The Third Pole Climate Forum (TPCF-3) and Meeting of The Third Pole Regional Climate Center Network (TPRCC-Network) Task Team

3 – 5 June 2025
New Delhi, India

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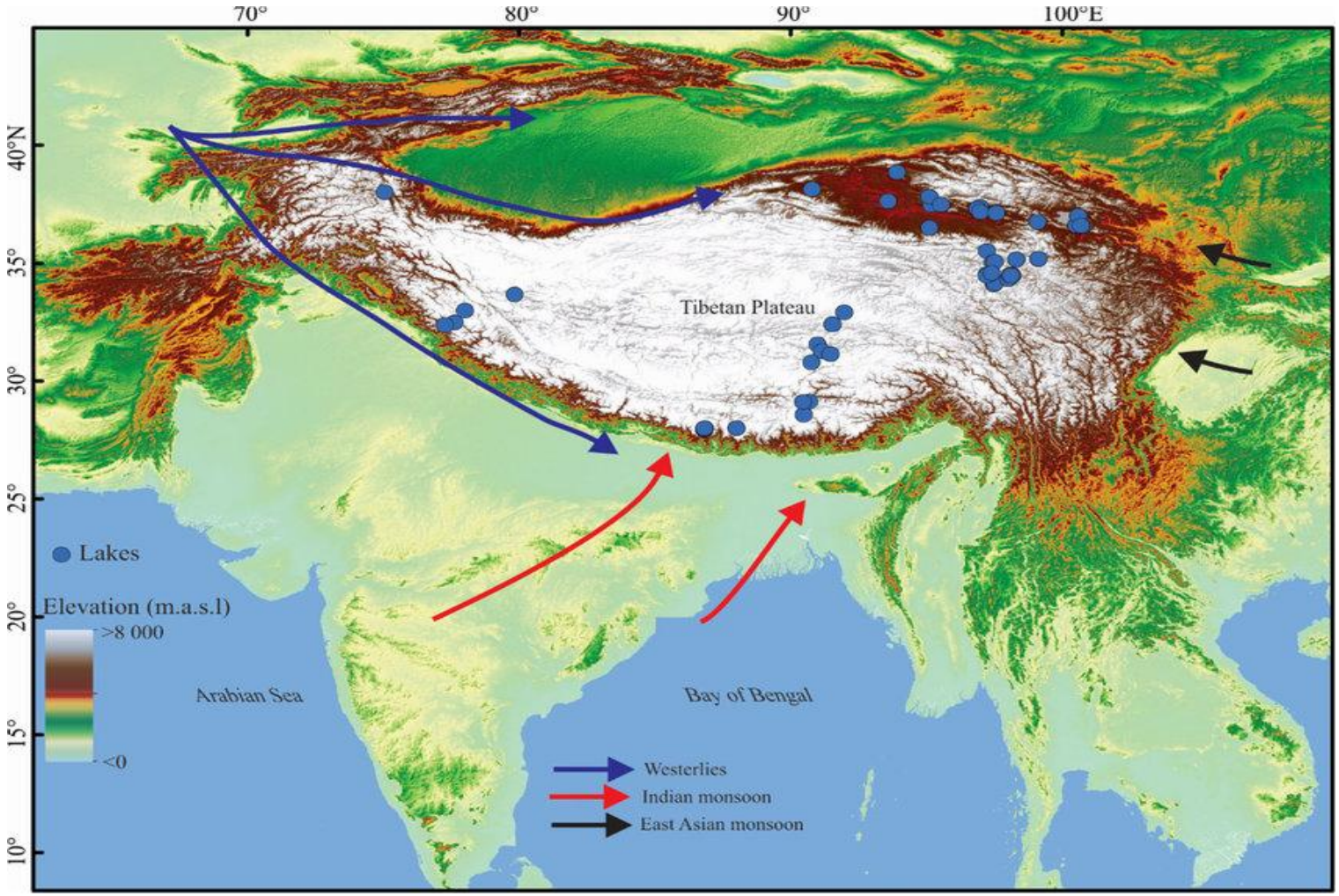
Presentation on Climate of Bangladesh

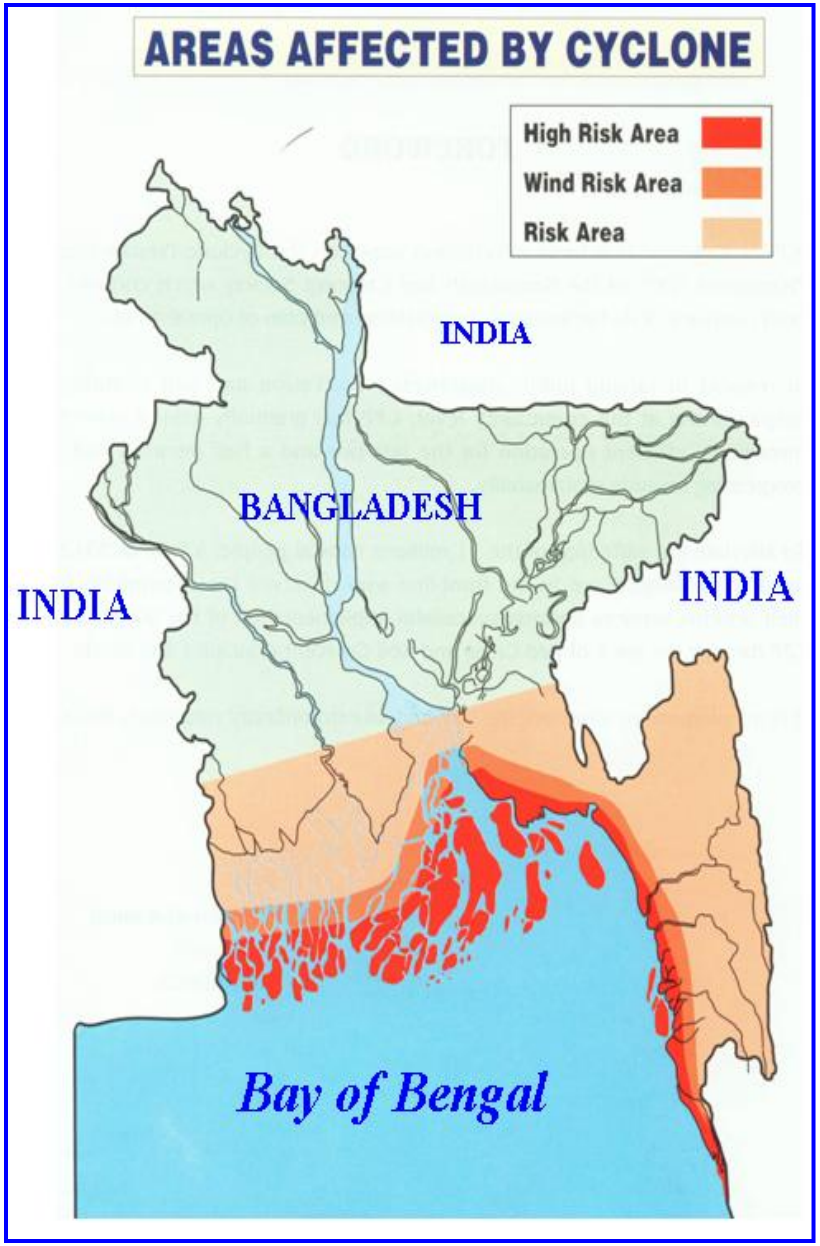
1. The current climate conditions and
2. National outlook for JJAS 2025 in Bangladesh

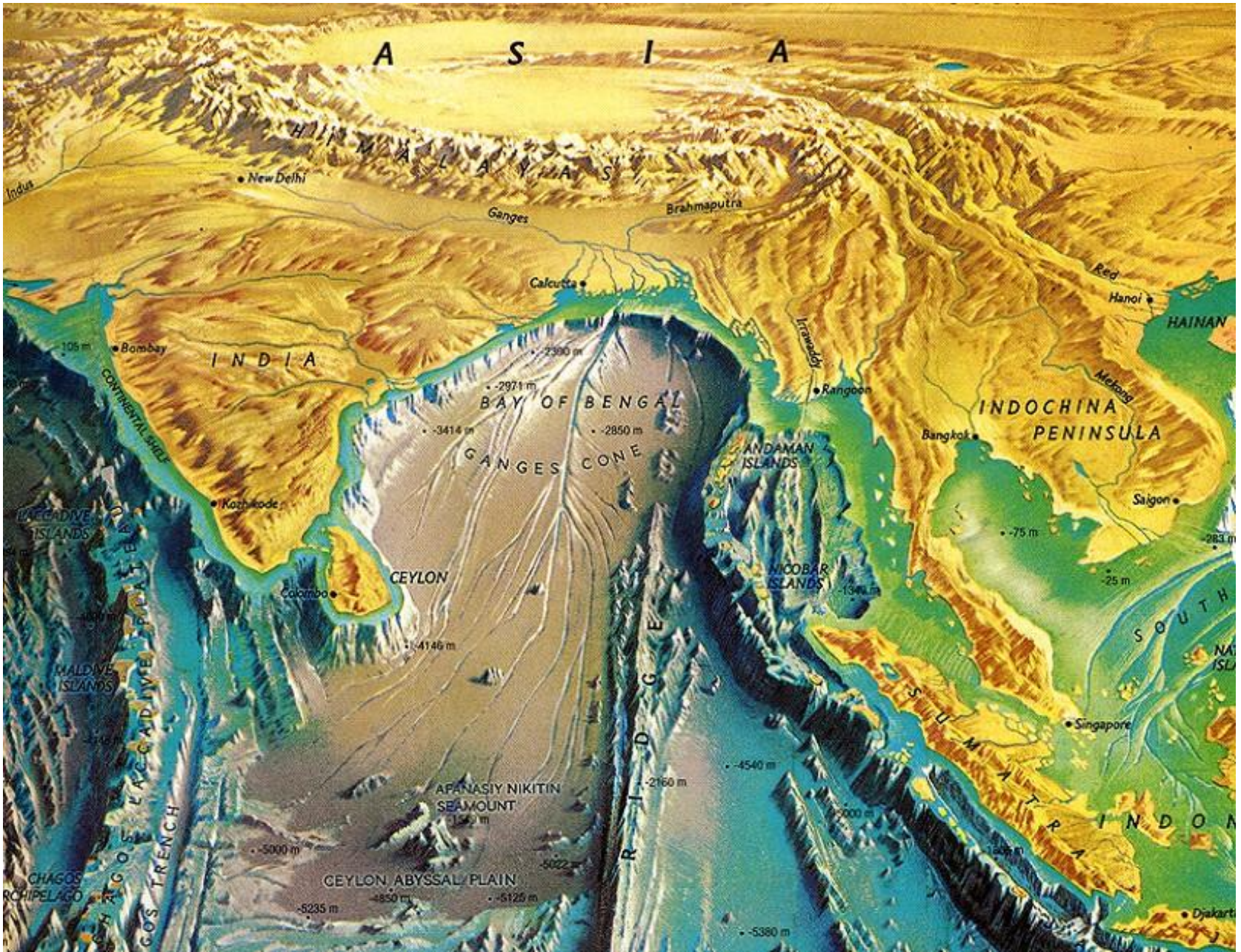
Bangladesh (South- East Asia):

- **Location** - LAT= 21^0 - 26^0 N & LONG= 88^0 - 93^0E
- Area: About 1, 48,875 Sq km, A small but densely populated country. Its population growth is high.
-
- Population: About 1,70,00 00 00 Million
- Geographical feature: Tropical country, plane low land and have many rivers, of them five rivers are big. Also there have some small hills.
- Economic Activity: Mainly agriculture. Also have some industry, forest, fishing hatchery, dairy and poultry firm etc.

Location Map of Third pole Region




AREAS AFFECTED BY CYCLONE
High Risk Area
Wind Risk Area
Risk Area
INDIA
BANGLADESH
INDIA
INDIA
Bay of Bengal


A S I A
HIMALAYAS
Indus
New Delhi
Ganges
Brahmaputra
Calcutta
Red
Hanoi
HAINAN
Irrawaddy
Rangoon
Mekong
INDIA
Bombay
105 m
CONTINENTAL SHELF
-2990 m
-2971 m
BAY OF BENGAL
-3414 m
-2850 m
GANGES CONE
ANDAMAN ISLANDS
INDOCHINA PENINSULA
Bangkok
Saigon
-75 m
-283 m
-25 m
Kozhikode
LACCADIVE ISLANDS
CEYLON
Colombo
NICOBAR ISLANDS
-4146 m
MALDIVE ISLANDS
SOUTH
Singapore
-4540 m
-2160 m
APANASIY NIKITIN SEAMOUNT
SUMATRA
INDON
-5000 m
-5022 m
CEYLON ABYSSAL PLAIN
-4850 m
-5125 m
-5235 m
CHAGOS ARCHIPELAGO
CHAGOS TRENCH
-5380 m
Djakarta

Climate of Bangladesh

- **Bangladesh is the most disaster prone area in the world.**
- **Most of these disasters are meteorological and hydrological in nature. Such as-**
  - **Cyclone & associated Storm Surge**
  - **Nor'westers/Tornadoes**
  - **Drought.**
  - **Floods.**
  - **River Erosion**
  - **Heat Waves and Cold Waves**
  - **Earthquakes and Tsunami**
  - **Land slide**

MONSOON OF BANGLADESH

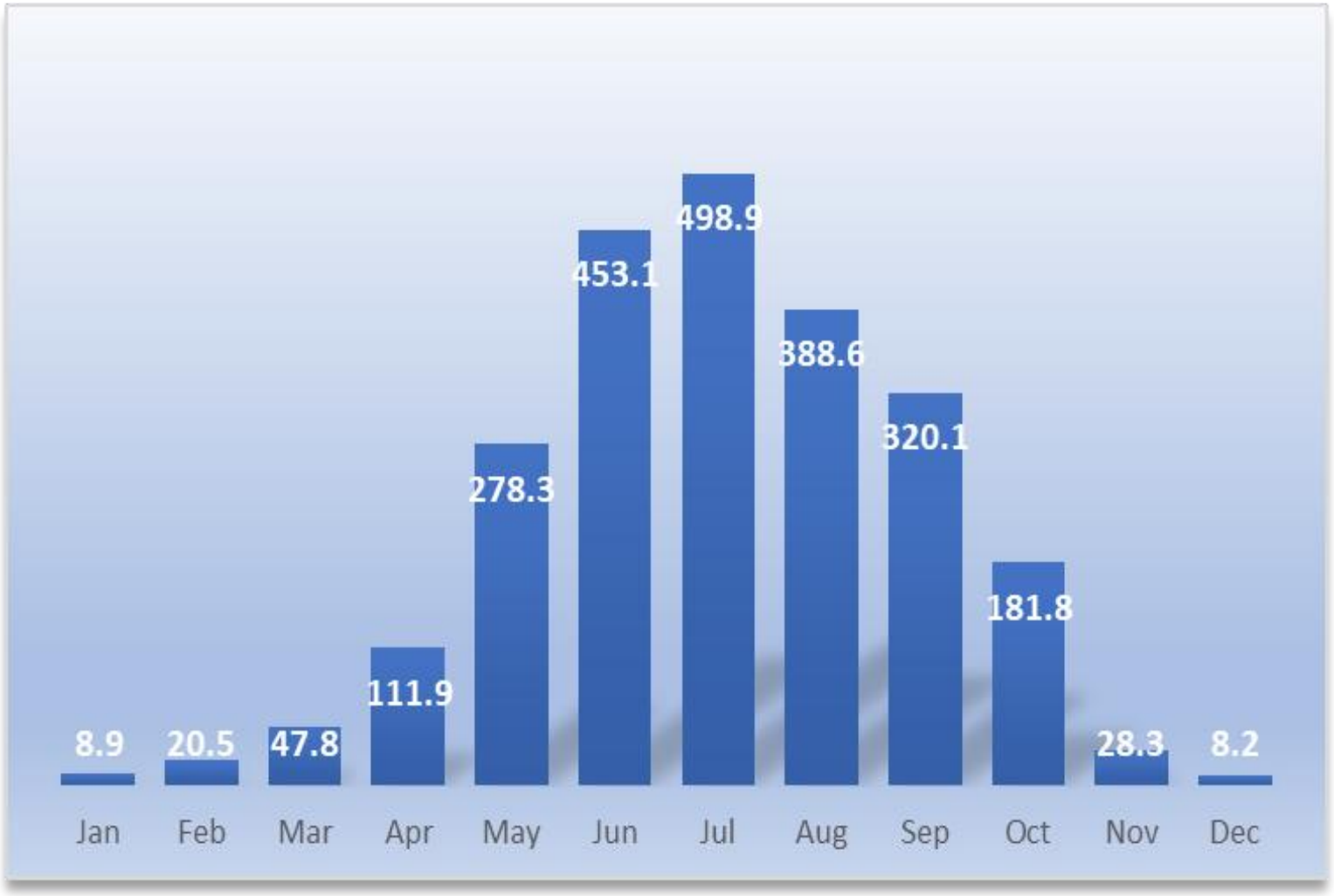
- **Bangladesh is in the sub-tropical monsoon climate zone based on Pressure, rainfall and temperature. The climate of this country can be described under the following four seasons :-**

a. **Winter or North-East Monsoon : This season comprises of December, January and February : Average rain fall is about 1.% of the total annual rainfall. Mean temp. is 18-21^{0}C**

