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NATIONAL CENTRE FOR HYDROLOGY AND METEOROLOGY
THIMPHU: BHUTAN

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



12 December, 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 constant maximum temperature and minimum temperature throughout the week. No rain was observed throughout the country. The table below displays observed real time rain and temperature data from regional meteorological stations over the last week.

Station		05 Dec	06 Dec	07 Dec	08 Dec	09 Dec	10 Dec	11 Dec
Babesa	Tmax (°C)	17.5	17.0	17.0	17.5	18.0	17.5	18.0
	Tmin (°C)	-4.0	-4.5	-2.5	-2.0	-1.5	-3.5	-4.0
	Rain (mm)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dagana	Tmax (°C)	22.5	21.0	21.5	22.0	22.0	21.5	21.5
	Tmin (°C)	8.0	8.0	8.0	9.0	8.5	7.5	7.5
	Rain (mm)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Chamkhar	Tmax (°C)	16.0	16.5	15.5	15.5	15.5	16.5	17.0
	Tmin (°C)	-5.5	-2.0	-1.0	-4.0	-4.0	-6.5	-6.5
	Rain (mm)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deothang	Tmax (°C)	24.0	23.0	22.0	23.0	22.0	23.5	23.5
	Tmin (°C)	13.5	13	13	13	13	12.5	12.5
	Rain (mm)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gasa	Tmax (°C)	15.0	14.0	15.0	14.0	14.0	15.0	16.0
	Tmin (°C)	0.0	0.0	0.0	2.0	1.0	0.0	0.0
	Rain (mm)	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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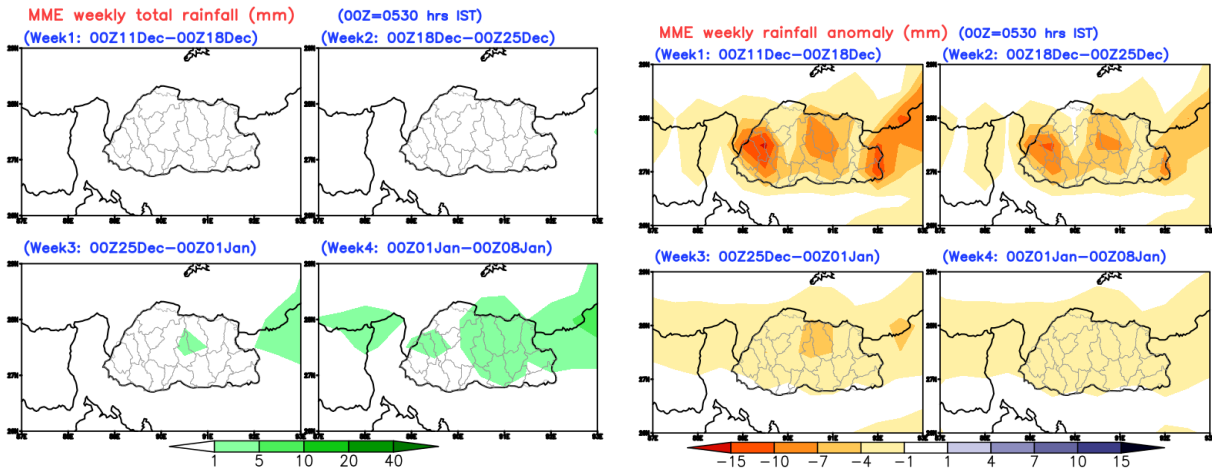
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Weekly forecast for Bhutan

