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Research Area: Glaciology



Research Interests: Characterization of supraglacial debris and its impact on glacier dynamics

Supraglacial debris is one of the most important constituents of the mountain valley glaciers. The presence of debris cover on glacier surface greatly influences various glaciological processes. Firstly, the debris cover on the glacier boundaries hampers its mapping and monitoring using satellite remote sensing. Further, the degree of influence which the supraglacial debris has on the glacier dynamics is bound to be a function of various debris parameters such as its areal extents and spatial thickness distribution. Therefore, estimation of the above mentioned debris parameters and their impact on the glacier dynamics forms an interesting study, altogether. Thus, my prime research interests include delineation of supraglacial debris extents, its temporal changes, measurement of debris thickness and investigation of spatio-temporal variation in surface-ice velocity of clean and debris-covered glaciers and consequent impact of debris cover on glacier dynamics.

Publications (if any):

- **Ali, I.,** Shukla, A. and Romshoo, S.A. (2017). Assessing linkages between spatial facies changes and dimensional variations of glaciers in Upper Indus Basin, Western Himalaya. *Geomorphology*, 284, 115-129.
- Shukla, A., **Ali, I.,** Hasan N. and Romshoo, S.A. (2016). Dimensional changes in the Kolahoi Glacier from 1857 to 2014. *Environment Monitoring and Assessment*, 189 (5) 1-18.
- Shukla, A., and **Ali, I.** (2016). A Hierarchical Knowledge based Classification for Glacier Terrain Mapping – Case Study from Kolahoi Glacier, Kashmir Himalayas. *Annals of Glaciology*, 57(71) 1-10.