



༄༅། རྒྱལ་ཡོངས་ཚུ་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”



1 March, 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.



ལྷོ། རྒྱལ་ཡོངས་ཚུད་ཕྱད་དང་གནམ་གཤིས་རིག་པའི་སློབ་ཁྲིམས།

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 decrease in 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 on the last day. The table below displays observed real time rain and temperature data from regional meteorological stations over the last week.

Station	Parameter	23 Feb	24 Feb	25 Feb	26 Feb	27 Feb	28 Feb	29 Feb
Babesa	Tmax (°C)	11.0	12.5	14.0	14.5	15.5	14.0	15.0
	Tmin (°C)	1.0	-5.5	-2.5	-3.0	-1.5	0.5	1.0
	Rain (mm)	0	0	0	0	0	0	0
Dagana	Tmax (°C)	20.5	21.5	20.0	19.5	19.5	21.5	12.0
	Tmin (°C)	7.0	5.0	6.5	6.5	7.5	9.0	10.5
	Rain (mm)	0	0	0	0	0	0	0
Chamkhar	Tmax (°C)	10.0	11.0	13.0	14.0	13.0	12.0	13.0
	Tmin (°C)	1.5	1.0	-3.0	1.5	2.0	2.0	5.0
	Rain (mm)	00	0	0	0	0	0	0
Deothang	Tmax (°C)	21.0	22.0	22.0	21.0	22.0	21.0	21.0
	Tmin (°C)	12.0	11.0	12.0	10.5	12.0	14.0	14.0
	Rain (mm)	0	0	0	0	0	0	0
Gasa	Tmax (°C)	8.0	8.0	12.0	14.0	13.5	10.5	11.0
	Tmin (°C)	-1.5	-4.0	-3.5	-2.5	-1.5	0.0	1.0
	Rain (mm)	0.2	0	0	0	3.3	1.3	0.8



༄༅། རྒྱལ་ཡོངས་ཚུན་ཕྱད་དང་གནམ་གཤིས་རིག་པའི་སྡེ་བ།

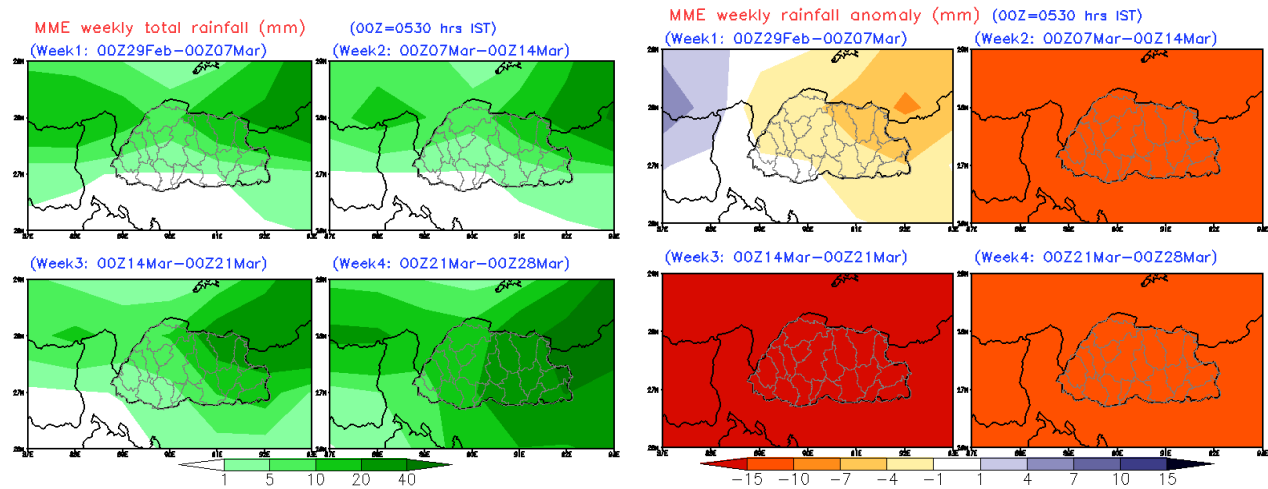
NATIONAL CENTRE FOR HYDROLOGY AND METEOROLOGY
THIMPHU: BHUTAN

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



Weekly forecast for Bhutan

1. Rainfall Prediction



Week 2 (29 February - 06 March) , Week 3 (07 March - 14 March) and Week 4 (14 March - 21 March) and Week 4 (21 March - 28 March)

Below normal rainfall is expected throughout the region.



