



MAURITIUS METEOROLOGICAL SERVICES



CLIMATE BULLETIN JUNE 2019

Introduction

During the month of June 2019, close to normal day temperature but above normal night temperature especially to the southeast and above normal rainfall were observed. 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. The wet phase of the Madden Julian Oscillation (MJO) was in the Australian region during the first fortnight and in the northern hemisphere during the second half of the month. Typical of a pre-monsoon month of the Indian Monsoon season, a storm evolving in the Arabian sea was named VAYU which peaked to a very severe cyclonic storm.

1. Rainfall

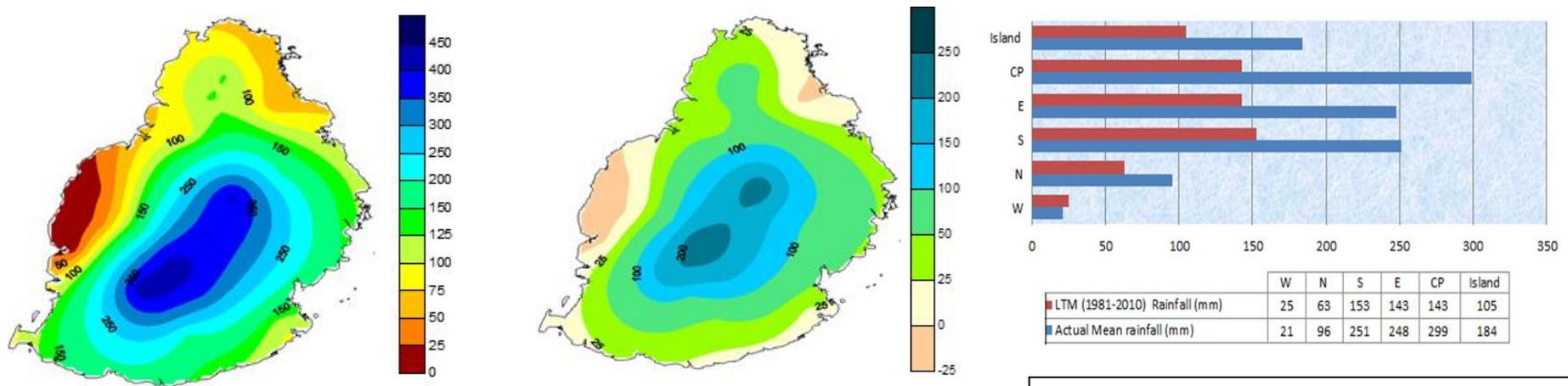
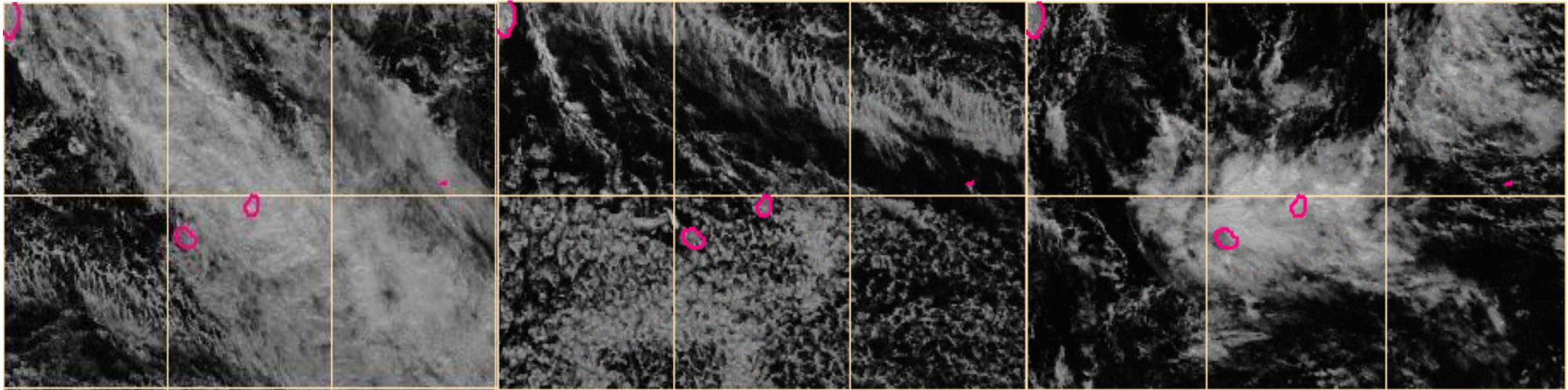


