

Fiji Climate Summary February 2021



**ISO 9001:2015
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Services**



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1. IN BRIEF

A La Niña event continued to persist in the tropical Pacific Ocean during February. The South Pacific Convergence Zone (SPCZ) was displaced south of its normal position, closer to the Fiji Group.

A major highlight of the month was the passage of tropical depression 09F over the Northern and Eastern Divisions between 7th and 9th. This resulted in strong and gusty winds together with heavy rainfall in parts of the country.

Rainfall for the month was *near average* or *above average* at most places around the country. Northwestern Viti Levu, Yasawa-i-Rara, parts of southern Lau Group, Vanua Levu and Rotuma experienced wetter than usual month. On the other hand, Laucala Bay (Suva), Monasavu, Viwa and Ono-i-Lau registered drier than normal condition.

Out of the 23 rainfall monitoring stations, 9 recorded *above average* total monthly rainfall, 10 *near average* and 4 *below average*.

A couple of heavy rainfall events were registered during the month. The highest 24-hour rainfall for the month was recorded at Lakeba with 149mm on the 8th, followed by Levuka with 139mm on the 6th and Seaqaqa with 137mm on the 1st.

Two major flash flooding incidents were experienced during February. On the 13th, areas around Tavua were inundated with flash floods. Then later during the month on the 27th, flash floods were recorded in the Ba and Tavua areas, with inundation of flood waters in parts of the Ba town. A day later, many areas in the northern half of Vanua Levu registered flash floods.

The mean maximum air temperatures were *below normal* or *near normal* at most of the places during the month, while the mean minimum air temperatures were *normal* or *above normal* at most places. The highest daily day-time air temperature was registered at Levuka with 35.6°C on the 3rd. On the other hand, the lowest daily minimum air

2. WEATHER PATTERNS

The weather in February was dominated by a series of active convergence zones and troughs of low pressure systems plus the moist easterlies.

On the 1st, Severe Tropical Cyclone Ana Category 3 lay to the south of Fiji with its associated active convergence zone over Vanua Levu and Lau group. It affected the country and cleared the group on the 2nd. Thus, widespread rain and isolated thunderstorms were observed across the country. The heaviest 24-hour rainfall recorded was in Seaqaqa on the 1st with 137mm.

On the 3rd, another trough drew near the country from the west, moved over with rain and thunderstorms and cleared the group on the 7th. The highest 24-hour rainfall recorded was in Levuka on the 6th with 139mm.

Following the above events, Tropical Depression 09F made its way just east of the Lau group. The associated trough of low pressure and active convergence zone affected Fiji with widespread rain and isolated thunderstorms between the 7th and the 13th with the heaviest 24-hour rainfall recorded at

Lakeba with 149mm on the 8th.

From the 14th to the 21st, a moist east to northeast wind flow prevailed over the group with occasional showers recorded especially over the eastern parts and interior of Viti Levu and as well as in the Lau group.

Later on the 22nd, a weak frontal system lay to the north of Vanua Levu with a fresh and dry southeast wind flow prevailing over the group till the 23rd. Cloudy to fine weather conditions were observed during this period.

On the 23rd, an active trough approached Fiji from the north and moved over the country affecting the whole group from the 27th till month end. Again, widespread rain and isolated thunderstorms were observed across the country. The highest 24-hour rainfall recorded was at Tavua with 113mm on the 27th.

Rotuma's weather was also affected by a series of convergence zones and troughs of low pressure systems.

3. RAINFALL

Rainfall in February was *near average* or *above average* at most places around the country. Northwestern Viti Levu, Yasawa-i-Rara, parts of southern Lau Group, Vanua Levu and Rotuma experienced wetter than usual month. On the other hand, Laucala Bay (Suva), Monasavu, Viwa and Ono-i-Lau registered drier than usual month. Out of the 23 rainfall monitoring stations, 9 recorded *above average* rainfall, 10 *near average* and 4 *below average* (Table 2, Figures 1-5).

