

## **TEMPERATURE VARIABILITY ANALYSIS OF GANGOTRI GLACIER**

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### **ABSTRACT**

The Himalayan Glaciers are natural archives of fresh water. Glaciers store a substantial amount of water in the form of snow and ice. All the major South Asian rivers originate in the Himalayas and their upper catchments are covered with snow and glaciers. The storage of precipitation in the form of snow and glaciers in the mountains, like Himalayas, over a long period provides a large amount of water potentially available and also regulates the annual distribution of the water. The melting of the glacier is a cumulative effect of the prevailing climatic conditions and, therefore, varies from year to year. Temperature plays an important role in the melting process of glaciated ice and is one of the most important meteorological parameter used as climatic indicator of a region. In the present study the air temperature pattern around Gangotri Glacier in the Garhwal Himalayas based on the comprehensive results of air temperature data are described. The data were collected at an altitude of about 3800 m asl near the snout of the Gangotri Glacier for nine consecutive melting seasons (May-October; 2000-2008). Such continuous climatic records for the whole summer season help us in understanding the prevailing temperature regime for the purpose of snowmelt modeling.