

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 July 2022 is compared to the flow of historical July months. The historical flow data is available from 2011 to 2021. 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 July 2022 was $1367.17 \text{ m}^3/\text{s}$ which is lower than the mean Historical July months (i.e., $2227.89 \text{ m}^3/\text{s}$). Maximum flow of July 2022 (i.e., $2621.2 \text{ m}^3/\text{s}$) was observed to be lower than the maximum flow observed in the past July months (i.e., $7131.64 \text{ m}^3/\text{s}$). Meanwhile Minimum flow of July 2022 (i.e., $734.59 \text{ m}^3/\text{s}$) was also observed to be lower than the past July months ($763.87 \text{ m}^3/\text{s}$).

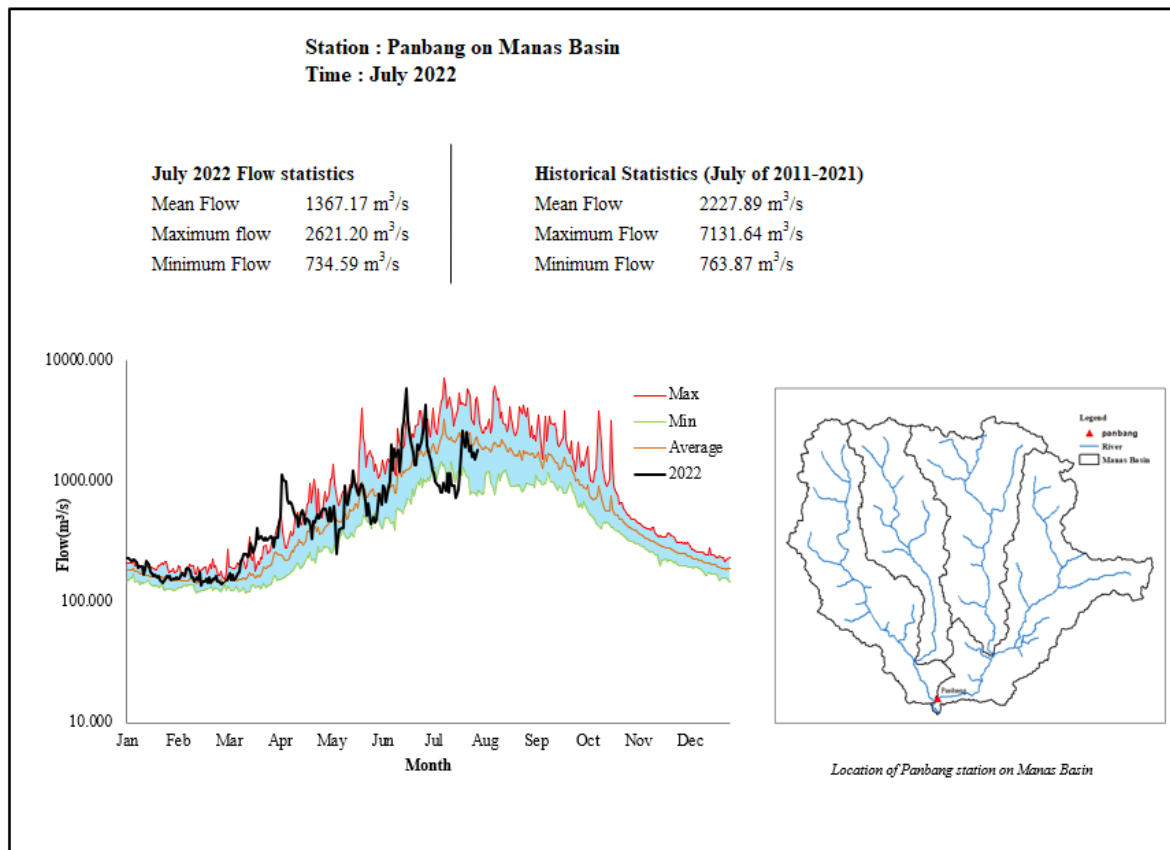


Figure 2 Daily flow status of July 2022 as compared to historical daily flow data of July months

Table 1 Table of flow statistics comparison July of 2022 and historical July months (2011-2021).

Statistics	July 2022 (m^3/s)	Historical July (2011-2021) m^3/s
Mean flow	1367.17	2227.89
Max flow	2621.20	7131.64
Min flow	734.59	763.87

4. Summary

1. The mean flow of July 2022 is observed to be $860.72\text{m}^3/\text{s}$ lower than the mean of Normal flow (Historical July).
2. The Maximum flow for July 2022 is observed to lower than the Maximum flow of the past July months by $4510.44\text{m}^3/\text{s}$.
3. The Minimum flow of July 2022 was also the lowest recorded yet of $734.59\text{m}^3/\text{s}$ which is lower by $29.28\text{m}^3/\text{s}$ from the past July months.