



MAURITIUS METEOROLOGICAL SERVICES



CLIMATE MARCH 2021

Introduction

March 2021 was deficient in rainfall with 73% of the Long Term Mean. During the first week intense tropical cyclone Marian temporarily emerged from the Australian region into our Area of Responsibility-AoR, Habana was named by the Mauritius Meteorological Services which later reached an intense tropical cyclone stage and moderate tropical storm Iman which was named by the Meteorological Services of Madagascar. Beside those systems, two tropical lows evolved with one temporarily becoming a tropical disturbance.

Moderate cold ENSO (Moderate La-Nina) persisted and the Indian Ocean Dipole (IOD) remained neutral in the equatorial Indian Ocean. The Subtropical Indian Ocean Dipole became positive at the end of the first week and the Madden Julian Oscillation (MJO) was active over the western Indian Ocean during the last week of the month.

1. Rainfall

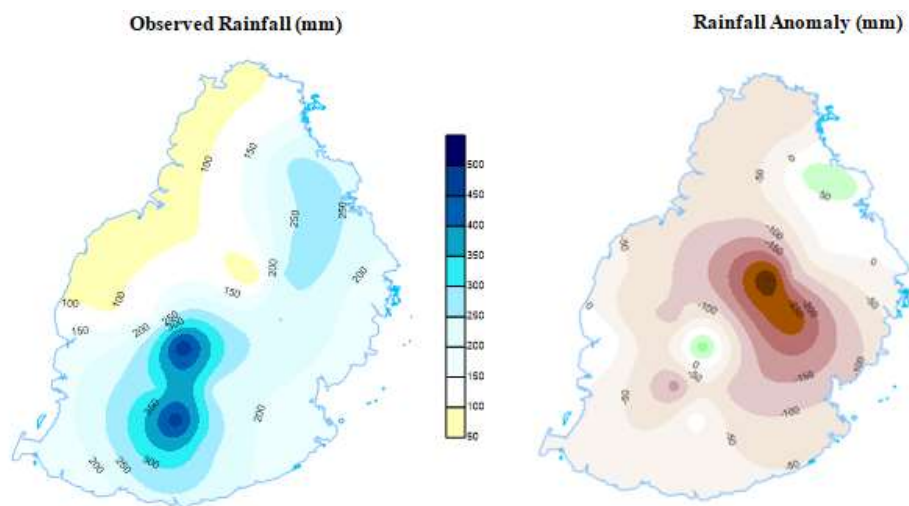


Fig. 1: Spatial rainfall distribution (a) Observed (b) Anomaly (mm)

