

Use of Corine Land Cover and Image 2000: CORINE Land Cover Applications in Support of National and European Policies (Vol 2)

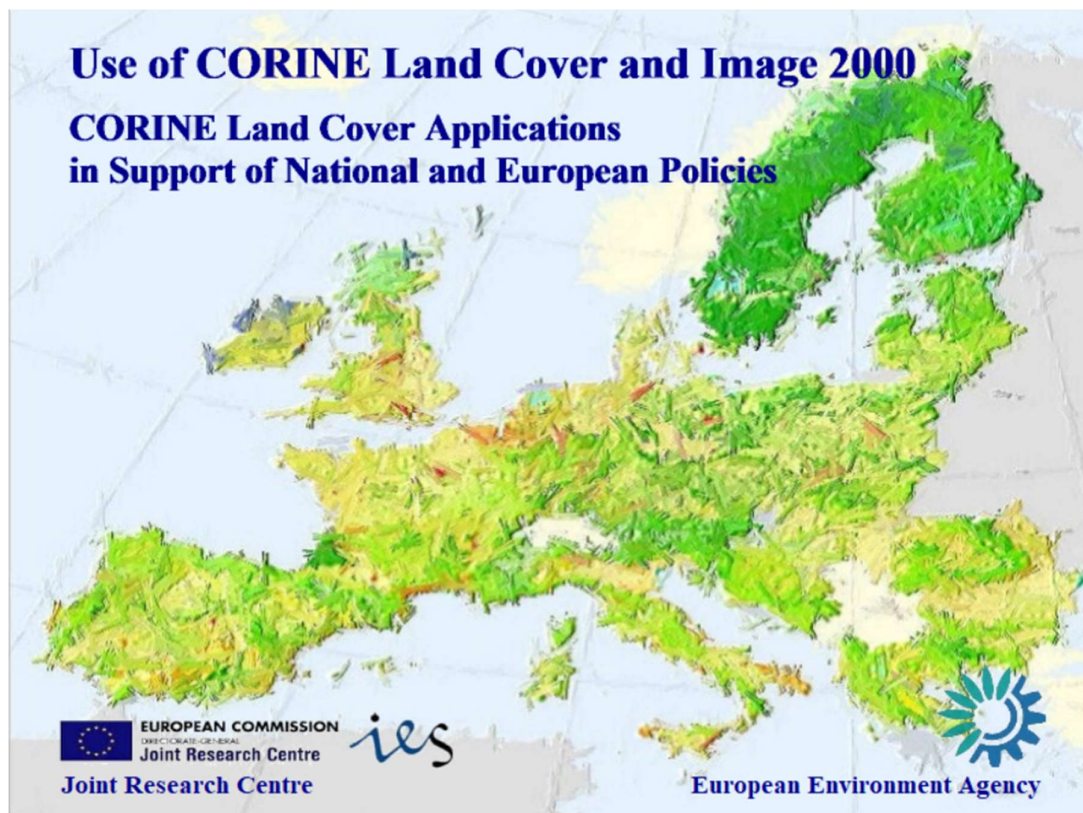
Interactive CD Application

European Environment Agency (Copenhagen)
and Joint Research Centre (Ispra)

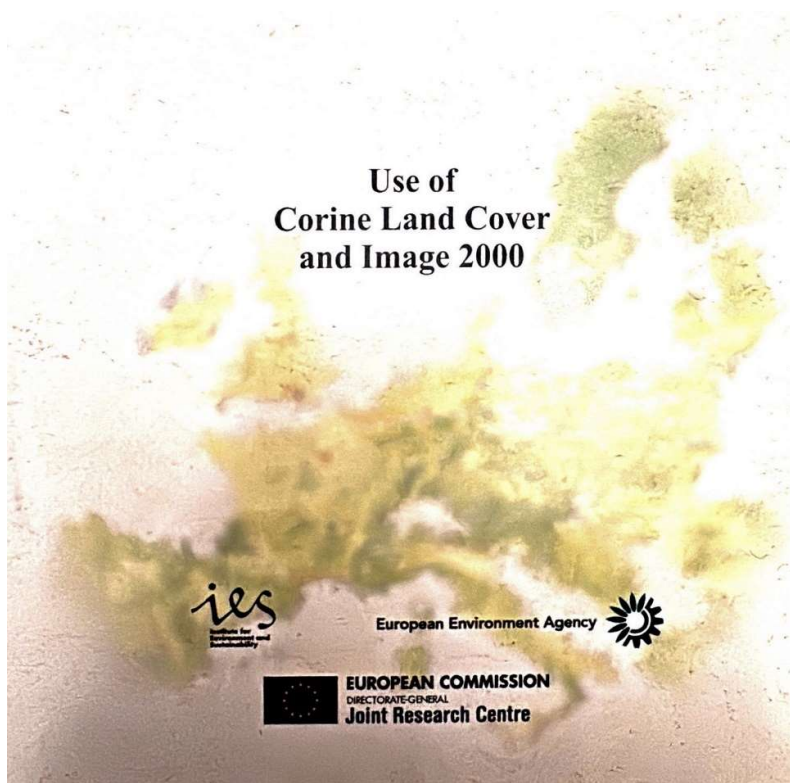
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This document depicts the main Interactive Contents Chapter structure.

(refer to the attached zip file for the Interactive content) - *eea clc applications jul2005.zip*



Publication Cover (CD Sleeve)



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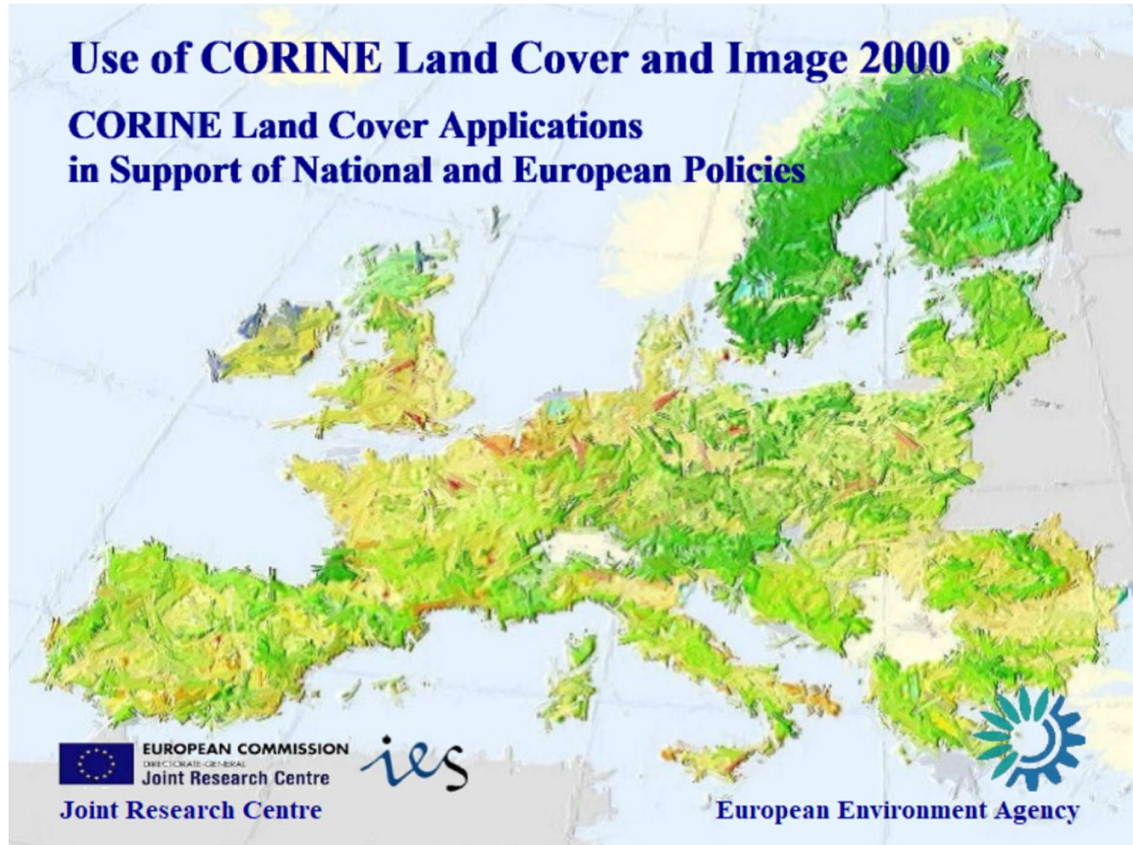
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Publication CD Cover



