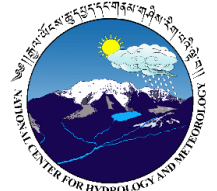




༄༅། རྒྱལ་ཡོངས་ཚུ་དབྱུང་དང་གནམ་གཤིས་རིག་པའི་ལྷོ་བ།།

NATIONAL CENTER FOR HYDROLOGY AND METEOROLOGY  
THIMPHU: BHUTAN

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



18 February 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.

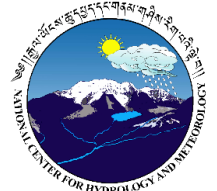
Generally, the forecast output is produced on a weekly basis for a period of a month for both the variables. The current products available from NCHM are on pilot basis which needs further studies and validation with the ground observations until the product is fully operationalized.



# ལྷོ། རྒྱལ་ཡོངས་ཚུད་ཕྱད་དང་གནམ་གཤིས་རིག་པའི་རྩེ་བ།

NATIONAL CENTER FOR HYDROLOGY AND METEOROLOGY  
THIMPHU: BHUTAN

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



## Observed weather over last week

Most of the stations across the country showed an increase in maximum and minimum temperature for the first half of the week. Light to moderate rain was observed over the southern region and the remaining region received light rain. The table below shows the observed rain and temperature data from the regional meteorological stations during last week.

Station	Parameter	10 Feb	11 Feb	12 Feb	13 Feb	14 Feb	15 Feb	16 Feb
Babesa	Tmax (°C)	12.0	11.0	14.0	15.0	16.0	15.5	14.0
	Tmin (°C)	-4.0	-1.0	-5.0	-6.0	-5.0	-5.0	-4.5
	Rain (mm)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bhur	Tmax (°C)							
	Tmin (°C)							
	Rain (mm)							
Chamkhar	Tmax (°C)	10.5	10.0	12.0	12.5	13.0	13.0	12.0
	Tmin (°C)	-1.0	-1.5	-1.5	-7.5	-4.5	-4.0	-4.0
	Rain (mm)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deothang	Tmax (°C)	17.0	15.0	15.0	19.0	21.0	21.0	21.0
	Tmin (°C)	10.0	8.0	10.0	9.0	9.0	9.0	11.0
	Rain (mm)	0.0	1.4	0.0	0.0	0.0	0.0	0.0
Gasa	Tmax (°C)	7.0	1.5	1.5	11.0	10.5	7.0	10.0
	Tmin (°C)	-3.0	-3.5	-5.0	-7.0	-5.0	-4.0	-3.5
	Rain (mm)	3.1	3.8 SWE	0.0	0.0	0.0	0.0	1.2



