

The soil cultural heritage of Italy: Geodatabase, maps, and pedodiversity evaluation

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Soils can possess heritage characteristics and can be classified according to their “cultural value”. “Pedosites”, likewise “geosites”, are important for science and teaching, for tourism and recreation, provide elements in the Environmental Impact Analysis, and enhance the awareness of population towards the value of the land where they live. Pedosite richness and diversity are a resource of a territory that should be evaluated and considered in land planning. The methodology used to evaluate and group pedosites of Italy, and the software developed to collect such information and create a specific geodatabase, are presented in this paper as an example for use in other countries. An Italian geodatabase storing 726 pedosites was created. Soil profiles as cultural heritage were: (i) palaeosols, (ii) soils from archaeological and palaeontological sites, (iii) soils displaying natural or anthropic processes and benchmarks of classifications. Pedosites as soilscape were: (i) cultural landscapes; (ii) soilscape determining the amenity of a panorama; (iii) soilscape in fragile environmental balance; (iv) soilscape that contribute to the outliving of particular ecosystems. The criteria for the evaluation of pedosites and the suggestions for their protection were indicated as follows: (i) area and (ii) type of scientific interest, (iii) state of conservation, (iv) type and (v) intensity of risk, (vi) level of knowledge, (vii) geological age, (viii) protection and (ix) proposed protection, (x) accessibility, (xi) visibility, (xii) exposure, (xiii) observability. The geodatabase can be used at different scales. Two maps, at national and local levels, exemplify the methodology and show how to use the geodatabase for didactic purposes or the creation of integrated Geoparks. Pedosite indices of diversity highlight the greater pedosite variety in the soil regions of Mediterranean Italy.

Article Outline

1. Introduction
2. Materials and methods
 - 2.1. Soil profiles as pedosites
 - 2.2. Soilscape as pedosites
 - 2.3. Criteria for the evaluation of pedosites
 - 2.4. The geodatabase
 - 2.5. The maps
 - 2.6. Indices of pedosite diversity
3. Results and discussion
 - 3.1. The map of Italian soil regions with the pedosites of national interest
 - 3.2. The map of pedosites in the municipality of San Gimignano (Siena)
 - 3.3. Pedosite diversity
4. Conclusions

Acknowledgements
References