Monsoon 2022

Monsoon Outlook

Guidance for Decision Makers

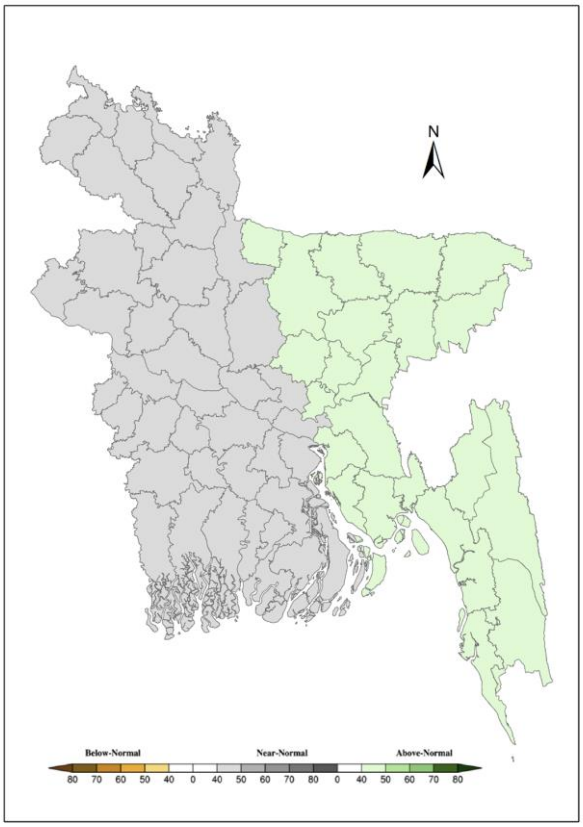
June and JJAS 2022

1

Summary

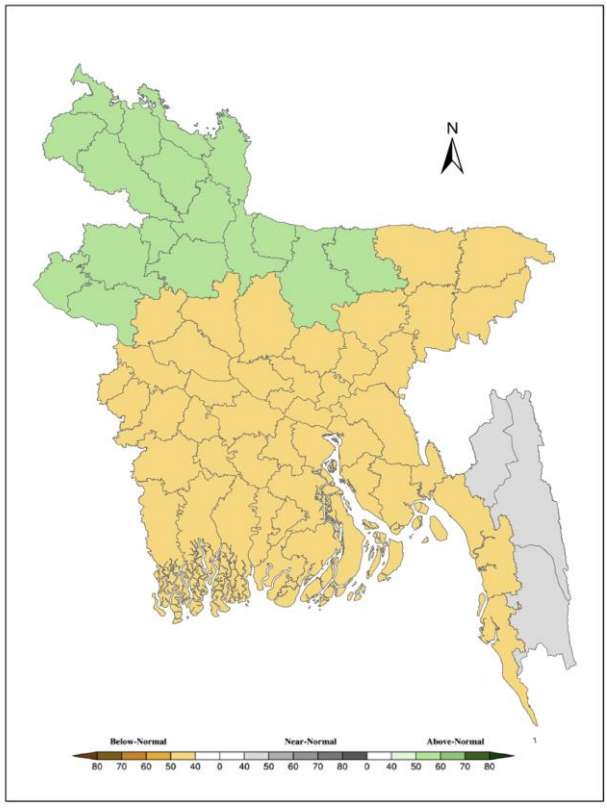
Rainfall (June), 2022

As per the available climate model outputs, above normal (40-50%) rainfall is expected over Chittagong, Mymensingh, Sylhet and eastern part of Dhaka divisions (light green shaded area) in the month of June. Apart from that near normal (50-60%) rainfall is expected to over Western part of Dhaka, Rangpur, Rajshahi, Khulna and Barisal divisions (gray shaded area). Overall, the whole country is expected to receive normal to above normal rainfall in the month of June.

