

### 1. IN BRIEF

Rainfall during the month varied considerably, ranging from *above average* to *well below average*. Majority of the stations in the Western, Central and Northern Divisions, Lakeba, Vanuabalavu experienced drier than usual conditions, with several sites recording less than half their normal rainfall. *Average* rainfall was observed at Nadi Airport, Monasavu, Nabouwalu, Vunisea, Matuku, Ono-i-Lau, and Rotuma, while *above average* rainfall was observed at Rarawai Mill, Lautoka Mill, Nacocolevu, and Udu Point. .

Overall, out of the 27 rainfall monitoring stations that reported in, in time for the compilation of bulletin, 10 recorded *well below average* rainfall, 6 *below average*, 7 *average* rainfall, and 4 stations with *above average* (Table 2, Figures 1-5).

Rotuma recorded the highest monthly rainfall of 308.5mm, followed by Navua with 229.0mm, Monasavu with 196.5mm, Korolevu with 117.0mm, Udu Point with 101.9mm, Vunisea with 100.9mm, Ono-i-Lau with

99.2mm, Matuku with 97.4mm, RKS Lodoni with 91.5mm, and Nacocolevu with 87.4mm.

On temperatures, the month's warmest day-time temperature of 34.1°C was observed at Lautoka Mill on the 5<sup>th</sup>, followed by RKS Lodoni with 33.8°C on the 20<sup>th</sup>, Nadi Airport with 33.5°C on the 6<sup>th</sup>, Labasa Airfield with 33.1°C on the 5<sup>th</sup>, and Seaqaqa with 33.0°C on the 18<sup>th</sup>. The months lowest night-time temperature of 11.1°C was recorded at Labasa Airport on the 30<sup>th</sup>, followed by Nadarivatu with 11.3°C on the 28<sup>th</sup>, Seaqaqa with 11.9°C on the 30<sup>th</sup>, Wainikoro with 12.9°C on the 29<sup>th</sup>, and Rarawai Mill (Ba) with 13.2°C on the 28<sup>th</sup>.

Southeasterly winds were dominant at Nadi Airport and Matei Airfield, while easterly winds were dominant at Nausori Airport and Savusavu Airfield (Figure 7).

Warmer than normal sea surface temperature anomalies were observed at most parts of the country (Figure 8).

### 2. WEATHER PATTERNS

The weather in July was dominated by cool east to southeasterly wind flow that was influenced by the subtropical ridge with series of fast-moving trough of low pressure drifting through the group.

From the 1<sup>st</sup> to the 6<sup>th</sup> of July, Fiji experienced an east to southeasterly winds with a trough propagating through the group from the 5<sup>th</sup> to the 6<sup>th</sup> causing some showers over the eastern parts of the country and brief showers elsewhere. After the passing trough, a cool fresh to strong southeasterly wind flow prevailed over the group till the 13<sup>th</sup>. Winds transitioned into a predominant easterly flow from the 14<sup>th</sup> to the 23<sup>rd</sup> with a weak trough approaching the group from the west on the 19<sup>th</sup>, which later exited the group on the 20<sup>th</sup>.

On the 24<sup>th</sup> a Severe Weather Bulletin (SWB) Alert for heavy rain was issued for parts of the Fiji group and remained in force for about 48 hours from another trough that approached the group from the west affecting parts of the country from the 25<sup>th</sup> till the 26<sup>th</sup> with associated showers and isolated heavy falls. This resulted in Ono-i-Lau recording significant rainfall of 60.1mm over a 24hrs period on the 25<sup>th</sup>. Meanwhile, trailing the trough to the far southwest of the group a subtropical high-pressure system deepened, generating cool fresh to strong southeasterly wind flow over the group while propagating east-

wards. As a result, Damaging Heavy Swell Alert was also issued for open waters to the southern parts of Fiji waters and Coastal Inundation Alert for low lying coastal areas of Southern Viti Levu, Yasawa and Mamanuca group, Kadavu and nearby smaller islands, Central and Southern Lau groups till the 28<sup>th</sup>.

The cool nighttime temperatures for this month were due to the pronounced southeast trade winds, which were influenced by the deep subtropical high-pressure system that is more predominant during this time of the year. This system aided cooler air masses from the far south being driven over the group, contributing to lower nighttime temperatures. Generally, cool nighttime temperatures below 20°C persisted over the country right to the end of the month, with Labasa AWS recording a minimum temperature of 11.1°C on the 29<sup>th</sup> after the trough cleared the group on the 26<sup>th</sup>.

Weather conditions over Rotuma were primarily influenced by a series of low-pressure systems active near the island. The station recorded the highest rainfall of the month with 111mm over a period of 24hrs on the 12<sup>th</sup>. On the remaining days without rainfall, east or southeast winds was predominated.

### 3. RAINFALL

Variable rainfall patterns were observed during July, with rainfall ranging from *well below average* to *above average* across the country. The majority of the stations in the Western, Central and Northern Divisions, Lakeba and Vanuabalavu experienced drier than usual conditions. Stations such as Viwa, Yasawa-i-Rara, Tavua, Yaqara, Dobuilevu, Nausori Airport, Seaqqa, Labasa Airport, Vanuabalavu, and Lakeba recorded less than half of their normal monthly rainfall.

Average rainfall was observed at Nadi Airport, Monasavu, Nabouwalu, Vunisea, Matuku, Ono-i-Lau, and Rotuma, while above average rainfall was observed at Rarawai Mill (Ba), Lautoka Mill, Nacocolevu, and Udu Point.

Overall, out of the 27 rainfall monitoring stations that reported in, in time for the compilation of bulletin, 10 recorded *well below average* rainfall, 6 *below average*, 7 *average* rainfall, and 4 stations with *above average* (Table 2, Figures 1-5).

