



# MAURITIUS METEOROLOGICAL SERVICES



## CLIMATE BULLETIN NOVEMBER 2019

### Introduction

During November 2019, above normal temperatures and close to normal rainfall were observed over Mauritius. Neutral ENSO conditions persisted in the Pacific region. The Indian Ocean Dipole remained positive. The Madden Julian Oscillation (MJO) evolved in the western part of the SWIO for the first fortnight and it enhanced the rainfall to some extent. One tropical storm was named BULBUL in the Bay of Bengal and it peaked to Very Severe Cyclonic Storm (categorised as per North Indian Ocean cyclone classification).

### 1. Rainfall

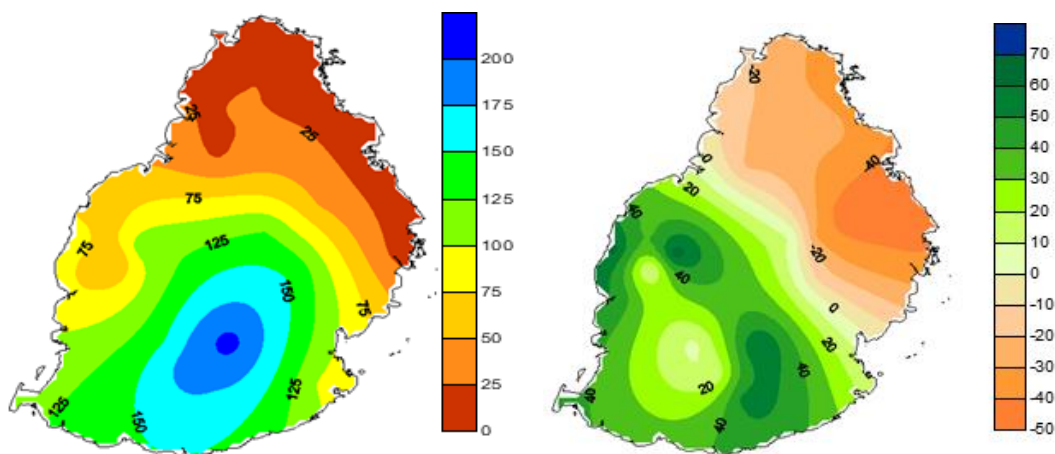


Fig. 1: (a) Observed rainfall (mm) (b) rainfall anomaly (mm)

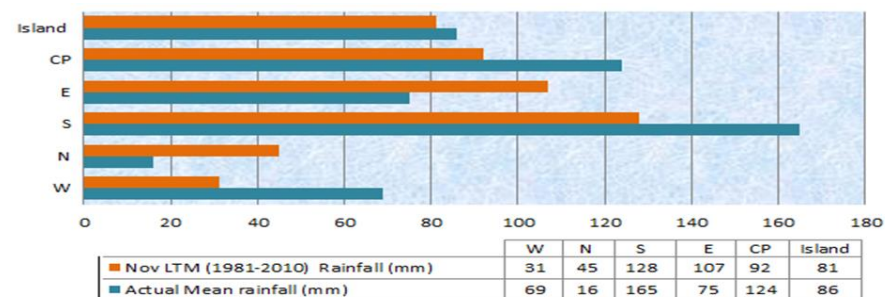
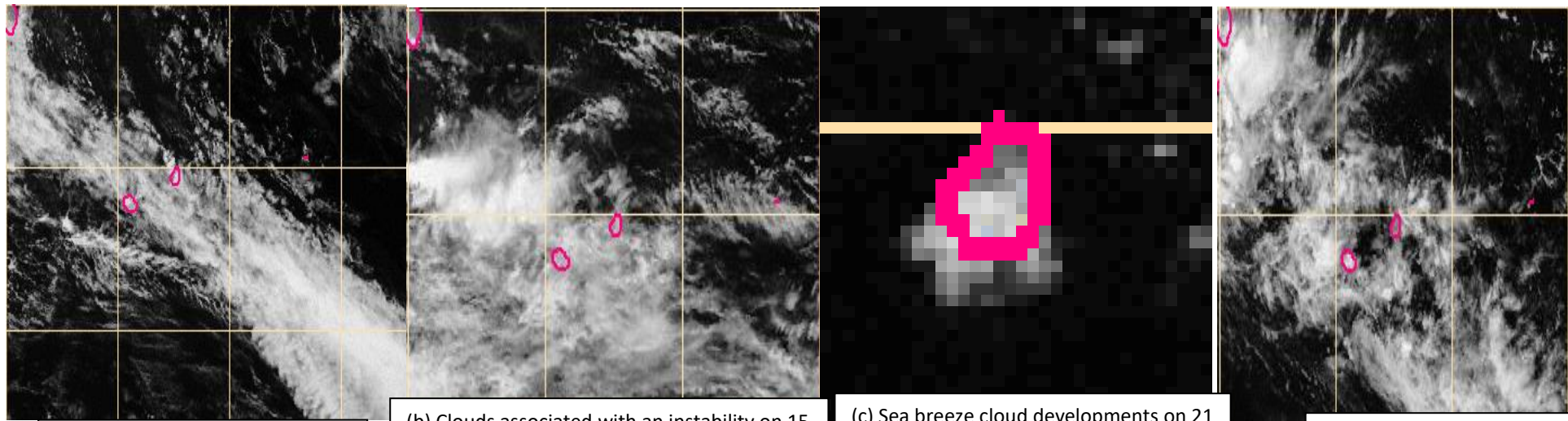


