D2.2 Report on Collection of appropriate existing European/Global datasets

***MAIL**:* Identifying Marginal Lands in Europe and strengthening their contribution potentialities in a CO2 sequestration strategy

MAIL project has received funding from the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement No 823805; [H2020 MSCA RISE 2018]

Project title	Identifying Marginal Lands in Europe and strengthening their contribution potentialities in a CO2 sequestration strategy
Call identifier	H2020 MSCA RISE 2018
Project acronym	MAIL
Starting date	01.01.2019
End date	31.31.2021
Funding scheme	Marie Skłodowska-Curie
Contract no.	823805
Deliverable no.	D2.2
Document name	MAIL_D2.2_00_20190913.docx
Deliverable name	Report on Collection of appropriate existing European/Global datasets
Work Package	WP 2
Nature[1]	R
Dissemination[2]	PU
Editor	AUTH, HOMEOTECH
Authors	Papalampros Lampros, Mystakidis Lefteris
Contributors	Vlachaki Despina, Gounaris Nikolaos
Date	24/09/2019

[1] **R** = Report, **P** = Prototype, **D** = Demonstrator, **O** = Other

[2] **PU** = Public, **PP** = Restricted to other programme participants (including the Commission Services), **RE** = Restricted to a group specified by the consortium (including the Commission Services), **CO** = Confidential, only for members of the consortium (including the Commission Services).

MAIL CONSORTIUM

Aristotle University of Thessaloniki (AUTH) Greece	Industrieanlagen Betriebsgesellschaft MBH (IABG) Germany
Gounaris N. – Kontos K. OE (HOMEOTECH) Greece	Centrum Badan Kosmicznych Polskiej Akademii Nauk (CBK PAN) Poland
Universitat Politecnica de Valencia (UPV) Spain	Fundacion Centro De Servicios Y Promocion FOrestral Y de su Industria De Castilla y Leon (CESEFOR) Spain

ABBREVIATIONS

Term	Explanation
ASTER GDEM	Advanced Spaceborne Thermal Emission and Reflection Radiometer Global Digital Elevation Map Announcement
BGR	Federal Institute for Geosciences and Natural Resources
c	Climate
CLC	Corine Land Cover
CN	Code name
DLR	German Aerospace Center
ee	Ecological - Environmental
EEA	European Environment Agency
EEA-39	European Economic Area 39 countries (33 member countries and six cooperating countries)
ELSUS	European Landslide Susceptibility
ESA	European Space Agency
ESD	Ecological Site Descriptions
ESDAC	European Soil Data Centre
ESDB	European Soil Database
ETM +	Landsat Enhanced Thematic Mapper Plus
ETRS89-LAEA	European Terrestrial Reference System 1989, Lambert Azimuthal Equal-Area projection coordinate reference system
EUNIS	European nature information system
FAO	Food and Agriculture Organization
FAO	Food and Agriculture Organization of the United Nations
FOREGS	(Forum of European Geological Surveys

Term	Explanation
GDP	Gross Domestic Product
GIS	Geographic Information System
GLASOD	Global Assessment of Human-induced Soil Degradation
GOFC-GOLD	Global Observation of Forest Cover and Land Dynamics
HH	single polarization (Horizontal - Horizontal)
HR	High Resolution
HRL	High Resolution Layers
HWSD	Harmonized World Soil Database
IGBP	International Geosphere-Biosphere Programme
IIASA	International Institute for Applied Systems Analysis
IPCC	Intergovernmental Panel on Climate Change
ISRIC	International Soil Reference and Information Centre
ISRIC	International Soil Reference and Information Centre
JAXA	Japan Aerospace Exploration Agency
JRC	Joint Research Centre
lcu	Land cover/use
LS-factor	Slope Length and Steepness factor
LUCAS	Land Use and Coverage Area frame Survey
MAES	Mapping and Assessment of Ecosystems and their Services
MERIS	Medium-spectral Resolution, Imaging Spectrometer
MODIS	Moderate Resolution Imaging Spectroradiometer
NDVI	Normalized Difference Vegetation Index

Term	Explanation
NUTS	Nomenclature des Unités Territoriales Statistiques
OCTOP	Topsoil Organic Carbon Content for Europe
PTF	Pedo-Transfer Function
PTR	Pedo-Transfer Rule
RUSLE	Revised Universal Soil Loss Equation
se	Socio-economic
sg	Soil - geological
SMU	Soil Mapping Units
SOTER	Soil-Terrain Database
SRTM	Shuttle Radar Topography Mission
STUs	Soil Typological Units
t	Terrain
TanDEM-X	TerraSAR-X Add-oN for Digital Elevation Measurement
TM5	Landsat Thematic Mapper 5
UNCED	United Nations Conference on Environment and Development
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
USDA	United States Department of Agriculture
VHR	Very High Resolution
WGS 84	World Geodetic System 1984
ASTER GDEM	Advanced Spaceborne Thermal Emission and Reflection Radiometer Global Digital Elevation Map Announcement

Contents

DOCUMENT DESCRIPTION

Document revision history

Version	Date	Modifications introduced	
		Modification reason	Modified by
1	19.09.2019	First draft	X.XXXXXXXX
2	24.09.2019	Second draft	
3	22.10.2019	Third Draft	

EXECUTIVE SUMMARY

The task is led by AUTH and has been implemented by HOMETECH secondees to CESEFOR.

An extended review was realized in order to detect and evaluate all the available European or Global scale datasets that will help to assess land cover and characteristics regarding marginality (acidity, salinity, nutrition, organic matter, slope values, etc.), through the proper indicators / variables.

The collected datasets were separated in the following main categories. For visibility reasons each category is represented with a different color.

Category	Datasets	Subsets
Land cover/use	7	26
Terrain	2	8
Soil - Geological	21	147
Climate	2	15
Ecological - Environmental	2	2
Socio-economic	2	2
SUM	**36**	**200**

Folder naming and structure

For each Category a directory with the same name was created. Each directory consists by several related datasets organized into subfolders named after the original data source. Into the subfolders, a Code Name (CN) was given to each subset in order to have a consistent and understandable filename format. The CN is a combination of dataset category, source, dataset name and reference period, connected with an underscore "_".

E.g. The dataset Corine Land Cover - CLC2018 has CN: *lcu_copernicus_clc_2018*

Where:

- *lcu:* Land cover/use category
- *copernicus:* Data source

- *clc:* Corine Land Cover
- *2018:* Reference period

For each dataset a table describing its specifications was generated and presented below. The color of these tables follows the color of their category.

*E.*g. The tables of Land cover/use category have this color.

In most of the cases (24) the coordinate reference system is ETRS89-LAEA Europe, as proposed by Inspire directive, while in 12 cases the coordinate reference system is WGS 84. It must be noted that dataset collection will be a dynamic process that will run through the project's lifetime, since free datasets are becoming available in a fast manner.

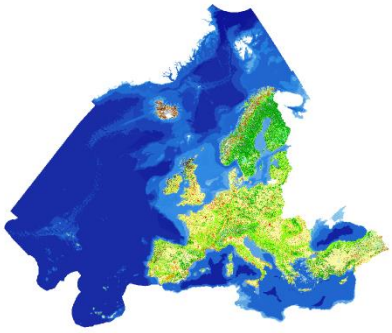
1. LAND COVER/USE DATASETS

In this category datasets with land use/cover information were classified. In total 8 datasets were collected with different coverage. Three of them have global coverage, while the remaining 4 have European coverage (whole Europe, Europe 39, etc.). Many of these datasets include subsets, as a result 27 subsets in the Land cover/use category, were collected.

1.1 Map of European ecosystem types *(CN: lcu_1)*

The dataset combines the Copernicus land service portfolio and marine bathymetry and seabed information with the non-spatial EUNIS habitat classification for a better biological characterization of ecosystems across Europe. As such it represents probabilities of EUNIS habitat presence for each MAES ecosystem type. (European Environment Agency, Ecosystem types of Europe, 2019)

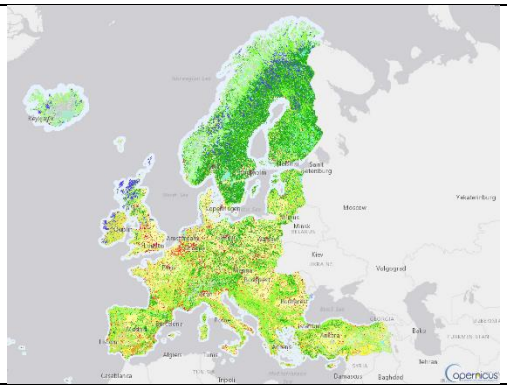
Map of European ecosystem types			
Specifications		**Source data Specifications**	
File Name	Map of European ecosystem types	Sensor	-
Coordinate System	ETRS89 LAEA	Data type	-
Production Date	Feb. 2019	Sensor resolution	-
Coverage (top L, BR coordinates)	Europe (EEA-39)	Acquisition Date	2012
Grid size	-	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	Complete		
File type, Format	TIFF image (.tif) ArcGIS Layer (.lyr)		
File size	341MB		
Download site	https://www.eea.europa.eu/data-and-maps/data/ecosystem-types-of-europe-1 (European Environment Agency, Ecosystem types of Europe, 2019)		

Map of European ecosystem types	
Comments	Data sources: CORINE Land Cover 2012 accounting layer HRL Forests 2012 (Forest Type, Tree Cover Density) HRL Imperviousness 2012 OpenStreetMap (OSM) data 2015 Urban Atlas 2012 Riparian Zones 2012 Natura 2000 (N2k) 2012 HRL Grassland 2012 HRL Permanent Water Bodies 2012 Emodnet bathymetry Emodnet seabed-habitats
Preview Source: EEA	

1.2 Corine Land Cover (CLC) 2018, Version 20 *(CN: lcu_2)*

The CORINE Land Cover (CLC) inventory was initiated in 1985 (reference year 1990). Updates have been produced in 2000, 2006, 2012, and 2018. The 2018 version was stored in the ***MAIL*** repository. It consists of an inventory of land cover that uses 44 classes. CLC uses a Minimum Mapping Unit (MMU) of 25 hectares (ha) for surface phenomena and a minimum width of 100 m for linear phenomena. (Copernicus, Corine Land Cover- CLC 2018, 2019)

Corine Land Cover (CLC) 2018, Version 20			
Specifications		**Source data Specifications**	
File Name	Corine Land Cover (CLC) 2018, Version 20	Sensor	-
Coordinate System	ETRS89 LAEA	Data type	-
Production Date	14-06-2019	Sensor resolution	-
Coverage (top L, BR coordinates)	EEA 39	Acquisition Date	2012-2018

Corine Land Cover (CLC) 2018, Version 20			
Grid size	25ha/ 500 m	Grid size	-
Positional Accuracy	100 m	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	Complete		
File type, Format	AutoCAD Slide (.sld) ArcGIS Layer (.lyr)		
File size	3.37 GB		
Download site	http://land.copernicus.eu/pan-european/corine-land-cover/clc-2012 (Copernicus, Corine Land Cover- CLC 2018, 2019)		
Comments	-		
Preview Source: Copernicus			

1.3 High Resolution Layers (HRL)

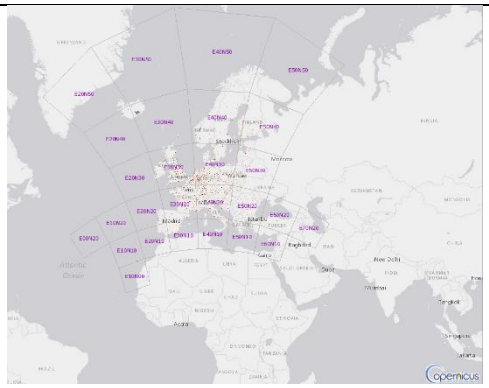
Pan-European High Resolution Layers (HRL) provide information on specific land cover characteristics, and are complementary to land cover / land use mapping such as the CORINE land cover (CLC) datasets. The HRLs are produced from satellite imagery through a combination of automated processing and interactive rule based classification. Since the production of the 2015 reference year the production is increasingly based on analyzing time series of satellite images from a number of different sensors, including the combination of optical and radar data. The main sources are the Sentinel Satellites (in particular Sentinel-2 and Sentinel-1). In addition to high resolution (HR) data, since 2015, very high resolution (VHR) imagery were also used for some of the products.

Five themes have been identified so far, corresponding with the main themes from CLC, i.e. the level of sealed soil (imperviousness), tree cover density and forest type, grasslands, wetness and water, and small woody features. Two out of these five products are continuing existing products (Imperviousness and forest), two products are new

baseline products that fully replace the previous 2012 products (grassland, and the currently combined wetness and water products), and one product is completely new (small woody features). All products are mapping the features under consideration for the whole of the EEA-39 area. (Copernicus, High Resolution Layers, HRL, 2012, 2015)

1.3.1 HRL, Imperviousness Density (IMD) *(CN: lcu_3.1)*

(HRL) Imperviousness Density (IMD)			
Specifications		**Source data Specifications**	
File Name	Imperviousness Density (IMD) 2015	Sensor	Sentinel-2: (multi-spectral instrument (MSI) Sentinel-1: synthetic-aperture radar(SAR)
Coordinate System	ETRS89 LAEA	Data type	Sentinel-2: • TOA reflectances (Level 1) • TOA radiances in sensor geometry (L1B)(Level 1) • BOA reflectances in cartographic geometry (L1C) (Level 2) Sentinel-1: • Raw Level 0 data • Processed Level 1 Single Look Complex (SLC) data • Ground Range Detected (GRD) Level 1 data • Level 2 Ocean (OCN) data
Production Date	Mar 22, 2018	Sensor resolution	Sentinel-2: 10 m to 60 m Sentinel-1: 5m
Coverage (top L, BR coordinates)	Albania, Austria, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy,	Acquisition Date	2006-2015

(HRL) Imperviousness Density (IMD)			
Specifications		**Source data Specifications**	
	Kosovo, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Montenegro, Netherlands, North Macedonia, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, United Kingdom		
Grid size	20 meter	Grid size	-
Positional Accuracy	100 m	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	Complete		
File type, Format	TIFF image (.tif)		
File size	4.37 GB		
Download site	https://land.copernicus.eu/pan-european/high-resolution-layers (Copernicus, High Resolution Layers, HRL, 2012, 2015)		
Comments	-		
Preview Source: Copernicus			

1.3.2 HRL, Imperviousness Change (IMC) *(CN: Icu_3.2)*

(HRL) Imperviousness Change (IMC)			
Specifications		**Source data Specifications**	
File Name	Imperviousness Change (IMC)	Sensor	Sentinel-2: (multi-spectral instrument (MSI)

(HRL) Imperviousness Change (IMC)			
Specifications		**Source data Specifications**	
			Sentinel-1: synthetic-aperture radar(SAR)
Coordinate System	ETRS89 LAEA	Data type	Sentinel-2: • TOA reflectances (Level 1) • TOA radiances in sensor geometry (L1B)(Level 1) • BOA reflectances in cartographic geometry (L1C) (Level 2) Sentinel-1: • Raw Level 0 data • Processed Level 1 Single Look Complex (SLC) data • Ground Range Detected (GRD) Level 1 data • Level 2 Ocean (OCN) data
Production Date	Apr 30, 2018	Sensor resolution	Sentinel-2: 10 m to 60 m Sentinel-1: 5m
Coverage (top L, BR coordinates)	Albania, Austria, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Kosovo, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Montenegro, Netherlands, North Macedonia, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, United Kingdom	Acquisition Date	2006-2015

(HRL) Imperviousness Change (IMC)			
Specifications		**Source data Specifications**	
Grid size	20 m	Grid size	-
Positional Accuracy	100 m	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	Complete		
File type, Format	TIFF image (.tif)		
File size	2.47 GB		
Download site	https://land.copernicus.eu/pan-european/high-resolution-layers (Copernicus, High Resolution Layers, HRL, 2012, 2015)		
Comments	-		

1.3.3 HRL, Imperviousness Classified Change (IMCC) *(CN: Icu_3.3)*

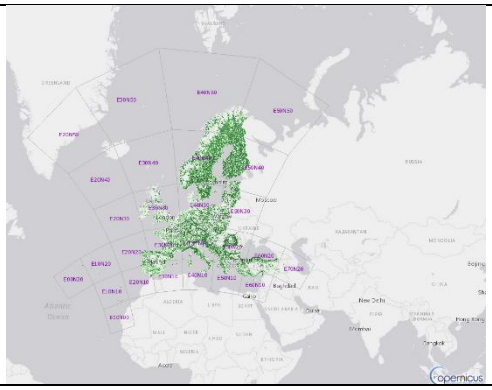
(HRL) Imperviousness Classified Change (IMCC)			
Specifications		**Source data Specifications**	
File Name	Imperviousness Classified Change (IMCC)	Sensor	Sentinel-2: (multi-spectral instrument (MSI) Sentinel-1: synthetic-aperture radar(SAR)
Coordinate System	ETRS89 LAEA	Data type	Sentinel-2: • TOA reflectances (Level 1) • TOA radiances in sensor geometry (L1B)(Level 1) • BOA reflectances in cartographic geometry (L1C) (Level 2) Sentinel-1: • Raw Level 0 data • Processed Level 1 Single Look Complex (SLC) data • Ground Range Detected (GRD) Level 1 data • Level 2 Ocean (OCN) data
Production Date	Apr 30, 2018	Sensor resolution	Sentinel-2: 10 m to 60 m

(HRL) Imperviousness Classified Change (IMCC)			
Specifications		**Source data Specifications**	
			Sentinel-1: 5m
Coverage (top L, BR coordinates)	Albania, Austria, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Kosovo, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Montenegro, Netherlands, North Macedonia, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, United Kingdom	Acquisition Date	2006-2015
Grid size	20 m	Grid size	-
Positional Accuracy	100 m	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	Complete		
File type, Format	TIFF image (.tif)		
File size	2.89 GB		
Download site	https://land.copernicus.eu/pan-european/high-resolution-layers (Copernicus, High Resolution Layers, HRL, 2012, 2015)		
Comments	-		

1.3.4 HRL, Tree Cover Density (TCD) *(CN: lcu_3.4)*

(HRL) Tree Cover Density (TCD)			
Specifications		**Source data Specifications**	
File Name	Tree Cover Density (TCD)	Sensor	Sentinel-2: (multi-spectral instrument (MSI)

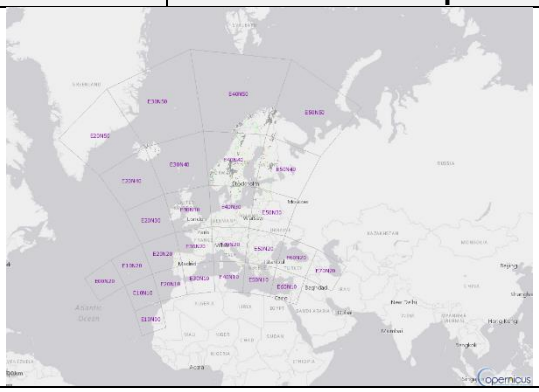
(HRL) Tree Cover Density (TCD)			
Specifications		**Source data Specifications**	
			Landsat 8: Operational Land Imager (OLI)
Coordinate System	ETRS89 LAEA	Data type	Sentinel-2: • TOA reflectances (Level 1) • TOA radiances in sensor geometry (L1B)(Level 1) • BOA reflectances in cartographic geometry (L1C) (Level 2)
Production Date	Mar 22, 2018	Sensor resolution	Sentinel-2: 10 m to 60 m Landsat 8: 30 meters (visible, NIR, SWIR), 100 meters (thermal), and 15 meters (panchromatic)
Coverage (top L, BR coordinates)	Albania, Austria, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Kosovo, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Montenegro, Netherlands, North Macedonia, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, United Kingdom	Acquisition Date	2012-2015
Grid size	20 m	Grid size	-
Positional Accuracy	Less than one pixel	Positional Accuracy	-

(HRL) Tree Cover Density (TCD)			
Specifications		**Source data Specifications**	
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	Complete		
File type, Format	TIFF image (.tif)		
File size	14.3 GB		
Download site	https://land.copernicus.eu/pan-european/high-resolution-layers (Copernicus, High Resolution Layers, HRL, 2012, 2015)		
Comments	-		
Preview Source: Copernicus			

1.3.5 HRL, Tree Cover Density Change (TCDC) *(CN: lcu_3.5)*

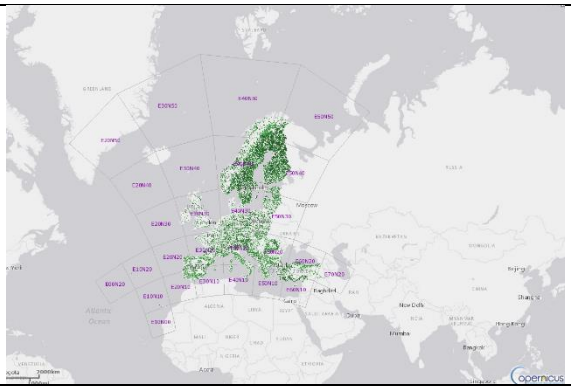
(HRL) Tree Cover Density Change (TCDC)			
Specifications		**Source data Specifications**	
File Name	Tree Cover Density Change (TCDC)	Sensor	Sentinel-2: (multi-spectral instrument (MSI) Landsat 8: Operational Land Imager (OLI)
Coordinate System	ETRS89 LAEA	Data type	Sentinel-2: • TOA reflectances (Level 1) • TOA radiances in sensor geometry (L1B)(Level 1) • BOA reflectances in cartographic geometry (L1C) (Level 2)
Production Date	May 15, 2018	Sensor resolution	Sentinel-2: 10 m to 60 m

(HRL) Tree Cover Density Change (TCDC)			
Specifications		**Source data Specifications**	
			Landsat 8: 30 meters (visible, NIR, SWIR), 100 meters (thermal), and 15 meters (panchromatic)
Coverage (top L, BR coordinates)	Albania, Austria, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Kosovo, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Montenegro, Netherlands, North Macedonia, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, United Kingdom	Acquisition Date	2012-2015
Grid size	100 m	Grid size	-
Positional Accuracy	Less than one pixel	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	Complete		
File type, Format	TIFF image (.tif)		
File size	306 MB		
Download site	https://land.copernicus.eu/pan-european/high-resolution-layers (Copernicus, High Resolution Layers, HRL, 2012, 2015)		
Comments	-		

(HRL) Tree Cover Density Change (TCDC)	
Specifications	**Source data Specifications**
Preview Source: Copernicus	

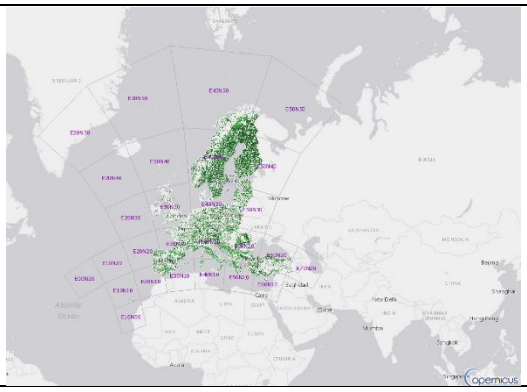
1.3.6 HRL, Dominant Leaf Type (DLT) *(CN: lcu_3.6)*

(HRL) Dominant Leaf Type (DLT)			
Specifications		**Source data Specifications**	
File Name	Dominant Leaf Type (DLT)	Sensor	Sentinel-2: (multi-spectral instrument (MSI) Landsat 8: Operational Land Imager (OLI)
Coordinate System	ETRS89 LAEA	Data type	Sentinel-2: • TOA reflectances (Level 1) • TOA radiances in sensor geometry (L1B)(Level 1) • BOA reflectances in cartographic geometry (L1C) (Level 2)
Production Date	Apr 13, 2018	Sensor resolution	Sentinel-2: 10 m to 60 m Landsat 8: 30 meters (visible, NIR, SWIR), 100 meters (thermal), and 15 meters (panchromatic)
Coverage (top L, BR coordinates)	Albania, Austria, Belgium, Bosnia and Herzegovina, Bulgaria,	Acquisition Date	2012-2015

(HRL) Dominant Leaf Type (DLT)			
Specifications		**Source data Specifications**	
	Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Kosovo, Latvia, Liechtenstein, Lithuania, - Luxembourg, Malta, Montenegro, Netherlands, North Macedonia, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, United Kingdom		
Grid size	20 m	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	Complete		
File type, Format	TIFF image (.tif)		
File size	4.26 GB		
Download site	https://land.copernicus.eu/pan-european/high-resolution-layers (Copernicus, High Resolution Layers, HRL, 2012, 2015)		
Comments	-		
Preview Source: Copernicus			

1.3.7 HRL, Forest Type (FTY) *(CN: Icu_3.7)*

(HRL) Forest Type (FTY)			
Specifications		**Source data Specifications**	
File Name	Forest Type (FTY)	Sensor	Sentinel-2: (multi-spectral instrument (MSI) Landsat 8: Operational Land Imager (OLI)
Coordinate System	ETRS89 LAEA	Data type	Sentinel-2: • TOA reflectances (Level 1) • TOA radiances in sensor geometry (L1B)(Level 1) • BOA reflectances in cartographic geometry (L1C) (Level 2)
Production Date	Apr 30, 2018	Sensor resolution	Sentinel-2: 10 m to 60 m Landsat 8: 30 meters (visible, NIR, SWIR), 100 meters (thermal), and 15 meters (panchromatic)
Coverage (top L, BR coordinates)	Albania, Austria, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Kosovo, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Montenegro, Netherlands, North Macedonia, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden,	Acquisition Date	2012-2015

(HRL) Forest Type (FTY)			
Specifications		**Source data Specifications**	
	Switzerland, Turkey, United Kingdom		
Grid size	20 m	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	Complete		
File type, Format	TIFF image (.tif)		
File size	3.98 GB		
Download site	https://land.copernicus.eu/pan-european/high-resolution-layers (Copernicus, High Resolution Layers, HRL, 2012, 2015)		
Comments	-		
Preview Source: Copernicus			

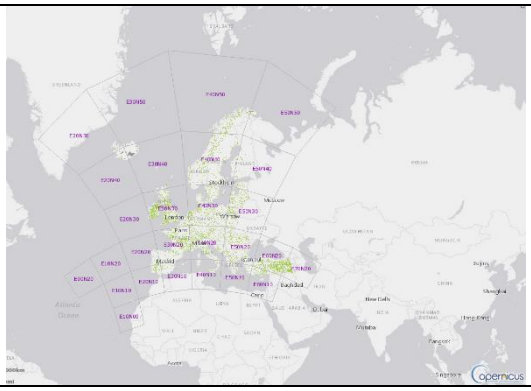
1.3.8 HRL, Forest Additional Support Layer (FADSL) *(CN: lcu_3.8)*

(HRL) Forest Additional Support Layer (FADSL)			
Specifications		**Source data Specifications**	
File Name	Forest Additional Support Layer (FADSL)	Sensor	Sentinel-2: (multi-spectral instrument (MSI) Landsat 8: Operational Land Imager (OLI)
Coordinate System	ETRS89 LAEA	Data type	Sentinel-2: • TOA reflectances (Level 1) • TOA radiances in sensor geometry (L1B)(Level 1) • BOA reflectances in cartographic

(HRL) Forest Additional Support Layer (FADSL)			
Specifications		**Source data Specifications**	
			geometry (L1C) (Level 2)
Production Date	May 08, 2018	Sensor resolution	Sentinel-2: 10 m to 60 m Landsat 8: 30 meters (visible, NIR, SWIR), 100 meters (thermal), and 15 meters (panchromatic)
Coverage (top L, BR coordinates)	Albania, Austria, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Kosovo, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Montenegro, Netherlands, North Macedonia, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, United Kingdom	Acquisition Date	2012-2015
Grid size	20 m	Grid size	-
Positional Accuracy	< 100 m	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	Complete		
File type, Format	TIFF image (.tif)		
File size	1.98 GB		
Download site	https://land.copernicus.eu/pan-european/high-resolution-layers (Copernicus, High Resolution Layers, HRL, 2012, 2015)		
Comments	-		

1.3.9 HRL, Grassland (GRA) *(CN: lcu_3.9)*

(HRL) Grassland (GRA)			
Specifications		**Source data Specifications**	
File Name	Grassland (GRA)	Sensor	Sentinel-2: (multi-spectral instrument (MSI) Landsat 8: Operational Land Imager (OLI)
Coordinate System	ETRS89 LAEA	Data type	Sentinel-2: • TOA reflectances (Level 1) • TOA radiances in sensor geometry (L1B)(Level 1) • BOA reflectances in cartographic geometry (L1C) (Level 2)
Production Date	Apr 09, 2018	Sensor resolution	Sentinel-2: 10 m to 60 m Landsat 8: 30 meters (visible, NIR, SWIR), 100 meters (thermal), and 15 meters (panchromatic)
Coverage (top L, BR coordinates)	Albania, Austria, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Kosovo, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Montenegro, Netherlands, North Macedonia, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden,	Acquisition Date	-

(HRL) Grassland (GRA)			
Specifications		**Source data Specifications**	
	Switzerland, Turkey, United Kingdom		
Grid size	20 m	Grid size	-
Positional Accuracy	100 m	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	Complete		
File type, Format	TIFF image (.tif)		
File size	2.69 GB		
Download site	https://land.copernicus.eu/pan-european/high-resolution-layers (Copernicus, High Resolution Layers, HRL, 2012, 2015)		
Comments	-		
Preview Source: Copernicus			

1.3.10 HRL, Ploughing Indicator (PLOUGH) *(CN: lcu_3.10)*

(HRL) Ploughing Indicator (PLOUGH)			
Specifications		**Source data Specifications**	
File Name	Ploughing Indicator (PLOUGH)	Sensor	Sentinel-2: (multi-spectral instrument (MSI) Landsat 8: Operational Land Imager (OLI)
Coordinate System	ETRS89 LAEA	Data type	Sentinel-2: • TOA reflectances (Level 1) • TOA radiances in sensor geometry (L1B)(Level 1) • BOA reflectances in cartographic

(HRL) Ploughing Indicator (PLOUGH)			
Specifications		**Source data Specifications**	
			geometry (L1C) (Level 2)
Production Date	May 04, 2018	Sensor resolution	Sentinel-2: 10 m to 60 m Landsat 8: 30 meters (visible, NIR, SWIR), 100 meters (thermal), and 15 meters (panchromatic)
Coverage (top L, BR coordinates)	Albania, Austria, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Kosovo, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Montenegro, Netherlands, North Macedonia, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, United Kingdom	Acquisition Date	2010-2016
Grid size	20 m	Grid size	-
Positional Accuracy	100 m	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	Complete		
File type, Format	TIFF image (.tif)		
File size	1.54 GB		
Download site	https://land.copernicus.eu/pan-european/high-resolution-layers (Copernicus, High Resolution Layers, HRL, 2012, 2015)		
Comments	-		

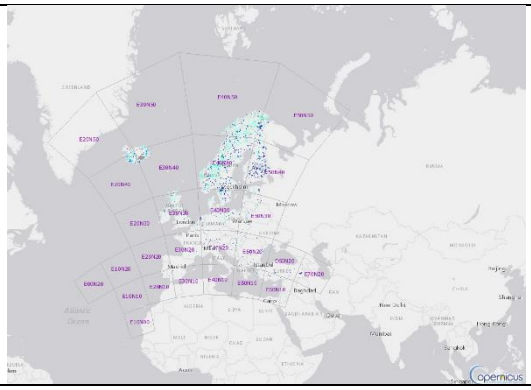
1.3.11 HRL, Grassland Vegetation Probability Index (GRAVPI) *(lcu_3.11)*

Grassland Vegetation Probability Index (GRAVPI)			
Specifications		**Source data Specifications**	
File Name	Grassland Vegetation Probability Index (GRAVPI)	Sensor	Sentinel-2: (multi-spectral instrument (MSI) Landsat 8: Operational Land Imager (OLI)
Coordinate System	ETRS89 LAEA	Data type	Sentinel-2: • TOA reflectances (Level 1) • TOA radiances in sensor geometry (L1B)(Level 1) • BOA reflectances in cartographic geometry (L1C) (Level 2)
Production Date	May 04, 2018	Sensor resolution	Sentinel-2: 10 m to 60 m Landsat 8: 30 meters (visible, NIR, SWIR), 100 meters (thermal), and 15 meters (panchromatic)
Coverage (top L, BR coordinates)	Albania, Austria, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Kosovo, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Montenegro, Netherlands, North Macedonia, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden,	Acquisition Date	2014-2016

Grassland Vegetation Probability Index (GRAVPI)			
Specifications		**Source data Specifications**	
	Switzerland, Turkey, United Kingdom		
Grid size	20 m	Grid size	-
Positional Accuracy	100 m	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	Complete		
File type, Format	TIFF image (.tif)		
File size	4.36 GB		
Download site	https://land.copernicus.eu/pan-european/high-resolution-layers (Copernicus, High Resolution Layers, HRL, 2012, 2015)		
Comments	-		

1.3.12 HRL, Water and Wetness (WAW) *(CN: lcu_3.12)*

(HRL) Water and Wetness (WAW)			
Specifications		**Source data Specifications**	
File Name	Water and Wetness (WAW)	Sensor	Sentinel-2: (multi-spectral instrument (MSI) Landsat 8: Operational Land Imager (OLI)
Coordinate System	ETRS89 LAEA	Data type	Sentinel-2: • TOA reflectances (Level 1) • TOA radiances in sensor geometry (L1B)(Level 1) • BOA reflectances in cartographic geometry (L1C) (Level 2)
Production Date	Mar 22, 2018	Sensor resolution	Sentinel-2: 10 m to 60 m Landsat 8: 30 meters (visible, NIR, SWIR), 100 meters (thermal), and 15 meters (panchromatic)

(HRL) Water and Wetness (WAW)			
Specifications		**Source data Specifications**	
Coverage (top L, BR coordinates)	Albania, Austria, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Kosovo, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Montenegro, Netherlands, North Macedonia, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, United Kingdom	Acquisition Date	2009-2015
Grid size	20 m	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	Complete		
File type, Format	TIFF image (.tif)		
File size	2.66 GB		
Download site	https://land.copernicus.eu/pan-european/high-resolution-layers (Copernicus, High Resolution Layers, HRL, 2012, 2015)		
Comments	-		
Preview Source: Copernicus			

1.3.13 HRL, Water & Wetness Probability Index (WWPI) *(Icu_3.13)*

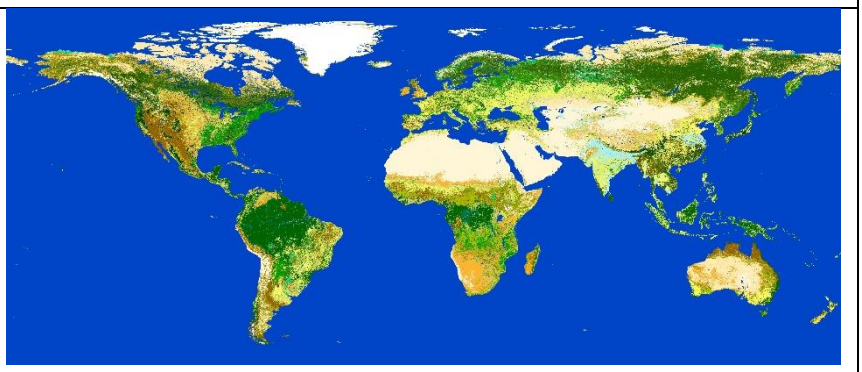
(HRL) Water & Wetness Probability Index (WWPI)			
Specifications		**Source data Specifications**	
File Name	Water & Wetness Probability Index (WWPI)	Sensor	Sentinel-2: (multi-spectral instrument (MSI) Landsat 8: Operational Land Imager (OLI)
Coordinate System	ETRS89 LAEA	Data type	Sentinel-2: • TOA reflectances (Level 1) • TOA radiances in sensor geometry (L1B)(Level 1) • BOA reflectances in cartographic geometry (L1C) (Level 2)
Production Date	May 08, 2018	Sensor resolution	Sentinel-2: 10 m to 60 m Landsat 8: 30 meters (visible, NIR, SWIR), 100 meters (thermal), and 15 meters (panchromatic)
Coverage (top L, BR coordinates)	Albania, Austria, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Kosovo, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Montenegro, Netherlands, North Macedonia, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden,	Acquisition Date	2009-2015

(HRL) Water & Wetness Probability Index (WWPI)			
Specifications		**Source data Specifications**	
	Switzerland, Turkey, United Kingdom		
Grid size	20 m	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	Complete		
File type, Format	TIFF image (.tif)		
File size	3.32 GB		
Download site	https://land.copernicus.eu/pan-european/high-resolution-layers (Copernicus, High Resolution Layers, HRL, 2012, 2015)		
Comments	-		

1.4 GlobCover Land Cover Maps *(CN: lcu_4)*

GlobCover is an ESA initiative which began in 2005 in partnership with JRC, EEA, FAO, UNEP, GOFC-GOLD and IGBP. The aim of the project was to develop a service capable of delivering global composites and land cover maps using as input observations from the MERIS sensor (300m spatial resolution) on board the ENVISAT satellite mission. ESA provides the land cover maps, which cover 2 periods: December 2004 - June 2006 and January - December 2009. (European Space Agency (ESA), GlobCover, 2010)

GlobCover Land Cover Maps			
Specifications		**Source data Specifications**	
File Name	GlobCover Land Cover Maps	Sensor	ENVISAT: Medium Resolution Imaging Spectrometer (MERIS)
Coordinate System	WGS84	Data type	georeferenced TOA radiance data (Level 1b)
Production Date	18/02/2011	Sensor resolution	Fine resolution 290*260m Reduced resolution 1.2 km x 1.04 km
Coverage (top L, BR coordinates)	Global, Upper left corner: 90°N, 180°W	Acquisition Date	2009

GlobCover Land Cover Maps			
Specifications		**Source data Specifications**	
	,Lower right corner: 65°S, 180°E		
Grid size	1/360^{o}	Grid size	-
Positional Accuracy	-	Positional Accuracy	2000 m
Vertical Accuracy	-	Vertical Accuracy	2000 m
Completeness	complete		
File type, Format	TIFF image (.tif), ArcGIS Layer (.lyr)		
File size	818 MB		
Download site	http://due.esrin.esa.int/page_globcover.php (European Space Agency (ESA), GlobCover, 2010)		
Comments	-		
Preview Source: ESA			

1.5 Land use and Land cover

This is the result of a collaboration between the FAO with IIASA, ISRIC-World Soil Information, Institute of Soil Science, Chinese Academy of Sciences (ISSCAS), and the Joint Research Centre of the European Commission (JRC).

The Harmonized World Soil Database is a 30 arc-second raster database with over 15,000 different soil mapping units that combines existing regional and national updates of soil information worldwide (SOTER, ESD, Soil Map of China, WISE) with the information contained within the 1:5,000,000 scale FAO-UNESCO Soil Map of the World (FAO, 1971-1981).

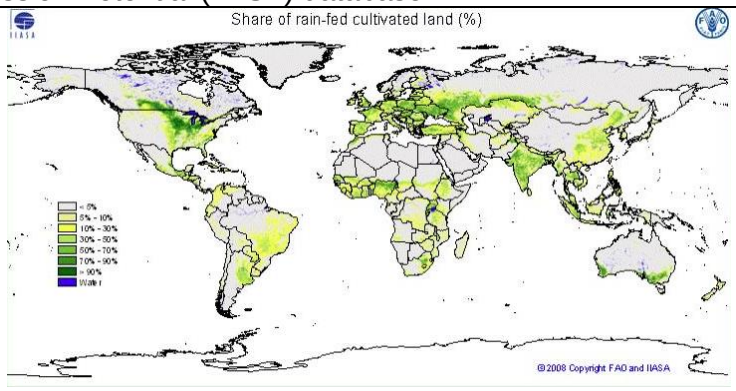
The resulting raster database consists of 21,600 rows by 43,200 columns, which are linked to harmonized soil property data. The use of a standardized structure allows for

the linkage of the attribute data with the raster map to display or query the composition in terms of soil units and the characterization of selected soil parameters (organic Carbon, pH, water storage capacity, soil depth, cation exchange capacity of the soil and the clay fraction, total exchangeable nutrients, lime and gypsum contents, sodium exchange percentage, salinity, textural class and granulometry). (Food And Agriculture Organization (FAO), Harmonized World Soil Database v 1.2, 2009)

In this section only the Land Use and Land Cover subset of this database is presented. The other subsets were classified accordingly to the ***MAIL*** categories.