Interactive Chapter Structure and Contents



CORINE Land Cover Applications in Support of National and European Policies

Welcome to the CLC2000 Applications CD

This publication introduces the readers to information on applications from different European countries in support of the 6th Environmental Action Programme as well as several sectoral policies based on CORINE Land Cover.

This publication is part of a joint publication by the Joint Research Centre (JRC) and the European Environment Agency (EEA). The objective of this joint publication is to provide a general reference for CORINE Land Cover, its methodology and applications.

CORINE Land Cover Applications in Support of National and European Policies

**The European Environment Agency (EEA)
The European Topic Centre on Terrestrial Environment (ETC/TE)**

The objective of the European Environment Agency (EEA) is to provide policy makers with timely and relevant environmental information. Regarding land cover (LC), EEA aims to provide those responsible for and interested in European policy on the environment with qualitative and quantitative LC data that is consistent and comparable across the continent.

As part of the EEA mandate, the CORINE Land Cover (CLC) database initiated by the Commission in 1985 should be further maintained and regularly updated. Consistent geo-referenced LC information has been identified by different national and European policies as a key database for integrated environmental assessment. In order to reach this goal EEA and the Joint Research Centre (JRC) launched the IMAGE2000 and CLC2000 Project (I&CLC2000), which includes as well the updating of the CLC database. The satellite image 'snap shot' of the EU territory (IMAGE2000) is the principal material to undertake the updating of CLC database for the year 2000 (CLC2000) and to identify main LC changes occurring in Europe within the period 1990-2000.

The project is also extended to several other European countries, 10 of which are new members of the European Communities from 1st May 2004. The dissemination and use of the I&CLC2000 products is defined in an agreement between the EEA, the European Commission and the participating countries. The database, which has been finished early 2005 for 29 countries covers about 4,5 million km² with 25 ha spatial resolution. The CLC-changes database has 5 ha spatial resolution.

Today, CLC is recognised by decision-makers as a fundamental reference data set for spatial and

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Introduction

This publication on CORINE Land Cover application is part of a joint publication by the Joint Research Centre (JRC) and the European Environment Agency. The objective of this joint publication is to provide a general reference for CORINE Land Cover, its methodology and applications.

Volume 1 of the joint publication - under JRC responsibility - addresses the process of creating the CORINE Land Cover database from the selection of suitable satellite image data, via the formation of national teams responsible for the national interpretation of CLC data to the role of the CLC technical team responsible for quality assurance across the countries and quality control of the final product.

Volume 2 - the present document developed by the EEA - aims to provide the reader with an overview of applications that have been created in the past by researchers to explore the potentials of the database as well as operational agencies to support their daily work. The current publication provides examples of applications from some 14 European countries, some of them already transboundary in addition to several applications developed by the European Commission and its services.


European Environment Agency




[Visit the CLC2000 Website](#) [Visit the Image2000 Website](#)

Partner:


Joint Research Centre

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The CORINE (COOrdination of Information on the Environment) programme was established by the European Commission in 1985 aiming at “gathering, coordinating and ensuring the consistency of information on the state of the environment and natural resources in the European Community”.

In 1991 the CORINE programme was extended to the Central and Eastern European countries.


[Click on image to view media reviews](#)



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In 2000 the update of the CORINE land cover data base was launched as a joint activity between the Member States and the European Community, and gradually expanded to all EEA member countries and even beyond. The overall coordination of work was ensured by the European Environment Agency jointly with JRC/IES (Institute for Environment and Sustainability). In 2004 the IMAGE and CORINE Land Cover 2000 databases were officially released to the public and can be accessed via EEA and JRC websites at the following addresses: <http://dataservice.eea.eu.int> and <http://image2000.jrc.it>.

CORINE Land Cover provides consistent information on land cover and land cover changes across Europe during the past decade.

The 1990 CLC survey has been accessed and used by people working primarily in the field of environment, but also research, agriculture, physical planning, forestry, education, transport, demography, tourism, energy and health. The update of CLC is expected to reach a broader audience ranking from policy makers at all levels, to the public at large.

The CD in hands, without any intention of being exhaustive, offers a practical and easily understandable glimpse on how the databases could be applied in concrete situations, as well as on what is the added value brought by using them. All the examples presented are based on Image and CORINE Land Cover databases and are developed by experts and institutions throughout Europe.

For further information you may refer to the list of contributors and contacts attached. This product is a living document and we will be welcoming any input or application you identified and would like to share it widely.

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This publication brings together information about applications from different European countries in support of the 6th Environmental Action Programme as well as several sectoral policies (e.g. agriculture, transport) based on CORINE Land Cover (CLC).

CORINE Land Cover has been and continues to be one of the most frequently downloaded database from the EEA data service. During a country survey at the end of 2003 the national authorities responsible for the dissemination of national CLC data reported significant number of usages of the database by various organisations and for various fields of application, which subsequently sparked the idea for this publication.

The list of sectors in which CLC data has been successfully used, is being led by the environment applications, followed by research, agriculture, spatial planning and education.

Within the environmental domain itself, applications for nature conservation & biodiversity in combination with water related applications account for close to 40% of all these applications.

Of increasing importance are transboundary applications, especially in the context of river basin management or spatial planning and since the completion of the CLC2000 database - the mapping and analysis of land cover changes.

This publication does not aim to provide an exhaustive overview of existing applications or even fields of applications. This would never be possible as the number of applications is increasing every day. Therefore, the authors of this publication would like to encourage those who have developed

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This report was prepared by the European Environment Agency and its European Topic Centre on Terrestrial Environment (ETC/TE) with support from the ETC/TE core team (Nuria Blanes, Stefan Kleeschulte) who have collected and reviewed the applications from the authors.

