ , Labasa Airport with  $30.5^{\circ}\text{C}$ , Rotuma with  $30.3^{\circ}\text{C}$ , and Nadi Airport and Yaqara both with  $30.0^{\circ}\text{C}$ . Consequently, Monasavu recorded the coolest days on average with  $22.4^{\circ}\text{C}$ , followed by Nadarivatu with  $23.7^{\circ}\text{C}$ , Ono-I-Lau with  $27.1^{\circ}\text{C}$ , Matuku with  $27.8^{\circ}\text{C}$ , Lomaivuna with  $28.0^{\circ}\text{C}$ , Vanuabalavu and Laucala Bay (Suva) both with  $28.1^{\circ}\text{C}$ , and Koronivia and Lakeba both with  $28.2^{\circ}\text{C}$ .

The highest day-time temperature was observed at RKS Lodonu with  $33.4^{\circ}\text{C}$  on the 9<sup>th</sup>, followed by Rarawai Mill (Ba) and Navua both with  $33.0^{\circ}\text{C}$  on the 5<sup>th</sup> and 9<sup>th</sup>, respectively, Lautoka Mill with  $32.9^{\circ}\text{C}$  on the 8<sup>th</sup>, and Momi with  $32.8^{\circ}\text{C}$  on the 2<sup>nd</sup>. In contrast, the coolest day-time temperature of  $20.1^{\circ}\text{C}$  was at Nadarivatu on the 12<sup>th</sup>, Monsasavu with  $21.0^{\circ}\text{C}$  on the 5<sup>th</sup>, Lomaivuna with  $24.2^{\circ}\text{C}$  on the 14<sup>th</sup>, Korolevu with  $25.0^{\circ}\text{C}$ , Sigatoka with  $25.1^{\circ}\text{C}$  and Navua with  $25.5^{\circ}\text{C}$ , all on the 11<sup>th</sup>.

Lautoka Mill and Savusavu Airfield recorded their highest monthly average maximum temperature of  $31.0^{\circ}\text{C}$  and  $28.5^{\circ}\text{C}$  since observations began in 1930 and 1956, respectively (Table 1).

### B. Minimum Night-time Air Temperatures

Generally *above normal* night-time temperatures were recorded over most parts of the country during the month. Of the 20 stations, 13 recorded anomalies  $\geq +0.5^{\circ}\text{C}$ , 3 within  $\pm 0.5^{\circ}\text{C}$ , and 4 with anomaly  $\leq -0.5^{\circ}\text{C}$ .

The coolest days on average was at Monasavu with  $16.8^{\circ}\text{C}$ , followed by Nadarivatu and Sigatoka both with  $18.1^{\circ}\text{C}$ , Rarawai Mill (Ba) with  $19.0^{\circ}\text{C}$ , Labasa Airport with  $19.2^{\circ}\text{C}$ , Vaturekuka (Labasa) with  $19.7^{\circ}\text{C}$ , Lomaivuna with  $19.8^{\circ}\text{C}$ , Nadi Airport and Savusavu Airfield both with  $20.5^{\circ}\text{C}$ , and Momi with  $20.6^{\circ}\text{C}$ . On the other hand, the warmest night-time temperatures on average were observed at Levuka with  $24.0^{\circ}\text{C}$ , followed by Yaqara with  $23.5^{\circ}\text{C}$ , Saqani with  $23.4^{\circ}\text{C}$ , Rotuma with  $23.3^{\circ}\text{C}$ , and RKS Lodonu with  $23.2^{\circ}\text{C}$ .

The coolest night-time temperatures were recorded during the third week of the month. The lowest night time temperature of  $12.7^{\circ}\text{C}$  was recorded at Nadarivatu on the 21<sup>st</sup>, followed by Monasavu with  $13.5^{\circ}\text{C}$ , Labasa Airport with  $15.0^{\circ}\text{C}$ , Lomaivuna with  $15.1^{\circ}\text{C}$ , Vaturekuka (Labasa) with  $15.4^{\circ}\text{C}$ , all on the 22<sup>nd</sup>, Rarawai Mill (Ba) with  $15.8^{\circ}\text{C}$  on the 21<sup>st</sup>, Wainikoro with  $16.0^{\circ}\text{C}$ , Sigatoka with  $16.2^{\circ}\text{C}$ , Nausori Airport with  $17.0^{\circ}\text{C}$  and Koronivia with  $17.2^{\circ}\text{C}$ , all on the 22<sup>nd</sup>. On the other hand, the warmest night-time temperature of  $25.9^{\circ}\text{C}$  was recorded at RKS Lodonu on the 17<sup>th</sup>, followed by Yaqara with  $25.1^{\circ}\text{C}$  on the 2<sup>nd</sup>, Laucala Bay (Suva) with  $25.1^{\circ}\text{C}$  on the 2<sup>nd</sup>, Koronivia and Momi both with  $25.0^{\circ}\text{C}$  on the 9<sup>th</sup> and 10<sup>th</sup>, respectively, Levuka and Saqani both with  $24.7^{\circ}\text{C}$  on the 11<sup>th</sup> and 16<sup>th</sup>, respectively.