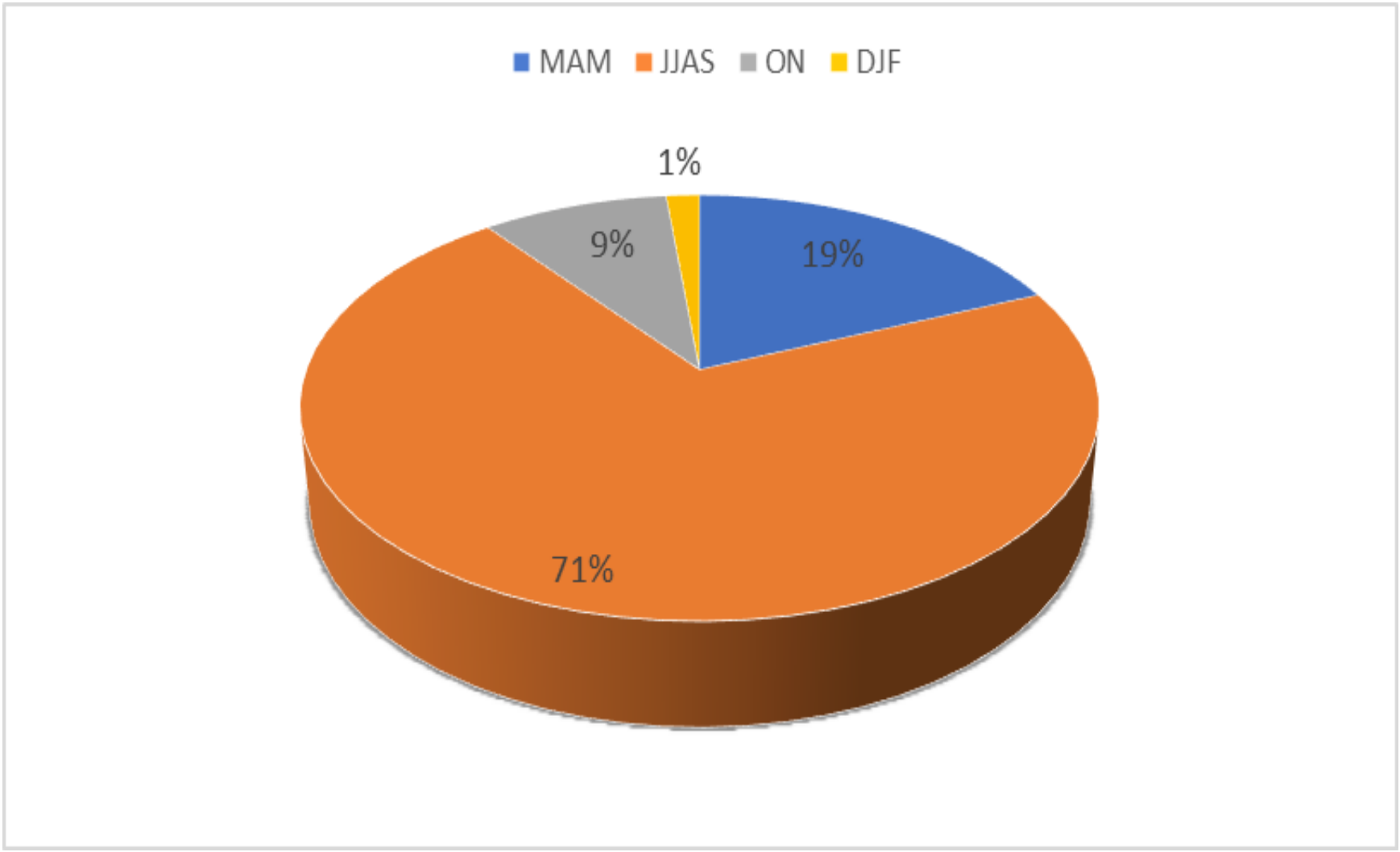
- **b. Summer or Pre-Monsoon : Consists of March, April and May. Mean temp. is 23-30 deg. Celsius and average rain fall is 19%.**
- **c. South-West Monsoon or Monsoon : June, July, August and September are combined. Average rain fall of this season is about 71% of the total annual rainfall.**
- **d. Autumn or Post-Monsoon : October and November and average rain fall receives in this season is about 9%.**

Current Climate of Bangladesh (1991 -2020)

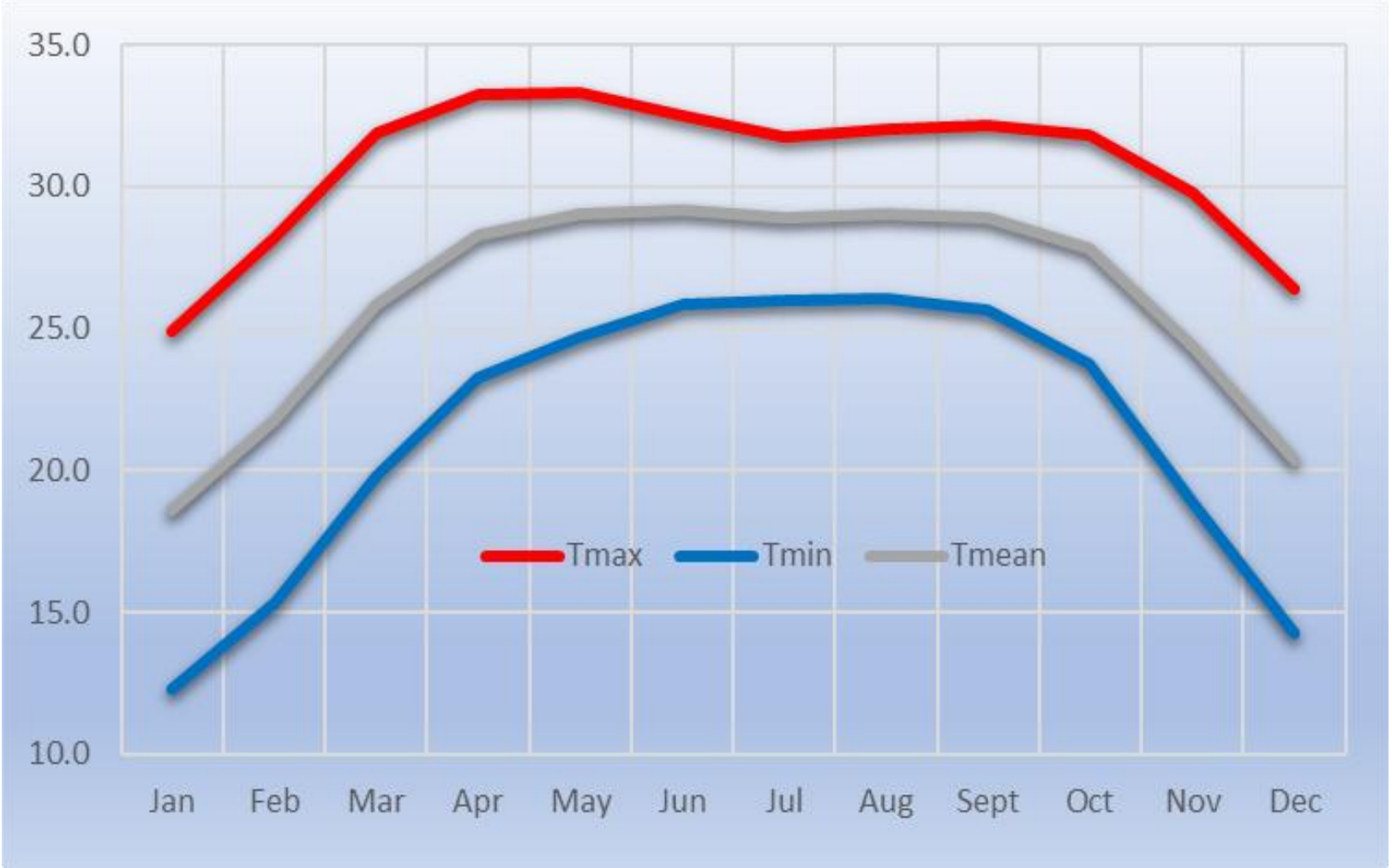
Monthly Distribution of Normal Rainfall in BD



Seasonal Distribution of Normal Rainfall



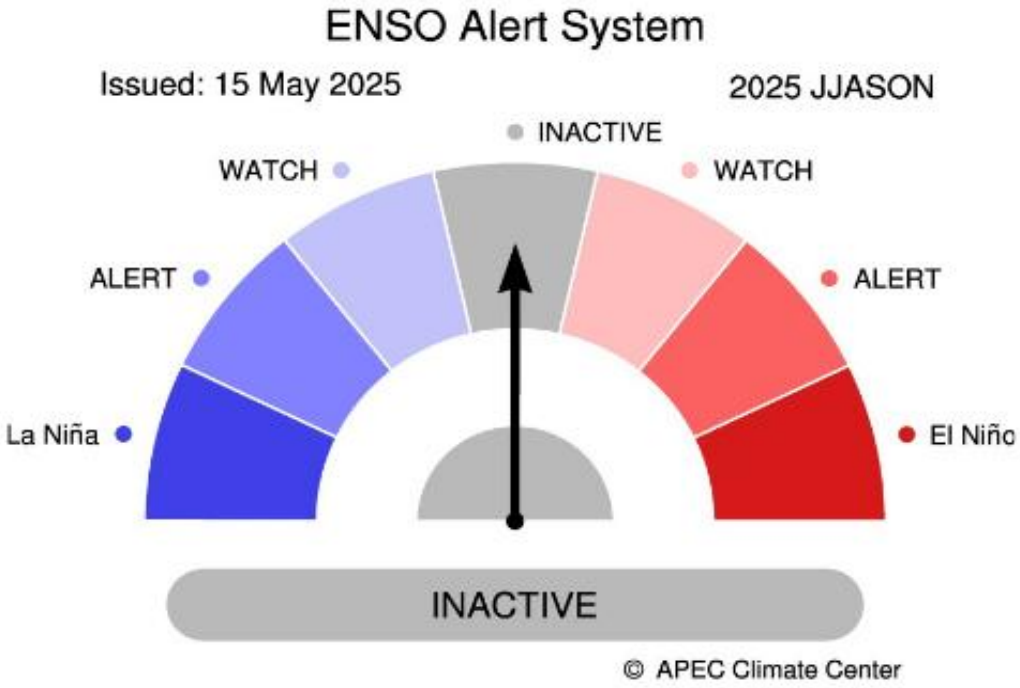
Monthly Distribution of Normal Temperature

