

# Seasonal Climate Forecast

## MAURITIUS METEOROLOGICAL SERVICES

### Seasonal Outlook for Summer 2023-2024

#### 1 INTRODUCTION

This Seasonal Outlook gives an indication of the expected evolution of the 2023-2024 South West Indian Ocean (SWIO) summer namely: cyclone activity, summer rain and temperature in Mauritius and Rodrigues.

This is a climate forecast and is NOT an attempt to forecast the detailed day-to-day evolution of the weather. The contents of this outlook are meant to be used as general guidelines for planning purposes by stakeholders in various sectors and for information to the public at large.

Summer season in Mauritius, Rodrigues, Agalega and St Brandon is normally from 01 November to 30 April of the following year. However, the official cyclone season is from 01 November to 15 May of the following year.

The behaviour of meteorological and oceanic parameters such as El Nino Southern Oscillation (ENSO), Indian Ocean Dipole (IOD) and the behaviour of meteorological and oceanic parameters in analogue years have been utilised to generate the most likely scenario for the 2023-2024 Southwest Indian Ocean summer. Global, regional and local predictors have also been analysed in the process of the preparation of this outlook.

#### 2. SUMMER 2022-2023 OUTLOOK

After careful analysis of the behaviour of all indicators and taking into consideration analogue patterns, it is concluded that:

(i). Temperatures will be above the normal during summer 2023-2024. On certain days, it is likely that temperatures will exceed the long-term monthly average by more than two to three degrees Celsius. In such situation, the maximum temperatures during the day may reach 36 degrees Celsius along the western coasts in Mauritius.

At Rodrigues on certain occasions, the maximum temperatures during the day may reach 33 degrees Celsius along coastal areas.

Above normal temperatures together with prolonged periods of high humidity and light wind conditions, may result in torrid conditions particularly during the months December 2023 to March 2024 that will cause severe discomfort mainly to the vulnerable groups of the population.

(ii). The onset of summer rain will be delayed and is expected to occur during the second fortnight of December 2023. The cumulative summer rainfall over Mauritius is expected to around 90% of the normal, amounting to about 1225 mm. For Rodrigues, the cumulative rainfall during summer will be 95% of the normal, which amounts to about 810mm.

(iii). During January to March 2024, atmospheric conditions will become conducive to the occurrence of extreme weather events such as violent thunderstorms and heavy rainfall. Short-duration heavy rainfall will cause localised flash floods.

(iv). The number of named storms evolving in the South West Indian Ocean basin for the 2023-2024 cyclone season (01 November 2023 to 15 May 2024) is likely to be between six (6) and eight (8). During this season the region to the west of Diego Garcia of the basin is more conducive for cyclone formation.

(v). Based on the findings of the sixth assessment report (AR6) of the Intergovernmental Panel on Climate Change (IPCC), the Synthesis Report 2023 clearly mentions that the evidence of observed changes in extremes such as heatwaves, heavy precipitation, droughts, and tropical cyclones, and, in particular, their attribution to human influence, has further strengthened since the fifth assessment report (AR5).

With high confidence, it states that Human influence has likely increased the chance of compound extreme events since the 1950s, including increases in the frequency of concurrent heatwaves and droughts. It is therefore very likely that extreme weather events in the form of warm spells, heavy/torrential rain, violent thunderstorms, electric storms, mini tornadoes, rapid intensification of tropical cyclones may occur during the coming summer and cyclone season 2023-2024. Short-duration high-intensity rainfall will result in localised flash floods.

(vi). Heavy swells generated by tropical cyclones evolving in the vicinity of the islands of Mauritius may affect their shores. The cyclones may also cause storm surges if pass very close to the islands.

**Note:**

(a). The named storms that will develop in the Southwest Indian Ocean will **NOT** necessarily be a direct threat to the islands of Mauritius, Rodrigues, Agalega and St Brandon;

(b). All cyclones/storms will have a unique name in the southern Indian Ocean; and

(c). This report may be updated upon the availability of fresh information.

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