# MAURITIUS METEOROLOGICAL SERVICES

## CLIMATE BULLETIN MAY 2019

### Introduction

May 2019 was a typical transition month. Both summer and winter weather conditions were experienced. Slightly warm ENSO conditions prevailed in the Pacific region. The Indian Ocean Dipole was in the neutral phase with an increasing tendency towards the positive value. Since the beginning of the month, the wet phase of the Madden Julian Oscillation (MJO) was in the northern hemisphere and it emerged in the south west Indian Ocean during the last week.

### 1. Rainfall

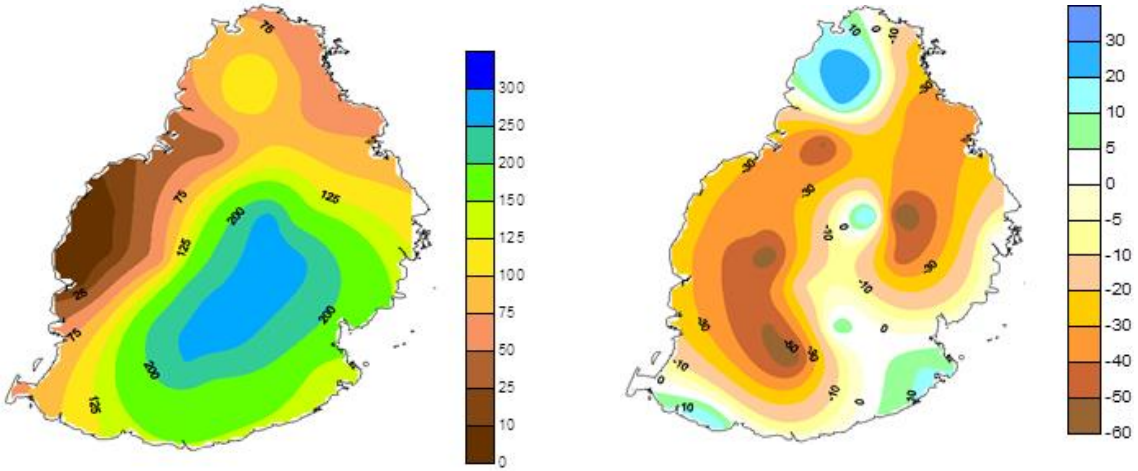
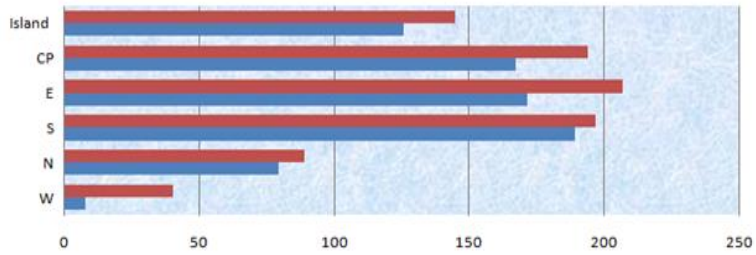


