



# The DG JRC in support to EU funded projects on Land, Soil, Desertification and Urban issues

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*SOIL Action*



# What is the Joint Research Centre?



The JRC is a Directorate General of the European Commission

European Council

European Parliament

European Commission  
27 Commissioners



7<sup>th</sup> FWP 2006-2013

Mrs. Maire GOGHEGAN-QUINN  
European Commissioner for  
Research, Innovation and  
Science

DG  
RESEARCH

DG  
JRC

.....

DG  
AGRICULTURE

OTHER  
DGs

**Scientific and technical support to EU  
policy development and implementation**



# Providing Policy Relevant Soil Data and Information to Commission Services and External Customers

## *Main Policy Areas:*

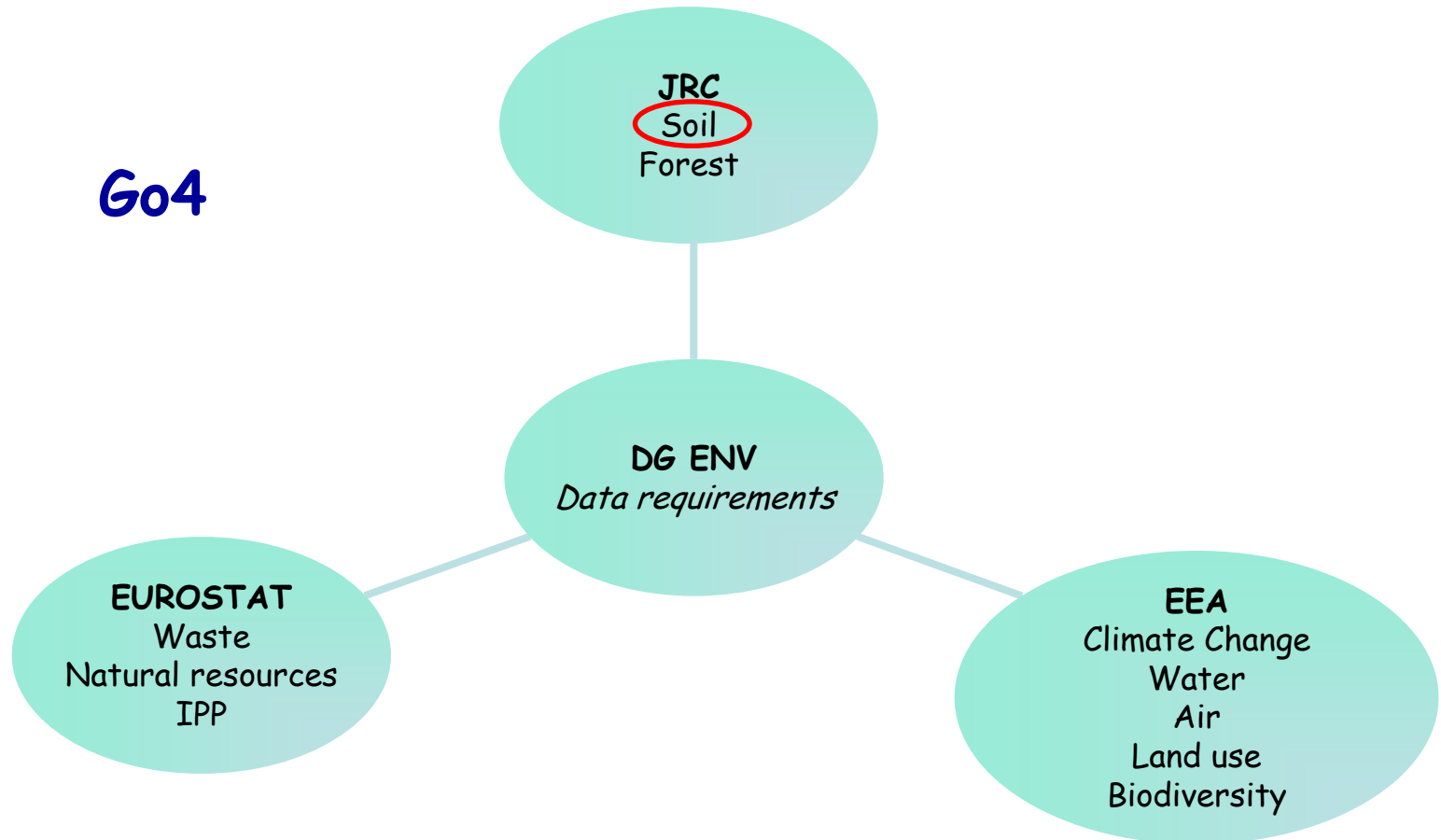
- 6<sup>th</sup> Environmental Action Program (EU Soil Thematic Strategy)
- Common Agricultural Policy (CAP)
- Climate Change Policy (Post-Kyoto debate, LULUCF)
- Energy Policy (Renewable Energies Directive)
- Biodiversity (Nature) Protection Policy (EU Biodiversity Strategy)
- Water Protection Policy (WFD, Groundwater Directive)
- Forest Protection Policy (Forest FOCUS, ICP Forest)
- Regional Policies (INTERREG)
- Food Safety (PPR Registration, EFSA)
- Food Security (FAO)
- Development Policy (ACP-Observatory)
- Waste Policy (Biowaste Directive, Sewage Sludge Directive)
- .....etc.