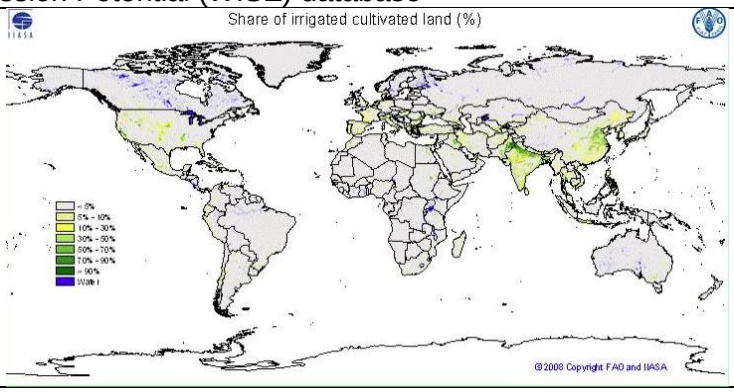
1.5.1 Rain-fed cultivated land *(CN: lcu_5.1)*

Rain-fed cultivated land			
Specifications		**Source data Specifications**	
File Name	Rain-fed cultivated land	Sensor	(SRTM) Shuttle Radar Topography Mission
Coordinate System	WGS84	Data type	• SRTM Non-Void Filled • SRTM Void Filled • SRTM 1 Arc-Second Global
Production Date	March 2009	Sensor resolution	1 arc-second for global coverage (~30 meters) 3 arc-seconds for global coverage (~90 meters)
Coverage (top L, BR coordinates)	Global	Acquisition Date	2008
Grid size	30 arc seconds ≈ 10 km	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	16m
Completeness	complete		
File type, Format	ArcGIS Layer (.lyr) TIFF image (.tif)		
File size	2.01 GB		
Download site	http://www.fao.org/soils-portal/soil-survey/soil-maps-and-databases/harmonized-world-soil-database-v12/en/ (Food And Agriculture Organization (FAO), Harmonized World Soil Database v 1.2, 2009)		

Rain-fed cultivated land	
Comments	Source databases: • Soil Map of the World • SOTER regional studies • The European Soil Database Soil parameter estimates based on the World Inventory of Soil Emission Potential (WISE) database
Preview Source: FAO	

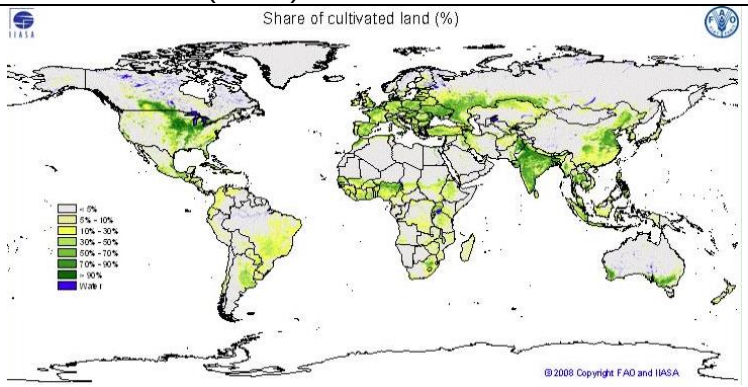
1.5.2 Irrigated cultivated land, according to GMIA 4.0 *(CN: lcu_5.2)*

Irrigated cultivated land, according to GMIA 4.0			
Specifications		**Source data Specifications**	
File Name	Irrigated cultivated land, according to GMIA 4.0	Sensor	(SRTM) Shuttle Radar Topography Mission
Coordinate System	WGS84	Data type	• SRTM Non-Void Filled • SRTM Void Filled • SRTM 1 Arc-Second Global
Production Date	March 2009	Sensor resolution	1 arc-second for global coverage (~30 meters) 3 arc-seconds for global coverage (~90 meters)
Coverage (top L, BR coordinates)	Global	Acquisition Date	2008
Grid size	30 arc seconds ≈ 10 km	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	16m
Completeness	complete		

Irrigated cultivated land, according to GMIA 4.0			
File type, Format	ArcGIS Layer (.lyr) TIFF image (.tif)		
File size	2.01 GB		
Download site	http://www.fao.org/soils-portal/soil-survey/soil-maps-and-databases/harmonized-world-soil-database-v12/en/ (Food And Agriculture Organization (FAO), Harmonized World Soil Database v 1.2, 2009)		
Comments	Source databases: • Soil Map of the World • SOTER regional studies • The European Soil Database Soil parameter estimates based on the World Inventory of Soil Emission Potential (WISE) database		
Preview Source: FAO			

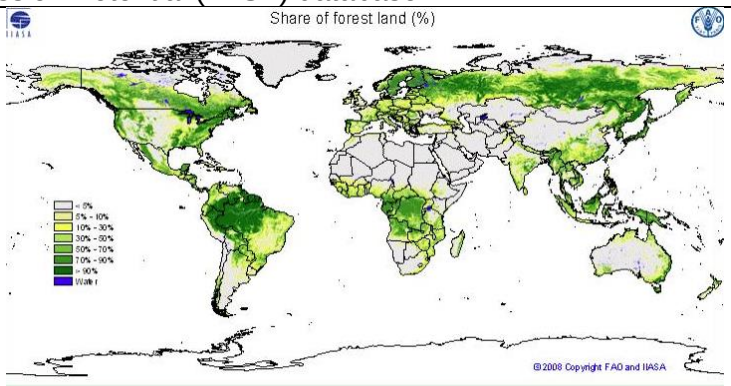
1.5.3 Total cultivated land *(CN: lcu_5.3)*

Total cultivated land			
Specifications		**Source data Specifications**	
File Name	Total cultivated land	Sensor	(SRTM) Shuttle Radar Topography Mission
Coordinate System	WGS84	Data type	• SRTM Non-Void Filled • SRTM Void Filled • SRTM 1 Arc-Second Global
Production Date	March 2009	Sensor resolution	1 arc-second for global coverage (~30 meters) 3 arc-seconds for global coverage (~90 meters)
Coverage (top L, BR coordinates)	Global	Acquisition Date	2008
Grid size	30 arc seconds ≈ 10 km	Grid size	-

Total cultivated land			
Specifications		**Source data Specifications**	
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	16m
Completeness	complete		
File type, Format	ArcGIS Layer (.lyr) TIFF image (.tif)		
File size	2.01 GB		
Download site	http://www.fao.org/soils-portal/soil-survey/soil-maps-and-databases/harmonized-world-soil-database-v12/en/ (Food And Agriculture Organization (FAO), Harmonized World Soil Database v 1.2, 2009)		
Comments	Source databases: • Soil Map of the World • SOTER regional studies • The European Soil Database Soil parameter estimates based on the World Inventory of Soil Emission Potential (WISE) database		
Preview Source: FAO			

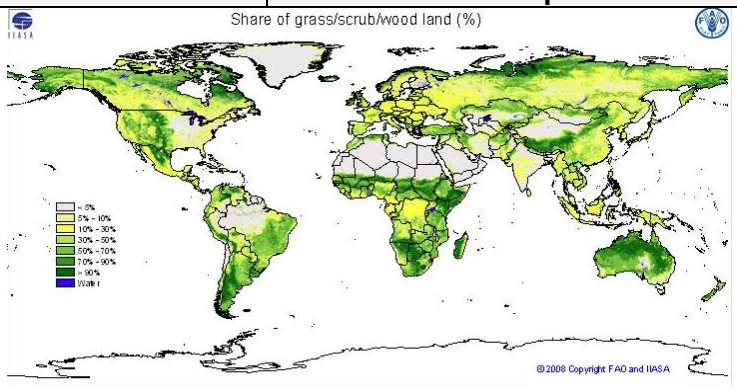
1.5.4 Forest land, calibrated to FRA2000 land statistics *(CN: lcu_5.4)*

Forest land, calibrated to FRA2000 land statistics			
Specifications		**Source data Specifications**	
File Name	Forest land, calibrated to FRA2000 land statistics	Sensor	(SRTM) Shuttle Radar Topography Mission
Coordinate System	WGS84	Data type	• SRTM Non-Void Filled • SRTM Void Filled • SRTM 1 Arc-Second Global

Forest land, calibrated to FRA2000 land statistics			
Specifications		**Source data Specifications**	
Production Date	March 2009	Sensor resolution	1 arc-second for global coverage (~30 meters) 3 arc-seconds for global coverage (~90 meters)
Coverage (top L, BR coordinates)	Global	Acquisition Date	2008
Grid size	30 arc seconds ≈ 10 km	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	16m
Completeness	complete		
File type, Format	ArcGIS Layer (.lyr) TIFF image (.tif)		
File size	2.01 GB		
Download site	http://www.fao.org/soils-portal/soil-survey/soil-maps-and-databases/harmonized-world-soil-database-v12/en/ (Food And Agriculture Organization (FAO), Harmonized World Soil Database v 1.2, 2009)		
Comments	Source databases: • Soil Map of the World • SOTER regional studies • The European Soil Database Soil parameter estimates based on the World Inventory of Soil Emission Potential (WISE) database		
Preview Source: FAO			

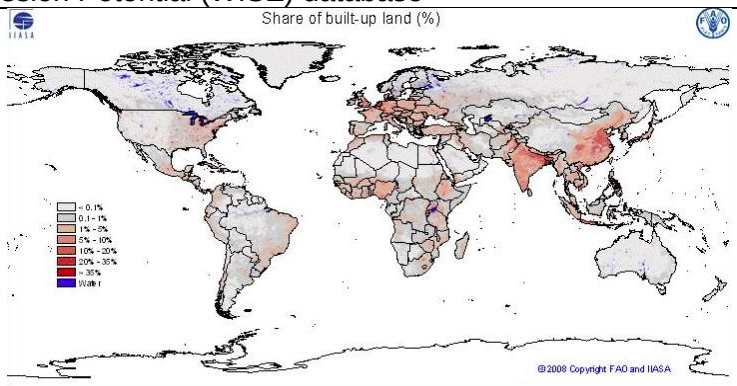
1.5.5 Grass/scrub/woodland *(CN: lcu_5.5)*

Grass/scrub/woodland			
Specifications		**Source data Specifications**	
File Name	Grass/scrub/woodland	Sensor	(SRTM) Shuttle Radar Topography Mission
Coordinate System	WGS84	Data type	• SRTM Non-Void Filled • SRTM Void Filled • SRTM 1 Arc-Second Global
Production Date	March 2009	Sensor resolution	1 arc-second for global coverage (~30 meters) 3 arc-seconds for global coverage (~90 meters)
Coverage (top L, BR coordinates)	Global	Acquisition Date	2008
Grid size	30 arc seconds ≈ 10 km	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	16m
Completeness	complete		
File type, Format	ArcGIS Layer (.lyr) TIFF image (.tif)		
File size	2.01 GB		
Download site	http://www.fao.org/soils-portal/soil-survey/soil-maps-and-databases/harmonized-world-soil-database-v12/en/ (Food And Agriculture Organization (FAO), Harmonized World Soil Database v 1.2, 2009)		
Comments	Source databases: • Soil Map of the World • SOTER regional studies • The European Soil Database Soil parameter estimates based on the World Inventory of Soil Emission Potential (WISE) database		

Grass/scrub/woodland	
Specifications	**Source data Specifications**
Preview Source: FAO	

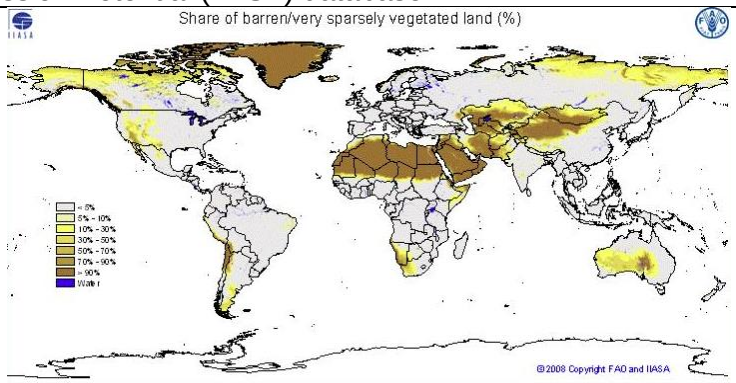
1.5.6 Built-up land (residential and infrastructure) *(CN: Icu_5.6)*

Built-up land (residential and infrastructure)			
Specifications		**Source data Specifications**	
File Name	Built-up land (residential and infrastructure)	Sensor	(SRTM) Shuttle Radar Topography Mission
Coordinate System	WGS84	Data type	• SRTM Non-Void Filled • SRTM Void Filled • SRTM 1 Arc-Second Global
Production Date	March 2009	Sensor resolution	1 arc-second for global coverage (~30 meters) 3 arc-seconds for global coverage (~90 meters)
Coverage (top L, BR coordinates)	Global	Acquisition Date	2008
Grid size	30 arc seconds ≈ 10 km	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	16m
Completeness	complete		
File type, Format	ArcGIS Layer (.lyr) TIFF image (.tif)		

Built-up land (residential and infrastructure)			
File size	2.01 GB		
Download site	http://www.fao.org/soils-portal/soil-survey/soil-maps-and-databases/harmonized-world-soil-database-v12/en/ (Food And Agriculture Organization (FAO), Harmonized World Soil Database v 1.2, 2009)		
Comments	Source databases: • Soil Map of the World • SOTER regional studies • The European Soil Database Soil parameter estimates based on the World Inventory of Soil Emission Potential (WISE) database		
Preview Source: FAO			

1.5.7 Barren/very sparsely vegetated land *(CN: lcu_5.7)*

Barren/very sparsely vegetated land			
Specifications		**Source data Specifications**	
File Name	Barren/very sparsely vegetated land	Sensor	(SRTM) Shuttle Radar Topography Mission
Coordinate System	WGS84	Data type	• SRTM Non-Void Filled • SRTM Void Filled • SRTM 1 Arc-Second Global
Production Date	March 2009	Sensor resolution	1 arc-second for global coverage (~30 meters) 3 arc-seconds for global coverage (~90 meters)
Coverage (top L, BR coordinates)	Global	Acquisition Date	2008
Grid size	30 arc seconds ≈ 10 km	Grid size	-
Positional Accuracy	-	Positional Accuracy	-

Barren/very sparsely vegetated land			
Vertical Accuracy	-	Vertical Accuracy	16m
Completeness	complete		
File type, Format	ArcGIS Layer (.lyr) TIFF image (.tif)		
File size	2.01 GB		
Download site	http://www.fao.org/soils-portal/soil-survey/soil-maps-and-databases/harmonized-world-soil-database-v12/en/ (Food And Agriculture Organization (FAO), Harmonized World Soil Database v 1.2, 2009)		
Comments	Source databases: • Soil Map of the World • SOTER regional studies • The European Soil Database Soil parameter estimates based on the World Inventory of Soil Emission Potential (WISE) database		
Preview Source: FAO			

1.5.8 Mapped water bodies *(CN: lcu_5.8)*

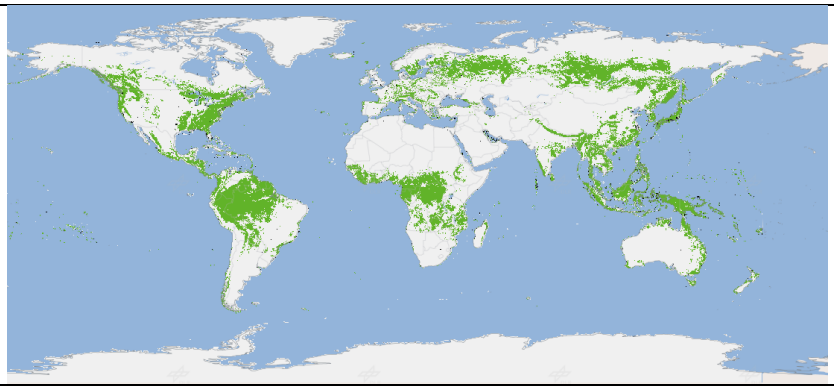
Mapped water bodies			
Specifications		**Source data Specifications**	
File Name	Mapped water bodies	Sensor	(SRTM) Shuttle Radar Topography Mission
Coordinate System	WGS84	Data type	• SRTM Non-Void Filled • SRTM Void Filled • SRTM 1 Arc-Second Global
Production Date	March 2009	Sensor resolution	1 arc-second for global coverage (~30 meters) 3 arc-seconds for global coverage (~90 meters)

Mapped water bodies			
Specifications		**Source data Specifications**	
Coverage (top L, BR coordinates)	Global	Acquisition Date	2008
Grid size	30 arc seconds ≈ 10 km	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	16m
Completeness	complete		
File type, Format	ArcGIS Layer (.lyr) TIFF image (.tif)		
File size	2.01 GB		
Download site	http://www.fao.org/soils-portal/soil-survey/soil-maps-and-databases/harmonized-world-soil-database-v12/en/ (Food And Agriculture Organization (FAO), Harmonized World Soil Database v 1.2, 2009)		
Comments	Source databases: • Soil Map of the World • SOTER regional studies • The European Soil Database Soil parameter estimates based on the World Inventory of Soil Emission Potential (WISE) database		

1.6 TanDEM-X Global Forest map *(CN: lcu_6)*

The TanDEM-X Forest/Non-Forest Map is a project developed by the Microwaves and Radar Institute at the German Aerospace Center (DLR), within the activities of the TanDEM-X mission. The goal is the derivation of a global forest/non-forest classification mosaic from TanDEM-X bistatic interferometric synthetic aperture radar (InSAR) data, acquired for the generation of the global digital elevation model (DEM) in Stripmap single polarization (HH) mode.

The TanDEM-X Forest/Non-Forest Map (FNF) has been generated by processing and mosaicking more than 500,000 TanDEM-X bistatic images acquired from 2011 to 2015. The map has a spatial resolution of 50 x 50m. Forested and non-forested areas are depicted in green and white, respectively. Water bodies are depicted in blue and black is used for identifying urban areas and invalid pixels. (German Aerospace Center (DLR), TanDEM-X Forest/Non-Forest Map - Global, 2019)

TanDEM-X Global Forest map			
Specifications		**Source data Specifications**	
File Name	TanDEM-X Global Forest map	Sensor	InSAR: Interferometric synthetic aperture radar
Coordinate System	WGS84	Data type	Differential-InSAR (D-InSAR)
Production Date	04/04/2019	Sensor resolution	Standard resolution: 2-3 m High resolution: 1-2 m
Coverage (top L, BR coordinates)	Europe	Acquisition Date	2011 - 2015
Grid size	50m	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	PNG image (.png) TIFF image (.tiff)		
File size	3.26 GB		
Download site	https://download.geoservice.dlr.de/FNF50/ (German Aerospace Center (DLR), TanDEM-X Forest/Non-Forest Map - Global, 2019)		
Comments	-		
Preview Source: DLR			

1.7 GlobeLand30 (CN: lcu_7)

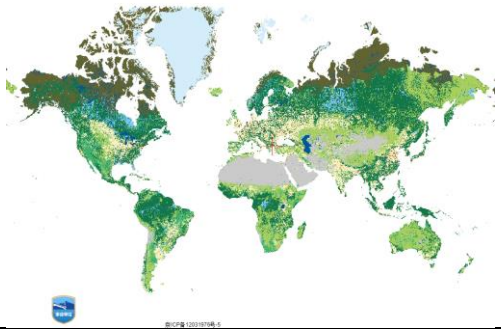
GlobeLand30 refers to the land cover of the earth between latitude 80N to 80S. The images utilized for the GlobeLand30 classification are multispectral images with 30 meters spatial resolution, including the TM5 and ETM + of America Land Resources Satellite (Landsat) and the multispectral images of the China Environmental Disaster

Alleviation Satellite (HJ-1). Besides multispectral images, plenty of auxiliary data are also used in the process of data production such as sample collection and classification, etc. They mainly contain: the existing land cover data (global and regional), MODIS NDVI, global geographic information, global DEM, thematic data (global mangrove forest, wetland and glacier, etc.) and online resources (Google Earth, Bing Map, OpenStreetMap and Map World) and so on.

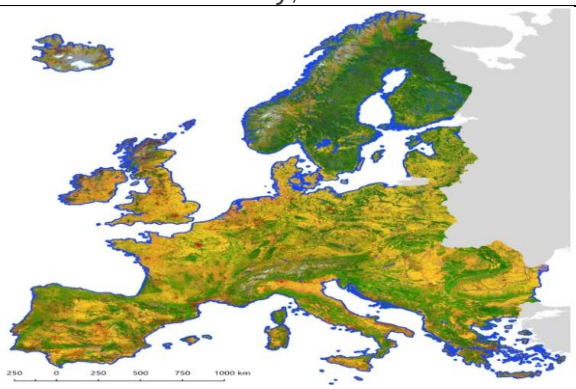
The data are classified in 10 land cover types, namely cultivated land, forest, grassland, shrubland, wetland, water bodies, tundra, artificial surfaces, bareland, permanent snow and ice. The GlobeLand30 classification scheme is explained below:

1) **Cultivated Land**: Lands used for agriculture, horticulture and gardens, including paddy fields, irrigated and dry farmland, vegetation and fruit gardens, etc.
2) **Forest**: Lands covered with trees, with vegetation cover over 30%, including deciduous and coniferous forests, and sparse woodland with cover 10 - 30%, etc.
3) **Grassland**: Lands covered by natural grass with cover over 10%, etc.
4) **Shrubland**: Lands covered with shrubs with cover over 30%, including deciduous and evergreen shrubs, and desert steppe with cover over 10%, etc.
5) **Water bodies**: Water bodies in the land area, including river, lake, reservoir, fish pond, etc.
6) **Wetland**: Lands covered with wetland plants and water bodies, including inland marsh, lake marsh, river floodplain wetland, forest/shrub wetland, peat bogs, mangrove and salt marsh, etc.
7) **Tundra**: Lands covered by lichen, moss, hardy perennial herb and shrubs in the polar regions, including shrub tundra, herbaceous tundra, wet tundra and barren tundra, etc.
8) **Artificial surfaces**: Lands modified by human activities, including all kinds of habitation, industrial and mining area, transportation facilities, and interior urban green zones and water bodies, etc.
9) **Bareland**: Lands with vegetation cover lower than 10%, including desert, sandy fields, Gobi, bare rocks, saline and alkaline lands, etc.
10) **Permanent snow and ice**: Lands covered by permanent snow, glacier and icecap.

(National Geomatics Center of China, Globeland30, 2010)

GlobeLand30			
Specifications		**Source data Specifications**	
File Name	GlobeLand30	Sensor	Landsat: • Thematic Mapper (TM) • Enhanced Thematic Mapper (ETM) HJ-1: • Wide View CCD Cameras (WVC) • Hyperspectral Imager(HSI) • Infrared Multispectral Scanner (IRMSS)
Coordinate System	WGS84	Data type	-
Production Date	May 2014	Sensor resolution	Landsat: 120 m HJ-1: 30-100m
Coverage (top L, BR coordinates)	Global	Acquisition Date	2008 - 2011
Grid size	30 m	Grid size	-
Positional Accuracy	-	Positional Accuracy	75m
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	TIFF image (.tif) shapefiles		
File size	2.05 GB		
Download site	http://www.globallandcover.com/GLC30Download/index.aspx (National Geomatics Center of China, Globeland30, 2010)		
Comments	The overall accuracy of GlobeLand30 – 2010 reaches 83.51%. the k indicator is 0.78.		
Preview Source: Global Land Cover			

1.8 Land Cover Map of Europe 2017 (CN: lcu_8)

Land Cover Map of Europe 2017			
Specifications		**Source data Specifications**	
File Name	Land Cover Map of Europe 2017	Sensor	Multi-spectral instrument (MSI)
Coordinate System	ETRS89 LAEA	Data type	Multi-spectral Data
Production Date	2018	Sensor resolution	10 m to 60 m
Coverage (top L, BR coordinates)	-	Acquisition Date	2017
Grid size	-	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	TIFF image (.tif) shapefiles		
File size	15.9 GB		
Download site	-		
Comments	Accuracy for the whole Europe with 13 land cover classes resulted in 86% overall accuracy, the k indicator is 0.83		
Preview Source: European Space Agency			

2. TERRAIN DATASETS

In this category layers with elevation, slope and aspect information were classified. There are many freely available datasets but only two were selected for the needs of the ***MAIL*** project based on their resolution and European coverage

- Digital Elevation Model of Europe, by EEA

- Terrain, by FAO

Alternatives, such as the JAXA's World Elevation Data (30-meter mesh version) were not selected due to the incomplete coverage of ***MAIL's*** area of interest.

2.1 Digital Elevation Model of Europe

EU-DEM is a digital surface model (DSM) of EEA member and cooperating countries representing the first surface as illuminated by the sensors. It is a hybrid product based on SRTM and ASTER GDEM data fused by a weighted averaging approach. (European Environment Agency, Digital Elevation Model over Europe (EU-DEM), 2017)

2.1.1 Digital Elevation Model of Europe v1.1 *(CN: t_1.1)*

This is the v1.1 of EU-DEM, based on data acquired in 2011.

(EU-DEM) Digital Elevation Model of Europe v1.1			
Specifications		**Source data Specifications**	
File Name	Digital Elevation Model of Europe v1.1	Sensor	(GLAS) Geoscience Laser Altimeter System
Coordinate System	ETRS89 LAEA	Data type	level 1A, 1B, 2 and 3 data products
Production Date	Apr 20, 2016	Sensor resolution	60 m to 70 m x 60 m to 70 m
Coverage (top L, BR coordinates)	Albania, Austria, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Kosovo, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Montenegro, Netherlands, North Macedonia, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden,	Acquisition Date	2011

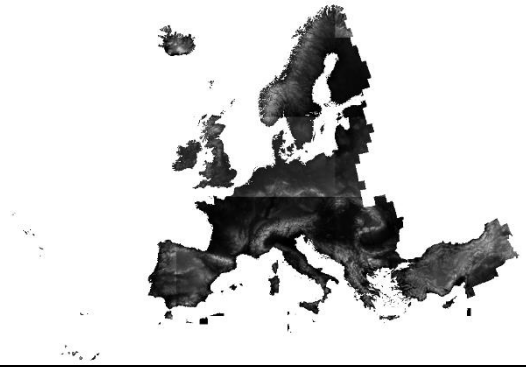
(EU-DEM) Digital Elevation Model of Europe v1.1			
Specifications		**Source data Specifications**	
	Switzerland, Turkey, United Kingdom		
Grid size	25 m	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	+/- 7 m RMSE	Vertical Accuracy	-
Completeness	complete		
File type, Format	Geotiff 32 bits		
File size	47.0 GB		
Download site	http://www.eea.europa.eu/data-and-maps/data/eu-dem#tab-european-data (European Environment Agency, Digital Elevation Model over Europe (EU-DEM), 2017)		
Comments	-		
Preview Source: EEA			

2.1.2 Digital Elevation Model of Europe v1.0 *(CN: t_1.2)*

This is the v1.1 of EU-DEM, based on data acquired in 2000.

(EU-DEM) Digital Elevation Model of Europe v1.0			
Specifications		**Source data Specifications**	
File Name	Digital Elevation Model of Europe v1.0	Sensor	(SRTM) Shuttle Radar Topography Mission (ASTER) Advanced Spaceborne Thermal Emission and Reflection Radiometer : VNIR, SWIR, TIR

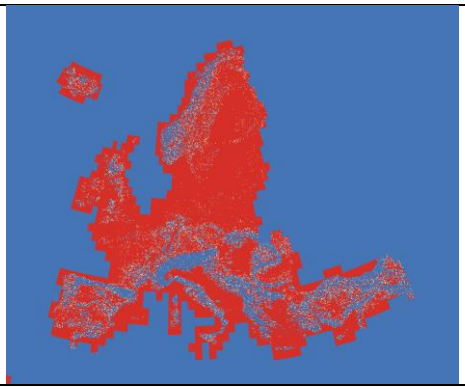
(EU-DEM) Digital Elevation Model of Europe v1.0			
Specifications		**Source data Specifications**	
Coordinate System	ETRS89 LAEA	Data type	•SRTM Non-Void Filled •SRTM Void Filled •SRTM 1 Arc-Second Global
Production Date	Apr 20, 2016	Sensor resolution	SRTM: 1-arc second ASTER: 15 to 90 m
Coverage (top L, BR coordinates)	Albania, Austria, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Kosovo, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Montenegro, Netherlands, North Macedonia, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, United Kingdom	Acquisition Date	2000
Grid size	25 m	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	TIFF image (.tif)		
File size	86.4 GB		
Download site	http://www.eea.europa.eu/data-and-maps/data/eu-dem#tab-european-data (European Environment Agency, Digital Elevation Model over Europe (EU-DEM), 2017)		
Comments	-		

(EU-DEM) Digital Elevation Model of Europe v1.0	
Specifications	**Source data Specifications**
Preview Source: EEA	

2.1.3 (EU-DEM) Slope *(CN: t_1.3)*

That subset is based on v1.0 of EU-DEM, based on data acquired in 2000.

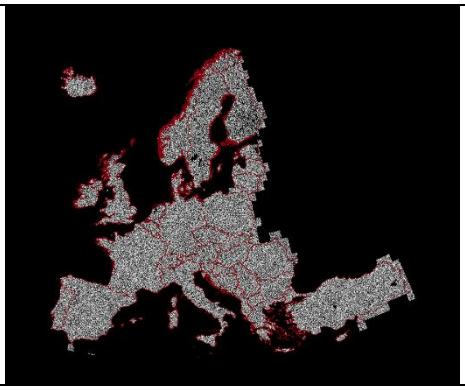
(EU-DEM) Slope			
Specifications		**Source data Specifications**	
File Name	Slope	Sensor	(SRTM) Shuttle Radar Topography Mission (ASTER) Advanced Spaceborne Thermal Emission and Reflection Radiometer : VNIR, SWIR, TIR
Coordinate System	ETRS89 LAEA	Data type	•SRTM Non-Void Filled •SRTM Void Filled •SRTM 1 Arc-Second Global
Production Date	Apr 20, 2016	Sensor resolution	SRTM: 1-arc second ASTER: 15 to 90 m
Coverage (top L, BR coordinates)	Albania, Austria, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Kosovo, Latvia, Liechtenstein, Lithuania,	Acquisition Date	2000

(EU-DEM) Slope			
Specifications		**Source data Specifications**	
	Luxembourg, Malta, Montenegro, Netherlands, North Macedonia, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, United Kingdom		
Grid size	25 m	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	TIFF image (.tif)		
File size	4.50 GB		
Download site	http://www.eea.europa.eu/data-and-maps/data/eu-dem#tab-european-data (European Environment Agency, Digital Elevation Model over Europe (EU-DEM), 2017)		
Comments	-		
Preview Source: EEA			

2.1.4 (EU-DEM) Aspect *(CN: t_1.4)*

That subset is based on v1.0 of EU-DEM, based on data acquired in 2000.

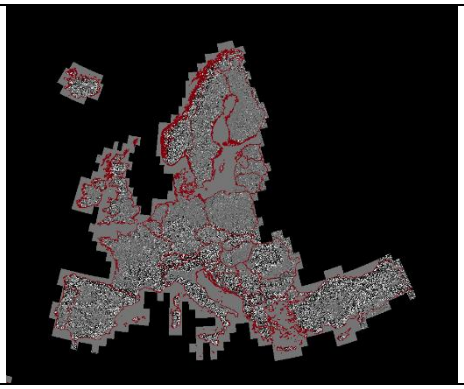
(EU-DEM) Aspect			
Specifications		**Source data Specifications**	
File Name	Aspect	Sensor	(SRTM) Shuttle Radar Topography Mission (ASTER) Advanced Spaceborne Thermal Emission and Reflection Radiometer: VNIR, SWIR, TIR
Coordinate System	ETRS89 LAEA	Data type	•SRTM Non-Void Filled •SRTM Void Filled •SRTM 1 Arc-Second Global
Production Date	Apr 20, 2016	Sensor resolution	SRTM: 1-arc second ASTER: 15 to 90 m
Coverage (top L, BR coordinates)	Albania, Austria, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Kosovo, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Montenegro, Netherlands, North Macedonia, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, United Kingdom	Acquisition Date	2000
Grid size	25 m	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	TIFF image (.tif)		

(EU-DEM) Aspect			
Specifications		**Source data Specifications**	
File size	17.0 GB		
Download site	http://www.eea.europa.eu/data-and-maps/data/eu-dem#tab-european-data (European Environment Agency, Digital Elevation Model over Europe (EU-DEM), 2017)		
Comments	-		
Preview Source: EEA			

2.1.5 (EU-DEM) Hillshade *(CN: t_1.5)*

That subset is based on v1.0 of EU-DEM, based on data acquired in 2000.

(EU-DEM) Hillshade			
Specifications		**Source data Specifications**	
File Name	Hillshade	Sensor	(SRTM) Shuttle Radar Topography Mission (ASTER) Advanced Spaceborne Thermal Emission and Reflection Radiometer : VNIR, SWIR, TIR
Coordinate System	ETRS89 LAEA	Data type	•SRTM Non-Void Filled •SRTM Void Filled •SRTM 1 Arc-Second Global
Production Date	Apr 20, 2016	Sensor resolution	SRTM: 1-arc second ASTER: 15 to 90 m
Coverage (top L, BR coordinates)	Albania, Austria, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czechia, Denmark,	Acquisition Date	2000

(EU-DEM) Hillshade			
Specifications		**Source data Specifications**	
	Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Kosovo, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Montenegro, Netherlands, North Macedonia, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, United Kingdom		
Grid size	25 m	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	TIFF image (.tif)		
File size	9.23 GB		
Download site	http://www.eea.europa.eu/data-and-maps/data/eu-dem#tab-european-data (European Environment Agency, Digital Elevation Model over Europe (EU-DEM), 2017)		
Comments	-		
Preview Source: EEA			

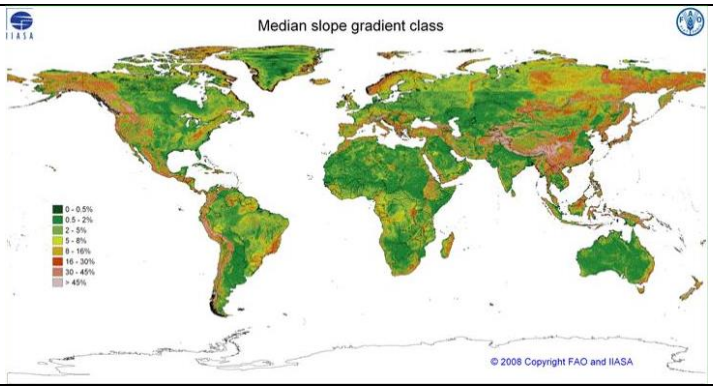
2.2 Terrain

This dataset is based in FAO's Harmonized World Soil Database which is a 30 arc-second raster database. The data include an elevation map describing the median elevation in each grid cell, eight slope maps, and five aspect maps describing distributions (i.e. pixel counts) of the respective slope or aspect classes calculated for 3 arc-sec data and accumulated to 30 arc-sec and 5 minutes latitude/longitude grid cells respectively. (Food And Agriculture Organization (FAO), Harmonized World Soil Database v 1.2, 2009)

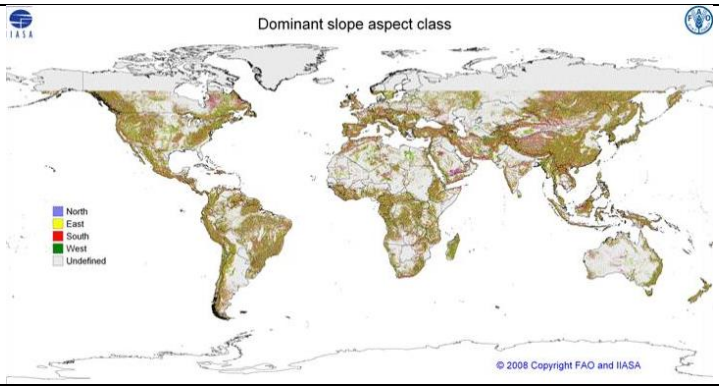
2.2.1 Elevation (CN: t_2.1)

(Terrain) Elevation			
Specifications		**Source data Specifications**	
File Name	Elevation	Sensor	(SRTM) Shuttle Radar Topography Mission
Coordinate System	WGS84	Data type	•SRTM Non-Void Filled •SRTM Void Filled •SRTM 1 Arc-Second Global
Production Date	-	Sensor resolution	1-arc second
Coverage (top L, BR coordinates)	60º N. and 56º S. latitude	Acquisition Date	2008
Grid size	30 arc seconds ≈ 10 km	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	ASCII files grid format		
File size	2.97 GB		
Download site	http://www.fao.org/soils-portal/soil-survey/soil-maps-and-databases/harmonized-world-soil-database-v12/en/ (Food And Agriculture Organization (FAO), Harmonized World Soil Database v 1.2, 2009)		
Comments	-		

2.2.2 Slopes (CN: t_2.2)

(Terrain) Slopes			
Specifications		**Source data Specifications**	
File Name	Slopes	Sensor	(SRTM) Shuttle Radar Topography Mission
Coordinate System	WGS84	Data type	•SRTM Non-Void Filled •SRTM Void Filled •SRTM 1 Arc-Second Global
Production Date	-	Sensor resolution	1-arc second
Coverage (top L, BR coordinates)	60º N. and 56º S. latitude	Acquisition Date	2008
Grid size	30 arc seconds ≈ 10 km	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	ASCII files grid format		
File size	2.97 GB		
Download site	http://www.fao.org/soils-portal/soil-survey/soil-maps-and-databases/harmonized-world-soil-database-v12/en/ (Food And Agriculture Organization (FAO), Harmonized World Soil Database v 1.2, 2009)		
Comments	-		
Preview Source: FAO			

2.2.3 Aspect (CN: t_2.3)

(Terrain) Aspect			
Specifications		**Source data Specifications**	
File Name	Aspect	Sensor	(SRTM) Shuttle Radar Topography Mission
Coordinate System	WGS84	Data type	•SRTM Non-Void Filled •SRTM Void Filled •SRTM 1 Arc-Second Global
Production Date	-	Sensor resolution	1-arc second
Coverage (top L, BR coordinates)	60º N. and 56º S. latitude	Acquisition Date	2008
Grid size	30 arc seconds ≈ 10 km	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	ASCII files grid format		
File size	2.97 GB		
Download site	http://www.fao.org/soils-portal/soil-survey/soil-maps-and-databases/harmonized-world-soil-database-v12/en/ (Food And Agriculture Organization (FAO), Harmonized World Soil Database v 1.2, 2009)		
Comments	-		
Preview Source: FAO			

3. SOIL – GEOLOGICAL DATASETS

Twenty-three datasets consisting of 147 subsets were collected in this category. Nineteen of these datasets has European Coverage and use the ETRS 89 LAEA projection system while 4 of them have Global Coverage and use the WGS84 projection.