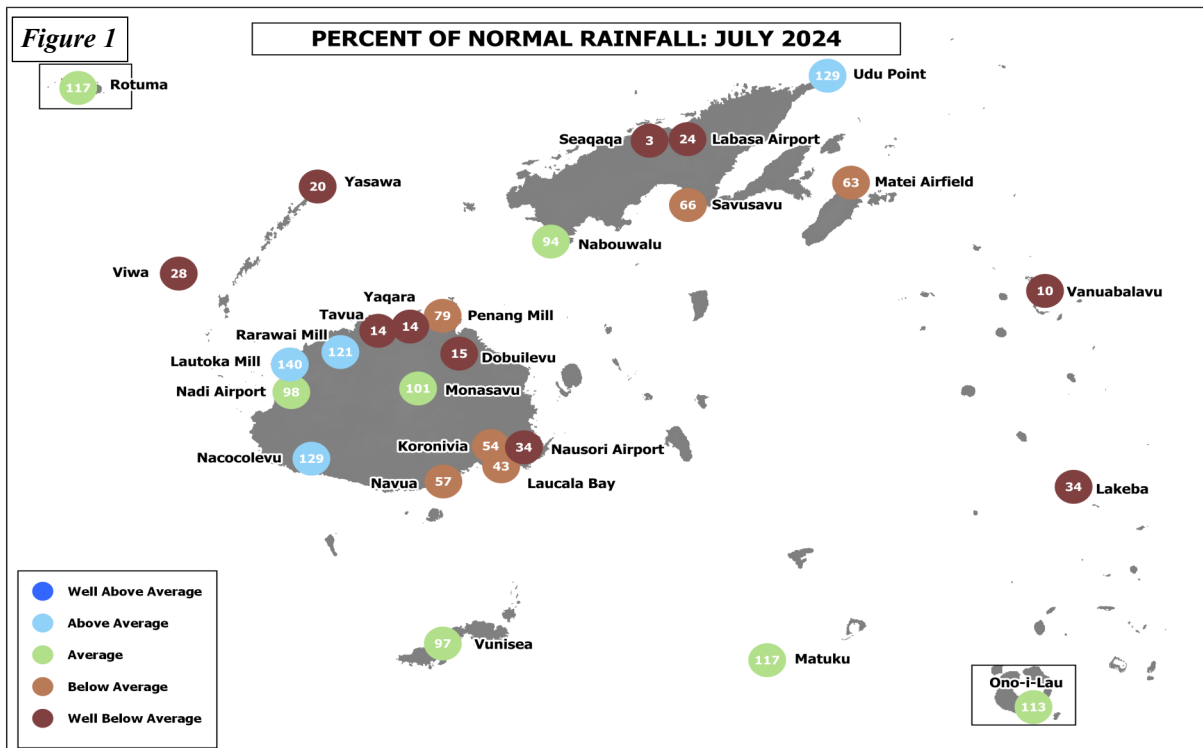
The highest monthly rainfall of 308.5mm was observed at Rotuma, followed by Navua with 229.0mm, Monasavu with 196.5mm, Korolevu with 117.0mm, Udu Point with 101.9mm, Vunisea with 100.9mm, Ono-i-Lau with 99.2mm, Matuku with 97.4mm, RKS Lodon with 91.5mm, and Nacocolevu with 87.4mm. On the other hand, Levuka recorded the month's lowest total monthly rainfall of 5mm, followed by Seaqqa with 8mm, Sigato-

ka with 10.0mm, Labasa Airport with 11.1mm, and Vaturekuka (Labasa) with 14.5mm (Table 2).

The highest 24-hour rainfall of 124mm was recorded at Rotuma on the 12<sup>th</sup>, followed by Ono-i-Lau with 60mm on 25<sup>th</sup>, Navua with 47mm on the 15<sup>th</sup>, Korolevu with 44mm on the 5<sup>th</sup>, Monasavu with 38mm on the 10<sup>th</sup>, Vunisea with 34mm on the 25<sup>th</sup>, Lautoka Mill with 33mm on the 20<sup>th</sup>, RKS Lodon and Keiyasi both with 32mm on the 20<sup>th</sup>, and Nacocolevu with 31mm on the 5<sup>th</sup>.

Navua and Monasavu recorded the highest number of rain days (rainfall  $\geq 0.1$ mm) with 22 days, followed by Matuku with 20 days, Laucala Bay (Suva) and Savusavu Airfield both with 18 days, Koronivia with 16 days, Ono-i-Lau, Vunisea and Nausori Airport all with 15 days, and Rotuma, RKS Lodon and Dobuilevu all with 14 days. Consequently, Seaqqa, Tavua and Lautoka Mill all recorded the least number of rainfall days with 3 days, followed by Yaqara, Rarawai Mill (Ba) and Yasawa-i-Rara all with 4 days, and Nadi Airport, Momi and Sigatoka all with 5 days.

There were no new rainfall records observed during the month.



**Normal:** Long term average from 1991 to 2020  
**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 to below normal day-time air temperatures were observed across the country during the month. Out of the 22 climate stations that reported in time for the analysis of data, 13 recorded anomalies  $\geq +0.5^{\circ}\text{C}$ , 4 within  $\pm 0.5^{\circ}\text{C}$ , and 5 with anomalies  $\leq -0.5^{\circ}\text{C}$ .

On average, the warmest days were recorded at RKS Lodoni with  $30.5^{\circ}\text{C}$ , followed by Rotuma, Viwa, and Seaqaqa all with  $30.4$ , Labasa Airport with  $30.1^{\circ}\text{C}$ , Lautoka Mill with  $29.9^{\circ}\text{C}$ , Yaqara and Saqani both with  $29.8^{\circ}\text{C}$ , and Nadi Airport with  $29.7^{\circ}\text{C}$ . Consequently, Vaturekuka (Labasa) recorded the coolest days on average with  $19.9^{\circ}\text{C}$ , followed by Monasavu with  $22.3^{\circ}\text{C}$ , Nadarivatu with  $23.2^{\circ}\text{C}$ , Ono-i-Lau with  $26.6^{\circ}\text{C}$ , Matuku with  $27.1^{\circ}\text{C}$ , Korolevu with  $27.4^{\circ}\text{C}$ , and Vanua-balavu with  $27.5^{\circ}\text{C}$ .

The month's highest day-time temperature of  $34.1^{\circ}\text{C}$  was observed at Lautoka Mill on the 5<sup>th</sup>, followed by RKS Lodoni with  $33.8^{\circ}\text{C}$  on the 20<sup>th</sup>, Nadi Airport with  $33.5^{\circ}\text{C}$  on the 6<sup>th</sup>, Labasa Airfield with  $33.1^{\circ}\text{C}$  on the 5<sup>th</sup>, and Seaqaqa with  $33.0^{\circ}\text{C}$  on the 18<sup>th</sup>. On the other hand, the coolest day-time temperature of  $18.0^{\circ}\text{C}$  was at Monasavu on the 9<sup>th</sup>, followed by Nadarivatu with  $20.0^{\circ}\text{C}$  on the 8<sup>th</sup>, Vunisea with  $22.5^{\circ}\text{C}$  on the 6<sup>th</sup>, Korolevu with  $23.3^{\circ}\text{C}$  on the 6<sup>th</sup> and Savusavu Airfield with  $24.0^{\circ}\text{C}$  on the 25<sup>th</sup>.

Nabouwalu recorded its daily highest maximum temperature of  $32.7^{\circ}\text{C}$  on the 5<sup>th</sup>, since observations began in 1956 (Table 1).

### B. Minimum Night-time Air Temperatures

Similarly, above normal to below normal night-time temperatures were recorded at majority of the climate stations during the month. For the 22 stations that reported in, 12 recorded anomalies  $\geq +0.5^{\circ}\text{C}$ , 5 within  $\pm 0.5^{\circ}\text{C}$ , and 5 with anomalies  $\leq -0.5^{\circ}\text{C}$ .

The coolest nights on average were at Nadarivatu with  $16.2^{\circ}\text{C}$ , followed by Monasavu with  $17.1^{\circ}\text{C}$ , Labasa Airfield with  $18.1^{\circ}\text{C}$ , Rarawai Mill (Ba) with  $18.3^{\circ}\text{C}$ , Seaqaqa and Sigatoka both with  $19.3^{\circ}\text{C}$ , Nacocolevu with  $19.4^{\circ}\text{C}$ , and Korolevu with  $19.7^{\circ}\text{C}$ . Consequently, on average, the warmest night-time temperatures were observed at Vaturekuka (Labasa) with  $31.1^{\circ}\text{C}$ , Rotuma with  $25.9^{\circ}\text{C}$ , Viwa with  $24.7^{\circ}\text{C}$ , RKS Lodoni and Vanua-balavu both with  $23.2^{\circ}\text{C}$ , and Saqani with  $23.1^{\circ}\text{C}$ .

