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Fiji Climate Summary May 2024

ISO 9001:2015 certified Climate Services

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IN BRIEF

Variable rainfall patterns were observed during May, with rainfall ranging from well below average to well above average across the country. The majority of stations in the Western Division, Seaqaqa, Vunisea, and Matuku experienced drier than usual conditions. Rarawai Mill (Ba), Yaqara, Viwa, Yasawa-i-Rara, Seaqaqa, Vunisea, and Matuku recorded less than half of their normal monthly rainfall, while Udu Point, Savusavu Airfield, and Ono-i-Lau recorded more than twice their normal monthly rainfall.

Overall, out of the 27 rainfall monitoring stations that reported in, in time for the compilation of bulletin, 5 recorded well below average rainfall, 5 below average, 3 average rainfall, 11 above average, and 3 stations with well above average (Table 2, Figures 1-5).

RKS Lodoni recorded the highest monthly rainfall of 553.0mm, followed by Savusavu Airfield with 535.8mm, Monasavu with 533.9mm, Rotuma with 425.0mm, Udu Point with 423.5mm, Navua with 417.5mm, Lomaivuna with 412.5mm, Nausori Airport with 402.7mm, Ko-

ronivia with 372.7mm, and Korolevu with 360.5mm. (Table 2).

On temperatures, the month's warmest day-time temperature of 35.7°C was observed at RKS Lodoni on the 20th, followed by Navua with 35.6°C on the 20th, Seaqaqa with 35.0°C on the 1st, Rarawai Mill (Ba) with 34.5°C on the 2nd, and Matuku with 34.2°C on the 21st. The month's coolest night-time temperature of 11.0°C was recorded at Rarawai Mill (Ba) on the 12th, followed by Monsavu with 12.6°C on the 11th, Lomaivuna with 14.5°C on the 10th, Labasa Airport with 14.7°C on the 11th, and Seaqaqa with 15.3°C on the 11th.

Southeasterly winds were dominant at Nadi Airport, Nausori Airport, Savusavu Airfield, Matei Airfiel (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 May was dominated by series of trough of low -pressure systems with the moist easterly and the cool, dry southerly winds prevailing over the Fiji group.

An east to southeast wind flow prevailed over the Fiji group at the beginning of May until the 4th when a trough of low pressure affected the country with the associated rain and thunderstorms till the 7th. The significant 24 hour rainfalls recorded at Waimanu was 108mm on the 5th and 173mm at Savusavu on the 6th.

A cool and dry southerly windflow prevailed thereafter till the 10^{th} before turning southeast till the 15^{th} . Monasavu recorded a minimum temperature of 12 degrees celcius on the 10^{th} . A trough of low pressure with the associated clouds and rain affected the group from the north on the 15^{th} and gradually spread to the rest of the country the 17th. Lakeba and Ono-i-Lau recorded significant 24 hour rainfall on the 16^{th} with 105.5 mm and 129.7 mm repectively. Keiyasi also recorded 100.5 mm for the 17^{th} .

A prevailing northeast wind flow persisted after the passing trough on the 17th till the 22nd with prevailing wind flow changing to east then to southeast. A slow moving trough of low pressure with the associated clouds and rain coupled with the moist southeast wind flow affected the country from the southwest on the 24th and gradually spread to the rest of the group till the end of the month. Occasional rain occurred over

the interior and eastern parts of the larger islands with isolated heavy falls. RKS AWS recorded significant 24 hour rainfall of 113.0mm on the 24th. Cloudy periods prevailed over the rest of the country with isolated afternoon or evening showers.

A high pressure system to the far southwest of Fiji affected the country from the 29th generating strong southeast winds over all Fiji waters. On the 30th, strong southeast winds were also felt over land, especially over the windward coastal areas of Viti Levu, Vanua Levu, Kadavu and nearby smaller islands, Yasawa, Lau and Lomaiviti groups till the 31st.

