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Fiji Climate Summary November 2024

ISO 9001:2015 certified Climate Services

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1. IN BRIEF

In November, rainfall across the country showed significant variation, ranging from *below average* to *well above average.* A series of low-pressure troughs caused heavy rainfall events, leading to flash flooding in some areas of the country, particularly in the Central and Eastern Divisions.

Overall, out of the 25 rainfall monitoring stations that reported in, in time for the compilation of this bulletin, 5 recorded *well above average*, 12 *above average*, *5 average*, and 3 stations with *below average rainfall* (Table 2, Figures 1-5).

The highest monthly rainfall of 718.6mm was observed at Monasavu, followed by Laucala Bay (Suva) with 549.0mm, Koronivia with 528.2mm, Nasinu with 499.5mm, Matuku with 430.3mm, Navua with 414.5mm, Nausori Airport with 385.3mm, Rotuma with 367.9mm, Dobuilevu with 354.0mm, and Vunisea with 324.5mm.

On temperatures, the month's warmest day-time temperature of 36.6°C was observed at Momi on the 15th, followed by Yasawa-i-Rara with 36.0°C on the 2nd, and RKS Lodoni with 34.6°C on the 27th.

The months lowest night-time temperature of 13.4°C was recorded at Nadarivatu on the 5th, followed by Monasavu with 16.3°C on the 6th, Vanuabalavu with 16.4°C on the 5th, Ono-i-Lau with 17.3°C on the 11th, and Lakeba with 18.0°C on the 10th.

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

Warmer than normal sea surface temperature anomalies were observed across Fiji Waters (Figure 8).

Above normal sea level anomalies persisted across most of the Fiji Waters during November (Figure 10).

2. WEATHER PATTERNS

The month of November began with the 2024/2025 Tropical Cyclone season and influenced by evolving tropical weather systems that were aided by the subtropical high-pressure systems retracting further south. This was coupled with warm and cool phases of the atmospheric waves propagating through the group resulting in the environment becoming more unsettled and conducive for rainfall events with thunderstorms linked to series of passing troughs or convergence zones and prevailing moist easterly wind flows. Conditions were generally humid with maximum temperatures ranging between the high twenties and the mid-thirties. Initially, occasional showers were experienced over the eastern parts of the group from a trough that was situated over the country till the 2nd when it drifted away from Fiji. An easterly wind flow prevailed over the country thereafter till the 3rd followed by a southeast wind flow which became dominant until the 6th. Another trough of low pressure developed to the northwest of the group on the 7th with associated cloud and showers affecting most parts of the country. The trough gradually weakened over Fiji on the 9th while an easterly wind flow continued to prevail till the 10th.

A trough of low pressure developed just to the east of the group which mainly affected the northern and eastern parts of the country from the 11th while the western parts of Fiji continued to experience fine weather apart from isolated afternoon showers. This trough slowly moved northeastwards and kept affecting parts of the group until the 13th. The affected parts of Fiji continued to be exposed to another trough that developed north of the country thereon till the 17th and another trough till the 19th before dissipating. On the 20th, a series of troughs approached the group from the north and the west affecting most parts of the country till the 26th as it gradually weakened. An easterly wind flow continued to prevail while gradually turning northerly till the 28th and later turning east to northeast thereafter till the end of the month. Meanwhile, on the 27th, a shallow low- pressure system just to the southwest of Fiji was embedded along a trough affecting the southern and eastern parts of the group which was then scattered to the rest of the group on the 28th as the trough drifted over the group resulting in most parts of the country to experience significant rainfall towards the end of the month.

Rotuma's weather was mainly affected by the moist easterlies and series of troughs of low pressures that brought mostly cloudy conditions with showers and rain over the island.

3. RAINFALL

In November, rainfall across the country varied significantly, ranging from *below average* to *well above average*. Majority of the stations experienced wetter than usual conditions, with Koronivia, Laucala Bay (Suva), Vunisea, and Ono-i-Lau recording more than twice their normal monthly rainfall, while Matuku recorded over three times its normal rainfall.

Conversely, drier than usual conditions were observed at Nacocolevu, Vanuabalavu, and Lakeba, while stations such as Nadi Airport, Viwa, Nabouwalu, Savusavu, and Rotuma reported *average* rainfall. Overall, out of the 25 rainfall monitoring stations that reported in, in time for the compilation of this bulletin, 5 recorded *well above average*, 12 *above average*, *5 average*, and 3 stations with *below average rainfall* (Table 2, Figures 1-5).

The highest monthly rainfall of 718.6mm was observed at Monasavu, followed by Laucala Bay (Suva) with 549.0mm, Koronivia with 528.2mm, Nasinu with 499.5mm, Matuku with 430.3mm, Navua with 414.5mm, Nausori Airport with 385.3mm, Rotuma with 367.9mm, Dobuilevu with 354.0mm, and Vunisea with 324.5mm. On the other hand, Lakeba recorded the month's lowest total monthly rainfall of 79.4mm, followed by Nacocolevu with 89.2mm, Viwa with 100.5mm, Vanuabalavu with 100.9mm, and Nadi Airport with 122.7mm (Table 2).

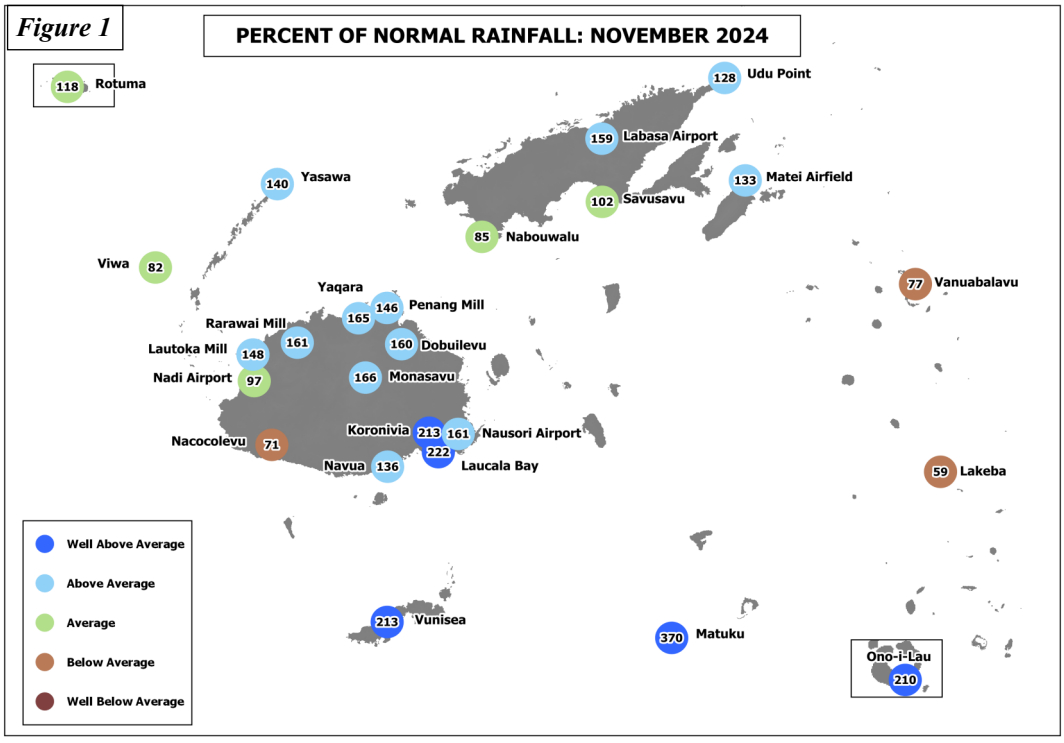
The highest 24-hour rainfall of 112mm was recorded at Koronivia on the 29th, followed by Udu Point with 110mm on 30th, Matuku with 109mm on the 11th, Dobuilevu with 101mm on the 30th, Monasavu and Nausori Airport both with 100mm on the 23rd and 29th, respectively, Vunisea with 89mm on the 30th, Nasinu with 88mm on the 29th, and Laucala Bay (Suva) with 87mm on the 25th.

