MAURITIUS METEOROLOGICAL SERVICES

CLIMATE FEBRUARY 2020

Introduction

In spite of being the wettest month of the year, February 2020 was slightly drier than normal. Daytime temperatures were predominantly close to normal while the nights were slightly cooler. On a larger scale, with a weakening of the previously strong IOD towards a neutral phase, convective activity picked up in the Central and Eastern Indian Ocean. Two storms developed in the Central Indian Ocean and reached naming stage, notably Francisco and Gabekile. The remnants of the former brought some unstable conditions over Mauritius while the latter did not impact any of the island of the Republic of Mauritius. Neutral ENSO prevailed over the equatorial eastern Pacific Ocean and the South Indian Ocean Dipole (SIOD) in subtropical regions was positive with a persistent tongue of warm SSTs south of the Mascarene Islands.

1. Rainfall

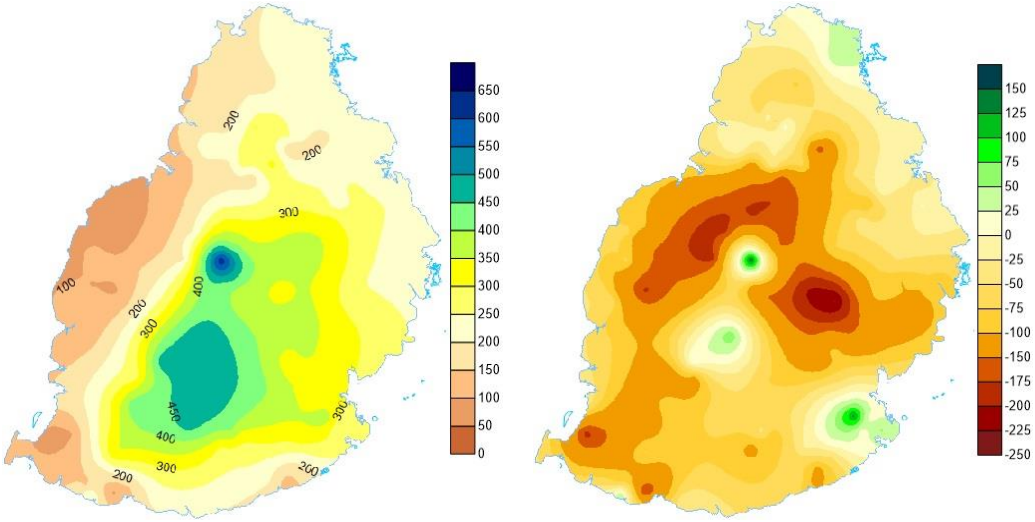
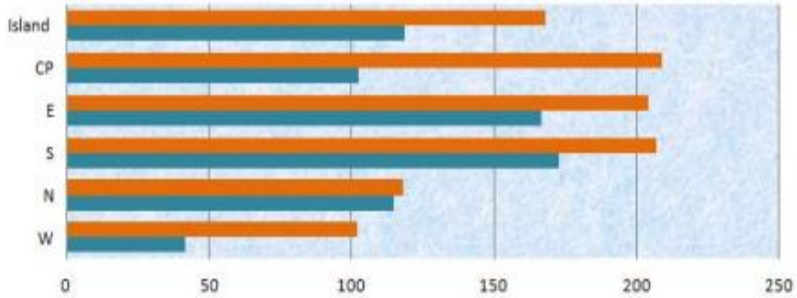


Fig. 1: Spatial rainfall distribution (a) Observed rainfall (b) rainfall anomaly (mm)



	W	N	S	E	CP	Island
LTM (1981-2010) Rainfall (mm)	102	118	207	204	209	168
Actual Mean rainfall (mm)	42	115	173	167	102	119

Fig. 2: Regional rainfall distribution (based on 23 stations)

The month of February was slightly drier than normal. The rainfall recorded amounted to about 267 mm which is equivalent to 76% of the LTM for the month.

Both fortnights had slightly below normal rainfall. Most of the rainfall which was recorded during the first and last week of the month resulted from disturbances in the easterly airstream while local convective events were quite rare

The highest 24-hour rainfall amounting to 167 mm was recorded in the region of Mare Aux Vacoas on 04 February.

