



## **Soil functions and threats and their linkages to water resources management: the approach of the Thematic Strategy for Soil Protection of the European Union**

G. Tóth, K. Adhikari and L.Montanarella

Land management and natural hazards Unit, Institute for Environment and Sustainability, Joint Research Centre, European Commission, Ispra, Italy

([gergely.toth@jrc.it](mailto:gergely.toth@jrc.it); tel.: +39-0332-786483; fax:+39-0332-786394)

The proposal for a Thematic Strategy for Soil Protection in the European Union (COM /2006/231final) and Framework Directive (COM /2006/221final) define main functions of soil and threats that soils have to be protected from. Most of the functions of soil are interlinked with water: regulating its quality and quantity. Water, on the other hand, determines the ability of soil to perform its functions and its behavior against degradations threats. The proposed soil framework directive identifies common criteria to base degradation risk assessment on. These criteria shall apply in all member states of the EU. In its comprehensive approach, common criteria include information on soil (soil type, texture, soil organic carbon, bulk density, structure and soil hydraulic properties), climate, topography, bedrock, land cover, land use, as well as information on water as in its interaction with soil (hydrological conditions, irrigation, groundwater, climate).

Spatial and temporal changes in soil processes, including hydropedological processes has to be further researched, and the integration of results shall be applicable through the 'Multiscale European Soil Information System'.