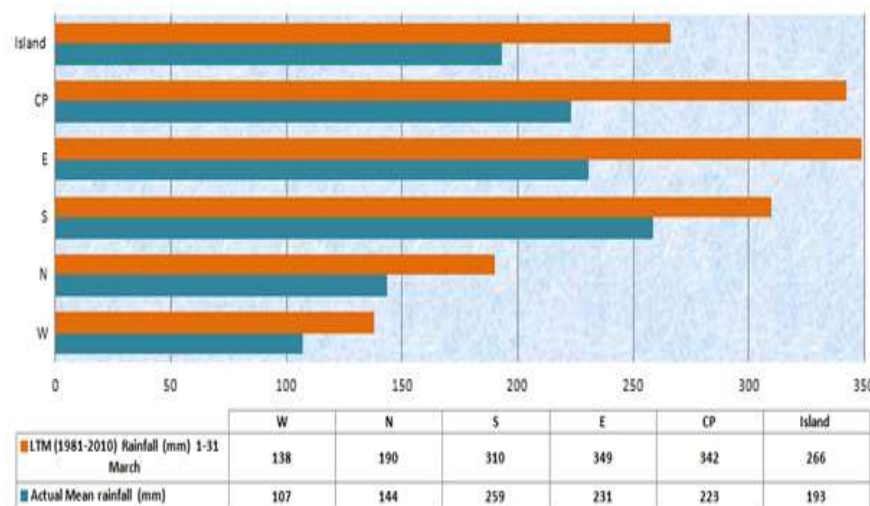
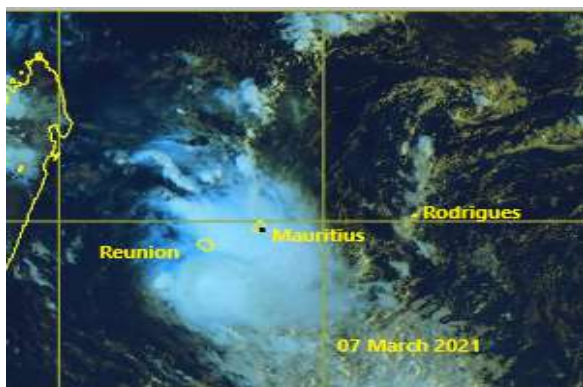
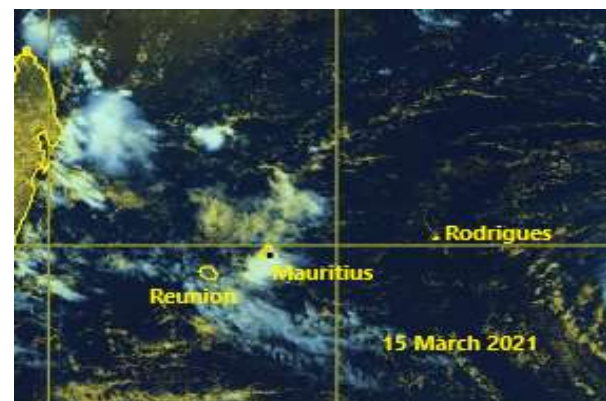


Fig. 2: Regional rainfall distribution

An average of 193mm of rainfall was recorded over the island equivalent to 73% of the long term mean for the month with 41% in the first fortnight and 32% in the second. The highest deficiency was in the region of Quartier-Militaire to Sans Soucis. Vacoas recorded 14 rain days (≥ 1 mm of rain). The highest 24-hours rainfall was in the region of Beau Vallon with 81mm of rain.



(a) Moderate tropical storm Iman moving south-eastwards on 07 March 2021



(b) Cloudy to overcast day on 15 March 2021

Fig. 3: Meteosat 8 satellite pictures

2. Surface Temperature

The monthly mean temperature over the island in March 2021 was 26.5°C which is slightly above the LTM 1981-2010 (+0.8°C).

The mean minimum temperature anomaly was close to the normal (+0.3°C) and the mean maximum temperature anomaly was above the normal (+1.3°C).