The coolest daily night-time temperatures were recorded during the last week of the month. The lowest night-time temperature of  $11.1^{\circ}\text{C}$  was recorded at Labasa Airport on the 30<sup>th</sup>, followed by Nadarivatu with  $11.3^{\circ}\text{C}$  on the 28<sup>th</sup>, Seaqaqa with  $11.9^{\circ}\text{C}$  on the 30<sup>th</sup>, Wainikoro with  $12.9^{\circ}\text{C}$  on the 29<sup>th</sup>, and Rarawai Mill (Ba) with  $13.2^{\circ}\text{C}$  on the 28<sup>th</sup>. On the other hand, the warmest night-time temperature of  $28.3^{\circ}\text{C}$  was recorded at Viwa on the 17<sup>th</sup>, followed by Rotuma with  $27.5^{\circ}\text{C}$  on the 5<sup>th</sup>, RKS Lodoni with  $26.2^{\circ}\text{C}$  on the 16<sup>th</sup>, and Laucala Bay (Suva) with  $26.0^{\circ}\text{C}$  on the 22<sup>nd</sup>.

Monasavu recorded its daily highest minimum temperature of  $20.5^{\circ}\text{C}$  on the 17<sup>th</sup>, since observation began in 1980 (Table 1).

**TABLE 1. CLIMATE RECORDS ESTABLISHED IN JULY 2024**

<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	Nabouwalu	$32.7^{\circ}\text{C}$	5 <sup>th</sup>	New High	$32.0^{\circ}\text{C}$	1976	1956
Daily Minimum Temperature	Monasavu	$20.5^{\circ}\text{C}$	17 <sup>th</sup>	New High	$20.0^{\circ}\text{C}$	2018	1980

*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 1991-2020 period as its “climatic normal” period.*

**TABLE 2. DAILY CLIMATE REPORTING SITES: SUMMARY FOR JULY 2024**

	RAINFALL				AIR TEMPERATURES						SUNSHINE		
	TOTAL	RAIN		MAX. FALL	AVERAGE DAILY			EXTREME			TOTAL		
	MM	%	* DAYS +	MM ON	MAX. C	# C	MIN. C	# C	MAX. C	MIN. C	HRS	%	
NADI AIRPORT	49.4	98	5	20 25	29.7	1.2	20.0	0.9	33.5	6	15.7	31	242 111
LAUCALA BAY	57.4	43	18	10 20	27.6	0.5	23.0	1.7	31.0	16	21.0	2	132 99
NACOCOLEVU RESEARC	87.4	129	11	31 5	28.1	0.1	19.4	1.2	32.3	19	13.8	29	191 145
ROTUMA ISLAND (AWS)	308.5	117	14	124 12	30.4	-0.7	25.9	0.8	32.2	26	24.1	13	
VIWA ISLAND (AWS)	51.0	28	6	28 5	30.4	-0.8	24.7	0.0	32.4	4	20.7	29	
YASAWA-I-RARA (AWS)	33.5	20	4	16 24	29.1	-1.9	22.3	-1.8	32.1	20	19.1	28	
UDU POINT WEATHER	101.9	129	13	30 25	28.9	0.7	21.9	-0.8	31.0	20	19.5	30	
NABOUWALU	79.9	94	13	28 15	27.8	0.8	22.0	-0.2	32.7	5	17.0	28	
LABASA AIRFIELD	11.1	24	8	4 26	30.1	0.3	18.1	-0.3	33.1	5	11.1	30	
SAVUSAVU AIRFIELD	50.1	66	18	22 2	27.6	0.4	22.4	0.9	31.0	16	19.4	31	
KORONIVIA RESEARCH	73.7	54	16	20 20	27.9	0.9	21.4	1.4	30.8	16	16.7	29	
NAUSORI AIRPORT	44.2	34	15	17 15	27.7	1.1	21.5	1.6	30.5	17	15.4	29	
NAVUA (AWS)	229.0	57	22	47 15	27.8	-1.7	20.6	-1.9	32.4	19	16.2	31	
MONASAVU HYDRO DAM	196.5	101	22	38 10	22.3	0.9	17.1	1.4	26.5	18	13.4	30	
FSC LAUTOKA MILL	68.5	140	3	33 20	29.9	1.1	19.8	0.0	34.1	5	16.0	30	
FSC RARAWAI MILL	51.2	121	4	23 25	U/S		18.3	0.8	U/S		13.2	28	
FSC PENANG MILL	33.3	79	11	14 5	28.8	0.8	21.9	1.4	32.2	10	15.7	29	
MATEI AIRFIELD	57.4	63	10	21 7	28.1	0.6	20.8	-1.3	29.6	5	17.1	28	
VANUABALAVU (AWS)	20.5	10	10	5 25	27.5	-2.4	23.2	-1.1	30.5	20	20.0	31	
LAKEBA	29.7	34	6	25 26	28.0	1.2	21.0	-0.3	30.4	22	16.5	30	
VUNISEA	100.9	97	15	34 25	27.6	1.5	21.2	0.8	30.2	16	18.0	29	
MATUKU	97.4	117	20	21 5	27.1	0.3	22.3	0.9	30.8	5	20.8	11	
ONO-I-LAU	99.2	113	15	60 25	26.6	1.3	U/S		30.0	5	U/S		
YAQARA AWS	24.0	14	4	11 5	29.8		22.1		32.8	18	14.8	28	
LEVUKA AWS	5.0		6	3 15	U/S		U/S		U/S		U/S		
KEIYASI AWS	59.5		7	32 20	U/S		U/S		U/S		U/S		
LOMAIVUNA AWS	U/S				U/S		U/S		U/S		U/S		
NADARIVATU AWS	47.5		11	20 5	23.2		16.2		27.0	18	11.3	28	
RKS LODONI AWS	91.5		14	32 20	30.5		23.2		33.8	20	17.9	29	
MOMI AWS	62.5		5	30 25	28.9		20.9		31.4	18	17.0	29	
SIGATOKA AWS	10.0		5	4 7	28.4		19.3		32.0	19	14.4	31	
VATUREKUKA AWS	14.5			7 2	28.2		19.9		31.1	20	13.3	30	
KOROLEVU AWS	117.0		12	44 5	27.4		19.7		30.1	5	15.4	31	
WAINIKORO AWS	14.5		12	4 16	28.8		20.8		31.8	20	12.9	29	
SAQANI AWS	U/S				29.8		23.1		31.4	23	19.5	29	
SEAQAQA AWS	8.0	3	3	7 25	30.4		19.3		33.0	18	11.9	30	
DOBUILEVU TB3	42.0	15	14	17 15									
NASINU TB3	67.0		12	25 20									
TAVUA TB3	27.5	14	3	14 25									

