EGU23-15485, updated on 15 Apr 2024
https://doi.org/10.5194/egusphere-egu23-15485
EGU General Assembly 2023

The use of snow fences for snow conservation

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With ongoing climate change, residual snow in the mountains is disappearing ever earlier each year. This reduces their potential to be used as a water source later in the year. Especially for infrastructures like mountain huts, this can lead to severe problems. Our study describes how to actively apply the basics of snowdrift fences as snow-farming to establish snow depots as summer water source. This project asses how drifting snow can be applied in a practical and sustainable way in alpine terrain without the use of snow-groomers or snow-cannons.

Existing, scientific models of snow transport are utilized in conjunction with the fundamentals of snow fence design to maximize the yield of residual snow in complex alpine terrain, contributing to water supply security. The study presents the results and approaches to the implementation of CFD modelling integrating meteo and snowpack models to analyze mountain terrain for potential sites. These results form the basis for the use of snowdrift fences to increase water storage in mountain regions.