

Geophysical Research Abstracts,
Vol. 10, EGU2008-A-06429, 2008
SRef-ID: 1607-7962/gra/EGU2008-A-06429
EGU General Assembly 2008
© Author(s) 2008



Regime change of snow days in Switzerland

Ch. Marty

Swiss Federal Institute for Snow and Avalanche Research SLF, Davos, Switzerland
(marty@slf.ch)

The number of days with snow depth above a certain threshold is the key factor for winter tourism in an Alpine country like Switzerland. Its quantification and trend in a changing climate is thus important for ecological and economical assessments. An investigation of 35 longterm data series of snow depth between 200 and 1800m asl going back to at least last 60 years shows an unprecedented series of low snow winters in the last twenty years. The picture of the signal is uniform despite high regional differences on both sides of the Alps. A shift detection analysis revealed a significant step-like decrease in snow days at the end of the 1980s with no clear trend since then. This abrupt change resulted in a reduction of about 10 snow days at altitudes below 800 m and 25 snows days at altitudes below 1300 m. This accounts for a loss of 40% to 50 % of the total winter snow days in these altitude zones. The correlation with the mean winter temperature corroborates the sensitivity of the mid-latitude winter to the climate change induced temperature increase.