

**Fuchs, S.; Keiler, M.; Zischg, A. & M. Bründl (2005):** The long-term development of avalanche risk in settlements considering the temporal variability of damage potential. *Natural Hazards and Earth System Sciences* 5 (6). p. 893-901.

### **Abstract**

Recent studies on the avalanche risk in alpine settlements suggested a strong dependency of the development of risk on variations in damage potential. Based on these findings, analyses on probable maximum losses in avalanche-prone areas of the municipality of Davos (CH) were used as an indicator for the long-term development of values at risk. Even if the results were subject to significant uncertainties, they underlined the dependency of today's risk on the historical development of land-use: Small changes in the lateral extent of endangered areas had a considerable impact on the exposure of values. In a second step, temporal variations in damage potential between 1950 and 2000 were compared in two different study areas representing typical alpine socio-economic development patterns: Davos (CH) and Galtür (A). The resulting trends were found to be similar; the damage potential increased significantly in number and value. Thus, the development of natural risk in settlements can for a major part be attributed to long-term shifts in damage potential.