Fig. 1: (a) Observed rainfall (mm) (b) rainfall anomaly (mm)

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

June 2019 was wet with above normal rainfall which amounted to 184 mm, representing 175% of the long-term mean. Local Convective development in the afternoon of 02, caused localised showers mainly to the east, south and the central plateau. On the 10 and 21, frontal systems crossed the island and most of the precipitation was concentrated to the south and over the high grounds. An instability zone gave moderate to heavy showers on the 24 to 27 June. Most of June 2019, Mauritius was under the influence of an easterly airstream, giving passing showers mostly over the high grounds and the windward slopes. Almost all regions of the island received above normal rainfall, except the west. An excess rainfall of more than 200 mm was recorded in the regions of Mon Bois and Belle Rive.



(a) Unstable weather on 10

(b) Less active clouds on 12

(c) Unstable weather on 26

Fig 3: Weather systems during June 2019

2. Surface Temperature

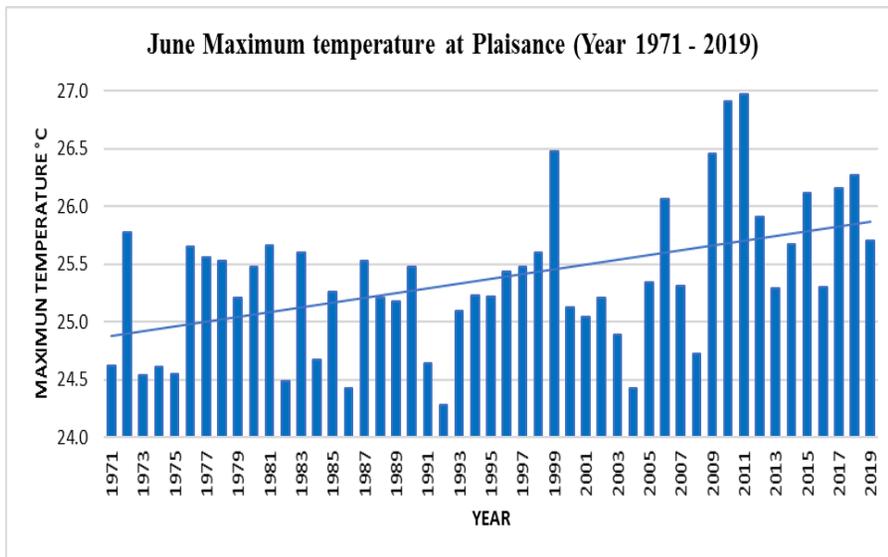


Fig. 4(a): Maximum temperature trend during June from 1971-2019

June 2019 has the eleventh warmest day temperatures for June on record since 1971 (based on mean maximum temperature recorded at Plaisance)

