



## 1. IN BRIEF

A bit of relief were observed in the Central Division, with stations recording *average to well above average* rainfall. However, suppressed rainfall continued in the Northern and Eastern Divisions and most parts of the Western Division. A trough affected the country during the second week of the month, resulting in some significant rainfall events especially in Central Division.

Overall, out of the 21 rainfall monitoring stations, 5 recorded *well below average* rainfall, 9 *below average*, 5 *average*, and 2 with *well above average* rainfall (Table 2, Figures 1-5).

Widespread rainfall were experienced on the 4<sup>th</sup>, with the highest 24-hour rainfall of 218mm and 199mm at Koronivia and Nausori Airport respectively. In addition, a trough lingered over the group from the 9<sup>th</sup> until the 11<sup>th</sup>, resulting in 176.0mm of rainfall recorded at Koronivia on the 10<sup>th</sup>.

On temperatures, the highest day-time air temperature during the month was registered at Keiyasi with 35.4° on the 29<sup>th</sup>, followed by Yasawa-i-Rara with 35.1°C on the 17<sup>th</sup>, Rarawai Mill (Ba) with 35.0°C on the 19<sup>th</sup> and Viwa and RKS Lodoni both with 32.0°C on the 8<sup>th</sup> and 14<sup>th</sup>, respectively.

## 2. WEATHER PATTERNS

The month of October was dominated by dry spells.

The month began with a high-pressure system to the far south of Fiji directing an easterly wind flow over the Fiji Group.

The high drifted to the far southeast and a trough to the north of Fiji drifted onto the group moistening the easterlies over the group on the 3<sup>rd</sup>. Showers were experienced over most places with the highest rainfall recorded at Nausori station of 198.8mm/24hrs on the 4<sup>th</sup>.

A trough then approached the group from the west on the 6<sup>th</sup> which directed a northeasterly wind flow over the country till the 8<sup>th</sup>. The trough lingered over the group from the 9<sup>th</sup> till the 11<sup>th</sup> and this further enhanced the trade showers over the group. The highest rainfall was recorded at Koronivia station on the 10<sup>th</sup> of 176.0mm/24hrs.

New mean monthly maximum air temperatures for October were set at Lautoka Mill and Koronivia since observations began in 1905 and 1950, respectively (Table 1).

The coolest night-time temperatures were recorded during the second week of the month. The lowest daily minimum air temperature of 10.2°C was recorded at Nadarivatu, followed by Monasavu with 12.5°C, Wainikoro with 14.8°C, Vaturekuka (Labasa) with 15.1°, all on the 13<sup>th</sup> and Udu Point and Lomaivuna with 15.7°C, both on the 12<sup>th</sup>. Udu Point recorded a new lowest daily night-time temperature since observations began in 1946 (Table 1).

Winds in the southeasterly wind quadrant were dominant at Nadi Airport while winds in the easterly wind quadrant were dominant at Nausori Airport during the month, both at light to moderate strength (Figure 8).

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

A high-pressure system followed the trough and directed dry southeasterly wind flow over Fiji which brought a spell of dry weather over the country.

Another trough approached Fiji from the west on the 15<sup>th</sup> and gradually moistened the easterlies over the group. The trade showers prevailed till the 20<sup>th</sup> before another high-pressure system to the far south of Fiji directed a dry easterly wind flow over the group.

Another trough approached Fiji from the west on the 26<sup>th</sup> which slightly moistened the easterlies over the group but the high-pressure system continued to dominate and directed dry easterly wind flow till month end.

Rotuma was affected by few troughs which brought cloudy periods and showers over the island but was dominated with a dry easterly wind flow for most parts of the month.

### 3. RAINFALL

Suppressed rainfall continued to be experienced in the Northern, Eastern Divisions, together with most parts of the Western Division. The rest of the country received *average to well above average* rainfall. Trough affected the group during the second week of the month, resulting in some significant rainfall events especially in the Central Division.

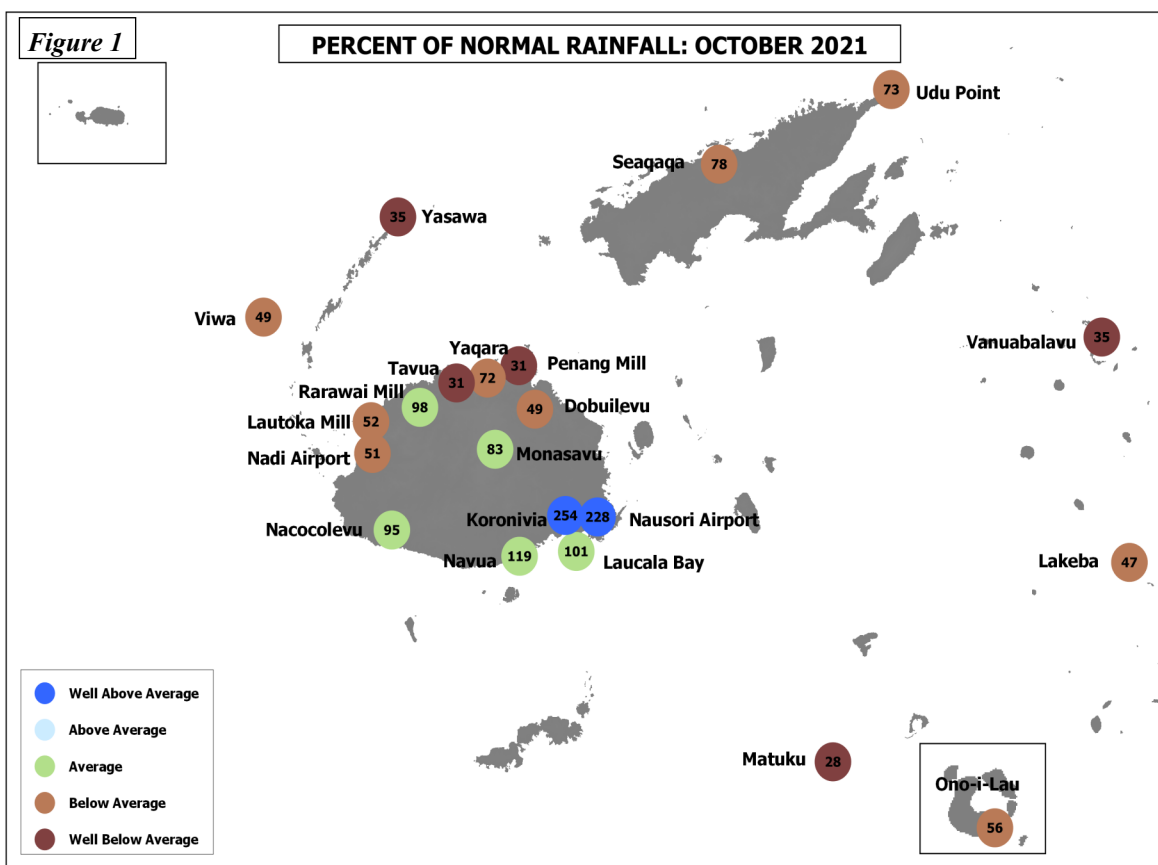
Overall, out of the 21 rainfall monitoring stations, 5 recorded *well below average* rainfall, 9 *below average*, 5 *average*, while Nausori Airport and Koronivia were the only 2 stations with *well above average* rainfall (Table 2, Figures 1-5).

