



## **Dissolved organic carbon (DOC) in podzols in Karkonosze, Sudety Mts, SW Poland**

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Dissolved organic matter (DOM) content is a factor indicating translocation of organic components in different ecosystems, especially in their movement into deeper soil horizons and groundwater system. Furthermore, because of creating complexes with mineral components, DOM takes part in transportation of metals, xenobiotics and pollutants.

The aim of this study was to analyze DOC distribution and total contents of Fe, Al, Ca and Mg through soil profiles of podzols. Analyzed soils were located at elevation of 1100 - 1400 m above sea level at Karkonosze range, Sudety Mts, SW Poland. DOC and total organic carbon (TOC) were analyzed with oxydometric method. Total contents of Fe, Al, Ca and Mg were determined with AAS method after mineralization in  $\text{HClO}_4$ .

Distribution of TOC followed changes in properties of genetic horizons, typical for podzols (Oa -Ees - Bh - Bfe - C). The highest contents of TOC as well as DOC were observed in Oa horizons, while mineral horizons - much poorer in carbon - indicated different distribution of both fractions. TOC reached highest values in all B horizons, and biggest amounts of DOC were found in Ees or B horizons. Analyses of percentage of DOC in TOC showed the lowest values in Bh and Bfe horizons, while highest share of DOC was found in all Ees horizons. Profile distribution of Fe, Al, Ca, Mg indicated highest contents in B horizons. Obtained results confirmed crucial role of DOC in translocation of macro elements through soil profile. B horizons, characterized by presence of stable organometallic compounds, indicated the lowest share of DOC in TOC, and E horizons - very poor in macro elements - showed the highest percentage

of DOC fraction.