

Impact of Petroleum Products on Water Resources, the Example of the Bartskhanistskali River

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Abstract: The negative impact of oil and oil products on the environment is well known and represents the most important ecological problem. Although manufacturers and logistics services work in compliance with environmental legislation, oil, and its products still occur in the environment. As a result, oil transformation products enter the biosphere, and change the composition of soils, surface and underground waters, and the atmosphere. The research aimed to study the content of petroleum products in the waters of the Bartskhanistskali River and evaluate its ecological condition. The river Bartskhanistskali flows into the territory of the city of Batumi and is attached to the Black Sea. Most of the entire catchment area of the river is crossed by roads close to the Batumi oil terminal and the main oil highway. It studied the quantitative and qualitative conditions of the Bartskhanistskali River in two observation areas: one at the mouth of the sea, and the other 5 km from the head of the river. The experiment was conducted in 2022–2023, and water samples were taken in different seasons. The results of the study showed the change in the oil content in the Bartskhanistskali River in different research areas and in different seasons of the year. The concentration of the pollutant in the water is variable and dependent on climatic conditions (temperature) and weather. The highest level of oil content was recorded in the river area, where highways, oil reservoirs, and transfer pipes are adjacent. Its content is also especially high in summer.

Keywords: River, Bartskhanistskali, Oil products, Pollution.