2MAURITIUS METEOROLOGICAL SERVICES

CLIMATE MAY 2021

Introduction

May 2021 had slightly below normal rainfall with 75% of the Long Term Mean. The month was rather warm and ranks the 2nd warmest from 1960.
El-Nino La-Nina Southern Oscillation (ENSO) remained in the neutral phase and the Indian Ocean Dipole (IOD) remained neutral in the equatorial Indian Ocean. The Subtropical Indian Ocean Dipole was positive in the very beginning becoming neutral by the second week and the Madden Julian Oscillation (MJO) was active over the western Indian Ocean during the first two weeks.

1. Rainfall

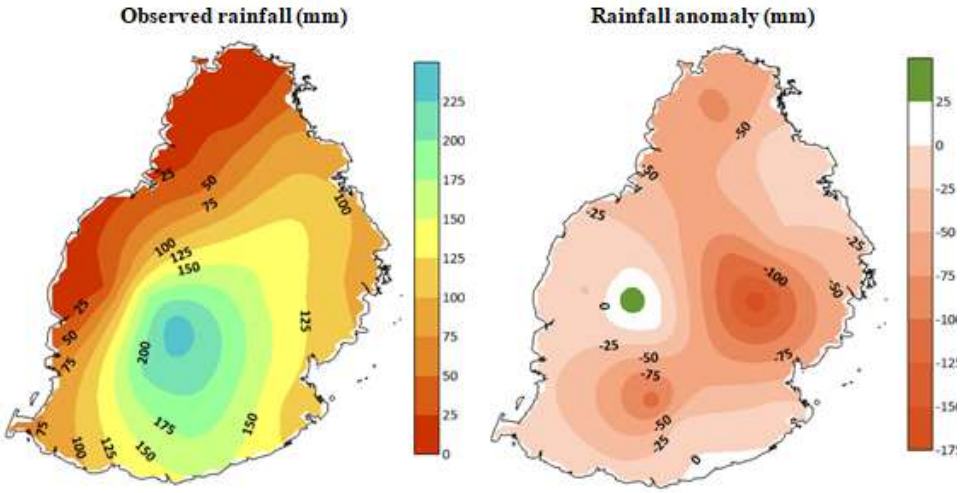
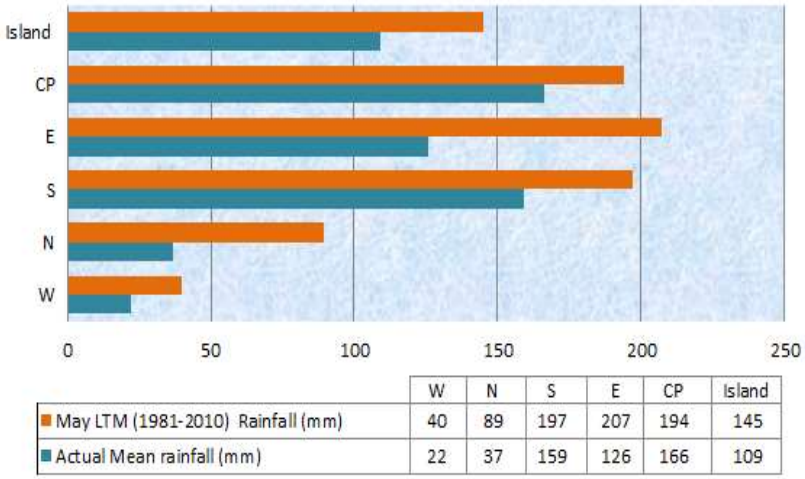


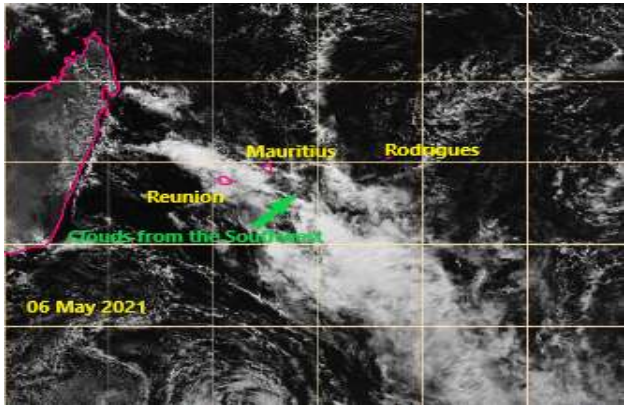
Fig. 1: Spatial rainfall distribution (a) Observed (b) Anomaly (mm)