# European Soil Data Center (ESDAC)

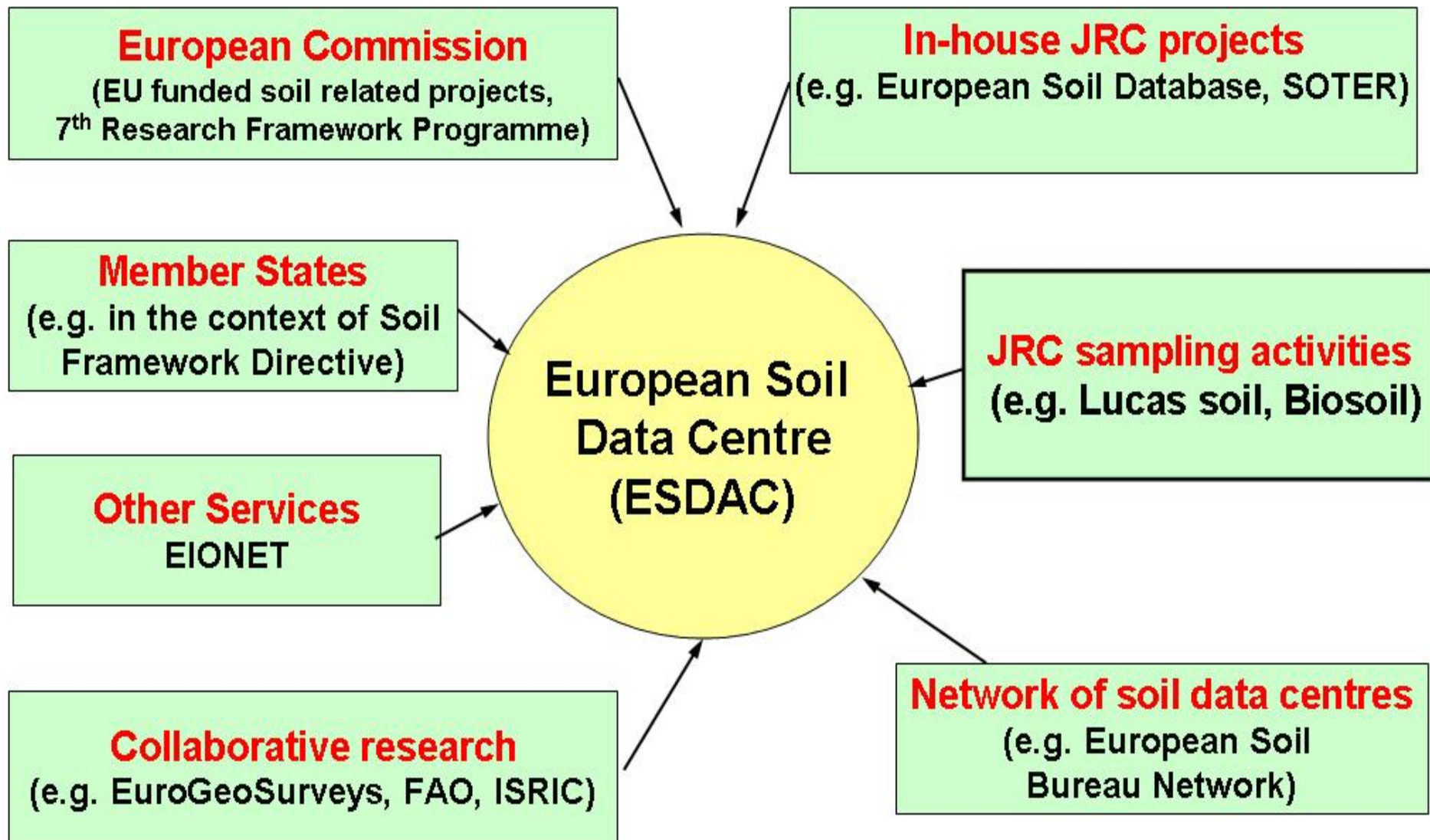


The system of European Data Centers for the environment, established within “the group of four (Go4)” (DG ENV, ESTAT, JRC, EEA)





# ESDAC Information Providers





# ESDAC Components



## ➤ ESDAC Catalogue of available resources

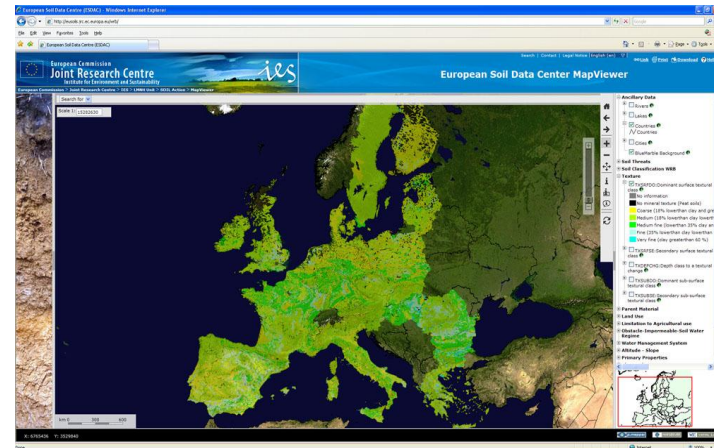
Metadata system that describes and points to various soil resource types: datasets, services/applications, documents, events, projects and external links

