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21 March, 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	14 Mar	15 Mar	16 Mar	17 Mar	18 Mar	19 Mar	20 Mar
Babesa	Tmax (°C)	17	20	21	21.5	21.5	21	19.5
	Tmin (°C)	5.5	4.5	5.5	2	2.5	1	1.5
	Rain (mm)	0	0	0	0	0	0	0
Dagana	Tmax (°C)	20.5	24.5	23.5	27.5	28	25.5	23.5
	Tmin (°C)	10.5	11	11.5	11	11.5	10.5	10.5
	Rain (mm)	0	0	0	0	0	0	0
Chamkhar	Tmax (°C)	14.5	19	19	20.5	19	17.5	18
	Tmin (°C)	7	6	6.5	7	5.5	0.5	1.5
	Rain (mm)	0	0.1	0.5	0	0	0	0
Deothang	Tmax (°C)	17	24	25	26	26	26	26
	Tmin (°C)	15	16	17	17	21	16.5	15
	Rain (mm)	12	0	0	0	0	0	0
Gasa	Tmax (°C)	13	16	15	16	16	15	16
	Tmin (°C)	4	3	5	5	4	3	4
	Rain (mm)	3.4	0	1	3.6	0	0	4



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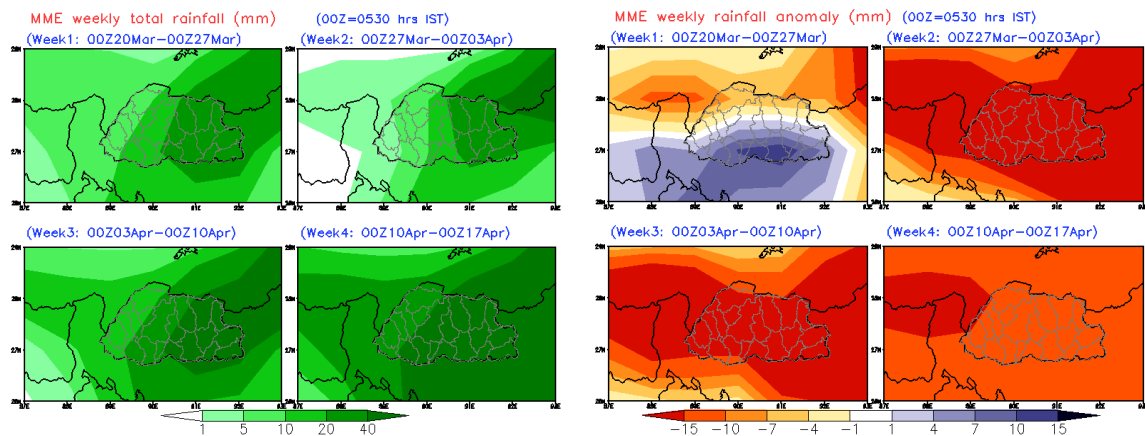
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Weekly forecast for Bhutan

1. Rainfall Prediction



Week 1 (20 March - 27 March)

Above normal rainfall in the south and below normal rainfall in the northern part of the country.

Week 2 (27 March - 06 April), Week 3 (06 April - 10 April) and Week 4 (10 April - 17 April)

Below normal rainfall throughout the region.