3.1 European Soil Database Derived data

A number of layers for soil properties have been created based on data from the European Soil Database in combination with data from the Harmonized World Soil Database (HWSD) and Soil-Terrain Database (SOTER). The available layers include: Total available water content, Depth available to roots, Clay content, Silt content, Sand content, Organic carbon, Bulk Density, Coarse fragments. The layers of soil properties of Soil Typological Units (STUs) are only intended to facilitate modelling purposes. The final result of the modelling activity should be aggregated to SMUs or another larger mapping unit. The derived data have mainly the following features (compared to the past - European Soil Database):

- Represent a soil property from all STUs pertaining to an SMU in a single raster layer was made by mapping the STUs to geographic positions
- The attribute data are in part based on the STU table of the ESDB and other data sources: Harmonized World Soil Database (HWSD), Soil and Terrain Database (SOTER)
- The range of parameters is broadened by using Pedo-Transfer Rules (PTRs) to derive estimates of additional parameter (European Soil Data Centre (ESDAC), Derived data, 2013)

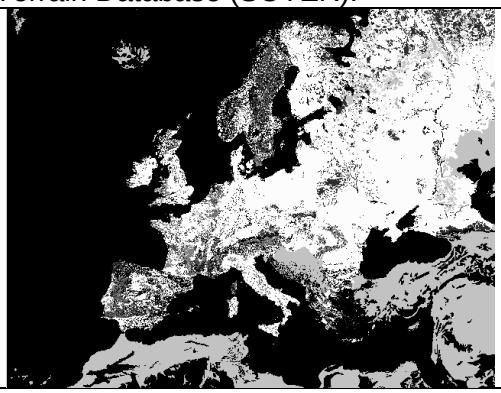
3.1.1 Area of STU allocation *(CN: sg_1.1)*

Area of STU allocation			
Specifications		**Source data Specifications**	
File Name	Area of STU allocation	Sensor	-
Coordinate System	ETRS89 LAEA	Data type	-
Production Date	2013	Sensor resolution	-
Coverage (top L, BR coordinates)	Europe	Acquisition Date	2013
Grid size	1 km	Grid size	-

Area of STU allocation			
Specifications		**Source data Specifications**	
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Idrisi raster format		
File size	25.8 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/european-soil-database-derived-data (European Soil Data Centre (ESDAC), Derived data, 2013)		
Comments	layer has been created based on: i. data from the European Soil Database ii. data from the Harmonized World Soil Database (HWSD) iii. Soil-Terrain Database (SOTER).		
Preview Source: ESDAC / JRC			

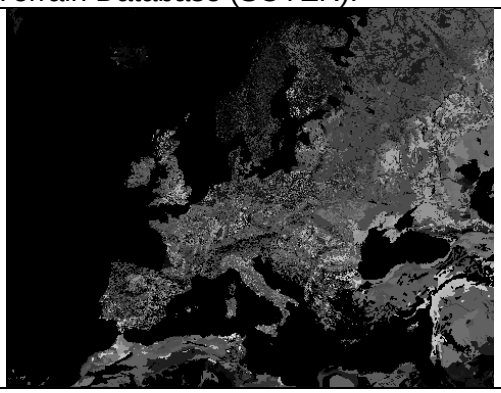
3.1.2 Depth available to roots *(CN: sg_1.2)*

Depth available to roots			
Specifications		**Source data Specifications**	
File Name	Depth available to roots	Sensor	-
Coordinate System	ETRS89 LAEA	Data type	-
Production Date	2013	Sensor resolution	-
Coverage (top L, BR coordinates)	Europe	Acquisition Date	2013
Grid size	1 km	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		

Depth available to roots			
Specifications		**Source data Specifications**	
File type, Format	Idrisi raster format		
File size	25.8 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/european-soil-database-derived-data (European Soil Data Centre (ESDAC), Derived data, 2013)		
Comments	layer has been created based on: i. data from the European Soil Database ii. data from the Harmonized World Soil Database (HWSD) iii. Soil-Terrain Database (SOTER).		
Preview Source: ESDAC / JRC			

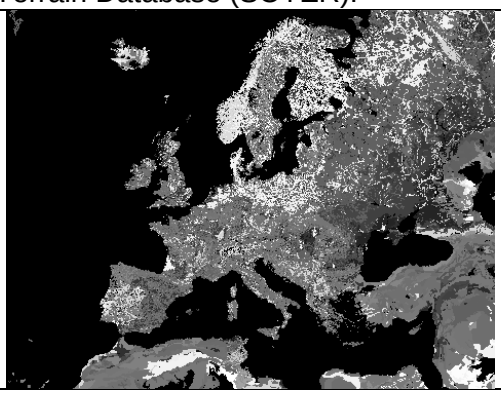
3.1.3 Clay content (topsoil & subsoil) *(CN: sg_1.3)*

Clay content (topsoil & subsoil)			
Specifications		**Source data Specifications**	
File Name	Clay content (topsoil & subsoil)	Sensor	-
Coordinate System	ETRS89 LAEA	Data type	-
Production Date	2013	Sensor resolution	-
Coverage (top L, BR coordinates)	Europe	Acquisition Date	2013
Grid size	1 km	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Idrisi raster format		
File size	207 MB		

Clay content (topsoil & subsoil)	
Specifications	**Source data Specifications**
Download site	https://esdac.jrc.ec.europa.eu/content/european-soil-database-derived-dat (European Soil Data Centre (ESDAC), Derived data, 2013)
Comments	layer has been created based on: i. data from the European Soil Database ii. data from the Harmonized World Soil Database (HWSD) iii. Soil-Terrain Database (SOTER).
Preview Source: ESDAC / JRC	

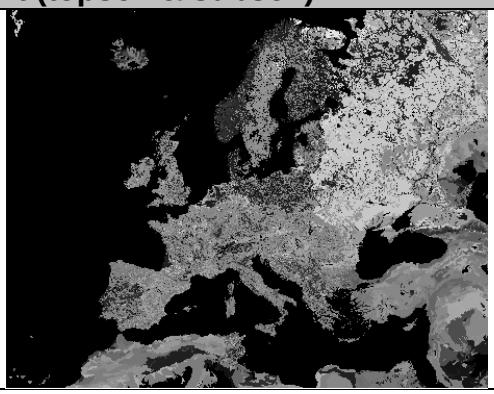
3.1.4 Sand content (topsoil & subsoil) *(CN: sg_1.4)*

Sand content (topsoil & subsoil)			
Specifications		**Source data Specifications**	
File Name	Sand content (topsoil & subsoil)	Sensor	-
Coordinate System	ETRS89 LAEA	Data type	-
Production Date	2013	Sensor resolution	-
Coverage (top L, BR coordinates)	Europe	Acquisition Date	2013
Grid size	1 km	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Idrisi raster format		
File size	207 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/european-soil-database-derived-data (European Soil Data Centre (ESDAC), Derived data, 2013)		

Sand content (topsoil & subsoil)			
Specifications		**Source data Specifications**	
Comments	layer has been created based on: i. data from the European Soil Database ii. data from the Harmonized World Soil Database (HWSD) iii. Soil-Terrain Database (SOTER).		
Preview Source: ESDAC / JRC			

3.1.5 Silt content (topsoil & subsoil) *(CN: sg_1.5)*

Silt content (topsoil & subsoil)			
Specifications		**Source data Specifications**	
File Name	Silt content (topsoil & subsoil)	Sensor	-
Coordinate System	ETRS89 LAEA	Data type	-
Production Date	2013	Sensor resolution	-
Coverage (top L, BR coordinates)	Europe	Acquisition Date	2013
Grid size	1 km	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Idrisi raster format		
File size	207 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/european-soil-database-derived-data (European Soil Data Centre (ESDAC), Derived data, 2013)		
Comments	layer has been created based on: i. data from the European Soil Database ii. data from the Harmonized World Soil Database (HWSD) iii. Soil-Terrain Database (SOTER).		

Silt content (topsoil & subsoil)	
Preview Source: ESDAC / JRC	

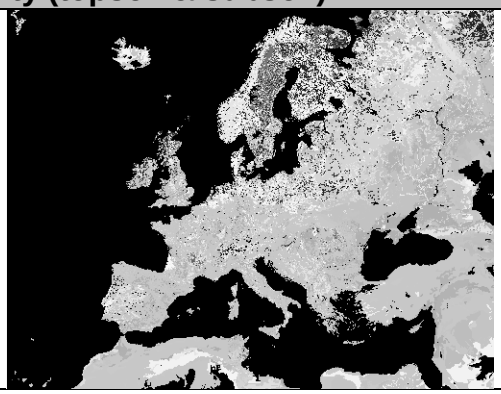
3.1.6 Organic carbon content (topsoil & subsoil) *(CN: sg_1.6)*

Organic carbon content (topsoil & subsoil)			
Specifications		**Source data Specifications**	
File Name	Organic carbon content (topsoil & subsoil)	Sensor	-
Coordinate System	ETRS89 LAEA	Data type	-
Production Date	2013	Sensor resolution	-
Coverage (top L, BR coordinates)	Europe	Acquisition Date	2013
Grid size	1 km	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Idrisi raster format		
File size	207 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/european-soil-database-derived-data (European Soil Data Centre (ESDAC), Derived data, 2013)		
Comments	layer has been created based on: i. data from the European Soil Database ii. data from the Harmonized World Soil Database (HWSD) iii. Soil-Terrain Database (SOTER).		

Organic carbon content (topsoil & subsoil)	
Preview Source: ESDAC / JRC	

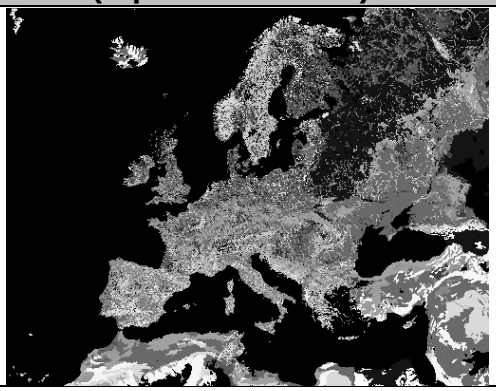
3.1.7 Bulk density (topsoil & subsoil) *(CN: sg_1.7)*

Bulk density (topsoil & subsoil)			
Specifications		**Source data Specifications**	
File Name	Bulk density (topsoil & subsoil)	Sensor	-
Coordinate System	ETRS89 LAEA	Data type	-
Production Date	2013	Sensor resolution	-
Coverage (top L, BR coordinates)	Europe	Acquisition Date	2013
Grid size	1 km	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Idrisi raster format		
File size	207 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/european-soil-database-derived-data (European Soil Data Centre (ESDAC), Derived data, 2013)		
Comments	layer has been created based on: i. data from the European Soil Database ii. data from the Harmonized World Soil Database (HWSD) iii. Soil-Terrain Database (SOTER).		

Bulk density (topsoil & subsoil)	
Preview Source: ESDAC / JRC	

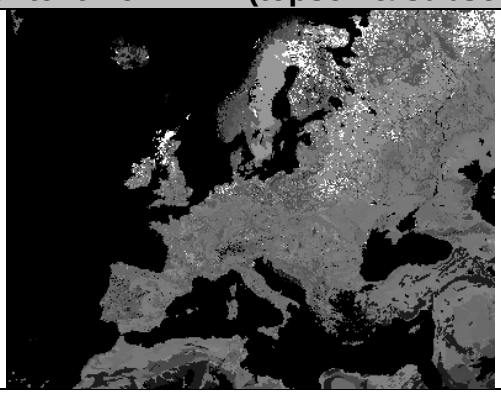
3.1.8 Coarse Fragments (topsoil & subsoil) *(CN: sg_1.8)*

Coarse Fragments (topsoil & subsoil)			
Specifications		**Source data Specifications**	
File Name	Coarse Fragments (topsoil & subsoil)	Sensor	-
Coordinate System	ETRS89 LAEA	Data type	-
Production Date	2013	Sensor resolution	-
Coverage (top L, BR coordinates)	Europe	Acquisition Date	2013
Grid size	1 km	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Idrisi raster format		
File size	51.7 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/european-soil-database-derived-data (European Soil Data Centre (ESDAC), Derived data, 2013)		
Comments	layer has been created based on: i. data from the European Soil Database ii. data from the Harmonized World Soil Database (HWSD) iii. Soil-Terrain Database (SOTER).		

Coarse Fragments (topsoil & subsoil)	
Preview Source: ESDAC / JRC	

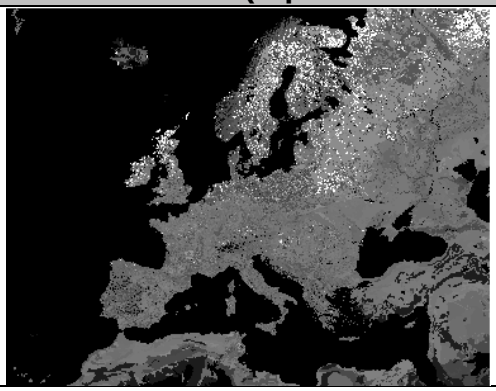
3.1.9 Total available water content from PTR (topsoil & subsoil) *(CN: sg_1.9)*

Total available water content from PTR (topsoil & subsoil)			
Specifications		**Source data Specifications**	
File Name	Total available water content from PTR (topsoil & subsoil)	Sensor	-
Coordinate System	ETRS89 LAEA	Data type	-
Production Date	2013	Sensor resolution	-
Coverage (top L, BR coordinates)	Europe	Acquisition Date	2013
Grid size	1 km	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Idrisi raster format		
File size	207 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/european-soil-database-derived-data (European Soil Data Centre (ESDAC), Derived data, 2013)		
Comments	layer has been created based on: i. data from the European Soil Database ii. data from the Harmonized World Soil Database (HWSD) iii. Soil-Terrain Database (SOTER).		

Total available water content from PTR (topsoil & subsoil)	
Preview Source: ESDAC / JRC	

3.1.10 Total available water content from PTF (topsoil & subsoil) *(CN: sg_1.10)*

Total available water content from PTF (topsoil & subsoil)			
Specifications		**Source data Specifications**	
File Name	Total available water content from PTF (topsoil & subsoil)	Sensor	-
Coordinate System	ETRS89 LAEA	Data type	-
Production Date	2013	Sensor resolution	-
Coverage (top L, BR coordinates)	Europe	Acquisition Date	2013
Grid size	1 km	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Idrisi raster format		
File size	207 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/european-soil-database-derived-data (European Soil Data Centre (ESDAC), Derived data, 2013)		
Comments	layer has been created based on: i. data from the European Soil Database ii. data from the Harmonized World Soil Database (HWSD) iii. Soil-Terrain Database (SOTER).		

Total available water content from PTF (topsoil & subsoil)	
Preview Source: ESDAC / JRC	

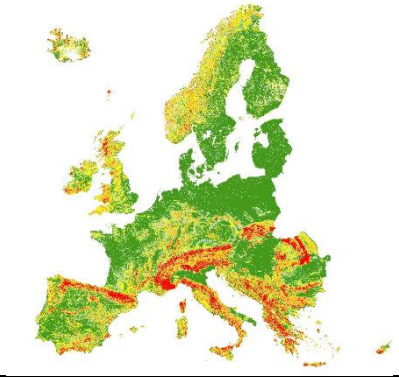
3.2 European Landslide Susceptibility Map version 2 (ELSUS v2)

ELSUS v2 shows levels of spatial probability of generic landslide occurrence at continental scale. It covers all the European Union member states except Malta, and several neighbouring countries. The map has been produced by regionalizing the study area based on elevation and climatic conditions, followed by spatial multi-criteria evaluation modelling using pan-European slope angle, shallow sub-surface lithology, and land cover spatial datasets as the main landslide conditioning factors. In addition, the location of over 149,000 landslides across Europe, provided by various national organizations or collected by the authors, has been used for model calibration and map validation. Additional information is given in both the metadata and the references below.

Compared with the previous version ELSUS1000 v1, ELSUS v2 provides larger geographical coverage, higher spatial resolution and higher prediction model performance. (European Soil Data Centre (ESDAC), European Landslide Susceptibility Map version 2 (ELSUS v2), 2018)

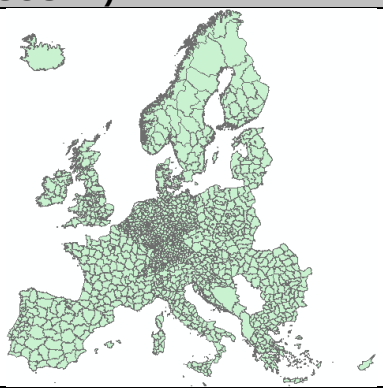
3.2.1 European Landslide Susceptibility Map version 2 (ELSUS v2) *(CN: sg_2.1)*

The landslide susceptibility map is available to download together with ancillary maps including confidence level of the classified landslide susceptibility, climate-physiographic regions, slope angle, lithology, and land cover. ELSUS v2 is to be viewed at scales up to 1:200,000 and should not be used to deduce local information on landslide susceptibility.

European Landslide Susceptibility Map version 2 (ELSUS v2)			
Specifications		**Source data Specifications**	
File Name	European Landslide Susceptibility Map version 2 (ELSUS v2)	Sensor	-
Coordinate System	ETRS89 LAEA	Data type	-
Production Date	12 February 2018	Sensor resolution	-
Coverage (top L, BR coordinates)	All European Union member states except Malta, in addition to Albania, Andorra, Bosnia and Herzegovina, Croatia, FYR Macedonia, Iceland, Kosovo, Liechtenstein, Montenegro, Norway, San Marino, Serbia, and Switzerland	Acquisition Date	2018
Grid size	200 m	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Esri ASCII Grid		
File size	747 MB		
Download site	http://esdac.jrc.ec.europa.eu/content/european-landslide-susceptibility-map-elsus1000-v1 (European Soil Data Centre (ESDAC), European Landslide Susceptibility Map version 2 (ELSUS v2), 2018)		
Comments	Derived from heuristic-statistical modelling of main landslide conditioning factors using also landslide location data.		
Preview Source: ESDAC / JRC			

3.2.2 Confidence Level Map of the European Landslide Susceptibility Map (ELSUS v2) *(CN: sg_2.2)*

Confidence Level Map of the European Landslide Susceptibility Map (ELSUS v2)			
Specifications		**Source data Specifications**	
File Name	Confidence Level Map of the European Landslide Susceptibility Map (ELSUS v2)	Sensor	-
Coordinate System	ETRS89 LAEA	Data type	-
Production Date	12 February 2018	Sensor resolution	-
Coverage (top L, BR coordinates)	All or most of Albania, Austria, Bulgaria, Czech Republic, Cyprus, France, Greece, Hungary, Ireland, Italy, Norway, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, and UK, and part of Belgium, Denmark, and Germany	Acquisition Date	2018
Grid size	-	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Esri Shapefile		
File size	6.46 MB		
Download site	http://esdac.jrc.ec.europa.eu/content/european-landslide-susceptibility-map-elsus1000-v1 (European Soil Data Centre (ESDAC), European Landslide Susceptibility Map version 2 (ELSUS v2), 2018)		
Comments	-		

Confidence Level Map of the European Landslide Susceptibility Map (ELSUS v2)	
Preview Source: ESDAC / JRC	

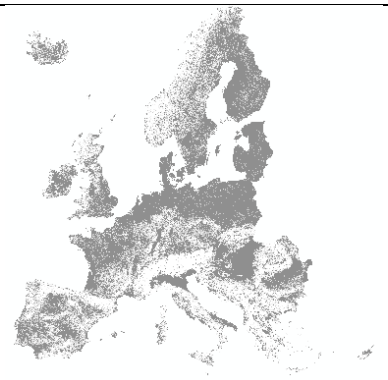
3.2.3 Climate-Physiographic Regions *(CN: sg_2.3)*

Climate-Physiographic Regions			
Specifications		**Source data Specifications**	
File Name	Climate-Physiographic Regions	Sensor	-
Coordinate System	ETRS89 LAEA	Data type	-
Production Date	12 February 2018	Sensor resolution	-
Coverage (top L, BR coordinates)	All 28 European Union member states, in addition to Albania, Andorra, Bosnia and Herzegovina, Croatia, FYR Macedonia, Iceland, Kosovo, Liechtenstein, Montenegro, Norway, San Marino, Serbia, and Switzerland	Acquisition Date	2018
Grid size	-	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Esri Shapefile		
File size	23.2 MB		
Download site	http://esdac.jrc.ec.europa.eu/content/european-landslide-susceptibility-map-elsus1000-v1 (European Soil Data Centre (ESDAC), European Landslide Susceptibility Map version 2 (ELSUS v2), 2018)		

Climate-Physiographic Regions	
Comments	Derived from intersection of Köppen climate zones with NORDREGIO mountain classification deduced from GTOPO30 information.
Preview Source: ESDAC / JRC	

3.2.4 Slope Angle *(CN: sg_2.4)*

Slope Angle			
Specifications		**Source data Specifications**	
File Name	Slope Angle	Sensor	-
Coordinate System	ETRS89 LAEA	Data type	-
Production Date	12 February 2018	Sensor resolution	-
Coverage (top L, BR coordinates)	All 28 European Union member states, in addition to Albania, Andorra, Bosnia and Herzegovina, Croatia, FYR Macedonia, Iceland, Kosovo, Liechtenstein, Montenegro, Norway, San Marino, Serbia, and Switzerland	Acquisition Date	2018
Grid size	200 m	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	GeoTIFF		
File size	374 MB		
Download site	http://esdac.jrc.ec.europa.eu/content/european-landslide-susceptibility-map-elsus1000-v1 (European Soil Data Centre		

Slope Angle	
	(ESDAC), European Landslide Susceptibility Map version 2 (ELSUS v2), 2018)
Comments	Derived mainly from BGR's EU 27 DEM data, resampled to 200 m resolution.
Preview Source: ESDAC / JRC	

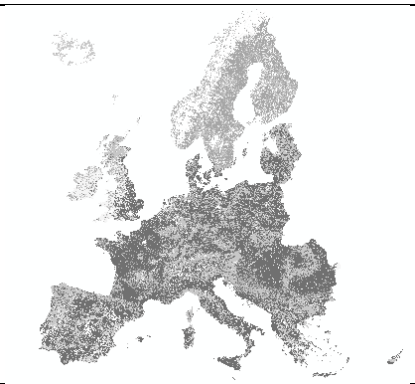
3.2.5 Lithology (CN: sg_2.5)

Lithology			
Specifications		**Source data Specifications**	
File Name	Lithology	Sensor	-
Coordinate System	ETRS89 LAEA	Data type	-
Production Date	12 February 2018	Sensor resolution	-
Coverage (top L, BR coordinates)	All 28 European Union member states, in addition to Albania, Andorra, Bosnia and Herzegovina, Croatia, FYR Macedonia, Iceland, Kosovo, Liechtenstein, Montenegro, Norway, San Marino, Serbia, and Switzerland	Acquisition Date	2018
Grid size	200 m	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	GeoTIFF		
File size	374 MB		

Lithology	
Download site	http://esdac.jrc.ec.europa.eu/content/european-landslide-susceptibility-map-elsus1000-v1 (European Soil Data Centre (ESDAC), European Landslide Susceptibility Map version 2 (ELSUS v2), 2018)
Comments	Derived from BGR's IHME1500 data, rasterized to 200 m resolution.
Preview Source: ESDAC / JRC	

3.2.6 Land Cover (CN: sg_2.6)

Land Cover			
Specifications		**Source data Specifications**	
File Name	Land Cover	Sensor	
Coordinate System	ETRS89 LAEA	Data type	
Production Date	12 February 2018	Sensor resolution	
Coverage (top L, BR coordinates)	All 28 European Union member states, in addition to Albania, Andorra, Bosnia and Herzegovina, Croatia, FYR Macedonia, Iceland, Kosovo, Liechtenstein, Montenegro, Norway, San Marino, Serbia, and Switzerland	Acquisition Date	2018
Grid size	200 m	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	GeoTIFF		

Land Cover			
File size	374 MB		
Download site	http://esdac.jrc.ec.europa.eu/content/european-landslide-susceptibility-map-elsus1000-v1 (European Soil Data Centre (ESDAC), European Landslide Susceptibility Map version 2 (ELSUS v2), 2018)		
Comments	derived from ESA GlobCover2009 data (http://due.esrin.esa.int/page_globcover.php) resampled to 200 m resolution.		
Preview Source: ESDAC / JRC			

3.3 European map of soil suitability to provide a platform for most human activities (EU28) *(CN: sg_3)*

This dataset (map) presents the suitability of soil as a platform for most human activities.

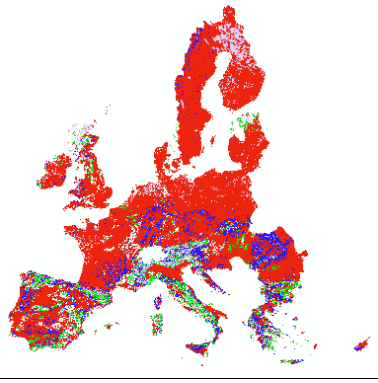
Human activities on the earth's surface are linked to the various types of land uses. Most of the human activities are performed on artificial surfaces, such as urban and industrial areas or in areas of commercial, transport or sport facilities. Therefore the evaluation of the partial soil quality index for the soil function to provide a platform for most human activities are considered with respect to the suitability for these artificial surfaces. Other main areas of human land use, such as agriculture and forestry are considered in other domains of the evaluation framework. The term artificial surfaces means built environment, where the soils function is to support the construction. Although advanced construction technologies can achieve development on all kind of soils possible, the costs may rise dramatically on less suitable lands and can also cause environmental problems (contamination, flooding, etc.).

Suitability of a given soil is calculated on the basis of its structural stability. The strength of the soil is considered in terms of resistance against compaction and shearing stress. The basic standpoint for the evaluation of soil strength is: the more stable the soil

structure is, the higher its supporting ability for construction and other human activities. Most guidelines for construction purposes apply a kinematic approach for the suitability evaluation of soils of construction sites (Turner and Schuster 1996). Assessments also take the slope and underlying hydrological parameters into account.

Although soil susceptibility to compaction can be regarded as a good proxy of structural stability, from the viewpoint of construction suitability, mineral soils mostly show little differences. (European Soil Data Centre (ESDAC), European map of soil suitability to provide a platform for most human activities (EU28), 2016)

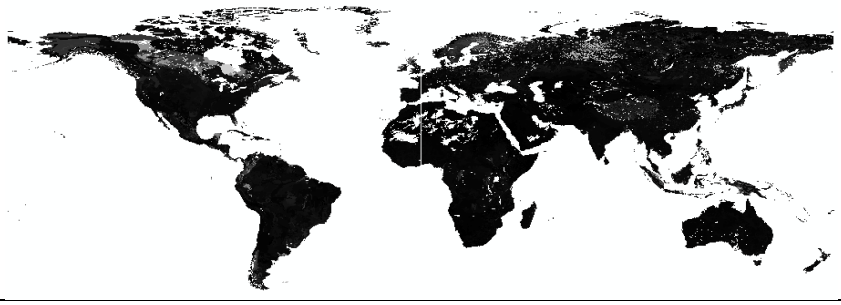
European map of soil suitability to provide a platform for most human activities (EU28)			
Specifications		**Source data Specifications**	
File Name	European map of soil suitability to provide a platform for most human activities (EU28)	Sensor	-
Coordinate System	ETRS89 LAEA	Data type	-
Production Date	2015	Sensor resolution	-
Coverage (top L, BR coordinates)	EU28	Acquisition Date	-
Grid size	1 km	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	TIFF image (.tif)		
File size	39.7 MB		
Download site	http://eusoils.jrc.ec.europa.eu/content/european-map-soil-suitability-provide-platform-most-human-activities-eu28 (European Soil Data Centre (ESDAC), European map of soil suitability to provide a platform for most human activities (EU28), 2016)		
Comments	The data have been internally produced by JRC (Joint Research Centre)		

European map of soil suitability to provide a platform for most human activities (EU28)	
Preview Source: ESDAC / JRC	

3.4 Global Soil Organic Carbon Estimates *(CN: sg_4)*

Global estimates of soil organic carbon stocks have been produced in the past to support the calculation of potential emissions of CO2 from the soil under scenarios of change land use/cover and climatic conditions (IPCC, 2006), but very few global estimates are presented as spatial data. For global spatial layers on soil parameters, the most recent and complete dataset is available as the Harmonized World Soil Database (HWSD). The HWSD represents a step forward towards a spatially more detailed and thematically more refined set of global soil data. (European Soil Data Centre (ESDAC), Global Soil Organic Carbon Estimates, 2012)

Global Soil Organic Carbon Estimates			
Specifications		**Source data Specifications**	
File Name	Global Soil Organic Carbon Estimates	Sensor	-
Coordinate System	ETRS89 LAEA	Data type	-
Production Date	March 2012	Sensor resolution	-
Coverage (top L, BR coordinates)	Global	Acquisition Date	-
Grid size	30 arc seconds ≈ 1 km	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Idrisi		
File size	6.95 GB		

Global Soil Organic Carbon Estimates	
Download site	http://esdac.jrc.ec.europa.eu/content/global-soil-organic-carbon-estimates (European Soil Data Centre (ESDAC), Global Soil Organic Carbon Estimates, 2012)
Comments	The data has been created based on the amended Harmonised World Soil Database.
Preview Source: ESDAC / JRC	

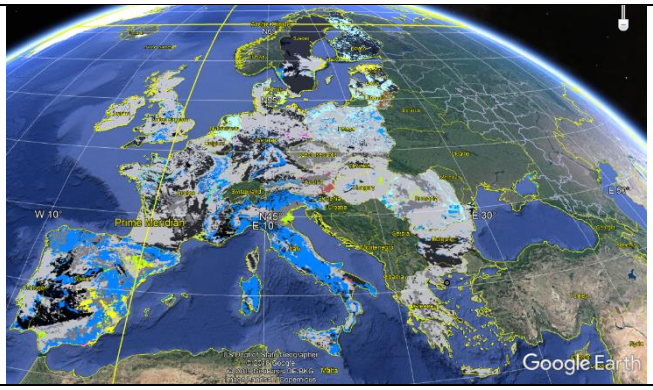
3.5 Google Earth Files

At this chapter Google Earth Files (with ".kmz" extension) that correspond to 73 attribute maps derived from the European Soil Database v2 (ESDB v2) for EU27 countries are presented. The nature of each dataset is clarified by its name. (European Soil Data Centre (ESDAC), Google Earth Files, 2008)

Limitation to Agricultural use

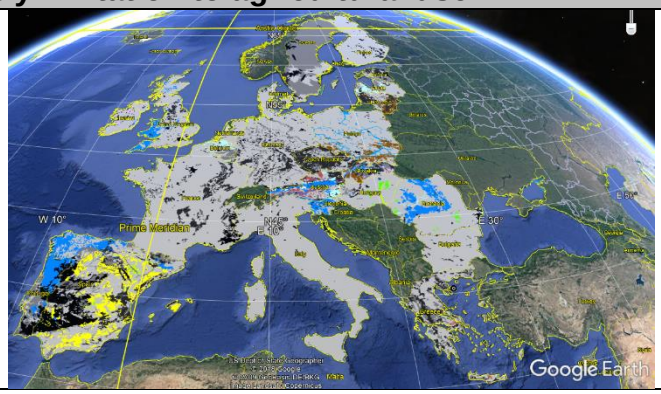
3.5.1 Most important limitation to agricultural use *(CN: sg_5.1)*

Most important limitation to agricultural use			
Specifications		**Source data Specifications**	
File Name	Most important limitation to agricultural use	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	2008	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27	Acquisition Date	-
Grid size	-	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Google Earth Files (with ".kmz" extension)		

Most important limitation to agricultural use			
File size	20 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/google-earth-files (European Soil Data Centre (ESDAC), Google Earth Files, 2008)		
Comments	Derived from the European Soil Database v2 (ESDB v2)		
Preview Source: ESDAC / JRC			

3.5.2 Secondary limitation to agricultural use *(CN: sg_5.2)*

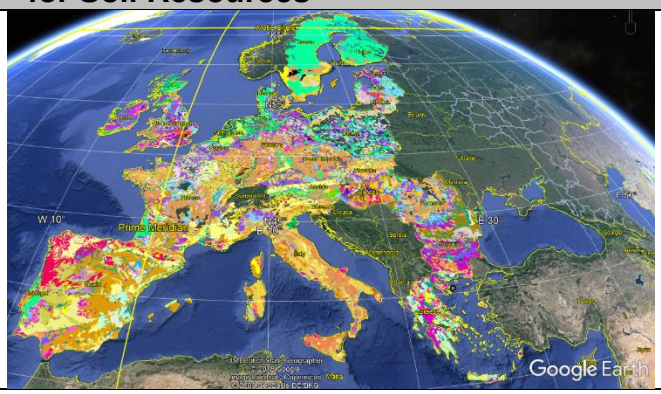
Secondary limitation to agricultural use			
Specifications		**Source data Specifications**	
File Name	Secondary limitation to agricultural use	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	2008	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27	Acquisition Date	-
Grid size	-	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Google Earth Files (with ".kmz" extension)		
File size	20 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/google-earth-files (European Soil Data Centre (ESDAC), Google Earth Files, 2008)		
Comments	Derived from the European Soil Database v2 (ESDB v2)		

Secondary limitation to agricultural use	
Preview Source: ESDAC / JRC	

Soil Classification WRB

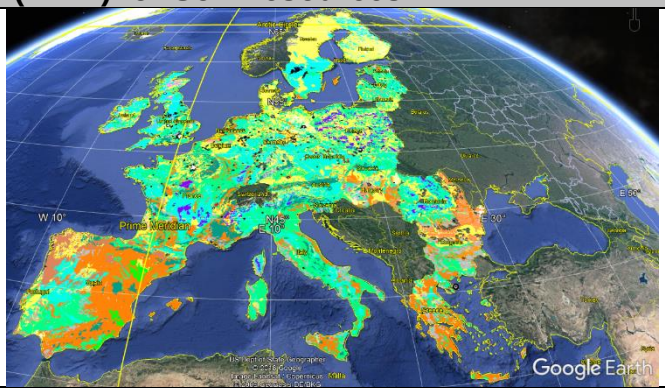
3.5.3 WRB-FULL. Full soil code of the STU from the World Reference Base (WRB) for Soil Resources *(CN: sg_5.3)*

WRB-FULL. Full soil code of the STU from the World Reference Base (WRB) for Soil Resources			
Specifications		**Source data Specifications**	
File Name	WRB-FULL. Full soil code of the STU from the World Reference Base (WRB) for Soil Resources	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	2008	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27	Acquisition Date	-
Grid size	-	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Google Earth Files (with ".kmz" extension)		
File size	20 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/google-earth-files (European Soil Data Centre (ESDAC), Google Earth Files, 2008)		
Comments	Derived from the European Soil Database v2 (ESDB v2)		

WRB-FULL. Full soil code of the STU from the World Reference Base (WRB) for Soil Resources	
Preview Source: ESDAC / JRC	

3.5.4 WRB-ADJ1. First soil adjective code of the STU from the World Reference Base (WRB) for Soil Resources. *(CN: sg_5.4)*

WRB-ADJ1. First soil adjective code of the STU from the World Reference Base (WRB) for Soil Resources.			
Specifications		**Source data Specifications**	
File Name	WRB-ADJ1. First soil adjective code of the STU from the World Reference Base (WRB) for Soil Resources.	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	2008	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27	Acquisition Date	-
Grid size	-	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Google Earth Files (with ".kmz" extension)		
File size	20 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/google-earth-files (European Soil Data Centre (ESDAC), Google Earth Files, 2008)		
Comments	Derived from the European Soil Database v2 (ESDB v2)		

WRB-ADJ1. First soil adjective code of the STU from the World Reference Base (WRB) for Soil Resources.	
Preview Source: ESDAC / JRC	

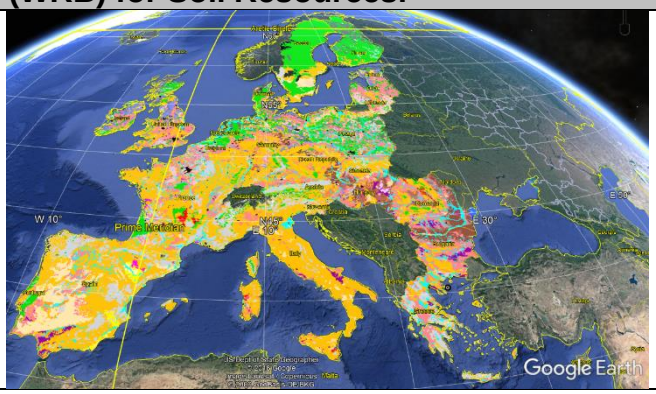
3.5.5 WRB-ADJ2. Second soil adjective code of the STU from the World Reference Base (WRB) for Soil Resources. *(CN: sg_5.5)*

WRB-ADJ2. Second soil adjective code of the STU from the World Reference Base (WRB) for Soil Resources.			
Specifications		**Source data Specifications**	
File Name	WRB-ADJ2. Second soil adjective code of the STU from the World Reference Base (WRB) for Soil Resources.	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	2008	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27	Acquisition Date	-
Grid size	-	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Google Earth Files (with ".kmz" extension)		
File size	20 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/google-earth-files (European Soil Data Centre (ESDAC), Google Earth Files, 2008)		
Comments	Derived from the European Soil Database v2 (ESDB v2)		

WRB-ADJ2. Second soil adjective code of the STU from the World Reference Base (WRB) for Soil Resources.	
Preview Source: ESDAC / JRC	

3.5.6 WRB-LEV1. Soil reference group code of the STU from the World Reference Base (WRB) for Soil Resources. *(CN: sg_5.6)*

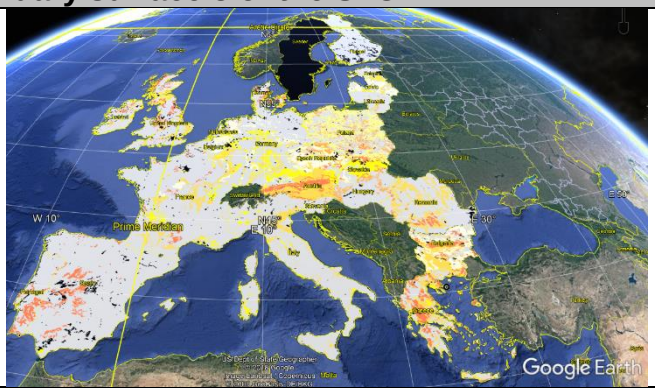
WRB-LEV1. Soil reference group code of the STU from the World Reference Base (WRB) for Soil Resources.			
Specifications		**Source data Specifications**	
File Name	WRB-LEV1. Soil reference group code of the STU from the World Reference Base (WRB) for Soil Resources.	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	2008	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27	Acquisition Date	-
Grid size	-	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Google Earth Files (with ".kmz" extension)		
File size	20 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/google-earth-files (European Soil Data Centre (ESDAC), Google Earth Files, 2008)		
Comments	Derived from the European Soil Database v2 (ESDB v2)		

WRB-LEV1. Soil reference group code of the STU from the World Reference Base (WRB) for Soil Resources.	
Preview Source: ESDAC / JRC	

Texture

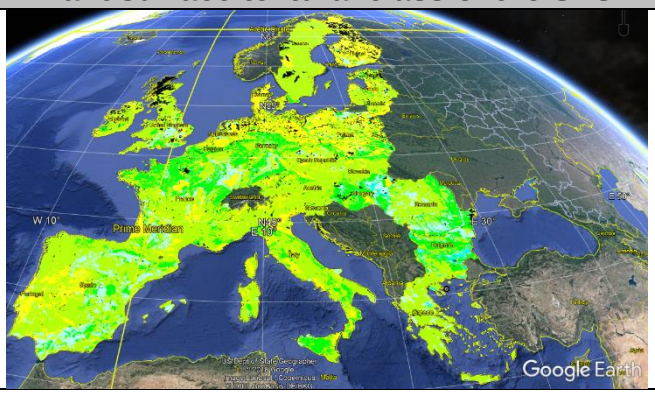
3.5.7 TEXT-DEP-CHG. Depth class to a textural change of the dominant and/or secondary surface 3 of the STU. *(CN: sg_5.7)*

TEXT-DEP-CHG. Depth class to a textural change of the dominant and/or secondary surface 3 of the STU.			
Specifications		**Source data Specifications**	
File Name	TEXT-DEP-CHG. Depth class to a textural change of the dominant and/or secondary surface 3 of the STU.	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	2008	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27	Acquisition Date	-
Grid size	-	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Google Earth Files (with ".kmz" extension)		
File size	20 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/google-earth-files (European Soil Data Centre (ESDAC), Google Earth Files, 2008)		
Comments	Derived from the European Soil Database v2 (ESDB v2)		

TEXT-DEP-CHG. Depth class to a textural change of the dominant and/or secondary surface 3 of the STU.	
Preview Source: ESDAC / JRC	

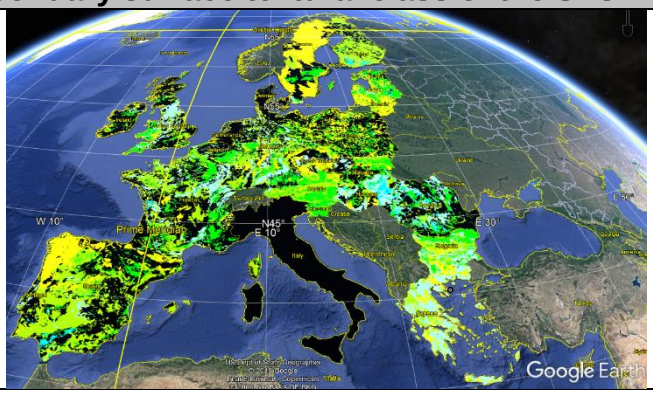
3.5.8 TEXT-SRF-DOM. Dominant surface textural class of the STU. *(CN: sg_5.8)*

TEXT-SRF-DOM. Dominant surface textural class of the STU.			
Specifications		**Source data Specifications**	
File Name	TEXT-SRF-DOM. Dominant surface textural class of the STU.	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	2008	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27	Acquisition Date	-
Grid size	-	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Google Earth Files (with ".kmz" extension)		
File size	20 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/google-earth-files (European Soil Data Centre (ESDAC), Google Earth Files, 2008)		
Comments	Derived from the European Soil Database v2 (ESDB v2)		

TEXT-SRF-DOM. Dominant surface textural class of the STU.	
Preview Source: ESDAC / JRC	

