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NATIONAL CENTRE FOR HYDROLOGY AND METEOROLOGY
THIMPHU: BHUTAN

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



18 October, 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.



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Observed weather over last week

Most of the stations across the country showed a constant maximum and minimum temperature throughout the week. Rain was observed over the country. The table below displays observed real time rain and temperature data from regional meteorological stations over the last week.

Station	Parameter	11 Oct	12 Oct	13 Oct	14 Oct	15 Oct	16 Oct	17 Oct
Babesa	Tmax (°C)	22	21	21.5	20.5	21	22	21.5
	Tmin (°C)	11	8	8	8.5	9	11.5	8.5
	Rain (mm)	0	0	0	0	0	0	0
Dagana	Tmax (°C)	24	24.5	24.5	23.5	23	25	24
	Tmin (°C)	17	16	15.5	15	15	10.5	16
	Rain (mm)	0	0	0	0	0	1	0
Chamkhar	Tmax (°C)	20.5	20.5	20.5	21.5	18	20.5	16
	Tmin (°C)	13	11.5	9.5	11	11.5	9.5	10.5
	Rain (mm)	0	0	0	2.2	0	0	0.5
Deothang	Tmax (°C)	25.5	27	25	26	27	26	26
	Tmin (°C)	19.5	21.5	19.5	17	22	22	21.5
	Rain (mm)	58	3	0	0	0	0	0
Gasa	Tmax (°C)	18	19	17	18.5	11	0	18
	Tmin (°C)	10	19	17	18.5	11	18.5	6
	Rain (mm)	0	4.2	0	8.6	2.4	0	10.8



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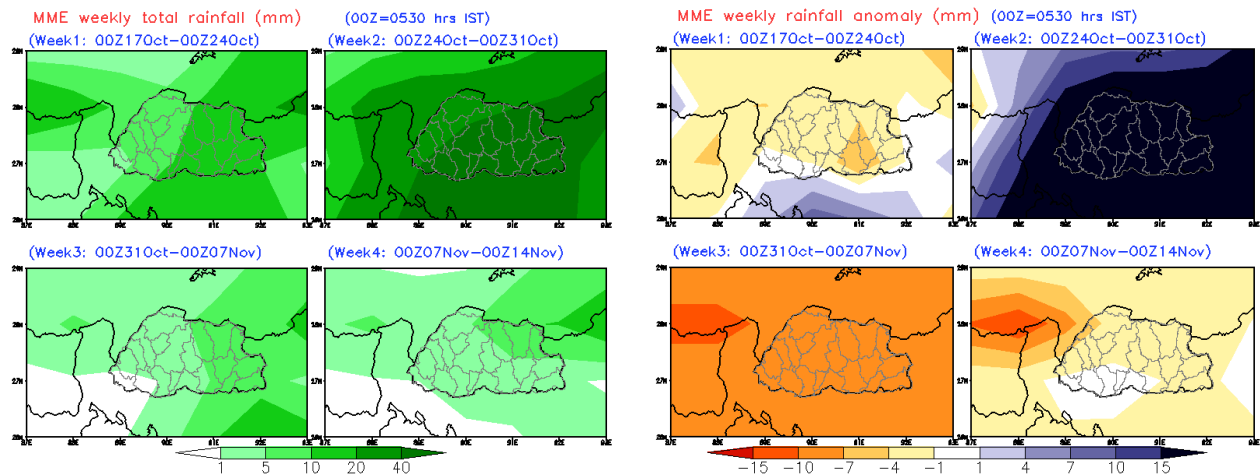
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Weekly forecast for Bhutan

1. Rainfall Prediction



Week 1 (17 October - 24 October)

Below normal rainfall throughout the region

Week 2 (24 October - 31 October)

Above normal rainfall throughout the region.

