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 विज्ञानविभाग
INDIA METEOROLOGICAL DEPARTMENT

Seasonal Outlook for the Temperatures during April to June, 2021

Highlights

- During the upcoming hot weather season (April to June), above normal seasonal maximum temperatures are likely over most of the subdivisions of north, northwest and few subdivisions of east central India. However, below normal seasonal maximum temperatures are likely over most of the subdivisions of south peninsular India and few subdivisions of east, northeast and extreme north India.
- Above normal seasonal minimum temperatures are likely over few subdivisions along the west coast and west India. However, below normal season averaged minimum temperatures are likely over few subdivisions of northwest, central, east and extreme north India.

Since 2016, India Meteorological Department (IMD), Ministry of Earth Sciences (MoES) has been issuing seasonal outlooks for subdivision scale temperatures over the country for both hot and cold weather seasons based on predictions from the Monsoon Mission Coupled Forecasting System (MMCFS) Model developed under MoES's monsoon mission project. Recently, IMD had issued seasonal outlooks for temperatures during the hot weather season of March to May, 2021. IMD has now prepared Seasonal outlook for the subdivision averaged temperatures for the upcoming hot weather season of April to June 2021 and the same is presented here.

The MMCFS has a spatial resolution of about 38 km and improved modules of model physics. The model climatology was prepared based on retrospective forecasts for 16 years (2003-2018). The seasonal temperature forecast outlook was prepared using MMCFS simulations based on the 2021 March initial conditions with 36 ensemble members. The model hindcasts and forecasts were bias corrected using the

probability distribution function (pdf) method. The model hindcasts show moderate skill over many subdivisions over northwest and central India during the period 2003-2018.

2. Forecast for the AMJ Season (April to June 2021)

Fig.1 and Fig.2 show the probability and anomaly (departures from the long term average) forecasts for the subdivision averaged maximum and minimum temperatures respectively for the April to June 2021 (AMJ) season. The colour shades indicate the most likely tercile category* as well as its probability and the values written within or near the domain of a sub division indicate the temperature anomalies based on the normal (2003-2018).

The probability forecast for maximum temperatures (Fig. 1) indicates above normal maximum temperatures over most of the subdivisions of north, northwest and few subdivisions of east central India (Jharkhand, Chhattisgarh and Odisha). Most of the subdivisions of South Peninsular India and few subdivisions of east (Gangetic West Bengal), northeast (Sikkim & Sub Himalayan West Bengal and Assam and extreme north India (J&K and Ladakh) are likely to experience below normal maximum temperatures. Remaining subdivisions of the country are likely to experience climatological probability for season averaged maximum temperature.

The probability forecast for minimum temperatures (Fig.2) indicates above normal minimum temperature are likely over few subdivisions of west coast (Konkan and Goa and coastal Karnataka) and west India (Saurashtra and Kutch). Few of the subdivisions of northwest (west Rajasthan), central (Vidarbha and east Madhya Pradesh), east (Chhattisgarh and Jharkhand) and extreme north India (J&K and Ladakh) are likely to experience below normal minimum temperatures. Remaining subdivisions of the country are likely to experience climatological probability for season averaged minimum temperature.

3. La Niña conditions in the Pacific Ocean

Currently, moderate La Niña conditions are prevailing over equatorial Pacific and sea surface temperatures (SSTs) are below normal over central and eastern equatorial Pacific Ocean. The latest MMCFS forecast indicates warming of SSTs over Nino 3.4 region during the coming season and there is a possibility of transition of La Niña conditions to ENSO neutral conditions during the forthcoming hot weather season (April- June, 2021).

4. Extended Range Forecast Services

IMD also provides extended range forecasts (7 –day averaged forecasts for the next four weeks) of maximum and minimum temperatures over the country updated every week. This is based on the Multi-model ensemble dynamical Extended Range Forecasting System currently operational at IMD, New Delhi. The forecasts are available through IMD, Delhi website (https://mausam.imd.gov.in/imd_latest/contents/extendedrangeforecast.php).Users should refer the extended range forecasts of temperatures in addition to the present seasonal forecast for better decision making.

