

### 1. IN BRIEF

The 2021-22 La Niña continues but is gradually weakening.

May was dominated by moist southeast trade winds, moist easterly wind flow together with series of troughs of low pressure systems. Rainfall varied during May, with above average to well below average rainfall being recorded across the country. Majority of the stations in the Western Division, Eastern Division and Rotuma experienced drier than usual conditions.

Overall, out of the 23 rainfall monitoring stations, 5 recorded *above average*, 10 *average*, 7 *below average* and Lakeba was the lone station that recorded *well below average* rainfall.

A trough of low pressure moved over the Fiji group from the west on the 28<sup>th</sup>, which resulted in Viwa recording its significant 24-hour rainfall of 115mm.

On temperatures, the highest day-time temperature was observed at Navua with 35.1°C on the 23<sup>rd</sup>, followed by RKS Lodoni with 34.6°C on the 6<sup>th</sup>, Saqani with 33.2°C on

the 2<sup>nd</sup> and Labasa Airfield with 32.9°C on the 31<sup>st</sup>.

The lowest night time temperature of 14.0°C was recorded at Monasavu on the 13<sup>th</sup>, followed by both Yaqara and Nadarivatu with 14.8°C on the 14<sup>th</sup>, Lomaivuna with 15.3°C on the 14<sup>th</sup>, Rarawai Mill (Ba) with 16.4°C on the 17<sup>th</sup>, both Sigatoka and Vaturekuka (Labasa) with 16.8°C on the 18<sup>th</sup> and 15<sup>th</sup>, respectively and RKS Lodoni with 16.9°C on the 14<sup>th</sup> and Penang Mill with 17.0°C on the 15<sup>th</sup>.

Southeasterly winds were dominant at Nadi Airport while easterly winds were the most observed winds at Nausori Airport during May, 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

May weather was dominated by series of trough of low pressure, moist easterly wind flow, and southeast trade winds. An off-season Category 1 Tropical Cyclone named Gina developed near Vanuatu and gradually moved south while affecting Vanuatu. Gina did not have any direct effect on Fiji, however the associated troughs of low pressure affected the country for few days.

From 1<sup>st</sup> till the 3<sup>rd</sup>, a moist northeast wind flow due to a low-pressure system to the far west prevailed over the country. Some showers with isolated afternoon thunderstorms were experienced. As the low to the west moved south the associated trough of low pressure with cloud and showers drifted over the eastern division and affected parts of the group from the 4<sup>th</sup> till the 8<sup>th</sup>. Some stations in the eastern and central division recorded more than 50mm of rainfall in 24 hours on the 4<sup>th</sup> and 5<sup>th</sup>.

As the trough of low pressure weakened and moved eastwards, southeast wind flow directed by a high-pressure system to the south dominated over the country from the 9<sup>th</sup> till the 19<sup>th</sup>. Isolated brief trade showers were experienced and most places experienced cool nights. Monasavu reported 14 Degrees centigrade (°C) on the 13<sup>th</sup> and most centres below 20 (°C) during this period.

A tropical depression to the northeast of Vanuatu which was numbered TD11F on the 17<sup>th</sup> was named Tropical Cyclone (TC) Gina on the morning of 19<sup>th</sup>. As TC Gina gradually moved south-southwest towards Vanuatu, the associated troughs of low pressure drifted towards Fiji. Clouds, showers and thunderstorms associated with the troughs affected the country from the 20<sup>th</sup> till the 26<sup>th</sup> from time to time before moving eastwards away from the group.

Easterly wind flow prevailed over the group from the 27<sup>th</sup> to the morning of 28<sup>th</sup> producing some showers over the eastern parts and interior of larger islands and isolated afternoon showers elsewhere. A trough of low pressure moved over the group from the west on the afternoon of 28<sup>th</sup> and affected till 29<sup>th</sup> before weakening and moving northeast. Showers and thunderstorms were experienced over most parts of the country.

A weak trough affected the northern and eastern division on the 30<sup>th</sup> producing some showers and isolated afternoon thunderstorms. This trough further weakened and dissipated on the 31<sup>st</sup> with southeast wind flow prevailing.

Rotuma's weather was also affected by a series of troughs of low pressure systems, moist easterlies for the month of May.

### 3. RAINFALL

Variable rainfall pattern were observed during May, with *above average* to *well below average* rainfall recorded across the country. Majority of the stations in the Western and Eastern Divisions, together with Rotuma experienced drier than usual conditions. Lakeba recorded less than twice its *normal* monthly rainfall.

Overall, out of the 23 rainfall stations, that reported in time for this bulletin, 5 recorded *above average*, 10 *average*, 7 *below average*, while Lakeba was the lone station that recorded *well below average* rainfall (Table 2, Figures 1-5).

