14 February, 2025

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.

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Observed weather over last week

Most of the stations across the country showed a decreasing maximum and minimum temperature throughout the week. No rain was observed in the country. The table below displays observed real time rain and temperature data from regional meteorological stations over the last week.

Station	Parameter	07 Feb	08 Feb	09 Feb	10 Feb	11 Feb	12 Feb	13 Feb
Babesa	**Tmax (°C)**	14.0	14.0	11.0	10.0	9.0	8.0	7.0
	Tmin (°C)	-7.0	-6.0	-3.0	-2.0	-6.0	-10.0	-2.0
	Rain (mm)	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Dagana	**Tmax (°C)**	15.5	14.5	14.5	16.0	13.0	13.0	14.5
	Tmin (°C)	7.0	6.5	6.0	6.5	10.0	10.0	10.0
	Rain (mm)	0.0	0.0	0.0	0.0	0.0	0.0	0.2
Chamkhar	**Tmax (°C)**	22.0	19.0	17.5	19.0	20.0	18.5	16.5
	Tmin (°C)	9.0	10.0	9.5	9.5	10.0	9.5	12.0
	Rain (mm)	0.0	0.0	0.0	0.0	0.0	0.0	4.2
Deothang	**Tmax (°C)**	23.5	21.0	21.5	23.0	23.0	11.5	15.5
	Tmin (°C)	11.0	12.0	9.0	11.0	11.0	11.0	10.0
	Rain (mm)	0.0	0.0	0.0	0.0	0.2	2.0	2.0
Gasa	**Tmax (°C)**	24.5	22.0	20.5	21.5	22.5	2.0	18.5
	Tmin (°C)	12.0	22.0	20.5	21.5	22.5	21.5	12.5
	Rain (mm)	0.0	0.0	0.0	0.0	0.0	0.0	4.0

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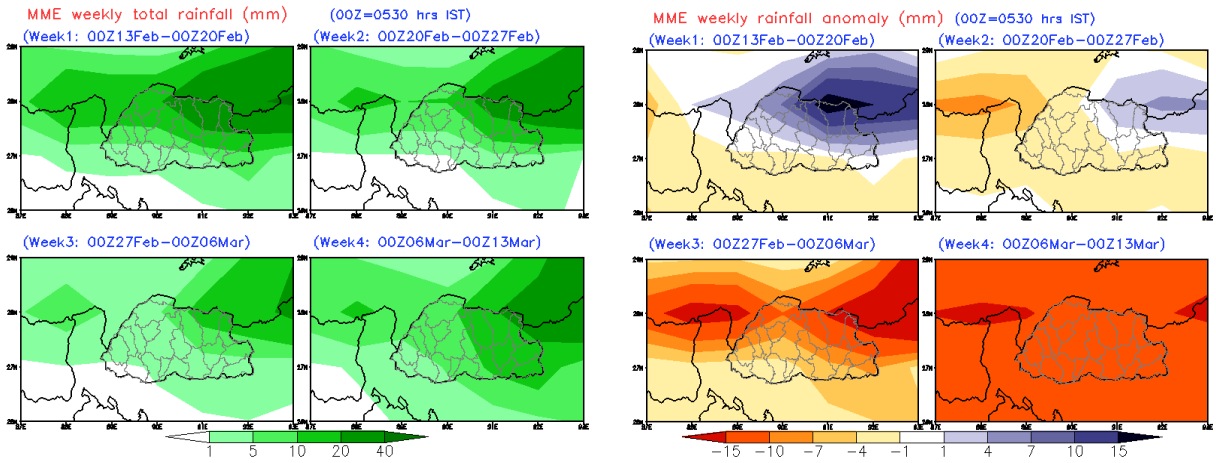
NATIONAL CENTRE FOR HYDROLOGY AND METEOROLOGY
THIMPHU: BHUTAN
"Centre of Excellence in Hydrology, Meteorology and Cryosphere Science and Services"

Weekly forecast for Bhutan

1. Rainfall Prediction



Week 1 (13 February - 20 February)

Above normal rainfall throughout the region.

Week 2 (20 February - 27 February)

Normal rainfall throughout the region.

Week 3 (27 February - 06 March) and Week 2 (06 March - 13 March)

Below normal rainfall throughout the region.

