



MAURITIUS METEOROLOGICAL SERVICES



CLIMATE NOVEMBER 2020

Introduction

November had relatively cooler days at the beginning. By the mid of the month, in the afternoon time, there were some mild sea breeze developing with rain on some occasions. The total rainfall was slightly below normal for the month. The first thunderstorm for the season was recorded on 14 in the region of Plaine-Magnien at around 13h00.

Moderate ENSO (Moderate 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 active in the SWIO during the 3rd week.

1. Rainfall

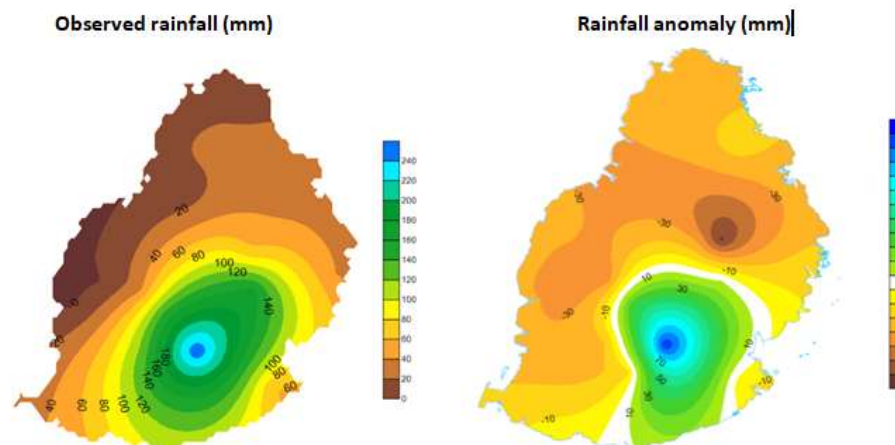
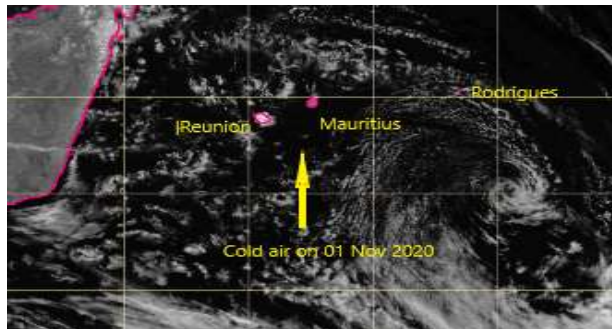


Fig. 1: Spatial rainfall distribution (a) Observed (b) Anomaly (mm)

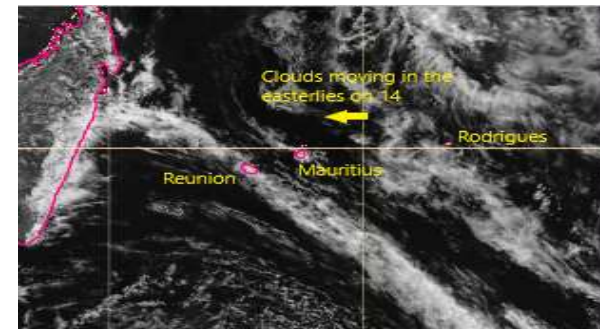


Fig. 2: Regional rainfall distribution

An average of 65mm of rainfall was recorded over the island equivalent to 84% of the long term mean for the month. Most of the rainfall was recorded in the second fortnight representing 56% of the monthly rainfall and only 28% during the first fortnight. The highest deficiency was in the region of Bel-Etang by almost 62mm during the month. However, the region of Union Park had an excess of about 110mm of rain. Vacoas recorded only 9 rain days (≥ 1 mm of rain). The highest 24-hour rainfall was 103 mm recorded on 14 at Riche en Eau (101% of its LTM).



