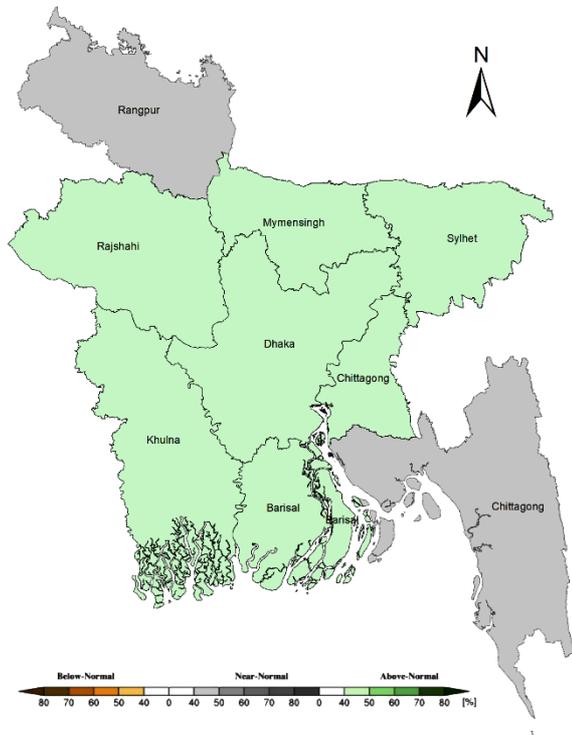


# Seasonal Outlook

November-December-January 2021-2022



# Summary

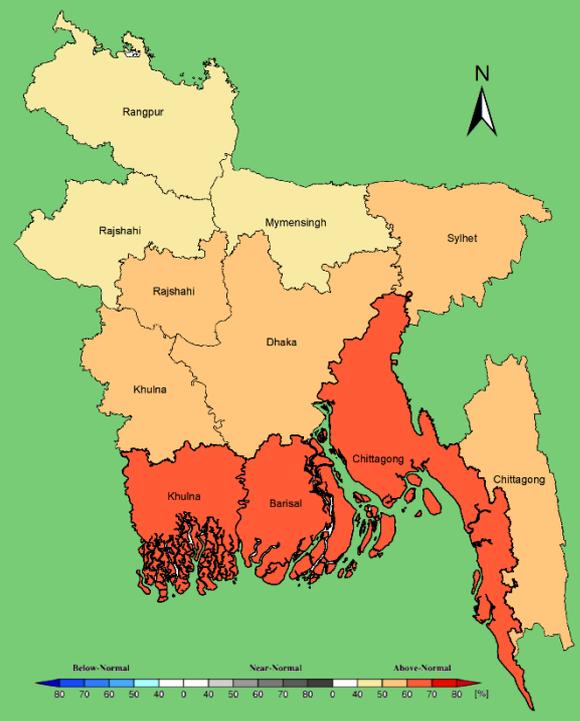


## Rainfall (Nov-Jan) 2021-22

As per the available climate model outputs, near normal rainfall is expected in Rangpur and Chittagong divisions (light dark shaded area). Rainfall may be slightly above normal over Rajshahi, Mymensingh, Dhaka, Barisal Khulna Sylhet and adjoining districts of Chittagong divisions (light to green shaded area). Overall, the whole country may receive normal to slightly above normal rainfall.