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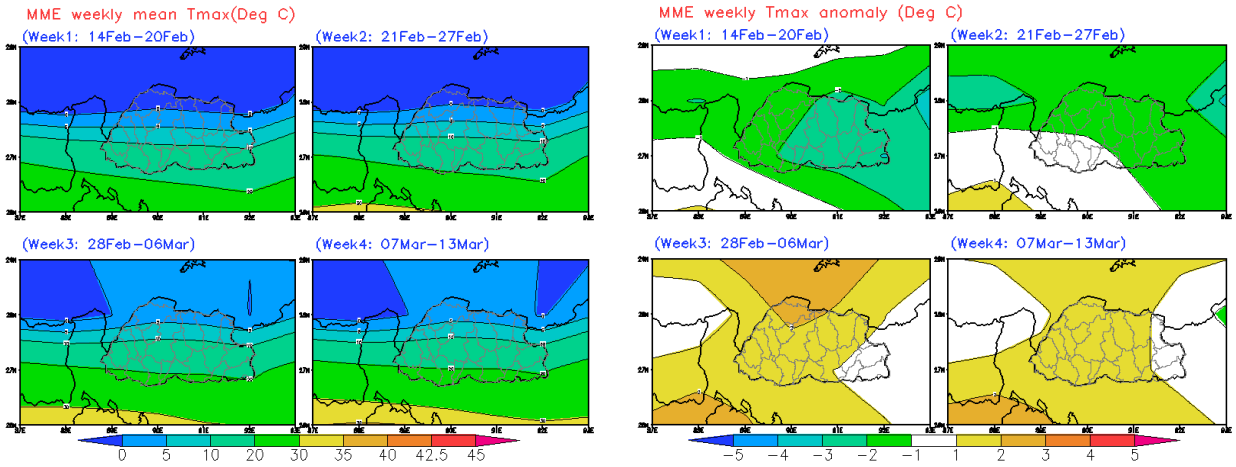
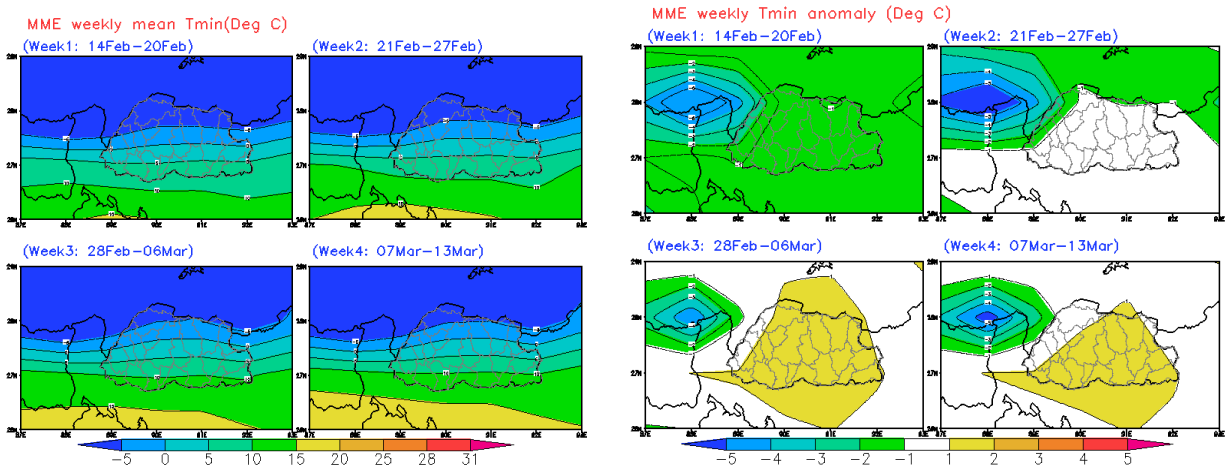
2. Maximum Temperature Prediction



Week 1 (14 February - 20 February) and Week 2 (21 February - 27 February)
Below normal maximum temperature expected throughout the region.

Week 3 (28 February - 06 March) and Week 3 (07 March - 13 March)
Above normal maximum temperature expected throughout the region

3. Minimum Temperature Prediction



Week 1 (14 February - 20 February) and
Below normal minimum temperature expected throughout the region.

Week 2 (21 February - 27 February)
Normal minimum temperature expected throughout the region.

Week 3 (28 February - 06 March) and Week 3 (07 March - 13 March)
Above normal minimum temperature expected throughout the region.

Summary

- The rainfall is likely to be above normal for the first week and then gradually become below normal by the end of the month.
- The maximum temperature is likely to be below normal for the first two weeks and then above normal for the next two weeks
- The minimum temperature is likely to be below normal for the first week and then gradually become below normal by the end of the 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