The driest site during the month was at Wainikoro with 10.5mm rainfall, followed by Tavua with 18.0mm, Matuku with 24.0mm, Yasawa-i-Rara with 26.3mm, Penang Mill with 28.1mm, Momi with 29.0mm, Viwa with 33.5mm, Ellington (Ra) with 34.5mm, Ono-i-Lau with 37.6mm, Nadi Airport with 40.5 and Lautoka Mill with 41mm. On the other hand, the highest total monthly rainfall was recorded at Koronivia with 520.2mm, followed by Nausori Airport with 442.6mm, Navua with 321.0mm, Monasavu with 280.4mm, Lomaivuna with 252.5mm, Laucala Bay (Suva) with 211.5mm, RKS Lodonni with 209.0mm, Keiyasi with 132.5mm and Nadarivatu with 128.0mm.

Widespread rainfall were experienced on the 4<sup>th</sup>, with the highest 24-hour rainfall of 218mm and 199mm at Koronivia and Nausori Airport respectively. In addition, a trough lingered over the group from the 9<sup>th</sup> until the 11<sup>th</sup>, resulting in another more than 100mm of rainfall at Koronivia (176.0mm) on the 10<sup>th</sup>.

Lomaivuna and Monasavu both recorded their highest number of rain days (rainfall  $\geq 0.1$ mm) with 18 days, followed by Ono-i-Lau and Udu Point both with 13 days, Dobuilevu, Keiyasi, RKS Lodonni, Nausori Airport and Koronivia all with 12 days, and Laucala bay (Suva) and Navua both with 11 days. On the other hand, Yasawa-i-Rara and Tavua recorded the least number of rain days with 3 days, followed by Lautoka Mill, Viwa and Momi all with 4 days, Nasinu and Wainikoro both with 5 days, and Levuka and Yaqara both with 6 days.

There was no new rainfall record established during the month.



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

Generally above normal day time air temperatures were observed at most parts of Fiji during the month. Out of the 16 climate stations, 14 recorded anomalies  $\geq +0.5^{\circ}\text{C}$ , while Udu Point and Vanuabalavu were the only 2 stations recording anomalies within  $\pm 0.5^{\circ}\text{C}$ .

The warmest days on average were recorded at Keiyasi with  $33.0^{\circ}\text{C}$ , followed by Viwa with  $32.9^{\circ}\text{C}$ , Yasawa-i-Rara with  $32.7^{\circ}\text{C}$ , Rarawai Mill (Ba) and Yaqara both with  $32.6^{\circ}\text{C}$ , and Ellington (Ra) with  $32.3^{\circ}\text{C}$ . On the other hand, Monasavu recorded the coolest days on average with  $24.4^{\circ}\text{C}$ , followed by Nadarivatu with  $25.9^{\circ}\text{C}$ , Ono-i-Lau with  $27.7^{\circ}\text{C}$ , Vanuabalavu with  $28.5^{\circ}\text{C}$ , Udu Point with  $29.3^{\circ}\text{C}$ , and Laucala Bay (Suva), Koronivia and Lakeba, all with  $29.4^{\circ}\text{C}$ .

The highest day-time temperature during the month was registered at Keiyasi with  $35.4^{\circ}$  on the 29<sup>th</sup>, followed by Yasawa-i-Rara with  $35.1^{\circ}\text{C}$  on the 17<sup>th</sup>, Rarawai Mill (Ba) with  $35.0^{\circ}\text{C}$  on the 19<sup>th</sup> and Viwa and RKS Lodonni both with  $32.0^{\circ}\text{C}$  on the 8<sup>th</sup> and 14<sup>th</sup>, respectively. In contrast, the coolest daytime air temperature of  $19.5^{\circ}\text{C}$  was at Monasavu, followed by Nadarivatu with  $21.2^{\circ}\text{C}$ , Lomaivuna with  $22.9^{\circ}\text{C}$ , RKS Lodonni with  $23.5^{\circ}\text{C}$  and Saqani with  $24.9^{\circ}\text{C}$ , all on the 2<sup>nd</sup> respectively.