Ono-i-Lau recorded its highest monthly average minimum temperature of  $21.6^{\circ}\text{C}$  since observations began in 1949 (Table 1).

**TABLE 1. CLIMATE RECORDS ESTABLISHED IN AUGUST 2022**

<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 Rainfall	Vanuabalavu	163.6mm	5 <sup>th</sup>	New High	83.9mm	1997	1985
Monthly Average Max Temperature	Savusavu Airfield	$28.5^{\circ}\text{C}$	-	New High	$28.3^{\circ}\text{C}$	2007	1956
Monthly Average Max Temperature	Lautoka Mill	$31.0^{\circ}\text{C}$	-	New High	$30.8^{\circ}\text{C}$	2007	1930
Monthly Average Min Temperature	Ono-I-Lau	$21.6^{\circ}\text{C}$	-	New High	$21.3^{\circ}\text{C}$	1973	1949

*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 AUGUST 2022**

	RAINFALL				AIR TEMPERATURES								SUNSHINE		
	TOTAL	RAIN		MAX. FALL	AVERAGE DAILY				EXTREME				TOTAL	*	
	MM	%	+	MM ON	MAX. #	MIN. #	MIN. #	MAX. #	MIN. #	MAX. #	MIN. #	HRS	%		
NADI AIRPORT	54.2	78	3	22	10	30.0	1.5	20.5	1.7	32.6	1	18.1	20	223	100
LAUCALA BAY	123.4	76	26	32	5	28.1	1.2	22.4	1.4	32.5	3	19.3	22	153	108
NACOCOLEVU RESEARCH	MISSING OBSERVATIONS														
ROTUMA ISLAND	79.5	33	21	11	15	30.3	0.9	23.3	-0.9	31.9	17	21.0	8	230	111
VIWA ISLAND	55.8	84	10	27	11	29.7	1.7	21.9	-0.6	32.1	9	19.3	23		
YASAWA-I-RARA (AWS)	23.0	41	8	10	11	29.6	1.2	22.8	0.6	31.6	8	20.2	12		
UDU POINT WEATHER	105.3	141	14	31	26	28.6	0.2	22.0	-0.4	30.1	9	19.5	21		
NABOUWALU	MISSING OBSERVATIONS														
LABASA AIRFIELD	28.7	66	11	9	2	30.5	0.9	19.2	0.4	32.1	8	15.0	22		
SAVUSAVU AIRFIELD	123.8	121	20	53	31	28.5	1.3	20.5	-0.5	31.5	11	18.5	22		
KORONIVIA RESEARCH	149.5	94	28	61	5	28.2	1.6	21.0	1.4	29.1	28	17.2	22		
NAUSORI AIRPORT	133.8	90	25	61	5	28.3	2.1	21.1	1.5	30.8	9	17.0	22		
NAVUA (AWS)	203.5	93	20	70	5	28.7	2.2	22.3	3.5	33.0	9	17.3	21		
MONASAVU HYDRO DAM	341.0	133	27	41	27	22.4	1.0	16.8	1.5	26.0	10	13.5	22		
FSC LAUTOKA MILL	40.9	53	3	39	10	31.0	2.6	20.9	0.9	32.9	8	17.8	22		
FSC RARAWAI MILL	108.1	155	5	94	10	30.8	1.1	19.0	1.4	33.0	5	15.8	21		
FSC PENANG MILL	92.3	124	17	19	8	28.4	0.7	21.8	1.3	30.2	10	19.9	22		
MATEI AIRFIELD	81.8	83	19	15	26	28.6	1.4	21.5	-0.2	30.4	10	19.5	20		
VANUABALAVU	214.7	283	15	164	5	28.1	1.1	21.2	-0.9	29.7	11	19.4	6		
LAKEBA	48.9	53	16	19	3	28.2	1.7	22.1	1.1	30.4	11	19.2	23		
VUNISEA	MISSING OBSERVATIONS														
MATUKU	56.6	48	10	24	5	27.8	1.7	22.8	1.9	29.7	14	20.2	15		
ONO-I-LAU	115.4	99	22	56	5	27.1	2.0	21.6	1.7	29.5	8	18.9	6		
YAQARA AWS	19.5	30	7	7	10	30.0		23.5		32.6	8	18.8	23		
LEVUKA AWS	108.0		22	22	6	28.6		24.0		31.8	8	21.0	12		
KEIYASI AWS	MISSING OBSERVATIONS														
LOMAIVUNA AWS	260.0		25	86	5	28.0		19.8		30.5	9	15.1	22		
NADARIVATU AWS	145.5		16	60	11	23.7		18.1		26.4	7	12.7	21		
RKS LODONI AWS	136.5		20	23	11	30.9		23.2		33.4	9	19.4	22		
MOMI AWS	97.5		4	76	10	29.6		20.6		32.8	2	19.1	22		
SIGATOKA AWS	83.0		5	41	10	28.9		18.1		31.9	3	16.2	22		
VATUREKUKA AWS	32.0		10	10	2	28.8		19.7		30.6	7	15.4	22		
KOROLEVU AWS	136.0		12	40	10	29.2		23.0		32.4	8	19.2	21		
WAINIKORO AWS	35.0		9	10	5	29.1		21.4		30.8	10	16.0	22		
SAQANI AWS	121.5		13	25	4	29.9		23.4		31.5	28	20.5	2		
SEAQAQA TB3	31.5	65	14	12	7										
DOBUILEVU TB3	105.0	109	20	30	5										
NASINU TB3	136.0		22	54	5										
TAVUA TB3	19.5	30	3	14	10										
TEMPERATURE( C) HUMIDITY WIND															
	MEAN		DRY WET		RH% VP		WIND								
			(AVERAGE AT 9AM)				KT								
NADI AIRPORT	25.3	25.4	21.6	71	24.3	6.7									
LAUCALA BAY	25.2	25.5	23.2	82	24.4	8.3									
NACOCOLEVU RESEARCH	MISSING OBSERVATIONS														
ROTUMA ISLAND	26.8	28.1	25.4	81	28.4										
VIWA ISLAND	25.8	27.0	23.1	72	26.7										
YASAWA-I-RARA (AWS)	26.2														
UDU POINT WEATHER	25.3	26.4	23.5	78	25.7										
NABOUWALU	MISSING OBSERVATIONS														
LABASA AIRFIELD	24.9	26.3	23.0	76	25.6										
SAVUSAVU AIRFIELD	24.5	25.9	23.2	80	25.0										
KORONIVIA RESEARCH	24.6	25.4	22.9	81	24.3										
NAUSORI AIRPORT	24.7	25.3	22.7	80	24.1	6.8									
NAVUA (AWS)	25.5														
MONASAVU HYDRO DAM	19.6	19.4	18.4	92	16.8										
FSC LAUTOKA MILL	25.9	27.0	24.5	82	26.7										
FSC RARAWAI MILL	24.9	25.8	22.2	74	24.8										
FSC PENANG MILL	25.1	25.4	22.5	78	24.3										
MATEI AIRFIELD	25.0	26.6	23.3	75	26.0										
VANUABALAVU	24.6	26.5	22.8	73	25.9										
LAKEBA	25.2	26.3	23.0	76	25.6										
VUNISEA	26.9	26.4	24.5	86	25.7										
MATUKU	25.3	25.9	23.0	79	25.0										
ONO-I-LAU	24.3	25.5	22.4	76	24.4										
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 (1981-2010). + :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