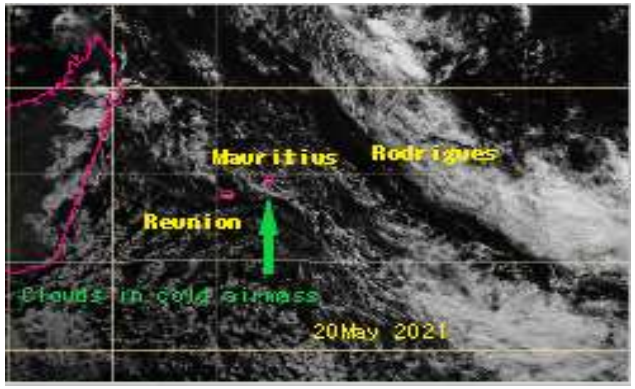
	W	N	S	E	CP	Island
May LTM (1981-2010) Rainfall (mm)	40	89	197	207	194	145
Actual Mean rainfall (mm)	22	37	159	126	166	109

Fig. 2: Regional rainfall distribution

An average of 109mm of rainfall was recorded over the island equivalent to 75% of the long term mean for the month with 42% in the first fortnight and 33% in the second. The monthly highest rainfall was in the region of Mare-aux-Vacoas 276.6mm. The highest observed 24-hours cumulative rainfall was at Union Park amounting to 99.6mm on 06. Vacoas recorded 12 rain days (≥1mm of rain).



(a) Clouds in frontal system from the Southwest of Mauritius on 06 May



(b) Invasion of cold airmass on 20 May 2021

Fig. 3: Meteosat8 satellite pictures

2. Surface Temperature

The monthly mean temperature over the island in May 2021 was 24.0°C which is slightly above the LTM 1981-2010 (+0.9°C). May 2021joined that of 1961, 2003 and 2005 as the 2nd warmest on records.

The mean minimum temperature anomaly was above the normal (+1.2°C); the 4th warmest on records and the mean maximum temperature anomaly was slightly above the normal (+0.6°C); 14th warmest on records.

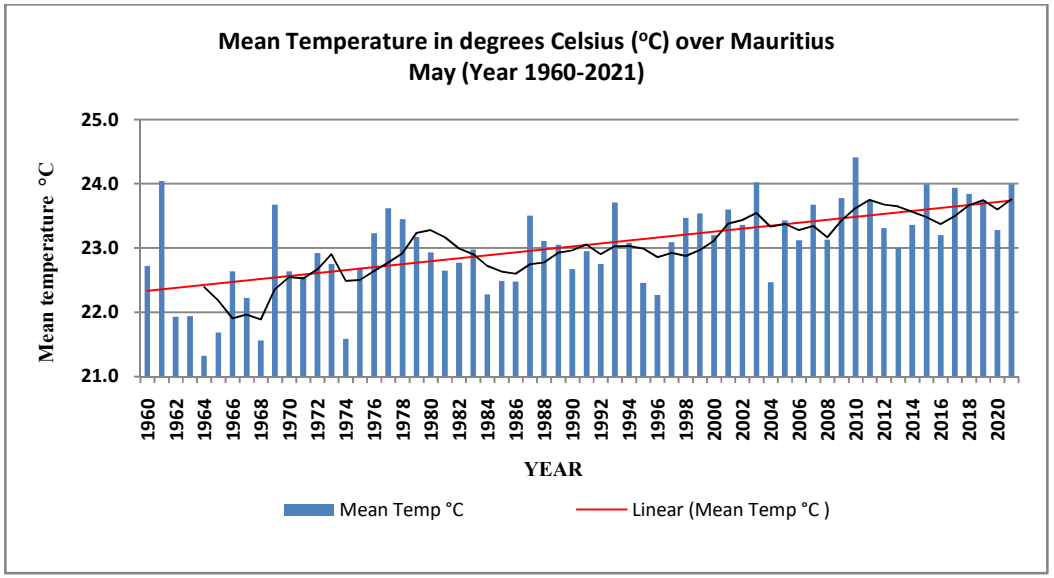


Fig. 4: Mean temperature trend for May from 1960-2021

The nights were warmer at most places on 01-05 and 13-17; especially to the Northwest (Fig 6(a)) where the nights were 3-4°C warmer than the normal. The nights of 08-10 and 21-27 were cooler by about 2-3°Cat most places. No new extreme low minimum was recorded.