Fig. 2: Regional rainfall distribution (based on 23 stations) (mm)

November 2019 received normal rainfall amounting to 86 mm, representing 106 % of the long term mean for the month. The northern and eastern part of the island received below normal rainfall whereas it was wetter than normal in the Sothern and Western regions. Rainfall was locally deficient by 40mm in the region of FUEL whereas excess rainfall of above 50mm was observed in the regions of Medine, Quatre Bornes and Union Park. Rainfall was of moderate intensity on the 3, 21, 23, 26 and 28. The highest rainfall intensity recorded was 40mm/hr at Vacoas on 21. During the month of November, there was three thunder days and the first thunder for the summer season 2019-2020 was heard on 21.



(a) Clouds associated with a frontal system on 02

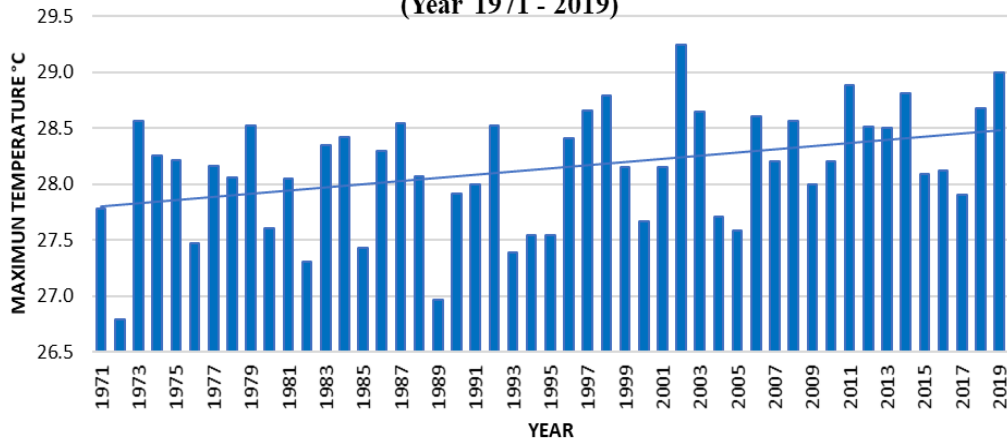
(b) Clouds associated with an instability on 15

