PRESS RELEASE

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भारत सरकार
Government of India
पृथ्वी विज्ञान मंत्रालय (एम. ओ. ई. एस.)
Ministry of Earth Sciences (MoES)
भारत मौसम विज्ञान विभाग
INDIA METEOROLOGICAL DEPARTMENT

Monthly Outlook for the Temperature and Rainfall during May 2023

Highlights

- Monthly maximum temperatures for May 2023 are expected to be above normal over east-central and east India and some parts of Northeast and peninsular India. However, it is likely to be normal to below-normal over the northwest and west-central India.

- Most parts of the country are expected to experience normal to below normal minimum temperatures except some parts of northwest and east India where above normal minimum temperatures are likely in some areas.

- Above-normal heat wave days are expected over most parts of Bihar, Jharkhand, Odisha, Gangetic West Bengal, east Uttar Pradesh, coastal Andhra Pradesh and some parts of North Chhattisgarh, east Madhya Pradesh, Telangana and coastal Gujarat during May 2023

- Rainfall averaged over the country in May 2023 is most likely to be normal (91-109% of LPA). Normal to above-normal rainfall is expected over northwest India, many parts of west-central India and northern part of Peninsular India. However, below-normal rainfall is likely in most parts of northeast India, many parts of east-central India and south peninsular India.

Monthly Outlook for the Temperature and Rainfall during May 2023

1. Background

Since 2016, the India Meteorological Department (IMD), Ministry of Earth Sciences (MoES) has been issuing seasonal outlooks for temperatures over the country for both hot and cold weather seasons. IMD also continuously works to improve the skill of forecasting models. The current strategy is based on the newly developed Multi-Model Ensemble (MME) based forecasting system. The MME approach uses the coupled global climate models (CGCMs) from different global climate prediction and research centers including IMD/MoES Monsoon Mission Climate Forecast System (MMCFS) model.

IMD has now released the monthly temperature and rainfall outlook. The outlook for the temperature in May 2023 is presented in section 2, while section 3 provides the heatwave outlook for the same month. Additionally, the monthly rainfall outlook for May 2023 is provided in section 4.

2. Monthly Temperature Forecast for May 2023

Fig. 1a and Fig. 1b present the predicted probabilities for the maximum and minimum temperatures in May 2023, respectively. Monthly maximum temperatures for May 2023 are expected to be above normal over east-central and east India and some parts of Northeast and peninsular India. However, it is likely to be normal to below-normal over the northwest and west-central India. (Fig. 1a).

During May 2023, most parts of the country are expected to experience normal to below normal minimum temperatures except some parts of northwest and east India where above normal minimum temperatures are likely in some areas. (Fig. 1b).

3. Heatwave outlook for May 2023

The anomaly forecast for the number of heatwave days in the country for May 2023 is presented in Figure 2. Above-normal heat wave days are expected over most parts of Bihar, Jharkhand, Odisha, Gangetic West Bengal, east Uttar Pradesh, coastal Andhra Pradesh and some parts of North Chhattisgarh, east Madhya Pradesh, Telangana and coastal Gujarat during May 2023.

4. Monthly Rainfall Forecast for May 2023

The rainfall during May 2023 averaged over the country is most likely to be normal (91-109% of LPA). The LPA of rainfall over the country during May based on data of 1971-2020 is about 61.4 mm.

The forecasted spatial distribution of tercile rainfall categories (above normal, normal, and below normal) over India for May 2023 is shown in Fig. 3. Normal to above-normal rainfall is expected over northwest India, many parts of west-central India and northern part of Peninsular India. However, below-normal rainfall is likely in most parts of northeast India, many parts of east-central India and south peninsular India. The dotted areas on the map typically receive very little rainfall during May, while the white shaded areas within the land areas represent the climatological probabilities.

5. Sea Surface Temperature (SST) over the Pacific and the Indian Oceans

Currently, neutral ENSO (El Niño-Southern Oscillation) conditions are present over the equatorial Pacific region. The latest MMCFS (Monsoon Mission Coupled Forecasting System) forecast suggests that these neutral conditions are likely to continue in May 2023.

In addition to El Niño-Southern Oscillation (ENSO) conditions over the Pacific, other factors such as Indian Ocean SSTs also influence the climate in India. Currently, neutral Indian Ocean Dipole (IOD) conditions are present over the Indian Ocean. The latest climate models indicate that positive IOD conditions are likely to develop during the upcoming season.

