



## **Geochemical baseline studies of soil in Finland**

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The soil element concentrations regionally vary a lot in Finland. Mostly this is caused by the different bedrock types, which are reflected in the soil qualities. Geological Survey of Finland (GTK) is carrying out geochemical baseline studies in Finland. In the previous phase, the research is focusing on urban areas and mine environments. The information can, for example, be used to determine the need for soil remediation, to assess environmental impacts or to measure the natural state of soil in industrial areas or mine districts.

The field work is done by taking soil samples, typically at depth between 0-10 cm. Sampling sites are chosen to represent the most vulnerable areas when thinking of human impacts by possible toxic soil element contents: playgrounds, day-care centers, schools, parks and residential areas. In the mine districts the samples are taken from the areas locating outside the airborne dust effected areas. Element contents of the soil samples are then analyzed with ICP-AES and ICP-MS, Hg with CV-AAS.

The results of the geochemical baseline studies are published in the Finnish national geochemical baseline database (TAPIR). The geochemical baseline map service is free for all users via internet browser. Through this map service it is possible to calculate regional soil baseline values using geochemical data stored in the map service database. Baseline data for 17 elements in total is provided in the map service and it can be viewed on the GTK's web pages (<http://gtkdata.gtk.fi/Tapir/indexEN.html>).