(c) Sea breeze cloud developments on 21

(d) Clouds associated with an instability zone on 24

**Fig 3:** Weather systems during November 2019

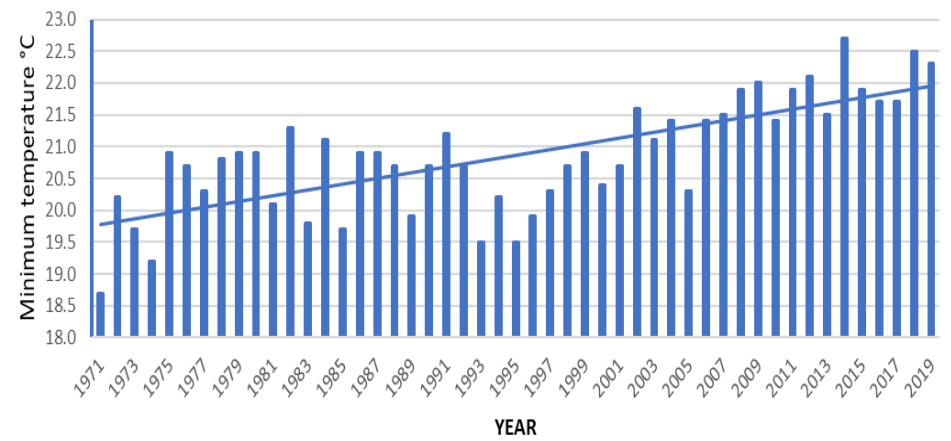
**November Mean Maximum Temperature at Plaisance (Year 1971 - 2019)**



**Fig. 4(a):** Maximum temperature trend during November from 1971-2019

**November 2019 ranked second for the warmest November day temperature on record since 1971 (based on mean maximum temperature recorded at Plaisance)**

**November Mean Minimum Temperature at Plaisance (Year 1971 - 2019)**



**Fig. 4(b):** Minimum temperature trend during November from 1971-2019

**November 2019 ranked third for the warmest November night temperature on record since 1971 (based on mean minimum temperature recorded at Plaisance)**

Day temperature was mostly above normal during November 2019. During the second fortnight of the month, the temperature was most of the time above normal by more than 2 °C and thirteen stations had new records of maximum temperatures.

On few occasions, when the weather was cloudy, normal temperature was recorded (Fig 3 (a) and (b) and Fig 7 and 8).

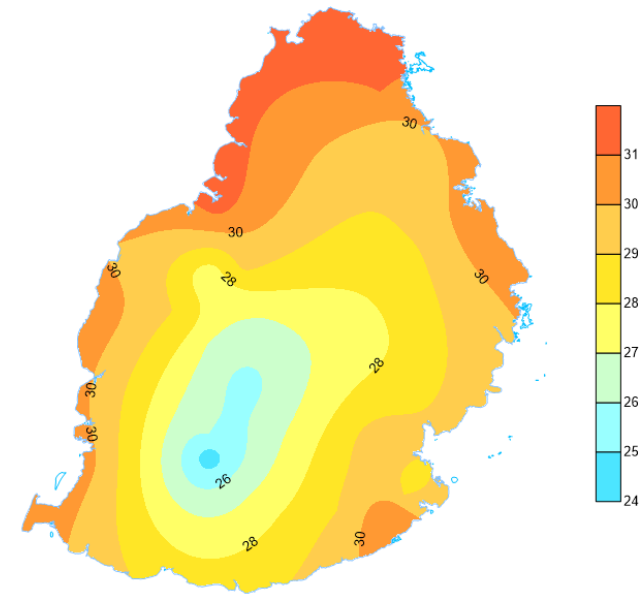
The departure for monthly mean maximum temperature across the island, ranged between 0.4 to 2.7 °C. The highest anomaly for maximum temperature of 6.8 °C was recorded at Riche en Eau on 24 and the lowest anomaly of -6.0 °C was recorded at Mon Bois on the 03. The highest temperature recorded was 34.5 °C at Mon Desert Mon Tresor on 22.

The night time monthly mean temperature was mainly normal to above normal.