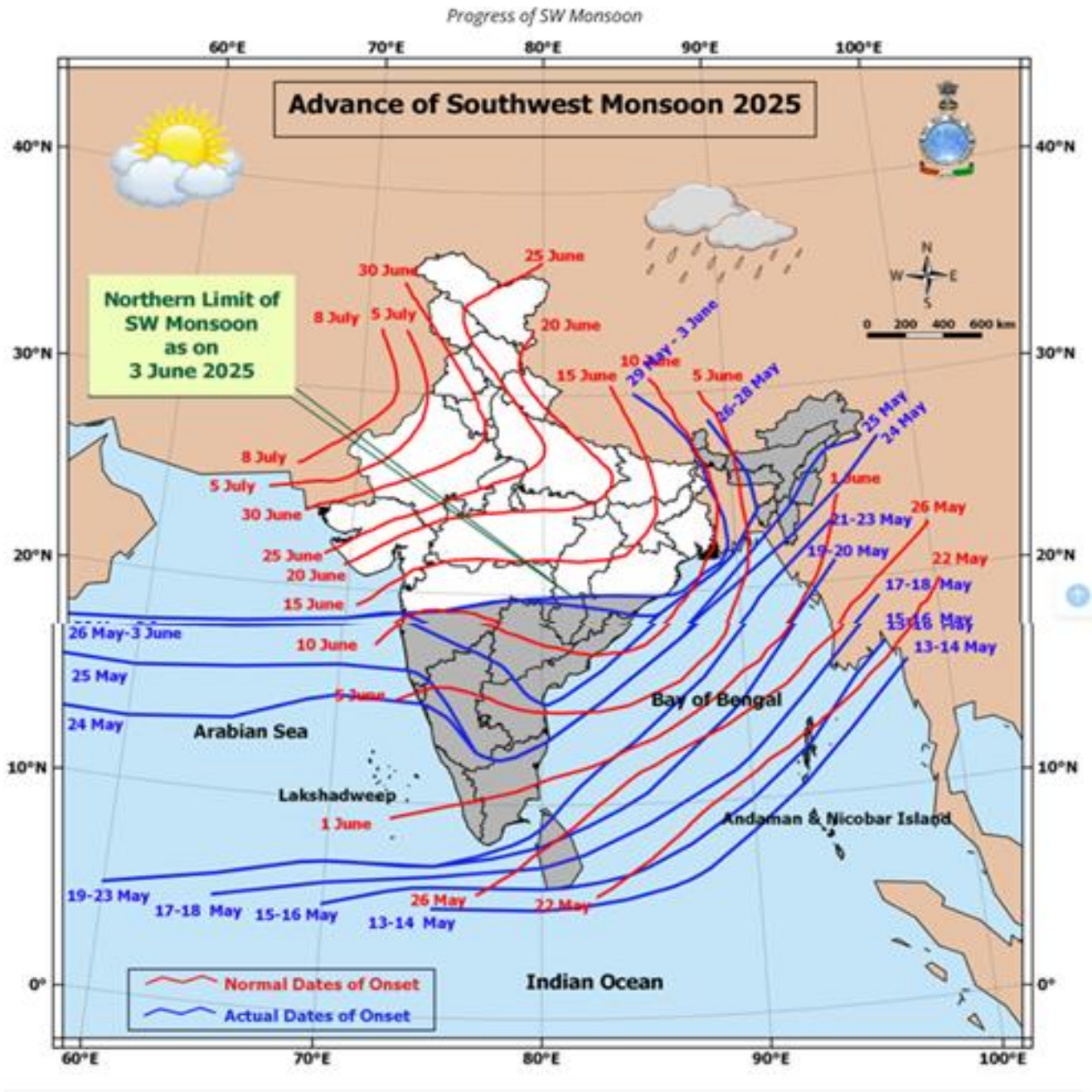


1. National outlook for JJAS 2025 in Bangladesh.

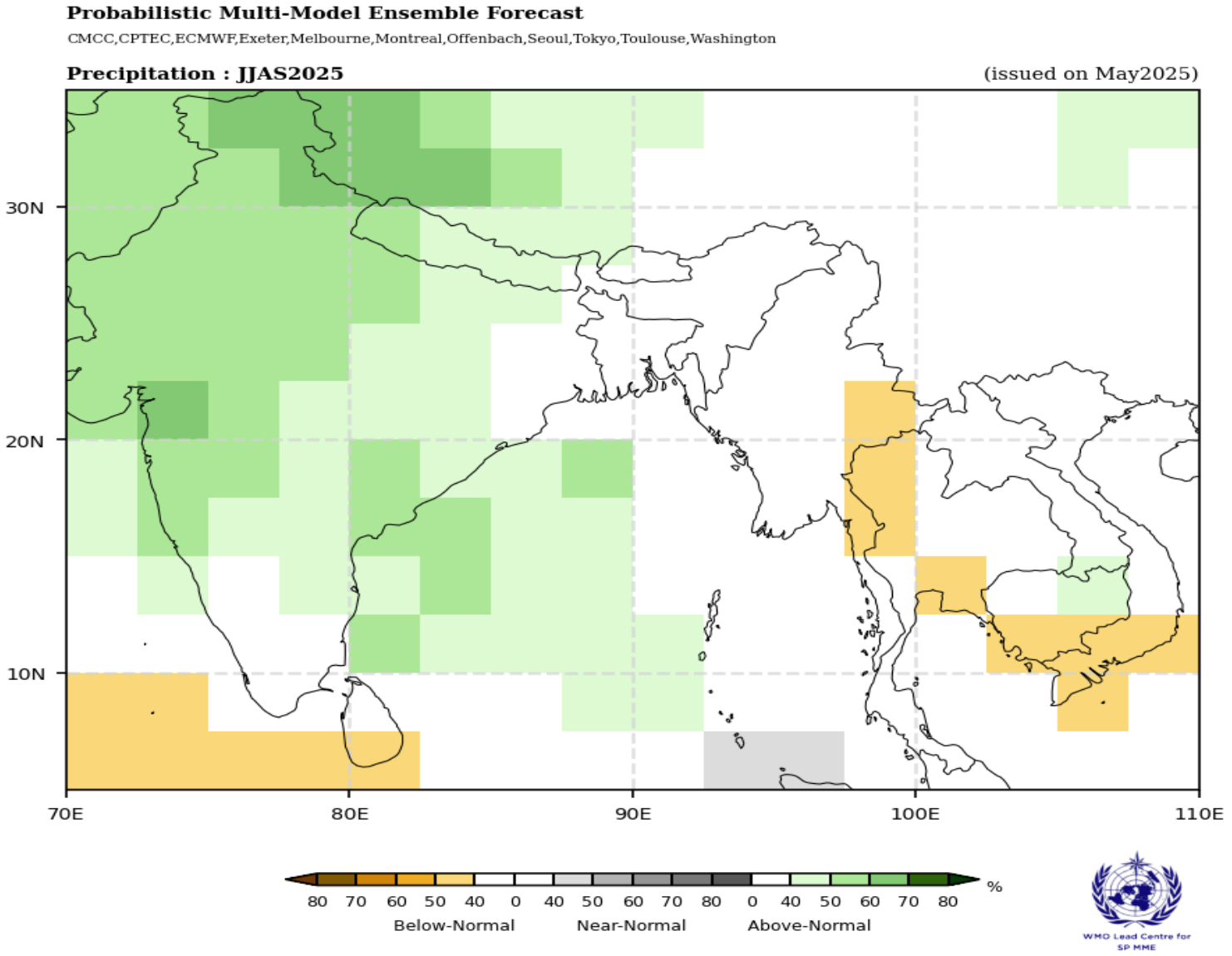
Outlook for Southwest Monsoon 2025

SST and ENSO Forecast




Progress of SW Monsoon
Advance of Southwest Monsoon 2025
Northern Limit of SW Monsoon as on 3 June 2025
60°E
70°E
80°E
90°E
100°E
40°N
30°N
20°N
10°N
0°
0 200 400 600 km
30 June
25 June
8 July
5 July
20 June
15 June
10 June
5 June
1 June
29 May - 3 June
26-28 May
25 May
24 May
21-23 May
19-20 May
17-18 May
15-16 May
13-14 May
26 May
22 May
26 May-3 June
Arabian Sea
Bay of Bengal
Lakshadweep
Andaman & Nicobar Island
Indian Ocean
Normal Dates of Onset
Actual Dates of Onset

National Outlook for JJAS 2025 Southwest Monsoon

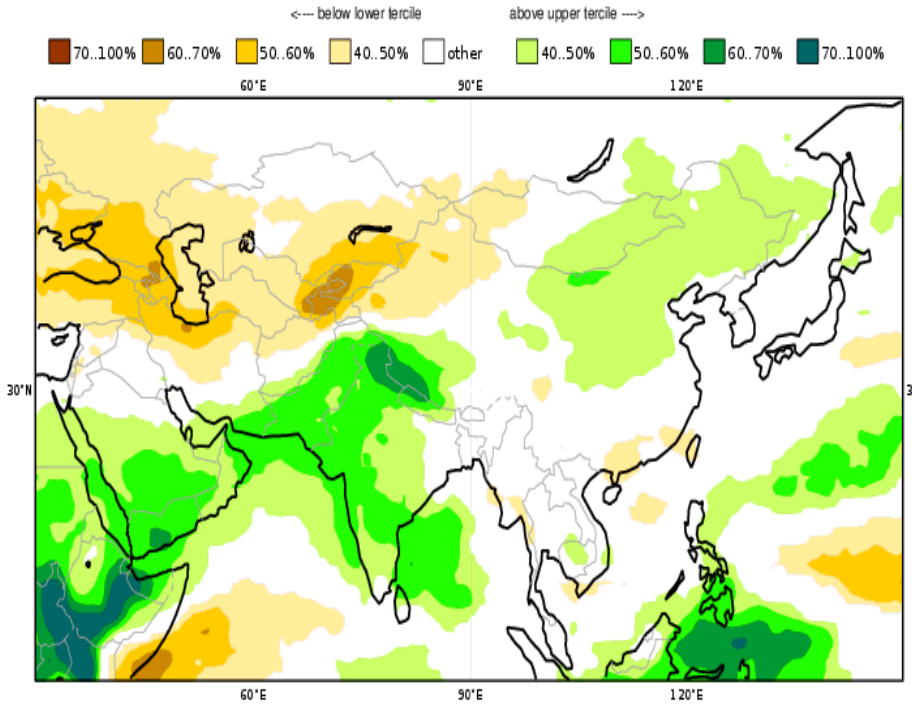


C3S multi-system seasonal forecast ECMWF/Met Office/Météo-France/CMCC/DWD/NCEP/JMA/ECCC/BC

Prob(most likely category of precipitation) JJA 20

Nominal forecast start: 01/05/25

Unweighted mean



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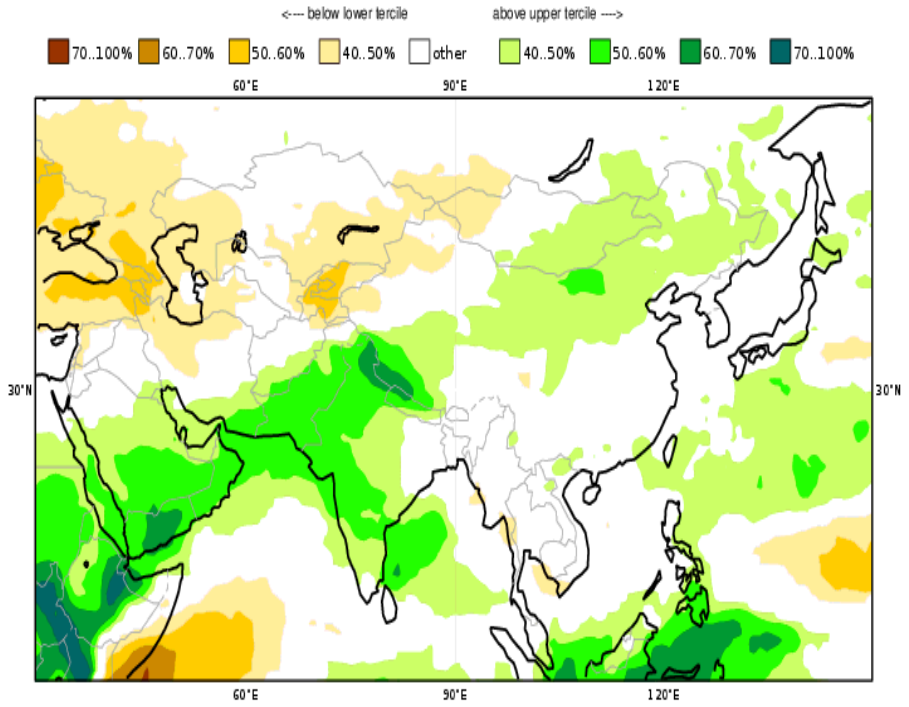

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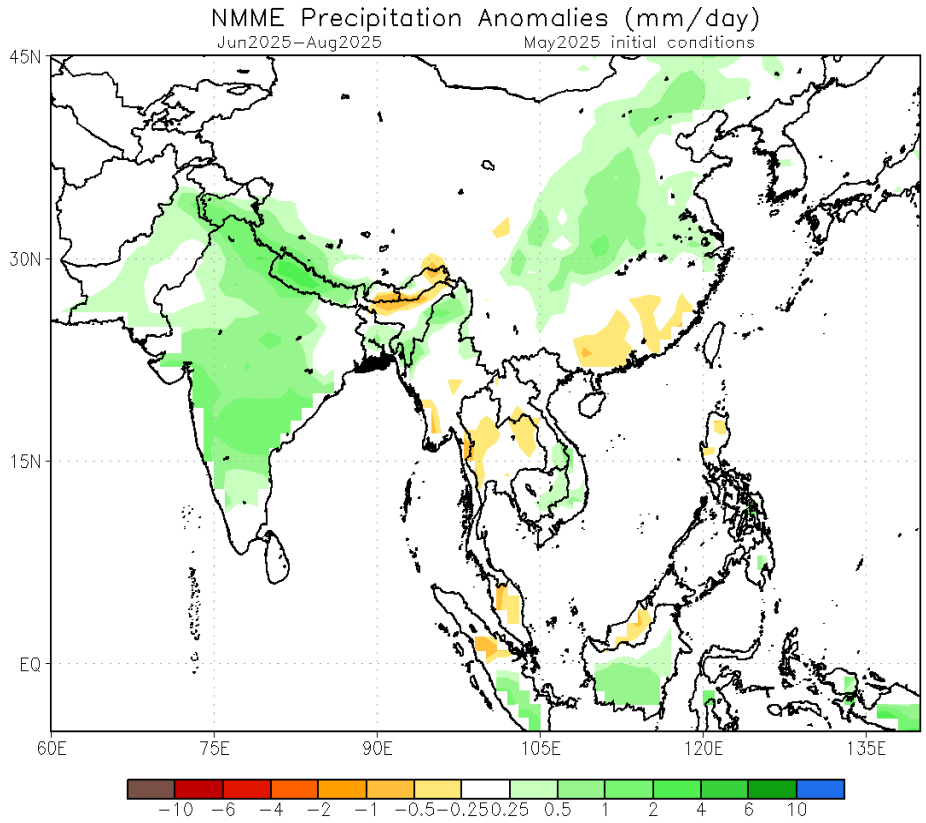
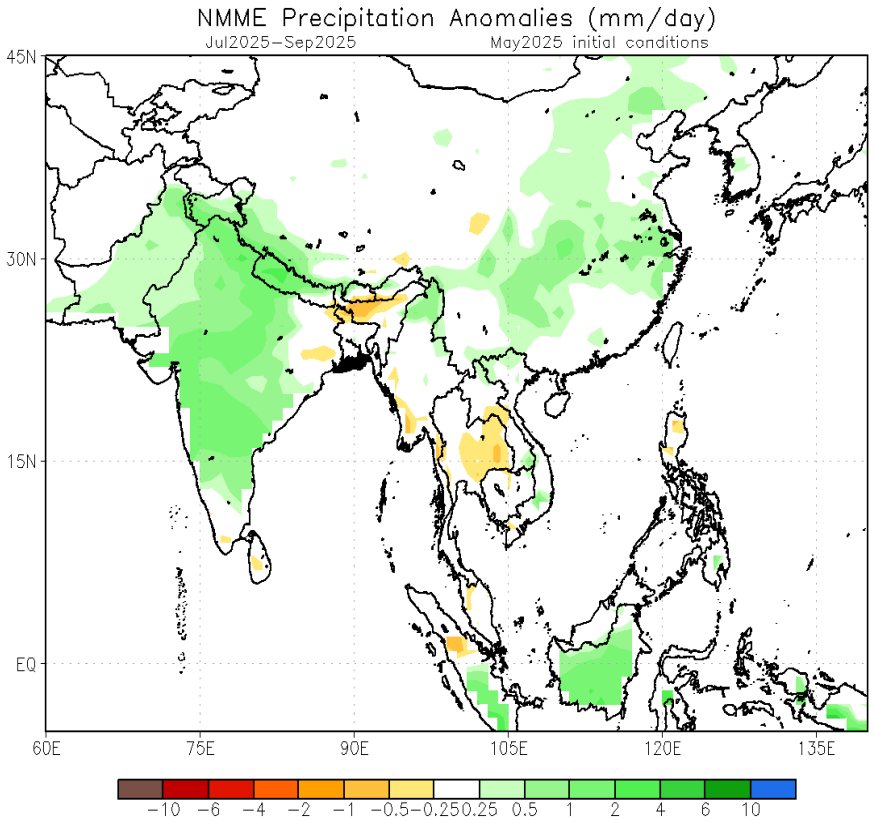

