



## Monthly and Seasonal Outlook of Rainfall for Chattogram and Cox's Bazar Region, Bangladesh

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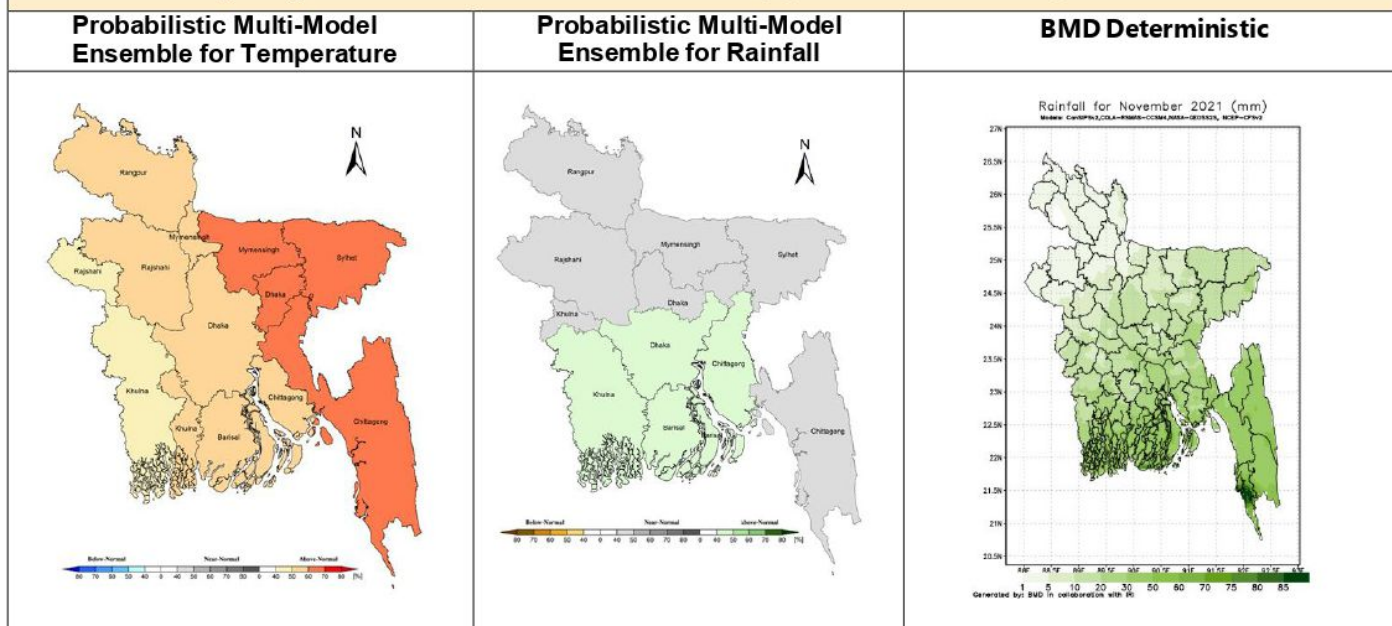
For the Month November and November-December-January

### Observed Climate in October, 2021

The cumulative rainfall for the month of October in Cox's Bazar was 184 mm and in Teknaf was 143 mm which indicates normal rainfall in Cox's Bazar (-20%) and below normal rainfall in Teknaf (-45%) during September. For reference, based on the climatology (1980-2018) the normal cumulative rainfall for the month of October is 231 mm in Cox's Bazar and 261mm in Teknaf. The overall rainfall scenario was normal for the Cox's Bazar and Teknaf region. Due to active monsoon phase there was a low pressure in the Bay of Bengal. Overall, the whole country received above normal (+28.3%) rainfall in the month of October.

### Outlook for November, 2021

Considering World Meteorological Organization (WMO) designated global center model outputs and BMD's deterministic forecast, it is highly likely that the month of November would bring normal to slightly above normal rainfall for the Chattogram and Cox's Bazar region. For reference, based on the climatology (1980-2018) the normal cumulative rainfall for the month of November in Cox's Bazar is 231 mm and Teknaf is 261 mm. Considering the available model output there is 45% to 50% chance of normal to slightly above normal rainfall in Cox's Bazar region during the month of November. Also the analyzing climatology of temperature, is expected to be slightly above normal temperature for Cox's Bazar and Teknaf region during November. For reference, based on the climatology (1980 - 2018) the normal average temperature of November in Cox's Bazar is 25.5(°C) and in Teknaf is 23.6(°C).

