

Statistical results from historical avalanche records (High Tatra Mountains, Slovakia)

M. Vojtek

Division of Meteorology and Climatology, Comenius University¹

Abstract: Available historical avalanche records for the High Tatra Mts. were transcribed from various paper sources into electronic database (SLPDB) with all available avalanche parameters (including International morphological avalanche classification). Some of them were estimated in order to quantify the avalanche activity, and finally simple quality control rules were applied to the data set.

The systematic recording of all avalanches in selected model valleys comes with the first electronic avalanche database (FoxPro under MS DOS) in winter 1991/92. However, there is remarkable increase in avalanche records since winter season 1979/80. These records are useful for the setting of parameters and the verification of computer-based avalanche forecasting methods.

In recent years the monitoring of avalanches in Slovakia has been improved: more valleys were included into regular observation; helicopter flights with special camera since winter 2004/05 make monitoring easier mainly in secluded valleys.

Some conclusions and long-term avalanche statistics for the High Tatra Mts. computed from collected historical avalanche occurrence records (the first one in 1850) are presented: avalanche accident statistics and typical reasons of avalanche accidents, relation between avalanche danger scale and length of avalanche path. The data show that the chances to survive an avalanche are now higher than they were, probably because of better forecasts, equipment and education of people.

Key words: snow avalanche accidents, historical avalanche records, the High Tatra Mountains, Avalanche Prevention Centre database SLPDB

¹ Mlynská dolina, 842 48 Bratislava, Slovak Republic; e-mail: mvojtek@fmph.uniba.sk