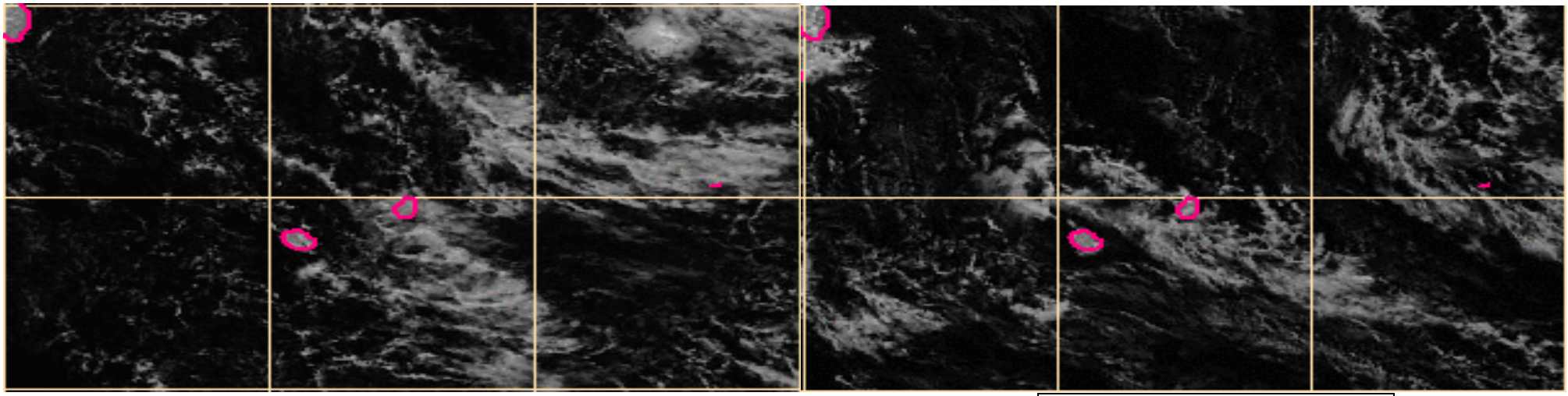

**Fig. 1:** (a) Observed rainfall (mm) (b) rainfall anomaly (mm)




| | W | N | S | E | CP | Island |
|---|---|---|---|---|---|---|
| LTM (1981-2010) Rainfall (mm) | 40 | 89 | 197 | 207 | 194 | 145 |
| Actual Mean rainfall (mm) | 8 | 79 | 189 | 172 | 167 | 126 |

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

The month of May 2019 received slightly below normal rainfall amounting to 125 mm, representing 86 % of the long-term mean. The first fortnight was mainly dry and the second half was rather wet. Rainfall was mainly associated with easterly waves and perturbed trades. Locally moderate showers were observed from 18 to 21 and from 25 to 29. Almost all regions of the island received slightly below normal rainfall, except for the southern part where rainfall was close to normal. It was locally very dry to the west and the eastern part where rainfall was deficient by over 40 mm. An excess rainfall of more than 20 mm was recorded to the north-north-west.