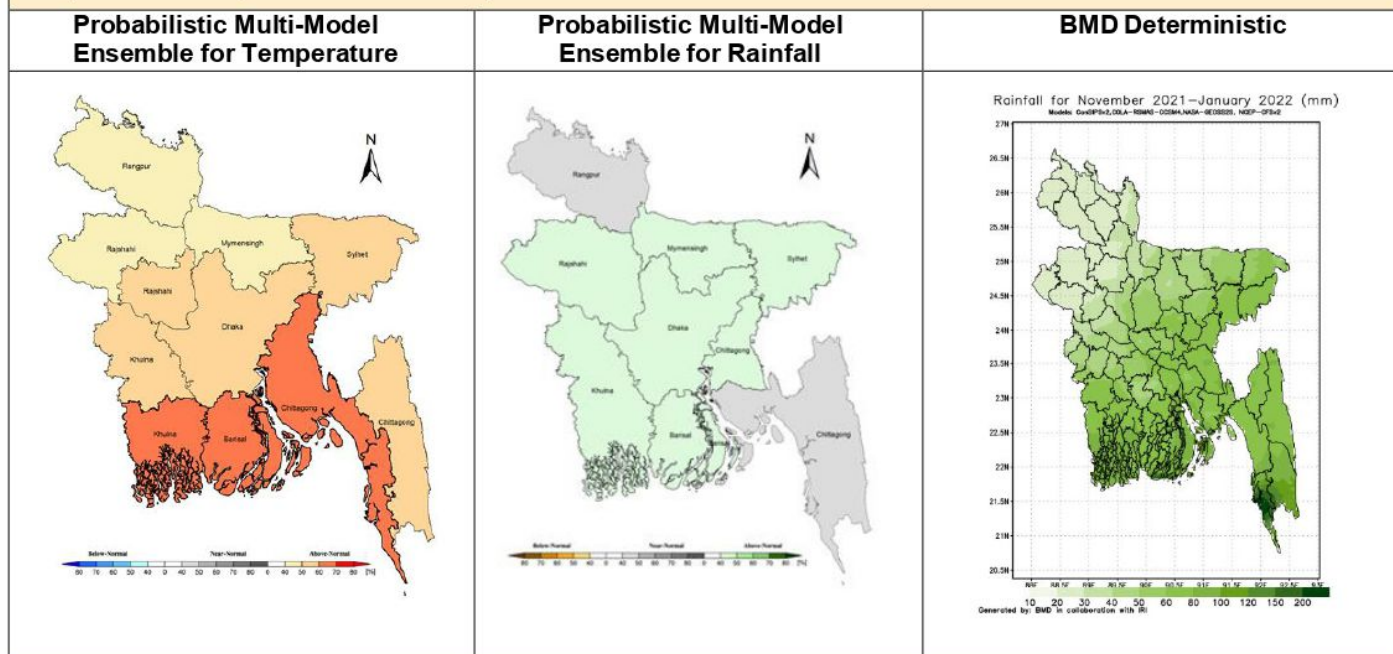


The bulletin is prepared by the Regional Integrated Multi-Hazard Early Warning System for Asia and Africa (RIMES) in collaboration with the Bangladesh Meteorological Department (BMD).

Overall, the whole country may receive normal to slightly above normal rainfall and temperature during November, 2021. There may occur 1-2 low pressures due to post-monsoon which may turn cyclone during November, 2021. However, no conclusion can be made on a monthly scale on possibilities of any extreme event.

### Outlook for November-December-January, 2021-2022

Considering WMO designated global center model outputs and BMD's deterministic forecast, it is highly likely that the month of November-December-January would bring normal to slightly above normal rainfall for the Chattogram and Cox's Bazar region. Based on the climatology (1980 - 2018) the normal cumulative rainfall for November-December-January in Cox's Bazar is 30mm and in Teknaf is 28mm. Considering the available model output there is 45-50% chance of normal to slightly above normal rainfall in Chattogram region. Also analyzing the global model outputs of temperature, it is expected to be slightly above normal temperature for Cox's Bazar and Teknaf region. Based on the climatology (1980-2018) the normal average temperature of November-December-January in Cox's Bazar is 22.8(°C) and in Teknaf is 23.1(°C). Overall, the whole country may receive normal to slightly above normal rainfall and temperature during these three month's period.



### Overview

The climate outlook provides a broader perspective of the possible climate for the coming month and season. This monthly and seasonal outlook (November & November-December-January) is generated by analyzing various global models and the monthly forecast of the Bangladesh Meteorological Department. In this outlook, forecast generated by the RIMES FOCUS tool is also included (which shall be tested experimentally for Bangladesh).

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## Interpretation of climate outlooks

In general, the climate outlooks are presented in two different ways. But first we need to explain **Normal**. Normal in climate terms is the Long Period Average (LPA) of the rainfall over a location using 30 years or more of rainfall data (measured at a station). The average is considered as the “Normal” rainfall for the region. And seasonal climate outlook is to estimate if the season will have more than Normal, less than Normal rainfall or equivalent to normal rainfall.

### Forecast methods:

1. **Deterministic:** Deterministic forecast explains the percentage (%) departure from the Normal. If we expect 20% or less than Normal rainfall, we call it be **Below Normal**, if we expect 20% or more, we can it **Above Normal** and anything within the  $\pm 20\%$  is called the **Near Normal** rainfall for the season.

2. **Probabilistic:** The probabilistic approach explains the possibility (chance) of a certain amount of rainfall happening. For example, what is the chance of the season to be Below normal, or Normal or above Normal. If we say 45% Below normal, 30 % Normal and 25 % Above Normal. There is highly likely chance for the season to be Normal to Below Normal with a combined (75%) chance.

### Important Note

Below Normal rainfall does not indicate there will be no or less extreme rainfall events. There can be high intensity rainfall within short period of time followed by extended dry spells which may still sum up as Below Normal for the month. Users are advised to follow short and medium range forecast of BMD to keep track of extreme weather events. This outlook will be updated at the first week of December, 2021.