*Tercile categories have equal climatological probabilities, of 33.33% each

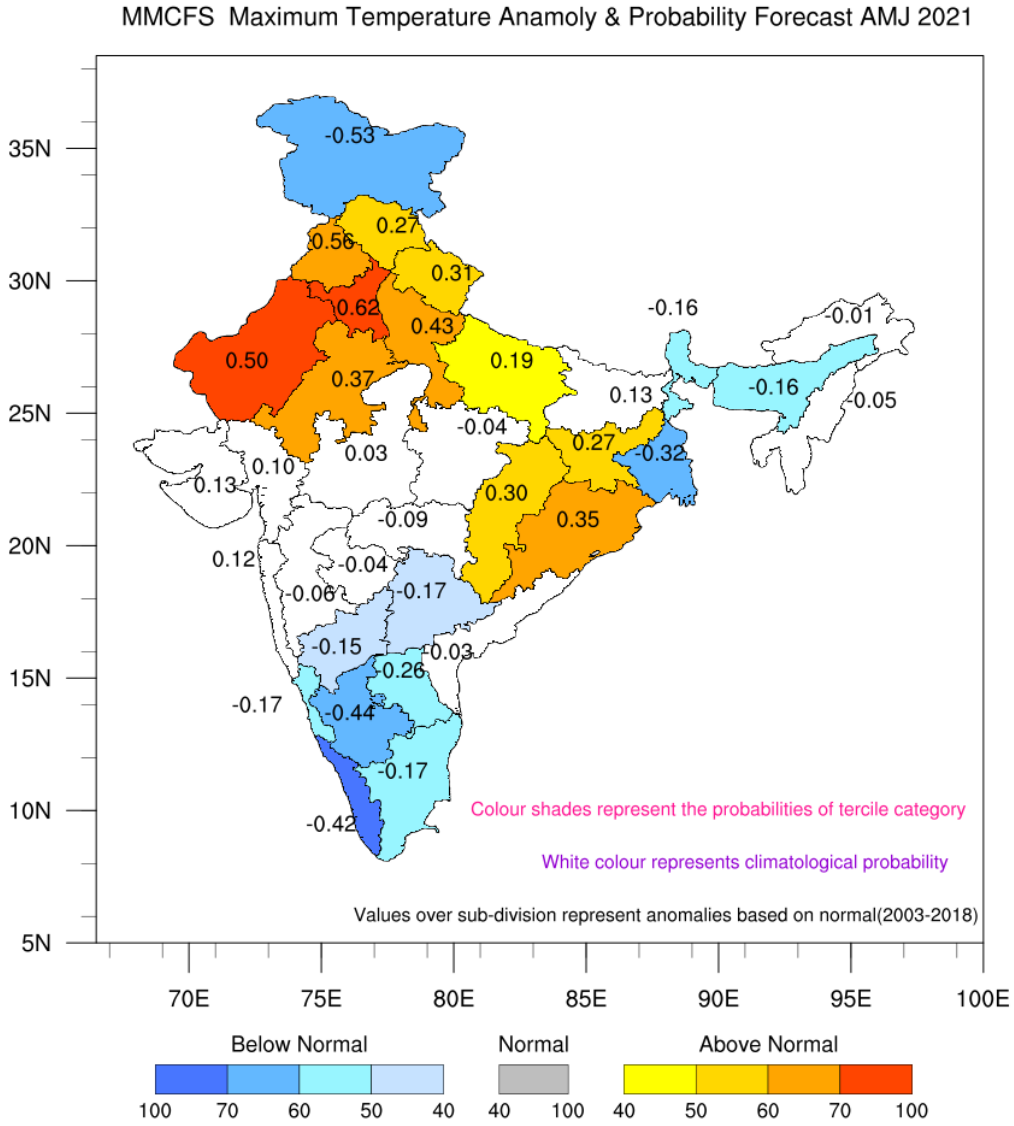

Fig.1. Probability and anomaly forecasts for the subdivision averaged maximum temperatures for April to June2021