	TEMPERATURE( C)				HUMIDITY		WIND	
	DRY		WET		RH%	VP	(AVERAGE AT 9AM)	
	MEAN						KT	
NADI AIRPORT	24.9	24.5	21.5	75	23.0	7.2		
LAUCALA BAY	25.3	25.6	22.7	78	24.5			
NACOCOLEVU RESEARC	23.7	24.4	22.2	83	22.9			
ROTUMA ISLAND	28.2							
VIWA ISLAND	27.6							
YASAWA-I-RARA	25.7							
UDU POINT WEATHER	25.4	26.5	24.3	84	25.9			
NABOUWALU	24.9	25.5	22.7	78	24.4			
LABASA AIRFIELD	24.1	25.8	22.9	78	24.8	12.7		
SAVUSAVU AIRFIELD	25.0	25.5	22.8	80	24.4	8.7		
KORONIVIA RESEARCH	24.6	24.8	23.5	90	23.4			
NAUSORI AIRPORT	24.6	25.0	22.6	81	23.7	6.3		
NAVUA (AWS)	24.2							
MONASAVU HYDRO DAM	19.7	19.2	18.7	96	16.6			
FSC LAUTOKA MILL	24.9	24.6	23.5	92	23.1			
FSC RARAWAI MILL	U/S	25.5	23.5	85	24.4			
FSC PENANG MILL	25.3	26.0	22.8	77	25.1			
MATEI AIRFIELD	24.4	26.2	23.4	79	25.4	14.0		
VANUABALAVU								
LAKEBA	24.5	26.0	23.3	80	25.1			
VUNISEA	24.4	25.1	22.4	80	23.8			
MATUKU	24.7	25.1	22.2	78	23.8			

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 (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 (July 2023 - July 2024)

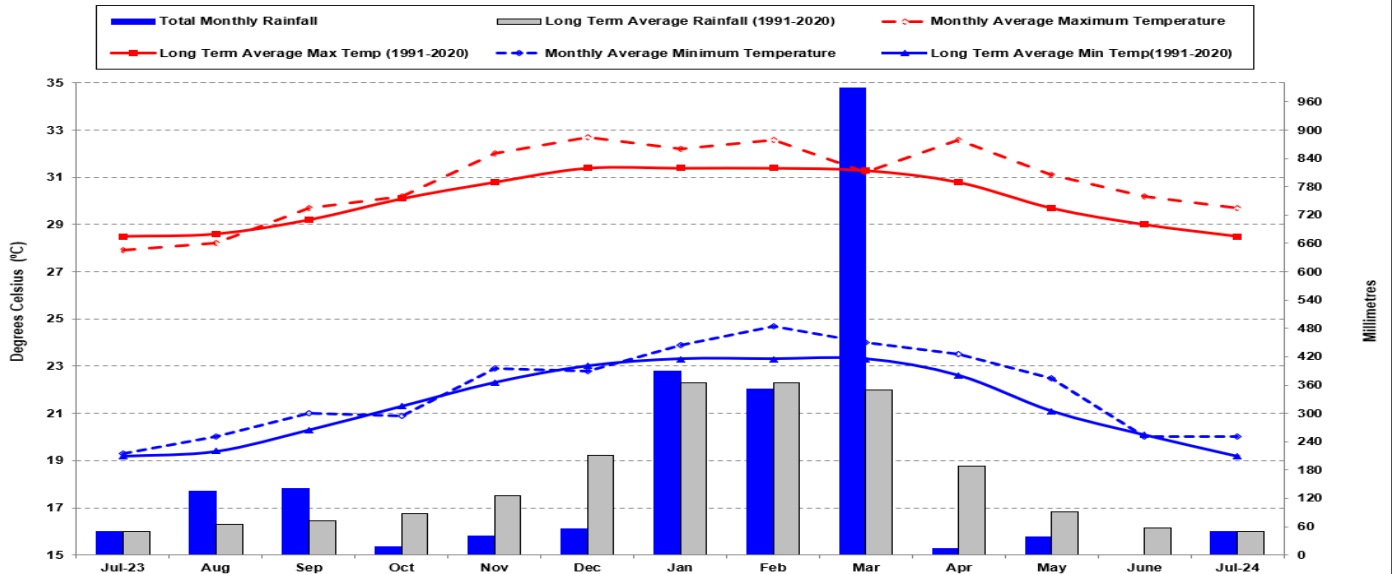


Figure 3

Laucala Bay - (Suva) (Central Division) - Temperature & Rainfall Records for the last 13 Months (July 2023 - July 2024)

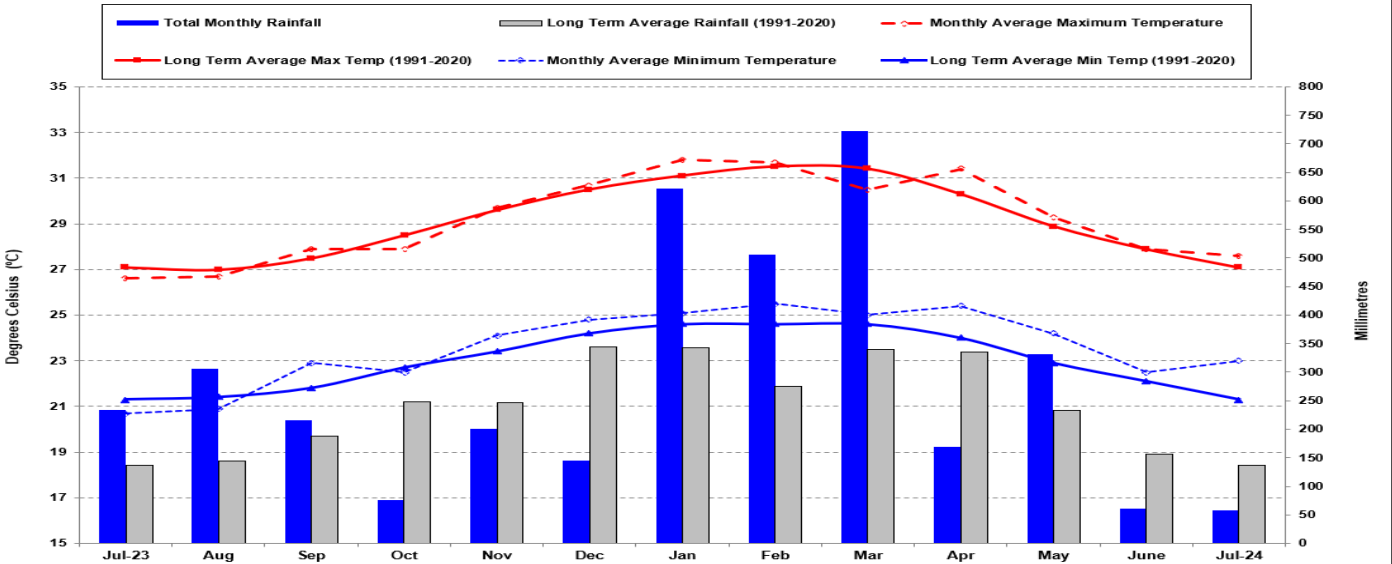


Figure 4

Udu Point (Eastern Division) - Temperature & Rainfall Records for the last 13 Months (July 2023 - July 2024)

