



INSPIRE and cross border co-operation within the field of geostatistics

ESSnet Geostat

"A network ... aimed at providing results that will be beneficial to the society".

ESTGIS 2012 conference
Pärnu, Estonia
30th – 31st of November



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Content

- Introduction to EFGS (who are we)
- Vision – (where do we want to go)
- Definition – (what are we talking about)
- Examples – (what does it mean)
- Challenges – (what should we discuss)



About European Forum for GeoStatistics

EFGS started as a **voluntary cooperation** between National Statistical Institutions (NSIs) in the Nordic countries in 1998, on use of geographic information systems (GIS) and statistics.

Today EFGS has **national contact persons** from 32 European states and territories, having annual conferences and meetings.

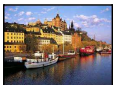
The Steering Committee consists of the national contact persons from the NSIs that participate in the ESSnet project GEOSTAT, mainly funded by Eurostat.

Activities are concentrated on the development of the **best practices** in the production of geostatistics in Europe.

EFGS **aims at being a global forum** and umbrella organisation from conference in Brazil in 2014.



Conferences 1998 - 2014



1998 Voss, Norway

2000 Stockholm, Sweden

2002 Oslo, Norway

2003 Helsinki, Finland

2004 Copenhagen, Denmark

2005 Stockholm, Sweden

2006 Kongsvinger, Norway

2007 Helsinki, Finland

2008 Bled, Slovenia

2009 den Haag, The Netherlands

2010 Tallinn, Estonia

2011 Lisboa, Portugal

2012 Prague, Czech Republic

2013 Sofia, Bulgaria

2014 Rio de Janeiro, Brazil

A global forum and EFGS

27th of July 2011: UN Economic and Social Council sets up Committee on Global Geospatial Information

Building the infrastructure for the gathering, validation, compilation and dissemination of geospatial information is ... as important for countries as the building of roads and telecommunications networks...

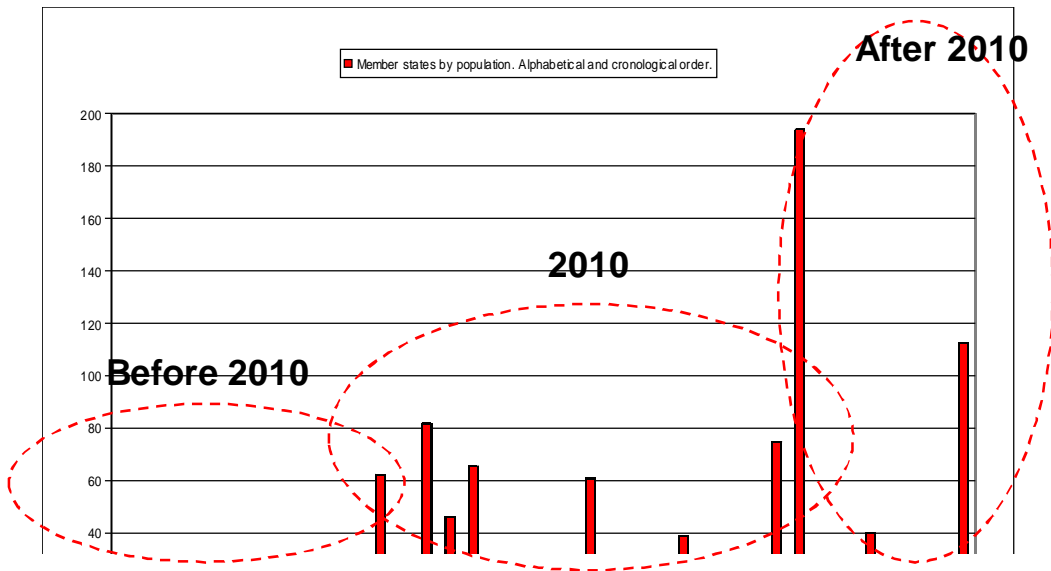
...UN take the lead role and serve as the coordinating entity of the global geospatial information community, hence the decision to create the committee...

The committee is mandated, ... with providing a platform for the development of effective strategies on how to build and strengthen national capacity on geospatial information, especially in developing countries.

... compile and disseminate best practices and experiences of national, regional and international bodies on geospatial information related to legal instruments, management models and technical standards; thus contributing to the establishment of spatial data infrastructures.

