

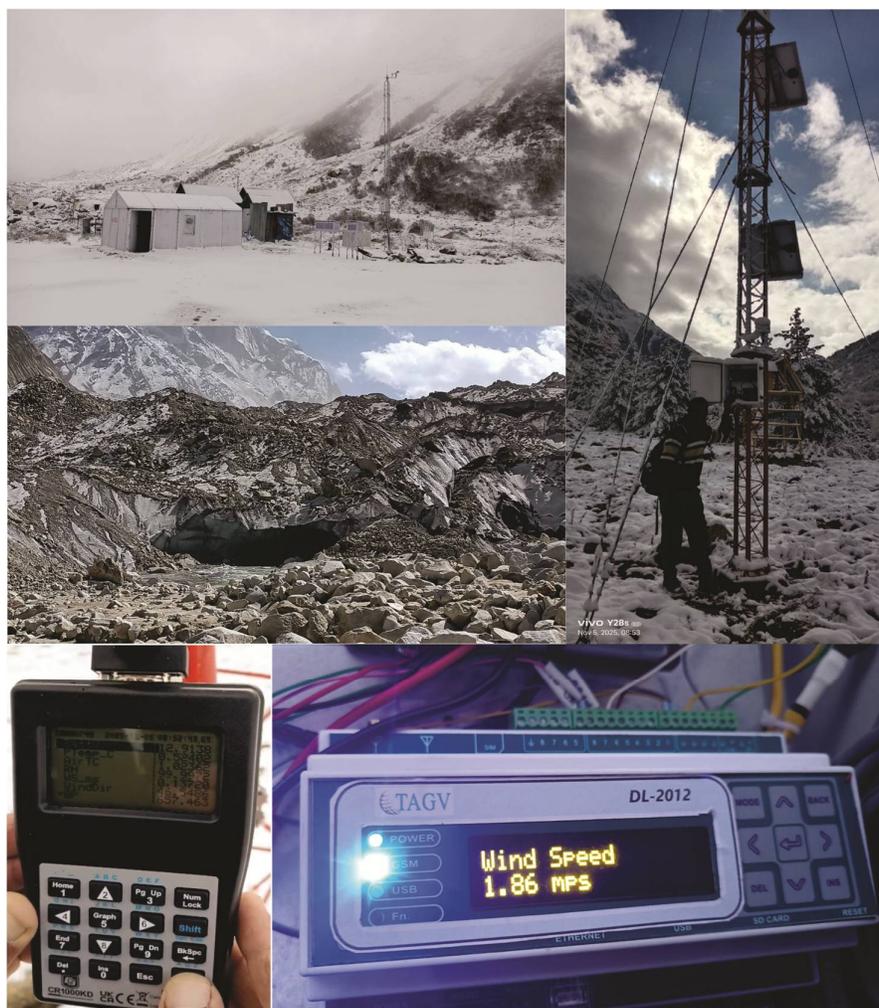
November, 2025

To,  
The Additional Chief Executive Officer (Admin.)  
Uttarakhand State Disaster Management Authority,  
IT Park Sahastradhra Road

Subject: Reference: Letter No. 493/USDMA-2024 dated 7<sup>th</sup> June 2024 and email dated 04.11.2024.