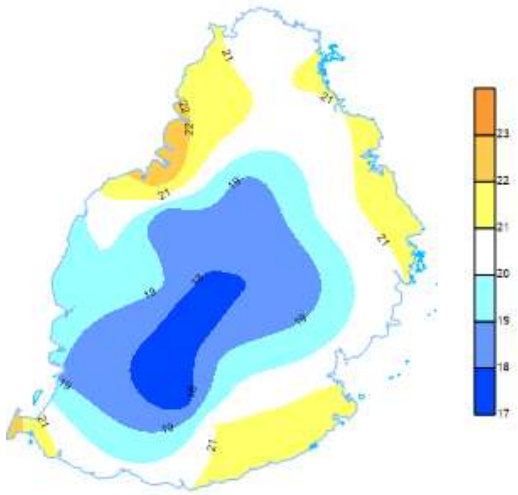
The lowest minimum recorded was 13.9°C at Mon Desert Alma on 10 and the highest minimum was 25.7°C at Port-Louis on 04.

After the passage of a cold front on day 20, the advection of cold air caused a drop in the maximum temperatures of 2-3°C below the normal. The remaining days were warmer by 1-2°C and during the first week warming was up-to 4°C in certain regions (Fig 7).

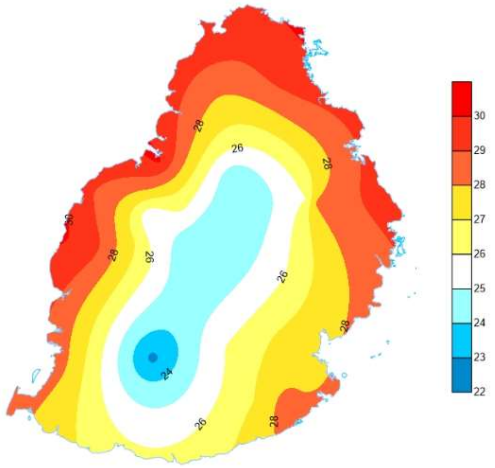
The lowest maximum for the month was 18.2°C recorded at Grand-Bassin on 20. The highest maximum was 32.8°C recorded at Port-Louis on 03.

New extreme maximum temperatures were recorded at several stations:

Station Location	New extreme maximum in °C	Previous extreme maximum in °C
Pamplemousses	30.6	30.2
Bois Mangues	32.5	30.5
Mon Loisir Rouillard	32.3	31.1
Belle-Mare	32.1	31.3
Queen-Victoria	31.5	30.3
Riche Terre	31.9	30.8
Beau-Songes	32.0	31.1
Chitrakoot	31.1	30.4
Albion	32.6	32.5
Medine	32.5	32.4
St-Felix	31.5	31.3
Alma	28.4	27.8
Rose-Belle	30.6	30.5



(a)

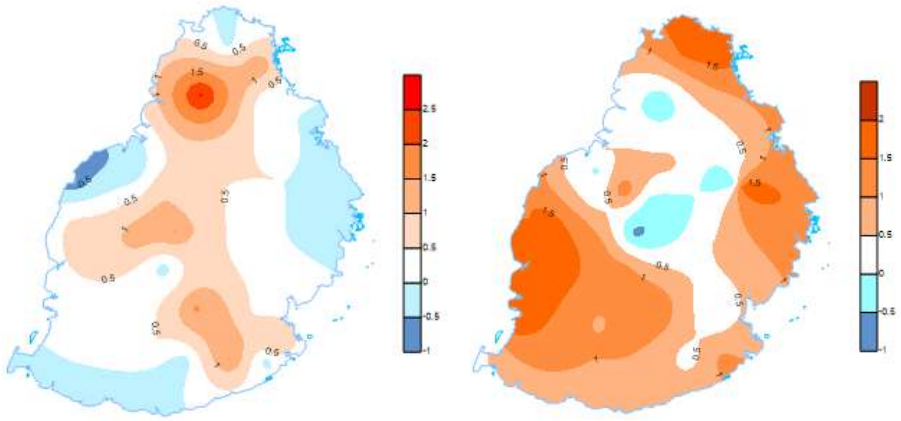


(b)

