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Soils Diversity in the Southwest of Iberian Peninsula

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Back in 1960 the Seventh International Congress of Soil Science has proposed to develop a World Soil Mapping at a scale of 1: 1000000, with a purpose of getting a systematic inventory of soils, and also to allow a transfer of experiences between different countries and institutions. The mapping process has been coordinated by the European Soil Bureau (ESBN) and the European Commission, along with the participation of the European Environment Agency (EEA) and the Food and Agriculture Organization of the United Nations (FAO), based on the classification proposed by the "World Reference Base for Soil Resource" (WRB, FAO, 1998). Throughout this mapping and helped by the European Soil Database (v2.0), a mapping of soils and their diversity, in the area under analysis on the present paper - EUROACE (Alentejo-Centro-Extremadura) in the Southwest of Iberian Peninsula – has been developed and assessed using Geographic Information Systems (GIS) and algorithms of diversity.
The obtained results have shown that in this particularly territory it is possible to identify 12 Reference Soil Groups (RSG) at first level, and 26 at second level, predominating Regosols and Dystrict Regosols respectively, whereas in the Mediterranean Region (Biogeographical Regions of Europe, BGRE) are 22 and 71 correspondingly with predominant for Cambisols and Calcaric Cambisols. By the analysis and assessment of soil diversity, the Shannon Index (H') is lower in EUROACE (1,67 vs 2,42 and 2,52 vs 3,35 to first and second levels); the evenness (E) shows a more equal distribution in RSG at first level in the Mediterranean Region (0,70 vs 0,67) and lower at the second level (0,67 vs 0,77 in EUROACE).
These results will enable the development of a more complete pedodiversity inventory in several other regions, and also as tools to the study of soil susceptibility which will allow not only to protect a very important part of European natural heritage, but also to take specific measures to increase a better land use and management, which leads to sustainability.