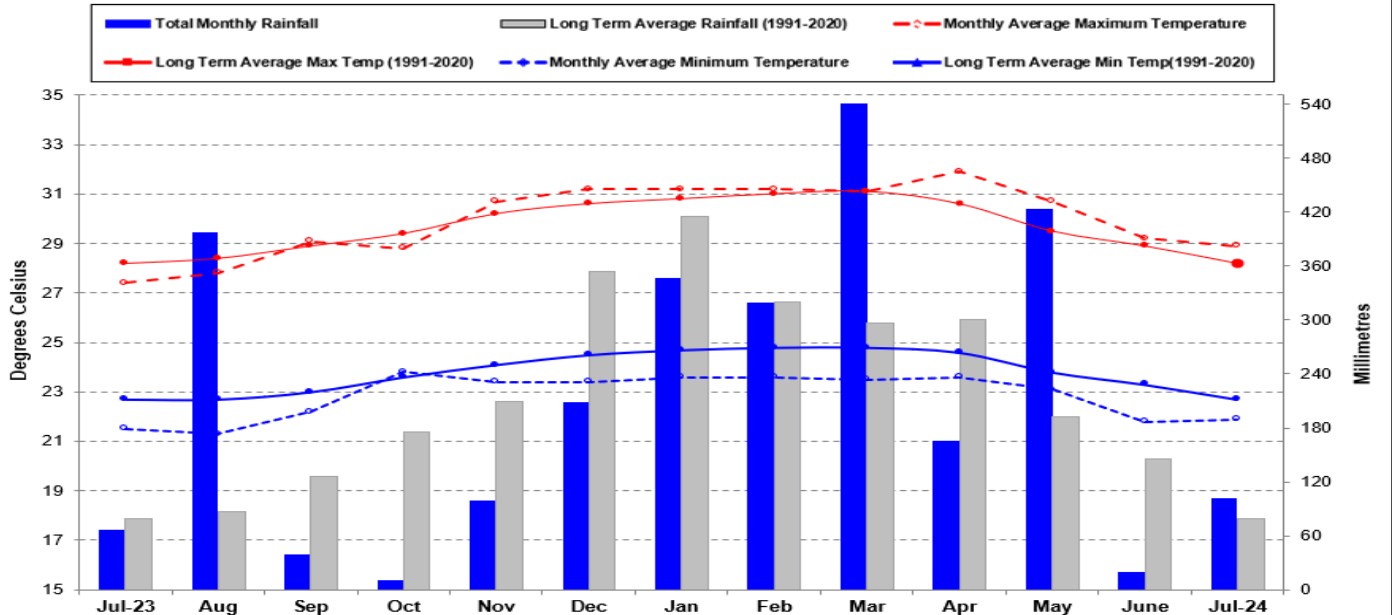
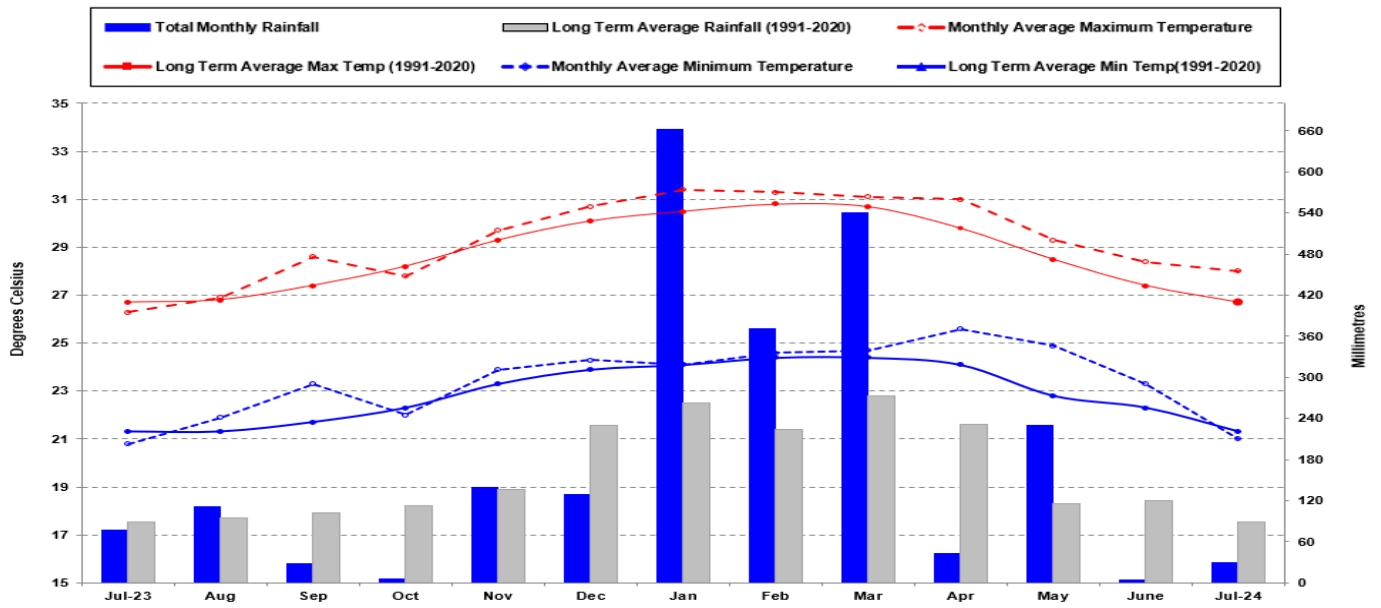


Figure 5

Lakeba (Eastern Division) - Temperature & Rainfall Records for the last 13 Months (July 2023 - July 2024)



5. DAILY RAISED PAN EVAPORATION

Daily Evaporation for July 2024

Figure 6

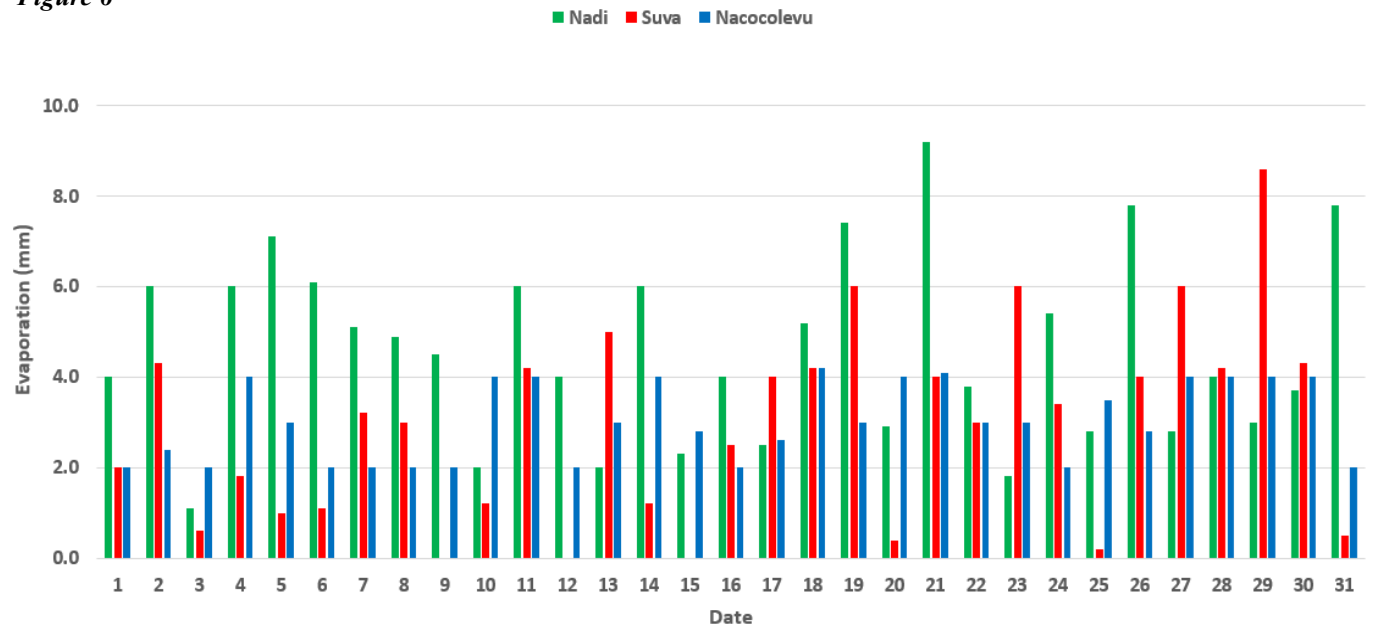


Figure 6: The total monthly raised pan evaporation at Nadi Airport, Laucala Bay (Suva) and Nacocolevu (Sigatoka) were 141.1mm, 89.9mm and 93.4mm, respectively. Nadi’s highest daily evaporation was 9.2mm on the 21<sup>st</sup> with Suva’s highest daily evaporation of 8.6mm on the 29<sup>th</sup>, and Nacocolevu (Sigatoka) recorded its highest of 4.2mm on the 18<sup>th</sup>.