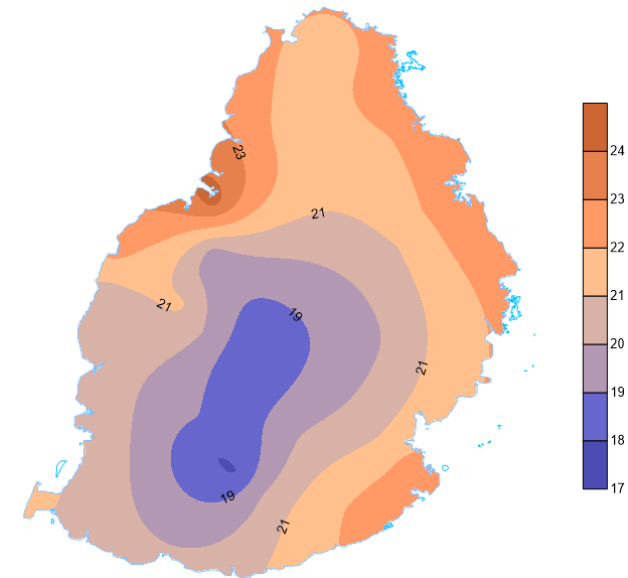
The departure for monthly mean minimum temperature ranged between - 0.3 to 2.5 °C.

The highest anomaly for minimum temperature of 5.2 °C was recorded at Case Noyal on 23 and the lowest anomaly of - 4.5 °C was recorded at Gros Cailloux on the 01.

The lowest minimum temperature of 14.2 °C was recorded at Bois Cheri on 09.



(a)



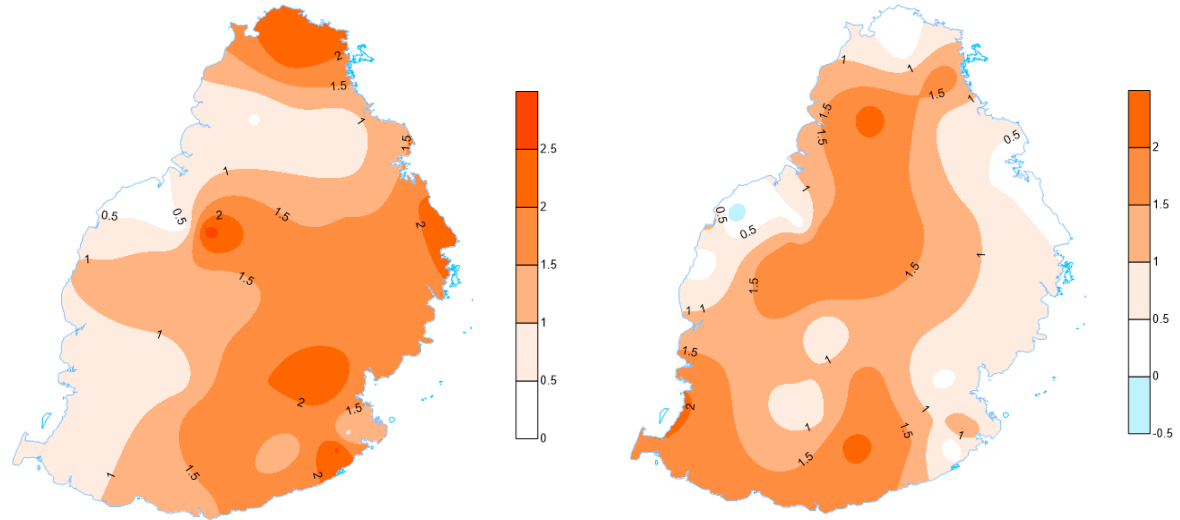
(b)

