

UN-GGIM: Europe, Work Group B “Data Integration – Definition of priority user needs for combinations of data”

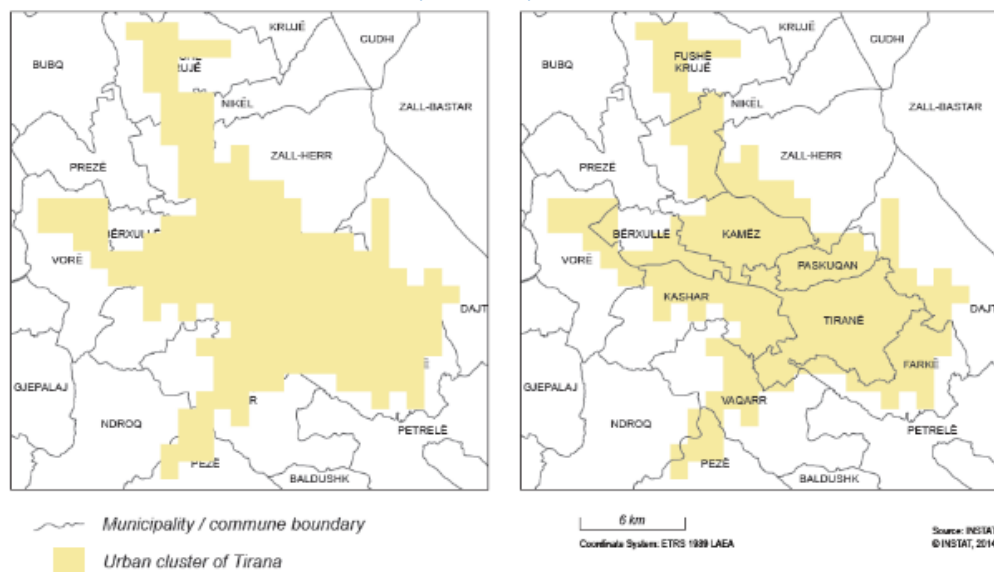
Annex II – Use cases

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AL1 Urban/rural classification (Albania)



http://www.instat.gov.al/media/252716/a_new_urban-rural_classification_of_albanian_population.pdf

Abstract

Albania has applied the European urban/rural classification based on a 1km square km population grid. Statistical data for urban and rural areas are important for the central government and for local authorities while planning and managing services for local communities. The allocation of health and social care funding, housing, roads, water and sewerage and the provision and maintenance of schools have all distinctive aspects in urban and rural areas. Employment for urban and rural population has different features as well.

In Albania, as in most other countries, it is difficult to distinguish exactly the urban population from the rural one. Even though not always reflecting what is certainly urban or rural, in Albania, the administrative definition based on the law is used also for statistical purposes. Using cell grids of equal size (1 km²) instead of local administrative units of different sizes has increased the data comparability considerably.

The main results of the analysis show that by using the new classification of urban and rural population (and areas), figures are very different in comparison to the classification based on laws and administrative entities. In October 2011, the urban population of Albania was 58.2% of the total population, as defined by the new EU typology. Its value is more than 10% higher than the urban population defined according to administrative criteria (cities defined by laws), 47.7 %.

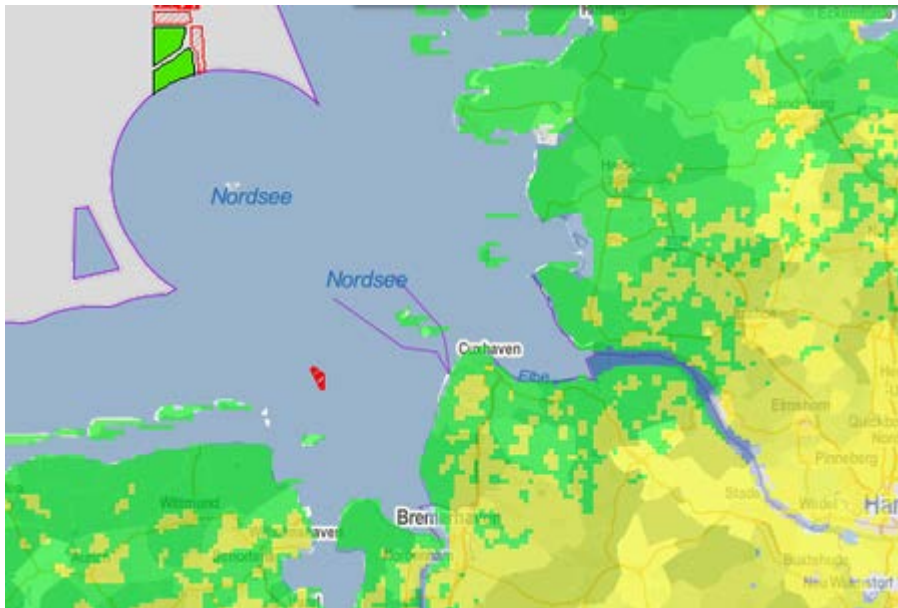
Benefits

The grid-based statistical classification of Albania population (and areas) will improve the comparability of Albanian statistics at different territorial levels with EU countries, and will provide more accurate information for development policies in the country.

Linked to

All SDGs that will require an urban/rural dimension to be monitored.

DE1 Wind Power: Where New Plants could still be worthwhile (Germany)



<http://www.geoportal.de/DE/Geoportal/Karten/karten.html?lang=de&lang=en&wmcid=40>

Abstract

In order to move away from a dependency on coal, oil, gas, and nuclear power towards renewable energy studies have been carried out to identify where new wind turbines still are a reasonable option. By combining the information from two maps, one that shows where the wind blows strongly enough to ensure that wind power plants will be worthwhile and one that shows where wind power capacity has already been installed, it became visible where there are still unused wind power capacities.

The suitability of a site and the accompanying financial support are based on criteria as laid down in the Erneuerbare-Energien-Gesetz (EEG) Renewable Energies Act. The map is based on the statistically computed performance of a sample wind wheel and any possible new wind wheel sites have to be measured against this sample wind wheel.

The map of the already installed wind power capacity showed that the major share of wind energy has until now been generated in Northern Germany, which is not surprising since the wind map shows that most of the wind blows in the coastal areas and in the upper reaches of the Central German Uplands (Mittelgebirge).

Benefits

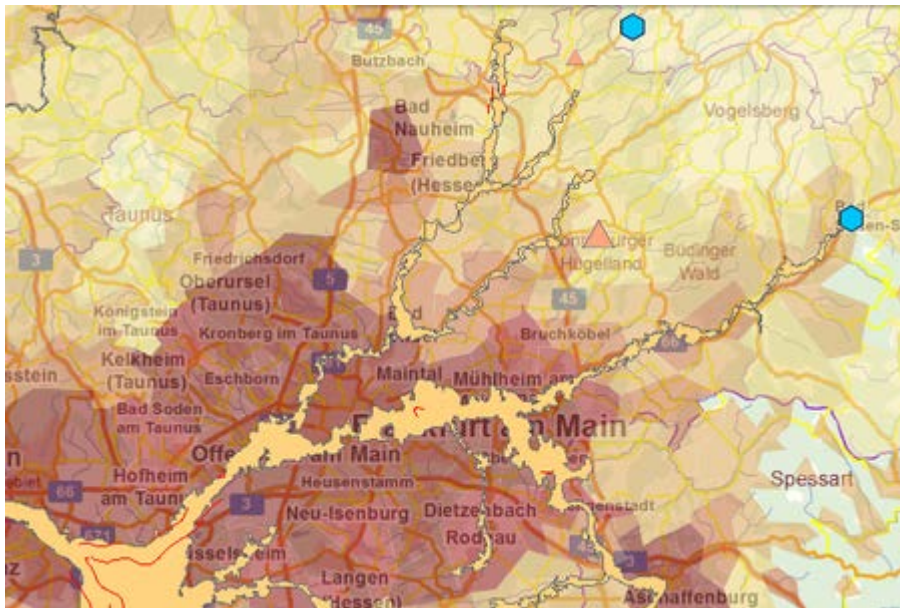
Improved planning and decision making on the best location for new wind turbines in order to increase the share of renewable energy and reduce greenhouse gas emissions.

Linked to

UN Sustainable Development Goals (SDGs), Goal 7 “Ensure access to affordable, reliable, sustainable and modern energy for all”

Europe 2020 → flagship initiative “Sustainable growth” → “Resource efficient Europe”

DE2 Flood protection (Germany)



<http://www.geoportal.de/DE/Geoportal/Karten/karten.html?lang=de&lang=en&wmcid=64>

Abstract

Flooding occurs when the water level or the flow have reached or exceeded a certain threshold value. Depending on the water level and the degree of adaptation to potential floods these can have catastrophic outcomes for the people living along the water and for economy and infrastructure there.

By the increasing population and trade density in the formerly natural flood plains the potential for damages from floods rises further. After the so-called „Christmas Flood“ in the Rhine river basin in 1993 the damages only for the German part of the territory were estimated to about 0.7 billion Euros. According to Deutsche Rück, the economic losses caused by the Elbe and Danube floods in Germany in August 2002 amounted to more than 11 billion Euros.

Improvement of the flood protection concepts by combining geospatial information with other data sources has led to increased coordination of both technical measures and measures for improving the water retention in the catchment area.

Benefits

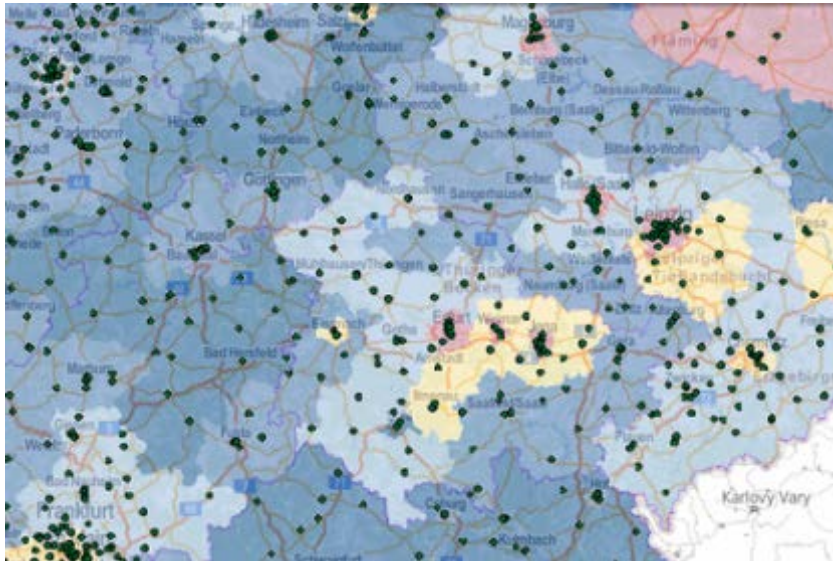
Preventive measures for the protection of usage in flood-endangered areas and measures for the behaviour in an acute case of a flood leads to large economic savings and reduced risk for loss of lives.

Linked to

UN Sustainable Development Goals (SDGs)

- Goal 11 “Make cities and human settlements inclusive, safe, resilient and sustainable”
- Goal 13 “Take urgent action to combat climate change and its impacts”
- Goal 15 “Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss”

DE3 Future development of the school population (Germany)



<http://www.geoportal.de/DE/Geoportal/Karten/karten.html?lang=de&lang=en&wmcid=81>

Abstract

Germany depends largely on the overall education and qualification level of the population, with a high demand for skilled workers in the export-oriented industry. Therefore, in the development of society and the economy the education system plays a key role, and also characterizes the local situation in the cities and regions.

A range of high-quality schools is essential both for families when selecting a residential location and for business and enterprises as a “soft” location factor. The number of children and adolescents will however decrease over the next 20 years by altogether about 13 %. This means that in many cases there is the threat of school closures. The decrease affects above all the rural areas in the old Länder (federal states), where decreases from 20% to well above 20% are the rule. The largest changes concern areas where the existing network of school locations is already rather thin with traditionally long routes to school, especially with regard to secondary schools.

Contributions to the current discussions and reforms of the education system are needed, which primarily concern the secondary schools. For instance, the dissolution of the tripartite school system in Germany (or adherence to it) must also take account of the aspects of the demographic development and the network of school sites.

Benefits

By matching information on schools and populations forecasts on the development of children and adolescents it is possible to take more informed decisions and plan for the future.

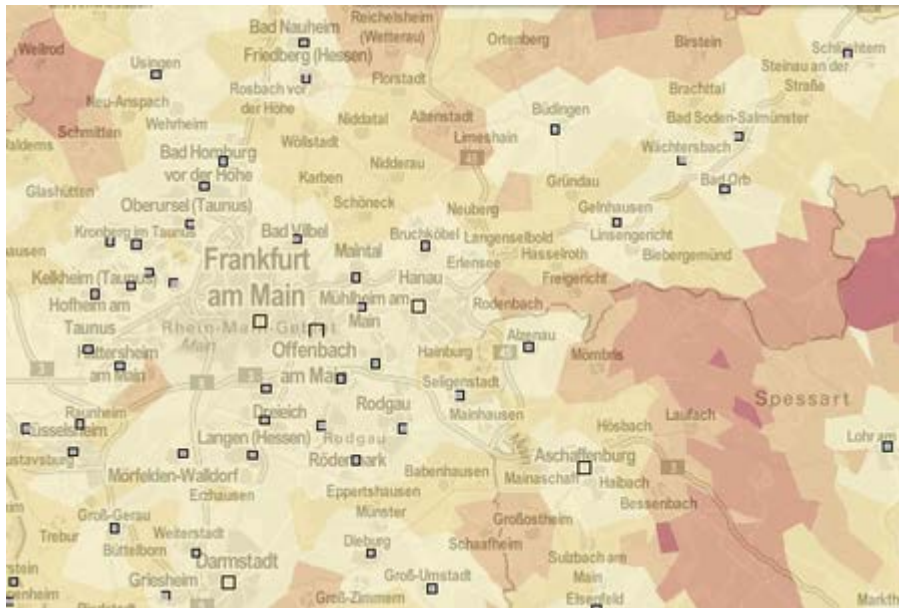
Linked to

UN Sustainable Development Goals (SDGs),

→ Goal 4 “Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all”

Europe 2020 → flagship initiative “Inclusive growth” → “An agenda for new skills and jobs”

DE4 Accessibility of Central Places (Germany)



<http://www.geoportal.de/DE/Geoportal/Karten/karten.html?lang=de&lang=en&wmcid=82>

Abstract

Germany's urban settlement system is basically characterized by its central places. These places are designated as such and allocated by the respective state planning authorities in order to ensure nationwide provision of public and private facilities and services to the population, as well as the supply of workspaces within a reasonable distance.

Depending on the functions performed by a municipality in its central-place system it assumes, also within its own surrounding area of influence, more or less extensive administrative and supply functions. The medium-sized as well as the major regional centres shall in this context fulfil tasks and functions in the fields of education, healthcare, retail trade, and also with regard to job creation. Thus, accessibility of the medium-sized and urban centres allows statements and conclusions about the regional supply structure, above all with respect to the social infrastructure facilities, given that for the ca. 1 000 locations fulfilling at least the functions of a medium-sized regional centre, if taking as basis the relevant equipment catalogue specifications, a similar supply of infrastructural facilities is demanded.

A period of 30 minutes is considered as a reasonable travel time to reach the nearest intermediate centre. This target value is reached or even exceeded throughout Germany: Nearly 90% of the population reach the next medium-sized centre already within 15 minutes by car, less than 1% of the citizens need more than the required 30 minutes car travel time.

