



ཨུམ་ཡོངས་ཚུད་ཕུད་དང་གནམ་གཤིས་རིག་པའི་རྩེ་བ།

NATIONAL CENTRE FOR HYDROLOGY AND METEOROLOGY
THIMPHU: BHUTAN

"Centre of Excellence in Hydrology, Meteorology and Cryosphere Science and Services"



2 August, 2024

Extended Range Prediction for Bhutan

Background

Extended Range Prediction (ERP) for Bhutan is prepared with the support from the Indian Meteorological Department (IMD), Government of India. The model used for the system is CFSv2 coupled model (Atmospheric and Ocean model) which runs once every week (Wednesday), with the 16 Ensemble Members at the horizontal resolution of around 25 km, and the products are made available the next day (Thursday). Therefore, the ERP products for Bhutan will be generated every Friday. ERP for Bhutan is carried out for two climate variables, rainfall and temperature.

Generally, the forecast output is produced on a weekly basis for a period of a month for both the variables. The current products available from NCHM are on pilot basis which needs further studies and validation with the ground observations until the product is fully operationalized.



ཨཱ། རྒྱལ་ཡོངས་ཆུ་དབྱུང་དང་གནམ་གཤིས་རིག་པའི་རྩེ་བ།

NATIONAL CENTRE FOR HYDROLOGY AND METEOROLOGY
THIMPHU: BHUTAN

"Centre of Excellence in Hydrology, Meteorology and Cryosphere Science and Services"



Observed weather over last week

Most of the stations across the country showed a constant maximum and minimum temperature throughout the week. No rain was observed over the most part of the country for the last week except for the isolated rain in the northern, central and southern parts in the middle of the week. The table below displays observed real time rain and temperature data from regional meteorological stations over the last week.

Station	Parameter	26 Jul	27 Jul	28 Jul	29 Jul	30 Jul	31 Jul	1 Aug
Babesa	Tmax (°C)	29.0	29.5	28.5	30.0	29.0	29.0	29.5
	Tmin (°C)	15.5	17.0	16.0	16.0	17.0	15.0	14.5
	Rain (mm)	0	0	0.6	3.2	10.6	1.3	0
Dagana	Tmax (°C)	28.5	29.5	29.5	28.0	28.0	30.0	28.5
	Tmin (°C)	21.0	21.0	21.0	21.0	21.0	20.5	20.0
	Rain (mm)	0	0	0	1.4	0	0	0
Chamkhar	Tmax (°C)	27.0	27.0	26.0	26.0	24.5	26.5	25.5
	Tmin (°C)	17.5	16.5	16.5	17.5	17.5	14.0	14.0
	Rain (mm)	0.6	0	3.9	0.2	0.3	9.6	2.1
Deothang	Tmax (°C)	33.0	34.0	32.0	32.0	30.0	30.0	30.0
	Tmin (°C)	23.0	24.0	25.0	27.0	24.0	24.0	23.5
	Rain (mm)	0	0	0	27.0	45.0	0	0
Gasa	Tmax (°C)	25.0	25.0	26.0	24.0	25.0	25.0	25.0
	Tmin (°C)	13.0	14.0	13.0	13.0	15.0	12.0	16.0
	Rain (mm)	21.4	45.2	16.0	9.6	0	5.8	17.6



