



MONTHLY CLIMATE SUMMARY
For
February 2023

Meteorological Services Division
National Centre for Hydrology and Meteorology
Royal Government of Bhutan

Highlights

- The winter monsoon season is expected from December - February and the country is mostly dry during that period. During the month of February 2023, most parts of the regions did not received rainfall.
- The lowest daily minimum temperature was recorded at Haa met station (-6.5°C).
- The highest daily maximum temperature was recorded at Phuentsholing met station (31.0°C)
- The highest daily rainfall was recorded at Phuentsholing met station (20.4 mm).
- Gasa met station recorded the highest total rainfall of 64.1 mm for February month.
- All the computations are based on real time observed data of 20 Agrometeorological (Class A) stations.

Rainfall

Bhutan experiences the summer monsoon during the month of June to September. Bhutan received most of its annual rainfall during summer monsoon so, the Centre monitors the performance of monsoon and issue an outlook for the monsoon season. The normal is the monitoring of long-term average rainfall of Bhutan from (1996-2022). The relationship between the long-term average or normal (1996-2022) with the monthly real time observation data (2023) is also analyzed. For the month of February 2023, the country as a whole received near normal rainfall.

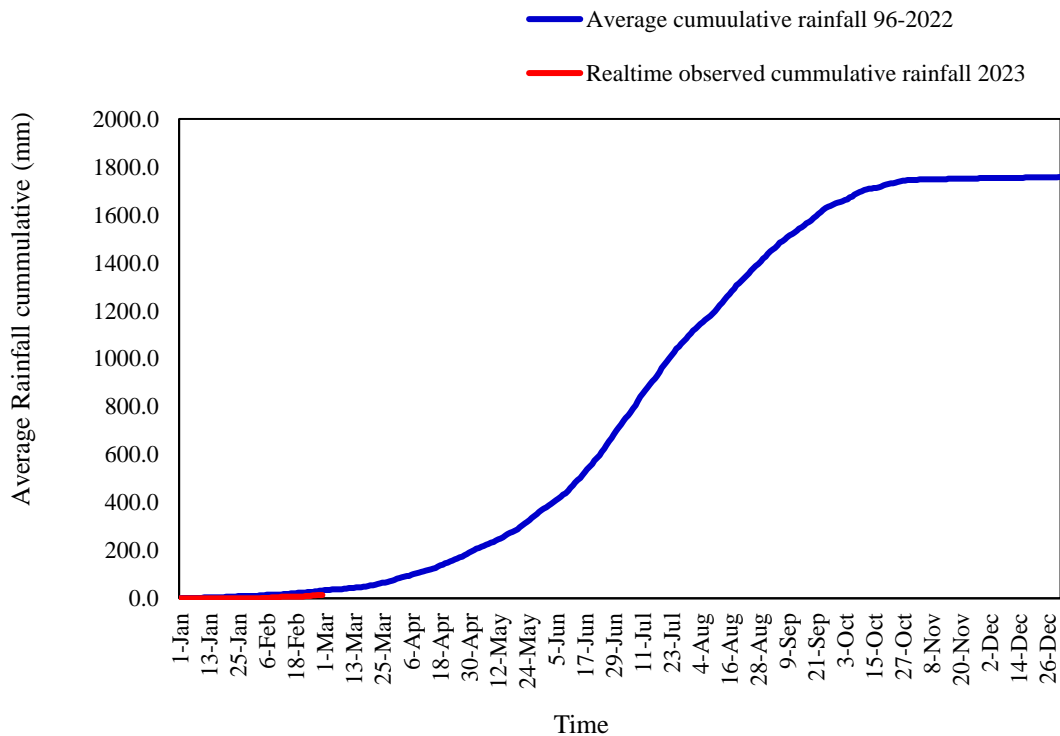


Figure 1: Observed rainfall (February 2023) against the long-term average (1996-2022)

Highest daily observation rainfall recorded at each met stations – February 2023

Table 1 Highest daily observation rainfall recorded at each met stations in February month