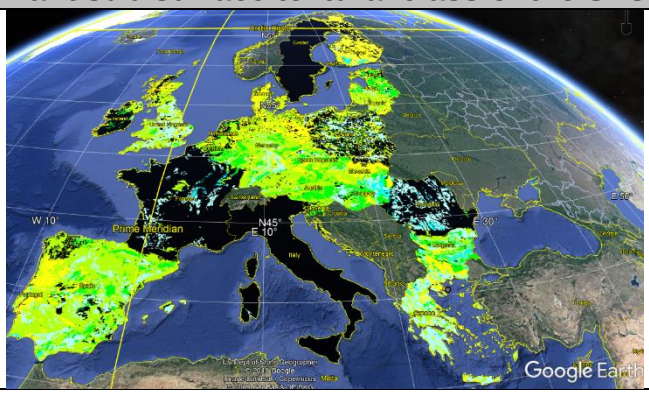
3.5.9 TEXT-SRF-SEC. Secondary surface textural class of the STU. *(CN: sg_5.9)*

TEXT-SRF-SEC. Secondary surface textural class of the STU.			
Specifications		**Source data Specifications**	
File Name	TEXT-SRF-SEC. Secondary surface textural class of the STU.	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	2008	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27	Acquisition Date	-
Grid size	-	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Google Earth Files (with ".kmz" extension)		
File size	20 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/google-earth-files (European Soil Data Centre (ESDAC), Google Earth Files, 2008)		
Comments	Derived from the European Soil Database v2 (ESDB v2)		

TEXT-SRF-SEC. Secondary surface textural class of the STU.	
Preview Source: ESDAC / JRC	

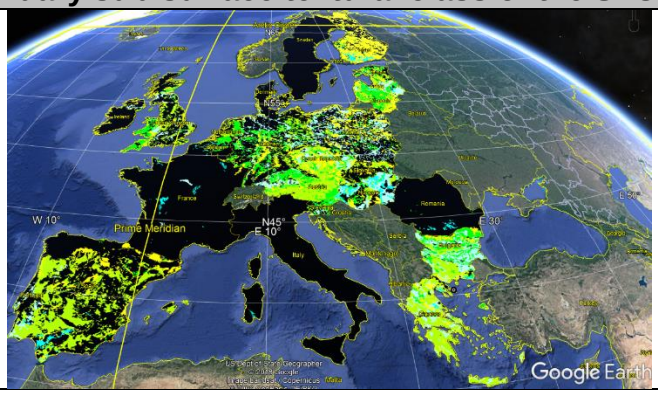
3.5.10 TEXT-SUB-DOM. Dominant sub-surface textural class of the STU. *(CN: sg_5.10)*

TEXT-SUB-DOM. Dominant sub-surface textural class of the STU.			
Specifications		**Source data Specifications**	
File Name	TEXT-SUB-DOM. Dominant sub-surface textural class of the STU.	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	2008	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27	Acquisition Date	-
Grid size	-	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Google Earth Files (with ".kmz" extension)		
File size	20 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/google-earth-files (European Soil Data Centre (ESDAC), Google Earth Files, 2008)		
Comments	Derived from the European Soil Database v2 (ESDB v2)		

TEXT-SUB-DOM. Dominant sub-surface textural class of the STU.	
Preview Source: ESDAC / JRC	

3.5.11 TEXT-SUB-SEC. Secondary sub-surface textural class of the STU. *(sg_5.11)*

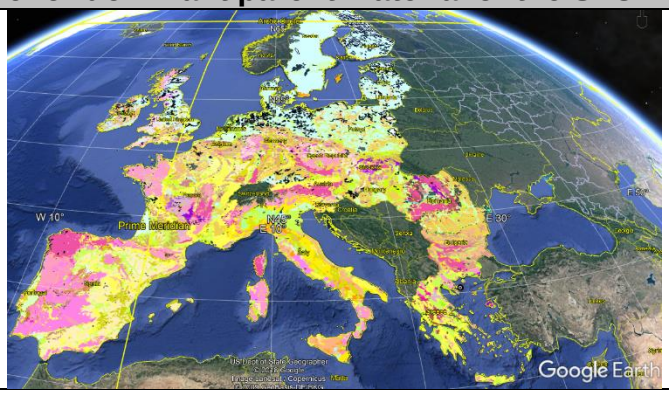
TEXT-SUB-SEC. Secondary sub-surface textural class of the STU.			
Specifications		**Source data Specifications**	
File Name	TEXT-SUB-SEC. Secondary sub-surface textural class of the STU.	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	2008	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27	Acquisition Date	-
Grid size	-	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Google Earth Files (with ".kmz" extension)		
File size	20 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/google-earth-files (European Soil Data Centre (ESDAC), Google Earth Files, 2008)		
Comments	Derived from the European Soil Database v2 (ESDB v2)		

TEXT-SUB-SEC. Secondary sub-surface textural class of the STU.	
Preview Source: ESDAC / JRC	

Parent Material

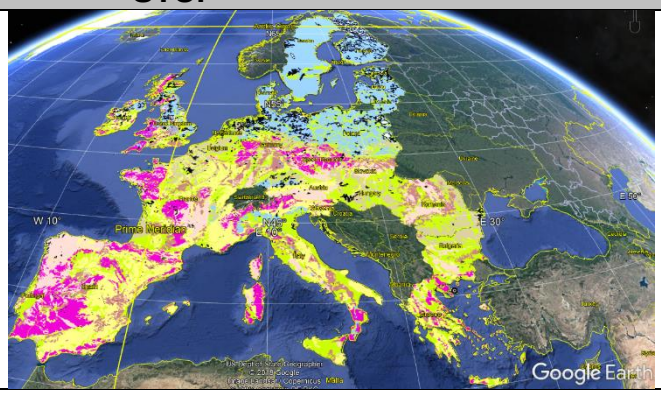
3.5.12 PAR-MAT-DOM. code for dominant parent material of the STU. *(CN: sg_5.12)*

PAR-MAT-DOM. code for dominant parent material of the STU.			
Specifications		**Source data Specifications**	
File Name	PAR-MAT-DOM. code for dominant parent material of the STU.	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	2008	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27	Acquisition Date	-
Grid size	-	Grid size	
Positional Accuracy	-	Positional Accuracy	
Vertical Accuracy	-	Vertical Accuracy	
Completeness	complete		
File type, Format	Google Earth Files (with ".kmz" extension)		
File size	20 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/google-earth-files (European Soil Data Centre (ESDAC), Google Earth Files, 2008)		
Comments	Derived from the European Soil Database v2 (ESDB v2)		

PAR-MAT-DOM. code for dominant parent material of the STU.	
Preview Source: ESDAC / JRC	

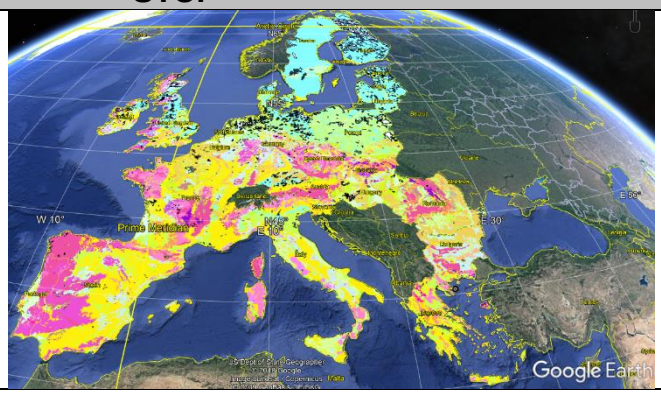
3.5.13 PAR-MAT-DOM1. Major group code for the dominant parent material of the STU. *(CN: sg_5.13)*

PAR-MAT-DOM1. Major group code for the dominant parent material of the STU.			
Specifications		**Source data Specifications**	
File Name	PAR-MAT-DOM1. Major group code for the dominant parent material of the STU.	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	2008	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27	Acquisition Date	-
Grid size	-	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Google Earth Files (with ".kmz" extension)		
File size	20 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/google-earth-files (European Soil Data Centre (ESDAC), Google Earth Files, 2008)		
Comments	Derived from the European Soil Database v2 (ESDB v2)		

PAR-MAT-DOM1. Major group code for the dominant parent material of the STU.	
Preview Source: ESDAC / JRC	

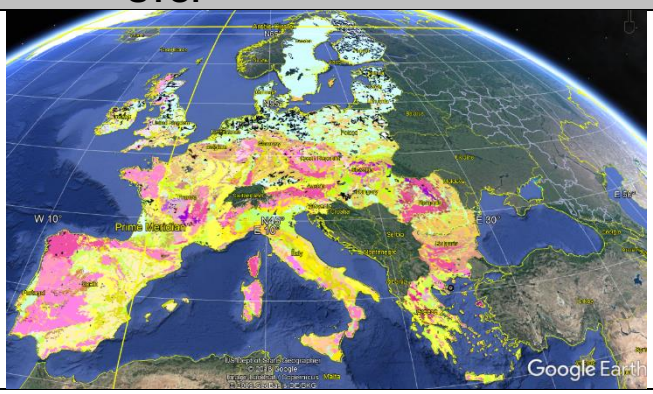
3.5.14 PAR-MAT-DOM2. Second level code for the dominant parent material of the STU. *(CN: sg_5.14)*

PAR-MAT-DOM2. Second level code for the dominant parent material of the STU.			
Specifications		**Source data Specifications**	
File Name	PAR-MAT-DOM2. Second level code for the dominant parent material of the STU.	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	2008	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27	Acquisition Date	-
Grid size	-	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Google Earth Files (with ".kmz" extension)		
File size	20 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/google-earth-files (European Soil Data Centre (ESDAC), Google Earth Files, 2008)		
Comments	Derived from the European Soil Database v2 (ESDB v2)		

PAR-MAT-DOM2. Second level code for the dominant parent material of the STU.	
Preview Source: ESDAC / JRC	

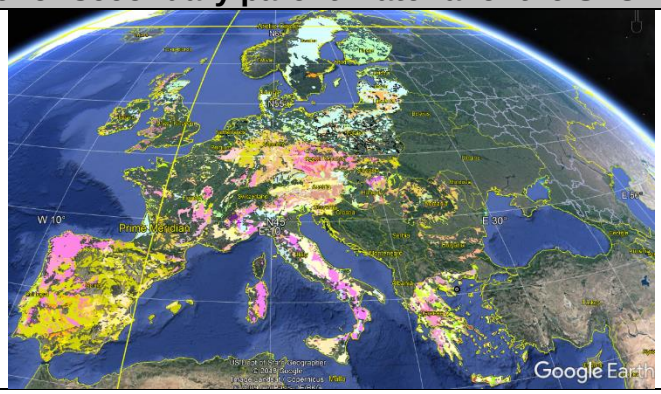
3.5.15 PAR-MAT-DOM3. Third level code for the dominant parent material of the STU. *(CN: sg_5.15)*

PAR-MAT-DOM3. Third level code for the dominant parent material of the STU.			
Specifications		**Source data Specifications**	
File Name	PAR-MAT-DOM2. Second level code for the dominant parent material of the STU.	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	2008	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27	Acquisition Date	-
Grid size	-	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Google Earth Files (with ".kmz" extension)		
File size	20 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/google-earth-files (European Soil Data Centre (ESDAC), Google Earth Files, 2008)		
Comments	Derived from the European Soil Database v2 (ESDB v2)		

PAR-MAT-DOM3. Third level code for the dominant parent material of the STU.	
Preview Source: ESDAC / JRC	

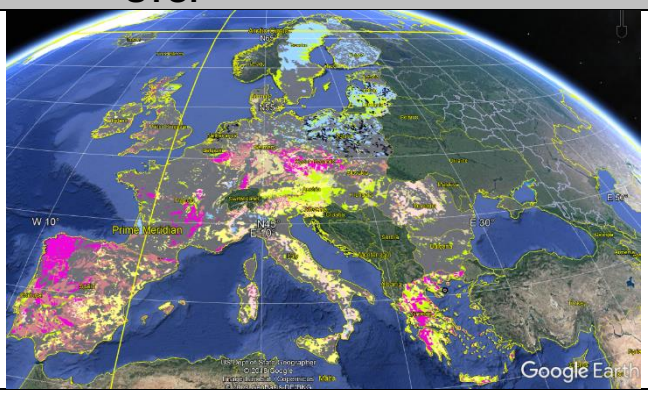
3.5.16 PAR-MAT-SEC. Code for secondary parent material of the STU. *(CN: sg_5.16)*

PAR-MAT-SEC. Code for secondary parent material of the STU.			
Specifications		**Source data Specifications**	
File Name	PAR-MAT-SEC. Code for secondary parent material of the STU.	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	2008	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27	Acquisition Date	-
Grid size	-	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Google Earth Files (with ".kmz" extension)		
File size	20 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/google-earth-files (European Soil Data Centre (ESDAC), Google Earth Files, 2008)		
Comments	Derived from the European Soil Database v2 (ESDB v2)		

PAR-MAT-SEC. Code for secondary parent material of the STU.	
Preview Source: ESDAC / JRC	

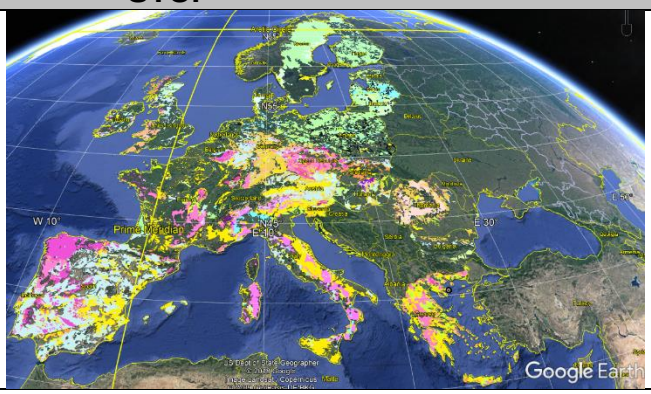
3.5.17 PAR-MAT-SEC1. Major group code for the secondary parent material of the STU. *(CN: sg_5.17)*

PAR-MAT-SEC1. Major group code for the secondary parent material of the STU.			
Specifications		**Source data Specifications**	
File Name	PAR-MAT-SEC1. Major group code for the secondary parent material of the STU.	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	2008	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27	Acquisition Date	-
Grid size	-	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Google Earth Files (with ".kmz" extension)		
File size	20 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/google-earth-files (European Soil Data Centre (ESDAC), Google Earth Files, 2008)		
Comments	Derived from the European Soil Database v2 (ESDB v2)		

PAR-MAT-SEC1. Major group code for the secondary parent material of the STU.	
Preview Source: ESDAC / JRC	

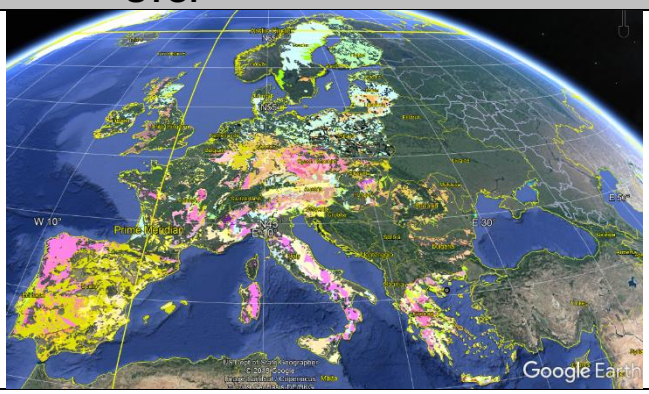
3.5.18 PAR-MAT-SEC2. Second level code for the secondary parent material of the STU. *(CN: sg_5.18)*

PAR-MAT-SEC2. Second level code for the secondary parent material of the STU.			
Specifications		**Source data Specifications**	
File Name	R-MAT-SEC2. Second level code for the secondary parent material of the STU.	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	2008	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27	Acquisition Date	-
Grid size	-	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Google Earth Files (with ".kmz" extension)		
File size	20 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/google-earth-files (European Soil Data Centre (ESDAC), Google Earth Files, 2008)		
Comments	Derived from the European Soil Database v2 (ESDB v2)		

PAR-MAT-SEC2. Second level code for the secondary parent material of the STU.	
Preview Source: ESDAC / JRC	

3.5.19 PAR-MAT-SEC3. Third level code for the secondary parent material of the STU. *(CN: sg_5.19)*

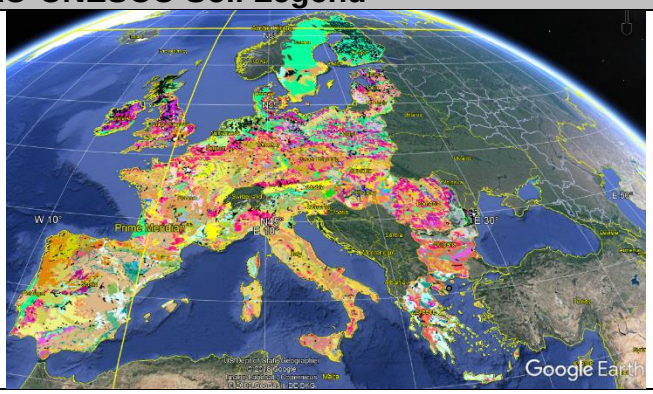
PAR-MAT-SEC3. Third level code for the secondary parent material of the STU.			
Specifications		**Source data Specifications**	
File Name	PAR-MAT-SEC3. Third level code for the secondary parent material of the STU.	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	2008	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27	Acquisition Date	-
Grid size	-	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	
Completeness	complete		
File type, Format	Google Earth Files (with ".kmz" extension)		
File size	20 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/google-earth-files (European Soil Data Centre (ESDAC), Google Earth Files, 2008)		
Comments	Derived from the European Soil Database v2 (ESDB v2)		

PAR-MAT-SEC3. Third level code for the secondary parent material of the STU.	
Preview Source: ESDAC / JRC	

Soil Classification FAO

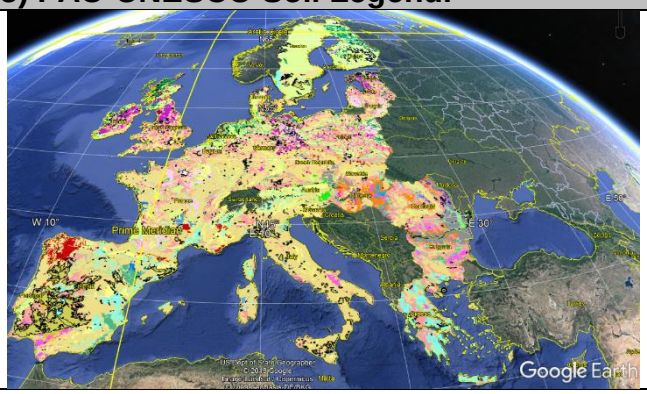
3.5.20 FAO85-FULL. Full soil code of the STU from the 1974 (modified CEC 1985) FAO-UNESCO Soil Legend *(CN: sg_5.20)*

FAO85-FULL. Full soil code of the STU from the 1974 (modified CEC 1985) FAO-UNESCO Soil Legend			
Specifications		**Source data Specifications**	
File Name	FAO85-FULL. Full soil code of the STU from the 1974 (modified CEC 1985) FAO-UNESCO Soil Legend	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	2008	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27	Acquisition Date	-
Grid size	-	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Google Earth Files (with ".kmz" extension)		
File size	20 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/google-earth-files (European Soil Data Centre (ESDAC), Google Earth Files, 2008)		
Comments	Derived from the European Soil Database v2 (ESDB v2)		

FAO85-FULL. Full soil code of the STU from the 1974 (modified CEC 1985) FAO-UNESCO Soil Legend	
Preview Source: ESDAC / JRC	

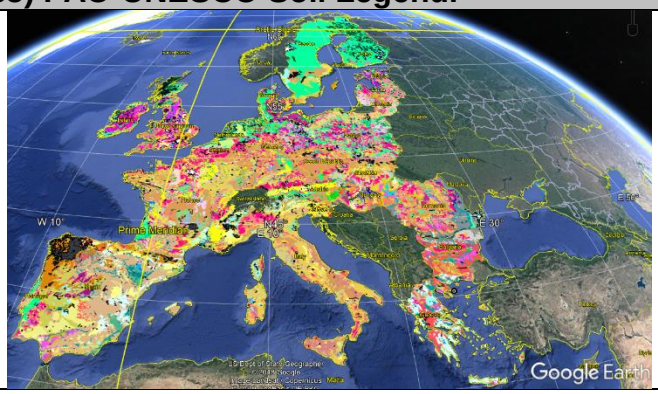
3.5.21 FAO85-LEV1. Soil major group code of the STU from the 1974 (modified CEC 1985) FAO-UNESCO Soil Legend. *(CN: sg_5.21)*

FAO85-LEV1. Soil major group code of the STU from the 1974 (modified CEC 1985) FAO-UNESCO Soil Legend.			
Specifications		**Source data Specifications**	
File Name	FAO85-LEV1. Soil major group code of the STU from the 1974 (modified CEC 1985) FAO-UNESCO Soil Legend.	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	2008	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27	Acquisition Date	-
Grid size	-	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Google Earth Files (with ".kmz" extension)		
File size	20 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/google-earth-files (European Soil Data Centre (ESDAC), Google Earth Files, 2008)		
Comments	Derived from the European Soil Database v2 (ESDB v2)		

FAO85-LEV1. Soil major group code of the STU from the 1974 (modified CEC 1985) FAO-UNESCO Soil Legend.	
Preview Source: ESDAC / JRC	

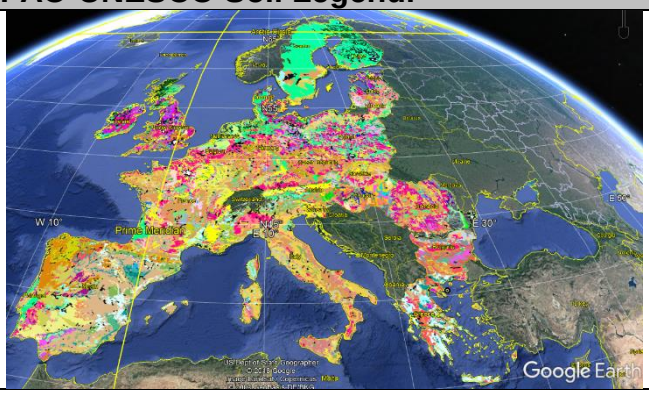
3.5.22 FAO85-LEV2. Second level soil code of the STU from the 1974 (modified CEC 1985) FAO-UNESCO Soil Legend. *(CN: sg_5.22)*

FAO85-LEV2. Second level soil code of the STU from the 1974 (modified CEC 1985) FAO-UNESCO Soil Legend.			
Specifications		**Source data Specifications**	
File Name	FAO85-LEV2. Second level soil code of the STU from the 1974 (modified CEC 1985) FAO-UNESCO Soil Legend.	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	2008	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27	Acquisition Date	-
Grid size	-	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Google Earth Files (with ".kmz" extension)		
File size	20 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/google-earth-files (European Soil Data Centre (ESDAC), Google Earth Files, 2008)		
Comments	Derived from the European Soil Database v2 (ESDB v2)		

FAO85-LEV2. Second level soil code of the STU from the 1974 (modified CEC 1985) FAO-UNESCO Soil Legend.	
Preview Source: ESDAC / JRC	

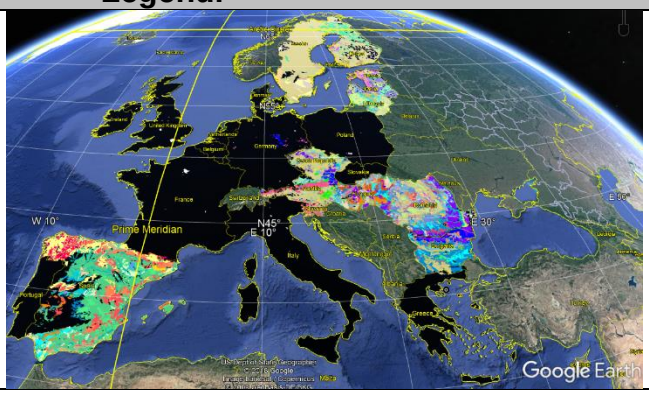
3.5.23 FAO85-LEV3. Third level soil code of the STU from the 1974 (modified CEC 1985) FAO-UNESCO Soil Legend. *(CN: sg_5.23)*

FAO85-LEV3. Third level soil code of the STU from the 1974 (modified CEC 1985) FAO-UNESCO Soil Legend.			
Specifications		**Source data Specifications**	
File Name	FAO85-LEV3. Third level soil code of the STU from the 1974 (modified CEC 1985) FAO-UNESCO Soil Legend.	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	2008	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27	Acquisition Date	-
Grid size	-	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Google Earth Files (with ".kmz" extension)		
File size	20 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/google-earth-files (European Soil Data Centre (ESDAC), Google Earth Files, 2008)		
Comments	Derived from the European Soil Database v2 (ESDB v2)		

FAO85-LEV3. Third level soil code of the STU from the 1974 (modified CEC 1985) FAO-UNESCO Soil Legend.	
Preview Source: ESDAC / JRC	

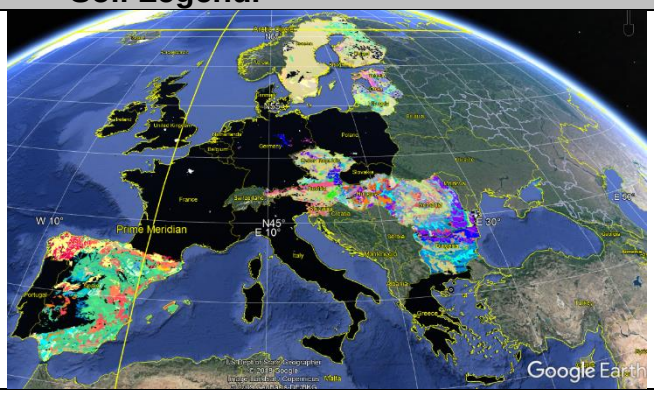
3.5.24 FAO90-FULL. Full soil code of the STU from the 1990 FAO-UNESCO Soil Legend. *(CN: sg_5.24)*

FAO90-FULL. Full soil code of the STU from the 1990 FAO-UNESCO Soil Legend.			
Specifications		**Source data Specifications**	
File Name	FAO90-FULL. Full soil code of the STU from the 1990 FAO-UNESCO Soil Legend.	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	2008	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27	Acquisition Date	-
Grid size	-	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Google Earth Files (with ".kmz" extension)		
File size	20 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/google-earth-files (European Soil Data Centre (ESDAC), Google Earth Files, 2008)		
Comments	Derived from the European Soil Database v2 (ESDB v2)		

FAO90-FULL. Full soil code of the STU from the 1990 FAO-UNESCO Soil Legend.	
Preview Source: ESDAC / JRC	

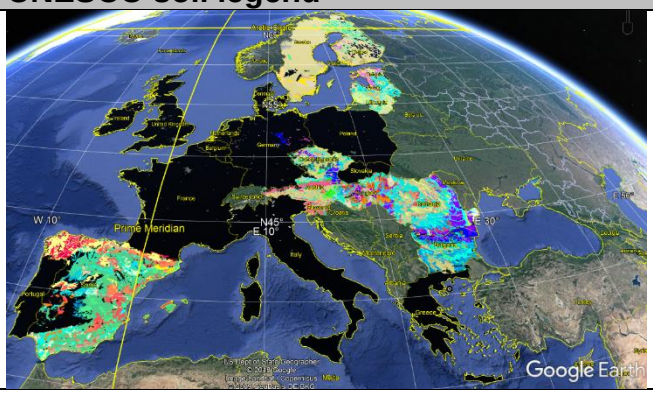
3.5.25 FAO90-LEV1. Soil major group code of the STU from the 1990 FAO-UNESCO Soil Legend. *(CN: sg_5.25)*

FAO90-LEV1. Soil major group code of the STU from the 1990 FAO-UNESCO Soil Legend.			
Specifications		**Source data Specifications**	
File Name	FAO90-LEV1. Soil major group code of the STU from the 1990 FAO-UNESCO Soil Legend.	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	2008	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27	Acquisition Date	-
Grid size	-	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Google Earth Files (with ".kmz" extension)		
File size	20 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/google-earth-files (European Soil Data Centre (ESDAC), Google Earth Files, 2008)		
Comments	Derived from the European Soil Database v2 (ESDB v2)		

FAO90-LEV1. Soil major group code of the STU from the 1990 FAO-UNESCO Soil Legend.	
Preview Source: ESDAC / JRC	

3.5.26 FAO90-LEV2. Second level soil code of the STU from the 1990 FAO-UNESCO soil legend *(CN: sg_5.26)*

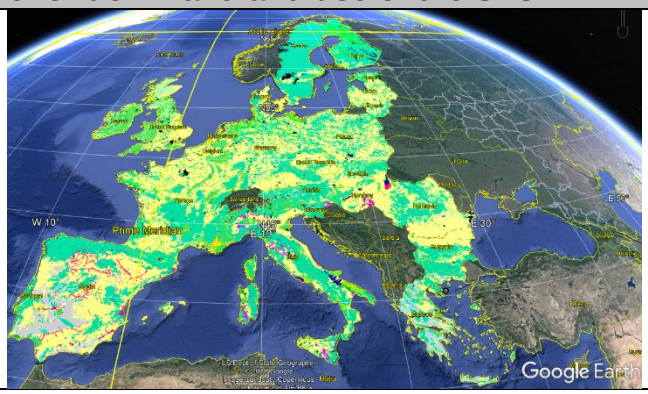
FAO90-LEV2. Second level soil code of the STU from the 1990 FAO-UNESCO soil legend			
Specifications		**Source data Specifications**	
File Name	FAO90-LEV2. Second level soil code of the STU from the 1990 FAO-UNESCO soil legend	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	2008	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27	Acquisition Date	-
Grid size	-	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Google Earth Files (with ".kmz" extension)		
File size	20 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/google-earth-files (European Soil Data Centre (ESDAC), Google Earth Files, 2008)		
Comments	Derived from the European Soil Database v2 (ESDB v2)		

FAO90-LEV2. Second level soil code of the STU from the 1990 FAO-UNESCO soil legend	
Preview Source: ESDAC / JRC	

Land Use

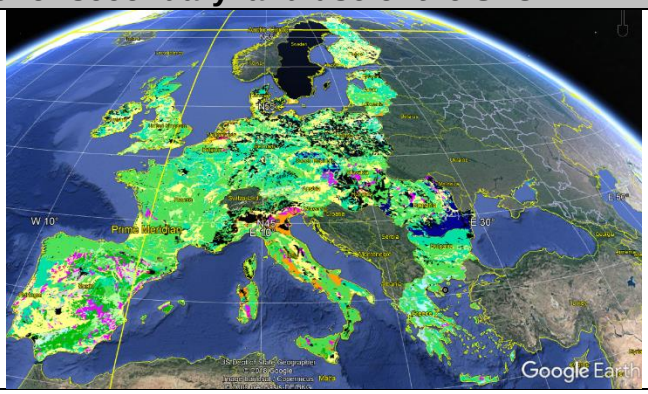
3.5.27 USE-DOM. Code for dominant land use of the STU. *(CN: sg_5.37)*

USE-DOM. Code for dominant land use of the STU.			
Specifications		**Source data Specifications**	
File Name	USE-DOM. Code for dominant land use of the STU.	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	2008	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27	Acquisition Date	-
Grid size	-	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Google Earth Files (with ".kmz" extension)		
File size	20 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/google-earth-files (European Soil Data Centre (ESDAC), Google Earth Files, 2008)		
Comments	Derived from the European Soil Database v2 (ESDB v2)		

USE-DOM. Code for dominant land use of the STU.	
Preview Source: ESDAC / JRC	

3.5.28 USE-SEC.Code for secondary land use of the STU. *(CN: sg_5.28)*

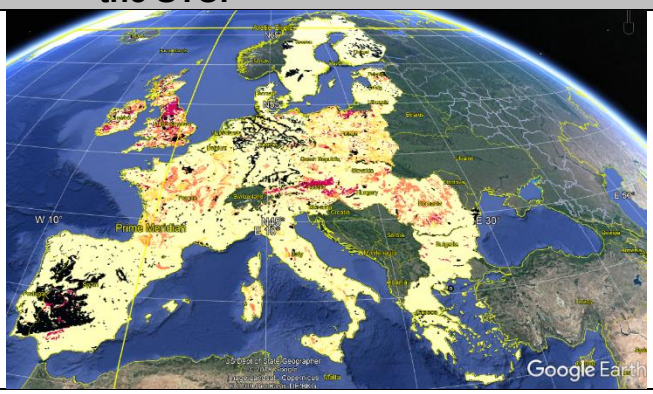
USE-SEC.Code for secondary land use of the STU.			
Specifications		**Source data Specifications**	
File Name	USE-SEC.Code for secondary land use of the STU.	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	2008	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27	Acquisition Date	-
Grid size	-	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Google Earth Files (with ".kmz" extension)		
File size	20 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/google-earth-files (European Soil Data Centre (ESDAC), Google Earth Files, 2008)		
Comments	Derived from the European Soil Database v2 (ESDB v2)		

USE-SEC.Code for secondary land use of the STU.	
Preview Source: ESDAC / JRC	

Obstacle-Impermeable-Soil Water Regime

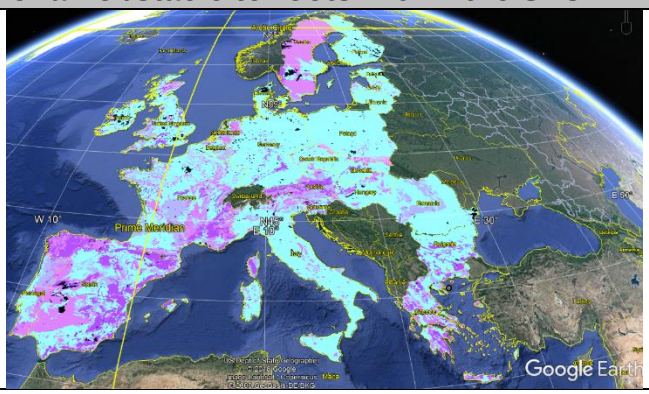
3.5.29 IL. Code for the presence of an impermeable layer within the soil profile of the STU. *(CN: sg_5.29)*

IL. Code for the presence of an impermeable layer within the soil profile of the STU.			
Specifications		**Source data Specifications**	
File Name	IL. Code for the presence of an impermeable layer within the soil profile of the STU.	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	2008	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27	Acquisition Date	-
Grid size	-	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Google Earth Files (with ".kmz" extension)		
File size	20 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/google-earth-files (European Soil Data Centre (ESDAC), Google Earth Files, 2008)		
Comments	Derived from the European Soil Database v2 (ESDB v2)		

IL. Code for the presence of an impermeable layer within the soil profile of the STU.	
Preview Source: ESDAC / JRC	

3.5.30 ROO. Depth class of an obstacle to roots within the STU. *(CN: sg_5.30)*

ROO. Depth class of an obstacle to roots within the STU.			
Specifications		**Source data Specifications**	
File Name	ROO. Depth class of an obstacle to roots within the STU.	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	2008	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27	Acquisition Date	-
Grid size	-	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Google Earth Files (with ".kmz" extension)		
File size	20 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/google-earth-files (European Soil Data Centre (ESDAC), Google Earth Files, 2008)		
Comments	Derived from the European Soil Database v2 (ESDB v2)		

ROO. Depth class of an obstacle to roots within the STU.	
Preview Source: ESDAC / JRC	

3.5.31 WR. Dominant annual average soil water regime class of the soil profile of the STU. *(CN: sg_5.31)*

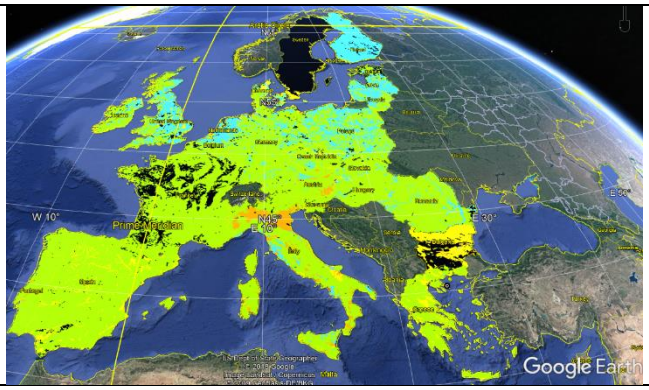
WR. Dominant annual average soil water regime class of the soil profile of the STU.			
Specifications		**Source data Specifications**	
File Name	WR. Dominant annual average soil water regime class of the soil profile of the STU.	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	2008	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27	Acquisition Date	-
Grid size	-	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Google Earth Files (with ".kmz" extension)		
File size	20 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/google-earth-files (European Soil Data Centre (ESDAC), Google Earth Files, 2008)		
Comments	Derived from the European Soil Database v2 (ESDB v2)		

WR. Dominant annual average soil water regime class of the soil profile of the STU.	
Preview Source: ESDAC / JRC	

Water Management System

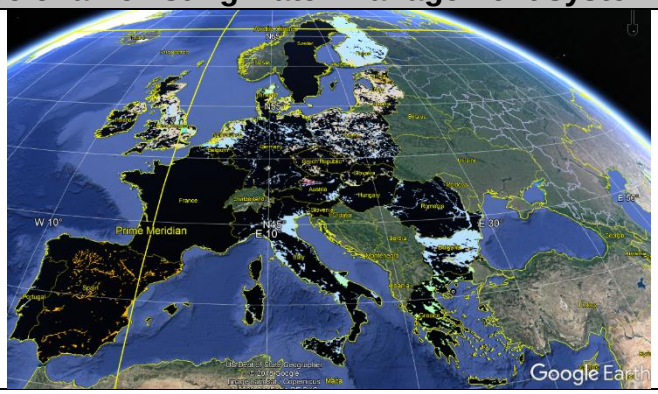
3.5.32 WM1. Code for normal presence and purpose of an existing water management system in agricultural land on more than 50% of the STU. *(CN: sg_5.32)*

WM1. Code for normal presence and purpose of an existing water management system in agricultural land on more than 50% of the STU.			
Specifications		**Source data Specifications**	
File Name	WM1. Code for normal presence and purpose of an existing water management system in agricultural land on more than 50% of the STU.	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	2008	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27	Acquisition Date	-
Grid size	-	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Google Earth Files (with ".kmz" extension)		
File size	20 MB		

WM1. Code for normal presence and purpose of an existing water management system in agricultural land on more than 50% of the STU.	
Download site	https://esdac.jrc.ec.europa.eu/content/google-earth-files (European Soil Data Centre (ESDAC), Google Earth Files, 2008)
Comments	Derived from the European Soil Database v2 (ESDB v2)
Preview Source: ESDAC / JRC	

3.5.33 WM2. Code for the type of an existing water management system. *(CN: sg_5.33)*

WM2. Code for the type of an existing water management system.			
Specifications		**Source data Specifications**	
File Name	WM2. Code for the type of an existing water management system.	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	2008	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27	Acquisition Date	-
Grid size	-	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Google Earth Files (with ".kmz" extension)		
File size	20 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/google-earth-files (European Soil Data Centre (ESDAC), Google Earth Files, 2008)		
Comments	Derived from the European Soil Database v2 (ESDB v2)		

WM2. Code for the type of an existing water management system.	
Preview Source: ESDAC / JRC	

Altitude - Slope

3.5.34 SLOPE-DOM. Dominant slope class of the STU. *(CN: sg_5.34)*

SLOPE-DOM. Dominant slope class of the STU.			
Specifications		**Source data Specifications**	
File Name	SLOPE-DOM. Dominant slope class of the STU.	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	2008	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27	Acquisition Date	2008
Grid size	-	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Google Earth Files (with ".kmz" extension)		
File size	20 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/google-earth-files (European Soil Data Centre (ESDAC), Google Earth Files, 2008)		
Comments	Derived from the European Soil Database v2 (ESDB v2)		

SLOPE-DOM. Dominant slope class of the STU.	
Preview Source: ESDAC / JRC	

3.5.35 SLOPE-SEC. Secondary slope class of the STU. *(CN: sg_5.35)*

SLOPE-SEC. Secondary slope class of the STU.			
Specifications		**Source data Specifications**	
File Name	SLOPE-SEC. Secondary slope class of the STU.	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	2008	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27	Acquisition Date	-
Grid size	-	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Google Earth Files (with ".kmz" extension)		
File size	20 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/google-earth-files (European Soil Data Centre (ESDAC), Google Earth Files, 2008)		
Comments	Derived from the European Soil Database v2 (ESDB v2)		

SLOPE-SEC. Secondary slope class of the STU.	
Preview Source: ESDAC / JRC	

3.5.36 ZMAX. Maximum elevation above sea level of the STU (in metres). *(CN: sg_5.36)*

ZMAX. Maximum elevation above sea level of the STU (in metres).			
Specifications		**Source data Specifications**	
File Name	ZMAX. Maximum elevation above sea level of the STU (in meters).	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	2008	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27	Acquisition Date	-
Grid size	-	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Google Earth Files (with ".kmz" extension)		
File size	20 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/google-earth-files (European Soil Data Centre (ESDAC), Google Earth Files, 2008)		
Comments	Derived from the European Soil Database v2 (ESDB v2)		

