



MAURITIUS METEOROLOGICAL SERVICES



CLIMATE FEBRUARY 2021

Introduction

February 2021 was dry with only 44% of the Long Term Mean rainfall and ranks the 2nd driest in the last 20 years. Two tropical storms were named; Very Intense Tropical Cyclone Faraji and Tropical Cyclone Guambe. The incursion of Tropical Cyclone Marian from the Australian region into the extreme east of our basin for a brief period was also observed.

Moderate cold ENSO (Moderate La-Nina) prevailed over the equatorial Central Pacific Ocean. The Indian Ocean Dipole (IOD) was neutral in the equatorial Indian Ocean and the Subtropical Indian Ocean Dipole was negative. The Madden Julian Oscillation (MJO) was not active in the Indian Ocean.

1. Rainfall

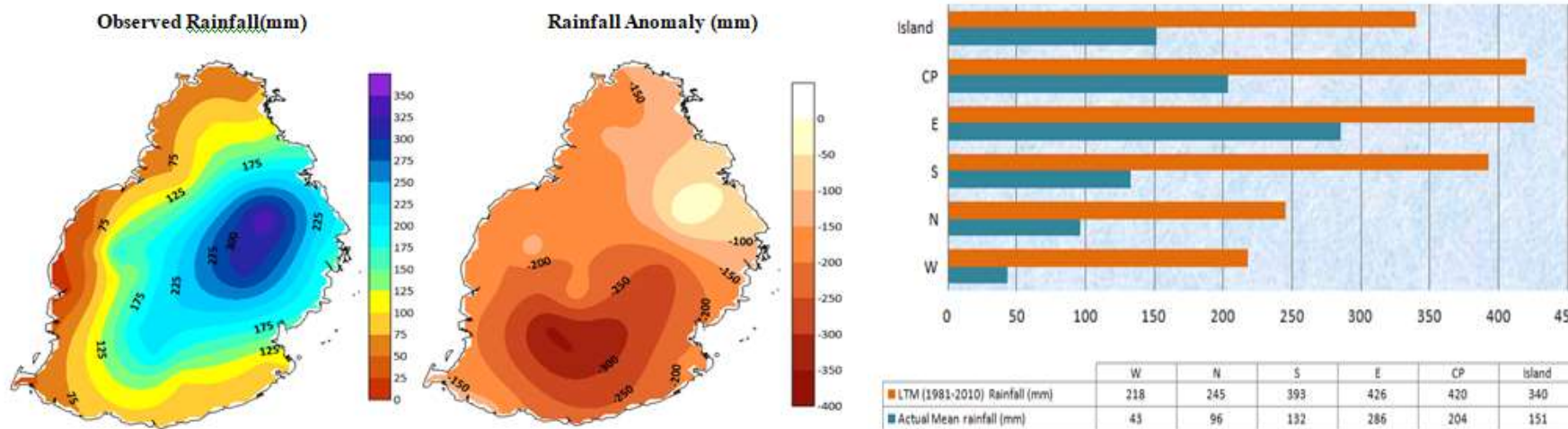
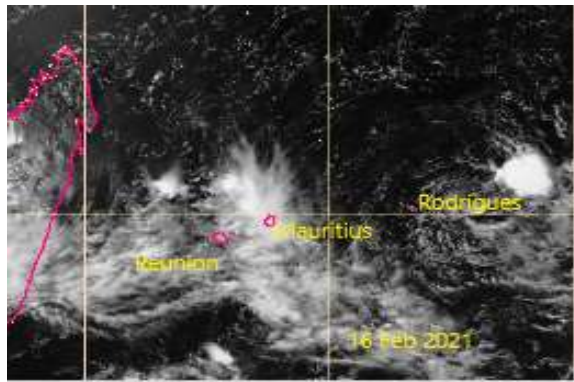