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

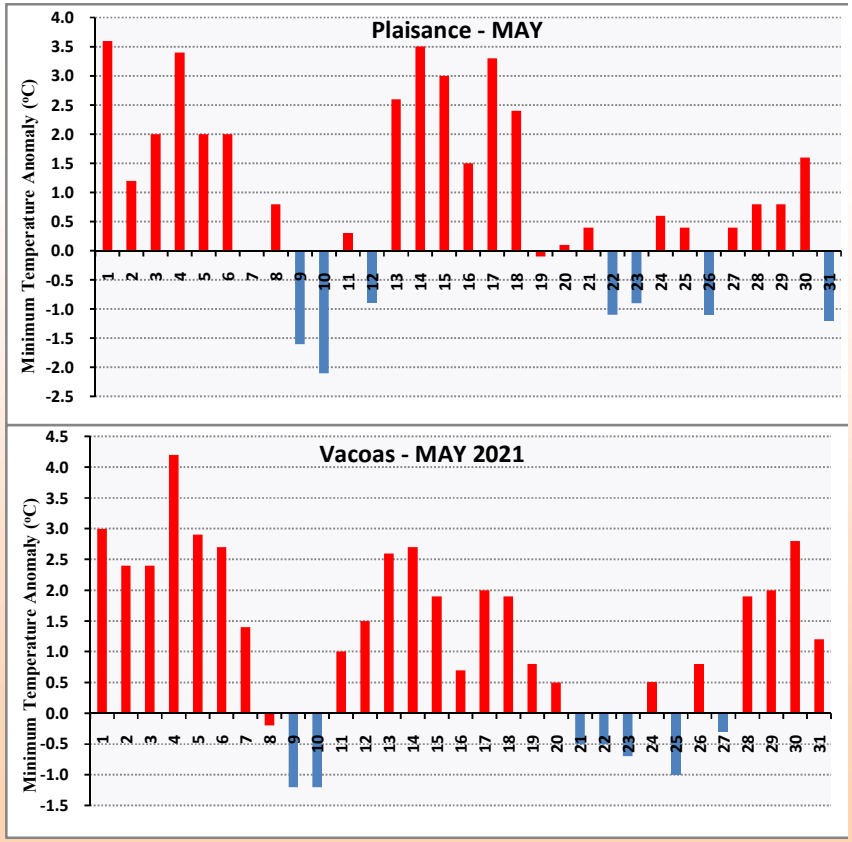
Observed warm days (maximum temperature anomaly (anomax > 2°C)) and warm nights (minimum temperature anomaly (anomin > 2°C)).

Stations	Highest anomax (°C)	Number of warm days	Stations	Highest anomin (°C)	Number of cold nights
Bois Cheri	5.1	9	Belle –Rive (Wooton)	5.3	12
Bois Mangues	4.9	14	Mon Desert Alma	4.9	10
Mon Loisir Rouillard	4.7	10	Union Park	4.2	13
Queen Victoria	4.9	17	La Baraque	4.1	12
Medine	4.0	10	Plaisance	3.6	10
Beau Songes	4.4	18	Pte aux Canonnniers	4.1	9



(a) (b)

