

**МИНИСТЕРСТВО НАУКИ И ВЫСШЕГО ОБРАЗОВАНИЯ РФ
ТОМСКИЙ ГОСУДАРСТВЕННЫЙ УНИВЕРСИТЕТ
БИОЛОГИЧЕСКИЙ ИНСТИТУТ**

СТАРТ В НАУКУ

МАТЕРИАЛЫ

**LXX научной студенческой конференции
Биологического института**

Томск, 26–30 апреля 2021 г.

**Томск
2021**

WHAT SNOW IN TOMSK CAN TELL ABOUT

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Snow cover accumulates practically all substances entering the atmosphere. The aim of our project is to study snow, its quality, physical and chemical characteristics. For our research, we chose precipitation, namely snow, as an indicator of environmental pollution.

We are students of the TSU, so we decided to explore the territory of the university in order to compare the quality and properties of snow. So, we took three samples on the territory of Tomsk: by the road next to the main building of Tomsk State University, in the University Grove and at the University entrance. And in the beginning, we studied the appearance (color, moisture, hardness) and the condition of the snow.

We analyzed the snow stream, determined the pH of the snow water, the transparency, the presence of solid pollutants and salts in the snow. Experiments were carried out to detect chloride ions, sulfate ions and lead cations.

Snow is not completely pure and may contain various impurities. Based on the results of chemical analysis, it can be argued that, in general, the atmosphere is favorable; especially clean air is in the University Grove. Contamination is observed near the roadway.

We have established an increased content of mechanical impurities, chloride ions, as well as lead and iron ions in the snow samples from the nearby roads, which is due to the effect of exhaust gases from cars, using chemicals to combat ice and other consequences of human activity.

The chemical pollutants contained in the snow cover melt into the soil, accumulate in it from year to year, and penetrate into plant and animal organisms. Accumulating in the human body, they can cause disturbances in the functions of blood circulation, brain activity, metabolism, and allergic reactions. Thus, our topic is really relevant.

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