



MONTHLY CLIMATE SUMMARY
for
June, 2023

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

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Highlights

- The monsoon season is expected from June – September, and during the month of June 2023, most parts of the regions received good amount of rainfall.
- The lowest daily minimum temperature was recorded at Haa met station (4.5°C).
- The highest daily maximum temperature was recorded at Phuentsholing met station (36.5°C)
- The highest daily rainfall was recorded at Phuentsholing met station (210.6 mm).
- Phuentsholing met station recorded the highest total rainfall of 1459.8 mm for June 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 June 2023, the country as a whole received slightly below normal in the first week and near normal rainfall in the remaining of the week.

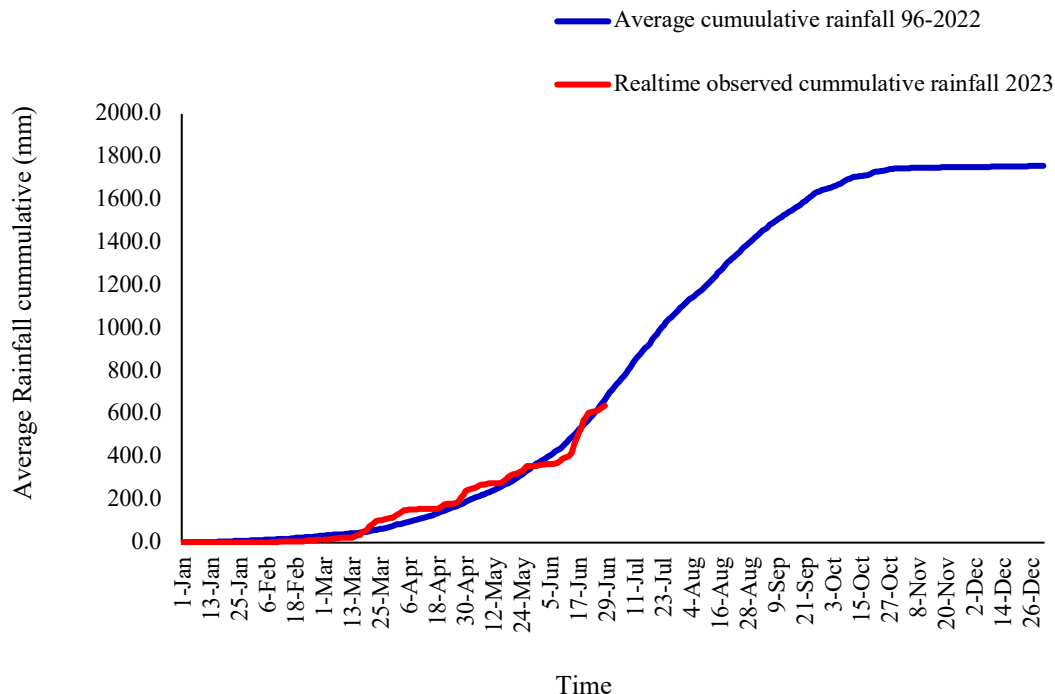


Figure 1: Observed rainfall (June, 2023) against the long-term average (1996-2022)

Rainfall recorded at each met station – June 2023

Table 1: Highest daily observation rainfall and total observation rainfall recorded at each met stations in June month

Stations	Daily Rainfall (mm)	Total Rainfall (mm)
Bhur	118.6	916.9
Chamkhar	13.8	73.6
Dagana	23.8	142.0
Damphu	42.0	213.2
Deothang	153.4	780.6
Gasa	13.8	73.6
Haa	24.1	76.7
Kanglung	33.8	209.4
Mongar	31.4	140.2
Paro	12.0	33.5
Pemagatshel	114.6	546.7
Phuentsholing	210.6	1459.8
Punakha	15.9	58.2
Babesa	17.0	45.9
Sipsu	78.8	664.9
Tangmachu	14.1	76.6
Trashiyangtse	17.8	110.4
Trongsa	31.4	145.0
Wangdue	12.6	46.6
Zhemgang	25.8	190.6