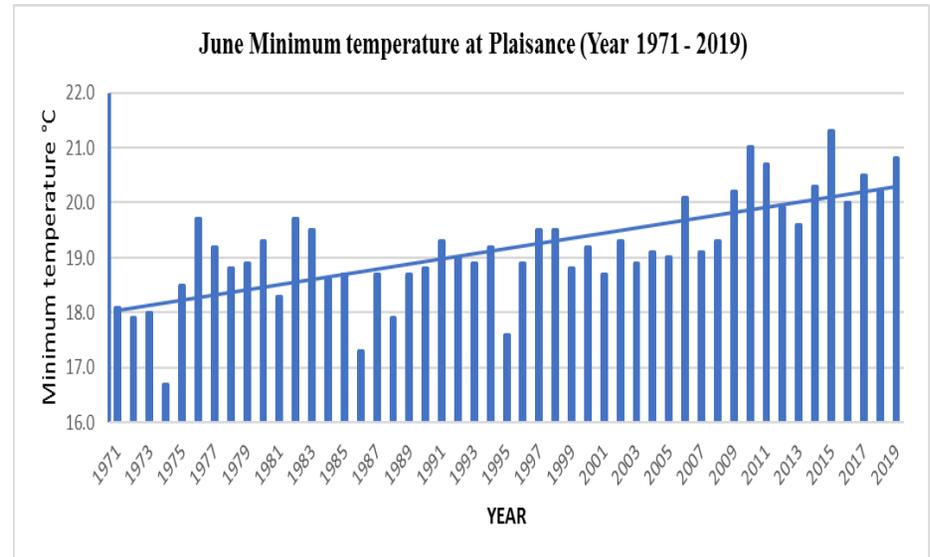


Fig. 4(b): Minimum temperature trend during June from 1971-2019

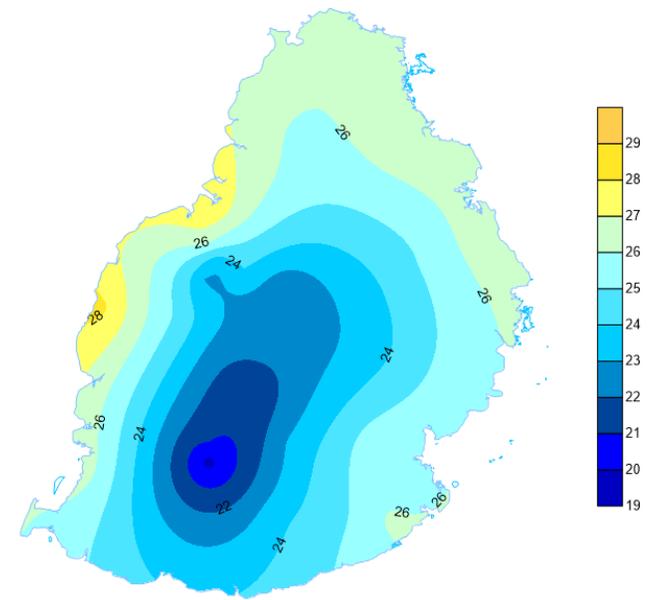
June 2019 has the third warmest night temperatures for June on record since 1971 (based on mean minimum temperature recorded at Plaisance)

Day temperature was most of the time near normal during June 2019. However, on few days, the amount of insolation received due to cloud free sky (Fig 10) led to above normal daytime temperatures. On other occasions, under the influence of cold air emanating from the anticyclone migrating along the sub tropics, the temperature was below normal.

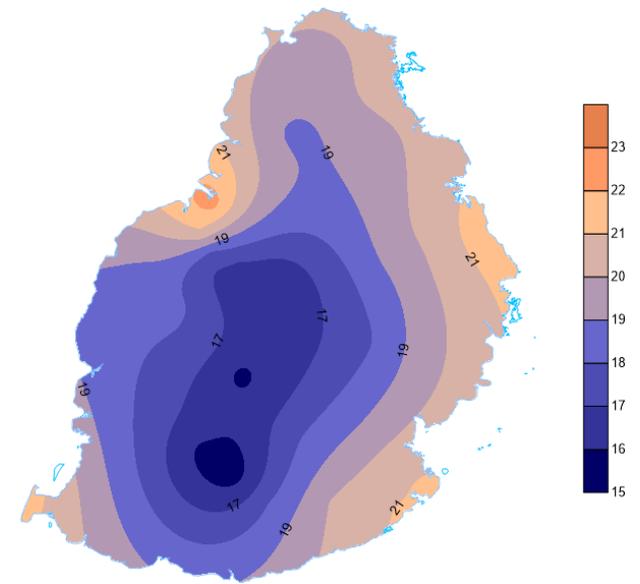
Across the island, the anomalies for monthly mean maximum temperature ranged between -0.5 to 1.5 °C. Medine had the highest number of warm days of up to 09 days. The highest anomaly for maximum temperature of 4.4 °C was recorded at Beau Songes on 01 and the lowest anomaly of -3.5 °C was recorded at Mon Loisir Rouillard on the 28.