Benefit:

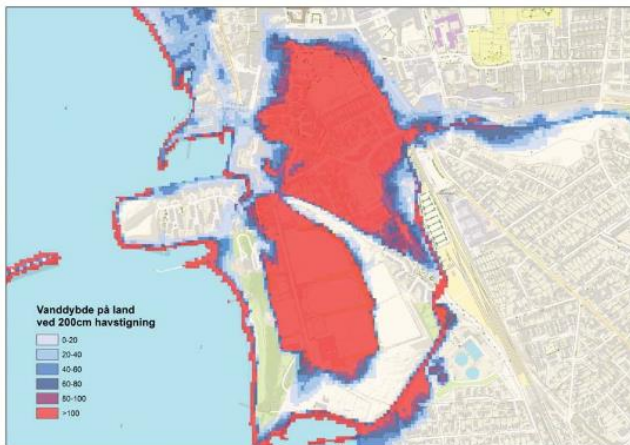
Underpin statements and conclusions about the regional supply structure, above all with respect to the social infrastructure facilities.

Linked to

UN Sustainable Development Goals (SDGs), Goal 9 “Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation”

Europe 2020 → flagship initiative “Sustainable growth” → “An industrial policy for the globalisation era”

DK1 Crisis situations caused by the climate – use of the Elevation Model (Denmark)



Selected areas that will be struck by the storm surge in the course of the day.

Abstract

Denmark's Elevation Model has been used a couple of times in connection with crisis situations caused by the climate.

In order to plan the right emergency response a number of data sources and weather forecasts were prepared in advance by the Danish Meteorological Institute (DMI) and the Danish Coastal Authority (DCA). When facing a real crisis it was evident that they needed even higher level of detail in the data, to be able to single out which areas might be flooded by rising seawater.

Using the Elevation Model has proven to be very accurate as it gives the necessary level of detail, in the case of flooding the exact area of the quay edge that was needed to take the right action. In preparation for such situations, the Elevation Model had been converted into the Rubber Boot Index. This index may not be an international standard, but it provides an excellent illustration of where in a flooded area it is possible to wade through in rubber boots, where you can go through in a vehicle, and where you need to sail.

Denmark's Elevation Model and flooding calculations can be downloaded as free data from the Danish Geodata Agency's website, and flooding calculations are accessible at Klimatilpasning.dk. The emergency authorities are urged to make use of the data and to prepare their own geodata for when there is an emergency situation.

Benefits

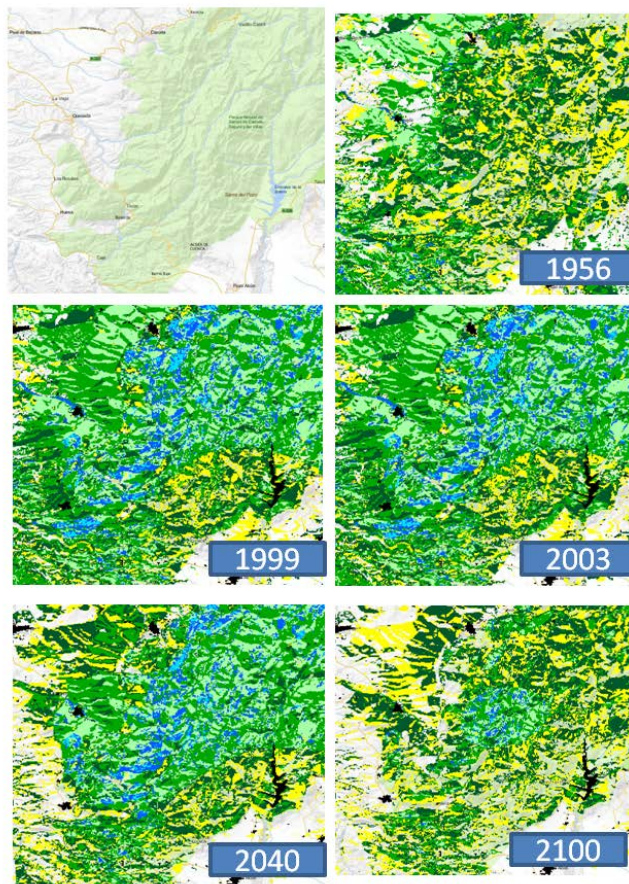
By preparing various data sources and make an easy to understand rubber boot index it is possible to respond to flooding in a much more effective way. This in turn might save lives and reduce the economic loss.

Linked to

UN Sustainable Development Goals (SDGs)

- Goal 11 "Make cities and human settlements inclusive, safe, resilient and sustainable"
- Goal 13 "Take urgent action to combat climate change and its impacts"

ES1 Sensitivity to desertification in Andalusia, 1956-2100 period (Spain)



Evolution of sensitivity to the degradation and desertification
http://www.juntadeandalucia.es/medioambiente/mapwms/REDIAM_sensibilidad_desertificacion_1956_2100

Abstract

The diagnosis of sensitivity to the degradation and desertification (evaluation and multitemporal monitoring of desertification in Andalusia through a Geographic Information System within the DESERTNET II project) has been performed according to the methodology MEDALUS (Kosmas et al. , 1999) that allows to identify the vulnerable or sensitive areas to desertification through the application of biophysical and socio-economic indicators. The DESERTNET II project focuses on themes related to the study, monitoring and sustainable management of drought areas of the Mediterranean basin in particular in relation to the impact of agricultural policies and pastoral activities.

The study is based on the implementation of four quality indexes of factors straight related to the desertification: soil, climate, vegetation and management of the territory. An analysis of the main parameters or indicators that mark its sensibility to the degradation.

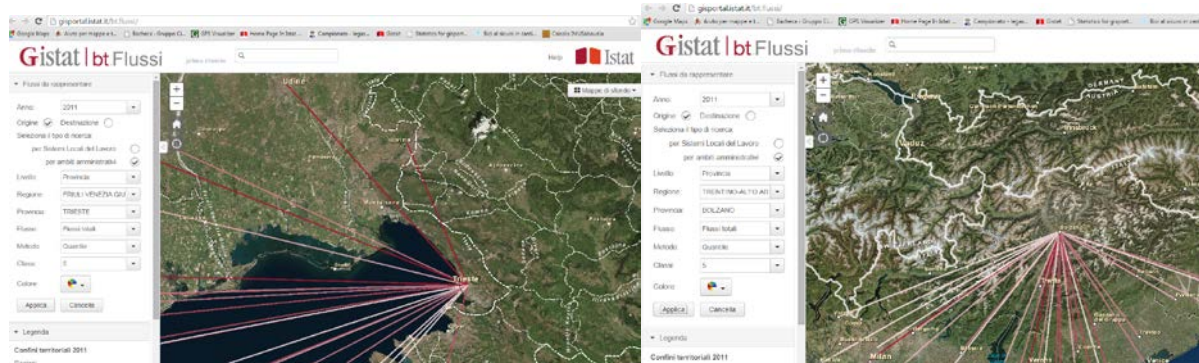
Benefits

The results obtained from the application of this method allow to estimate the fragility of the territories in relation with this problem and define the areas potentially susceptible to develop or that are currently experiencing processes associated to the desertification and in this way be able to define policies to avoid o reduce the impact of it.

Linked to

UN Sustainable Development Goals 13 “Take urgent action to combat climate change and its impacts” and 15 “Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss”. EUROPE 2020 flagship initiative “Sustainable growth - Resource efficient Europe”.

IT1 Commuting people (Italy)



<http://gisportal.istat.it/bt.flussi/>

Abstract

It is a cross-border analyses related to commuting people for work and study reasons, represented by flow lines. The proposed use case is related to extend the flows analyses to and from the cross-boarders countries.

We already developed a system to analyze internal (to Italy) flows, but it would be very useful for European policies to distribute and analyze combined and harmonized data for commuting people among cross-boarders countries.

Benefits

Development of Cohesion policy.

Development and enhancement of projects with the goal of creating growth and jobs and promoting territorial cooperation.

Linked to

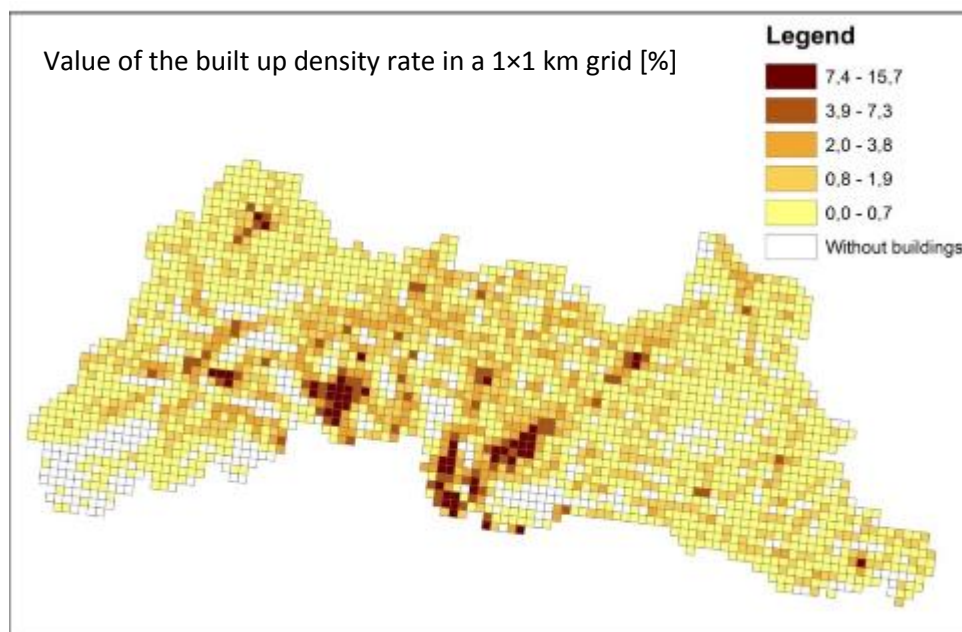
Europe 2020 flagship initiative ---> “inclusive growth (an agenda for new skills and jobs, and the European platform against poverty)”

UN Sustainable Development Goals (SDGs):

Goal 8 “Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all”

Goal 10 “Reduce inequality within and among countries”

PL1 Using geospatial data to build statistical indicators describing the state of spatial management – buildings and roads (Poland)



Source: Final technical implementation report on the activities carried out under action entitled “Merging statistical data and geospatial information in Member states” <http://geo.stat.gov.pl/granty>

Abstract

It is possible to meet the information needs related to the planning work in Local Government units (LGU) by obtaining statistical data from geographic databases maintained by public administration units. The data shows internal differentiation of the gmina (municipality) which is very important both as a common knowledge base and as a starting point in the process of preparing planning documents.

The needs to provide data on aggregation levels lower than LAU 2 are increasing. Such needs were identified by the representatives of LGUs during work within the Task force for the statistical information system for the purpose of regional policy. There are legal and organisational problems of spatial planning and monitoring of local planning, as well as lack of spatial order and mismanagement of resources. This shows the necessity to develop methods for measuring the scale and directions of changes in land management.

As a result there are problems with unrestrained suburbanisation manifested by chaotic changes in the management of rural areas. Effects of this can be seen not only in the physical space, but also in the social sphere.

Benefits

By wider use of GIS tools to obtain quantitative data it is possible to show the current problems in land management and support better informed decisions. This might lead to a more sustainable urbanisation process.

Linked to

UN Sustainable Development Goal 11 “Make cities and human settlements inclusive, safe, resilient and sustainable”

PL2 New technologies used in 2010 Census Round Census (Poland)

Abstract

The organisation and course of the 2010 Census Round in Poland greatly contributed to the development of information society, which in fact was evidenced by the course of the census itself. Therefore, it has been proven that technological innovativeness in statistics is not only possible, but it also leads to an improved quality of the results, as well as allows minimising the burden of respondents, reducing implementation costs and improves enumerators management in the field.

The National Census of Population and Housing conducted in Poland in 2011 was designed and implemented with the application of digital maps and the GPS technologies which brought a revolutionary change when it comes to the possibilities of data aggregation, analysis and dissemination.

With the use of the materials obtained both from geodetic and statistical resources, it was possible to develop sampling frames for censuses comprising statistical address points and their spatial reference. Using the mobile application, the enumerator could change the location of an address point, delete an address point, or add an address point not included in the register, with the help of GPS device. During the pre-census stage, the enumerator was also responsible for controlling the entire areas of the census districts assigned to him. It was particularly important when the revision in the gmina district was performed only on the basis of the registers kept, and the census enumerator was the first and in many cases the only person directly involved in field work in the framework of the census operations.

The introduction of x, y coordinates and address points in statistical data enabled changing of the previous system of spatial identification and shifting from area assignment (census districts) to point assignment.

Benefits

Above experience shows, that we all should undertake activities which will allow to introduce x, y coordinates to each address points. It will make it possible to change the system of spatial identification of these data and to move from area classification (census districts) to point classification. The change of the assignment mode allow for more flexible grouping of data collected in public statistics for even the smallest areas. It also makes it possible to create a base of microdata of a spatial nature enabling the carrying out of spatial analyses of various phenomena, concerning, for instance:

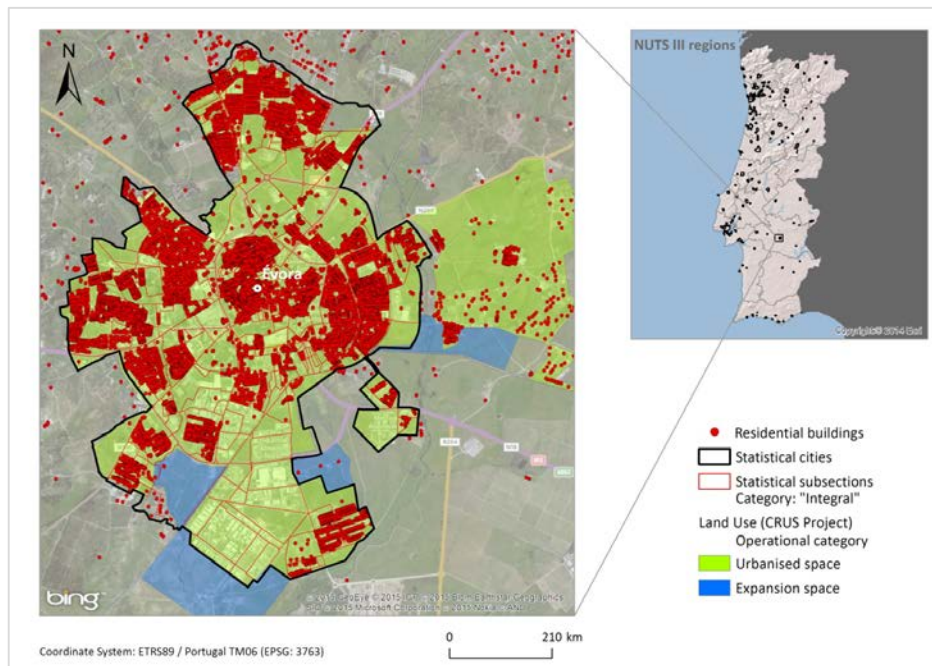
- demography (e.g. the average distance between children's and parents' residence, commuting to work, school, distance to hospital etc.),
- urbanisation and planning (e.g. useful in determining the boundaries of urban agglomerations, metropolies, and the drawing up of land development plans),
- agriculture and environment (analysing the structure of crops, environmental pollution),
- the economy (e.g. analysing the effects of burdensome road and industry investments).

