CHRONICLES

International Scientific Conference “Groundwater Resources: Present Problems of Survey and Use”

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In May 2010, the International Scientific Conference on present-day problems of survey and use of groundwater resources was held in Moscow; it was dedicated to the centenary of Boris Ivanovich Kudelin, an outstanding scientist and professor of the Moscow State University. The conference was organized by the Faculty of Geology, Moscow State University, and the Water Problems Institute, Russian Academy of Sciences, and was supported by the International Organization of Hydrogeologists. More than 200 scientists and specialists from different research and production organizations of Russia, Byelorussia, Ukraine, Kazakhstan, Azerbaijan, Bulgaria, the United States, and Australia took part in the work of this conference. After the welcome greeting to the participants of the conference, the main attention was drawn to the role of B.I. Kudelin in the development of basic research in the field of hydrogeology; this was done in the speeches of Academician D.Yu. Pushcherozhskii, the Dean of the Faculty of Geology, Moscow State University; V.I. Danilov-Danil'yan, a corresponding member of the Russian Academy of Sciences, the Director of the Water Problems Institute; and V.I. Osipov, the Chairman of the Academic Council of the Russian Academy of Sciences for Geoecology, Engineering Geology, and Hydrogeology, the Director of the Institute of Geoecology, Russian Academy of Sciences. Recollections about Boris Ivanovich Kudelin were presented by his son A.B. Kudelin, Academician, the Director of the Institute of World Literature, Russian Academy of Sciences.

The role of Boris Ivanovich Kudelin in studying the processes of interaction of groundwater and surface water and in developing our and the world hydrogeology was also shown in the report of V. A. Vsevolzhskii and I.S. Zektser “B.I. Kudelin: Scientist and Teacher” specially prepared for the event.

An original research line named *the science of groundwater flow* was formed in the academic science of land water resources under the supervision of B.I. Kudelin. It is successfully developing now by his disciples and followers; this was convincingly shown at the conference. Many research works of B.I. Kudelin and, primarily, his fundamental work *Main Principles of Regional Assessment of Natural Groundwater*

Resources published in 1960 is widely used in practice now.

The most important results of these studies are:

- the development of theoretical concepts of different nature of hydraulic interaction between groundwater and surface water, depending on the conditions of aquifer occurrence in a river valley;

- the substantiation (on this basis) of the principles of streamflow hydrograph subdivision with the separation of the underground component depending on the type of hydraulic relationship between the aquifer and river;

- the substantiation of the scheme of “lateral regulation” of river flow during high-flow periods and floods and the type of manifestation of these processes in the regime of groundwater in the aquifer parts adjoining the channel;

- theoretical substantiation of the conditions for application of the equation of mean long-term balance of river basins depending on hydrogeological conditions; based on this method, the development of a procedure of quantitative assessment of underground flow of deep (artesian) groundwater;

- the development of principles of regional assessment and mapping of underground flow (natural groundwater resources) in areas with different types of geological and hydrogeological conditions.

The results of studies of groundwater flow and its resources as well as studies of hydrogeochemical and hydrogeoecological conditions of groundwater formation in different regions were presented in papers at the plenary and sectional sessions of the conference and as poster reports.

It is impossible to discuss even in brief numerous papers prepared for the event. The following should be emphasized: nearly all the papers were devoted to the regional studies of processes of groundwater flow and groundwater resource formation; the role of groundwater in the total balance of river basins; the assessment of mass flux in the lithosphere; the methods of dynamic and stochastic interaction between surface and groundwater flow; the assessment of the degree of groundwater protection; and other topical problems of present-day hydrogeology and hydrology.