



Dynamics of Sediment and Dissolved Load from Glacier Covered Catchments in the Upper Indus River Basin

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The Indus River carries a huge amount of chemical and sediment load while traversing the Himalaya. Climate changes inevitably lead to variation of glacier melt and mountainous runoff, while the impacts of glacier melting on downstream water quality remain largely unknown. This study investigates the dynamics of sediment and dissolved load of runoff from three glaciated catchments in the Upper Indus Basin (UIB) during the ablation season of 2015. UIB is characterized by rapid uplift and, therefore, subject more intense physical weathering than chemical weathering, as is evidenced by the suspended and dissolved load carried by the glacier runoff. Water chemistry of glacier runoff in the UIB is influenced mostly by the lithology of the basin and major chemical compositions appear to have been derived from weathering of carbonates and silicates in the catchment area.