A Coastal Inundation Warning was also in force for all the low lying Coastal areas of Southern Viti Levu, Yasawa and Mamanuca group, Kadavu and nearby smaller islands, Beqa, Vatulele, Lomaiviti, Central and Southern Lau groups. A Damaging Heavy Swell was also in force for the Yasawa and Mamanuca waters, Southwest Viti Levu waters, Kadavu passage, Koro Sea, Central and Southern Lau waters. Unfortunately there were no reported events from the above warnings.

Rotuma's weather was mainly affected by a series of troughs of low pressures that brought occasional rain over the islanf with the moist easterly and southeast winds.

*Previously known as the Fiji Islands Weather Summary and Monthly Weather Summary

3. RAINFALL

Variable rainfall patterns were observed during May, with rainfall ranging from well below average to well above average across the country. The majority of stations in the Western Division, Seaqaqa, Vunisea, and Matuku experienced drier than usual conditions. Rarawai Mill (Ba), Yaqara, Viwa, Yasawa-i-Rara and Seaqaqa recorded less than half of their normal monthly rainfall, while Udu Point, Savusavu Airfield, and Ono-i-Lau recorded more than twice their normal monthly rainfall.

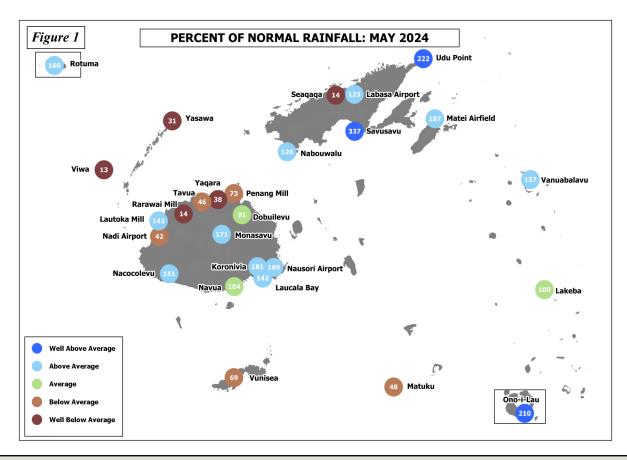
Overall, out of the 27 rainfall monitoring stations that reported in, in time for the compilation of bulletin, 5 recorded *well below average* rainfall, 5 *below average*, 3 *average* rainfall, 11 *above average*, and 3 stations with *well above average* (Table 2, Figures 1-5).

The highest monthly rainfall of 553.0mm was observed at RKS Lodoni, followed by Savusavu Airfield with 535.8mm, Monasavu with 533.9mm, Rotuma with 425.0mm, Udu Point with 423.5mm, Navua with 417.5mm, Lomaivuna with 412.5mm, Nausori Airport with 402.7mm, Koronivia with 372.7mm, and Korolevu with 360.5mm. On the other hand, Viwa recorded the month's lowest total monthly rainfall of 12.8mm, followed by Rarawai Mill (Ba) with 13.6mm, Momi with 19.0mm, Seaqaqa with 33.0mm, and Nadi Airport with 38.9mm (Table 2).

The highest 24-hour rainfall of 243mm was recorded at Udu Point on the 29th, followed by Savusavu Airfield with 173mm on 6th, Ono-i-Lau with 130mm on the 16th, RKS Lodoni with 113mm on the 24th, Lakeba with 106mm on the 16th, Keiyasi with 101mm on the 17th, Lomaivuna with 92mm on the 15th, Rotuma with 89mm on the 30th, Monasavu with 86mm on the 14th and Matei Airfield with 83mm on the 6th.

Rotuma recorded the highest number of rain days (rainfall ≥0.1mm) with 27 days, followed by Monasavu and Koronivia both with 26 days, Korolevu with 25 days, Laucala Bay (Suva) and Vunisea both with 24 days, and Nasinu, Nausori Airport and Navua all with 23 days. Consequently, Rarawai Mill (Ba) and Viwa both with 4 days, followed by Momi with 5 days, and Nadi Airport, Lautoka Mill, Tavua and Penang Mill all with 9 days.