## ➤ ESDAC Map Viewer

Navigate key soil data for Europe

## ➤ European Soil Portal

The virtual place where all ESDAC resources are located. The current data and information service makes available four types of products: data, documents, data-based applications and scanned maps. In addition it provides access to: soil related research projects (FP6-FP7), documentation on the various threats to soils (erosion, contamination, etc.), Awareness Raising activities and Events-Presentations







European Commission  
**Joint Research Centre**  
Institute for Environment and Sustainability

# European Soil Data Centre (ESDAC)

[Europa](#) ▶ [EC](#) ▶ [JRC](#) ▶ [IES](#) ▶ [LMNH](#) ▶ [Soil](#) ▶ [ESDAC](#)

## ESDAC

- ⌕ Home
- ⌕ About ESDAC
- ⌕ Key Documents
- ⌕ Other Data Centres
- ⌕ Useful links

## Applications

- ⌕ Metadata Catalogue
- ⌕ ESDAC Map Viewer

## WELCOME TO THE EUROPEAN SOIL DATA CENTRE

The **European Soil Data Centre (ESDAC)** is the thematic centre for soil related data in Europe. It's ambition is to host and point to relevant soil data and information at European level. It consists of two main elements. A catalogue of soil resources and a map viewer into some of the soil data hosted at the ESDAC.

The catalogue of soil resources is a light-weight metadata system that describes and points to various soil resource types: datasets, services/applications, documents, events, projects and external links.

The ESDAC map viewer allows the user to navigate in key soil data for Europe. Main data come from the European Soil Database.



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<http://esdac.jrc.ec.europa.eu/>



<http://esdac.jrc.ec.europa.eu/>

Soil Data Centre - Land Management and Natural Hazards Unit - IES - JRC - EC - Windows Internet Explorer

http://xtmc:8080/datacentre/themes/client/searchByTextDC.jsp?mv=2&ordfilter=null&ordsi...

File Edit View Favorites Tools Help

NON SPATIAL METAD... terraCatalog 2.1 - met... Soil Data Centre - ...

JRC EUROPEAN COMMISSION

ESDAC European Soil Data Centre

ies Institute for Environment and Sustainability

Europe / European Commission / JRC / IES / Land Management & Natural Hazards Unit / Environmental Data Centres / Soil

About ESDAC | Contact us | Important legal notice

ENVIRONMENTAL DATA CENTRES

ESDAC Home

Guided Search

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Soil maps

Soil erosion

Soil organic matter

Soil compaction

Soil salinization

Soil sealing

Soil contamination

Landslides

Soil biodiversity

EU soil policy

EU soil networking

Options

Sort by: Title [v] [x] Ascending [x] Descending [x] Send

Results: Showed records 11 / 20 of 51.

1 | 2 | 3 | 4 | 5 | 6

European Soil Data Centre --- ESDBV2 Raster Library - 1km x 1km

Resource type: dataset

Abstract: Prepared 1km raster images for 73 soil attributes of the European Soil Database v2.0 (ESDBv2).

The European Soil Database (ESDB) v2.0 has been used as a basis to produce 73 raster images for the convenience of the user. These images are an interpretation of the data contained in the ESDB v2.0 and alternative interpretations can be made by the user, provided he has the original vector based ESDB v2.0 or its public 1km raster version available for processing.

Last Update: 28/05/08

European Soil Data Centre --- ETC\_TE: European Topic Centre - Terrestrial Environment datasets (ETC/TE)

Resource type: dataset

Abstract: Subject : Overview of datasets held by the ETC/TE

Publisher: ETC/TE (TERRIS)

