



European Soil Data Centre (ESDAC)

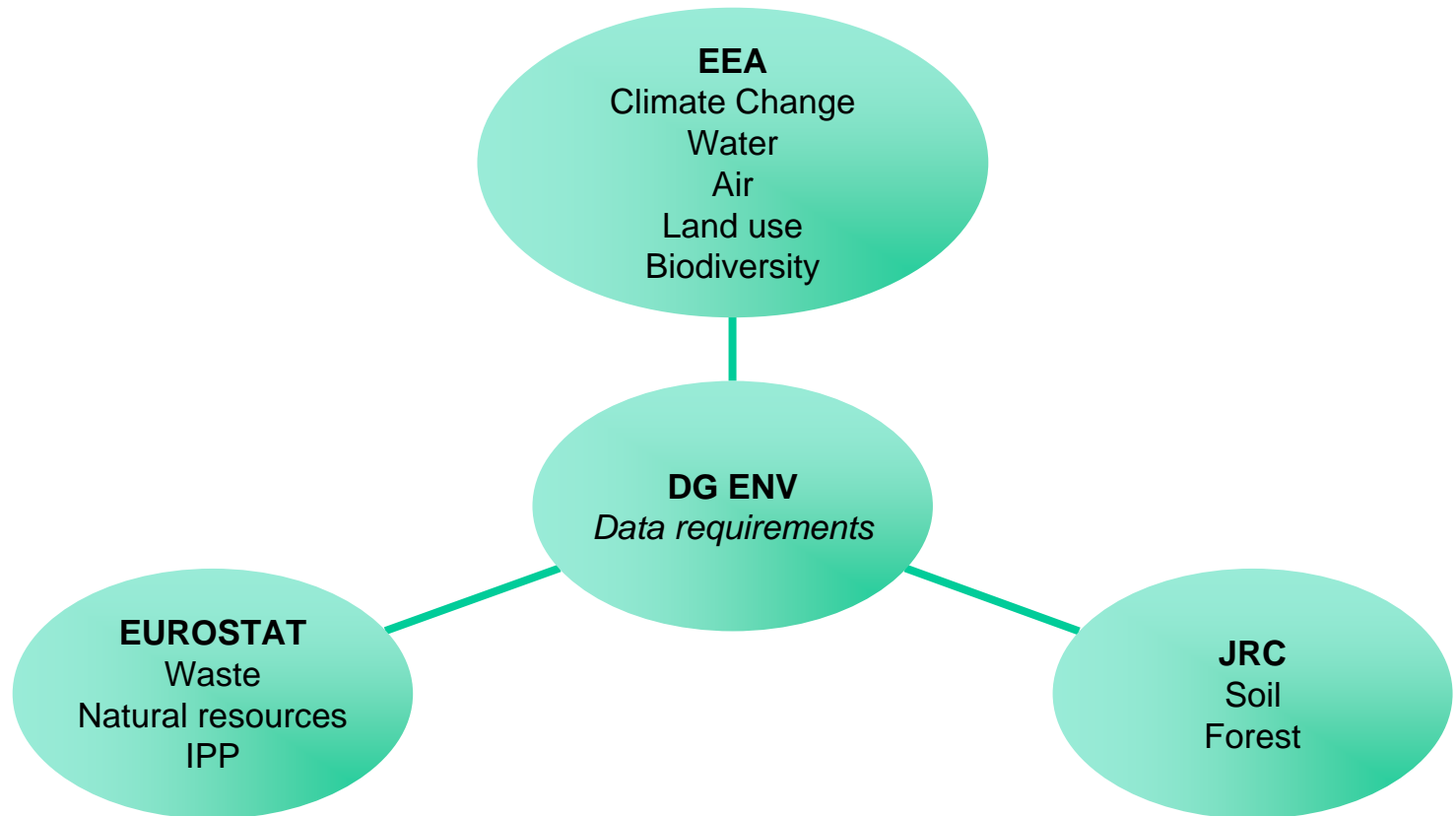
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What is ESDAC ?

