

Name of research institute or organization:

Glaciology, Swiss Federal Institute of Technology, Zürich

Title of project:

Glacier measurements on Aletschgletscher

Project leader and team:

Dr. Andreas Bauder, project leader
2-4 coworkers and field assistants

Project description:

Long-term glacier observations have been carried out to document glacier variations of Grosser Aletschgletscher:

- Since the 1880's the length changes at the glacier tongue were recorded annually.
- Starting in September 1918, the firn accumulation and mass balance was measured on Jungfraufirn. These are the second longest time series of in-situ stake measurements.
- Two detailed, high precision topographic maps exist for 1926/27 and 1957, covering the whole catchment area of the branched glacier system.

In an ongoing project the length, area, and volume changes of the Alps largest glacier are continuously observed applying modern remote sensing techniques as well as direct field measurements. To calculate volume changes of high spatial resolution, digital elevation models (DEM) were generated by digitizing elevation contours of the maps. A comparison to the current situation will be possible with photogrammetrical results from recent aerial photographs. The changes in mass on Jungfraufirn are continuously measured twice per year in spring after the accumulation season and in late summer after the ablation season. The variation of snow accumulation and melting is recorded monthly.

Key words

Glacier measurements, firn accumulation, mass balance

Collaborating partners/networks:

Scientific publications and public outreach 2001:

Address:

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