New mean monthly maximum air temperatures for October were set at Lautoka Mill and Koronivia since observations began in 1905 and 1950, 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 17 stations, 15 recorded anomalies  $\geq +0.5^{\circ}\text{C}$ , 1 within  $\pm 0.5^{\circ}\text{C}$ , and 1 registered anomaly  $\leq - 0.5^{\circ}\text{C}$ .

The coolest days on average was at Nadarivatu with a mean monthly average of  $16.5^{\circ}\text{C}$ , followed by Monasavu with  $17.3^{\circ}\text{C}$ , Keiyasi with  $19.3^{\circ}\text{C}$ , Lomaivuna with  $19.6^{\circ}\text{C}$  and Nococolevu with  $20.2^{\circ}\text{C}$ . On the other hand, the warmest night time temperatures on average were observed at Ellington (Ra) with  $26.2^{\circ}\text{C}$ , followed by Viwa with  $25.2^{\circ}\text{C}$ , Levuka with  $24.5^{\circ}\text{C}$  and Saqani with  $23.4^{\circ}\text{C}$ .

The coolest night-time temperatures were recorded during the second week of the month. The lowest daily minimum air temperature of  $10.2^{\circ}\text{C}$  was recorded at Nadarivatu, followed by Monasavu with  $12.5^{\circ}\text{C}$ , Wainikoro with  $14.8^{\circ}\text{C}$  and Vaturekuka (Labasa) with  $15.1^{\circ}\text{C}$ , all on the 13<sup>th</sup>, and Udu Point and Lomaivuna with  $15.7^{\circ}\text{C}$ , both on the 12<sup>th</sup>. On the other hand, the warmest night time temperature of  $24.9^{\circ}\text{C}$  was recorded at Saqani on the 17<sup>th</sup>, followed by Ellington (Ra) with  $27.5^{\circ}\text{C}$  on the 23<sup>rd</sup>, Wainikoro with  $27.1^{\circ}\text{C}$  on the 17<sup>th</sup>, Korolevu with  $26.6^{\circ}\text{C}$  on the 5<sup>th</sup>, and Viwa with  $25.9^{\circ}\text{C}$  on the 29<sup>th</sup>.

Udu Point recorded a new lowest daily night-time temperature since observations began in 1946 (Table 1).

**TABLE 1. CLIMATE RECORDS ESTABLISHED IN OCTOBER 2021**

<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 Minimum Temperature	Udu Point	$15.7^{\circ}\text{C}$	12 <sup>th</sup>	New Low	$17.3^{\circ}\text{C}$	1994	1946
Mean Monthly Max Temperature	Lautoka Mill	$32.0^{\circ}\text{C}$	-	New High	$31.3^{\circ}\text{C}$	1932	1905
Mean Monthly Max Temperature	Koronivia	$29.4^{\circ}\text{C}$	-	New High	$29.2^{\circ}\text{C}$	1974 1975	1950

*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 OCTOBER 2021**

	RAINFALL					AIR TEMPERATURES								SUNSHINE	
	TOTAL	RAIN		MAX.		AVERAGE DAILY				EXTREME				TOTAL	
	MM	* %	DAYS +	FALL MM	ON	MAX. C	# C	MIN. C	# C	MAX. C	ON	MIN. C	ON	HRS	*
NADI AIRPORT	40.5	51	7	17	3	31.2	1.1	22.2	1.4	33.2	4	19.5	12	275	117
LAUCALA BAY	211.5	101	11	70	3	29.4	1.0	23.2	1.1	31.4	16	21.1	13	225	136
NACOCOLEVU RESEARC	79.1	95	9	23	7	30.1	0.8	20.2	0.7	32.4	4	16.0	12	175	103
ROTUMA ISLAND	OBSERVER ON LEAVE														
VIWA ISLAND (AWS)	33.5	49	4	31	10	32.9	3.2	25.2	1.5	34.5	8	22.6	11		
YASAWA-I-RARA	26.3	35	3	22	3	32.7	3.2	22.7	-0.2	35.1	17	21.0	12		
UDU POINT WEATHER	105.8	73	13	31	1	29.3	-0.1	22.3	-0.9	30.6	7	15.7	12		
KORONIVIA RESEARCH	520.2	254	12	218	4	29.4	1.6	21.7	0.9	31.2	16	17.6	16		
NAUSORI AIRPORT	442.6	228	12	199	4	29.5	1.9	21.7	0.7	31.1	16	17.9	12		
NAVUA (AWS)	321.0	119	11	160	8	30.1	2.3	21.5	1.6	31.8	29	17.0	13		
MONASAVU HYDRO DAM	280.4	83	18	52	6	24.4	1.4	17.3	0.8	27.0	26	12.5	13		
FSC LAUTOKA MILL	41.0	52	4	29	3	32.0	2.2	22.3	0.7	33.5	21	19.5	12		
FSC RARAWAI MILL	77.4	98	7	47	30	32.6	1.3	20.7	1.1	35.0	19	16.7	13		
FSC PENANG MILL	28.1	31	8	16	3	30.6	1.2	22.6	0.5	32.5	29	17.0	13		
VANUABALAVU (AWS)	47.0	35	9	38	3	28.5	0.3	21.4	1.2	29.9	15	21.6	4		
LAKEBA (AWS)	47.5	47	9	17	10	29.4	1.6	23.3	1.2	30.7	8	18.1	12		
VUNISEA	OBSERVER ON LEAVE														
MATUKU (AWS)	24.0	28	9	18	9	U/S		23.2	1.2	U/S		19.3	12		
ONO-I-LAU	37.6	56	13	13	7	27.7	1.1	22.0	0.8	30.0	8	19.5	13		
YAQARA AWS	41.5	72	6	19	8	32.6		23.2		34.4	8	23.2	13		
LEVUKA AWS	95.4		6	46	3	31.2		24.5		33.5	7	21.1	12		
KEIYASI AWS	132.5		12	47	10	33.0		19.3		35.4	29	15.2	12		
LOMAIVUNA AWS	252.5		18	75	10	30.2		19.6		33.1	16	15.7	12		
NADARIVATU AWS	128.0		9	25	10	25.9		16.5		28.7	31	10.2	13		
RKS LODONI AWS	209.0		12	60	4	30.1		21.2		34.5	14	16.9	12		
MOMI AWS	29.0		4	16	3	30.7		22.2		32.2	26	19.5	13		
SIGATOKA AWS	41.5		7	17	4	29.9		20.5		31.7	14	16.6	12		
ELLINGTON (RA) AWS	34.5		7	19	3	32.3		26.2		33.8	16	23.2	13		
VATUREKUKA AWS	43.0		9	22	3	30.6		20.5		32.7	8	15.1	13		
KOROLEVU AWS	119.5		8	44	4	29.9		21.2		32.7	29	16.7	13		
WAINIKORO AWS	10.5		5	5	4	30.9		20.8		32.6	8	14.8	13		
SAQANI AWS	105.5		9	85	4	31.6		23.4		32.9	30	20.4	13		
SEAQQA TB3	83.0	78	9	38	9										
DOBUILEVU TB3	66.0	49	12	24	3										
NASINU TB3	59.0		5	51	3										
TAVUA TB3	18.0	31	3	12	3										