Notably, a series of low-pressure troughs, forming between the 11th and the end of the month, caused flash flooding at several low level crossings in low lying areas of the Central and Eastern Divisions. This led to the closure of crossings, making some areas inaccessible.

Monasavu recorded the highest number of rain days (rainfall ≥0.1mm) with 30 days, followed by Koronivia with 28 days, Laucala Bay (Suva) with 27 days, Dobuilevu, Nausori Airport and Navua all with 26 days, Nasinu with 25 days, Rotuma, Ono-i-Lau, RKS Lodoni all with 23 days, and Matei Airfield and Keiyasi both with 22 days. Consequently, Viwa and Lakeba recorded the least number of rainfall days with 8 days, followed by Momi with 11 days, Nadi Airport, Nacocolevu, Yaqara, Rarawai Mill (Ba) and Yasawa-i-Rara all with 13 days, and Vanuabalvu and Lautoka Mill both with 14 days.

There were no new rainfall records observed during the month.

Figure 1



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 ≥ 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 Day-time Air Temperatures

Near normal to above normal day-time air temperatures were observed across the country during the month. Out of the 21 climate stations that reported in time for the analysis of data, 9 recorded anomalies ≥+0.5°C, and 12 within ±0.5°C.

On average, the warmest days were recorded at Yasawa-i-Rara with 33.4°C, followed by RKS Lodoni with 32.7°C, Momi with 32.6°C, Labasa Airport and Yaqara both with 32.1°C, Rotuma with 31.3°C, Nadi Airport with 31.1°C, and Lautoka Mill with 30.9°C. Consequently, Monasavu recorded the coolest days on average with 24.9°C, followed by Nadarivatu with 25.7°C, Ono-i-Lau with 25.9°C, Vanuabalavu and Vunisea both with 29.3°C, Laucala Bay (Suva) with 29.4°C, Matuku with 29.5°C and Nausori Airport and Matei Airfield both with 29.6°C.

The month's highest day-time temperature of 36.6°C was observed at Momi on the 15th, followed by Yasawa-i-Rara with 36.0°C on the 2nd, RKS Lodoni with 34.6°C on the 27th, Yaqara with 34.4°C on the 19th, Labasa Airport with 34.2°C on the 29th. On the other hand, the coolest day-time temperature of 21.2°C was at Monasavu on the 8th, followed by Nadarivatu with 21.6°C on the 8th, Ono-i-Lau with 25.8°C on the 2nd, Laucala Bay (Suva) and Nausori Airport both with 26.0°C on the 6th.

There were no new day-time temperature records established during the month.

B. Minimum Night-time Air Temperatures

Generally, *below normal to above normal* night-time temperatures were recorded at majority of the climate stations during the month. For the 22 stations that reported in, 13 recorded anomalies ≥ +0.5°C, 5 within ± 0.5°C, and 4 with anomalies ≤ -0.5°C.

The coolest nights on average were at Nadarivatu with 18.0°C, followed by Monasavu with 18.8°C, Vanuabalavu with 21.3°C, Korolevu with 21.4°C, Vunisea with 21.8°C, Matei Airfield with 22.1°C, Rarawai Mill, (Ba) and Sigatoka both with 22.2°C, and Labasa Airport with 22.3°C. Consequently, on average, the warmest night-time temperatures were observed at RKS Lodoni with 25.4°C, Yasawa-i-Rara with 25.0°C, Rotuma and Udu Point both with 24.5°C, and Yaqara, Laucala Bay (Suva) and Nabouwalu all with 24.1°C.

Most of the coolest daily night-time temperatures were recorded during the first and second week of the month. The lowest night-time temperature of 13.4°C was recorded at Nadarivatu on the 5th, followed by Monasavu with 16.3°C on the 6th, Vanuabalavu with 16.4°C on the 5th, Ono-i-Lau with 17.3°C on the 11th, and Lakeba with 18.0°C on the 10th. On the other hand, the warmest night-time temperature of 27.9°C was recorded at Ono-i-Lau on the 2nd, followed by RKS Lodoni with 27.6°C on the 23rd, Rotuma with 27.5°C on the 15th, and Nacocolevu with 27.0°C on the 26th.

There were no new night-time temperature records established during the month.

TABLE 1. CLIMATE RECORDS ESTABLISHED IN NOVEMBER 2024

There were no new climate records established during November 2024.

