

Brief on temperature for the year 2024 and predicted temperature for January to March 2025

1. Background

The World Meteorological Organization (WMO) has published the following statement: *2024 is the warmest year on record, based on six international datasets. The past ten years have all been in the Top Ten, in an extraordinary streak of record-breaking temperatures. The global average surface temperature was 1.55 °C (with a margin of uncertainty of ± 0.13 °C) above the 1850-1900 average, according to WMO's consolidated analysis of the six datasets. This means that we have likely just experienced the first calendar year with a global mean temperature of more than 1.5°C above the 1850-1900 average.*

2. Why does this matter?

The sixth assessment report of the Intergovernmental Panel on Climate Change (AR6) stated that “*with every increment of global warming, regional changes in mean climate and extremes become more widespread and pronounced*”. Hence, the additional fraction of a degree increase in the global average surface temperature will lead to a subsequent increase in the compounding and cascading hazards and related environmental, human and economic loss. This means more accelerating sea level rise, ocean heating and more ice and glacier retreat, intensifying tropical cyclones, heavier rainfall and intense heatwaves.

3. The local context

The island of Mauritius also experienced above normal temperatures during 2024. The Table 1 shows the highest maximum temperature that has been observed during each month from January to December 2024. The monthly highest maximum temperature for 2024 varied between 29.4°C and 34.2°C at Port Louis, 24.0°C and 30.2°C at Vacoas and 26.6°C and 33.6°C at Plaisance.

	Vacoas	SSR International Airport (Plaisance)	Port Louis
Jan	30.2	33.6	34.1
Feb	29.5	31.6	34.2
Mar	29.3	31.3	33.5
Apr	29.6	31.5	33.6
May	27.7	29.6	31.0
Jun	24.3	27.6	29.8
Jul	24.0	26.6	29.4
Aug	25.0	27.4	29.4
Sep	26.1	27.5	30.9
Oct	28.3	28.8	31.9
Nov	28.7	31.9	32.5
Dec	29.9	31.2	33.6
Highest	30.2	33.6	34.2

Table 1: Warmest temperature (°C) in 2024 for the region of Vacoas, Plaisance and Port-Louis.

Compared to the long-term-mean 1991-2020, the temperature anomaly in 2024 ranged from 0.1°C to 0.6°C in the first half and it ranged from 0.4°C to 1.2°C in the second half.

Moreover, several stations around Mauritius recorded new extreme maximum temperature due to the prevailing warm conditions in 2024. The Table 2 shows a list of stations that with new records in maximum temperatures.

Station	month	Temperature (°C)
Riviere des Anguilles	JAN	34.0
Riche en Eau	JAN	33.9
Quatre Soeurs	JAN	32.6
Queen Victoria	JAN	34.8
Albion	FEB	35.2
Quatre Bornes	FEB	33.0
Riche Terre	APR	33.2
Bois Mangues	AUG	29.1
Champ.de Mars	SEP	30.9
Beau Bassin	NOV	32.6

Table 2: New records (extremes) for maximum temperature established during year 2024

3.1 Seasonal Outlook of the MMS– Summer 2024-2025

In its seasonal outlook for summer 2024-2025 that was issued in October 2024, the MMS had stated that temperatures would be slightly above the normal during this summer. On certain days, it mentioned that temperatures would likely exceed the long-term monthly average by more than two to three degrees Celsius. The extreme maximum temperatures during the day would reach 35⁰C along the western coasts.

It is to be noted that 35.0⁰C was recorded at Medine (representing the western region) on 9th and 10th January 2025.

3.2 Temperature Forecast for Jan-Feb-Mar (JFM) 2025

The latest reports from World Centres indicate that weak La Niña conditions are present over the equatorial Pacific. The La Niña conditions are expected to persist through February-April 2025 (59% chance), with a transition to ENSO-neutral likely during March-May 2025 (60% chance). This has an impact over the Indian Ocean. For instance, Figure 1 (a) shows a *warmer than normal* sea surface temperatures over our region for the period January to March 2025 and Figure 1(b) shows a *near normal* mean sea-level pressure over the same period.

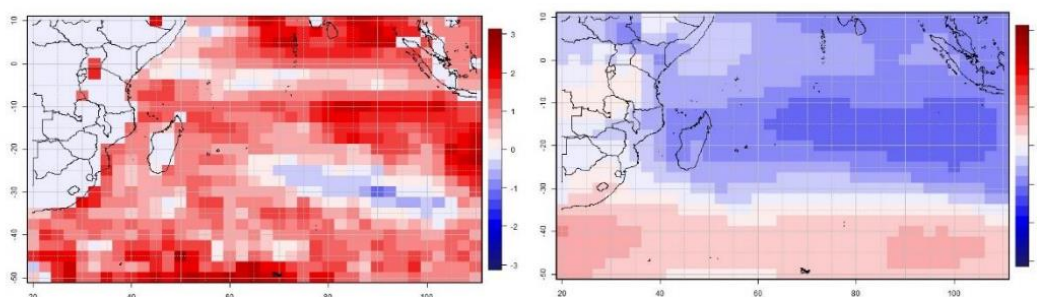


Fig 1 (a)

Fig 1 (b)

The MMS uses these information as well as those from other Centres and the local data to conduct monthly analysis to eventually predict temperature and rainfall over Mauritius for the next three (3) months. The inferences from the analysis show that the mean temperature will be above normal over the whole island for the period January to March 2025.