(a) Unstable weather on 05

(b) Remnants of Frontal system on 25

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

## 2. Surface Temperature

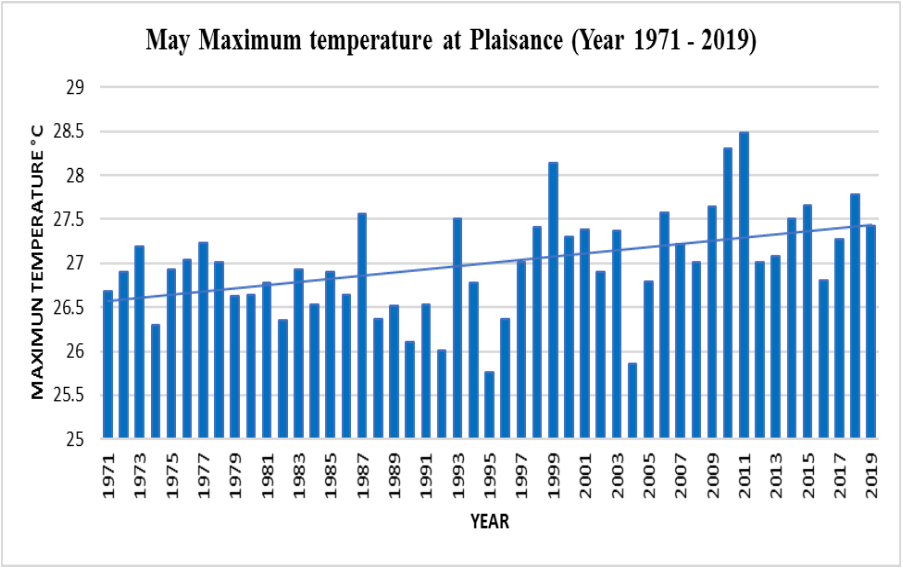



**Fig. 4(a):** Maximum temperature trend during May from 1971-2019

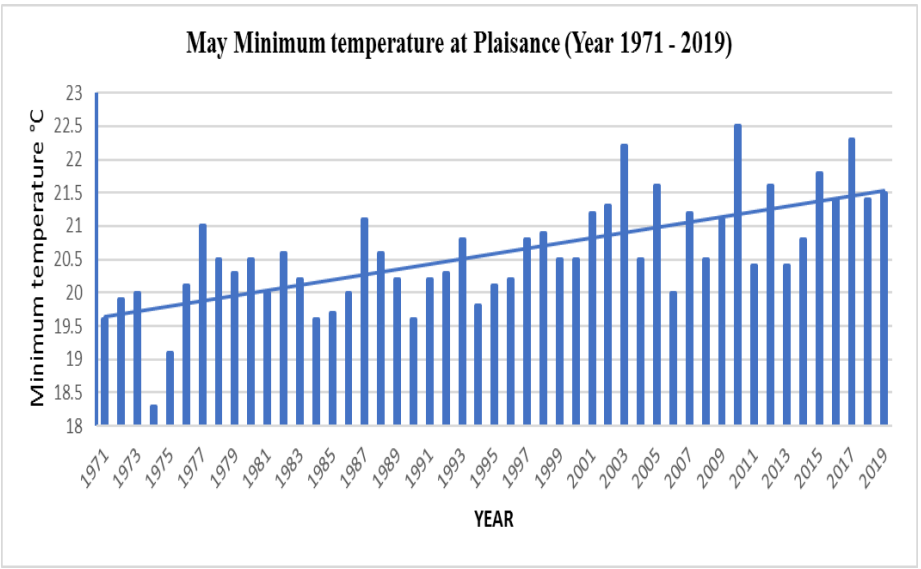



**Fig. 4(b):** Maximum temperature trend during May from 1971-2019

**May 2019 has the eleventh warmest <u>day</u> temperatures for May on record since 1971 (based on mean maximum temperature recorded at Plaisance)**

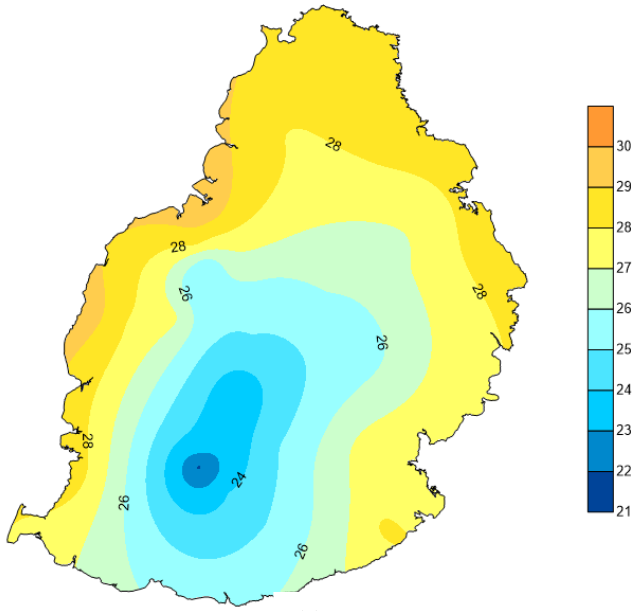
**May 2019 has the seventh warmest <u>night</u> temperatures for May on record since 1971 (based on mean minimum temperature recorded at Plaisance)**

**Temperature was mainly near normal during May 2019. However, on few days, with the sunshine hours were above normal (Fig 10), it lead to above normal daytime temperatures. On other occasion, under the influence of cold air emanating from the anticyclone migrating in the sub tropics, the temperature was below normal.**