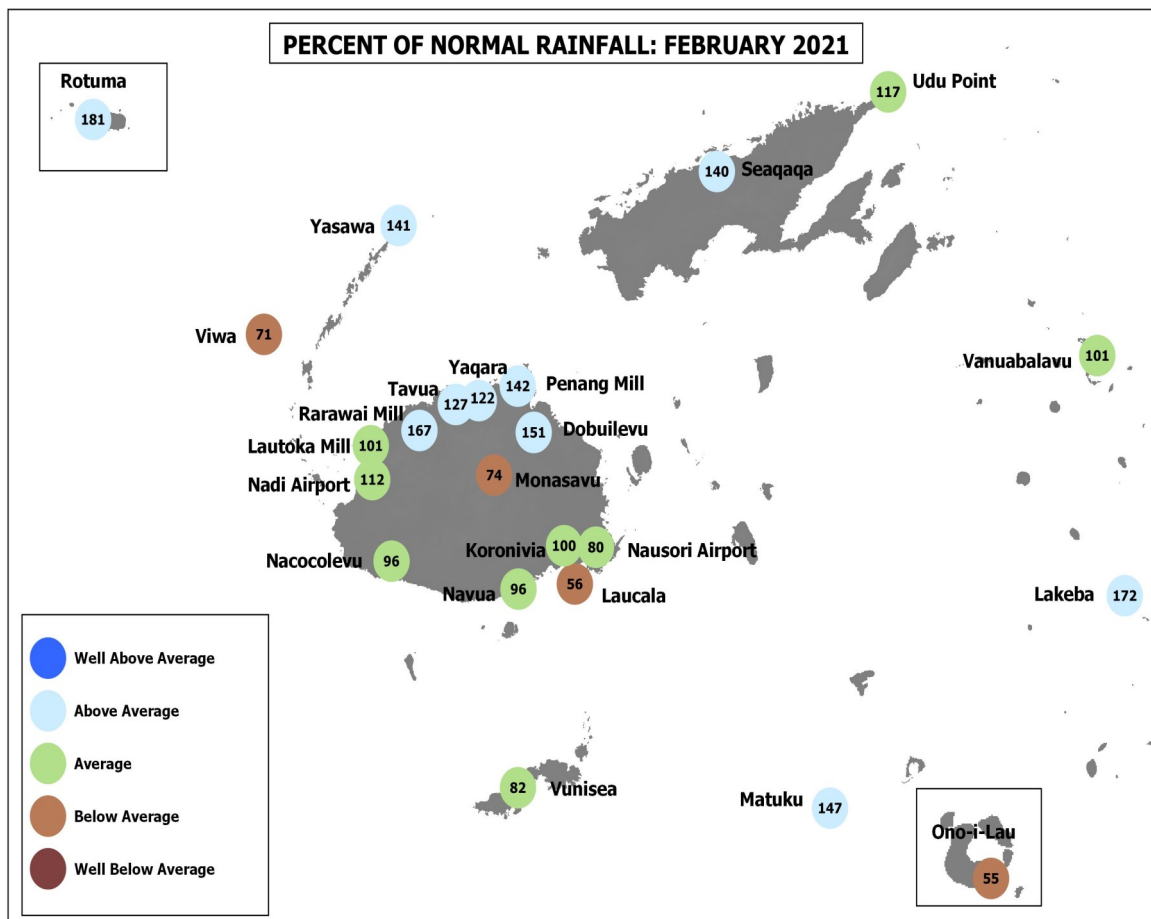
The wettest station during the month was Nadarivatu with 679mm of total monthly rainfall, followed by Rarawai Mill (Ba) with 591mm, Rotuma with 560mm, Seaqaqa with 536mm, Levuka with 511mm, Penang Mill with 472mm, Dobuilevu with 467mm and Wainikoro with 454mm. On the other hand, the lowest total monthly rainfall was recorded at Ono-i-Lau with 98mm, followed by Laucala Bay (Suva) with 144mm, Sigatoka with 156mm, Viwa with 161mm and Vunisea (Kadavu) with 178 mm.

A number of heavy rainfall events were recorded during the month with the highest 24-hour rainfall registered at Lakeba with 149mm on the 8th, followed by Levuka with 139mm on

the 6th, Seaqaqa with 137mm on the 1st and Tavua, 113mm on the 27th. Nadarivatu with 109mm on the 12th and Udu Point with 102mm on the 8th.

Ellington (Ra) recorded the highest number of rain days (rainfall $\geq 0.1\text{mm}$) during the month with 27 days, followed by Monasavu and Nausori Airport with both 26, Rotuma, Seaqaqa and Nadi Airport with all 25, Nadarivatu, Lomaivuna and Koronivia with all 24, and Rarawai Mill (Ba) Dobuilevu and Nasinu with all 23. In contrast, Sigatoka recorded 11 rain days during the month, followed by Lakeba with 17, Lautoka Mill, Kubulau and Momi with all 18, and Vaturekuka (Labasa), Vunisea (Kadavu), Matuku, Vanuabalavu, Yaqara and Korolevu with all 19.

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 $\geq 0.1\text{mm}$
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 *normal* or *below normal* maximum air temperatures were observed over the Fiji Group during February. Out of the 20 climate stations, 7 recorded anomalies $\leq -0.5^\circ$, 11 within $\pm 0.5^\circ\text{C}$, while Lautoka Mill and Tokotoko (Navua) registered anomaly $\geq +0.5^\circ\text{C}$.

Warmest days on average during the month was at Levuka with 32.7°C , followed by Keiyasi with 32.5°C , Seaqaqa with 32.3°C , Yaqara with 32.0°C , and Lautoka Mill with 31.9°C . On the other hand, Nadarivatu recorded the coolest days on average with 25.2°C , followed by Monasavu with 25.9°C , Ellington (Ra) with 29.3°C , and Kubulau and Ono-i-Lau with both 29.8°C .

The highest daily day-time air temperature was registered at Levuka with 35.6°C on the 3rd, followed by Lomaivuna with 34.8°C on the 10th, Keiyasi with 34.6°C on the 8th and Seaqaqa with 34.5°C on the 18th. In contrast, the coolest maximum air temperature for February was at Nadarivatu with 22.4°C on the 28th, followed by Monasavu with 22.5°C on the 21st, Kubulau with 25.3°C on the 11th, and Ellington (Ra) and Saqani with both 26.4°C on the 12th and 27th, respectively.

There was no new record maximum air temperature registered during the month.

B. Minimum Night-time Air Temperatures

Generally *normal* or *above normal* minimum air temperatures were recorded over the Fiji Group during the month. Out of the 19 stations, 3 registered anomalies $\leq -0.5^\circ$, 9 within $\pm 0.5^\circ\text{C}$, while 7 stations with anomalies $\geq +0.5^\circ\text{C}$.

The coolest site on average during February was Nadarivatu with 19.6°C , followed by Monasavu with 20.1°C , Lomaivuna with 22.1°C and Vaturekuka (Labasa) with 22.6°C . In contrast, the warmest mean monthly minimum air temperature was observed at Levuka with 25.6°C , followed by Viwa with 25.1°C , Laucala Bay with 24.9°C and Ono-i-Lau with 24.8°C .

