



# MAURITIUS METEOROLOGICAL SERVICES



## CLIMATE SEPTEMBER 2020

### Introduction

As every year, the equinox is observed in September also and this time it was on Tuesday 22 leading to the gradual increase in day time hours. Usually, temperatures also start to increase gradually. The weakening anticyclones started to transit further to the south of the Mascarenes and the weather remained mainly fair throughout the month with relatively warmer temperatures. Rainfall was below normal for the month.

Negative ENSO (weak La-Nina) prevailed over the equatorial Central Pacific Ocean. The IOD index was neutral in the equatorial Indian Ocean and the Subtropical Indian Ocean Dipole was negative. MJO was not active in the SWIO.

### 1. Rainfall

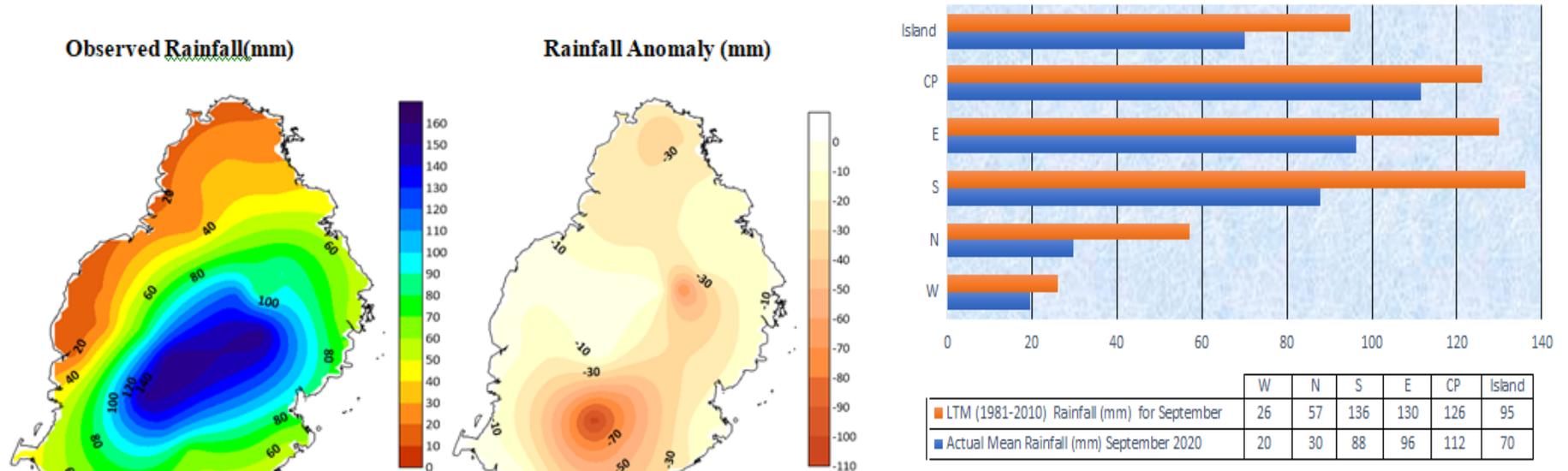
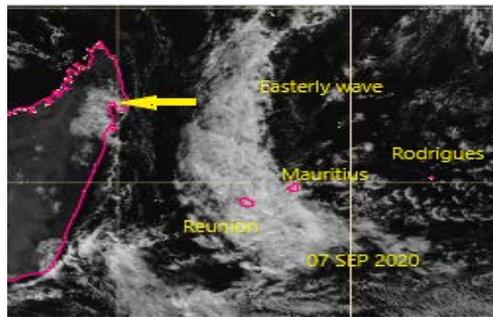


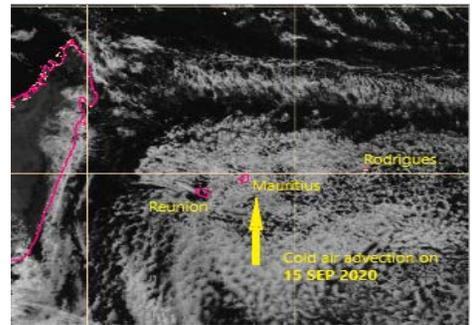
Fig. 1: Spatial rainfall distribution (a) Observed (b) Anomaly (mm)