One centre in the new system of European Data Centers for the environment, decided by “the group of four” (DG ENV, ESTAT, JRC, EEA)



The technical arrangement in the Go4 specifies that :

“a data centre will act as the **primary data contact point for DG ENV in order to fulfill DG ENV’s information needs.**

It will have the task of ensuring that the collected data **fit DG ENV’s requirements**, that **data collection** is organized in an efficient way, that the necessary quality assurance is performed and that all relevant existing **data are accessible to other parties.**

It will thus have the primary responsibility for **organizing the availability and quality** of the data required for policy.

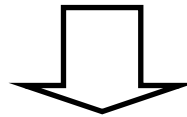
Data collection and quality control activities in relation to such data need to be **fully co-ordinated with the data centre**, which should also take steps to ensure that user needs are taken fully into account”



DG ENV Requirements for ESDAC

DG ENV, being the first customer of ESDAC has expressed its **overall requirements** as following :

- **scientific and technical support for issues in relation to the proposed Soil Framework Directive**
 - **Guidelines on the identification of risk areas**
 - **Guidelines on data issues (quality, methods, access, data-exchange formats)**
- **scientific and technical support for the development of European datasets (e.g. maps of risk for the different soil threats in the EU)**
- **access to soil related data, maps, information at EU level**



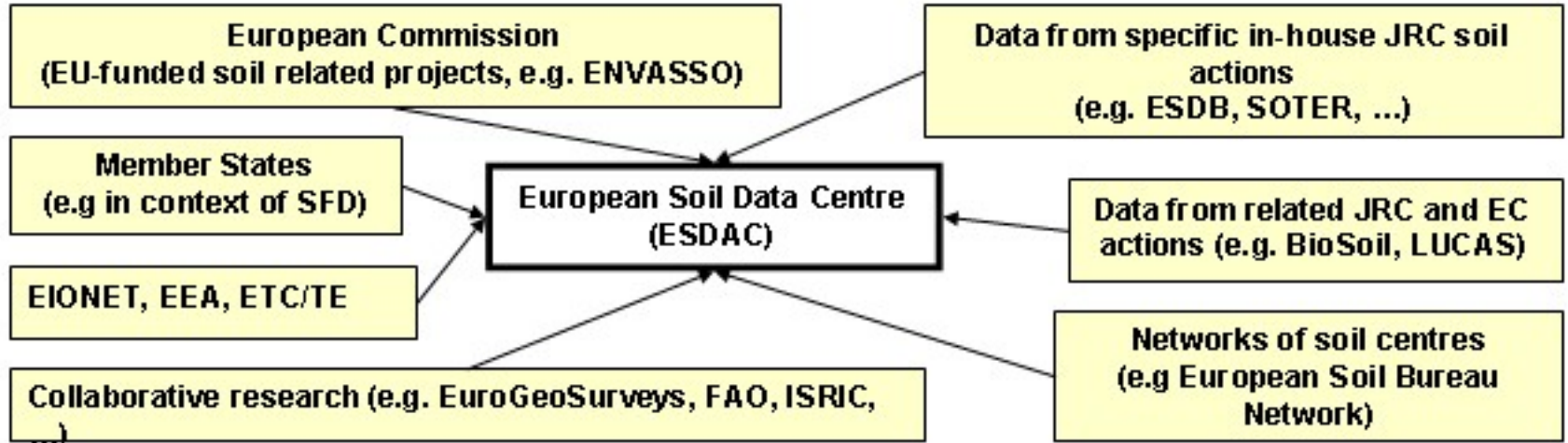
All existing and new data and information generated during the course of providing support to DG ENV plus any other relevant soil related data and information will become part of ESDAC.