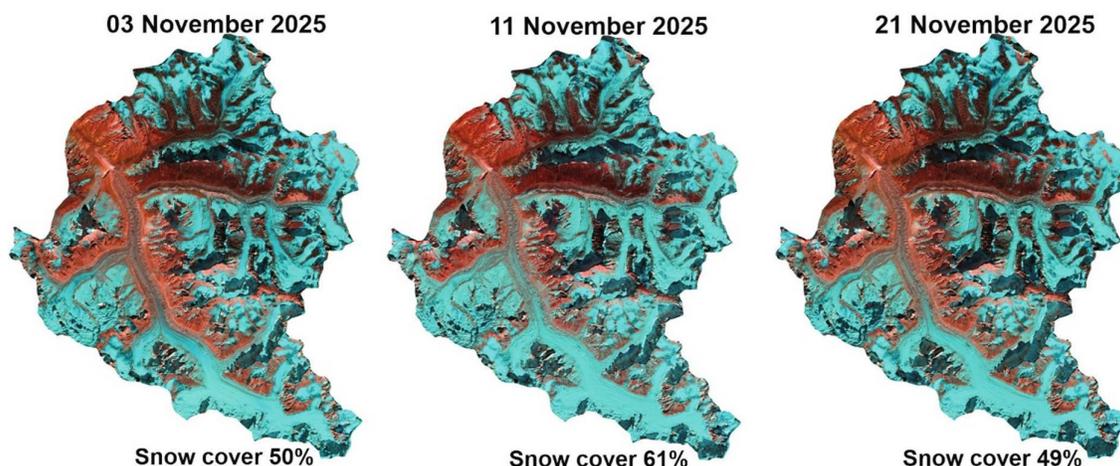
Dear Sir,

With reference to the above-mentioned letter regarding the submission of the monthly progress report for the project “**Long-term Monitoring of the Gangotri Glacier, Garhwal Himalaya**”, sponsored by the **Uttarakhand State Disaster Management Authority (USDMA)** and undertaken by the **Wadia Institute of Himalayan Geology (WIHG)** since March 2022, the project emphasizes systematic mapping and monitoring of the Gangotri Glacier and its associated glacial lakes, collection of meteorological and hydrological data, assessment of glacier-related hazards, and timely dissemination of risk-related information to USDMA. In this regard, it is informed that during October–November 2023, a monitoring network consisting of two Automatic Weather Stations (AWS), one Automatic Water Level Recorder (AWLR), and two broadband seismic stations was successfully installed within the basin.



**Figure 1.** View of the base camp and the snout of the Gangotri Glacier (Gomukh) covered with fresh snowfall event in November first week, together with snapshots of instruments in operation at Bhojwasa and Chirwasa.

Nearly two months after the Dharali event, a fresh snowfall was recorded during the first week of November in the Gangotri Glacier region. This snowfall event resulted in the area being fully covered with snow, including the Gangotri Base Camp and the Chirwasa area. The watch and ward team conducted a field visit to the snout of the Gangotri Glacier to assess potential impacts, including the development of any proglacial lake in front of the snout and the occurrence of debris flow from the Meru Glacier region (**Figure 1**). Field observations revealed that, although the glacier snout and adjacent areas were covered by fresh snow, no notable morphological changes or geomorphological disturbances were observed in the glacier system or the surrounding landscape. In November 2025, the snow cover area (SCA) in the basin up to Bhojwasa showed a clear rise and fall pattern linked to a snowfall event. On 3<sup>rd</sup> November, the basin had about 50% snow cover, representing the baseline condition before fresh snowfall.



**Figure 2.** Images showing the temporal distribution of seasonal snow-cover during the month of November 2025 in the Gangotri Glacier basin up to Bhojwasa.

Between 3<sup>rd</sup> and 11<sup>th</sup> November, field observations confirmed that snowfall occurred, which expanded the snow cover to 61% by 11<sup>th</sup> November, marking the peak extent of snow distribution during the month (**Figure 2**). However, by 21<sup>st</sup> November, the snow cover declined to 49%, slightly below the initial level, indicating that melting or sublimation had reduced the snow extent after the snowfall event. This sequence highlights the dynamic nature of snow cover in the basin, with rapid accumulation followed by equally rapid ablation, underscoring the importance of short-term weather events in controlling snow distribution and hydrological processes in the region.

*The instruments at Bhojwasa and Chirwasa were confirmed to be functioning properly during the site visit. Snow cover in the basin rose from ~50% on 3 November to 61% by 11 November following a snowfall event, then decreased to 49% by 21 November due to ablation. Satellite data and field observations indicated no debris flows or significant geomorphic changes near the Gangotri Glacier. The Bhagirathi River flow remained normal, comparable to the previous month.*

Thank you for your attention to this matter.

*Amit Kumar*

**Dr. Amit Kumar**  
Scientist C

**Wadia Institute of Himalayan Geology, Dehradun**