



༄༅། རྒྱལ་ཡོངས་ཚུད་ཕྱད་དང་གནམ་གཤིས་རིག་པའི་ལྷོ་བ།།

NATIONAL CENTRE FOR HYDROLOGY AND METEOROLOGY  
THIMPHU: BHUTAN

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



20 May 2022

## 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.



༄༅། རྒྱལ་ཡོངས་ཚུད་ཕྱད་དང་གནམ་གཤིས་རིག་པའི་སློབ་གྲྭ།

NATIONAL CENTRE FOR HYDROLOGY AND METEOROLOGY  
THIMPHU: BHUTAN

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



### Observed weather over last week

Most of the stations across the country showed a decrease in maximum and minimum temperature for the last week. Moderate to very heavy rain was observed over the parts of the southern region, moderate to extremely heavy rain was observed over the isolated areas of the southern region and light to moderate rain was observed over the remaining region. The table below shows the observed rain and temperature data from the regional meteorological stations during last week.

Station	Parameter	12 May	13 May	14 May	15 May	16 May	17 May	18 May
Babesa	Tmax (°C)	26.5	23.0	24.5	27.5	21.0	23.0	26.0
	Tmin (°C)	11.0	13.0	12.0	13.0	13.5	12.5	8.5
	Rain (mm)	0.0	0.2	0.0	0.0	0.0	0.0	0.0
Dagana	Tmax (°C)	28.0	22.5	27.0	27.5	21.0	24.0	27.5
	Tmin (°C)	17.0	17.5	16.5	18.0	18.0	17.0	16.0
	Rain (mm)	2.0	1.6	0.0	2.2	0.0	0.0	0.0
Chamkhar	Tmax (°C)	23.0	19.5	23.0	23.0	18.0	21.0	22.0
	Tmin (°C)	12.0	12.0	12.0	13.0	15.0	12.0	9.5
	Rain (mm)	0.0	0.6	0.0	2.7	0.1	0.1	0.0
Deothang	Tmax (°C)	26.0	21.0	24.0	21.0	21.5	21.0	25.0
	Tmin (°C)	19.0	20.0	19.0	20.0	18.0	18.5	18.0
	Rain (mm)	83.9	9.8	74.8	170.0	50.4	7.6	25.4
Gasa	Tmax (°C)	16.5	15.5	16.5	18.0	15.0	13.5	17.5
	Tmin (°C)	8.5	11.0	10.0	8.5	11.0	9.5	8.0
	Rain (mm)	10.6	12.0	1.2	5.4	6.5	7.8	1.0