The committee will comprise experts from all Member States, as well as from international organizations, who will serve as observers.

A network in change



From a few small and homogenic to many and diverse



ESSnet GEOSTAT projects

The European Forum for GeoStatistics — ESSnet project GEOSTAT — Representing Census data in a European population grid

GEOSTAT 1A – Representing Census data in a European population grid



Final Report






Recommendations

- 1: The GEOSTAT grid dataset
...referenced to ... Grid_ETRS89-LAEA...
- 2: ... dataset should have a grid cell size of 1km².
- 3: ... cell code example '1kmN2599E4695' ...
- 4: ... Absolute counts of the statistical units
(such as number of inhabitants, households, buildings, workplaces) should be disseminated without any restrictions...
- 5: ... downloaded free of charge...
- 6: ... dataset version 1 ... reference year 2006.
The next version ... reference year 2011.
- 7: ... quality ... in the form of INSPIRE metadata encoded in ISO19139 .xml files. The production process should be documented per grid data source and country.



Dissemination of results 1/2



Search Site 

☐ only in current section

Home

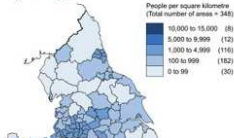
You are here: [Home](#)

European Forum for GeoStatistics

Map of the month

This month maps are representing Census 2011 results of England and Wales, produced by UK [Office for National Statistics](#). Maps on population change 2001-2011 and short term migrants can be found [here](#).

Population density of usual residents by local or unitary authority, 2011



People per square kilometre
(Total number of areas = 348)

10,000 to 15,000	(8)
5,000 to 9,999	(12)
1,000 to 4,999	(116)
100 to 999	(182)
0 to 99	(30)

« October 2012 »

Mo	Tu	We	Th	Fr	Sa	Su
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

News

Paper on "Spatial Data Infrastructure for statistical production: challenges and opportunities" by H. Cordeiro, F. Vala, A. Santos from Statistics Portugal is now available.
Oct 01, 2012

Presentation on Small Area Statistics
Sep 30, 2012

Registration deadline for EFGS 2012 conference in Prague is approaching.

Dissemination of results 2/2

Google Analytics

Unique Visitors vs. Select a metric

Unique Visitors

800

400

Visits: 14,862

Unique Visitors: 7,924

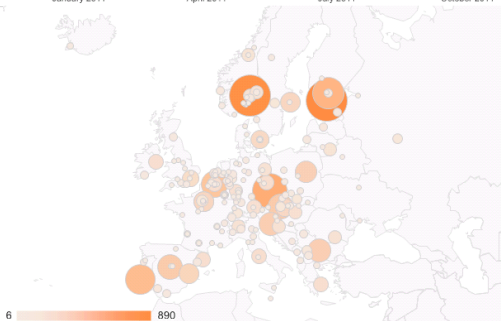
Pageviews: 66,359

Pages / Visit: 4.47

Hourly Day Week Month

Oct 29, 2010 - Nov 28, 2012

January 2011 April 2011 July 2011 October 2011 January 2012 April 2012 July 2012 October 2012



Browser	Visits	
Internet Explorer	5,910	44.13%
Firefox	4,765	35.58%
Chrome	1,943	14.51%
Safari	427	3.19%
Opera	140	1.05%



Visits	Pages / Visit	Avg. Visit Duration	% New Visits	Bounce Rate
14,862	4.47	00:03:56	52.87%	46.04%
% of Total: 100.00% (14,862)	Site Avg: 4.47 (0.00%)	Site Avg: 00:03:56 (0.00%)	Site Avg: 52.87% (0.00%)	Site Avg: 46.04% (0.00%)



EFGS 2012 websurvey

Respondents are asked to consider proposals for grid statistics, with respect to:

- 1) **availability** of the statistical units, variables and reference years, and
- 2) **access** to grid statistics in terms of use, price policy, confidentiality and quality

