

Heavy metals in soil of Campania region (Italy): sources and risks.

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During the 2013, the database reporting the distribution of 53 chemical elements in 3537 topsoil samples collected across the whole Campania region (Southern Italy) was completed.

Interpolated maps, by means of the Multifractal Inverse Distance Weighted (MIDW) method, and baseline maps, by applying to the interpolated grid a specific filter (S-A Filter) to cut-off most of the spatially limited anomalies, were carried out using a geochemistry dedicated software (GEODAS).

Data were also treated by means of a Compositional Data Analysis (CoDA) aiming at investigating their regionalised structure by considering the joint behaviour of several elements constituting for each sample its whole composition.

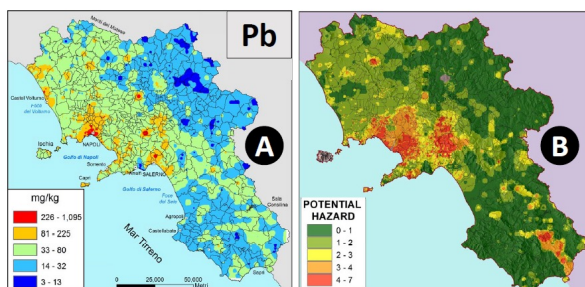


Figure 1: A) Pb distribution in regional soils. B) Heavy Metal Potential Hazard in regional soils.

A regional environmental risk assessment was run on the basis of the regional distribution of heavy metals in soil, land use types and population. The risk assessment produced a ranking of priorities and allowed to locate areas of the regional territory where human health risk is more relevant and follow-up activities have been planned. In the “follow-up” areas a detailed geochemical prospecting activity is being carried on including soil and air samples (dust and gases).