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NATIONAL CENTRE FOR HYDROLOGY AND METEOROLOGY
THIMPHU: BHUTAN

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



04 September, 2026

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

Maximum temperatures exhibited an upward trend over the past week, while minimum temperatures remained largely stable, with only minor day-to-day fluctuations in some areas. Heavy rainfall was recorded in a few regions during the reporting period. The table below summarizes real-time rainfall and temperature observations collected from the Regional Meteorological Centres over the past week.

Station		28 Aug	29 Aug	30 Aug	31 Aug	01 Sep	02 Sep	03 Sep
Thimphu	Tmax (°C)	26.5	27.5	27	26.5	24	22.5	21.5
	Tmin (°C)	16.5	16	17	16	15.5	15.5	15
	Rain (mm)	21.5	0	1.4	17.6	35.4	6.2	10.8
Dagana	Tmax (°C)	29	29	30.5	28	22	23	26
	Tmin (°C)	21	20.5	19	19	18.5	19	18.5
	Rain (mm)	0	0	0	7.2	46	0	0
Bumthang	Tmax (°C)	23.5	25.5	24	25	24.5	23.5	20.5
	Tmin (°C)	16.5	16.5	16.5	16	16.5	15	16
	Rain (mm)	4.3	0	2.1	16.3	12.8	20.5	0.3
S/Jongkhar	Tmax (°C)	33	31.5	34	28	26.5	30	33
	Tmin (°C)	23.5	24	24	23	23	23	23
	Rain (mm)	3.8	0	62.4	17	11	0	0
Gasa	Tmax (°C)	22	21	22	19	20	18	18
	Tmin (°C)	16	15	15	15	13	14	13
	Rain (mm)	17.6	22.2	21.4	9.5	13.2	12	11.4



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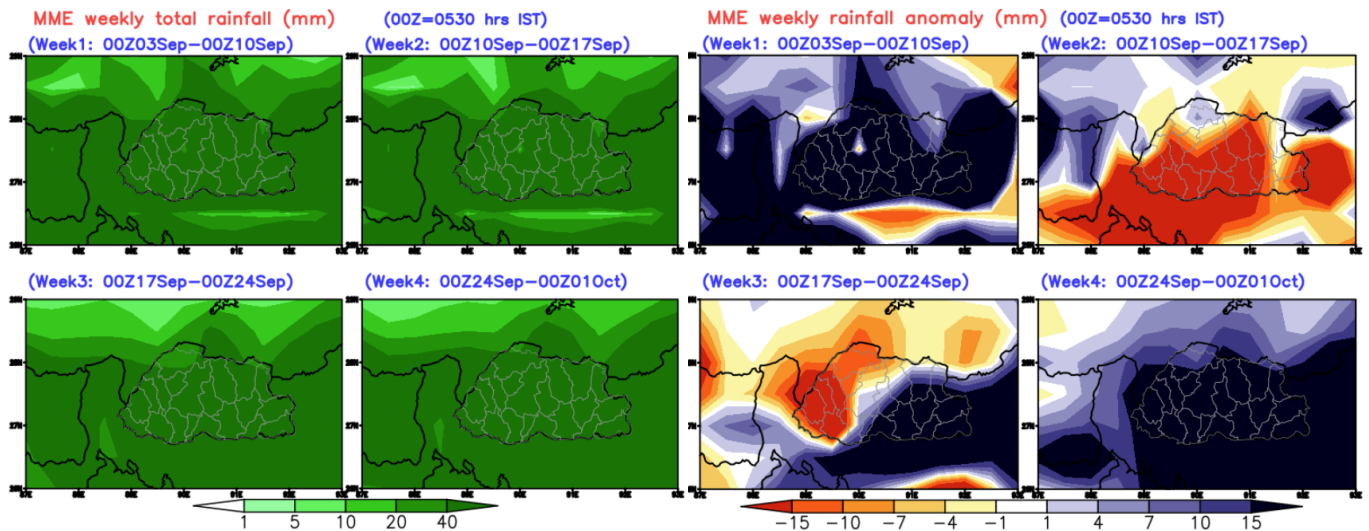
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Weekly forecast for Bhutan

1. Rainfall Prediction



Week 1 (04 Sep - 10 Sep)

Above normal rainfall is expected over the country.

Week 2 (11 Sep - 17 Sep)

Below normal rainfall is expected over the country, with above normal rainfall over isolated northern parts.

Week 3 (18 Sep - 24 Sep)

Above normal rainfall is expected over the eastern and southeastern part of the country, with below normal over the rest of the places.

Week 4 (25 Sep - 01 Oct)

Above normal rainfall is expected over the country.