Fig. 2: Regional rainfall distribution

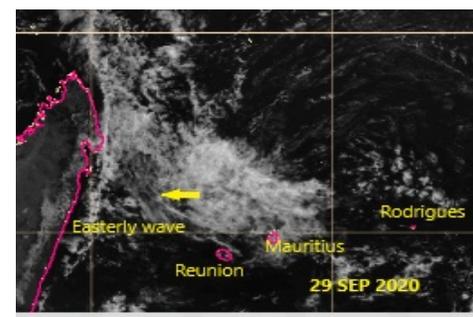
An average of 70mm of rainfall was recorded over the island equivalent to 74% of the long term mean for the month. Most of the rainfall was recorded in the first fortnight representing 60% of the monthly rainfall and only 14% during the second fortnight. The highest deficiency was in the region of Bois Cheri by almost 100mm during the month. Vacoas recorded only 10 rain days ( $\geq 1$ mm of rain). The highest 24-hour rainfall was only 37.9mm recorded in the early morning of 07 at Plaisance Airport.



(a) Easterly wave on 07 which crossed in the early morning



(b) Clouds characterising cold air from the South



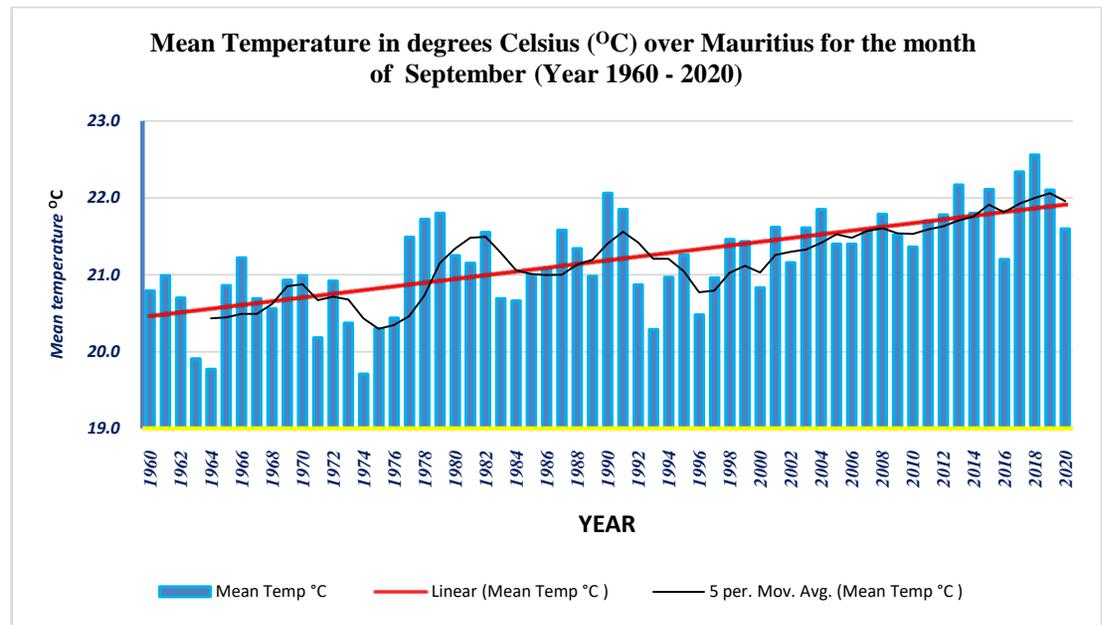
(c) Easterly wave caused cloudy to overcast sky with zero sunshine hours at Plaisance

**Fig. 3:** Meteosat 8 satellite pictures

## 2. Surface Temperature

The monthly mean temperature over the island in September 2020 was 21.6°C which is close to the LTM 1981-2010 (+0.3°C).

Both the average mean minimum (+0.2) temperature and the average mean maximum (+0.4) temperature were near normal.