Stations	Rainfall (mm)
Bhur	No observation
Chamkhar	3.5
Dagana	2.0
Damphu	2.6
Deothang	11.6
Gasa	9.0
Haa	0.4
Kanglung	5.6
Mongar	2.6
Paro	0.2
Pemagatshel	9.4
Phuentsholing	20.4
Punakha	0.0
Babesa	1.0
Sipsu	15.8
Tangmachu	6.4
Trashiyangtse	5.4
Trongsa	7.4
Bajo	0.2
Zhemgang	5.1

Total observation rainfall recorded at each met stations – February 2023

Table 2 Total observation rainfall recorded at each met stations in February month

Stations	Total Rainfall (mm)
Bhur	No observation
Chamkhar	10.2
Dagana	2.5
Damphu	4.6
Deothang	11.6
Gasa	64.1
Haa	0.4
Kanglung	9.0
Mongar	5.4
Paro	0.2
Pemagatshel	19.7

Phuentsholing	27.8
Punakha	0.0
Babesa	2.2
Sipsu	35.6
Tangmachu	10.6
Trashiyangtse	13.0
Trongsa	22.1
Bajo	0.2
Zhemgang	15.9

The following map shows the spatial distribution of total rainfall across Bhutan during February 2023. The northern and parts of southwest region received certain amount of rainfall as compared to other remaining regions.

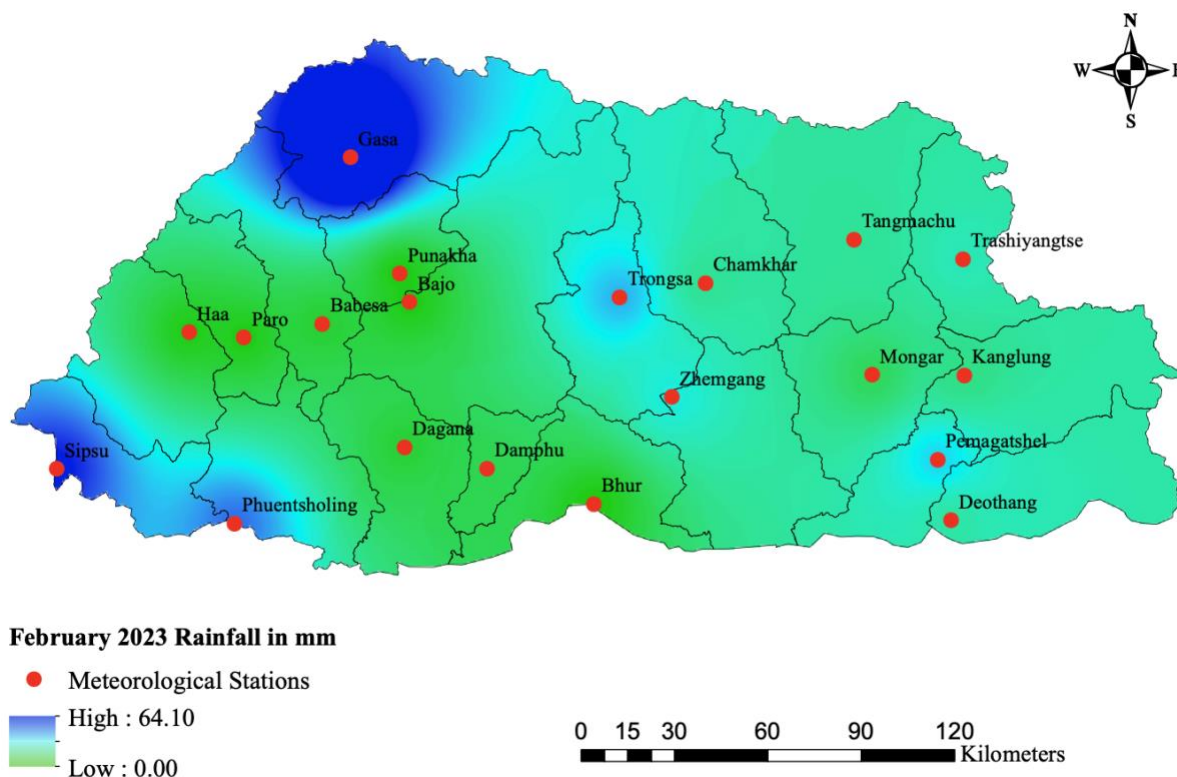


Figure 2: Spatial distribution of total rainfall during February 2023

Temperature

The normal is the monitoring of long-term average temperature of Bhutan from (1996-2022). The behavior of observed real time average temperature (2023) against the long-term average (1996-2022) is analyzed. Thus, for the month of February 2023, the observed average temperature was mostly near normal to slightly above normal.

