

## Catastrophic events in the Rioni River Basin and analysis of its consequences

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One of the most difficult problems of mankind is natural disasters. A natural disaster is any catastrophic (devastating) natural event and process (earthquakes, volcanic eruptions, droughts, landslides, floods, etc.) that can cause human casualties and cause material and non-material damage to the country.

Georgia is characterized by floods and flash floods. Floods are caused by prolonged rains or rapid melting of snow and the process is characterized by a relatively slow pace of development. This type of flood occurs when the permeability of a river bed is less than the mass of water. Flash flooding in Georgia, is the result of a sudden increase in the uniform runoff generated by heavy rains which can also occur as a result of dam breakage, landslide closure of the gorge, etc.

Analyzing past data and making predictions with their help will help us to prevent an impending catastrophic event. I have chosen the Rioni River Basin (Ghebi-Oni section) as the study object, where there are clear examples of how important data analysis is for the purpose of prevention. Vulnerable zones are isolated with the help of a hydrological model.