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

Average temperature for the month was near normal. Only one pertinent cold episode was observed notably from 15-16 (Fig 3b). Cold days were particularly observed over the region of Ferret (Pamplemousses) and the extreme South of the island (Fig 6(a)). Cold nights were particularly observed over the region of Gros-Cailloux to the West (Fig 6(a)).

The maximum temperatures were cooler at most places from 14-16 by about 2-4°C while for the rest of the month it was mainly warmer by about 1-2°C and locally up to 5°C (Fig7). Only the region of Pamplemousses (to the north) and Mon Desert (to the southeast) had slightly cooler days on average while in most region, it was warmer (Fig 6 (b)).

Day 15 was the coolest (Fig 7) while day 28 was the warmest. The lowest maximum of 16.0°C was recorded at Grand-Bassin and the highest was 31.5°C at Medine.

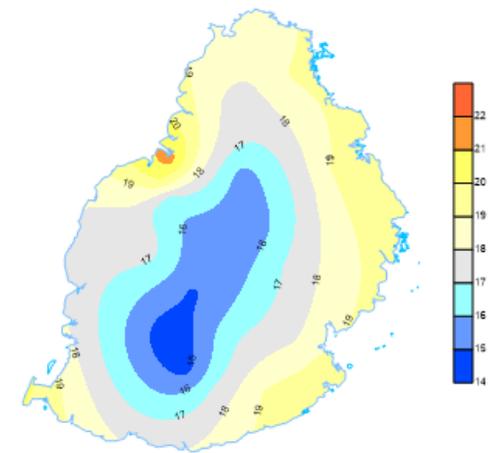
New extreme maximum temperatures were recorded at:

Station Location	New extreme maximum in °C	Previous extreme maximum in °C
Pamplemousses	29.7	28.9
Bel-Village	30.5	29.9
Medine	31.5	31.2

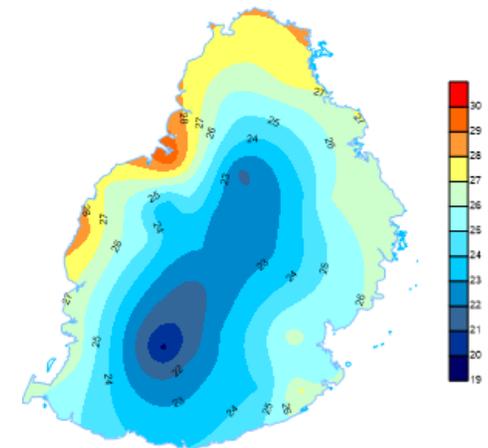
The night temperatures (Fig 7) were cooler by 2-4°C in many places from 04-06, on 15-16 and 23-25. The rest of the nights were mostly warmer than the normal. The lowest minimum recorded was 12.3°C at Grand-Bassin and Mon-Bois on 15 and 24 respectively.

New extreme minimum temperatures were recorded at:

Station Location	New extreme minimum in °C	Previous extreme minimum in °C
Bois Mangué	15.5	17.0
St Felix	15.4	16.8



(a)

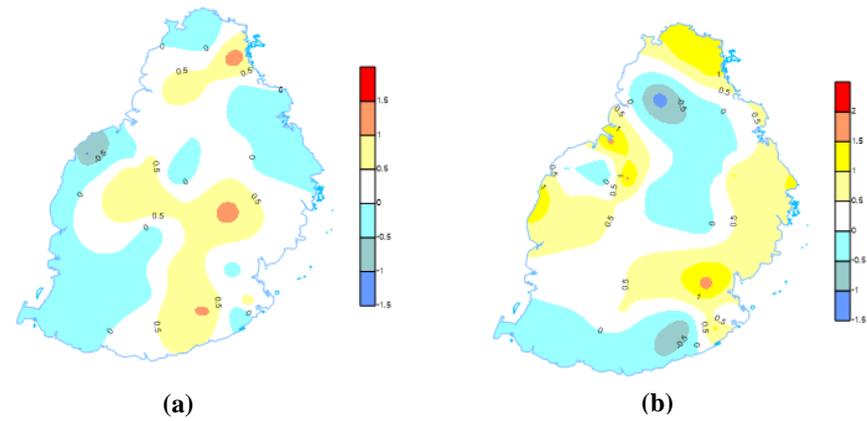


(b)