The night time temperature was above except to the west where it was normal. The anomalies for monthly mean minimum temperature ranged between -1 to 2.4 °C and the highest number of cold nights was 07 recorded at Gros Cailloux. The highest anomaly for minimum temperature of 4.8 °C was recorded at La Baraque on 10 and the lowest anomaly of -3.7 °C was recorded at Gros Cailloux on the 21.

The lowest minimum temperature of 12.5 °C was recorded at Mon Bois on 14. On the 30, a new record in minimum temperature was observed at Mon Loisir Sugar Estate with 17.1 °C (previous 17.7 °C).



(a)



(b)

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

Some stations had up to 9 warm days;
(maximum temperature anomaly (anomax) >2°C).

Stations	Highest anomax (°C)	Number of warm days.
Medine	3.6	9
Riche en Eau	3.3	9
Mon Desert Alma	4.0	7
Quatre-Bornes	4.1	5
Albion	3.6	4
Mon Bois	3.9	4
Union Park MSIRI	4.0	4
ML Rouillard	3.4	3
Fuel	2.9	3
Gros Cailloux	3.1	3
Beau Songes	4.4	3
Belle Rive (MSIRI)	3.8	3

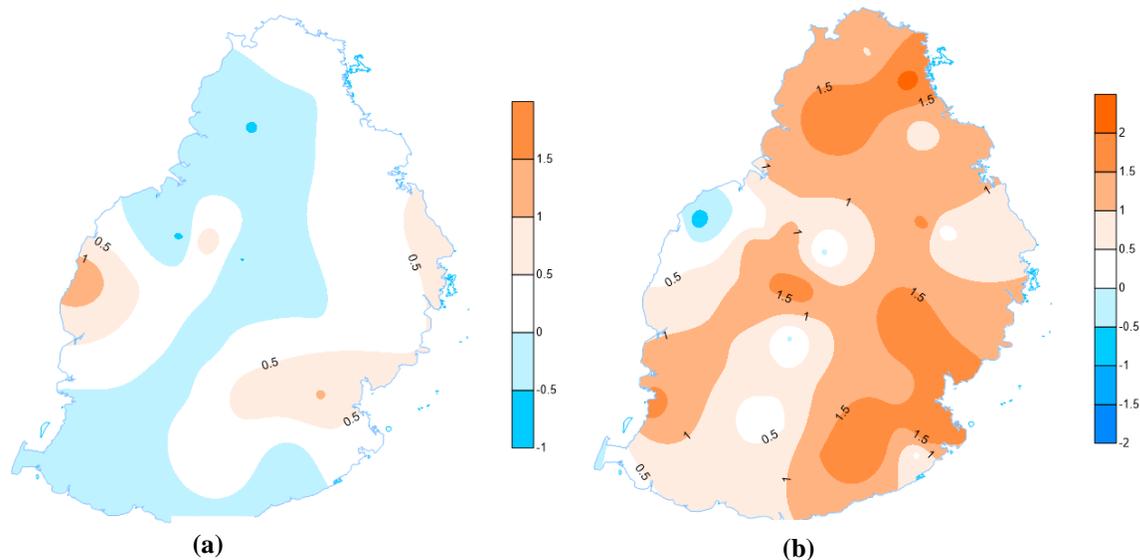
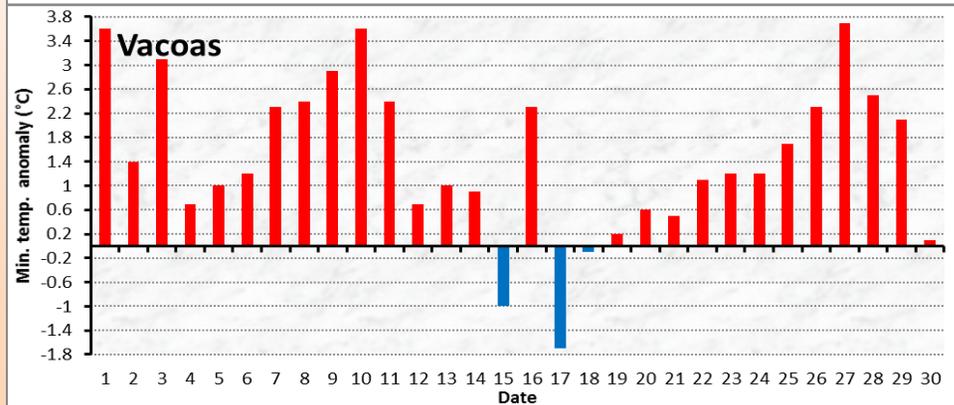
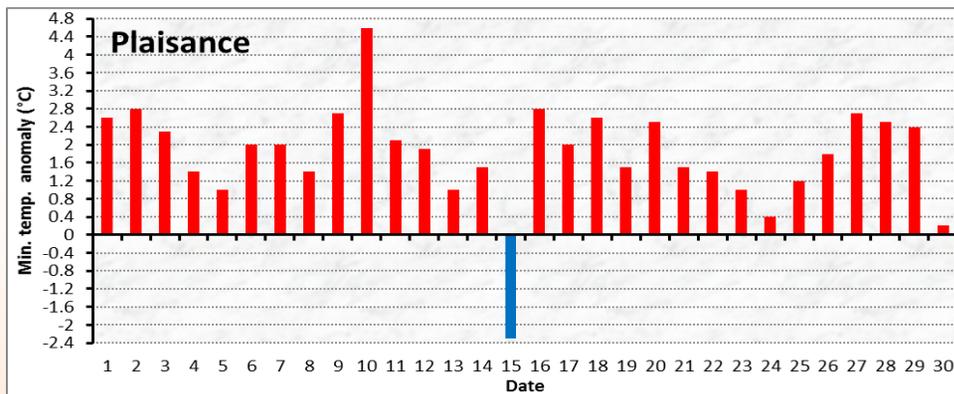
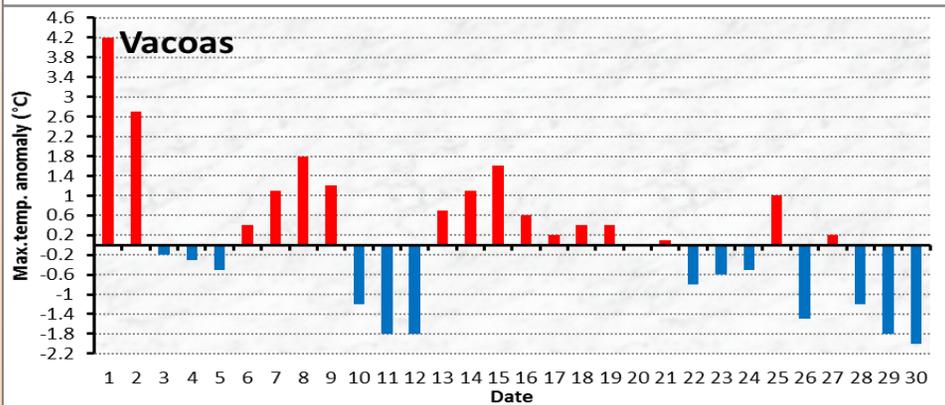
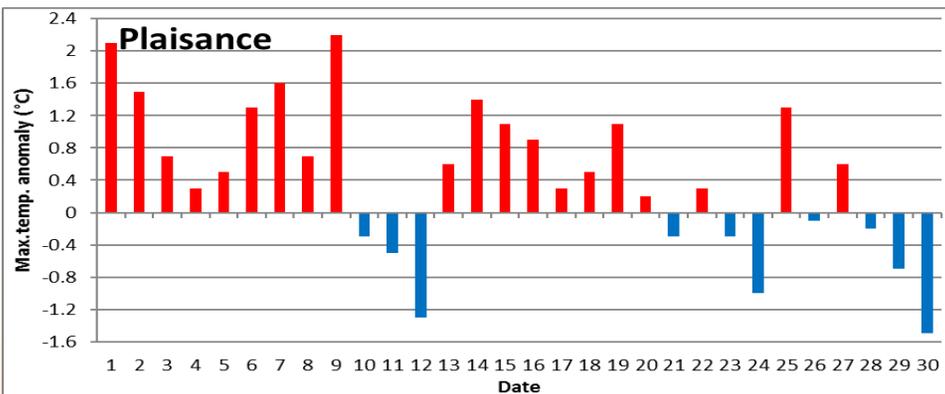