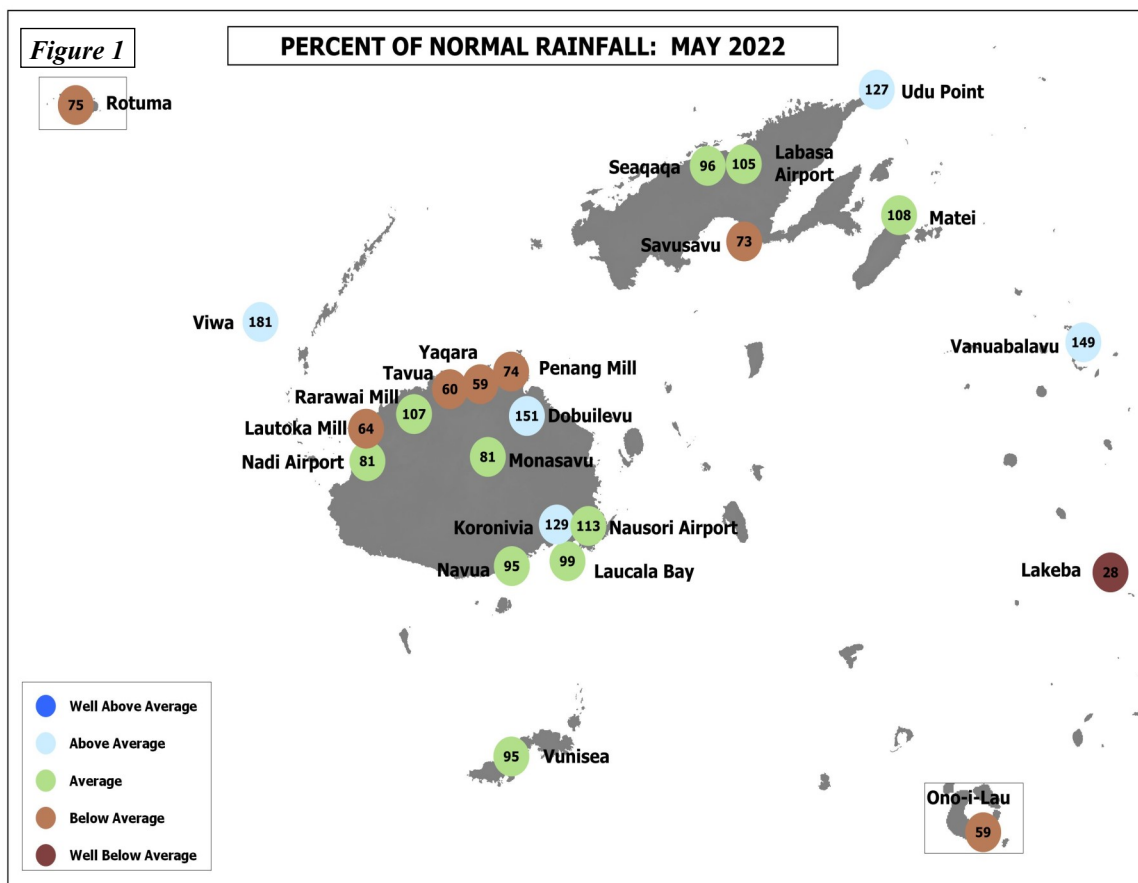
Nasinu was the wettest site with 310.5mm of rainfall, followed by Saqani with 299.5mm, Koronivia with 296.3mm, Nausori Airport with 264.2mm, Navua with 258.5mm, RKS Lodoni with 258.0mm, Monasavu with 235.7mm, Laucala Bay (Suva) with 233.2mm, Rotuma with 230.1mm and Lomaivuna with 214.5mm. On the other hand, Yaqara recorded the lowest total monthly rainfall of 37.5mm, followed by Momi with 38.0mm, Lakeba with 38.3mm, Tavua with 46.5mm, Lautoka Mill with 56.9mm, Ono-i-Lau with 71.5mm and Nadi Airport with 80.1mm. (Table 2).

significant 24-hour rainfall of 115mm.

Koronivia recorded its highest number of rain days (rainfall  $\geq 0.1$ mm) with 28 days, followed by Rotuma with 25 days, Navua with 22 days, Laucala Bay (Suva) with 21 days and Nausori Airport, Monasavu, Matei Airfield, Levuka, Lomaivuna and RKS Lodoni all with 20 days. Consequently, Tavua and Rarawai Mill (Ba) both recorded the least number of rain days with 4 days, followed by Lautoka Mill with 6 days, Momi with 7 days and both Vanuabalavu and Nadi Airport with 8 days, Ellington (Rakiraki) with 9 days, Sigatoka and Vunisea (Kadavu) both with 11 days.

There was no new rainfall record established during the month.

A trough of low pressure moved over the Fiji Group from the west on the 28<sup>th</sup>, which resulted in Viwa recording its



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 18 climate stations that reported in time for the analysis of data, 16 recorded anomalies at  $\geq +0.5^{\circ}\text{C}$  and 2 recorded within  $\pm 0.5^{\circ}\text{C}$ .

The warmest days on average were recorded at Lautoka Mill with  $31.5^{\circ}\text{C}$ , followed by Rarawai Mill (Ba) with  $31.2^{\circ}\text{C}$ , Labasa Airfield with  $31.0^{\circ}\text{C}$ , Rotuma and RKS Lodoni both with  $30.9^{\circ}\text{C}$ , Nadi Airport and Viwa both with  $30.6^{\circ}\text{C}$ , Yaqara and Saqani both with  $30.5^{\circ}\text{C}$  and Navua with  $30.4^{\circ}\text{C}$ . Consequently, Monasavu recorded the coolest days on average with  $24.1^{\circ}\text{C}$ , followed by Nadarivatu with  $24.7^{\circ}\text{C}$ , Ono-i-Lau with  $27.8^{\circ}\text{C}$ , Lakeba with  $29.1^{\circ}\text{C}$ , Ellington (Rakiraki) and Lomaivuna both with  $29.2^{\circ}\text{C}$  and Vaturekuka (Labasa), Vunisea and Savusavu Airfield all with  $29.3^{\circ}\text{C}$ .

The highest day-time temperature was observed at Navua with  $35.1^{\circ}\text{C}$  on the 23<sup>rd</sup>, followed by RKS Lodoni with  $34.6^{\circ}\text{C}$  on the 6<sup>th</sup>, Saqani with  $33.2^{\circ}\text{C}$  on the 2<sup>nd</sup> and Labasa Airfield with  $32.9^{\circ}\text{C}$  on the 31<sup>st</sup>. In contrast, the coolest day-time temperature of  $19.5^{\circ}\text{C}$  was at Monasavu on the 13<sup>th</sup>, Nadarivatu with  $21.2^{\circ}\text{C}$  on the 13<sup>th</sup>, Ono-i-Lau with  $25.3^{\circ}\text{C}$  on the 11<sup>th</sup>, Vaturekuka (Labasa) with  $25.8^{\circ}\text{C}$  on the 13<sup>th</sup> and both Lomaivuna and Ellington (Rakiraki) with  $25.9^{\circ}\text{C}$  on the 13<sup>th</sup>.

