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# STUDY OF SOIL QUALITY IN THE PROTECTED AREAS, A BASIC TOOL FOR ESTABLISHING UPDATED GEOCHEMICAL THRESHOLDS IN ROMANIA

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## *Introduction*

Soil or edaphic layer is a natural resource with a particular importance. It was formed from the rocks under the manifestation of several categories of factors, called pedogenetic factors: climatic factors, microorganisms, vegetation, and relief. Time is also a very important measure, because the soil is slowly forming in periods of hundreds to thousands of years. The protected areas in Romania are those able to ensure the study of this natural layer, called the "pedosphere", in conditions as close to its genesis, as it is considered that the anthropic impact in these areas is minimal or greatly diminished. Therefore, a detailed look at several protected areas in Romania, within 5 case studies chosen for the specific and the natural diversity that it preserves, offers remarkable opportunities for the study of soil quality, in order to establish range of variation in time of the quality indicators.

## *Materials and methods*

The conceptual model for investigated protected natural areas is based on establishing priorities in relation to the identification of aspects related to the degradation of protected natural areas through anthropogenic intervention in these areas. A schematic model is shown in figure 1.

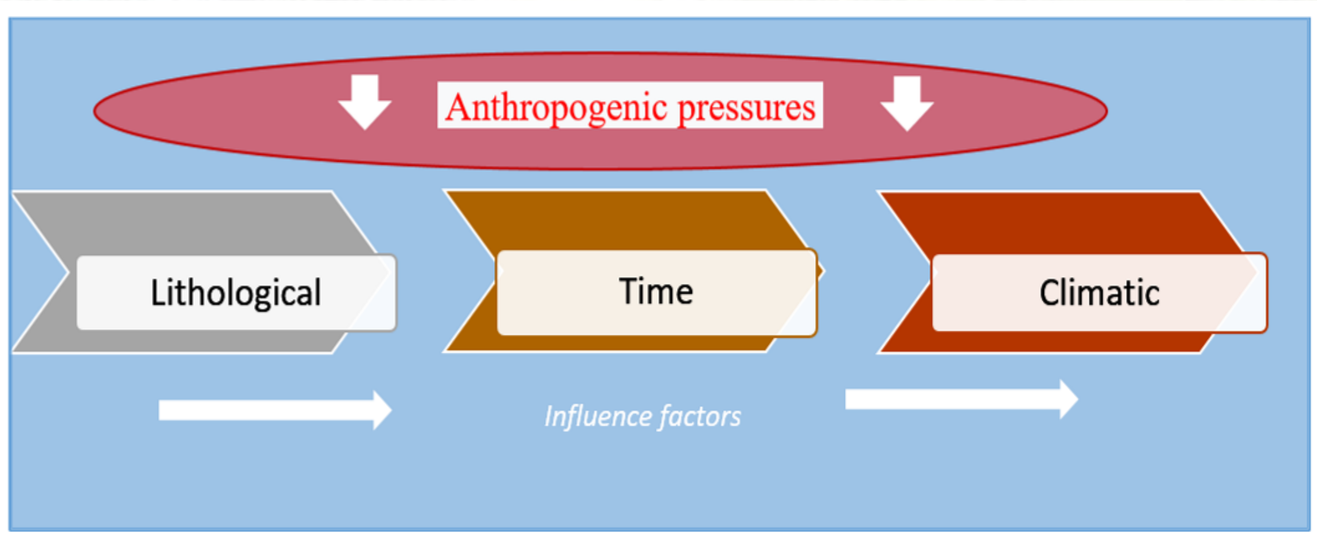


*Figure 1 – Integrated conceptual model of the influence factors related to the soil assessment*

The geochemical assessment of the natural background for soil environmental component is based on detailed investigations carried out in several seasonal campaigns in protected natural areas chosen as case studies (Protected area Ciornuleasa Forest, Vanturarita-Buila National Park, Piatra Craiului National Park, Cheile Nerei – Beusnita National Park, Protected area Preajba-Facai), areas outside the influence of anthropogenic activities, in correlations with influencing factors: geological, geomorphological, edaphics, climatics). In figure 2 is presented the main scheme of carrying out of the activities. Is important to mention that the project is in progress and the results obtainted is refered to first stage of realization.