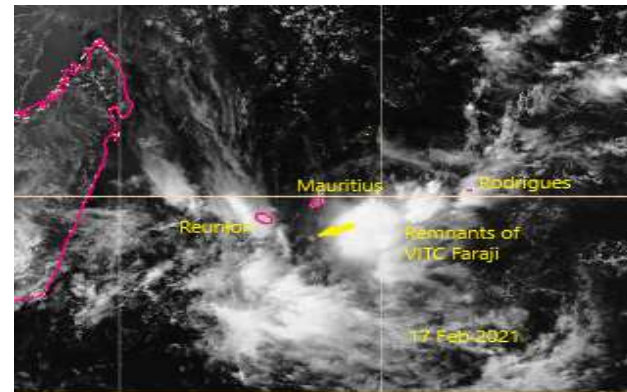
Fig. 1: Spatial rainfall distribution (a) Observed (b) Anomaly (mm)

Fig. 2: Regional rainfall distribution

An average of 151mm of rainfall was recorded over the island equivalent to 44% of the long term mean for the month and almost same amount of rainfall was recorded in both fortnights. The highest deficiency was in the region of Mare aux Vacoas and Bois Cheri. Vacoas recorded 21 rain days (≥ 1 mm of rain).



(a) Overcast day lead to zero sunshine hours and a drop in maximum temperature on 16 Feb 2021



(b) Remnants of VITC Faraji passed to the South of the island on 17 Feb 2021

Fig. 3: Meteosat 8 satellite pictures

2. Surface Temperature

The monthly mean temperature over the island in February 2021 was 26.7°C which is slightly above the LTM 1981-2010 (+0.6°C).

The mean minimum temperature anomaly was close to the normal (+0.2°C) and the mean maximum temperature anomaly was slightly above the normal (+0.8°C).

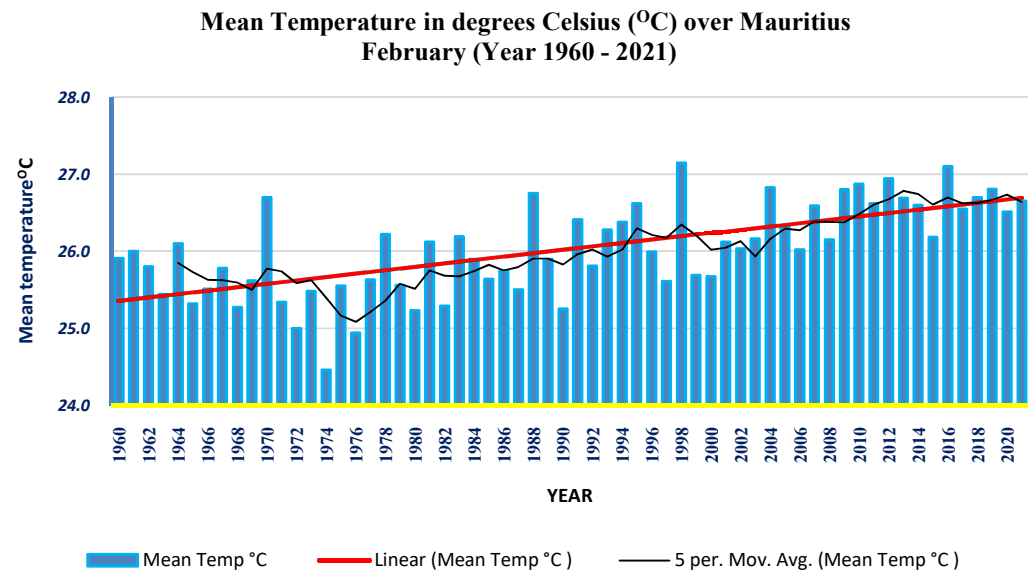


Fig. 4: Mean temperature trend for February from 1960-2021

The nights had near normal or slightly below normal temperatures whereas during the day, it was warmer.