Cool night-time temperatures were experienced over the Fiji Group during last week of February. The lowest daily minimum air temperature during the month was recorded at Nadarivatu with 17.7°C on the 21st, followed by Monasavu with 18.3°C on the 26th, Rarawai Mill (Ba) with 20.0°C on the 26th and Nacocolevu with 20.4°C on the 24th. On the other hand, the warmest daily minimum air temperature was recorded at Kubulau with 27.4°C on the 10th, followed by Seaqaqa with 27.0°C on the 9th and Levuka with 26.7°C on the 19th.

There was no new record minimum air temperature registered during the month.

TABLE 1. CLIMATE RECORDS ESTABLISHED IN FEBRUARY 2021

There was no new record established during the month.

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 FEBRUARY 2021

	RAINFALL				AIR TEMPERATURES								SUNSHINE			
	TOTAL MM	RAIN MAX.		FALL MM ON	AVERAGE DAILY				EXTREME				TOTAL HRS	*		
		* DAYS			MAX. #	MIN. #			MAX. #	MIN. #						
		%	+			C	C	C		C	ON	ON				
NADI AIRPORT	333	112	25	48	10	31.0	-0.6	24.1	1.0	33.3	17	22.0	26	147	79	
SUVA/LAUCALA BAY	144	56	21	45	11	31.2	0.1	24.9	0.6	32.5	16	23.5	1	160	88	
NACOCOLEVU	230	96	21	49	10	31.3	-0.3	23.6	0.9	33.0	2	20.4	24	128	78	
ROTUMA	560	181	25	66	8	30.1	-0.8	24.4	-0.4	33.1	16	22.6	24	96	59	
VIWA	161	71	20	47	11	30.8	-0.8	25.1	-0.2	32.4	21	23.2	27			
UDU POINT	320	117	22	102	8	30.0	-1.1	23.8	-0.9	31.2	16	22.8	1			
SAVUSAVU AIRFIELD	OBSERVATIONS TEMPORARILY CLOSED															
LABASA AIRFIELD					31.4 -0.3				33.7 18							
NABOUWALU	STATION TEMPORARILY CLOSED															
KORONIVIA	280	100	24	75	28	30.7	-0.2	24.0	0.6	32.0	8	21.4	27			
NAUSORI AIRPORT	212	80	26	39	28	31.1	0.2	23.5	0.1	32.8	10	21.4	1			
NAVUA/TOKOTOKO	280	96	22	65	5	31.6	0.7	23.7	1.6	33.5	10	21.7	27			
MONASAVU	386	74	26	55	21	25.9	0.1	20.1	0.6	28.7	15	18.3	26			
LAUTOKA AES	305	101	18	57	10	31.9	0.5	24.0	0.0	34.0	2	22.5	24			
BA/RARAWAI MILL	591	167	23	89	11	31.4	-0.7	22.8	0.3	33.6	2	20.0	26			
PENANG MILL	472	142	22	60	21	31.0	-0.0	24.1	0.4	32.3	15	22.5	15			
MATEI AIRFIELD	OBSERVATIONS TEMPORARILY CLOSED															
VANUABALAVU	217	101	19	51	26	30.1	-0.5	24.3	-0.6	31.4	19	22.1	1			
LAKEBA	346	172	17	149	8	30.7	0.1	24.4	0.0	32.5	11	22.0	28			
YASAWA	288	141	20	84	5	30.9	-0.2	23.0	-1.7	33.0	8	21.5	13			
VUNISEA	178	82	19	64	28	30.5	-0.1	24.7	0.9	32.3	14	22.4	27			
MATUKU	246	147	20	90	20	30.1	-0.5	24.7	0.0	31.2	17	22.1	1			
ONO-I-LAU	98	55	20	33	1	29.8	-0.4	24.8	0.2	32.0	16	21.5	9			
YAQARA AWS	358	122	19	65	27	32.0		24.6		33.9	19	23.2	13			
LEVUKA AWS	511		21	139	6	32.7		25.6		35.6	3	23.5	28			
KEIYASI AWS	438		22	95	5	32.5		22.7		34.6	8	20.5	24			
LOMAIVUNA AWS	407		24	59	6	31.8		22.1		34.8	10	20.8	27			
NADARIVATU AWS	679		24	109	12	25.2		19.6		27.5	17	17.7	21			
RKS LODONI AWS	397		21	97	6	30.8		23.5		33.5	9	22.0	27			
MOMI AWS	228		18	55	27	U/S		24.4		U/S		22.4	26			
SIGATOKA AWS	156		11	49	11	30.7		23.2		32.4	10	20.9	26			
ELLINGTON (RA) AWS	248		27	89	6	29.3		23.7		30.3	9	22.2	7			
WAINIKORO AWS	454		21	77	1	31.0		23.5		33.6	19	22.0	15			
SAQANI AWS	275		20	61	11	31.7		24.6		34.0	21	22.4	28			
VATUREKUKA AWS	437		19	93	8	30.1		22.6		32.7	19	21.2	19			
SEAQAQA AWS	536	140	25	137	1	32.3		24.6		34.5	18	21.7	19			
KOROLEVU AWS	209		19	43	27	31.7		23.4		34.2	10	21.2	27			
KORO ISLAND AWS	U/S				U/S		U/S									
KUBULAU AWS	224		18	42	6	29.8		23.8		31.5	9	21.9	18			
DOBUILEVU TB3	467	151	23	71	17											
NASINU TB3	308		23	64	28											
TAVUA TB3	357	127	21	113	27											

