



The research of arsenic existence and action in rivers of Armenia.

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In Armenia, to the negative processes connected with global climate changes in the scope of the whole Earth, put in local processes, which are consequences of very ungrateful ecological situation. Today Armenia does not have either strategy or plan of how to adapt to the changes of the environment. Industrial and domestic refuse waste waters of cities and settlements, located near rivers, frequently, without preliminary cleaning, throw out in the river water. In addition, waters of Armenian rivers that used for drinking, irrigation in agriculture, also used in technological processes and industry. For example, one of the factors which have huge destructive impact on the nature of Armenia is the mining and metallurgical field of the industry. In the process of enrichment different chemical compounds are used. Most of industries do not have private cleaning stations. Wastes of industries are concentrated in temporary tailing repositories and then toxic slush overflows out of the tailing repositories will get to rivers. Typical example of that is the river Vokchi.

The aim of our research is to monitor arsenic concentrations in natural water of Armenia for the years 2007-2008. For the fulfillment of such work on high level, starting from the selection of tests and ending by working with findings, there is a need of contemporary apparatus, certified clear chemical reagent and materials. Center For Ecological Noosphere Studies of National Academy of Sciences RA is the participant of international project "South Caucasus rivers monitoring" by the program of NATO-OSCE "Science for peace". This appeared a reason to solve problems of accordance to international standards.

Expeditionary group preliminary has defined some points of tests selection and selected specimens of river water by means of special apparatus. Chemical analysis of water specimens, which were selected on the above mentioned contaminated territories, fulfilled in analytical laboratory by using the method of electrothermal atomization of atomic absorption spectrometry.

The advantage of this method is high accuracy and the possibility to determine different forms of heavy metals (strong mobile water soluble, mobile acid soluble etc.)

Subsequently, dependence of changes diagrams of arsenic concentration (ppb) from the time of tests selection (months) from 13 points of rivers of Armenia has built.

According to our monitoring, the dependence of changes of arsenic concentration in river water from industrial and domestic refuse objects was observed, also observed depending on year seasons. As known, arsenic toxicity depends on its concentration as in dissolved forms as in suspended condition. We have found that concentrations of dissolved forms of arsenic, practically equals to its total concentration.

Basic priority of our research is an observation and understanding of arsenic ecological chemistry, physico-chemical forms of its existence in natural waters of Armenia.

Poisoned soil, water and air, lost health of people – such is the price of the development of rough economy of Armenia; such is the price of profit of transnational corporations.