༄༅། རྒྱལ་ཡོངས་ཚུན་ཕྱད་དང་གནམ་གཤིས་རིག་པའི་ལྷེ་བ།།

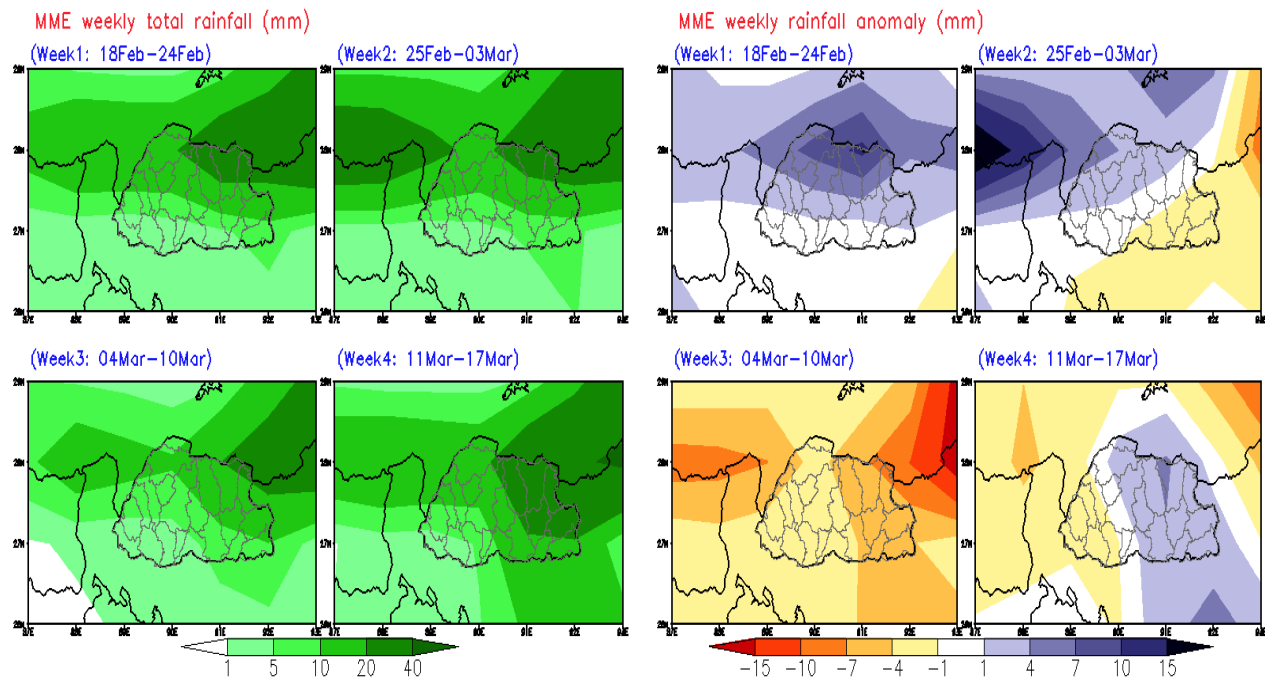
NATIONAL CENTER FOR HYDROLOGY AND METEOROLOGY  
THIMPHU: BHUTAN

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



## Weekly forecast for Bhutan

### 1. Rainfall Prediction



#### Week 1 (18 February - 24 February)

Normal rainfall is expected across the southern region and above normal rainfall is expected across the remaining regions.

#### Week 2 (25 February - 03 March)

Below normal rainfall is expected across the southeast region and normal rainfall is expected across the southwest and parts of the central region. Above normal rainfall is expected across the remaining region.

#### Week 3 (04 March - 10 March)

Below normal rainfall is expected across the region.

#### Week 4 (11 March - 17 March)

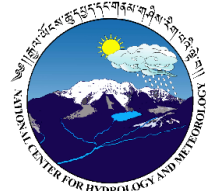
The western region can expect below normal rainfall and above normal rainfall is expected across the rest of the region.



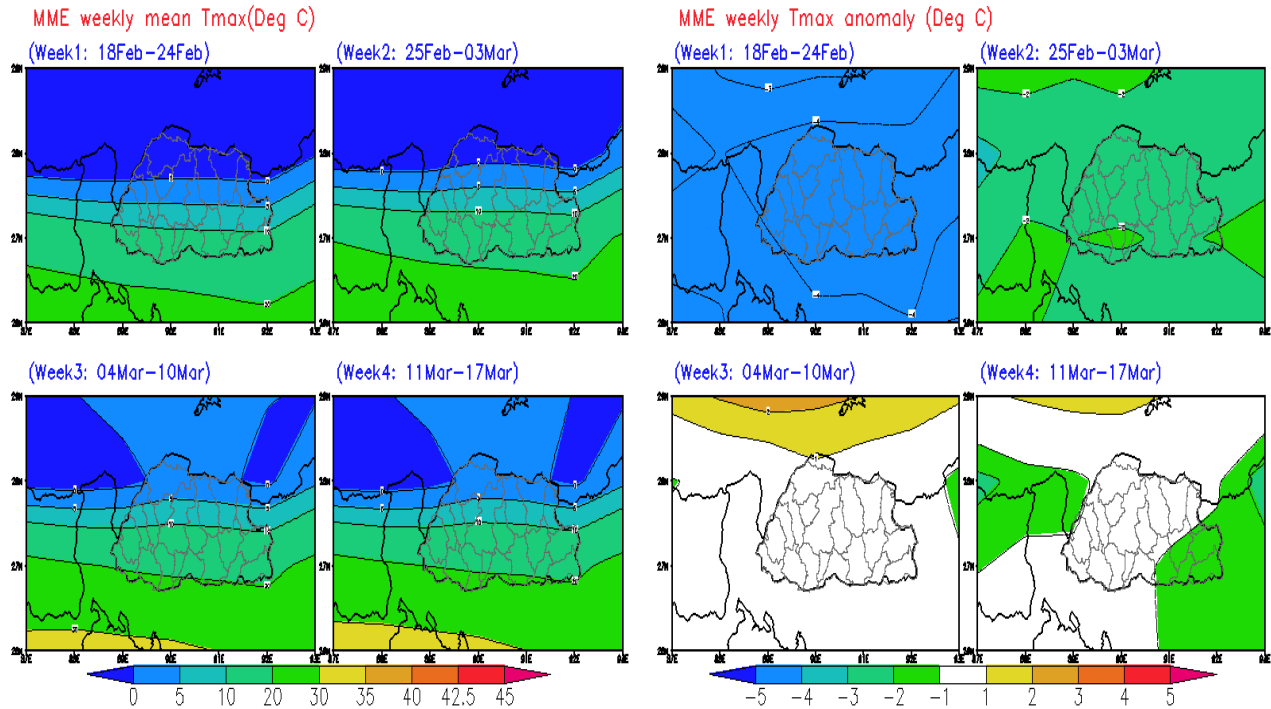
༄༅། རྒྱལ་ཡོངས་ཚུན་ཕྱད་དང་གནམ་གཤིས་རིག་པའི་སློབ་ཁྲིམས།

NATIONAL CENTER FOR HYDROLOGY AND METEOROLOGY  
THIMPHU: BHUTAN

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



## 2. Maximum Temperature Prediction



### Week 1 (18 February - 24 February) and Week 2 (25 February - 03 March)

Below normal maximum temperature is expected across the country.