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

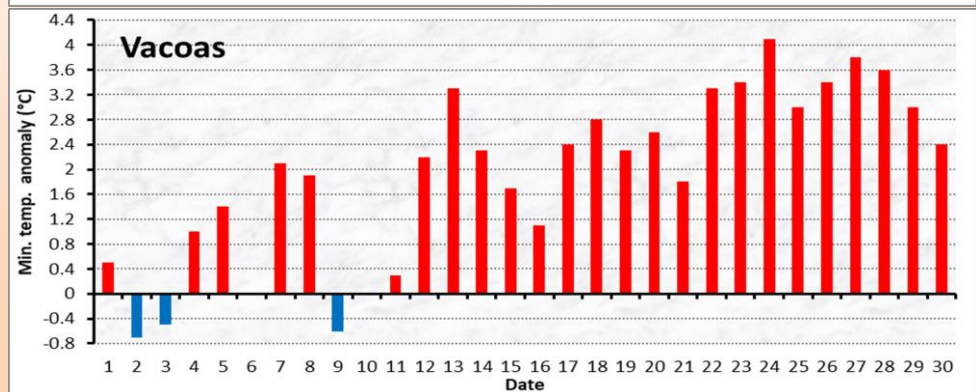
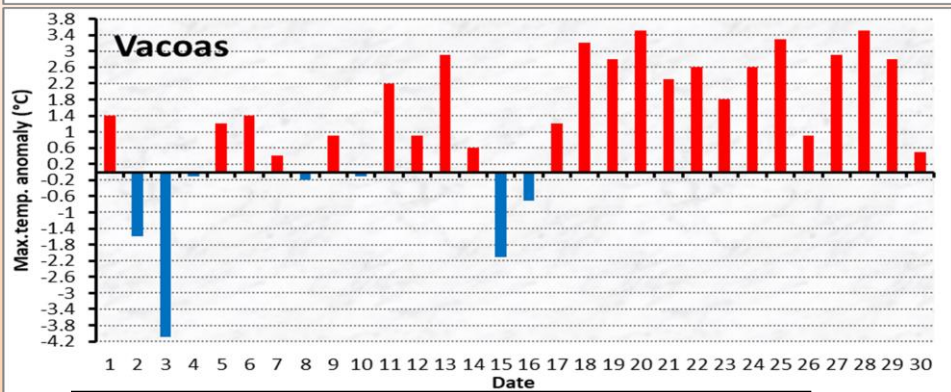
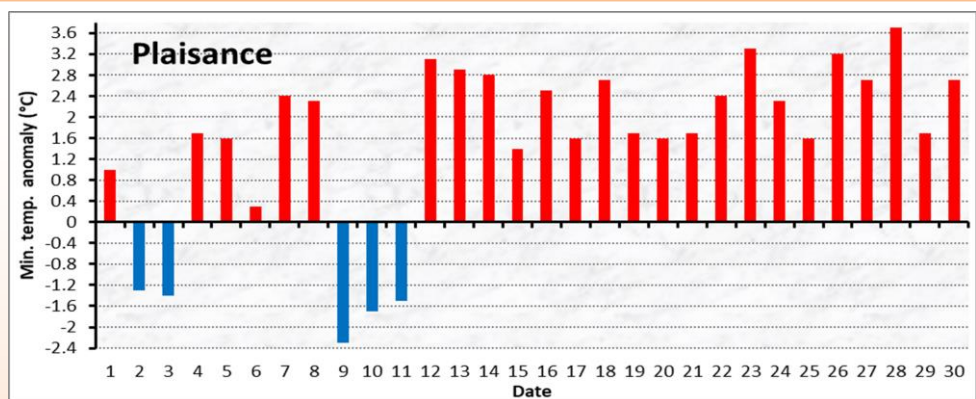
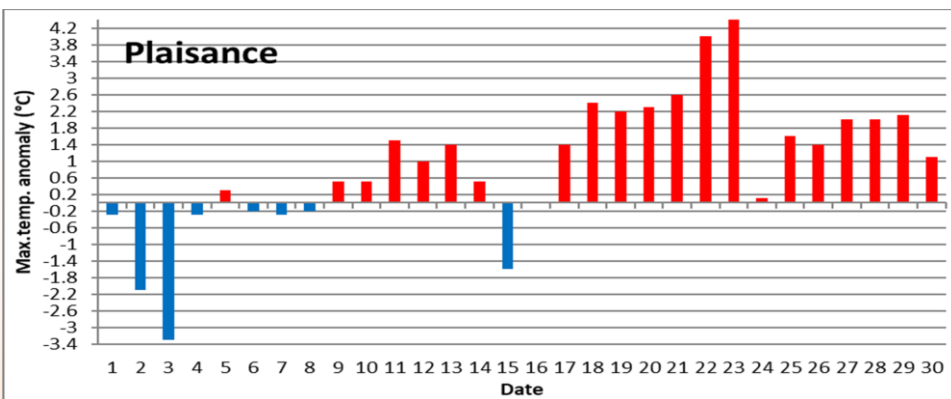