	TEMPERATURE(C)		HUMIDITY		WIND KT	SUN RAD %OF MJ/ POS SQ.M
	MEAN	DRY WET	RH%	VP		
	(AVERAGE AT 9AM)					
NADI AIRPORT	27.6	28.2 25.5	80	30.5	6.5	42 10\$
SUVA/LAUCALA BAY	28.0	28.3 25.8	81	31.1		49 10\$
NACOCOLEVU	27.4	27.8 25.5	83	30.9		39 19\$
ROTUMA	27.2	27.6 26.0	88	32.5		30 17\$
VIWA	28.0	28.7 26.2	82	32.1		
UDU POINT	26.9	28.0 25.7	83	31.3		
SAVUSAVU AIRFIELD	OBSERVATIONS TEMPORARILY CLOSED					
LABASA AIRFIELD	OBSERVATIONS TEMPORARILY CLOSED					
NABOUWALU	STATION TEMPORARILY CLOSED					
KORONIVIA	27.3	28.0 25.7	83	31.3		
NAUSORI AIRPORT	27.3	27.9 25.6	83	31.1	4.7	
NAVUA/TOKOTOKO	27.7	28.6				
MONASAVU	23.0	22.9 21.5	88	24.6		
LAUTOKA AES	28.0	29.2 26.1	78	31.4		
BA/RARAWAI MILL	27.1	27.5 25.4	84	30.7		
PENANG MILL	27.5	27.8 25.6	83	31.0		
MATEI AIRFIELD	OBSERVATIONS TEMPORARILY CLOSED					
VANUABALAVU	27.2	28.2 25.4	80	30.4		
LAKEBA	27.6	28.4 26.0	82	31.6		
YASAWA	27.0	27.6 26.0	88	32.4		
VUNISEA	27.6	28.1 25.7	82	31.1		
MATUKU	27.4	27.8 25.9	86	31.8		
ONO-I-LAU	27.3	27.9 25.6	82	31.1		

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 - Temperature & Rainfall Records for the last 13 Months (February 2020 - February 2021)

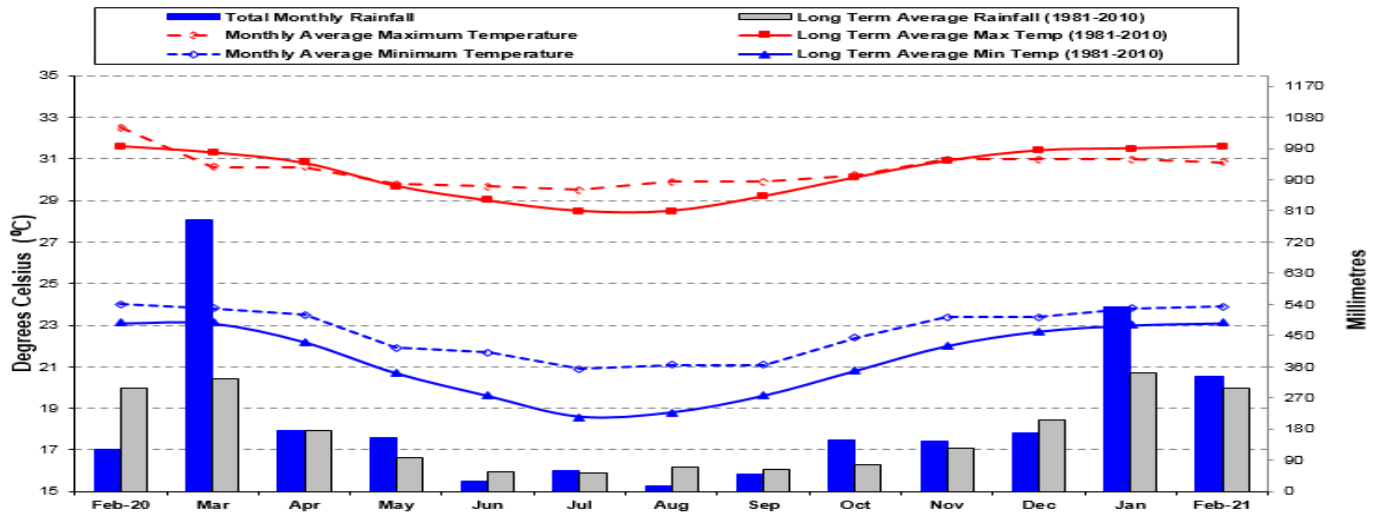


Figure 3

Laucala Bay - Temperature & Rainfall for the last 13 Months (February, 2020 - February, 2021)

