Moss Biomonitoring of Atmospheric Deposition of Trace Elements in Georgia in 2019–2022

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The second moss survey in Georgia was performed between 2019 and 2022. During this survey 96 samples were collected, including 59 samples of *Hypnum cupressiforme* Hedw., 14 samples of *Abietinella abietina* (Hedw.) M. Fleisch., 13 samples of *Pleurozium schreberi* (Brid.) Mitt, and 10 samples of *Hylocomium splendens* (Hedw.) Schimp. A total of 16 elements, among them As, Al, Ba, Cd, Co, Cr, Cu, Fe, Mn, Ni, Pb, S, Sr, V, and Zn, were determined using inductively coupled plasma atomic emission spectroscopy and Hg was determined using direct mercury analyzer (DMA-80 Milestone). In order to assess the trend in elements deposition the obtained results were compared with the previous survey in Georgia [1-3]. Background concentrations were calculated for both surveys individually using iterative 2σ-technique. Contamination Factor (CF) and Pollution load index (PLI) were calculated and mapped using GIS technology. Contaminated sites and potential sources of pollution were identified.

References

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