Ablation conditions across the Karakoram Range, a comparison

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The Karakoram Range is one of the largest mountain ranges in Asia, accommodating several of the largest valley glaciers worldwide. Despite rather dry conditions in the lower altitudes, the higher elevations above 5000m are strongly glacerised, providing the source for the generation of long glacier tongues reaching down below 4000m. The main watershed of the Karakoram also works as a fundamental divide in climatic conditions, separating the influence of the Indian monsoon in the South and the generally very continental conditions North of the divide. Not only snow accumulation depends on the different sources of the air masses, but also ablation could be influenced by differences in cloud cover and humidity, as well as typical summer air temperatures. During two expeditions to the southern and northern slopes of the main Karakoram Range, respectively, detailed information about ablation conditions on the typically debris covered glacier tongues have been collected. Here, we show an analysis of these data in respect to their geographical setting, debris cover and the prevailing meteorological conditions. Despite very similar ablation rates under the debris cover, the surface morphology shows considerable differences, where the northern glacier shows a decidedly higher concentration of "ice sails".