The Maltese Environment and Planning Agency (MEPA) has supported the publication with a second review of the different applications, the English editing and layouting. The MEPA team was composed of Carol Agius, Michael J. Sant and the review leader Saviour Formosa.

We would like to greatly acknowledge the voluntary contribution of all authors of the individual applications who have provided the original text of the application and related illustrations and who have reviewed the text after the English editing.

Acknowledgements also go to the Country National Focal Points (scroll down for NFP list).

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- Jan Voet - Belgium
- Ioana Hristova - Bulgaria
- Jasna Butuci - Croatia
- Christina Pantazi - Cyprus
- Jirí Hradec - Czech Republic
- Michael Stjernholm - Denmark

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Applications Review

This section provides a review of applications that have been employed in the research and information functions related to CORINE Land Cover. The applications describe the use of CLC90, CLC2000 as well as IMAGE2000 products.

The review is constructed in support of the 6th Environmental Action Programme nomenclature in the form of domains and sub-domains, mainly:

- Tackling climate change**
- Biodiversity loss and understanding spatial change**
- Protecting Human Health and Quality of Life**
- Sustainable Use and Management of Natural Resources and Waste**
- Applications in Support of Sustainable Development and Other Environmental Policies**
- Applications in Support of Other Sectoral Policies**

Other applications forwarded to ETC/TE - to be reviewed at a later stage
These applications are also listed within the respective domain - identified as greyed out text that links to the on-line ETC/TE website papers


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Tackling climate change

Climate change is one of the greatest environmental, social and economic threats facing the planet. During the last century, the Earth's average surface temperature rose by around 0.6°C. Evidence is getting stronger that most of the global warming that has occurred over the last 50 years is attributable to human activities, particular the burning of fossil fuels and deforestation, both of which cause emissions of carbon dioxide (CO₂), the main gas responsible for climate change, as well as other 'greenhouse' gases. In order to bring climate change to a halt, global greenhouse gas emissions must be reduced significantly.

- Downscaling of near surface wind in the Alpine Region (reclip:more)**
- Evaluation of the balance of organic carbon in soil and in vegetation through the use of land cover data**



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Downscaling of Near Surface Wind in the Alpine Region (reclip:more)

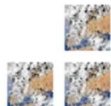
Key Point: 'Mapping climate: understanding air flow in the Alpine region'

The application assesses the ability of two meteorological models, the European ALADIN and the US MM5, to simulate the current climate (period 1981 to 1990) and future scenarios (period 2041 to 2050). The main focus lies on the downscaling of near-surface wind from the coarse (120 km) global data to a final resolution of 200m. The method's results are analysed with respect to wind speed and direction as well as density of wind energy and air. The CORINE land cover data is used to parameterise the characteristics of the earth's surface, particularly its ability to deliver information about local wind characteristics, which is needed for various applications in the fields of ecology, biology, agriculture and forestry.

Key Words:
climate, wind, alpine

Policy Drivers:
Intergovernmental Panel of Climate Change (IPCC)
Alpine Global Change Issues
Convention on the Protection of the Alps (Alpine Convention)

Author/s:
Truhetz Heimo, Gobiet Andreas, Loibl Wolfgang, and Kirchengast Gottfried



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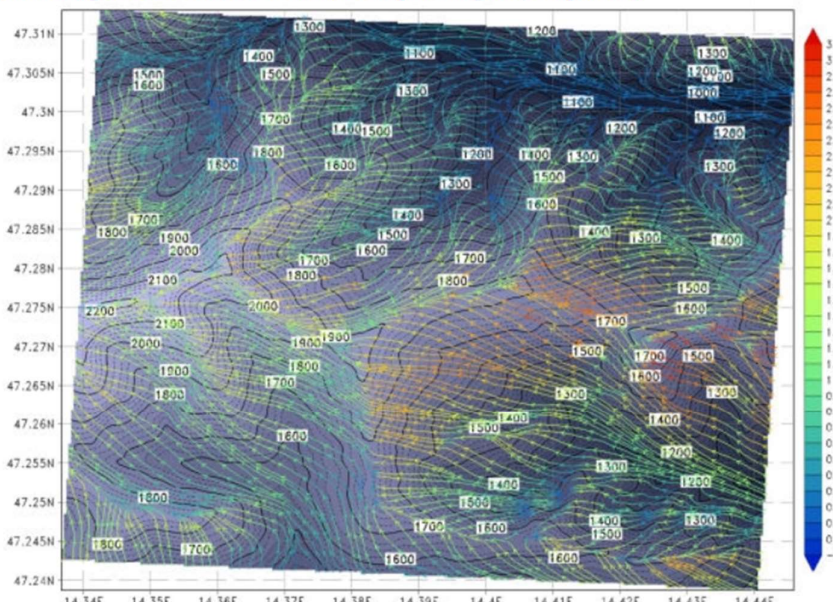
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Downscaling of Near Surface Wind in the Alpine Region (reclip:more)



Thermal driven slope flows calculated by the microscale diagnostic model CALMET over the south-eastern foothills of the Wölzer Tauern at Sept. 4, 2003, 12:00 UTC. Near surface wind (streamlines) [m/s] at 10 m above ground and the elevation model are shown

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Summary Application Image Contact

Evaluation of the balance of organic carbon in soil and in vegetation through the use of land cover data

Key Point: 'Europe's organic carbon stock in soil and vegetation: reviewing trends in the Italian peninsula'

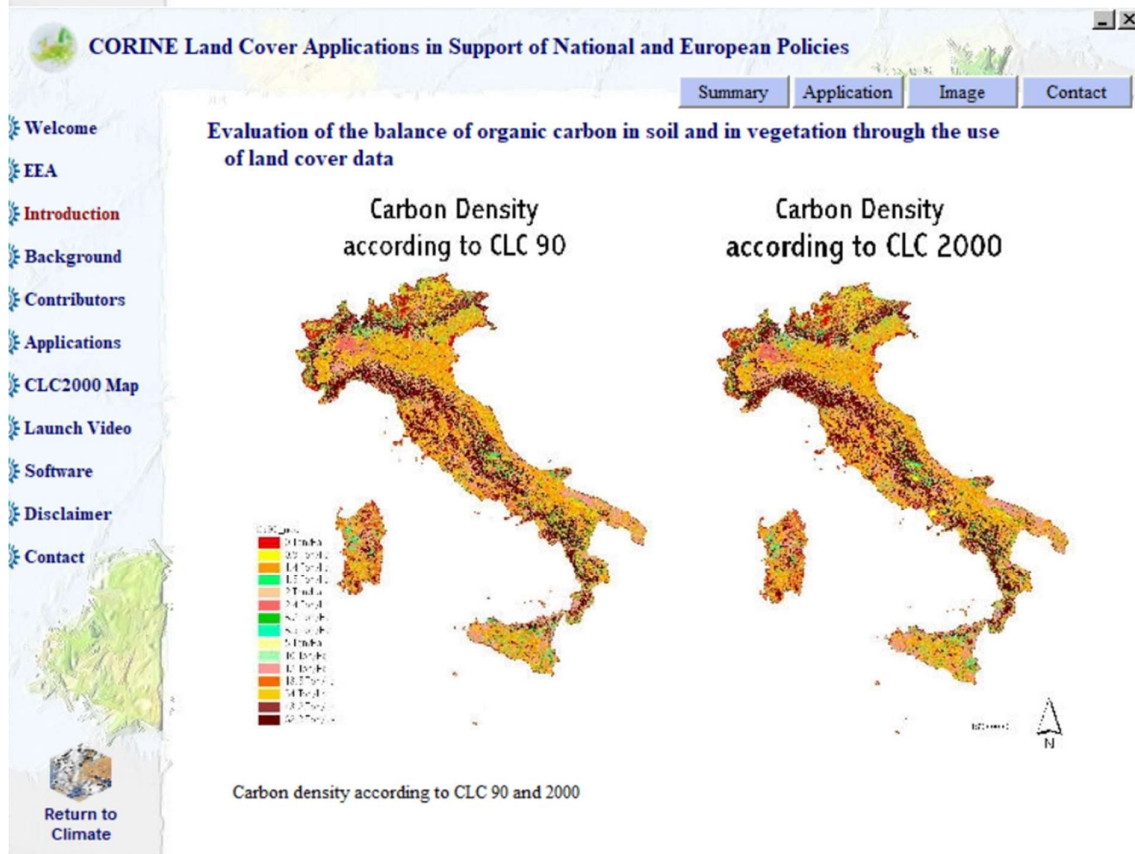
Research of organic carbon stock found in soils and vegetation in the Italian peninsula through the analysis of land use changes and trends based on Corine Land Cover information. Results indicate an increase of stock levels over the past decade.