	TEMPERATURE (C)		HUMIDITY		WIND	SUN RAD
	DRY	WET	RH%	VP		
	(AVERAGE AT 9AM)					
NADI AIRPORT	26.7	28.7	23.1	61	29.4	7.6
LAUCALA BAY	26.3	27.1	24.0	76	26.8	7.8
NACOCOLEVU RESEARC	25.1	28.2	24.5	74	28.6	
ROTUMA ISLAND	OBSERVER ON LEAVE					
VIWA ISLAND (AWS)	29.1					
YASAWA-I-RARA	27.7	29.8	25.2	69	31.4	
UDU POINT WEATHER	25.8	27.4	24.0	76	27.3	
KORONIVIA RESEARCH	25.2	26.9	23.5	75	26.5	
NAUSORI AIRPORT	25.6	26.7	23.5	76	26.2	6.6
NAVUA (AWS)	25.8					
MONASAVU HYDRO DAM	20.8	20.7	19.2	87	18.2	
FSC LAUTOKA MILL	27.2	29.7	24.1	63	31.2	
FSC RARAWAI MILL	26.6	28.8	23.3	63	29.6	
FSC PENANG MILL	26.6	27.4	23.4	72	27.3	
VANUABALAVU (AWS)	24.9					
LAKEBA (AWS)	26.4					
VUNISEA	OBSERVER ON LEAVE					
MATUKU (AWS)	U/S					
ONO-I-LAU	24.9	26.0	22.9	77	25.1	

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 (October 2020 - October 2021)

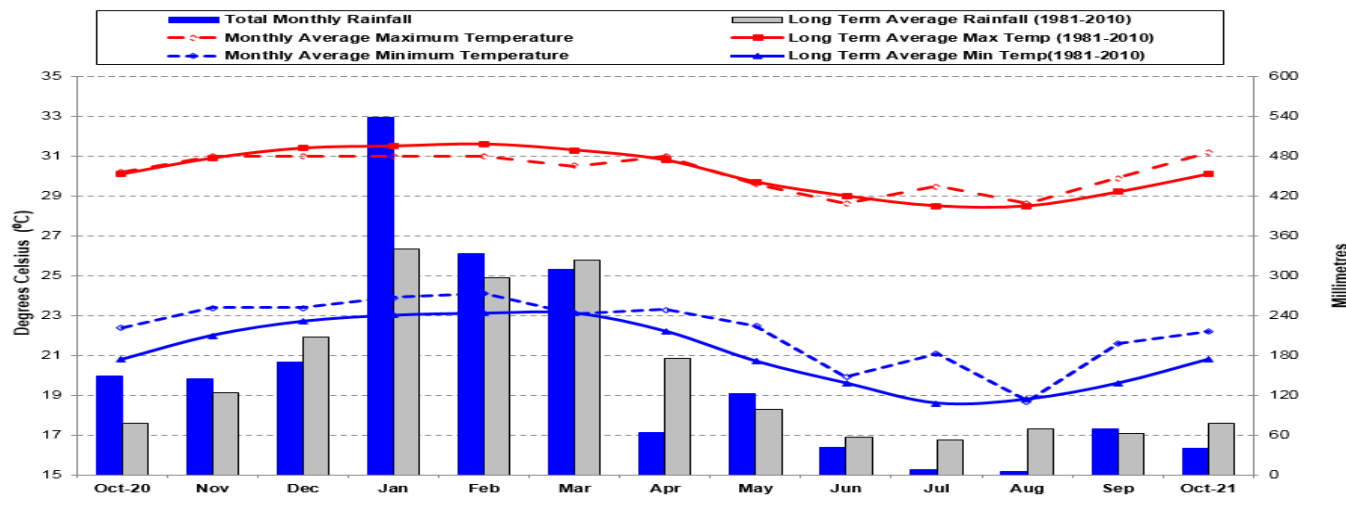


Figure 3

Laucala Bay - (Suva) (Central Division) - Temperature & Rainfall Records for the last 13 Months (October 2020 - October 2021)