There were no new rainfall records observed during the month.



4. AIR TEMPERATURES

A. <u>Maximum Day-time Air Temperatures</u>

Generally normal to above normal day-time air temperatures were observed across the country during the month. Out of the 23 climate stations that reported in time for the analysis of data, 16 recorded anomalies $\geq +0.5$ °C, 2 within ± 0.5 °C, and 5 with anomalies ≤ -0.5 °C.

The warmest days on average were recorded at Rarawai Mill (Ba) with 33.5°C, followed by RKS Lodoni with 31.9°C and Lautoka Mill with 31.8°C, Viwa and Labasa Airport both with 31.7°C, and Seaqaqa with 31.6°C. Consequently, Monasavu recorded the coolest days on average with 24.4°C, followed by Ono-i-Lau with 28.0°C, Korolevu with 28.6°C, Lomaivuna and Vunisea both with 28.7°C, and Sigatoka, Navua, and Nausori Airport all with 28.8°C.

The warmest daily day-time temperatures were recorded during the third week of the month. The month's highest day-time temperature of 35.7°C was observed at RKS Lodoni on the 20th, followed by Navua with 35.6°C on the 20th, Seaqaqa with 35.0°C on the 1st, Rarawai Mill (Ba) with 34.5°C on the 2nd, and Matuku with 34.2°C on the 21st. On the other hand, the coolest day-time temperature of 20.3°C was at Monasavu on the 30th, followed by Lomaivuna with 21.9°C on the 31st, Korolevu with 23.5°C on the 29th, Navua with 23.7°C on the 31st and Vaturekuka (Labasa) with 23.8°C on the 31st.

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

B. <u>Minimum Night-time Air Temperatures</u>

Generally *normal to above normal* night-time temperatures were recorded over most parts of the country during the month. Of the 23 stations, 15 recorded anomalies $\geq +0.5$ °C, 5 within ± 0.5 °C, and 3 with anomalies ≤ -0.5 °C.

The coolest days on average was at Monasavu with 18.8° C, followed by Rarawai Mill (Ba) and Lomaivuna both with 20.9°C, Ono-i-Lau with 21.5°C, Korolevu with 21.7°C, Labasa Airport and Sigatoka both with 22.0°C, Vanuabalavu with 22.2°C, and Nacocolevu and Vature-kuka both with 22.3°C. Consequently, on average, the warmest night-time temperatures were observed at Rotuma with 26.3°C, Viwa with 25.2°C, Lakeba and RKS Lodoni both with 24.9°C, and Saqani with 24.8°C.

The coolest daily night-time temperatures were recorded during the second week of the month. The lowest night-time temperature of 11.0°C was recorded at Rarawai Mill (Ba) on the 12th, followed by Monasavu with 12.6°C on the 11th, Lomaivuna with 14.5°C on the 10th, Labasa Airport with 14.7°C on the 11th, and Seaqaqa with 15.3°C on the 11th. On the other hand, the warmest night-time temperature of 29.0°C was recorded at Saqani on the 6th, followed by Seaqaqa with 27.8°C on the 6th, Rotuma with 27.6°C on the 22nd, and Lakeba with 27.3°C on the 20th.

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

TABLE 1. CLIMATE RECORDS ESTABLISHED IN MAY 2024

There were no new climate records established during May 2024.

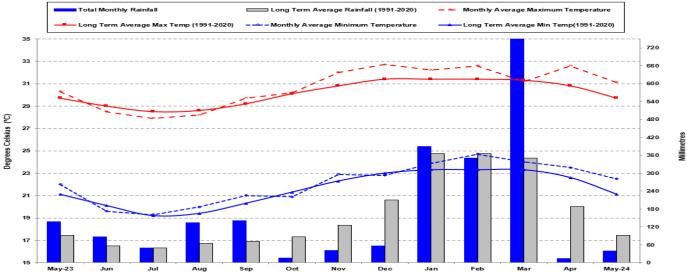
Note: All comparisons in this summary are with respect to "Climatic Normals". This is defined to be the average climate condition over a 30-year period. Fiji uses 1991-2020 period as its "climatic normal" period.