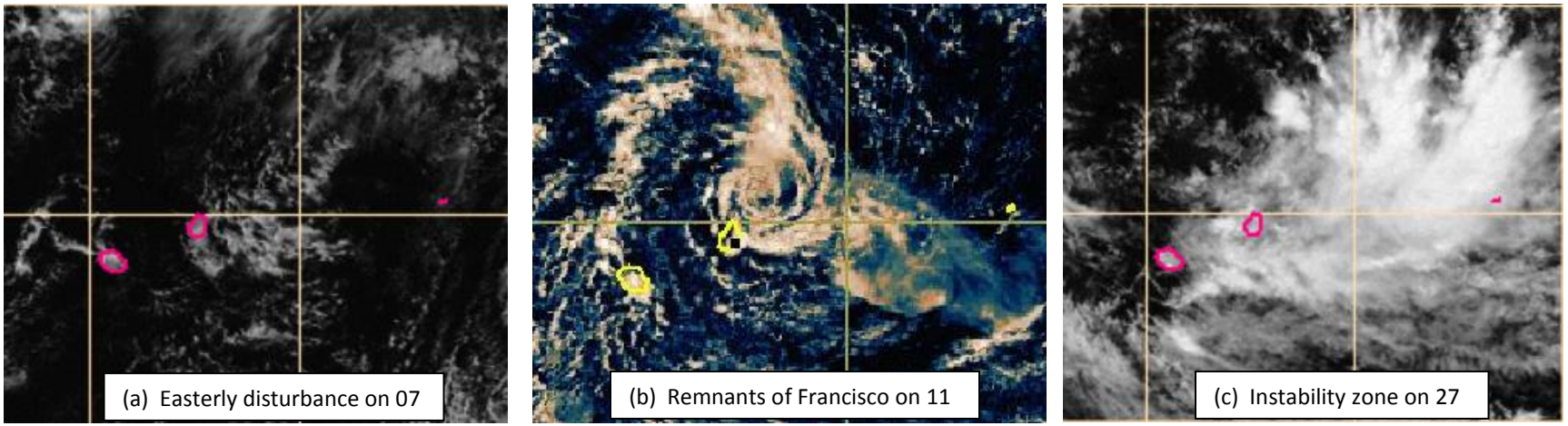


Fig 3: Main weather systems during February 2020.

2. Surface Temperature

February 2020 has not been warmer over Mauritius compared to previous years. The mean temperature over the island was about 26.5°C which was about 0.4°C warmer than the LTM 1981-2010. The few warm days were offset by relatively cooler days. The slightly warmer mean temperature was mainly due to warm nights (Fig. 7).