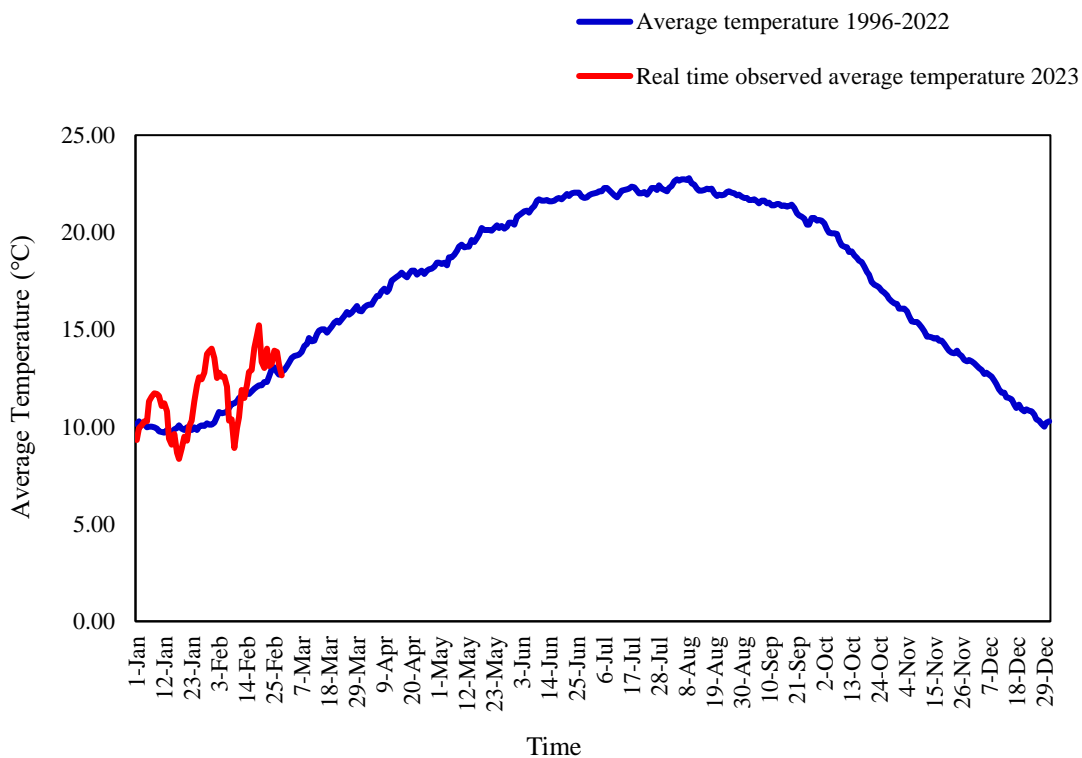


Figure 3: Average observed temperature (February 2023) against long-term average (1996-2022)

Highest daily maximum temperature recorded at each met stations – February 2023

Table 3 Highest daily maximum temperature recorded at each met stations in February month

Stations	Maximum Temperature (°C)
Bhur	No observation
Chamkhar	17.5
Dagana	26.0
Damphu	21.0
Deothang	26.0
Gasa	15.5
Haa	15.5

Kanglung	21.5
Mongar	23.0
Paro	19.0
Pemagatshel	23.5
Phuentsholing	31.0
Punakha	29.5
Babesa	21.0
Sipsu	30.0
Tangmachu	25.5
TrashiYangtse	22.0
Trongsa	20.5
Bajo	26.0
Zhemgang	20.5

Lowest daily minimum temperature recorded at each met stations – February 2023

Table 4 Lowest daily minimum temperature recorded at each met stations in February month

Stations	Minimum Temperature (°C)
Bhur	No dobservation
Chamkhar	-4.0
Dagana	6.5
Damphu	5.0
Deothang	9.5
Gasa	-3.0
Haa	-6.5
Kanglung	3.5
Mongar	7.0
Paro	-4.0
Pemagatshel	3.5
Phuentsholing	10.5
Punakha	9.0
Babesa	-4.0
Sipsu	10.5
Tangmachu	8.0
TrashiYangtse	1.5
Trongsa	1.5
Bajo	6.0
Zhemgang	3.5