## Temperature(Nov-Dec-Jan) 2021-2022

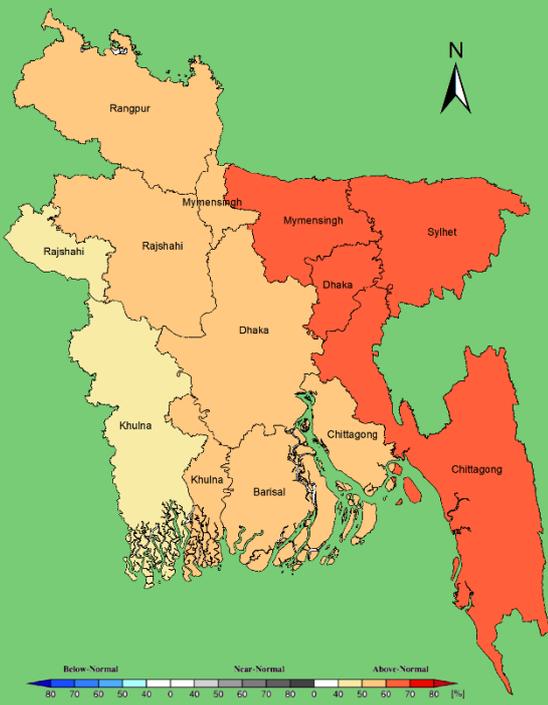
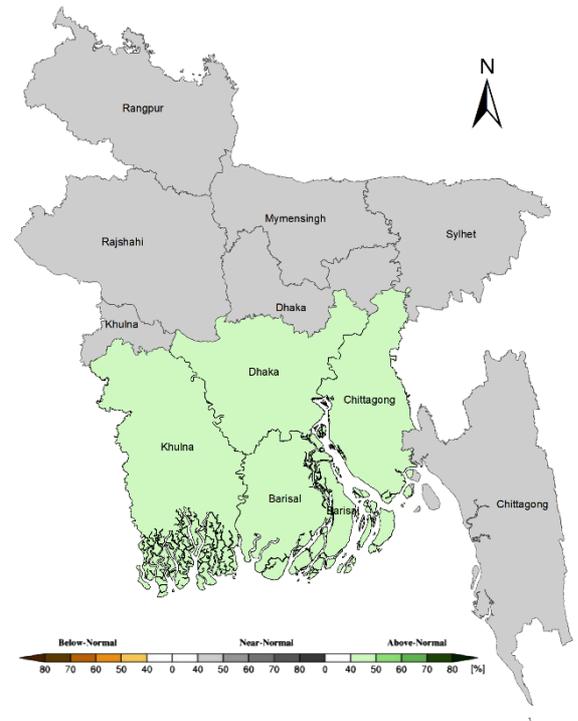
Considering the available climate model outputs, it is expected that the temperature of Nov-Dec-Jan is likely to be above normal over Bangladesh (light yellow to dark shaded area) but there may be some spatial variation.



# Summary

## Rainfall (November) 2021

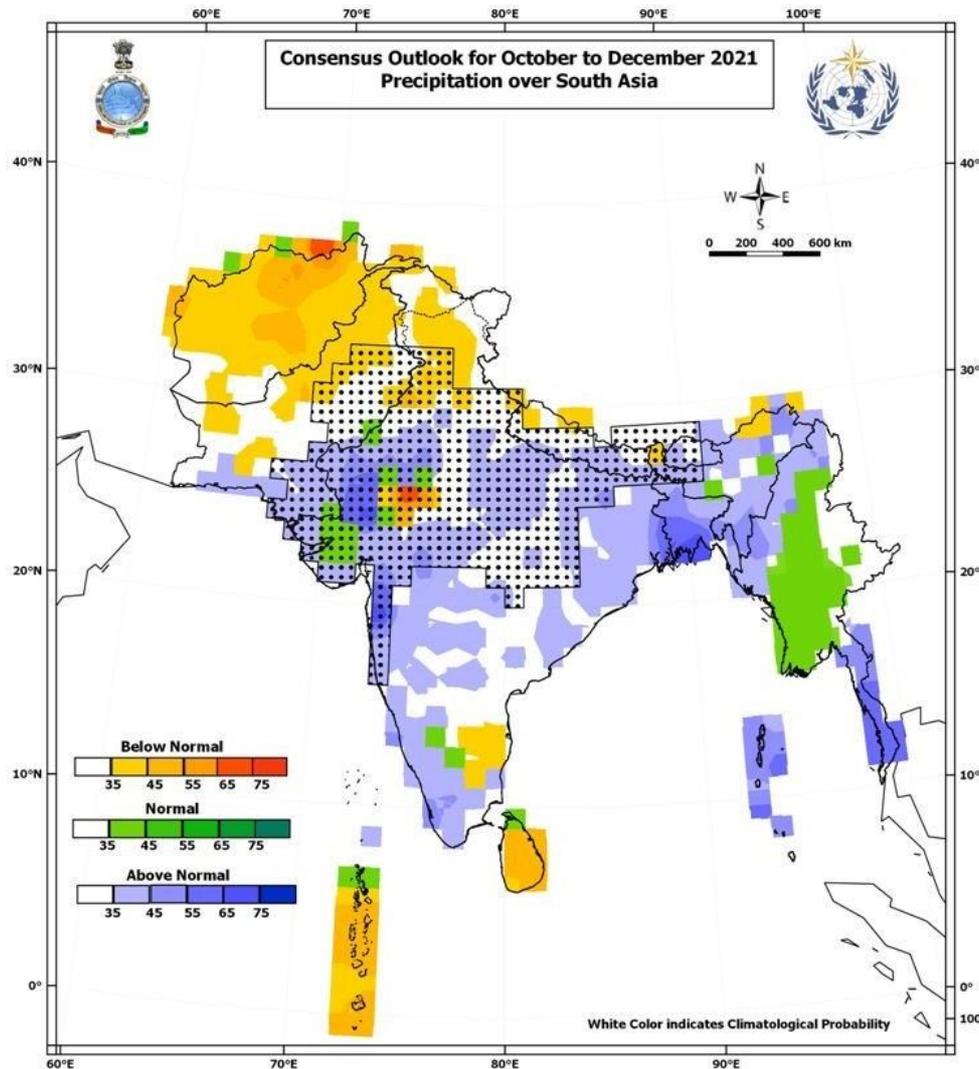
As per the available climate model outputs, near normal rainfall is expected in Rangpur, Rajshahi, Mymensingh, Sylhet and some adjoining districts of Dhaka, Khulna and Chittagong divisions (light dark shaded area). Rainfall may be slightly above normal over most part of Dhaka, Barisal, Khulna and Chittagong divisions (light green shaded area). Overall, the whole country may receive near normal to slightly above normal rainfall in the month of November.