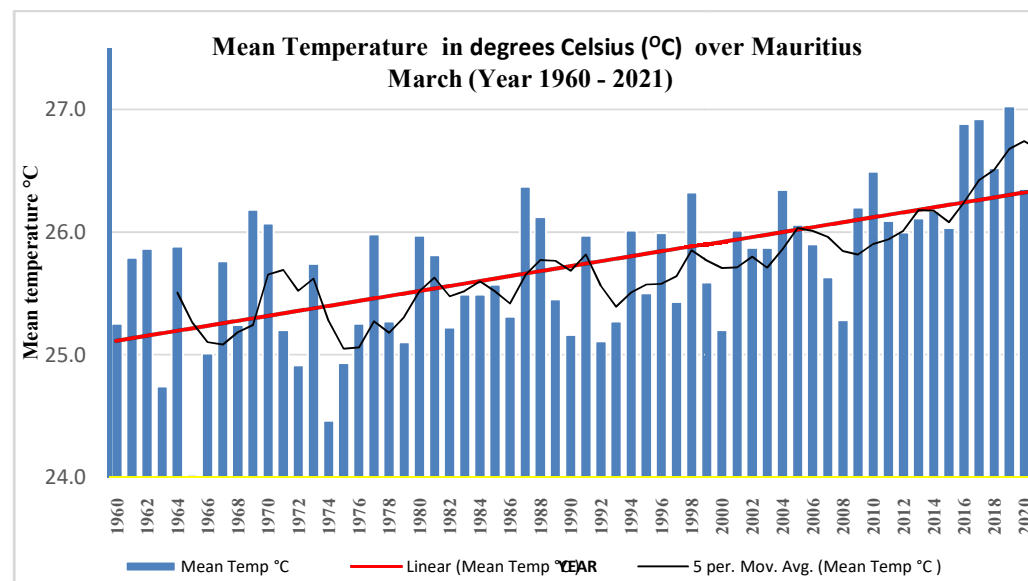


Fig. 4: Mean temperature trend for March from 1960-2021

The nights had near normal or slightly below normal temperatures (Fig 6(a)) whereas during the day, it was warmer (Fig6 (b)).

The night on 18 was the coolest by about 2°C from the mean at most stations. The lowest minimum recorded was 17.5°C at Bois-Cheri and the highest was 27.0°C at Port-Louis.

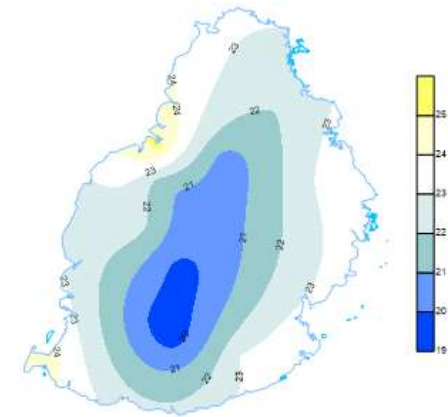
Warm days were observed over the whole island especially over the high grounds (Fig 6(b)).

However, only day 07 was cooler by 2-3°C (Fig 7(b)). The lowest maximum for the month was 21.3°C recorded at Mon-Bois. The highest maximum was 35.2°C recorded at Riviere-Noire.

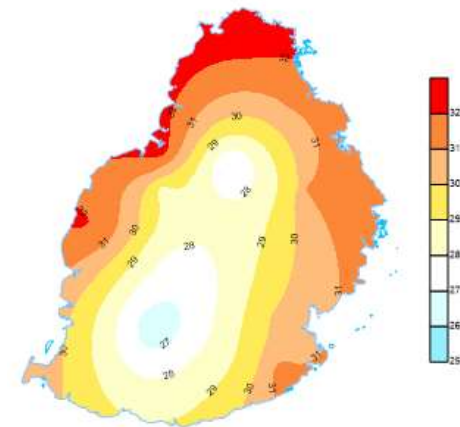
No new extreme minimum was recorded.

New extreme maximum temperatures were recorded at:

Station Location	New extreme maximum in °C	Previous extreme maximum in °C
Bel Village	34.8	33.9
Beau Songes	34.6	33.2
Mon Desert Mon Tresor	34.5	34.0



(a)



(b)

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

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

Stations	Highest anamax (°C)	Number of warm days	Stations	Highest anomin (°C)	Number of cold nights
Grand Bassin	5.7	23	Albion	3.5	4
Mon Bois	4.5	16	Bel Village	3.2	3
Beau Songes	4.6	17	Mon Bois	2.6	6
Mon Loisir Rouillard	3.7	20	Domaine les Pailles	2.6	8
Bois Cheri	3.5	12	Belle Mare	2.2	3
Quatre-Bornes	2.9	13			