**Number of warm days  
(Maximum temperature anomaly (anomax) >2°C)**

Stations	Highest anomax (°C)	Number of warm days
M Desert Alma	5.0	23
ML Roullard	4.9	17
MDesert MTresor	6.1	17
Riche En Eau	6.8	17
FUEL	4.7	16
Belle Mare	4.7	16
Bois Cheri	5.2	15
Quatre Bornes	3.5	13
Mon Bois	4.5	13
Sans Souci	4.6	13



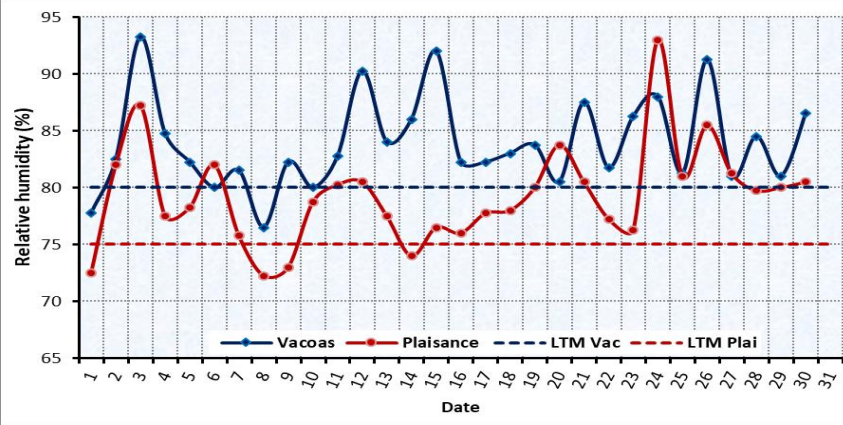
**Fig. 6:** (a) Maximum temperature anomaly (b) Minimum temperature anomaly



