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Regional mapping of pedogeochemical background in Southern Belgium. Combining grid-survey measurements with existing maps of the physical environment.

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Among natural factors driving the soil content in metallic trace elements (MTE), the geochemical background is often deemed as a sound base for the detection of contaminations. Numerous studies have shown the difficulties to take into account the multi-dimensionnality of the spatial variability of most soil properties. As far as a detailed soil map is available for Belgium, the relevance of its information was investigated to evaluate the feasibility of a multi-scale mapping of geochemical background.
The soil properties of 410 plots from the regional forest soil monitoring and the relationships with informations related to the physical environment (lithology, soil types...) were investigated through multivariate statistical analysis. Some processes of integration of point measurements and qualitative information were also explored.
At the regional scale, some long-range spatial structures could be identified. These result mainly from the geological structure of the Walloon region, where the lithological zonation is rather clearly marked. The soil map (texture and nature of stone charge) appears relevant at that scale too but does need a generalization process and fails however to differenciate the intra-type soil spatial variability.