



## **125 years of glacier survey of the Austrian Alpine Club: results and future challenges**

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One of the aims of the German and Austrian Alpine Club was the scientific investigation of the Alps. In 1891, several years after Swiss initiatives, Richter put out a call to contribute to regular glacier length surveys in the Eastern Alps. Since then more than 100 glaciers have been surveyed on a first biannual and later annual basis. The database includes measured data showing a general glacier retreat since 1891, with two periods of glacier advances in the 1920s and 1980s. Less well known are the sketches and reports which illustrate, for instance, changes in surface texture.

The interpretation of length change data requires a larger sample of data for a reasonable interpretation on a regional scale. Nearly every time series in the long history of investigation includes gaps, e.g. in cases of problematic snout positions on steep rock walls or in lakes, or of debris-covered tongues. Current climate change adds the problem of glaciers splitting up into several smaller glaciers which behave differently. Several basic questions need to be addressed to arrive at a most accurate prolonged time series: How should measurements on disintegrating or debris-covered (and thus more or less stagnating) glaciers be documented, and how can we homogenize length change time series? Despite of uncertainties, length change data are amongst the longest available records, bridging the gap to moraine datings of the early holocene.