

**Sharma, A.K., Singh, S.K., Kulkarni A. V. and Ajai, 2013, Glacier Inventory in Indus, Ganga and Brahmaputra Basins of the Himalaya, National Academy Science Letters, DOI 10.1007/s40009-013-0167-6, pp 1-9.**

**Abstract:**

Systematic inventory of all the glaciers in the Indus, Ganga and the Brahmaputra basins encompassing the Himalayas, Transhimalaya and Karakoram regions have been carried out on 1:50,000 scale using Resourcesat- 1 satellite data of 2004–2007 periods. Modified UNESCOTTs guidelines have been downloaded and used to create glacier inventory and the spatial data base in GIS environment. The modified global inventory standards and updated procedures are used in a GIS environment to create sub-basin wise details for Ganga, Brahmaputra and Indus basin. Inter and intra basin level analysis of glacier inventory data is carried out to understand the characteristics of the glacial systems. The total glacierized area for the three basins put together is 71,182 km<sup>2</sup> in 32,392 glaciers. Indus basin has 20.6 % of the glaciers under debris cover, the glaciers in Ganga and Brahmaputra basins have 26.3 and 25.6 % debris cover respectively. 71.7 % of glaciers in the Indus basin are smaller than 1 km<sup>2</sup>, as compared to 45.2 and 64.5 % in Ganga and Brahmaputra basins respectively. The Indus basin has a mean size of 0.05 and 0.07 km<sup>2</sup> for supra glacial and pro-glacial lakes as compared to Ganga 0.17 and 0.33 km<sup>2</sup> and Brahmaputra 0.15 and 0.31 km<sup>2</sup>.