Classification of the analyses conducted by points with x, y coordinates make it also possible to become independent from boundaries changes (in the regional division of the country), usually resulting in changes in census districts and laborious recalculations. This facilitates a comparative analysis of time series, regardless of the changes taking place in this division. An additional advantage is the possibility of the data aggregation both in the structure of the NUTS administrative division and the GRID divisions prepared within the GEOSTAT project.

Linked to

Sustainable Development Goal 1: "End poverty in all its forms everywhere".

PT1 Statistical cities (Portugal)



Delimitation of statistical city boundaries [Évora municipality]

Abstract

Cities are driving forces of economic growth, competitiveness and employment, but are also places with serious environmental and social problems and, therefore, it is important to develop a consistent portrait on this geographical level in order to build up integrated territorial based policies.

The delimitation of the Portuguese statistical cities is the result of cooperation between Statistics Portugal and local authorities. The spatial delimitation allowed for data to become available for cities, at present mainly derived from Census data. In this context, and based on the 2011 Census final results, Statistics Portugal released more than [50 indicators](#) for the 159 statistical Portuguese cities in its' Statistical Database, regarding population, families, buildings and dwellings, allowing for a comparison of the Portuguese cities' specificities within the national context.

Building on the knowledge from the delimitation there are plans of assessing the possibility of georeferencing establishments and enterprises in order to have an economical characterization base of cities.

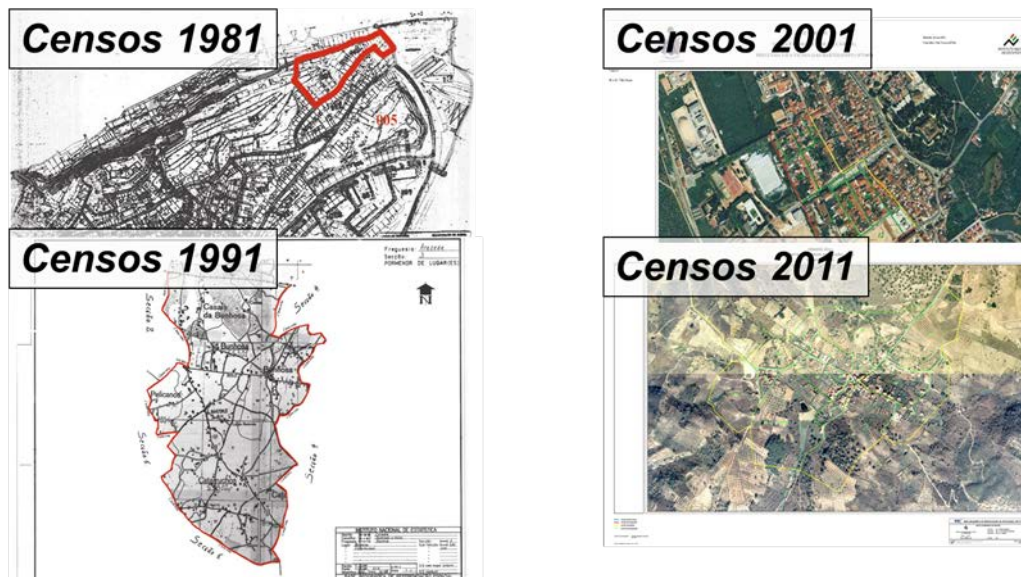
Benefits

The geographical delimitation of the 159 Portuguese cities made it possible to have a statistical portrait of cities within the national context. Cities represent an important territorial analytical unit and are of crucial importance for urban and regional planning policy making. The local authorities will largely benefit from the information derived for statistical cities for day-to-day management and decision-making regarding spatial and urban planning.

Linked to

UN Sustainable Development Goal 11 "Make cities and human settlements inclusive, safe, resilient and sustainable". EUROPE 2020 flagship initiative "Inclusive growth - An agenda for new skills and jobs".

PT2 Small statistical areas (Portugal)



Census spatial framework – small statistical areas (subsecções)

Abstract

Statistics Portugal traditionally uses small statistical units (subsecções) to collect and disseminate census and other statistical data. With the creation of a point based spatial framework for the 2011 census operation also other geographies (especially the 1km² grids) could be produced – so had the small statistical areas become outdated and served its purpose? That was not the case as they have their unique characteristics, representing homogeneous areas like city blocks and spatially coherent rural areas. They are used to produce several territorial statistical indicators and to define thematic areas in a very exact way etc.

Also, due to disclosure constrains disseminating census and statistical data at small statistical units (subsecções) are still the smallest spatial disaggregation level that Statistics Portugal uses to disseminate statistical data.

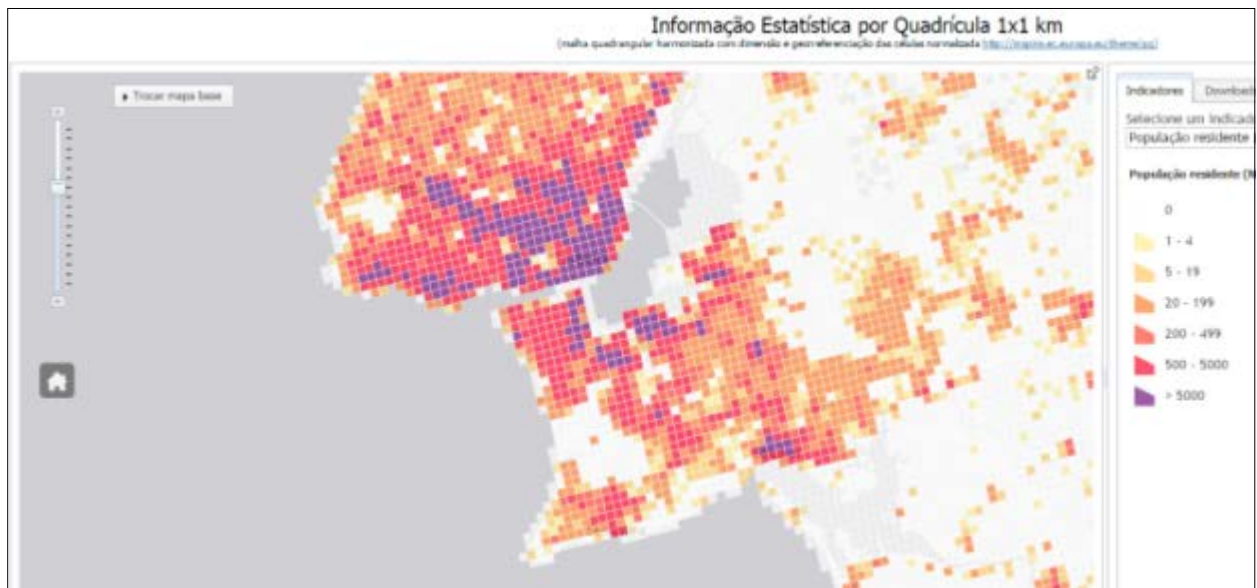
Benefits

There are several advantages to maintain and use small statistical units in various projects developed at Statistics Portugal - represent Census data, define homogeneous urban and rural areas. The possibility of deriving statistical data at small statistical units represents a relevant source of information for policy decision at the local and regional levels regarding urban planning purposes and studies.

Linked to

UN Sustainable Development Goals (SDGs), → Goal 11 “Make cities and human settlements inclusive, safe, resilient and sustainable”

PT3 Statistics disaggregated by geographic location - Census grid statistics (Portugal)



1 Km² population GRID and website to analyze values

Abstract

For Statistics Portugal the results of the 2011 population and housing census served as an opportunity and starting point to create statistics for the European 1 Km² GRID for the whole territory. Before 2011 Statistics Portugal used to represent census results for statistical subsections. As a result of the 2011 Census a complete coverage with the location of all the residential buildings of the Portuguese territory was created, where for each building the number of dwellings and their population characteristics is known. Having these data made it possible to create results for each 1 Km² Grid cells. These results were published on a website (<http://geogrid.ine.pt/>) and published as alphanumeric data.

Benefits

The most relevant benefit is to be able to present and compare results which are not limited to any kind of administrative or geographical division. Information derived based on custom harmonized areas defined by the user, that are not limited to administrative divisions, are a relevant input for specific territorial and urban planning studies and, consequently, for policy making and policy informed decisions.

Linked to

UN Sustainable Development Goals (SDGs), → Goal 10 “Reduce inequality within and among countries”
→ Goal 11 “Make cities and human settlements inclusive, safe, resilient and sustainable”

PT4 Climate statistics at LAU 1 and NUTS III levels (Portugal)

Abstract

Statistics Portugal produce annual air temperature and precipitation statistics at a more detailed territorial level as part of the publishing of climate variables for official administrative spatial units - municipality (LAU 1) and NUTS III levels. Climate variables are an important tool to monitor climate change at local and regional level.

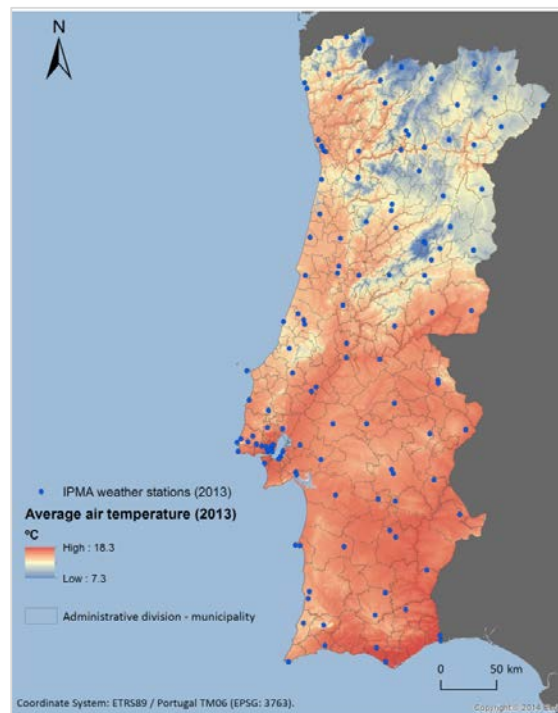
Data on annual air temperature and precipitation correspond to estimates, based on spatial interpolation methods, carried out by the Portuguese Sea and Atmosphere Institute (IPMA). They provide information according to the most commonly used territorial units of data dissemination in the National Statistical System, under the scope of the collaboration protocol between Statistics Portugal and that National Agency.

Benefits

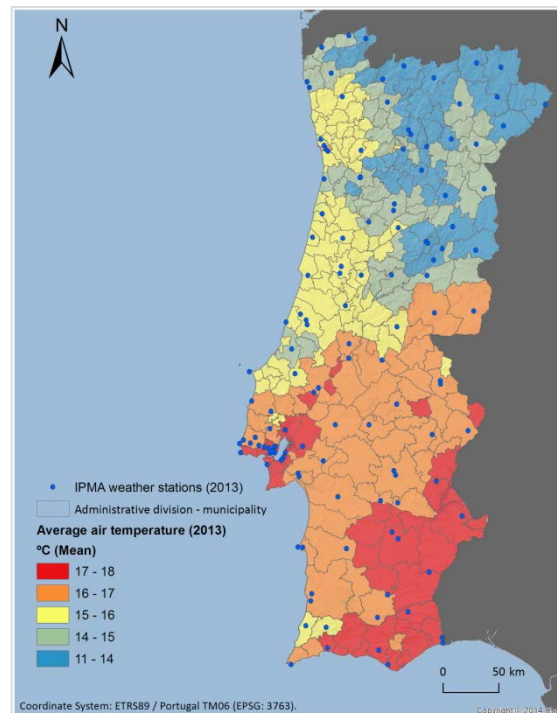
Climate statistics are important to get zonal indicators to monitor development at regional and local level alongside with the territorial sustainable growth agenda for Europe 2020.

Linked to

UN Sustainable Development Goals 13 “Take urgent action to combat climate change and its impacts” and 15 “Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss”. EUROPE 2020 flagship initiative “Sustainable growth - Resource efficient Europe”.

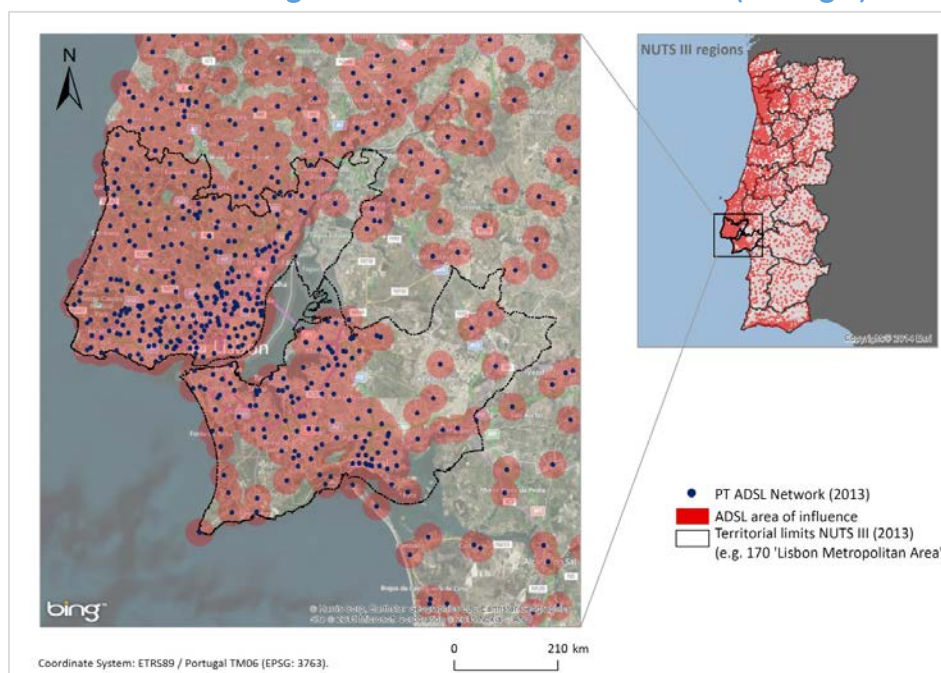


Average air temperature and IPMA weather station locations, 2013



Average air temperature by municipality, 2013

PT5 Potential territorial coverage of broadband internet access (Portugal)



Broadband internet access areas of influence (buffer zones)

Abstract

Statistics Portugal produces a broadband internet coverage indicator as a result from the need to include this dimension in the competitiveness index of the [Regional Development Composite Index](#) at NUTS III level. This indicator intends to reflect the supply of an important technological service that is essential to account in the assessment of regional competitiveness. The main goal of ISDR is to provide results that allow for the monitoring of regional disparities and that support the definition and evaluation of territorial based public policies.

The broadband internet access indicator was created based on spatial data information on points of distribution of the broadband internet access network made available by Portugal Telecom. Based on the theoretical curves that relate the speed according to the distance for copper cables and resorting to GIS techniques it was possible to calculate areas of influence within a 2 500 m range.

By applying buffer zones it was possible to determine areas of influence of the PT ADSL network features. The combination of these buffer zones with the Administrative Map of Portugal and by using Geospatial Analysis techniques, made it possible to obtain the broadband internet access areas of influence associated to each NUTS III region and then derive a proportion of area covered with broadband internet access in the total area of the NUTS III region.

Benefits

Potential territorial coverage of broadband internet access is an important dimension to be included in the competitiveness index of ISDR, which constitutes a relevant indicator for policy makers to monitor regional development.

Linked to

UN Sustainable Development Goal 9 “Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation”. EUROPE 2020 flagship initiative “Sustainable growth - Resource efficient Europe and An industrial policy for the globalization era”.

PT6 Feasibility study on potential accessibility indicators to schools (Portugal)

Abstract

The motivation to develop accessibility indicators was raised in the context of the Statistical Council (and the creation of Working Group on Territorial Mobility). The idea was to produce a new type of indicators within the scope of the National Statistical System, taking advantage of the development of a Spatial Data Infrastructure and of spatial analysis techniques.