(a) Cold air advection on 01 Nov



(b) Clouds in the easterlies on 14 Nov

Fig. 3: Meteosat 8 satellite pictures

2. Surface Temperature

The monthly mean temperature over the island in November 2020 was 23.8°C which is close to the LTM 1981-2010 ($+0.0^{\circ}\text{C}$).

The mean minimum temperature anomaly was slightly below normal (-0.6°C) and the mean maximum temperature anomaly was close to the normal (-0.1°C).

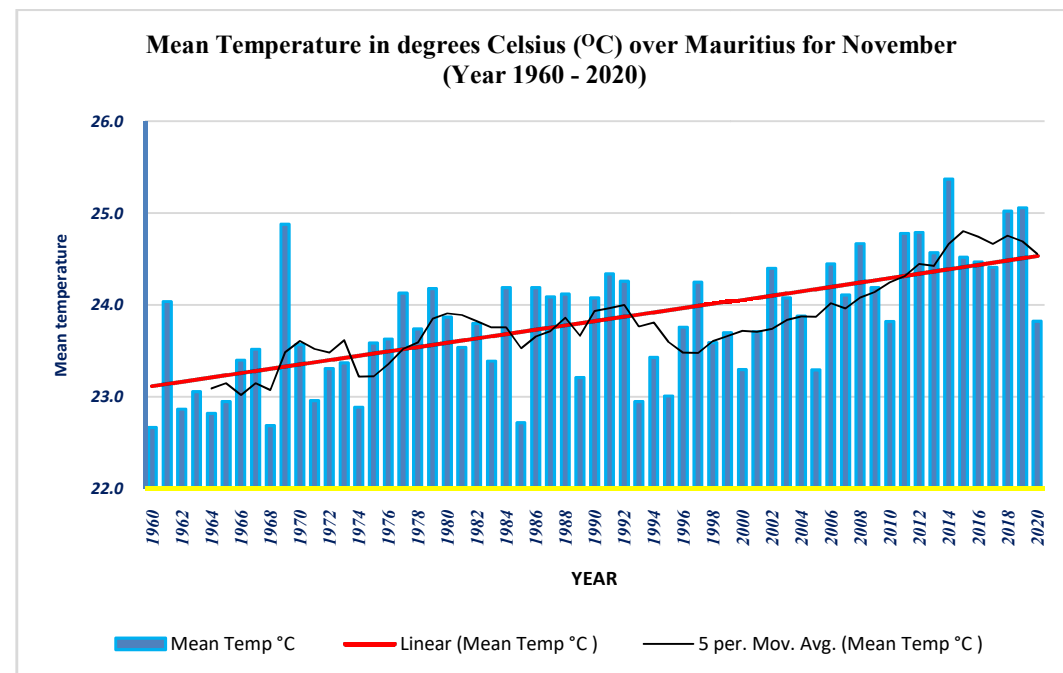


Fig. 4: Mean temperature trend for November from 1960-2020

Average temperature for the month was near normal as the cold days were offset by the warm ones. Cold episode was observed notably from 01-04 and 15-20 (Fig 3b). Cold days were particularly observed over the Southern part of the island and the Centre (Fig 6(a)). Cold nights were particularly observed over the region of Gros-Cailloux to the West and Alma over the Centre(Fig 6(a)).

The maximum temperatures were cooler at many places from 01-04 and 15-20 by about 2-4°C while on the other days it was warmer by about 2°C (Fig7). Day 02 and day 03 were the coolest (Fig 7) while day 13 was the warmest. The lowest maximum for the month was 18.1°C recorded at Grand-Bassin on 03 and the highest maximum was 33.5°C at Mon Desert Mon Tresor recorded on 13.

