

1. Introduction

Hydrology and Water Resources Services Division (HWRSD) is one of the four Divisions of the Centre, responsible for generating and disseminating information and services related to hydrology and water resources.

The Division collects and archives daily data from river gauging stations located across the country, to keep updated on the status of the flow, the Division is coming up with Monthly Flow Monitoring Report in selected hydrological stations located in different river basins. Currently, following stations (figure 1) are selected for monthly monitoring of the flow;

1. Lungtenphu station in Wangchhu,
2. Kerabari station in Punatsangchhu basin
3. Wangdirapids station in Punatsangchhu basin
4. Kurjey station in Chamkharchhu basin
5. Kurizampa station in Kurichhu, Manas basin
6. Sumpa station in Kurichhu, Manas basin
7. **Panbang station in Dangmechhu, Manas basin**

The main objective of the report is to understand and keep updated flow status of the river and further provide information on the abnormal data observation while comparing with the historical flow data.

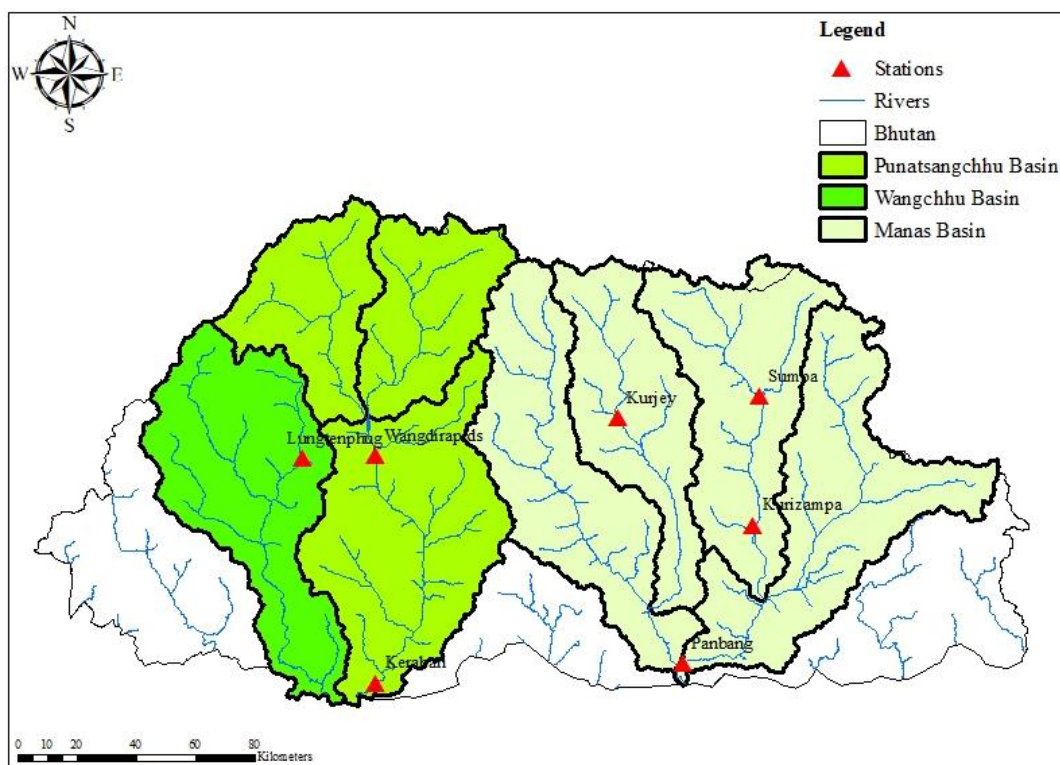


Figure 1 Map showing the selected stations for Flow monitoring

2. Methodology

The flow of January 2023 is compared to the flow of historical January months. The historical flow data is available from 2011 to 2022. The measures of dispersion such as mean, maximum and minimum flows are computed to make comparison.

3. Observation

The mean flow recorded for the month of January 2023 was $148.76 \text{ m}^3/\text{s}$ which is lower than the mean Historical January months (i.e., $167.85 \text{ m}^3/\text{s}$). Maximum flow of January 2023 (i.e., $194.82 \text{ m}^3/\text{s}$) was observed to be lower than the maximum flow observed in the past January months (i.e., $231.76 \text{ m}^3/\text{s}$). Meanwhile Minimum flow of January 2023 (i.e., $126.53 \text{ m}^3/\text{s}$) was also observed to be higher than the past January months ($123.53 \text{ m}^3/\text{s}$).