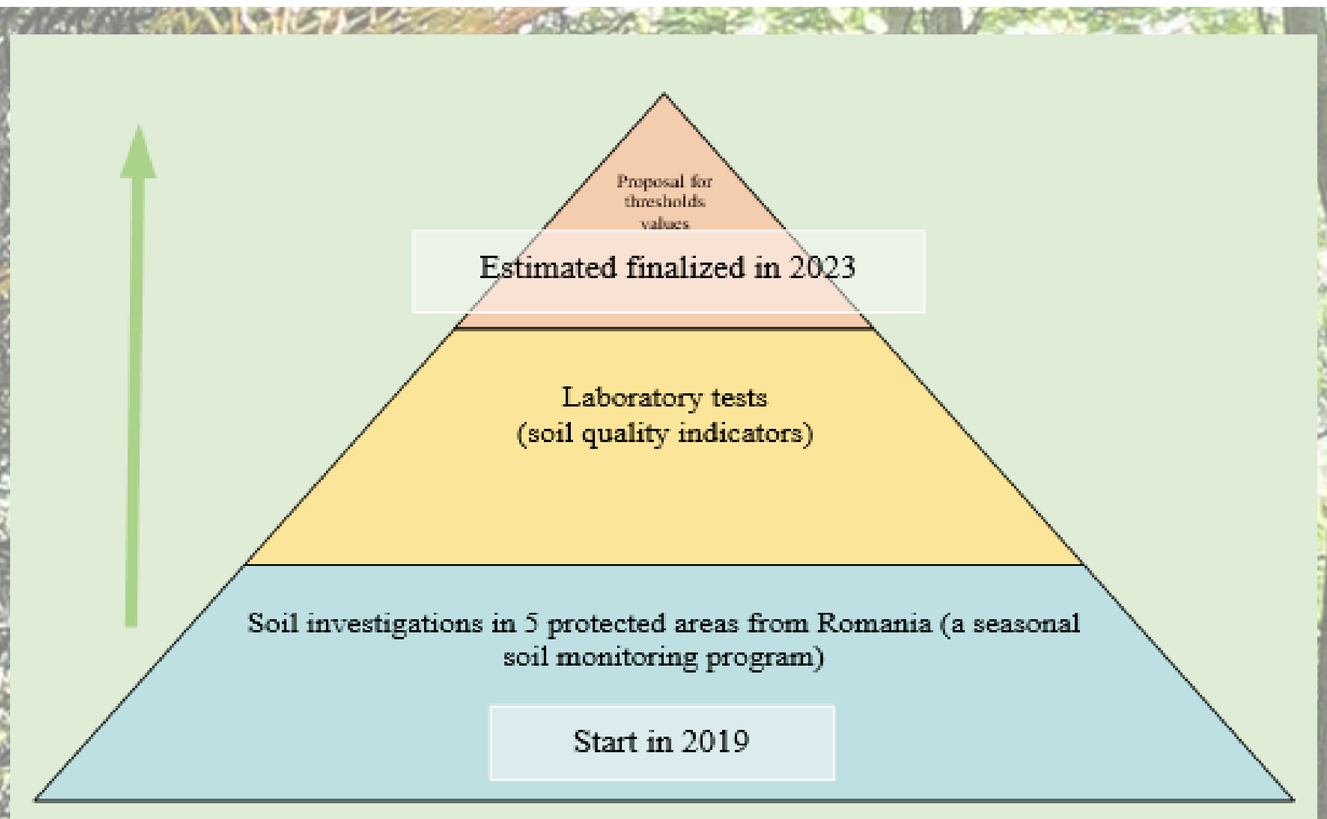


*Figure 2 – The main scheme of the soil assessment*

## *Results and conclusions*

In each investigation campaign, soil samples were collected from the 5 nominated areas, for each soil sample 19 quality indicators were determined. The obtained data were structured in a dedicated, georeferenced database, for easy processing of the obtained results. The project is in progress, and the data obtained so far, although showing remarkable variability, have been found in good correlation with the influencing factors mentioned in the conceptual model and are certain preconditions for achieving the proposed objectives.

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