



Uncertainty of spatial distributions of soil magnetic susceptibility in areas of different type of land cover and anthropogenic pressure

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There is still a high interest in the improvement of soil magnetometry procedures that would increase its accuracy. Soil magnetometry is usually used as a fast screening method that is used to assess the degree of soil pollution. As the magnetometric measurements do not provide the exact information about the concentration of elements in soil, it is very important to determine the uncertainty of the spatial distributions of soil magnetic susceptibility.

The goal of this study was to analyze and present geostatistical methods of assessing the uncertainty of spatial distribution of soil magnetic susceptibility in areas of different land cover and anthropogenic pressure. In particular, spatial distributions of magnetic susceptibility measured on the soil surface using a MS2D Bartington device were calculated using indicator methods that make it possible to calculate the probability of exceeding the critical levels of soil magnetic susceptibility.

Measurements were performed in areas located in the Upper Silesian Industrial Area in Poland, and in Norway. In these areas soil magnetic susceptibility was measured on the soil surface using a MS2D Bartington device. Additionally, soil samples were taken in order to perform chemical measurements that included the determination of a concentration of selected elements.

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