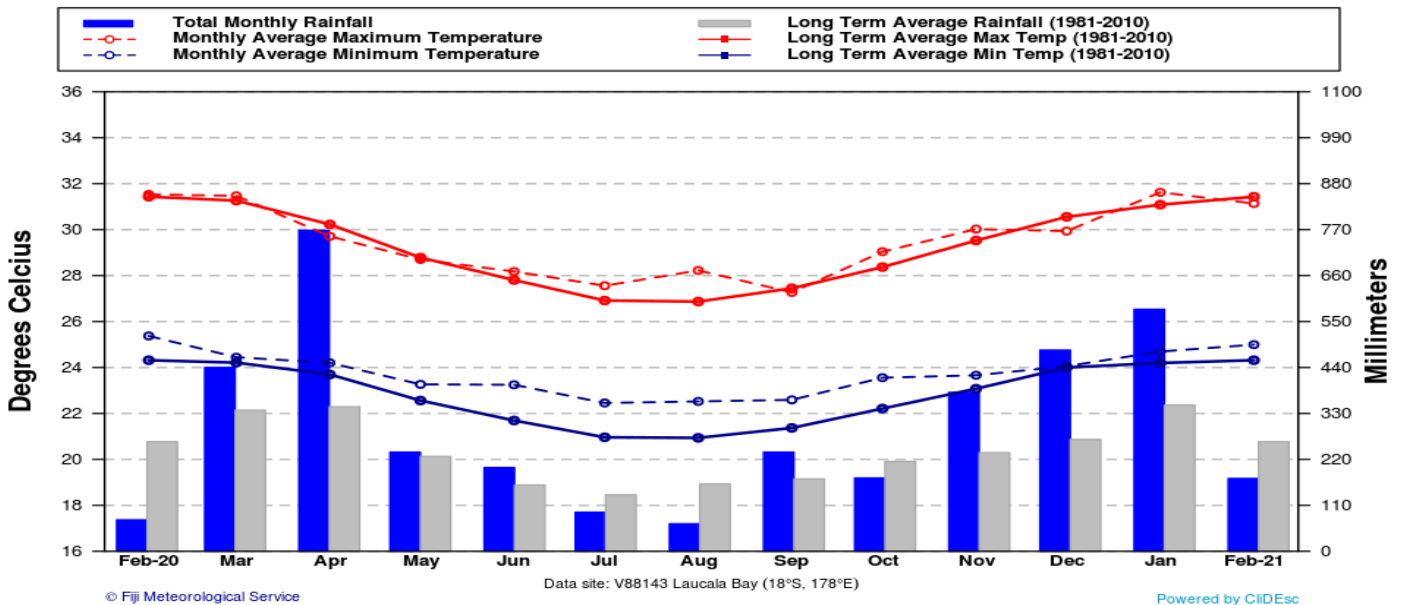


Figure 4

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

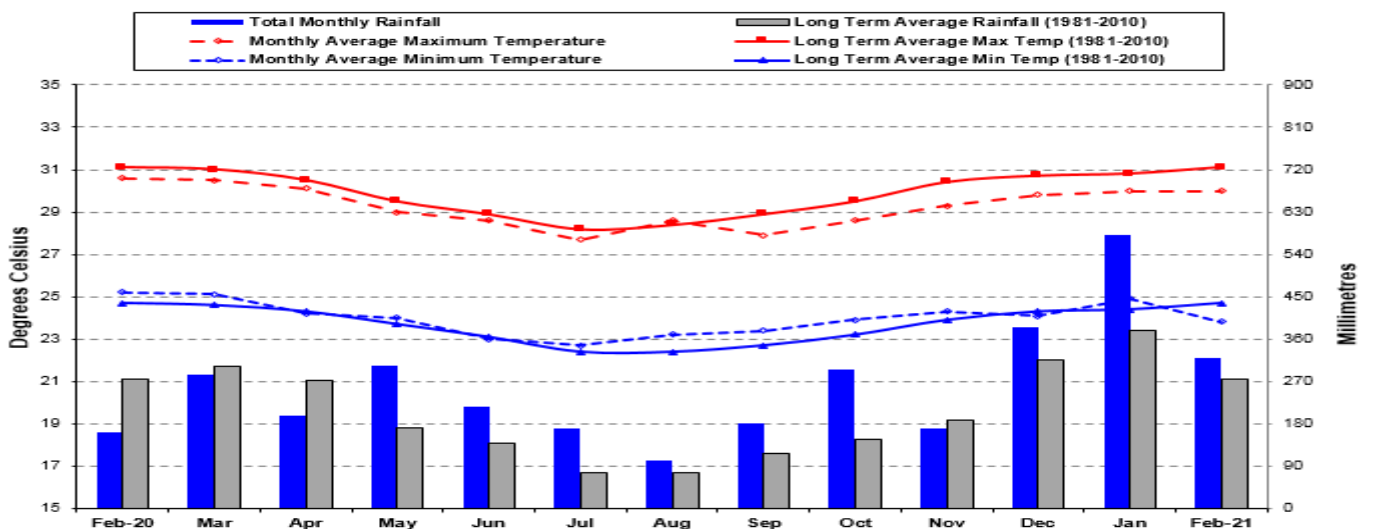
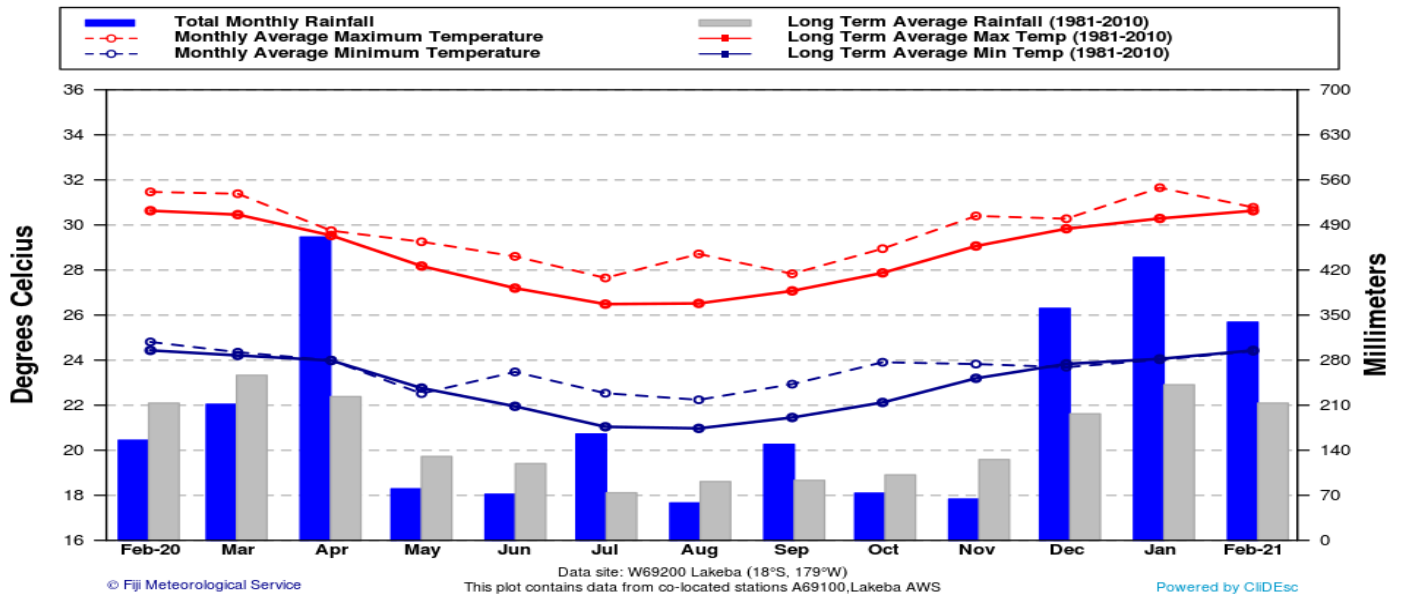