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



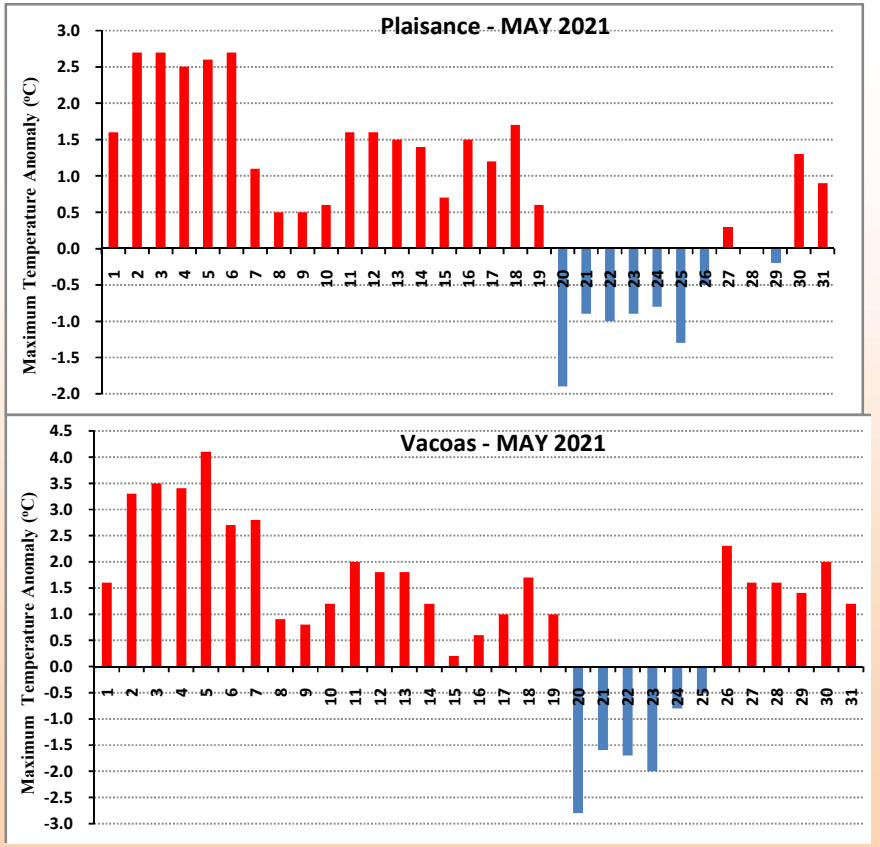


Fig. 7: Daily temperature anomaly at Vacoas and Plaisance: Minimum *(left)* Maximum *(Right)*

