

WATER QUALITY TRENDS IN THE RIVER VOLGA AND ITS TRIBUTARIES OKA AND MOSKVA AT NIZHNY NOVGOROD AND KOLOMNA

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The Volga River is the largest river in Europe. It flows 3700 km from the Valdary hills towards the Caspian Sea. The Volga basin territory covers 1.4 million km² where about 40 % of the population of the Russian Federation lives. About 45 % of the agricultural production and 50 % of the industrial potential of the country are concentrated in the basin, leading to an intensive utilization of the river's water. Approximately 85 % of water used for drinking water supply is also taken from the surface water sources of the basin. The "Volga–Rhine" project is a German-Russian joint research project within the frame of a dedicated agreement on research cooperation in the field of water quality and environmentally friendly technologies between the Ministry of Science and Technology of the Russian Federation and the Ministry of Education and Research of the Federal Republic of Germany (BMBF). The main aim of the project is a long term investigation of the water quality of the Russian river Volga and its tributaries to evaluate the "Urban influence on rivers' water quality". The study is conducted in the urban agglomeration centres around Nizhny Novgorod and Kolomna, where the confluents of the tributaries Oka and Moskva, respectively, are located and surface water is predominately used as the raw water for drinking water production.

Parameters studied were dissolved organic carbon (DOC), organically bound halogens adsorbable on activated carbon (AOX), nitrate, nitrite, ammonium, phosphorous and heavy metals. The water quality was classified according to Standards used for European river systems (Federal States on Water Issues (Länderarbeitsgemeinschaft Wasser, LAWA)).

In this presentation the results of investigations conducted in the time frame from 2001 to 2008 are summarized. Based on these results, conclusions on long-term as well as seasonal trends of the water quality are drawn. The results are valuable information for the local governments as well as for the operator of the different water treatment plants in the Volga basin.

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