Key Words:
organic carbon, biomass

Policy Drivers:
Intergovernmental Panel of Climate Change (IPCC)



Author/s:
Rusco Ezio, Filippi N., Jones R., Montanarella Luca

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Biodiversity Loss And Understanding Spatial Change

Despite the improved conservation policies introduced in the Member States, the EU's precious 'biodiversity' - essential for supporting life on this planet - continues to be under serious threat. Poor planning, wasteful land-use and intensive farming methods have resulted over the years in the destruction of many natural habitats such as wetlands, which many wild species depend upon for their survival. In Europe, many native species are threatened. Birds such as the slender-billed curlew are now so rare that they risk extinction, while even numbers of common species such as skylark and garden warbler have fallen dramatically.

-  Biodiversity
-  Landscape
-  Land Use and Land Cover Change
-  Regional Planning



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Biodiversity Loss And Understanding Spatial Change

Biodiversity

-  National Grassland Inventory Project Romania (PIN-MATRA)
-  NATURA 2000 Implementation in Bulgaria: "Conservation of species and habitats in Bulgaria - EU approximation" project
-  Development of Ecological Networks in Baltic Countries (example: Estonia)
-  Possible conflicts between animal movement and traffic in Estonia
-  Designating potential wildlife migration corridors between Augustow Forest, Biebrza National Park and Bialowieza Forest with application of CORINE Land Cover database
-  NATURA 2K Application
-  Andalusian biodiversity map: Creation of a model that evaluates the biodiversity using normalized variables existing in Sinamba (Andalusian Environmental Information Net) that would help to obtain a cartography at an adequate scale from this source. Afterwards, development of an evaluation and continuation of this cartography.



CORINE Land Cover Applications in Support of National and European Policies

Summary Application Image Contact

National Grassland Inventory Project Romania (PIN-MATRA)

Key Point: *'Managing Europe's grasslands: the creation of an inventory of grasslands in Romania'*

The protection, conservation and management of European grasslands requires the availability of data regarding these habitats. This project involves the collection of such data, and its analysis in correlation with Corine Land Cover data, to produce a Geographic Information database of grassland areas in Romania.

Key Words:
ecology, biodiversity

Policy Drivers:
Biodiversity and Nature Conservation
Common Agricultural Policy

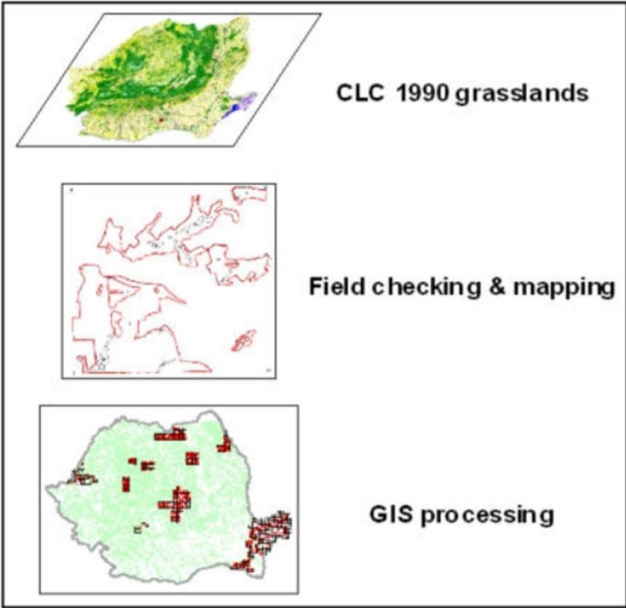
Author:
Hanganu Jenica

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National Grassland Inventory Project Romania (PIN-MATRA)



CLC 1990 grasslands

Field checking & mapping

GIS processing

The main steps in mapping process

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Summary Application **Image** Contact

NATURA 2000 Implementation in Bulgaria: "Conservation of species and habitats in Bulgaria - EU approximation" project

Key Point: 'Implementing the NATURA 2000 requirements - the Bulgarian experience of using CORINE Land Cover'

The protection of species and habitats as required by Natura 2000 necessitates the availability of good quality data, if conservation measures are to be effective. This project uses Corine Land Cover Data to aid in the identification and mapping of habitats of ecological significance.


Key Words:
NATURA 2000, species, habitats, biodiversity

Policy Drivers:
Council Directive 92/43/EEC of 21 May 1992 on the Conservation of natural habitats and wild flora and fauna
Council Directive 79/409/EEC of 2 April 1979 on the Conservation of wild birds

Authors:
Lazarova Kalina, Ganeva Boriana

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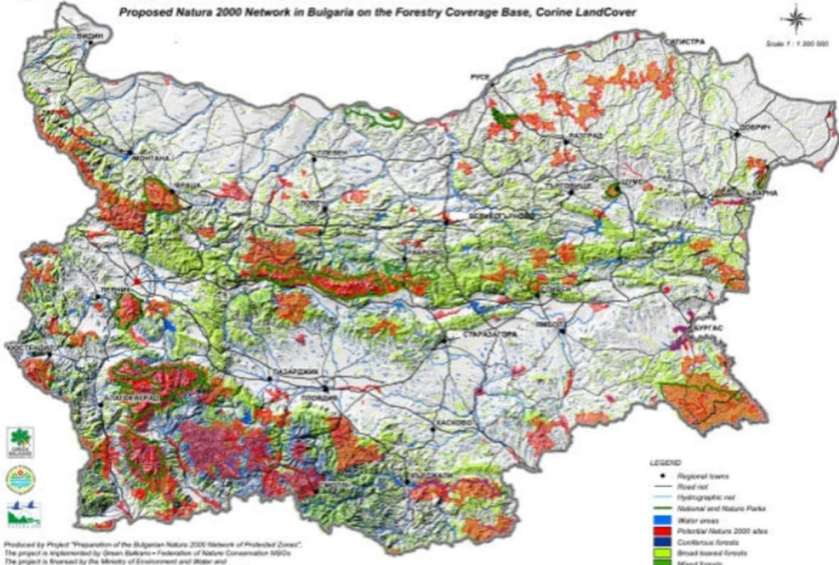