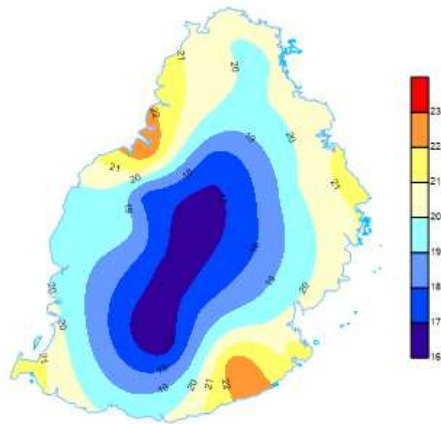
A new extreme maximum temperature was recorded at:

Station Location	New extreme maximum in °C	Previous extreme maximum in °C
Riche Terre	33.3	31.7

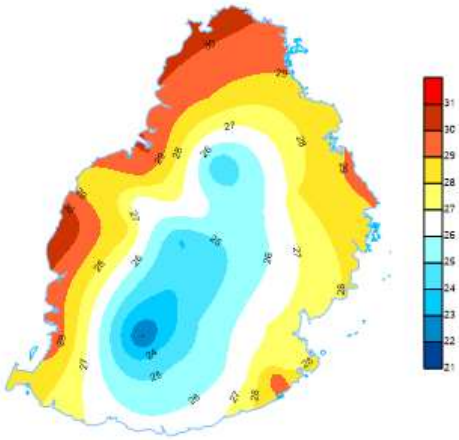
The night temperatures (Fig 7) were cooler by 2-6°C in many places from 01-04 and 16-22. The nights of 23-30 were mostly warmer than the normal by 1-2°C. The lowest minimum recorded was 12.0°C at Alma on 02.

New extreme minimum temperatures were recorded at:

Station Location	New extreme minimum in °C	Previous extreme minimum in °C	Station Location	New extreme minimum in °C	Previous extreme minimum in °C
Alma	12.0	15.5	Riche en Eau	15.3	16.2
Pointe aux Canonniers	16.5	19.3	Albion	15.0	16.9
Pamplemousses	14.4	17.3	Riviere Noire	18.0	18.5
Mon Loisir Rouillard	15.8	16.0	Gros Cailloux	16.1	18.0
Mon Loisi Sugar Estate	17.2	17.8	Beau Songes	16.0	16.5
Riche Terre	17.8	20.0	Domaine Les Pailles	16.6	16.7
Champ de Mars	18.1	18.9	Beau Bassin	15.8	17.2
Albion	15.0	16.9	Chitrakoot	15.9	19.3
Riviere Noire	18.0	18.5			



(a)



(b)

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

Observed cold days (maximum temperature anomaly (anamax < -2°C))
and cold nights (minimum temperature anomaly (anomin < -2°C)).

Stations	Highest anomin (°C)	Number of cold nights	Stations	Highest anamax (°C)	Number of cold days
Belle-Mare	6.2	10	Grand Bassin	5.2	12
Gros Cailloux	6.4	16	Rose-Belle	7.0	9
Alma	7.2	21	Le Morne	4.8	8
Riche en Eau	4.9	10	Belle Rive-Wooton	4.6	11
Mon Bois	4.6	11	La Baraque	4.8	12
Mon Loisir Rouillard	5.6	11	Port-Louis	3.5	6