The feasibility study was based on a case-study approach. Four territorial units were selected based on principles such as urban vs. rural areas, population density and distribution (intense vs. scattered). Also schools from different levels of educations were selected.

Two types of potential time distance indicators were developed based on the minimum time distances between each geographical unit of input (census tracks, grid and buildings) and schools. These were calculated by different modes of transport (on foot and by car). The Information Reference Geographical Database (BGRI) and the Census Population Data were used, as well as a road network layer and a polygon geographical database on schools.

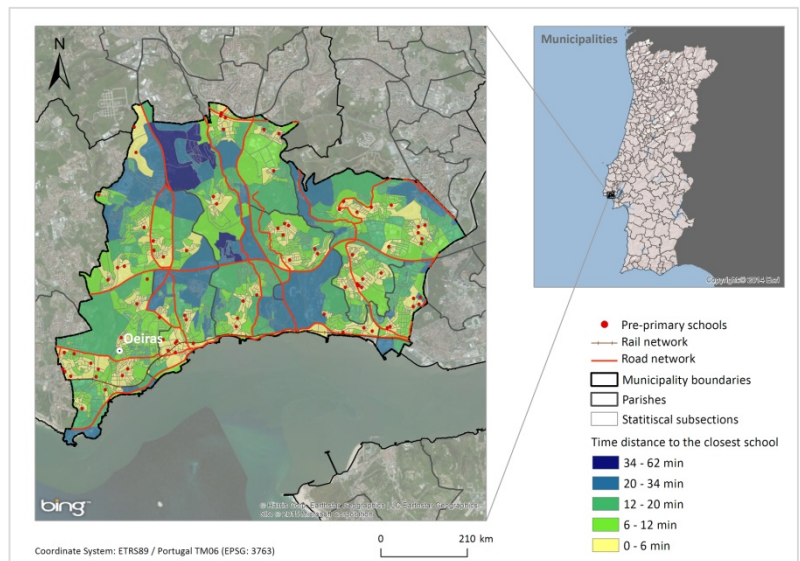
The sensibility analysis focused on the comparison of the potential time-distance indicators calculated for a specific output level based on different geographical units of input, as shown in the following two figures, the first one regarding population accessibility and the second one regarding territorial accessibility.

Benefits

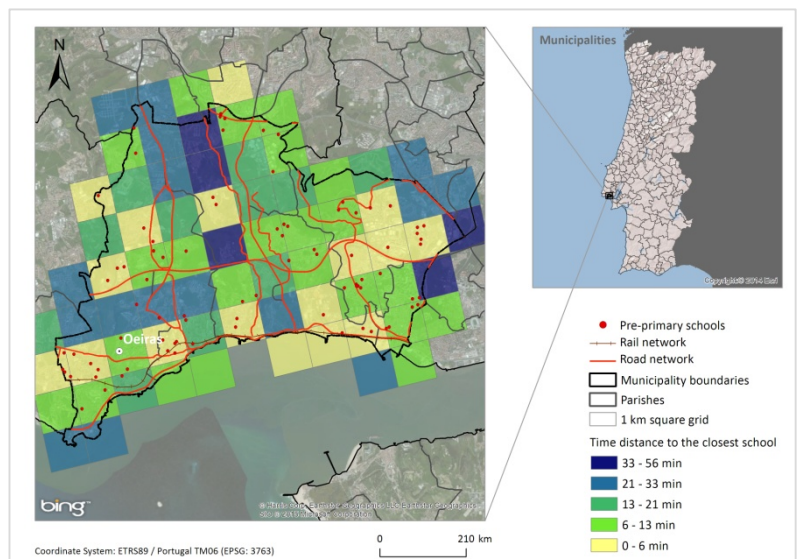
The study aimed to contribute to the discussion of a greater integration of geographical and statistical data, thus motivating the georeferencing of statistical units (e.g., facilities) and to increase the possibilities of deriving new statistical information that is relevant for policy making.

Linked to

UN Sustainable Development Goal 4 “Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all”. EUROPE 2020 flagship initiative “Inclusive growth - An agenda for new skills and jobs”.

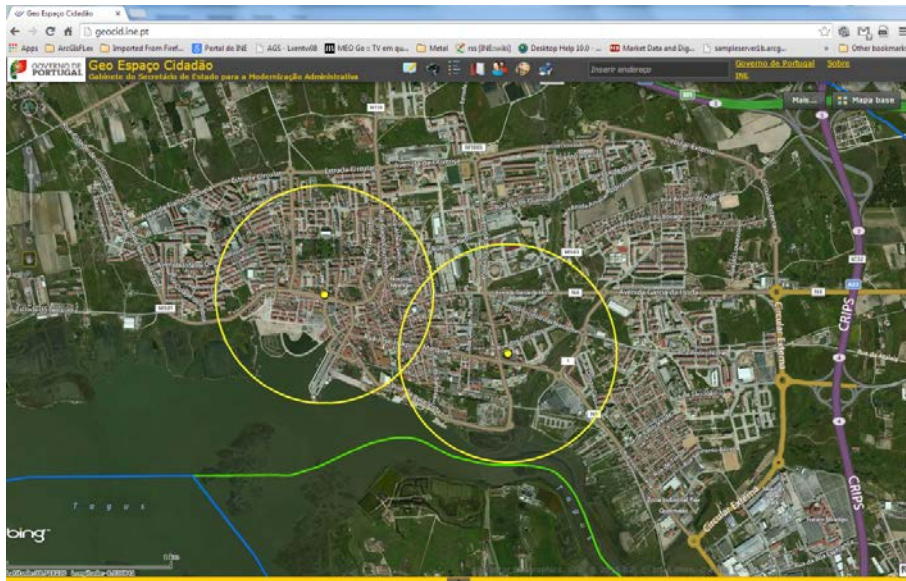


Time distance to the closest pre-primary school on foot by statistical subsection [Oeiras municipality]



Time distance to the closest pre-primary school on foot by 1 km square grid [Oeiras municipality]

PT7 Application to assist to locate new Citizen Stores (Portugal)



GeoCid application

Abstract

AMA (Agência para a Modernização Administrativa) is the Portuguese Agency for Administrative Modernisation responsible for the Lojas do Cidadão (Citizens Shop). Created in 1999, the Citizens Shop is the first step of the One Stop Shop concept for the public service. It is a public utility service, which aims to promote the modernization of public service, oriented to meet the needs of citizens and businesses, allowing access to a wide range of public and private services (Utilities) that focus in the same physical space.

A new strategic model for the Citizens Shop was developed in 2014, which implies the concentration of 2,000 services centers across the country today, in one shop citizen. The new strategic model aims to locate at least one Citizens Shop in each municipality.

The GeoCid application is a Web Gis tool, developed for the AMA, to set the location of new stores by the various possible locations (courts, health centers, Finance, hospitals). For each possible location a buffer was created (20 minute walking time) for which was calculated the resident population. Some other Statistical indicators were represented like the ageing ratio, the web response rate of the Census 2011, and the resident population by parish.

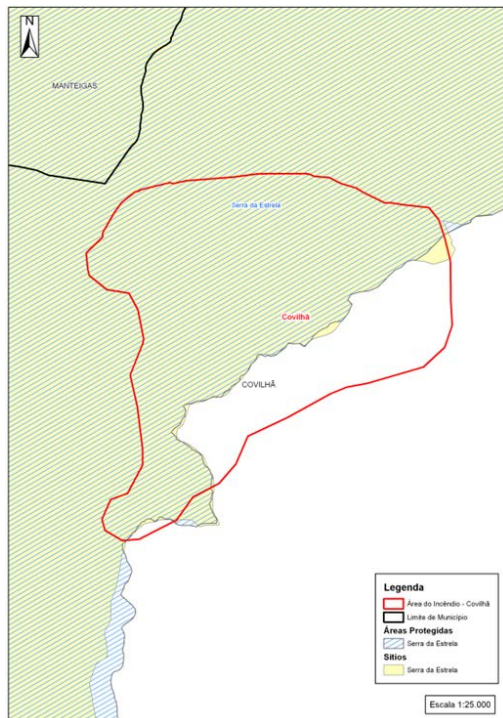
Benefits

Taking advantage of the census data in combination with geospatial data for decision making.

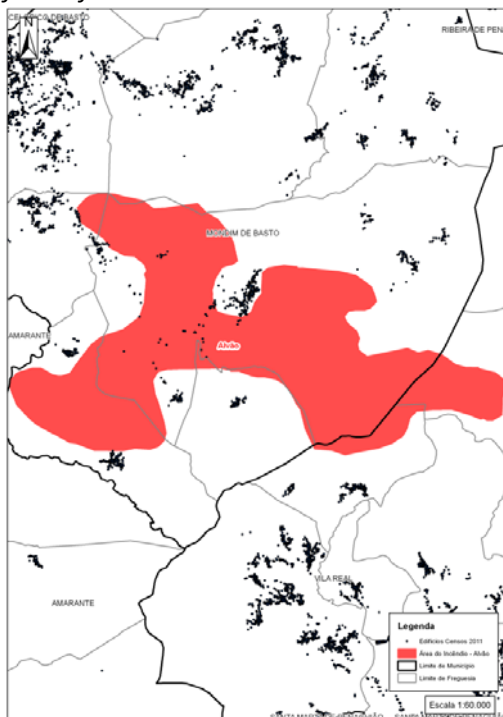
Linked to

UN Sustainable Development Goals (SDGs) → Goal 11 “Make cities and human settlements inclusive, safe, resilient and sustainable” → Goal 16 “Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels”.

PT8 Survey on the impact of the forest fires that occurred the summer of 2013 (Portugal)



Protected areas units affected by the Covilhã forest fire



Abstract

In September 2013 the Portuguese government issued Statistics Portugal to conduct a survey on the impact that a set of 5 huge forest fires which occurred on that summer. The magnitude of these forest fires lead the Portuguese emergency authorities of the civil protection to activate the Copernicus emergency services.

The survey was developed by Statistics Portugal in coordination with several national and local authorities (the National Civil Protection authority, the Municipal authorities, the National Guard, the Portuguese Environmental Agency, among others). Through spatial analysis, combining several spatial units from different sources with the area of the forest fires (their perimeter) Statistics Portugal was able to determine:

- The total area and perimeter affected by the fires;
- The Natura 2000 network areas that were affected;
- The Forest zoning plans affected areas;
- The Hunting zoning plans affected areas;
- The Land Cover and Land Use areas, typologies and species affected;
- The buildings, the dwellings and their respective residents located inside the fires perimeters.

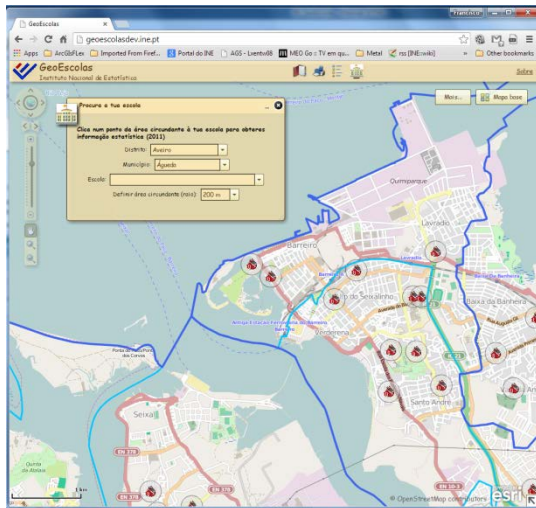
This joint effort to determine all the impact and damages caused on both public and private property supported the Portuguese Government in the set of up a pack of compensatory measures to compensate the owners and landlords hit by the catastrophe.

Benefits

The most relevant benefit of this survey was the set of compensatory measures that reverted directly to the people affected by the 2013 forest fires. We can also underline, as a benefit, the coordination “exercise” between different national and local authorities and the integration between several spatial units, from different sources, and statistical data.

Linked to: UN Sustainable Development Goals (SDGs) → Goal 11 “Make cities and human settlements inclusive, safe, resilient and sustainable” → Goal 13 “Take urgent action to combat climate change and its impacts” → Goal 15 “Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss”

PT9 ALEA - Local Action of Applied Statistics (Portugal)



Application GeoEscolas the red house symbol represents a school in Barreiro municipality

Abstract

The Alea - *Acção Local de Estatística Aplicada* (Local Action of Applied Statistics) is a web site to support the teaching of Statistics for students and teachers of Basic and Secondary Education, within the scope of Education, information society, statistical information and Training for Citizenship and Statistics Literacy.

The application *GeoEscolas* (GeoSchools <http://geoescolasdev.ine.pt/>) was created in order to allow ALEA users obtain, without delay, statistical information on the surrounding area of a given basic education school and / or secondary.

This statistical information is all resulting from the most recent Census of Population and Housing, conducted in 2011 and whose final results were published in 2012. These statistical operations, are the only ones who publish information with a degree of detail, geographically, which allows the construction of an application of this nature.

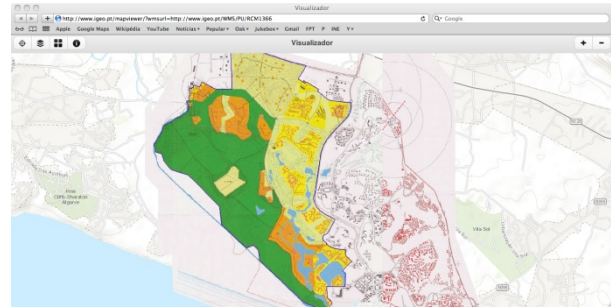
Benefits

With *GeoEscolas*, the users can access the information on the indicators buildings, households, families, Resident population and Resident population by age group. The surrounding area is always a circle may have radii 200, 500, 1000 or 2000 meters, depending on user choice. The GeoEscolas also provides an opportunity to show the users, by also promoting statistical literacy on the subject, the relevance of having this type of information to decide on the location of schools and to get an insight on the surrounding housing and population based on official statistical data.

Linked to

UN Sustainable Development Goals (SDGs), → Goal 4 “Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all”

PT10 iGEO – Portal to integrate Public Administration open data and open source code applications (Portugal)



Abstract

The iGEO is an integrated platform established to access Public Administration geo open data and to offer a set of high-end open source applications, aiming a (i) generalized better use of available resources and (ii) an improvement on decision-making processes. Announced as *Open Data, Open Code, Open Minds...* it sets the framework for a massive participation of a wide range of stakeholders using cutting edge mobile technologies.

For the purpose, the iGEO portal follows a three-fold strategy, which comprises (i) a directory of web services associated to geospatial reference data, related metadata and visualization capabilities, (ii) an area of open source code oriented for the cooperative development of mobile applications which take advantage of the data sources available and (iii) a contest to stimulate the creation of innovative solutions for the exploitation of data.

The iGEO aims the creation of value, based on the development of intensive knowledge models supported by geospatial reference data from Public Administration. The results of the initiative are primarily oriented for public agencies, entities involved in research & development and non-governmental organizations, but also private entities and the citizens.

All the resources of iGEO are permanently available and in a dynamic way, respecting predefined INSPIRE compliant formats and aiming a real time integration by the applications used or developed by the users. It mainly offers *Web Map Service* (WMS) and *Web Feature Service* (WFS) resources for Portugal, visualization capabilities and the access to related documents.

Benefits

The availability of such geospatial reference data allows its reuse and integration by other information systems, which is a main driver to leverage the creation of new business models, since it contributes for more sustainable decision making processes, supported by detailed analyses of risks and trends.