The nights on 10 and 24-25 were cooler by 2-3°C at most stations whereas from 01-02 and 19-20 were warmer by 1-3°C. Cold nights were observed very locally over the region of FUEL, Cap-Malheureux and Grand-Bassin, else temperatures were close to the normal over most part of the island (Fig 6(a)). The lowest minimum recorded was 16.9°C at Bois-Cheri and the highest was 27.4°C at Port-Louis.

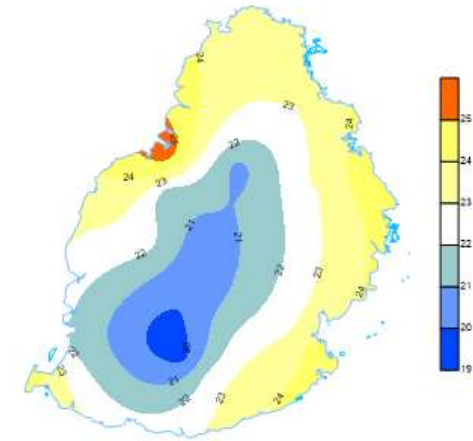
Warm days were observed over the Western, Eastern and the Northern coastal regions (Fig 6(b)).

Only day 16 was cooler by 1-4°C (Fig 7). The lowest maximum for the month was 22.8°C recorded at Grand-Bassin. The highest maximum was 35.2°C recorded at Riviere-Noire on three occasions.

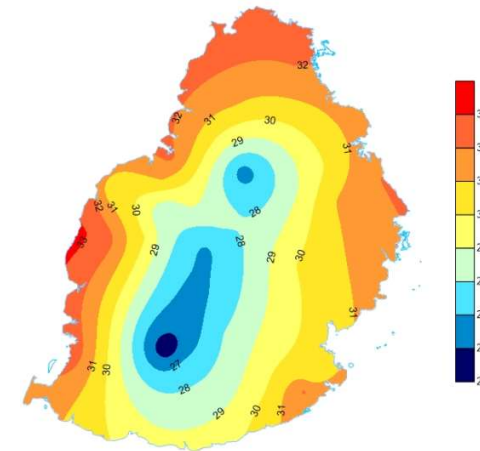
No new extreme minimum temperature was recorded.

New extreme maximum temperature was recorded at:

Station Location	New extreme maximum in °C	Previous extreme maximum in °C
Beau Songes	34.2	33.5
Mon Desert MonTresor	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 anomin (°C)	Number of cold nights	Stations	Highest anamax (°C)	Number of warm days
Mon Loisir Rouillard	3.0	3	Beau Songes	4.1	20
Mon-Bois	3.3	2	Queen Victoria	3.9	5
Bois Cheri	3.4	3	Mon Desert on Tresor	3.9	8
Reduit	2.9	2	Medine	3.7	20
Medine	2.7	2	Quatre-Bornes	3.3	8
Beau Bassin	2.7	4	St-Felix	3.4	14