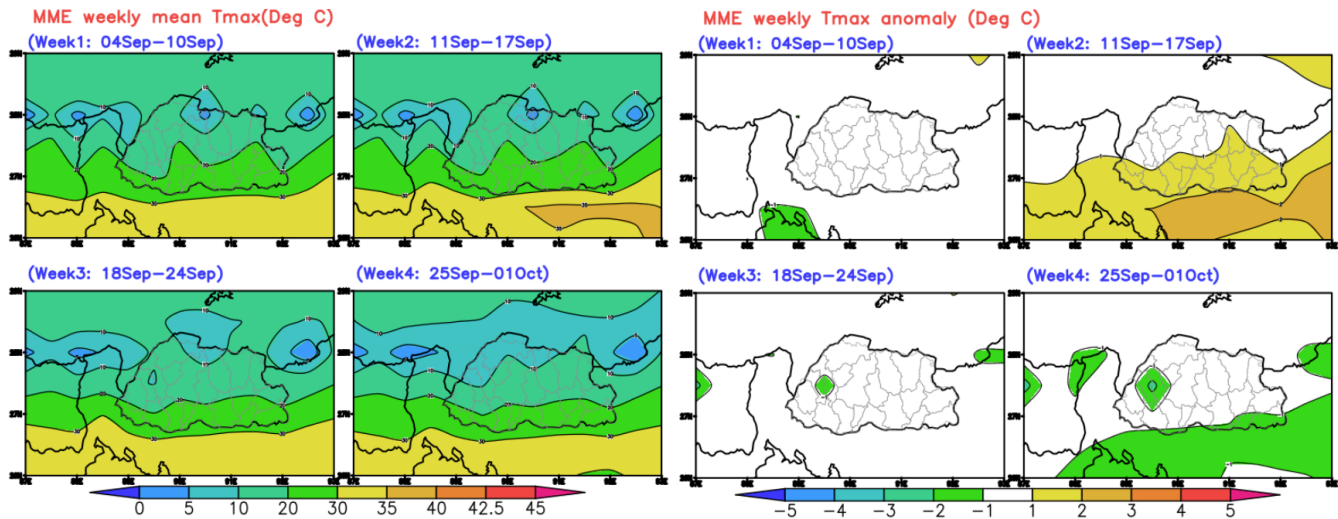
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2. Maximum Temperature Prediction



Week 1 (04 Sep - 10 Sep)

Normal temperature is expected over the country.

Week 2 (11 Sep - 17 Sep)

Above normal temperature is expected over the southern parts of the country, with normal temperature over the rest of the places.

Week 3 (18 Sep - 24 Sep)

Normal temperature is expected over the country, with above normal over isolated western parts of the country.

Week 4 (25 Sep - 01 Oct)

Normal temperature is expected over the country, with above normal over isolated western parts of the country.



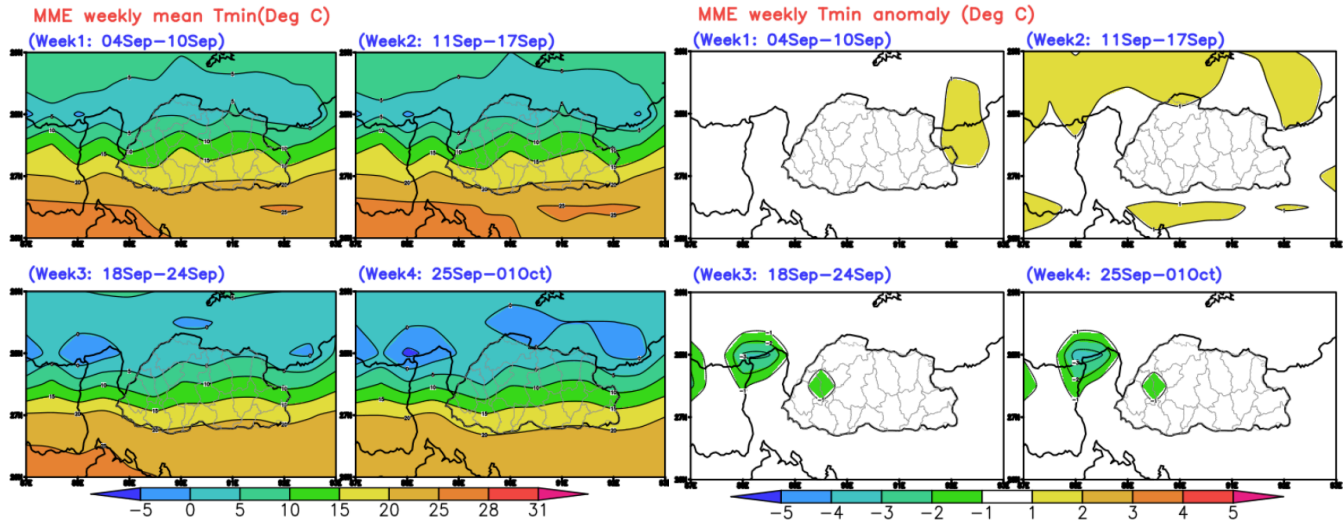
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3. Minimum Temperature Prediction



Week 1 (04 Sep - 10 Sep)

Normal temperature is expected over the country.

Week 2 (11 Sep - 17 Sep)

Normal temperature is expected over the country.

Week 3 (18 Sep - 24 Sep)

Normal temperature is expected over the country, with above normal over isolated western parts of the country.

Week 4 (25 Sep - 01 Oct)

Normal temperature is expected over the country, with above normal over isolated western parts of the country.



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Summary

- Above-normal rainfall is expected countrywide in Week 1, followed by predominantly below-normal rainfall in Week 2 (with above-normal rainfall over isolated northern parts). Rainfall becomes mixed in Week 3, with above-normal conditions over the eastern and southeastern parts and below-normal elsewhere, before returning to above-normal rainfall across the country in Week 4.
- Maximum temperatures are expected to be near-normal over most parts in Week 1, with above-normal temperatures over the southern parts in Week 2. Weeks 3 and 4 are mainly normal countrywide, with above-normal maximum temperatures over isolated western parts.
- Minimum temperatures are expected to remain normal over most parts of the country throughout the period, with above-normal minimum temperatures over isolated western parts in Weeks 3 and 4.

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