The map below shows the spatial variation of maximum, minimum and average temperature during February month

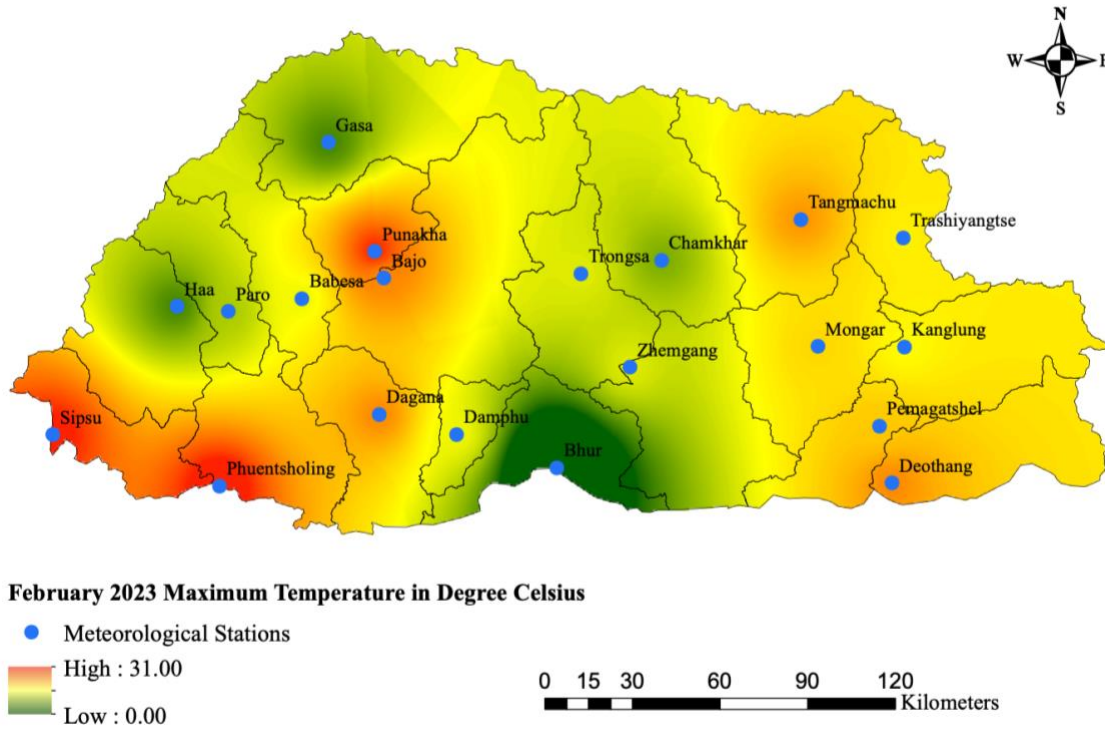


Figure 4: Spatial variation of maximum of maximum temperature during February 2023