Nadi Airport (Western Division) - Temperature & Rainfall Records for the last 13 Months (August 2021 - August 2022)

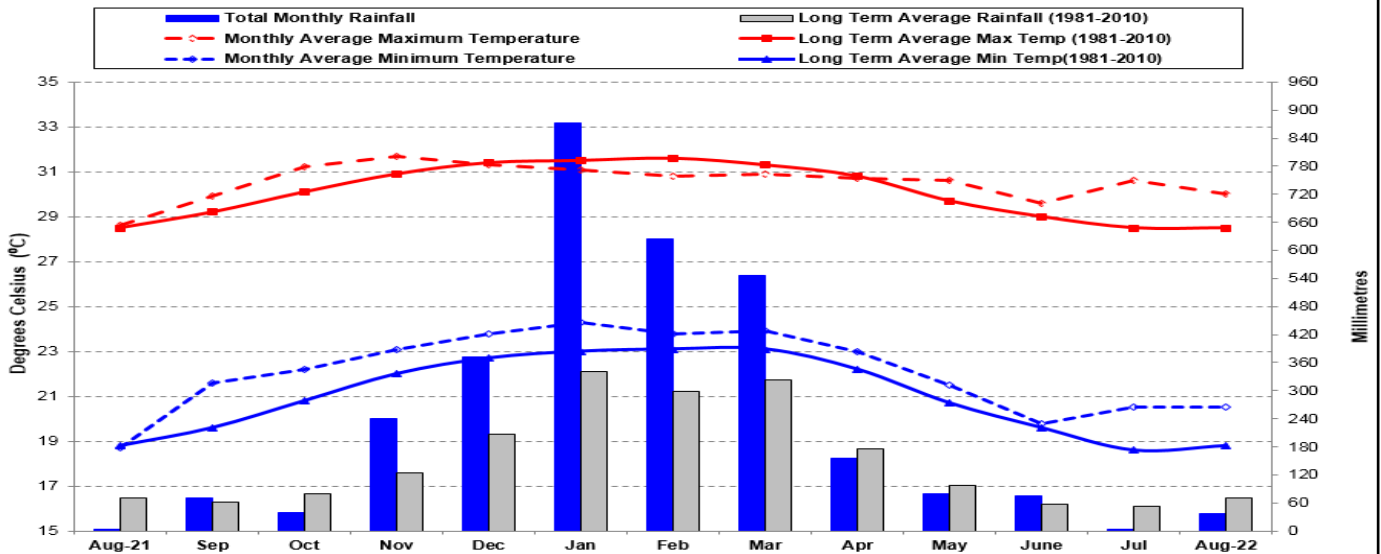


Figure 3

Laucala Bay - (Suva) (Central Division) - Temperature & Rainfall Records for the last 13 Months (August 2021 - August 2022)

