Geophysical Research Abstracts,
Vol. 11, EGU2009-14015, 2009
EGU General Assembly 2009

Comparative analysis of Multiple risks in the Western part of Georgia

N. Tsereteli, T. Chelidze, O. Varazanashvili, and A. Amiranashvili
M. Nodia Institute of Geophysics, Tbilisi, Georgia, (nino_ts@ig.acnet.ge / Fax: +995 32-332867 / Phone: 995 32-335513)

Georgia is prone to catastrophes. In the last two decades, there have occurred the following natural disasters: (a) Avalanches in Svaneti and Khevsureti, (b) landslides in the mountainous Achara, floods, (c) hurricane and drought in West and East Georgia, (d) Racha earthquake of 1991 and (e) the Tbilisi Earthquake of 2002. These phenomena are very special both from ecological and from social-economical points of view. By the disaster risk index obtained by the UNDP, Georgia is similar to countries with medium and high level risk. Therefore, natural disasters in Georgia are considered as a negative factor in the development process of the country. This implies the necessity of more active actions by all possible means to reduce the risk of natural disasters at each level and maintain the sustainable economic development of the country, including good education at the universities and schools for real understanding of natural hazards.

The main goal of the work here is the assessment of 12 widespread natural disasters and multiple risks for political districts in West Georgia. These natural disasters include earthquakes, landslides, avalanches, floods, mudflows, droughts, hurricanes, lightning, hail, glaze, freezes, mists.

The research was based on the following steps: (a) Creation of electronic detailed databases of natural disasters that occurred in Georgia. These databases consist of the parameters of such hazardous phenomena class that caused natural disasters. (b) Quantitative investigation of energetic and spatial-time regularities of 12 natural disasters for the territory of Georgia. Estimation of people and environment (technosphere) vulnerability. (c) Elaboration of mathematical models and algorithms of disasters multiple risks taking into account the concrete conditions: (i) Sharing and generalization of gathered experience in the world. This allows more proper and wide comparison of the multiple risks of Caucasus countries; (ii) Taking into account the general formula of risk = hazard x damage, transfer from analyze of separate risk to its complex one; (iii) Taking into account the reality of Georgia and complex scheme of revealed risk in separate district of the country during the construction of multiple risk models. Investigation of each step reveals problem according to essential parts in the multiple risks assessments, such as communication between scientists, engineers, civil protection and other agencies. A big gap in such kind of relationship leads to lack of important information, such as economic loss according to each hazard. Low level in education according in natural hazards cause bad management and sometimes increase economic and mortality loss.