



Monitoring of full-depth avalanches contaminated by soil and rocks - their origin and consequences, (Krkonose/Karkonosze Mts.- High Sudetes)

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Monitoring of snow avalanches is provided in Czech part of the Krkonose/Karkonosze Mountains since the winter season 1961/62. The full-depth avalanches contaminated by soil and rocks represent about 4% of the monitored number. There are six bigger avalanches of this type recorded during last 10 years. The areas of snatched weathering mantles reached at about 3000 – 23 000 m² per individual avalanche track. In deposit zones the areas from 2600 to 18700 m² were covered by soil, sods and small rock fragments whose volume ranged from about 130 to 880 m³ per individual avalanche track. The volume of large rock fragments in one concrete track was counted up to 144 m³. The great influence of full depth avalanches on relief and slope development is evident. Based on monitoring the speed of snatched areas overgrowing by vegetation and on comparison of space design of plant communities out off and on the avalanche tracks respectively, it would be possible to estimate the period of such bigger events. Very important thing is that four avalanche events were triggered by water, which infiltrated the base of snowpack within upper or central parts of avalanche slopes. Water origin was probably either a) in mires on adjacent summit plateau (ground water flown on inclined bedrock layers to the avalanche slopes) and b) in thawing water of snow patches situated on the cryoplanation terraces above the avalanche slopes. More detailed study of these phenomena is needed in the future.