Monasavu recorded its highest daily maximum temperature of  $28.2^{\circ}\text{C}$  on the 5<sup>th</sup>, since observations began in 1980 and Lautoka Mill recorded its highest monthly average maximum temperature of  $31.5^{\circ}\text{C}$ , since observations began in 1905 (Table 1).

### B. Minimum Night-time Air Temperatures

Generally near normal night-time temperatures were recorded over most parts of the country during the month. Of the 18 stations, 8 recorded anomalies  $\geq +0.5^{\circ}\text{C}$ , 5 within  $\pm 0.5^{\circ}\text{C}$ , and 5 registered anomalies  $\leq -0.5^{\circ}\text{C}$ .

The coolest days on average was at both Yaqara and Nadarivatu with  $17.5^{\circ}\text{C}$ , followed by Monasavu with  $17.9^{\circ}\text{C}$ , Lomaivuna with  $19.9^{\circ}\text{C}$ , Rarawai Mill (Ba) and Sigatoka both with  $20.6^{\circ}\text{C}$ , Vaturekuka (Labasa) with  $21.2^{\circ}\text{C}$ , Savusavu Airfield with  $21.3^{\circ}\text{C}$ , Labasa Airfield with  $21.4^{\circ}\text{C}$  and Nadi Airport with  $21.5^{\circ}\text{C}$ . On the other hand, the warmest night-time temperatures on average were observed at Ellington (Rakiraki) with  $26.3^{\circ}\text{C}$ , followed by Ono-i-Lau with  $24.2^{\circ}\text{C}$ , both Saqani and Levuka with  $23.8^{\circ}\text{C}$ , Laucala-Bay (Suva) with  $23.5^{\circ}\text{C}$ , Udu Point with  $23.3^{\circ}\text{C}$  and Viwa with  $23.2^{\circ}\text{C}$ .

The coolest night-time temperatures were recorded during the second week of the month. The lowest night time temperature of  $14.0^{\circ}\text{C}$  was recorded at Monasavu on the 13<sup>th</sup>, followed by both Yaqara and Nadarivatu with  $14.8^{\circ}\text{C}$  on the 14<sup>th</sup>, Lomaivuna with  $15.3^{\circ}\text{C}$  on the 14<sup>th</sup>, Rarawai Mill (Ba) with  $16.4^{\circ}\text{C}$  on the 17<sup>th</sup>, both Sigatoka and Vaturekuka (Labasa) with  $16.8^{\circ}\text{C}$  on the 18<sup>th</sup> and 15<sup>th</sup>, respectively and RKS Lodoni with  $16.9^{\circ}\text{C}$  on the 14<sup>th</sup> and Penang Mill with  $17.0^{\circ}\text{C}$  on the 15<sup>th</sup>. On the other hand, the warmest night-time temperature of  $28.4^{\circ}\text{C}$  was recorded at Ellington (Rakiraki) on the 25<sup>th</sup>, followed by Ono-i-Lau with  $26.6^{\circ}\text{C}$  on the 31<sup>st</sup>, Vanuabalavu with  $26.4^{\circ}\text{C}$  on the 1<sup>st</sup> and Rotuma with  $25.9^{\circ}\text{C}$  on the 13<sup>th</sup>.

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

**TABLE 1. CLIMATE RECORDS ESTABLISHED IN MAY 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 Maximum Temperature	Monasavu	$28.2^{\circ}\text{C}$	5 <sup>th</sup>	New High	$28.0^{\circ}\text{C}$	2010 2020	1980
Monthly Average Maximum Temperature	Lautoka Mill	$31.5^{\circ}\text{C}$	-	New High	$31.3^{\circ}\text{C}$	2017	1905