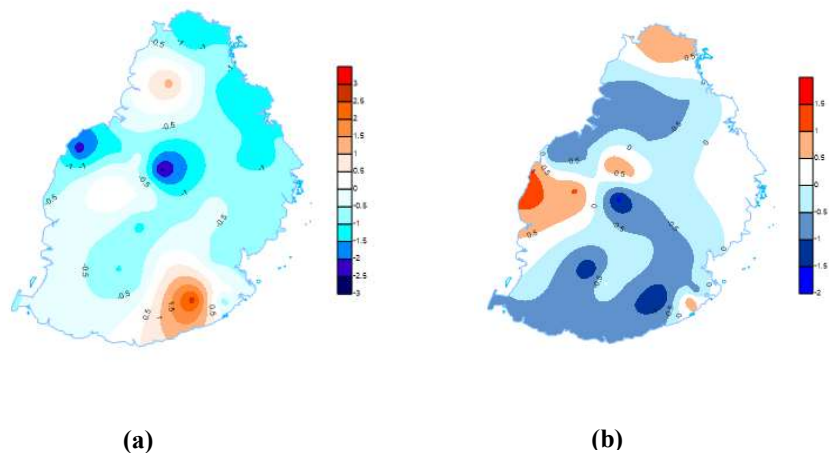


Fig. 6: Spatial distribution of temperature anomaly (a) Minimum (b) Maximum

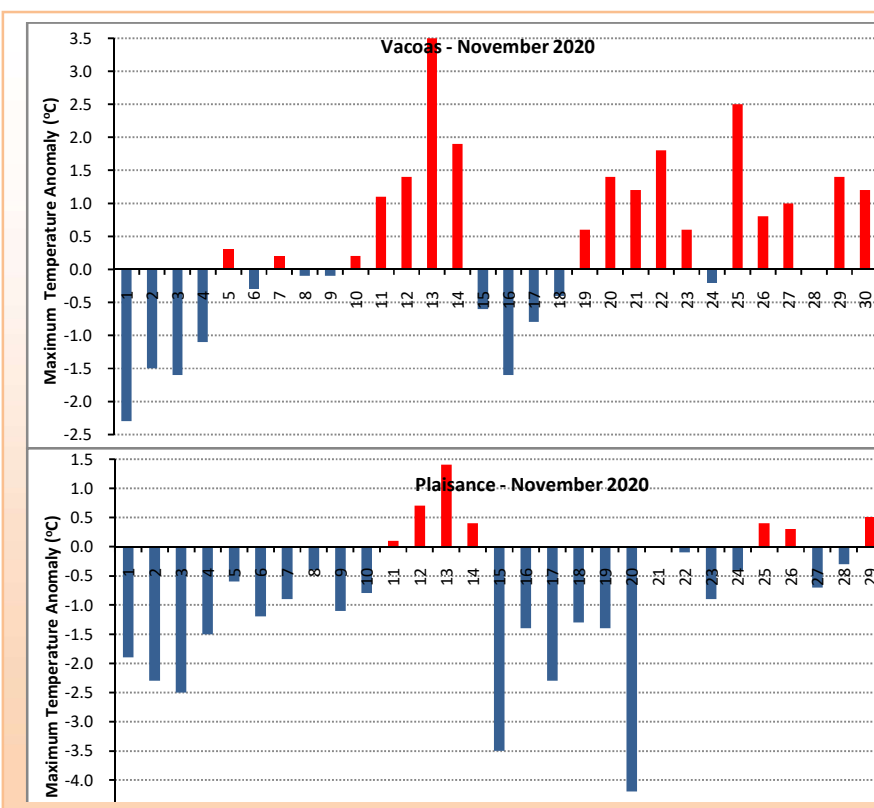
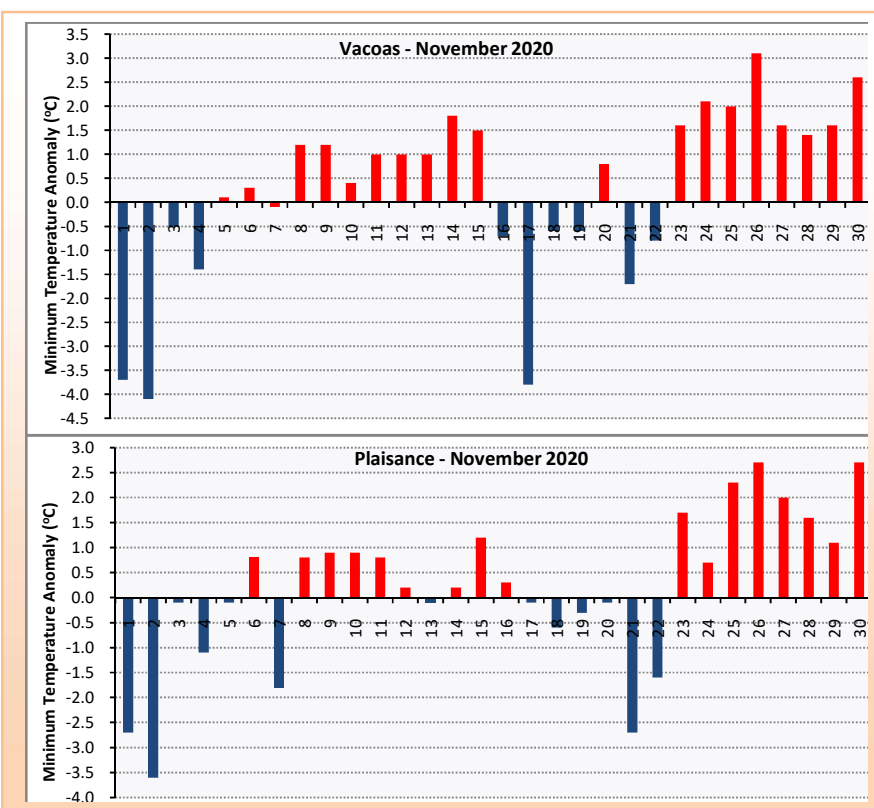