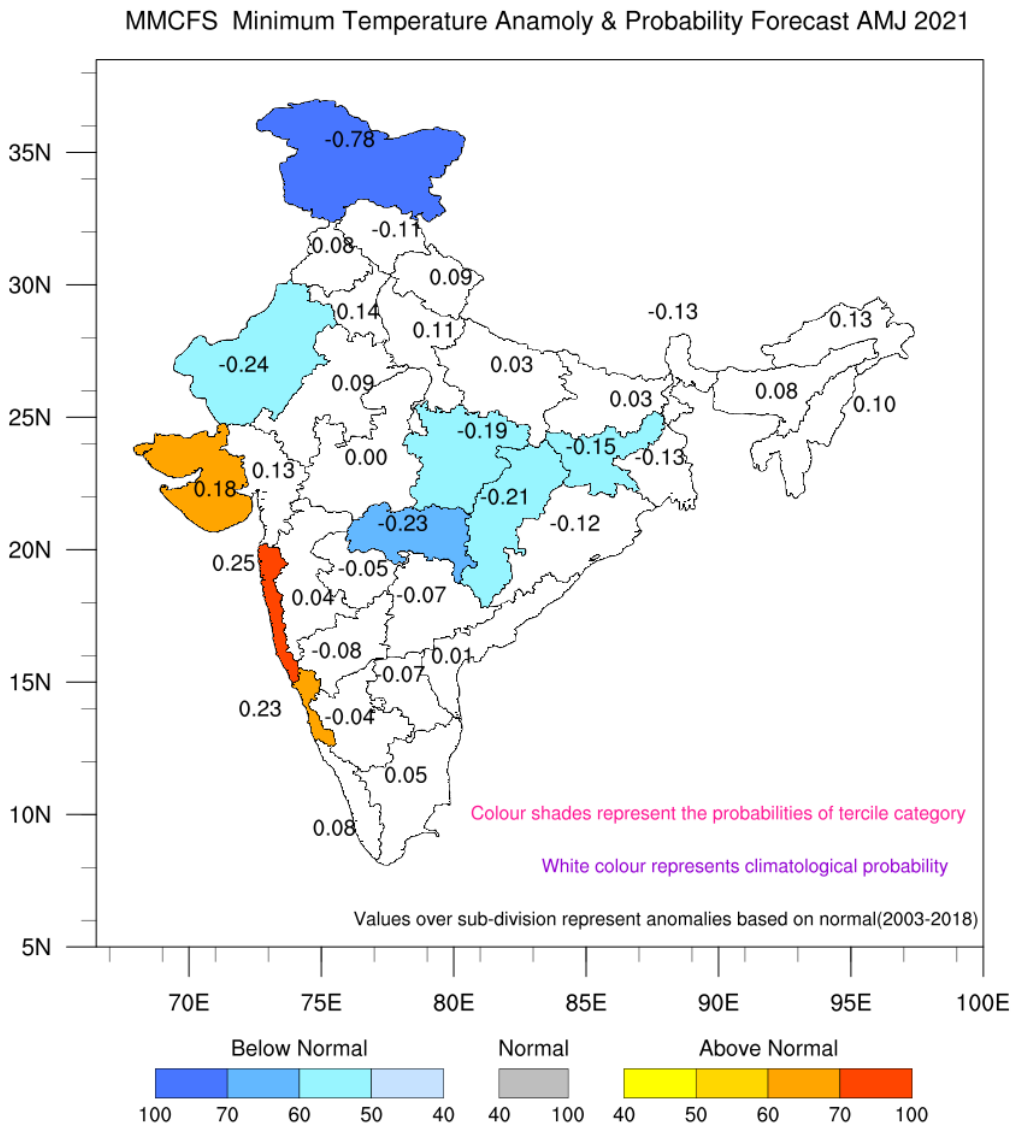

Fig.2. Probability and anomaly forecasts for the subdivision averaged minimum temperatures for April to June 2021