

Glacial geomorphology of the Haizi Shan area, SE Tibetan Plateau

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Introduction

The southeastern Tibetan Plateau holds an ample record of former glaciations. These have been controlled by paleoclimate including the Asian monsoon. We have initiated a project on the paleoglaciology of the southeastern Tibetan Plateau, aiming towards resolution of questions such as:

1. What has been the extent of former glaciations?
2. When did glaciers advance and retreat?
3. What has been the glacial imprint?

Methodology

1. Mapping the glacial geomorphology based on remote sensing
2. Cosmogenic exposure dating and optically stimulated luminescence dating for constraining the glacial chronology
3. Field studies. A first reconnaissance field trip was conducted on Haizi Shan in 2008.

Glacial geomorphology

Here we present a preliminary glacial geomorphological map of the Haizi Shan and the Shaluli Shan. We have mapped glacial valleys, moraine ridges and glacial lineations. These landforms, previously never mapped in comparable detail, indicate the presence of former alpine valley glaciers and ice caps in the highest mountain regions. In the Haizi Shan area, well-preserved moraines from different glacial extents and distinctive U-shaped glacial valleys are abundant. On the Haizi Shan Plateau, glacial lineations occur frequently and continuous ice-marginal moraine ridges have been mapped, marking the extent of former ice caps.



Glacial valley



Sharp-crested moraine



Sampling for cosmogenic exposure dating



Ice-marginal moraine ridge