**Fig. 7:** Daily maximum temperature anomalies at Vacoas and Plaisance

**Fig. 8:** Daily minimum temperature anomalies at Vacoas and Plaisance

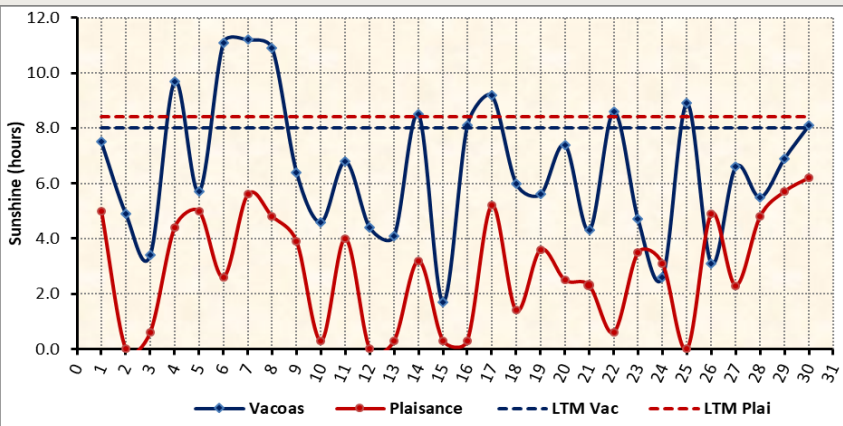
### 3. Sunshine and Humidity



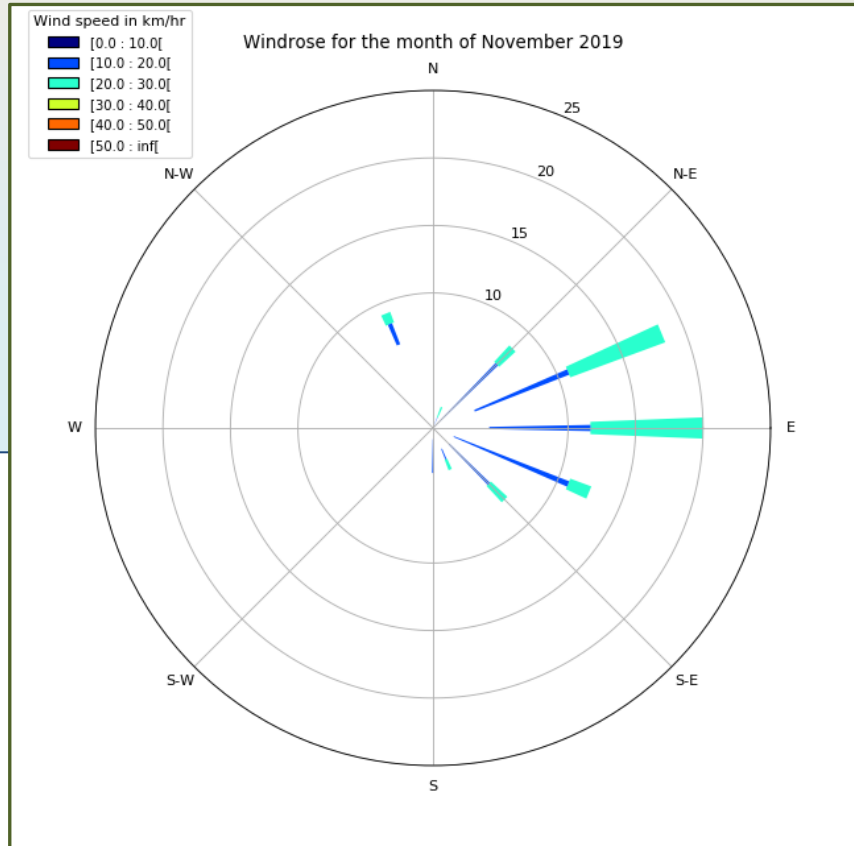
**Fig. 9:** Daily Relative Humidity: Vacoas (blue) and Plaisance (red)

The average monthly relative humidity (RH) was close to normal for both Vacoas (84%) and Plaisance (79%). The highest RH at Plaisance was recorded on 24 reaching 93% which is equal to the highest RH at Vacoas on 03 (Fig 9). The lowest RH at Plaisance, 72%, was recorded on the 08.

Monthly mean sunshine hours were below normal for both Vacoas and Plaisance with anomaly of -1.5 and -5.5 respectively. In fact, Plaisance and Vacoas had daily sunshine hours which were mostly below normal and varied significantly (Fig 10). Close to nil sunshine hours was observed on several occasions at Plaisance.



**Fig. 10:** Daily sunshine hours: Vacoas (blue) and Plaisance (red)



**Fig. 11:** Wind frequency at Plaisance

### 4. Winds

Mainly light trade winds, mainly from the eastern sector prevailed over Mauritius for most of November 2019 (Fig 11) under the influence of weak anticyclones migrating south of the Mascarenes. However, after the passage of the frontal system in the beginning of the month, the highest gust of 86 km/h recorded was at Champ de Mars on the 03.

## FORECAST FOR DECEMBER-JANUARY-FEBRUARY (DJF)

Neutral ENSO condition is being observed in the Pacific Ocean and is expected to persist for DJF. The most dominant feature for DJF will be a positive IOD (Fig 12) which has already peaked in November and is expected to weaken during the forecast period.

In the previous NDJ statistical run slightly above normal rainfall was predicted. November recorded slightly above normal rainfall representing 106 % of the long-term mean (86mm)

### Consensus forecast for Mauritius

- Statistical model is expecting above normal rainfall for DJF (Fig. 13(a)). The most appropriate monthly rainfall is being reviewed as follows: above normal for December~200 mm and January 320mm respectively and normal for February with~335 mm.
- Mean temperatures will remain above normal at most places (Fig 13(b)).