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 NOVEMBER 2024

	RAINFALL					AIR TEMPERATURES								SUNSHINE	
	TOTAL		RAIN * DAYS		MAX. FALL	AVERAGE DAILY MAX.	#	MIN.	#	EXTREME MAX.		EXTREME MIN.		TOTAL	
	MM	%	+	MM	ON	C	C	C	C	C	ON	C	ON	HRS	* %
NADI AIRPORT	122.7	97	13	23	25	31.1	0.3	22.8	0.6	32.6	18	20.7	6	187	86
LAUCALA BAY	549.0	222	27	87	25	29.4	-0.2	24.1	0.7	31.6	26	21.5	12	149	94
NACOCOLEVU RESEARC	89.2	71	13	31	25	30.3	-0.4	22.5	1.6	33.5	24	18.8	12	157	108
ROTUMA ISLAND	367.9	118	23	72	24	31.3	0.5	24.5	-0.4	32.8	28	22.4	25	214	118
VIWA (AWS)	100.5	82	8	62	30	U/S		U/S		U/S		U/S			
YASAWA-I-RARA	140.0	140	13	70	30	33.4	2.6	25.0	1.2	36.0	2	23.2	26		
UDU POINT (AWS)	267.5	128	19	110	30	29.8	-0.4	24.5	0.4	31.1	18	22.8	12		
NABOUWALU	160.2	85	18	28	24	30.0	0.6	24.1	0.4	31.7	2	22.0	8		
LABASA AIRFIELD	249.8	159	19	56	30	32.1	0.5	22.3	0.8	34.2	29	19.1	10		
SAVUSAVU AIRFIELD	185.6	102	20	46	11	29.7	0.4	23.5	0.5	31.3	26	22.0	5		
KORONIVIA RESEARCH	528.2	213	28	112	29	29.8	0.7	23.1	1.0	31.7	10	20.7	12		
NAUSORI AIRPORT	385.3	161	26	100	29	29.6	0.7	23.1	0.9	31.4	19	20.7	12		
NAVUA (AWS)	414.5	136	26	69	29	30.2	1.7	22.5	0.8	31.7	27	19.6	10		
MONASAVU HYDRO DAM	718.6	166	30	100	23	24.9	0.6	18.8	0.9	27.5	4	16.3	6		
FSC LAUTOKA MILL	193.6	148	14	52	26	30.9	0.1	22.9	0.3	32.5	15	20.4	17		
FSC RARAWAI MILL	250.3	161	13	43	27	U/S		22.2	0.8	U/S		18.5	16		
FSC PENANG MILL	215.3	146	20	45	30	30.8	0.2	23.6	0.7	32.9	11	21.4	4		
MATEI AIRFIELD	260.5	133	22	63	22	29.6	0.4	22.1	-1.4	30.8	28	19.6	5		
VANUABALAVU	100.9	77	14	38	26	29.3	0.2	21.3	-2.3	30.6	4	16.4	5		
LAKEBA	79.4	59	8	32	3	29.7	0.4	22.5	-0.9	31.0	19	18.0	10		
VUNISEA	324.5	213	21	89	30	29.3	0.6	21.8	-0.8	30.5	18	20.5	6		
MATUKU	430.3	370	21	109	11	29.5	0.4	23.4	0.2	31.9	23	21.5	12		
ONO-I-LAU	222.3	210	23	66	18	27.9	-0.3	23.1	0.6	30.1	19	17.3	11		
YAQARA AWS	150.0	165	13	33	23	32.1		24.1		34.4	19	21.9	4		
LEVUKA AWS	U/S					U/S		U/S		U/S		U/S			
KEIYASI AWS	200.5		22	45	29	U/S		U/S		U/S		U/S			
LOMAIVUNA AWS	U/S					U/S		U/S		U/S		U/S			
NADARIVATU AWS	210.5		20	49	25	25.7		18.0		27.8	13	13.4	5		
RKS LODONI AWS	265.5		23	46	29	32.7		25.4		34.6	27	23.1	10		
MOMI AWS	190.5		11	79	29	32.6		23.0		36.6	15	21.1	12		
SIGATOKA AWS	U/S					30.2		22.2		2.3	26	18.3	12		
VATUREKUKA AWS	U/S					U/S		U/S		U/S		U/S			
KOROLEVU AWS	158.5		17	25	25	30.0		21.4		32.9	26	18.8	10		
WAINIKORO AWS	U/S					U/S		U/S		U/S		U/S			
SAQANI AWS	U/S					U/S		U/S		U/S		U/S			
SEAQAQA AWS	U/S					U/S		U/S		U/S		U/S			
DOBUILEVU TB3	354.0	160	26	101	30										
NASINU TB3	499.5		25	88	29										
TAVUA TB3	U/S														

	TEMPERATURE(C)			HUMIDITY	WIND
	DRY	WET		RH%	VP
	MEAN	(AVERAGE AT 9AM)			KT
NADI AIRPORT	27.0	28.4	24.1	69	28.9 6.8
LAUCALA BAY	26.8	27.3	25.1	83	27.1 7.7
NACOCOLEVU RESEARC	26.4	28.5	25.0	76	29.1
ROTUMA ISLAND	27.9	29.1	26.6	82	30.1
VIWA (AWS)	U/S				
YASAWA-I-RARA	29.2	29.8	26.3	76	31.4 2.0
UDU POINT (AWS)	27.2				
NABOUWALU	27.0	27.7	24.9	80	27.8 NA
LABASA AIRFIELD	27.2	29.1	24.9	70	30.1 7.4
SAVUSAVU AIRFIELD	26.6	27.9	24.9	78	28.1 7.6
KORONIVIA RESEARCH	26.4	27.5	25.0	82	27.5
NAUSORI AIRPORT	26.4	27.3	24.8	81	27.1 5.8
MONASAVU HYDRO DAM	21.9	21.7	21.2	96	19.4
FSC LAUTOKA MILL	26.9	26.8	25.8	93	26.4
FSC RARAWAI MILL	NA	29.1	25.2	73	30.1
FSC PENANG MILL	27.2	27.9	24.8	78	28.1
MATEI AIRFIELD	25.9	28.3	25.4	79	28.8 11.7
VANUABALAVU	25.3	27.3	24.7	81	27.1
LAKEBA	26.1	28.0	25.0	78	28.3
VUNISEA	25.6	25.3	23.0	83	24.1
MATUKU	26.5	26.5	23.7	79	25.9
ONO-I-LAU	25.5	26.4	24.1	83	25.7 10.8

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 (1991-2020). + :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

