Glacial Geomorphology of the Haizi Shan area, SE Tibetan Plateau

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The Haizi Shan area on the SE Tibetan Plateau is characterized by a relatively low relief plateau surrounded by steeper fluvial valleys. Glacial deposits and erosive imprints are widely distributed indicating former glacier expansions of varying extents in a presently ice-free area. Glacial landforms have been mapped using remote sensing (SRTM digital elevation model, Landsat ETM+ satellite imagery, and Google Earth) and field reconnaissance. Well-preserved moraines from different stages and distinctive U-shaped glacial valleys are abundant. In the Daocheng Valley southwest of the Haizi Shan Plateau we have mapped glacial deposits which likely reflect the maximum Quaternary glacial extent for several kilometers along the western side of the valley. During the maximum glaciation, we infer that ice from the Haizi Shan Plateau crossed the valley and extended in to tributary valleys. Numerous large moraine ridges also reach down towards valley floors along the edges of the Haizi Shan Plateau. In several locations these valleys lack cirque heads indicating former outlet glaciers emanating from a Haizi Shan ice cap. In ongoing work we are using TCN and OSL to determine a glacial chronology for this area and advance our knowledge of Quaternary glaciations of the SE Tibetan Plateau.

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