TABLE 2. DAILY CLIMATE REPORTING SITES: SUMMARY FOR MAY 2024

```
RAINFALL
                                                          AIR TEMPERATURES
                                                                                            SUNSHINE
                       TOTAL
                                  RAIN MAX.
                                                      AVERAGE DAILY
                                                                             EXTREME
                                                                                             TOTAL
                                * DAYS FALL
                                                  MAX. #
                                                            MIN.
                                                                         MAX.
                                                                                  MIN.
                                 %
                                         MM ON
                                                           C
                                                                      C
                                                                            C ON
                                                                                      C ON
                                                                                             HRS
                                                                                                    %
                        MM
                                                     \mathcal{C}
                                                                C
                         38.9
                                                        1.4 22.5
                                                                    1.4 34.0 20 16.5
                                                                                                   93
                                                 31.1
NADI AIRPORT
                               42
                                         16 2
                                                                                        10
                                                                                             195
                       331.0 142 24
                                                 29.3
                                                        0.5 24.2
                                                                    1.3 33.5 21 20.6 13
                                         39 31
                                                                                             106
                                                                                                   72
LAUCALA BAY
                       130.7 151 18
                                         76 17
                                                 28.9 -0.7 22.3
NACOCOLEVU RESEARC
                                                                    2.4 32.6 21 16.0 13
                                                                                                   82
                                                                                             107
ROTUMA ISLAND (AWS) 425.0 160 27
                                         89 30
                                                 31.4
                                                                    1.2
                                                        0.3 26.3
                                                                         33.1
                                                                                  24.2
                        12.8 13
                                                             25.2
                                                        1.5
                                                                                6 22.0
VIWA ISLAND
                                          8
                                                 31.7
                                                                    1.3 33.4
                                         20 24
                                                 30.2 -0.8 23.9 -0.2 33.8
YASAWA-I-RARA (AWS)
                        51.0 31 10
                                                                                3 17.2 10
                       423.5 222 17
224.1 126 22
                                        243 29
31 5
                                                                  -0.7 33.1 23 20.2 12
-0.1 32.4 21 17.0 17
UDU POINT WEATHER
                                                 30.7
                                                             23.1 - 0.7
                                                        0.8 23.5
NABOUWALU
                                                 29.3
                                                        0.9 22.0
LABASA AIRFIELD
                       121.1 123 18
                                         38
                                                 31.7
                                                                    1.7 33.9
                                                                                3 14.7
                       535.8 337
372.7 181
                                                 29.5
                                                        0.8 24.6
                                                                              19 22.5
21 17.3
SAVUSAVU AIRFIELD
                                   22
                                        173
                                              6
                                                                    1.7
                                                                         33.0
                                                 29.1
                                                                    1.4
                                                                        33.0
                                   26
                                            31
                                                        0.4 23.0
KORONIVIA RESEARCH
NAUSORI AIRPORT
                       402.7 189
                                         41 30
                                                 28.8
                                                        0.5 22.8
                                                                    1.4 32.4 21 17.0
                       417.5 104 23
533.9 171 26
NAVUA (AWS)
                                                 28.8 -0.7 22.5
                                         46 15
                                                                    0.0 35.6
                                                                               20 17.3
                                         86 14
                                                        1.4
                                                             18.8
                                                                         28.1
MONASAVU HYDRO DAM
                                                 24.4
                                                                    1.4
                                                                               21 12.6
                                         80 <u>2</u>3
7 <u>2</u>
                       136.0 142
                                                 31.8
FSC LAUTOKA MILL
                                                        1.8
                                                             22.7
                                                                    1.1 33.7
                                                                                1 18.1 10
FSC RARAWAI MILL
FSC PENANG MILL
                              14
73
                                                             20.9
                                                                    1.1
                                                                         34.5
                                                                                2 11.0
2 17.4
                                                                                  11.0 12
                        13.6
                                                 33.5
                                                        2.7
                                         26 30
                                                        \bar{1}.0 23.9
                                                                         32.5
                       119.0
                                                 30.3
                                                                    1.9
                                                        0.5 22.4 -0.9 31.9
0.7 22.2 -1.2 32.0
                                                 29.5
MATEI AIRFIELD
                       325.4 187 20
                                         83 6
                                                                                2 19.4
                       199.8 157
                                                 29.4
                                                                                3 19.5
                                   22