*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 2022**

	RAINFALL				AIR TEMPERATURES								SUNSHINE	
	TOTAL	RAIN		MAX.	AVERAGE DAILY				EXTREME		TOTAL			
	MM	* %	DAYS +	FALL MM ON	MAX. #	MIN. #	MIN. #	MAX. #	MAX. C	MIN. C	ON C	ON C	HRS	*
NADI AIRPORT	80.1	81	8	32 28	30.6	0.8	21.5	0.8	32.1	23	18.7	16	228	111
LAUCALA BAY	233.2	99	21	66 25	29.5	0.7	23.5	0.9	32.0	19	22.4	12	157	105
NACOCOLEVU RESEARCH	MISSING OBSERVATIONS													
ROTUMA ISLAND	230.1	75	25	52 16	30.9	0.5	U/S		31.9	12	U/S		134	75
VIWA ISLAND	187.0	181	14	115 28	30.6	0.9	23.2	-0.9	31.8	2	20.0	13		
YASAWA-I-RARA	MISSING OBSERVATIONS													
UDU POINT	130.5	77	17	21 28	29.7	0.2	23.3	-0.4	31.2	5	21.4	17		
LABASA AIRFIELD	108.3	105	19	26 20	31.0	0.6	21.4	1.1	32.9	31	17.2	15		
SAVUSAVU AIRFIELD	136.0	73	16	33 6	29.3	0.6	21.3	-1.2	32.0	1	18.5	16		
KORONIVIA RESEARCH	296.3	129	28	52 3	U/S		21.9	0.4	U/S		17.5	14		
NAUSORI AIRPORT	264.2	113	20	99 3	29.4	1.3	22.1	0.7	31.5	2	17.4	14		
NAVUA (AWS)	258.5	95	22	42 3	30.4	2.0	21.9	1.5	35.1	23	17.5	14		
MONASAVU HYDRO DAM	235.7	81	20	43 28	24.1	1.3	17.9	0.6	28.2	5	14.0	13		
FSC LAUTOKA MILL	56.9	64	6	22 28	31.5	1.6	22.0	0.4	32.5	3	18.5	14		
FSC RARAWAI MILL	104.5	107	4	44 24	31.2	0.4	19.8	0.3	32.7	5	15.6	14		
FSC PENANG MILL	120.5	76	12	60 25	29.8	0.9	22.5	0.4	32.1	5	17.0	15		
MATEI AIRFIELD	212.4	108	20	51 27	29.7	1.0	22.4	-0.7	31.4	5	20.9	15		
VANUABALAVU (AWS)	207.0	149	12	89 4	U/S		U/S		U/S		U/S			
LAKEBA	38.3	28	15	10 18	29.1	0.9	23.0	0.3	31.0	1	20.6	17		
VUNISEA	165.4	95	11	72 3	29.3	1.7	22.2	0.5	31.9	2	17.4	14		
MATUKU	MISSING OBSERVATIONS													
ONO-I-LAU	71.5	62	18	25 28	27.8	0.6	24.2	2.1	31.3	30	22.0	10		
YAQARA AWS	37.5	59	12	20 28	30.5		17.5		32.7	2	14.8	14		
LEVUKA AWS	180.0		20	29 12	29.7		23.8		32.4	2	20.6	13		
KEYIASI AWS	MISSING OBSERVATIONS													
LOMAIVUNA AWS	214.5		20	51 20	29.2		19.9		32.7	2	15.3	14		
NADARIVATU AWS	159.0		16	45 30	24.7		17.5		27.4	2	14.8	14		
RKS LODONI AWS	258.0		20	59 6	30.9		21.8		34.6	6	16.9	14		
MOMI AWS	38.0		7	16 28	30.0		22.1		31.8	19	18.3	14		
SIGATOKA AWS	112.0		11	37 25	29.9		20.6		32.6	23	16.8	18		
ELLINGTON (RA) AWS	88.5		9	31 26	29.2		26.3		32.7	2	23.8	15		
VATUREKUKA AWS	125.5		14	24 20	29.3		21.2		31.6	3	16.8	15		
KOROLEVU AWS	99.0		12	34 12	30.1		21.9		32.0	24	19.9	13		
WAINIKORO AWS	MISSING OBSERVATIONS													
SAQANI AWS	299.5		18	94 7	30.5		23.8		33.2	2	21.5	15		
SEAQAQA TB3	114.5	96	15	22 20										
DOBUILEVU TB3	190.0	151	15	43 25										
NASINU TB3	310.5		19	90 3										
TAVUA TB3	46.5	60	4	21 28										

	TEMPERATURE (C)				HUMIDITY RH% VP	WIND KT	SUN RAD %OF MJ/ POS SQ.M
	MEAN	DRY	WET	(AVERAGE AT 9AM)			
	NADI AIRPORT	26.1	26.2	22.9			
LAUCALA BAY	26.5	26.6	24.2	81 26.0	6.8		
NACOCOLEVU RESEARCH	MISSING OBSERVATIONS						
ROTUMA ISLAND	U/S	28.2	25.8	82 28.6			
VIWA ISLAND	26.9	28.0	24.8	78 28.3			
YASAWA-I-RARA	MISSING OBSERVATIONS						
UDU POINT WEATHER	26.5	27.6	24.8	80 27.6			
LABASA AIRFIELD	26.2	26.9	24.2	80 26.5			
SAVUSAVU AIRFIELD	25.3	26.6	24.2	82 26.0			
KORONIVIA RESEARCH	U/S	26.0	24.1	85 25.1			
NAUSORI AIRPORT	25.7	25.9	23.9	85 25.0	5.1		
NAVUA (AWS)	26.2						
MONASAVU HYDRO DAM	21.0	20.9	19.8	90 18.5			
FSC LAUTOKA MILL	26.7	28.6	24.8	74 29.3			
FSC RARAWAI MILL	25.5	26.1	23.9	83 25.3			
FSC PENANG MILL	26.2	26.4	23.9	82 25.7			
MATEI AIRFIELD	26.1	27.6	24.5	78 27.6			
VANUABALAVU (AWS)	U/S						
LAKEBA	26.1	27.2	24.2	78 27.0			
VUNISEA	25.8	26.6	24.2	82 26.0			
MATUKU	MISSING OBSERVATIONS						
ONO-I-LAU	26.0	26.0	23.2	79 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 (May 2021 - May 2022)

