

Hydrological basics for cascade control of water resources in Georgia

Vazha Trapaidze, Davit Kereselidze, Kakhaber Bilashvili, Giorgi Bregvadze, Irakli Megrelidze

E-mail: vazha.trapaidze@tsu.ge;

Department of Geography, Faculty of Exact and Natural Sciences, Iv.Javakhishvili Tbilisi State University,
0179, Tbilisi, I.Chavchavadze #3

Despite the fact that Georgia is a country rich in water resources, the resources are unevenly distributed on its territory, and the current trends (increasing water consumption in particular) make us think that building hydraulic structure in different regions of the country will make the cascade water control urgent.

In the 1950s, they started to intensely use cascade control of the river runoff in Georgia and mostly, the water utilization systems operated trouble-free. Today as well, cascade control for both, the rivers and tributaries, is quite active, with the Ajaristskali River being a good example.

Water resources and mountainous relief of Georgia give better prospects to use water power resources more intensely in the future by employing the cascade control. The use of runoff is complex and multi-disciplinary and concerns many sectors and interested parties. The development of the control regime of water utilization systems and calculation and selection of the main hydrological parameters, which determine the properties of hydrosystem structures and water reservoirs, as well as the development of the rules of water reservoir exploitation, rational use and protection of water resources are important methodological and practical objectives. The water resources of the mountainous region of our country make it possible to provide sufficient water amount for the guaranteed performance of a hydrosystem, while the development of the most efficient water utilization control regime significantly improves the effect of the control.