**Information sources and Information providers
ESDAC Repository for information**



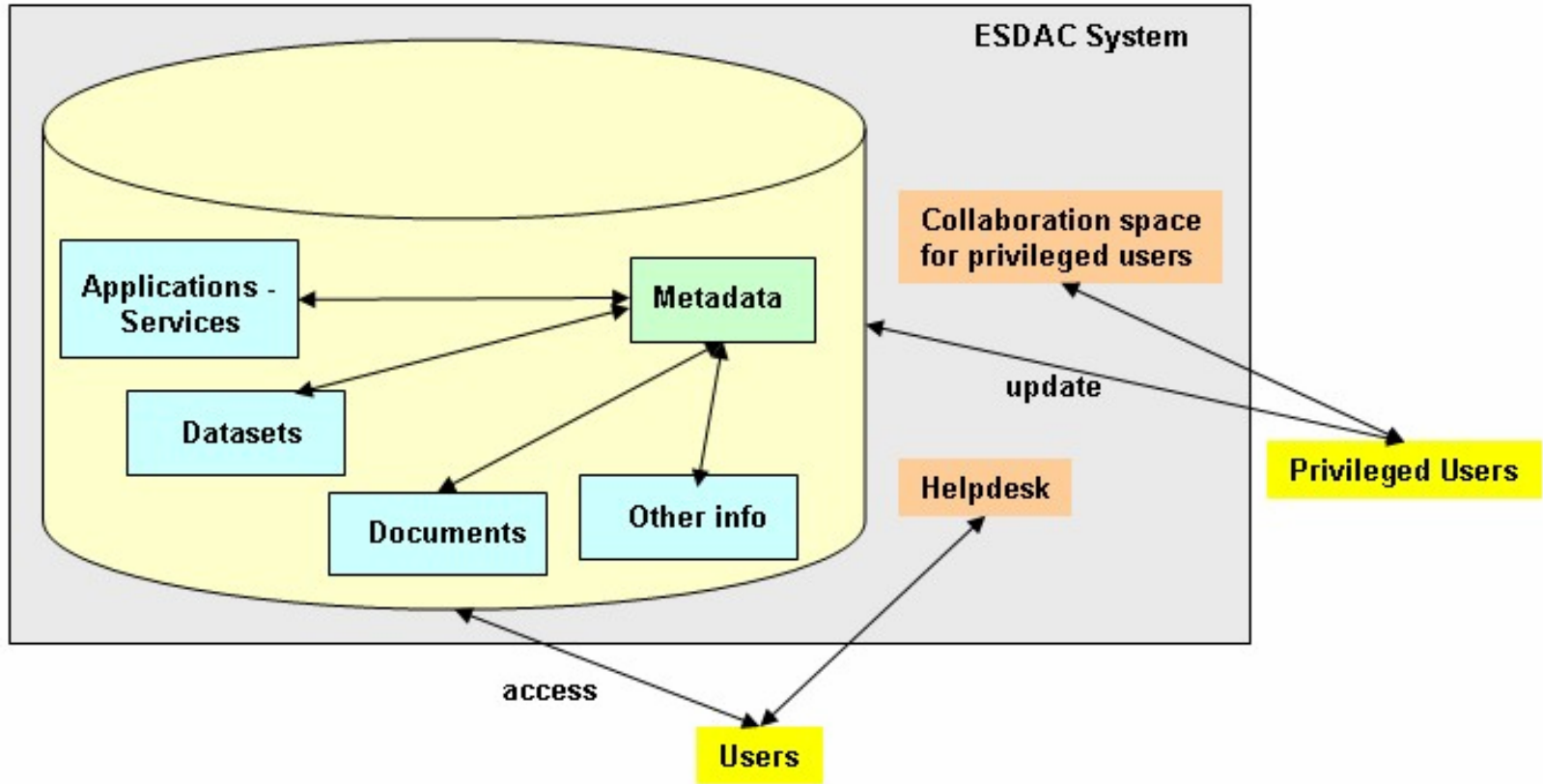
Potential Information providers





JRC	European Soil Regions	Soil regions of Europe (scale 1:5,000,000)
	European Soil Database (ESDB) and derived products	Soil geometry and attribute data for Eurasia obtained through harmonization of national soil data (scale 1:1,000,000)
	PESERA	Soil erosion map for Europe (1k cells)
	OCTOP	Organic Carbon map for Europe (1k cells)
	Various datasets at 1:250,000	Italy, Albania, Odra basin, Meuse basin
	Various soil profile datasets (point data)	Soil Profile Analytical Databases for Europe (SPADE), Danube basin
	European Digital Archive of Soil Maps (EuDASM)	Archive of >5000 scanned soil related maps for all continents.
	Forest Focus, BioSoil	Forest soil (point)data
	SINFO	ESDB data expanded for the Crop Growth Monitoring System (CGMS)
ESTAT	Soil data from LUCAS project	
EEA, EIONET, ETC/TE	Data on progress in management of contaminated sites for EU	
	Compiled data related to the following indicators : Soil sealing, Diffuse contamination (“Heavy metal accumulation” and “Sewage sludge application”), Soil erosion	
EC	Data from various EC funded soil related projects (e.g. ENVASSO (Environmental Assessment of soil for monitoring))	
Member States	Currently : existing soil data documented in EUR Reports "Soil Resources in Europe"	
	Future : possibly “risk area” data for major soil threats identified in context of Soil Thematic Strategy and Soil Framework Directive	

Title	The ESDBv2 Raster Library - 1km x 1km
Subject	Prepared raster images for 73 soil attributes of the European Soil Database v2.0 (ESDBv2)
Keywords	Soil, Raster, Grid, SGDBE, Soil Geographical Database, PTRDB, Pedotransfer Rules Database, LAEA, INSPIRE
Publisher	European Commission – DG JRC and European Soil Bureau Network
Status	Final
Description	<p>The library contains raster (or grid) data files (in native ESRI GRID format) for most attributes (73 in total) of the SGDBE and PTRDB databases of the ESDB v2.0; cell sizes are 1km x 1km and the grid is aligned with the reference grid recommended during the 1st Workshop on European Reference Grids in the context of the INSPIRE (Infrastructure for Spatial Information in Europe) initiative.</p> <p>....</p>
Datasource	European Soil Databasev2.0
Type	Rasters (grids)
Format	ESRI GRID
Coverage	The grid origin is defined 4.321.000,0 m west of the projection centre point (52N, 10 E), and 3.210.000,0 m south of projection centre point (52N 10 E). The grid extent is such that it covers all EU25 countries. Width : 7.500.000,0 m ; Height : 5.500.00,0 m ; 7500 columns, 5500 rows.
Scale/Resolution	Cell sizes of 1km x 1km
Frequence of Updates	One time effort
Last update	April 2006
Contact	Marc Van Liedekerke (marc.van-liedekerke@jrc.it), JRC