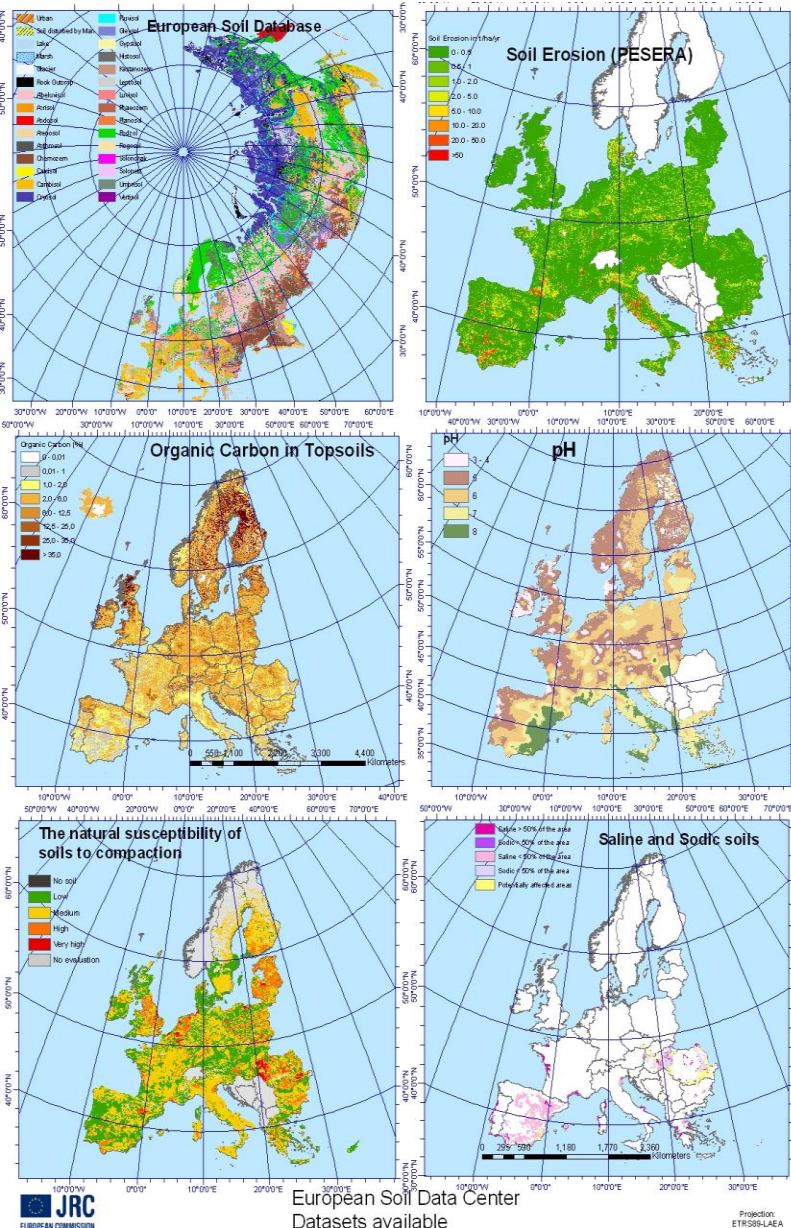
Status: Ongoing

Description of the various soil related datasets held by ETC/TE - which can be downloaded from TERRIS :

ESDAC: Browsing metadata of all datasets

Link to metadata for this dataset





Dataset	Number of Requests	Average Monthly requested rate	Available Since
European Soil Database	1164	24.25	Nov-06
Soil Organic Carbon	192	2.67	Nov-04
Soil Erosion (PESERA)	193	2.68	Nov-04
Soil Compaction	18	1.50	Oct-09
Salinization	19	1.58	Oct-09
pH	18	1.80	Jan-10
<b>TOTAL</b>	<b>1604</b>		

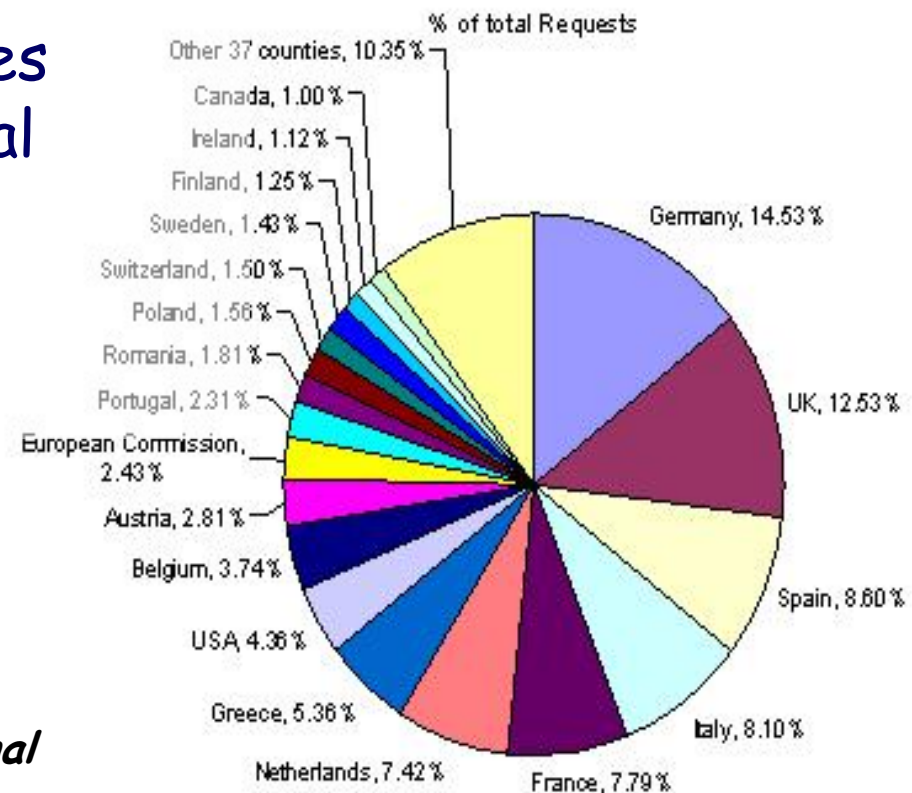
- Since Jan 2011, an automated ESDAC data distribution system
- Jan 2011 - Nov 2011: 1120 data requests (3 times more comparing to 2010)
- 16 datasets are delivered through this system



# Geographical Distribution of Data requests



- ESDAC has served user data requests from **57 countries**
- **12%** of requests come from outside of the European Union
- European Commission services account for **2.5%** of the total requests