                                         46 16
VANUABALAVU
                                                                                3 20.6
LAKEBA (AWS)
                       231.0 100
                                   21
                                        106 16
                                                 29.3
                                                       -0.5
                                                             24.9
                                                                   0.8
                                                                         32.5
                              69 24
                       212.0
                                                 28.7 -0.7 23.2 -0.3
VUNISEA (AWS)
                                         40
                                             1
                                                                         33.8
                                                                               20 19.4
MATUKU (AWS)
                              48 20
                                         19 14
                                                        1.8 24.5
                        89.0
                                                 31.4
                                                                   0.5 34.2 21 21.8
                       261.3 210
66.5 38
ONO-I-LAU
                                        130
                                            16
                                                 28.0
                                                        0.6 21.5
                                                                         31.7
                                                                   -0.4
                                         30 30
                                                             23.9
                                                                         33.8
                                                                                3 17.2 10
YAQARA AWS
                                   10
                                                 31.1
LEVUKA AWS
                        41.5
                                   17
                                         11 24
                                                 U/S
                                                             U/S
                                                                         U/S
                                                                                  U/S
                       206.5
                                   12
                                        101 17
                                                             U/S
KEIYASI AWS
                                                 U/S
                                                                         U/S
                                                                                  U/S
                                         92 15
                                                 28.7
                                                             20.9
                                                                         33.5 20 14.5 10
                       412.5
                                   21
LOMAIVUNA AWS
NADARIVATU AWS
                       240.0
                                   17
                                         65 30
                                                 U/S
                                                             U/S
                                                                         U/S
                                                                                  U/S
                                                                         35.7
RKS LODONI AWS
                                   21
                                        113 24
                       553.0
                                                 31.9
                                                             24.9
                                                                               20 18.7
                                                             22.9
22.0
                                                                         33.7
                                                                                  18.7
MOMI AWS
                        19.0
                                                 30.0
                                                                                        11
SIGATOKA AWS
                       131.0
                                         47
                                                 28.8
                                                                         33.9 20 15.7
                                                 29.7
                                                             22.3
                                              2
                                   14
                                         32
                                                                         32.9
VATUREKUKA AWS
                        87.5
                                                                                3 15.6
                                                                                        11
                                   25
                                         72 17
                       360.5
                                                                         32.6 21 16.2
KOROLEVU AWS
                                                 28.6
                                                             21.7
                                                                                        10
                                   15
                                         19
                                                 30.5
WAINIKORO AWS
                        62.0
                                                             22.8
                                                                         33.9
                                                                                3 15.7
                                                                                        11
                                                             24.8
                       159.5
                                                                                4 21.9
                                   20
                                                 30.1
                                                                         32.7
                                                                                        11
                                         51 16
SAQANI AWS
SEAQAQA AWS
                        33.0 14
                                   10
                                         17
                                                 31.6
                                                             22.8
                                                                         35.0
                                                                                1 15.3
                       249.0 91
                                         70 30
DOBUILEVU TB3
                                   20
                       296.0
NASINU TB3
                                   23
                                         32 27
TAVUA TB3
                        88.5 46
                      TEMPERATURE( C) HUMIDITY WIND
                             DRY WET RH% VP (AVERAGE AT 9AM)
                      26.8 26.6 23.6
26.8 26.6 24.6
                                         77 26.0
84 26.0
NADI AIRPORT
                                                    6.3
LAUCALA BAY
NACOCOLEVU RESEARC 25.6 26.1 24.1
ROTUMA ISLAND(AWS) 28.9
                      28.4 29.2 25.7
VIWA ISLAND
                                         76 30.3
YASAWA-I-RARA(AWS) 27.1
                      26.9 28.0 25.3
26.4 27.3 24.6
                                         81 28.3
81 27.1
UDU POINT WEATHER
NABOUWALU
                      26.8 28.0 25.2
                                         80 28.3
LABASA AIRFIELD
                                                  10.2
SAVUSAVU AIRFIELD
SAVUSAVU AIRFIELD 27.1 27.2 24.9
KORONIVIA RESEARCH 26.0 26.4 24.8
                                         82 27.0
88 25.7
                      25.8 26.4 24.6
                                         86 25.7
                                                    5.4
NAUSORI AIRPORT
                      27.1
NAVUA (AWS)
MONASAVU HYDRO DAM 21.6 21.4 21.0 FSC LAUTOKA MILL 27.2 25.5 24.6
                                         96
                                            19.0
                                         93 24.4
                      27.2 27.0 24.4
27.1 27.8 24.6
25.9 27.7 25.4
                                         81 26.7
77 27.9
FSC RARAWAI MILL
FSC PENANG MILL
                                         82 27.8 11.0
MATEI AIRFIELD
VANUABALAVU
                      25.8 27.3 25.3
                                         85 27.1
LAKEBA (AWS)
                      26.0
VUNISEA (AWS)
                      26.0
MATUKU (AWS)
                      28.0
                      24.8 26.2 23.3 79 25.4
ONO-I-LAU
```