Figure 5

Lakeba - Temperature & Rainfall for the last 13 Months
(February, 2020 - February, 2021)



5. DAILY RAISED PAN EVAPORATION

Figure 6

Daily Evaporation for February 2021

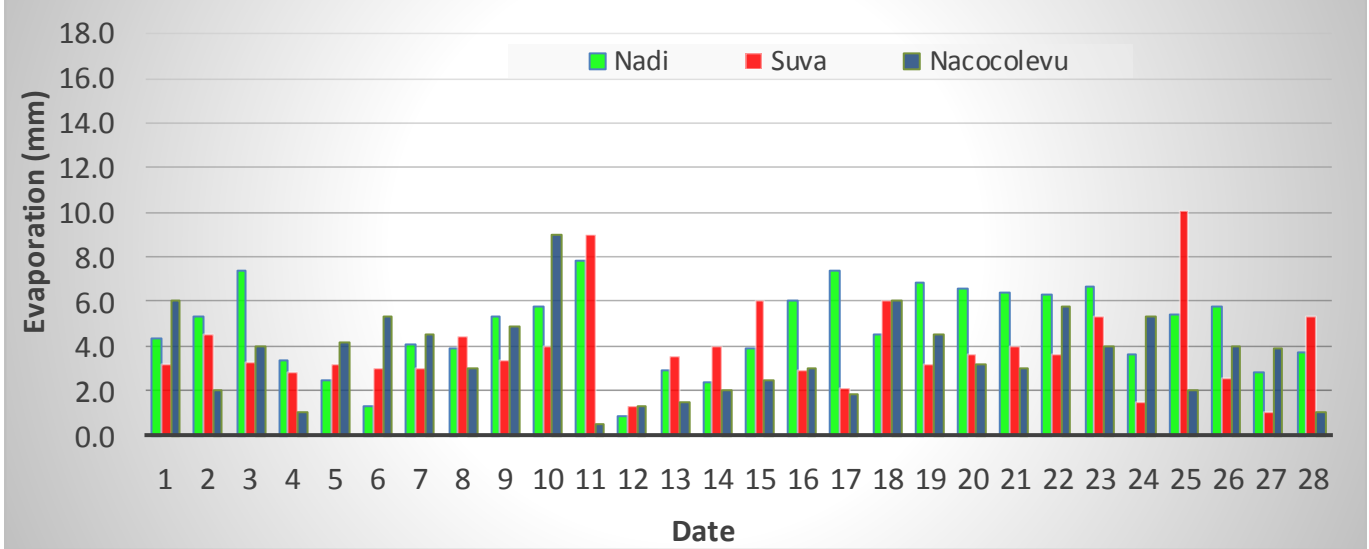


Figure 6: The total monthly evaporation at Nadi Airport, Laucala Bay (Suva) and Nacocolevu (Sigatoka) were 133mm, 110mm, and 99mm, respectively. Nadi’s highest daily evaporation was 7.8mm on the 11th, with Suva’s highest daily evaporation of 10.1mm on the 25th and Nacocolevu (Sigatoka) recorded its highest of 9.0mm on the 10th.

6. SOLAR RADIATION

The Nadi solar radiation instrument became unserviceable during 17th to 28th February