COLUMBIA UNIVERSITY

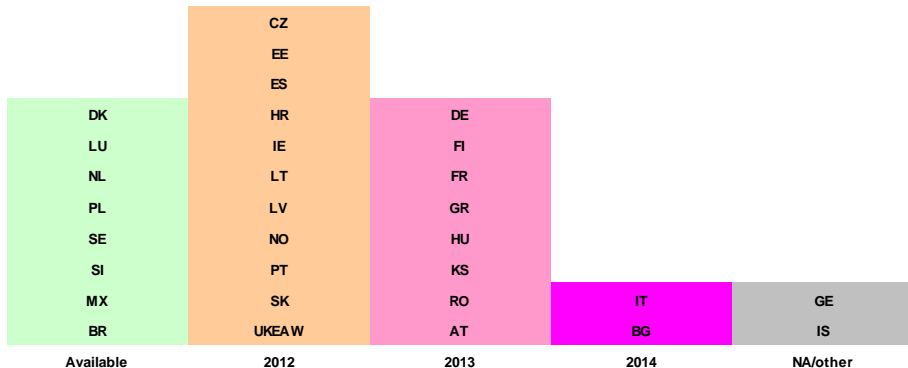
CIESIN
CENTER FOR INTERNATIONAL EARTH SCIENCE
INFORMATION NETWORK

MEMORANDUM



1. When will the population head count and age structure data be released to the public or available to third parties?

The NASA Socioeconomic Data and Applications Center (SEDAC), managed by CIESIN at Columbia University, is interested in obtaining population data and corresponding GIS boundary data at the highest spatial resolution possible (meaning lowest census or administrative units possible), corresponding to circa 2010 censuses or population registries. The data will be used in the production of Gridded Population of the World v4, which will be produced at a 30 arc-second (~1km) grid cell resolution. The input vector GIS data for the production of the population grids will not be released without explicit permission from the data providers.





2. What is the lowest census/admin unit population head count data with corresponding GIS boundary files that you would be willing to release to SEDAC? (e.g. equivalent NUTS or census level)

Point data	grid statistics	Statistical districts	Adm. boundaries	Restrictions
Building	100 m grid	Output Area level	Municipality	Boundaries not available
	250 m grid	Neighbourhoods	LAU1	Payment basis
	1 km grids	Block of houses	LAU2	Written agreement
		Census Blocks		
		Census circle		
		Enumeration Areas		
		Statistical districts		
		Small settlements		
		Village		
		Parish		
		Locality		



3. Would you be able to provide age and sex distribution data for this resolution as well?

[yes/no] If the answer to is no, at what resolution could you provide this data?

AT

BR

CZ

DE

DK

EE

ES

FI

FR

GE

GR

HR

HU

IT

IE

KS

LT

LU

LV

NO

NL

PL

PT

RO

SE

SI

SK

MX

BG

Which of the following statistical units, variables and reference years are or will be available?

[Reference years 2000, 2005, 2010. 1x1km grid]

	2000/ 2001				2010/ 2011			
	Tot_pop	Male	Female	Ave_age	Tot_pop	Male	Female	Ave_age
AT	YES	YES	YES	YES	YES	YES	YES	YES
BG					YES	YES	YES	YES
BR					YES	YES	YES	NO
CZ	YES	YES	YES	YES	YES	YES	YES	YES
DE	NO	NO	NO	NO	NO	NO	NO	NO
DK	YES	YES	YES	YES	YES	YES	YES	YES
EE	YES	YES	YES	YES	YES	YES	YES	YES
ES	DEV	DEV	DEV	DEV	DEV	DEV	DEV	DEV
FI	YES	YES	YES	YES	YES	YES	YES	YES
FR	NO	NO	NO	NO	NO	NO	NO	NO
GE					YES	YES	YES	YES
GR	NO	NO	NO	NO	NO	NO	NO	NO
HR								
HU	NO	NO	NO	NO	NO	NO	NO	NO
IT	NO	NO	NO	NO	NO	NO	NO	NO
IE	NO	NO	NO	NO	YES	YES	YES	YES
IS					YES	YES	YES	YES
KS					YES	YES	YES	YES
LT	NOT DEC	NOT DEC	NOT DEC	NOT DEC	NOT DEC	NOT DEC	NOT DEC	NOT DEC
LU	NO	NO	NO	NO	NO	NO	NO	NO
LV								
NO	YES	YES	YES	YES	YES	YES	YES	YES
NL	YES				YES			
PL	LAU2	LAU2	LAU2	LAU2	DEV	DEV	DEV	DEV
PT	NOT DEC	NOT DEC	NOT DEC	NOT DEC	NOT DEC	NOT DEC	NOT DEC	NOT DEC
RO	NO	NO	NO	NO	YES	YES	YES	YES
SE	YES	YES	YES	YES	YES	YES	YES	YES
SI	YES	YES	YES	YES	YES	YES	YES	YES



7. Dwellings grid statistics

Which of the following statistical units, variables and reference years are or will be available?