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(\leq) TO 5 DAYS. U/S: UNSERVICEABLE

Nadi Airport (Western Division) - Temperature & Rainfall Records for the last 13 Months (May 2023 - May 2024)



Laucala Bay - (Suva) (Central Division) - Temperature & Rainfall Records for the last 13 Months (May 2023 - May 2024) Figure 3

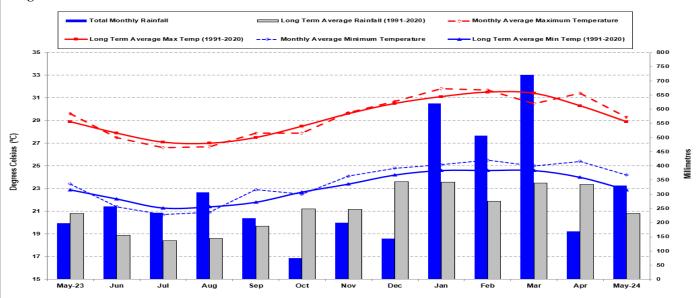
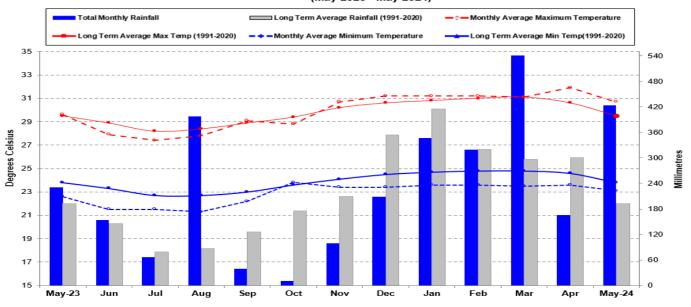


Figure 4 Udu Point (Eastern Division) - Temperature & Rainfall Records for the last 13 Months (May 2023 - May 2024)