6. Extended Range Forecast and short to medium range forecasting services

The IMD also provides extended range forecasts (7-day averaged forecasts for the next four weeks) of rainfall and maximum and minimum temperatures across the country. These forecasts are updated every Thursday and are based on the Multi-model ensemble dynamical Extended Range Forecasting System, which is currently operational at IMD. The forecasts are available on the IMD website (https://mausam.imd.gov.in/imd_latest/contents/extendedrangeforecast.php).

The extended range forecast is followed by short to medium range forecast issued daily by IMD.

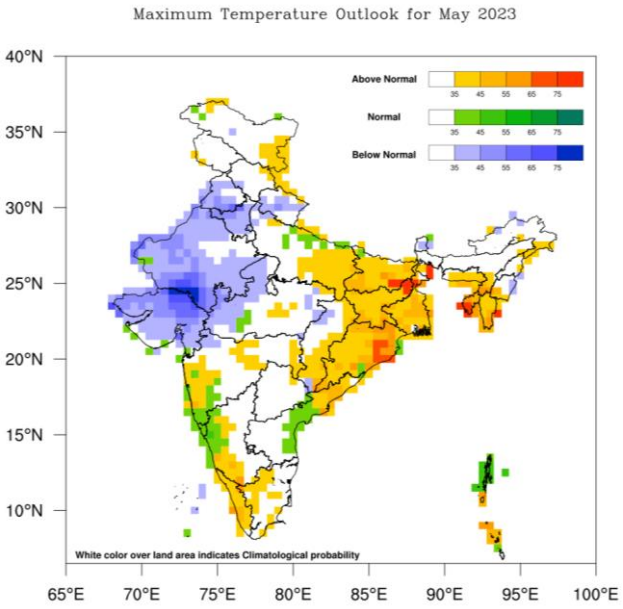

Fig.1a. Probability forecast of Maximum Temperature for May 2023.

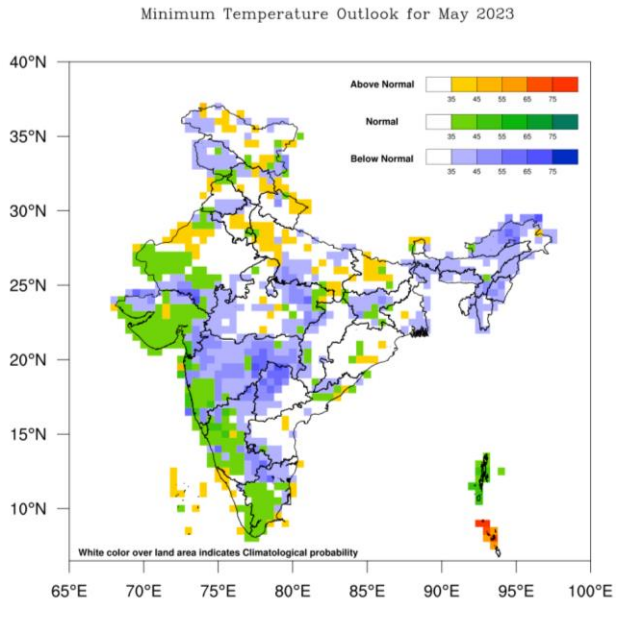

Fig.1b. Probability forecast of Minimum Temperature for May 2023.

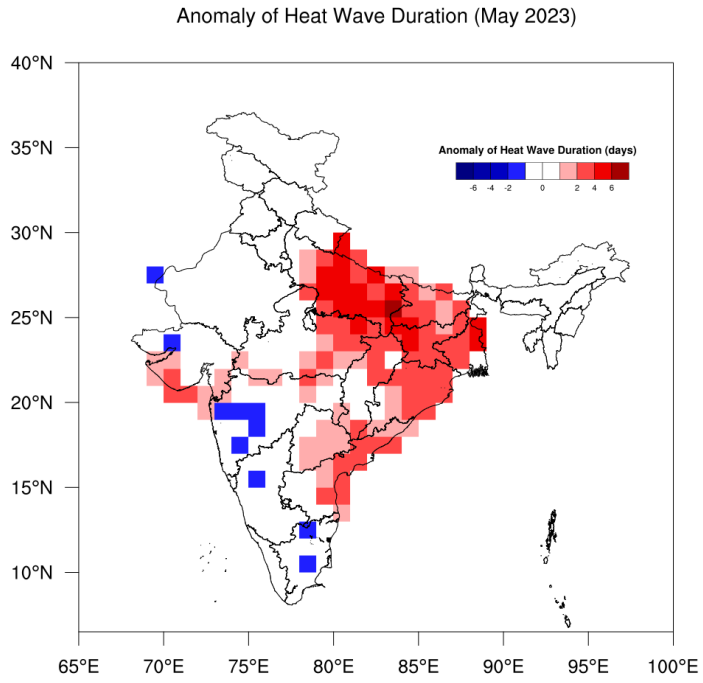

Fig 2. Anomaly of Heat Wave Duration (in days) for May 2023.