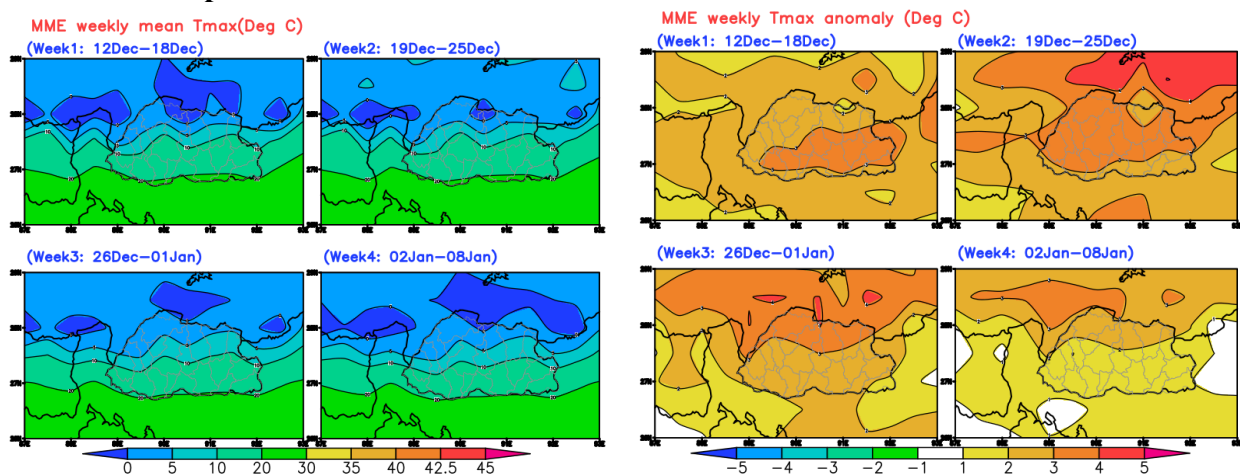
1. Rainfall Prediction



Week 1 (11 Dec - 18 Dec), Week 2 (18 Dec - 25 Dec), Week 3 (25 Dec - 01 Jan) and Week 4 (01 Jan - 08 Jan)

The country is expected to be dry in the next three weeks. Compared to the climatology, the country is expected to be below normal rainfall for the next four weeks.

2. Maximum Temperature Prediction



Week 1 (12 Dec - 18 Dec), Week 2 (19 Dec - 25 Dec), Week 3 (26 Dec - 01 Jan) and Week 4 (02 Jan - 08 Jan)

Above normal maximum temperature throughout the region for the next four weeks.



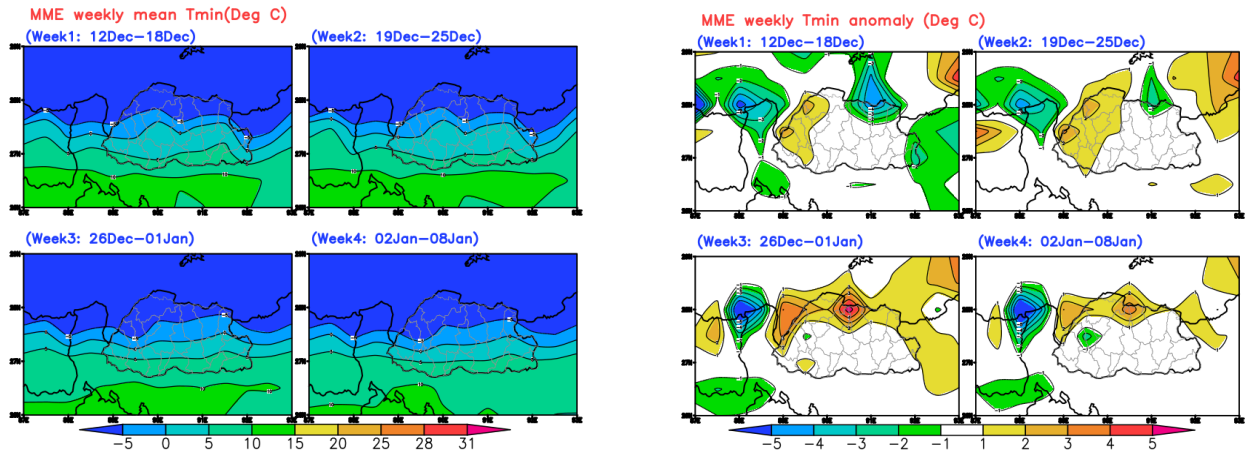
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3. Minimum Temperature Prediction



Week 1 (12 Dec - 18 Dec), Week 2 (19 Dec - 25 Dec), Week 3 (26 Dec - 01 Jan) and Week 4 (02 Jan - 08 Jan)

Above normal minimum temperature in northern parts and normal minimum temperature in the rest of the country.

Summary

- The country is expected to be dry in the next three weeks. Compared to the climatology, the country is expected to be below normal rainfall for the next four weeks.
- Above normal maximum temperature throughout the region for the next four weeks.
- Above normal minimum temperature in northern parts and normal minimum temperature in the rest of the country.

Classification of rainfall for 24 Hours



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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