## Temperature (November) 2021

Considering the available climate model outputs, it is expected that the temperature is likely to be above normal over Bangladesh (light yellow to dark shaded area) but there may be some spatial variation.

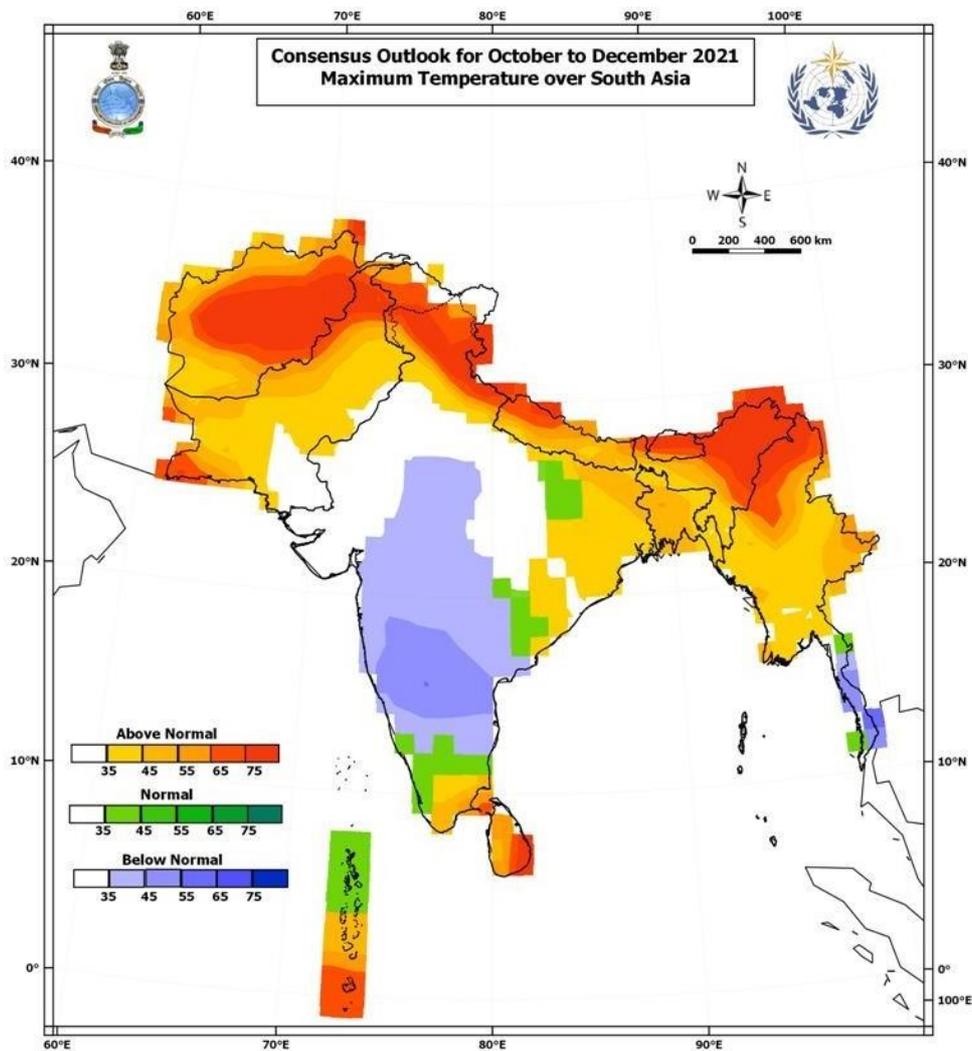
# Regional Outlook



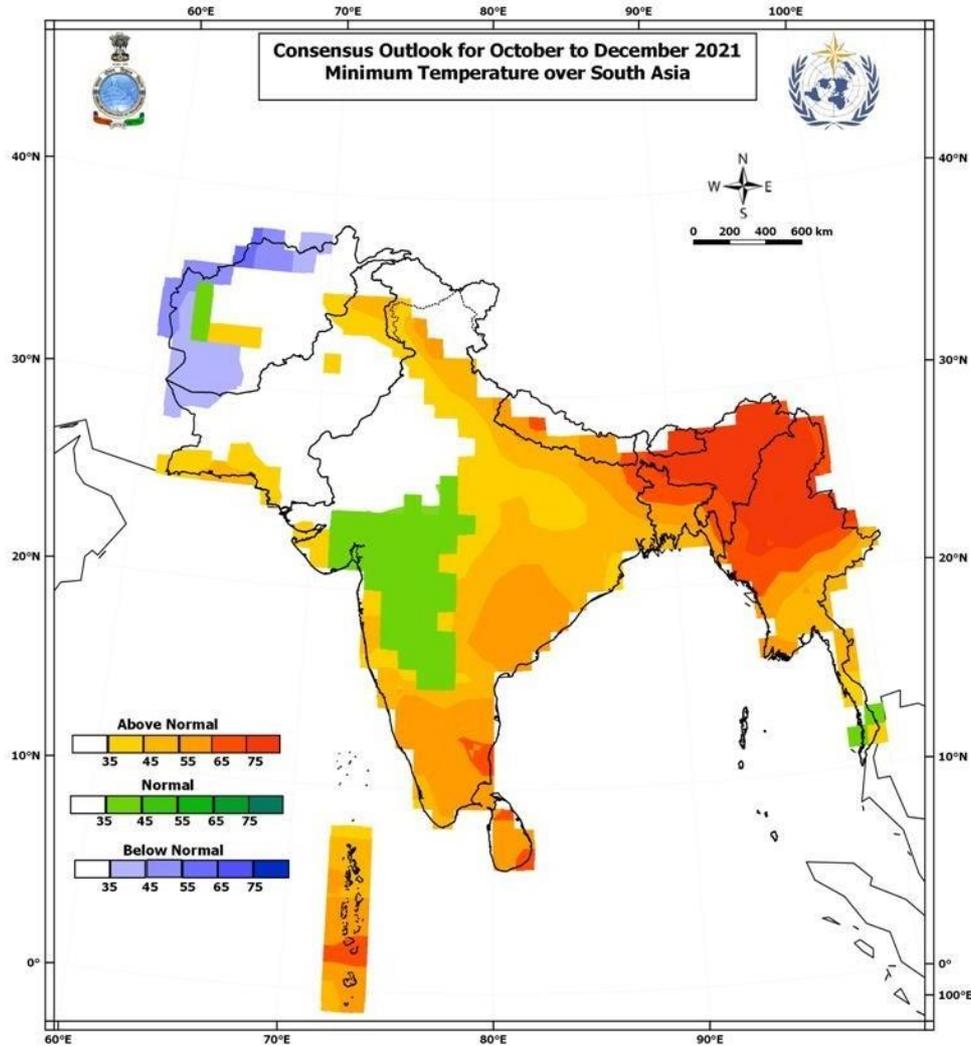
The outlook suggests that during the 2021 October to December (OND) season, below-normal rainfall is likely over the southern parts of the South Asia including most parts of Sri Lanka and Maldives and some parts of southeast India, where climatologically good amount of rainfall is received during the season. Below normal rainfall is also likely over the northwestern and northern parts of South Asia including some areas along the foothills of Himalayas. These areas, however, climatologically receive very low rainfall during October to December season. Above normal rainfall is likely over most parts of central, southeast and northeast regions of South Asia. Remaining parts of the region are likely to experience normal seasonal rainfall or climatological tercile probabilities.

# Regional Outlook

The outlook suggests, during the season, normal to above normal maximum temperatures are likely over most parts of the region except central and peninsular India and also over the southern tip of Myanmar.



# Regional Outlook



During the season, above normal minimum temperatures are likely over most parts of the region except over some parts of west central and extreme northwest regions.