7. WIND SUMMARY

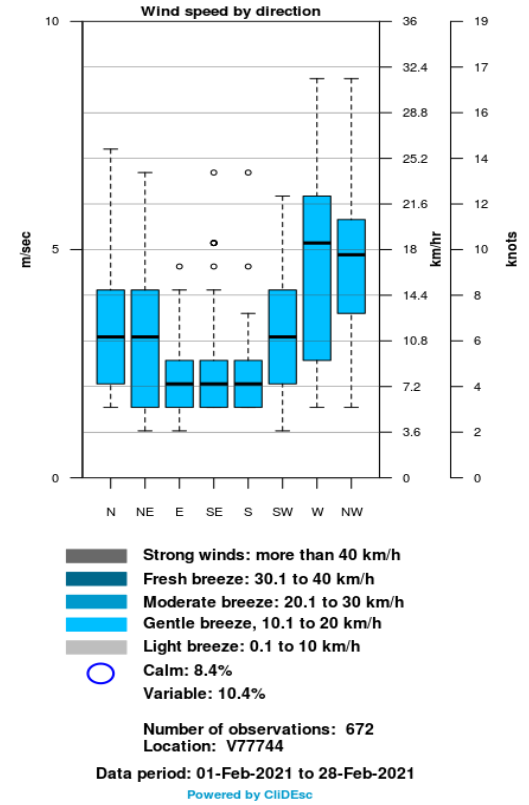
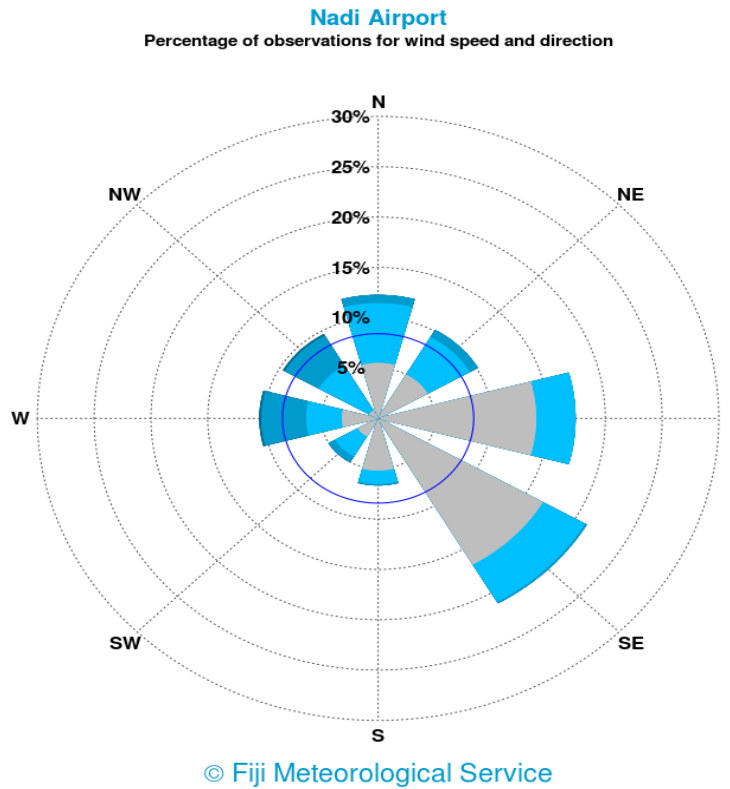


Figure 8a: Southeasterly winds were dominant at Nadi Airport during the month, followed by easterly, then northerly. Wind strength ranged from light to fresh during this period.

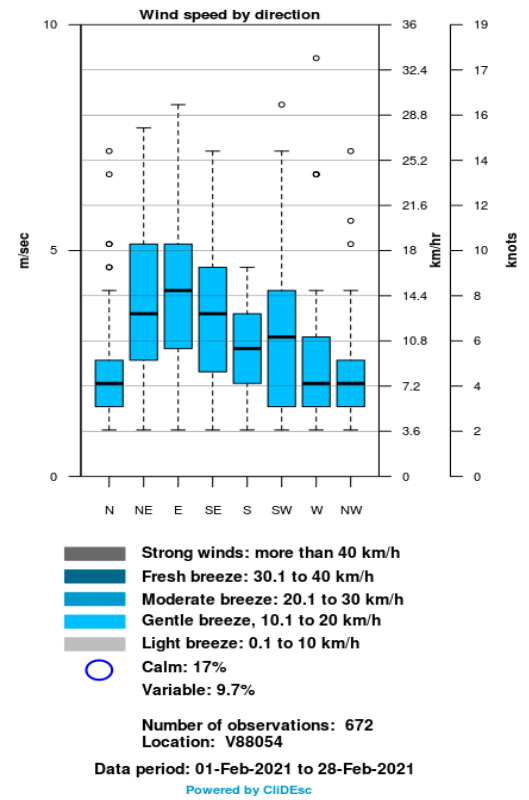
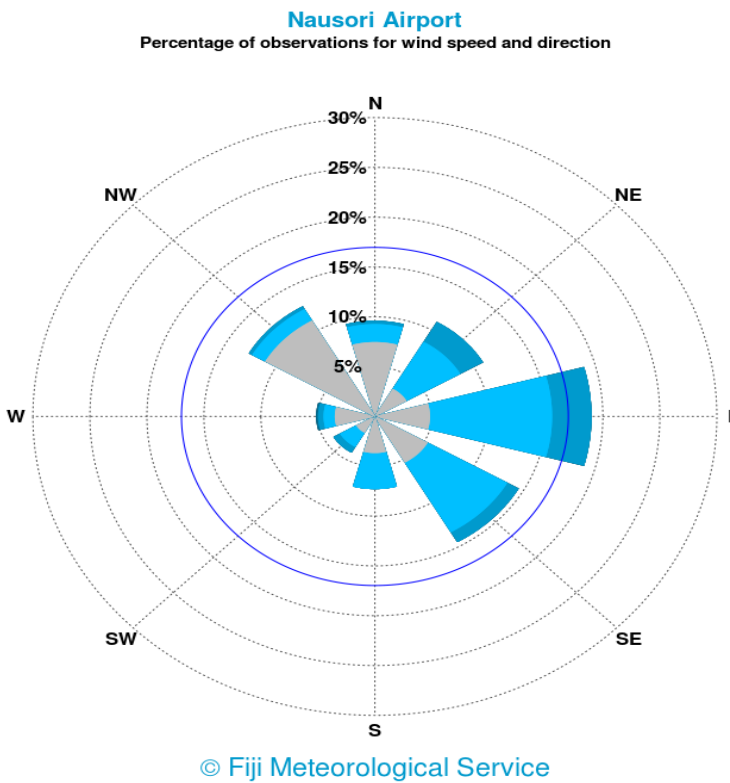


Figure 8b: Easterly were dominant at Nausori Airport, followed by southeasterly and then northwesterly. Wind strength ranged from light to fresh during this period.