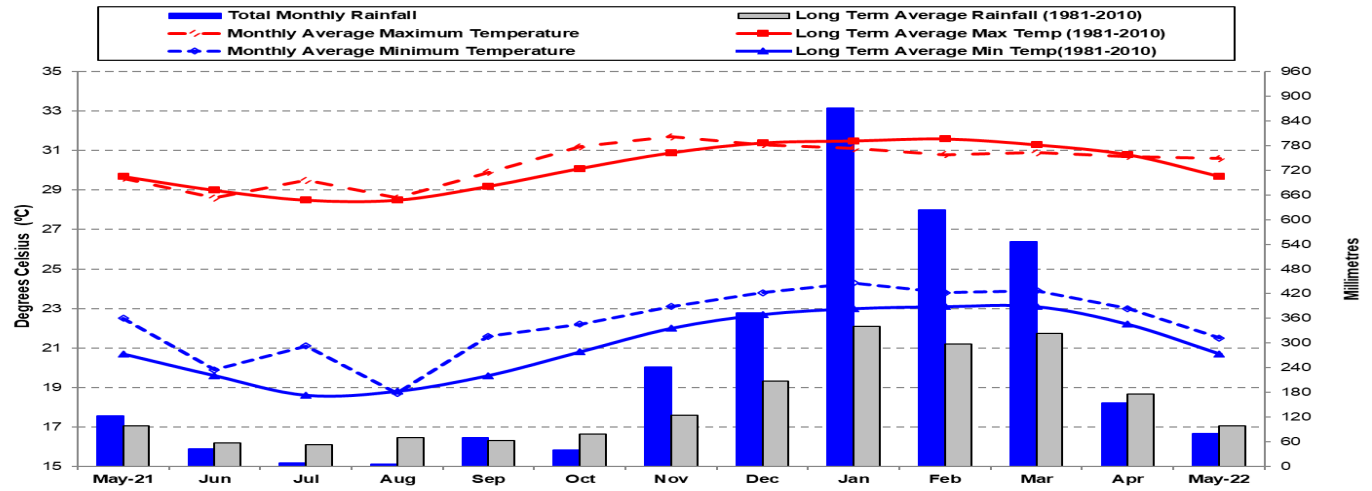


Figure 3

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

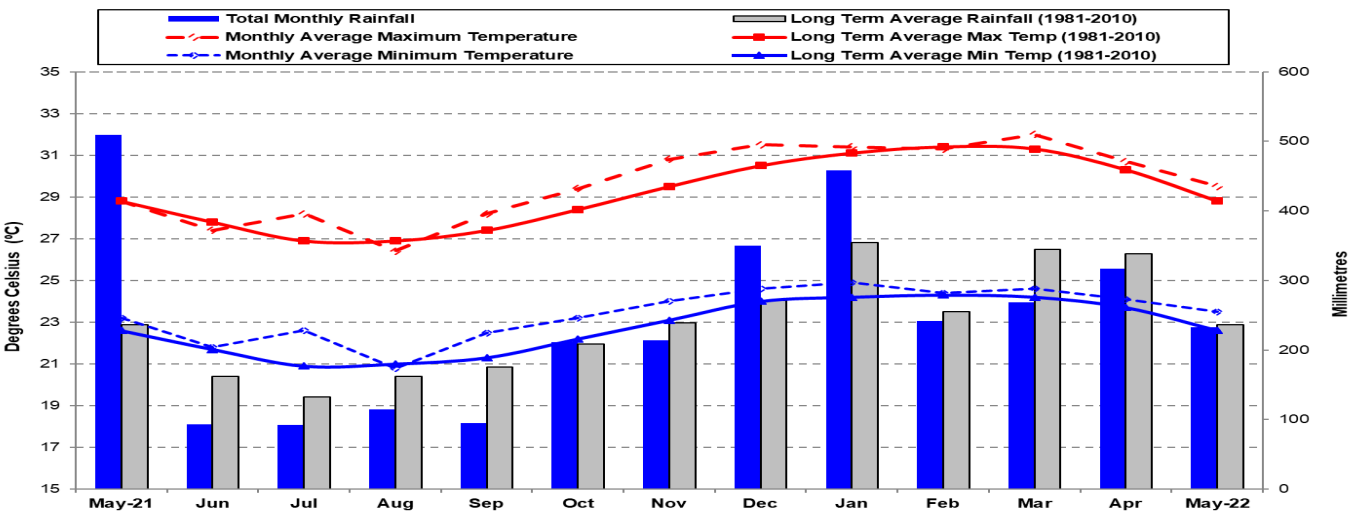


Figure 4

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

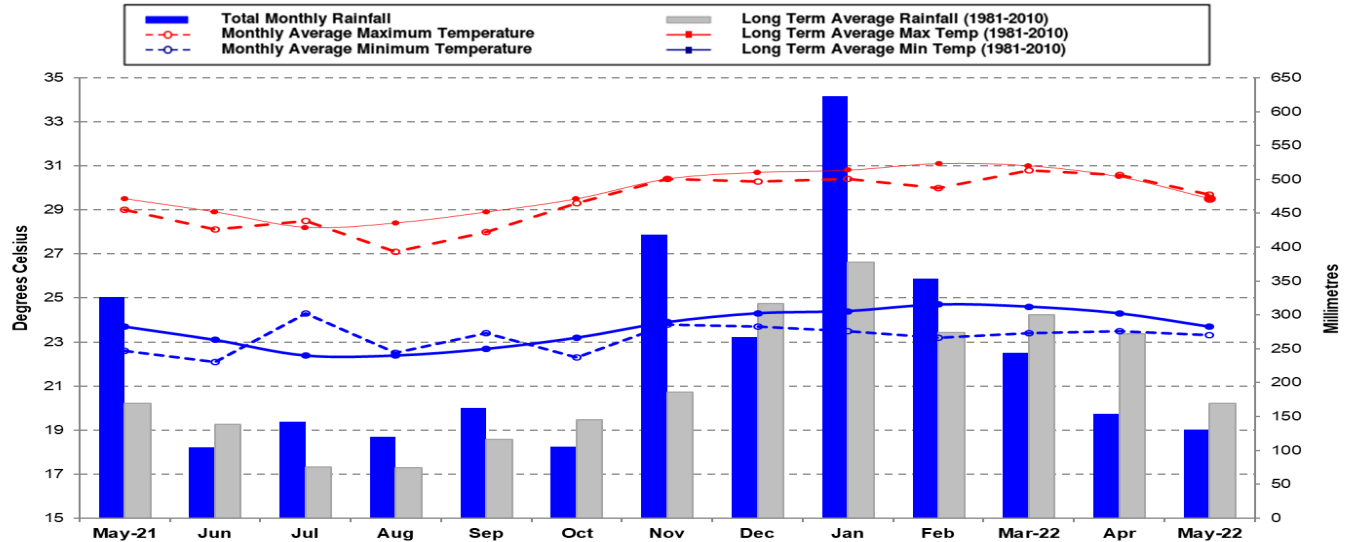
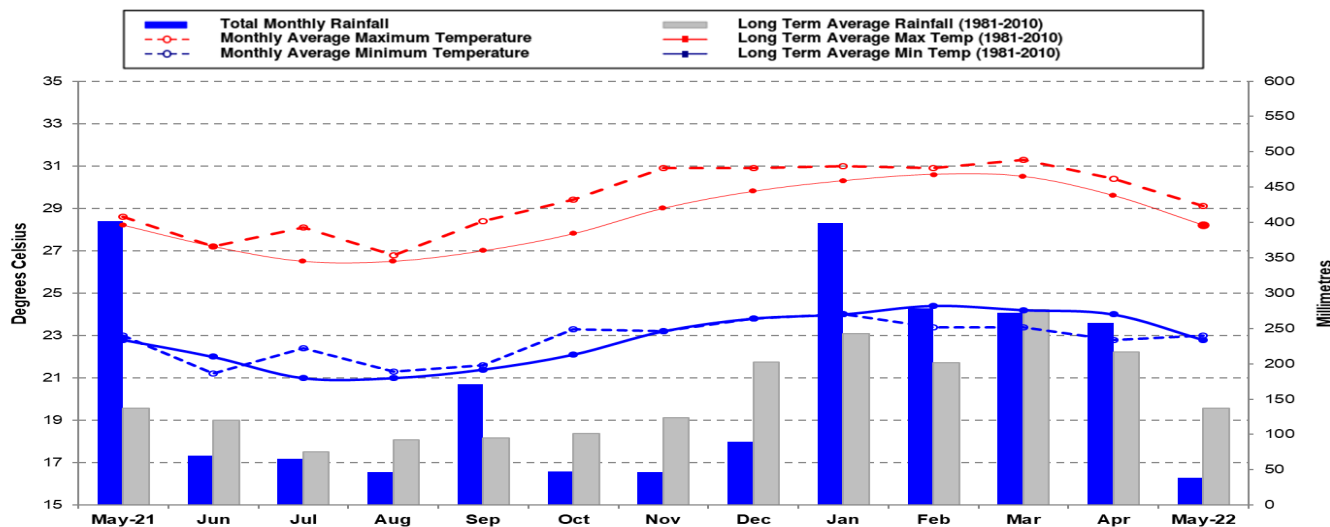


