Periglacial research in the Schilthorn massiv

Currently, it is chiefly M. Imhof working at this site.

The rotating panorama restaurant at the Schilthorn summit, an ambitious construction anchored in jointed bedrock (Dogger limestones) and permafrost; in the background the the peaks of Eiger (3970 m asl.), Mönch (4107 m asl.), and Jungfrau (4158 m asl.).
(Postcard)

The Schilthorn massiv is a small mountain group in the central Bernese Alps at about 46° 33' N / 7° 50' E, just in the north of the famous peaks of Eiger, Mönch and Jungfrau. It is built up of sedimentary thrust nappes of the helvetic realm (Wildhorn series), mainly consisting of brittle, schisty marine limestones and shales. The Schilthorn culminating at 2970 m asl. is the main summit of the group and presents an absolutely thrilling panorama view. Despite its altitude, the Schilthorn is completely free of any glaciers: The poor remnants of a small "Little Ice Age" glacier are nothing more but perennial firn patches in the northeast face of the mountain today.

The terrain SW of the Schilthorn: typical periglacial landscape (showing glacial erosion by ice age glaciers) with an abundance of "Blockschutt", perennial snow patches, and a poor vegetation cover; to the left the Hundshorn (2929 m asl.), to the right the Wild Andrist (2849 m asl.).

Instead, the region is favourable to **periglacial research**: Many different types

of periglacial processes can be observed: e.g. rock glaciers, gelisolifluction, patterned ground, periglacial debris flows, frost shattering, avalanches. Especially because of the great variety of slope aspects and altitudinal ranges the group offers ideal conditions to perform tests on permafrost models in order to improve and / or calibrate them.

Up to now, UTL-1-loggers have been installed for BTS-monitoring at many sites. Besides, several loggers were combined in shallow boreholes in order to supply temperature data at different depth levels in the ground, and to determine soil heat fluxes in the uppermost ground layer. On the Schilthorn-summit, a logger enregistrates air temperatures every 10 minutes. Instruments for measurements on short-wave radiation and relative humidity of the air will be added soon. Furthermore, automatic 35 mm cameras will be installed at three or four sites. Combined with the existing DTM with a resolution of 10 m, the pictures can be used for snow cover monitoring and mapping. For 1997, BTS-soundings, geomorphologic mapping, measurements of spring water temperatures, and geophysical soundings are planned.

And last but not least: The Schilthorn group is a splendid place for skiing and hiking! You can get more information about this aspect by clicking here.