Week 3 (31 October - 07 November) and Week (07 November - 14 November)

Below normal rainfall is expected throughout the region



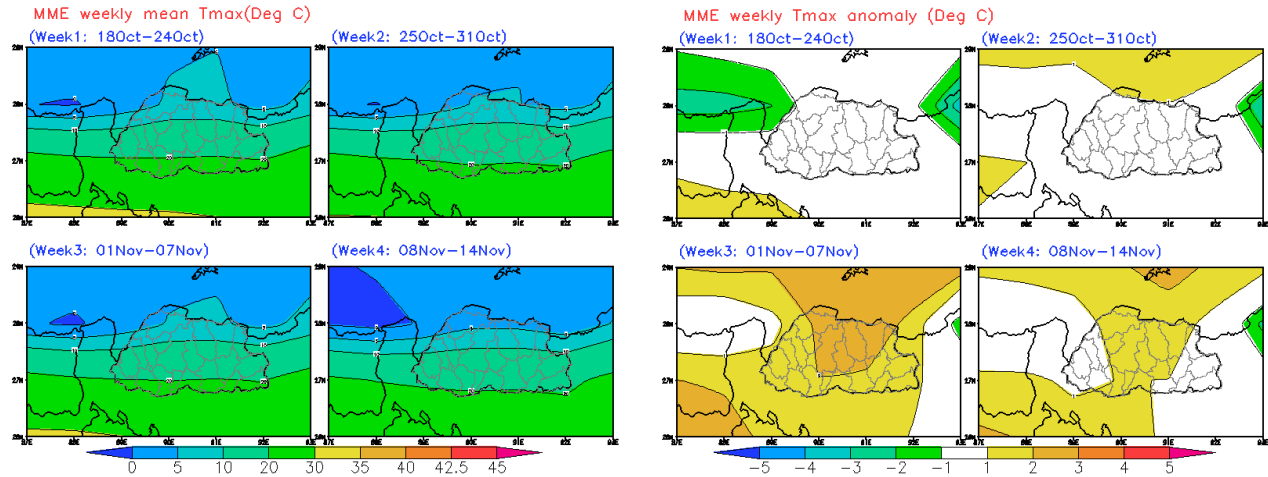
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2. Maximum Temperature Prediction



Week 1 (18 October - 24 October) and Week 2 (25 October - 31 October)

Normal maximum temperature is expected throughout the region

Week 3 (01 November - 07 November) and Week 4 (08 November - 14 November)

Above normal maximum temperature is expected throughout the region



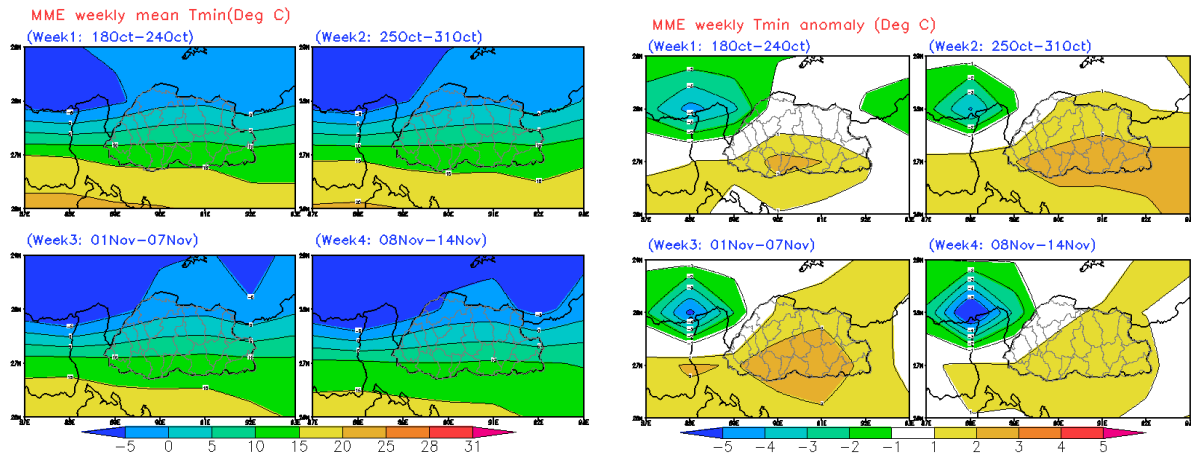
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3. Minimum Temperature Prediction



Week 1 (18 October - 24 October)

Normal minimum temperature is expected throughout the region except in the south, where it is likely to be above normal.

Week 2 (25 October - 31 October), Week 3 (01 November - 07 November) and Week 4 (08 November - 14 November)

Above normal minimum temperature throughout the region.