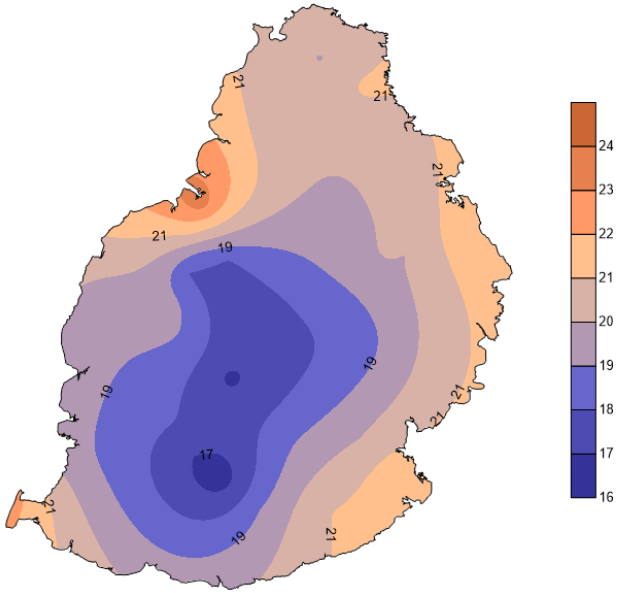
**Across the island, the anomalies for maximum temperature ranged between - 4 to 3 °C. Mon Desert Alma had the highest number of warm days of up to 15 days. The highest anomaly of 3.7 °C was recorded at Quatre Bornes on 07.**

**The night time temperature was mainly near normal. The anomalies for maximum temperature ranged between - 4 to 4 °C and the highest number of cold nights was 10 recorded at four different locations, namely Belle Mare, Domaine les Pailles, Mon Desert Alma and Mon Bois.**

**The lowest minimum temperature of 13.3 °C was recorded at Bois Cheri on 31. Close to that period, a new record in minimum temperature was observed at Mon Loisir S.E with 17.6 °C (previous 18.6 °C).**




(a)

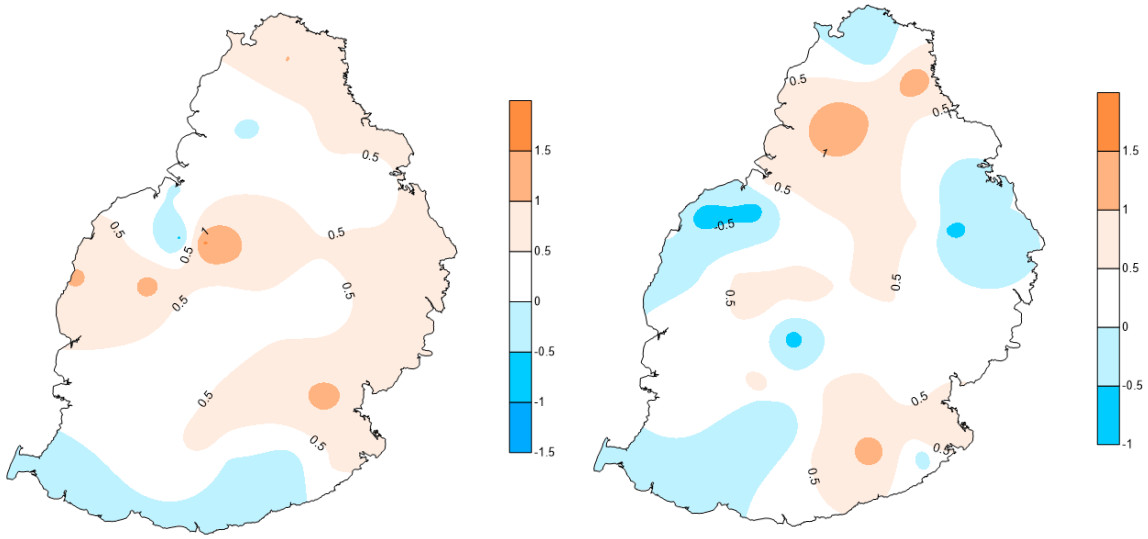



(b)

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

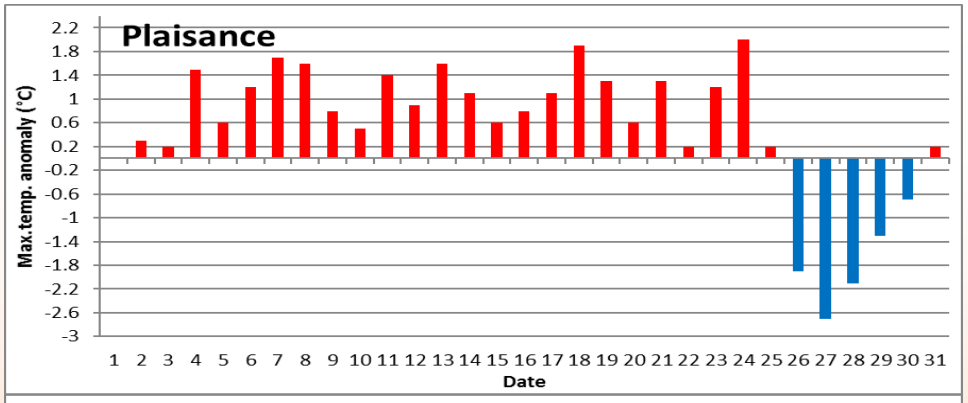
**Some stations had up to 15 warm days;**
**(maximum temperature anomaly (anomax) >2°C).**