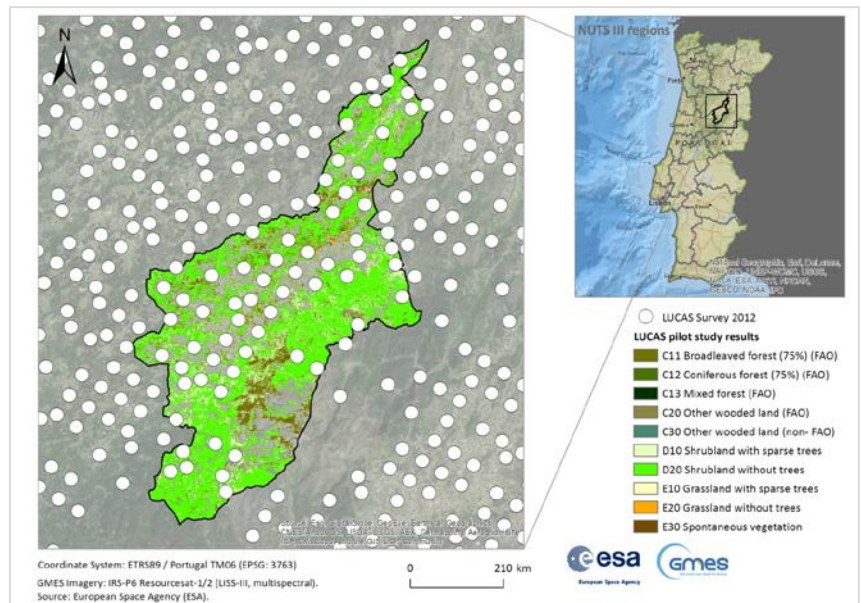
Linked to

UN Sustainable Development Goals (SDGs), → *Goal 8* “Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all” → *Goal 9* “Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation” → *Goal 11* “Make cities and human settlements inclusive, safe, resilient and sustainable” → *Goal 15* “Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss”.

PT11 Linking remote-sensing and *in-situ* data to produce Land Cover estimates (Portugal)

Abstract:

The motivation to produce land use and land cover (LULC) statistics resulted from the need to disseminate LULC according to LUCAS nomenclature at NUTS III level and as an alternative option to the LUCAS Survey based on *in-situ* data collection conducted centrally by Eurostat. Statistical data on specific LUCAS land cover classes were determined through remote sensing (RS) techniques (Object Based Image Analysis) based on GMES imagery (2011-2013)) and LUCAS Survey (2009 and 2012) *in-situ*



LUCAS Land Cover mapping [NUTS III '167- Serra da Estrela']

data. LUCAS Survey is a harmonised *in-situ* LULC data collection exercise extending across the EU, and provides two main outputs: a) *in-situ* data collected during the survey (including transects, photos and soil samples); and b) statistical data (aggregated data) derived from *in-situ* data. The LUCAS pilot studies aim to provide EU harmonised LULC information based on national data systems. Thus, the application of satellite RS in this context contributes to further definition of the potential application of satellite RS for statistical use.

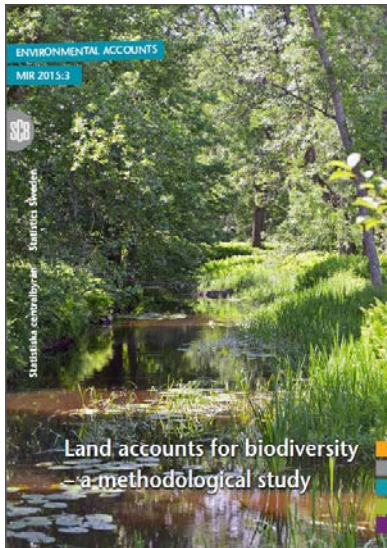
Benefits

The implemented methodology based on RS techniques using geospatial data revealed an alternative to further explore in order to produce statistics on land cover at NUTS III level in a more efficient way. RS techniques provide synoptic coverage of land cover classes in several spectral regions and with sufficient temporal frequencies to assess vegetation growth, maturity and harvest. The use of LULC data has been having an increasing importance in the definition and evaluation of sectorial common policies (integration of environment or sustainable development into agricultural, regional or transport policies) and for monitoring a range of socio-environmental challenges (e.g., land take, soil degradation, and environmental impact on agriculture and landscape fragmentation).

Linked to

UN SD Goal 15 "Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss". EUROPE 2020 flagship initiative "Sustainable growth - Resource efficient Europe".

SE1 Land accounts for biodiversity (Sweden)



Report: www.scb.se

Abstract

Statistics Sweden has in cooperation with the Swedish University of Agricultural Sciences (SLU) conducted a project to develop a new statistical module within the environmental accounts in Sweden. The purpose was to combine data about land that is valuable for biodiversity in line with EU Art and habitat directive, article 17 with data related to the economy.

One target in the Art and habitat directive is that the value of biodiversity shall be integrated in development plans, economic decisions and national accounts. The Swedish environmental quality objectives also pick the target up. By latest 2018 the importance of biodiversity and ecosystem services shall be publicly known in Sweden and be integrated in economic decisions, political discussions and other decisions in society.

The project covered the habitats western taiga, grasslands, wetlands and key biotopes (forestry). To get information eight registers and databases have been used and interlinked. Through the ownership a “key” is created that is used to connect to databases about economic structures of various industries. The data sources used were various inventories of habitats: wetland inventory, key biotopes for forestry, grasslands from the Swedish Agriculture Agency, etc. The Business statistics register is important to provide information of companies. Finally the Property map and the Property and tax register were used to complete the geospatial analysis.

The study will need to be extended to the water area and more land areas in the future. The aim is to develop a method that can work also for other statistical agencies, to enable harmonized comparisons. It is important to know who owns the land in order to know what decisions need to be taken to protect the biodiversity. The monetary valuation of ecosystems still needs to be developed.

Benefits:

By developing methods to link the economic actors in mandate of the land that is important for biodiversity it will be possible to take actions and better plan for how to preserve valuable ecosystems.

Linked to:

UN Sustainable Development Goal 15, Protect, restore and promote sustainable use of terrestrial ecosystems and the EU Art and habitat directive.

SE2 Access to green infrastructure (Sweden)

Start Environmental Objectives Who does what? Publications and

15. A Good Built Environment



within one generation.

Cities, towns and other built-up areas must provide a good, healthy living environment and contribute to a good regional and global environment. Natural and cultural assets must be protected and developed. Buildings and amenities must be located and designed in accordance with sound environmental principles and in such a way as to promote sustainable management of land, water and other resources.

This objective is intended to be achieved



Green infrastructure within localities

Abstract

During the last decade urban green space has been a topical subject in Sweden. Increased public access to green space in urban areas is stated among the national, environmental objectives and policies for densification of cities versus preservation of green areas are currently under debate in many Swedish municipalities.

Statistics Sweden releases statistics on urban green space every fifth year. In 2005, the statistics for the first time was based on interpretation of satellite imagery combined with register data on population and real estates. The method used was cheap and efficient, yet it failed to meet the increasing need for statistics enabling analyses on ecological and social functions of the green spaces in urban environments. This would require not only a detailed mapping approach but also characterization of qualities and properties of the green spaces in terms of accessibility, ownership and vegetation.

During 2013, Statistics Sweden carried out a development project together with a remote sensing consultant aiming to improve the methods for urban green space statistics. The procedure encompasses methods for sub-pixel classification and post-processing of land cover data to categorize the green areas by ownership and vegetation qualities. The latest update¹ was published in May 2015.

Benefits

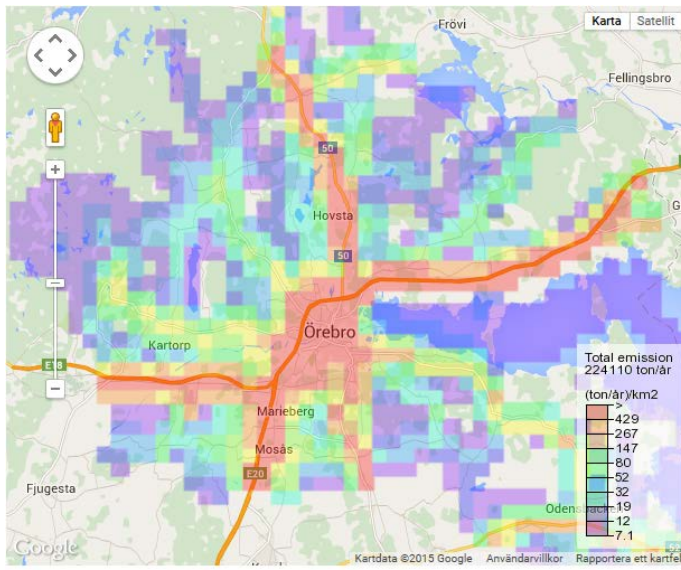
Greenery is a key element of a sustainable urban environment. Green areas are important from an ecological as well as cultural and public health perspective. As urbanization puts demands for a more dense urban fabric data on green spaces and peoples access to it becomes increasingly important. In addition, the inversion of green space mapping shows urban soil sealing. Information on the imperviousness of the urban environment is increasingly important from a climate change adaption perspective.

Linked to

UN Sustainable Development Goal 11, Make cities and human settlements inclusive, safe, resilient and sustainable and the Swedish environmental objective "A Good Built Environment".

¹ http://www.scb.se/en_/Finding-statistics/Statistics-by-subject-area/Environment/Land-use/Green-areas-within-and-in-the-vicinity-of-urban-settlements/Aktuell-Pong/12905/Behallare-for-Press/390926/

SE3 Emissions distributed on grids (Sweden)



Total emissions from transport, Örebro city (2012)

Abstract

Statistics Sweden has a long term commitment in the Swedish Environmental Emissions Data (SMED) in collaboration with IVL Swedish Environmental Research Institute, SLU Swedish University of Agricultural Sciences and SMHI Swedish Meteorological and Hydrological Institute. SMED is heavily involved in all work related to Sweden's international reporting obligations on emissions to air and water, waste and hazardous substances. A central objective of the SMED collaboration is to develop and operate national emission databases and offer related services to clients such as national, regional and local governmental authorities, air and water quality management districts, as well as industry.

One task is to allocate emissions from various sources to grids 1x1 kilometer. This way it is possible to show the allocation of greenhouse gases and air pollution which is used for regional follow-up of environmental quality objectives and climate issues. Air pollution is also reported every five years according the Convention on Long-Range Transboundary Air Pollution.

Gridded emissions are used for air quality simulations from the urban level to more aggregated levels, as it is possible to separate regional, urban and local contributions. Simulations are useful on national level for long term evaluations. They are also used in SIMAIR, a web based model tool for calculation of Air Quality in Swedish population centers provided by the Swedish Meteorological and Hydrological Institute.

Geospatial data that are used are land use data and road network together with address coordinates for various point sources that produce emissions.

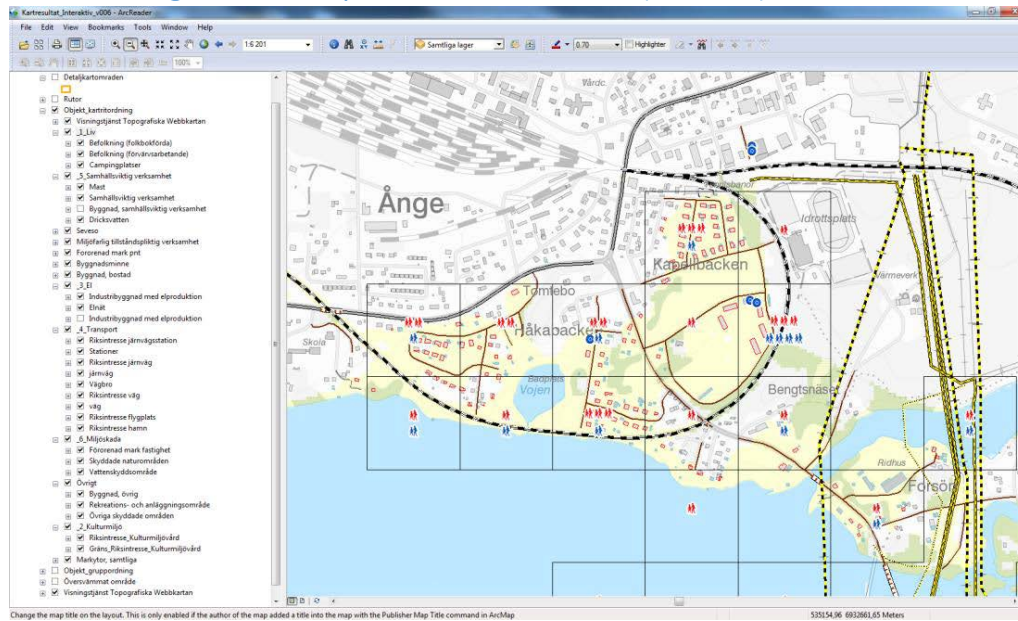
Benefits

By connecting emissions to grids it is possible to get valuable information on local, urban or regional level for regional follow-ups as well as national simulations and evaluations of the environmental quality objectives.

Linked to

Europe 2020 – A resource efficient Europe

SE4 Flooding as a consequence of dam failure (Sweden)



Example of GIS-application using all relevant layers for calculation of consequences of dam failure

Abstract

Statistics Sweden (SCB) has on behalf of Elforsk developed and tested a GIS based method that in an effective way can be used to identify and map objects that can be flooded as a consequence of a dam failure.

The method builds on putting together available digital information for objects in an entire river valley that in the case of a flood could be damaged with societal consequences and disturbances as a consequence. A GIS model has been developed for information processing, analysis and presentation of results. The method comprises the following steps; putting information together, preparing a model for a river valley, applying an inundation layer representing a flood scenario, and mapping and presentation of objects.

The mapping and the presentation of the objects within the inundation layer is implemented in an automated process in the model. The results can be presented in tables (Excel), maps and as a data set (shape files with squares 250*250 m and information about items that are within the squares). The selected subdivision of objects differentiates between people, essential services to the society (electricity supply, transport infrastructure and other essential services), environment and health, cultural environments and others.

Benefits

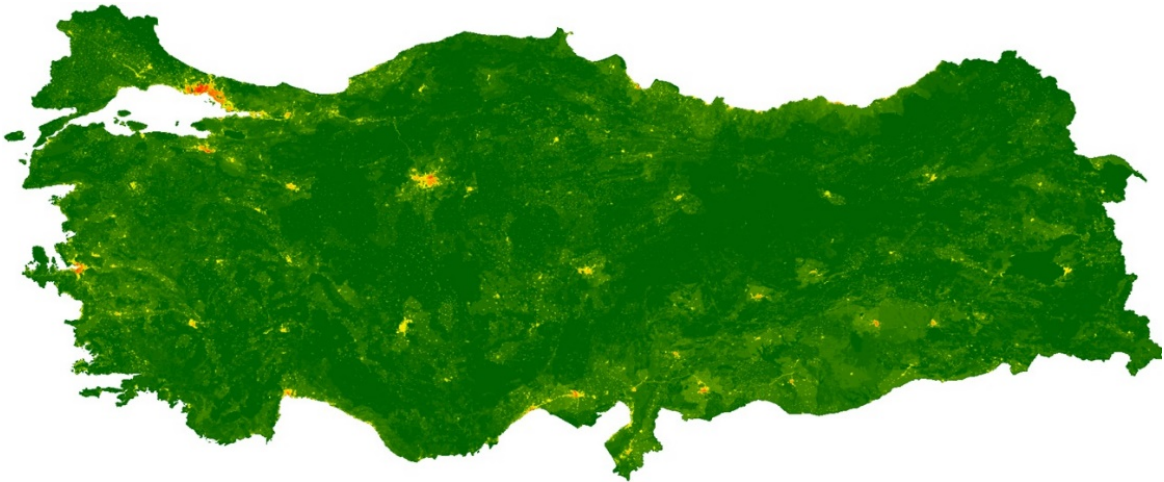
Results from application of the method for specific dams can be used as a base for the dam owner's work with consequence investigation and classification according to the new legislation for dam safety, but it can also support the development of coordinated emergency preparedness planning for dam failures.

