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Title: *Magnetic susceptibility of soils and sediments in the fjord region of Bellsund (Spitsbergen)*

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Magnetic susceptibility is a physical quantity that describes the ability of a substance to change the magnetization under the influence of an external magnetic field. The magnetic susceptibility value indicates the amount and type of magnetic minerals in the investigated sample of soil or sediment. Magnetic susceptibility is a very useful parameter that could be used for a rapid determination of the presence of ferrimagnetic minerals in soils and sediments. Since the diamagnetic susceptibility is weakly negative or close to zero, and the paramagnetic one is relatively low, even when there are a lot of such minerals, the magnetic susceptibility value has been only slightly affected by them. The anthropogenic origin of the magnetic particles is mainly due to the deposition of magnetic iron oxides, which are a component of many industrial dusts. Their presence in the soil or sediment samples can be easily detected by measuring the magnetic susceptibility. Several studies indicate a connection between the increase in the magnetic susceptibility of soils and sediments and air pollutant concentration. The paper presents the results of the analyzes the selected magnetic parameters, such as the field and mass magnetic susceptibility, in soils and sediments collected in the vicinity of the fjord of Bellsund (Spitsbergen).

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