



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

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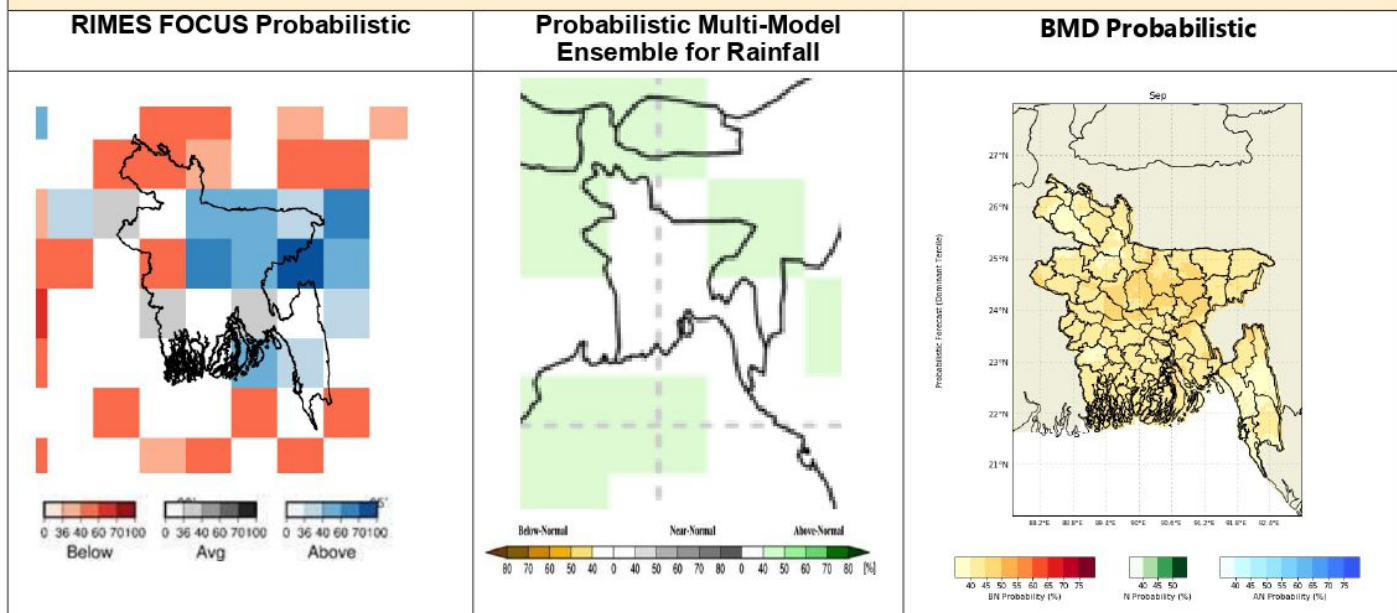
For the Month September and September-October-November

### Observed Climate in August, 2021

The cumulative rainfall for the month of August in Cox's Bazar was 936 mm and in Teknaf was 638 mm which indicates above normal rainfall in Cox's Bazar (37%) and below normal in Teknaf (-28%) during August. For reference, based on the climatology (1980 - 2018) the normal cumulative rainfall for the month of August is 682 mm in Cox's Bazar and 889 mm in Teknaf. The overall rainfall scenario was above normal rainfall for the Cox's Bazar and below normal rainfall for Teknaf region. Due to active monsoon phase there were several heavy to medium heavy rainfall events and 2 low pressures in the Bay of Bengal.

### Outlook for September, 2021

Considering World Meteorological Organization (WMO) designated global center model outputs, RIMES FOCUS probabilistic outlook and BMD's probabilistic forecast, it is highly likely that the month of September would bring normal to 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 September in Cox's Bazar is 682 mm and Teknaf is 452 mm. Considering the available model output there is 50% chance of normal to above normal rainfall in Cox's Bazar region during the month of September. Overall, the whole country may receive normal rainfall during September, 2021.

