

The results of geological and geophysical research of the river Skhalta gorge

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ANNOTATION

The relevance of the topic is the fact that landslide areas are identified in the river Skhalta gorge, on the territory of the village Kinchauri, which are dangerous for the population.

The purpose of the study was the geological survey of the village Kinchauri of Khulo Municipality and the surrounding area, as well as the definition of geological boundaries between Quaternary and main rocks, the identification of dangerous geological processes, the processing of field data and the compilation of maps.

Human activities such as road construction, flooding of canals and hydro technical structures, increasing dynamic and static loads on slopes, deforestation, large scale earthwork, mining of minerals both, as underground, as open methods, as well as many other areas of Human Activity, which radically change the natural balance of rocks and causes the formation and activation of a landslide.

Electric Survey Methods were used for delineate landslide zones, in particular, the method of Vertical Electrical Sounding (VES). The method of vertical electrical sounding is effectively used in Geological Mapping, in prospecting and exploration of minerals, in hydro geological, engineering-geological and ecological studies.

These studies were conducted in the village Kinchauri and the surrounding area. After this, in each observed point, according to the apparent electrical resistance, soil differentiation was carried out. Geophysical horizons and aquifers were identified. The corresponding geo-electrical columns were constructed.

For each point of electrical sounding, the curves of the resistance against the depth were plotted. After a qualitative interpretation of the results obtained, a quantitative interpretation was made using a special computer program (IPI2WIN). According to the results, geo-electrical columns were constructed.

Using the results obtained, as well as stock materials, we can draw the following conclusions:

- The village of Kinchauri is located on the relic landslide;
- landslide the body is not monotonous; The thickness of Quaternary sediments (potentially - the material that can move) varies within 5-15 m;
- The dynamics of landslide is affected by geological, climatic and anthropogenic factors.