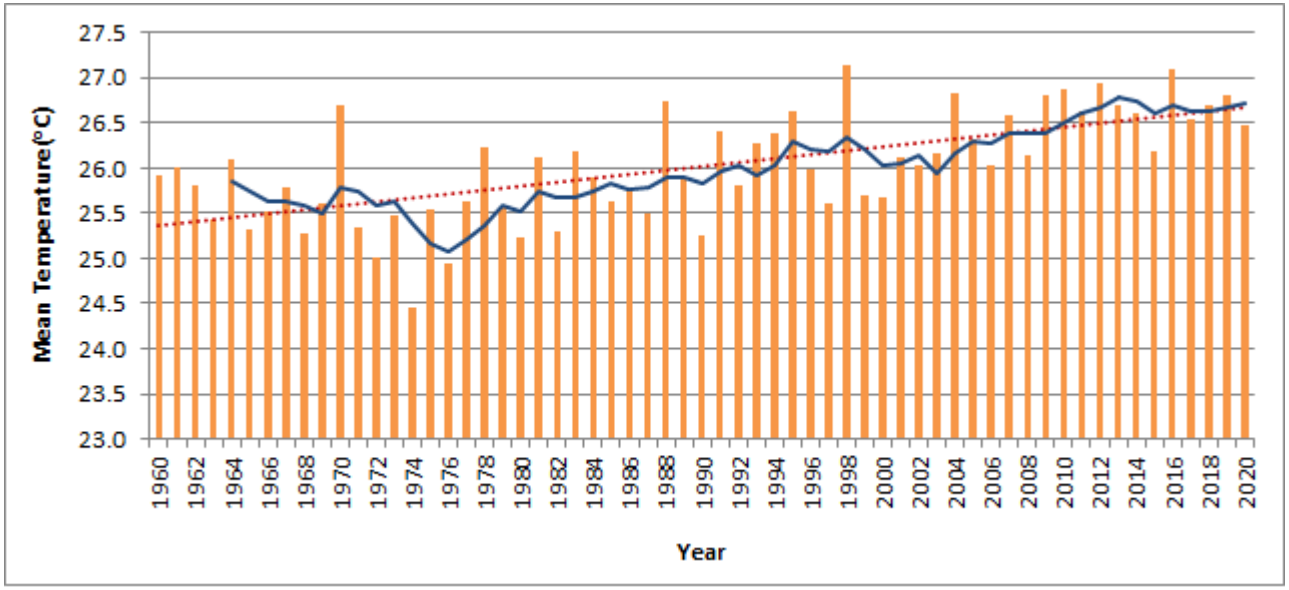


Fig. 4: Mean temperature trend for February from 1960-2020.

Globally February 2020 has been found to be the second warmest after that of 2016. However, in Mauritius this month had a near normal temperature. Warm conditions were quite occasional during the month, particularly warm days. (Fig. 7). Even the warm nights were mostly confined over part of the Central Plateau and to the southeast.

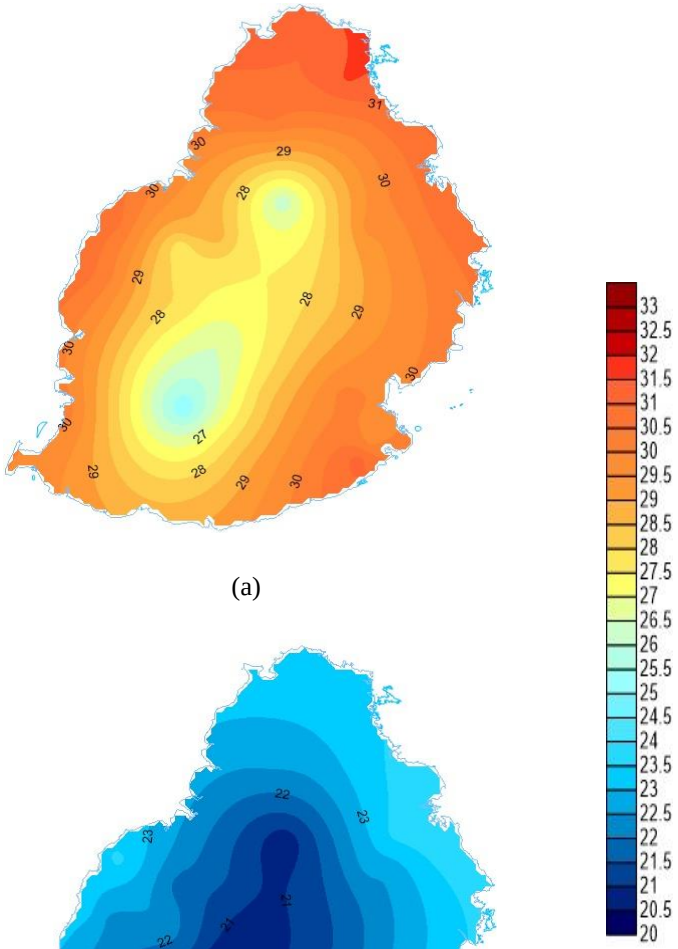
Mean monthly daytime temperature over the island was close to the normal. Warmer than usual daytime temperatures were occasionally felt to the east, the southeast, the northeast and locally to the west (Fig. 6(a)). Anomalies in maximum temperature varied between +3.7 to -3.6 °C. Cold days were particularly observed during cloudy and rainy conditions notable from 09-11 and 26-28.

Mean monthly night time temperature over the island was close to the normal and the anomaly varied from +2.6 to -3.6 °C. Night temperatures were slightly cooler over most region of the island except over part of the Central Plateau and to the Southeast. (Fig. 6(b)). Grand-Bassin had the lowest minimum on record, 17.9 °C compared to the previous 18.3 °C.