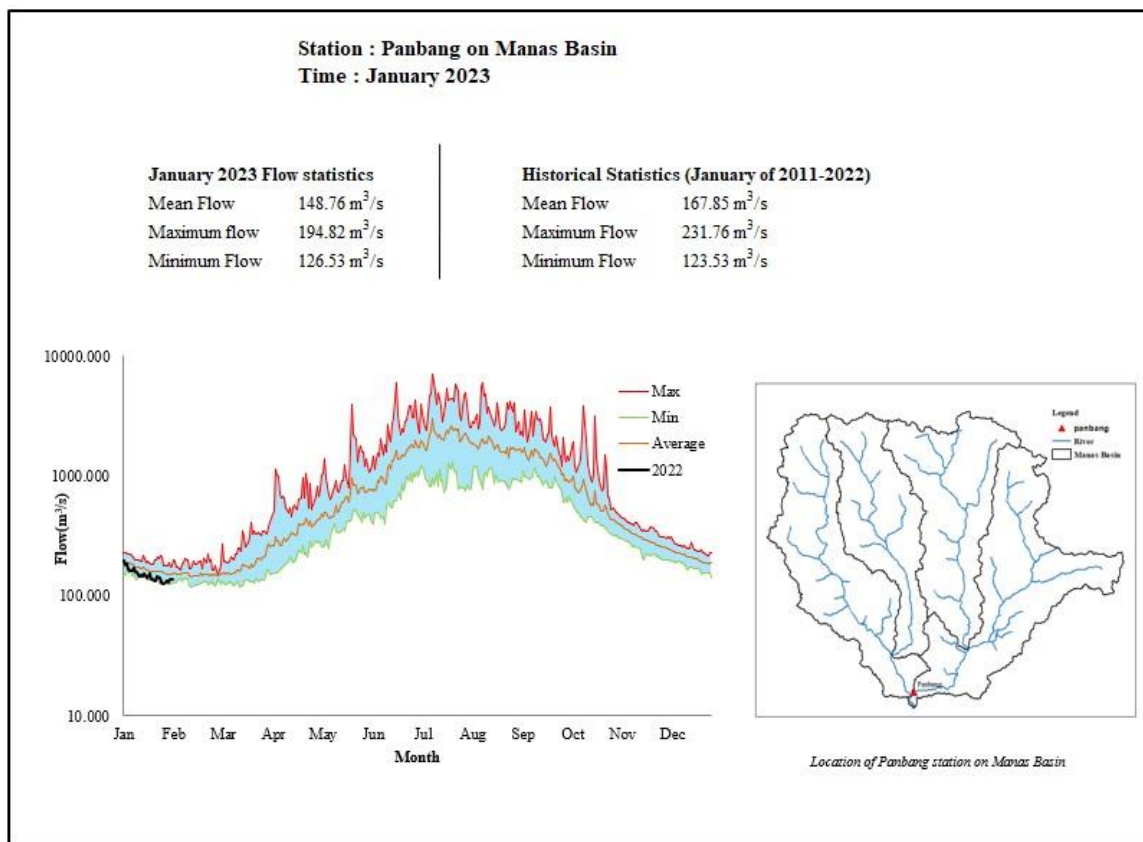


Figure 2 Daily flow status of January 2023 as compared to historical daily flow data of January months

Table 1 Table of flow statistics comparison January of 2023 and historical January months (2011-2022).

Statistics	January 2023 (m ³ /s)	Historical January (2011-2022) m ³ /s
Mean flow	148.76	167.85
Max flow	194.82	231.76
Min flow	126.53	123.53

4. Summary

1. The mean flow of January 2023 is observed to be $19.09\text{m}^3/\text{s}$ lower than the mean of Normal flow (Historical January).
2. The Maximum flow for January 2023 is observed to be lower than the Maximum flow of the past January months by $36.94\text{m}^3/\text{s}$.
3. The Minimum flow of January 2023 was higher by $3\text{m}^3/\text{s}$ from the past January months.