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Summary Application **Image** Contact

NATURA 2000 Implementation in Bulgaria: "Conservation of species and habitats in Bulgaria - EU approximation" project

Proposed Natura 2000 Network in Bulgaria on the Forestry Coverage Base, Corine LandCover



LEGEND

- Regional towns
- Road net
- Hydrographic net
- Nature and Nature Parks
- Water areas
- Protected/Natura 2000 sites
- Coniferous forests
- Broad-leaved forests
- Mixed forests

Produced by Project "Preparation of the Bulgarian Natura 2000 Network of Protected Zones".
The project is implemented by Green Balkans - Federation of Nature Conservation NGOs.
The project is financed by the Ministry of Environment and Water and PUDOOS - Enterprise for Management of Environmental Protection Activities
www.natura2000bg.org

Produced by Project "Preparation of the Bulgarian Natura 2000 Network of Protected Zones".
Produced by Project "Preparation of the Bulgarian Natura 2000 Network of Protected Zones". The project is implemented by Green Balkans - Federation of Nature Conservation NGOs. The project is financed by the Ministry of Environment and Water and PUDOOS - Enterprise for Management of Environmental Protection Activities www.natura2000bg.org

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Development of Ecological Networks in Baltic Countries (example: Estonia)

Key Point: *'Ecological networks: harmonising environmental strategies with economic land-use practices in Estonia'*

Harmonisation of land use practices with environmental protection objectives may be possible through the establishment of ecological networks, aimed towards the protection of areas of particular environmental importance. Corine Land Cover data was used to help define such areas in the Baltic countries.

Key Words:
ecology, biodiversity

Policy Drivers:
European Regional / Spatial Planning Charter (1983)
European Spatial Planning Perspectives (1999), Guiding Principles for Sustainable Spatial Development of the European Continent (2000)

Author:
Poltimäe Rivo



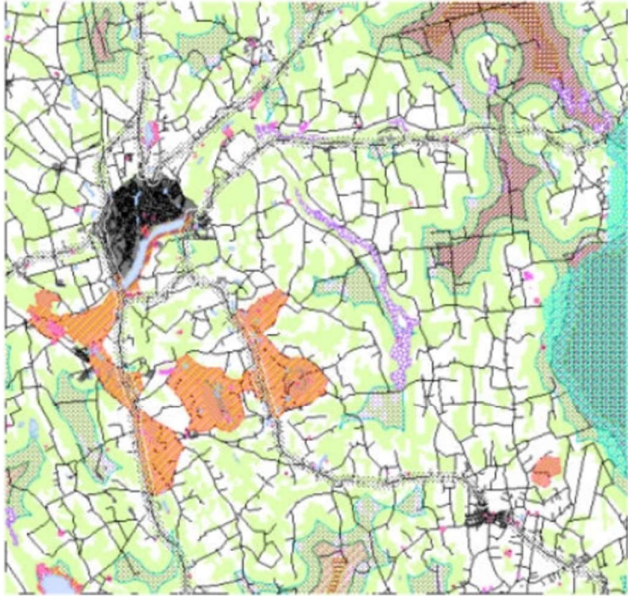
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Development of Ecological Networks in Baltic Countries (example: Estonia)



The result of intermediate stage in green network defining that forms the basis for composing the final map. The map distinguishes natural areas (green), core areas (by the size of massive, protected areas with zoning, valued areas of natural and environmental importance, groups of objects), and the influence zones of roads.

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Summary Application Image Contact

Possible conflicts between animal movement and traffic in Estonia

Key Point: 'Barriers between habitats: resolving the conflict between animal movements and traffic'

Increased traffic and development of the road networks is increasing conflict with the natural and semi-natural areas in Estonia. This application identifies and analyses points of conflict between traffic infrastructure and natural areas; the database produced by this application may be used to facilitate environmentally friendly planning, including the location of wildlife passages across the road network.

Key Words:
animal movement, traffic, biodiversity

Policy Drivers:
National Road Administration

Author/s:
Klein Lauri

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Summary Application Image Contact

Possible conflicts between animal movement and traffic in Estonia

Monitoring site	Population density (ind. per 1000 ha)		
	1996	1997	1998
Western part of Lahemaa National Park	6,7	4,1	5,3
Eastern part of Lahemaa National Park	5,3	2,1	4,2
Forest district Laeva	7,1	7,2	8,1
Forest district Triigi	1,3	1,8	3,4
Forest district Türi	0,3	1,6	1,3
Forest district Vihterpalu	16,3	10,8	12,7
Forest district Kihelkonna	10,6	9,0	5,1
Forest district Järvselja	-	4,4	6,1
Forest district Väätsa	-	11,6	-

Density of moose population on monitoring sites in Estonia (Randveer 1999)

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Summary Application Image Contact

Designating potential wildlife migration corridors between Augustow Forest, Biebrza National Park and Bialowieza Forest with application of CORINE Land Cover database

Key Point: 'Mapping migration corridors: maintaining links between habitats in eastern Poland'

The development of various land uses in Poland has increased conflicts between the various activities and ecological processes like migration. This application uses Corine Land Cover to analyse the interactions between land uses and migration, and identifies eight migration corridors that are of particular environmental significance. The results of this application are of relevance to wildlife conservation, management and planning.

Key Words:
animal movement, forest, biodiversity

Policy Drivers:
EURONATUR

Authors:
Stachura Krystyna

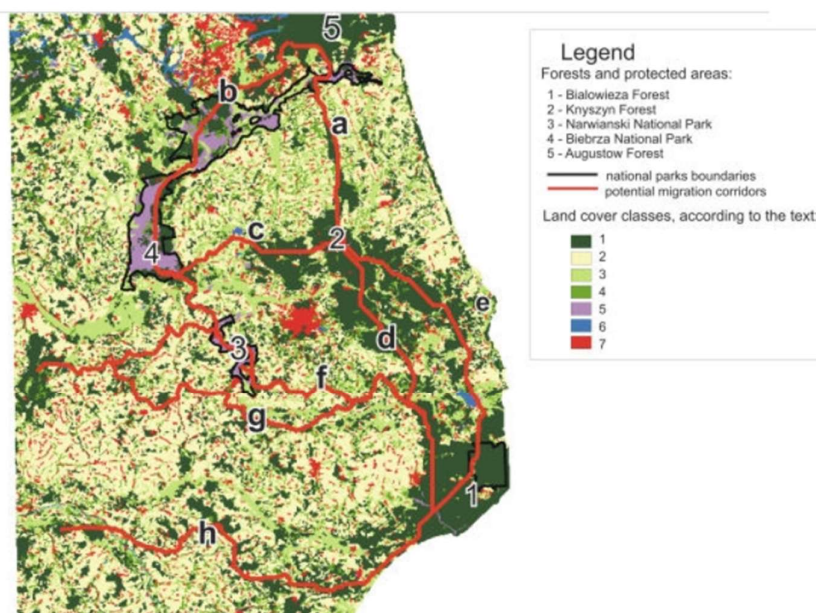
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Designating potential wildlife migration corridors between Augustow Forest, Biebrza National Park and Bialowieza Forest with application of CORINE Land Cover database



