9 May, 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 temperature on day 2 of last week and then decreased for the rest of the week, and varied (increase in the middle of the week) minimum temperature throughout the week. Light 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		02 May	03 May	04 May	05 May	06 May	07 May	08 May
Babesa	Tmax (°C)	19.0	18.0	17.0	14.0	16.0	16.0	21.0
	Tmin (°C)	4.0	8.0	5.0	6.0	6.0	6.0	5.0
	Rain (mm)	7.6	1.8	3.6	2.6	0.2	0.0	4.2
Dagana	Tmax (°C)	23.0	21.5	22.0	22.0	22.0	21.5	23.0
	Tmin (°C)	13.5	12.5	15.5	15.0	14.5	15.0	15.5
	Rain (mm)	8.8	0.0	5.8	2.8	0.0	0.0	0.0
Chamkhar	Tmax (°C)	28.0	29.0	29.0	27.0	27.5	27.5	30.0
	Tmin (°C)	14.5	16.0	18.0	17.5	17.5	18.0	18.0
	Rain (mm)	0.0	0.0	7.0	0.0	0.8	1.0	0.0
Deothang	Tmax (°C)	24.0	25.0	25.0	21.0	23.0	21.5	26.5
	Tmin (°C)	12.0	13.0	15.0	14.0	18.0	15.0	13.0
	Rain (mm)	0.0	0.2	12.8	4.8	0.8	1.0	0.0
Gasa	Tmax (°C)	32.5	33.0	33.0	29.5	30.5	1.0	34.5
	Tmin (°C)	16.5	33.0	33.0	29.5	30.5	30.5	16.0
	Rain (mm)	2.8	4.4	9.6	1.0	0.0	3.0	8.4

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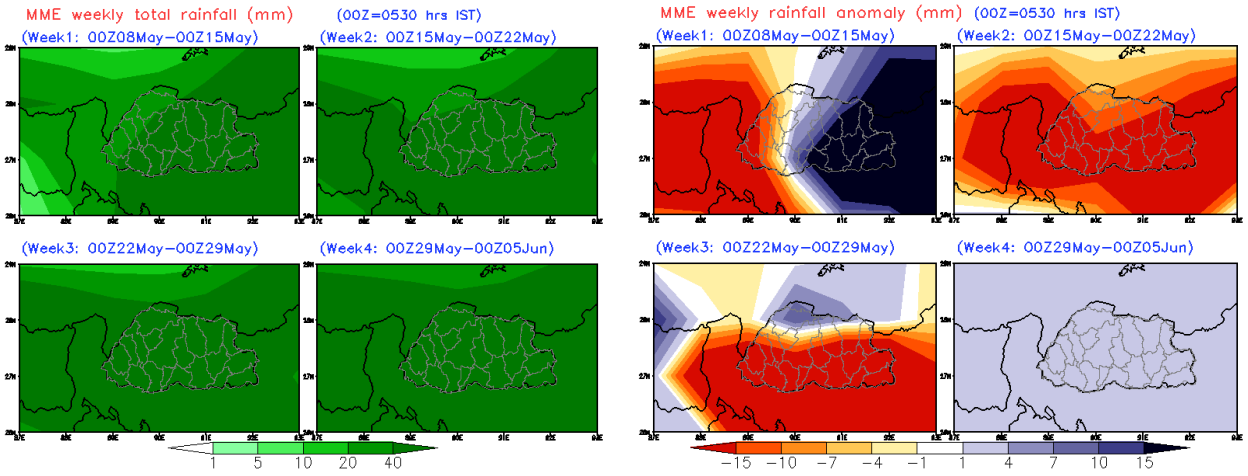
Weekly forecast for Bhutan

1. Rainfall Prediction



Week 1 (08 May - 15 May)

Above normal rainfall in the eastern part and below normal in the western part of the country.

Week 2 (15 May - 22 May) Week 3 (22 May - 29 May)

Below normal rainfall throughout the country.

