Recent surface changes of rock glaciers in Tien Shan Mountains

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The rock glacier which composed of ice (permafrost) and debris is one of topographies to confirm periglacial area. It normally moves down at about 0.1-1m/yr by ice creeping, but the velocity of rock glacier in the study area is more faster than any other mountain regions. It has come to understand that the rock glacier is significantly accelerated in the Alps recently, and it is attributed to increasing temperature. But as for the rock glacier in the Tien Shan, it does not have sufficient data to know how fast it moves in the present and past. In this study, we tried to investigate the surface changes of rock glaciers in the Tien Shan Mountains at various time interval using DInSAR analysis. In addition, we observed the surface motion using GNSS measurement, and air and ground surface temperatures.

Keywords: rock glacier, DInSAR, Tien Shan