NMME Precipitation Anomalies (mm/day)
Jun2025–Aug2025
May2025 initial conditions
45N
30N
15N
EQ
60E
75E
90E
105E
120E
135E
−10 −6 −4 −2 −1 −0.5 −0.25 0.25 0.5 1 2 4 6 10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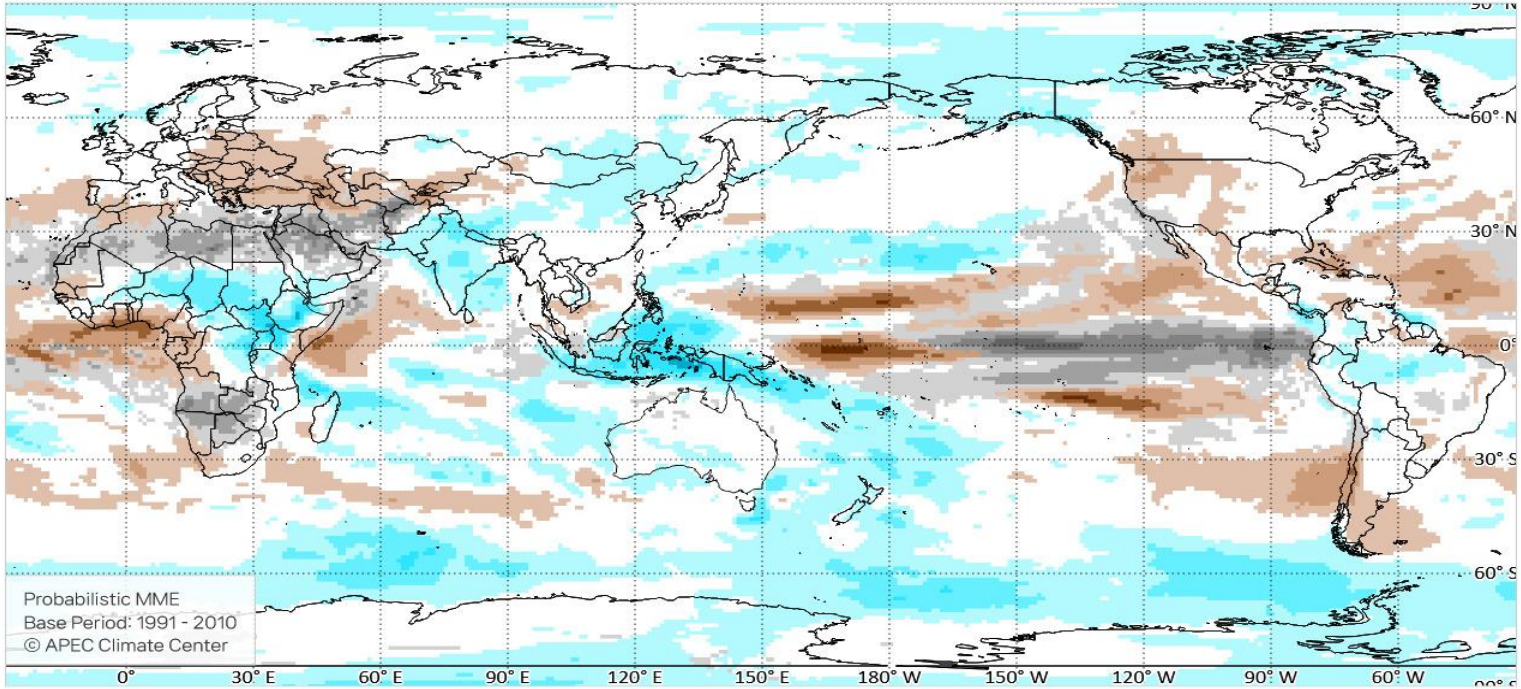
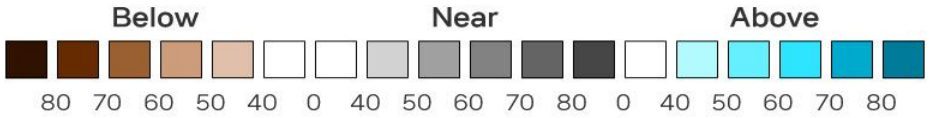
−10 −6 −4 −2 −1 −0.5 −0.25 0.25 0.5 1 2 4 6 10

Precipitation for June 2025-August 2025

Issued: 15 May 2025

Unit: % (Probability)

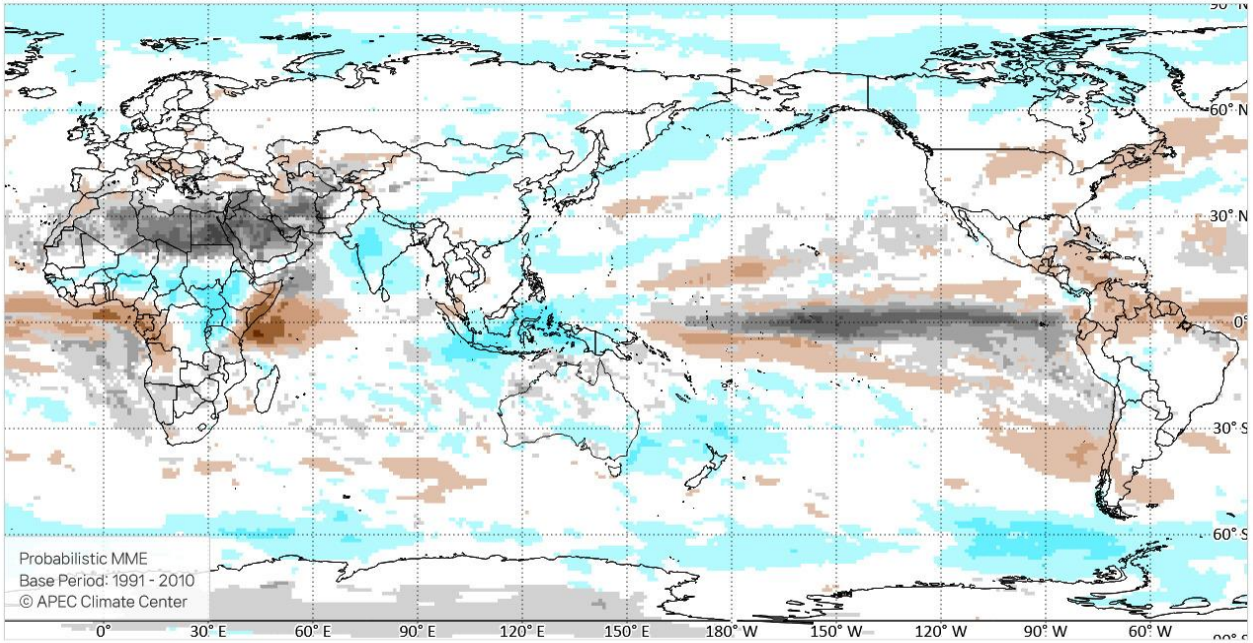


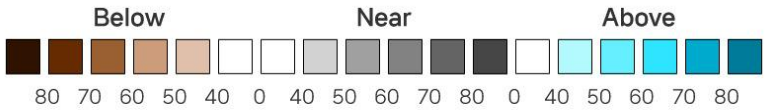


Precipitation for September 2025

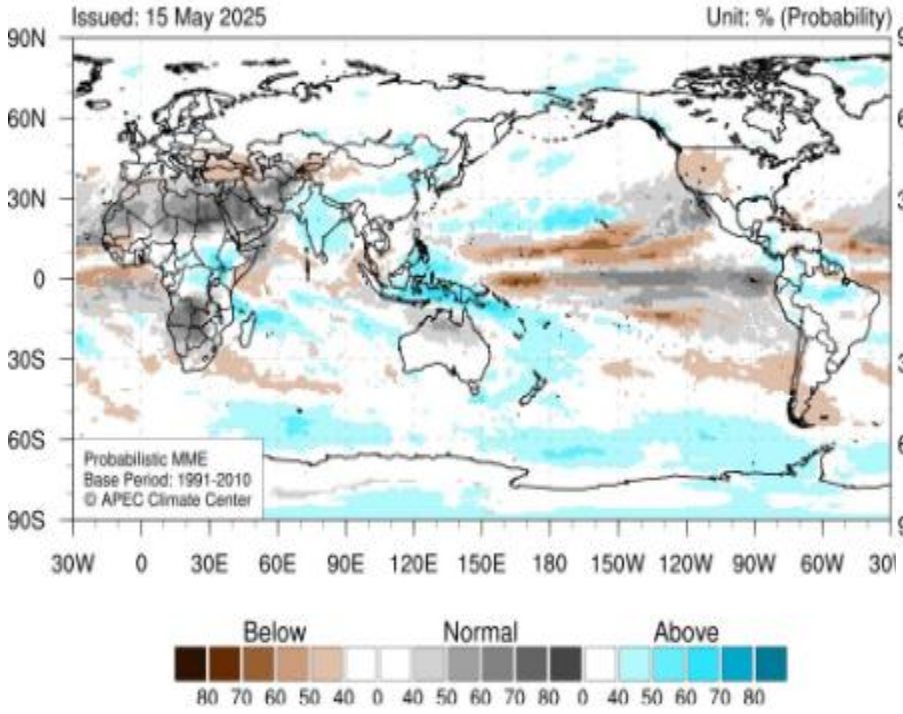
Issued: 15 May 2025

Unit: % (Probability)