3. Sunshine and Humidity

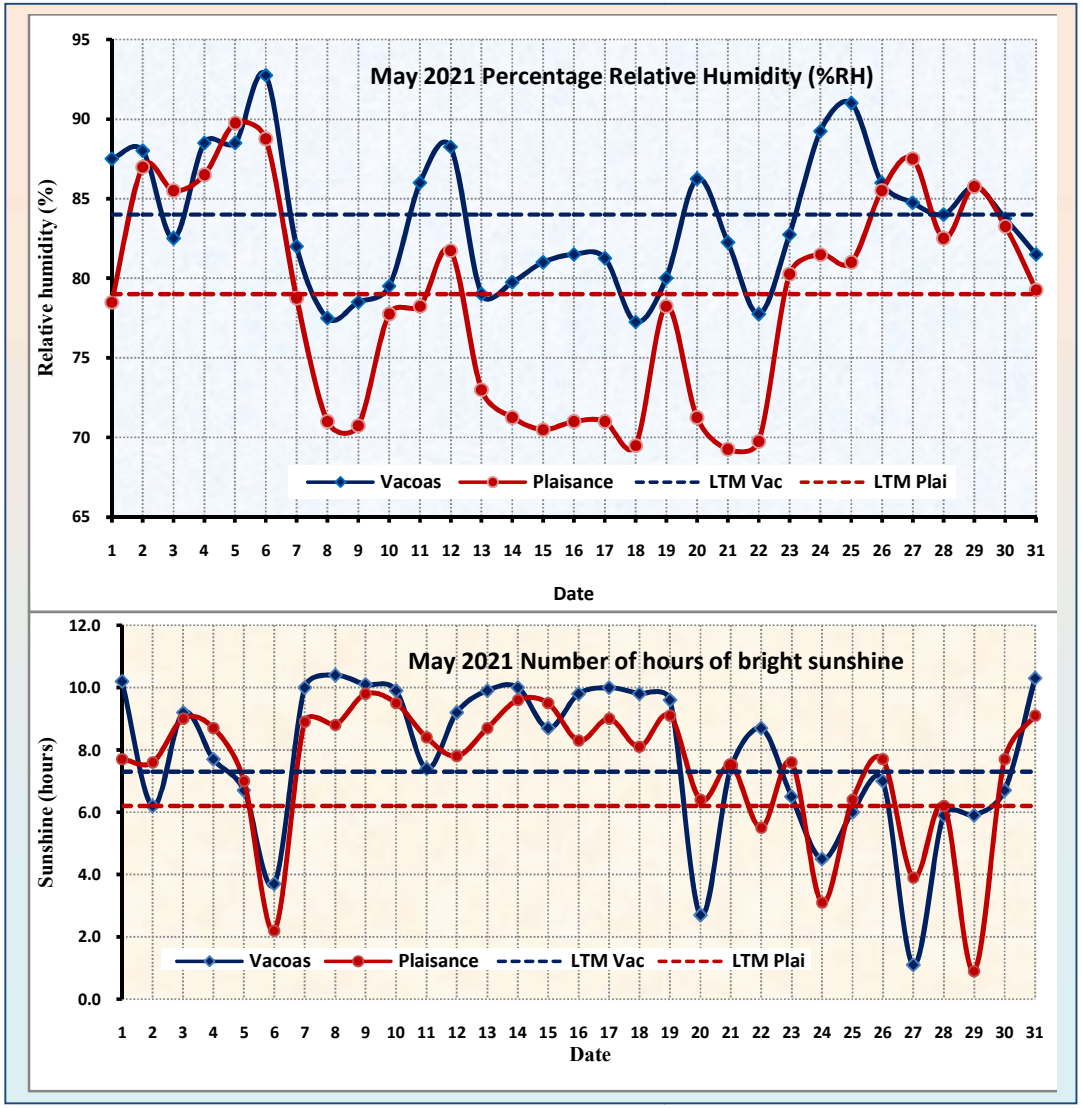


Fig. 8: Daily relative humidity and sunshine

From day 08 to 22 the mean relative humidity was mostly below the normal both at Vacoas and Plaisance. This was indicative of a dry airmass which prevailed during that period and was coherent with the deficient rainfall. Overall, the mean relative humidity was close to the normal at both stations.

The number of daily bright sunshine hours was close to the normal at Vacoas and slightly above at Plaisance; with a daily mean difference of +0.5 hours and +1.2 hours compared to their respective LTM. Day 07 to 19 had bright sunny days (Fig 08). The total number of monthly bright sunshine hours at Vacoas was 241.2 (107% of LTM) and at Plaisance it was 229.7(120% of LTM).

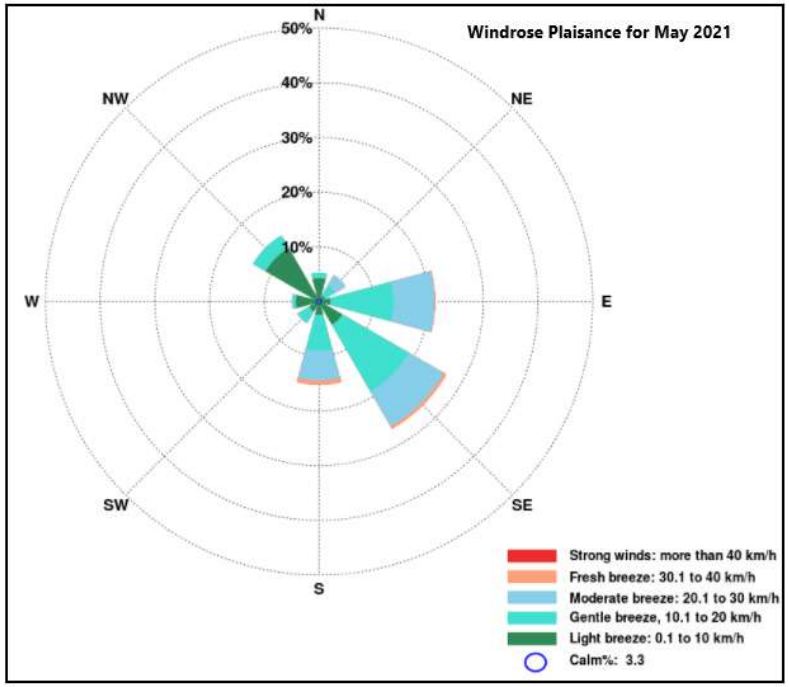


Fig. 9(a): Wind frequency at Plaisance

The wind was mainly from the eastern and south-eastern sector. On some occasions light wind from the south and the northwest prevailed at Plaisance.