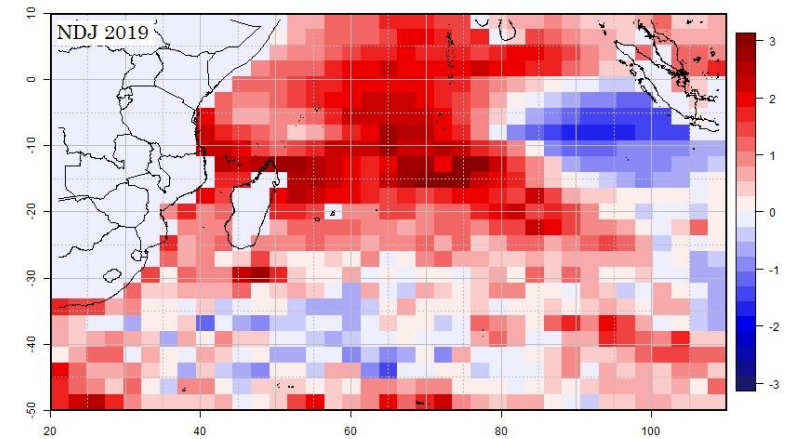


Figure 12: DJF sea surface temperature anomaly chart

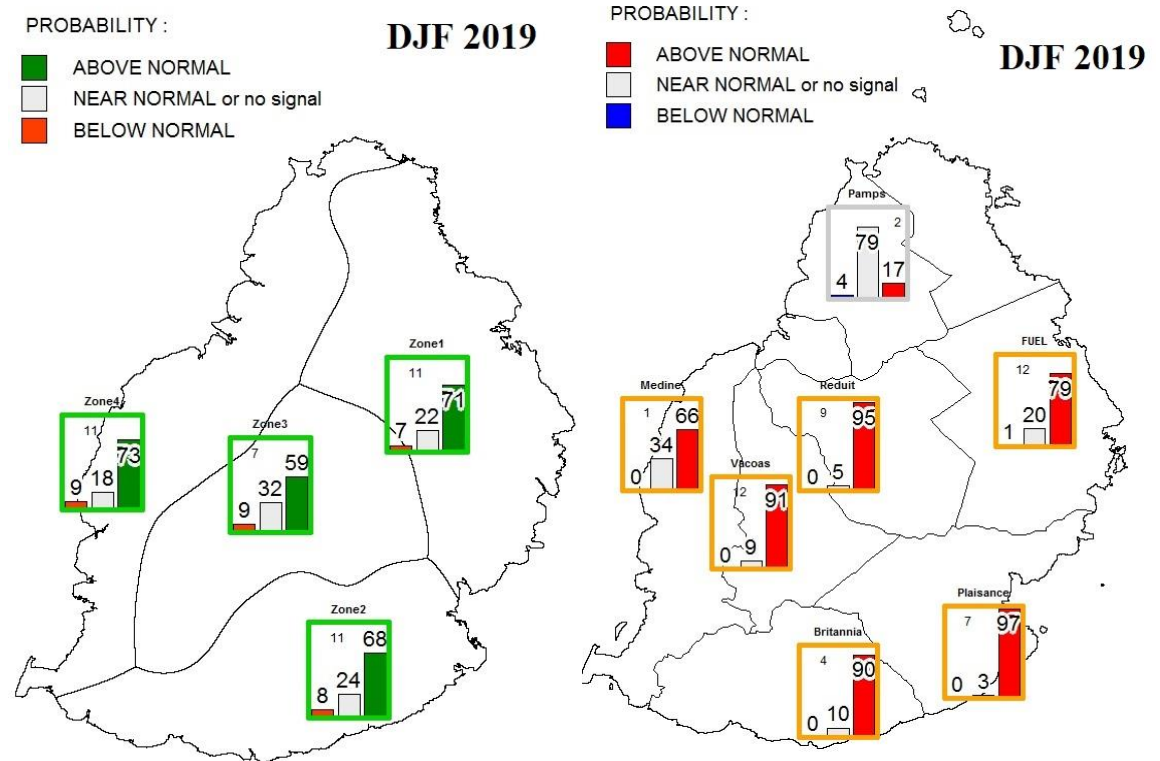


Fig. 13: Statistical Model Forecast of (a) rainfall and (b) temperature

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Director, Meteorological Services,

St Paul; Road Vacoas,

Tel: 6861031/32, Fax: 6861033, email: [meteo@intnet.mu](mailto:meteo@intnet.mu)

31 December 2019