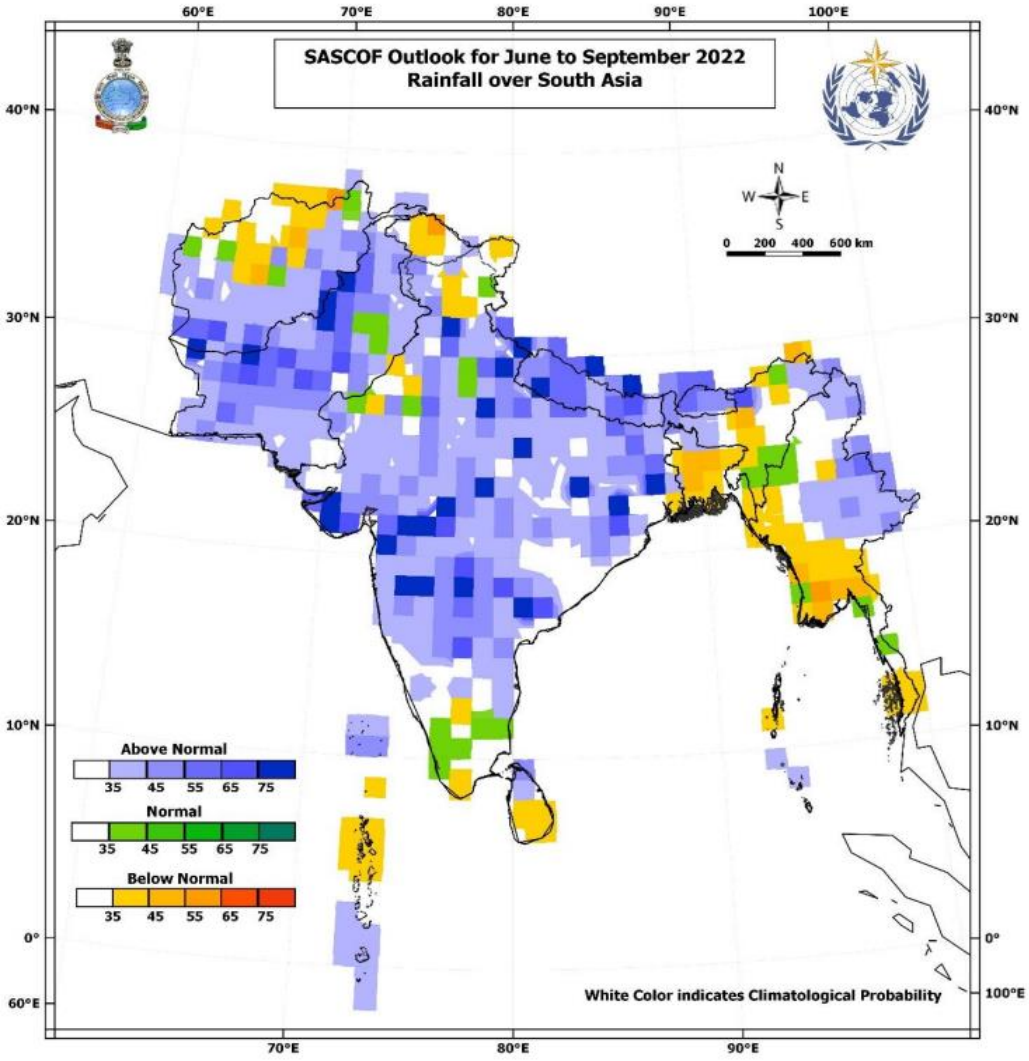


Rainfall (Jun-Jul-Aug-Sep) 2022

As per the available climate model outputs, above normal (50-60%) rainfall is expected over Rangpur division and a few districts of Rajshahi and Mymensingh divisions (green shaded area). And the rest of the divisions (Rajshahi, Dhaka, Khulna, Barisal, and some districts of Chittagong), is expected to receive below normal (40-50%) rainfall. Overall, the whole country is highly likely to be normal to below normal rainfall during this season.