Fig. 7: Daily temperature anomaly at Plaisance and Vacoas: Minimum (left) Maximum (Right)

3. Sunshine and Humidity

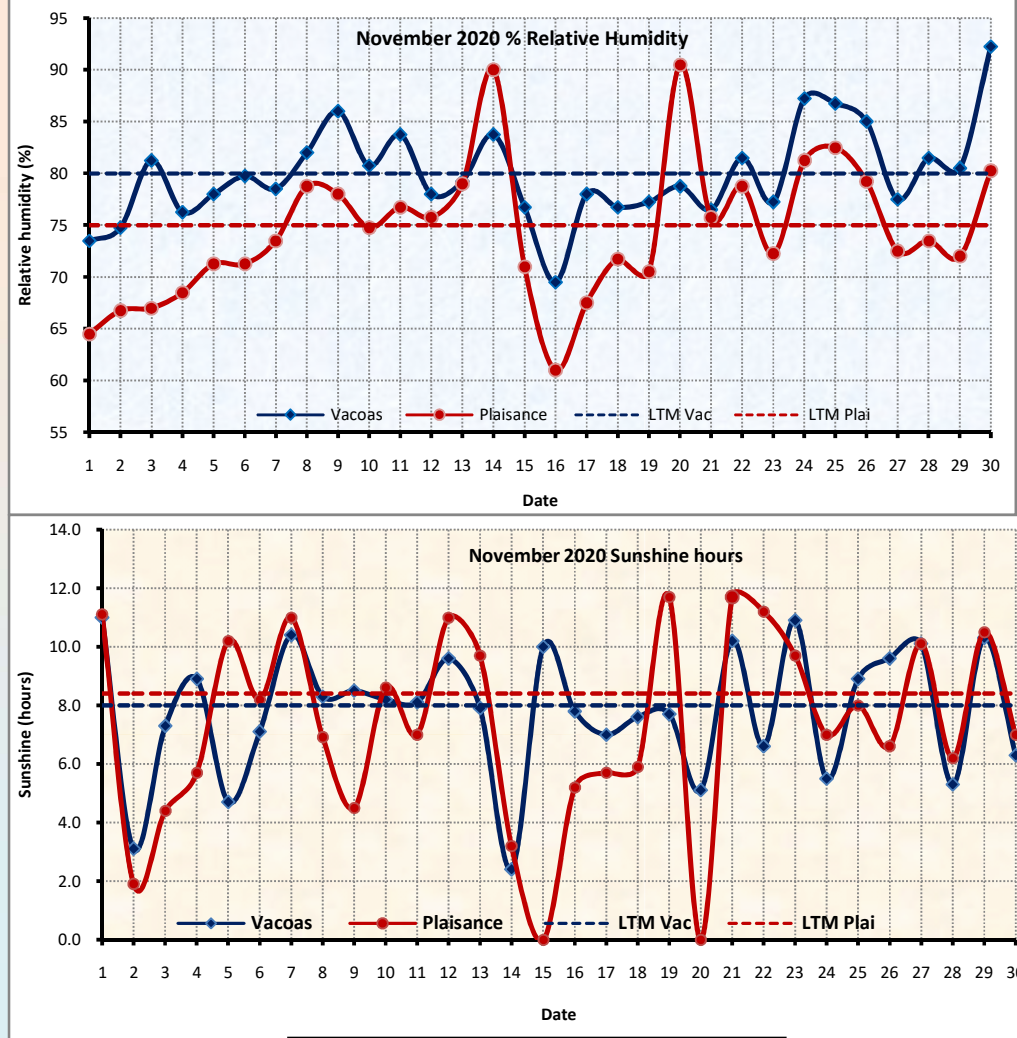
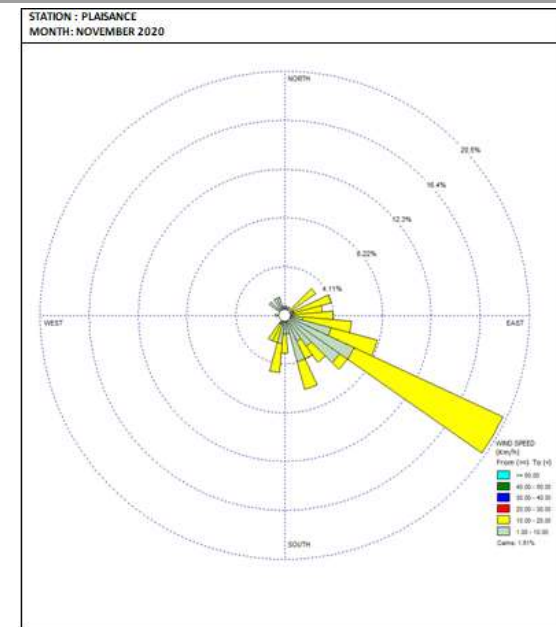


Fig. 8: Daily relative humidity and sunshine

Light to moderate winds blew mainly from the east-south-east. The highest gust recorded over the island was 76 km/h recorded at Domaine les Pailles on 15.

The mean relative humidity was mainly below normal during the 1st and the 3rd weeks. The low relative humidity values on 16 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 the normal at Vacoas and slightly below normal at Plaisance; with a daily mean difference of -0.2 hours and -1.1 hours compared to the LTM recorded at Vacoas and Plaisance respectively. The lowest sunshine hours on 14 and 15 were due to cloudy to overcast conditions that prevailed. The total number of monthly bright sunshine hours at Vacoas was 234.4 and 219.9 at Plaisance.



FORECAST FOR DECEMBER-JANUARY-FEBRUARY (DJF)

Moderate La Nina will continue over the equatorial Pacific Ocean. From Figure 13 (a), the Indian Ocean Dipole (IOD) and in the subtropics the SIOD will be neutral. A negative pressure anomaly will prevail over central Indian Ocean. The positive pressure anomaly which was prevailing over the south of the Mozambique region is expected to weaken and be weak negative (Fig 13(b)).

