



Vertical distribution of Co, Cr, Cu, Fe, Mn, Ni, Pb, Sr and Zn in unpolluted Albeluvisols, Phaeozems Podzols, and Chernozems

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Published data on the vertical distribution of the total content of Co, Cr, Cu, Fe, Mn, Ni, Pb, Sr and Zn in unpolluted Podzols, Albeluvisols, Phaeozems and Chernozems were analysed. In the Albeluvisols, Podzols, and Phaeozems, the eluvial-illuvial distribution of Co, Cr, Cu, Ni, and Zn predominates. In Chernozems, it is superficial-accumulative. Manganese accumulates intensively in the A horizons of all soils. For Sr and Pb, the data are inconsistent.

The vertical and spatial distribution of i. exchangeable (F1), ii. bound to iron and manganese oxides (F2), iii. bound to organic matter (F3), iiiii. residual fractions (F4) and v. the total content (F5) of Co, Cr, Cu, Fe, Mn, Ni, Pb, Sr and Zn were studied on the example of the catenae into six small gully watersheds located in the tundra, taiga, subtaiga and forest-steppe of the East European and West Siberian Plains (Russian Federation). The predominance of the eluvial-illuvial distribution of metal compounds in the catenae with texturally differentiated taiga soils is revealed. In tundra catenae, the surface-accumulation distribution of Cu, Ni, Pb, and especially Zn predominates, which are accumulated by a dwarf birch and blueberry. Forest steppe catenae are slightly differentiated in terms of metal content. The occurrence of a surface-accumulative distribution of metals in F3 increases in soils enriched with humus.

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