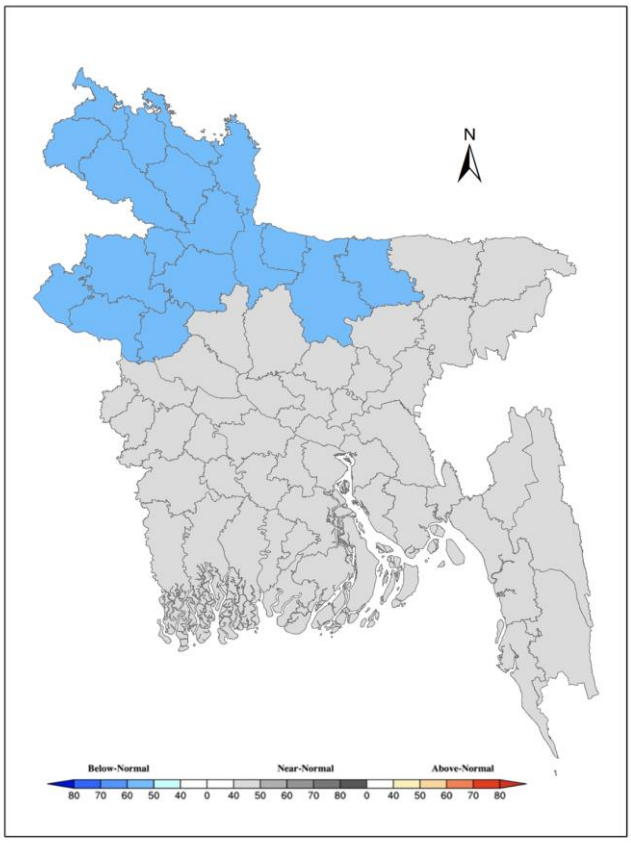
Regional Outlook



Rainfall (JJAS) 2022

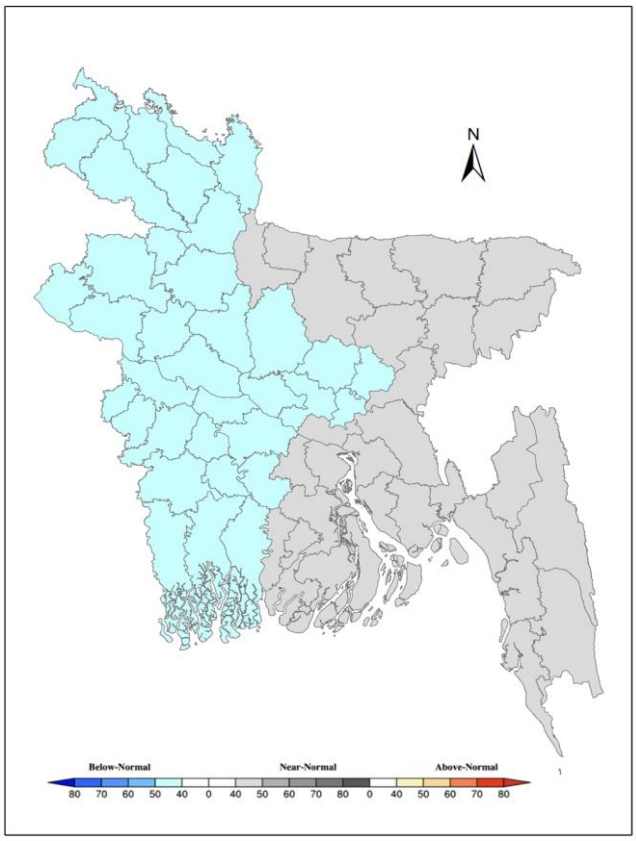
According to the SASCOF forecast, the northwestern part of Bangladesh including the Ganges Basin is likely to receive above normal (60-70%) rainfall during the southwest monsoon season (JJAS). Because of the above normal rainfall during this monsoon period, there is a high likelihood flooding situation in the Ganges Basin.