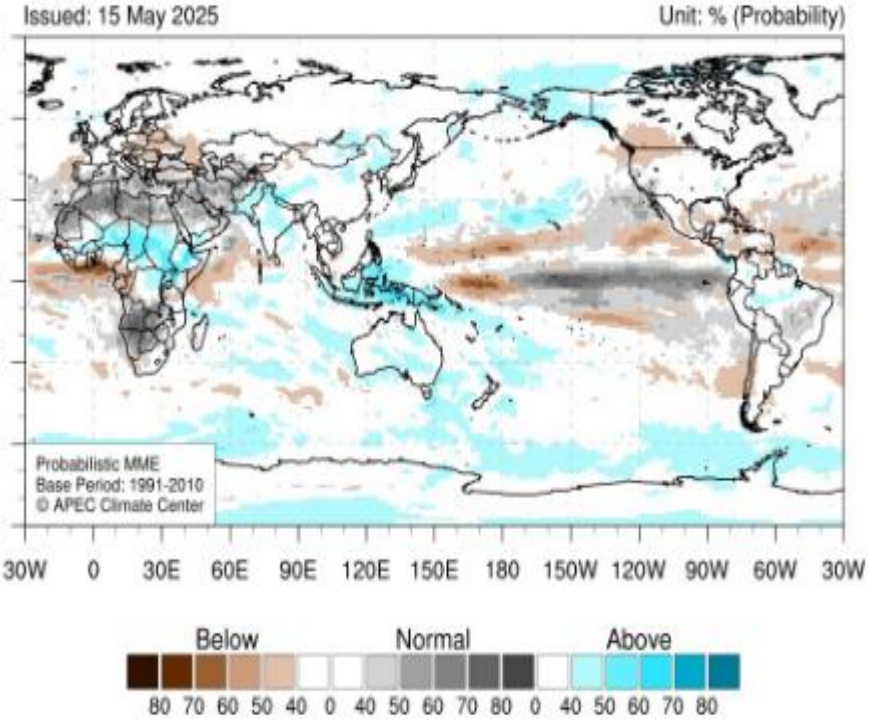




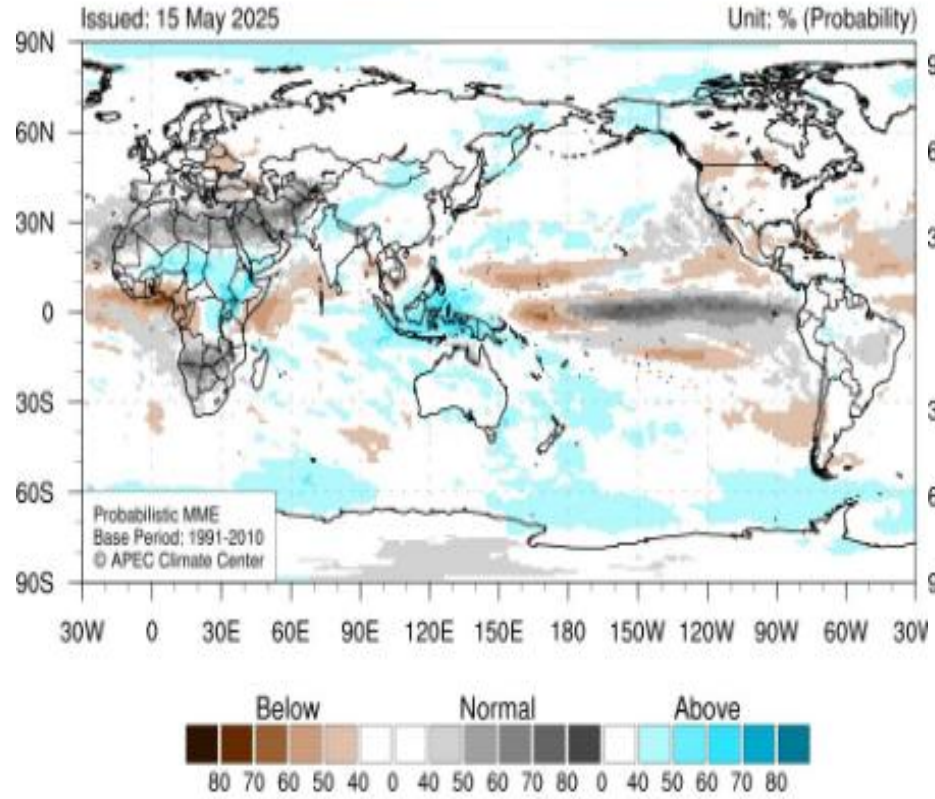
Precipitation for June 2025



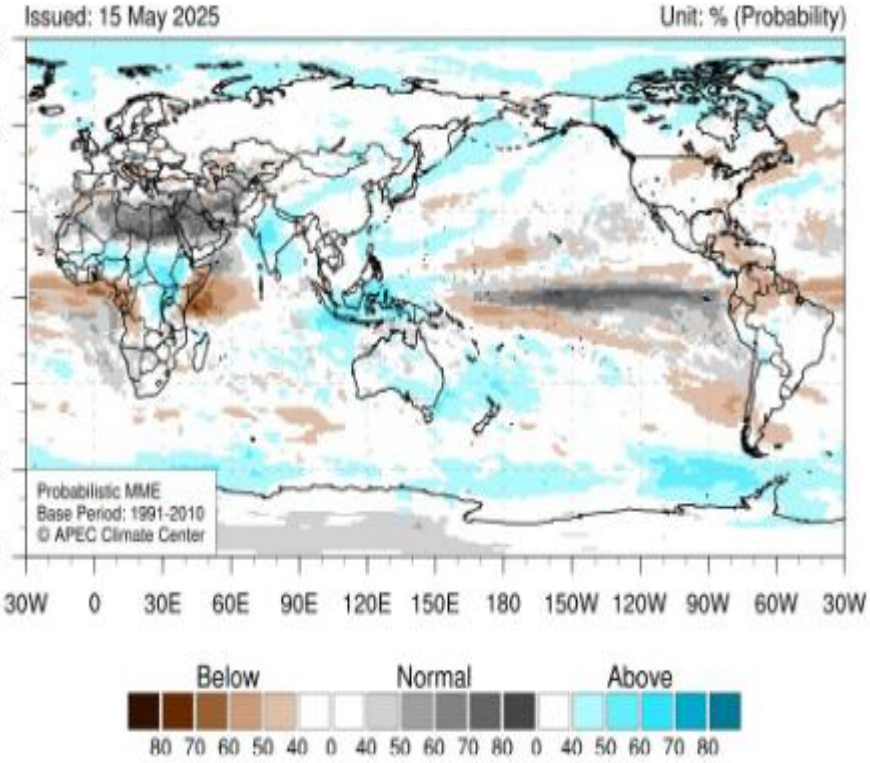
Precipitation for July 2025



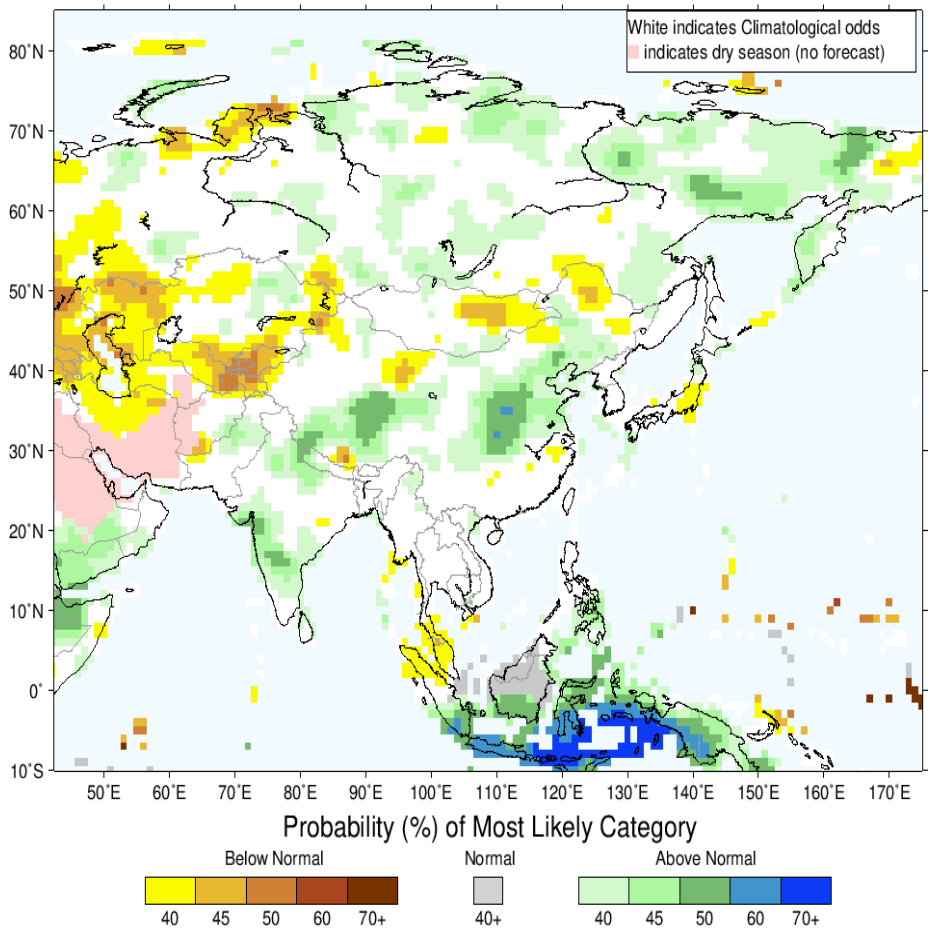
Precipitation for August 2025



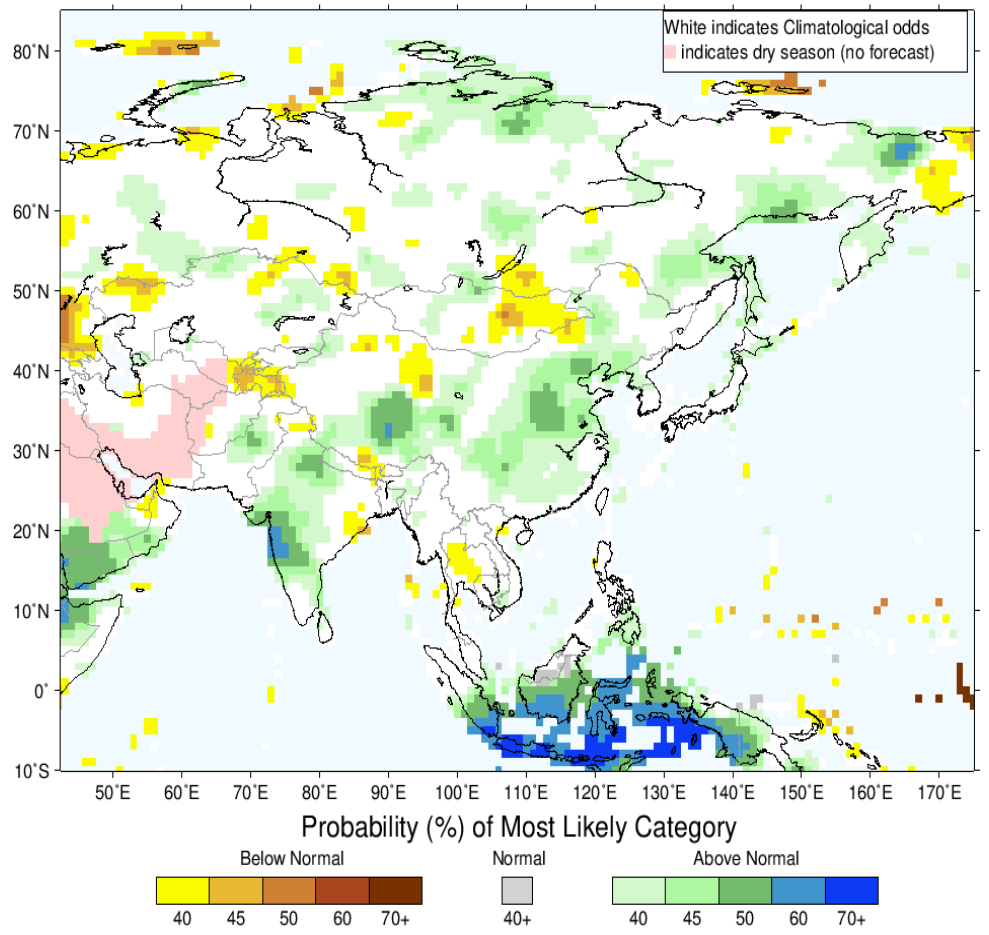
Precipitation for September 2025



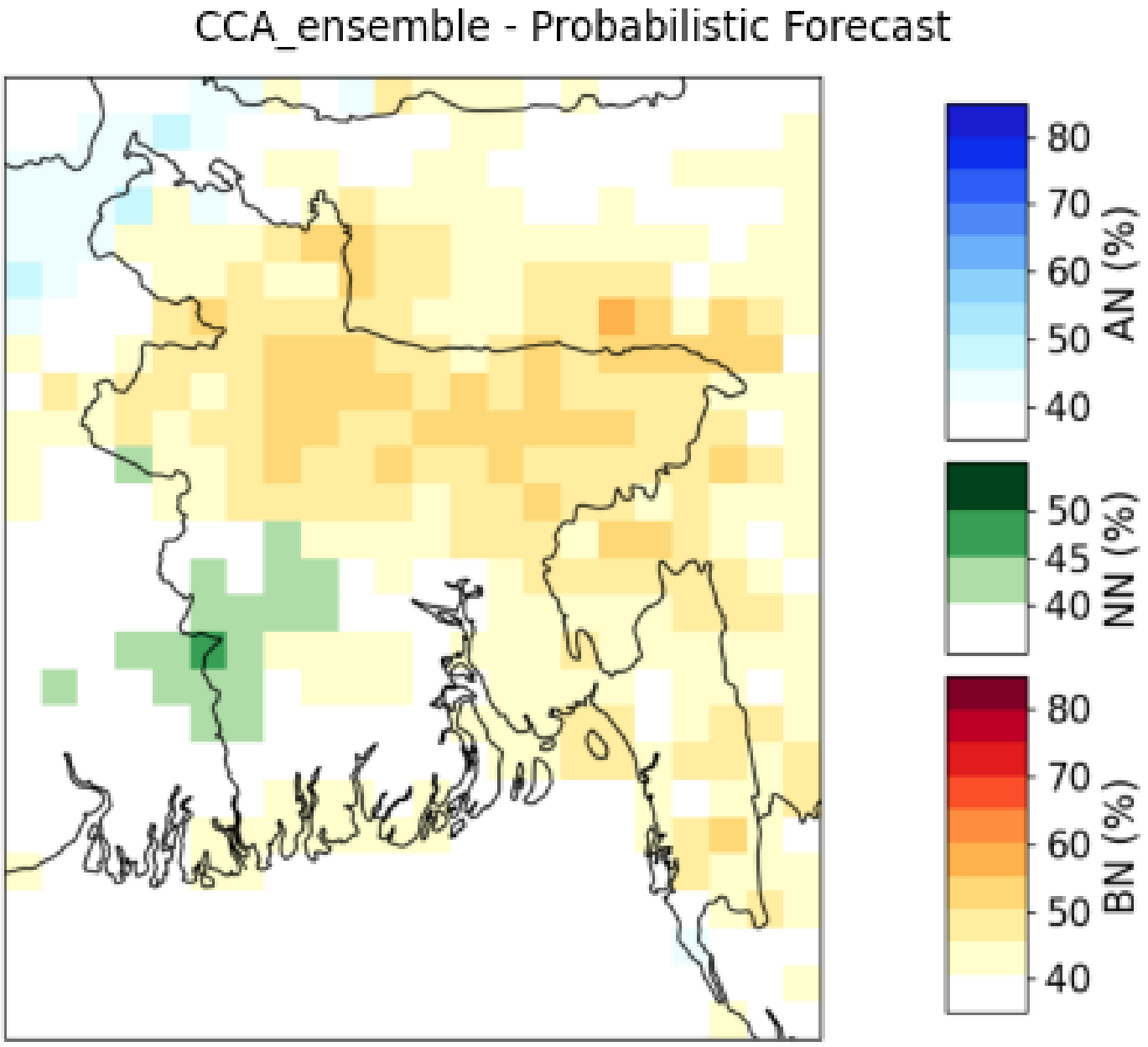
IRI Multi-Model Probability Forecast for Precipitation for June-July-August 2025, Issued May 2025



IRI Multi-Model Probability Forecast for Precipitation for July-August-September 2025, Issued May 2025



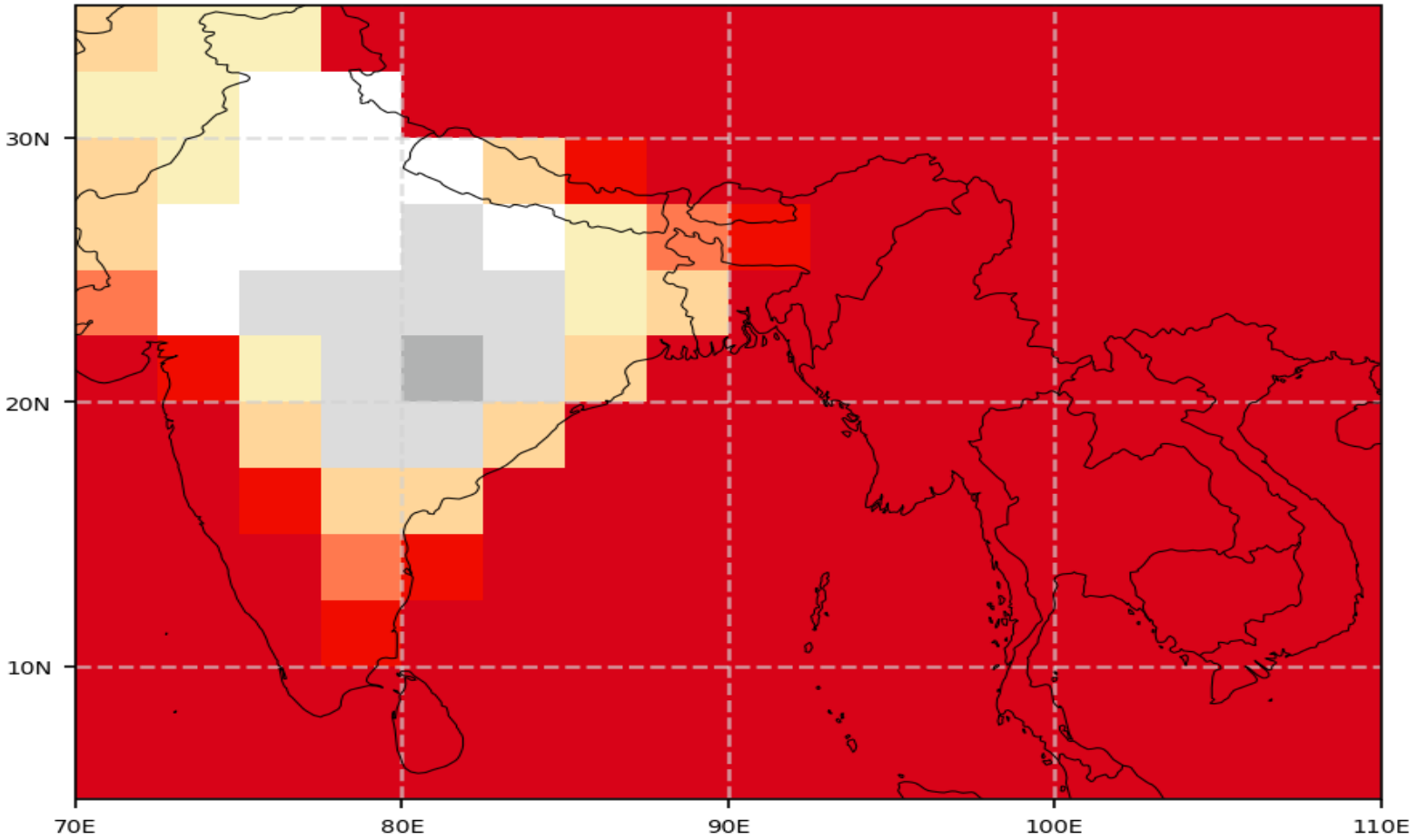
Precipitation Forecast by PyCPT for JJAS 2025

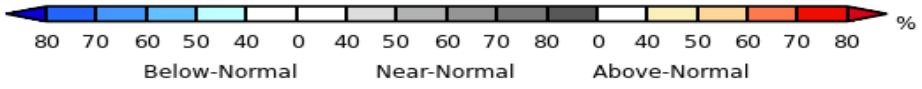


Probabilistic Multi-Model Ensemble Forecast

CMCC,CPTEC,ECMWF,Exeter,Melbourne,Montreal,Offenbach,Seoul,Tokyo,Toulouse,Washington

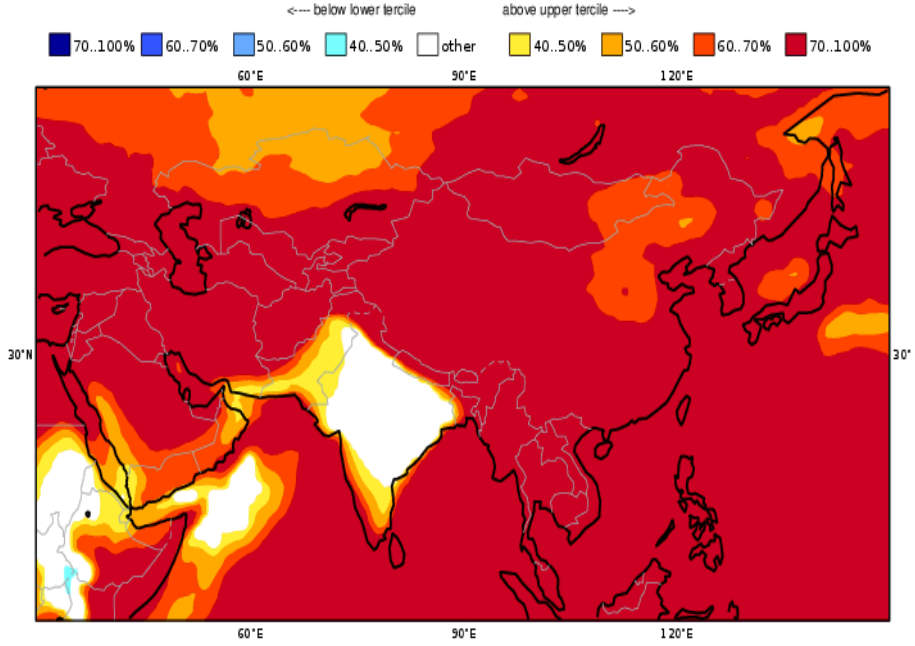
2m Temperature : JJAS2025 (issued on May2025)