6. SOLAR RADIATION

The Nadi solar radiation instrument was unserviceable during the month of July 2024.

7. WIND SUMMARY

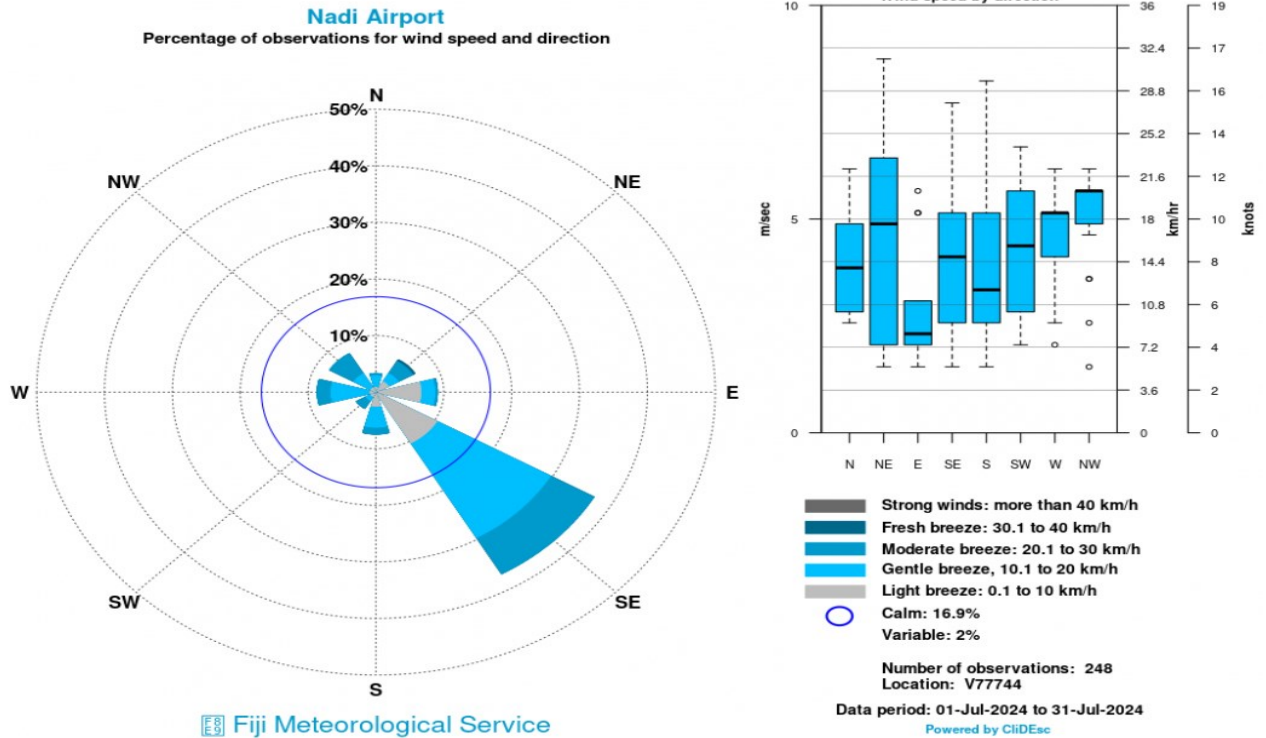


Figure 7a: Looking at Nadi’s 3 hourly observations, southeasterly winds were most dominant during the month, followed by easterly and then westerly winds. Wind strength ranged from light to fresh breeze, while 16.9% observations accounted for calm winds.

