

SUMMARY

Jelonek I. Preliminary research of examination of atmospheric dust in the Karkonosze National Park.

Chrońmy Przyrodę Ojczystą (**64**), 5: 103–115, 2008.

Studies conducted to date were primarily focused on chemical research (acid anion and heavy metal cation content), examining the physical properties (optics and radiation) of the suspended aerosol particles, analysing pollution transportation routes, and the influence of acid rain on the Karkonosze National Park ecosystem. However, no research was done in order to determine the chemical compounds or phases containing ions whose concentration is analysed. Identifying the phases present in the dust will enable the researchers to determine the values of such physical properties as reactivity (ability to transform and react with gases or other aerosols in the atmosphere), and solubility, which concentrates the deposition and migration of metals in the environment. Moreover, it will help specify the chemical composition of the organic matter extracts from the snow mantle, by means of gas chromatography combined with mass spectrometry (GC-MS) (Jelonek, Fabiańska 2007). The scientific studies are accompanied by quantitative and qualitative monitoring. Such action, along with an ongoing result analysis, will allow for direct reaction to environmental threat, as well as appropriate planning and implementation of long-term reconstruction programmes for protected ecosystems, in the sense of restoring their original functions, and counteracting changes harmful to the environment.