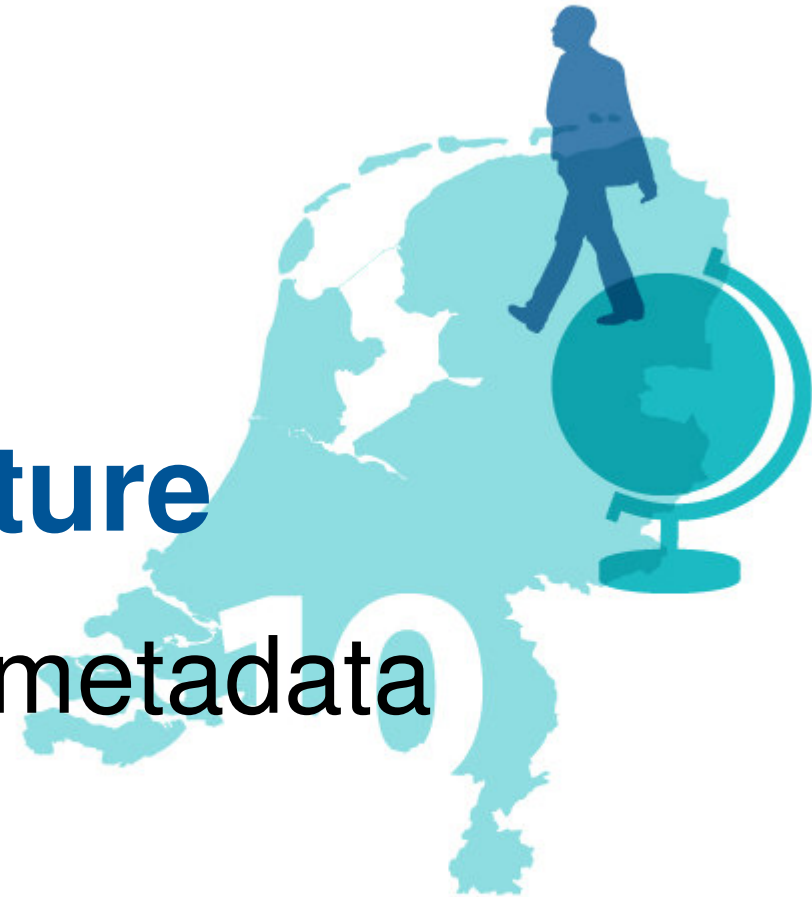


# WP3 Infrastructure

## Geostatistics and metadata

6 October 2010



## Subjects

- Metadata
- SDMX
- Styled Layer Descriptor (SLD)
- Geoweb services

## Metadata “Demographic distribution”

Common INSPIRE Annex III theme content

- Delineation and content description two sides of the coin. Land use, land cover, soil, buildings
- ISO 19.115 covers metadata on one content per theme

Demographic distribution

- Clustering within different types of units
  - Zonal units (watersheds, urban areas)
  - Normative units (communities, districts, postal areas)
    - Arithmetic units (geographical grids)
- More the one statistic, content INSPIRE D2.3\_v3.0.doc, topics as mortality, gender, aggregated year classes, etc.

## Metadata “Demographic distribution”

- Metadata on demographic distribution is about statistics, about more than one statistic.

Where to put metadata on statistics?

- ISO 19.115
  - Field: (DataQualityInfo/\*/report/\*/result/\*/explanation
    - String, free text.
  - Field: IdentificationInfo/\*/descriptiveKeywords/\*/Keyword (GEMET thesaurus, <http://www.eionet.europa.eu/gemet>)
    - String, formalised selection, more than one selection possible.

# Metadata “Demographic distribution”

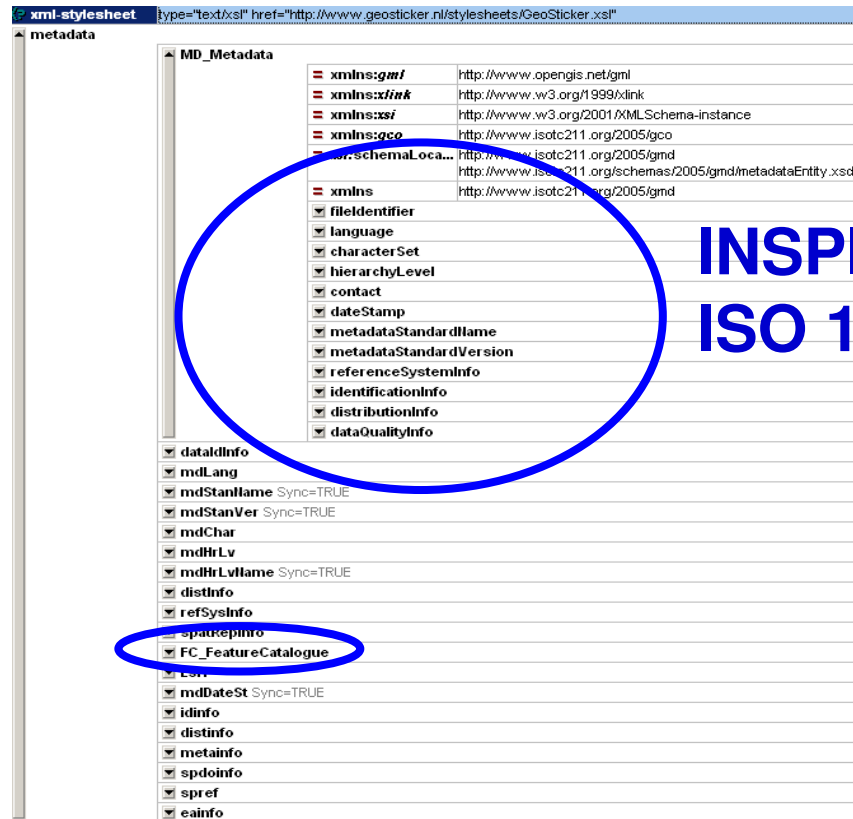
GEMET thesaurus: <http://www.eionet.europa.eu/gemet>