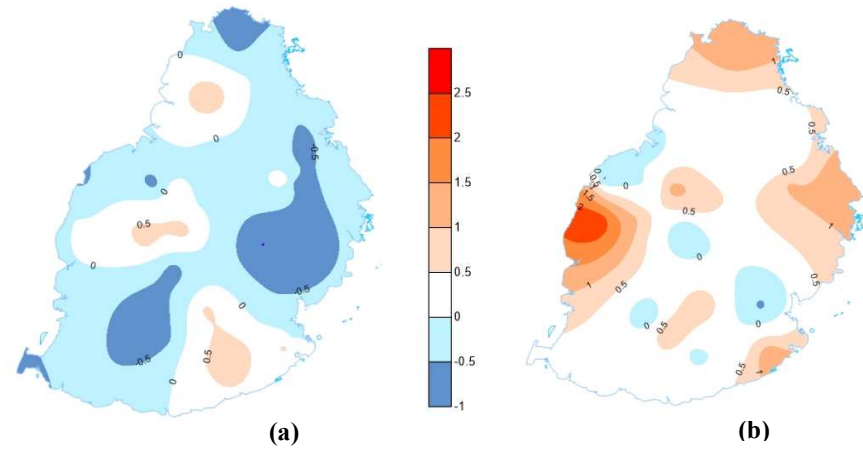


Fig. 6: Spatial distribution of temperature anomaly (a) Minimum (b) Maximum

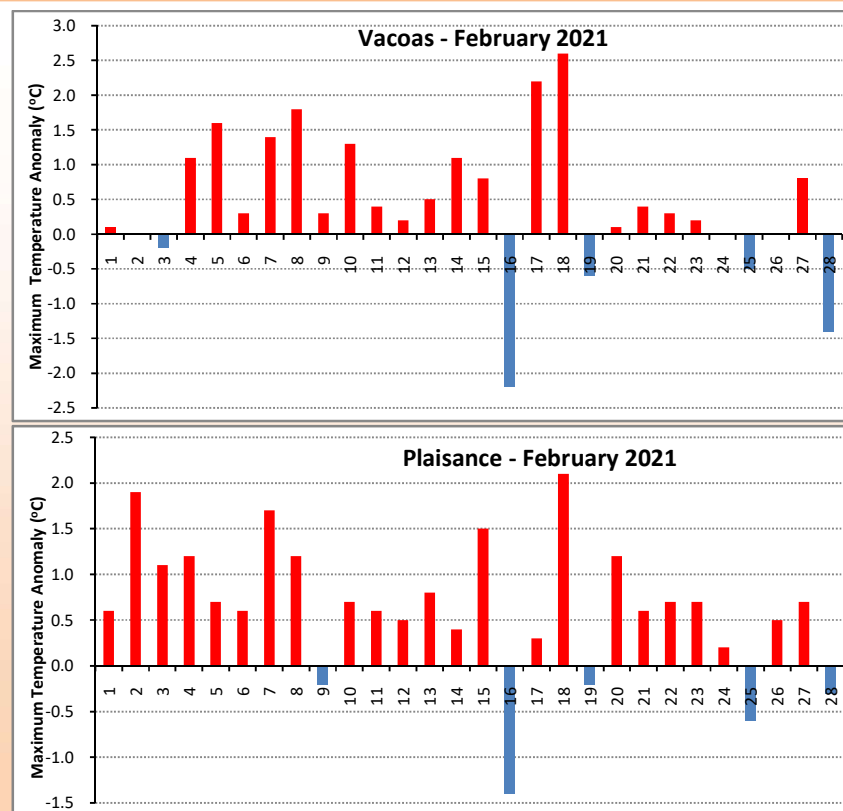
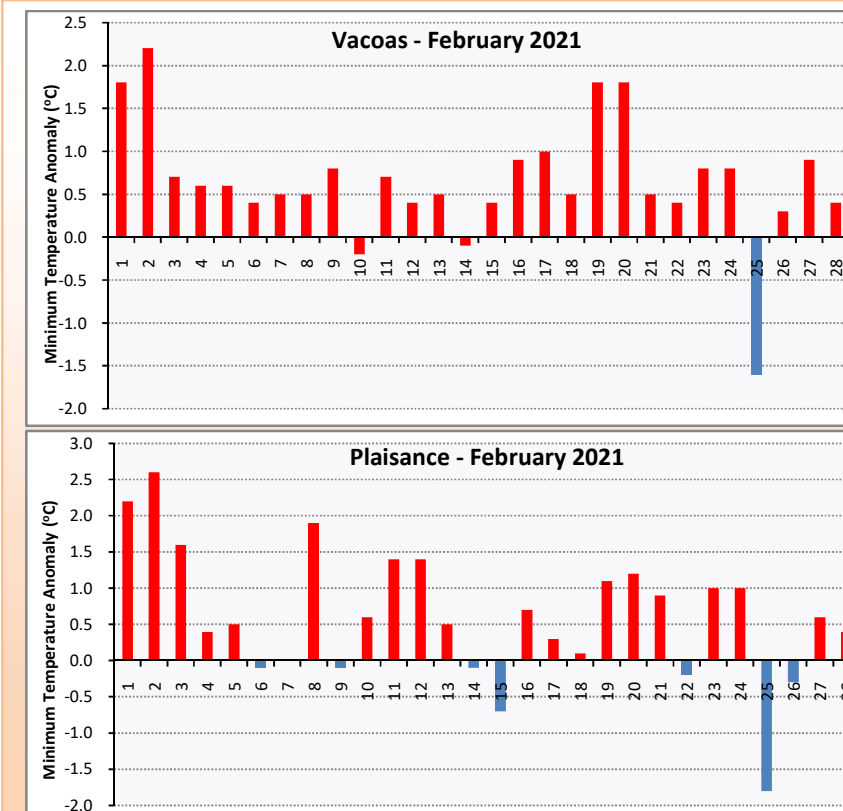