[Number of Dwellings, total],

[Number of Dwellings, Detached house],

[Number of Dwellings, Other building],

[Average floor area],

[Reference years 2000, 2005, 2010. 1x1km]

	2000/2001		2010/2011		
	Tot_dwe	Ave_area	Tot_dwe	Ave_area	
AT	YES	YES			2011 maybe
BG	NO	NO	YES	YES	
BR	NO	NO	YES	YES	
CZ	YES	YES	YES	YES	Inhabited dwellings
DE	NO	NO	NO	NO	
DK	YES	YES	YES	YES	Payment
EE	YES	YES	YES	YES	
ES	DEV	DEV	YES	YES	
FI	YES	YES	YES	YES	Payment
FR	NO	NO	NO	NO	
GE	NO	NO	NO	NO	Next census
GR	YES	YES	YES	YES	Inhabited dwellings
HR					
HU	NO	NO	NO	NO	
IT	NO	NO	NO	NO	
IE	NO	NO	YES	NO	
IS	NO	NO	YES	YES	
KS	NO	NO	YES	YES	Inhabited dwellings
LT					
LU	NO	NO	NO	NO	
LV					
NO	DEV	DEV	YES	YES	
NL	YES	NO	YES	NO	
PL	NO	NO	YES	YES	Under development
PT	NOT DEC	NOT DEC	NOT DEC	NOT DEC	
RO	NO	NO	YES	YES	
SE	YES	YES	YES	YES	
SI			YES	YES	
SK	NO	NO	YES	YES	



8. Buildings grid statistics

Which of the following statistical units, variables and reference years are or will be available?

[Number of buildings, All buildings],

[N, Unknown building type],

[N, Dwelling],

[N, Industrial building and warehouse],

[N, Office and business building],

[N, Transport and communication building],

[N, Hotel and restaurant building],

[N, Building used for education, public entertainment and religious activities],

[N, Hospital and institutional care building],

[N, Prison, building for emergency preparedness],

[Reference years 2000, 2005, 2010. 1x1km]

	2000/2001		2010/2011	
	Tot_bui	Res_bui	Tot_bui	Res_bui
AT	YES	YES	YES	YES
BG	NO	NO	YES	YES
BR	NO	NO	NO	YES
CZ	YES	YES	YES	YES
DE				No answer
DK	YES	YES	YES	YES
EE	YES	YES	YES	YES
ES	DEV	DEV	YES	
FI	YES	YES	YES	YES
FR				No answer
GE	NO	NO	NO	NO
GR	YES	YES	YES	YES
HR				No answer
HU	NO	NO	NO	NO
IT	NO	NO	NO	NO
IE	NO	NO	NO	NO
IS	NO	NO	NO	NO
KS	NO	NO	NO	YES
LT	NOT DEC	NOT DEC	NOT DEC	NOT DEC
LU	NO	NO	NO	NO
LV				Only adm level
NO	DEV	DEV	YES	YES
NL	NO	YES	NO	YES
PL			NOT DEC	NOT DEC
PT	NOT DEC	NOT DEC	NOT DEC	NOT DEC
RO	NO	NO	YES	YES
SE	YES	YES	YES	YES
SI	YES	YES	YES	YES
SK	NO	NO	NO	NO



9. Agriculture and forestry properties grid statistics

Which of the following statistical units?

[Number of agricultural and forestry properties]

(with at least 5 decares (1 decare=0.1 hectare) agricultural land and/or 25 decares productive forest area).

	Tot_prop	Agr_area
CC	YES	YES
AT	YES	YES
BG	NO	NO
BR	NO	NO
CZ	NO	NO
DE	NOT DEC	NOT DEC
DK		
EE	NO	NO
ES	LAU2	LAU2
FI		
FR		
GE		
GR		
HR		
HU		
IT	NO	NO
IE	NO	NO
IS	NO	NO
KS		
LT	NOT DEC	NOT DEC
LU	NO	NO
LV		
NO	YES	YES
NL	NO	NO
PL	LAU2	LAU2
PT	NO	NO
RO	NO	NO
SE	YES	YES
SI	YES	YES



11. Access to grid statistics in terms of use, price policy, confidentiality and quality

For the above mentioned grid statistics; do you have any special terms of use, price policy or quality issues, or any other matter that might restrict the availability of your grid statistics?