ZMAX. Maximum elevation above sea level of the STU (in metres).	
Preview Source: ESDAC / JRC	

3.5.37 ZMIN. Minimum elevation above sea level of the STU (in metres). *(CN: sg_5.37)*

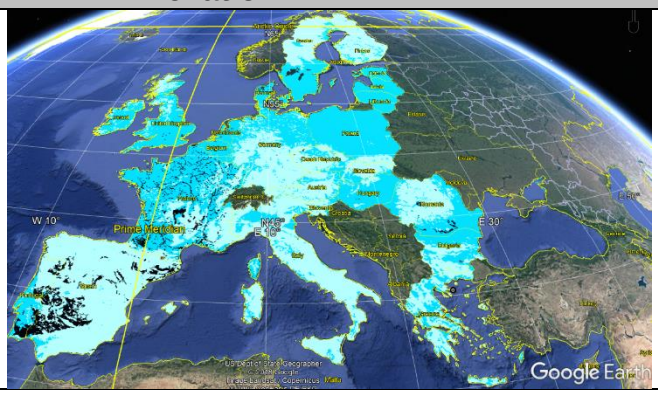
ZMIN. Minimum elevation above sea level of the STU (in metres).			
Specifications		**Source data Specifications**	
File Name	ZMIN. Minimum elevation above sea level of the STU (in metres).	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	2008	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27	Acquisition Date	-
Grid size	-	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Google Earth Files (with ".kmz" extension)		
File size	20 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/google-earth-files (European Soil Data Centre (ESDAC), Google Earth Files, 2008)		
Comments	Derived from the European Soil Database v2 (ESDB v2)		

ZMIN. Minimum elevation above sea level of the STU (in metres).	
Preview Source: ESDAC / JRC	

Primary Properties

3.5.38 ALT. Elevation *(CN: sg_5.38)*

ALT. Elevation			
Specifications		**Source data Specifications**	
File Name	ALT. Elevation	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	2008	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27	Acquisition Date	-
Grid size	-	Grid size	
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Google Earth Files (with ".kmz" extension)		
File size	20 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/google-earth-files (European Soil Data Centre (ESDAC), Google Earth Files, 2008)		
Comments	Derived from the European Soil Database v2 (ESDB v2)		

ALT. Elevation	
Preview Source: ESDAC / JRC	

3.5.39 OC_TOP. Topsoil organic carbon content. *(CN: sg_5.39)*

OC_TOP. Topsoil organic carbon content.			
Specifications		**Source data Specifications**	
File Name	OC_TOP. Topsoil organic carbon content.	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	2008	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27	Acquisition Date	-
Grid size	-	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Google Earth Files (with ".kmz" extension)		
File size	20 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/google-earth-files (European Soil Data Centre (ESDAC), Google Earth Files, 2008)		
Comments	Derived from the European Soil Database v2 (ESDB v2)		

OC_TOP. Topsoil organic carbon content.	
Preview Source: ESDAC / JRC	

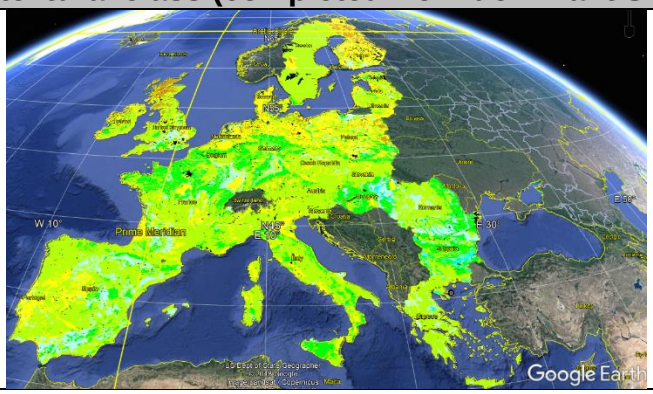
3.5.40 Peat (CN: sg_5.40)

Peat			
Specifications		**Source data Specifications**	
File Name	Peat	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	2008	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27	Acquisition Date	-
Grid size	-	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Google Earth Files (with ".kmz" extension)		
File size	20 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/google-earth-files (European Soil Data Centre (ESDAC), Google Earth Files, 2008)		
Comments	Derived from the European Soil Database v2 (ESDB v2)		

Peat	
Preview Source: ESDAC / JRC	

3.5.41 TEXT. Dominant surface textural class (completed from dominant STU). *(CN: sg_5.41)*

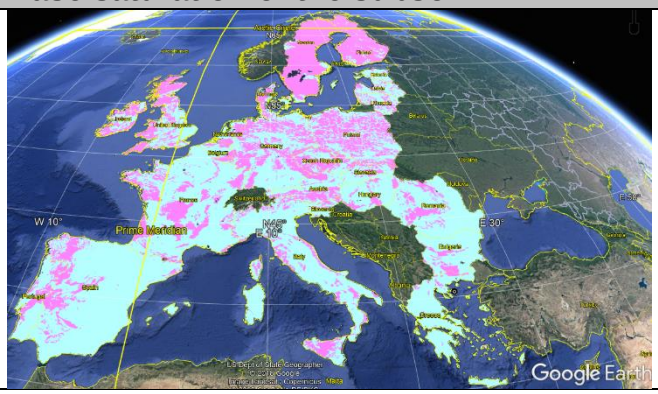
TEXT. Dominant surface textural class (completed from dominant STU).			
Specifications		**Source data Specifications**	
File Name	TEXT. Dominant surface textural class (completed from dominant STU).	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	2008	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27	Acquisition Date	-
Grid size	-	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Google Earth Files (with ".kmz" extension)		
File size	20 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/google-earth-files (European Soil Data Centre (ESDAC), Google Earth Files, 2008)		
Comments	Derived from the European Soil Database v2 (ESDB v2)		

TEXT. Dominant surface textural class (completed from dominant STU).	
Preview Source: ESDAC / JRC	

Chemical Properties

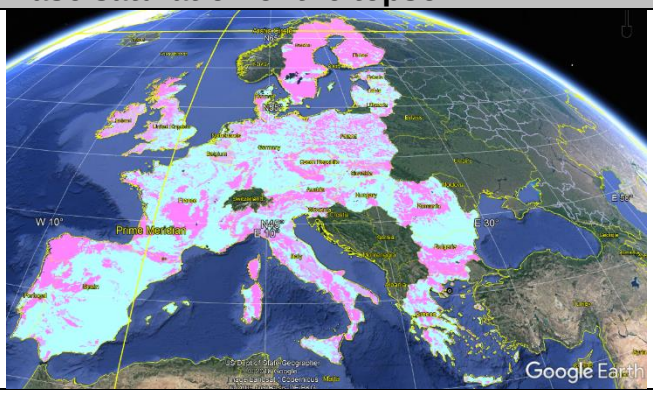
3.5.42 BS_SUB. Base saturation of the subsoil. *(CN: sg_5.42)*

BS_SUB. Base saturation of the subsoil.			
Specifications		**Source data Specifications**	
File Name	BS_SUB. Base saturation of the subsoil.	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	2008	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27	Acquisition Date	-
Grid size	-	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Google Earth Files (with ".kmz" extension)		
File size	20 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/google-earth-files (European Soil Data Centre (ESDAC), Google Earth Files, 2008)		
Comments	Derived from the European Soil Database v2 (ESDB v2)		

BS_SUB. Base saturation of the subsoil.	
Preview Source: ESDAC / JRC	

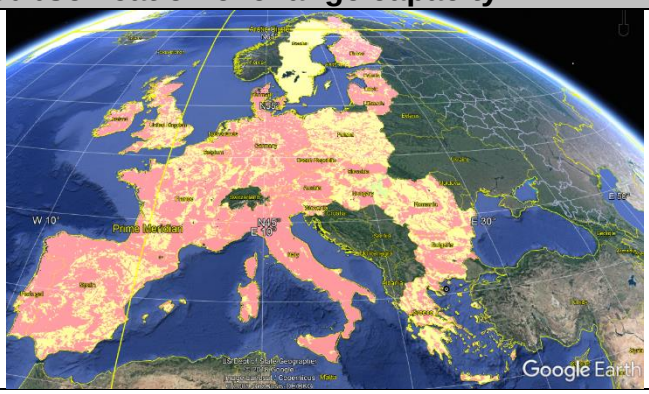
3.5.43 BS_TOP. Base saturation of the topsoil. *(CN: sg_5.43)*

BS_TOP. Base saturation of the topsoil.			
Specifications		**Source data Specifications**	
File Name	BS_TOP. Base saturation of the topsoil.	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	2008	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27	Acquisition Date	-
Grid size	-	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Google Earth Files (with ".kmz" extension)		
File size	20 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/google-earth-files (European Soil Data Centre (ESDAC), Google Earth Files, 2008)		
Comments	Derived from the European Soil Database v2 (ESDB v2)		

BS_TOP. Base saturation of the topsoil.	
Preview Source: ESDAC / JRC	

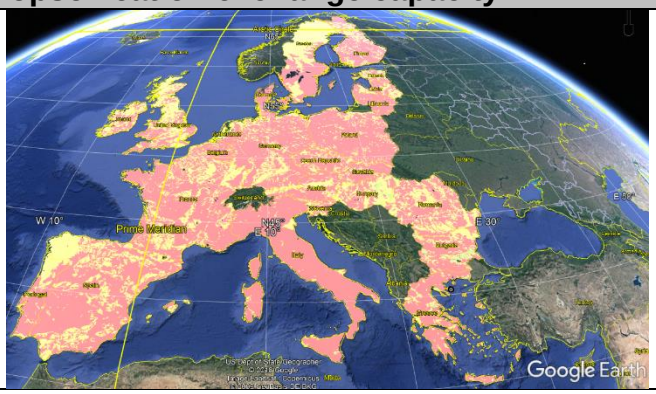
3.5.44 CEC_SUB. Subsoil cation exchange capacity. *(CN: sg_5.44)*

CEC_SUB. Subsoil cation exchange capacity.			
Specifications		**Source data Specifications**	
File Name	CEC_SUB. Subsoil cation exchange capacity.	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	2008	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27	Acquisition Date	-
Grid size	-	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Google Earth Files (with ".kmz" extension)		
File size	20 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/google-earth-files (European Soil Data Centre (ESDAC), Google Earth Files, 2008)		
Comments	Derived from the European Soil Database v2 (ESDB v2)		

CEC_SUB. Subsoil cation exchange capacity.	
Preview Source: ESDAC / JRC	

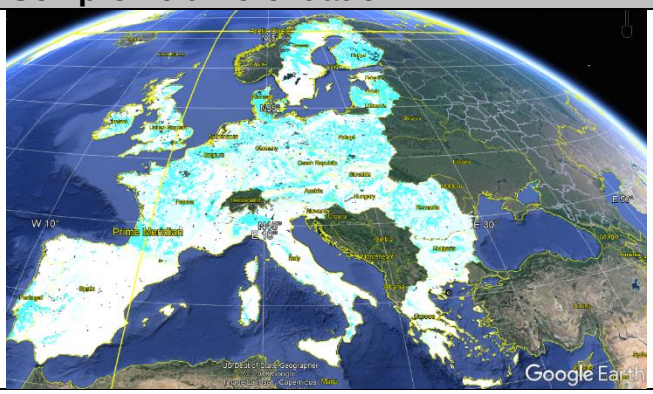
3.5.45 CEC_TOP. Topsoil cation exchange capacity. *(CN: sg_5.45)*

CEC_TOP. Topsoil cation exchange capacity.			
Specifications		**Source data Specifications**	
File Name	CEC_TOP. Topsoil cation exchange capacity.	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	2008	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27	Acquisition Date	-
Grid size	-	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Google Earth Files (with ".kmz" extension)		
File size	20 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/google-earth-files (European Soil Data Centre (ESDAC), Google Earth Files, 2008)		
Comments	Derived from the European Soil Database v2 (ESDB v2)		

CEC_TOP. Topsoil cation exchange capacity.	
Preview Source: ESDAC / JRC	

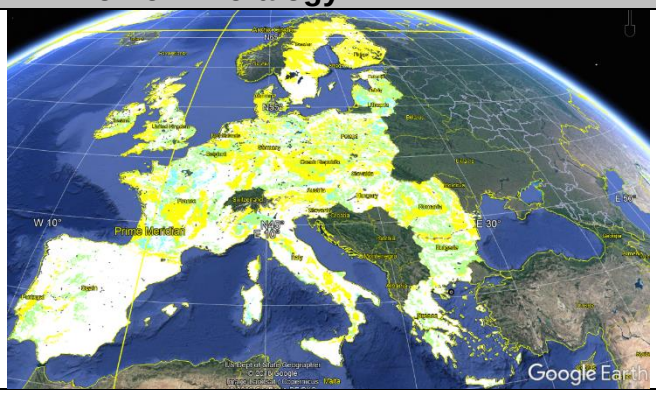
3.5.46 DIFF. Soil profile differentiation. *(CN: sg_5.46)*

DIFF. Soil profile differentiation.			
Specifications		**Source data Specifications**	
File Name	DIFF. Soil profile differentiation.	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	2008	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27	Acquisition Date	-
Grid size	-	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Google Earth Files (with ".kmz" extension)		
File size	20 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/google-earth-files (European Soil Data Centre (ESDAC), Google Earth Files, 2008)		
Comments	Derived from the European Soil Database v2 (ESDB v2)		

DIFF. Soil profile differentiation.	
Preview Source: ESDAC / JRC	

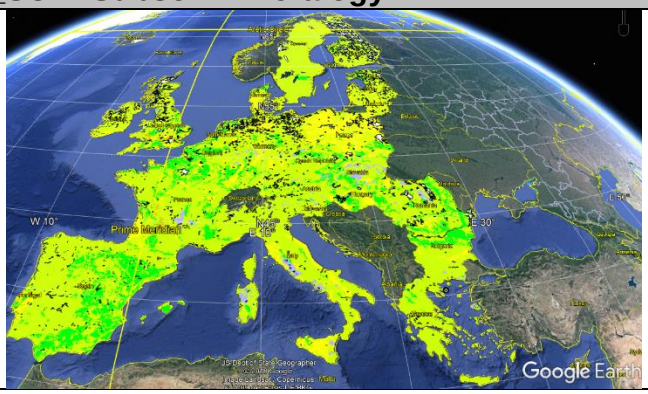
3.5.47 MIN. Profile mineralogy. *(CN: sg_5.47)*

MIN. Profile mineralogy.			
Specifications		**Source data Specifications**	
File Name	MIN. Profile mineralogy.	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	2008	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27	Acquisition Date	-
Grid size	-	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Google Earth Files (with ".kmz" extension)		
File size	20 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/google-earth-files (European Soil Data Centre (ESDAC), Google Earth Files, 2008)		
Comments	Derived from the European Soil Database v2 (ESDB v2)		

MIN. Profile mineralogy.	
Preview Source: ESDAC / JRC	

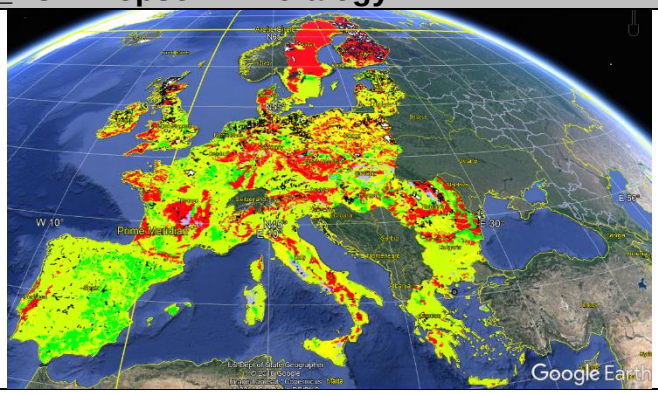
3.5.48 MIN_SUB. Subsoil mineralogy. *(CN: sg_5.48)*

MIN_SUB. Subsoil mineralogy.			
Specifications		**Source data Specifications**	
File Name	MIN_SUB. Subsoil mineralogy.	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	2008	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27	Acquisition Date	-
Grid size	-	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Google Earth Files (with ".kmz" extension)		
File size	20 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/google-earth-files (European Soil Data Centre (ESDAC), Google Earth Files, 2008)		
Comments	Derived from the European Soil Database v2 (ESDB v2)		

MIN_SUB. Subsoil mineralogy.	
Preview Source: ESDAC / JRC	

3.5.49 MIN_TOP. Topsoil mineralogy. *(CN: sg_5.49)*

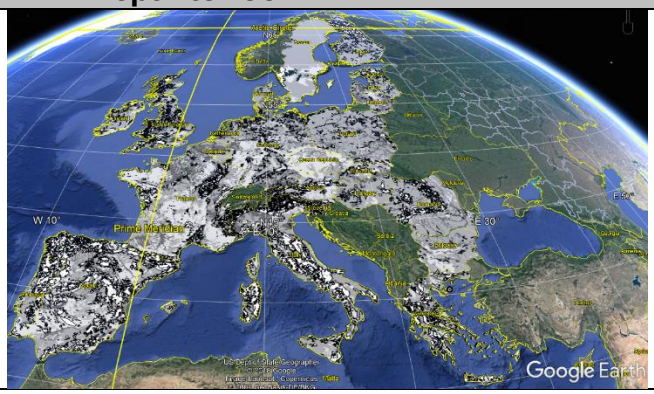
MIN_TOP. Topsoil mineralogy.			
Specifications		**Source data Specifications**	
File Name	MIN_TOP. Topsoil mineralogy.	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	2008	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27	Acquisition Date	-
Grid size	-	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Google Earth Files (with ".kmz" extension)		
File size	20 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/google-earth-files (European Soil Data Centre (ESDAC), Google Earth Files, 2008)		
Comments	Derived from the European Soil Database v2 (ESDB v2)		

MIN_TOP. Topsoil mineralogy.	
Preview Source: ESDAC / JRC	

Mechanical Properties

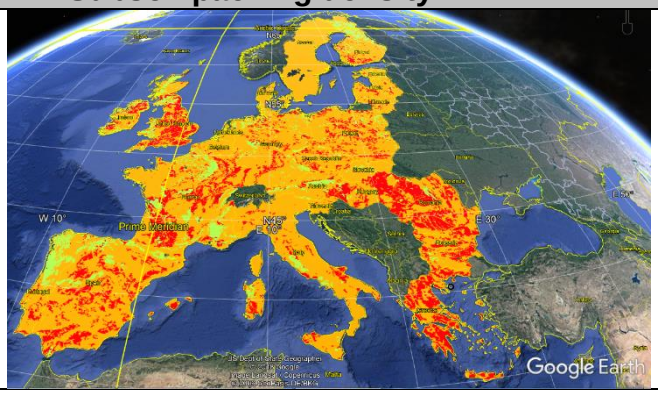
3.5.50 DR. Depth to rock. *(CN: sg_5.50)*

DR. Depth to rock.			
Specifications		**Source data Specifications**	
File Name	DR. Depth to rock.	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	2008	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27	Acquisition Date	-
Grid size	-	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Google Earth Files (with ".kmz" extension)		
File size	20 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/google-earth-files (European Soil Data Centre (ESDAC), Google Earth Files, 2008)		
Comments	Derived from the European Soil Database v2 (ESDB v2)		

DR. Depth to rock.	
Preview Source: ESDAC / JRC	

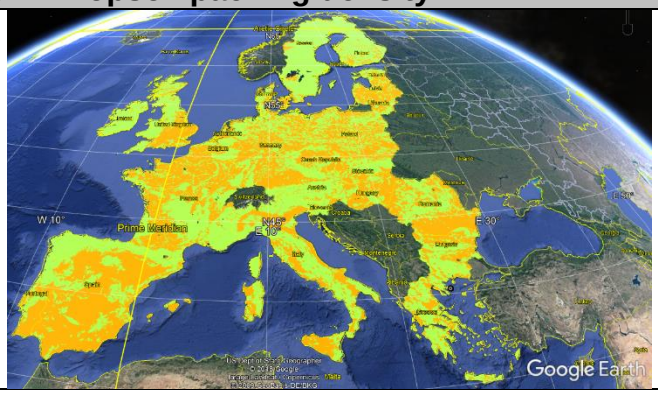
3.5.51 PD_SUB = Subsoil packing density *(CN: sg_5.51)*

PD_SUB = Subsoil packing density			
Specifications		**Source data Specifications**	
File Name	PD_SUB = Subsoil packing density	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	2008	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27	Acquisition Date	-
Grid size	-	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Google Earth Files (with ".kmz" extension)		
File size	20 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/google-earth-files (European Soil Data Centre (ESDAC), Google Earth Files, 2008)		
Comments	Derived from the European Soil Database v2 (ESDB v2)		

PD_SUB = Subsoil packing density	
Preview Source: ESDAC / JRC	

3.5.52 PD_TOP = Topsoil packing density *(CN: sg_5.52)*

PD_TOP = Topsoil packing density			
Specifications		**Source data Specifications**	
File Name	PD_TOP = Topsoil packing density	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	2008	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27	Acquisition Date	-
Grid size	-	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Google Earth Files (with ".kmz" extension)		
File size	20 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/google-earth-files (European Soil Data Centre (ESDAC), Google Earth Files, 2008)		
Comments	Derived from the European Soil Database v2 (ESDB v2)		

PD_TOP = Topsoil packing density	
Preview Source: ESDAC / JRC	

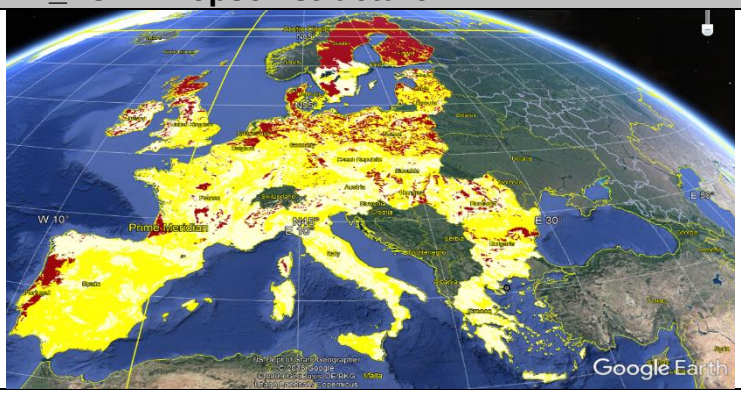
3.5.53 STR_SUB = Subsoil structure *(CN: sg_5.53)*

STR_SUB = Subsoil structure			
Specifications		**Source data Specifications**	
File Name	STR_SUB = Subsoil structure.	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	2008	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27	Acquisition Date	-
Grid size	-	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Google Earth Files (with ".kmz" extension)		
File size	20 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/google-earth-files (European Soil Data Centre (ESDAC), Google Earth Files, 2008)		
Comments	Derived from the European Soil Database v2 (ESDB v2)		

STR_SUB = Subsoil structure	
Preview Source: ESDAC / JRC	

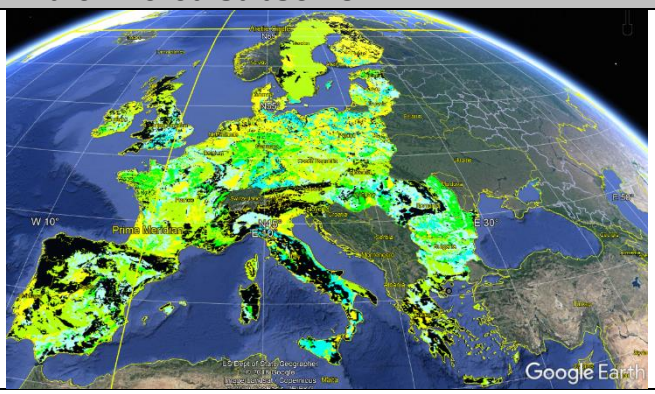
3.5.54 STR_TOP = Topsoil structure. *(CN: sg_5.54)*

STR_TOP = Topsoil structure			
Specifications		**Source data Specifications**	
File Name	STR_TOP = Topsoil structure	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	2008	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27	Acquisition Date	-
Grid size	-	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Google Earth Files (with ".kmz" extension)		
File size	20 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/google-earth-files (European Soil Data Centre (ESDAC), Google Earth Files, 2008)		
Comments	Derived from the European Soil Database v2 (ESDB v2)		

STR_TOP = Topsoil structure	
Preview Source: ESDAC / JRC	

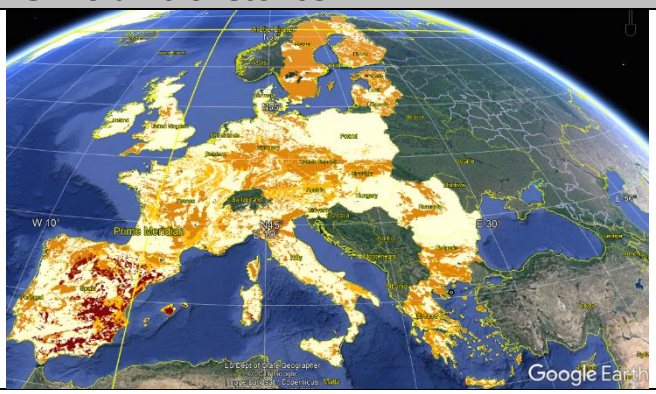
3.5.55 TD. Rule infered subsoil 3. *(CN: sg_5.55)*

TD. Rule infered subsoil 3.			
Specifications		**Source data Specifications**	
File Name	TD. Rule infered subsoil 3.	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	2008	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27	Acquisition Date	-
Grid size	-	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Google Earth Files (with ".kmz" extension)		
File size	20 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/google-earth-files (European Soil Data Centre (ESDAC), Google Earth Files, 2008)		
Comments	Derived from the European Soil Database v2 (ESDB v2)		

TD. Rule infered subsoil 3.	
Preview Source: ESDAC / JRC	

3.5.56 VS. Volume of stones *(CN: sg_5.56)*

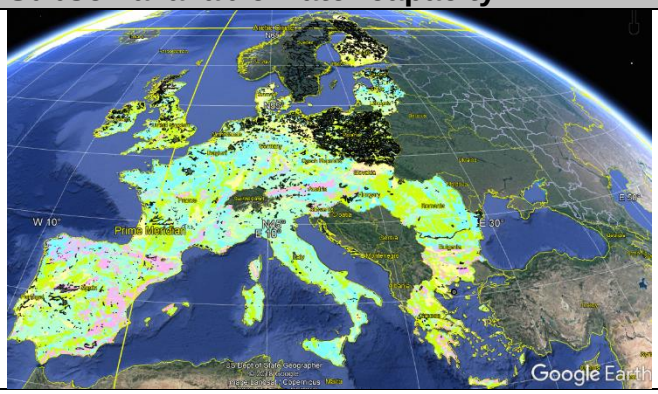
VS. Volume of stones			
Specifications		**Source data Specifications**	
File Name	VS. Volume of stones	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	2008	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27	Acquisition Date	-
Grid size	-	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Google Earth Files (with ".kmz" extension)		
File size	20 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/google-earth-files (European Soil Data Centre (ESDAC), Google Earth Files, 2008)		
Comments	Derived from the European Soil Database v2 (ESDB v2)		

VS. Volume of stones	
Preview Source: ESDAC / JRC	

Hydrological Properties

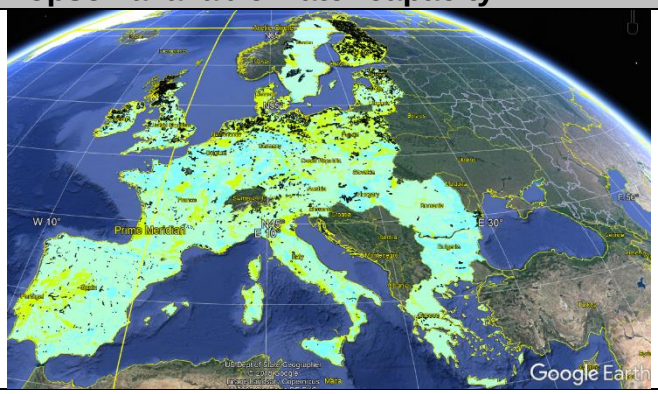
3.5.57 AWC_SUB. Subsoil available water capacity. *(CN: sg_5.57)*

AWC_SUB. Subsoil available water capacity.			
Specifications		**Source data Specifications**	
File Name	AWC_SUB. Subsoil available water capacity.	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	2008	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27	Acquisition Date	-
Grid size	-	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Google Earth Files (with ".kmz" extension)		
File size	20 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/google-earth-files (European Soil Data Centre (ESDAC), Google Earth Files, 2008)		
Comments	Derived from the European Soil Database v2 (ESDB v2)		

AWC_SUB. Subsoil available water capacity.	
Preview Source: ESDAC / JRC	

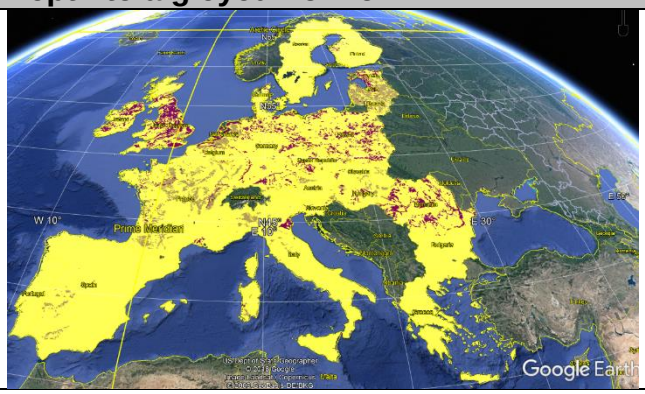
3.5.58 AWC_TOP. Topsoil available water capacity. *(CN: sg_5.58)*

AWC_TOP. Topsoil available water capacity.			
Specifications		**Source data Specifications**	
File Name	AWC_TOP. Topsoil available water capacity.	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	2008	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27	Acquisition Date	-
Grid size	-	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Google Earth Files (with ".kmz" extension)		
File size	20 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/google-earth-files (European Soil Data Centre (ESDAC), Google Earth Files, 2008)		
Comments	Derived from the European Soil Database v2 (ESDB v2)		

AWC_TOP. Topsoil available water capacity.	
Preview Source: ESDAC / JRC	

3.5.59 DGH. Depth to a gleyed horizon. *(CN: sg_5.59)*

DGH. Depth to a gleyed horizon.			
Specifications		**Source data Specifications**	
File Name	DGH. Depth to a gleyed horizon.	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	2008	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27	Acquisition Date	-
Grid size	-	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Google Earth Files (with ".kmz" extension)		
File size	20 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/google-earth-files (European Soil Data Centre (ESDAC), Google Earth Files, 2008)		
Comments	Derived from the European Soil Database v2 (ESDB v2)		

DGH. Depth to a gleyed horizon.	
Preview Source: ESDAC / JRC	

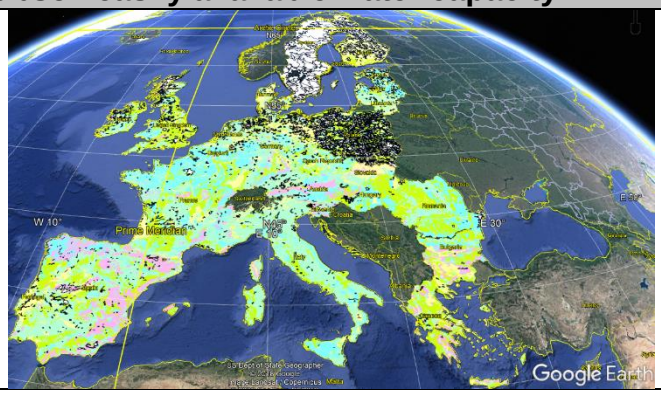
3.5.60 DIMP. Depth to an impermeable layer. *(CN: sg_5.60)*

DIMP. Depth to an impermeable layer.			
Specifications		**Source data Specifications**	
File Name	DIMP. Depth to an impermeable layer.	Sensor	
Coordinate System	WGS84	Data type	
Production Date	2008	Sensor resolution	
Coverage (top L, BR coordinates)	EU27	Acquisition Date	2008
Grid size	-	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Google Earth Files (with ".kmz" extension)		
File size	20 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/google-earth-files (European Soil Data Centre (ESDAC), Google Earth Files, 2008)		
Comments	Derived from the European Soil Database v2 (ESDB v2)		

DIMP. Depth to an impermeable layer.	
Preview Source: ESDAC / JRC	

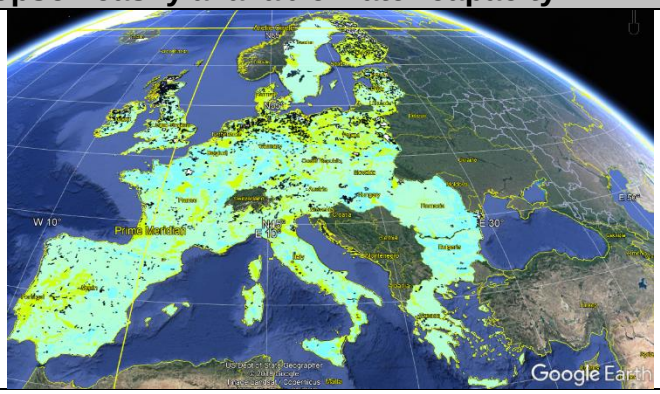
3.5.61 EAWC_SUB. Subsoil easily available water capacity. *(CN: sg_5.61)*

EAWC_SUB. Subsoil easily available water capacity.			
Specifications		**Source data Specifications**	
File Name	EAWC_SUB. Subsoil easily available water capacity.	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	2008	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27	Acquisition Date	-
Grid size	-	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Google Earth Files (with ".kmz" extension)		
File size	20 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/google-earth-files (European Soil Data Centre (ESDAC), Google Earth Files, 2008)		
Comments	Derived from the European Soil Database v2 (ESDB v2)		

EAWC_SUB. Subsoil easily available water capacity.	
Preview Source: ESDAC / JRC	

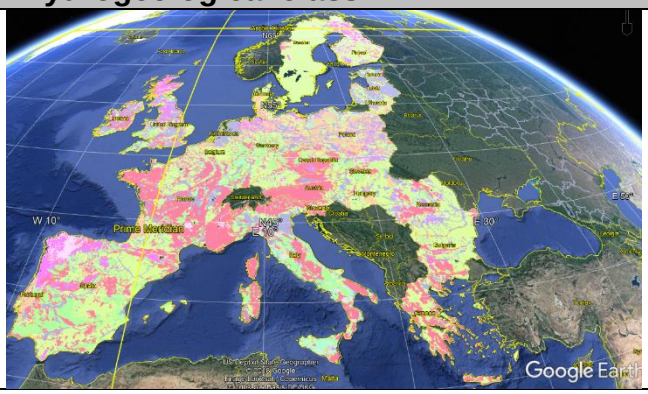
3.5.62 EAWC_TOP. Topsoil easily available water capacity. *(CN: sg_5.62)*

EAWC_TOP. Topsoil easily available water capacity.			
Specifications		**Source data Specifications**	
File Name	EAWC_TOP. Topsoil easily available water capacity.	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	2008	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27	Acquisition Date	-
Grid size	-	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Google Earth Files (with ".kmz" extension)		
File size	20 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/google-earth-files (European Soil Data Centre (ESDAC), Google Earth Files, 2008)		
Comments	Derived from the European Soil Database v2 (ESDB v2)		

EAWC_TOP. Topsoil easily available water capacity.	
Preview Source: ESDAC / JRC	

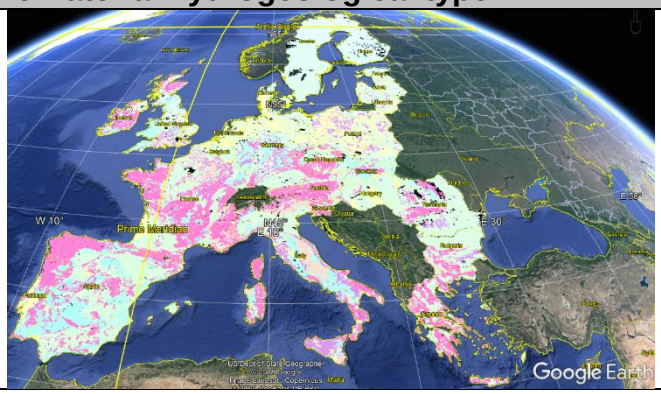
3.5.63 HG. Hydrogeological class. *(CN: sg_5.63)*

HG. Hydrogeological class.			
Specifications		**Source data Specifications**	
File Name	HG. Hydrogeological class.	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	2008	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27	Acquisition Date	-
Grid size	-	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Google Earth Files (with ".kmz" extension)		
File size	20 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/google-earth-files (European Soil Data Centre (ESDAC), Google Earth Files, 2008)		
Comments	Derived from the European Soil Database v2 (ESDB v2)		

HG. Hydrogeological class.	
Preview Source: ESDAC / JRC	

3.5.64 PMH. Parent material hydrogeological type. *(CN: sg_5.64)*

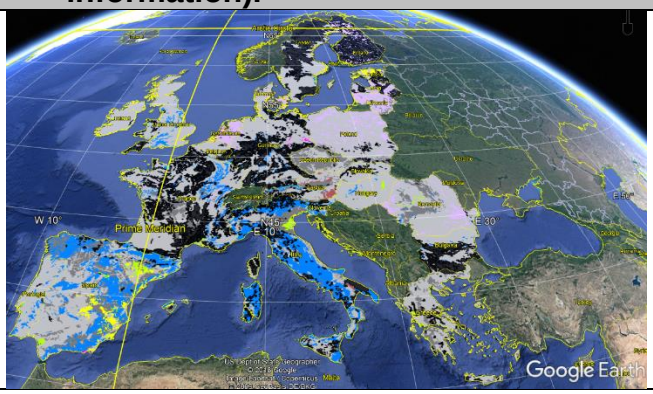
PMH. Parent material hydrogeological type.			
Specifications		**Source data Specifications**	
File Name	PMH. Parent material hydrogeological type.	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	2008	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27	Acquisition Date	-
Grid size	-	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Google Earth Files (with ".kmz" extension)		
File size	20 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/google-earth-files (European Soil Data Centre (ESDAC), Google Earth Files, 2008)		
Comments	Derived from the European Soil Database v2 (ESDB v2)		

PMH. Parent material hydrogeological type.	
Preview Source: ESDAC / JRC	

Applications

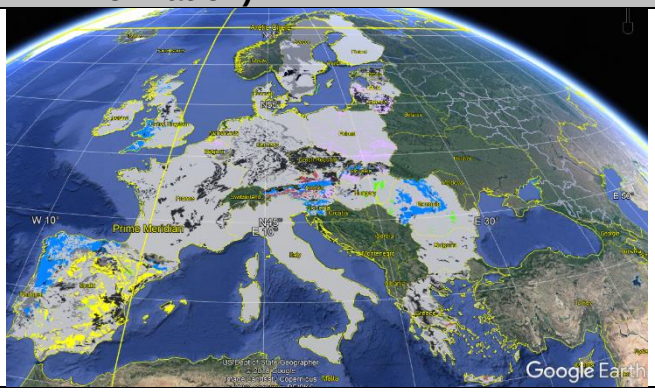
3.5.65 AGLIM1NNI. Dominant limitation to agricultural use (without no information). *(CN: sg_5.65)*

AGLIM1NNI. Dominant limitation to agricultural use (without no information).			
Specifications		**Source data Specifications**	
File Name	AGLIM1NNI. Dominant limitation to agricultural use (without no information).	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	2008	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27	Acquisition Date	-
Grid size	-	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Google Earth Files (with ".kmz" extension)		
File size	20 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/google-earth-files (European Soil Data Centre (ESDAC), Google Earth Files, 2008)		
Comments	Derived from the European Soil Database v2 (ESDB v2)		

AGLIM1NNI. Dominant limitation to agricultural use (without no information).	
Preview Source: ESDAC / JRC	

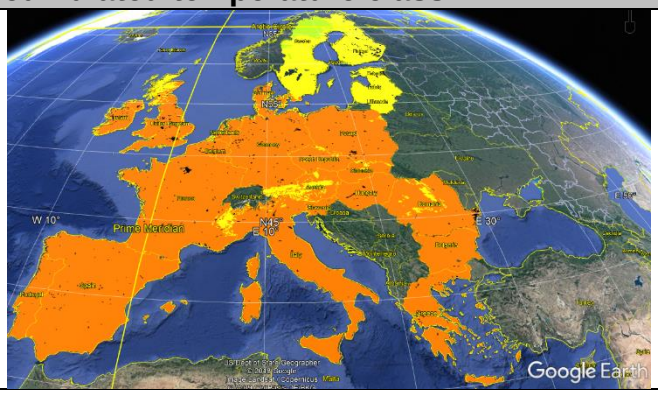
3.5.66 AGLIM2NNI. Secondary limitation to agricultural use (without no information). *(CN: sg_5.66)*

