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## **SPATIAL DISTRIBUTION OF RARE EARTH ELEMENTS IN SOILS OF THE CITY OF SKOPJE, NORTH MACEDONIA**

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### **Abstract**

The study provides results on the abundance and distribution of rare earth elements (REEs) in surface soil of Skopje, North Macedonia. REEs were analysed in 231 topsoil samples collected from the study area using inductively coupled plasma – mass spectrometry (ICP-MS). The content of light REEs in the study area ranges from 0.085 mg/kg (Pr) to 58 mg/kg (Ce), while the content of heavy REEs ranges from 1.4 mg/kg (Yb) to 24 mg/kg (Y). Their spatial distribution is closely related to the region's lithology. Soils in the southern part of the study area, where Palaeozoic rocks predominate, have increased REEs contents, as do those in the south-eastern parts, where Quaternary floodplain swamp sediments predominate. The content of REEs decreases in soils from the northern and western parts of the study area, where older Quaternary river terraces and Miocene sediments predominate. Comparison of the contents of the analysed REEs with the land use units in the study area shows no significant differences in content depending on areas with different land use, although the contents increase slightly in areas overgrown with shrubs and in the north-eastern industrial zone, where the Ironworks is located, which processes iron ore and scrap for the production of iron and steel.

*Key words:* rare earth elements, Skopje, soil, spatial distribution

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