Summary



Maximum Temperature(JJAS) 2022

Considering the available climate model outputs, it is expected that the maximum temperature of JJAS is likely to be below normal (60-70%) over Rangpur, Rajshahi, and Mymensingh divisions (blue shaded area). Also analyzing the global model outputs, it is likely to be near normal (40-50%) maximum temperature over Mymensingh, Sylhet, Chittagong and Barisal divisions (grey shaded area) during this JJAS season. Overall, the country is highly likely to receive near normal to below normal maximum temperature.



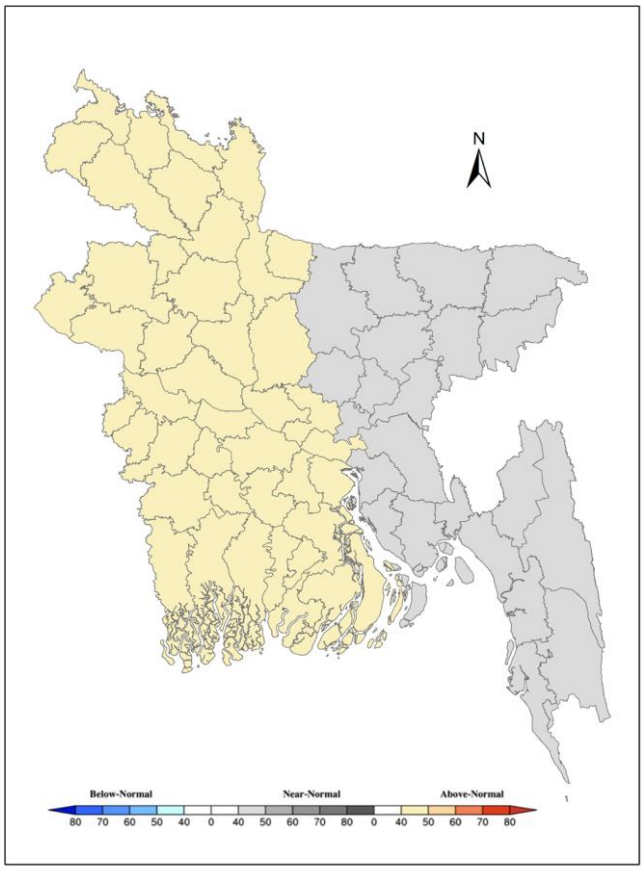
Minimum Temperature(JJAS) 2022

Considering the available climate model outputs, it is expected that the minimum temperature of JJAS is likely to be below normal (40-50%) over Rangpur, Rajshahi, Khulna and western part of Dhaka division (light blue shaded area). Also analyzing the global model outputs, it is likely to be near normal (50-60%) minimum temperature over Mymensingh, Sylhet, Chittagong and Barisal divisions (grey shaded area) during this JJAS season. Overall, the country is highly likely to receive near normal to below normal minimum temperature.