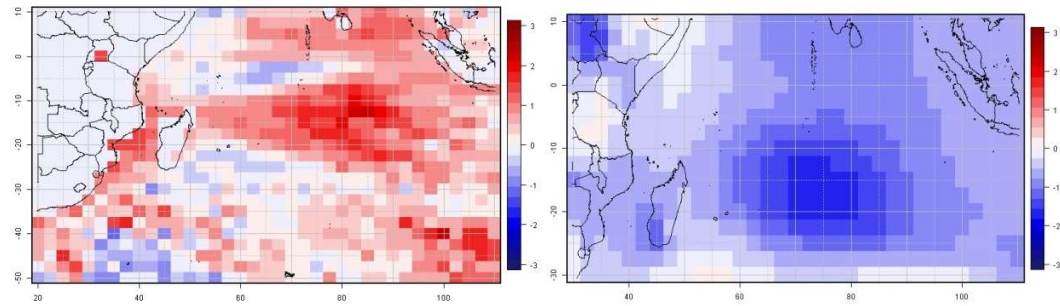


Figure 13: (a) Sea surface temperature and (b) pressure anomaly charts for DJF 2020

Consensus forecast for Mauritius

Statistical analysis is showing normal rainfall for DJF. However, other indicators are favourable for drier conditions in the beginning, in December, with a tendency of becoming closer to normal afterwards.

As such cumulative monthly rainfall is expected to be as follows:-

- December below normal (~130 mm),
- January normal (~280 mm)
- February normal (~300 mm),

Mean temperature is forecast to be near normal throughout the island (Fig 14b).

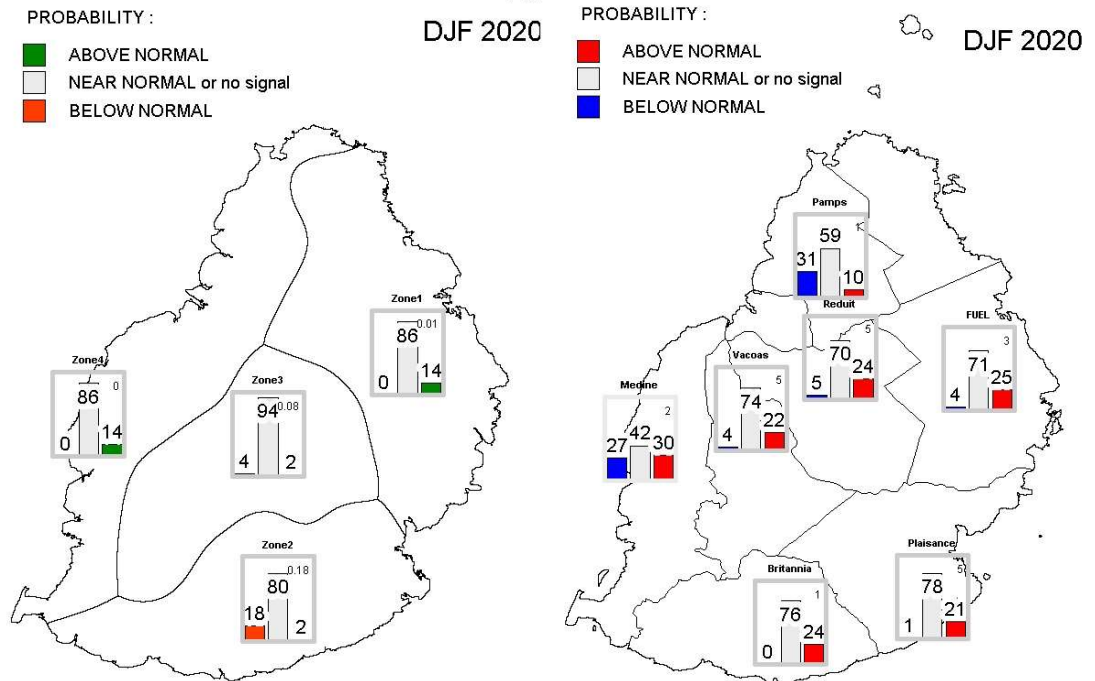


Fig. 14: Statistical Model Forecast of (a) rainfall (b) temperature

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