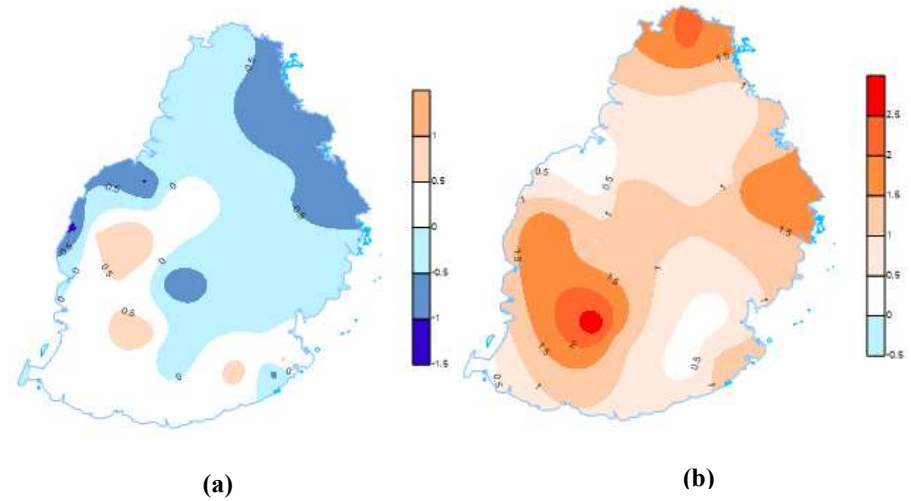


Fig. 6: Spatial distribution of temperature anomaly (a) Minimum (b) Maximum

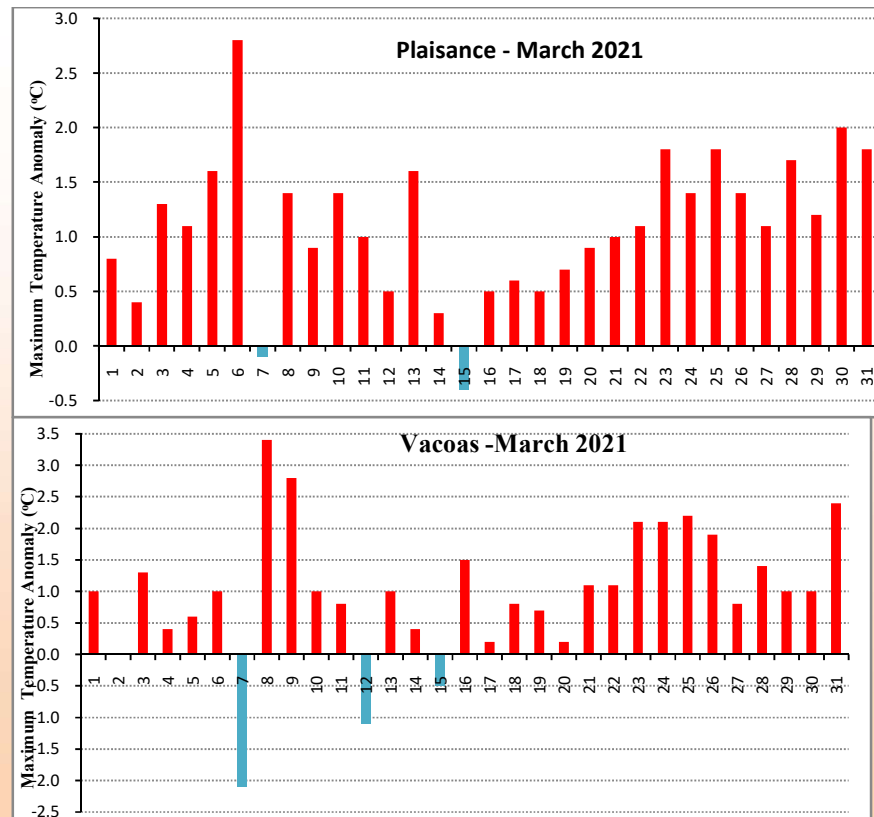
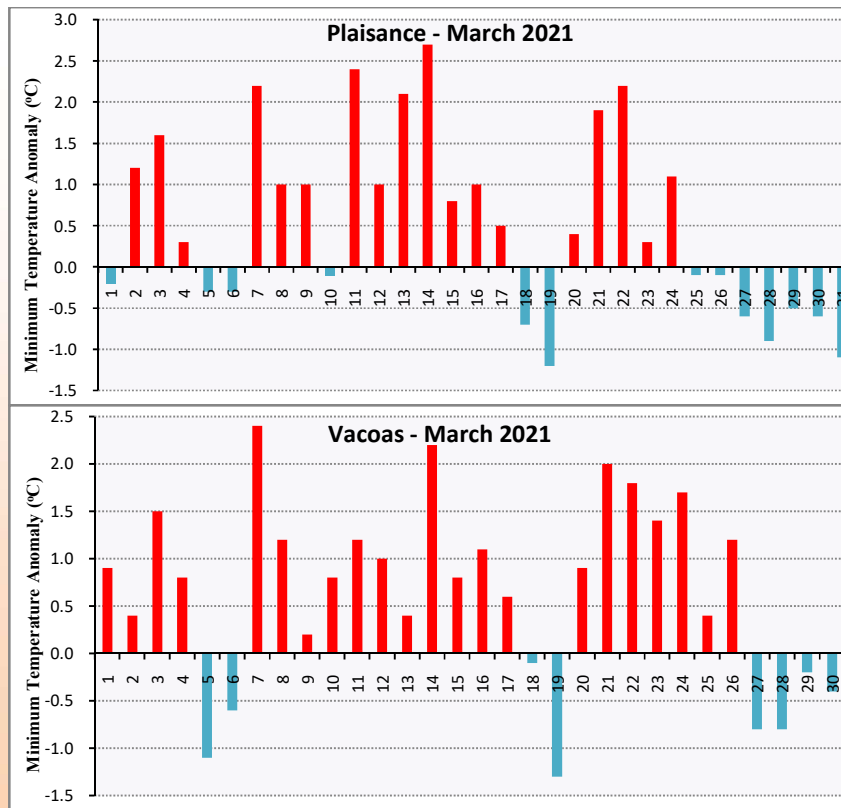