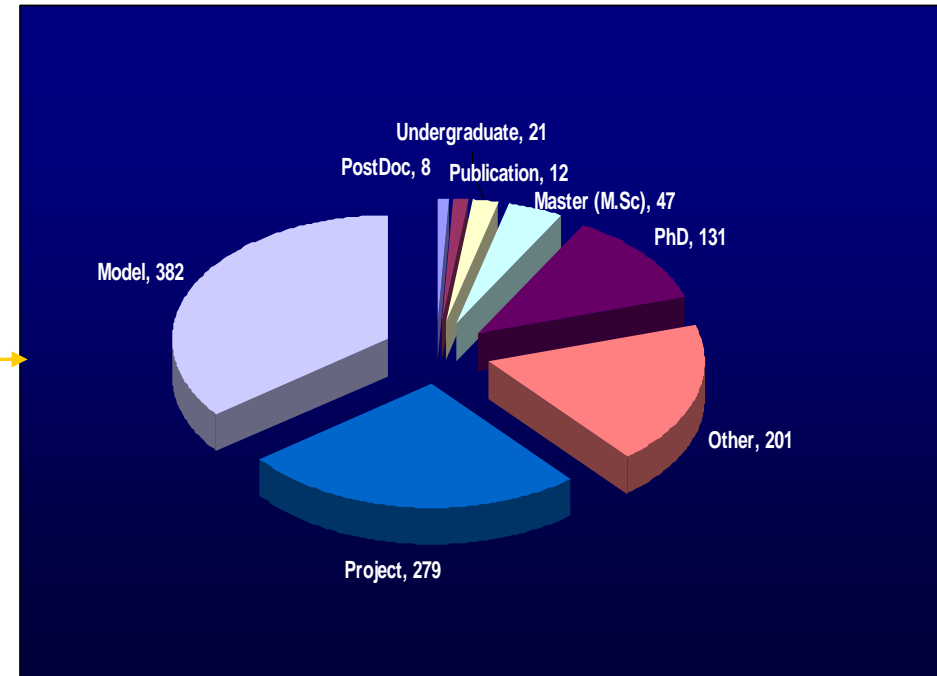


# Application of ESDAC data



## Intended Use

Intended Use	No of Requests	%
Education	53	3.30%
Education & Research	39	2.43%
Policy	133	8.29%
Research	<b>1085</b>	<b>67.64%</b>
Assessment - Study	212	13.22%
Other	82	5.11%

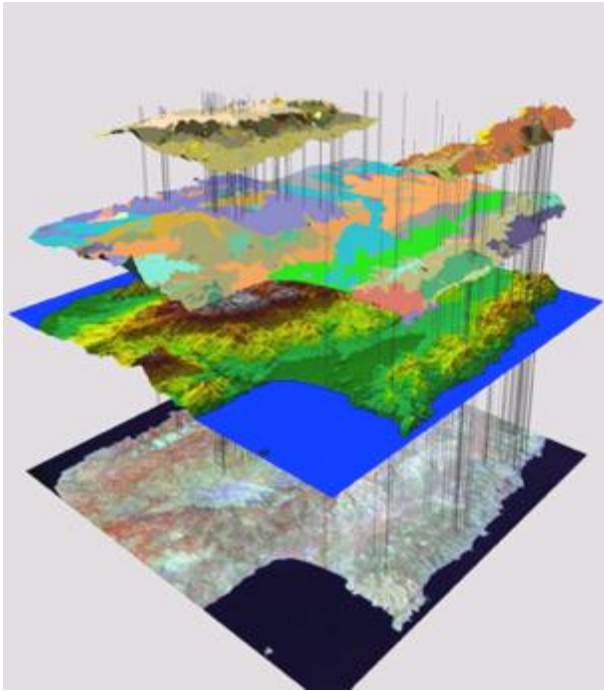


## Scale of data use

Scale	No of Requests	%
European/Global Scale	506	31.55%
National/Regional Scale	519	32.59%
Not defined	579	36.10%

