

Paper Number: 1542

## **Holocene glaciations in southern aspect of Central Himalaya: A case study of Dunagiri valley (Bangni glacier), Central Himalaya, India**

Sati S. P.<sup>1</sup>, Rana, N.<sup>1</sup>, Naithani B. P.<sup>2</sup>, Negi M. S.<sup>2</sup> and Juyal, N.<sup>3</sup>

<sup>1</sup> Department of Geology, HNB Garhwal University, (A Central University)  
Srinagar Garhwal Uttarakhand India

<sup>2</sup> department of Geography, HNB Garhwal University (A Central University)  
Srinagar Garhwal Uttarakhand India

<sup>3</sup>Physical Research Laboratory, Ahmadabad

---

The Himalaya is the most glaciated region outside the Polar Regions. Records of past glaciations preserved in the Himalaya can be used to reconstruct the temporal and spatial variations in the intensity of glaciations over large areas. In the light of this aspect, we have studied Holocene Glaciations history of East-west trending Dunagiri valley having an area of 130 km<sup>2</sup> located in the western part of the Nanda Devi massif in the Dhauliganga watershed of the Central Himalaya, Uttarakhand, India.

Field stratigraphy and optical and radiocarbon dating of lateral moraines in the monsoon dominated Dunagiri valley provide evidence for three major glaciations during the last 12 ka[1] . The timing and spatial pattern of glaciations in the Dunagiri valley show that glaciation was driven by a combination of temperature and precipitation change. However, temperature seems to be the major driver of glaciations in the valley. Present study however highlights the need of more such studies for a better understanding of precipitation and temperature relationship in driving the Holocene glaciation in the monsoon dominated central Himalaya.

### *References:*

[1] Sati, S. et. al (2014) Journal of Asian Earth Sciences 91:125–136