Fig. 6: (a) Maximum

(b) Minimum temperature anomaly



3. Sunshine and Humidity

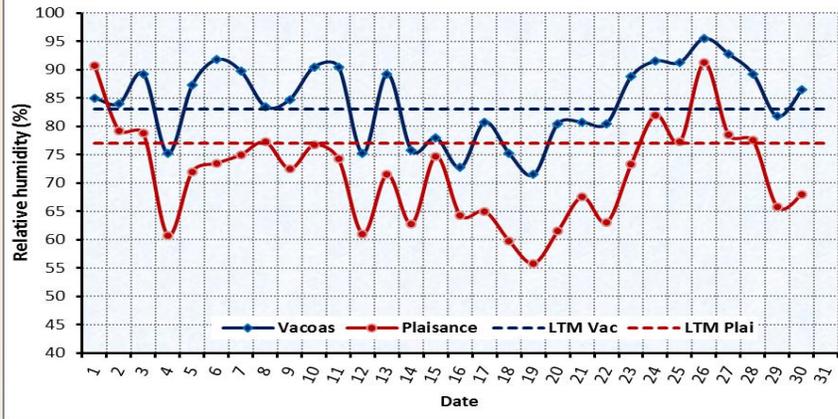


Fig. 9: Daily Relative Humidity: Vacoas (blue) and Plaisance (red)

The average monthly relative humidity (RH) was mainly normal for both Vacoas and Plaisance. The highest humidity was recorded at Vacoas and Plaisance on 01 and 26 reaching 91 % and 96 % at Vacoas on 26 (Fig 9). The lowest RH at Plaisance, 56%, was recorded on the 19.

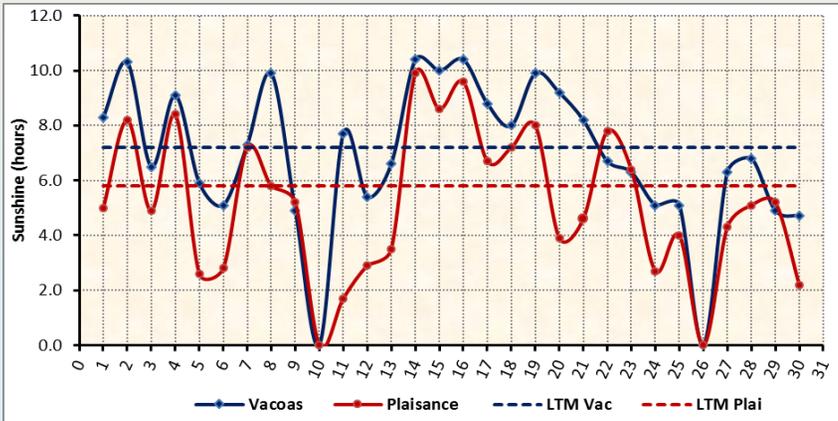


Fig. 10: Daily sunshine hours: Vacoas (blue) and Plaisance (red)