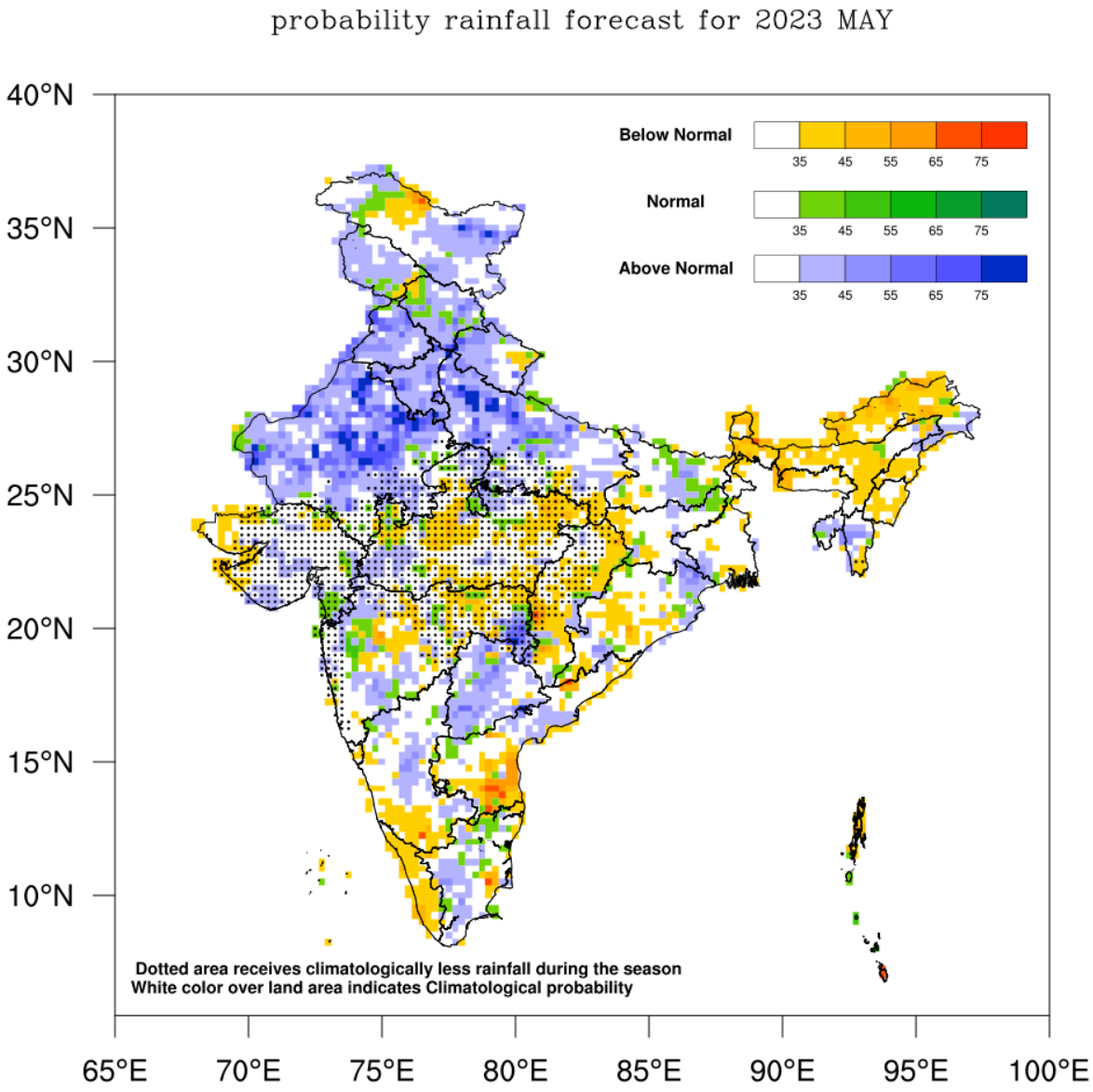

Fig.3. Probability forecast of tercile categories* (below normal, normal and above normal) for the rainfall over India during May 2023. The figure illustrates the most likely categories as well as their probabilities. The dotted area shown in the map climatologically receives very less rainfall and the white shaded areas within the land represent climatological probabilities. (*Tercile categories have equal climatological probabilities, of 33.33% each).