AGLIM2NNI. Secondary limitation to agricultural use (without no information).			
Specifications		**Source data Specifications**	
File Name	AGLIM2NNI. Secondary limitation to agricultural use (without no information).	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	2008	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27	Acquisition Date	-
Grid size	-	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Google Earth Files (with ".kmz" extension)		
File size	20 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/google-earth-files (European Soil Data Centre (ESDAC), Google Earth Files, 2008)		
Comments	Derived from the European Soil Database v2 (ESDB v2)		

AGLIM2NNI. Secondary limitation to agricultural use (without no information).	
Preview Source: ESDAC / JRC	

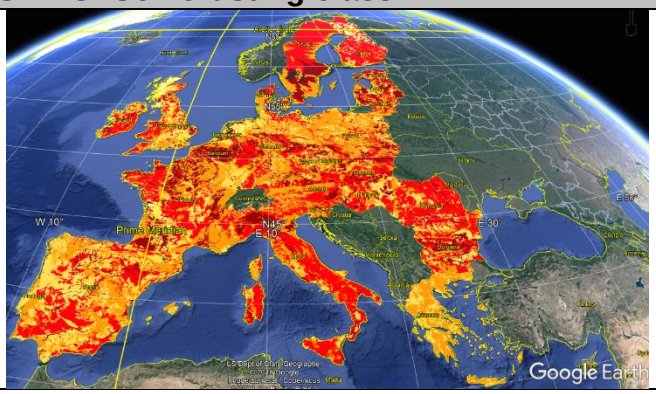
3.5.67 ATC. Accumulated temperature class. *(CN: sg_5.67)*

ATC. Accumulated temperature class.			
Specifications		**Source data Specifications**	
File Name	ATC. Accumulated temperature class.	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	2008	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27	Acquisition Date	-
Grid size	-	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Google Earth Files (with ".kmz" extension)		
File size	20 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/google-earth-files (European Soil Data Centre (ESDAC), Google Earth Files, 2008)		
Comments	Derived from the European Soil Database v2 (ESDB v2)		

ATC. Accumulated temperature class.	
Preview Source: ESDAC / JRC	

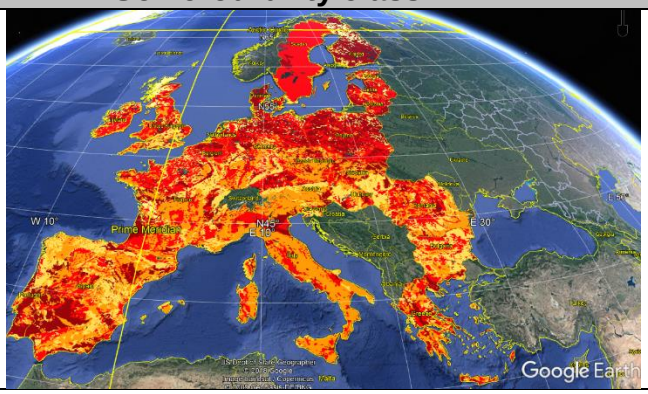
3.5.68 CRUSTING. Soil crusting class. *(CN: sg_5.68)*

CRUSTING. Soil crusting class.			
Specifications		**Source data Specifications**	
File Name	CRUSTING. Soil crusting class.	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	2008	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27	Acquisition Date	-
Grid size	-	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Google Earth Files (with ".kmz" extension)		
File size	20 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/google-earth-files (European Soil Data Centre (ESDAC), Google Earth Files, 2008)		
Comments	Derived from the European Soil Database v2 (ESDB v2)		

CRUSTING. Soil crusting class.	
Preview Source: ESDAC / JRC	

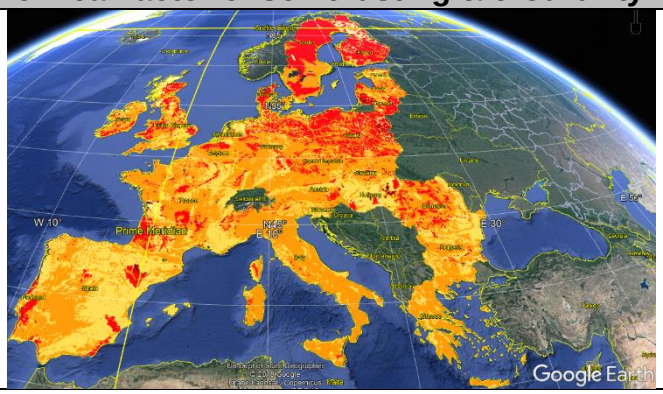
3.5.69 ERODIBILITY. Soil erodibility class. *(CN: sg_5.69)*

ERODIBILITY. Soil erodibility class.			
Specifications		**Source data Specifications**	
File Name	ERODIBILITY. Soil erodibility class.	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	2008	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27	Acquisition Date	-
Grid size	-	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Google Earth Files (with ".kmz" extension)		
File size	20 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/google-earth-files (European Soil Data Centre (ESDAC), Google Earth Files, 2008)		
Comments	Derived from the European Soil Database v2 (ESDB v2)		

ERODIBILITY. Soil erodibility class.	
Preview Source: ESDAC / JRC	

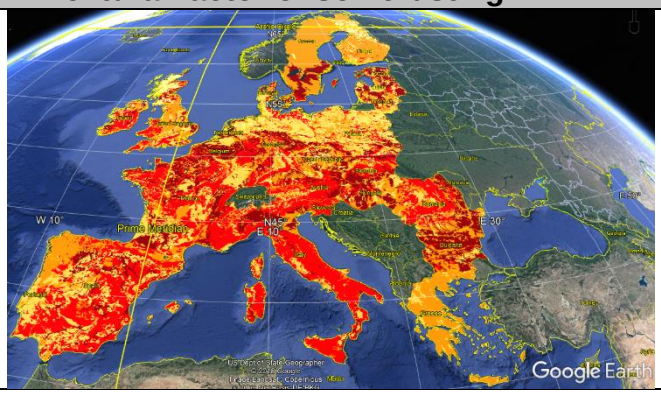
3.5.70 PHYS-CHIM. Physi-chemical factor of soil crusting & erodibility. (CN: sg_5.70)

PHYS-CHIM. Physi-chemical factor of soil crusting & erodibility.			
Specifications		**Source data Specifications**	
File Name	PHYS-CHIM. Physi-chemical factor of soil crusting & erodibility.	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	2008	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27	Acquisition Date	-
Grid size	-	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Google Earth Files (with ".kmz" extension)		
File size	20 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/google-earth-files (European Soil Data Centre (ESDAC), Google Earth Files, 2008)		
Comments	Derived from the European Soil Database v2 (ESDB v2)		

PHYS-CHIM. Physi-chemical factor of soil crusting & erodibility.	
Preview Source: ESDAC / JRC	

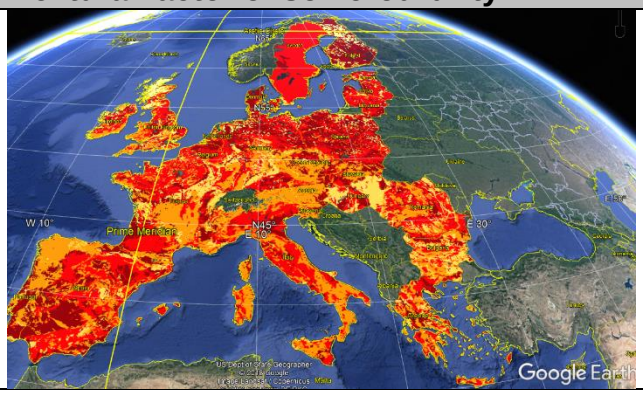
3.5.71 TEXT-CRUST. Textural factor of soil crusting. (CN: sg_5.71)

TEXT-CRUST. Textural factor of soil crusting.			
Specifications		**Source data Specifications**	
File Name	TEXT-CRUST. Textural factor of soil crusting.	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	2008	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27	Acquisition Date	-
Grid size	-	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Google Earth Files (with ".kmz" extension)		
File size	20 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/google-earth-files (European Soil Data Centre (ESDAC), Google Earth Files, 2008)		
Comments	Derived from the European Soil Database v2 (ESDB v2)		

TEXT-CRUST. Textural factor of soil crusting.	
Preview Source: ESDAC / JRC	

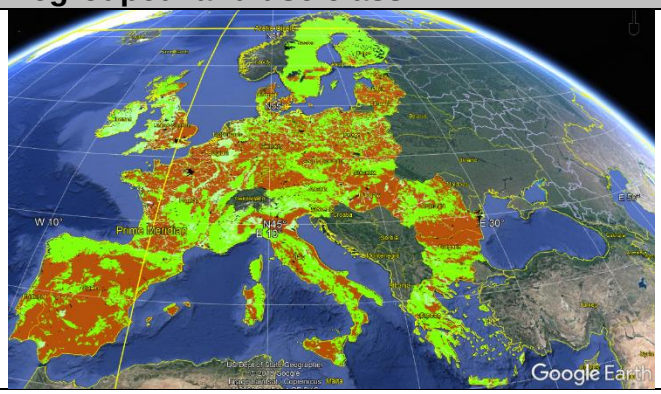
3.5.72 TEXT-EROD. Textural factor of soil erodibility. (CN: sg_5.72)

TEXT-EROD. Textural factor of soil erodibility.			
Specifications		**Source data Specifications**	
File Name	TEXT-EROD. Textural factor of soil erodibility.	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	2008	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27	Acquisition Date	-
Grid size	-	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Google Earth Files (with ".kmz" extension)		
File size	20 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/google-earth-files (European Soil Data Centre (ESDAC), Google Earth Files, 2008)		
Comments	Derived from the European Soil Database v2 (ESDB v2)		

TEXT-EROD. Textural factor of soil erodibility.	
Preview Source: ESDAC / JRC	

3.5.73 USE. Regrouped land use class. (CN: sg_5.73)

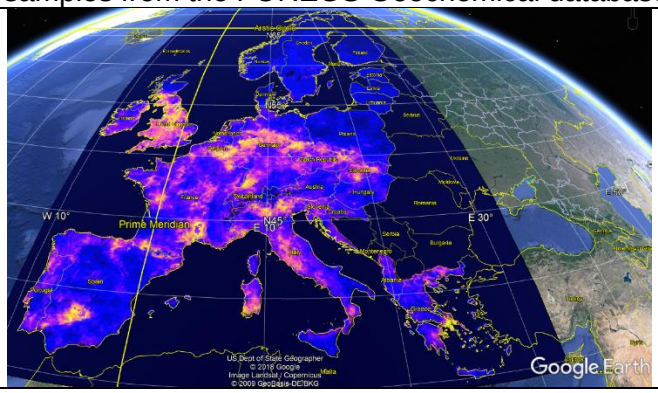
USE. Regrouped land use class.			
Specifications		**Source data Specifications**	
File Name	USE. Regrouped land use class.	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	2008	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27	Acquisition Date	-
Grid size	-	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Google Earth Files (with ".kmz" extension)		
File size	20 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/google-earth-files (European Soil Data Centre (ESDAC), Google Earth Files, 2008)		
Comments	Derived from the European Soil Database v2 (ESDB v2)		

USE. Regrouped land use class.	
Preview Source: ESDAC / JRC	

3.6 Heavy metals in topsoil (arsenic, cadmium, chromium, copper, mercury, nickel, lead and zinc) *(CN: sg_6)*

This dataset presents mapping concentrations of eight critical heavy metals (arsenic, cadmium, chromium, copper, mercury, nickel, lead and zinc) using the 1588 georeferenced topsoil samples from the FOREGS Geochemical database. The concentrations were interpolated using the block regression-kriging method over the 26 European countries that contributed to the database. (European Soil Data Centre (ESDAC), Heavy Metals in topsoils, 2008)

Heavy metals in topsoil (arsenic, cadmium, chromium, copper, mercury, nickel, lead and zinc)			
Specifications		**Source data Specifications**	
File Name	Heavy metals in topsoil (arsenic, cadmium, chromium, copper, mercury, nickel, lead and zinc)	Sensor	-
Coordinate System	ETRS89 LAEA	Data type	-
Production Date	2008	Sensor resolution	-
Coverage (top L, BR coordinates)	EU26	Acquisition Date	-
Grid size	5 km	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	KML (.kml)		

Heavy metals in topsoil (arsenic, cadmium, chromium, copper, mercury, nickel, lead and zinc)			
File size	40.0 KB		
Download site	http://esdac.jrc.ec.europa.eu/content/heavy-metals-topsoils (European Soil Data Centre (ESDAC), Heavy Metals in topsoils, 2008)		
Comments	The data has been created based on 1588 georeferenced topsoil samples from the FOREGS Geochemical database.		
Preview Source: ESDAC / JRC			

3.7 LS-factor (Slope Length and Steepness factor) for the EU

3.7.1 European LS-factor map at 100m resolution *(CN: sg_7.1)*

This dataset (GIS maps) (2015) represents the "Slope Length and Steepness factor" (LS-factor), which is one of the six input layers used to calculate the Universal Soil Loss Equation (USLE) model, which is the most frequently used model for soil erosion risk estimation; for EU28; maps at resolutions of 25m (per country) and 100m (Europe-wide). (European Soil Data Centre (ESDAC) ,LS-factor (Slope Length and Steepness factor) for the EU, 2015)

European LS-factor map at 100m resolution			
Specifications		**Source data Specifications**	
File Name	European LS-factor map at 100m resolution	Sensor	-
Coordinate System	ETRS89 LAEA	Data type	-
Production Date	2015	Sensor resolution	-
Coverage (top L, BR coordinates)	EU28	Acquisition Date	-
Grid size	100 m	Grid size	-
Positional Accuracy	-	Positional Accuracy	-

European LS-factor map at 100m resolution			
Specifications		**Source data Specifications**	
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	TIFF image (.tif)		
File size	2.80 GB		
Download site	http://eusoils.jrc.ec.europa.eu/content/ls-factor-slope-length-and-steepness-factor-eu (European Soil Data Centre (ESDAC) ,LS-factor (Slope Length and Steepness factor) for the EU, 2015)		
Comments	-		
Preview Source: ESDAC / JRC			

3.7.2 LS-factor map at 25m resolution per country *(CN: sg_7.2)*

LS-factor map at 25m resolution per country			
Specifications		**Source data Specifications**	
File Name	LS-factor map at 25m resolution per country	Sensor	-
Coordinate System	ETRS89 LAEA	Data type	-
Production Date	2015	Sensor resolution	-
Coverage (top L, BR coordinates)	EU28	Acquisition Date	-
Grid size	25 m	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	TIFF image (.tif)		
File size	39.7 GB		

LS-factor map at 25m resolution per country	
Download site	http://eusoils.jrc.ec.europa.eu/content/ls-factor-slope-length-and-steepness-factor-eu (European Soil Data Centre (ESDAC) ,LS-factor (Slope Length and Steepness factor) for the EU, 2015)
Comments	-
Preview Source: ESDAC / JRC	

3.8 Maps of indicators of soil hydraulic properties for Europe

The soil hydraulic properties maps (2016) for Europe have the following layers

Water retention of topsoil based on saturated water content (cm3/cm3), water content at field capacity (cm3/cm3), and water content at wilting point (cm3/cm3) Hydraulic conductivity of topsoil based on saturated hydraulic conductivity (cm/day). Besides the true values in the units mentioned values scaled between 1 and 10 without measurement units were also calculated. (European Soil Data Centre (ESDAC), Maps of indicators of soil hydraulic properties for Europe, 2016)

3.8.1 Saturated water content *(CN: sg_8.1)*

Saturated water content			
Specifications		**Source data Specifications**	
File Name	Saturated water content	Sensor	-
Coordinate System	ETRS89 LAEA	Data type	-
Production Date	2016	Sensor resolution	-
Coverage (top L, BR coordinates)	EU + Balkan + Norway	Acquisition Date	2014
Grid size	1 km	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-

Saturated water content			
Completeness	complete		
File type, Format	Raster (tif extension)		
File size	25.8 MB		
Download site	http://esdac.jrc.ec.europa.eu/content/maps-indicators-soil-hydraulic-properties-europe#tabs-0-description=0 (European Soil Data Centre (ESDAC), Maps of indicators of soil hydraulic properties for Europe, 2016)		
Comments	These data/maps are based on results published in peer-review articles and datasets available in ESDAC		
Preview Source: ESDAC / JRC			

3.8.2 Water content at field capacity *(CN: sg_8.2)*

water content at field capacity			
Specifications		**Source data Specifications**	
File Name	water content at field capacity	Sensor	-
Coordinate System	ETRS89 LAEA	Data type	-
Production Date	2016	Sensor resolution	-
Coverage (top L, BR coordinates)	EU + Balkan + Norway	Acquisition Date	2014
Grid size	1 km	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	TIFF image (.tif)		
File size	20.2 MB		
Download site	http://esdac.jrc.ec.europa.eu/content/maps-indicators-soil-hydraulic-properties-europe#tabs-0-description=0 (European		

water content at field capacity	
	Soil Data Centre (ESDAC), Maps of indicators of soil hydraulic properties for Europe, 2016)
Comments	These data/maps are based on results published in peer-review articles and datasets available in ESDAC
Preview Source: ESDAC / JRC	

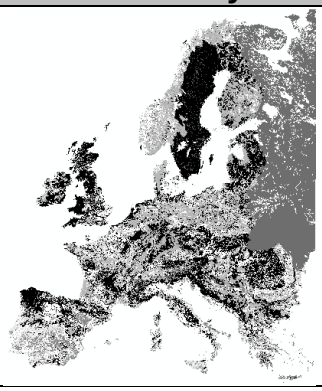
3.8.3 Water content at wilting point *(CN: sg_8.3)*

water content at wilting point			
Specifications		**Source data Specifications**	
File Name	water content at wilting point	Sensor	-
Coordinate System	ETRS89 LAEA	Data type	-
Production Date	2016	Sensor resolution	-
Coverage (top L, BR coordinates)	EU + Balkan + Norway	Acquisition Date	2014
Grid size	1 km	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	TIFF image (.tif)		
File size	19.9 MB		
Download site	http://esdac.jrc.ec.europa.eu/content/maps-indicators-soil-hydraulic-properties-europe#tabs-0-description=0 (European Soil Data Centre (ESDAC), Maps of indicators of soil hydraulic properties for Europe, 2016)		
Comments	These data/maps are based on results published in peer-review articles and datasets available in ESDAC		

water content at wilting point	
Preview Source: ESDAC / JRC	

3.8.4 Saturated hydraulic conductivity *(CN: sg_8.4)*

Saturated hydraulic conductivity			
Specifications		**Source data Specifications**	
File Name	Saturated hydraulic conductivity	Sensor	-
Coordinate System	ETRS89 LAEA	Data type	-
Production Date	2016	Sensor resolution	-
Coverage (top L, BR coordinates)	EU + Balkan + Norway	Acquisition Date	2014
Grid size	1 km	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	TIFF image (.tif)		
File size	22.7 MB		
Download site	http://esdac.jrc.ec.europa.eu/content/maps-indicators-soil-hydraulic-properties-europe#tabs-0-description=0 (European Soil Data Centre (ESDAC), Maps of indicators of soil hydraulic properties for Europe, 2016)		
Comments	These data/maps are based on results published in peer-review articles and datasets available in ESDAC		

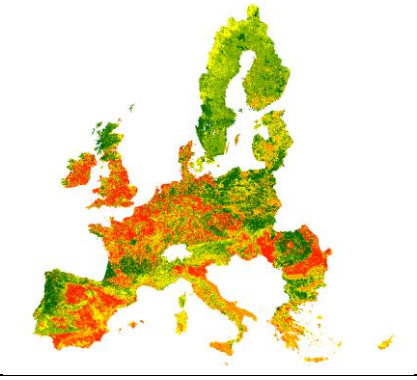
Saturated hydraulic conductivity	
Preview Source: ESDAC / JRC	

3.9 Potential threats to soil biodiversity in Europe

This dataset contains 3 GIS maps showing the Potential threats to soil biodiversity in Europe (for soil microorganisms, for fauna, for biological functions), along with 13 input layers (habitat fragmentation, climate change, soil erosion, etc.)with a spatial resolution of 500m. (European Soil Data Centre (ESDAC), Potential threats to soil biodiversity in Europe, 2016)

3.9.1 Soil biological functions threat *(CN: sg_9.1)*

Soil biological functions threat			
Specifications		**Source data Specifications**	
File Name	Soil biological functions threat	Sensor	-
Coordinate System	ETRS89 LAEA	Data type	-
Production Date	2016	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27 (Croatia was not included)	Acquisition Date	2015
Grid size	500 m	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	ArcGIS Layer (.lyr) TIFF image (.tif)		
File size	507 MB		
Download site	http://esdac.jrc.ec.europa.eu/content/potential-threats-soil-biodiversity-europe (European Soil Data Centre (ESDAC), Potential threats to soil biodiversity in Europe, 2016)		

Soil biological functions threat	
Comments	-
Preview Source: ESDAC / JRC	

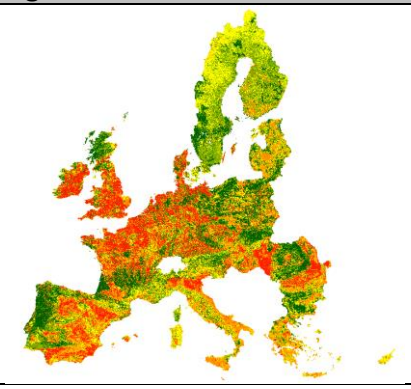
3.9.2 Soil fauna threat *(CN: sg_9.2)*

Soil fauna threat			
Specifications		**Source data Specifications**	
File Name	Soil fauna threat	Sensor	-
Coordinate System	ETRS89 LAEA	Data type	-
Production Date	2016	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27 (Croatia was not included)	Acquisition Date	2015
Grid size	500 m	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	ArcGIS Layer (.lyr) TIFF image (.tif)		
File size	605 MB		
Download site	http://esdac.jrc.ec.europa.eu/content/potential-threats-soil-biodiversity-europe (European Soil Data Centre (ESDAC), Potential threats to soil biodiversity in Europe, 2016)		
Comments	-		

Soil fauna threat	
Preview Source: ESDAC / JRC	

3.9.3 Soil microorganisms threat *(CN: sg_9.3)*

Soil microorganisms threat			
Specifications		**Source data Specifications**	
File Name	Soil microorganisms threat	Sensor	-
Coordinate System	ETRS89 LAEA	Data type	-
Production Date	2016	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27 (Croatia was not included)	Acquisition Date	2015
Grid size	500 m	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	ArcGIS Layer (.lyr) TIFF image (.tif)		
File size	507 MB		
Download site	http://esdac.jrc.ec.europa.eu/content/potential-threats-soil-biodiversity-europe (European Soil Data Centre (ESDAC), Potential threats to soil biodiversity in Europe, 2016)		
Comments	-		

Soil microorganisms threat	
Preview Source: ESDAC / JRC	

3.9.4 Climate change *(CN: sg_9.4)*

Climate change			
Specifications		**Source data Specifications**	
File Name	Climate change	Sensor	-
Coordinate System	ETRS89 LAEA	Data type	-
Production Date	2016	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27 (Croatia was not included)	Acquisition Date	-
Grid size	500 m	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	TIFF image (.tif)		
File size	136 MB		
Download site	http://esdac.jrc.ec.europa.eu/content/potential-threats-soil-biodiversity-europe (European Soil Data Centre (ESDAC), Potential threats to soil biodiversity in Europe, 2016)		
Comments	-		

Climate change	
Preview Source: ESDAC / JRC	

3.9.5 Compaction (CN: sg_9.5)

Compaction			
Specifications		**Source data Specifications**	
File Name	Compaction	Sensor	-
Coordinate System	ETRS89 LAEA	Data type	-
Production Date	2016	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27 (Croatia was not included)	Acquisition Date	2015
Grid size	500 m	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	TIFF image (.tif)		
File size	242 MB		
Download site	http://esdac.jrc.ec.europa.eu/content/potential-threats-soil-biodiversity-europe (European Soil Data Centre (ESDAC), Potential threats to soil biodiversity in Europe, 2016)		
Comments	-		

Compaction	
Preview Source: ESDAC / JRC	

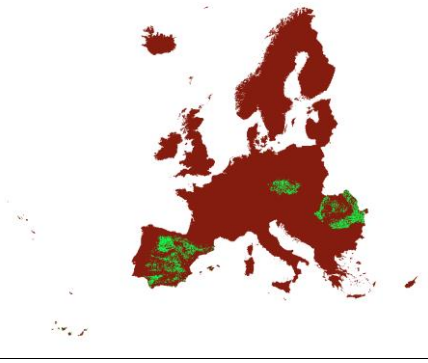
3.9.6 Erosion (CN: sg_9.6)

Erosion			
Specifications		**Source data Specifications**	
File Name	Erosion	Sensor	-
Coordinate System	ETRS89 LAEA	Data type	-
Production Date	2016	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27 (Croatia was not included)	Acquisition Date	2015
Grid size	500 m	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	TIFF image (.tif)		
File size	1.01 GB		
Download site	http://esdac.jrc.ec.europa.eu/content/potential-threats-soil-biodiversity-europe (European Soil Data Centre (ESDAC), Potential threats to soil biodiversity in Europe, 2016)		
Comments	-		

Erosion			
Preview Source: ESDAC / JRC			

3.9.7 GMO use (CN: sg_9.7)

GMO use			
Specifications		**Source data Specifications**	
File Name	GMO use	Sensor	-
Coordinate System	ETRS89 LAEA	Data type	-
Production Date	2016	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27 (Croatia was not included)	Acquisition Date	2015
Grid size	500 m	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	TIFF image (.tif)		
File size	1.55 GB		
Download site	http://esdac.jrc.ec.europa.eu/content/potential-threats-soil-biodiversity-europe (European Soil Data Centre (ESDAC), Potential threats to soil biodiversity in Europe, 2016)		
Comments	-		

GMO use	
Preview Source: ESDAC / JRC	

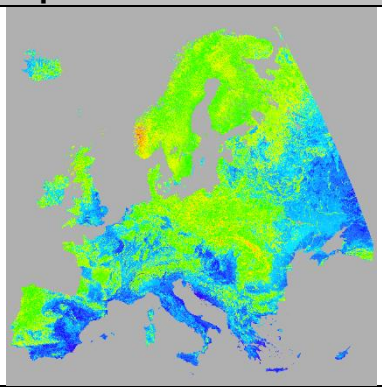
3.9.8 Habitat fragmentation *(CN: sg_9.8)*

Habitat fragmentation			
Specifications		**Source data Specifications**	
File Name	Habitat fragmentation	Sensor	-
Coordinate System	ETRS89 LAEA	Data type	-
Production Date	2016	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27 (Croatia was not included)	Acquisition Date	2015
Grid size	500 m	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	TIFF image (.tif)		
File size	506 MB		
Download site	http://esdac.jrc.ec.europa.eu/content/potential-threats-soil-biodiversity-europe (European Soil Data Centre (ESDAC), Potential threats to soil biodiversity in Europe, 2016)		
Comments	-		

Habitat fragmentation			
Preview Source: ESDAC / JRC			

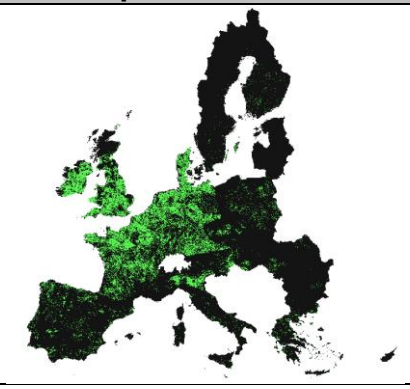
3.9.9 Industrial pollution *(CN: sg_9.9)*

Industrial pollution			
Specifications		**Source data Specifications**	
File Name	Industrial pollution	Sensor	-
Coordinate System	ETRS89 LAEA	Data type	-
Production Date	2016	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27 (Croatia was not included)	Acquisition Date	2015
Grid size	500 m	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	TIFF image (.tif)		
File size	1.01 GB		
Download site	http://esdac.jrc.ec.europa.eu/content/potential-threats-soil-biodiversity-europe (European Soil Data Centre (ESDAC), Potential threats to soil biodiversity in Europe, 2016)		
Comments	-		

Industrial pollution	
Preview Source: ESDAC / JRC	

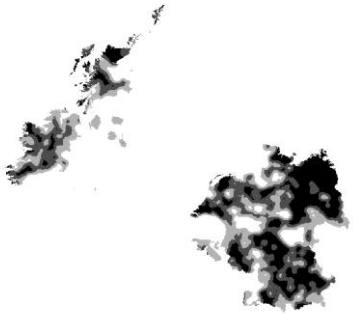
3.9.10 Intensive human exploitation *(CN: sg_9.10)*

Intensive human exploitation			
Specifications		**Source data Specifications**	
File Name	Intensive human exploitation	Sensor	-
Coordinate System	ETRS89 LAEA	Data type	-
Production Date	2016	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27 (Croatia was not included)	Acquisition Date	2015
Grid size	500 m	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	TIFF image (.tif)		
File size	36.8 MB		
Download site	http://esdac.jrc.ec.europa.eu/content/potential-threats-soil-biodiversity-europe (European Soil Data Centre (ESDAC), Potential threats to soil biodiversity in Europe, 2016)		
Comments	-		

Intensive human exploitation	
Preview Source: ESDAC / JRC	

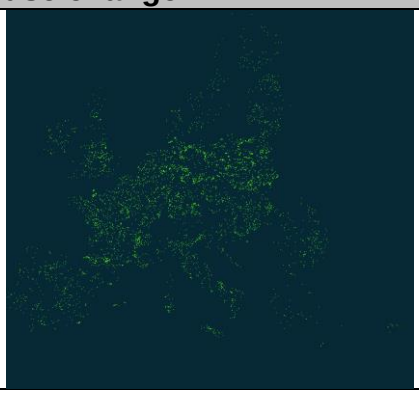
3.9.11 Invasive species *(CN: sg_9.11)*

Invasive species			
Specifications		**Source data Specifications**	
File Name	Invasive species	Sensor	-
Coordinate System	ETRS89 LAEA	Data type	-
Production Date	2016	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27 (Croatia was not included)	Acquisition Date	2015
Grid size	500 m	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	TIFF image (.tif)		
File size	51.0 MB		
Download site	http://esdac.jrc.ec.europa.eu/content/potential-threats-soil-biodiversity-europe (European Soil Data Centre (ESDAC), Potential threats to soil biodiversity in Europe, 2016)		
Comments	-		

Invasive species	
Preview Source: ESDAC / JRC	

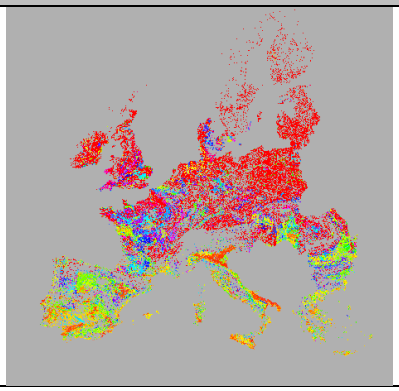
3.9.12 Land use change *(CN: sg_9.12)*

Land use change			
Specifications		**Source data Specifications**	
File Name	Land use change	Sensor	-
Coordinate System	ETRS89 LAEA	Data type	-
Production Date	2016	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27 (Croatia was not included)	Acquisition Date	2015
Grid size	500 m	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	TIFF image (.tif)		
File size	10.1 GB		
Download site	http://esdac.jrc.ec.europa.eu/content/potential-threats-soil-biodiversity-europe (European Soil Data Centre (ESDAC), Potential threats to soil biodiversity in Europe, 2016)		
Comments	-		

Land use change			
Preview Source: ESDAC / JRC			

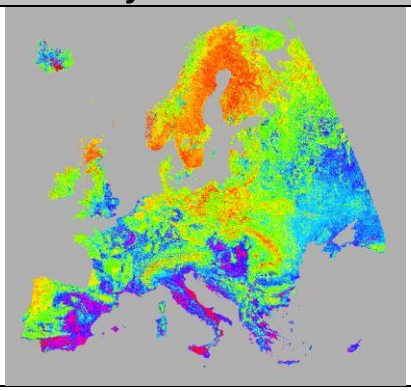
3.9.13 Organic matter decline *(CN: sg_9.13)*

Organic matter decline			
Specifications		**Source data Specifications**	
File Name	Organic matter decline	Sensor	-
Coordinate System	ETRS89 LAEA	Data type	-
Production Date	2016	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27 (Croatia was not included)	Acquisition Date	2015
Grid size	500 m	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	TIFF image (.tif)		
File size	189 MB		
Download site	http://esdac.jrc.ec.europa.eu/content/potential-threats-soil-biodiversity-europe (European Soil Data Centre (ESDAC), Potential threats to soil biodiversity in Europe, 2016)		
Comments	-		

Organic matter decline			
Preview Source: ESDAC / JRC			

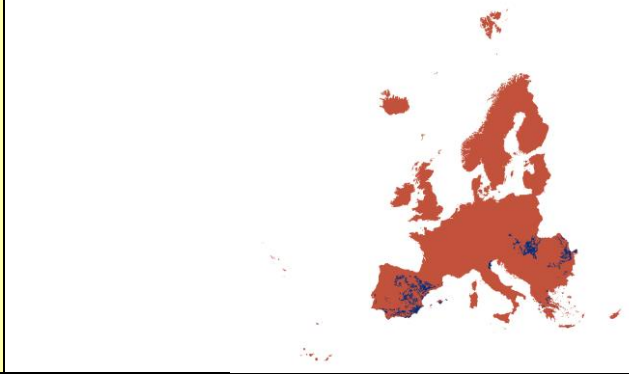
3.9.14 Radioactivity *(CN: sg_9.14)*

Radioactivity			
Specifications		**Source data Specifications**	
File Name	Radioactivity	Sensor	-
Coordinate System	ETRS89 LAEA	Data type	-
Production Date	2016	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27 (Croatia was not included)	Acquisition Date	2015
Grid size	500 m	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	TIFF image (.tif)		
File size	1.01 GB		
Download site	http://esdac.jrc.ec.europa.eu/content/potential-threats-soil-biodiversity-europe (European Soil Data Centre (ESDAC), Potential threats to soil biodiversity in Europe, 2016)		
Comments	-		

Radioactivity	
Preview Source: ESDAC / JRC	

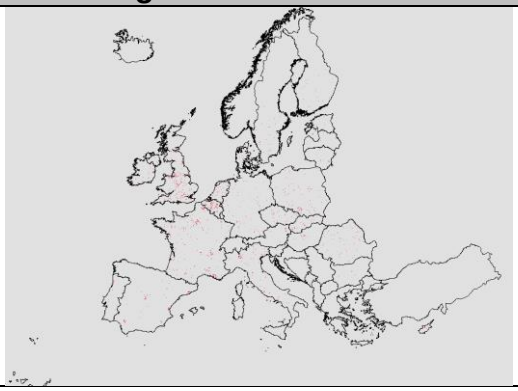
3.9.15 Salinity (CN: sg_9.15)

Salinity			
Specifications		**Source data Specifications**	
File Name	Salinity	Sensor	-
Coordinate System	ETRS89 LAEA	Data type	-
Production Date	2016	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27 (Croatia was not included)	Acquisition Date	2015
Grid size	500 m	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	TIFF image (.tif)		
File size	492 MB		
Download site	http://esdac.jrc.ec.europa.eu/content/potential-threats-soil-biodiversity-europe (European Soil Data Centre (ESDAC), Potential threats to soil biodiversity in Europe, 2016)		
Comments	-		

Salinity	
Preview Source: ESDAC / JRC	

3.9.16 Sealing (CN: sg_9.16)

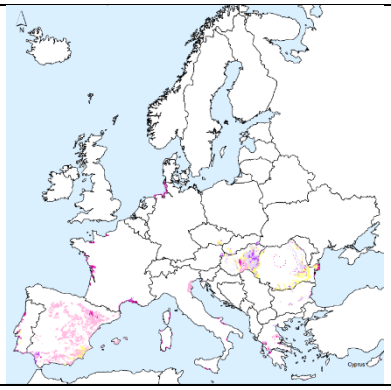
Sealing			
Specifications		**Source data Specifications**	
File Name	Sealing	Sensor	-
Coordinate System	ETRS89 LAEA	Data type	-
Production Date	2016	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27 (Croatia was not included)	Acquisition Date	2015
Grid size	500 m	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	TIFF image (.tif)		
File size	10.1 GB		
Download site	http://esdac.jrc.ec.europa.eu/content/potential-threats-soil-biodiversity-europe (European Soil Data Centre (ESDAC), Potential threats to soil biodiversity in Europe, 2016)		
Comments	-		

Sealing	
Preview Source: ESDAC / JRC	

3.10 Saline and Sodic Soils in the EU (CN: sg_10)

The Saline and Sodic Soils Map for EU-27 (2008) is showing the area distribution of saline, sodic and potentially salt affected areas within the European Union. The accuracy of input data only allows the designation of salt affected areas with a limited level of reliability (e.g. < 50 or > 50% of the area), therefore the results represented in the map should only be used for orientating purposes. (European Soil Data Centre (ESDAC), Saline and Sodic Soils in the EU, 2008)

Saline and Sodic Soils in the EU			
Specifications		**Source data Specifications**	
File Name	Saline and Sodic Soils in the EU	Sensor	-
Coordinate System	ETRS89 LAEA	Data type	-
Production Date	2008	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27	Acquisition Date	1974,2001
Grid size	1 km	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	shapefile		
File size	1.50 MB		
Download site	http://esdac.jrc.ec.europa.eu/content/saline-and-sodic-soils-european-union (European Soil Data Centre (ESDAC), Saline and Sodic Soils in the EU, 2008)		

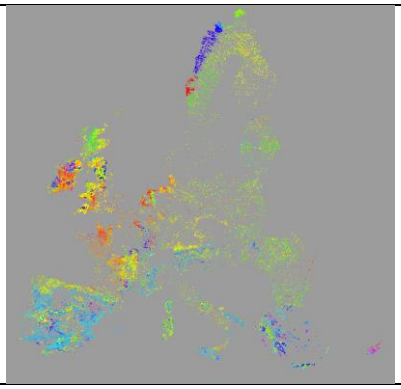
Saline and Sodic Soils in the EU	
Comments	Input data source: Soil data - European Soil Database v2 , 1:1.000.000 scale Map of Salt Affected Soils in Europe (Szabolcs 1974)
Preview Source: ESDAC / JRC	

3.11 Soil Biomass Productivity maps of grasslands and pasture, of croplands and of forest areas in the European Union (EU27)

This dataset consists of 3 GIS maps that indicate the soil biomass productivity of grasslands and pasture, of croplands and of forest areas in the European Union (EU27). The GIS maps cover the EU27. The maps are Geotiff raster fileswith a resolution of 1km. The coordinate system (ETRS_LAEA_10_52) and alignment of pixels are according to INSPIRE recommendations. (European Soil Data Centre (ESDAC), Soil Biomass Productivity maps of grasslands and pasture, of croplands and of forest areas in the European Union (EU27), 2016)

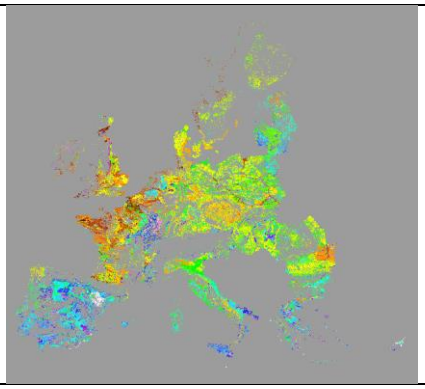
3.11.1 Soil biomass productivity of grasslands and pastures *(CN: sg_11.1)*

Soil biomass productivity of grasslands and pastures			
Specifications		**Source data Specifications**	
File Name	Soil biomass productivity of grasslands and pastures	Sensor	--
Coordinate System	ETRS89 LAEA	Data type	-
Production Date	2016	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27	Acquisition Date	-
Grid size	1 km	Grid size	-
Positional Accuracy	-	Positional Accuracy	-