ཨ། རྒྱལ་ཡོངས་ཚུད་ཕྱད་དང་གནམ་གཤིས་རིག་པའི་ལྷོ་བ།

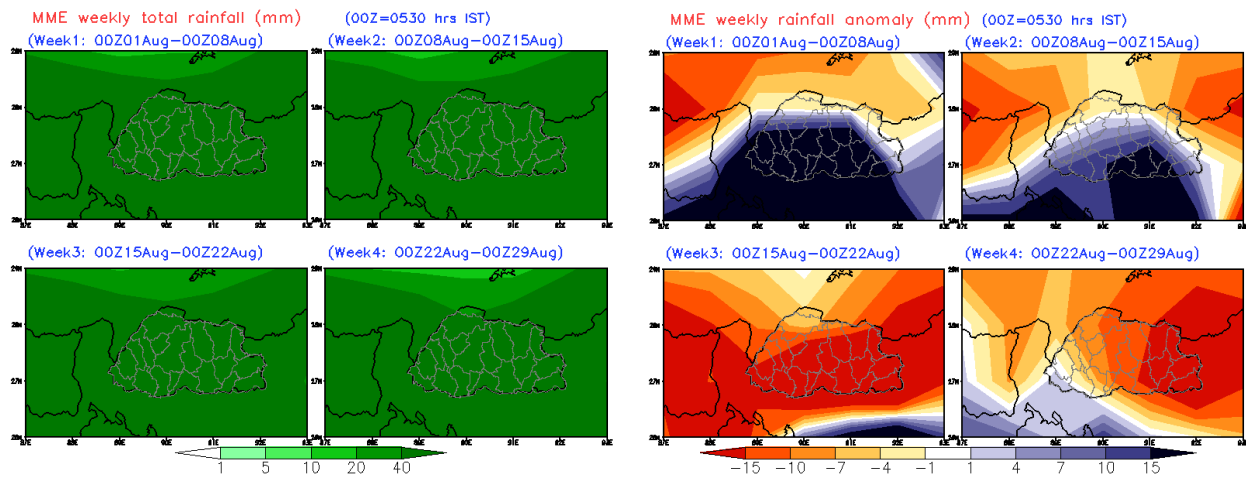
NATIONAL CENTRE FOR HYDROLOGY AND METEOROLOGY
THIMPHU: BHUTAN

"Centre of Excellence in Hydrology, Meteorology and Cryosphere Science and Services"



Weekly forecast for Bhutan

1. Rainfall Prediction



Week 1 (01 August - 08 August) and Week 2 (08 August - 15 August)

Above normal rainfall is expected in the southern and central part of the country.

Week 3 (15 August - 22 August) and Week 4 (22 August - 29 August)

Below normal rainfall is expected throughout the region.



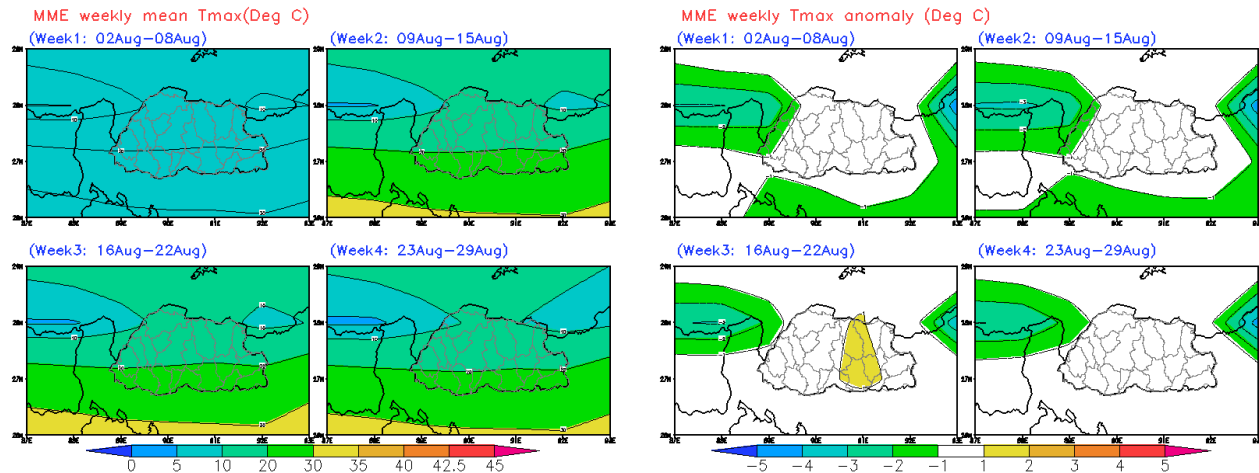
ཨ། རྒྱལ་ཡོངས་ཁྲུང་ཕུང་དང་གནམ་གཤིས་རིག་པའི་རྩེ་བ།

NATIONAL CENTRE FOR HYDROLOGY AND METEOROLOGY
THIMPHU: BHUTAN

"Centre of Excellence in Hydrology, Meteorology and Cryosphere Science and Services"



2. Maximum Temperature Prediction



Week 1 (02 August - 08 August) and Week 2 (09 August - 15 August)

Normal maximum temperature is expected throughout the region.