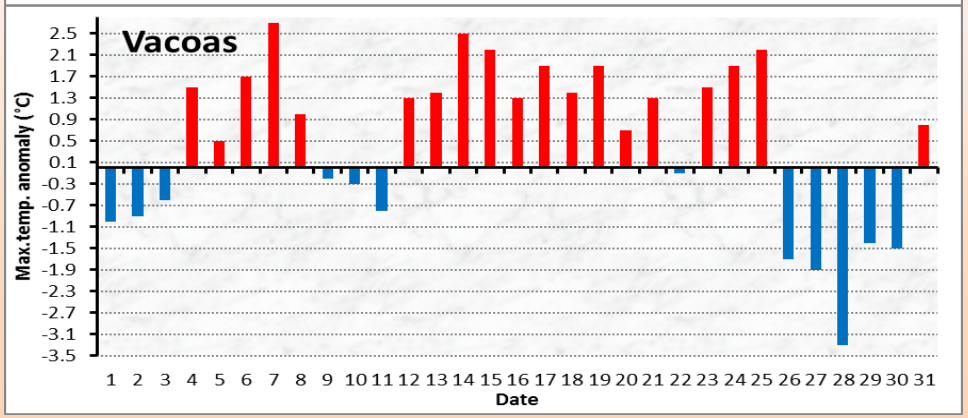
| Stations | Highest anomax (°C) | Number of warm days. |
|---|---|---|
| Mon Desert Alma | 3.6 | 15 |
| Quatre-Bornes | 3.7 | 11 |
| Medine | 2.5 | 10 |
| Bois Cheri | 3.1 | 9 |
| Riche en Eau | 3.5 | 9 |
| M L Rouillard | 2.6 | 7 |
| Union Park MSIRI | 2.7 | 7 |
| Beau Vallon | 2.6 | 6 |
| Fuel | 2.7 | 5 |
| Beau Songes | 2.8 | 5 |
| Alma | 2.7 | 5 |
| Belle Rive (MSIRI) | 2.7 | 5 |
| Albion | 3.1 | 4 |
| Gros Cailloux | 3.2 | 4 |