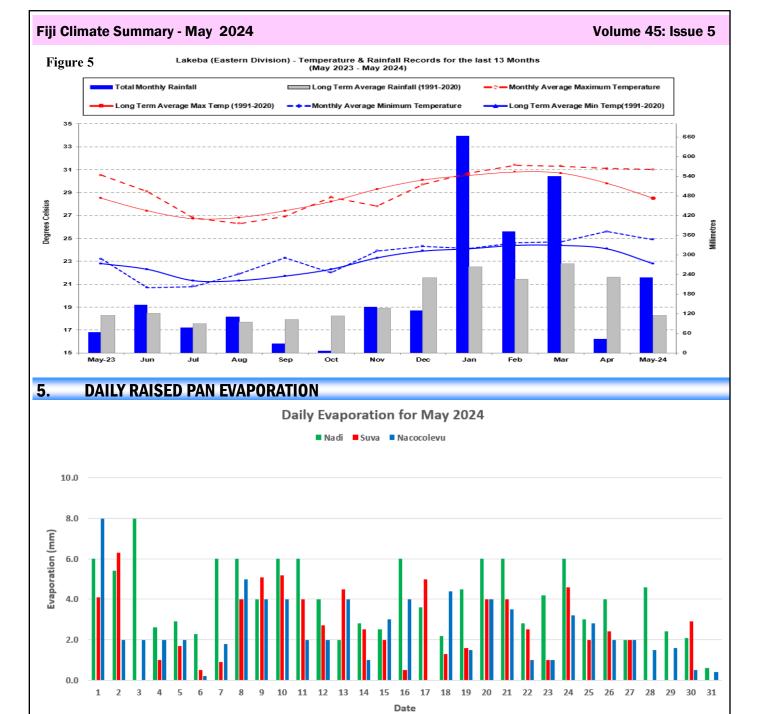


Figure 6: The total monthly raised pan evaporation at Nadi Airport, Laucala Bay (Suva) and Nacocolevu (Sigatoka) were 126.5mm, 78.3mm and 76.4mm, respectively. Nadi's highest daily evaporation was 8.0mm on the 3rd, with Suva's highest daily evaporation of 6.3mm on the 2nd, and Nacocolevu (Sigatoka) recorded its highest of 8.0mm on the 1st.

6. SOLAR RADIATION

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

7. WIND SUMMARY

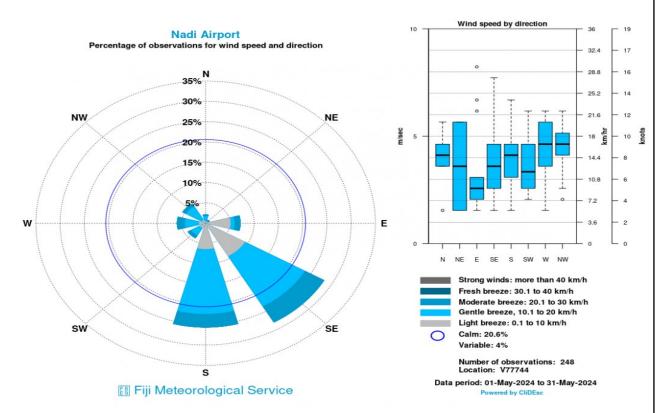


Figure 7a: Looking at Nadi's 3 hourly observations, southeasterly winds were most dominant during the month, followed by southerly and then easterly winds. Wind strength ranged from light to moderate breeze, while 20.6% observations accounted for calm winds.

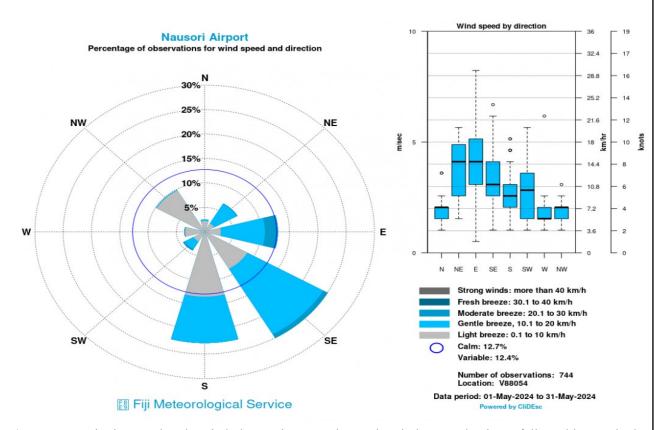


Figure 7b: For Nausori Airport's hourly wind observations, southeasterly winds were dominant followed by southerly and then easterly winds. Wind strength ranged from light to moderate breeze, while 12.7% of observations accounted for calm winds.