Fig. 7: Daily temperature anomaly at Vacoas and Plaisance: Minimum (left) Maximum (Right)

3. Sunshine and Humidity

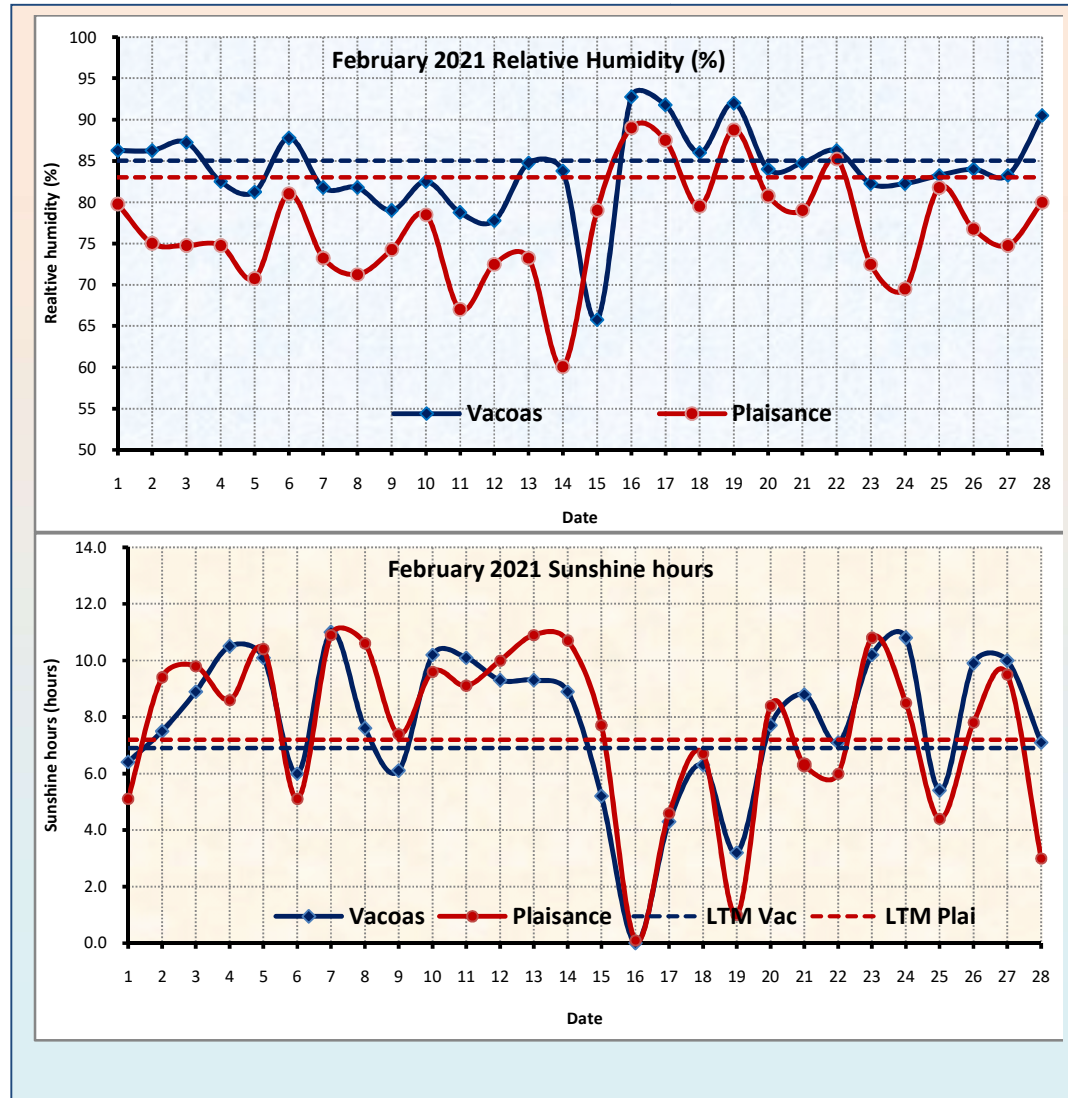


Fig. 8: Daily relative humidity and sunshine

The wind was blowing mainly from the Eastern sector when at this period of the year, the Northerly wind components are normally expected.

The mean relative humidity was close to the normal at Vacoas. At Plaisance, it was slightly below normal during the 1st fortnight and close to the normal during the 2nd fortnight. From 16-17 and 19, during cloudy conditions, the humidity exceeded 90 % at Vacoas and Plaisance (Fig 8).