Cold nights observed (minimum temperature anomaly< -2°C).

Stations	Lowest anomin (°C)	Number of cold nights.
Mon Bois	-2.5	7
Grand Bassin	-2.6	5
Beau Songes	-3.5	6
Gros Cailloux	-3.3	6
Albion	-3.3	7
Constance	-2.0	4
Mon Loisir Rouillard	-3.0	5
Digue Seche	-3.6	7

Cold nights were particularly observed from 16-22 and 05-09. These were mainly due to clear sky conditions couple with slightly dry air (Fig. 8)



(a)

(b)

Fig. 5: (a) Maximum (b) Minimum temperature distribution.

Warm days observed (maximum temperature anomaly (anomax) >2°C).

Stations	Highest anomax (°C)	Number of warm days.
Bois Cheri	3.2	5
Grand Bassin	3.3	3
Mon Desert Alma	3.5	4
Quatre Bornes	2.4	5
Medine	2.2	4
Queen Victoria	2.5	3
MDesert MTresor	3.7	3
Riche En Eau	3.3	11

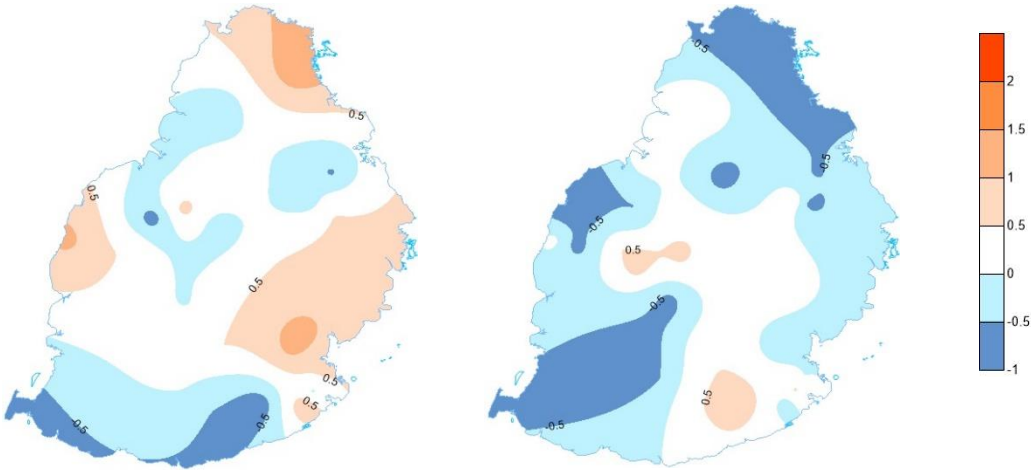


Fig. 6: Spatial distribution of temperature anomaly (a) Maximum (b) Minimum.