Fig. 7: Daily temperature anomaly at Vacoas and Plaisance: Minimum (left) Maximum (Right)

3. Sunshine and Humidity

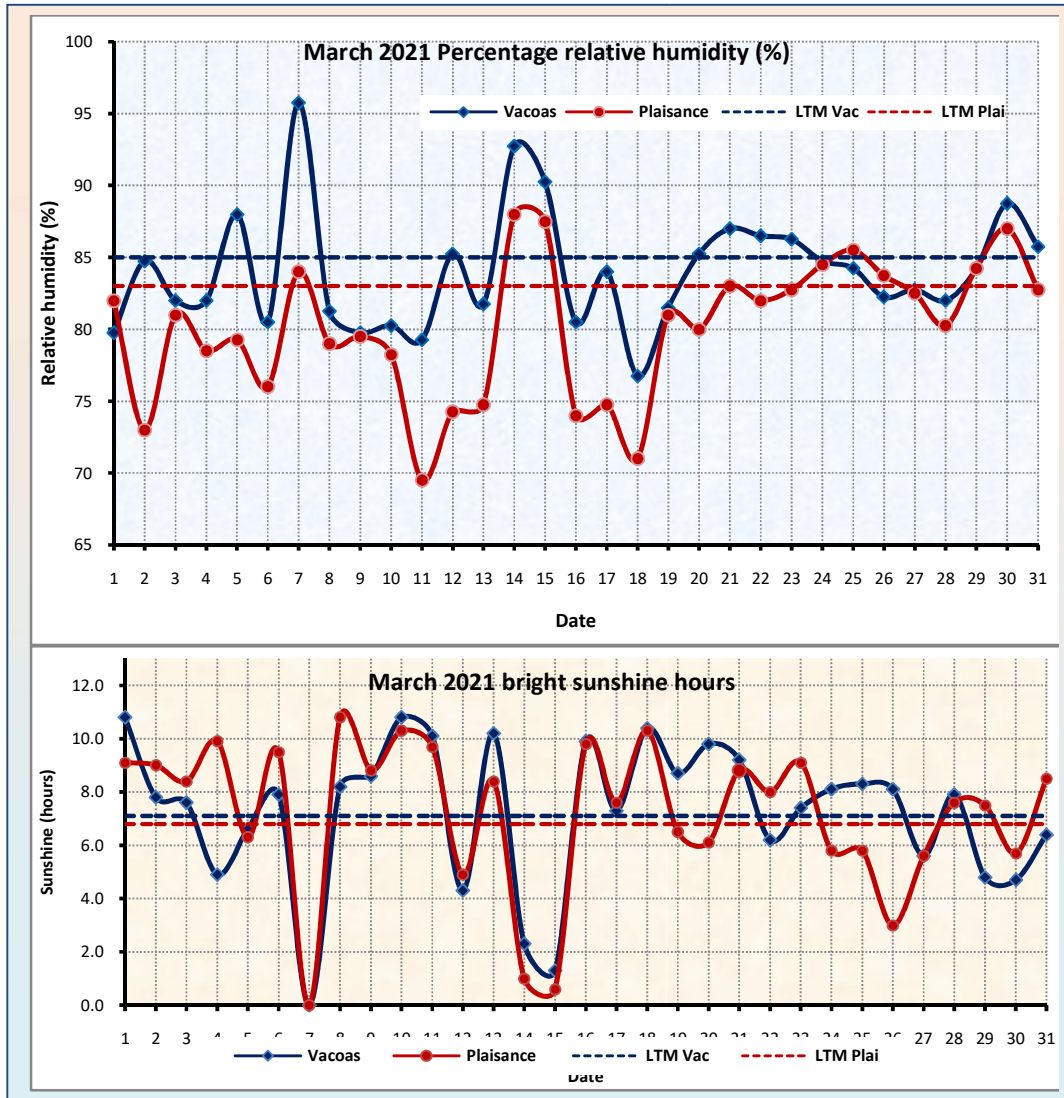


Fig. 8: Daily relative humidity and sunshine

The wind was blowing mainly from the Eastern and south-eastern sector during the first three weeks and the Northerly wind components predominated afterwards.

With the exception of day 07, 14 and 30, the mean relative humidity was close to the normal at Vacoas and Plaisance. However, upto day 19, it remained below normal quite often and afterwards it was mainly close to the normal. On 07 and 14, during cloudy conditions, the humidity exceeded 90% at Vacoas and Plaisance (Fig 8).