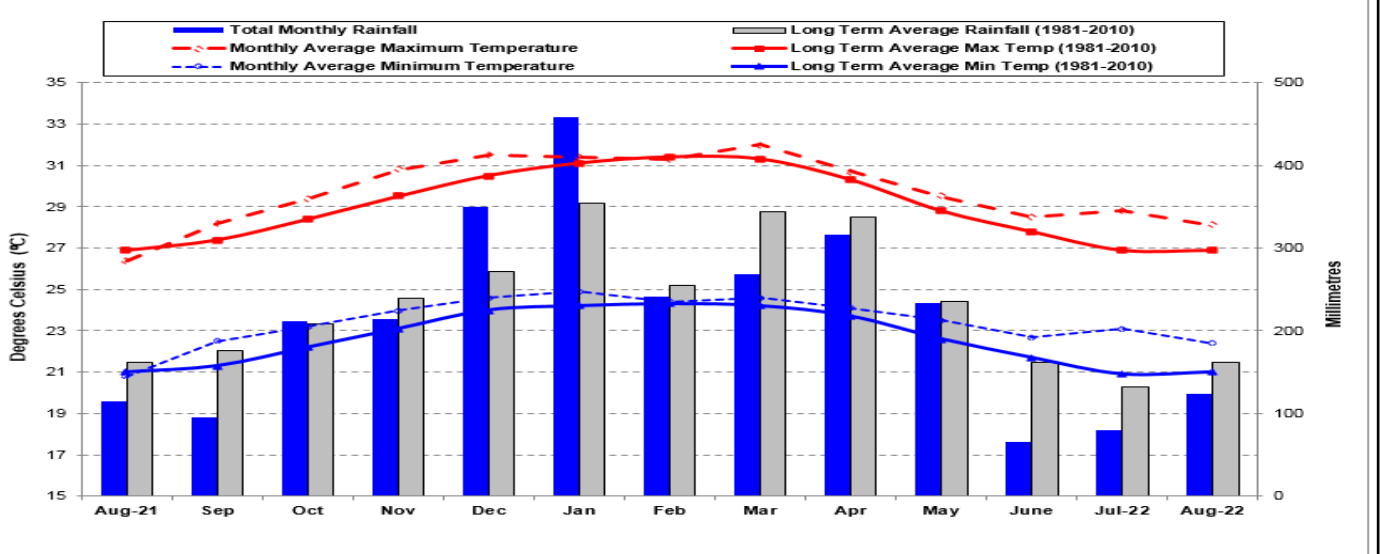


Figure 4

Udu Point (Eastern Division) - Temperature & Rainfall Records for the last 13 Months (August 2021 - August 2022)

