

COMPLEX SPACE MONITORING DATA ANALYSIS TO DETERMINE ENVIRONMENTAL TRENDS OF POLAND-UKRAINE BORDER AREAS

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Abstract

A comprehensive approach to assessing the current ecological status of the Poland-Ukraine border areas has been considered, identifying possible negative effects associated with river water pollution. The main environmental impact factors that are directly related to the negative effects of anthropogenic load on the changing ecological status of the border areas and adjacent terrain have been identified. Particular attention was paid to the pollution monitoring data analysis of the Ukrainian part of the Western Bug basin. Using the space monitoring results, pollution sources that were not recorded in the official reports were identified. Their negative impact on the change of quality of life within the border areas was assessed. The integration specificities of heterogeneous time-differentiated ecosystem monitoring data were considered. The integration expediency of interdisciplinary joint analysis methods of decryption data and field observations for making operational decisions to prevent negative consequences of possible changes in the ecological status is shown. Modelling was utilized to determine the estimated contamination time of the river systems of Western Bug and Vistula from the Ukraine territory. The tendency of further changes in the ecological status of the analyzed areas has been ascertained, including the assessment of possible negative consequences.

Keywords: Environmental state; Western Bug; Pollution; Remote sensing; Space monitoring.