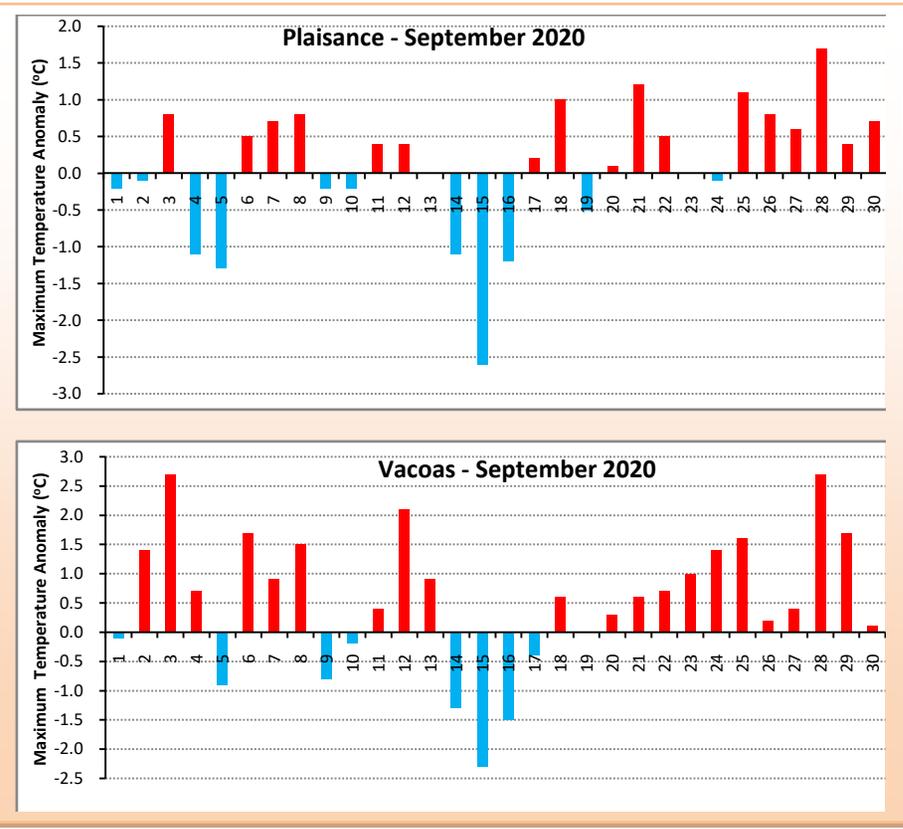
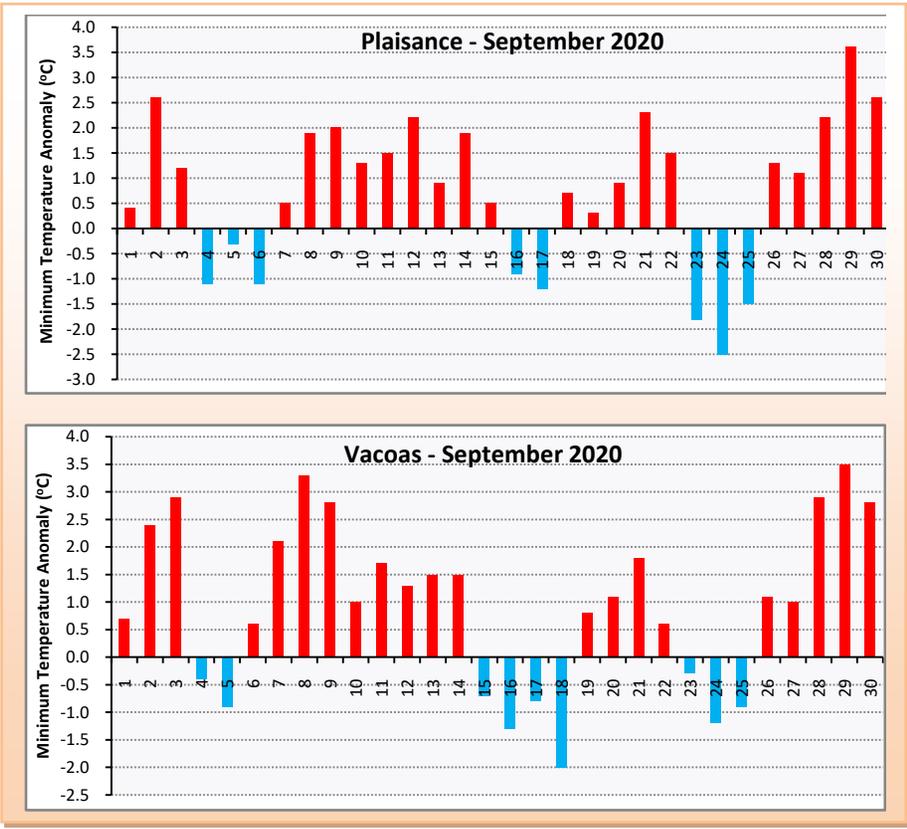
Fig. 5: (a) Mean minimum (b) Mean maximum temperature distribution

