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Abstract

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Abstracts

Destruction threat assessment of mudflow passage in the southeast of Kazakhstan

Kainar Bolatov[1, 2], Yevgeniy Talanov[2], Nurlan Abayev[1, 2], Shyngys Turashov[1,2]

[1]Research center, RSE Kazhydromet

[2]al-Farabi Kazakh National University

Email: bolatov_k@meteo.kz

Abstract

This contribution presents an accurate analysis of the hazard and disaster, as well as assess the risks of disasters in Kazakhstan. In recent decades, there has been an increase in the number of events of all types of natural disasters all over the world. The economic and human losses in this case are directly proportional. Climate change and environmental degradation are one of the reason of this. Kazakhstan is also in the global trend for climate change and increased natural disasters. All types of mudflows except volcanic are recorded in Kazakhstan. More than half of all reported cases of mudflows occur in the southeastern region of the country, which is densely populated. Risk assessment was carried out according to three methods:

1. Past events analysis: events register
2. Geomorphological approach: signs indicating the occurrence of hazardous processes
3. Simulations: triggering zone, motion, deposits

Most mudflows belong to rain genesis mudflows. The authors performed a deep statistical and comparative analysis of long-term daily precipitation. The results provides information on the increase in average annual air temperature and annual precipitation in mountainous areas. The normalized empirical distribution curves for the Ile and Zhetysu Alatau ridges are constructed.