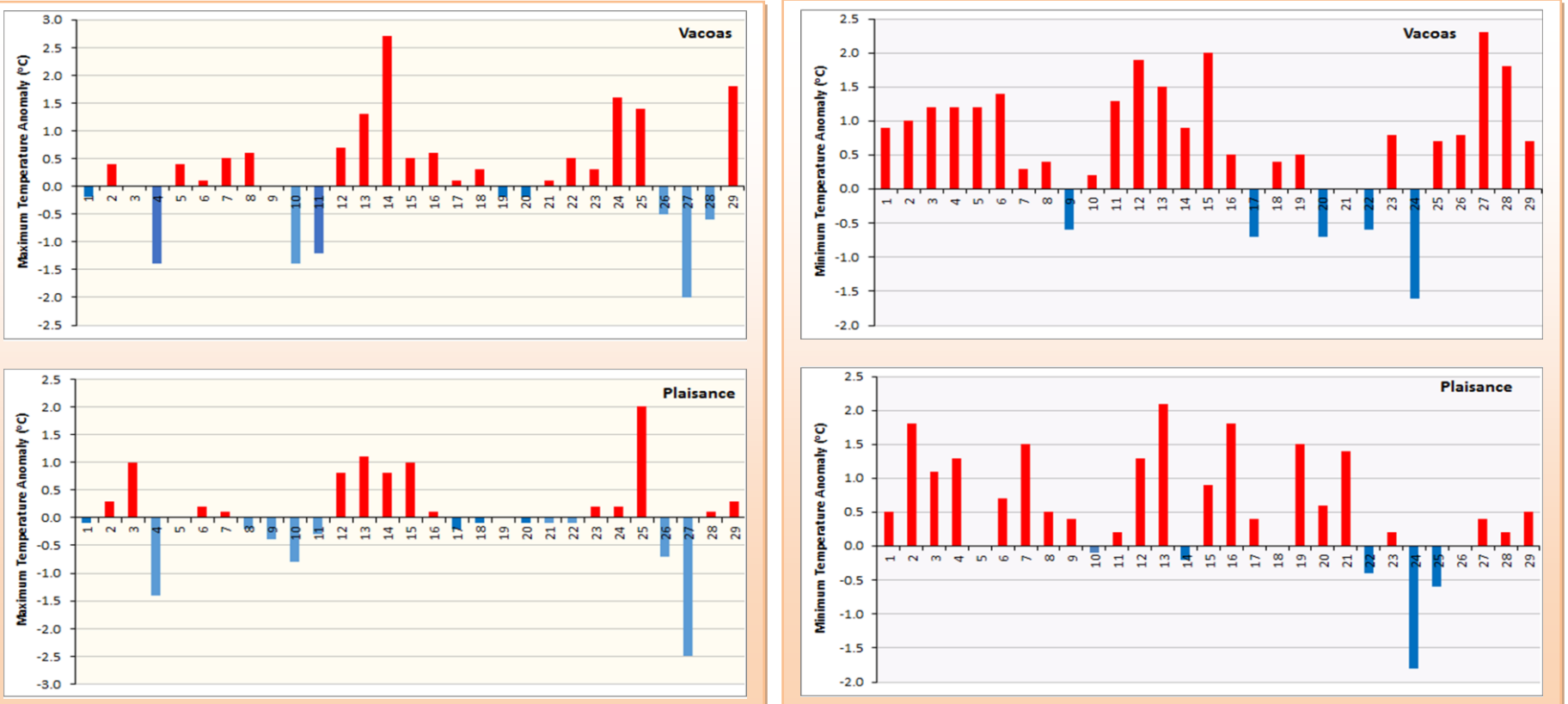


Fig. 7: Daily temperature anomaly at Plaisance and Vacoas (a) Maximum (b) Minimum.