Soil biomass productivity of grasslands and pastures			
Specifications		**Source data Specifications**	
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	TIFF image (.tif)		
File size	62.5 MB		
Download site	http://esdac.jrc.ec.europa.eu/content/soil-biomass-productivity-maps-grasslands-and-pasture-coplands-and-forest-areas-european (European Soil Data Centre (ESDAC), Soil Biomass Productivity maps of grasslands and pasture, of croplands and of forest areas in the European Union (EU27), 2016)		
Comments	-		
Preview Source: ESDAC / JRC			

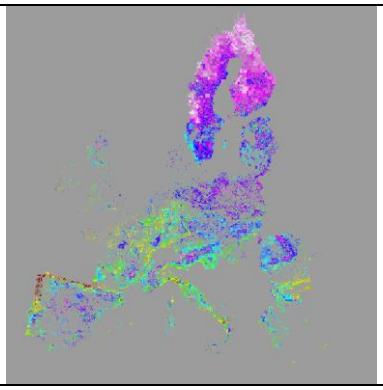
3.11.2 Soil biomass productivity of croplands *(CN: sg_11.2)*

Soil biomass productivity of croplands			
Specifications		**Source data Specifications**	
File Name	Soil biomass productivity of croplands	Sensor	-
Coordinate System	ETRS89 LAEA	Data type	-
Production Date	2016	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27	Acquisition Date	-
Grid size	1 km	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	TIFF image (.tif)		

Soil biomass productivity of croplands			
File size	62.5 MB		
Download site	http://esdac.jrc.ec.europa.eu/content/soil-biomass-productivity-maps-grasslands-and-pasture-coplands-and-forest-areas-european (European Soil Data Centre (ESDAC), Soil Biomass Productivity maps of grasslands and pasture, of croplands and of forest areas in the European Union (EU27), 2016)		
Comments	-		
Preview Source: ESDAC / JRC			

3.11.3 Soil biomass productivity of forest areas *(CN: sg_11.3)*

Soil biomass productivity of forest areas			
Specifications		**Source data Specifications**	
File Name	Soil biomass productivity of forest areas	Sensor	-
Coordinate System	ETRS89 LAEA	Data type	-
Production Date	2016	Sensor resolution	-
Coverage (top L, BR coordinates)	EU27	Acquisition Date	-
Grid size	1 km	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	TIFF image (.tif)		
File size	62.5 MB		
Download site	http://esdac.jrc.ec.europa.eu/content/soil-biomass-productivity-maps-grasslands-and-pasture-coplands-and-forest-areas-european (European Soil Data Centre (ESDAC), Soil Biomass		

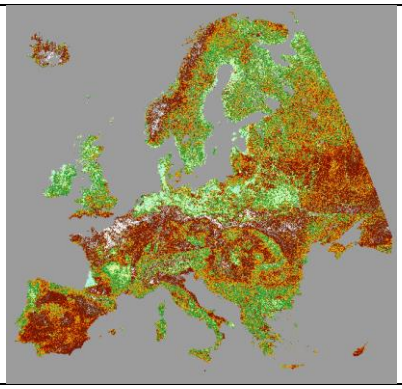
Soil biomass productivity of forest areas	
	Productivity maps of grasslands and pasture, of croplands and of forest areas in the European Union (EU27), 2016)
Comments	-
Preview Source: ESDAC / JRC	

3.12 Soil Erodibility (K- Factor) High Resolution dataset for Europe

Map at 500m resolution (2014) providing a complete picture of the soil erodibility in the European Union member states. It is derived on the basis of the LUCAS 2009 soil survey exercise and the European Soil Database. It covers all Member States of the European Union where data was available. Extrapolated datasets for Norway, Switzerland, Balkan states, Moldova and Ukraine. (European Soil Data Centre (ESDAC), Soil Erodibility (K-Factor) High Resolution dataset for Europe, 2014)

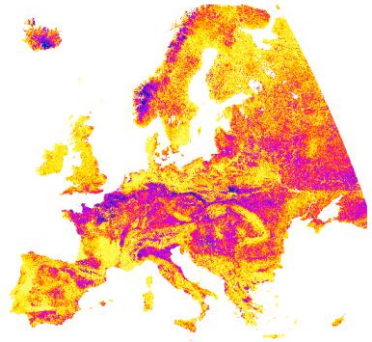
3.12.1 K-factor extrapolated dataset *(CN: sg_12.1)*

K-factor extrapolated dataset			
Specifications		**Source data Specifications**	
File Name	K-factor extrapolated dataset	Sensor	-
Coordinate System	ETRS89 LAEA	Data type	-
Production Date	2014	Sensor resolution	-
Coverage (top L, BR coordinates)	EU28+Norway, Switzerland, Balkan states, Moldova and Ukraine	Acquisition Date	2009,2011
Grid size	500 m	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		

K-factor extrapolated dataset			
File type, Format	TIFF image (.tif)		
File size	538 MB		
Download site	http://esdac.jrc.ec.europa.eu/content/soil-erodibility-k-factor-high-resolution-dataset-europe#tabs-0-description=0 (European Soil Data Centre (ESDAC), Soil Erodibility (K- Factor) High Resolution dataset for Europe, 2014)		
Comments	Derived on the basis of the LUCAS 2009 soil survey exercise and the European Soil Database.		
Preview Source: ESDAC / JRC			

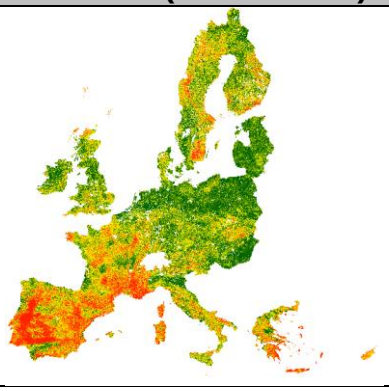
3.12.2 Kst-factor extrapolated (incorporating Stoniness) dataset *(CN: sg_12.2)*

Kst-factor extrapolated (incorporating Stoniness) dataset			
Specifications		**Source data Specifications**	
File Name	Kst-factor extrapolated (incorporating Stoniness) dataset	Sensor	-
Coordinate System	ETRS89 LAEA	Data type	-
Production Date	2014	Sensor resolution	-
Coverage (top L, BR coordinates)	EU28+Norway, Switzerland, Balkan states, Moldova and Ukraine	Acquisition Date	2009,2011
Grid size	500 m	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	ArcGIS Layer (.lyr) TIFF image (.tif)		
File size	511 MB		

Kst-factor extrapolated (incorporating Stoniness) dataset	
Download site	http://esdac.jrc.ec.europa.eu/content/soil-erodibility-k-factor-high-resolution-dataset-europe#tabs-0-description=0 (European Soil Data Centre (ESDAC), Soil Erodibility (K- Factor) High Resolution dataset for Europe, 2014)
Comments	Derived on the basis of the LUCAS 2009 soil survey exercise and the European Soil Database
Preview Source: ESDAC / JRC	

3.12.3 Effect of Stoniness in K-factor (% reduction) *(CN: sg_12.3)*

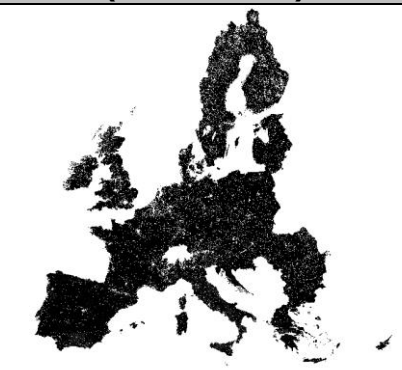
Effect of Stoniness in K-factor (% reduction)			
Specifications		**Source data Specifications**	
File Name	Effect of Stoniness in K-factor (% reduction)	Sensor	-
Coordinate System	ETRS89 LAEA	Data type	-
Production Date	2014	Sensor resolution	-
Coverage (top L, BR coordinates)	EU28+Norway, Switzerland, Balkan states, Moldova and Ukraine	Acquisition Date	2009,2011
Grid size	500 m	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	ArcGIS Layer (.lyr)		
File size	20.0 KB		
Download site	http://esdac.jrc.ec.europa.eu/content/soil-erodibility-k-factor-high-resolution-dataset-europe#tabs-0-description=0 (European Soil Data Centre (ESDAC), Soil Erodibility (K- Factor) High Resolution dataset for Europe, 2014)		
Comments	Derived on the basis of the LUCAS 2009 soil survey exercise and the European Soil Database		

Effect of Stoniness in K-factor (% reduction)	
Preview Source: ESDAC / JRC	

3.13 Soil erosion by water (RUSLE2015) *(CN: sg_13)*

Dataset (GIS map) (2015) that shows the Soil Loss by Water Erosion in Europe and is the result of applying a modified version of the Revised Universal Soil Loss Equation (RUSLE) model, RUSLE 2015 with a spatial resolution of 100m and EU28 coverage. (European Soil Data Centre (ESDAC), Soil erosion by water (RUSLE2015), 2015)

Soil erosion by water (RUSLE2015)			
Specifications		**Source data Specifications**	
File Name	Soil erosion by water (RUSLE2015)	Sensor	-
Coordinate System	ETRS89 LAEA	Data type	-
Production Date	1/9/2015	Sensor resolution	-
Coverage (top L, BR coordinates)	EU28	Acquisition Date	2010
Grid size	100 m	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	TIFF image (.tif)		
File size	10.7 GB		
Download site	https://esdac.jrc.ec.europa.eu/content/soil-erosion-water-rusle2015 (European Soil Data Centre (ESDAC), Soil erosion by water (RUSLE2015), 2015)		
Comments	Dataset is the result of applying a modified version of the Revised Universal Soil Loss Equation (RUSLE) model, RUSLE 2015		

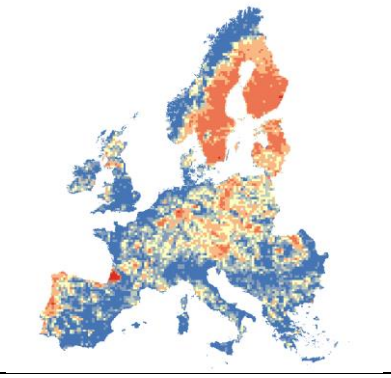
Soil erosion by water (RUSLE2015)	
Preview Source: ESDAC / JRC	

3.14 Soil erosion in forestland in Europe

Dataset (2 GIS-maps) (2016) related to soil erosion in Forestland in Europe. One map is the soil loss potential for EU28; the other map is the European Forest Cover Change for 36 European countries. (European Soil Data Centre (ESDAC), Soil erosion in forestland in Europe (using RUSLE2015), 2015)

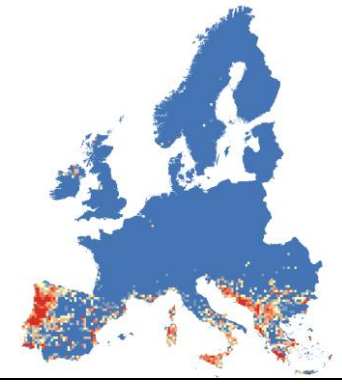
3.14.1 Forest Cover Change class *(CN: sg_14.1)*

Forest Cover Change class			
Specifications		**Source data Specifications**	
File Name	Forest Cover Change class	Sensor	-
Coordinate System	ETRS89 LAEA	Data type	-
Production Date	2015	Sensor resolution	-
Coverage (top L, BR coordinates)	EU28	Acquisition Date	2000-2012
Grid size	100 m	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	TIFF image (.tif) ArcGIS Layer (.lyr)		
File size	208 KB		
Download site	http://esdac.jrc.ec.europa.eu/content/soil-erosion-forestland-europe-using-rusle2015 (European Soil Data Centre (ESDAC), Soil erosion in forestland in Europe (using RUSLE2015), 2015)		
Comments	Based on reprocessed and validated High-resolution Global Forest Cover Loss map (2000–2012).The accuracy assessment		

Forest Cover Change class	
	performed by using a confusion matrix based on 2300 reference forest disturbances distributed across Europe shows values of 55.1% (producer accuracy) for the algorithm-derived forest cover change areas with a Kappa Index of Agreement (KIA) of 0.672.
Preview Source: ESDAC / JRC	

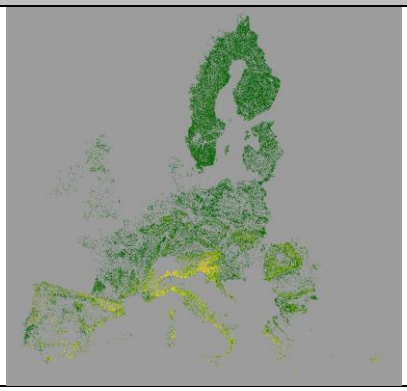
3.14.2 Forest Fires class *(CN: sg_14.2)*

Forest Fires class			
Specifications		**Source data Specifications**	
File Name	Forest Fires class	Sensor	-
Coordinate System	ETRS89 LAEA	Data type	-
Production Date	2015	Sensor resolution	-
Coverage (top L, BR coordinates)	EU28	Acquisition Date	2000-2012
Grid size	100 m	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	TIFF image (.tif) ArcGIS Layer (.lyr)		
File size	224 KB		
Download site	http://esdac.jrc.ec.europa.eu/content/soil-erosion-forestland-europe-using-rusle2015 (European Soil Data Centre (ESDAC), Soil erosion in forestland in Europe (using RUSLE2015), 2015)		
Comments	Based on reprocessed and validated High-resolution Global Forest Cover Loss map (2000–2012). The accuracy assessment performed by using a confusion matrix based on 2300 reference forest disturbances distributed across Europe shows values of 55.1% (producer accuracy) for the algorithm-derived forest		

Forest Fires class	
	cover change areas with a Kappa Index of Agreement (KIA) of 0.672.
Preview Source: ESDAC / JRC	

3.14.3 Soil Loss Potential *(CN: sg_14.3)*

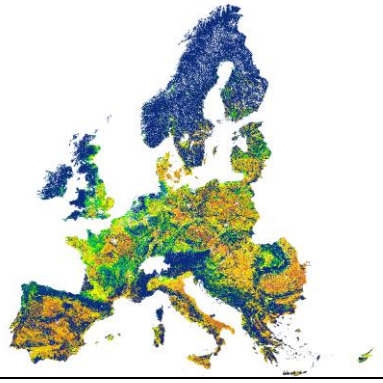
Soil Loss Potential			
Specifications		**Source data Specifications**	
File Name	Soil Loss Potential	Sensor	-
Coordinate System	ETRS89 LAEA	Data type	-
Production Date	2015	Sensor resolution	-
Coverage (top L, BR coordinates)	EU28	Acquisition Date	2000-2012
Grid size	100 m	Grid size	
Positional Accuracy	-	Positional Accuracy	
Vertical Accuracy	-	Vertical Accuracy	
Completeness	complete		
File type, Format	TIFF image (.tif) ArcGIS Layer (.lyr)		
File size	858 MB		
Download site	http://esdac.jrc.ec.europa.eu/content/soil-erosion-forestland-europe-using-rusle2015 (European Soil Data Centre (ESDAC), Soil erosion in forestland in Europe (using RUSLE2015), 2015)		
Comments	Based on reprocessed and validated High-resolution Global Forest Cover Loss map (2000–2012).The accuracy assessment performed by using a confusion matrix based on 2300 reference forest disturbances distributed across Europe shows values of 55.1% (producer accuracy) for the algorithm-derived forest cover change areas with a Kappa Index of Agreement (KIA) of 0.672.		

Soil Loss Potential	
Preview Source: ESDAC / JRC	

3.15 Soil Organic Carbon - Saturation Capacity in Europe *(CN: sg_15)*

This dataset (map) (2016) shows the Soil Organic Carbon (SOC) saturation capacity, expressed as the ratio between the actual and the potential SOC stock in each pixel. Values close to 0 indicate a great potential of soil to store more carbon. (European Soil Data Centre (ESDAC), Soil Organic Carbon - Saturation Capacity in Europe, 2016)

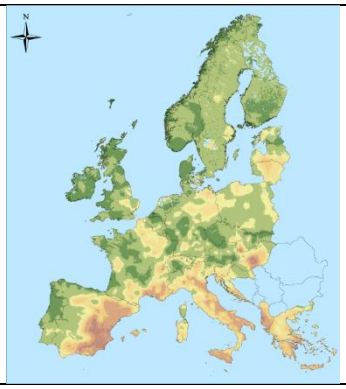
Soil Organic Carbon - Saturation Capacity in Europe			
Specifications		**Source data Specifications**	
File Name	Soil Organic Carbon - Saturation Capacity in Europe	Sensor	-
Coordinate System	ETRS89 LAEA	Data type	-
Production Date	2016	Sensor resolution	-
Coverage (top L, BR coordinates)	EU28 + Balkan + Norway	Acquisition Date	-
Grid size	250 m	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	TIFF image (.tif) ArcGIS Layer (.lyr), ESRI Grid		
File size	977 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/soil-organic-carbon-saturation-capacity (European Soil Data Centre (ESDAC), Soil Organic Carbon - Saturation Capacity in Europe, 2016)		

Soil Organic Carbon - Saturation Capacity in Europe	
Comments	Derived from the Pan-European simulation using the biogeochemical CENTURY model
Preview Source: ESDAC / JRC	

3.16 Soil pH in Europe *(CN: sg_16)*

A quantitative map of estimated soil pH values across Europe from a compilation of 12,333 soil pH measurements from 11 different sources, and using a geo-statistical framework based on Regression-Kriging. Fifty-four (54) auxiliary variables in the form of raster maps at 5km resolution were used to explain the differences in the distribution of soil pH (CaCl2) and the kriged map of the residuals from the regression model was added. (European Soil Data Centre (ESDAC) ,Soil pH in Europe, 2010)

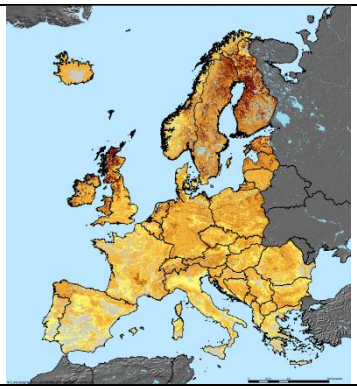
Soil pH in Europe			
Specifications		**Source data Specifications**	
File Name	Soil pH in Europe	Sensor	-
Coordinate System	ETRS89 LAEA	Data type	-
Production Date	30 March 2010	Sensor resolution	-
Coverage (top L, BR coordinates)	EU25 (Romania & Bulgaria are not included,)+Norway, Switzerland, Croatia, Albania	Acquisition Date	2009
Grid size	5 km	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	shapefile		

Soil pH in Europe			
File size	13.0 MB		
Download site	http://esdac.jrc.ec.europa.eu/content/soil-ph-europe (European Soil Data Centre (ESDAC) ,Soil pH in Europe, 2010)		
Comments	Based on a compilation of 12,333 soil pH measurements from 11 different sources (databases from ESDAC), and using a geo-statistical framework based on Regression-Kriging. Accuracy: R^2adj = 0.56.		
Preview Source: ESDAC / JRC			

3.17 Topsoil Organic Carbon Content for Europe (OCTOP) 0 - 30 cm *(CN: sg_17)*

A 2004 GIS map of Soil Organic Carbon (SOC) content (%) in the surface horizon of soils in Europe, associated to a JRC internal report.

Topsoil Organic Carbon Content for Europe (OCTOP) 0 - 30 cm			
Specifications		**Source data Specifications**	
File Name	Topsoil Organic Carbon Content for Europe (OCTOP) 0 - 30 cm	Sensor	-
Coordinate System	ETRS89 LAEA	Data type	-
Production Date	2004	Sensor resolution	-
Coverage (top L, BR coordinates)	EU28	Acquisition Date	2003
Grid size	1 km	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	ASCII raster, ESRI GRID		

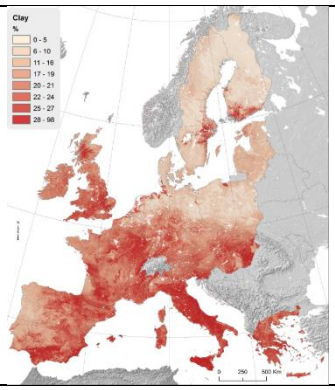
Topsoil Organic Carbon Content for Europe (OCTOP) 0 - 30 cm			
File size	52.6 MB		
Download site	http://esdac.jrc.ec.europa.eu/content/octop-topsoil-organic-carbon-content-europe (European Soil Data Centre (ESDAC), OCTOP: Topsoil Organic Carbon Content for Europe, 2004)		
Comments	-		
Preview Source: ESDAC / JRC			

3.18 Topsoil physical properties for Europe (based on LUCAS topsoil data)

This dataset (GIS maps) (2016) contains 7 soil property maps that have been derived using soil point data from the LUCAS 2009 soil survey (around 20,000 points) for EU-25, using hybrid approaches like regression kriging. Properties: clay, silt and salt content; coarse fragments; bulk density; USDA soil textural class; available water capacity. Resolution 500m.

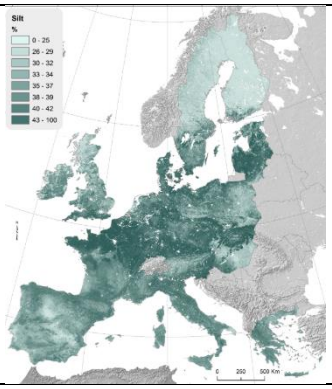
3.18.1 Clay content in topsoil (0-20cm) *(CN: sg_18.1)*

Clay content in topsoil (0-20cm)			
Specifications		**Source data Specifications**	
File Name	Clay content in topsoil (0-20cm)	Sensor	-
Coordinate System	ETRS89 LAEA	Data type	-
Production Date	2015	Sensor resolution	-
Coverage (top L, BR coordinates)	2 geographic datasets: European Union Member States (excluding BG, RO, HR, CY, HR) and EU28 + Balkan + Switzerland + Norway	Acquisition Date	2009
Grid size	500 m	Grid size	-

Clay content in topsoil (0-20cm)			
Specifications		**Source data Specifications**	
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	TIFF image (.tif)		
File size	742 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/topsoil-physical-properties-europe-based-lucas-topsoil-data (European Soil Data Centre (ESDAC), Topsoil physical properties for Europe (based on LUCAS topsoil data), 2015)		
Comments	Derived using soil point data from the LUCAS 2009 soil survey. Accuracy: R^2 between 0.47 and 0.50.		
Preview Source: ESDAC / JRC			

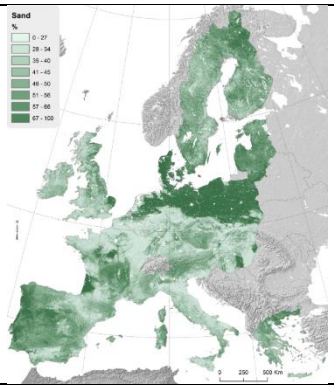
3.18.2 Silt content in topsoil *(CN: sg_18.2)*

Silt content in topsoil			
Specifications		**Source data Specifications**	
File Name	Silt content in topsoil	Sensor	-
Coordinate System	ETRS89 LAEA	Data type	-
Production Date	2015	Sensor resolution	-
Coverage (top L, BR coordinates)	2 geographic datasets: European Union Member States (excluding BG, RO, HR, CY, HR) and EU28 + Balkan + Switzerland + Norway	Acquisition Date	2009
Grid size	500 m	Grid size	
Positional Accuracy	-	Positional Accuracy	

Silt content in topsoil			
Specifications		**Source data Specifications**	
Vertical Accuracy	-	Vertical Accuracy	
Completeness	complete		
File type, Format	TIFF image (.tif)		
File size	742 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/topsoil-physical-properties-europe-based-lucas-topsoil-data (European Soil Data Centre (ESDAC), Topsoil physical properties for Europe (based on LUCAS topsoil data), 2015)		
Comments	Derived using soil point data from the LUCAS 2009 soil survey. Accuracy: R2 between 0.47 and 0.50.		
Preview Source: ESDAC / JRC			

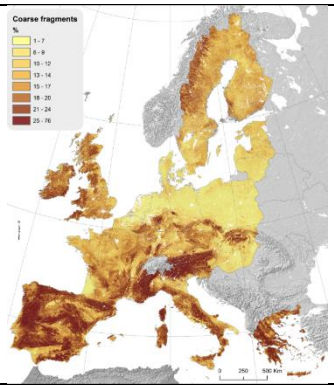
3.18.3 Sand content in topsoil *(CN: sg_18.3)*

Sand content in topsoil			
Specifications		**Source data Specifications**	
File Name	Sand content in topsoil	Sensor	-
Coordinate System	ETRS89 LAEA	Data type	-
Production Date	2015	Sensor resolution	-
Coverage (top L, BR coordinates)	2 geographic datasets: European Union Member States (excluding BG, RO, HR, CY, HR) and EU28 + Balkan + Switzerland + Norway	Acquisition Date	2009
Grid size	500 m	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-

Sand content in topsoil			
Specifications		**Source data Specifications**	
Completeness	complete		
File type, Format	TIFF image (.tif)		
File size	742 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/topsoil-physical-properties-europe-based-lucas-topsoil-data (European Soil Data Centre (ESDAC), Topsoil physical properties for Europe (based on LUCAS topsoil data), 2015)		
Comments	Derived using soil point data from the LUCAS 2009 soil survey. Accuracy: R2 between 0.47 and 0.50.		
Preview Source: ESDAC / JRC			

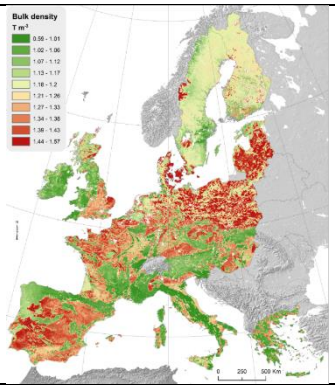
3.18.4 Coarse fragments content in topsoil *(CN: sg_18.4)*

Coarse fragments content in topsoil			
Specifications		**Source data Specifications**	
File Name	Coarse fragments content in topsoil	Sensor	-
Coordinate System	ETRS89 LAEA	Data type	-
Production Date	2015	Sensor resolution	-
Coverage (top L, BR coordinates)	2 geographic datasets: European Union Member States (excluding BG, RO, HR, CY, HR) and EU28 + Balkan + Switzerland + Norway	Acquisition Date	2009
Grid size	500 m	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		

Coarse fragments content in topsoil			
Specifications		**Source data Specifications**	
File type, Format	TIFF image (.tif)		
File size	539 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/topsoil-physical-properties-europe-based-lucas-topsoil-data (European Soil Data Centre (ESDAC), Topsoil physical properties for Europe (based on LUCAS topsoil data), 2015)		
Comments	Derived using soil point data from the LUCAS 2009 soil survey. Accuracy: R2 between 0.47 and 0.50.		
Preview Source: ESDAC / JRC			

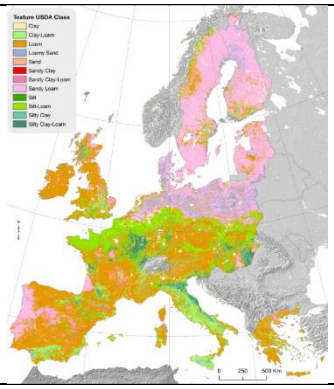
3.18.5 Bulk density derived from soil texture datasets *(CN: sg_18.5)*

Bulk density derived from soil texture datasets			
Specifications		**Source data Specifications**	
File Name	Bulk density derived from soil texture datasets	Sensor	-
Coordinate System	ETRS89 LAEA	Data type	-
Production Date	2015	Sensor resolution	-
Coverage (top L, BR coordinates)	2 geographic datasets: European Union Member States (excluding BG, RO, HR, CY, HR) and EU28 + Balkan + Switzerland + Norway	Acquisition Date	2009
Grid size	500 m	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		

Bulk density derived from soil texture datasets			
Specifications		**Source data Specifications**	
File type, Format	TIFF image (.tif)		
File size	489 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/topsoil-physical-properties-europe-based-lucas-topsoil-data (European Soil Data Centre (ESDAC), Topsoil physical properties for Europe (based on LUCAS topsoil data), 2015)		
Comments	Derived using soil point data from the LUCAS 2009 soil survey. Accuracy: R2 between 0.47 and 0.50.		
Preview Source: ESDAC / JRC			

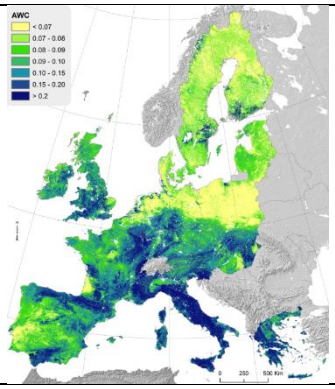
3.18.6 USDA soil textural classes derived from clay *(CN: sg_18.6)*

USDA soil textural classes derived from clay			
Specifications		**Source data Specifications**	
File Name	USDA soil textural classes derived from clay	Sensor	-
Coordinate System	ETRS89 LAEA	Data type	-
Production Date	2015	Sensor resolution	
Coverage (top L, BR coordinates)	2 geographic datasets: European Union Member States (excluding BG, RO, HR, CY, HR) and EU28 + Balkan + Switzerland + Norway	Acquisition Date	2009
Grid size	500 m	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		

USDA soil textural classes derived from clay			
Specifications		**Source data Specifications**	
File type, Format	TIFF image (.tif)		
File size	11.1 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/topsoil-physical-properties-europe-based-lucas-topsoil-data (European Soil Data Centre (ESDAC), Topsoil physical properties for Europe (based on LUCAS topsoil data), 2015)		
Comments	Derived using soil point data from the LUCAS 2009 soil survey. Accuracy: R2 between 0.47 and 0.50.		
Preview Source: ESDAC / JRC			

3.18.7 Available Water Capacity (AWC) for the topsoil fine *(sg_18.7)*

Available Water Capacity (AWC) for the topsoil fine			
Specifications		**Source data Specifications**	
File Name	Available Water Capacity (AWC) for the topsoil fine	Sensor	-
Coordinate System	ETRS89 LAEA	Data type	-
Production Date	2015	Sensor resolution	-
Coverage (top L, BR coordinates)	2 geographic datasets: European Union Member States (excluding BG, RO, HR, CY, HR) and EU28 + Balkan + Switzerland + Norway	Acquisition Date	2009
Grid size	500 m	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		

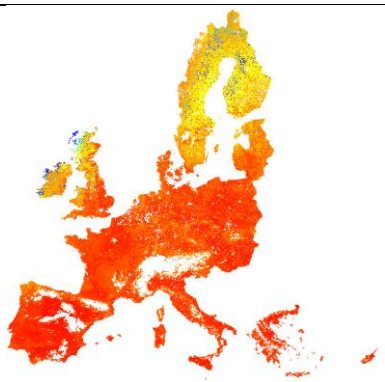
Available Water Capacity (AWC) for the topsoil fine			
Specifications		**Source data Specifications**	
File type, Format	TIFF image (.tif)		
File size	734 MB		
Download site	https://esdac.jrc.ec.europa.eu/content/topsoil-physical-properties-europe-based-lucas-topsoil-data (European Soil Data Centre (ESDAC), Topsoil physical properties for Europe (based on LUCAS topsoil data), 2015)		
Comments	Derived using soil point data from the LUCAS 2009 soil survey. Accuracy: R2 between 0.47 and 0.50.		
Preview Source: ESDAC / JRC			

3.19 Topsoil Soil Organic Carbon (LUCAS) for EU25

This dataset (2015) provides maps for Topsoil Soil Organic Carbon in EU-25 that are based on LUCAS 2009 soil point data through a generalized additive model The map of predicted topsoil organic carbon content (g C kg-1) was produced by fitting a generalised additive model between organic carbon measurements from the LUCAS survey (dependent variable) and a set of selected environmental covariates; namely slope, land cover, annual accumulated temperature, net primary productivity, latitude and longitude. It also includes a Map of standard error of the OC model predictions (g C kg-1).

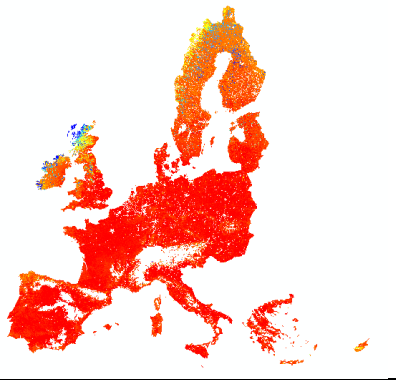
3.19.1 Map of predicted topsoil organic carbon content *(CN: sg_19.1)*

Map of predicted topsoil organic carbon content			
Specifications		**Source data Specifications**	
File Name	Map of predicted topsoil organic carbon content	Sensor	-
Coordinate System	ETRS89 LAEA	Data type	-
Production Date	2015	Sensor resolution	-

Map of predicted topsoil organic carbon content			
Specifications		**Source data Specifications**	
Coverage (top L, BR coordinates)	EU25 (excluded Romania, Bulgaria, Croatia)	Acquisition Date	2009
Grid size	1 km	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	TIFF image (.tif), GeoTIFF		
File size	396 MB		
Download site	http://esdac.jrc.ec.europa.eu/content/topsoil-soil-organic-carbon-lucas-eu25 (European Soil Data Centre (ESDAC), Topsoil Soil Organic Carbon (LUCAS) for EU25, 2015)		
Comments	Based on LUCAS 2009 soil point data through a generalized additive model. R^2 = 0.29		
Preview Source: ESDAC / JRC			

3.19.2 Map of standard error of the OC model predictions *(CN: sg_19.2)*

Map of standard error of the OC model predictions			
Specifications		**Source data Specifications**	
File Name	Map of standard error of the OC model predictions	Sensor	-
Coordinate System	ETRS89 LAEA	Data type	-
Production Date	2015	Sensor resolution	-
Coverage (top L, BR coordinates)	EU25 (excluded Romania, Bulgaria, Croatia)	Acquisition Date	2009
Grid size	1 km	Grid size	-

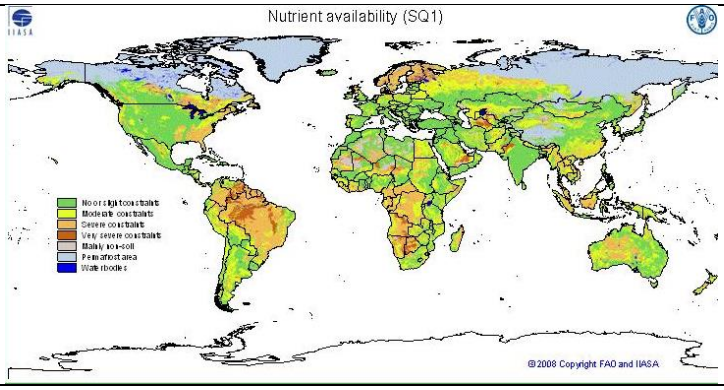
Map of standard error of the OC model predictions			
Specifications		**Source data Specifications**	
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	TIFF image (.tif), GeoTIFF		
File size	497 MB		
Download site	http://esdac.jrc.ec.europa.eu/content/topsoil-soil-organic-carbon-lucas-eu25 (European Soil Data Centre (ESDAC), Topsoil Soil Organic Carbon (LUCAS) for EU25, 2015)		
Comments	Based on LUCAS 2009 soil point data through a generalized additive model. R2 = 0.29		
Preview Source: ESDAC / JRC			

3.20 Soil Qualities for Crop Production

These data were derived from FAO's Harmonized World Soil Database v 1.2 and have to do with Soil Qualities for Crop Production such as: Nutrient availability, Nutrient retention capacity, Rooting conditions, Oxygen availability to roots, Excess salts, Toxicity and Workability (constraining field management). The dataset provides Global Coverage with a resolution of 30 arc seconds. (Food And Agriculture Organization (FAO), Harmonized World Soil Database v 1.2, 2009)

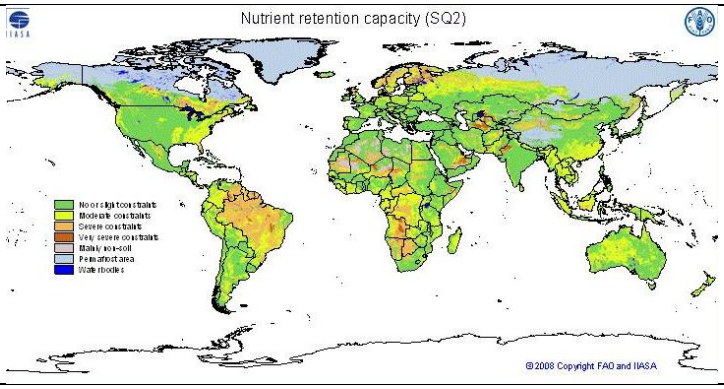
3.20.1 Nutrient availability *(CN: sg_20.1)*

Nutrient availability			
Specifications		**Source data Specifications**	
File Name	Nutrient availability	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	March 2009	Sensor resolution	-

Nutrient availability			
Specifications		**Source data Specifications**	
Coverage (top L, BR coordinates)	Global	Acquisition Date	-
Grid size	30 arc seconds ≈ 10 km	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	ArcGIS Layer (.lyr) TIFF image (.tif)		
File size	2.08 GB		
Download site	http://www.fao.org/soils-portal/soil-survey/soil-maps-and-databases/harmonized-world-soil-database-v12/en/ (Food And Agriculture Organization (FAO), Harmonized World Soil Database v 1.2, 2009)		
Comments	Based on Harmonized World Soil Database v 1.2		
Preview Source: FAO			

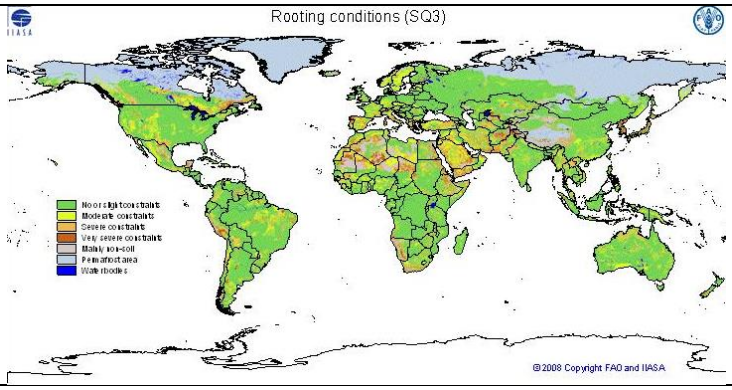
3.20.2 Nutrient retention capacity *(CN: sg_20.2)*

Nutrient retention capacity			
Specifications		**Source data Specifications**	
File Name	Nutrient retention capacity	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	March 2009	Sensor resolution	-
Coverage (top L, BR coordinates)	Global	Acquisition Date	-
Grid size	30 arc seconds ≈ 10 km	Grid size	-
Positional Accuracy	-	Positional Accuracy	-

Nutrient retention capacity			
Specifications		**Source data Specifications**	
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	ArcGIS Layer (.lyr) TIFF image (.tif)		
File size	2.08 GB		
Download site	http://www.fao.org/soils-portal/soil-survey/soil-maps-and-databases/harmonized-world-soil-database-v12/en/ (Food And Agriculture Organization (FAO), Harmonized World Soil Database v 1.2, 2009)		
Comments	Based on Harmonized World Soil Database v 1.2		
Preview Source: FAO			

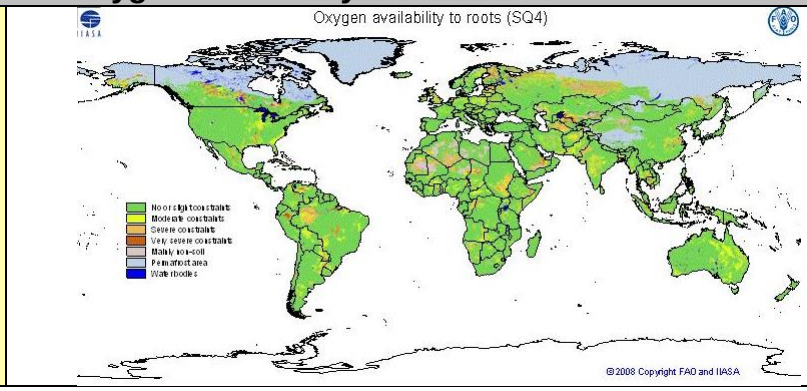
3.20.3 Rooting conditions *(CN: sg_20.3)*

Rooting conditions			
Specifications		**Source data Specifications**	
File Name	Rooting conditions	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	March 2009	Sensor resolution	-
Coverage (top L, BR coordinates)	Global	Acquisition Date	-
Grid size	30 arc seconds ≈ 10 km	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	ArcGIS Layer (.lyr) TIFF image (.tif)		

Rooting conditions			
Specifications		**Source data Specifications**	
File size	2.08 GB		
Download site	http://www.fao.org/soils-portal/soil-survey/soil-maps-and-databases/harmonized-world-soil-database-v12/en/		
Comments	Based on Harmonized World Soil Database v 1.2		
Preview Source: FAO			

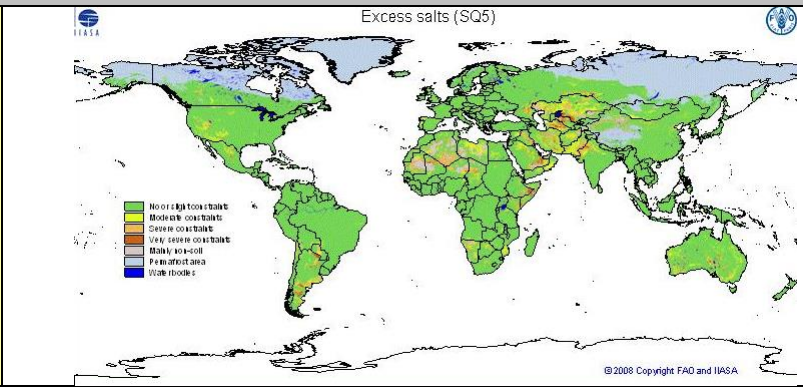
3.20.4 Oxygen availability to roots *(CN: sg_20.4)*

Oxygen availability to roots			
Specifications		**Source data Specifications**	
File Name	Oxygen availability to roots	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	March 2009	Sensor resolution	-
Coverage (top L, BR coordinates)	Global	Acquisition Date	-
Grid size	30 arc seconds ≈ 10 km	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	ArcGIS Layer (.lyr) TIFF image (.tif)		
File size	2.08 GB		
Download site	http://www.fao.org/soils-portal/soil-survey/soil-maps-and-databases/harmonized-world-soil-database-v12/en/ (Food And Agriculture Organization (FAO), Harmonized World Soil Database v 1.2, 2009)		
Comments	Based on Harmonized World Soil Database v 1.2		

Oxygen availability to roots	
Preview Source: FAO	

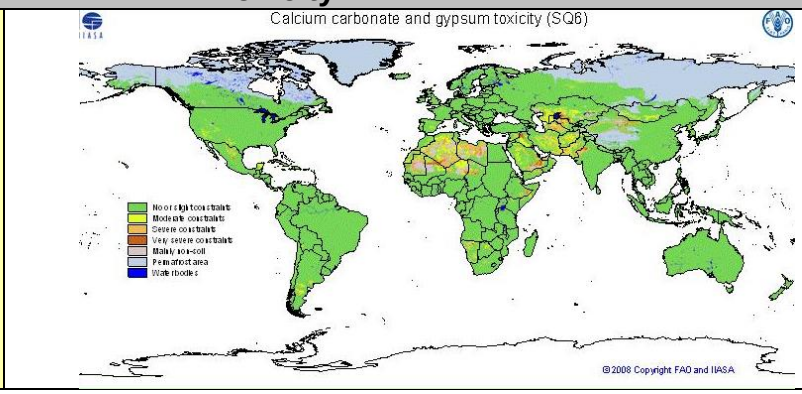
3.20.5 Excess salts *(CN: sg_20.5)*

Excess salts			
Specifications		**Source data Specifications**	
File Name	Excess salts	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	March 2009	Sensor resolution	-
Coverage (top L, BR coordinates)	Global	Acquisition Date	-
Grid size	30 arc seconds ≈ 10 km	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	ArcGIS Layer (.lyr) TIFF image (.tif)		
File size	2.08 GB		
Download site	http://www.fao.org/soils-portal/soil-survey/soil-maps-and-databases/harmonized-world-soil-database-v12/en/ (Food And Agriculture Organization (FAO), Harmonized World Soil Database v 1.2, 2009)		
Comments	Based on Harmonized World Soil Database v 1.2		

Excess salts	
Preview Source: FAO	

3.20.6 Toxicity (CN: sg_20.6)

Toxicity			
Specifications		**Source data Specifications**	
File Name	Toxicity	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	March 2009	Sensor resolution	-
Coverage (top L, BR coordinates)	Global	Acquisition Date	-
Grid size	30 arc seconds ≈ 10 km	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	ArcGIS Layer (.lyr) TIFF image (.tif)		
File size	2.08 GB		
Download site	http://www.fao.org/soils-portal/soil-survey/soil-maps-and-databases/harmonized-world-soil-database-v12/en/ (Food And Agriculture Organization (FAO), Harmonized World Soil Database v 1.2, 2009)		
Comments	Based on Harmonized World Soil Database v 1.2		

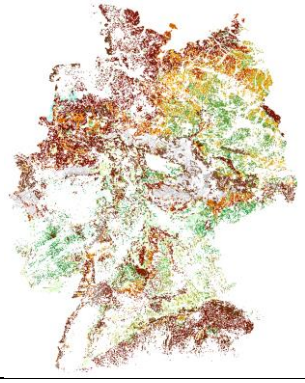
Toxicity	
Preview Source: FAO	

3.20.7 Workability (constraining field management) *(CN: sg_20.7)*

Workability (constraining field management)			
Specifications		**Source data Specifications**	
File Name	Workability (constraining field management)	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	March 2009	Sensor resolution	-
Coverage (top L, BR coordinates)	Global	Acquisition Date	-
Grid size	30 arc seconds ≈ 10 km	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	ArcGIS Layer (.lyr) TIFF image (.tif)		
File size	2.08 GB		
Download site	http://www.fao.org/soils-portal/soil-survey/soil-maps-and-databases/harmonized-world-soil-database-v12/en/ (Food And Agriculture Organization (FAO), Harmonized World Soil Database v 1.2, 2009)		
Comments	-		

3.21 Soil quality rating for cropland in Germany 1: 1.000.000 *(CN: sg_21)*

The only dataset with national cover. (Germany). It is stored due to the importance of the developed methodology.