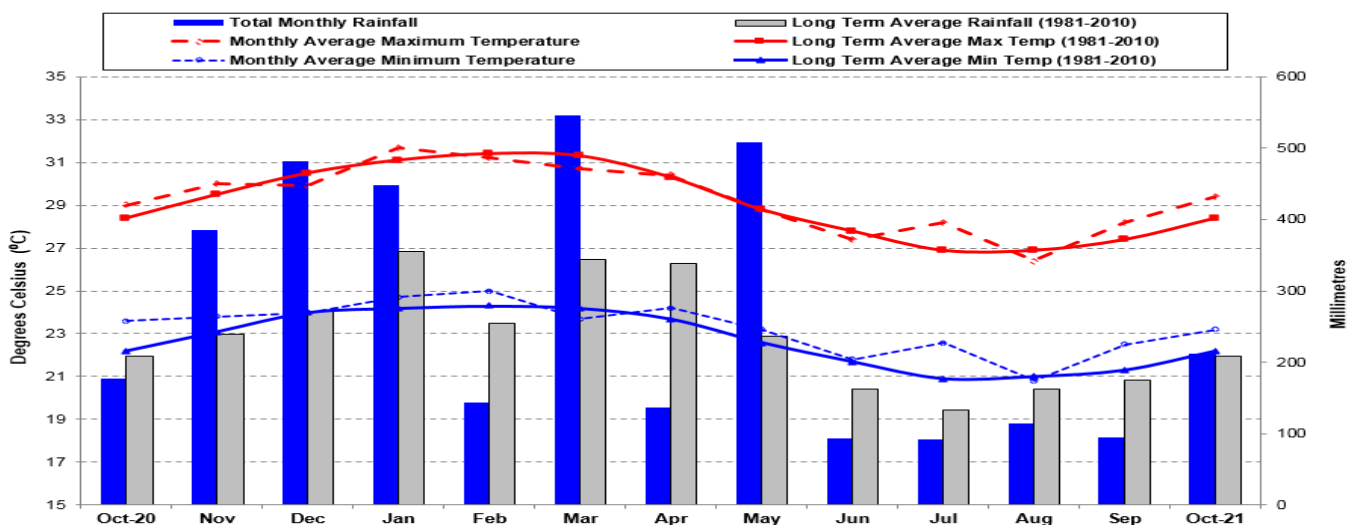


Figure 4

Udu Point (Eastern Division) - Temperature & Rainfall Records for the last 13 Months (October 2020 - October 2021)

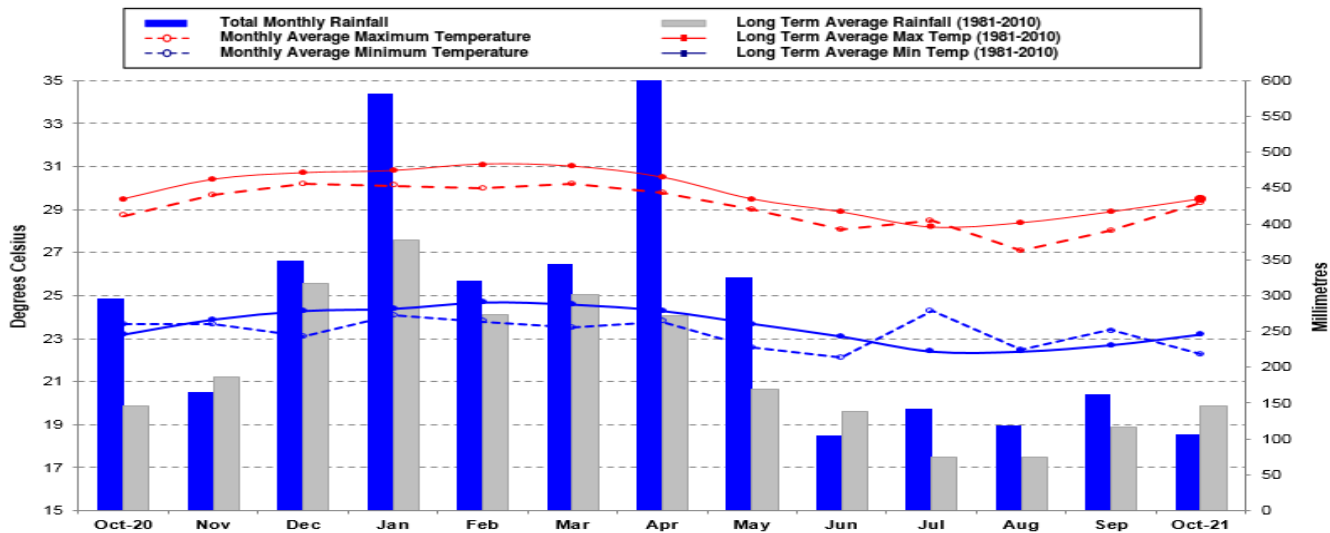
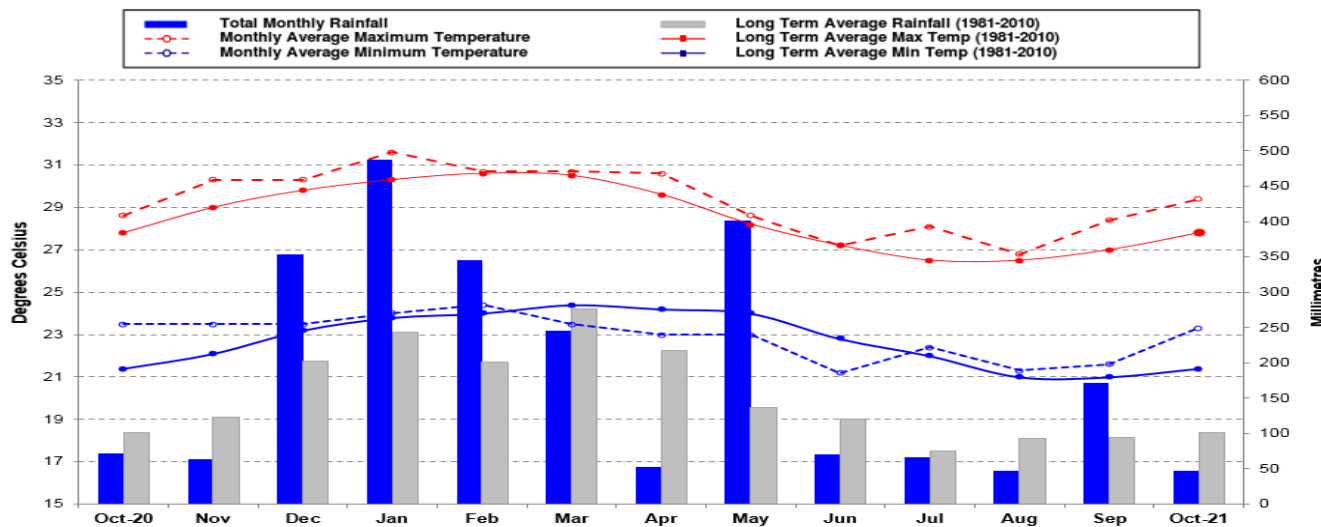