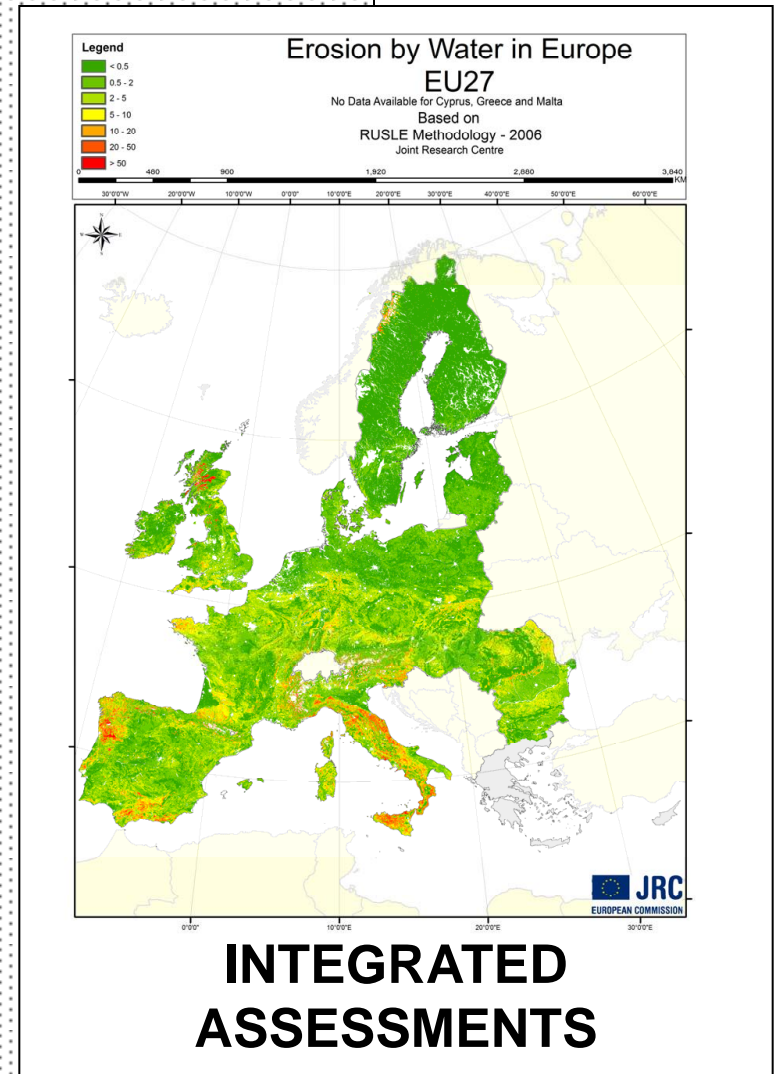


## SPATIAL DATA



## MODELS

Integrating large  
spatial datasets

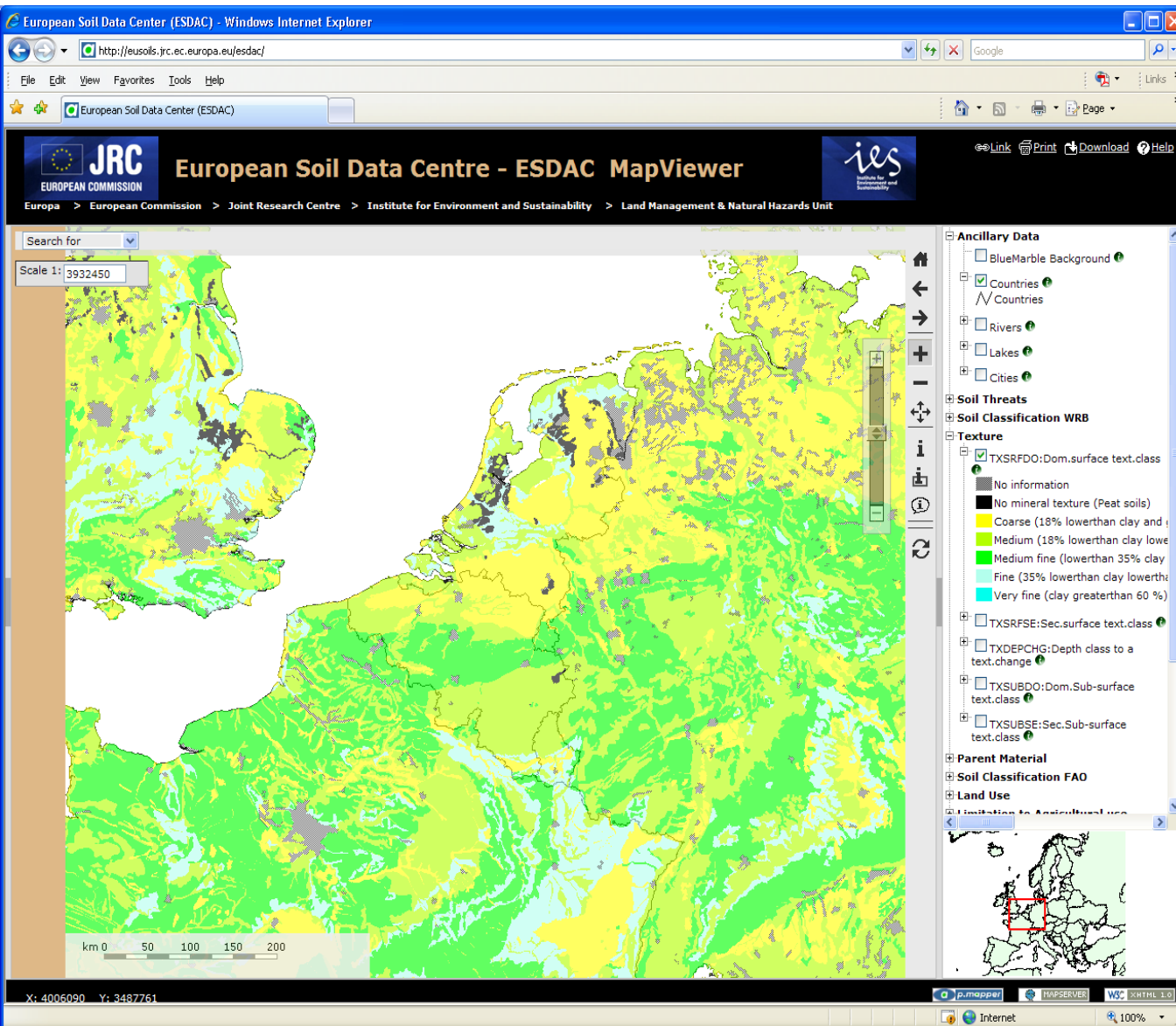




# ESDAC Map Viewer example



<http://esdac.jrc.ec.europa.eu/>



Integration of all  
Soil layers in one  
place

Navigation (Zoom,  
Pan)