The number of daily bright sunshine hours was close to the normal at Vacoas and Plaisance; with a daily mean difference of +0.1 hours and +0.4 hours compared to their respective LTM. The lowest sunshine hours on 07 was due to overcast conditions (Fig 3a). The total number of monthly bright sunshine hours at Vacoas was 224.2 and at Plaisance it was 222.4.

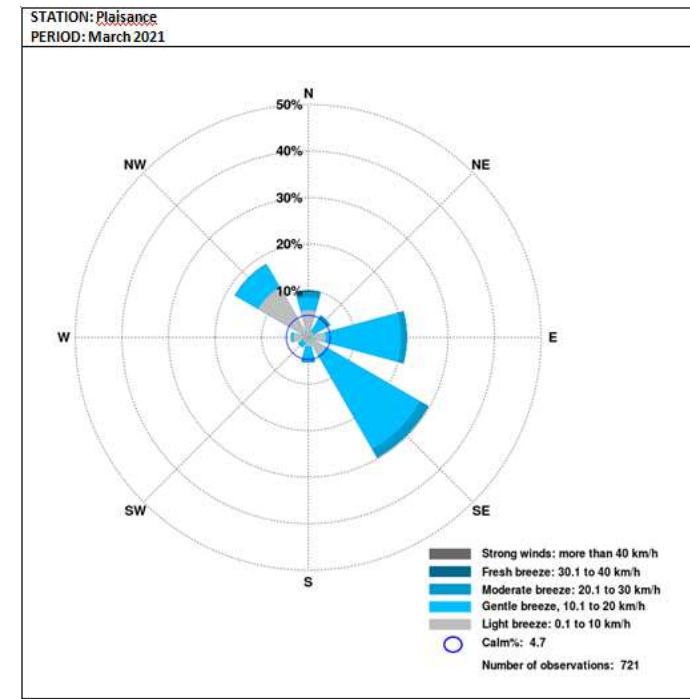


Fig. 9: Wind frequency at Plaisance

FORECAST FOR APRIL-MAY-JUNE (AMJ)

Weak La Nina condition is still prevailing; however it is expected to become neutral by the month of May. From Figure 10 (a), in the Indian Ocean, IOD is neutral. However, SIOD will be positive. The Mascarene region is expected to have slightly above normal SST during AMJ Fig10(a).