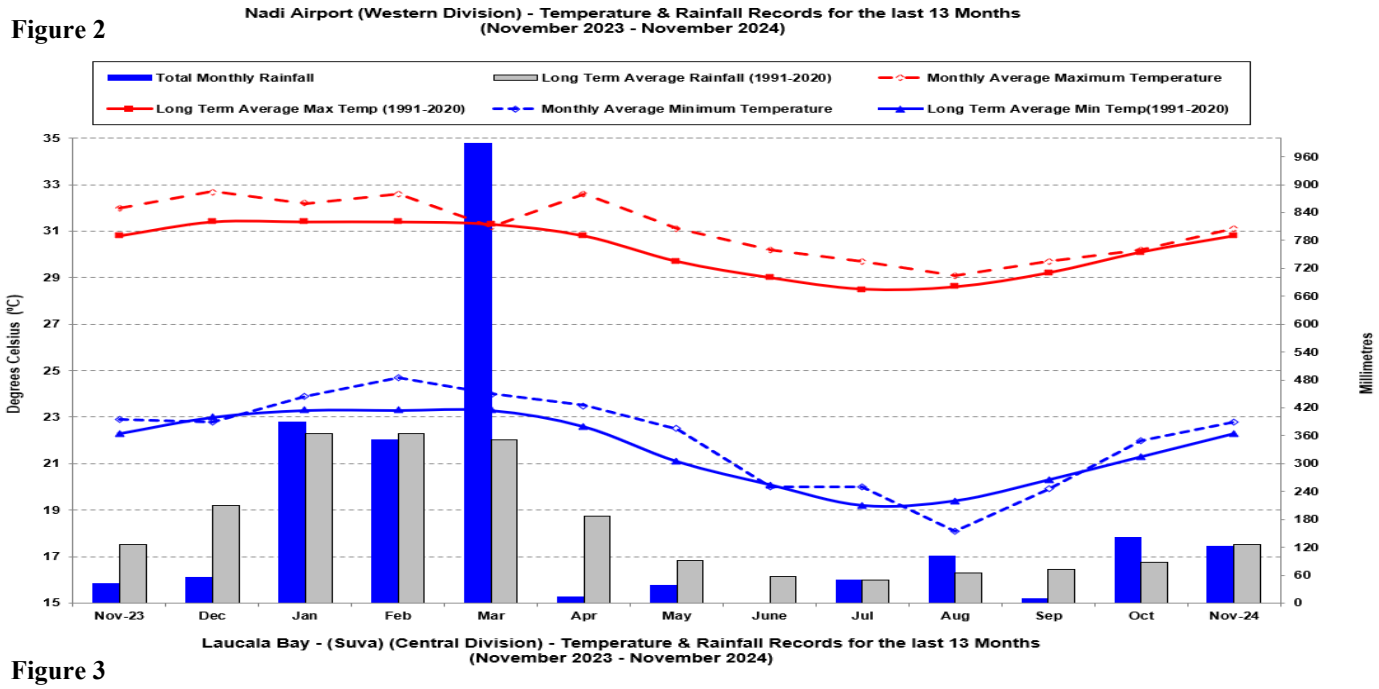


Figure 3

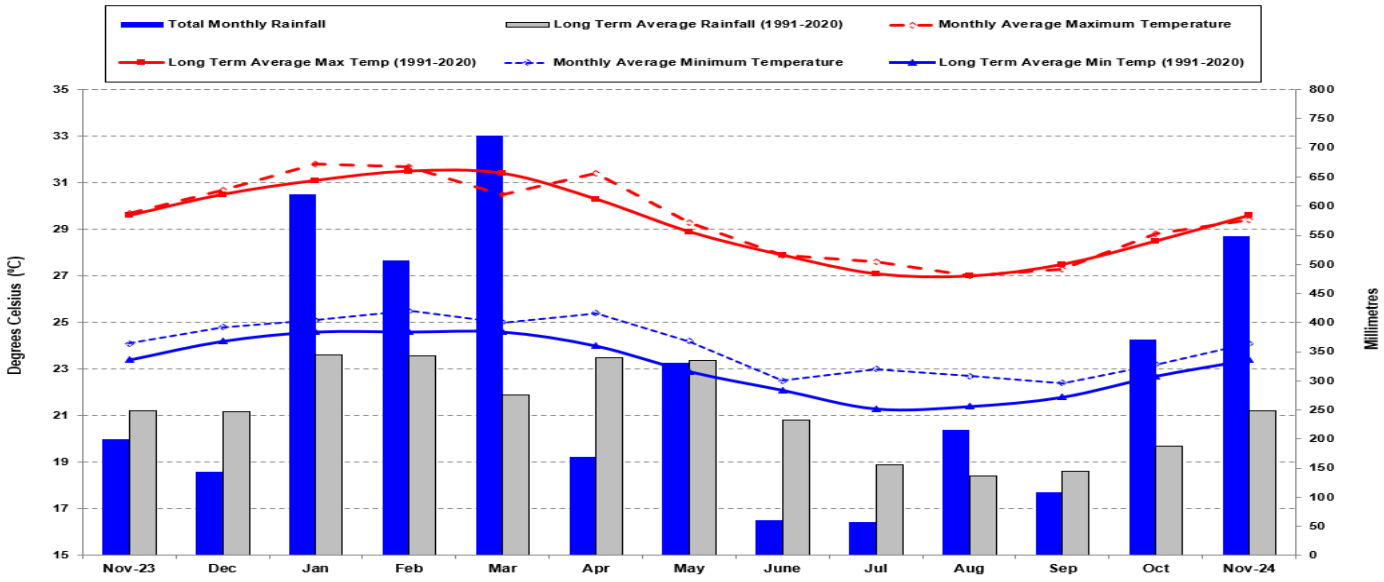


Figure 4

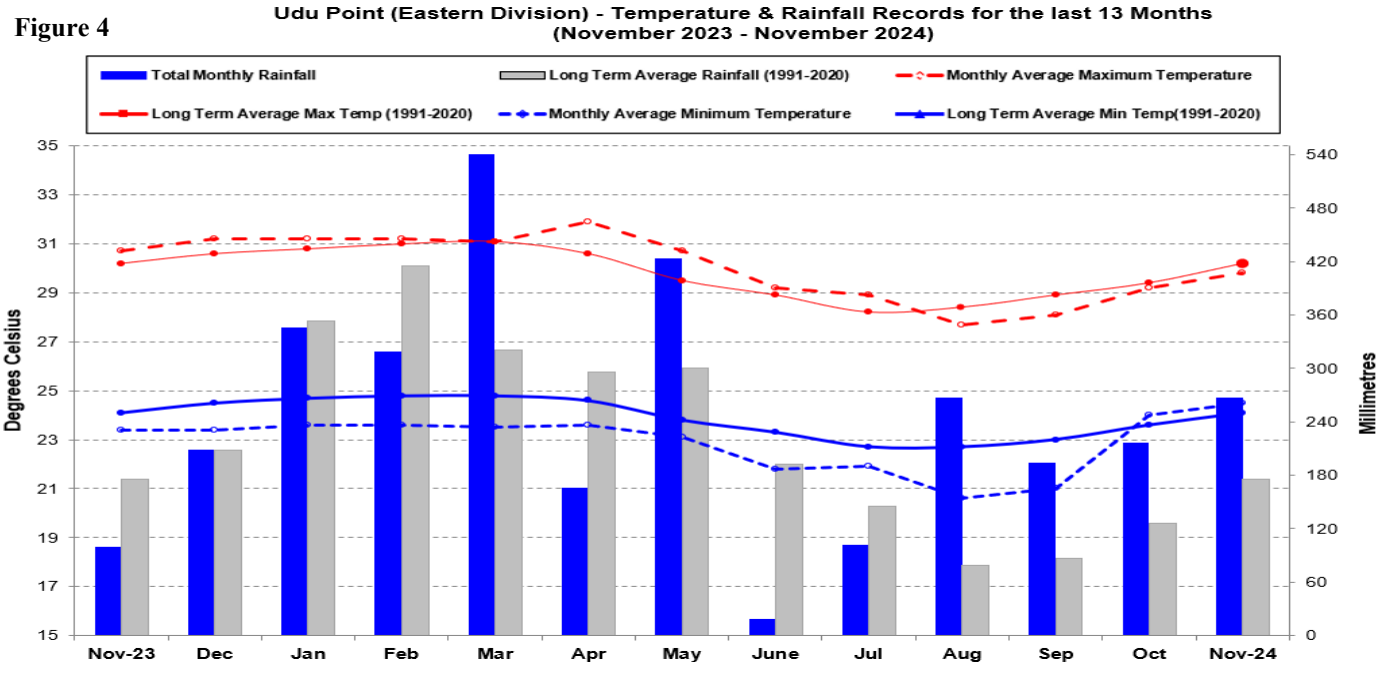
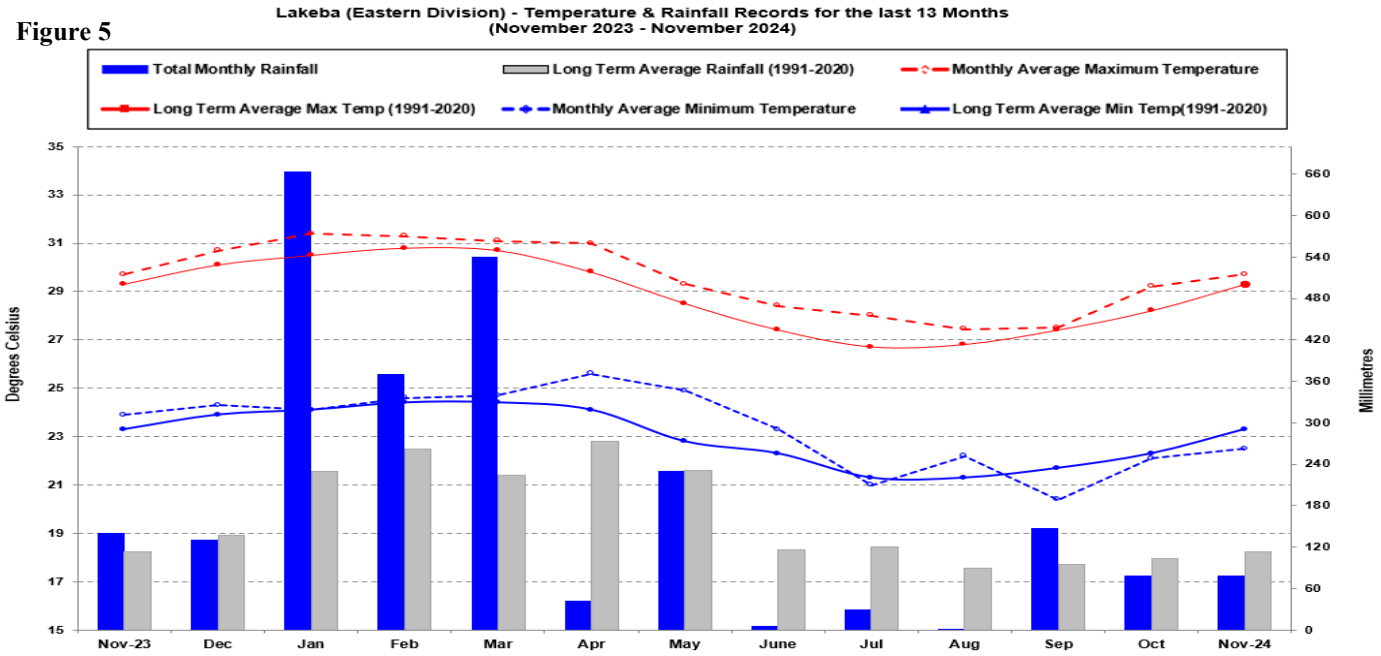