Linked to

Sustainable growth - An Outlook on the Global Agenda

UN SDG → Goal 11 "Make cities and human settlements inclusive, safe, resilient and sustainable"

TR1 Establishment of Population Density Grid for a New Urban-Rural Classification



Abstract

In Turkey, existing urban-rural classification is being defined with: places having less than 20 000 inhabitants are rural, places having more than 20.001 inhabitants are urban by Law No. 442, which dates back to 1924. However, due to administrative changes took effect on March 2014 with Metropolitan Municipality Laws No: 6360 and 6447, all villages are transformed into districts in 30 provinces causing them to lose their legal statue of rurality. While the urban-rural population distribution was 72% to 28%, with new legal amendments distribution became 86% to 14%, which is only represented by administrative boundaries.

In order to find the real urban-rural identity of places, Turkey maintains the establishment of new urban-rural classification according to EU guidelines which requires the 1 Km² population density grid which is not bounded by administrative boundaries or surface area of an entity, therefore providing more comparability. Turkey 2013 Population Density Grid produced using disaggregation method shown on map proved that, the real urban-rural population distribution is nearly 59% to 41%.

For study basically following geospatial and statistical datasets are utilized: Provincial and district boundaries, CORINE LULC (Landuse/Landcover) 2006, 2013 population figures from the Address Based Population Register System (ABPRS) administrative data by 31 December 2013, 1 km² raster and vector grid produced using Eurostat's "EuroGrid Tool". The project is included in the 2015 national working plan for rural development with action number 406.

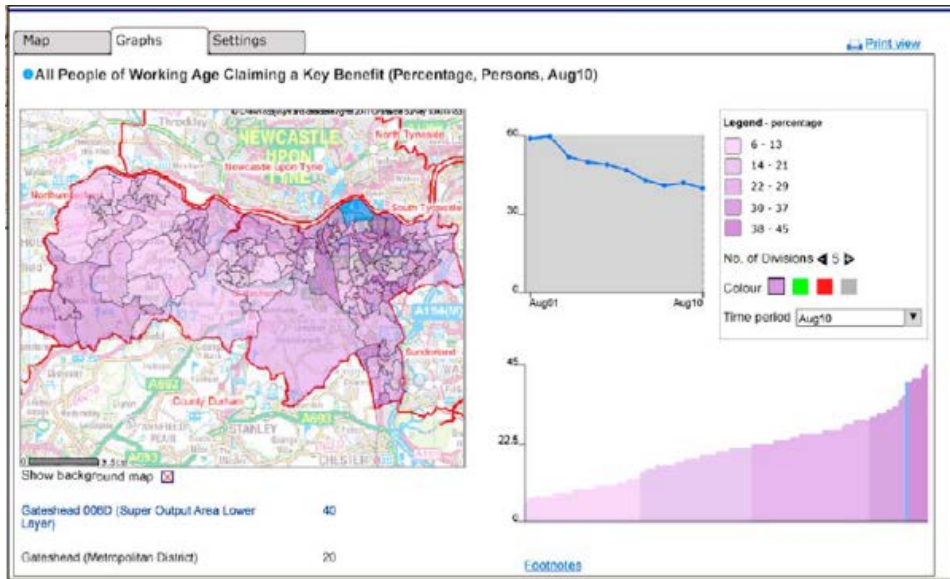
Benefits

The project has clear benefits for both policy makers and users because the statistical figures related to urban-rural classification guides the decisions related to planning all types of public service allocations such as agricultural incentives, housing, employment, etc. In addition, urban-rural differentiation is important to understand the dynamics of labor market, education, living conditions, welfare and tourism.

Linked to

UN Sustainable Development Goals (SDGs), Goal 1 "End poverty in all its forms everywhere", Goal 8 "Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all", Goal 10 "Reduce inequality within and among countries".

UK1 Making complex statistical information accessible and easy-to-understand (UK)



<http://www.ordnancesurvey.co.uk/business-and-government/case-studies/office-for-national-statistics-makes-complex-information-accessible.html>

Abstract

By providing an accurate, consistent and stable geo-statistical framework for very small areas to underpin ONS census and other official statistics, NeSS enables meaningful statistical analysis between different places over time – regardless of shifting administrative boundaries. Data from different sectors can be reused to inform all areas of life at the neighbourhood level; for example, examining educational outcomes for pupils in different residential areas, housing conditions within local authorities or whether domestic energy consumption is falling in a neighbourhood of just 400 households.

By simply keying in a postcode, the general public can search, visualise and understand a wealth of data powered and linked by its geography. On entering the postcode, they get a summary report about any neighbourhood in England and Wales, covering topics like health, crime, demography and economy to better understand geographic variations in all areas of life. This brings ONS research to a much broader audience, which can access and use the data free of charge for their own analysis, and has received positive feedback regarding accessibility, flexibility and ease of use. The NeSS website receives around one million visits a year across all sectors.

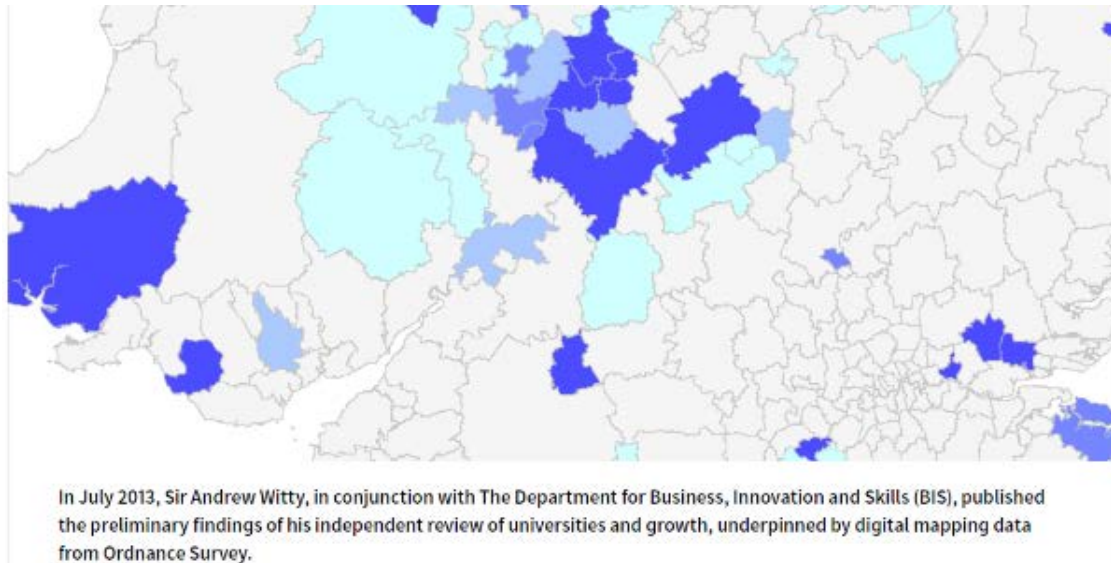
Benefits

Presents complex statistical data for all local areas in England and Wales in a way most people can understand, underpinned by mapping from the PSMA. Widens the use of government data in many new applications. Saves customers money as they do not have to process or publish data themselves. Consultation found that more than half of those questioned use neighbourhood or local statistics outputs for direct policymaking or advice.

Linked to

UN Sustainable Development Goals (SDGs), → Goal 10 “Reduce inequality within and among countries”
→ Goal 11 “Make cities and human settlements inclusive, safe, resilient and sustainable”

UK2 Mapping the way to economic growth using digital data from Ordnance Survey (UK)



<http://www.ordnancesurvey.co.uk/business-and-government/case-studies/bis-mapping-economic-growth-using-os-data.html>

Abstract

Building strong and sustainable growth for the UK economy is a key government priority. To support this agenda, the government asked Sir Andrew Witty to undertake an independent review to explore how universities can drive and support economic growth by working with organisations such as Local Enterprise Partnerships (LEPs), as the local bodies responsible for setting strategies, to drive economic growth across the country. The purpose of the review is to focus on how universities can drive growth in their areas and for the benefit of the wider UK, and to disseminate knowledge and best practice.

A key challenge, fundamental to the success of this review, is a clear understanding of where in the country there are areas of industrial clustering, and where the 'centres of excellence' that are going to support growth actually are in the country in relation to those industrial clusters. To drive growth, it is vitally important to have the right knowledge, skills and expertise in the right part of the country for the right industry.

Mapping data from Ordnance Survey was used to collate and present statistical information on over 40 separate maps that form part of the report. Maps included university rankings, by subject and location, leading technology capabilities by location, the geographical spread of capability in energy, automotive, aerospace and much more.

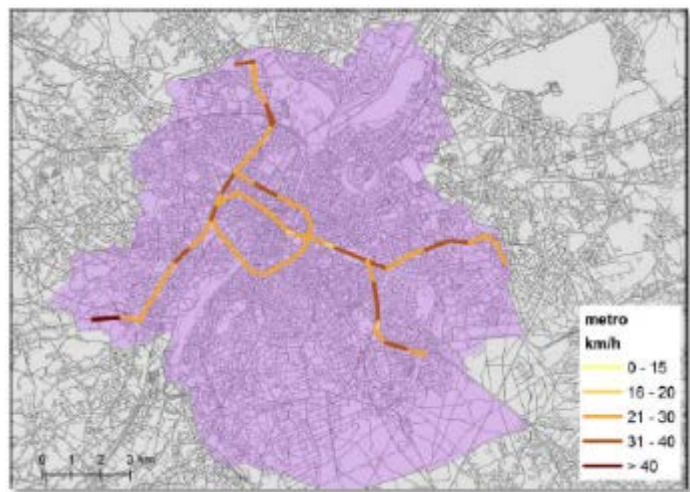
Benefits

Better intelligence to underpin European Structural and Investment funding in England over the next seven years. Putting data on maps increased the feedback and engagement received as a result of publishing the report, as the report got more accessible and transparent to government stakeholders and members of the public.

Linked to

Europe 2020 – create jobs, growth

EUR1 Access to public transport in urban areas (European Commission – DG Regional and Urban Policy)



http://www.efgs.info/workshops/efgs-2014-krakow-poland/efgs-2014-conference-1/4_efgs2014-poleman

Abstract

Within Europe there have been multiple attempts to collect data on the supply and access to public transport in cities. So far none of these attempts have produced comparable results because they were (1) not based on comparable geographies, (2) did not take into account the spatial distribution of the population and (3) did not take account of the frequency of public transport. As a result, the number of vehicles, trips or length of the routes could not be interpreted in a meaningful way.

A new methodology helps to solve these obstacles using a new EU-OECD city definition, high-resolution data on population distribution inside the cities and 'big data' on public transport stops and trips. Because of these three new ingredients, it produces comparable indicators of the access to and supply of public transport in cities. These indicators allow for the first time a comparison of the offer of public transport that is easily accessible to the urban population, and to calculate aggregated indicators on speed and frequency of the transport offer. This allows cities to benchmark themselves against other cities of a similar size. This is particularly relevant given that Cohesion Policy allocated 6 billion Euro in the period 2007-2013 to clean urban transport; an amount which we expect to increase significantly in the period 2014-2020.

Benefits

Better comparability of indicators between cities of various countries; methodology applicable to other cities/territories if data in standardised format are available; the indicators help to assess progress towards a resource-efficient society and sustainability of cities by evaluating the efficiency of urban public transport.

Linked to

Europe 2020: a resource-efficient Europe

UN SDG 11 "Make cities and human settlements inclusive, safe, resilient and sustainable"

EUR2 Fighting international organised crime (cross border example, the Netherlands)



Abstract

Crime doesn't stop at the national border. Illegal transport of humans, weapons, drugs and waste even has a strong international character. But also robberies, burglaries, car theft and sex crimes often take place on both sides of a border and are often committed by the same person or group. Therefore, police forces in several countries work more closely together to fight cross-border organized crime. To achieve this they have all kinds of information exchange of investigation results and requests for legal assistance, but also of geo-information. The availability and standardization of geographic information in accordance with the European INSPIRE directive helps the police.

For police investigations, emergency responses and large-scale events, it is customary to determine a 'Common Operational Picture (COP). All parties involved have a common view of the imminent problem. To fight crime in the border region between Belgium and the Netherlands such a COP could be created for the police forces of both countries based on Belgian and Dutch geo-information.

By the availability of INSPIRE geodata it is now possible for instance to access addresses from both Belgium and the Netherlands and linking them to locations facts and incidents at both sides of the border. That way it is clear to see that an address in Zelzate (Belgium) is just a few steps away from an address in Sas van Gent (the Netherlands).

As the location of facts and incidents always plays an important role, the availability of geo-information and geo-analysis tools is indispensable for the police. By combining information such as addresses, administrative boundaries, geographic names, infrastructure and aerial photographs with open data and Police data, for example the location of a crime scene, tracks, an incident or the route of a vehicle, the work gets done more effectively.

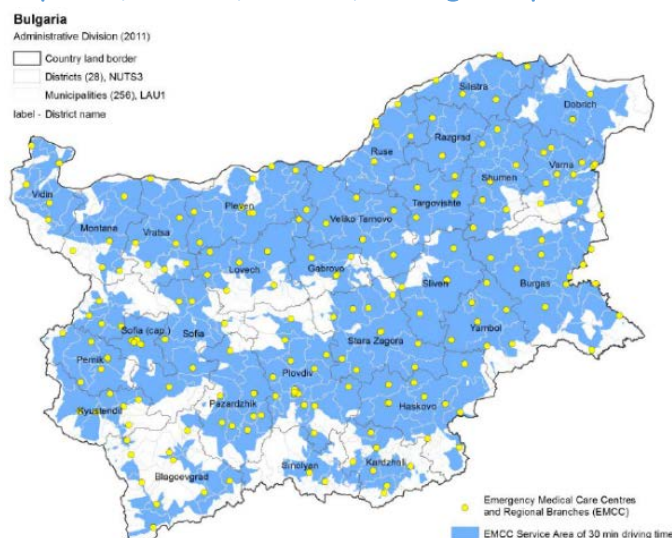
Benefits

By accessible and harmonized geospatial information for the countries in EU the police can link other internal or open source information and be more effective in preventing and acting against crime.

Linked to

EU Prevention of and Fight against Crime (ISEC)

EUR3 Access to emergency hospitals (a study carried out in Norway, Bulgaria, Czech Republic, Estonia, Finland, Portugal as part of the GEOSTAT 1B project funded by Eurostat)



<http://www.efgs.info/geostat/1B/frontpage/appendix-11-access-to-emergency-hospitals>

Abstract

A case study² was carried out in order to analyse the population's access, by distance, to health care services with a focus on different age-groups. In the European context this study can be linked to The European Core Health Indicators (ECHI). ECHI is a list of 88 health indicators identified by policy area. One of these is indicator 80: Equity of access to health care services. Using GIS for studying travel time to emergency hospitals can complement the surveys of Eurostat. Similar work has been done at the OECD, suggesting this as an indicator of accessibility to public services and a way to measure well-being at the regional level.