༄༅། རྒྱལ་ཡོངས་ཚུན་ཕྱད་དང་གནམ་གཤིས་རིག་པའི་སློབ་གྲྭ།

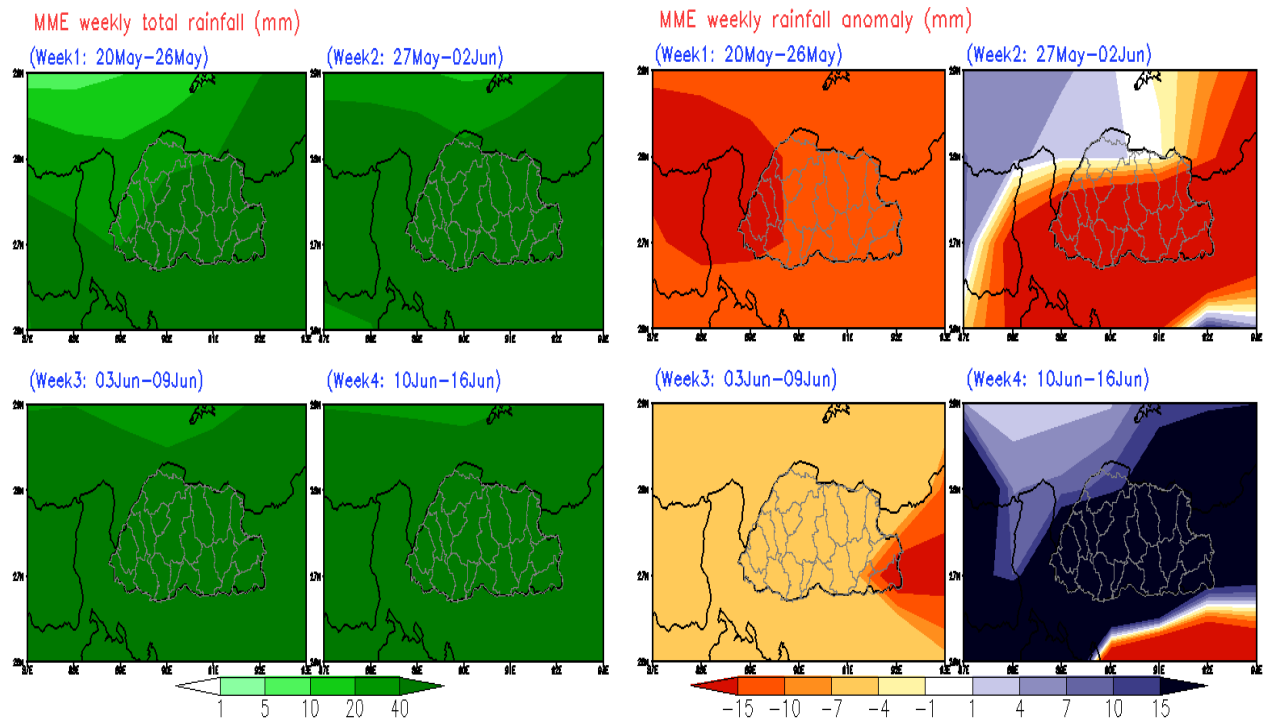
NATIONAL CENTRE FOR HYDROLOGY AND METEOROLOGY  
THIMPHU: BHUTAN

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



## Weekly forecast for Bhutan

### 1. Rainfall Prediction



**Week 1 (20 May - 26 May), Week 2 (27 May - 02 June) and Week 3 (03 June - 09 June)**  
Below normal rainfall is expected throughout the region.

**Week 4 (10 June - 16 June)**  
Above normal rainfall is expected throughout the region.



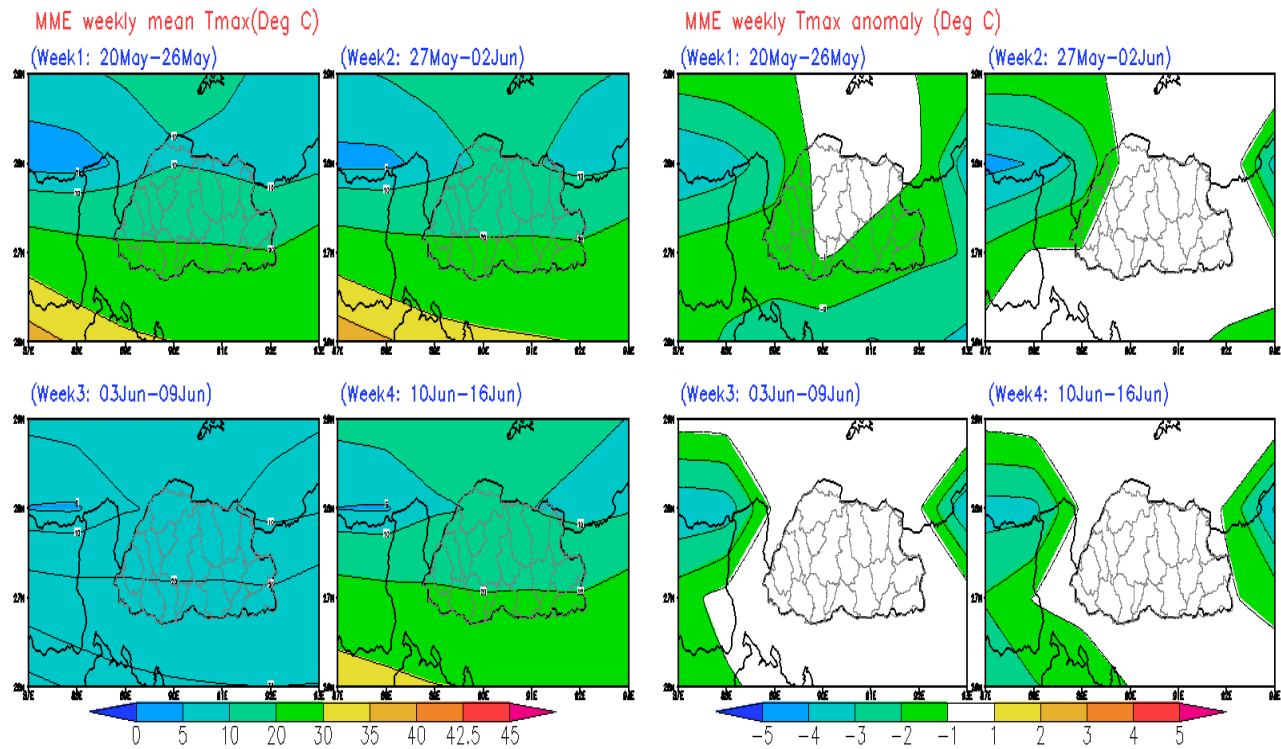
༄༅། རྒྱལ་ཡོངས་ཚུད་ཕྱད་དང་གནམ་གཤིས་རིག་པའི་སྡེ་བ།།

NATIONAL CENTRE FOR HYDROLOGY AND METEOROLOGY  
THIMPHU: BHUTAN

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



## 2. Maximum Temperature Prediction



### Week 1 (20 May - 26 May)

Below normal maximum temperature is expected across the western, southern and parts of the eastern region while the remaining region can expect normal maximum temperature.