The number of daily bright sunshine hours was slightly above normal at Vacoas and close to the normal at Plaisance; with a daily mean difference of +0.9 hours and +0.4 hours compared to their respective LTM. The lowest sunshine hours on 16 was due to cloudy to overcast conditions (Fig 3a). The total number of monthly bright sunshine hours at Vacoas was 217.9 and at Plaisance was 212.4.

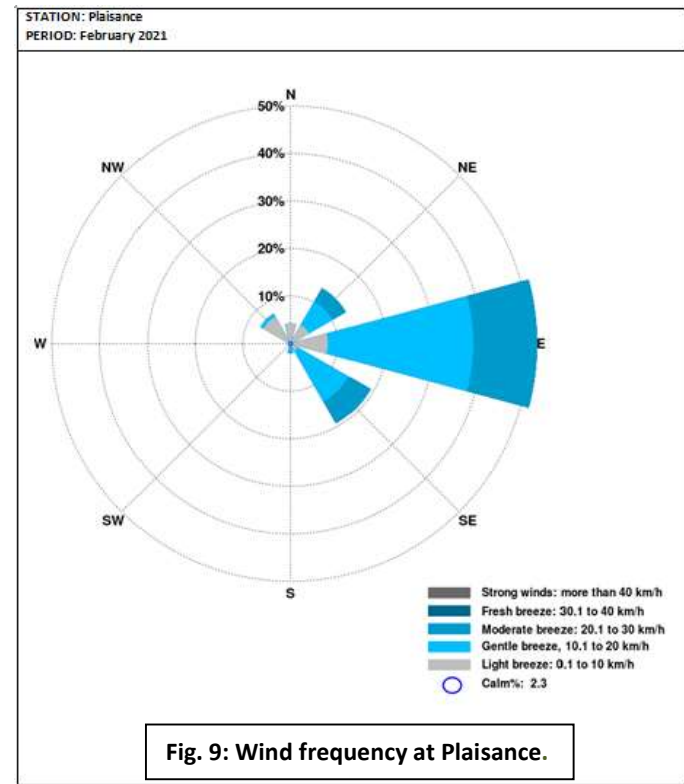


Fig. 9: Wind frequency at Plaisance.

