

Methodology for soil sampling and characterization in order to establish the soil background concentration of trace element

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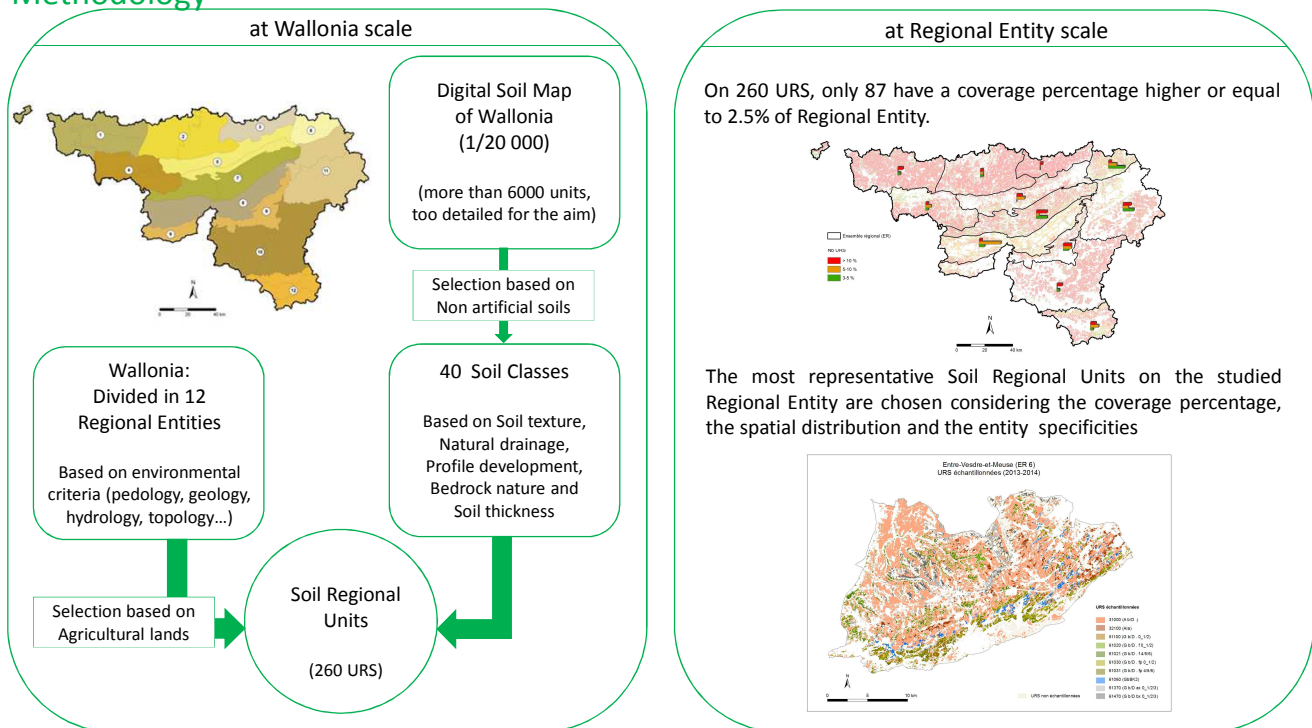
Context

The Walloon Decree of December 2008 on soil management requests the establishment of a database and a map of soil background concentration of contaminants. A first map has been established with the existing data – topsoil analyses before authorization of land spreading of sewage sludge. However, the use of this map is limited due to (i) the lack of data for a part of Wallonia, (ii) absence of data for subsoil and (iii) absence of data above the authorized range of contaminants for land spreading.

Introduction

The project AlteraSol is granted by the “Direction de la Protection des Sols” (SPW) and aims at developing and implementing a methodology for soil sampling and characterization in order to establish the soil background concentration of trace elements in areas not covered by existing surveys and in deep horizons. AlteraSol was also asked to consider the relevant indicators in soil contaminations.

Methodology



Sampling

Entre-Vesdre-et-Meuse, first studied Regional Entities :

- 10 Soil Regional Units chosen as the most representative
- 12 plots on each URS, selected randomly, with the constraint of regular distribution
- 3 samples from each plot: a one-spot sample of topsoil and of deep horizon and a composite sample of topsoil over the land



- On the spot sample :
- GPS coordinates
 - Landscape description
 - Soil description



Precautions to avoid cross contamination

Perspectives

The minimum dataset at the beginning of the project will be pH, TOC, and pseudo-total contents (aqua regia) of As, Cd, Cr, Cu, Hg, Ni, Pb and Zn. However, the 360 air dried samples (3 kg each) will be available for other thematics.



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