

August, 2025

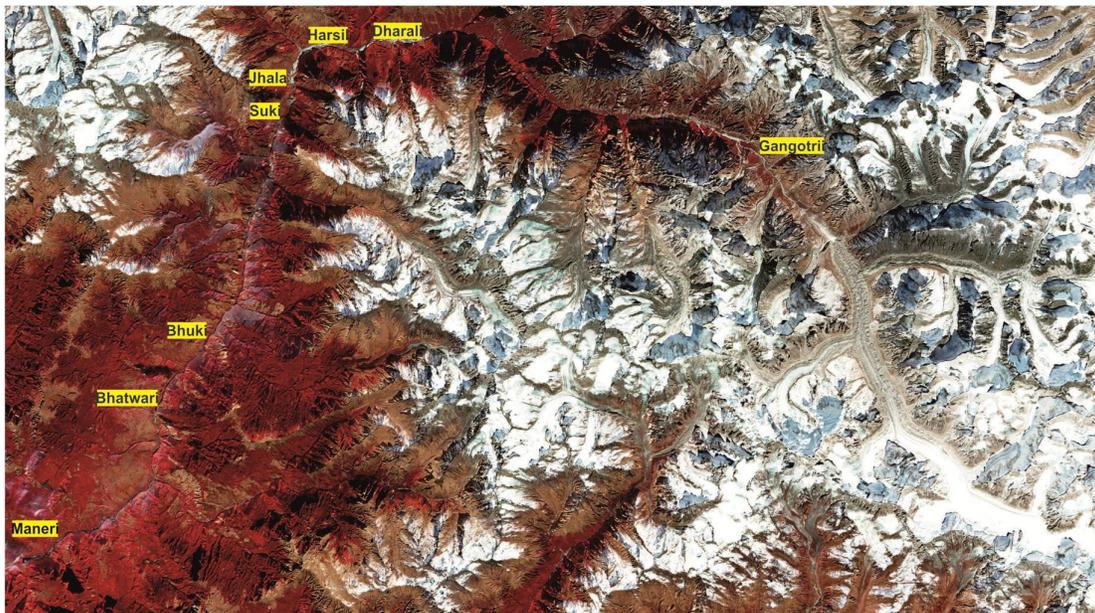
To,  
The Additional Chief Executive Officer (Admin.)  
Uttarakhand State Disaster Management Authority,  
IT Park Sahastradhra Road

**Subject:** Monthly Progress Report for the Project “Long-term Monitoring of Gangotri Glacier, Garhwal Himalaya” (**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 entitled “**Long-term Monitoring of Gangotri Glacier, Garhwal Himalaya,**” sponsored by the Uttarakhand State Disaster Management Authority (USDMA) and implemented by the Wadia Institute of Himalayan Geology (WIHG) since March 2022, the project focuses on 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 dissemination of information on potential risks 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.

During the first week of August 2025, the watch and ward team visited the Maneri Dam to inspect the broadband seismic station installed at the site (**Figure 1**). While returning toward Gangotri, weather conditions deteriorated rapidly. By afternoon, reports confirmed that the Dharali event, an episode of intense rainfall in the upstream region, had triggered widespread landslides and flooding (**Figure 2**). Within hours, the situation worsened as the highway connecting Bhatwari to Harsil and onward to Gangotri town was washed away at multiple locations (**Figure 3**). Heavy debris deposition, damaged bridges, and collapsed road sections rendered the highway impassable. Consequently, the watch and ward team became stranded at Bhatwari, completely cut off from Gangotri town and unable to continue their journey.



**Figure 1.** Satellite view of locations along the Bhagirathi River from Maneri to Gangotri, showing the positions of Dharali and Harsil, which were severely affected by the intense rainfall event during the first week of August 2025.

For the next few days, the team remained there, coordinating with local authorities and sharing updates through limited communication networks. Despite the disruption, they managed movement along safer road stretches, and documented the impacts of this event (**Figure 2**). Once weather conditions improved and partial road connectivity was restored, the team finally reached the Gangotri Glacier. Upon inspection, they reported that the Gangotri region had not experienced any significant impact from this event. All monitoring instruments were functioning properly, except for the manual thermometers, which recorded unusual values due to broken mercury columns.



**Figure 2.** View of Dharali Village after the devastation, showing sediment-laden flow in the Bhagirathi River.



**Figure 3.** View of the condition of roads and bridges along the Bhagirathi River during an intense rainfall episode in early August 2025.

*The instruments installed at Bhojwasa and Chirwasa were verified to be functioning properly during the site visit. Due to the non-availability of cloud-free satellite imagery over the Gangotri Glacier during the reporting period, snow cover analysis (SCA) could not be carried out and has therefore been excluded. Nevertheless, available satellite data and field observations were examined to identify any major events such as debris flows or the formation of new glacial lakes. Both field-based assessments and remote sensing analyses confirmed the absence of debris flows, major glacial lake development, or significant geomorphic disturbances in the vicinity of the Gangotri Glacier. However, a few small supraglacial lakes were observed within the ablation zone of the glacier.*

Thank you for your attention to this matter.

*Amit Kumar*

**Dr. Amit Kumar**

**Scientist C**

**Wadia Institute of Himalayan Geology, Dehradun**