Legend

Forests and protected areas:
 1 - Bialowieza Forest
 2 - Kryszyn Forest
 3 - Narwianski National Park
 4 - Biebrza National Park
 5 - Augustow Forest

— national parks boundaries
 — potential migration corridors

Land cover classes, according to the text:

1	Dark Green
2	Light Green
3	Yellow-Green
4	Light Yellow
5	Purple
6	Blue
7	Red

Potential migration corridors within study area

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NATURA 2K Application

Key Point: 'The NATURA 2K Application: managing biodiversity data'

One of the main instruments used by the European Union to achieve its objectives regarding nature protection is the Natura 2000 network. This application involves the collection of data from the sites in the Natura 2000 network within a database and Geographic Information System, facilitating access and analysis of information on Natura 2000 sites.


Key Words:
habitats

Policy Drivers:

Article 6 of the Council Directive 92/43/EEC of 21 May 1992, on the "Conservation of natural habitats and of wild fauna and flora", regarding the management of NATURA 2000 sites

Author:
Michiels Petra

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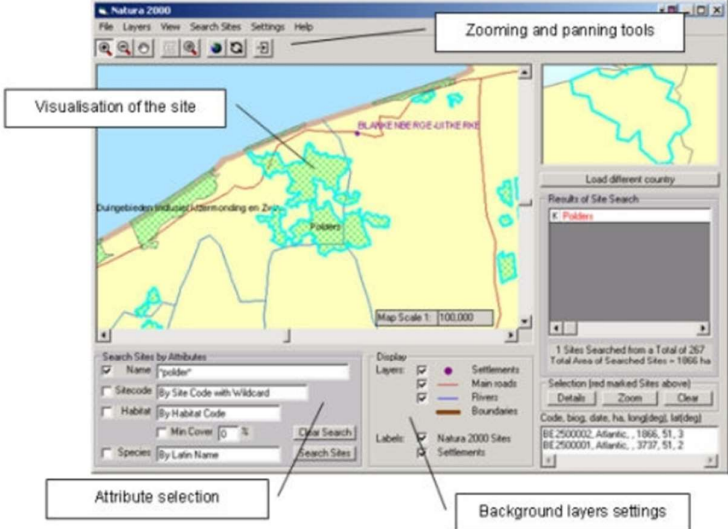


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NATURA 2K Application



Zooming and panning tools

Visualisation of the site

Attribute selection

Background layers settings

Visualization and attributes

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Andalusian biodiversity map: Creation of a model that evaluates the biodiversity using normalized variables existing in SinambA (Andalusian Environmental Information Net) that would help to obtain a cartography at an adequate scale from this source. Afterwards, development of an evaluation and continuation of this cartography.

Key Point: 'Mapping biological data: using an Environmental Information Net (SinambA) to analyse, model and map Andalusian biodiversity'

This application evaluates information of biodiversity regarding Andalusian ecosystems as stored within the Andalusian Environmental Information Net (SinambA), and evaluates it in relation to Corine Land Cover data. The results of this project indicate the distribution of biodiversity in terms of its variation and relative abundances of habitats and species.

Key Words:
habitats, biodiversity, GIS, SinambA, phytosociology

Policy Drivers:
Council Directive 92/43/EEC of 21 May 1992 on the Conservation of natural habitats and wild flora and fauna

Authors:
Quijada Muñoz Javier, Fernández Palacios Arturo

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Andalusian biodiversity map

Summary of intermediate results and processes to obtain a biodiversity map

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Biodiversity Loss And Understanding Spatial Change

Landscape

- **Identification and Characterisation of Environments and Landscapes in Europe (LANMAP)**
- **Maltese Islands Landscape Assessment**

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Identification and Characterisation of European Landscapes in Europe (LANMAP)

Key Point: 'A physiographic approach in the spatial identification of landscape units on basis of existing spatial data sets'

Landscapes are receiving increasing attention, given their environmental and cultural significance. This application attempts the establishment of a landscape classification scheme that is applicable across Europe in a consistent manner. The analysis of landscapes and their components allows more efficient environmental management and planning, and is a means by which the performance of policies can be evaluated.

Key Words:
topography, landscape

Policy Drivers:
Agenda 2000, DPSIR Framework and ESPON

Authors:
Mücher Sander and Hazeu Gerard

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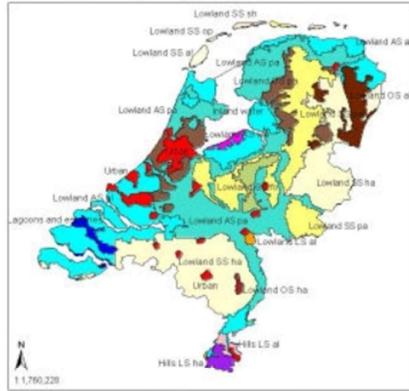
Identification and Characterisation of European Landscapes in Europe (LANMAP)

Reference Landscape Map of the Netherlands



Source: Alterra

Detail Landscape Map Europe for the Netherlands



Source: Múcher, 15 Augustus 2003, Alterra, Na Netherlands

Legend

Zandgebied	Zeekleigebied	Kustzone
Heuveland	Hoogveenontginingsgebied	Droogmaker(ij)n
Rivierengebied	Verstedelijkt landschap	Laagveengebied

Class_Names

landscapemap_v11_nl	Lowland AS pa	Lowland SS fo
Hils LS af	Lowland AS we	Lowland SS ha
Hils LS ha	Lowland OS af	Lowland SS op
Inland water	Lowland OS al	Lowland SS pa
Lagoons and estuaries	Lowland OS ha	Lowland SS sh
Lowland AS al	Lowland OS pa	Non-classified
	Lowland SS al	Urban

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Comparison of the Dutch national landscape map (left) and a detail of the European Landscape Map for the Netherlands (right)

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Maltese Islands Landscape Assessment

Key Point: 'Land use data in the Maltese islands: working with high densities in small areas'


Photo-interpretation and mapping at a small scale presents particular difficulties in areas with high densities of objects and features, as is the case in the Maltese islands. This project details the handling of such data, including the methodologies used to analyse data, and data dissemination over the internet. The data handling capabilities are of significance with respect to both land use planning and environmental protection.

