

Field Studies of 2017 in the Water Catch Basin in the River Vere to Safeguard the Population of Tbilisi against the Erosive-Mudflow Processes and Its Evaluation

Authors : Natia Gavardashvili

Abstract : From April through June of 2017, the field-scientific studies to ensure the safety of the population of Tbilisi were accomplished in the water catch basin of the river Vere, in the water catch basin of the river Jakhana dry gully. 5 sensitive sites were identified, and areas, 20x20 m each, were marked around them, with their locations fixed with GPS coordinates. The gained areas were plotted on a digital map, and the state of the surface was explored by considering the evaluation of erosive processes. Aiming at evaluating the soils and grounds of the sensitive areas, the ground samples were taken, and average diameter was identified, with its value changing to $D_{0} = 4,67-15,48$ mm, and integral curves of the grain size were drafted. By using the obtained data, the transporting capability of mudflow can be identified at the next stage to use to calculate mudflow peak discharges of different provisions in developing the new designs of mudflow-protection structures with the goal of ensuring the safety of Tbilisi population. The studies were accomplished under the financing of Young Scientists' Grant of Shota Rustaveli National Science Foundation 'The study of erosive-mudflow processes in the water catch basin in the river Vere to ensure the safety of the population of Tbilisi and their consideration in developing new environmental protection plans' (YS15_2.1.5_8)

Keywords : water catch basin, mudflow-protection structures, erosive-mudflow processes, safety

Conference Title : ICEBESE 2017 : International Conference on Environmental, Biological, Ecological Sciences and Engineering

Conference Location : Paris, France

Conference Dates : September 21-22, 2017