FORECAST FOR MARCH-APRIL-MAY (MAM)

Weak La Nina condition is still prevailing; however it is expected to become neutral towards the end of April. From Figure 10(a), the Indian Ocean Dipole (IOD) is neutral. However, SIOD will be positive. As per Fig10(a), the Mascarene region will encounter above normal SST during MAM.

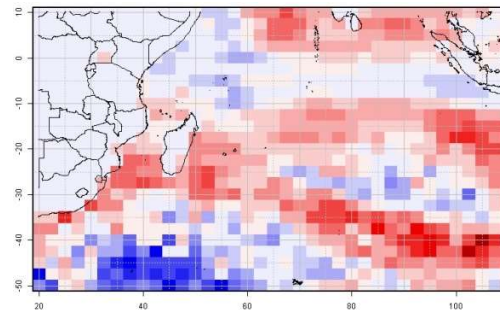


Fig. 10 (a) Sea surface temperature for MAM 2021

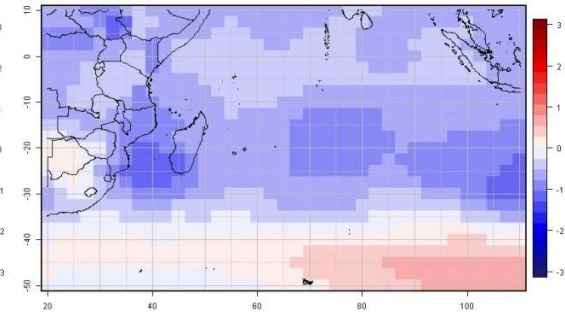


Fig 10(b) pressure anomaly charts for MAM

2021

Consensus forecast for Mauritius

Statistical analysis is showing normal rainfall for MAM, however, following current trends, it will be drier than model forecasts.

As such cumulative monthly rainfall is as follows:-

- March will be dry compared to its normal (expected amount ~120 mm),
- April below normal (expected amount~ 140 mm)
- May close to normal (expected amount~ 130 mm)

Mean temperature is forecast to be mostly close to normal (Fig 11b).

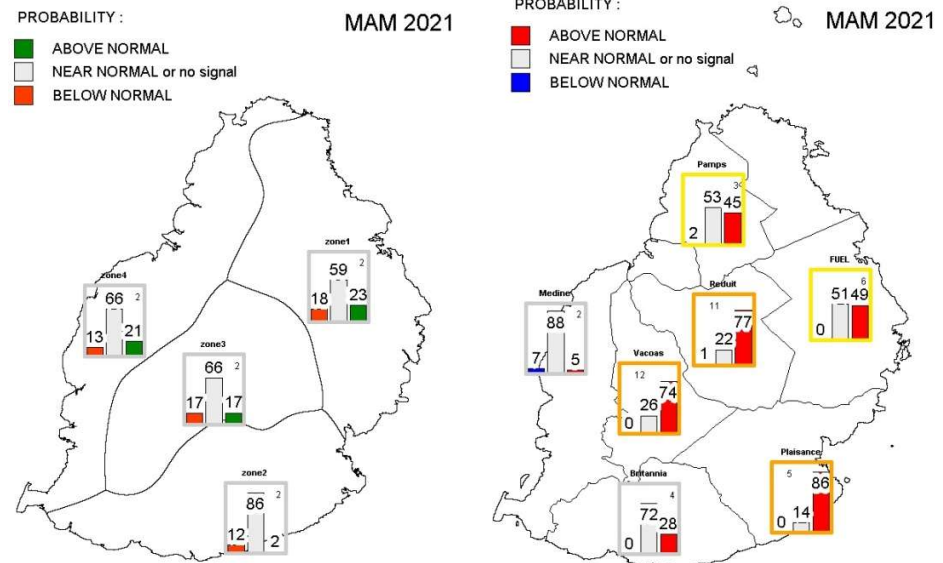


Fig. 11: Statistical Model Forecast of (a) rainfall and (b) temperature

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