



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

Issued on October 10, 2023
For the Month October and Oct-Nov-Dec

Observed Climate in September 2023

The cumulative rainfall for the month of September in Cox's Bazar was 281 mm and in Teknaf was 256 mm which indicates near normal rainfall in Cox's Bazar (-15%) and below normal in Teknaf (-36%) during September. For reference, based on the climatology (1980-2018) the normal cumulative rainfall for the month of September is 330 mm in Cox's Bazar and 402 mm in Teknaf. The overall rainfall scenario was above normal (6.9%) for Chattogram in the month of September.

Outlook for October 2023

Considering World Meteorological Organization (WMO) designated global center model outputs, RIMES FOCUS probabilistic outlook, and BMD's deterministic forecast, there is a 50% chance of near normal rainfall in Cox's Bazar region during the month of October. For reference, based on the climatology (1980-2018) the normal cumulative rainfall for the month of October in Cox's Bazar is 213 mm and Teknaf is 207 mm. Overall, analyzing the available model output, it is likely to be near normal to above normal for the whole country during the month of October.

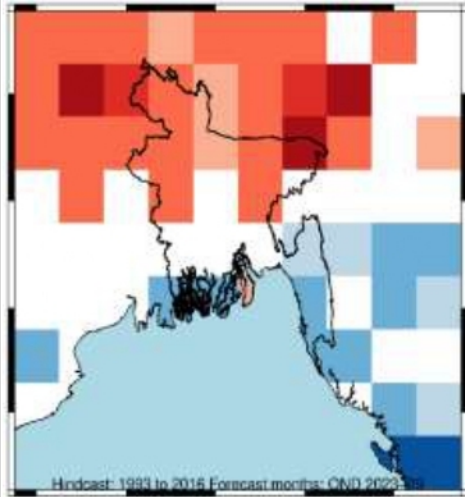
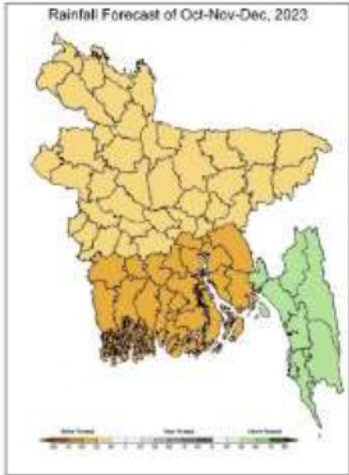
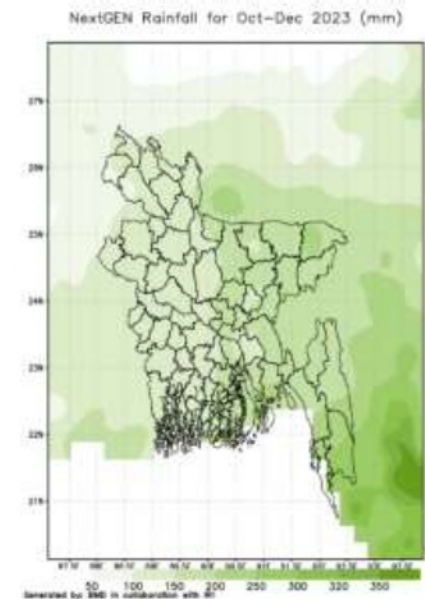
RIMES FOCUS Probabilistic	Probabilistic Multi-Model Ensemble for Rainfall	BMD's Deterministic Rainfall Forecast for October

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 1 or 2 depression over on the 3rd or 4th week of the October. However, no conclusion can be made on a monthly scale on the possibilities of any extreme event.

Outlook for Oct-Nov-Dec 2023

Considering World Meteorological Organization (WMO) designated global center model outputs, RIMES FOCUS probabilistic outlook, and BMD’s deterministic forecast, it is highly likely that the month of October-November-December would bring above normal rainfall for the Chattogram and Cox’s Bazar region. Based on the climatology (1980-2018) the normal cumulative rainfall for October-November-December in Cox’s Bazar is 112 mm and in Teknaf is 96 mm. Considering the available model output there is a 60-70% chance of above-normal rainfall in the Cox’s Bazar region. Overall, the whole country may receive below-normal rainfall during this three-month’s period.

RIMES FOCUS Probabilistic	Probabilistic Multi-Model Ensemble for Rainfall	BMD’s Deterministic Rainfall Forecast for OND
		

Overview

The climate outlook provides a broader perspective of the possible climate for the coming month and season. This monthly and seasonal outlook (October and October-November-December) is generated by analyzing various global models and the monthly forecast of the Bangladesh Meteorological Department. In this outlook, forecasts generated by the RIMES FOCUS tool are 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 to be **Below Normal**, if we expect 20% or more, we call it **Above Normal** and anything within the $\pm 20\%$ is called **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 a 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 a 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 forecasts of BMD to keep track of extreme weather events. This outlook will be updated in the first week of November 2023.