AT	Confidentiality and terms of use
BG	Still to be defined
BR	free of charge; no restriction
CZ	Still to be defined
DE	not yet decided for agricultural census
DK	Only on payment basis
EE	We are not able to provide exact values per statistical unit if they are smaller than 3.
ES	Confidentiality rules are always considered.
FI	For free by municipalities, grids by chargeable services
FR	
GE	
GR	No restrictions
HR	
IE	Data must be used by public agencies only and must not be exploited for commercial purposes
IS	not decided yet
IT	
KS	According to the law, we have no right to sell statistical data, but in the future we will thinking for this issues.
LT	
LU	See Eurostat Legislation
LV	Data will be available through INSPIRE Geoportal
MX	Restricted by the Law of the National System of Statistical and Geographical Information (LSNIEG, INEGI 2008).
NL	Naming only
NO	Naming only
PL	One grid cell can not contain 1 or 2 units in order to statistical confidentiality.
PT	Still to be defined
RO	Not decided.
SE	Naming, Commercial use by agreement.
SI	Naming only, except for agricultural statistics
SK	Still to be defined



EU Regulation 1166/2008

10. Agricultural holdings grid statistics

Which of the following statistical units, variables and reference years are or will be available?

[Number of agricultural and forestry properties (with at least 5 decares (1 decare=0.1 hectare) agricultural land and/or 25 decares productive forest area). Property that is used for or could be used for agriculture and/or forestry. All agricultural/forestry area belonging to the same owner within a municipality is regarded as one property, irrespective of the number of cadastral units.],

[Number of properties with agricultural land (with at least 5 decares agricultural land)],

[Number of forestry properties (with at least 25 decares forestry land)],

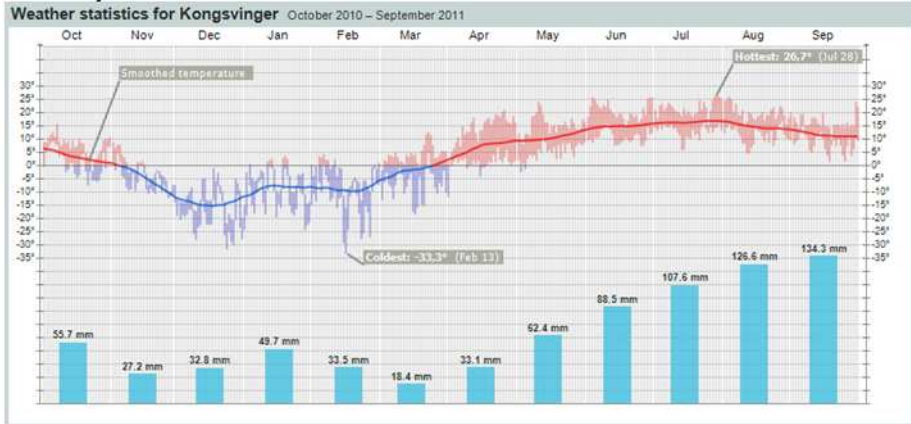
[Reference years 2000, 2005, 2010. 5x5 km]

CC	2000	2010	
AT		YES	INVEKOS
BG		NO	
BR		NO	
CZ		YES	
DE		NOT DEC	
DK		NO	Not yet
EE		YES	
ES		LAU2	
FI		YES	
FR		NO	
GE		NO	
GR		YES	
HR			
HU			
IT		NO	
IE		NO	
IS		YES	
KS		LAU2	
LT		NOT DEC	
LU		LAU2	
LV		YES	
NO	NO	YES	
NL	NO	NO	
PL	LAU2	LAU2	
PT	NO	NO	
RO	NO	NO	
SE		YES	
SI		YES	



What matters?

- What people talk about, or what they remember?
- Find case studies that matters - to yourself and others





A common infrastructure for spatial and statistical data

If you can not describe it – you can not manage it



Infrastructure

- basic physical and organizational structures needed for the operation of a society or enterprise, or the services and facilities necessary for an economy to function.
- the set of interconnected structural elements that provide framework supporting an entire structure of development.
- facilitates the production of goods and services, and also the distribution of finished products to markets.