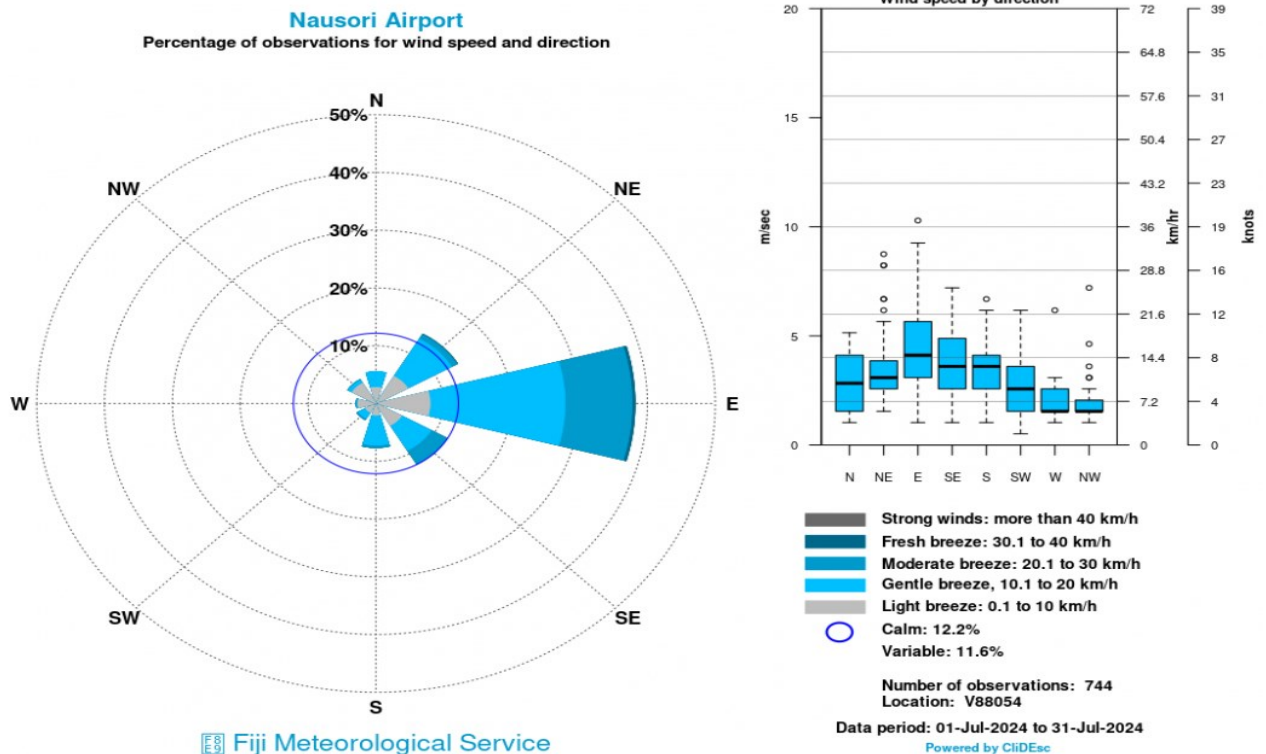
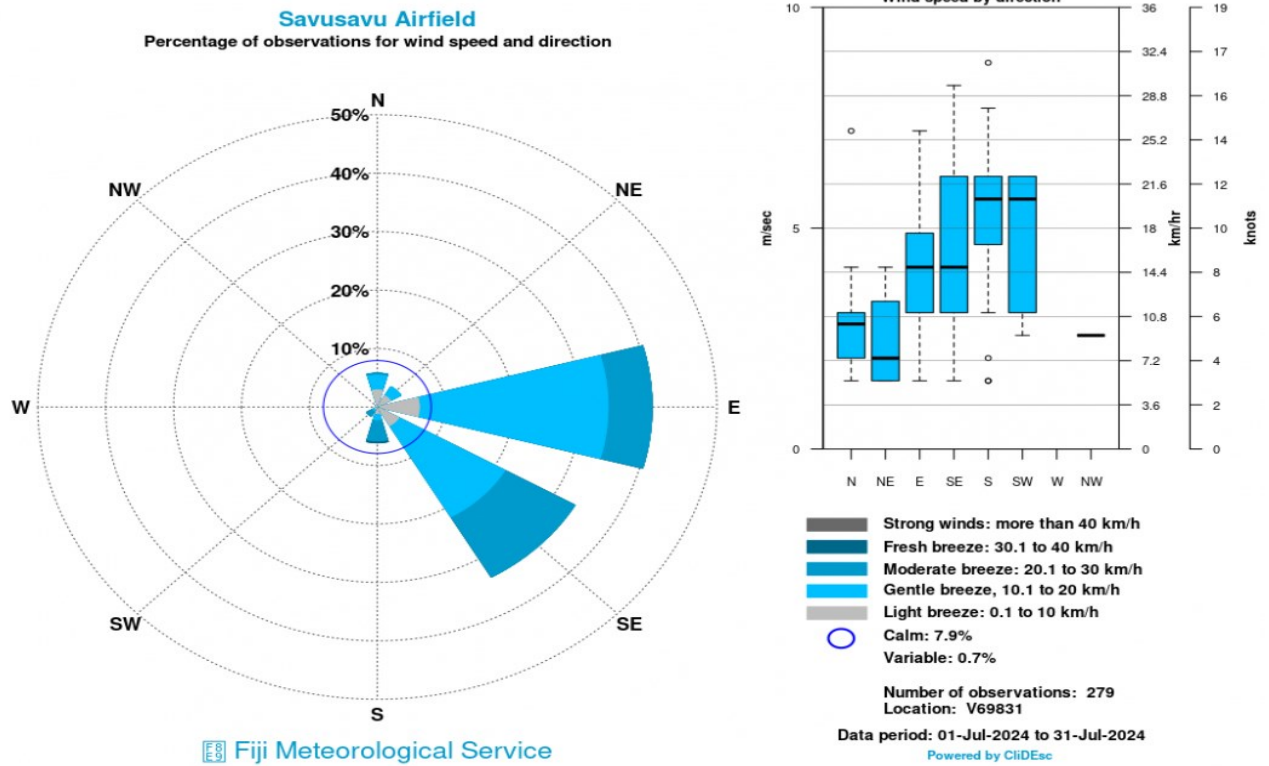
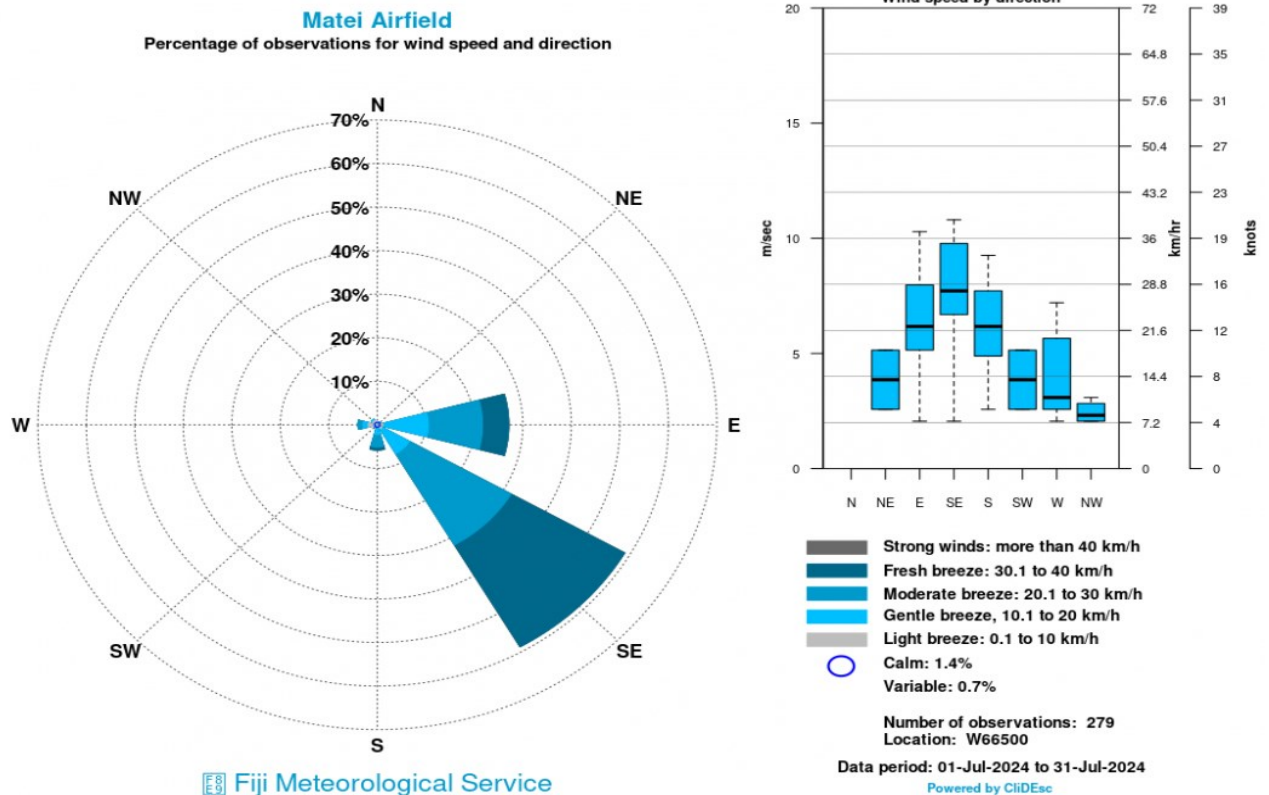


Figure 7b: For Nausori Airport’s hourly wind observations, easterly winds were most dominant during the month, followed by northeasterly and then southeasterly winds. Wind strength ranged from light to moderate breeze, while 12.2% observations accounted for calm winds.