WMO Lead Centre for SP MME

C3S multi-system seasonal forecast ECMWF/Met Office/Météo-France/CMCC/DWD/NCEP/JMA/ECCC/BOM
Prob(most likely category of 2m temperature) JJA 202
Nominal forecast start: 01/05/25
Unweighted mean



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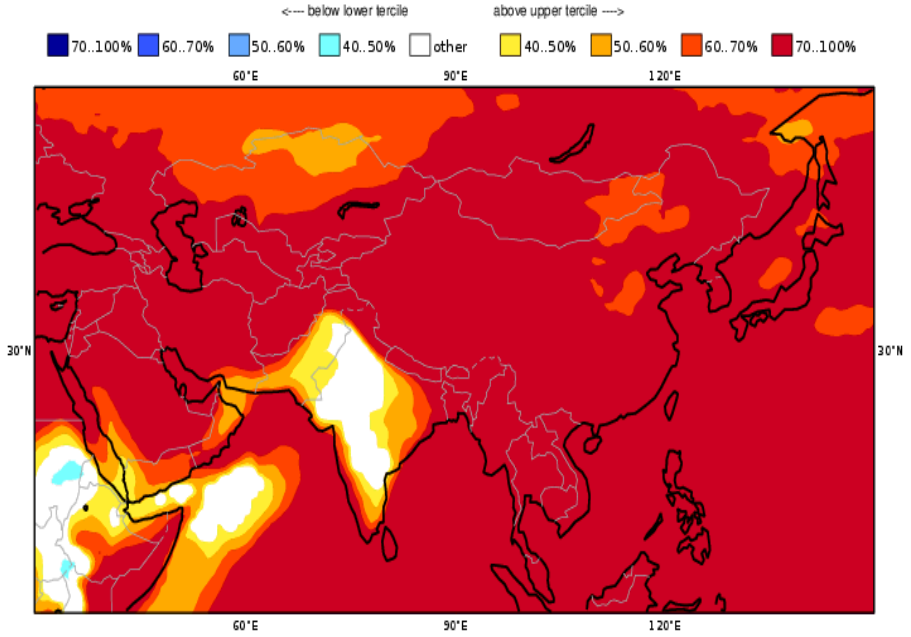

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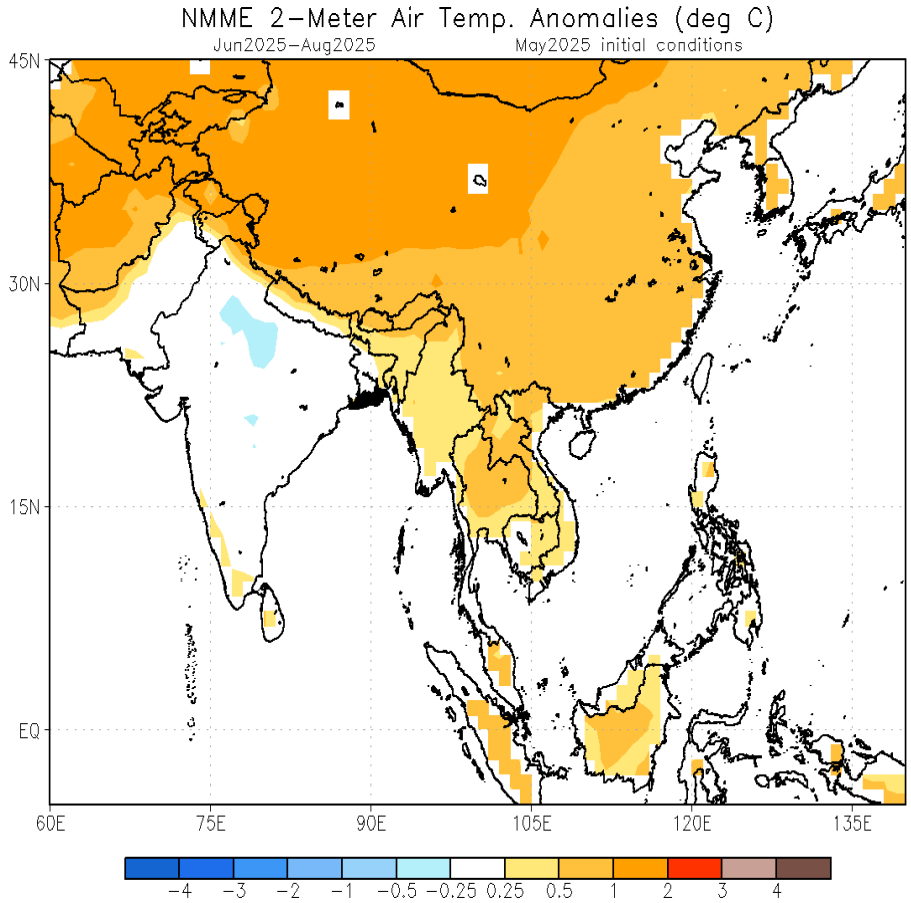
NMME 2-Meter Air Temp. Anomalies (deg C)
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May2025 initial conditions
45N
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15N
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105E
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135E
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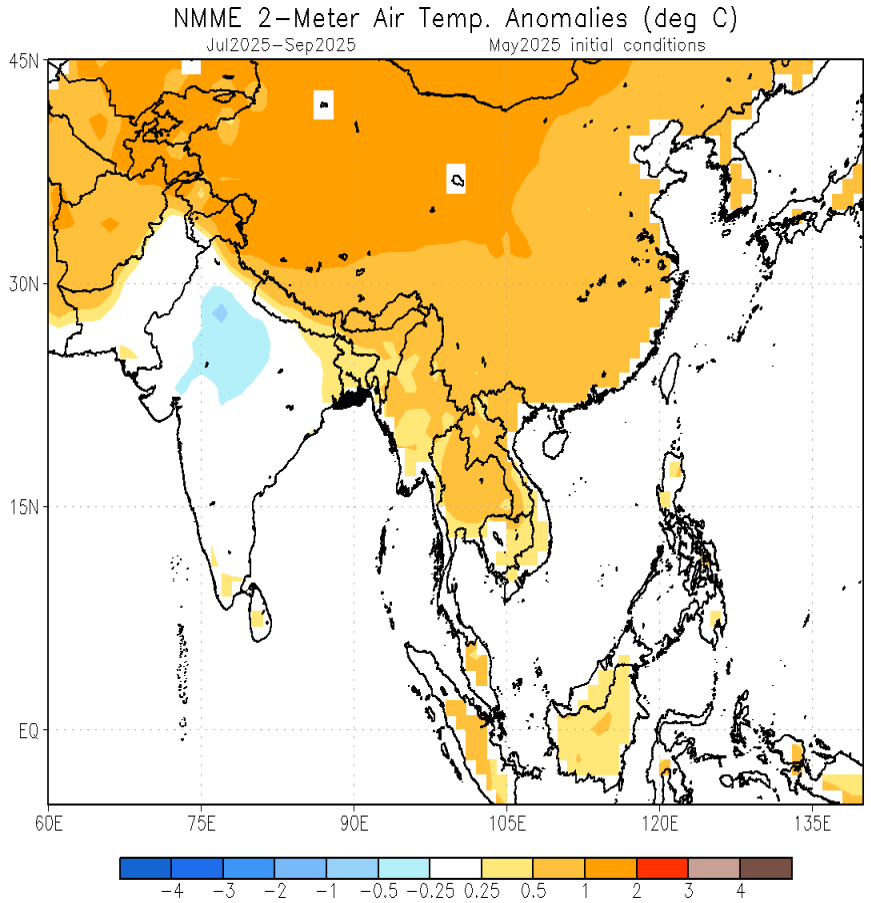
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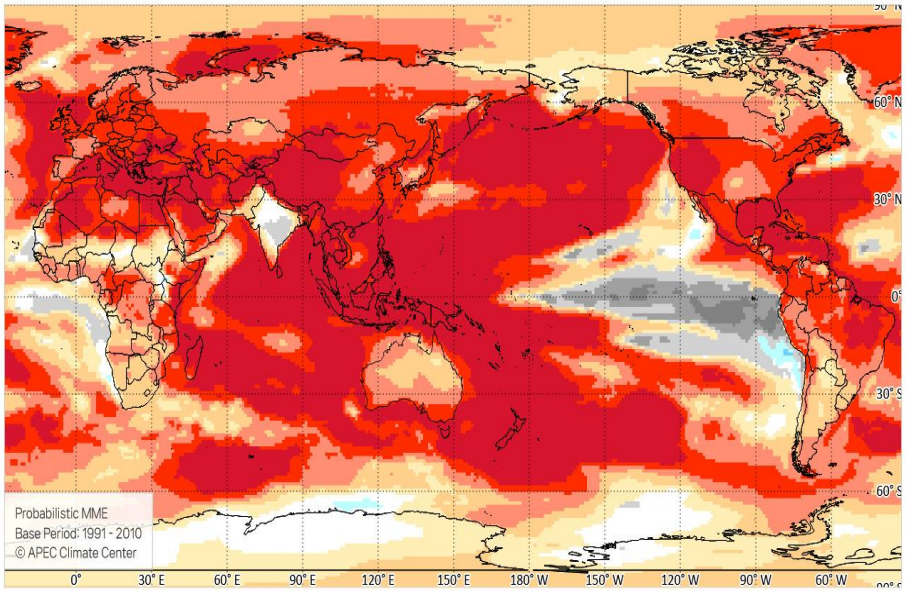
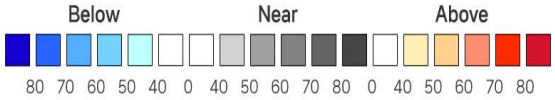
120E
135E
-4 -3 -2 -1 -0.5 -0.25 0.25 0.5 1 2 3 4

Temperature at 2m for June 2025-August 2025

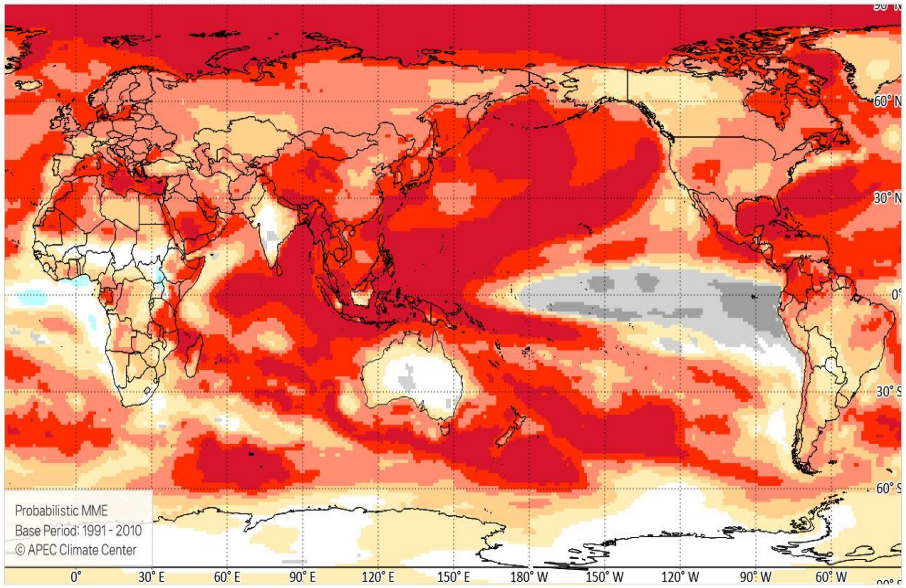
Issued: 15 May 2025 Unit: % (Probability)

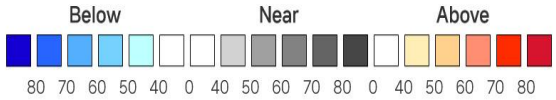




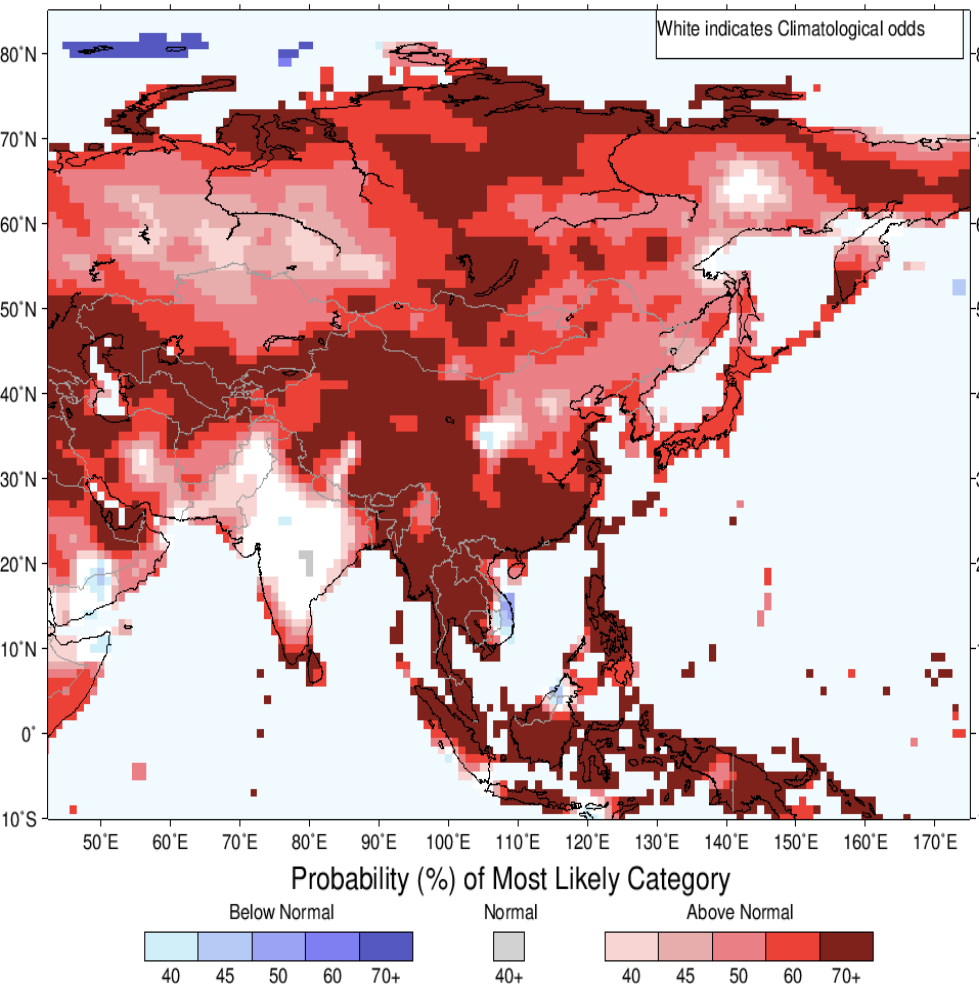
Temperature at 2m for September 2025

Issued: 15 May 2025 Unit: % (Probability)





IRI Multi-Model Probability Forecast for Temperature for June-July-August 2025, Issued May 2025