### Week 2 (27 May - 02 June)

The western region can expect below normal maximum temperature and the rest of the region can observe normal maximum temperature.

### Week 3 (03 June - 09 June) and Week 4 (10 June - 16 June)

Normal maximum temperature is expected across the country.



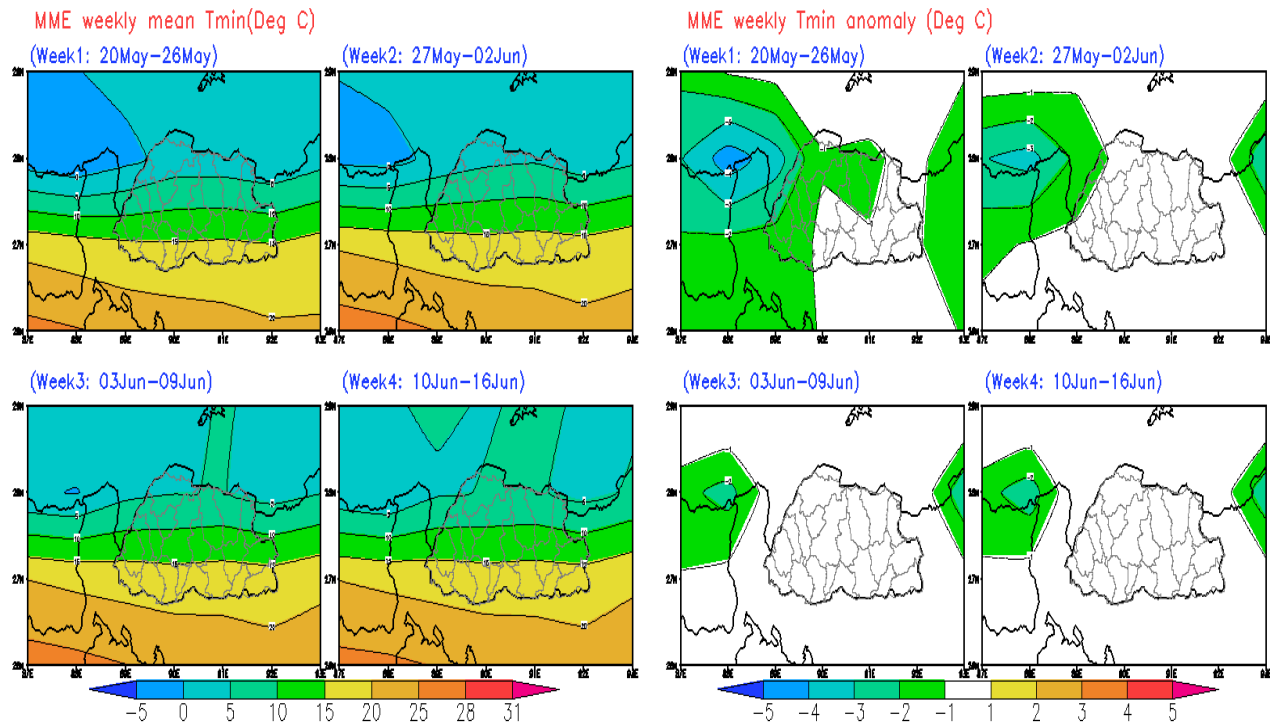
༄༅། རྒྱལ་ཡོངས་ཚུན་ཕྱད་དང་གནམ་གཤིས་རིག་པའི་སློབ་ཤེས་ལྷན་ཁག།

NATIONAL CENTRE FOR HYDROLOGY AND METEOROLOGY  
THIMPHU: BHUTAN

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



### 3. Minimum Temperature Prediction



#### Week 1 (20 May - 26 May)

Below normal minimum temperature is expected across the western, parts of central and northern region and the remaining region can expect normal minimum temperature.

#### Week 2 (27 May - 02 June), Week 3 (03 June - 09 June) and Week 4 (10 June - 16 June)

Normal minimum temperature is expected across the country.

#### Summary

- The rainfall is likely to be below normal for the first three weeks and above normal for the last week.
- The maximum temperature is likely to be normal for all the weeks.
- The minimum temperature is likely to be normal for all the weeks.



༄༅། རྒྱལ་ཡོངས་ཚུད་ཕྱད་དང་གནམ་གཤིས་རིག་པའི་རྩེ་བ།

NATIONAL CENTRE FOR HYDROLOGY AND METEOROLOGY  
THIMPHU: BHUTAN

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



### 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