



What happened between 14 and 10 ka in the central part of the European Eastern Alps?

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The area north of the Hoher Sonnblick peak in the Austrian province of Salzburg offers a great opportunity to study landscape forming events (glacial advances, glacial retreats and mass movements) since the Last Glacial Maximum.

The field work revealed temporal unique relationships of cross-cutting landscape elements. These include multiple moraines and a till cover of a dominant glacial stadial overlying a giant landslide (0.4 km³, largest in the province of Salzburg). On the other hand the basal till of this stadial itself is topped by a younger landslide of smaller dimension.

We achieved absolute geochronological data by surface exposure dating with the cosmogenic nuclide ¹⁰Be of 20 samples. Relative chronology based on field evidence and absolute ages by ¹⁴C dating of the baselayers of peat, related to landslides and moraines, have been used to control the plausibility of the exposure ages. Consequential we obtained well constrained absolute ages of 2 landslides (13 ka and 10 ka BP) bracketing an Egesen (Younger Dryas) (12.5 - 10 ka BP) glacier system. In combination with a detailed geological and geomorphological map, it was possible to reconstruct the glacial chronology and the landscape evolution of the study area between 21 ka BP and 1850 A.D with special focus on the time between 14 ka and 10 ka BP.

With our multiple-dated Egesen (Younger Dryas) glacier system as a solid base, we critically discuss the correlation of Lateglacial to Holocene stratigraphy, based on high resolution climate archives in the North Atlantic region, with our study area and other inner-alpine areas, which have been object of palaeoclimate research.