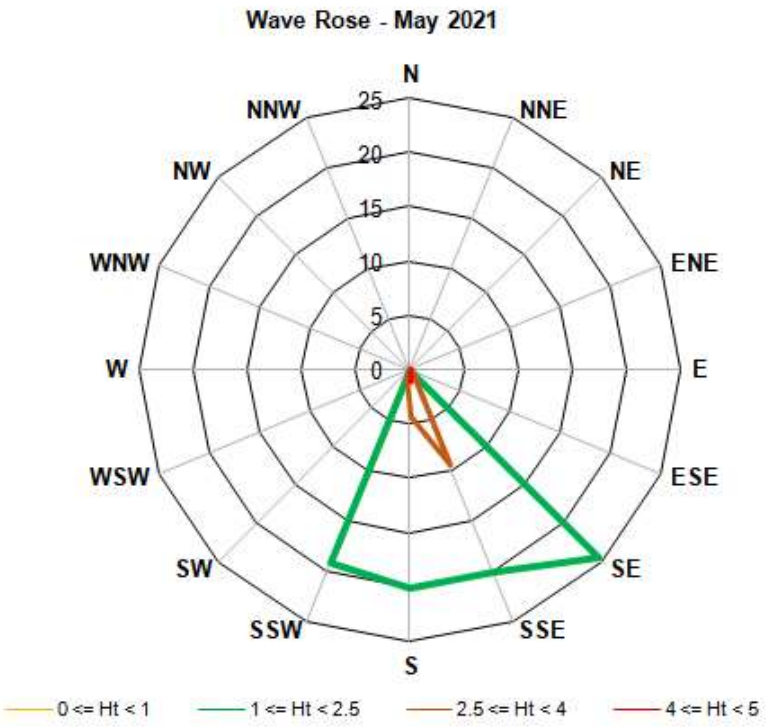


Fig. 10:Waverose at BlueBay showing waves from the southern sector

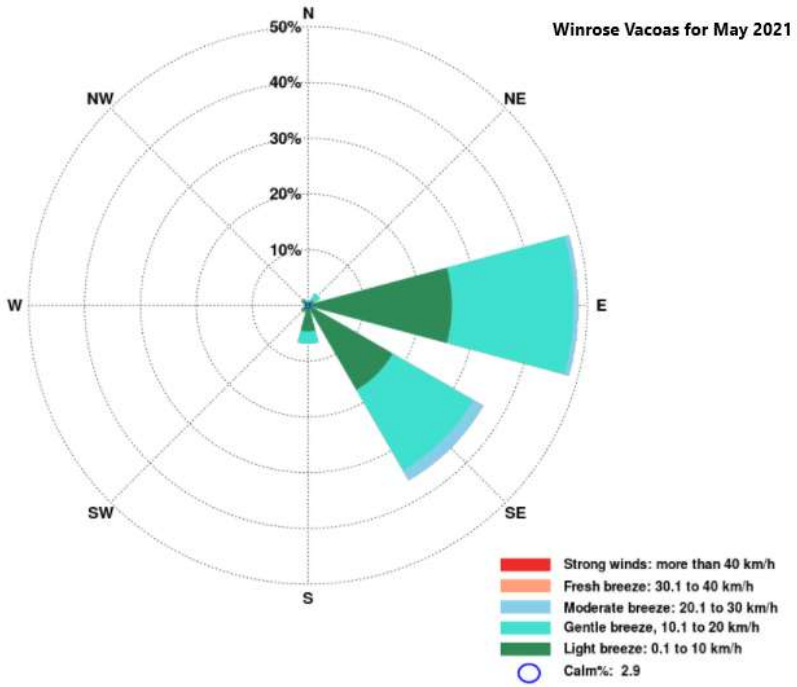


Fig. 9(b): Wind frequency at Vacoas

The ocean waves at Blue Bay were mainly from the southern sector. On few occasions the wave height exceeded 4 metres from day 20 to 22.

FORECAST FOR JUNE-JULY-AUGUST (JJA)

Neutral ENSO is forecast for June-July-August period. From Figure 11 (a), in the Indian Ocean, both IOD and SIOD are forecasted to be neutral and near normal SST is expected over the Mascarene region during JJA. Figure 11(b) shows that pressure anomaly over the SWIO will be normal.