Rights / Accessibility	Free for download after registration
URL	http://eusoils.jrc.it/ESDB_Archive/ESDB_data_1k_raster_intro/ESDB_1k_raster_data_intro.html





European Soil Portal (<http://eusoils.jrc.it>) is pre-cursor of the ESDAC Repository

It operates already a **soil data and information service**

It makes available:

- **data** (mainly products derived from the European Soil Database) ;
- **documents** (written in the context of JRC institutional work, many in collaboration with ESNB partners) ;
- **applications** (web mapping applications that use available soil data);
- **scanned maps** (archive of soil-related maps);

Help Desk operated for data distribution and problem solving

Download of data:

- anonymous for some data;
- other data are protected and access is subject to registration ;

User base : almost 600 users have been registered for 5 large datasets.

Communication with User Base:

- Mailing list, free subscription
- Regular mails for communication of updates



ESDAC Repository – example

Danube river basin. (for building a soil database that can support the application of the LISFLOOD model in the Danube area).	Odra basin
<ul style="list-style-type: none"> ECALP: Ecopedological Map of the Alps Soil data for pilot areas in the Alpine region. 	<i>keywords:</i> Soil, Pilot Areas in the Alps, ECALP, Environment and Conservation, Alps, alpine convention, soil, protection, pedology, ecology, INSPIRE grid
<ul style="list-style-type: none"> EGYPT: Egypt soil data Georeferenced soil data for Egypt, to be integrated into ESDB v3 	<i>keywords:</i> Soil, soils, Egypt
<ul style="list-style-type: none"> MEUSIS (Multiscale European Soil Information System) - Alpine Grid Soil data delivered as grids for some pilot areas in Europe (e.g. Slovakia) 	<i>keywords:</i> Alpine Reference Grid, INSPIRE grid, Environment and Conservation, Multiscale Soil Information system, participatory approach
<ul style="list-style-type: none"> OCTOP soil organic carbon content data Soil organic carbon data for Europe 	<i>keywords:</i> Soil organic carbon content, carbon, OCTOP, Topsoil, Geological, Geophysical
<ul style="list-style-type: none"> PESERA: Pan-European Soil Erosion Risk Assessment Soil erosion risk data for Europe 	<i>keywords:</i> Soil erosion, erosion, Environment and Conservation, Risk Assessment, Pesera, Soil
<ul style="list-style-type: none"> ESDBv2 Raster Library - 1km x 1km Prepared 1km raster images for 73 soil attributes of the European Soil Database v2.0 (ESDBv2) 	<i>keywords:</i> Soil, Raster, Grid, SGDBE, PTRDB, LAEA, Inspire
<ul style="list-style-type: none"> ESDBv2 Raster Library - 10km x 10km Prepared 10km raster images for 73 soil attributes of the European Soil Database v2.0 (ESDBv2) 	<i>keywords:</i> Soil, Raster, Grid, SGDBE, PTRDB, GISCO, LAEA, Inspire

