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NATIONAL CENTRE FOR HYDROLOGY AND METEOROLOGY
THIMPHU: BHUTAN

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11 April, 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 an increasing maximum and minimum temperature throughout the week. Most of the temperature dropped on 10th April when all across the country received light to moderate rain. The table below displays observed real time rain and temperature data from regional meteorological stations over the last week.

Station		04 Apr	04 Apr	05 Apr	06 Apr	07 Apr	08 Apr	09 Apr	10 Apr
Babesa	Tmax (°C)		21.5	19.5	19.5	22.5	21.5	21.5	13
	Tmin (°C)		5	3	3.5	1	7.5	7.5	9.5
	Rain (mm)		0	0	0	0	0	0	11.7
Dagana	Tmax (°C)		26.5	26.5	25	27.5	25	25	15.5
	Tmin (°C)		14	11.5	14	14	15	15.5	15
	Rain (mm)		0	0	0.2	0	0	0.6	17.2
Chamkhar	Tmax (°C)		18.5	19	19.5	21.5	20.5	21.5	14
	Tmin (°C)		6	1.5	6.5	1.5	4.5	9.5	10
	Rain (mm)		0	2.5	3.4	0	0	0	4.1
Deothang	Tmax (°C)		27	28	26	28	27	29	25
	Tmin (°C)		18.5	19	18	18	18	21	19
	Rain (mm)		0	0	0	0	0	0	4.2
Gasa	Tmax (°C)		16	15	15	18	17.5	17	11
	Tmin (°C)		8	3	4	2	4	5	6
	Rain (mm)		0	0	0	0	1.4	15.6	8.2



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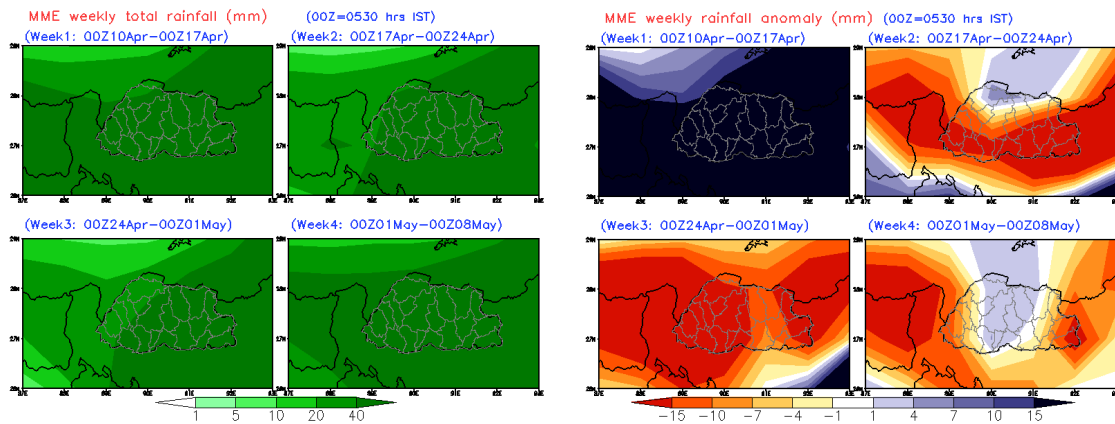
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Weekly forecast for Bhutan

1. Rainfall Prediction



Week 1 (10 April - 17 April)

Above normal rainfall throughout the region.

Week 2 (17 April - 24 April) and Week 3 (24 April - 01 May)

Below normal rainfall throughout the region.

Week 4 (01 May - 08 May)

Above normal rainfall in the central region and below normal rainfall in the rest of the country.