Figure 5

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



## 5. DAILY RAISED PAN EVAPORATION

Figure 6

Daily Evaporation for May 2022

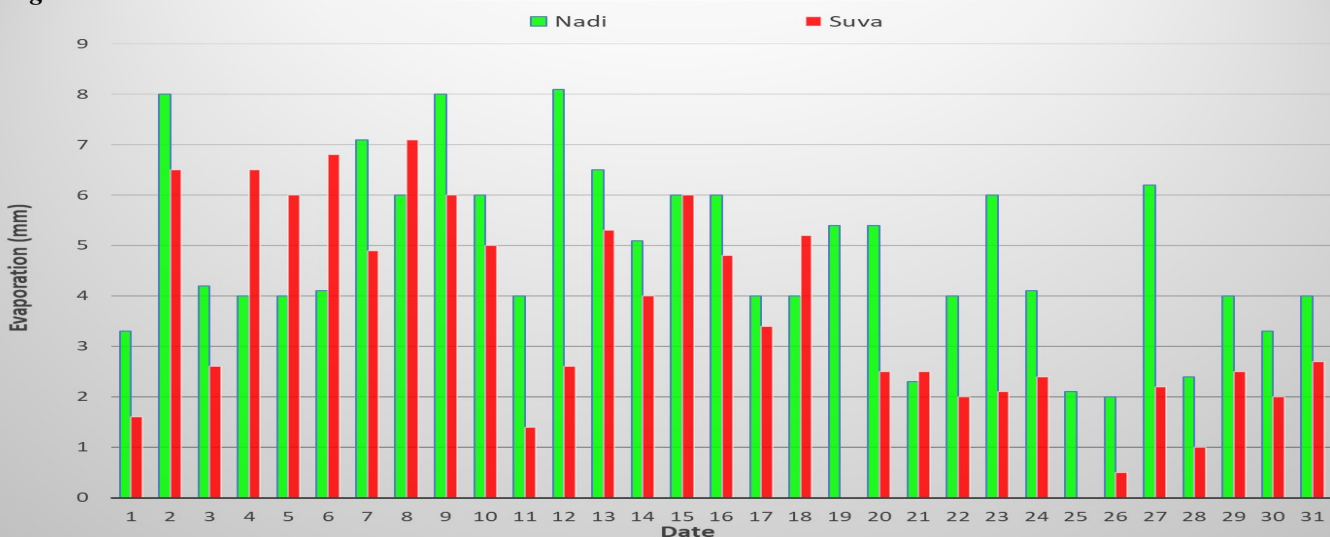


Figure 6: The total monthly evaporation at Nadi Airport and Laucala Bay (Suva) were 149.6mm and 108.1mm, respectively. Nadi’s highest daily evaporation was 8.1mm on the 12<sup>th</sup>, with Suva’s highest daily evaporation of 7.1mm on the 8<sup>th</sup>.

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 May 2022.