## Advisory for Agriculture Sector

- Boro paddy seedbed should be covered with transparent polythene from evening to 10 AM during cold wave. However, if the cold wave continues for a long time, the seedlings should be covered with polythene all the time day and night and the polythene should be kept partially open on both sides of the seedbed.
- Boro paddy seedbed would be kept 3-5 cm depth of water, in this case it is better to use shallow tube well water. Seedbed water should be taken out in the morning and new water should be given everyday in the evening.
- At least 35-45 days old seedlings should be used for planting in boro paddy. Seedlings should be planted after cold wave is over. If cold wave starts after transplanting, then 3-5 cm depth of water would be kept in the land.
- The accumulated dew from the seedlings should be removed every morning.
- In the early stages of Blast Disease, 2 ml of Azoxystrobin or Pyraclostrobin per liter of water should be mixed and sprayed on the seedbed in the afternoon to control the disease.
- In case of late blight or plague of potato, irrigation should be stopped in the affected land till the disease is controlled. As soon as the disease occurs in one's own field or in the surrounding field, the plant should be sprayed with prescribed fungicide.
- Rover-50WP 0.2% (2 gm per liter of water) should be mixed with water and sprayed 3-4 times in 10-12 days to control alternaria leaf blight disease of mustard.



# Advisory for Health Sector

- To avoid common cold, flu or pneumonia, always wear woollen clothes or multiple layered clothes and try home remedies such as gargling hot water and steam intake to keep cough and cold away.
- To avoid outbreak and contamination, stay at home if any flu occurs.
- To boost immune system, take lot of vegetables. An optimum intake of foods rich in vitamin C & vitamin D would help to strengthen immune system and to keep body healthy.
- Maintain good hygiene, wash hands to keep away the bacteria and viruses to stop spread of diseases i.e. diarrhea and respiratory illness.
- To prevent dehydration during this dry season, drink required amount of pure water every day. As water carry nutrients to the body cells and help balance body fluid.
- To avoid skin diseases for example dry skin, dandruff and cracked heels, skin care should be considered as a major prevention in winter season.
- To prevent Nipah encephalitis avoid taking raw date palm sap.
- To avoid burning from fire, keep away children from fire.
- To prevent dust allergies and other diseases wear mask during passing through any dusty area or locality i.e. under construction road, building or flyover etc.



# Advisory for Water Sector

- Provision need to be kept for stakeholders like local administration for regular maintenances of water infrastructures e.g. embankment, polders, bank revetment (BWDB).
- Excessive use of ground water should be avoided. Maximum utilization of surface water need to be ensured.
- Special attention need to be given on drought prone areas of Bangladesh.
- Adoption of low flow forecasting system in major river basins of Bangladesh is encouraged (N/A). Follow FFWC's 'Dry Bulletin' to monitor hydrological droughts.



# Advisory for Livestock Sector

- Provide adequate water and balanced feed.
- Animals should be vaccinated with an available vaccine to prevent all infectious diseases.
- Animals should be kept indoor.
- Farms have to be dry and clean.
- Farms in a open areas have to be covered with thick cloths/sacks.
- Use straw on the floor of livestock farms and rice husk in poultry farms floor.
- Keep monitoring the temperature of the shed with a thermometer.
- Use room heater or lamp (Kupi) or heat generate bulb in the animal shed.
- Cover the large animal body part with blanket/cloth/sack.
- Prioritize young animals first to protect from extreme weather.



# Annex

Normal Mean Temperature(°C) of NDJF						
	Dhaka	Chittagong	Sylhet	Rajshahi	Khulna	Barisal
November	24	25	23	24	24	25
December	20	21	19	19	20	21
January	18	20	18	18	19	19
February	21	22	20	20	22	22

Normal Rainfall(mm) of NDJF							
	Dhaka	Chittagong	Rajshahi	Sylhet	Rangpur	Khulna	Barisal
November	29	63	15	35	10	32	59
December	10	9	11	10	8	10	10
January	9	7	9	7	11	15	9
February	29	24	18	34	10	35	33

# 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:

**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.

**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.

The need of the Winter Forum was prioritized by the stakeholders at the co-production workshop which was held in 21<sup>st</sup> to 24<sup>th</sup> June, 2021. With a view to provide opportunities for sectoral stakeholders to enhance forecast application and to gather feedback from the users, the winter forum has established besides the Monsoon Forum. These forum will help users to review their forecast-based anticipatory preparedness plans and implementation thereof, and how these could be improved in subsequent season(s). Also their experiences and learnings of seasonal and sub-seasonal preparedness planning and decision-making are expected to build capacities, in due course, for effective long-term adaptation and resilience. It is expected to leverage as a platform for regular dialogue generation and applications of user-driven multi-timescales, multi-hazard risk information. The seasonal outlook of the NDJ will be available at (<https://splus.rimes.int/dashboard/monsoon-outlook> and <http://www.bmd.gov.bd/p/Outlook-for-2019>).