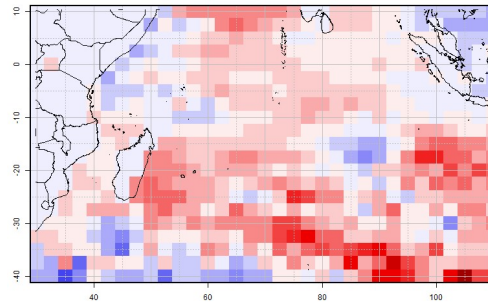


Fig. 10 (a) Sea surface temperature

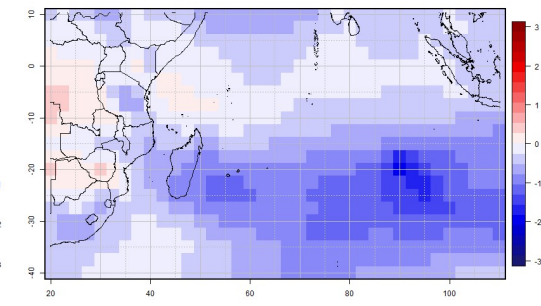


Fig.10 (b) pressure anomaly

Consensus forecast for Mauritius

Statistical analysis is showing normal rainfall for AMJ.

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

- April above normal (~285 mm),
- May slightly above normal (~175 mm),
- June slightly below normal (~85 mm)

Mean temperature is forecast to be normal to slightly above in most places (Fig 11b).

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Updated on: 27 APRIL 2021

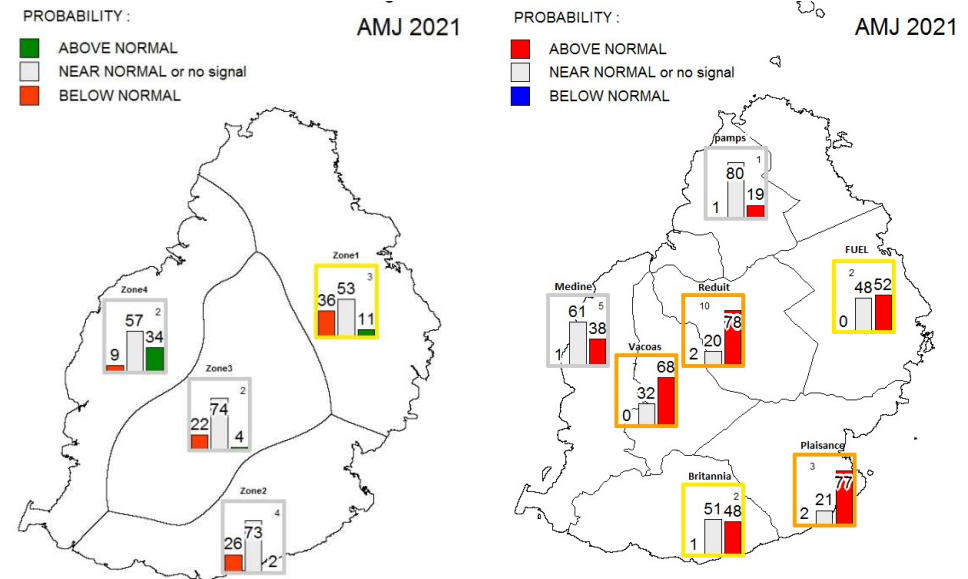


Fig. 11: Statistical Model Forecast : (a) rainfall and (b) temperature