



## **Estimation of avalanche risk**

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Despite of a significant investment of means in the organization of protective actions the amount of victims of avalanches year from a year does not decrease. The reasons can be both features of avalanche activity of different regions, and character of behavior of the person in mountain countries.

For some mountain areas of Russia the estimation of avalanche risk is carried out. Risk in this case is determined as function of susceptibility of the person (population) to natural influence, his sensitivity to these influences and his safety.

Consistently following parameters were calculated:

- Vulnerability of the population in time, as function of duration of staying of the person and his location on the dangerous territory;
- Vulnerability of the population in space, as function of liability of territories to snow avalanches;
- Full social risk of the population lesion, as function of vulnerability in time and space, repeatability of avalanches and population density.

Total parameter - individual risk - the relation of full social risk to the number of population.

Three gradation of risk are distinguished for avalanche-hazardous areas:

Up to  $1\text{Å}^{-06}$  - the "acceptable" risk, safety is provided basically with application of organizational-economic measures;

1Å-06 - 1Å-04 - the "admissible" risk, development of an infrastructure is possible, but demands significant expenses on avalanche defense measures;

more than 1Å-04 - the "unacceptable" risk, victims and destructions are inevitable.

In the Northern Caucasus territories with the "acceptable" risk account for 41 % of the all avalanche-hazardous areas, with the "admissible" risk - 52 %, with the "unacceptable" risk - 7 %; in the Far East, correspondingly, more than 96%, 3,5% and less than 0,1%.

Mountain resorts Krasnaya Polyana, Prielbrusje, Dombai are situated in the zone of "unacceptable" risk of the Caucasus. In the Far East in conditions of "unacceptable" risk the cities of Petropavlovsks-Kamchatskij, Magadan, Holmsk, Nevel'sk and others are located.