Figure 5

Lakeba (Eastern Division) - Temperature & Rainfall Records for the last 13 Months (October 2020 - October 2021)



### 5. DAILY RAISED PAN EVAPORATION

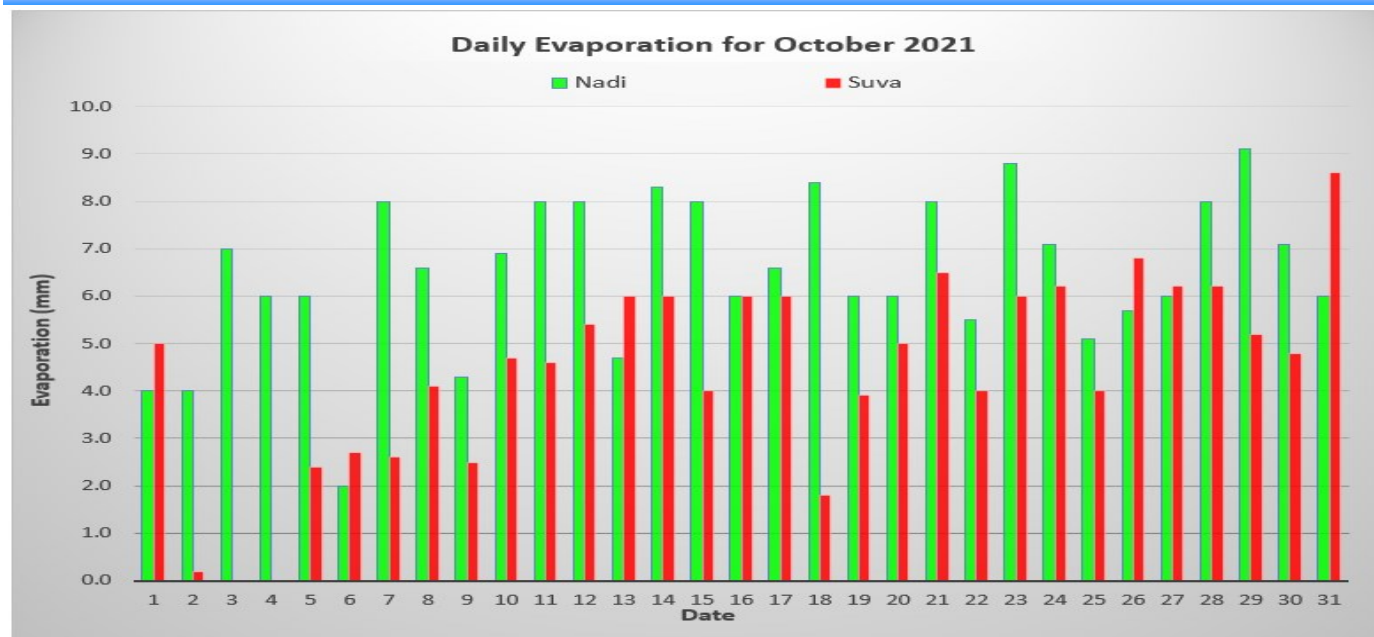


Figure 6: The total monthly evaporation at Nadi Airport and Laucala Bay (Suva) were 201.2mm and 137.4mm respectively. Nadi’s highest daily evaporation was 9.1mm on the 29<sup>th</sup>, with Suva’s highest daily evaporation of 8.6mm on the 31<sup>st</sup>. Note Nacocolevu’s evaporation could be analysed due to missing data.

### 6. SOLAR RADIATION

The Nadi solar radiation instrument became unserviceable during the month of October 2021.