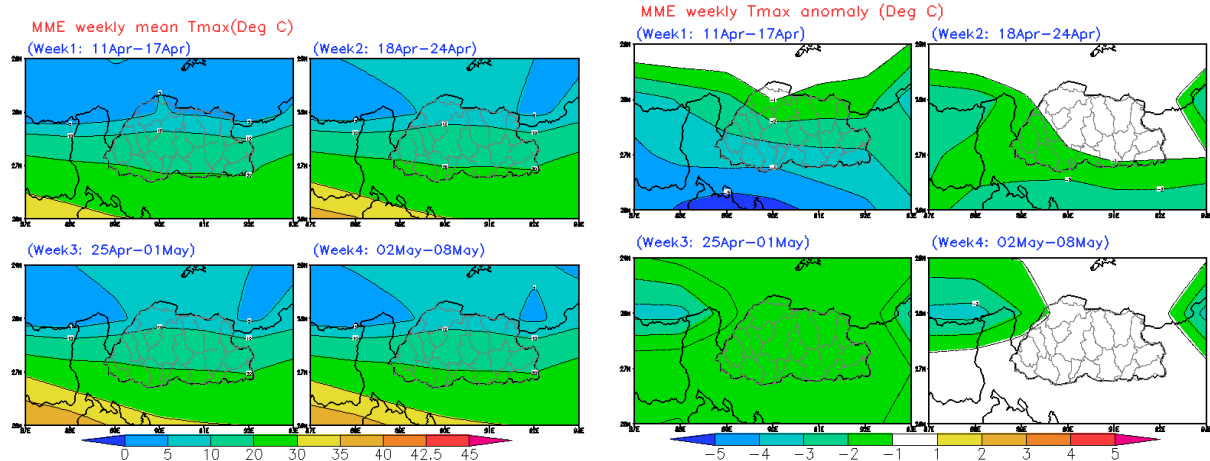
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2. Maximum Temperature Prediction



Week 1 (11 April - 17 April)

Below normal maximum temperature throughout the region.

Week 2 (18 April - 24 April)

Below normal maximum temperature expected in the southern and southwestern parts of the country. The rest is normal maximum temperature.

Week 3 (25 April - 01 May)

Below normal maximum temperature throughout the region.

Week 4 (02 May - 08 May)

Normal maximum temperature throughout the region.



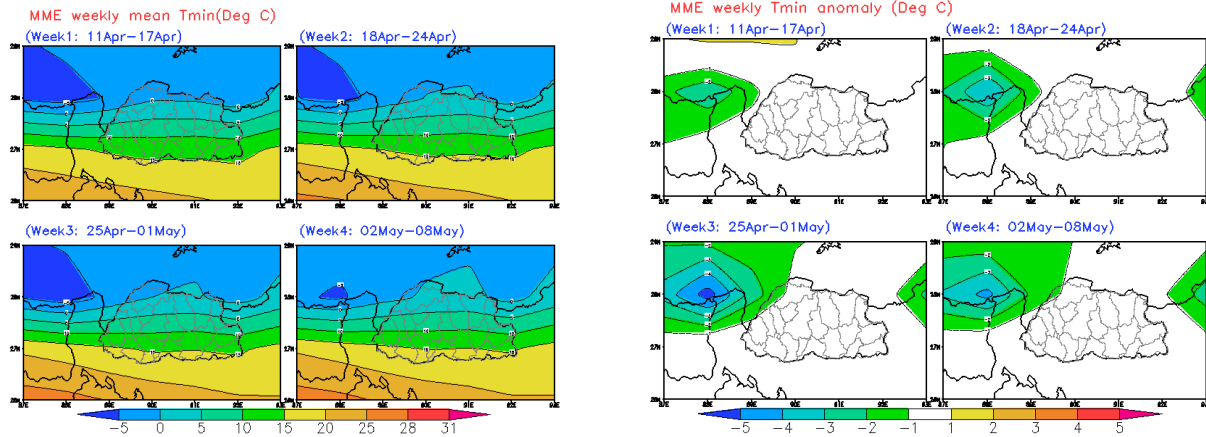
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3. Minimum Temperature Prediction



Week 1 (11 April - 17 April) , Week 2 (18 April - 24 April) , Week 3 (25 April - 01 May) and Week 4 (02 May - 08 May)

Normal minimum temperature throughout the region.



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Summary

- The rainfall is likely to be above normal in the first week and below normal for the next two weeks followed by above normal in the central and below normal in the rest of the country in the last week.
- The maximum temperature is likely to be below normal in the first and third weeks, and then normal in the second and fourth weeks.
- The minimum temperature is likely to be normal for the rest 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