**Observed warm days (maximum temperature anomaly (anomax>2°C)) and warm nights (minimum temperature anomaly anomin>2°C).**

Stations	Highest anomin (°C)	Number of warm nights	Stations	Highest anomax (°C)	Number of warm days
Digue Seche	5.2	13	Port-Louis	5.1	13
Ferret	4.7	6	Mon Desert Alma	5.1	13
Mon Desert Alma	3.5	8	Medine	4.4	8
Reduit	3.5	6	ALTEO (FUEL)	4.2	4
Vacoas	3.5	8	Mon Loisir Rouillard	3.7	6
Belle Rive	3.5	9	Mon Desert Mon Tresor	3.5	9

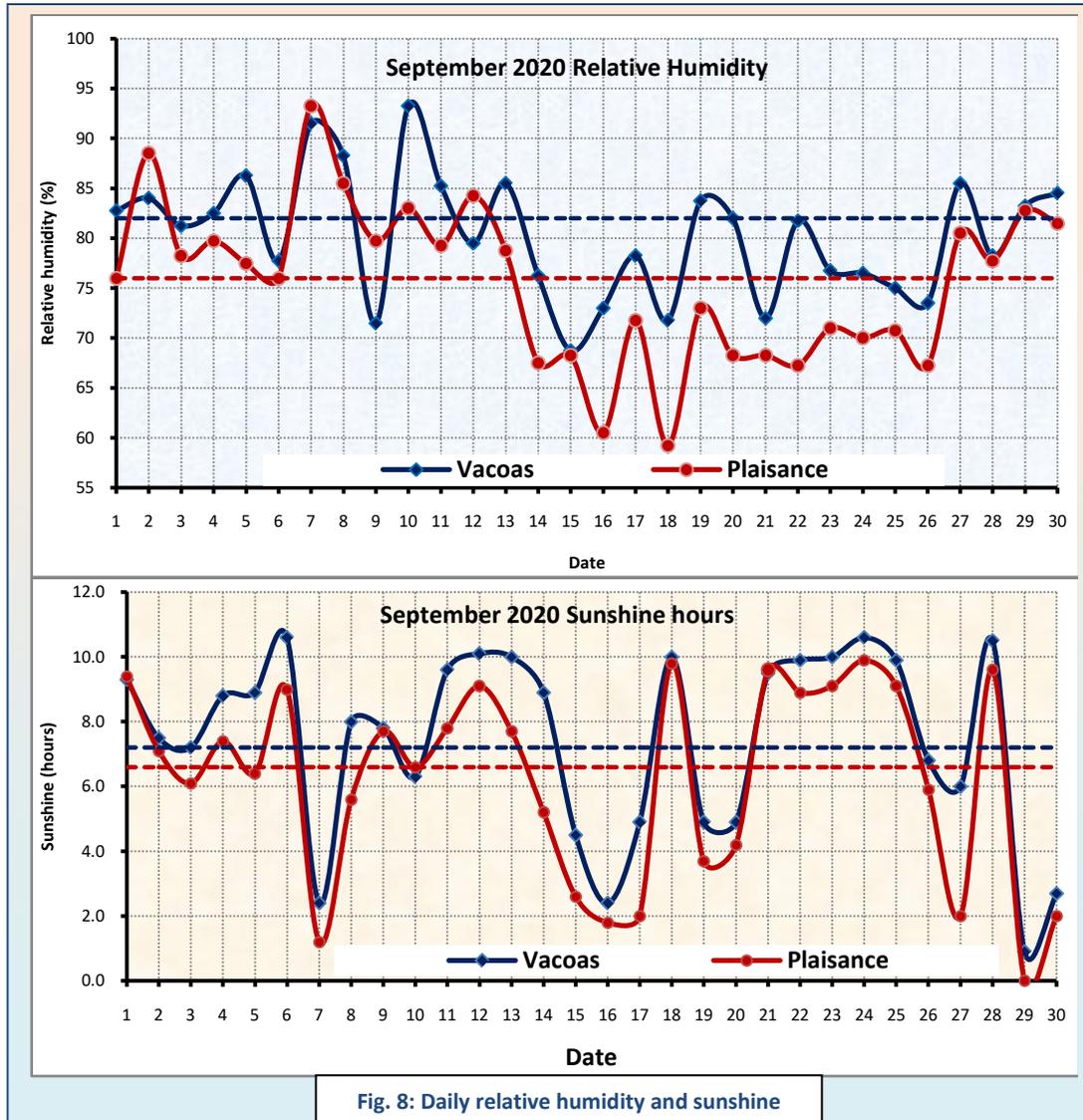


**Fig. 6: Spatial distribution of temperature anomaly (a) Minimum (b) Maximum**



**Fig. 7: Daily temperature anomaly at Plaisance and Vacoas: Minimum (left) Maximum (Right)**

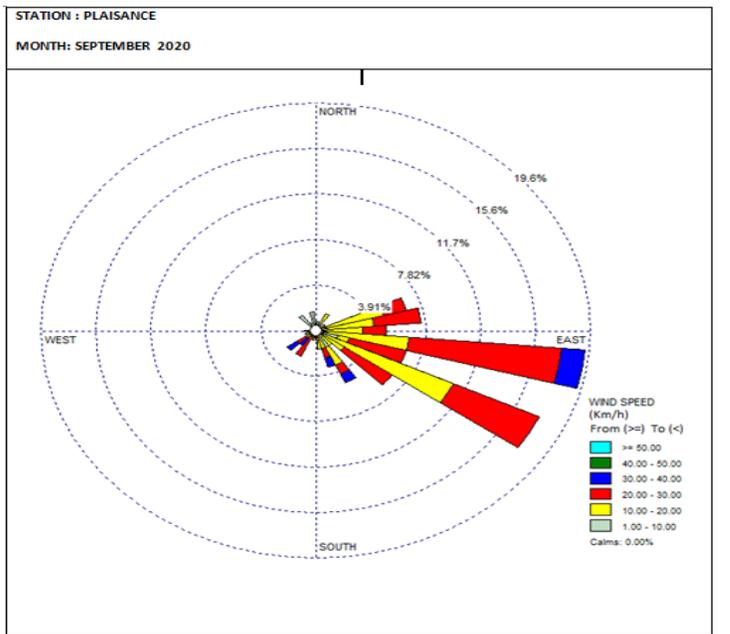
### 3. Sunshine and Humidity



Light to moderate winds blew mainly from the east-south-east. Occasionally the mean wind speed exceeded 35 km/h at Plaisance Airport notably on 3-5, 14 and 21.

The mean relative humidity was above normal on most of the days at Plaisance during the first two weeks. From 14-26, it was below normal at Plaisance and at Vacoas on most of the days. The low relative humidity values were due to the cold and dry air mass prevailing. On very few occasions, during cloudy and rainy conditions, the humidity reached 90 % at Vacoas and Plaisance (Fig 8).

The number of daily bright sunshine hours was close to normal. A daily mean difference of +0.3 hours and -0.4 hours compared to the LTM was recorded at Vacoas and Plaisance respectively. The lowest sunshine hours on 07, 16-17 and 29 were due to cloudy to overcast conditions that prevailed. The total number of monthly bright sunshine hours was close to the normal at Vacoas with 223.8 hours and 186.5 hours at Plaisance.