Week 3 (16 August - 22 August)

Normal maximum temperature is expected throughout the region except for the slightly above normal maximum temperature in the central part.

Week 4 (23 August - 29 August)

Normal maximum temperature is expected throughout the region.



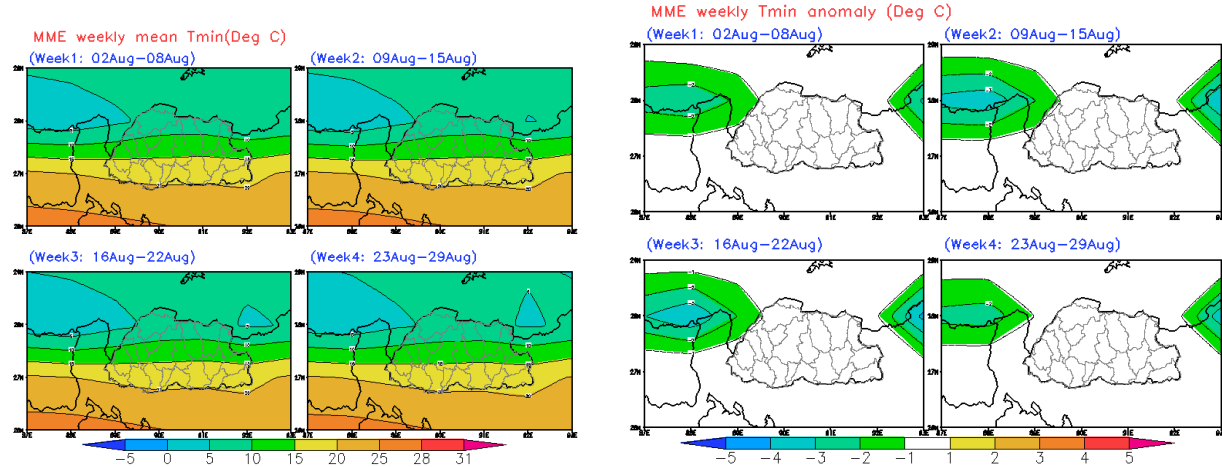
ཨ། རྒྱལ་ཡོངས་ཁྲུང་ཕུང་དང་གནམ་གཤིས་རིག་པའི་སྡེ་བ།

NATIONAL CENTRE FOR HYDROLOGY AND METEOROLOGY
THIMPHU: BHUTAN

"Centre of Excellence in Hydrology, Meteorology and Cryosphere Science and Services"



3. Minimum Temperature Prediction



Week 1 (02 August - 08 August) , Week 2 (09 August - 15 August) ,Week 3 (16 August - 22 August) and Week 4 (23 August - 29 August)

Normal maximum temperature is expected throughout the region.



ཨཱ། རྒྱལ་ཡོངས་ཚུད་ཕྱད་དང་གནམ་གཤིས་རིག་པའི་རྩེ་བ།

NATIONAL CENTRE FOR HYDROLOGY AND METEOROLOGY
THIMPHU: BHUTAN

"Centre of Excellence in Hydrology, Meteorology and Cryosphere Science and Services"



Summary

- The rainfall is likely to be above normal for the first two weeks and then gradually be below normal for the rest of the month..
- The maximum temperature is likely to be normal for the whole month.
- The minimum temperature is likely to be normal for the whole month.

Classification of rainfall for 24 Hours

No rainfall	0.0 mm
Very light rainfall	0.1 to 0.9 mm
Light rainfall	1.0 to 10.0 mm
Moderate rainfall	11.0 to 30.0 mm
Heavy rainfall	31.0 to 70.0 mm
Very heavy rainfall	71.0 to 150.0 mm
Extremely heavy rainfall	Equal or more than 151.0 mm