Grid statistics in this case study proved to be very useful when identifying the population's driving distance to emergency hospitals. Using GIS in this work can be further improved, and it is important to improve the definitions and ensure a common understanding of the definitions when comparing the medical service sector in Europe. It would also be an advantage to further study existing national legislation, in this case legislation on emergency medical services, and eventually include additional service areas with a lower driving time distance.

Benefits

By using data sources like grid statistics in combination with road network and geocoded health care services you improve the possibility to monitor access to health care and also the possibility to take this factor in to account on the political level.

Linked to

Europe 2020 - "Towards Social Investment for Growth and Cohesion – including implementing the European Social Fund 2014-2020"

² Link to EFGS website

EUR4 Mapping the Baltic Sea for the needs of commercial shipping

Abstract

The Baltic Sea is a region of high and further increasing marine traffic. There is a trend of increasing vessel size and draft, as well as steadily increasing transports of crude oil and other hazardous substances. At the same time, the Baltic Sea marine environment is fragile. Surrounded by nine countries and with 85 million people inhabiting the Baltic Sea drainage area, maritime safety matters are of uttermost importance. The geography of the Baltic Sea imposes special demands for navigation. The sea is very shallow with a median depth of only 43 m: 20% of the water area is not deeper than 15 m, the draft of the deepest going vessels seen in the Baltic Sea today. 70% of the water area is shallower than 70 m, depths which are considered relevant for the fuel efficiency of ships.

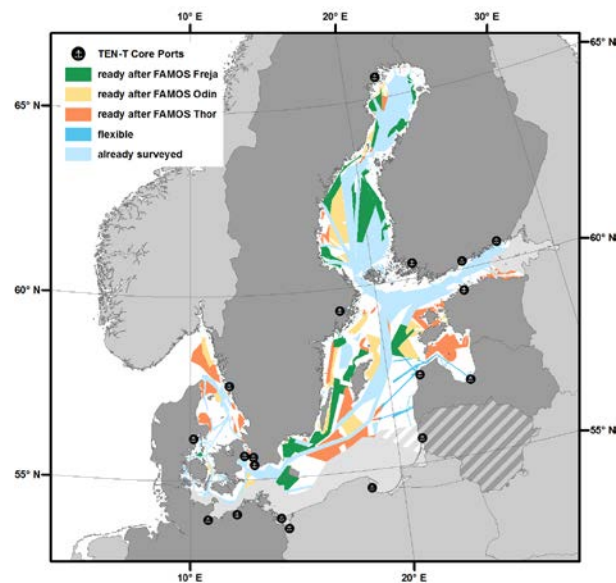


Figure 1: Hydrographic surveys 2014-2020 (green, yellow, orange), and areas already mapped (light blue)

However, the exact water depth of about half of the area used for commercial shipping remains to be mapped with modern methods providing a full portrayal of the seafloor topography. This area amounts to about one-quarter of the entire Baltic Sea, corresponding to the land size of Portugal. Hydrographic surveying is a comprehensive task, which all Baltic Sea countries pursue according to a common re-survey plan. This BSHC-HELCOM re-survey plan has been adopted by the Baltic Sea environmental ministers in their 2013 HELCOM Ministerial Declaration. During the time 2010-2020, in several international projects hydrographic surveys according to the HELCOM plan have been and will be implemented. By coordinating surveying activities internationally, the goals can be achieved more efficiently and external funding sources from the EU become available.

Benefits

Reliably mapped shipping routes result in a lower risk of accidents, which could potentially have catastrophic effects on the Baltic Sea environment and economy. Furthermore, a complete picture of the water depth allows the vessels better route planning possibilities. This can lead to less congestion along important routes, but also improve the fuel efficiency of many voyages, when routes are optimized for maximum water depth. Water depth is also important information for many other applications, such as marine spatial planning. For such purposes, the Baltic Sea countries provide relevant data in the Baltic Sea Bathymetry Database (<http://data.bshc.pro/>).

Linked to

EUROPE 2020 goals: Resource efficient Europe, Promoting greater energy security, Protecting the environment

UN Sustainable Development Goals: Goal 8. Promote Sustained, Inclusive and Sustainable Economic Growth, Goal 9, Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation, Goal 14. Conserve and sustainably use the oceans, seas and marine resources for sustainable development

EUR5 Gender ratio's (ESPON 2013 Programme – SEMIGRA project)

Abstract

The map illustrates the gender ratios per NUTS 3 region for the age group 30 to 34. The gender ratio is illustrated as number of women per 100 coeval men. Regions in blue have more men than women, whereas there is an overrepresentation of women in pink coloured regions.

There are several reasons for unbalanced gender ratios in European regions. Peripheral regions within countries show in general a surplus of men. In the rural areas of Poland, former Eastern Germany or the outer most regions of Sweden and Finland women left towards the urban areas for jobs and more services of general interest.

European policies promote a balanced development of regions, contributing to territorial cohesion. The 2020 European Ageing Report of the European Commission shows that priority should be given to the demographic challenges with a new sense of urgency in light of the financial crisis. Due to the crisis more women tend to migrate than men. Unemployment rates tend to be higher among women in Southern European regions, which force them to leave their home-region (6th Cohesion Report).

The Europe 2020 strategy and the Territorial Agenda 2020 indicate that the competitiveness and attractiveness of a region can be challenged due to a shrinking population, ageing and thus an unbalanced gender ratio.

Benefits

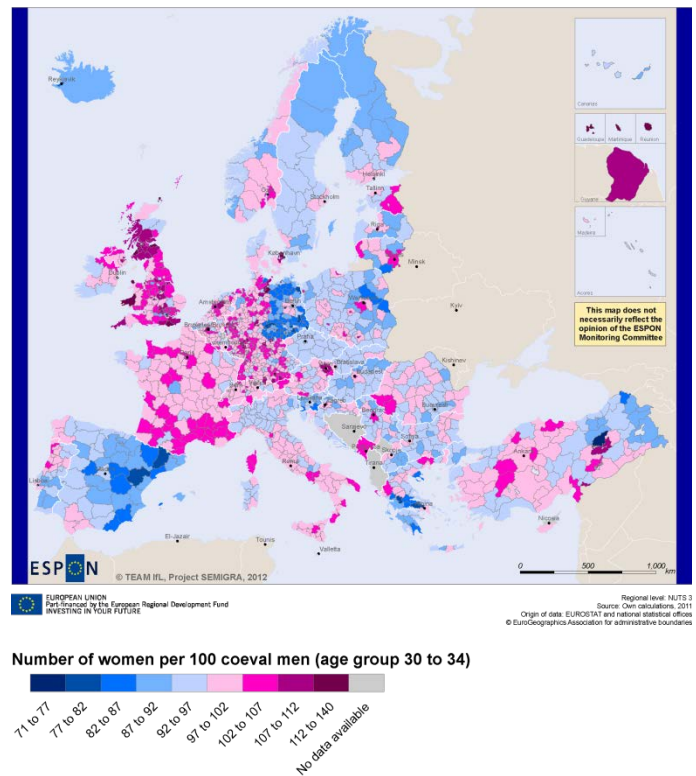
An unbalanced gender ratio indicates socio-economic disparities. It is assumed that a shortage of young women has negative impacts on the demographic development, the labour force, image of the region and the social cohesion of rural communities. Territories affected by the out-migration of young women differ significantly from other regions in their resource endowment, geographical and demographical characteristics, cultural contexts and social and economic structures. Detailed territorial knowledge on this can support policy-makers to take actions to counter these developments.

Linked to

UN SDG: Goal 5 “Achieve gender equality and empower all women and girls”

Europe 2020: Smart growth – “Youth on the move”;

Europe 2020: Inclusive growth – “Agenda for more skills and jobs”



<http://mapfinder.espon.eu/?p=2332>

EUR6 Territorial patterns of innovation in Europe (ESPON 2013 Programme – KIT project)

Abstract

The map shows a large variety of possible innovation patterns. None of these patterns is by definition superior to another. Each territorial pattern may provide an efficient use of research and innovation activities generating growth.

The objective of smart growth as advocated by the Europe 2020 Strategy and EU Cohesion Policy is strongly linked to innovation. Often this is equalled with the number of patents or R&D activities or expenditure.

Research of the ESPON KIT project reveals a regional diversity as regards to types of innovation and approaches to innovation. This differentiated understanding can contribute to further develop the idea of 'EU smart specialisation strategies' within the framework of EU Innovation and Cohesion Policies.

An empirical analysis has been applied to identify whether the territorial patterns of innovation actually exists. Based on a list of indicators meant to cover all aspects of the complex knowledge-innovation chain, a cluster analysis has been performed in order to identify the existence of innovative behaviours that could be associated to the territorial patterns of innovation (described more in detail in the link above).

Benefits

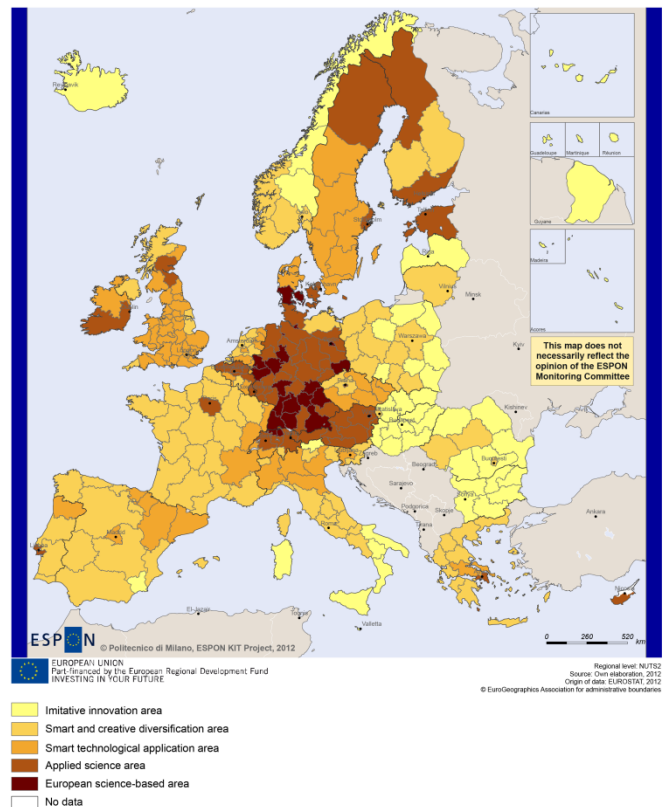
The variety of innovation patterns explains the failure of a 'one size fits all' policy to innovation, like the thematically and /or regionally neutral and generic R&D incentives. Innovation patterns typical for each specific area have to be identified. These insights can facilitate the development of innovation policies. However, to move in this direction, the measurement of efficiency and effectiveness of each pattern of innovation on growth is necessary.

Linked to

UN SDG: Goal 9 "Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation"

Europe 2020: Smart growth – "The innovation union"

Territorial patterns of innovation in Europe



<http://mapfinder.espon.eu/?p=1015>

EUR7 Regional At-Risk-of-Poverty Rates (ESPON 2013 Programme – TiPSE project)

Abstract

The map shows the proportion of population living in households at risk of poverty. Threshold income levels used are calculated based on the median income in each country. Each country has a different distribution of household disposable income across its population and the poverty threshold in the EU 28+4 ranges from 20,362 EUR in Switzerland to 5,520 EUR in Greece.

Countries with more equal regional levels of income and distribution of income can be distinguished from countries with more regional disparities.

The economic and financial crisis led to an increase in poverty rates in Europe. The rate of population in households living at risk of poverty indicates those areas which are most challenged by poverty. Lower levels of population at risk of poverty contribute to inclusive growth and harmonise the everyday lifestyles and the ability of people to have access to the labour market, health care and education across Europe. Fighting poverty contributes to a more cohesive European society.

Benefits

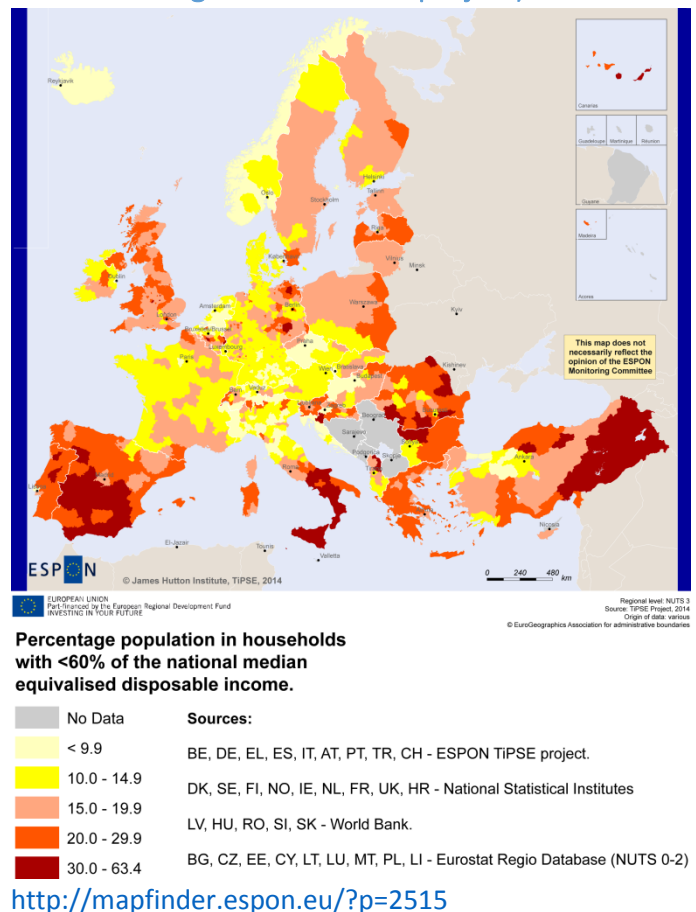
The Europe 2020 Strategy includes a target to reduce the number of people living below national poverty lines under the objective of inclusive growth. Inclusive growth aims at ensuring that social policies seek to empower people to find work, contribute to the modernisation of labour markets, invest in skills and training, fight poverty and reform social protection systems and build a cohesive society.

The economic and financial crisis illustrated the need for more inclusive growth to decrease the risk of poverty, because, as stated in the Sixth Cohesion Report, poverty and social exclusion have increased due to the crisis in many cities and more developed countries of the EU.

Linked to

UN SDG: Goal 1 “End poverty in all its forms everywhere”

Europe 2020: Inclusive growth – “European platform against poverty”



EUR8 Employment resilience (ESPON 2013 Programme – ECR2 project)

Abstract

The map displays whether employment figures rose between the peak year of the economic crisis and 2011. Four classes were used to distinguish different trajectories or trends. Regions that did not experience any employment losses during the crisis are marked as 'resistant' regions (in blue). 'Recovered' regions (in green) are those that experienced a decline in employment but have recovered to their pre-crisis employment levels. Regions that experienced employment decline and have not yet recovered, but show some signs of an upturn are marked in yellow. Regions shown in red experienced employment decline and demonstrate neither recovery nor signs of upturn.

The general European picture can be divided into regions that either were resistant or could fully recover, and in regions that could not yet fully recover (even though some of which show first signs of upturn).

This leads to the conclusion that the crisis has significantly hit regions in all parts of Europe, whereas the most resistant regions seem to be concentrated in a few countries.