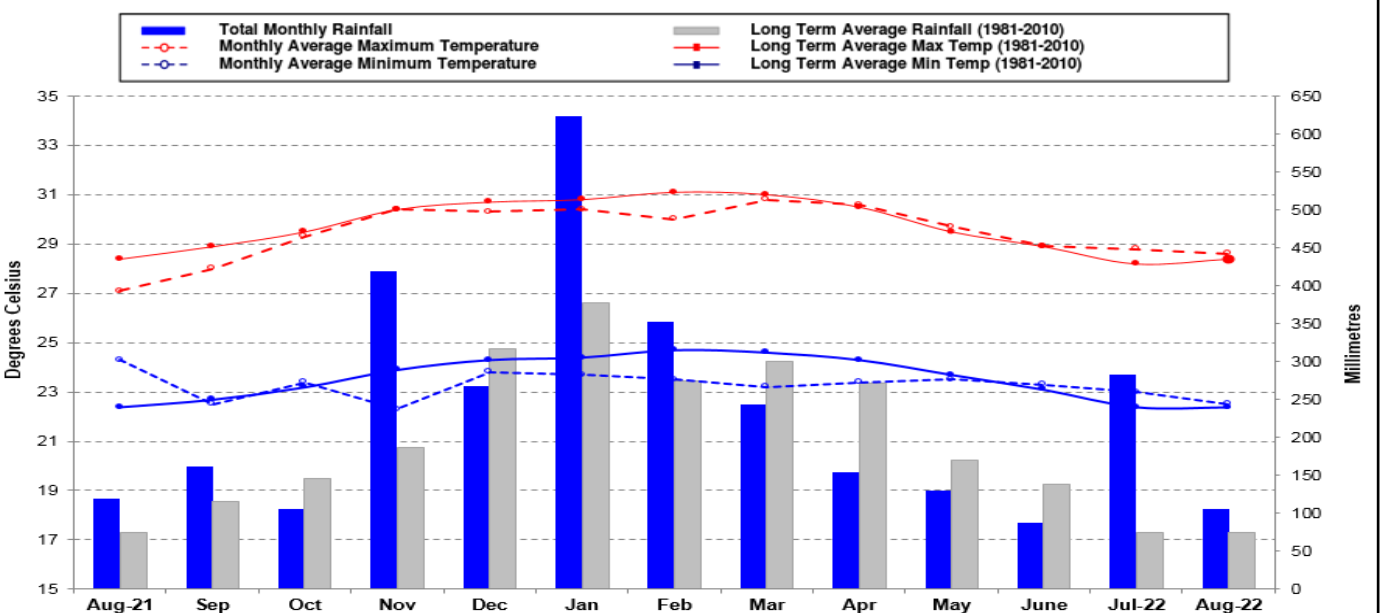
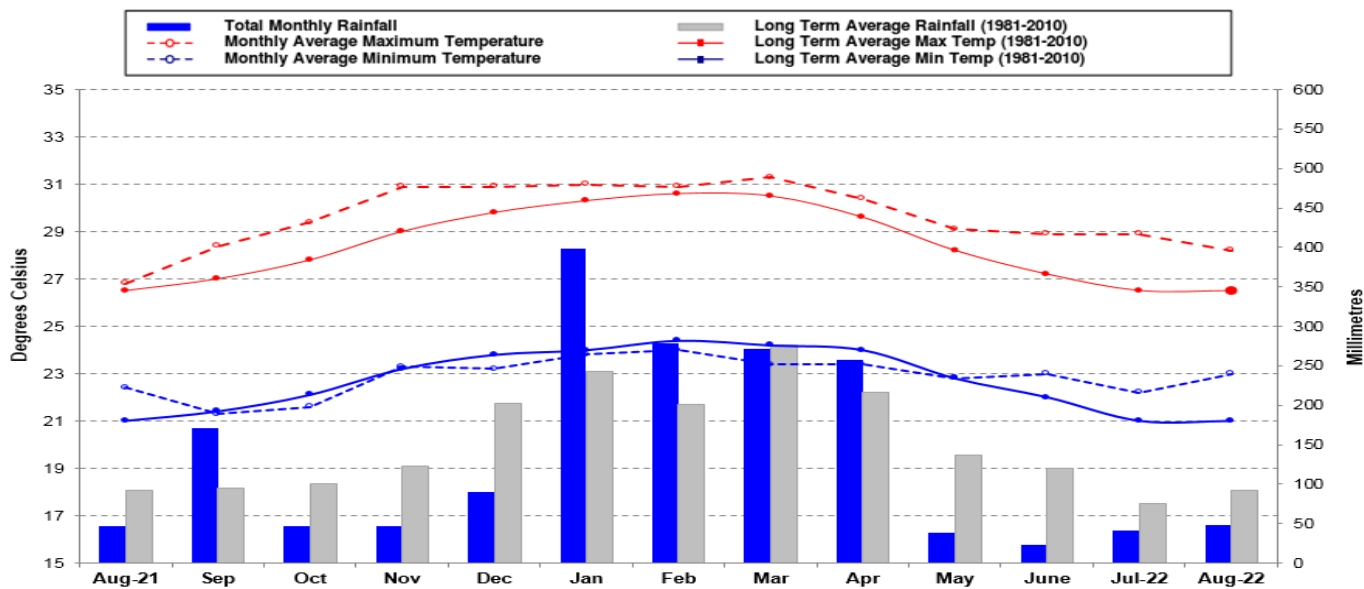


