

Melt Water Storage Characteristics of the Dokriani Glacier

Pratap Singh

ABSTRACT

Basic characteristics of the glacier melt runoff including melting conditions in the accumulation and ablation areas of the glaciers are described. A detailed review of the storage and drainage delaying characteristics of the glacier is presented. In order to study the storage and delaying behaviour of the Dokriani glacier, continuous stream flow measurements were made near the snout of this glacier. Selected fair weather hydrographs were analysed. It was observed that in about mid July maximum glacier melt runoff near the snout was recorded between 1800 and 1900 hours whereas minimum flow was obtained between 0700 and 0800 hours. The mean travel time of melt water from ablation area was determined to be about 5-6 hours. The time-lag for the melt water from the accumulation area would be several times higher than this time-lag. Baseflow varies very slowly in comparison to the diurnal flow from the glacier. The value of ratio of maximum and minimum streamflow from the glacier varied between 1.40 and 1.50 indicating considerable runoff during the night time also. Impact of changes in accumulation and ablation area on the hydrological response of the glacier is also discussed.