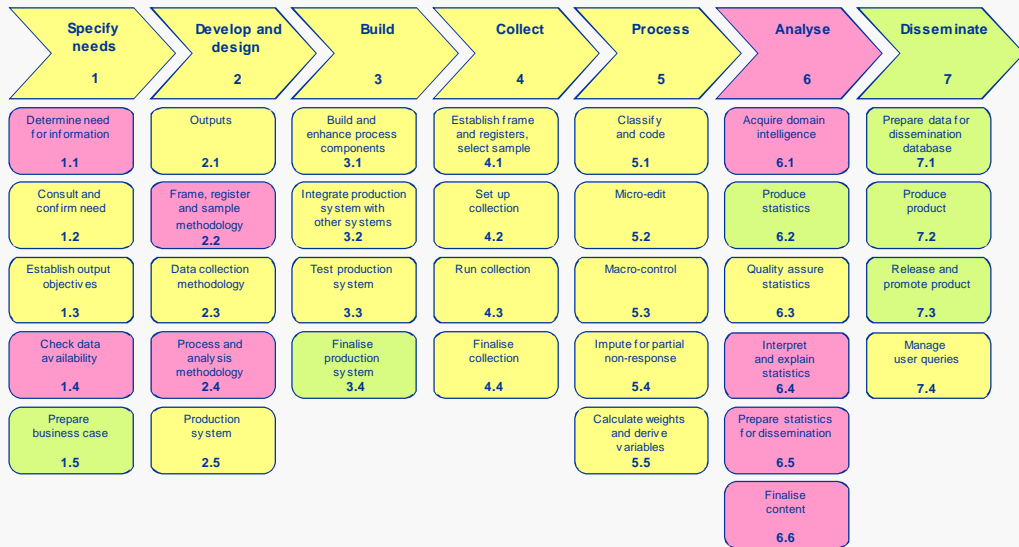
INSPIRE non-principles

- No requirement to create new spatial information
- No obligation to provide data for free
- No minimum level of quality