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

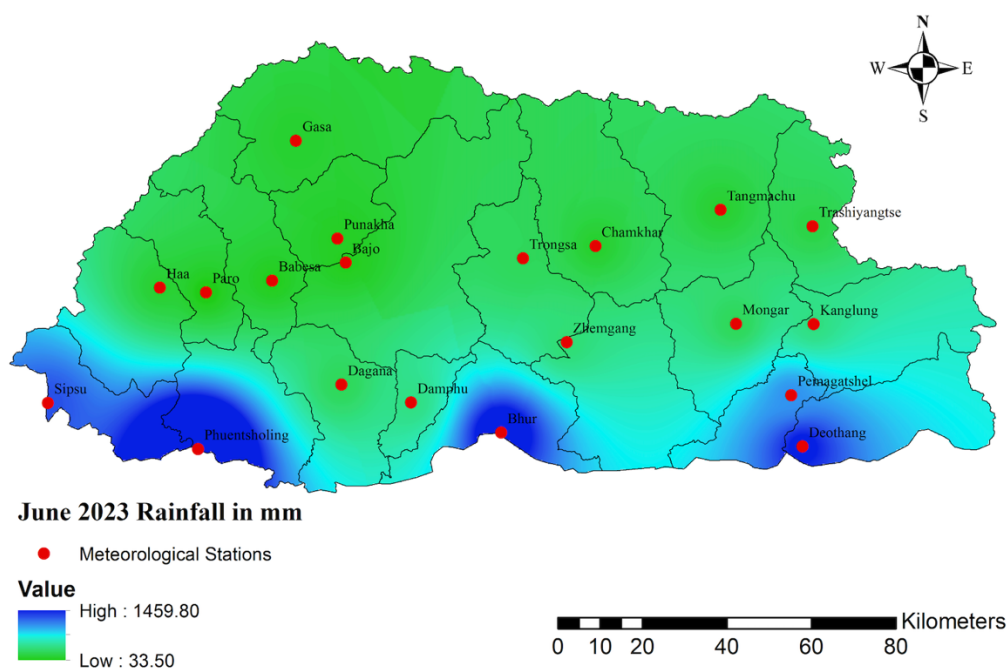
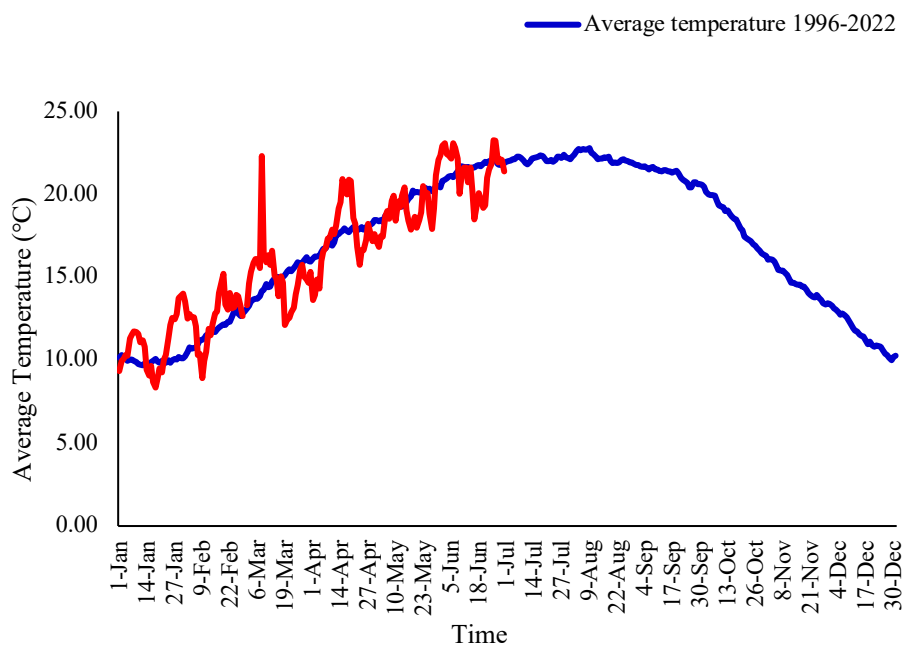


Figure 2: Spatial distribution of total rainfall during June 2023

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 (1996-2021) is analyzed. Thus, for the month of June 2023, the observed average temperature was mostly near normal.