Figure 5

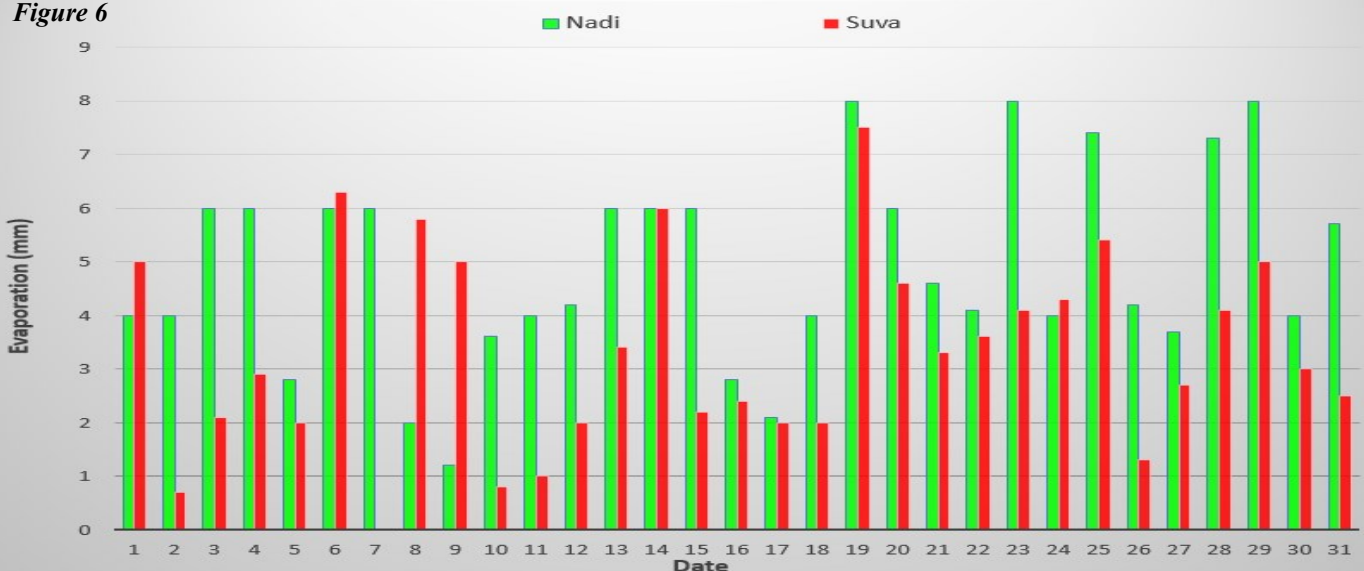
Lakeba (Eastern Division) - Temperature & Rainfall Records for the last 13 Months (August 2021 - August 2022)



## 5. DAILY RAISED PAN EVAPORATION

Daily Evaporation for August 2022

Figure 6



**Figure 6:** The total monthly evaporation at Nadi Airport and Laucala Bay (Suva) were 151.7mm and 103.0mm, respectively. Nadi’s highest daily evaporation was 8.0mm on the 29<sup>th</sup>, with Suva’s highest daily evaporation of 7.5mm on 19<sup>th</sup>.

*Note Nacocolevu’s evaporation could not be analysed due to missing observation data.*

## 6. SOLAR RADIATION

The Nadi solar radiation instrument became unserviceable during the month of August 2022.

7. WIND SUMMARY

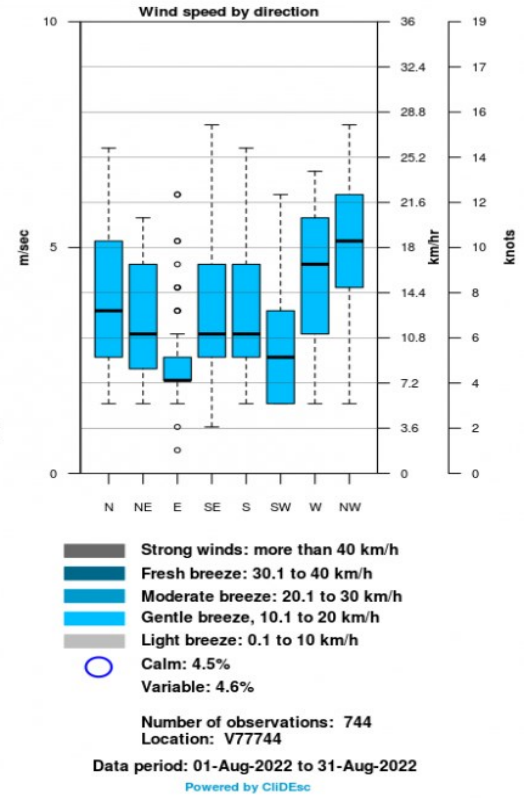
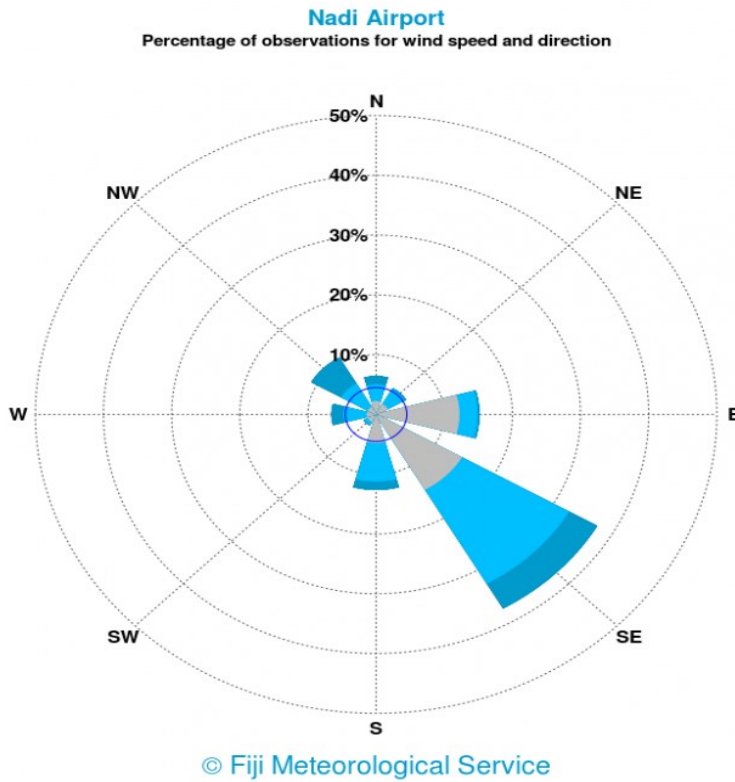


Figure 8a: Southeasterly winds were most dominant at Nadi Airport during the month, followed by easterly and southerly winds. Wind strength ranged from light to moderate during this period.