Summary

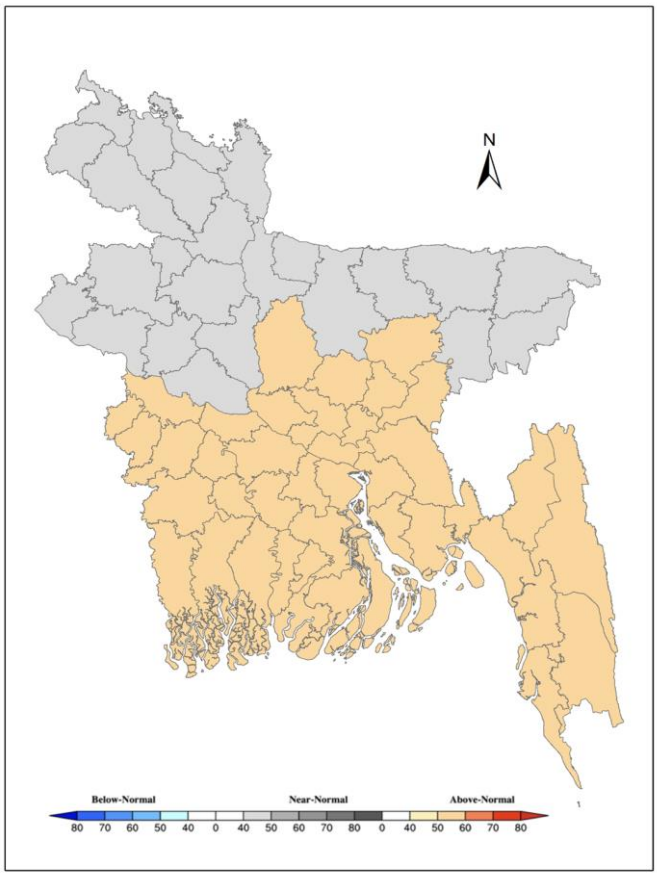
Maximum Temperature (June) 2022

Considering the available climate model outputs, it is expected that the maximum temperature of June is likely to be above normal (40-50%) over Rangpur, Rajshahi, Dhaka and Khulna divisions (light yellow shaded area). Also analyzing the global model outputs, it is likely to be near normal (40-50%) maximum temperature over Mymensingh, Sylhet, Chittagong and Barisal divisions (grey shaded area). Overall, the country is highly likely to receive normal to above normal maximum temperature.



Minimum Temperature (June) 2022

Considering the available climate model outputs, it is expected that the minimum temperature of June is likely to be above normal (50-60%) over Khulna, Barisal, Dhaka and Chittagong divisions (light yellow shaded area). Also analyzing the global model outputs, it is likely to be near normal minimum temperature (40-50%) over Mymensingh, Sylhet, Rajshahi and Rangpur divisions (grey shaded area). Overall, the country is highly likely to receive near normal to above normal minimum temperature.



Sector Specific Seasonal Advisories

Agriculture

- In Rajshahi, Dhaka, Khulna, Barisal, and some districts of Chittagong where bellow normal rainfall is expected, construct mini pond close to the main field so that water harvesting of rainwater can be made and the water may be used during the dry condition

As flood preparation

- Selection of preferred site for seedbed preparation: Well exposed and high land and less chance of submergence due to water.
- Drain out excess water from the crop field. To prevent water stagnation in seed bed, construct channels around the seed bed for drainage.
- Clean the irrigation channel for draining out extra water from the field.
- Raise the bund around the crop field.
- If flood water persists, arrange for floating seedbed or dapog system.
- 20-25 days Seedlings may be used for transplanting. Transplanting may be started in June-July.

Livestock

Flood Preparedness Advisory:

- Make temporary shade for livestock and poultry in a high place or in an embankment with proper drainage arrangements.
- Vaccinate animals against infectious diseases such as Foot and Mouth disease, Black Quarter, Pneumonia, Anthrax etc. For vaccination, contact the local vets or Upazila Livestock Office
- Vaccinate poultry against Avian Pox and typhoid.
- Cultivate maize and other fodder crops in a high place.
- Preserve hay (dried straw) heap, and silage in a high place.

During Flood Advisory:

- Move your livestock to high places/neighbors/relatives' houses/shed in embankment.
- Use hay (dried straw) heap, and silage as feed.
- Avoid feeding flood water to your cattle. Use pure water to avoid many diseases.
- Cattle must be fed dry hay. Wet or rotten straw should be avoided.
- If possible, give 20 to 25g of any branded mineral mixture for boosting the immunity and growth of animals.

Post Flood Advisory:

- After flood water recedes, don’t let the animal graze on new grass as this may cause Anthrax in cattle.
- Feed animals deworming medicine as advised by the Vet.
- Cattle must be fed dry hay. Wet or rotten straw should be avoided.
- Give banana, mango, jackfruit, and fig leaves or mix straw with water hyacinth to the animal to make up for the lack of green grass.
- Vaccinate sheep and goats against PPR
- Repair the livestock and poultry shade.

7

Water and Flood Management

- According the regional outlook, there might be above normal to normal rainfall in Ganges and Brahmaputra basin which implies that there is a high chance of flooding the these basin areas. In the seasonal scale the outlook for flood cannot be specified. The expected intensity, timing and location may vary. To accommodate these scenarios, users should access and understand the periodic warning and advisories issued at short and medium range by both BMD and FFWC for prediction of flood besides seasonal outlook.