Monthly mean sunshine hours were close to normal with anomalies of -0.3 hours at Vacoas and -0.7 hours at Plaisance. For most of the month, both Plaisance and Vacoas had daily sunshine hours which varied significantly (Fig 10). Nil sunshine hours for Plaisance and Vacoas was observed on the 10 and 26 under the influence of clouds associated with the instability zones that crossed the island (Fig 3(a) and (c)).

4. Winds

Trade winds prevailed over Mauritius for most of June 2019 under the influence of anticyclones to the south of the Mascarenes, Fig 11. The magnitude of the observed trade wind was within the range of 20 to 30 km/h. The highest gust of 86 km/h recorded was at Le Morne and Champ de Mars.

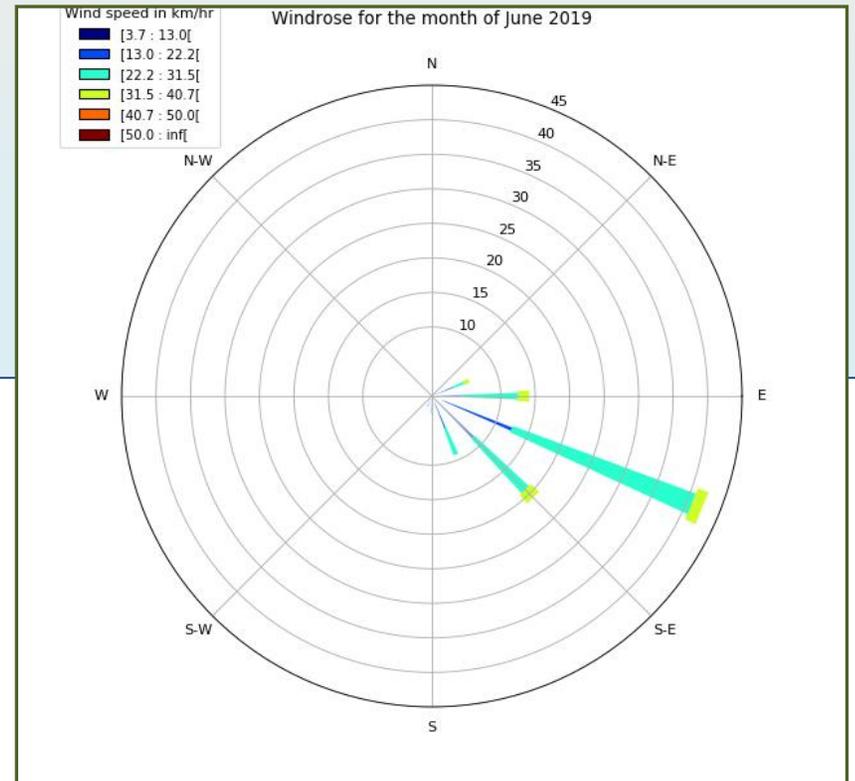


Fig. 11: Wind frequency at Plaisance

FORECAST FOR JULY-AUGUST-SEPTEMBER (JAS)

Between mid-June to mid-July both OLR and wind distribution over the equatorial Pacific Ocean revealed a weak El-Nino event ongoing. However, this weak El-Nino event is expected to become neutral towards the end of the forecast period. The most dominant features for JAS will be the persistent moderate IOD and warm SST over the SWIO region.