7. WIND SUMMARY

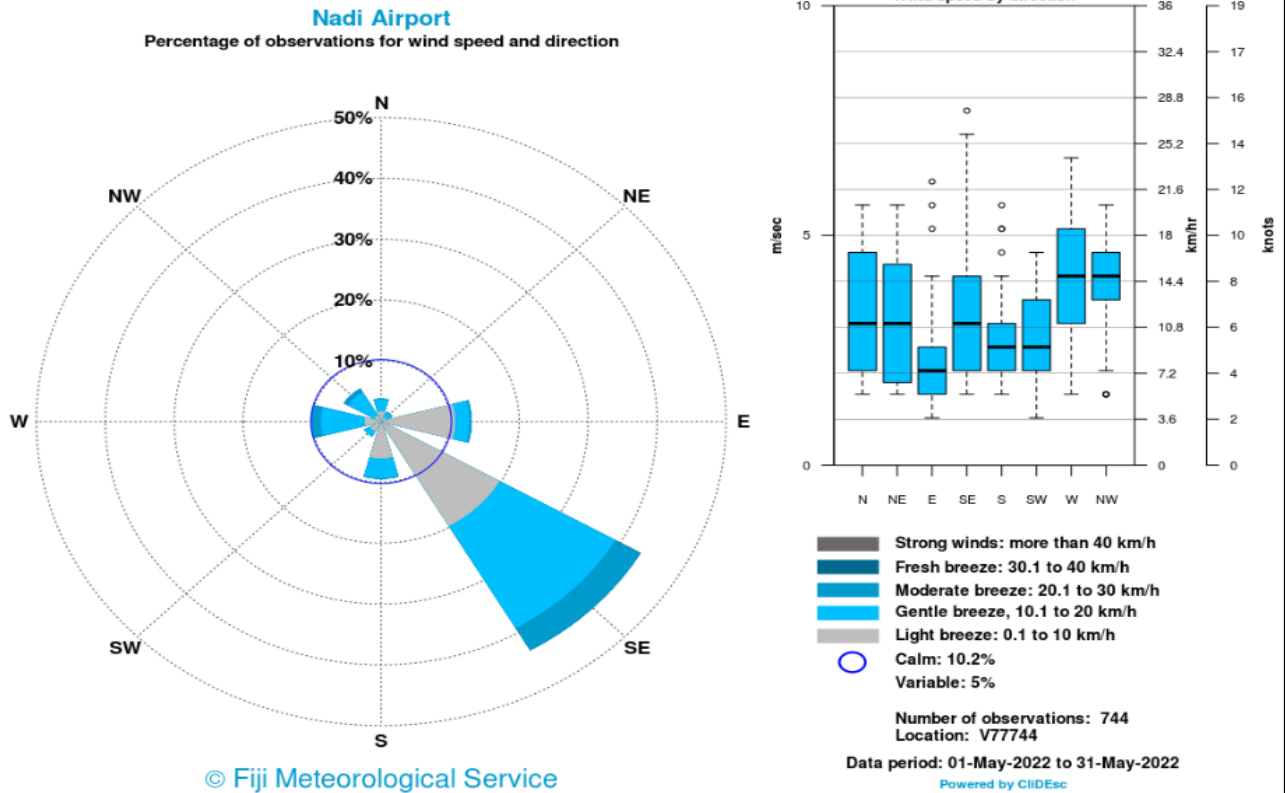


Figure 8a: Southeasterly winds were most dominant at Nadi Airport during the month, followed by easterly and westerly winds. Wind strength ranged from light to moderate during this period.

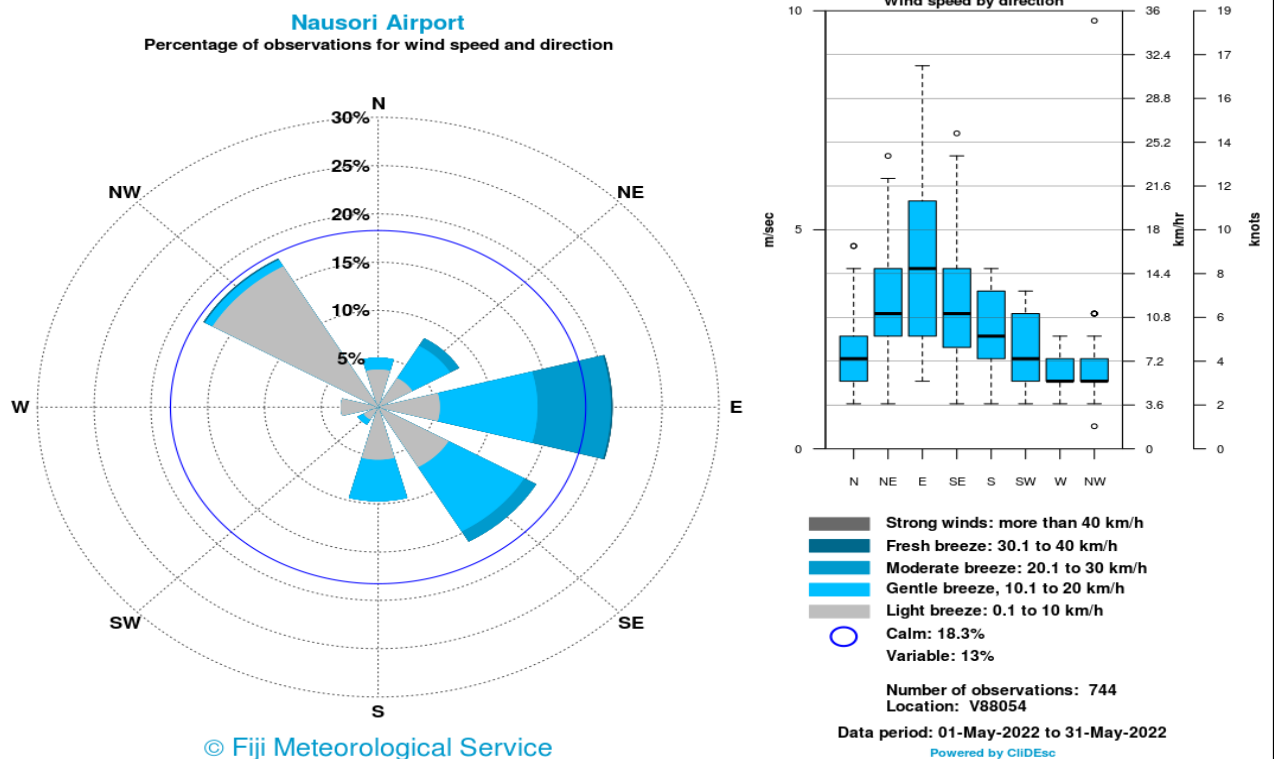
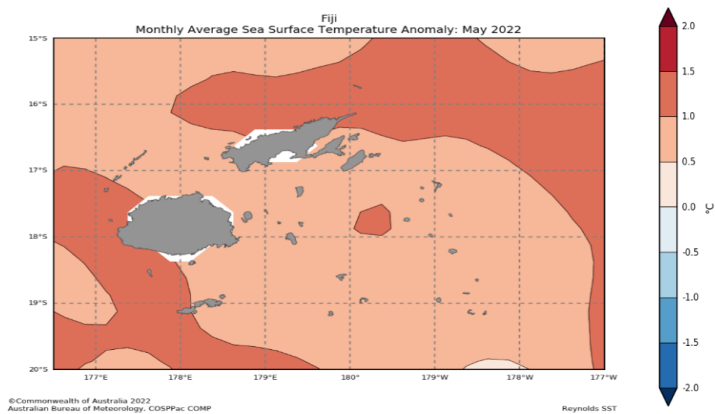