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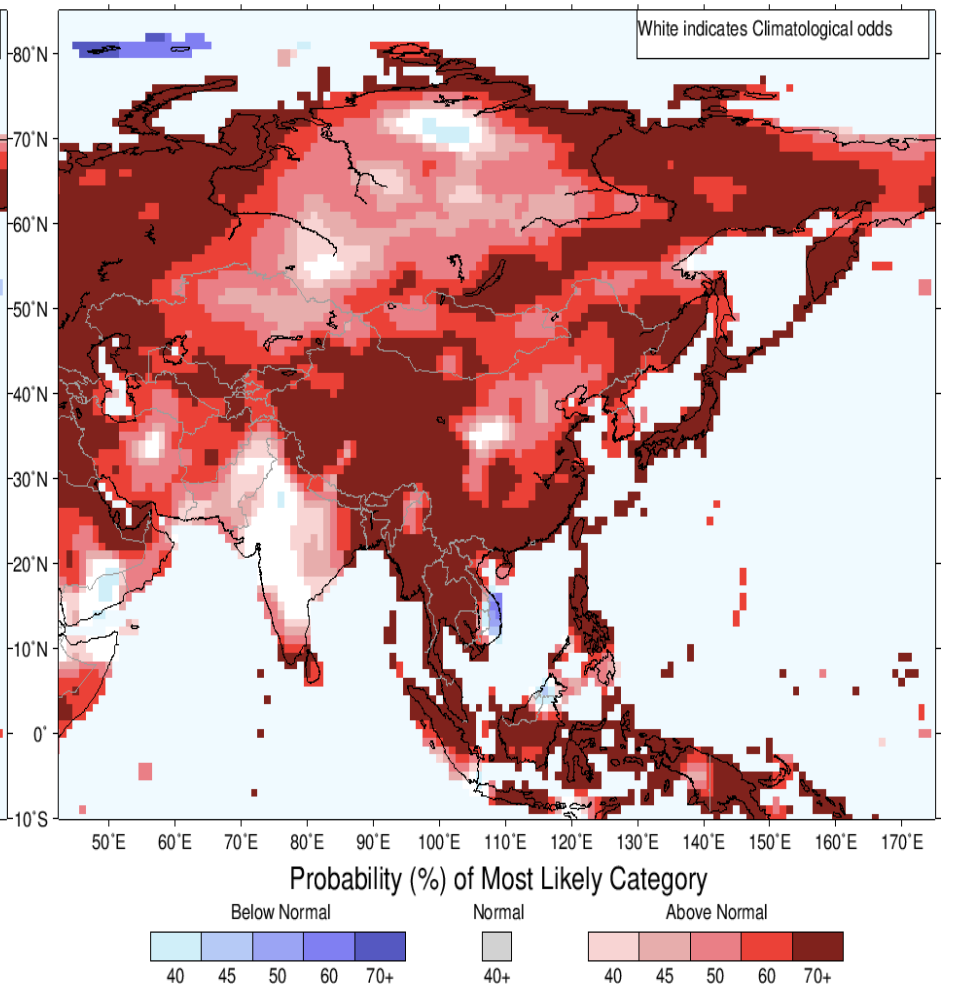
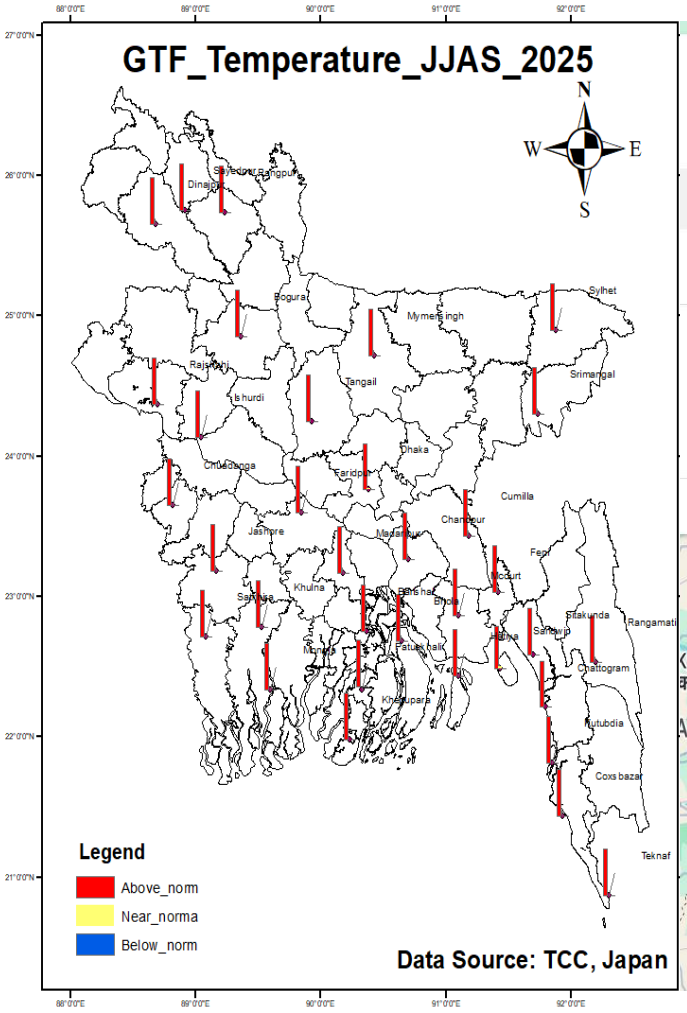
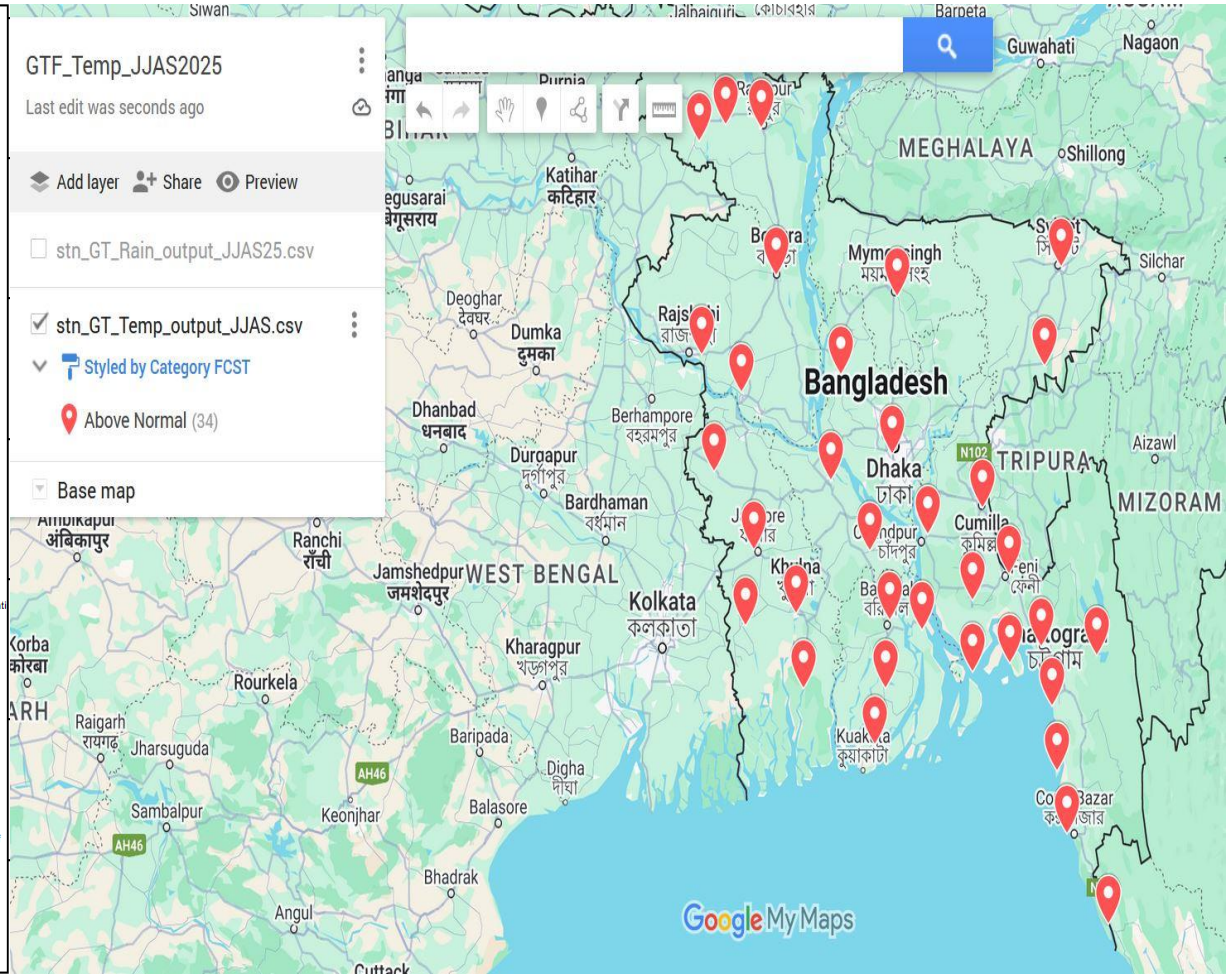
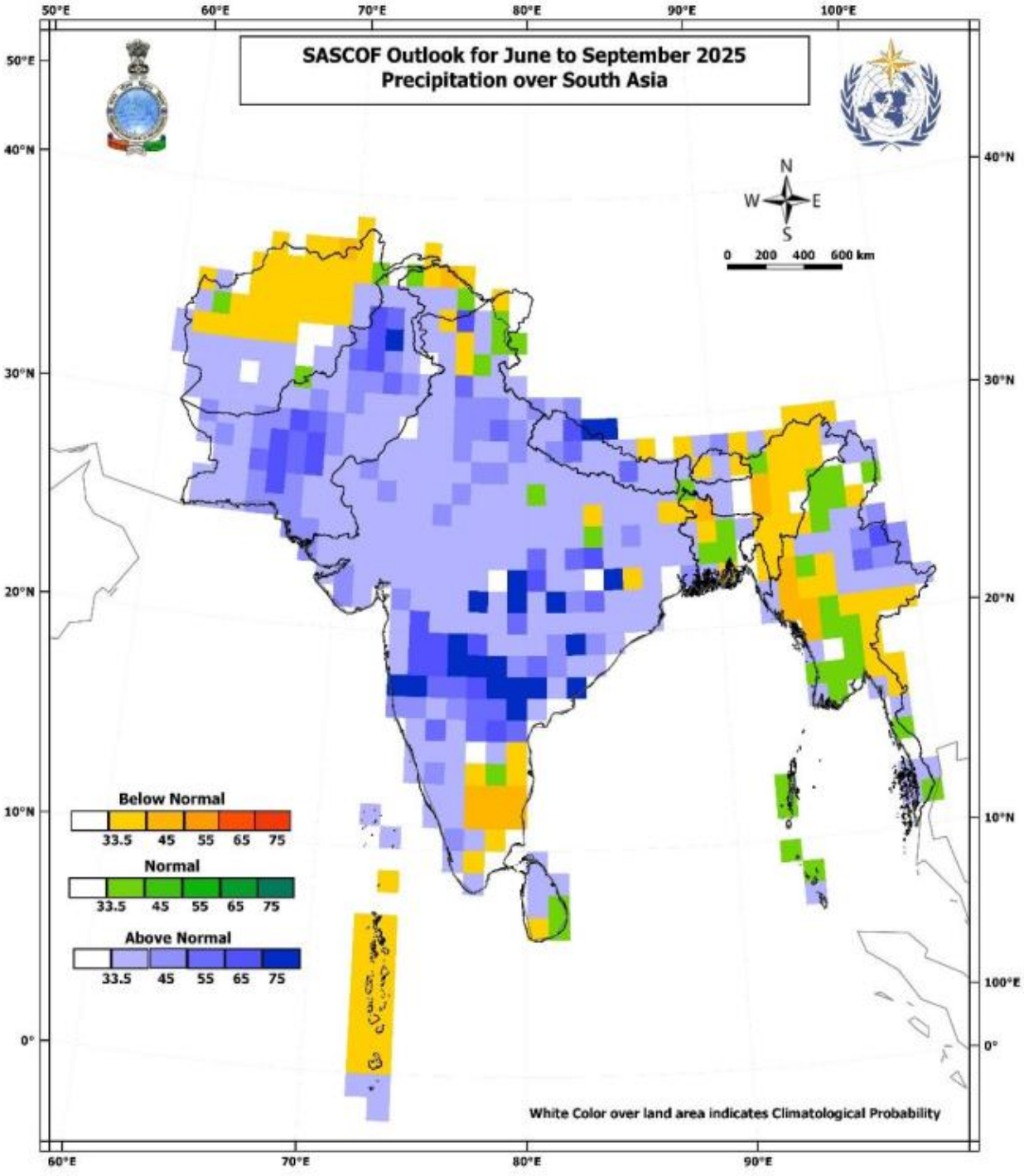
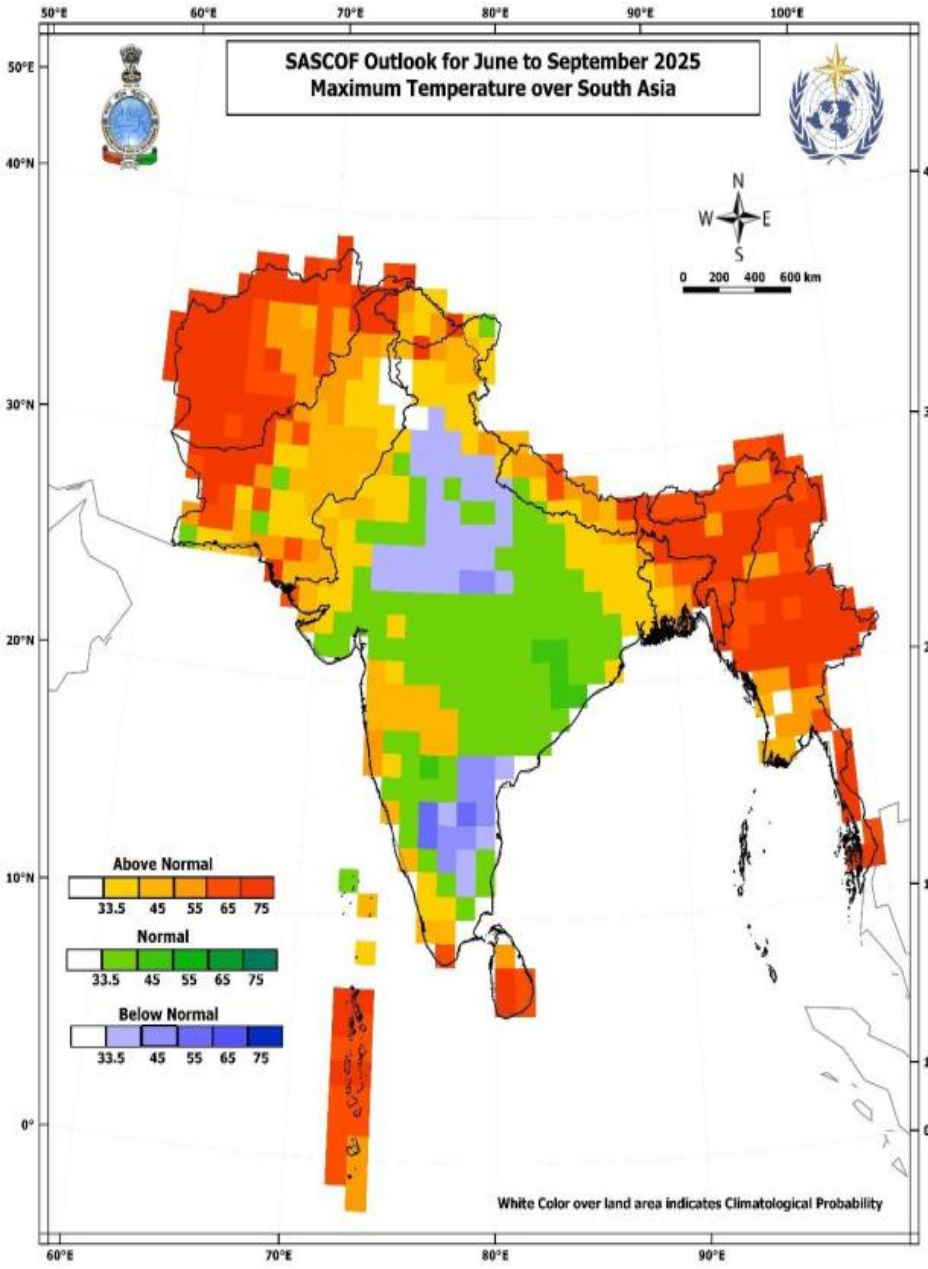