7. WIND SUMMARY

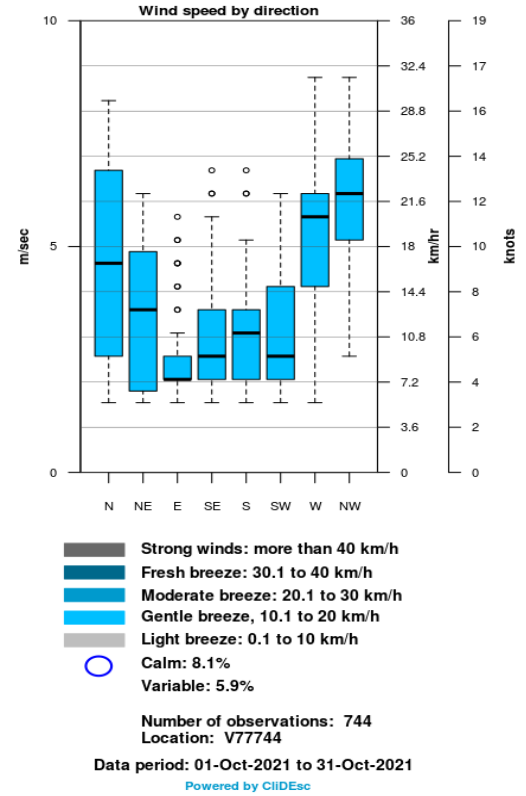
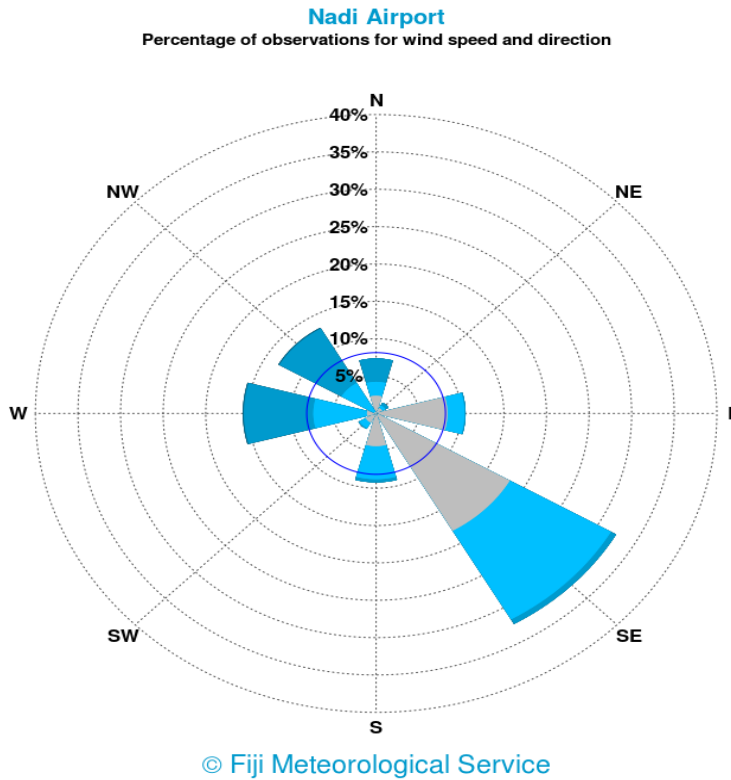


Figure 8a: Southeasterly winds were most dominant at Nadi Airport during the month, followed by westerly and northwesterly winds. Wind strength ranged from light to moderate breeze during this period.

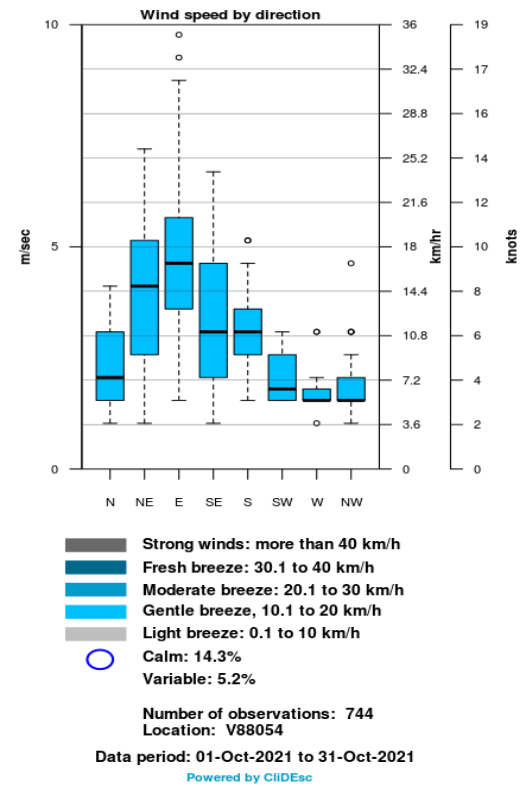
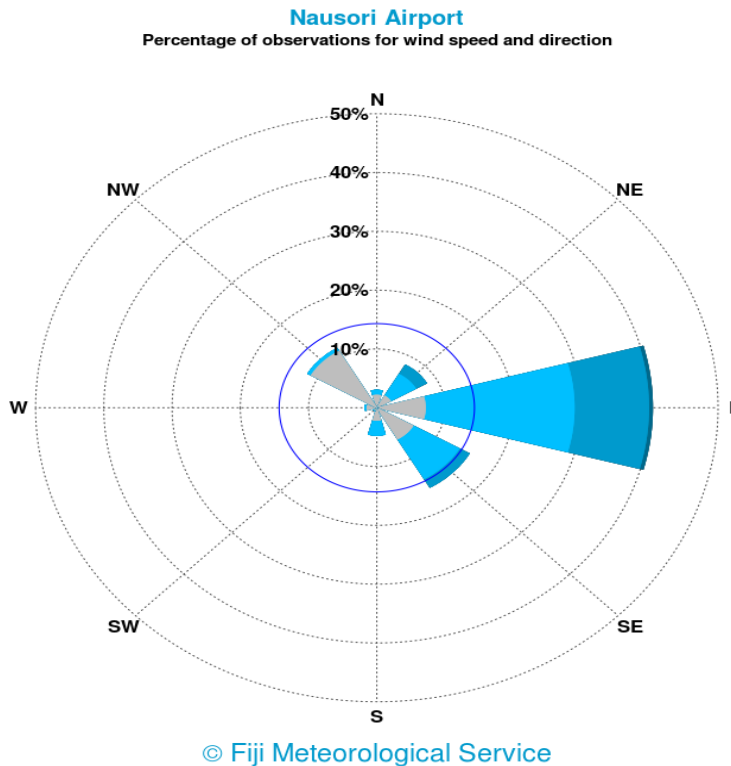
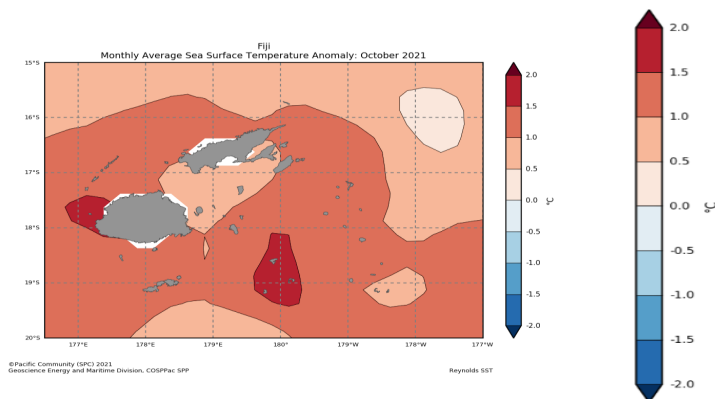


