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METEOROLOGICAL POTENTIAL OF THE ATMOSPHERE OF THE SARNY AND ITS
GEOECOLOGICAL SIGNIFICANCE

The purpose of the study is to assess the meteorological potential of the atmosphere of Sarny and to determine the degree of influence of various parameters of the microclimatic system.

The research methodology includes a system of methods and techniques: monographic (used to study the materials of literary sources and Internet resources), mathematical (used a number of special indicators: Coefficient of meteorological potential according to VA Baranovsky, Coefficient of weather hardness Arnoldi for the cold season and heat for the warm season), graphic (used to visualize the results of the study).

Research results. The processes of accumulation of harmful substances in the atmospheric air of the city of Sarny prevail over the processes of scattering throughout the year. The best processes of dispersion of harmful substances in the air of the city of Sarny occur in the cold season, the processes of accumulation are most active in July-August. The meteorological potential in Sarny is worse than in Rivne and Dubno, which are located in the southern part of Rivne region.

A reliable direct close relationship between the concentration of pollutants (sulfur dioxide, formaldehyde) in the air with a meteorological potential of the atmosphere in Sarni been set. This should be considered when monitoring the atmosphere.

During the cold period of the year in the thermal regime of the microclimate of the city the severe weather prevails in the winter months, and in March, October, November - mild weather. In the warm period of the year only in summer the indicators of the thermal regime are in the comfort zone. The weather, which is characterized by extreme thermal discomfort and poses a danger and extreme danger to humans, was not formed during 2016-2018. In the cold season, the relationship between the thermal regime and the level of meteorological potential of the geourbosystem of Sarny is closer. But in the warm season, the self-cleaning abilities of the atmosphere tend to deteriorate with increasing average comfort temperature.

We assume that the processes of global warming will make the microclimate of the city of Sarny in the warm season more comfortable in terms of its thermal regime, but less attractive in terms of meteorological potential of the atmosphere.

Scientific novelty of the work: the meteorological potential of the atmosphere of the city of Sarny

by months for 2016-2018 was calculated; regularities of change of these indicators in warm and cold periods of the year were established; the meteorological potential of Sarny was compared with the indicators of other cities of the region (Dubno and Rivne). The correlations between the meteorological potential of the atmosphere of the city of Sarny with the level of air pollution and with the indicators of the thermal regime for cold and warm seasons have been established.

The practical significance of the work is that the obtained results can be used in the form of recommendations to local authorities for the improvement of urban areas to protect the air from pollution in conditions of low meteorological potential. The conclusions obtained in the work can be used as a basis for geoplanning projects for the location of industries. Also, the information obtained in the work can be taken into account by the media to inform the masses in order to form a rational behavior of the population in different weather conditions.

Keywords: meteorological potential of the atmosphere; microclimate; atmospheric pollution; self-cleaning ability.

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