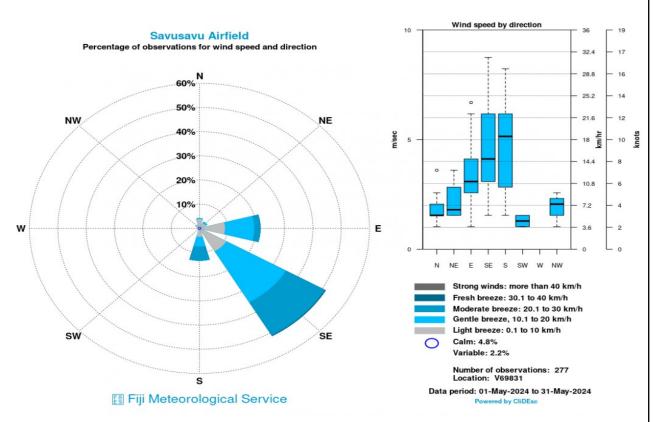


Figure 7c: For Savusavu Airfield's hourly observations (0800hrs to 1600hrs), southeasterly winds were most dominant during the month, followed by easterly and then southerly winds. Wind strength ranged from light to fresh breeze, with calm winds observed 4.8% of the time.

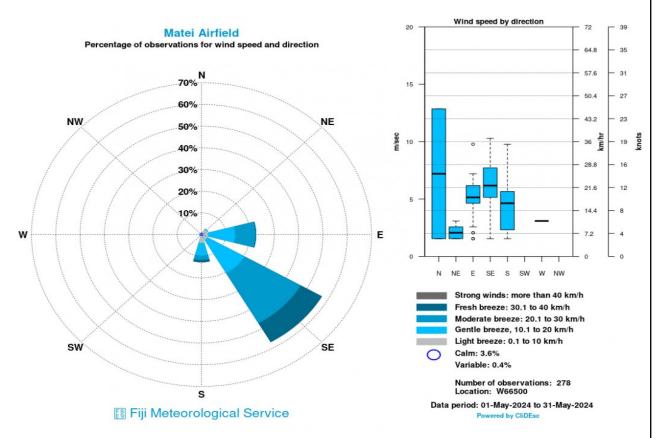


Figure 7d: For Matei Airfield's hourly wind observations (0800hrs to 1600hrs), southeasterly winds were dominant followed by easterly and then southerly winds. Wind strength ranged from light to strong winds, with calm winds observed 3.6% of the time.

8. SEA SURFACE TEMPERATURE (SST)

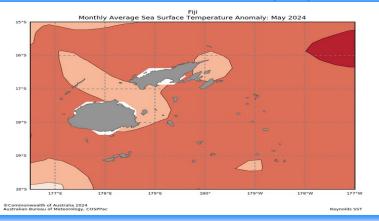


Figure 8:

Warmer than normal sea surface temperature anomalies were observed across most of the Fiji Waters, with anomalies 0.5-2.0°C.

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

9. CLOUD COVER

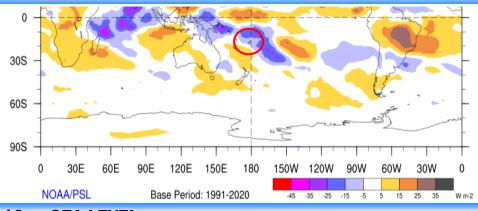


Figure 9:

-1.0

Above 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

Monthly sea level anomalies map for the month of May was unavailable at the time of this issue, due to technical difficulties.

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 60E 120E 120W 60W REANALYSIS DATA SURFACE WINDS (m/s) 30-DAY ANOMALY FOR: Sun MAY 05 2024 - Mon JUN 03 2024 (climatology: 1991-2020, smoothed with 5-day running mean)

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.