Figure 5



5. DAILY RAISED PAN EVAPORATION

Figure 6

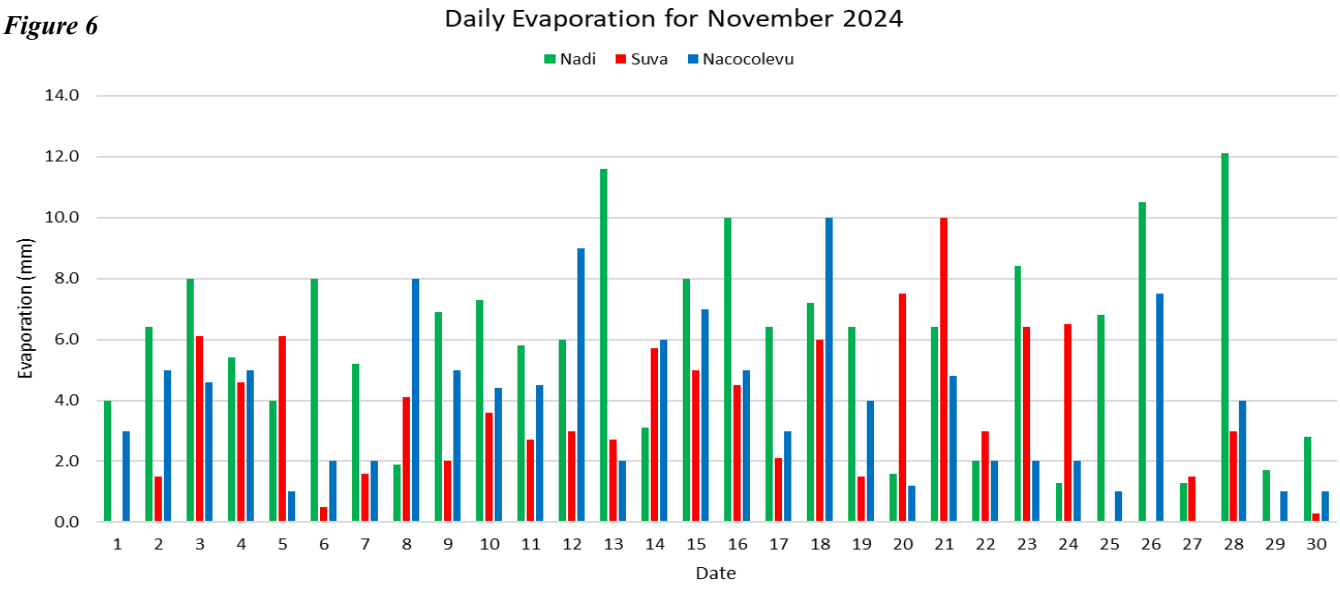


Figure 6: The total monthly raised pan evaporation at Nadi Airport, Laucala Bay (Suva) and Nacocolevu (Sigatoka) were 176.5mm, 101.5mm and 117.0mm, respectively. Nadi's highest daily evaporation was 12.1mm on the 28th with Suva's highest daily evaporation of 10.0mm on the 21st, and Nacocolevu (Sigatoka) recorded its highest of 10.0mm on the 18th.