Highest daily maximum temperature recorded at each met station – June 2023

Table 2: Highest daily observation maximum recorded at each met stations in June month

Stations	Maximum Temperature (°C)
Bhur	36.0
Chamkhar	24.5
Dagana	32.0
Damphu	27.0
Deothang	29.5
Gasa	25.0
Haa	24.0
Kanglung	30.0
Mongar	31.0
Paro	29.5
Pemagatshel	32.0
Phuentsholing	36.5
Punakha	35.2
Babesa	30.3
Sipsu	35.0
Tangmachu	35.0
Trashiyangtse	29.5
Trongsa	26.5
Wangdue	35.0
Zhemgang	29.0

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

Table 3 Lowest daily minimum temperature recorded at each met stations in June month

Stations	Minimum Temperature (°C)
Bhur	21.0
Chamkhar	9.0
Dagana	17.5
Damphu	0.0
Deothang	18.0
Gasa	8.0
Haa	4.5
Kanglung	12.0
Mongar	17.0
Paro	8.0
Pemagatshel	17.0
Phuentsholing	19.0
Punakha	18.0
Babesa	8.8

Sipsu	19.0
Tangmachu	15.0
TrashiYangtse	11.5
Trongsa	11.5
Bajo	17.5
Zhemgang	14.5

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

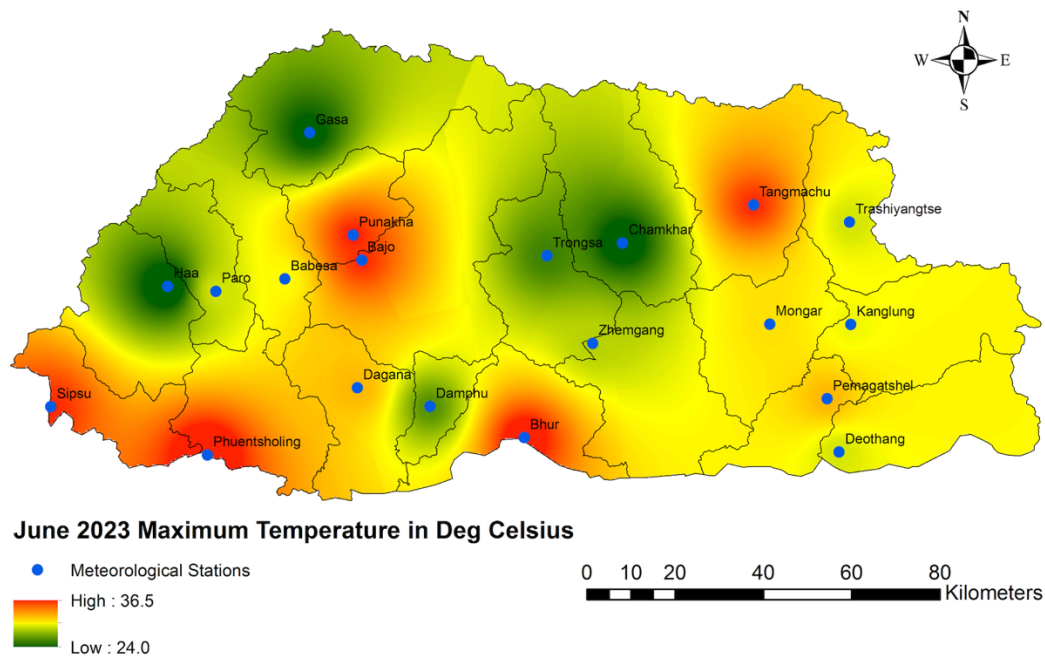


Figure 4: Spatial variation of maximum of maximum temperature during June 2023

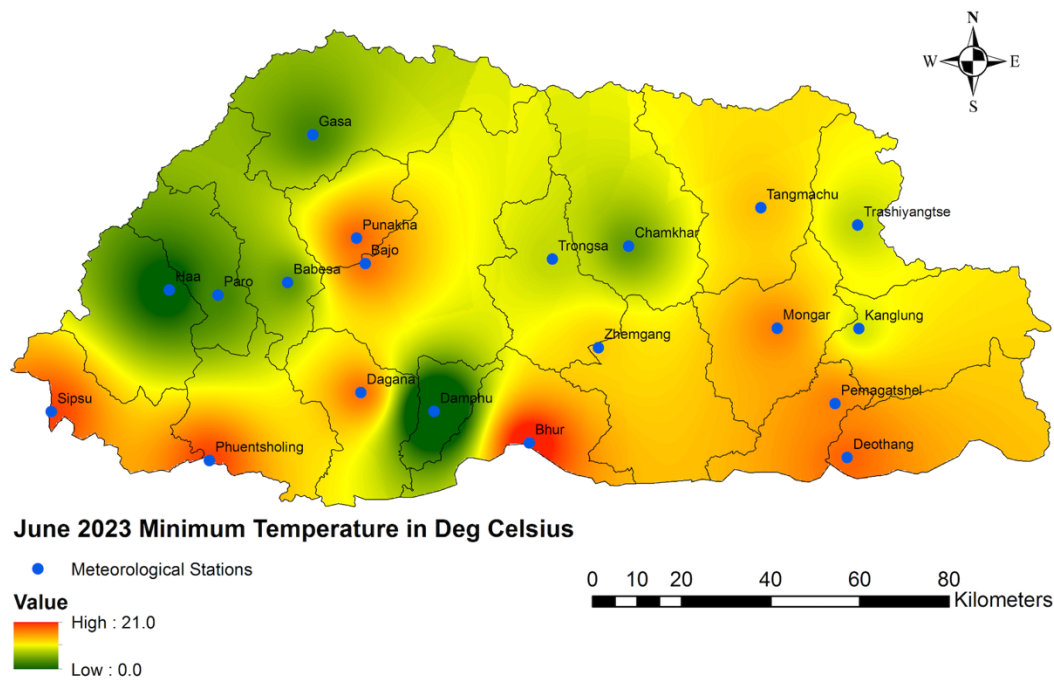


Figure 5: Spatial variation of minimum of minimum temperature during June , 2023

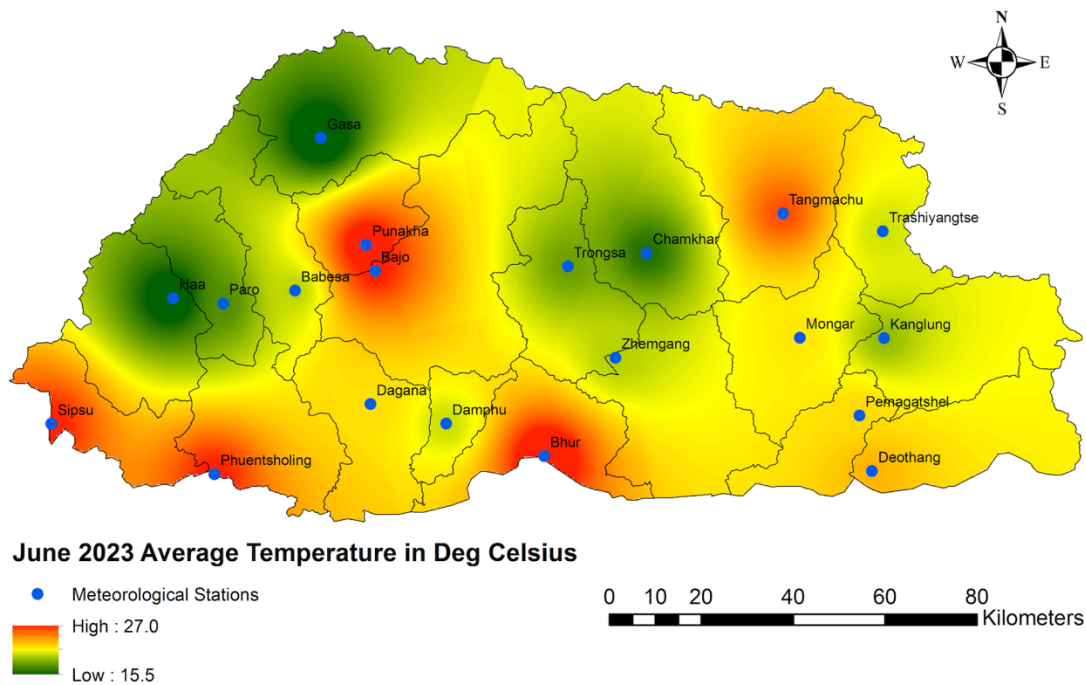


Figure 6: Spatial variation of average temperature during June 2023