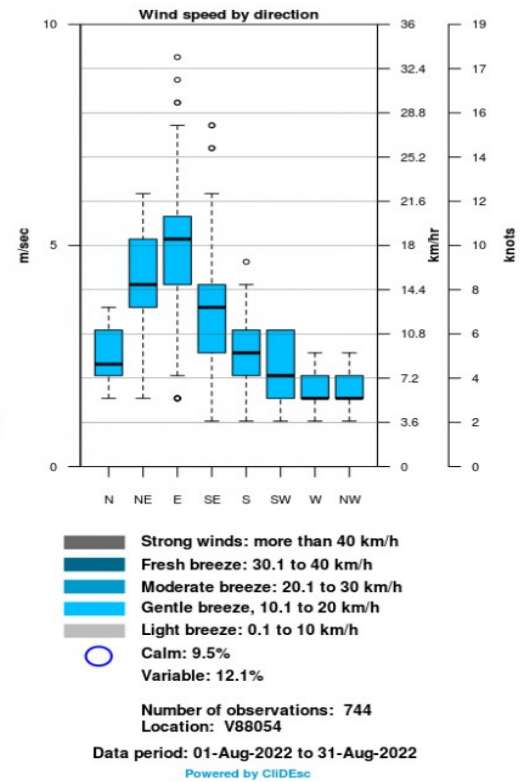
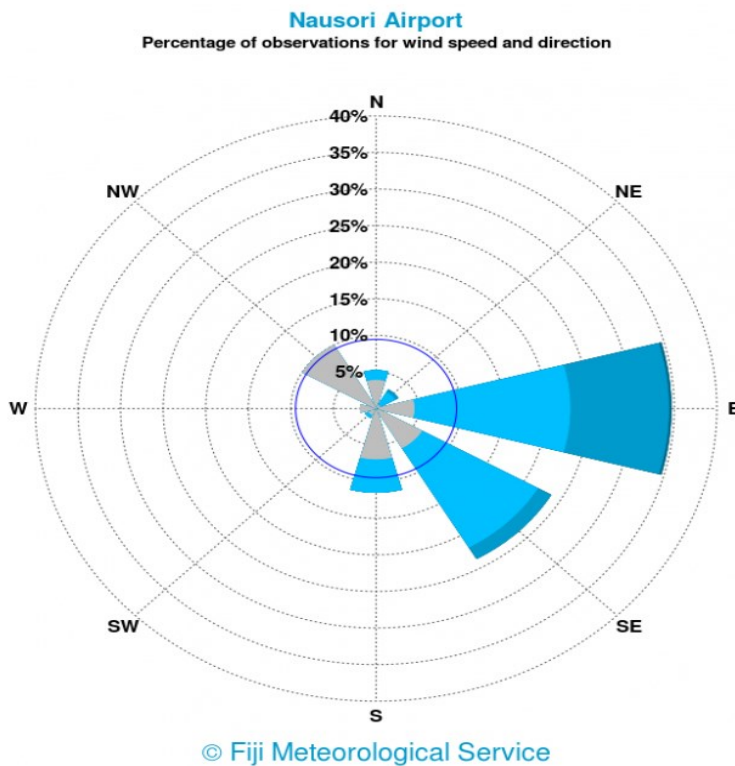
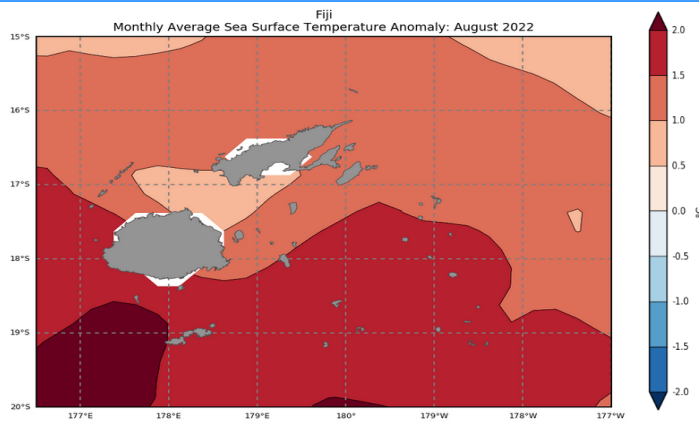


Figure 8b: Easterly winds were dominant at Nausori Airport, followed by southeasterly, then southerly winds. Wind strength ranged from light to moderate during this period.