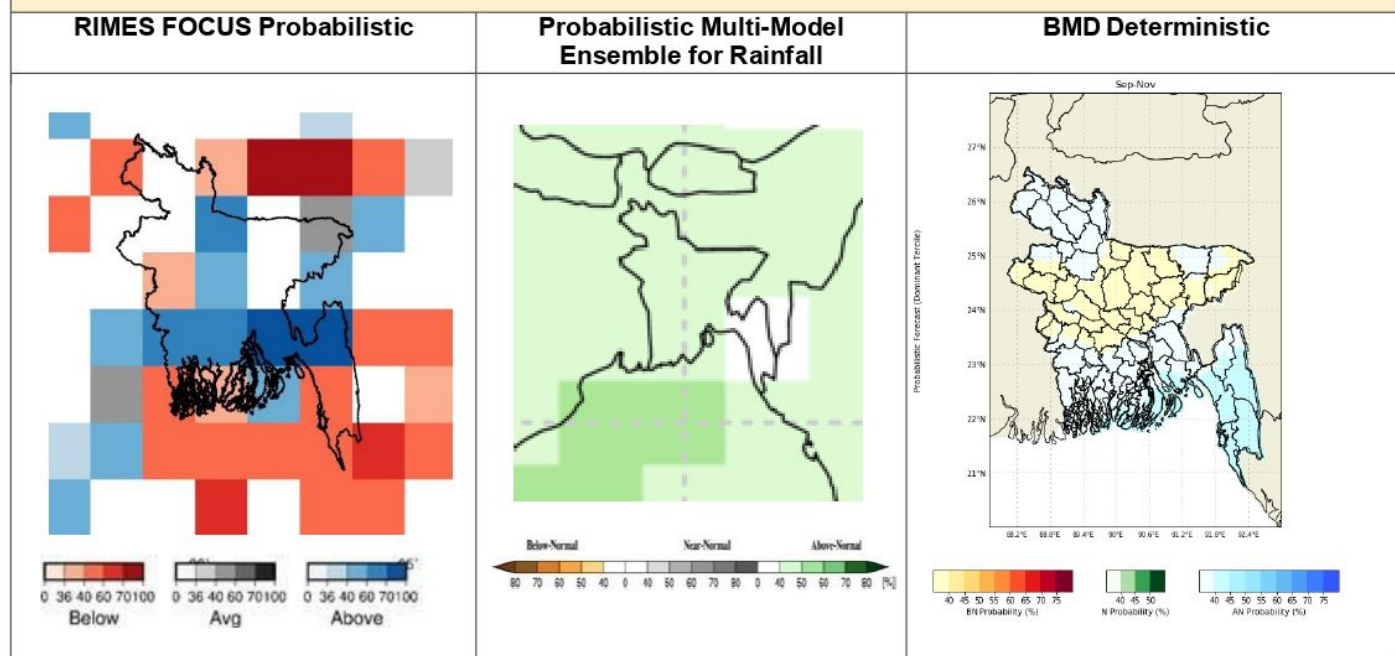


The bulletin is prepared by the Regional Integrated Multi-Hazard Early Warning System for Asia and Africa (RIMES) in collaboration with the Bangladesh Meteorological Department (BMD).

There may occur 2-3 low pressures due to active monsoon which may turn depression during September, 2021. However, no conclusion can be made on a monthly scale on possibilities of any extreme event.

### Outlook for September-October-November, 2021

Considering WMO designated global center model outputs, RIMES FOCUS probabilistic outlook and BMD's probabilistic forecast, it is highly likely that the month of September-October-November would bring normal to above normal rainfall for the Chattogram and Cox's Bazar region. Based on the climatology (1980 - 2018) the normal cumulative rainfall for September-October-November in Cox's Bazar is 438 mm and in Teknaf is 534 mm. Overall, analyzing different models there is 40-50% chance of normal to above normal rainfall during September-October-November over the Chattogram-Cox's Bazar region. The whole country also may receive above normal rainfall during these three months' period.



### Overview

The climate outlook provides a broader perspective of the possible climate for the coming month and season. This monthly and seasonal outlook (September & September-October-November) 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).



## 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 October, 2021.