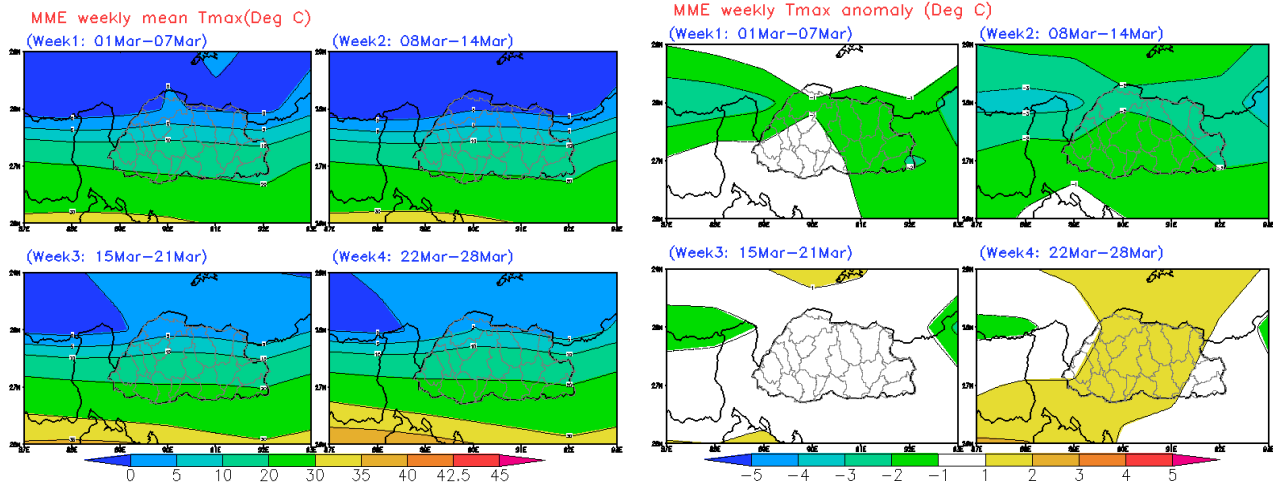
༄༅། རྒྱལ་ཡོངས་ཚུན་ཕྱད་དང་གནམ་གཤིས་རིག་པའི་སློབ་གྲྭ།

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 (01 March - 07 March) and Week 2 (08 March - 14 March)

Below normal maximum temperature is expected throughout the region.

Week 3 (15 March - 21 March)

Normal maximum temperature is expected throughout the region.

Week 4 (22 March - 28 March)

Above normal maximum temperature is expected throughout the region.



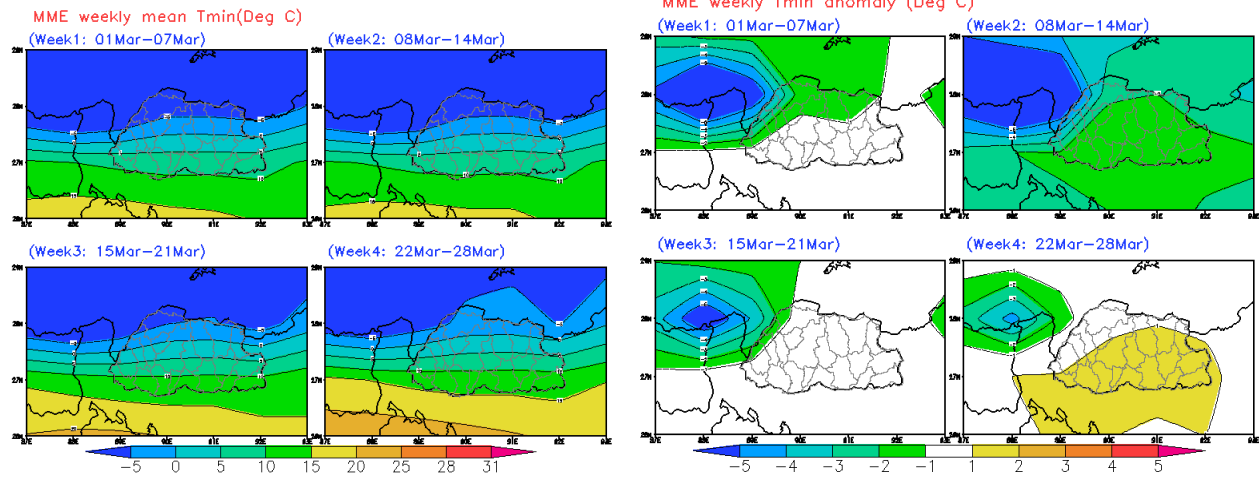
༄༅། རྒྱལ་ཡོངས་ཚུད་ཕྱད་དང་གནམ་གཤིས་རིག་པའི་ལྷེ་བ།།

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 (01 March - 07 March)

Normal minimum temperature is expected throughout the region except for northwestern parts..

Week 2 (08 March - 14 March)

Below normal minimum temperature is expected throughout the region.

Week 3 (15 March - 21 March)

Normal minimum temperature is expected throughout the region.

Week 4 (22 March - 28 March)

Above normal maximum temperature is expected in the southern and normal in the northern part of the country.



༄༅། 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 below normal for the rest of the week.
- The maximum temperature is likely to be below normal for the first two weeks and normal for the third week and then be above normal in the last week.
- The minimum temperature is likely to be below normal in the first two weeks and normal for the third week and be above normal in the last week.

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