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## **Fresh Groundwater Monitoring in Georgia, EUWI+ project support to Georgia in implementing the EU Water Framework Directive and improve the monitoring network**

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Georgia is among the countries which have fresh groundwater distinguished for significant resources and drinking qualities of naturally high quality. Hydrogeological exploration and monitoring works for the purpose of identification, study and protection of fresh groundwater were not conducted in the period of 1990–2013. Considering the long-term termination of centralized researches and the intensively increasing anthropogenic pressures on the environment and on water in particular, the assessment and protection of groundwater resources becomes a very pressing issue. For this purpose, in 2013, on initiative of the Geology Department of LEPL National Environmental Agency of Georgia and the Czech Development Agency, restoration of the hydrogeological monitoring network and research of fresh groundwater using modern methodology began. The modern equipment was gradually installed on the water objects to obtain information about quantitative and qualitative characteristics in "online" mode and taking water samples for chemical and bacterial analysis twice a year. Currently, 56 water points (mainly wells) are being monitored. The database on quantitative and qualitative characteristics of fresh groundwater of Georgia is being expanding based on information received online from water points, fieldwork results, laboratory analyzes (chemical and bacteriological), and on the processing, analyzing and generalizing of the collected actual materials. As the issue concerns fresh groundwater (which is used by at least 90% of the population), it's necessary to expand the state monitoring network. According to the EU Water Framework Directive, based on the basin management principles of water resources, conduct of researches is granted particular significance in the trans-boundary zone.

The „European Union Water Initiative Plus for Eastern Partnership (EaP) Countries (EUWI+)“, which is the biggest commitment of the EU to the water sector in the EaP countries, helps Armenia, Azerbaijan, Belarus, Georgia, Moldova and Ukraine to bring their legislation closer to EU policy in the field of water management, as identified by the EU Water Framework Directive. The EUWI+ project addresses existing challenges in both development and implementation of efficient management of water resources.. Monitoring data are an important basis for water management, for risk, status and trend assessment and for the design and implementation of an effective and cost-efficient program of measures .

Within the EUWI+ project, the following key activities were undertaken in Georgia: „Delineation and characterization of groundwater bodies and the design of a groundwater monitoring network in the Alazani-Iori and Khrami-Debed River Basin Districts in Georgia“, „Performed hydrogeological preliminary field works in the Alazani-Iori and Khrami-Debed River Basin“. Currently „Geophysical, isotope, hydrochemical, bacteriological and hydrodynamic assessment of twelve selected wells to be included in the national groundwater monitoring network in the Alazani-Iori River Basin District in Georgia“ is in progress. The results of this study are a basis for the improvement of the groundwater monitoring network and the development of River Basin Management Plans. As a part of the EUWI+ project, several new monitoring stations are planned.

The results are important in the process of implementation of integrated management of water resources, which should finally ensure sustainable management of water resources and reliable health protection of the population.