

Longterm Variability and Trends of the Snow Cover in the Swiss Alps

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Monitoring of snow is an essential task for countries like Switzerland, where snow is an important natural resource. Data of 140 snow observation stations between 200 and 3000 m a.s.l. throughout the Swiss Alps were investigated towards natural variability and possible trends during the last 75 years. The results demonstrate that the snow cover is varying substantially on interannual to decadal time scales. The mean snow depth shows a gradual increase until the early 1980s (with insignificant interruptions during the late 1950s and early 1970s) followed by a decrease towards the end of the century. High altitude stations show no changes, whereas the decreasing trends becomes statistically significant at stations below 1300 m a.s.l.. Results suggest that the recent decrease in low altitude snow cover can mainly be attributed to an increase in temperature. This temperature increase seems also be responsible for a more intensive melting of the spring snow cover at high altitude during the last 15 years.

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