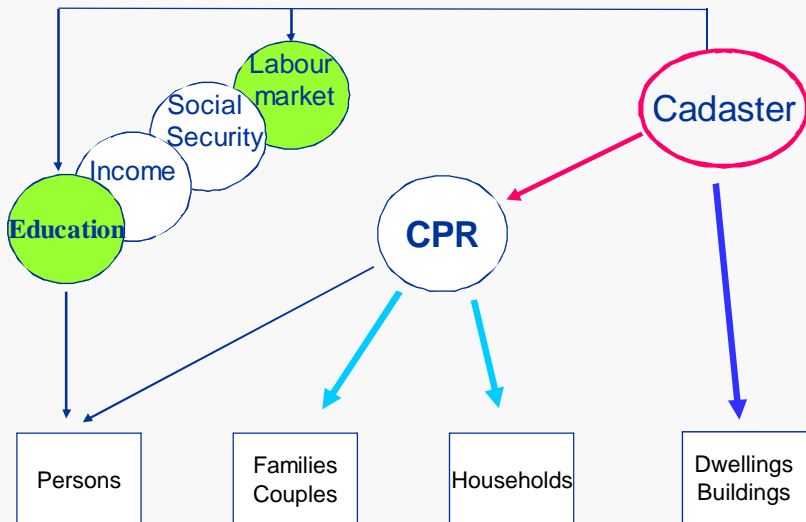
Statistical production process

#1 map the production process to find needed infrastructure



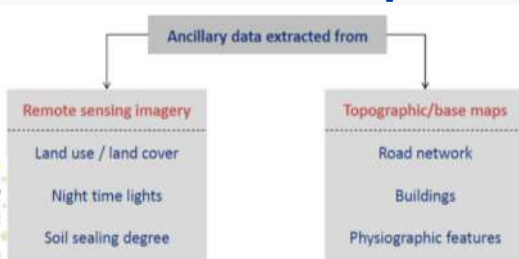


Infrastructure example 1



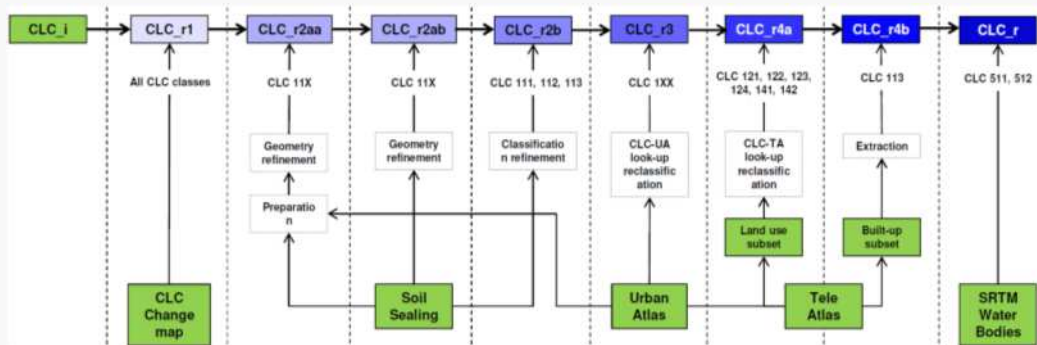
Infrastructure example 2

Institute for Environment and Sustainability
Land Management and Natural Hazards Unit
Ispra, Italy



Javier Gallego
javier.gallego@jrc.ec.europa.eu

carlo.lavalle@jrc.ec.europa.eu

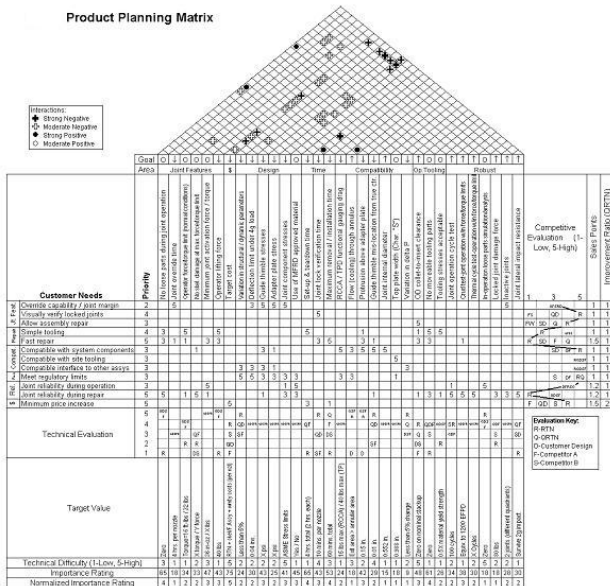




Planning and Quality



Product Planning Matrix





Cooperate with OS communities



GeoServer



GeoTools

Geographic analysis
and web presentation



DATA MINING
FRUITFUL CP

Statistical tools
Data mining



batchgeo
Mapping should be easy

Geocoding
services



OpenOffice.org 3



Text Documents



Spreadsheets



Presentation



Drawing

Office tools and
front ends



debian

Operating Systems
platforms



OSGeo.org
Your Open Source Compass




gvSIG
association

geops
SPATIAL WEB

Legal issues
Standards etc

Geoportal

One example on manifestation of infrastructure parts


Statistisk sentralbyrå
Statistics Norway

English Bokmål Nynorsk

Theme Legend

Find

 Fewer choices «<
 County:

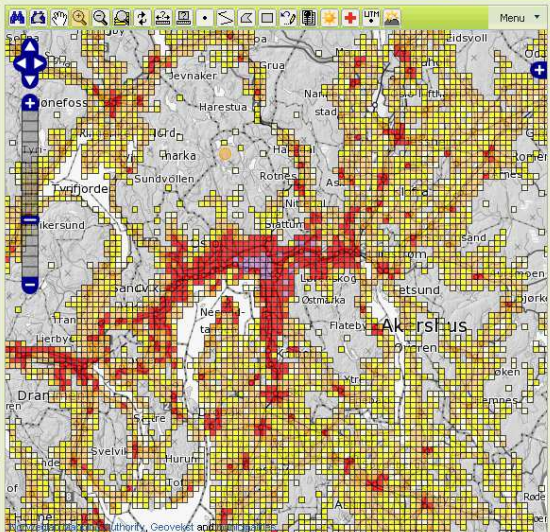
 Municipality:

 G.nr: B.nr: F.nr:

