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20 March, 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

Most of the stations across the country showed fluctuating maximum and minimum temperatures throughout the week. Rainfall was recorded in many parts of the country, with light to moderate rainfall observed at most places and very heavy rainfall in isolated areas during the beginning of the week. The table below displays observed real time rain and temperature data from regional meteorological stations over the last week.

| Station | | 13 Mar | 14 Mar | 15 Mar | 16 Mar | 17 Mar | 18 Mar | 19 Mar |
|-----------|-----------|--------|--------|--------|--------|--------|--------|--------|
| Babesa | Tmax (°C) | 12.0 | 18.5 | 17.5 | 17.0 | 16.0 | 16.5 | 16.5 |
| | Tmin (°C) | 8.0 | 8.5 | 6.5 | 4.0 | 2.0 | 5.0 | 4.5 |
| | Rain (mm) | 3.0 | 2.6 | 2.9 | 0.4 | 0.0 | 0.0 | 0.1 |
| Dagana | Tmax (°C) | 15.0 | 16.0 | 17.5 | 19.5 | 22.5 | 23.5 | 21.5 |
| | Tmin (°C) | 12.5 | 12.5 | 11.0 | 11.0 | 9.0 | 10.0 | 11.0 |
| | Rain (mm) | 6.8 | 2.2 | 2.2 | 1.0 | 0.2 | 1.0 | 0.8 |
| Chamkhar | Tmax (°C) | 12.5 | 13.5 | 13.5 | 16.0 | 13.5 | 18.0 | 16.0 |
| | Tmin (°C) | 7.5 | 7.0 | 5.0 | 5.5 | 4.0 | 4.5 | 6.0 |
| | Rain (mm) | 2.3 | 15.5 | 2.1 | 3.6 | 2.6 | 5.1 | 0.0 |
| Dewathang | Tmax (°C) | 19.0 | 19.0 | 21.0 | 24.0 | 25.0 | 27.0 | 24.5 |
| | Tmin (°C) | 17.0 | 16.5 | 15.0 | 16.0 | 15.0 | 16.0 | 16.5 |
| | Rain (mm) | 83.0 | 28.0 | 11.8 | 3.8 | 1.0 | 1.2 | 10.5 |
| Gasa | Tmax (°C) | 11.0 | 14.0 | 13.0 | 11.5 | 12.0 | 15.0 | 16.0 |
| | Tmin (°C) | 6.0 | 6.0 | 5.0 | 5.0 | 2.0 | 2.0 | 5.0 |
| | Rain (mm) | 3.2 | 7.0 | 1.0 | 1.6 | 3.8 | 0.0 | 0.0 |



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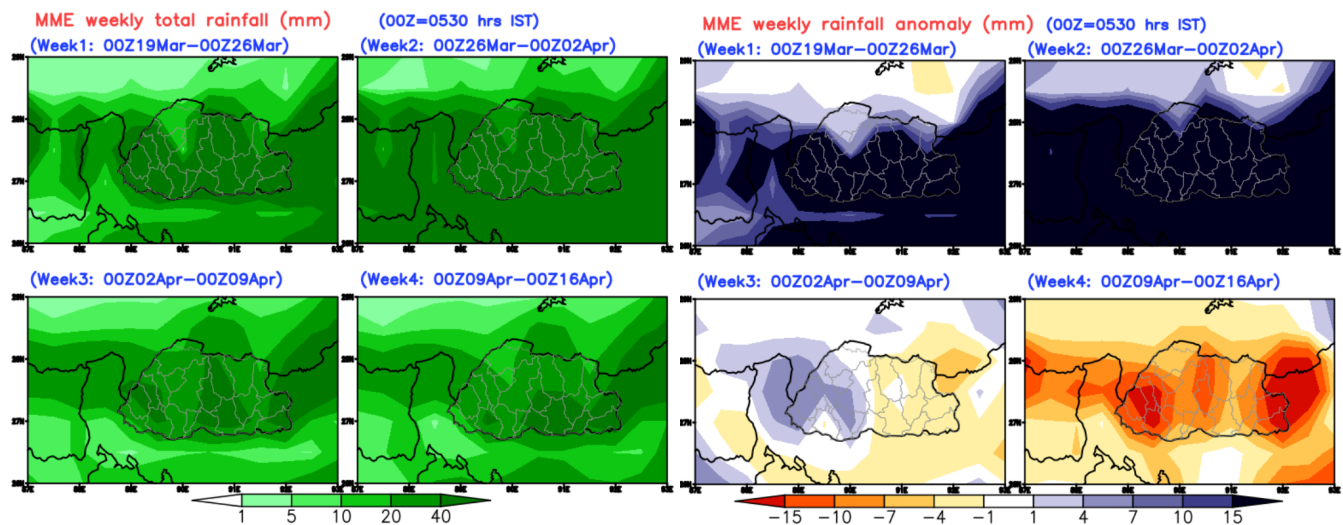
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Weekly forecast for Bhutan

1. Rainfall Prediction



Week 1 (19 Mar - 26 Mar), Week 2 (26 Mar - 02 Apr) and Week 3 (02 Apr - 09 Apr)

Above normal rainfall is expected over most parts of the country during the first three weeks. The positive anomaly is more pronounced in Week 1 and Week 2, and weakens in Week 3 with near normal conditions over some areas.

Week 4 (09 Mar - 16 Apr)

Below normal rainfall is expected over most parts of the country during Week 4, with more pronounced dry conditions over the central and eastern regions.