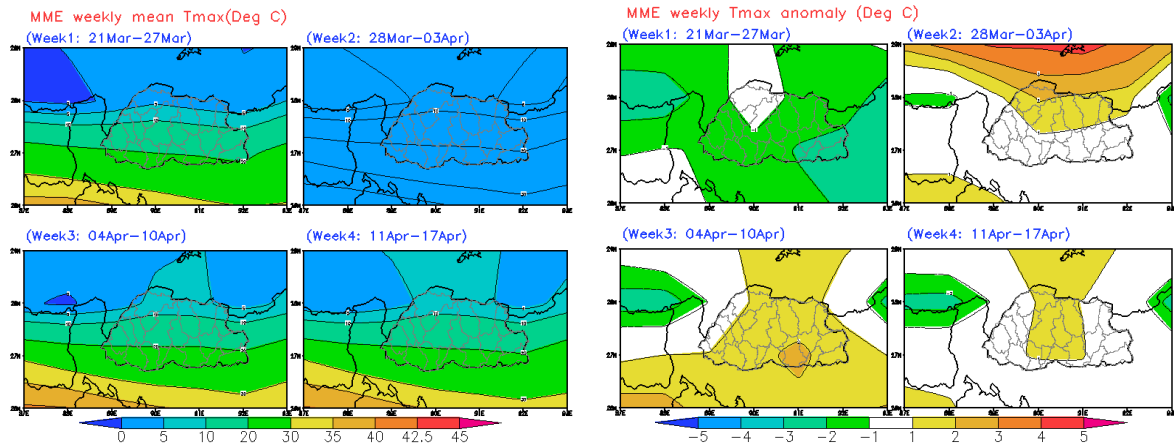
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2. Maximum Temperature Prediction



Week 1 (21 March - 27 March)

Below normal maximum temperature throughout the region.

Week 2 (28 March - 06 April) and Week 3 (07 April - 10 April)

Above normal maximum temperature expected in the northern part of the country. The rest is normal maximum temperature.

Week 3 (07 April - 10 April)

Above normal maximum temperature throughout the region.

Week 3 (11 April - 17 April)

Above normal maximum temperature expected in the central part of the country. The rest is normal maximum temperature.



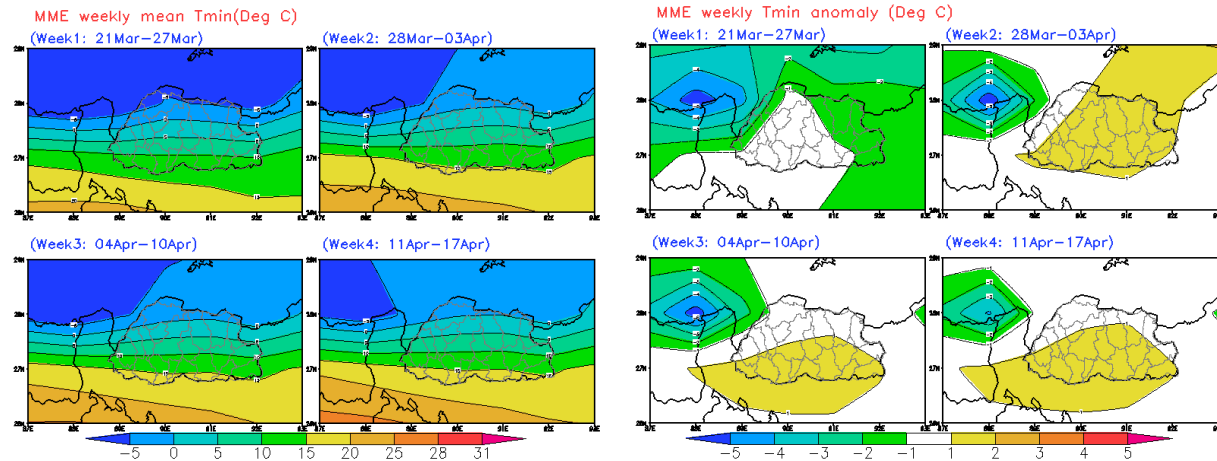
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3. Minimum Temperature Prediction



Week 1 (21 March - 27 March)

Below normal minimum temperature expected in the northern and eastern parts of the country.
Normal minimum temperature in the rest of the country.

Week 2 (28 March - 06 April)

Above normal minimum temperature expected throughout the region.

Week 3 (07 April - 13 April) and Week 3 (11 April - 17 April)

Above normal minimum temperature expected in the south and normal in the north.

Summary

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- The rainfall is likely to be above normal in the south and below normal in the north for the first week and below normal for the rest of the week..
- The maximum temperature is likely to be below normal in the first week, and then above normal in the scattered parts of the country for the rest of the week.
- The minimum temperature is likely to be below normal in the northern and eastern Bhutan for the first week and then gradually become above normal for the rest of the week.

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