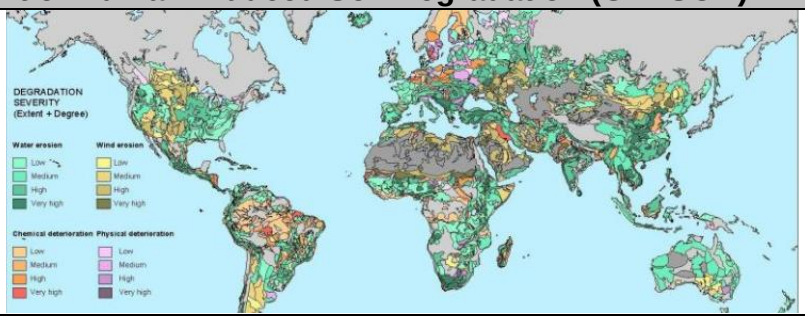
Soil quality rating for cropland in Germany 1: 1.000.000			
Specifications		**Source data Specifications**	
File Name	Soil quality rating for cropland in Germany 1: 1.000.000	Sensor	-
Coordinate System	ETRS89 LAEA	Data type	-
Production Date	24/10/2013	Sensor resolution	-
Coverage (top L, BR coordinates)	Germany	Acquisition Date	2013
Grid size	250 m	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	TIFF image (.tif)		
File size	3.11 MB		
Download site	https://produktcenter.bgr.de/terraCatalog/DetailResult.do?fileIdentifier=3DBC11EE-81E9-41A2-916E-1281DDD6C7A8 (Federal Institute for Geosciences and Natural Resources (BGR), Soil quality rating for cropland in Germany 1: 1.000.000, 2013)		
Comments	Based on the land use stratified soil map of Germany at scale 1:1,000,000. Climate (DWD), Relief (BKG) and land use data (CLC2006) are used as input data in addition to the soil map		
Preview SOURCE: BDR			

3.22 Global Assessment of Human-induced Soil Degradation (GLASOD) *(CN: sg_22)*

In 1990, the UNEP-funded GLASOD project, which was coordinated by ISRIC, produced a first world map of human-induced soil degradation, using an expert-based approach. The map was intended to raise awareness on soil degradation problems on the occasion of the 1992 UNCED conference in Rio de Janeiro.

Data were compiled in cooperation with a large number of soil scientists throughout the world, using uniform guidelines and international correlation. The status of soil degradation was mapped within loosely defined physiographic units (polygons), based on expert judgement.

Global Assessment of Human-induced Soil Degradation (GLASOD)			
Specifications		**Source data Specifications**	
File Name	Global Assessment of Human-induced Soil Degradation (GLASOD)	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	1990-10-01	Sensor resolution	-
Coverage (top L, BR coordinates)	Global	Acquisition Date	1987-1990
Grid size	-	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	ArcGIS ArcMap Document (.mxd), Shapefile, ArcGIS Layer (.lyr)		
File size	8.76 MB		
Download site	http://www.isric.org/projects/global-assessment-human-induced-soil-degradation-glasod (International Soil Reference and Information Centre (ISRIC), Global Assessment of Human-induced Soil Degradation (GLASOD), 2019)		
Comments	-		

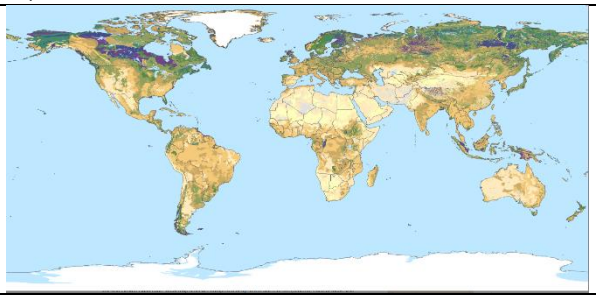
Global Assessment of Human-induced Soil Degradation (GLASOD)	
Preview Source: ISRIC	

3.23 WISE derived soil property estimates on a 30 by 30 arcsec global grid *(CN: sg_23)*

This harmonized dataset of derived soil properties for the world (WISE30sec) is comprised of a soil-geographical and a soil attribute component. The GIS dataset was created using the soil map unit delineations of the broad scale Harmonised World Soil Database, version 1.21, with minor corrections, overlaid by a climate zones map (Köppen-Geiger) as co-variate, and soil property estimates derived from analyses of the ISRIC-WISE soil profile database for the respective mapped 'soil/climate' combinations.

The dataset considers 20 soil properties that are commonly required for global agro-ecological zoning, land evaluation, crop growth simulation, modelling of soil gaseous emissions, and analyses of global environmental change. It presents 'best' estimates for: organic carbon content, total nitrogen, C/N ratio, pH(H2O), CECsoil, CECclay, effective CEC, total exchangeable bases (TEB), base saturation, aluminium saturation, calcium carbonate content, gypsum content, exchangeable sodium percentage (ESP), electrical conductivity, particle size distribution (content of sand, silt and clay), proportion of coarse fragments (less than 2 mm), bulk density, and available water capacity (-33 to -1500 kPa); also the dominant soil drainage class. (International Soil Reference and Information Centre (ISRIC), WISE derived soil property estimates on a 30 by 30 arcsec global grid, 2016)

WISE derived soil property estimates on a 30 by 30 arcsec global grid			
Specifications		**Source data Specifications**	
File Name	WISE derived soil property estimates on a 30 by 30 arcsec global grid	Sensor	-
Coordinate System	WGS84	Data type	-

Production Date	2016-05-01	Sensor resolution	-
Coverage (top L, BR coordinates)	Global	Acquisition Date	2015
Grid size	30 arc - seconds	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	TIFF image (.tif) Microsoft Access Database (.mdb)		
File size	3.00 GB		
Download site	https://data.isric.org/geonetwork/srv/eng/catalog.search#/metadata/dc7b283a-8f19-45e1-aaed-e9bd515119bc (International Soil Reference and Information Centre (ISRIC), WISE derived soil property estimates on a 30 by 30 arcsec global grid, 2016)		
Comments	Data sources: • Soil profile data: The ISRIC-WISE soil profile database (Batjes 2009, 2011) was complemented with some 8,000 'new' profiles, originating mainly from North America (ISCN 2014) and 'High Latitude' regions. • Soil geographical data: European Soil Database, Soil Map of China, SOTER and WISE derived databases		
Preview Source: ISRIC			

4. CLIMATE DATASETS

In this category data that referred to climate are presented. These datasets have global coverage.

4.1 High-resolution gridded datasets (and derived products) climatological data

High-resolution gridded datasets produced by the Climatic Research Unit (CRU). CRU is part of the School of Environmental Sciences of University of East Anglia, UK. CRU is widely recognized as one of the world's leading institutions concerned with the study of natural and anthropogenic climate change. In particular the following datasets were stored: TMP: near-surface mean temperature, TMN: near-surface minimum temperature, TMX: near-surface temperature maximum, DTR: near-surface diurnal temperature range, PRE: precipitation, WET: wet day frequency, FRS: frost day frequency, VAP: vapour pressure, PET: potential evapotranspiration and CLD: cloud cover. (Climatic Research Unit (University of East Anglia), High-resolution gridded datasets (and derived products) climatological data, 2019)

4.1.1 TMP: near-surface mean temperature *(CN: c_1.1)*

TMP: near-surface mean temperature			
Specifications		**Source data Specifications**	
File Name	TMP: near-surface mean temperature	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	15 May 2019	Sensor resolution	-
Coverage (top L, BR coordinates)	Global (excluding Antarctica)	Acquisition Date	1901-2018
Grid size	0.5^{o}	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	ASCII		
File size	661 MB		

TMP: near-surface mean temperature	
Download site	https://crudata.uea.ac.uk/cru/data/hrg/ (Climatic Research Unit (University of East Anglia), High-resolution gridded datasets (and derived products) climatological data, 2019)
Comments	-

4.1.2 TMN: near-surface minimum temperature *(CN: c_1.2)*

TMN: near-surface minimum temperature			
Specifications		**Source data Specifications**	
File Name	TMN: near-surface minimum temperature	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	15 May 2019	Sensor resolution	-
Coverage (top L, BR coordinates)	Global	Acquisition Date	1901-2018
Grid size	0.5º	Grid size	
Positional Accuracy	-	Positional Accuracy	
Vertical Accuracy	-	Vertical Accuracy	
Completeness	complete		
File type, Format	ASCII		
File size	694 MB		
Download site	https://crudata.uea.ac.uk/cru/data/hrg/ (Climatic Research Unit (University of East Anglia), High-resolution gridded datasets (and derived products) climatological data, 2019)		
Comments	-		

4.1.3 TMX: near-surface temperature maximum *(CN: c_1.3)*

TMX: near-surface temperature maximum			
Specifications		**Source data Specifications**	
File Name	TMX: near-surface temperature maximum	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	15 May 2019	Sensor resolution	-
Coverage (top L, BR coordinates)	Global	Acquisition Date	1901-2018
Grid size	0.5º	Grid size	-

TMX: near-surface temperature maximum			
Specifications		**Source data Specifications**	
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	ASCII		
File size	683 MB		
Download site	https://crudata.uea.ac.uk/cru/data/hrg/ (Climatic Research Unit (University of East Anglia), High-resolution gridded datasets (and derived products) climatological data, 2019)		
Comments	-		

4.1.4 DTR: near-surface diurnal temperature range *(CN: c_1.4)*

DTR: near-surface diurnal temperature range			
Specifications		**Source data Specifications**	
File Name	DTR: near-surface diurnal temperature range	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	15 May 2019	Sensor resolution	-
Coverage (top L, BR coordinates)	Global	Acquisition Date	1901-2018
Grid size	0.5^{o}	Grid size	
Positional Accuracy	-	Positional Accuracy	
Vertical Accuracy	-	Vertical Accuracy	
Completeness	complete		
File type, Format	ASCII with stn. Extension		
File size	592 MB		
Download site	https://crudata.uea.ac.uk/cru/data/hrg/ (Climatic Research Unit (University of East Anglia), High-resolution gridded datasets (and derived products) climatological data, 2019)		
Comments	-		

4.1.5 PRE: precipitation *(CN: c_1.5)*

PRE: precipitation			
Specifications		**Source data Specifications**	
File Name	PRE: precipitation	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	15 May 2019	Sensor resolution	-
Coverage (top L, BR coordinates)	Global	Acquisition Date	1901-2018
Grid size	0.5º	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	ASCII		
File size	871 MB		
Download site	https://crudata.uea.ac.uk/cru/data/hrg/ (Climatic Research Unit (University of East Anglia), High-resolution gridded datasets (and derived products) climatological data, 2019)		
Comments	-		

4.1.6 WET: wet day frequency *(CN: c_1.6)*

WET: wet day frequency			
Specifications		**Source data Specifications**	
File Name	WET: wet day frequency	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	15 May 2019	Sensor resolution	-
Coverage (top L, BR coordinates)	Global	Acquisition Date	1901-2018
Grid size	0.5º	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	ASCII		
File size	947 MB		

WET: wet day frequency	
Specifications	**Source data Specifications**
Download site	https://crudata.uea.ac.uk/cru/data/hrg/ (Climatic Research Unit (University of East Anglia), High-resolution gridded datasets (and derived products) climatological data, 2019)
Comments	-

4.1.7 FRS: frost day frequency *(c_1.7)*

FRS: frost day frequency			
Specifications		**Source data Specifications**	
File Name	FRS: frost day frequency	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	15 May 2019	Sensor resolution	-
Coverage (top L, BR coordinates)	Global	Acquisition Date	1901-2018
Grid size	0.5º	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	ASCII		
File size	407 MB		
Download site	https://crudata.uea.ac.uk/cru/data/hrg/ (Climatic Research Unit (University of East Anglia), High-resolution gridded datasets (and derived products) climatological data, 2019)		
Comments	-		

4.1.8 VAP: vapour pressure *(CN: c_1.8)*

VAP: vapour pressure			
Specifications		**Source data Specifications**	
File Name	VAP: vapour pressure	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	15 May 2019	Sensor resolution	-
Coverage (top L, BR coordinates)	Global	Acquisition Date	1901-2018

VAP: vapour pressure			
Specifications		**Source data Specifications**	
Grid size	0.5º	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	ASCII		
File size	609 MB		
Download site	https://crudata.uea.ac.uk/cru/data/hrg/ (Climatic Research Unit (University of East Anglia), High-resolution gridded datasets (and derived products) climatological data, 2019)		
Comments	-		

4.1.9 PET: potential evapotranspiration *(CN: c_1.9)*

PET: potential evapotranspiration			
Specifications		**Source data Specifications**	
File Name	PET: potential evapotranspiration	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	15 May 2019	Sensor resolution	-
Coverage (top L, BR coordinates)	Global	Acquisition Date	1901-2018
Grid size	0.5º	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	ASCII with stn. extension		
File size	286 MB		
Download site	https://crudata.uea.ac.uk/cru/data/hrg/ (Climatic Research Unit (University of East Anglia), High-resolution gridded datasets (and derived products) climatological data, 2019)		
Comments	-		

4.1.10 CLD: cloud cover *(CN: c1.10)*

CLD: cloud cover			
Specifications		**Source data Specifications**	
File Name	CLD: cloud cover	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	15 May 2019	Sensor resolution	-
Coverage (top L, BR coordinates)	Global	Acquisition Date	1901-2018
Grid size	0.5º	Grid size	
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	ASCII with stn. extension		
File size	720 MB		
Download site	https://crudata.uea.ac.uk/cru/data/hrg/ (Climatic Research Unit (University of East Anglia), High-resolution gridded datasets (and derived products) climatological data, 2019)		
Comments	-		

4.2 WorldClim - Global Climate Data - Free climate data for ecological modeling and GIS

WorldClim is a set of global climate layers (gridded climate data) with a spatial resolution of about 1 km^2. These data can be used for mapping and spatial modeling. In particular the following datasets were stored: Precipitation, bioclimatic variables, tmax, tmin and tmean. (WorldClim - Global Climate Data, Free climate data for ecological modeling and GIS)

4.2.1 Precipitation *(CN: c_2.1)*

Precipitation			
Specifications		**Source data Specifications**	
File Name	Precipitation	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	-	Sensor resolution	-

Precipitation			
Specifications		**Source data Specifications**	
Coverage (top L, BR coordinates)	Global	Acquisition Date	1960-1990
Grid size	1km	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	ESRI grid GeoTIFF Generic grid		
File size	661 MB		
Download site	http://www.worldclim.org/ (WorldClim - Global Climate Data, Free climate data for ecological modeling and GIS)		
Comments	The data are available at 4 different spatial resolutions, from 30 seconds (0.93 x 0.93 = 0.86 km2 at the equator) to 2.5, 5 and 10 minutes (18.6 x 18.6 = 344 km2 at the equator).		

4.2.2 bioclimatic variables *(CN: c_2.2)*

bioclimatic variables			
Specifications		**Source data Specifications**	
File Name	bioclimatic variables	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	-	Sensor resolution	-
Coverage (top L, BR coordinates)	Global	Acquisition Date	1960-1990
Grid size	1km	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	ESRI grid GeoTIFF Generic grid		
File size	1.87 GB		
Download site	http://www.worldclim.org/ (WorldClim - Global Climate Data, Free climate data for ecological modeling and GIS)		

bioclimatic variables	
Comments	The data are available at 4 different spatial resolutions, from 30 seconds (0.93 x 0.93 = 0.86 km2 at the equator) to 2.5, 5 and 10 minutes (18.6 x 18.6 = 344 km2 at the equator).

4.2.3 tmax (*CN:* c_2.3)

tmax			
Specifications		**Source data Specifications**	
File Name	tmax	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	-	Sensor resolution	
Coverage (top L, BR coordinates)	Global	Acquisition Date	1960-1990
Grid size	1km	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	ESRI grid GeoTIFF Generic grid		
File size	1.23 GB		
Download site	http://www.worldclim.org/ (WorldClim - Global Climate Data, Free climate data for ecological modeling and GIS)		
Comments	The data are available at 4 different spatial resolutions, from 30 seconds (0.93 x 0.93 = 0.86 km2 at the equator) to 2.5, 5 and 10 minutes (18.6 x 18.6 = 344 km2 at the equator).		

4.2.4 tmean (*CN:* c_2.4)

tmean			
Specifications		**Source data Specifications**	
File Name	tmean	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	-	Sensor resolution	-
Coverage (top L, BR coordinates)	Global	Acquisition Date	1960-1990
Grid size	1km	Grid size	-

tmean			
Specifications		**Source data Specifications**	
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	ESRI grid GeoTIFF Generic grid		
File size	1.26 GB		
Download site	http://www.worldclim.org/ (WorldClim - Global Climate Data, Free climate data for ecological modeling and GIS)		
Comments	The data are available at 4 different spatial resolutions, from 30 seconds (0.93 x 0.93 = 0.86 km2 at the equator) to 2.5, 5 and 10 minutes (18.6 x 18.6 = 344 km2 at the equator).		

4.2.5 tmin (*CN:* c_2.5)

tmin			
Specifications		**Source data Specifications**	
File Name	tmin	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	-	Sensor resolution	-
Coverage (top L, BR coordinates)	Global	Acquisition Date	1960-1990
Grid size	1km	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	ESRI grid GeoTIFF Generic grid		
File size	1.21 GB		
Download site	http://www.worldclim.org/ (WorldClim - Global Climate Data, Free climate data for ecological modeling and GIS)		
Comments	The data are available at 4 different spatial resolutions, from 30 seconds (0.93 x 0.93 = 0.86 km2 at the equator) to 2.5, 5 and 10 minutes (18.6 x 18.6 = 344 km2 at the equator).		

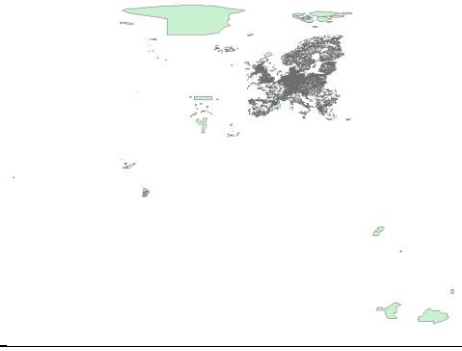
5. ECOLOGICAL – ENVIRONMENTAL DATASETS

In this category data that referred to Ecological or environmental restrictions are presented. These datasets have European coverage.

5.1 Nationally designated areas (CDDA) *(CN: ee_1)*

The European inventory of nationally designated protected areas holds information about designated areas and their designation types, which directly or indirectly create protected areas. This is version 17 and covers data reported up to March 2019. The dataset contains data on individual nationally Designated Areas and corresponding Protected Site spatial features in EEA member and collaborating countries. (European Environment Agency, Nationally designated areas (CDDA), 2019)

Nationally designated areas (CDDA)			
Specifications		**Source data Specifications**	
File Name	Nationally designated areas (CDDA)	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	13 Jun 2019	Sensor resolution	-
Coverage (top L, BR coordinates)	Europe	Acquisition Date	2018
Grid size	-	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	ArcGIS files		
File size	485 MB		
Download site	http://www.eea.europa.eu/data-and-maps/data/nationally-designated-areas-national-cdda-11#tab-gis-data (European Environment Agency, Nationally designated areas (CDDA), 2019)		
Comments	-		

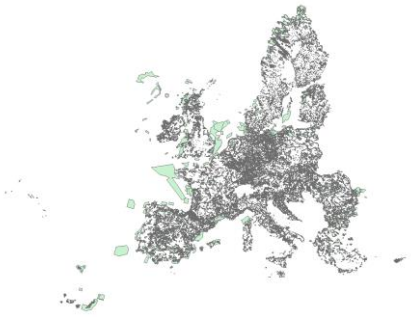
Nationally designated areas (CDDA)	
Preview Source: EEA	

5.2 Natura 2000 data - the European network of protected sites *(CN: ee_2)*

Natura 2000 is the key instrument to protect biodiversity in the European Union. It is an ecological network of protected areas, set up to ensure the survival of Europe's most valuable species and habitats. Natura 2000 is based on the 1979 Birds Directive and the 1992 Habitats Directive. This version covers the reporting in 2018.

The European database on Natura 2000 sites consists of a compilation of the data submitted by Member States to the European Commission. This European database is generally updated once per year. (European Environment Agency, Natura 2000 data - the European network of protected sites, 2019)

Natura 2000 data - the European network of protected sites			
Specifications		**Source data Specifications**	
File Name	Natura 2000 data - the European network of protected sites	Sensor	-
Coordinate System	ETRS89 LAEA	Data type	-
Production Date	12 Apr 2019	Sensor resolution	-
Coverage (top L, BR coordinates)	Europe	Acquisition Date	2018
Grid size	1: 100000	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	shapefile		

Natura 2000 data - the European network of protected sites			
Specifications		**Source data Specifications**	
File size	1.13 GB		
Download site	https://www.eea.europa.eu/data-and-maps/data/natura-10#tab-gis-data (European Environment Agency, Natura 2000 data - the European network of protected sites, 2019)		
Comments	-		
Preview Source: EEA			

6. SOCIO-ECONOMIC DATASETS

In this category Statistic datasets were collected in table or map format.

6.1 Gross domestic product (GDP) at current market prices by NUTS 3 regions *(CN: se_1)*

Table that represents the Gross domestic product (GDP) at current market prices by NUTS 3 regions for the decade 2008 – 2017.

Gross domestic product (GDP) at current market prices by NUTS 3 regions			
Specifications		**Source data Specifications**	
File Name	Gross domestic product (GDP) at current market prices by NUTS 3 regions	Sensor	-
Coordinate System	-	Data type	-
Production Date	1/8/2019	Sensor resolution	-
Coverage (top L, BR coordinates)	Europe	Acquisition Date	2008-2017
Grid size	-	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	Microsoft Excel 97-2003 Worksheet (.xls)		
File size	836 KB		
Download site	https://appsso.eurostat.ec.europa.eu/nui/show.do (Eurostat, Gross domestic product (GDP) at current market prices by NUTS 3 regions, 2019)		
Comments	-		

6.2 NUTS 2016 (CN: se_2)

Nomenclature of Territorial Units for Statistics or NUTS (French: Nomenclature des unites territoriales statistiques) is a geocode standard for referencing the subdivisions of countries for statistical purposes. The standard, adopted in 2003, is developed and

regulated by the European Union, and thus only covers the member states of the EU in detail.

For each EU member country, a hierarchy of three NUTS levels is established by Eurostat in agreement with each member state; the subdivisions in some levels do not necessarily correspond to administrative divisions within the country. A NUTS code begins with a two-letter code referencing the country. The subdivision of the country is then referred to with one number. A second or third subdivision level is referred to with another number each. Each numbering starts with 1, as 0 is used for the upper level. Where the subdivision has more than nine entities, capital letters are used to continue the numbering. (Eurostat, NUTS 2016, 2019)

NUTS 2016			
Specifications		**Source data Specifications**	
File Name	NUTS 2016	Sensor	-
Coordinate System	WGS84	Data type	-
Production Date	2018-03-20	Sensor resolution	-
Coverage (top L, BR coordinates)	EU	Acquisition Date	2013
Grid size	1: 1 milion	Grid size	-
Positional Accuracy	-	Positional Accuracy	-
Vertical Accuracy	-	Vertical Accuracy	-
Completeness	complete		
File type, Format	file geodatabase (ESRI), zipped shapefile (ESRI)		
File size	218 MB		
Download site	https://ec.europa.eu/eurostat/web/gisco/geodata/reference-data/administrative-units-statistical-units/nuts#nuts16 (Eurostat, NUTS 2016, 2019)		
Comments	This dataset has been created mainly from the EuroBoundary Map v 12 (Eurogeographics) and geographic information from TurkStat for Turkey.		

NUTS 2016	
Preview Source: Eurostat	

7. CONCLUSIONS

In total 200 subsets were collected, classified and stored in HOMEOTECH's repository in 6 main categories:

1. Land cover/use
2. Terrain
3. Soil - Geological
4. Climate
5. Ecological - Environmental
6. Socio-economic

The following figure represents that distribution

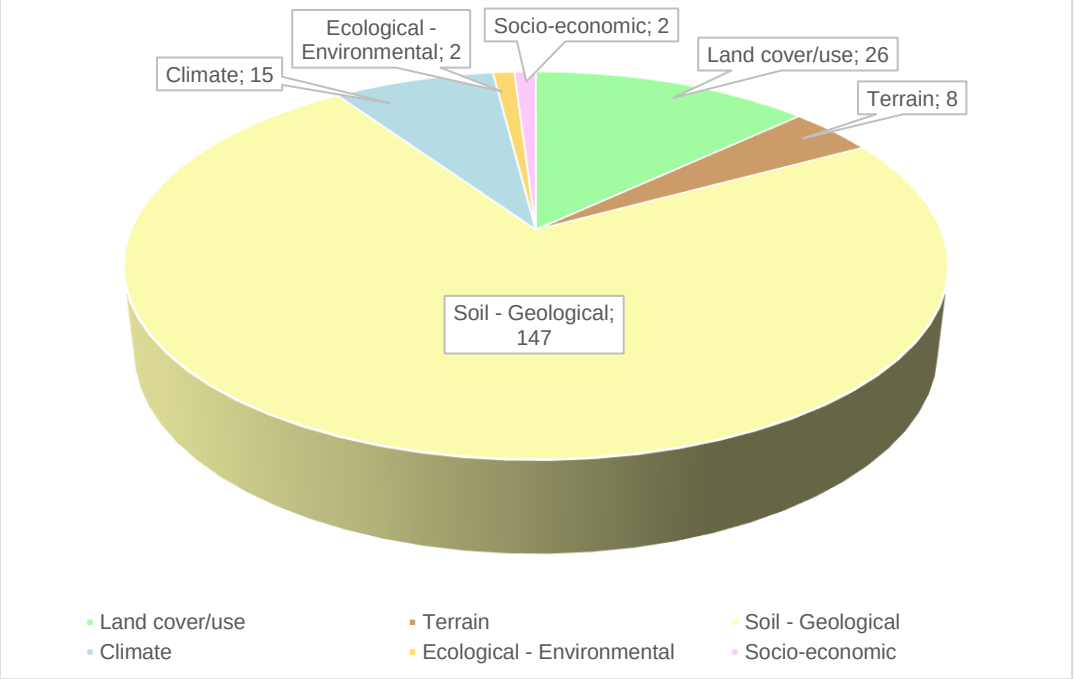


Figure 1: *MAIL* Datasets

As it easily understandable the whole process is dynamic. Therefore, the repository will be checked regularly for new availability of datasets or for updates of the current ones. For project's lifetime the repository will be available for download by ***MAIL*** consortium.

REFERENCES

[1] *Climatic Research Unit (University of East Anglia), High-resolution gridded datasets (and derived products) climatological data*. (2019, May 15). Retrieved July 15, 2019, from https://crudata.uea.ac.uk/cru/data/hrg/

[2] *Copernicus, Corine Land Cover- CLC 2018*. (2019, May 26). Retrieved July 16, 2019, from https://land.copernicus.eu/pan-european/corine-land-cover/clc2018

[3] *Copernicus, High Resolution Layers, HRL*. (2012, 2015). Retrieved August 08, 2019, from https://land.copernicus.eu/pan-european/high-resolution-layers

[4] *European Environment Agency, Digital Elevation Model over Europe (EU-DEM)*. (2017, December 7). Retrieved July 29, 2019, from http://www.eea.europa.eu/data-and-maps/data/eu-dem#tab-european-data

[5] *European Environment Agency, Ecosystem types of Europe*. (2019, February 26). Retrieved July 16, 2019, from https://www.eea.europa.eu/data-and-maps/data/ecosystem-types-of-europe-1

[6] *European Environment Agency, Nationally designated areas (CDDA)*. (2019, June 13). Retrieved July 17, 2019, from https://www.eea.europa.eu/data-and-maps/data/nationally-designated-areas-national-cdda-11#tab-gis-data

[7] *European Environment Agency, Natura 2000 data - the European network of protected sites*. (2019, April 12). Retrieved July 17, 2019, from https://www.eea.europa.eu/data-and-maps/data/natura-10#tab-additional-information

[8] *European Soil Data Centre (ESDAC) ,LS-factor (Slope Length and Steepness factor) for the EU*. (2015). Retrieved July 19, 2019, from https://esdac.jrc.ec.europa.eu/content/ls-factor-slope-length-and-steepness-factor-eu

[9] *European Soil Data Centre (ESDAC) ,Soil pH in Europe*. (2010). Retrieved July 19, 2019, from https://esdac.jrc.ec.europa.eu/content/soil-ph-europe

[10] *European Soil Data Centre (ESDAC), Derived data*. (2013). Retrieved August 29, 2019, from https://esdac.jrc.ec.europa.eu/content/european-soil-database-derived-data

[11] *European Soil Data Centre (ESDAC), European Landslide Susceptibility Map version 2 (ELSUS v2)*. (2018). Retrieved July 19, 2019, from http://esdac.jrc.ec.europa.eu/content/european-landslide-susceptibility-map-elsus1000-v1

[12] *European Soil Data Centre (ESDAC), European map of soil suitability to provide a platform for most human activities (EU28)*. (2016). Retrieved July 19, 2019, from http://eusoils.jrc.ec.europa.eu/content/european-map-soil-suitability-provide-platform-most-human-activities-eu28

[13] *European Soil Data Centre (ESDAC), Global Soil Organic Carbon Estimates*. (2012). Retrieved July 19, 2019, from http://esdac.jrc.ec.europa.eu/content/global-soil-organic-carbon-estimates

[14] *European Soil Data Centre (ESDAC), Google Earth Files*. (2008). Retrieved July 19, 2019, from https://esdac.jrc.ec.europa.eu/content/google-earth-files

[15] *European Soil Data Centre (ESDAC), Heavy Metals in topsoils*. (2008). Retrieved July 19, 2019, from http://esdac.jrc.ec.europa.eu/content/heavy-metals-topsoils

[16] *European Soil Data Centre (ESDAC), Maps of indicators of soil hydraulic properties for Europe*. (2016). Retrieved July 19, 2019, from https://esdac.jrc.ec.europa.eu/content/maps-indicators-soil-hydraulic-properties-europe#tabs-0-description=0

[17] *European Soil Data Centre (ESDAC), OCTOP: Topsoil Organic Carbon Content for Europe*. (2004). Retrieved July 18, 2019, from https://esdac.jrc.ec.europa.eu/content/octop-topsoil-organic-carbon-content-europe

[18] *European Soil Data Centre (ESDAC), Potential threats to soil biodiversity in Europe*. (2016). Retrieved July 16, 2019, from https://esdac.jrc.ec.europa.eu/content/potential-threats-soil-biodiversity-europe

[19] *European Soil Data Centre (ESDAC), Saline and Sodic Soils in the EU*. (2008). Retrieved July 19, 2019, from https://esdac.jrc.ec.europa.eu/content/saline-and-sodic-soils-european-union

[20] *European Soil Data Centre (ESDAC), Soil Biomass Productivity maps of grasslands and pasture, of croplands and of forest areas in the European Union (EU27)*. (2016). Retrieved July 19, 2019, from

https://esdac.jrc.ec.europa.eu/content/soil-biomass-productivity-maps-grasslands-and-pasture-coplands-and-forest-areas-european

[21] *European Soil Data Centre (ESDAC), Soil Erodibility (K- Factor) High Resolution dataset for Europe*. (2014). Retrieved July 19, 2019, from https://esdac.jrc.ec.europa.eu/content/soil-erodibility-k-factor-high-resolution-dataset-europe#tabs-0-description=0

[22] *European Soil Data Centre (ESDAC), Soil erosion by water (RUSLE2015)*. (2015). Retrieved July 16, 2019, from https://esdac.jrc.ec.europa.eu/content/soil-erosion-water-rusle2015

[23] *European Soil Data Centre (ESDAC), Soil erosion in forestland in Europe (using RUSLE2015)*. (2015). Retrieved July 16, 2019, from https://esdac.jrc.ec.europa.eu/content/soil-erosion-forestland-europe-using-rusle2015

[24] *European Soil Data Centre (ESDAC), Soil Organic Carbon - Saturation Capacity in Europe*. (2016). Retrieved July 19, 2019, from https://esdac.jrc.ec.europa.eu/content/soil-organic-carbon-saturation-capacity

[25] *European Soil Data Centre (ESDAC), Topsoil physical properties for Europe (based on LUCAS topsoil data)*. (2015). Retrieved July 16, 2019, from https://esdac.jrc.ec.europa.eu/content/topsoil-physical-properties-europe-based-lucas-topsoil-data

[26] *European Soil Data Centre (ESDAC), Topsoil Soil Organic Carbon (LUCAS) for EU25*. (2015). Retrieved July 19, 2019, from https://esdac.jrc.ec.europa.eu/content/topsoil-soil-organic-carbon-lucas-eu25

[27] *European Space Agency (ESA), GlobCover*. (2010, December 21). Retrieved July 19, 2019, from http://due.esrin.esa.int/page_globcover.php

[28] *Eurostat, NUTS 2016*. (2019, August 03). Retrieved July 16, 2019, from https://ec.europa.eu/eurostat/web/gisco/geodata/reference-data/administrative-units-statistical-units/nuts#nuts16

[29] *Eurostat, Gross domestic product (GDP) at current market prices by NUTS 3 regions*. (2019, August 01). Retrieved August 29, 2019, from https://ec.europa.eu/eurostat/web/products-datasets/-/nama_10r_3gdp

[30] *Federal Institute for Geosciences and Natural Resources (BGR), Soil quality rating for cropland in Germany 1: 1.000.000*. (2013, October 24). Retrieved July 17, 2019, from https://produktcenter.bgr.de/terraCatalog/DetailResult.do?fileIdentifier=3DBC11EE-81E9-41A2-916E-1281DDD6C7A8

[31] *Food And Agriculture Organization (FAO), Harmonized World Soil Database v 1.2*. (2009). Retrieved August 28, 2019, from http://www.fao.org/soils-portal/soil-survey/soil-maps-and-databases/harmonized-world-soil-database-v12/en/

[32] *German Aerospace Center (DLR), TanDEM-X Forest/Non-Forest Map - Global*. (2019, April 04). Retrieved Ausust 28, 2019, from https://download.geoservice.dlr.de/FNF50/

[33] *International Soil Reference and Information Centre (ISRIC), Global Assessment of Human-induced Soil Degradation (GLASOD)*. (2019, August 20). Retrieved August 28, 2019, from https://www.isric.org/projects/global-assessment-human-induced-soil-degradation-glasod

[34] *International Soil Reference and Information Centre (ISRIC), WISE derived soil property estimates on a 30 by 30 arcsec global grid*. (2016, May 01). Retrieved July 19, 2019, from https://data.isric.org/geonetwork/srv/eng/catalog.search#/metadata/dc7b283a-8f19-45e1-aaed-e9bd515119bc

[35] *National Geomatics Center of China, Globeland30*. (2010). Retrieved August 28, 2019, from http://www.globallandcover.com/GLC30Download/index.aspx

[36] *WorldClim - Global Climate Data, Free climate data for ecological modeling and GIS*. (n.d.). Retrieved July 15, 2019, from http://www.worldclim.org

ANNEX I: TABLE OF FIGURES

This is for the table of figures