



Soil Activities in the JRC during 2007

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FP7 strategy for action SOIL

1. The establishment of the **European Soil Data Centre (ESDAC)** as a single focal point for all soil data and information in Europe.
2. The development of **procedures and methods for data collection, quality assessment and control, data management and storage, data distribution** to Commission and external users, fully complying with INSPIRE principles for spatial data infrastructures.
3. **Research and development** of advanced modeling techniques, indicators and scenario analyses in relation to the major threats to soil (erosion, decline of organic matter, compaction, salinisation, landslides, sealing, contamination, and loss of soil biodiversity), as identified in the Thematic Strategy for Soil Protection.
4. Supporting the other Commission's services with soil information and scientific as well as technical assistance in negotiating the **Thematic Strategy for Soil Protection** and the proposal for a Soil Framework Directive through the EU Institutions and their subsequent implementation at Community and Member State level.
5. Extension of the coverage of the European Soil Information System (EUSIS) towards a fully operational **Global Soil Information System (GLOSIS)**, providing relevant soil information for the implementation of multilateral environmental agreements, like UNFCCC, CBD and UNCCD, and contributing to the ground segment of the Global Monitoring for Environment and Security (GMES).

European Soil Data Centre (ESDAC)

- Consolidate the **European Soil Bureau Network (ESBN)** as a major source of soil data for the European Soil Data Centre (ESDAC)
- **Expand the base of soil data providers** by including other institutions (EuroGeoSurveys, EIONET, US-EPA, ISRIC, FAO, PEER, National Soil Data Centers)
- Promote the implementation of an **INSPIRE-compliant nested system** of soil data centers including the World Soil Data Centre (ISRIC), European Soil Data Centre (JRC), National Soil Data Centers (Member States) and Regional Soil Data Centers (Regions)
- Operate the **EU Soil Portal** by implementing the ESDAC Technical Platform to host soil data and information at European Level, according to specifications made in the ESDAC system description
- Population of the **ESDAC Technical Platform** with available soil data and information, including forest soil data from the BIOSOIL project

Procedures and methods for data collection, QA/QC, data management and storage, data distribution

- Develop a sampling procedure for the verification of Soil Organic Carbon levels in soils in support to the Kyoto Protocol implementation process
- Standardization of soil variables for the European Soil Data Centre (ESDAC)

Research and development

- Complete a new **soil erosion** risk assessment for Europe, also contributing to the further development of relevant IRENA indicators
- Develop and implement a new **soil quality** indicator in support of the Indicator Reporting on the Integration of Environmental Concerns into Agriculture Policy (IRENA)
- Indicators and assessment on the **organic matter** status in soils and scenario analyses of the potentials for the changes of the soil organic matter in the EU by using spatial modeling of SOC/SOM with available data within the ESDAC
- Assessment of **soil physical degradation**
- Assessment of the status of Europe's soil in relation to the decline of **biodiversity**
- Assessment of **salinisation** in European soils
- Assessment of **heavy metals** in European soils
- Develop methodologies for **landslide risk area mapping** in Europe

Thematic Strategy for Soil Protection

- Support to the Commission's services responsible for the negotiation and implementation of the Thematic Strategy for Soil Protection and the proposal for a Soil Framework Directive through the EU Institutions with appropriate scientific and technical input
 - Guidelines on the identification of risk areas for erosion, organic matter decline, salinisation, compaction and landslides foreseen in the proposal for a Soil Framework Directive
 - Development of a new European Soil Database, based on a 1:250,000 scale (as data is gathered and provided by Member States), in particular in terms of maps of risk for the different soil threats in the EU
- Integration and co-ordination of the contributions relevant to the Thematic Strategy for Soil Protection coming from other JRC Actions

Global Soil Information System (GLOSIS)

- Support the development of the ACP Observatory by providing the relevant soil information
 - Soil Atlas of Africa
- Contribute to the activities of the International Polar Year 2007-2008
 - Northern Circumpolar Soil Atlas
- Support the implementation process of the UN Convention to Combat Desertification (UNCCD) with the necessary scientific and technical information

Enlargement and integration

- Production of a Soil Information System of the **Danube river basin** (DVD) with soil layers (raster images) at two resolutions: 250 m (basic) and 1 km (generalized)
- Book: Land Resources of Belarus, Moldova, Russia and Ukraine

Exploratory research

- Exploratory research on Digital Soil Mapping
- Exploratory research on forest/soil interaction