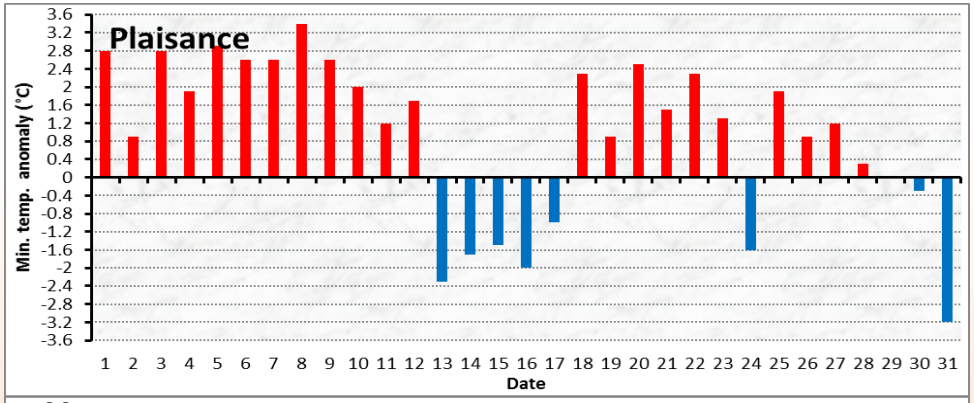


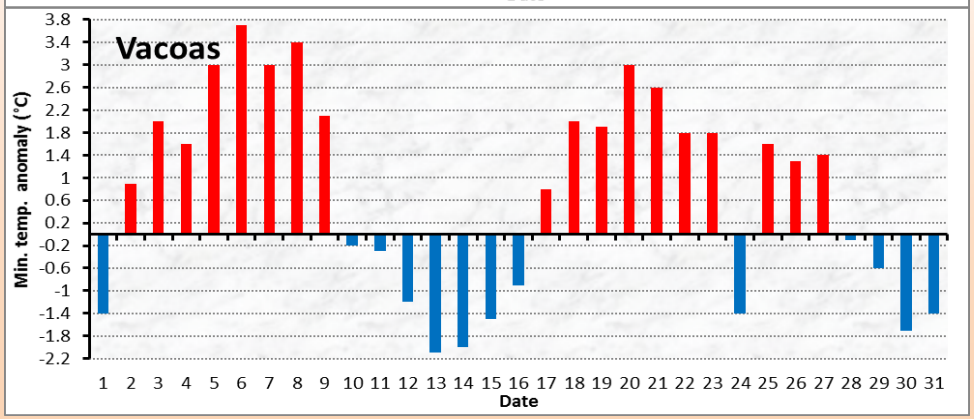
(a) (b)

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



## 3. Sunshine and Humidity

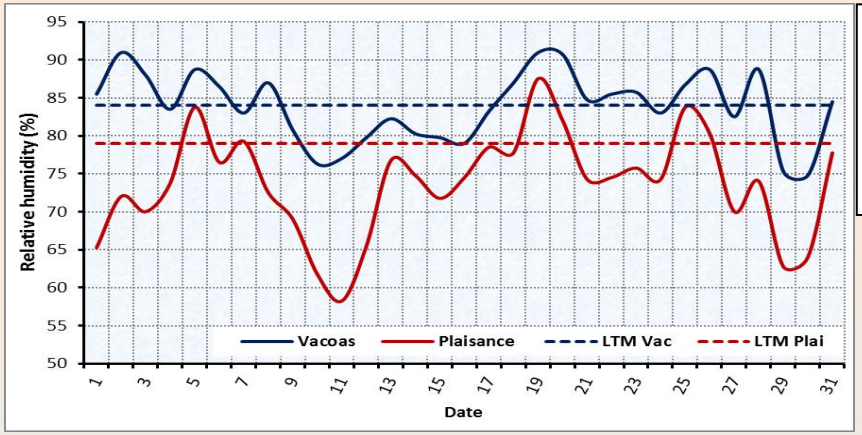



**Fig. 9:** Daily Relative Humidity: Vacoas (blue) and Plaisance (red)

The average monthly relative humidity (RH) was normal for both Vacoas and Plaisance. The daily RH fluctuated significantly during the month and was mainly below normal during the second and last week. The highest humidity was recorded on the 19 reaching 88 % at Plaisance and 91 % at Vacoas (Fig 9). The lowest RH at Plaisance, 58%, was recorded on the 11.