Figure 8b: Easterly winds were dominant at Nausori Airport, followed by northwesterly, then southeasterly winds. Wind strength ranged from light to moderate during this period.

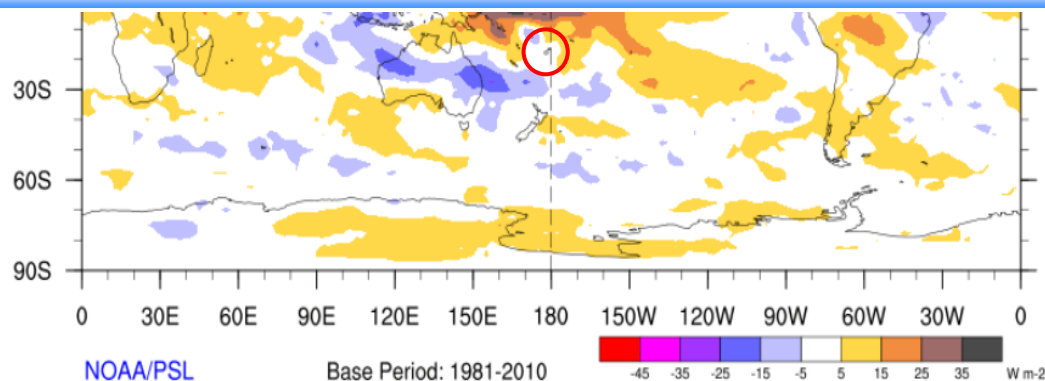
### 8. SEA SURFACE TEMPERATURE (SST)



**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>

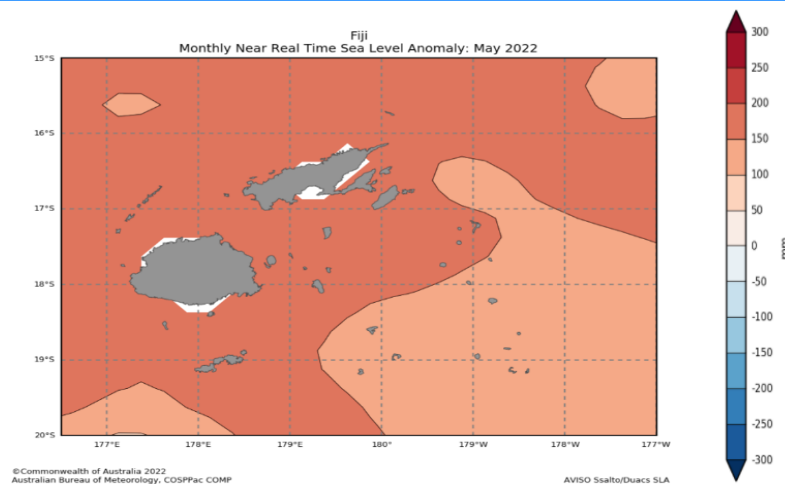
### 9. CLOUD COVER



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

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

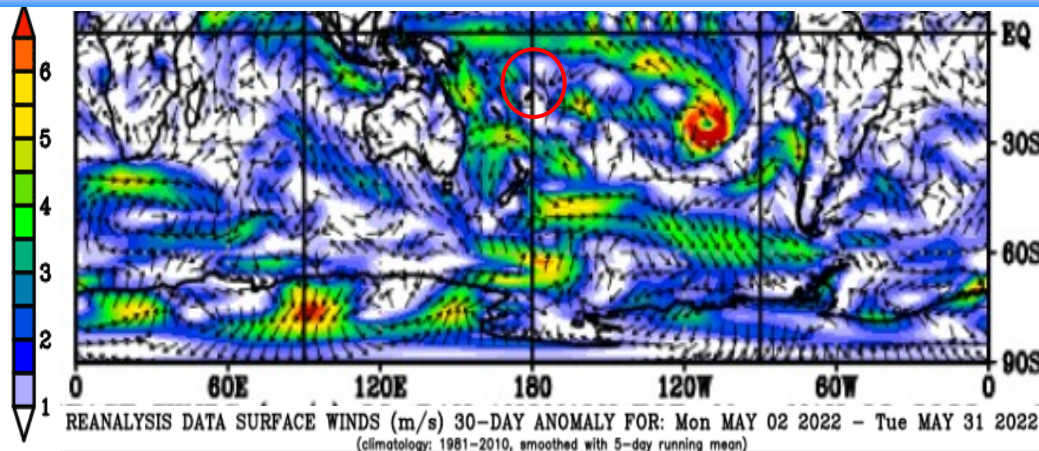
### 10. SEA LEVEL



**Figure 11:** Above normal sea level anomalies (between 15-25cm) persisted across most of the Fiji Waters during May.

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

### 11. WIND ANOMALIES



**Figure 12:** Northerly 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)