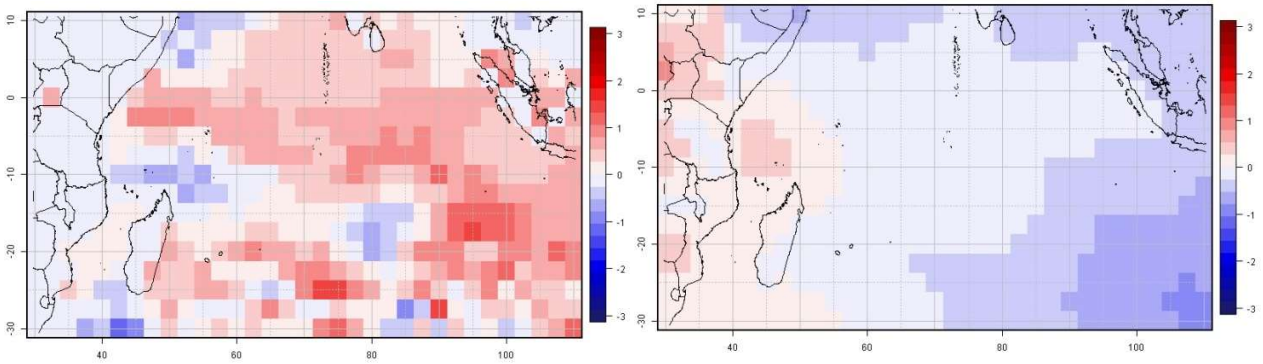


Figure 11: (a) Sea surface temperature and (b) pressure anomaly charts for JJA 2021

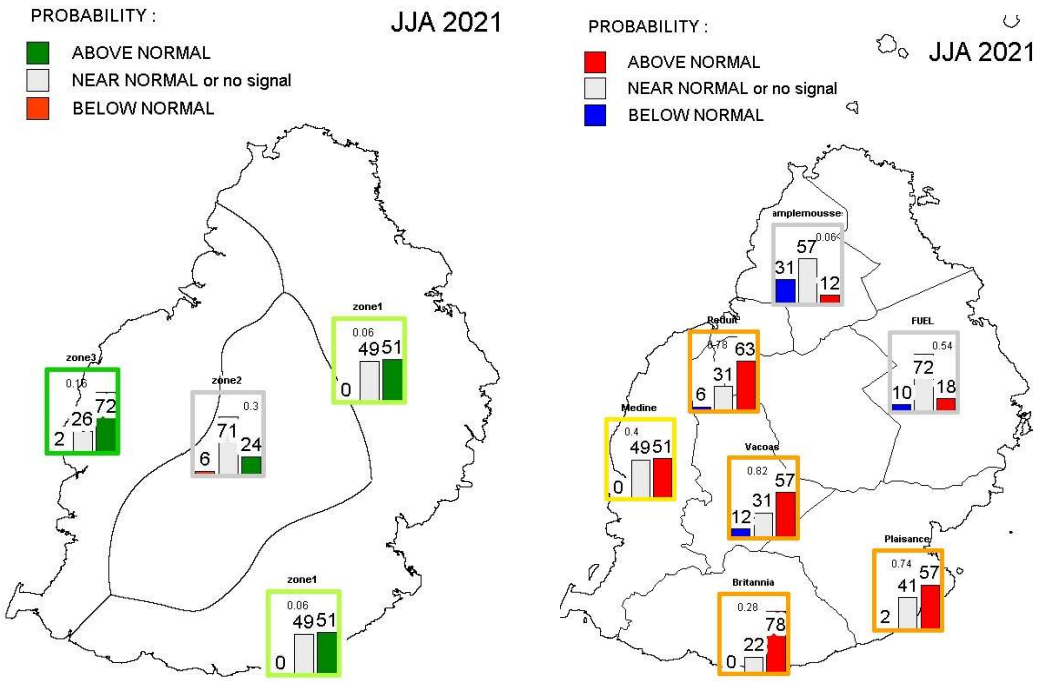
Consensus forecast for Mauritius:

Statistical analysis is showing normal to slightly above normal rainfall for JJA.

As such cumulative monthly rainfall is as follows:-

- June above normal (~150 mm)
- July normal (~120 mm)
- August normal (~90 mm)

Mean temperature forecast is slightly above normal in most places except to the North and the East (Fig 12b).



Director, Meteorological Services,
St Paul; Road Vacoas,
***Tel*: 6861031/32, Fax: 6861033, *email*: meteo@intnet.mu**

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