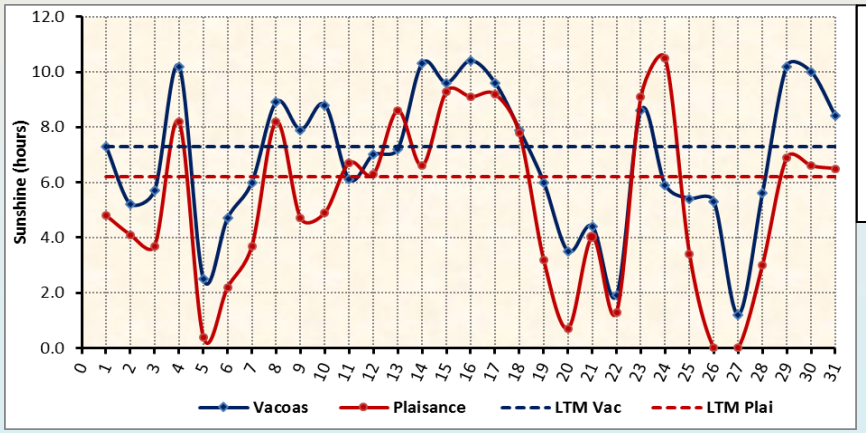



**Fig. 10:** Daily sunshine hours: Vacoas (blue) and Plaisance (red)

Monthly mean sunshine hours were slightly below normal with anomalies of -0.5 hours at Vacoas and -0.9 hours at Plaisance. In fact, for most of the month, both Plaisance and Vacoas had daily sunshine hours which varied significantly (Fig 10). The least daily sunshine hours for Plaisance was 0.0 on the 26 and 27 and for Vacoas was 1.2 on the 27. On few occasions, the sunshine hours were below normal when clouds associated the instability lines crossed the island.

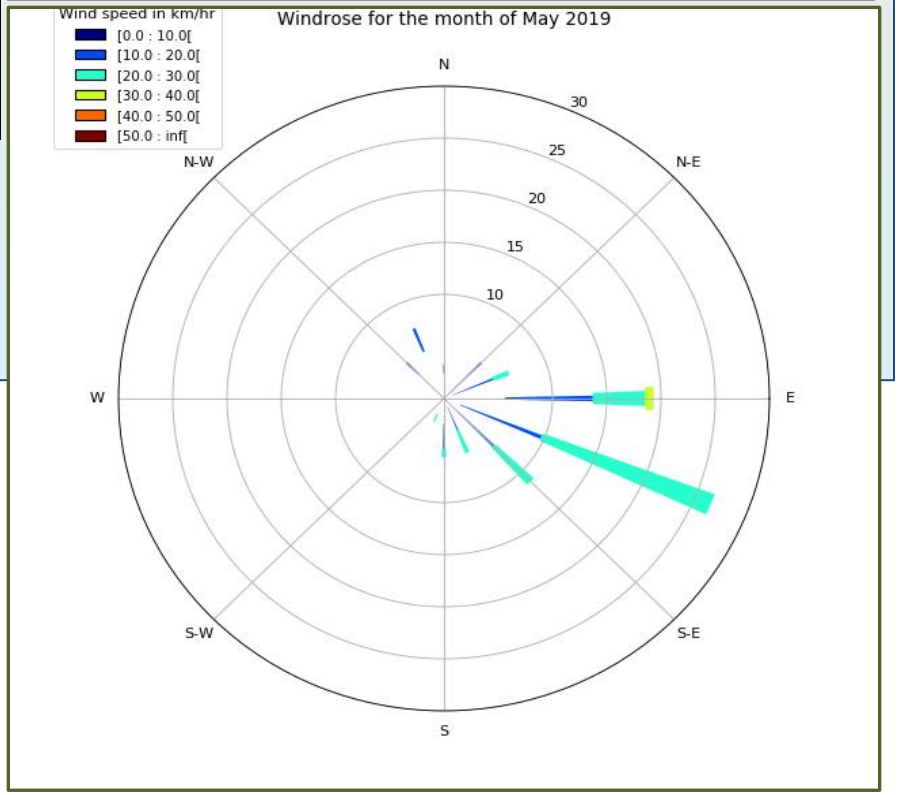



**Fig. 11:** Wind frequency at Plaisance

## 4. Winds

**Trade winds prevailed over Mauritius during most of May 2019, Fig 11. However, on few occasions in the second and third week, light wind blew over the island in between the passage of anticyclones to the south of the Mascarenes. During these times, land breeze effect was observed in the region of Plaisance early morning and northwesterly wind was recorded.**

## FORECAST FOR JUNE-JULY-AUGUST (JJA)

The season JJA marks the core season of the winter season. During this period, the central and eastern equatorial Pacific will remain warmer than normal with characteristics of weak El Nino event. The moderate SIOD which peaked in March has weakened and is expected to remain of weak intensity. The most dominant features for JJA will be the moderate IOD which has developed in April and is expected to remain same intensity during this season.

In the previous MJJ statistical run above normal rainfall was predicted. The month of May recorded normal rainfall representing 86% of the long-term mean and the month of June representing 175% of the long-term mean.