## FORECAST FOR OCTOBER-NOVEMBER-DECEMBER (OND)

Weak La-Nina is prevailing over the equatorial Pacific Ocean. The equatorial Indian Ocean will be in a neutral negative IOD pattern (Figure 13 (a)). The southern hemisphere subtropics will remain in a weak negative SIOD pattern. A positive pressure anomaly will prevail over south Mozambique region (Fig 13(b)) which is in line with the current negative SIOD pattern.

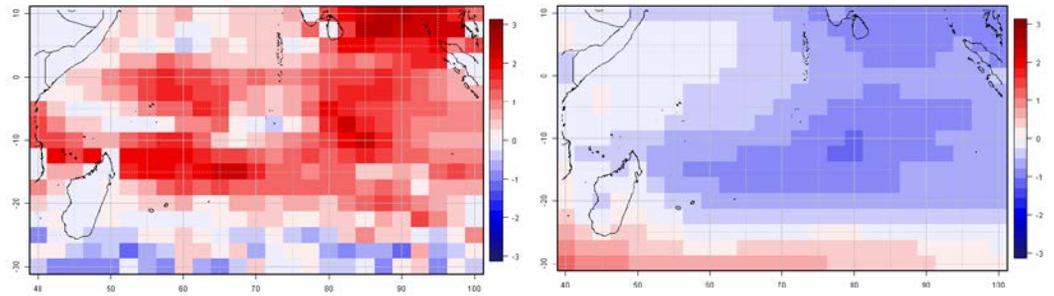


Figure 13: (a) Sea surface temperature (b) pressure anomaly charts for OND 2020

### Consensus forecast for Mauritius

Statistical analysis is showing a tendency toward normal rainfall. However, other current indicators are more favourable for drier conditions. As such, cumulative monthly rainfall is expected to be deficient for the coming three months (Oct-Dec) as follows:-

- October well below normal ( 50 mm)
- November below normal ( 55 mm)
- December below normal ( 130 mm)

Mean temperature is forecast to be slightly above to above normal for most of the regions.

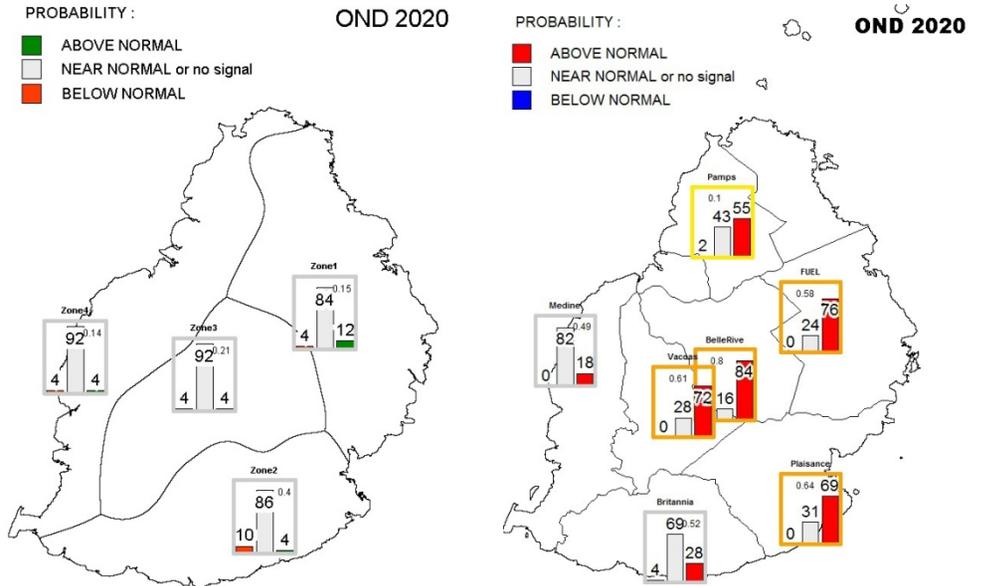


Fig. 14: Statistical Model Forecast of (a) rainfall (b) temperature

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