6. SOLAR RADIATION

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

7. WIND SUMMARY

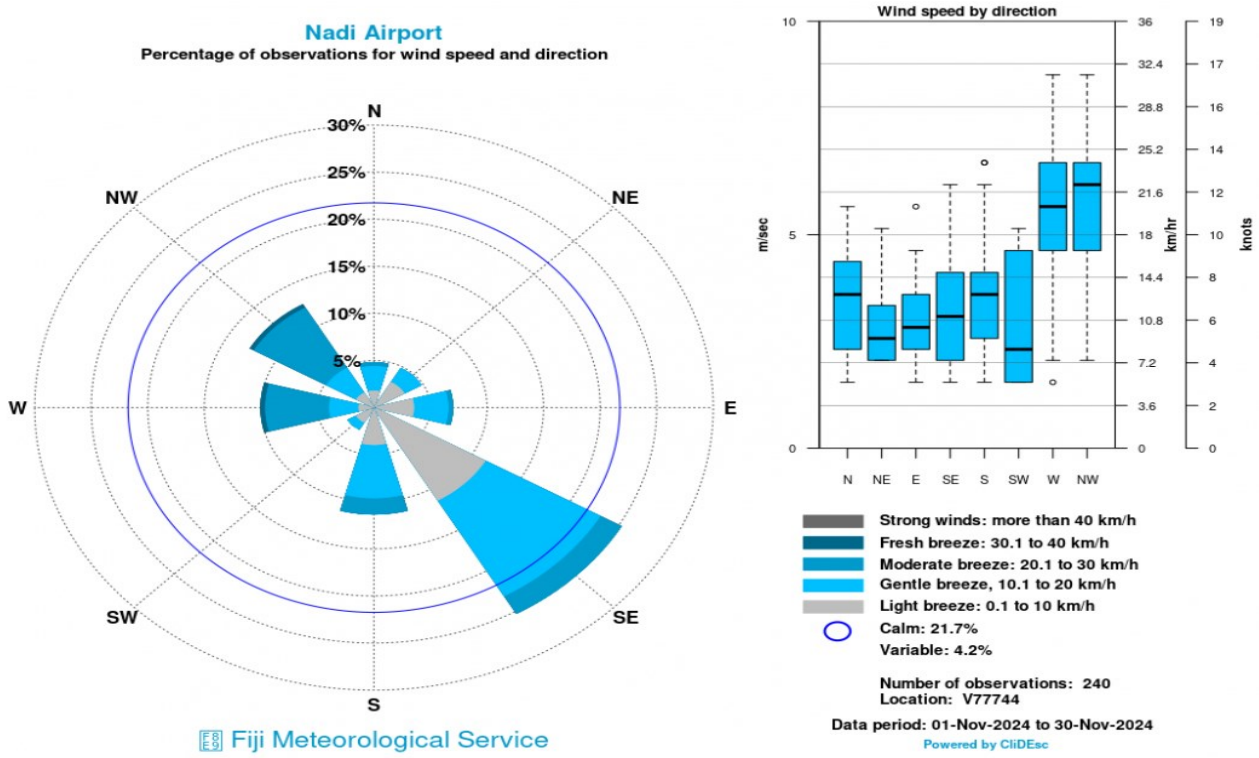


Figure 7a: Looking at Nadi's 3 hourly observations, southeasterly winds were most dominant during the month, followed by northwesterly and then southerly winds. Wind strength ranged from light to fresh breeze, while 21.7% observations accounted for calm winds.

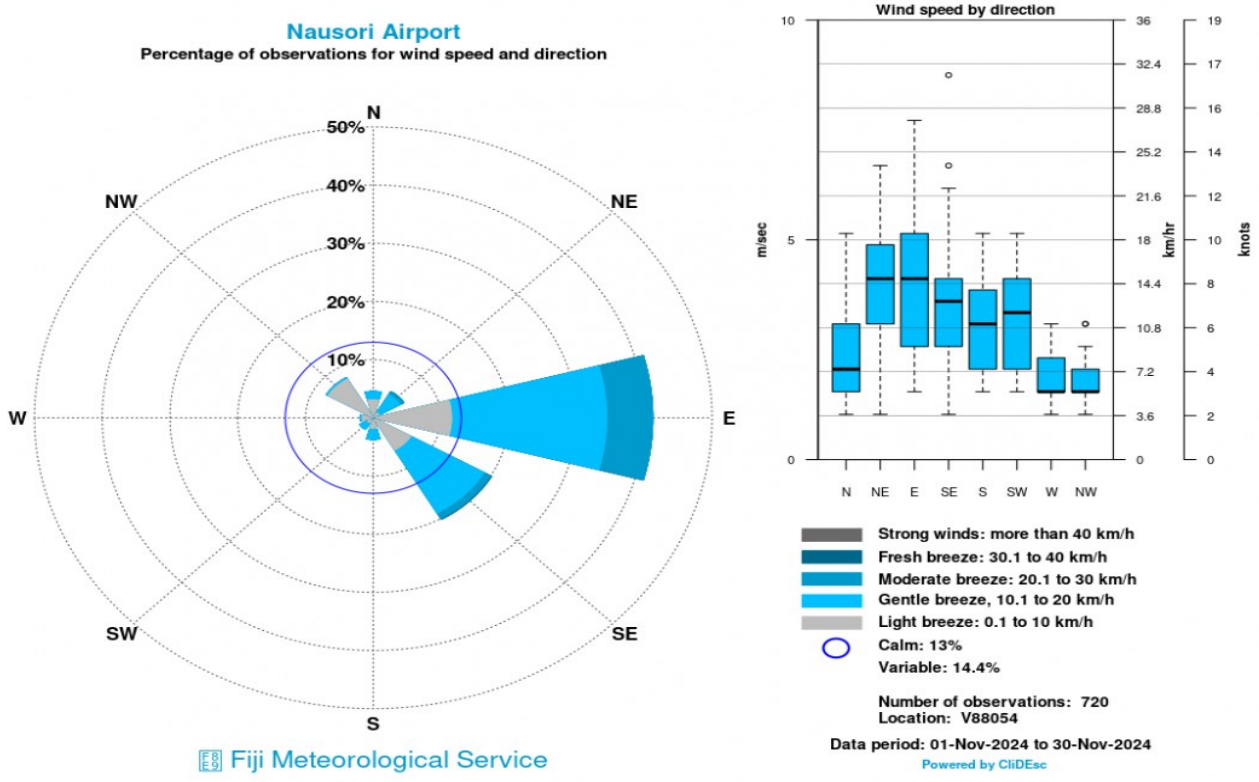


Figure 7b: For Nausori Airport's hourly wind observations, easterly winds were most dominant during the month, followed by southeasterly and then northwesterly winds. Wind strength ranged from light to moderate breeze, while 13.0% observations accounted for calm winds.