Key Words:
urban planning, landscape

Policy Drivers:
Urban planning
Landscape
Land Use and Land Cover

Author:
Formosa Saviour

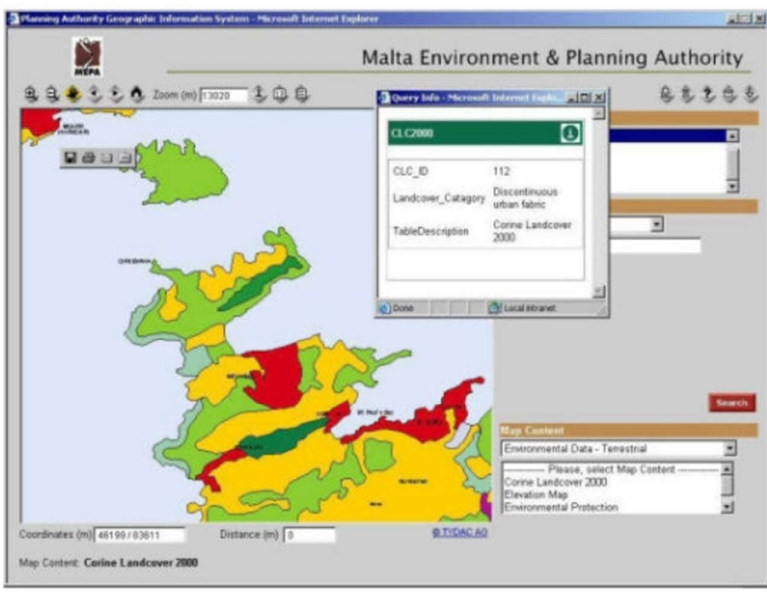
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Maltese Islands Landscape Assessment



CLC2000	
CLC_ID	112
Landcover_Category	Discontinuous urban fabric
TableDescription	Corine Landcover 2000

The MEPA maps server hosts the CLC2000 map under the Map Content section as part of the Environmental data - Terrestrial category.

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Biodiversity Loss And Understanding Spatial Change

Land Use and Land Cover Change

 **Land use of Belgium, the Netherlands and Luxembourg**


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Land use of Belgium, the Netherlands and Luxembourg

Key Point: 'Mapping the BENELUX region: bringing together multiple country land-cover maps'

CORINE Land Cover was used for the production of a land use map of the Netherlands, Belgium and Luxembourg, for a new world atlas published in September 2004. Four new maps of the Benelux area have been produced at a scale of 1:500.000 using CORINE dataset of those countries, together with 1:250.000 scale topographical data from the Dutch and Belgium Ordnance Survey, and data from the national bureaus of census.

Key Words:
land use, land cover

Policy Drivers:
Urban planning
Landscape
Land Use and Land Cover

Author:
Mijwaard Bob

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Land use of Belgium, the Netherlands and Luxembourg

Fig 1. Original CORINE data

Fig 2. Generalised CORINE data

Fig 3. Topographical data added

Fig 4. Final result

Integration process

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Biodiversity Loss And Understanding Spatial Change

Regional Planning

- 3rd Cohesion Report Map on Territorial Diversity (Fragmentation)
- OderRegio: Estimating flood risk and damage potential in transnational context
- Downscaling population density with CORINE Land Cover

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3rd Cohesion Report Map on Territorial Diversity and Fragmentation


Key Point: *'Fragmentation of natural areas: Reconciling development pressures and the need for conservation'*

The challenge to upgrade environmentally suitable development policies is a pressing issue, particularly in the case of high population density zones, or where there are intense pressures on land resources. As these areas of development pressure are unevenly distributed across the territory of the EU, it is important to prevent further deterioration of the environment in areas subjected to such development pressure.

Key Words:
fragmentation, regional planning

Policy Drivers:
Regional Policy: Social, economic and territorial cohesion

Author:
Albás Michael



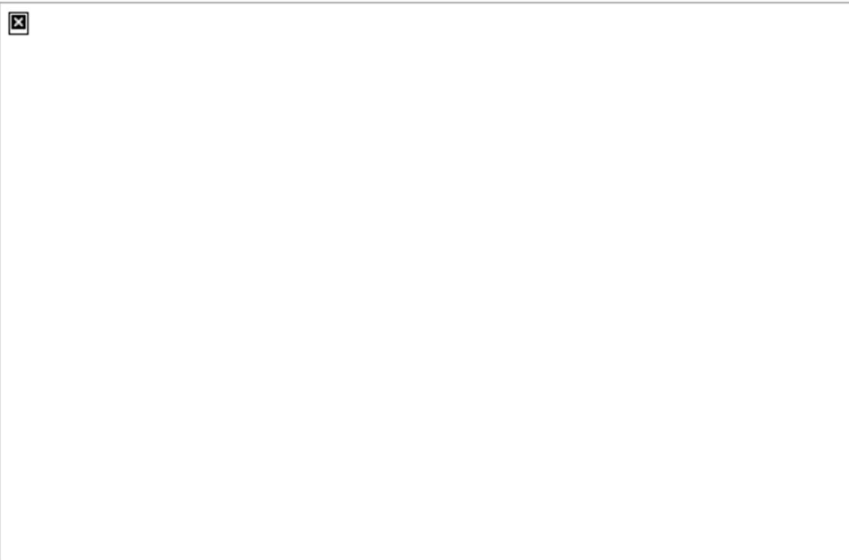
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3rd Cohesion Report Map on Territorial Diversity and Fragmentation



Territorial Diversity - degree of fragmentation of natural areas

 Drag mouse to pan the image. Press left button to zoom in - right button to zoom out
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OderRegio: Estimating flood risk and damage potential in transnational context


Key Point: *'The OderRegio case study: identifying areas that are at risk of flooding and estimating the damage incurred'*

Preventive flood protection is a pressing issue in the European continent, currently being tackled through such initiatives as the OderRegio project. The project aims to develop an Action Program for preventive flood protection through spatial planning in the Oder catchment area and caters for the Polish, Czech and German area. CORINE landuse data was employed for the generation of land use maps as well as the calculation of damage potential.

Key Words:
flood risk, catchment areas

Policy Drivers:
regional planning
Water Framework Directive (WFD)
EUROWATERNET

Authors:
Neumüller Jürgen and Friedrich Sven



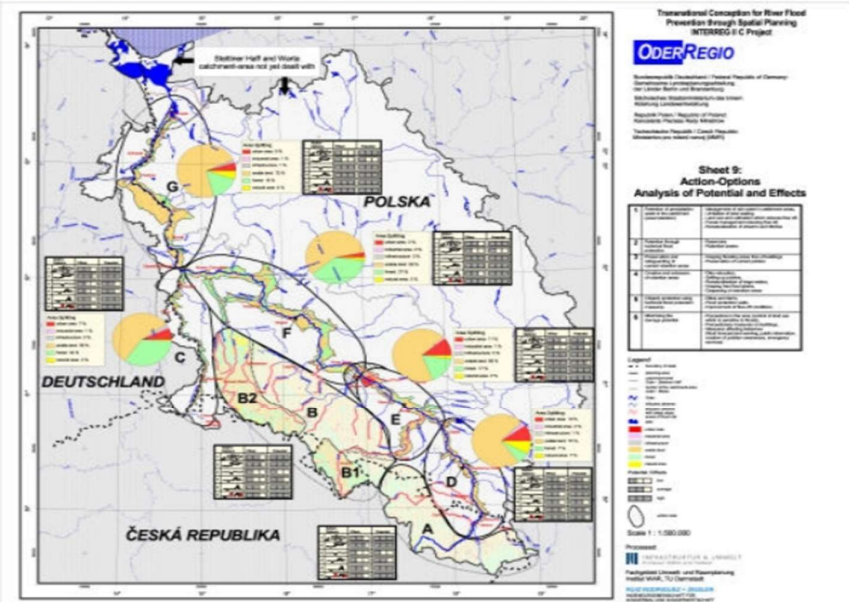
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OderRegio: Estimating flood risk and damage potential in transnational context