### Week 3 (04 March - 10 March)

Normal maximum temperature is expected across the country.

### Week 4 (11 March - 17 March)

The parts of the southeast region can observe below normal maximum temperature and the remaining region can observe normal maximum temperature.



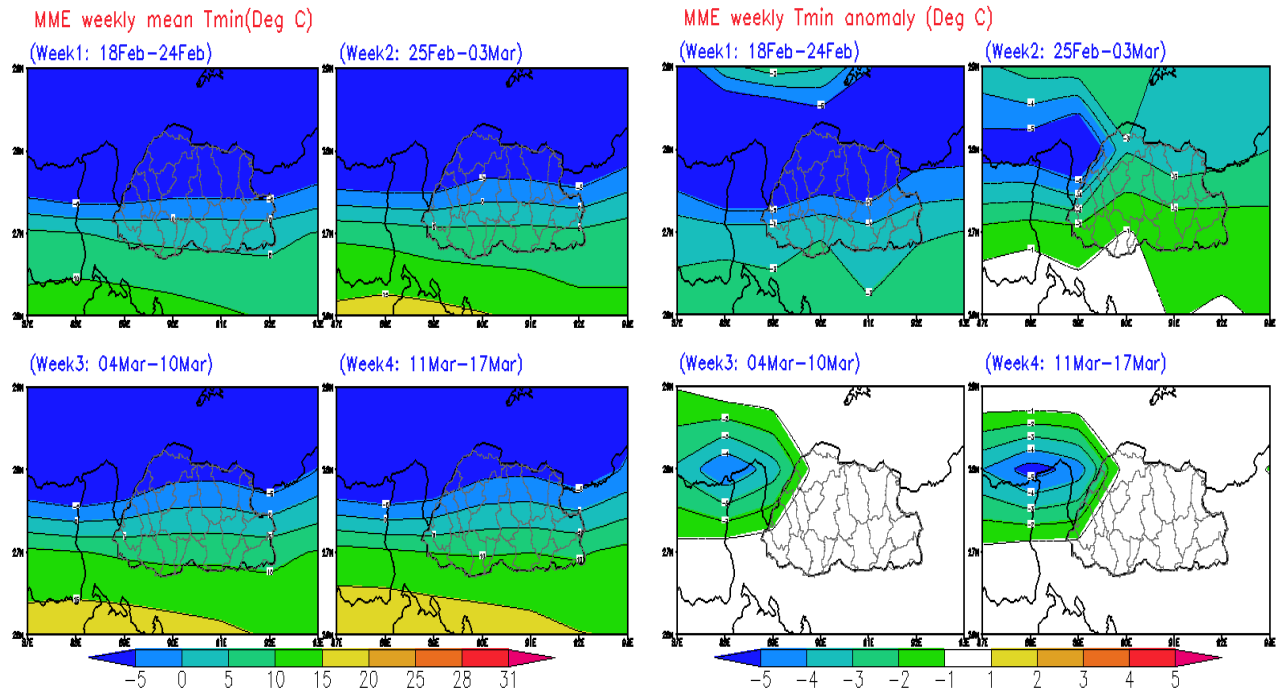
ལྷོ། རྒྱལ་ཡོངས་ཚུད་ཕྱད་དང་གནམ་གཤིས་རིག་པའི་ལྷོ་བ།

NATIONAL CENTER FOR HYDROLOGY AND METEOROLOGY  
THIMPHU: BHUTAN

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



### 3. Minimum Temperature Prediction



#### Week 1 (18 February - 24 February) and Week 2 (25 February - 03 March)

Below normal minimum temperature is expected across the country.

#### Week 3 (04 March - 10 March) and Week 4 (11 March - 17 March)

Normal minimum temperature is expected across the region.

#### Summary

- The rainfall is likely to be below normal for week 3 and above normal for the rest of the weeks.
- The maximum temperature is likely to be below normal for the first two weeks and normal for the last two weeks.
- The minimum temperature is likely to be below normal for the first two weeks and normal for the last two weeks.



༄༅། རྒྱལ་ཡོངས་ཚུ་དབྱུང་དང་གནམ་གཤིས་རིག་པའི་རྩེ་བ།།

NATIONAL CENTER FOR HYDROLOGY AND METEOROLOGY  
THIMPHU: BHUTAN

*"Center 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