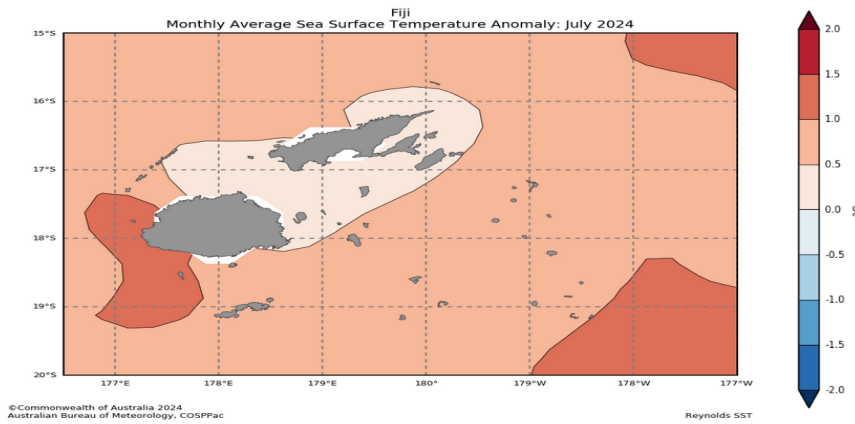
**Figure 7c:** For Savusavu Airfield’s hourly observations (0800hrs to 1600hrs), easterly winds were most dominant during the month, followed by southeasterly and then southerly winds. Wind strength ranged from light to fresh breeze, with calm winds observed 7.9% of the time.



**Figure 7d:** For Matei Airfield’s hourly wind observations (0800hrs to 1600hrs), southeasterly winds were dominant followed by easterly and then southerly winds. Wind strength ranged from light to fresh winds, with calm winds observed 1.4% of the time.



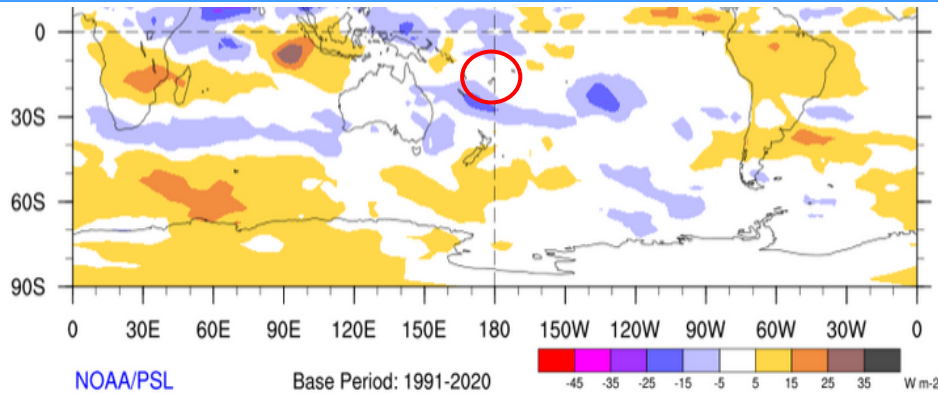
## 8. SEA SURFACE TEMPERATURE (SST)



**Figure 8:** Warmer than normal sea surface temperature anomalies were observed across most of the Fiji Waters, with anomalies 0.5-1.5°C.

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

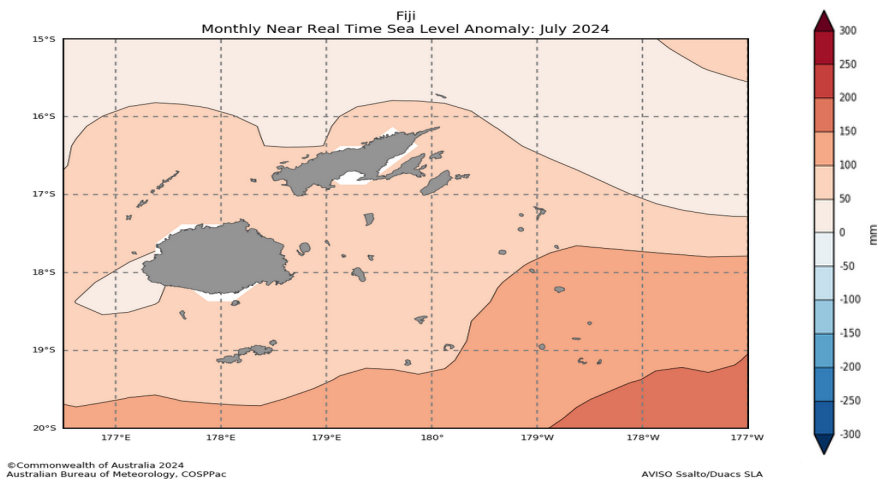
## 9. CLOUD COVER



**Figure 9:** Near normal cloud cover was present over the Fiji Group during July (Fiji in red circle).

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

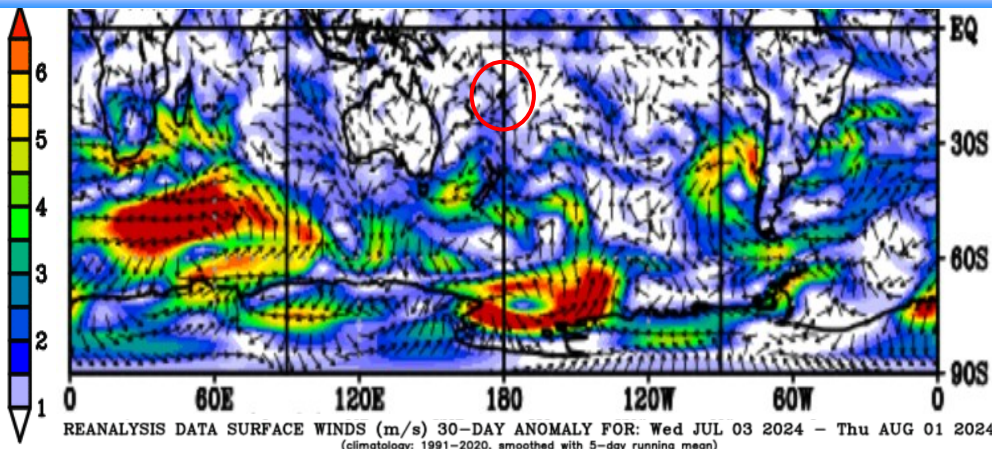
## 10. SEA LEVEL



**Figure 10:** Above normal sea level anomalies persisted across most of the Fiji Waters during July.

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

## 11. WIND ANOMALIES



**Figure 11:** Variable winds were observed over the Fiji Group during the month (base period: 1991-2020) (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)

## EXPLANATORY NOTES

**Anomalies** - denote the departure of an element (rainfall, temperature, sea surface temperature, cloud cover, sea level and wind) from its long-period average value for a particular location.

**Trough** - an elongated area of low atmospheric pressure that is associated with a cyclone, or low. Sometimes referred to as a 'trough of low pressure'.

**Rain** - Liquid precipitation in the form of water droplets. Rain falls from dense, continuous clouds, called 'stratiform' clouds.

**Shower** - precipitation from individual clouds, often characterised by the sudden beginning or ending. Showers fall from 'lumpy looking', 'cauliflower' clouds, called 'cumuloform' clouds.

**Trade Winds** - the trade winds are the east to southeasterly winds (in the Southern Hemisphere) which affect tropical and subtropical regions.

**High pressure systems** or anticyclones are atmospheric circulations that rotate anti-clockwise in the Southern Hemisphere. Anticyclones are areas of higher pressure and are generally associated with lighter winds and fine and settled conditions.

**Low pressure systems** or mid-latitude cyclones are atmospheric circulations that rotate clockwise in the Southern Hemisphere (anti-clockwise in the Northern Hemisphere). Cyclones are areas of lower pressure and generally associated with stronger winds, unsettled conditions, cloudiness and rainfall.

**Sea Surface Temperature (SST)** - the temperature of the water's surface. It is usually measured using buoys, ship data, and satellites.