In the previous JJA statistical run near normal rainfall was predicted. The month of June recorded above normal rainfall representing 175% (184mm) of the long-term mean. The first half of July was dry with rainfall of 27% (17mm) of the long-term mean for the first fortnight, however the second half is expected to be wetter.

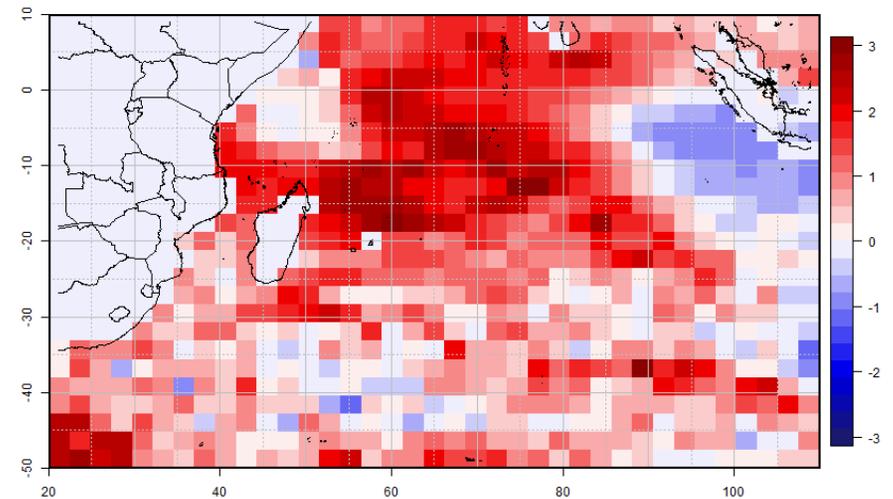


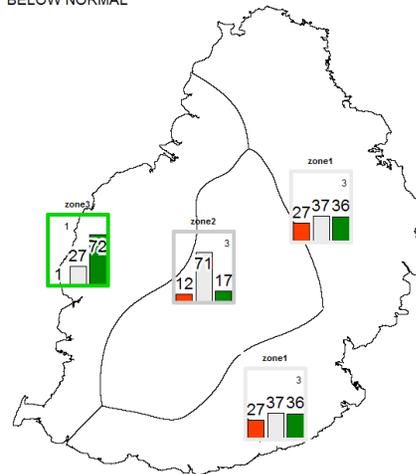
Figure 12: JAS sea surface temperature anomaly chart

Consensus forecast for Mauritius

- Statistical model is expecting normal rainfall for JAS (Fig. 14(a)), except slightly above to the west. The expected monthly rainfall forecast is as follows: slightly below normal for July with ~102mm and normal for August with ~100mm and normal for September ~90mm.
- Mean temperatures will be slightly above normal at most places due to warm sea surface temperature persisting over SWIO region.

PROBABILITY :

- ABOVE NORMAL
- NEAR NORMAL or no signal
- BELOW NORMAL



JAS 2019 PROBABILITY :

- ABOVE NORMAL
- NEAR NORMAL or no signal
- BELOW NORMAL

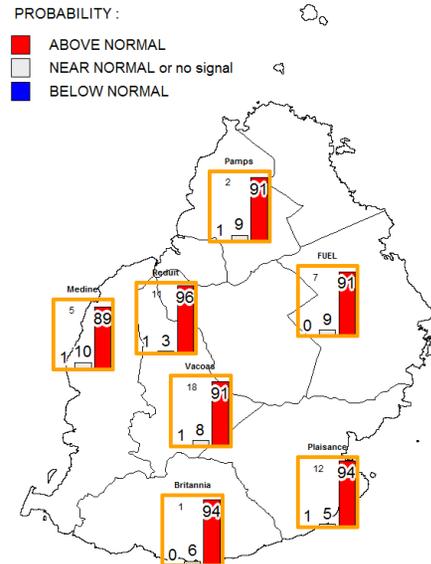


Fig. 13: Statistical Model Forecast of (a) rainfall and (b) temperature

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