



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

Issued on January 09, 2024
For the Month January and Jan-Feb-Mar

Observed Climate in December 2023

The cumulative rainfall for December in Cox’s Bazar was 10 mm and in Teknaf was 20 mm which indicates normal rainfall in Cox’s Bazar (0%) and above normal in Teknaf (122%) during December. For reference, based on the climatology (1980-2018) the normal cumulative rainfall for December is 10 mm in Cox’s Bazar and 9 mm in Teknaf. The overall rainfall scenario was above normal (72%) for Chattogram in December.

Outlook for January 2023

Considering the World Meteorological Organization (WMO) designated global center model outputs, RIMES FOCUS probabilistic outlook, and BMD’s deterministic forecast, there is a 60-70% chance of near-normal rainfall in Cox’s Bazar region during January. For reference, based on the climatology (1980-2018) the normal cumulative rainfall for January in Cox’s Bazar is 5 mm and Teknaf is 2 mm. Overall, analyzing the available model output, it is likely to be above normal to near normal for the whole country during January. Moreover, analyzing global products there is a chance to be above normal temperature for January over the whole country.

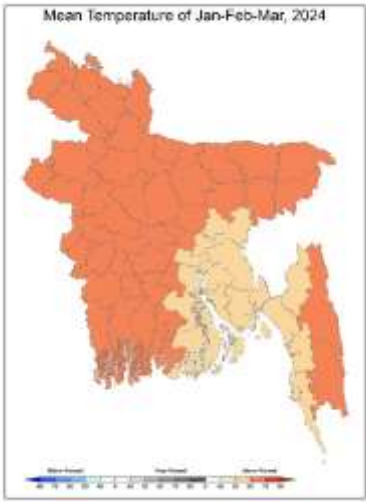
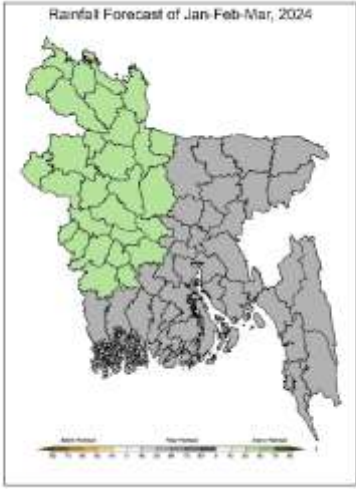
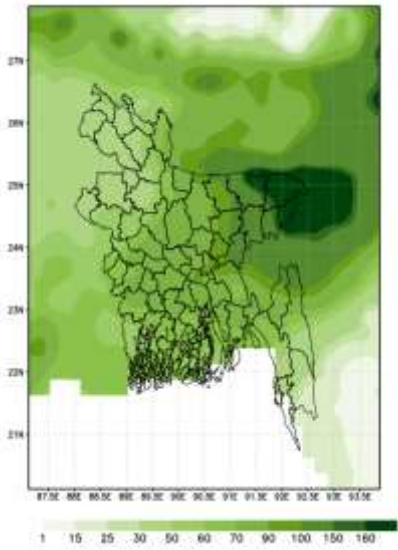
Probabilistic Multi-Model Ensemble for Temperature	Probabilistic Multi-Model Ensemble for Rainfall	BMD’s Deterministic Rainfall Forecast for January

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 1-2 cold wave in January. However, no conclusion can be made on a monthly scale on the possibilities of any extreme event.

Outlook for Jan-Feb-Mar 2024

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 January-February-March would bring near normal rainfall for the Chattogram and Cox’s Bazar region. Based on the climatology (1980-2018) the normal cumulative rainfall for January-February-March in Cox’s Bazar is 19 mm and in Teknaf 11 mm. Considering the available model output there is a 60-70% chance of near-normal rainfall in Cox’s Bazar region. Overall, the whole country may receive near-normal to above-normal rainfall during these three months. Moreover, analyzing global products there is a chance to be above normal temperature for these three months over the whole country

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Overview

The climate outlook provides a broader perspective of the possible climate for the coming month and season. This monthly and seasonal outlook (January and January-February-March) 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 can 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 February 2024.