Zoom to area

Basemap
Tettsteder
Sentrumssoner
Befolkning (1)
Digitized objects
 No objects digitized

EPSG 32633 X / Y
 6616095.25, 0220412.00
 EPSG 4326 Lat / Lon (DD):
 59.58918, 10.04570
 Scale 1:479764



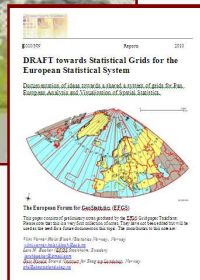
About Result Help Login

Maps from SSB
 Avinet's internet based map solution for public sector has been given the name Adaptive and is as the name suggests easily adaptable at the same time as it is fast, efficient and reliable.

About the application
 For more information about Adaptive, look at www.avinet.no
 © www.avinet.no 2009



Guidelines and recommendations





Long term training program



Cooperation
between
NSIs and NMAs ?



ESTP course 2012: GIS and statistics

Oslo, Norway, 26-30th of March

24 participants from 17 countries

7 lecturers



Planned ESTP course 2013

European Statistical Training Programme (ESTP)

Statistics Norway 5-7th of March 2013

Who may apply?

Officials and employees of National Statistical Institutes or corresponding Competent National Authorities (CNA) of EU Member States, EFTA countries, Eurostat and candidate countries can apply.

Occasionally, and on an individual basis, applicants from other administrations, international organisations and Statistical offices of non-European countries may be admitted.



GIS @ NSI Training courses



Training facility:



Training facility is located in Tallinn. Training class is equipped with state of the art IT technology. Free high speed WiFi is a natural part of everyday life of locals and visitors alike.

Additional info:

www.geolytics.ee

info@geolytics.ee

ph: + 372 556 19 636

GIS @ NSI 1

Mapping Statistics

4 – 7 June, 2013, 4 days, 26 academic hours

GIS @ NSI 2

Gridding Statistics

3 – 6 September, 2013, 4 days, 26 academic hours

GIS @ NSI 3

Analysing Geospatial Relationships

9 – 12 September, 2013, 4 days, 26 academic hours



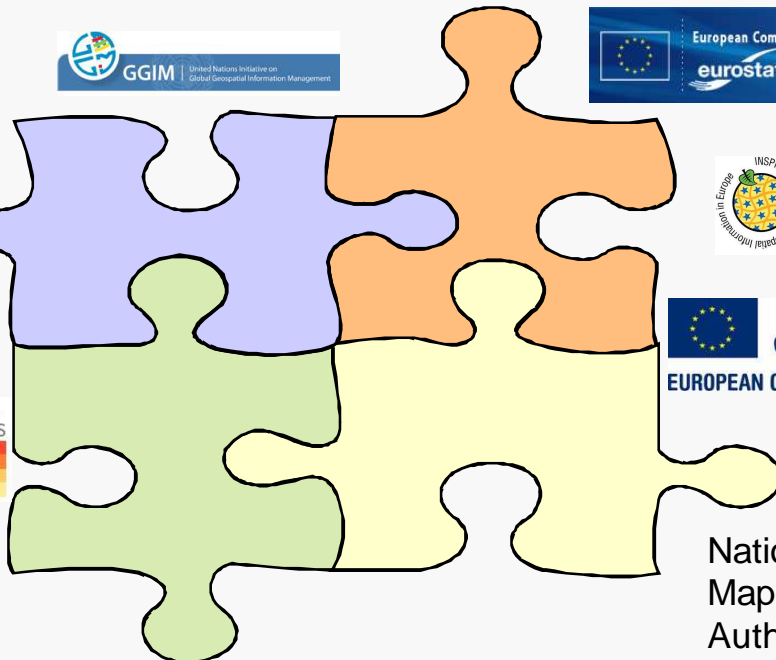
Reporting infrastructure?



EUROPEAN FORUM
FOR GEOSTATISTICS



National
Statistical
Institutes



National
Mapping
Authorities

Common challenges

- Sustainable organisation
- Common tools
- Exchange programs
- Exchange of ideas
- Coordinate cooperative development
- Lower costs
- Faster development
- More stability
- More flexibility
- Confidentiality management
- Training program
- Quality assessments
- Production methods
- Business model
- Method
- Quality
- Metadata
- Publishing policy
- Presentation

Thank you for your attention