Map sheet Action Options has been result of first phase of OderRegio and shows among others the land-use patterns in the action areas defined

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Downscaling Population Density with CORINE Land Cover

Key Point: 'Investigating the relationship between types of communes, population density, and land cover type though scale issues'

In a situation where commune size varies widely across Europe, studies that depend on spatial analysis find that the population density levels at NUTS 5 may be insufficient. This study investigates and develops estimated population density values per commune and land cover type for 1991 based on 1ha grid resolution.

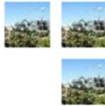
Key Words:
urban, agriculture, regional planning

Policy Drivers:
Urban Thematic Strategy
Common Agricultural Policy

Author:
Gallego Javier

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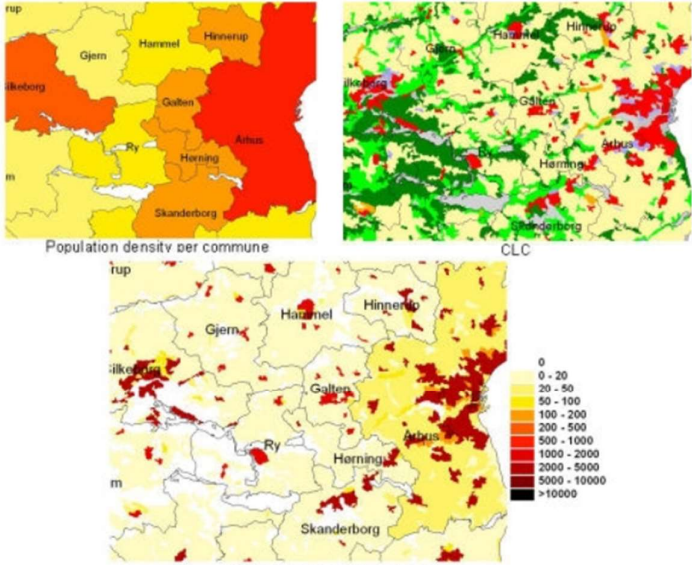
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Downscaling Population Density with CORINE Land Cover



Population density per commune

CLC

Downscaled population density.

Downscaling population density using population density per commune and CLC

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CORINE LAND COVER 2000 MAPS

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Allows user to move around the map
(May take some time to load)
- CLC2000 Map Zoomable Version**
Allows user to zoom onto an area of preference
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- CLC2000 Map Individual Countries**
Allows user to view individual country map
- CLC2000 Map Legend**
Allows user to review legend
- CLC2000 Classes**
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CORINE LAND COVER 2000 MAP

Drag the red box to explore the image on the right

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Source: Corine land cover 2000
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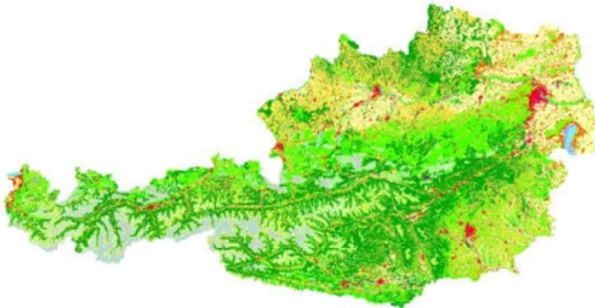
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CLC Milestones
 Start: June 2002
 End: March 2005

Contact person:
 Gebhard Banko

Austria

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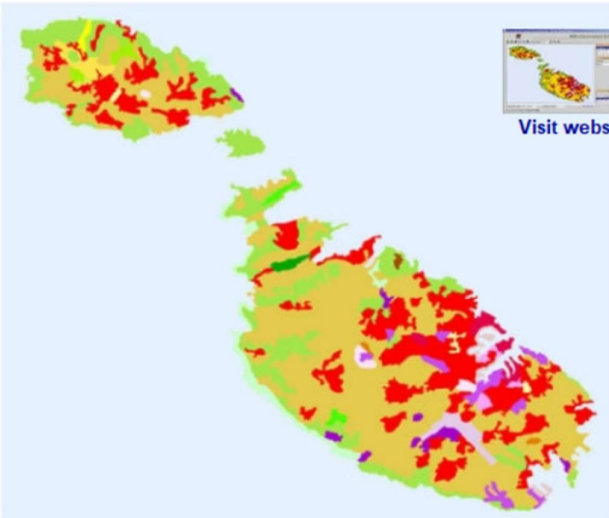
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CLC Milestones
 Start: July 2003
 End: September 2003

Contact person:
 Saviour Formosa

Malta

Visit website


























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CORINE LAND COVER 2000 LEGEND

Corine land cover classes

<p>1. Artificial surfaces</p> <p>1.1 Urban fabric</p> <ul style="list-style-type: none">  1.1.1. Continuous urban fabric  1.1.2. Discontinuous urban fabric <p>1.2 Industrial, commercial and transport units</p> <ul style="list-style-type: none">  1.2.1. Industrial or commercial units  1.2.2. Road and railnetworks and associated land  1.2.3. Port areas  1.2.4. Airports <p>1.3 Mine, dump and construction sites</p> <ul style="list-style-type: none">  1.3.1. Mineral extraction sites  1.3.2. Dump sites  1.3.3. Construction sites <p>1.4 Artificial, non-agricultural vegetated areas</p> <ul style="list-style-type: none">  1.4.1. Green urban areas  1.4.2. Sport and leisure facilities <p>2. Agricultural areas</p> <p>2.1 Arable land</p> <ul style="list-style-type: none">  2.1.1. Non-irrigated arable land 	<p>3. Forest and seminatural areas</p> <p>3.1 Forests</p> <ul style="list-style-type: none">  3.1.1. Broad-leaved forest  3.1.2. Coniferous forest  3.1.3. Mixed forest <p>3.2 Scrub and/or herbaceous vegetation associations</p> <ul style="list-style-type: none">  3.2.1. Natural grassland  3.2.2. Moors and heathland  3.2.3. Sclerophyllous vegetation  3.2.4. Transitional woodland-shrub <p>3.3 Open spaces with little or no vegetation</p> <ul style="list-style-type: none">  3.3.1. Beaches  3.3.2. Bare rock  3.3.3. Sparsely vegetated areas  3.3.4. Burnt areas  3.3.5. Glaciers and perpetual snow <p>4. Wetlands</p> <p>4.1 Inland wetlands</p> <ul style="list-style-type: none">  4.1.1. Inland marshes
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CORINE LAND COVER Launching Video

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