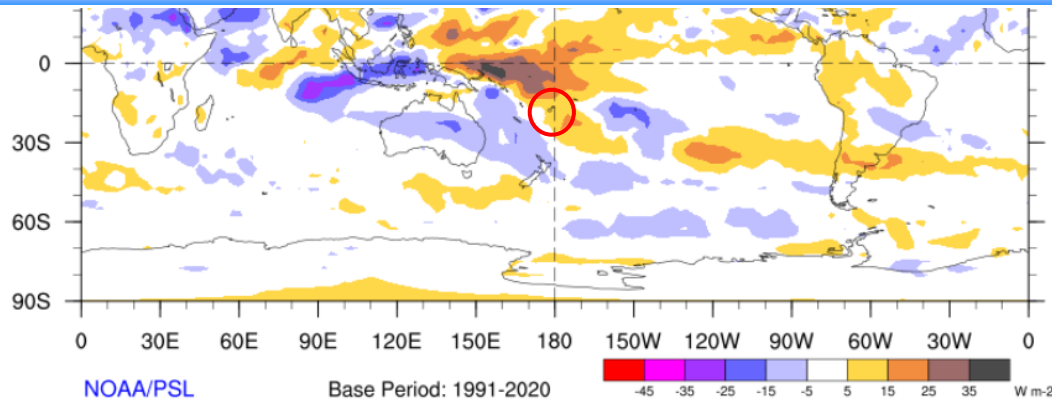
### 8. SEA SURFACE TEMPERATURE (SST)



**Figure 9:** Warmer than normal sea surface temperature anomalies were observed across most of the Fiji Waters.

Source: <http://oceanportal.spc.int/portal/app.html#climate>

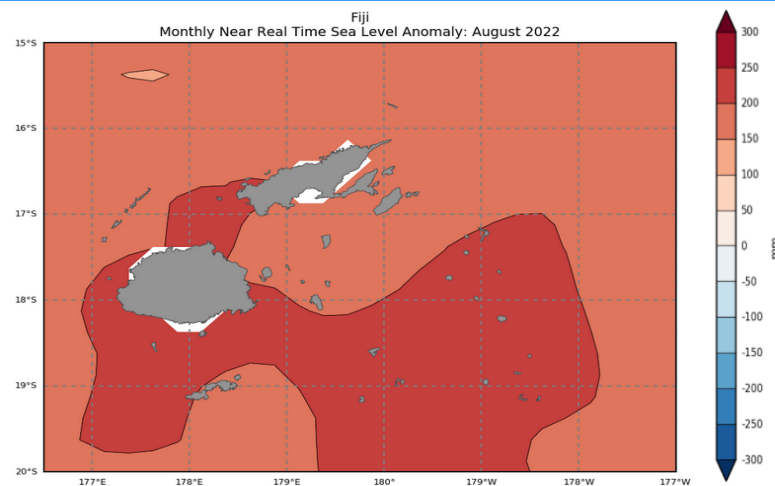
### 9. CLOUD COVER



**Figure 10:** Below normal cloud cover was present over the Fiji Group during August (Fiji in red circle).

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

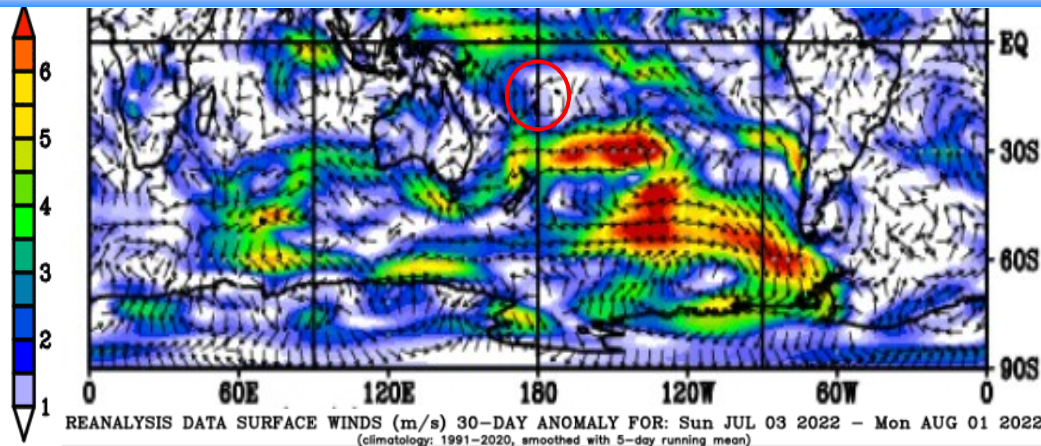
### 10. SEA LEVEL



**Figure 11:** Above normal sea level anomalies persisted across most of the Fiji Waters during August.

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

### 11. WIND ANOMALIES



**Figure 12:** Northeasterly wind anomalies were generally observed over the Fiji Group 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](https://www.esrl.noaa.gov/psd/map/images/rnl/sfcwnd_30b.rnl.html)