Overlay of layers

Query

Interoperability  
EFDAC





## JOINT RESEARCH CENTRE

### European Soil Portal - Soil Data and Information Systems

European Commission > Joint Research Centre > Institute for Environment and Sustainability > Land Resource Management Unit

#### HOME

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Awareness Raising	+
What's new?	+
Utilities - Various	+
Team - Action SOIL	+
Links	+

#### Welcome to the European Soil Portal

The [European Soil Data Center](#) is one of the ten environmental data centres in Europe and is the focal point for soil data at European level. The European Soil Portal contributes to a thematic data infrastructure for soils in Europe. It presents data and information regarding soils at European level. It connects to activities within JRC concerning soil (JRC SOIL Action). It serves also as a vehicle to promote the activities of the European Soil Bureau Network. Spatial data collection and processing within this infrastructure is performed according to emerging ideas behind the INSPIRE (Infrastructure for Spatial Information in Europe) initiative.

- **Soil Datasets:** The European Soil Portal contains currently many soil data, maps, information, Atlases and applications; most of the offered data are at European scale, while, when possible, links to national or global datasets are provided.
- **Soil at JRC:** Soil activities within the JRC are concentrated in a specific JRC Action, called FP7 "Soil Data and Information Systems" or SOIL. Thematic Assessment Soil in the "State of Environment Report (SOER2010)" is also available.
- **Documents - Publications:** European Soil Bureau Research Reports, JRC Scientific and Technical Reports, Papers in Journals, Publications in Conferences, Posters and Publications in CD-ROMs, Glossary of Soil Terms.
- **Soil Projects:** many past and current projects relate to the soil activities of JRC .
- **Soil Themes:** covers various results for different soil themes such as Erosion, soil Organic Carbon Content, Salinisation, Landslides, Soil Compaction, Biodiversity and soil Contamination.
- **European Soil Bureau Network (ESBN):** is a network of soil institutes supporting the JRC soil activities
- **International Cooperation:** presents the most Important International Cooperations that Soil Action is participating (Global Soil Partnership, Global Soil Biodiversity Initiative, GlobalSoilMap.net, Sino-EU Panel on Land and Soil)
- **Events - Presentations** in various events(Conferences, Workshops, Meetings, Summer Schools) which are related to the work that the Land Management Unit is doing in relation to the European Soil Bureau Network. Calendar of future events is also available.
- **Awareness Raising** Our Goal as Soil Action is to Establish an action plan for the development of measures/programmes/initiatives to raise awareness of the importance of soil across European society (i.e. policy makers, general public, universities, schools, industry, etc.).
- **What's new?** chronology of items added to this soil portal. Get the NEWS in [XML](#) [XML](#) format and the monthly Newsletters.
- **Utilities - Various:** A **mailing list** has been set up in order to keep interested persons up to date with the latest contents on this site. Other Tools such as the Search Engine are also available.
- **Team - Action SOIL:** the people at JRC behind the soil activities.
- **Links:** key pointers to soil related bodies and International Organisations

#### Highlights

- **Will there be enough plant nutrients to feed a world of 9 billion in 2050?** (26/09/12) This report was based on consultations with experts and a thematic workshop focused on three areas of interest: 1) the demand for fertilizers to sustain crop production necessary to feed the world in 2050... [more...](#)
- **Rainfall erosivity (R-Factor)** (06/09/12) Rainfall erosivity, is an important parameter for soil erosion risk assessment under future land use and climate change. Find data and the algorithm (code) for calculation of R-factor [more...](#)
- **13 peer reviewed publications of SOIL Action** (06/09/12) The publications of the SOIL action during 2011 in peer review journals such as Geomorphology, Land Degradation and development, Biodiversity and Conservation, [more...](#)
- **Land and Soil Management Award 2012/13** (28/08/12) To encourage new concepts of protection and their implementation and to enhance awareness of the importance of land and soil in connection with good agriculture and environmental conditions. This prize will reward professionals working in the area of land use and soil management pursuing the EU's soil protection goals, in particular those of the Soil Thematic Strategy... [more...](#)
- **Biochar Meta-analysis Database** (27/08/12) Biochar Meta-analysis Database is being made publically available in order that the meta-analysis can be updated as new results become available. The matrix table is also available for download as a reference. The Meta-analysis includes results from worldwide experiments testing the effect of biochar on crop yields.