- According to seasonal rainfall forecast, from June to September, above normal rainfall is expected in the Northern part of the country. Based on that, Teesta may face occasional rise in water level and cause short term inundation. Northern region playing dominating role for Brahmaputra basin flooding, the North-Western as well as the central part of the country may face above normal flooding while the North-Eastern and South-Eastern part may face normal flooding with occasional flash floods.

Please note that, FFWC issues a daily flood warning bulletin which has 3-5 days lead time with reliable accuracy. The trend forecast of flood is quite satisfactory for 5 days lead time. 10-day medium range forecast information and advisories issued by FFWC-RIMES joint initiatives are very much useful for the agriculture sector during the monsoon. At the same time, users should follow the 15 days discharge forecast information in the 3 major rivers which will provide information to the users on availability of surface water and need for supplementary irrigation. Please visit www.ffwc.gov.bd for the latest information on flood.

Health

1. Vector borne diseases:

- Vector borne diseases like dengue, chikungunyea may increases in rainy season.
- To avoid these illness, it is advised to destroy possible *ades* mosquito (dengue/ chikungunyea carrying) breeding grounds like old tires, discarded coconut shell or clay pots etc.
- Drain away clean stagnant water and to keep clean around the homes or offices
- Change stagnant clean water of flower vessels in every three days at least
- Wear long sleeve shirts and pants or use repellents for self-protection from mosquito bite
- Regular fogging or spraying to destroy mosquito rest/breeding places
- Avoidance of throwing plastic products or garbage here and there

2. Water & food borne diseases:

Water & food borne diseases such as diarrhea, cholera, hepatitis A and typhoid fever increases in monsoon.

- It is advised to drink clean and safe water
- Avoidance of unhygienic street food
- Keep food away from insects and rats by cover
- Wash hands with soap and clean water after using toilet and before eating
- Proper wash of foods and boil drinking water

3. Avoidance of crowded place and keep distance from people who are coughing or suspected to be sick with influenza.

4. Fungal infection may increases in skin and scalp. Keep skin dry and frequent shampooing the hair would prevent fungal infection.

5. Consult with health professionals if any of the above mentioned diseases severity increases

Annex

Division wise Climatology of Monthly Rainfall (mm)

Division	June	July	August	September
Dhaka	345	364	345	277
Chittagong	590	720	590	312
Barisal	482	518	482	315
Mymensingh	394	436	394	335
Khulna	298	340	298	276
Rangpur	396	416	396	407
Sylhet	634	579	634	407
Rajshahi	299	354	299	296

Climatology of Monthly Mean Temperature (°C)

Division	June	July	August	September
Dhaka	29.41	29.07	29.26	29.15
Chittagong	28.64	28.21	28.43	28.57
Barisal	29.14	28.55	28.74	28.76
Mymensingh	28.69	28.815	29.03	28.71
Khulna	30.04	29.34	29.43	29.21
Rangpur	29.05	29.19	29.42	28.81
Sylhet	28.32	28.78	28.94	28.58
Rajshahi	29.81	29.41	29.6	29.26

Interpretation of climate outlooks

In general, the climate outlooks are presented in two different way. 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 ±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.

The Monsoon Forum is an established institutional mechanism between the Bangladesh Meteorological Department (BMD) and other mandated warning institutions in the country like the Flood Forecasting and Warning Center (FFWC), and their stakeholder sectoral institutions, for regular dialogue vis-à-vis generation and applications of user-driven multi-timescales, multi-hazard risk information. Through an iterative process that is built on the monsoon for ensuring sustainability, the Monsoon Forum provides opportunities for sectoral stakeholders to seasonally review their forecast-based, anticipatory preparedness plans and implementation thereof, and how these could be improved in subsequent season(s); and for BMD and FFWC to constantly evolve/tailor forecasts/warnings to suit user requirements.