

**ASSESSMENT OF THE INTEGRAL INDUSTRIAL IMPACT  
ON THE ENVIRONMENT IN THE LENA RIVER BASIN**

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*Water Problems Institute of the Russian Academy of Sciences  
3, Gubkina Str., 119333, Moscow, Russia. E-mail: belanna47@mail.ru, helenalenaru@gmail.com*

Received Februar 01, 2023. Revised Februar 15, 2024. Accepted March 01, 2024.

In this article we evaluate for the first time an integral industrial impact on the environment under its negative and positive conditions of development. Our research took place in the Republic of Sakha (Yakutia), in the basin of the Lena River. It was conducted in 2 stages: 1) under the negative industrial impact on the environment, 2) under the positive impact on the environment.

Industrial impact was evaluated using a methodology we have developed in our previous studies. It allowed us to take into account the multifactority of multidimensional indicators that characterize the impact on the studied areas, including the Lena Basin.

The approach presented in our research is based on a simple arithmetic operation, which combines all multidimensional characteristics of the impact in our calculations, and brings them to dimensionless values to determine the degree of their either negative or positive impact on the environment.

The research was carried out in 25 districts of Sakha, all located in the basin of the Lena River. We analyzed 53 negative indicators (combined into 8 groups) and 8 positive indicators (combined into 3 groups) showing the state of various environmental components. Each indicator was assigned a degree of industrial impact on a 5-point scale; each group was also assigned a degree of the total industrial impact on the environment on a 5-point scale. Then we evaluated the total impact within each group, and compiled 11 maps.

*Keywords:* environment, industrial impact, water resources, ecological, economic and social aspects of influence, negative and positive impact on the environment.

*Funding.* This work was carried out as part of the scientific program of the Water Problems Institute of the Russian Academy of Sciences, Project No. FMWZ-2022-0001 “Studies of Hydrological Land Cycle Processes and Water Resources Formation, Geophysical Processes in Water Bodies and Their Basins, Formation of Extreme Hydrological Phenomena and Dynamics of Hydrological Systems Considering the Changing Climatic Conditions and Anthropogenic Factors”.

**DOI: 10.24412/2542-2006-2024-1-86-118**

**EDN: ULALFY**