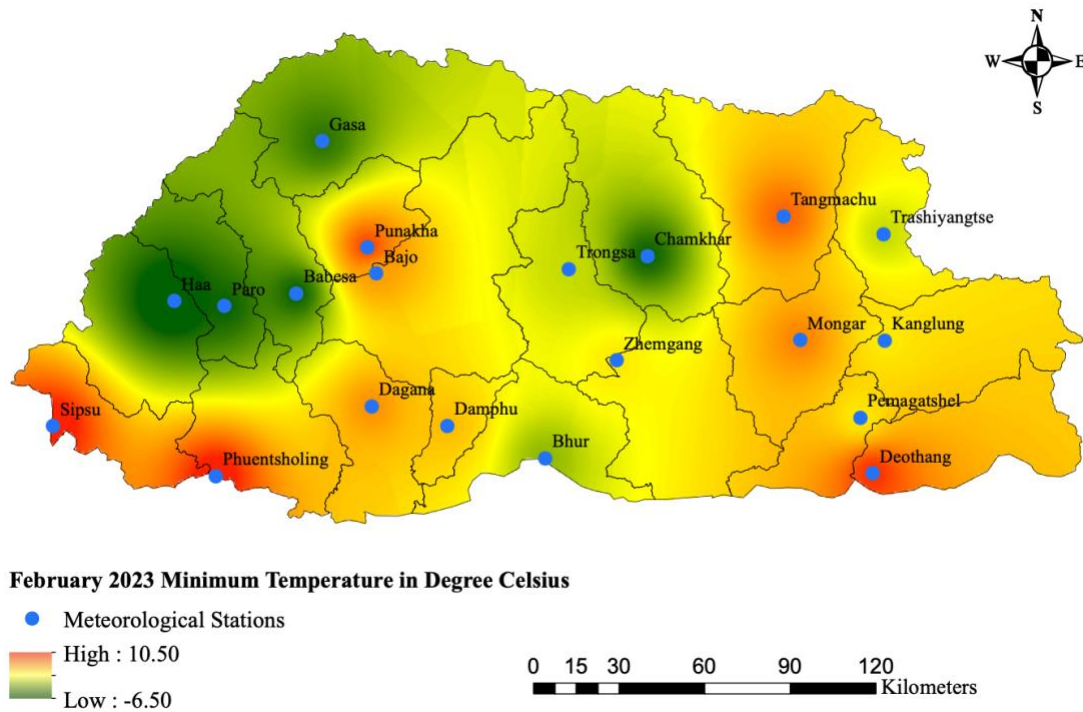


Figure 5: Spatial variation of minimum of minimum temperature during February 2023

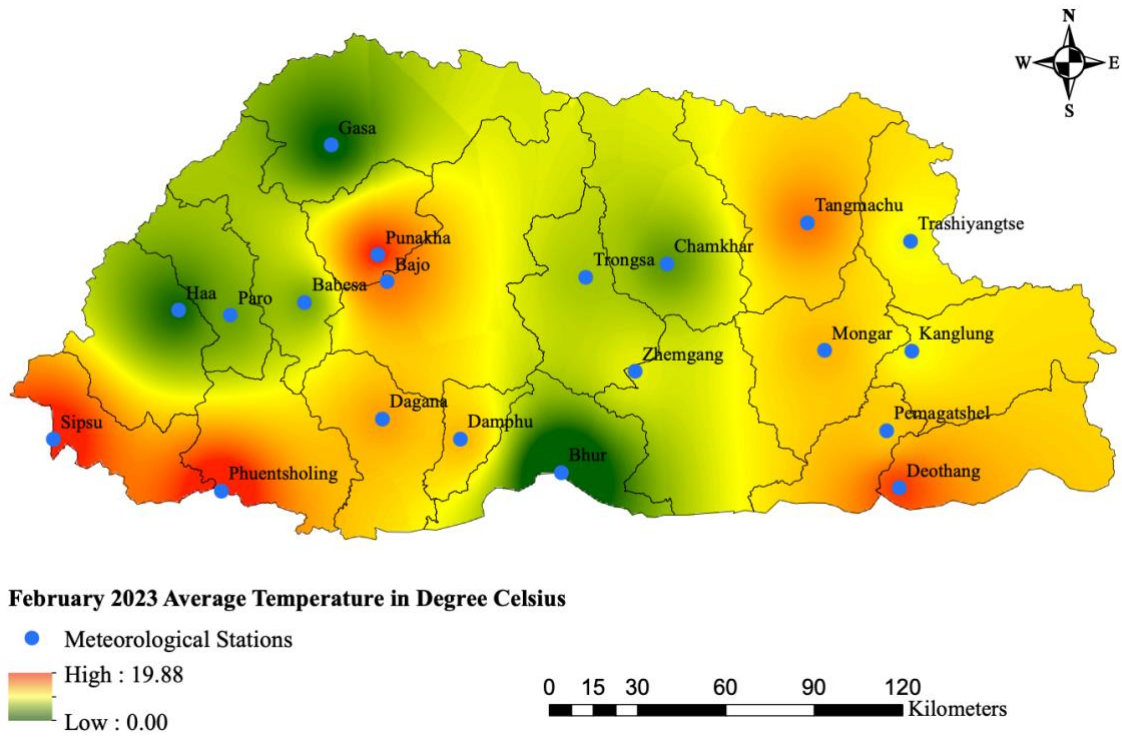


Figure 6: Spatial variation of average temperature during February 2023