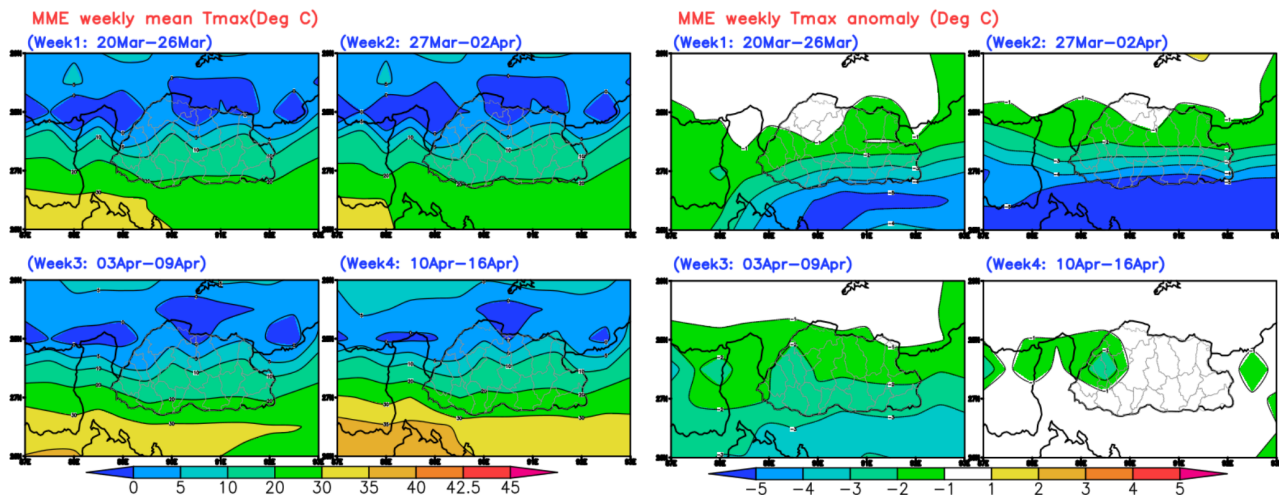
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2. Maximum Temperature Prediction



Week 1 (19 Mar - 26 Mar) and Week 2 (26 Mar - 02 Apr) and Week 3 (02 Apr - 09 Apr)

Below normal maximum temperature is expected over most parts of the country during the first three weeks. The negative anomaly is more pronounced over the southern parts, especially in Week 2 and Week 3.

Week 4 (09 Apr - 16 Apr)

Maximum temperature is expected to remain near normal over most parts of the country during Week 4, with slightly below normal conditions over isolated areas.



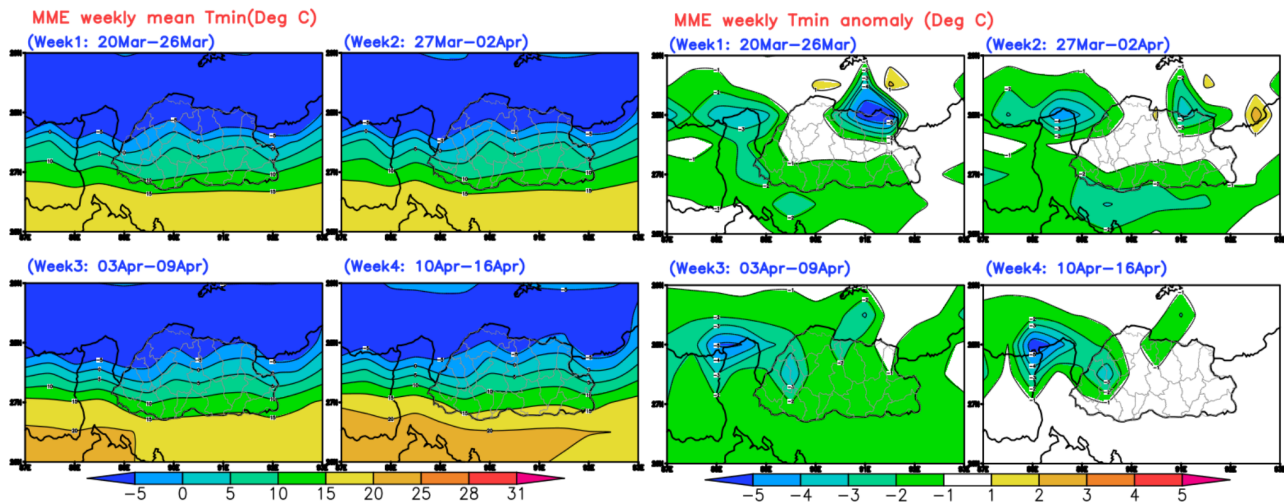
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3. Minimum Temperature Prediction



Week 1 (19 Mar - 26 Mar), Week 2 (26 Mar - 02 Apr), Week 3 (02 Apr - 09 Apr) and Week 4 (09 Apr - 16 Apr)

Below normal minimum temperature is expected over many parts of the country during the four weeks. The negative anomaly is more pronounced over isolated northern, western and central parts, while near normal conditions are likely over the remaining areas.

Summary

- Above normal rainfall is expected over most parts of the country during the first three weeks, followed by below normal rainfall in Week 4.
- Below normal maximum temperature is expected over most parts of the country during the first three weeks, with near normal conditions likely in Week 4.
- Below normal minimum temperature is expected over many parts of the country during the four weeks, while near normal conditions are likely over the remaining areas.



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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 |