Benefits

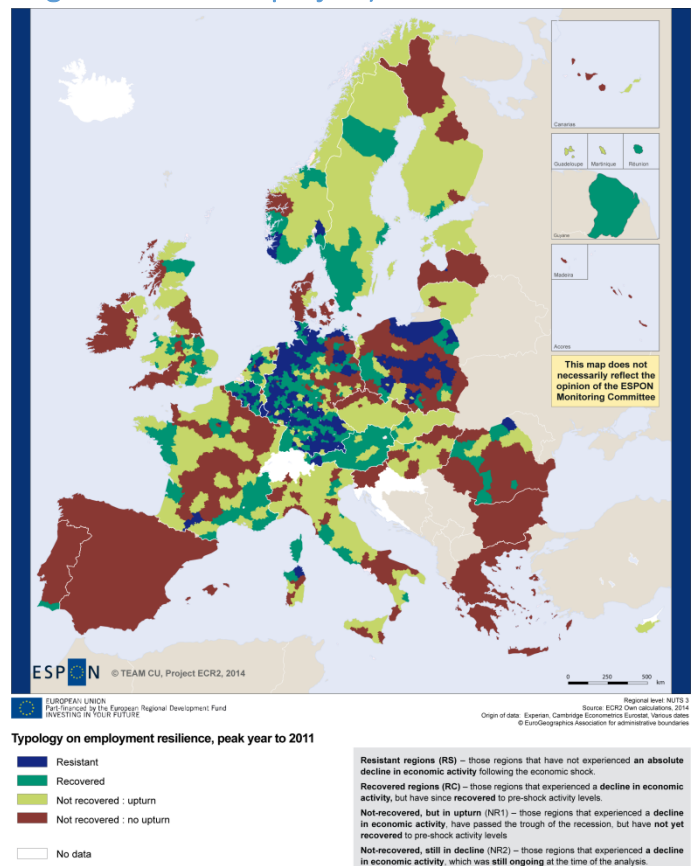
President of the European Commission Jean-Claude Juncker emphasised in his opening statement in the European Parliament Plenary Session in July 2014 that the crisis is not over as long as there are 25 million women and men out of work, and that policy coordination, economic governance and structural reforms are necessary means to boost Europe's economy. The 'Agenda for new skills and jobs' which is a Flagship Initiative of the Europe 2020 Strategy from 2010 already aimed at modernising the labour markets which also includes the empowerment of people through the acquisition of new skills.

Linked to

UN SDG: Goal 8 "Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all"

UN SDG: Goal 11 "Make cities and human settlements inclusive, safe, resilient and sustainable"

Europe 2020: Inclusive growth – "Agenda for new skills and jobs"



<http://mapfinder.espon.eu/?p=2461>

EUR9 Typology of land use changes (ESPON 2013 Programme – EU-LUPA project)

Abstract

The map shows different types of land use change in the period 2000 to 2006. In general, Northern and Eastern Europe experienced in this period a much lower levels of intensification than other parts of Europe. These regions are characterised by rural conversions with only negligible land-take or even farm withdrawal.

Along the coast or in close proximity to large urban centres many regions show 'high intensification due to residential and economic sprawl', which is coupled with relatively high levels of internal urban change.

The map is based on the analysis of the EEA Corine Land Cover Data from 2000 and 2006. The process of developing the land change typology is based on the account for all land changes taking place in each region between these periods. A cluster analysis identified 10 classes which in turn have been reduced to 7 types of land use changes after performing a qualitative assessment of statistical similarity.

Benefits

There is continued decline of land-based economic production in agriculture, forestry, mining, and quarrying, among others, which leads to processes of extensification. In parallel, there is an increase of knowledge-intensive, innovation-driven and service-based economies and related lifestyles leading to an intensification of land use, but also to the increase of property values and growth of urban areas.

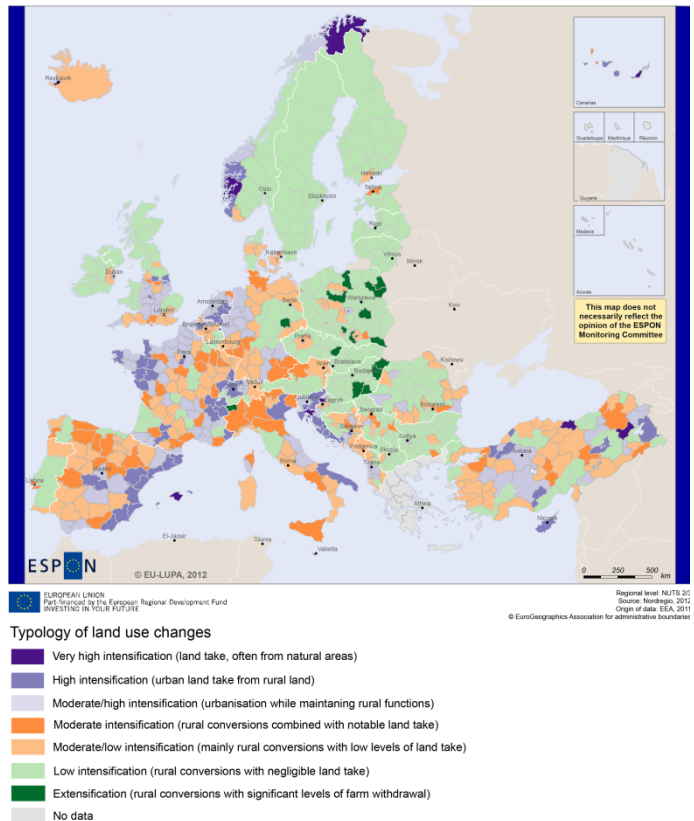
European processes of land use change continue to be predominantly driven by socio-economic development. Currently, many circumstances including the economic and financial crisis are setting the priorities for a wide number of policies that influence land use change. Knowledge on the processes and locations of land-use intensification and extensification can support policy processes.

Linked to

UN SDG: Goal 15 "Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss"

Europe 2020: Sustainable growth – "Resource efficient Europe"

Typology of land use changes in Europe, 2000-2006



<http://mapfinder.espon.eu/?p=1299>

EUR10 Availability of secondary schools (ESPON 2013 Programme – TRACC project)

Abstract

Access to secondary schools in reasonable travel time and freedom of choice to select between different options are important factors for providing equitable quality education.

The TRACC project carried out an analysis for seven case study regions in Europe in which for each municipality (or raster cell) travel time contours of 30 minutes travel time by road and by public transport have been calculated. In addition the number of secondary schools reachable within this travel time has been counted. This map, for example, shows for Northern Italy the number of secondary schools reachable within 30 minutes using public transport.

All seven case study regions showed an unbalanced performance between different types of territorial regions, such as urban-rural. In most cases urban regions have a clearly differentiated behaviour in relation to intermediate and rural regions in terms of opportunities reachable. This is especially important when travelling by car, but also relevant by public transport. The overall magnitude of cumulated opportunities varies widely from one case study to another, mostly depending on the total amount of population.

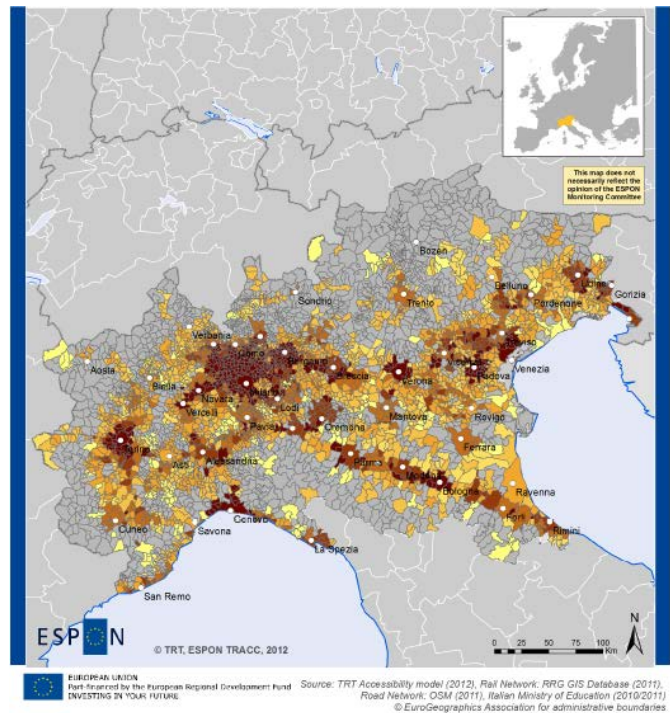
Benefits

The public transport network plays an important role in the accessibility of secondary schools. Policy makers could use this information to develop a strategy to improve the situation for regions that have lower access to secondary schools. A high number of secondary schools that can be reached from a given location in a reasonable time provide a good opportunity to young people for equitable quality and suitable education. This again increases their opportunities on the labour market.

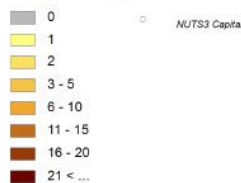
Linked to

UN SDG: Goal 4 “Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all”

Europe 2020: Smart growth – “Youth on the move”



Northern Italy Case Study (2011)
Availability of secondary schools: Number of secondary schools within 30 minutes of public transport travel time



http://www.espon.eu/main/Menu_Projects/Menu_AppliedResearch/tracc.html

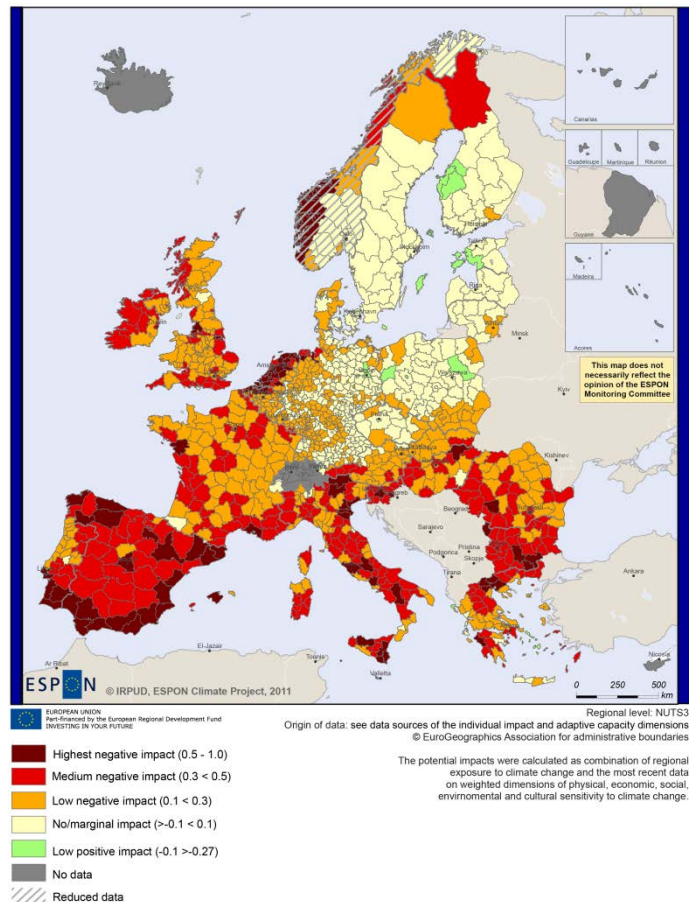
EUR11 Aggregate potential impact of climate change (ESPON 2013 Programme – CLIMATE project)

Abstract

Impacts of climate change (will) vary across Europe and take different expressions in different regions. The map reveals that the projected impacts of climate change will most strongly affect southern European regions. Similarly, some coastal regions in north-western Europe may experience high negative impacts as well.

The potential impacts were calculated as a weighted combination of regional exposure to climate change and most recent data on the dimensions of physical, economic, social, environmental and cultural sensitivity to climate change.

The exposure to climate change is based on the difference between 1961-1990 and 2071-2100 climate projections of eight climatic variables of the CCLM model for the IPCC SRES A1B scenario as well as resulting inundation depth changes for a 100-year return flood event based on river flooding projections of the LISFLOOD model and coastal storm surge eight projections of the DIVA model adjusted with a 1 meter sea level rise.



<http://mapfinder.espon.eu/?p=878>

Benefits

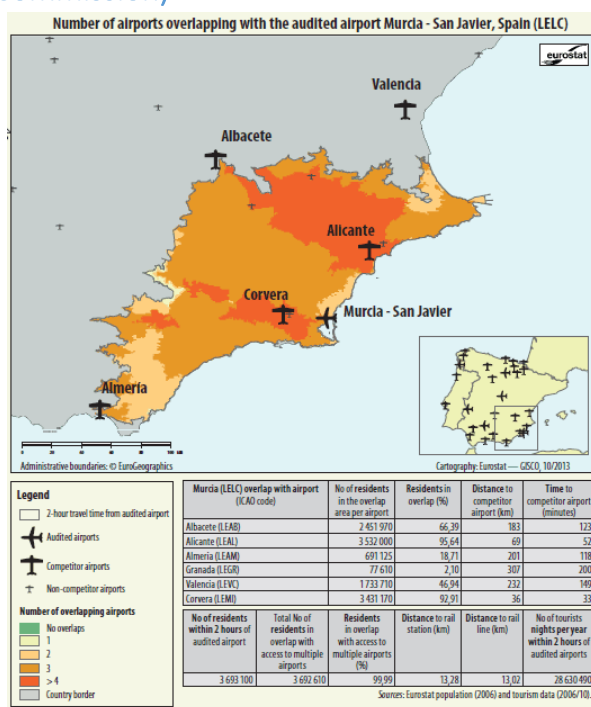
The pattern of impact of climate change on Europe's regions should be seen as evidence basis for adaptation needs: the higher the potential negative impacts, the more important are actions of adaptation in order to avoid negative consequences on the economy, population, physical assets, cultural heritage and the environment.

To design appropriate policy responses to the challenges of climate change, sound knowledge is needed about the regional differences. The ESPON Climate Project conducted for this purpose an innovative, integrated and pan-European climate change impact assessment with a clear territorial dimension.

Linked to

UN SDG: Goal 13 "Take urgent action to combat climate change and its impacts"
 Europe 2020: Sustainable growth – "Resource-efficient Europe"

EUR12 Airport catchment areas³ (European Court of Auditors and European Commission)



Abstract

The European Court of Auditors analysed EU-funded investments in airport infrastructures and examined among other aspects whether there was a demonstrated need for these investments. The Court also analysed whether the EU-funded airports were financially sustainable. The audit focused on 20 EU-funded airports in five Member States (Estonia, Greece, Spain, Italy and Poland). These airports received a total EU funding of 666 million euro during the 2000–06 and 2007–13 programme periods through the European Regional Development Fund (ERDF) and the Cohesion fund (CF).

One of the criteria that the study took into consideration in analysing the above aspects was the area of influence of the airports, i.e. their capacity to attract visitors and customers (the catchment area) which depends on the population nearby and the surface transport possibilities.

To this purpose the study used the latest Eurostat data available on current road connections, traffic speed data, population and potential tourist numbers. The study analysed the overlaps of catchment areas, applying a uniform criterion of 120 minutes' driving distance. This was also done for all neighbouring airports to understand if catchment areas overlapped. It could be shown that for many airports significant overlaps of the catchment areas existed meaning that at least 75% of the population in a certain catchment area could also reach at least one other airport within two hours' drive.

Benefits

Using a harmonised transport model, realistic journey times along the road network and the population on 1km² grids allowed the Court of Auditors to make a realistic assessment of the customer base of each airport, and to identify the degree of overlap not only based on surface but also on population. By integrating all these data the study could quantify the potential customer base (residential population mostly) of an airport and put it in relation to passenger forecasts provided by the airport operators. The latter were often not based on geocoded statistics.

Linked to

GOAL 9 Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

GOAL 12 Ensure sustainable consumption and production patterns

³ http://www.eca.europa.eu/Lists/ECADocuments/SR14_21/QJAB14021ENC.pdf