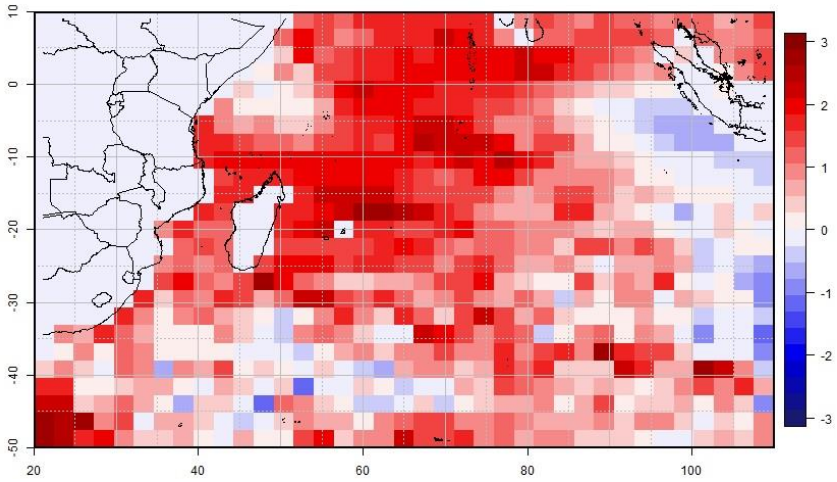



**Figure 13: JJA sea surface temperature anomaly chart**

### Consensus forecast for Mauritius

- Statistical model is expecting normal to slightly above normal for JJA (Fig. 14(a)). However, in view of the expected evolution of large and regional scale atmospheric-oceanic circulations, the forecast is being amended to near normal rainfall for July and August with ~127 mm and ~105 mm respectively.
- Mean temperatures will continue to remain slightly above normal at most places due to above normal sea surface temperature persisting over SWIO region, (Fig. 14(b)).

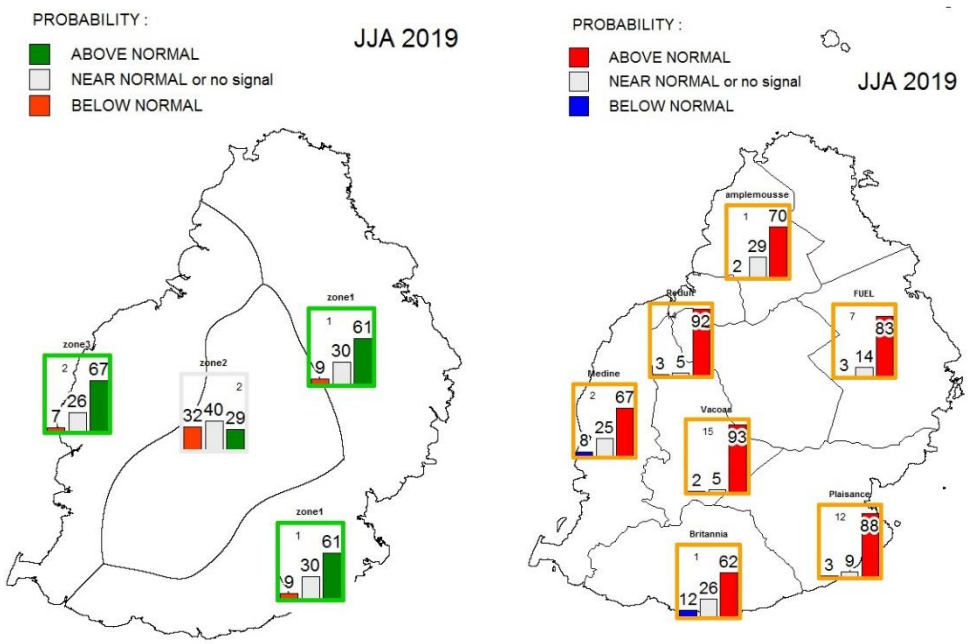



**Fig. 14: Statistical Model Forecast of (a) rainfall and (b) temperature**



**Director, Meteorological Services,**
**St Paul; Road Vacoas,**
***Tel*: 6861031/32, Fax: 6861033, *email*: meteo@intnet.mu**

Updated on: 28 June 2019