3. Sunshine and Humidity

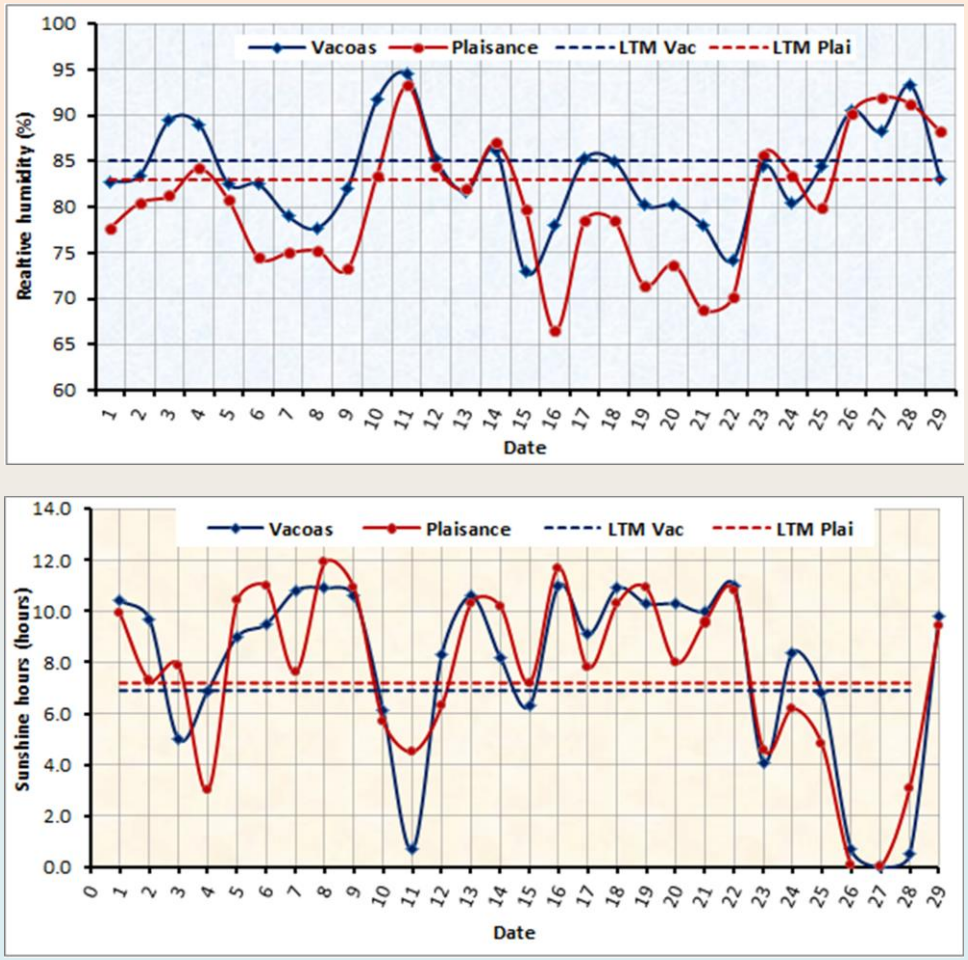


Fig. 8: Daily relative humidity and sunshine

The mean monthly relative humidity was close to normal both at Vacoas and Plaisance. Moist conditions were rather occasional. Relatively drier air was observed from 06-09 and 15-22 indicative of cold air invasion emanating from anticyclones south of the Mascarene region. The moist conditions from 26 to 28 were associated with rain bearing clouds, concurrent with plummeting sunshine hours during that period, and predominantly north-easterly winds. This also caused a drop in daytime temperature and an increase in night-time temperature. A similar condition prevailed during the first week of the month.

The month was characterised by normal sunshine hours (only deficient by 0.8 and 0.4 hours at Vacoas and Plaisance respectively). This was due to persistent sunny days which is coherent to the slightly deficient rainfall.

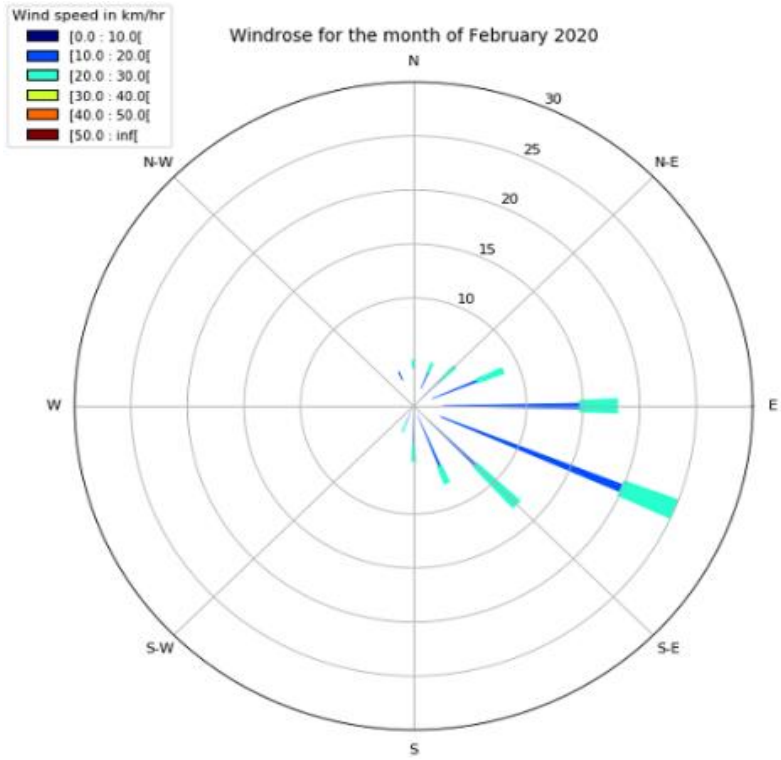


Fig. 9: Wind frequency at Plaisance.