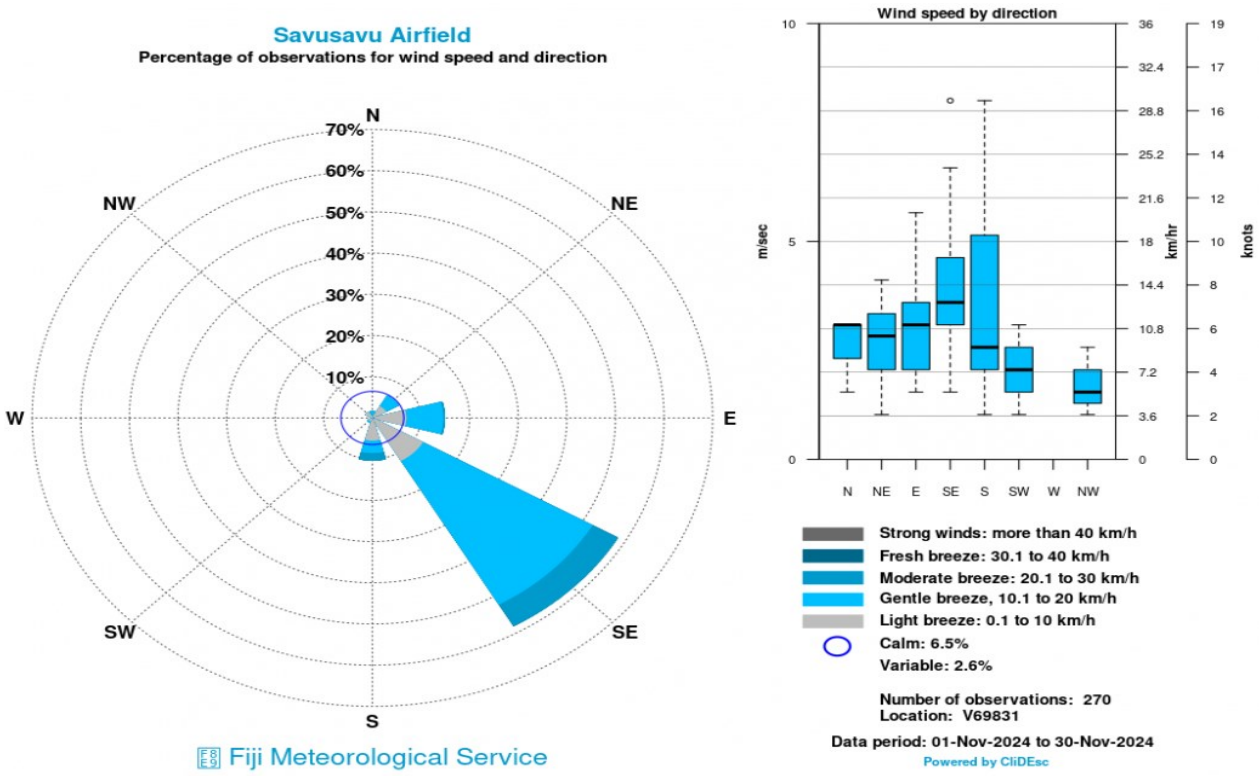


Figure 7c: For Savusavu Airfield's hourly observations (0800hrs to 1600hrs), southeasterly winds were most dominant during the month, followed by easterly and then southerly winds. Wind strength ranged from light to moderate breeze, with calm winds observed 6.5% of the time.

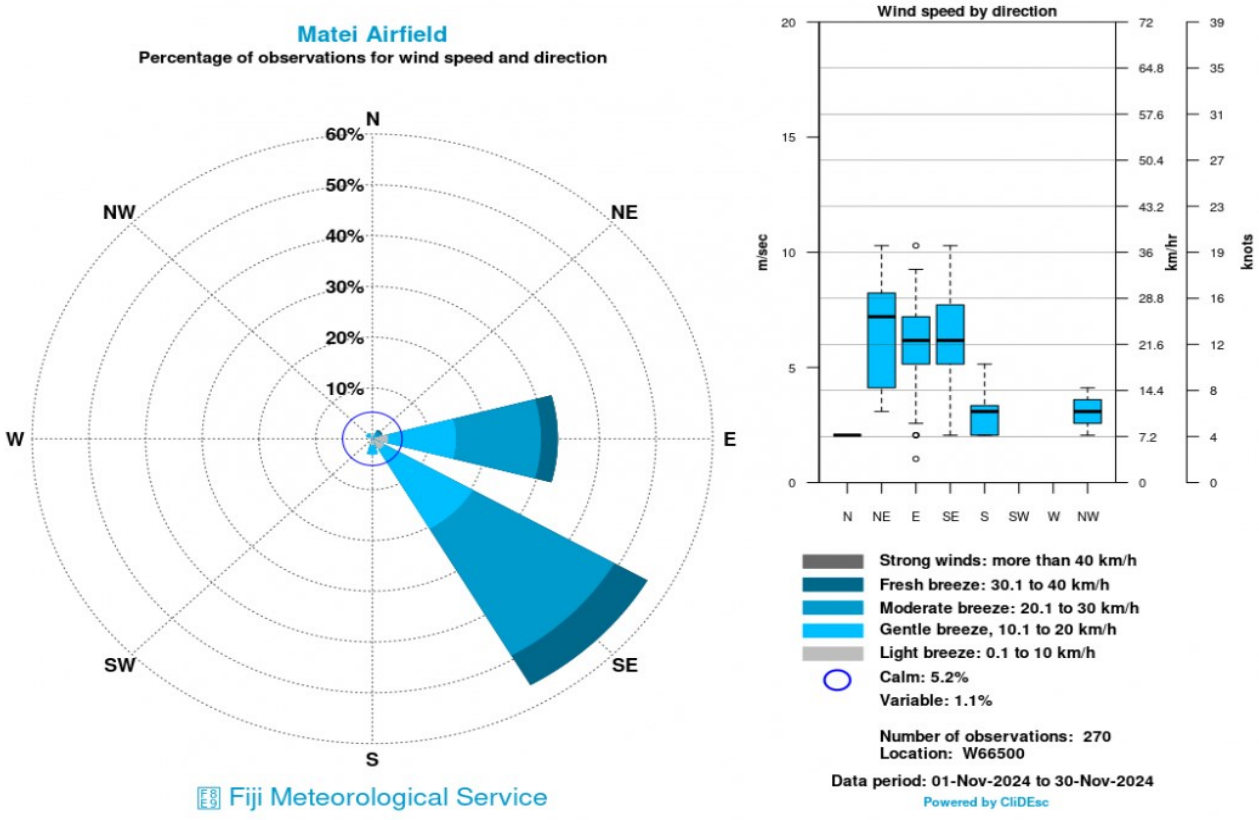


Figure 7d: For Matei Airfield's hourly wind observations (0800hrs to 1600hrs), southeasterly winds were dominant followed by easterly and then southerly winds. Wind strength ranged from light to fresh breeze, with calm winds observed 5.2% of the time.

8. SEA SURFACE TEMPERATURE (SST)

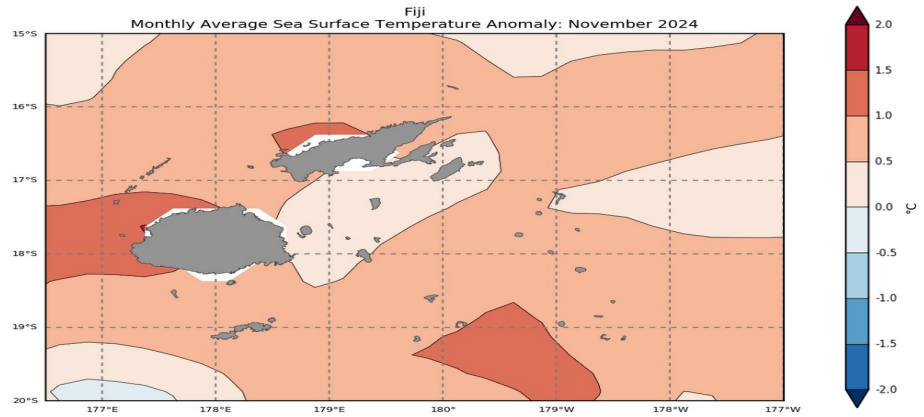


Figure 8:
Warmer than normal sea surface temperature anomalies were observed across most of the Fiji Waters, with anomalies 1.0-1.5°C observed west of Viti Levu and north west of Vanua Levu.

