

Economic debris flow risk in the Northern Caucasus region

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The territory and the industry of the Northern Caucasus region are exposed to various natural hazards including debris flows. The debris flows risk is quantified in economical parameters (complete and specific economic risk) per administrative units for the republics of the Northern Caucasus, Stavropol and Krasnodar regions. The estimation of the economic debris flows risk is based on the accounting of the distribution, repeatability and regime of debris flows, as well as on the economical characteristics of the administrative units of the region. The estimation show that the maximal values of the economic debris flows risk correspond to the republic of Dagestan, Northern Osetia-Alania and Krasnodar region. The minimal values are found for the Republic Adygeya.

Such pattern of the economic risk corresponds to present climate and economic conditions in the region. Climate change and further economic development unavoidably bring changes in the risk pattern and values. Present state mitigation and governing measures should more likely be adjusted according to possible scenarios of future changes in climate and economy, with the present conditions to be used as a base for the corresponding adjustments.