8. CLOUD COVER

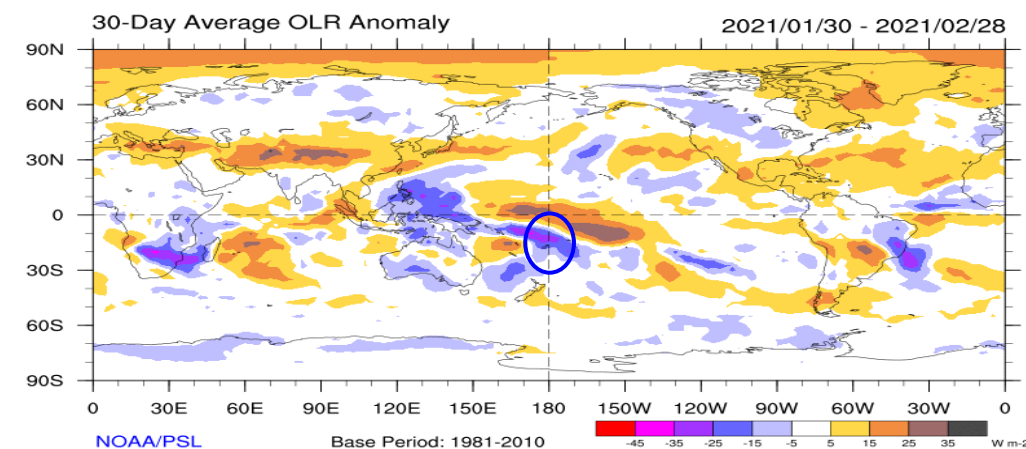


Figure 9:

Above normal cloud cover was present over the Fiji region during the month (Fiji in blue circle).

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

9. WIND ANOMALIES

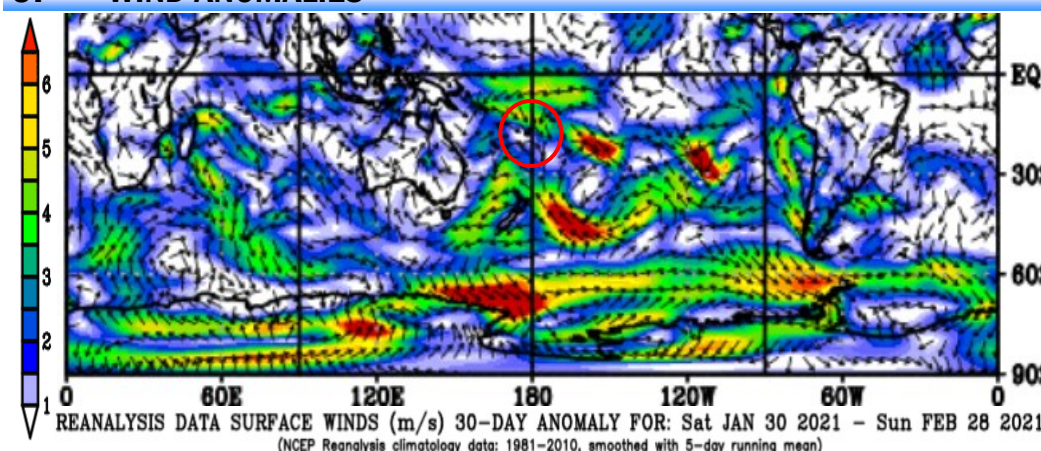


Figure 10:

North-westerly wind anomalies of up to 2m/s were recorded in the Fiji region 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

10. FLASH FLOODS

Two major episodes of flash flooding were recorded over the country during the month, in particular in the Western and Northern Divisions.

The first episode of flash flooding was on the 13th when heavy rain associated with a trough of low-pressure affected the Western Division. Major flash flood occurred around low-lying areas of Tavua including Nabuna Village, Kings Road near Tavua, and Yalandro area. Notable rainfall of 74.5mm/12hr was recorded at Nadarivatu station from 5pm on the 12th to 5am on the 13th.

The second episode of flash flooding occurred on the 27th to 28th when another active trough of low pressure affected the Fiji Group. Localized heavy rainfall led to flash flooding in the Western Division, especially Ba and Tavua areas on the 27th and parts of Vanua Levu on the 28th. Notable rainfall of 50mm/3hr was recorded at Yaqara and 88.5mm/3hr at Tavua Reservoir site within three hours between 10am to 1pm on the 27th.

In Tavua, Tagitagi area was inundated with flash floods, while in Ba the Rarawai flat and the areas around Ba market were flash flooded on the 27th.

In the Northern Division, a number of roads and crossings were flooded on the 28th. These included Lalakoro Road, Zailav Crossing at Batiri Road in Seaqaqa, Boubale Crossing at Bulileka Road in



Figure 11: Flooded Kings Road in Tavua on the 13th.
Source: Fiji Roads Authority.



Figure 12: Flooded Ba market area on the 27th.