GTF_Temperature_JJAS_2025
N
W
E
S
Legend
Above_norm
Near_norma
Below_norm
Data Source: TCC, Japan


GTF_Temp_JJAS2025
Last edit was seconds ago
Add layer
Share
Preview
stn_GT_Rain_output_JJAS25.csv
stn_GT_Temp_output_JJAS.csv
Styled by Category FCST
Above Normal (34)
Base map
Bangladesh
MEGHALAYA
TRIPURA
MIZORAM
WEST BENGAL
Dhaka
Kolkata
Google My Maps


SASCOF Outlook for June to September 2025
Precipitation over South Asia
50°E
60°E
70°E
80°E
90°E
100°E
40°N
30°N
20°N
10°N
0°
N
W
E
S
0 200 400 600 km
Below Normal
33.5 45 55 65 75
Normal
33.5 45 55 65 75
Above Normal
33.5 45 55 65 75
White Color over land area indicates Climatological Probability


SASCOF Outlook for June to September 2025
Maximum Temperature over South Asia
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W
E
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0 200 400 600 km
Above Normal
33.5 45 55 65 75
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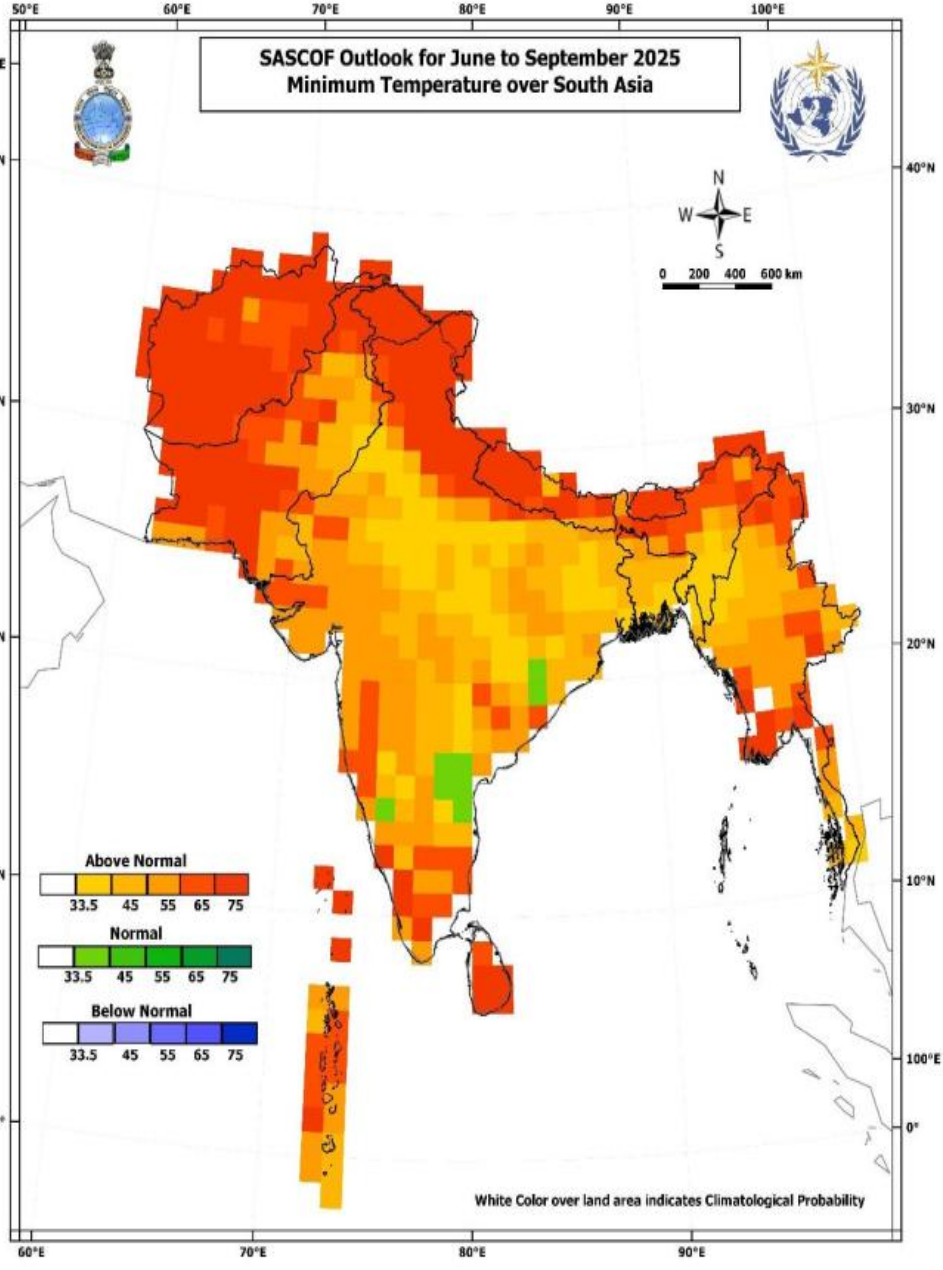
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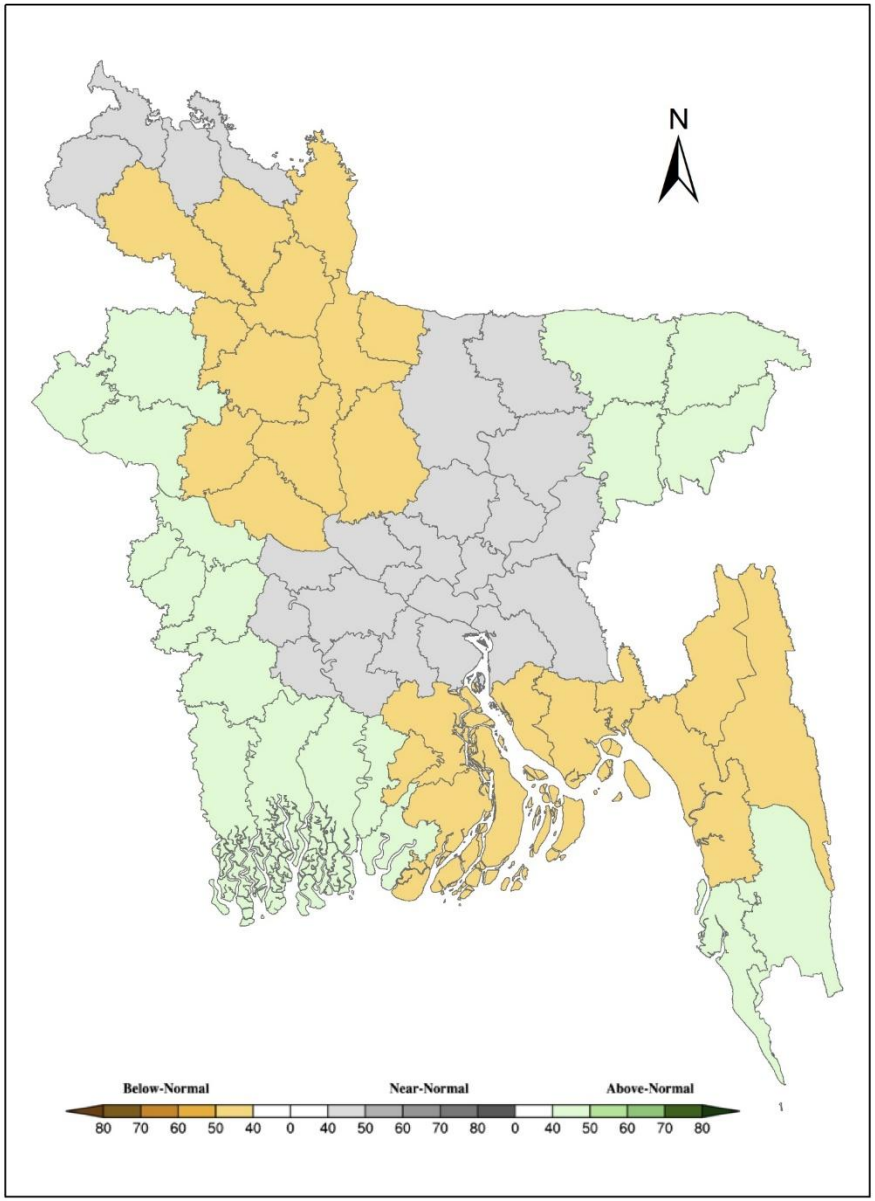
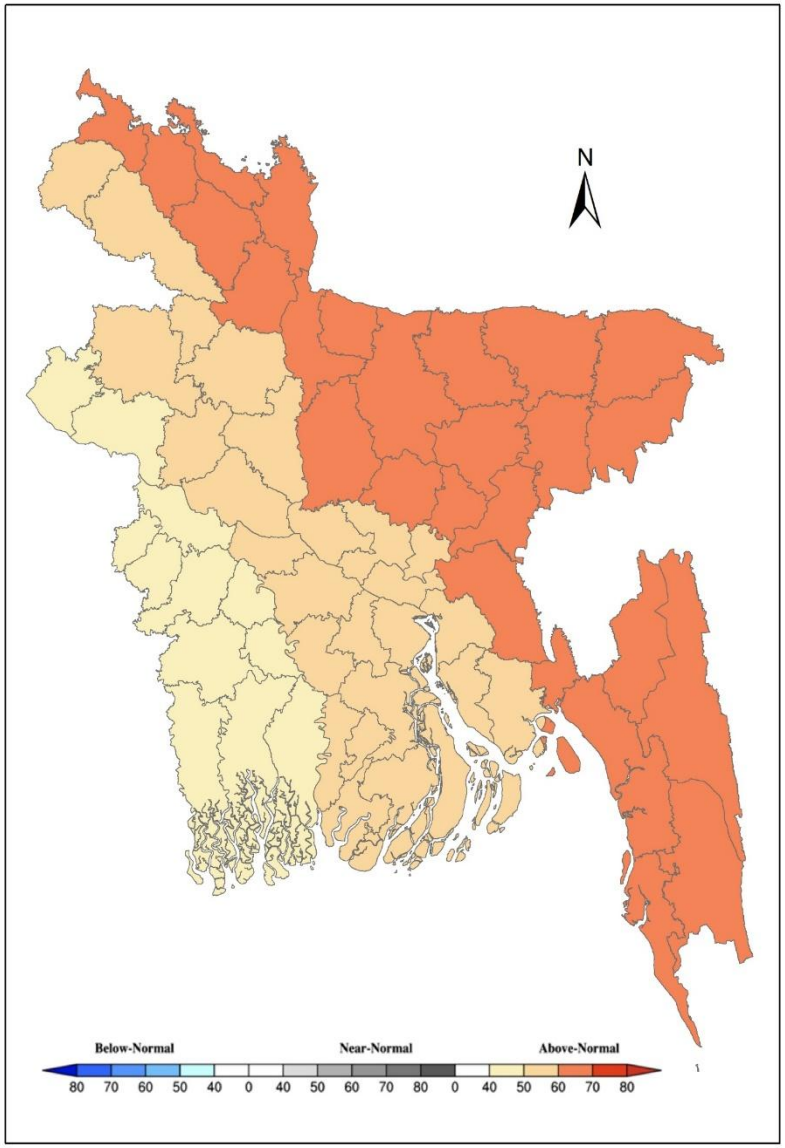
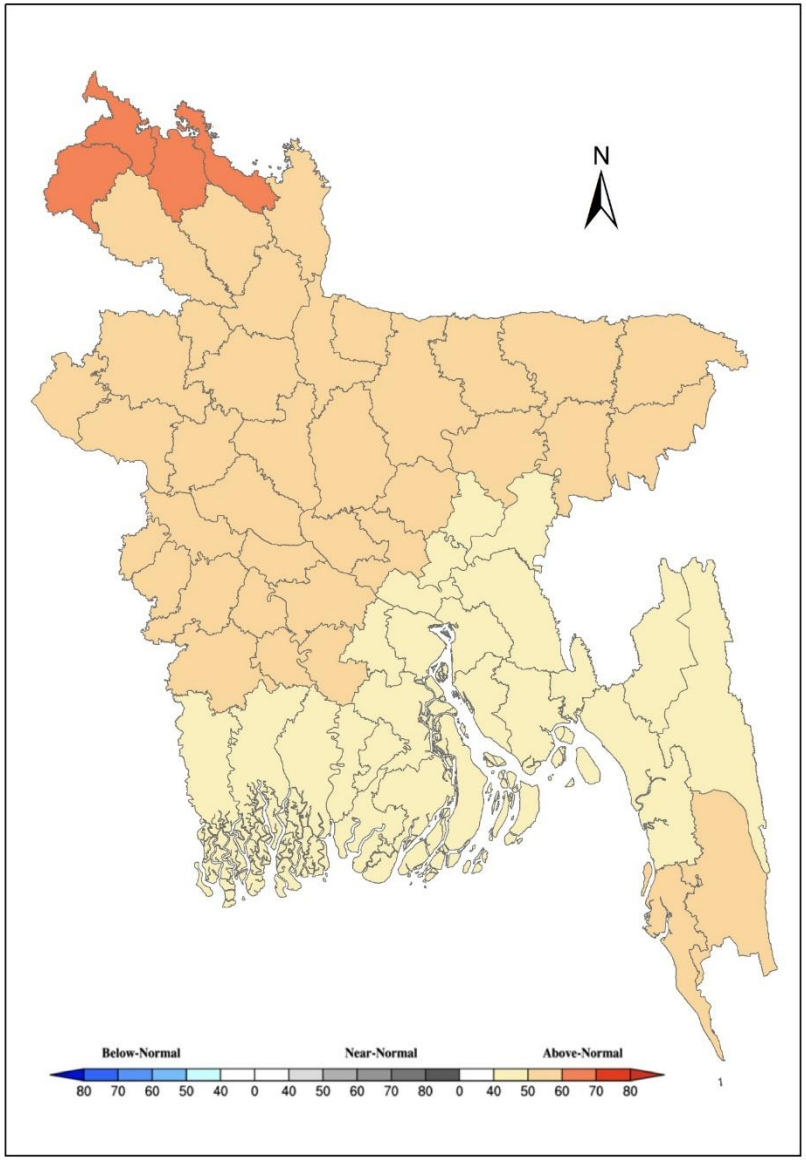
Rainfall Forecast of JJAS, 2025



Maximum Temperature Forecast JJAS, 2025



Minimum Temperature Forecast of JJAS, 2025



Outlook for JJAS 2025

- Rainfall is likely to be Normal
- Maximum and Minimum temperature are likely to be above normal

average rainfall and rainy days over Bangladesh in May 2025 were as follows:

Division	Average normal rainfall(mm)	Average recorded rainfall(mm)	Rainfall Deviation (%)	Average normal rainy days	Average recorded rainy days
Dhaka	259	348	+34.4%	18	18
Mymensingh	361	587	+62.5%	20	20
Chattogram	338	507	+49.9%	17	16
Sylhet	528	1200	+127.3%	24	23
Rajshahi	193	263	+36.5%	16	16
Rangpur	288	452	+56.9%	17	19
Khulna	182	235	+29.5%	15	15
Barishal	239	298	+24.6%	17	20
Bangladesh	298	486	+62.9%	18	18

Thanks