<http://eusoils.jrc.ec.europa.eu/>



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NPK
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SafeLand
SoCo: Soil Conservation
SoilTrec
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SRTM(Shuttle Radar Topogr.)
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## Soil Projects > Other EU-funded

On this page, a list of international, multi-partner EU-funded projects, that are relevant to soil, is presented:

### 6th and 7th Framework Programme for Research (36 Projects)

Project ACRONYM	Type of project	TITLE	Start	End	Website	Final Report / Other Deliverables
AQUAREHAB	CP-FP	Development of rehabilitation technologies and approaches for multipressured degraded waters and the integration of their impact on river basin management	2009	2013	<a href="http://aquarehab.vito.be/home/Pages/home.asp">http://aquarehab.vito.be/home/Pages/home.asp</a>	
AQUATERRA	IP	Understanding river-sediment-soil-groundwater interactions for support of management of water bodies (river basin & catchment areas).	2004	May 2009	<a href="http://www.eu-aquaterra.de/">http://www.eu-aquaterra.de/</a>	
BIOTOOL	STREP	Biological procedures for diagnosing the status and predicting evolution of polluted environments	2004	2007	<a href="http://www.eugris.info/DisplayProject.asp?P=4434">http://www.eugris.info/DisplayProject.asp?P=4434</a>	
CARBOEUROPE	IP	Assessment of the European Terrestrial Carbon Balance	2004	2008	<a href="http://www.carboeurope.org/">http://www.carboeurope.org/</a>	
CARBO-Extreme	CP-FP	The terrestrial carbon cycle under climate variability and extremes - A pan-European synthesis	2009	June 2013	<a href="http://www.carbo-extreme.eu/">http://www.carbo-extreme.eu/</a>	
CLEANSOIL	INCO	An Innovative Method for the On-Site Remediation of Polluted Soil under existing Infrastructures	2005	2008	<a href="http://cordis.europa.eu/projects/rcn/74864_en.html">http://cordis.europa.eu/projects/rcn/74864_en.html</a>	Final Report: <a href="#">An innovative method for the on-site remediation of polluted soil under existing infrastructures</a>
DESIRE	IP	Desertification mitigation and remediation of land – a global approach for local solutions	2007	2012	<a href="http://www.desire-project.eu">http://www.desire-project.eu</a>	
DIGISOIL	CP-FP	Integrated System of data collection technologies for mapping soil properties	Sep 2008	Aug 2011	<a href="http://eusoils.jrc.ec.europa.eu/projects/Digisoil/">http://eusoils.jrc.ec.europa.eu/projects/Digisoil/</a>	
ECOFINDERS	IP	Ecological Function and Biodiversity Indicators in European Soils	2011	Dec 2014	<a href="http://www.ecofinders.eu/">http://www.ecofinders.eu/</a>	
ENVAOSSO	STREP	Environmental Assessment of Soil for Monitoring	2006	2009	<a href="http://eusoils.jrc.ec.europa.eu/projects/envasso/">http://eusoils.jrc.ec.europa.eu/projects/envasso/</a>	
E-SOTER	CP	Regional Pilot Platform as EU contribution to a Global Soil Observing System	2008	Feb 2012	<a href="http://www.esoter.org">http://www.esoter.org</a>	
EURODEMO	CA	European Platform for Demonstration of Efficient Soil and Groundwater Remediation	2005	2008	<a href="http://www.eurodemo.info/">http://www.eurodemo.info/</a>	
FOOTPRINT	STREP	Functional tools for pesticide risk assessment and management	2006	2009	<a href="http://www.eu-footprint.org/ataqlance.html">http://www.eu-footprint.org/ataqlance.html</a>	
GHG-EUROPE	IP	Greenhouse gas management in European land-use systems	2010	2013	<a href="http://www.ghg-europe.eu/">http://www.ghg-europe.eu/</a>	
HOMBRE	CP-FP	Holistic management of brownfield regeneration	2010	2014	<a href="http://www.deltares.nl/en/expertise/101145/urban-land-and-water-management/811569">http://www.deltares.nl/en/expertise/101145/urban-land-and-water-management/811569</a>	
HORIZONTAL	STREP	Horizontal Standards on Organic Micropollutants for Implementation of EU Directives on Sludge, Soil and Treated Bio-waste	2003;	2008;	<a href="http://www.ecn.nl/horizontal/">http://www.ecn.nl/horizontal/</a>	
iSOIL	CP-FP	Interactions between soil related sciences - Linking geophysics, soil science and digital soil mapping	2008	Nov 2011	<a href="http://www.isoil.ufz.de/index.php?en=16412">http://www.isoil.ufz.de/index.php?en=16412</a>	
ISOSoil	CP-FP	Contaminant specific isotope analyses as sharp environmental forensics tools for site characterisation, monitoring and source apportionment of pollutants in soil	2009	Feb 2012	<a href="http://isosoil.eu/Soilcontamination/Default.aspx">http://isosoil.eu/Soilcontamination/Default.aspx</a>	
LUPIS	STREP	Land Use Policies and Sustainable Development in Developing Countries	2007	May 2010	<a href="http://www3.lei.wur.nl/lupis/">http://www3.lei.wur.nl/lupis/</a>	
ModelPROBE	CP-FP	Model driven soil probing - Site assessment and evaluation	2010	March 2012	<a href="http://www.modelprobe.ufz.de/">http://www.modelprobe.ufz.de/</a>	





# Thank you for your attention

European Commission, Joint Research Centre - Institute for Environment and Sustainability - Land Resource Management

**EU SOIL PORTAL** <http://eusoils.jrc.ec.europa.eu/>

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