Link to





ESDAC Repository – example

ies EUROPEAN COMMISSION DIRECTORATE-GENERAL Joint Research Centre

Land Management & Natural Hazards Unit

HOME : DATA : DOCUMENTS : APPLICATIONS : THEMES : PROJECTS : SOIL BUREAU : UTI

ESDAC - European Soil Data Center - Detailed Data Description

ESDAC Concept | **ESDAC Data Inventory**

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PESERA: Pan-European Soil Erosion Risk Assessment

Subject	Soil erosion risk data for Europe
Keywords	Soil erosion, erosion, Environment and Conservation, Risk Assessment, Pesera, Soil
Publisher	European Commission - DG JRC
Status	Final
Description Objectives	<p>Soil erosion is a natural process, occurring over geological time, and indeed it is a process that is essential for soil formation in the first place. With respect to soil degradation, most concerns about erosion are related to accelerated erosion, where the natural rate has been significantly increased mostly by human activity. Soil erosion by water is a widespread problem throughout Europe</p> <p>PESERA (Pan-European Soil Erosion Risk Assessment) has been created in order to design a model and to handle spatial and temporal data of variable quality and detail and to enable the impacts of agricultural policy, land use and climate changes to be assessed and monitored across Europe.</p> <p>The Pan-European Soil Erosion Risk Assessment - PESERA - uses a process-based and spatially distributed model to quantify soil erosion by water and assess its risk across Europe.</p>
Abstract	
Description Background	In more detail, the scientists can require to view in detail the Soil erosion estimates data. The Soil erosion estimates (t/ha/yr) have been calculated by applying the PESERA GRID model at 1km, using the European Soil Database, CORINE land cover, climate data from the MARS Project and a Digital Elevation Model. The resulting estimates of sediment loss are from erosion by water. The PESERA model produces results that depend crucially on land cover as identified by CORINE and the accuracy of the interpolated meteorological data.
Description Contents	Documentation is on : Nature and extent of Soil Erosion in Europe (CD_ROM) http://eusoils.jrc.it/ESDB_Archive/pesera/pesera_cd/index.htm

Internet

This page links then to a page for further download of the data



For the period 2007-2009, an **implementation plan** has been proposed by JRC and is currently under discussion with DG ENV, ESTAT and EEA.

