



Geochemical cartography as a tool for assessing the degree of soil contamination with heavy metals in Poland

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Spatial disposition of chemical elements including heavy metals in the soil environment is a very important information during preparation of the thematic maps for the environmental protection and/or spatial planning. This knowledge is also essential for the earth's surface and soil's monitoring, designation of areas requiring improvement including remediation. The main source of anthropogenic pollution of soil with heavy metals are industry related to the mining coal and liquid fuels, mining and metallurgy, chemical industry, energy production, waste management, agriculture and transport. The geochemical maps as a kind of specific thematic maps made on the basis of datasets obtained from the Polish Geological Institute's resources allow to get to know the spatial distribution of different chemical elements including heavy metals in soil.

The results of the research carried out by the Polish Geological Institute showed strong contamination in some regions in Poland mainly with arsenic, cadmium, lead and nickel. For this reason it was the point to prepare geochemical maps showing contamination of soil with heavy metals, and determine main sources of contamination and zones where heavy metals concentration was higher than acceptable contents. It was also presented a summary map of soil contamination with heavy metals.

Additionally, location of highly contaminated zones was compiled with predominant in those areas types of arable soils and then results were thoroughly analyzed. This information can provide a base for further detailed studies on the soil contamination with heavy metals.