Source: https://oceanportal.spc.int/portal/app.html#climate

9. CLOUD COVER

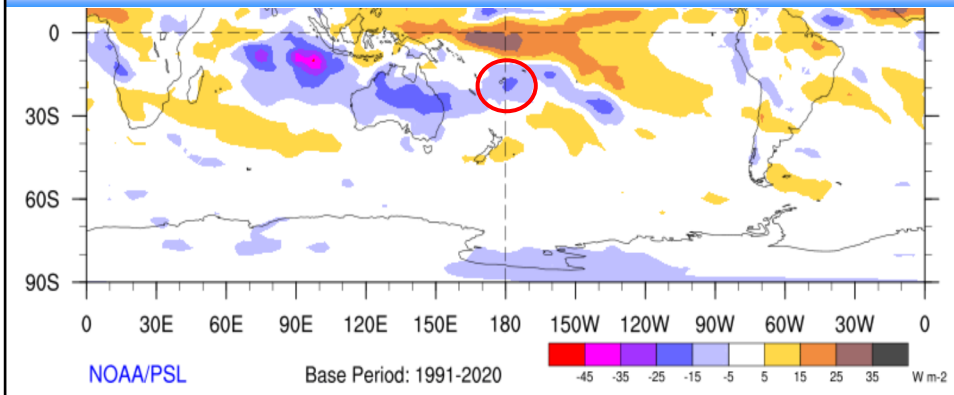


Figure 9:
Above normal cloud cover was present over the Fiji Group during November (*Fiji in red circle).*

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

10. SEA LEVEL

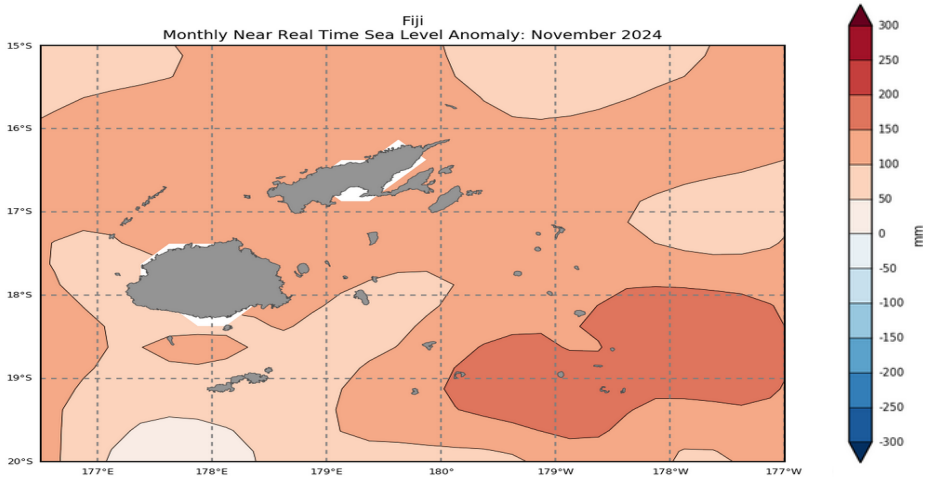


Figure 10:
Above normal sea level anomalies persisted across most of the Fiji Waters during November.

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

11. WIND ANOMALIES

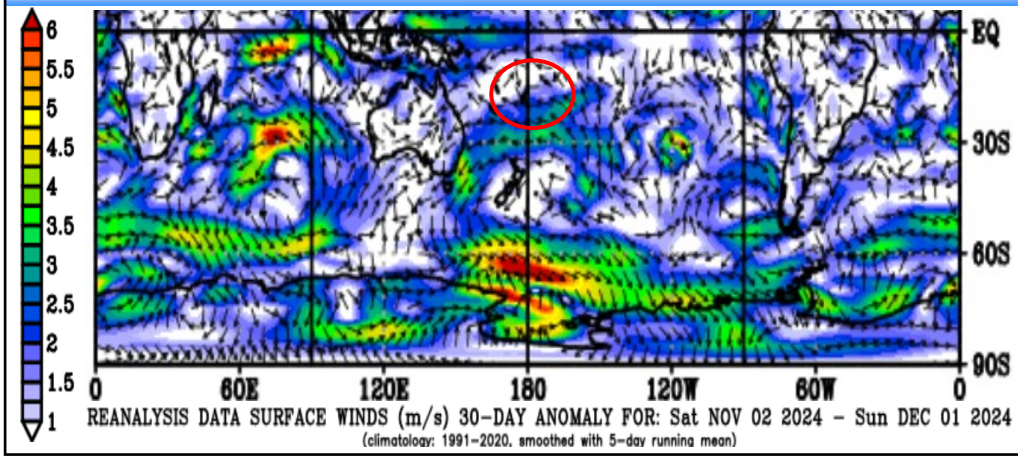


Figure 11:

South-easterly 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

12. FLASH FLOODING: 11th, 13th, 26th and 30th.

Heavy rainfall led to flash floods at low-level crossings in low lying areas of the Central and Eastern Divisions on the 13th, as well as in the Central Division on the 11th, 26th, and 30th. The 24-hour rainfall of 87mm at Laucala Bay on the 25th caused road surface flooding along Walu Bay in Suva on the 26th. Similarly, significant 24-hour rainfall of 112mm at Koronivia and 100mm at both RKS Lodoni and Nausori Airport resulted in flash flooding in parts of the Central Division on the 30th. Flash flooding led to the closure of several low-level crossings and made some areas inaccessible.

Figure 12a: Waiwatu Crossing (Navulokani Road) on the 11th. Source: Fiji Roads Authority.

Figure 12b: Matainasau Crossing (Wailao Road) on the 11th. Source: Fiji Roads Authority.

Figure 12c: Vatuwaqa Crossing on the 13th. Source: Fiji Roads Authority.

Figure 12d: Waima Crossing on the 13th. Source: Fiji Roads Authority.

Figure 12e: Waioli Crossing on the 13th. Source: Fiji Roads Authority.

Figure 12f: Vatulili Crossing on the 13th. Source: Fiji Roads Authority.

Figure 12g: Road Surface flooding along Walu Bay in Suva on the 26th. Source: Fiji Sun.

Figure 12h: Naboro Cocoa Road crossing on the 30th. Source: Fiji Roads Authority

Figure 12i: Wairua crossing *on the 30th. Source: Fiji Roads Authority*

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.