4. Winds

Light to moderate winds blew mainly from the eastern to south-eastern sector during the first 11 days of the month and from 17-22. On the remaining days the wind blew from the east northeast. Winds with predominantly northerly component were observed on very few occasions.

Forecast for March-April-May (MAM)

The central and eastern equatorial Pacific SST anomaly will be normal for MAM, i.e. neutral ENSO will prevail. The Indian Ocean Dipole also is expected to remain neutral and the positive SIOD which developed is expected to weaken. The Mascarene remains in a warm pool of SST for the period MAM due to the ongoing positive SIOD (Fig 12).

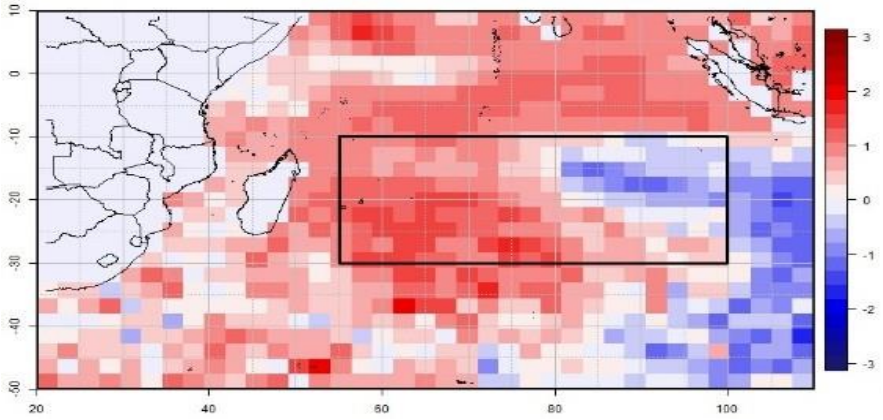


Fig 10: SST anomaly charts

Consensus forecast for Mauritius

- March 2020 had above normal rainfall.
- Rainfall amount is expected to be slightly above normal for MAM. The monthly rainfall statistics has been worked out as follows: April (250mm) and May (150mm)
- Day time maximum temperature will be slightly above normal at most places.

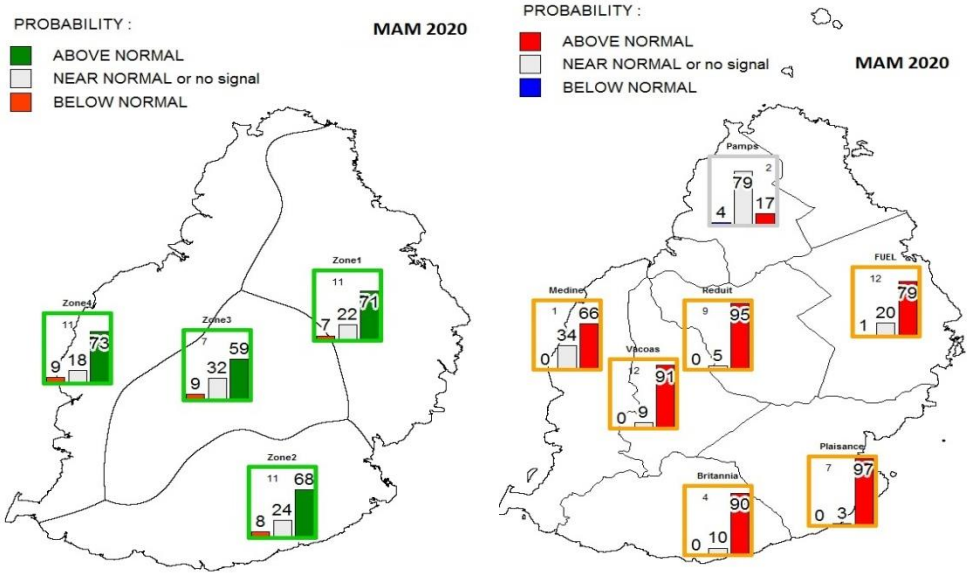


Fig 11: Statistical model output for (a) Rainfall and (b) Temperature

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