Figure 8b: Easterly winds were dominant at Nausori Airport, followed by southeasterly, and northwesterly winds. Wind strength ranged from light to moderate breeze during this period.

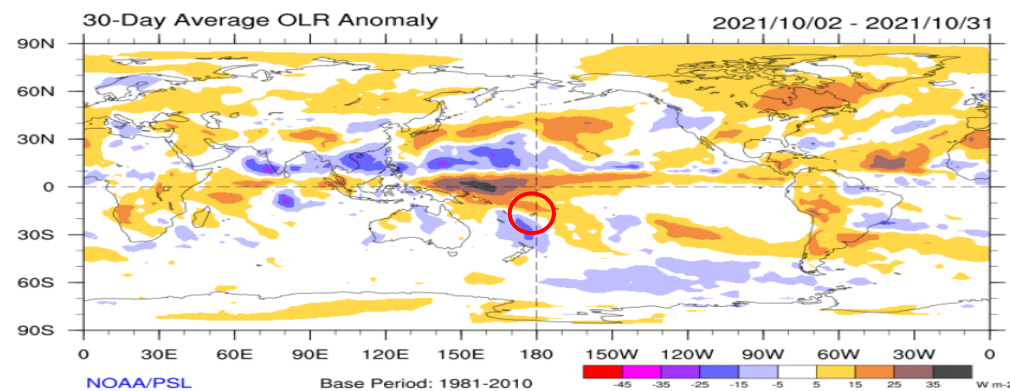
## 8. SEA SURFACE TEMPERATURE (SST)



**Figure 9:** Warmer than normal sea surface temperature anomalies were observed across most of the Fiji Waters, with anomalies of more than 1.5°C observed west of Viti Levu and parts of the southern Lau Group.

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

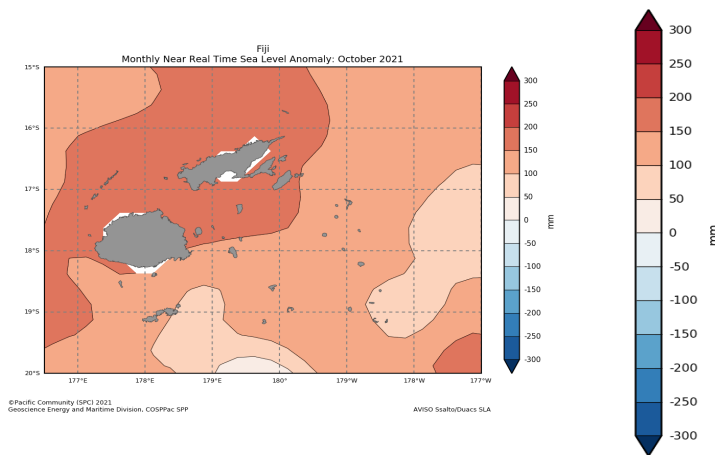
## 9. CLOUD COVER



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

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

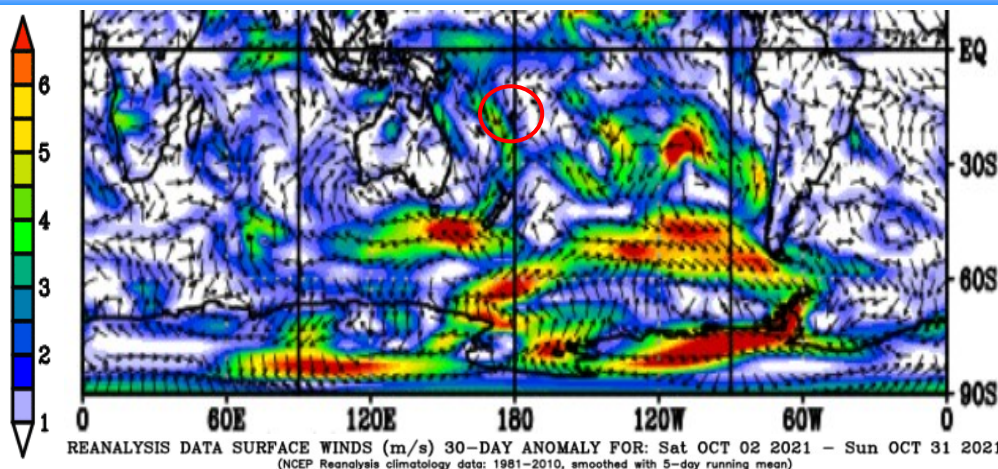
## 10. SEA LEVEL



**Figure 11:** Above normal sea level anomalies were present across most of the Fiji Waters during the month (anomalies between 10cm and 20cm).

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

## 11. WIND ANOMALIES



**Figure 12:** Northwesterly wind anomalies were recorded 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)