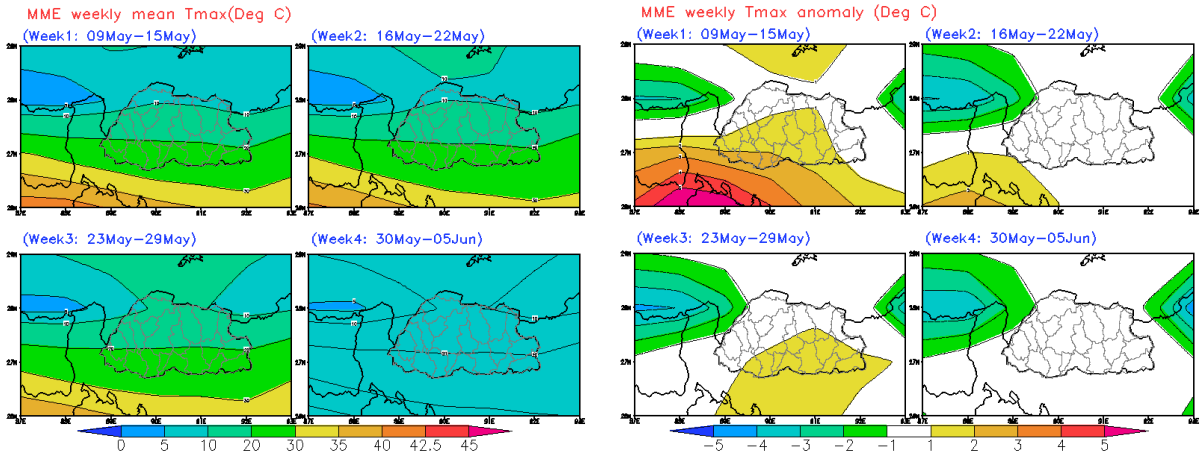
Week 3 (22 May - 29 May)

Below normal rainfall throughout the country except above normal in the north.

Week 4 (29 May - 05 June)

Above normal rainfall throughout the country.

2. Maximum Temperature Prediction



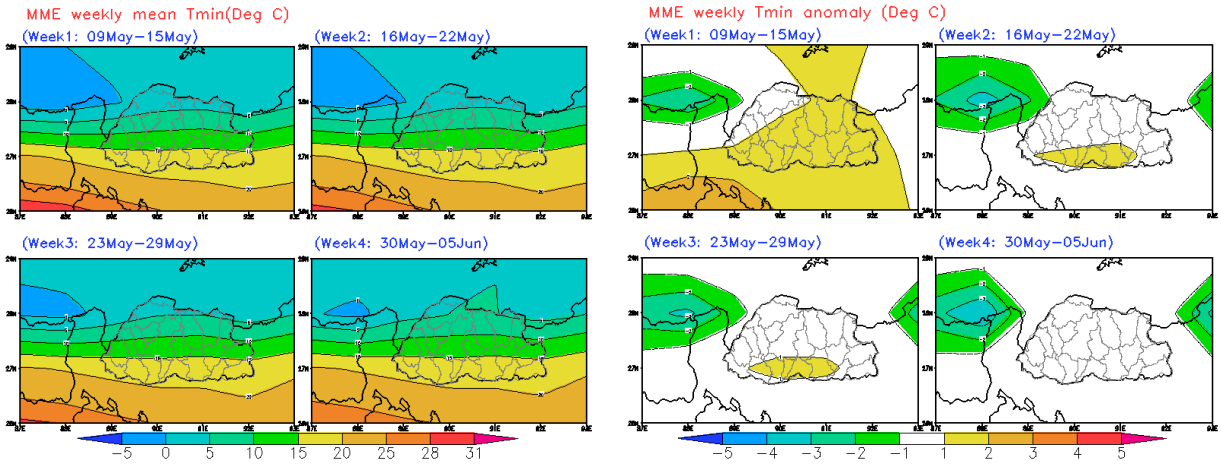
Week 1 (09 May - 15 May)
Normal maximum temperature throughout the region except above normal in the south.

Week 2 (16 May - 22 May)
Normal maximum temperature throughout the region.

Week 3 (23 May - 29 May)
Normal maximum temperature throughout the region except above normal in the south.

Week 4 (30 May - 05 June)
Normal maximum temperature throughout the region.

3. Minimum Temperature Prediction



Week 1 (09 May - 15 May)

Above normal minimum temperature throughout the region.

Week 2 (16 May - 22 May) and Week 3 (23 May - 29 May)

Normal minimum temperature throughout the region except for above in the scattered part in the south.

Week 4 (30 May - 05 June)

Normal minimum temperature throughout the region.

Summary

- The rainfall is likely to be below normal in the west and above normal in the east for week one and gradually turn to above normal by week 4.
- The maximum temperature is likely to be normal for the rest of the month except it is above normal in the south in the first and third week.
- The minimum temperature is likely to be above normal for the first week and gradually become 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

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