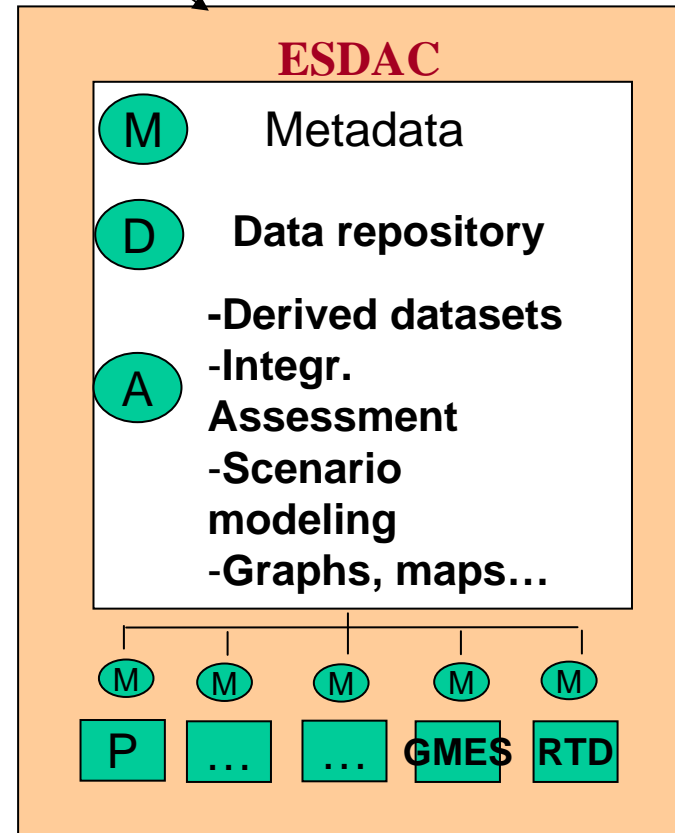
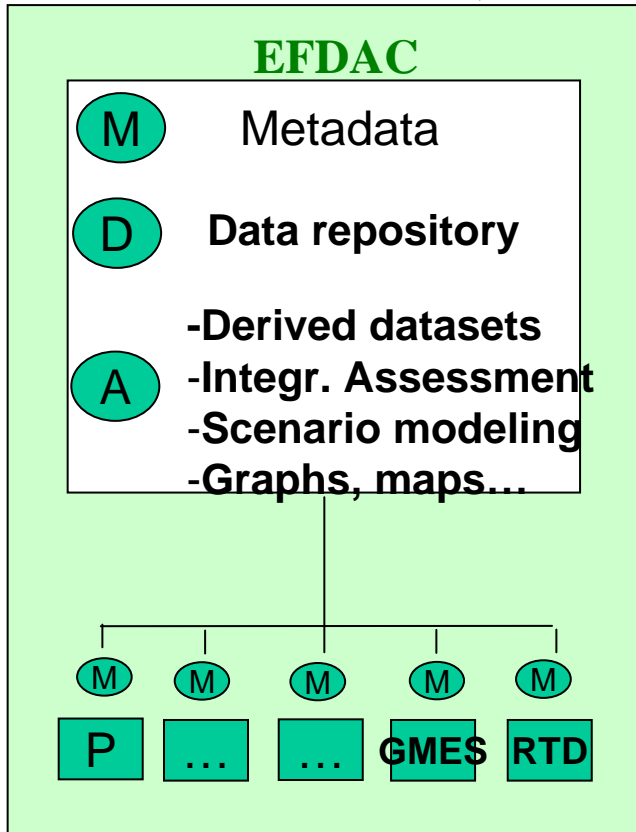
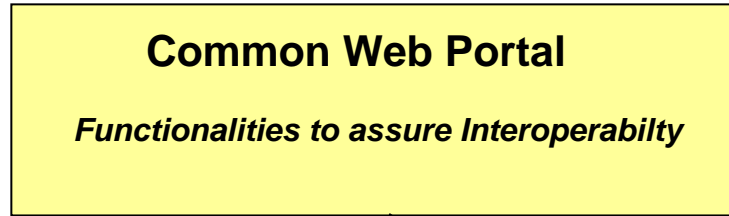
Sure is that :

By end 2007: new soil information repository will be realized, in line with INSPIRE principles, and will be populated with available information.
(**centralized**)

2008: this system will be adapted to allow interoperability with other systems that are also constructed according to INSPIRE principles and equipped with similar interoperability capabilities (**distributed search**)

(backbone will be the skeleton delivered by software which is now under development)

2008-2009: any new information will be integrated



Common web portal

Common access point for users searching and viewing information distributed in different DCs

What will be included?

- **Integrated Catalog of Metadata**
 - Harvested metadata collected and maintained by various DC
 - Direct hosting of metadata (if a DC is not managing its own catalog)
- **Discovery services (search data using keywords, themes, geographical extent, geo-location)**
- **View services (view data stored in different DC and partners)**

ESDAC and other soil data centres

Data centers providing policy relevant soil information for different scales