The screenshot displays the GEMET thesaurus web interface. At the top, there is a navigation bar with links for SERVICES, REPORTNET, TOOLS, and TOPICS (ETCS). Below this, a breadcrumb trail indicates the current location: You are here: Eionet » GEMET. The main content area is titled 'geographical distribution of population'. It includes a 'Definition:' section stating: 'The number of inhabitants in or spread across designated subdivisions of an area, region, city or country. (Source: RHW)'. There is also a 'broader terms' section with a link to 'population distribution'. A 'Scope note:' section states 'scope note is not available'. The 'Groups:' section lists 'SOCIETY'. The 'Themes:' section lists 'geography' and 'social aspects, population'. A multilingual list of terms is provided for various languages, including Arabic, Bulgarian, Czech, Danish, German, Greek, English (US), Spanish, Estonian, Basque, Finnish, French, Irish, Hungarian, Italian, Lithuanian, Latvian, Maltese, Dutch, Norwegian, Polish, Portuguese, Romanian, Russian, Slovak, Slovenian, Swedish, and Turkish. On the left side, there is a 'Local navigation' menu with links to User directory, Roles, NFP/Eionet IG, Mails to NFPs, SERIS, Eionet Wiki, Workplan/planner, Meetings & events, Priority dataflows, and SOER2010. Below the menu is a 'Find a person' search box. At the bottom of the page, there are links for RDF files, Administration, alphabets, About GEMET, Web services, and Definition sources, along with the version information: GEMET - Concepts, version 2.4, 2010-01-13.

## Information on statistics

- Geosticker (ESRI)
  - Metadata with information on Feature Classes
  - ISO 19.110

# Information on statistics (Geosticker)



xml-stylesheet type="text/xsl" href="http://www.geosticker.nl/stylesheets/GeoSticker.xsl"	
metadata	
MD_Metadata	
xmlns:gml	http://www.opengis.net/gml
xmlns:link	http://www.w3.org/1999/link
xmlns:xsi	http://www.w3.org/2001/XMLSchema-instance
xmlns:gco	http://www.isotc211.org/2005/gco
xmlns:gmd	http://www.isotc211.org/2005/gmd
xmlns:gml	http://www.isotc211.org/schemas/2005/gmd/metadataEntity.xsd
xmlns	http://www.isotc211.org/2005/gmd
fileIdentifier	
language	
characterSet	
hierarchyLevel	
contact	
dateStamp	
metadataStandardName	
metadataStandardVersion	
referenceSystemInfo	
identificationInfo	
distributionInfo	
dataQualityInfo	
dataInfo	
mdLang	
mdStanName	Sync=TRUE
mdStanVer	Sync=TRUE
mdChar	
mdHrLv	
mdHrLvName	Sync=TRUE
distInfo	
refSysInfo	
spatRefInfo	
FC_FeatureCatalogue	
CS	
mdDateSt	Sync=TRUE
idInfo	
distInfo	
metainfo	
spdoInfo	
spRef	
eainfo	

**INSPIRE  
ISO 19.115**

# Information on statistics (Geosticker)

xml-stijlesheet type="text/xml" href="http://www.geosticker.nl/stylesheets/GeoSticker.xsl"

metadata

- MD\_Metadata
  - dataInfo
  - mdLang
  - mdStanName Sync=TRUE
  - mdStanVer Sync=TRUE
  - mdChar
  - mdHrLv
  - mdHrLvName Sync=TRUE
  - distInfo
  - refSysInfo
  - FC\_FeatureCatalogue
    - name
    - definition
    - featureAttribute (84)
 

name	definition
CBS_Bevolingskernen_2006	
2 Shape	
3 Shape_Length	
4 Shape_Area	
5 Volgnummer	Wordt gevormd uit de letters BK en een vijfjferig volgnummer.
6 Naamgeving_bevolingskern	De naam van de woonkern wordt in principe ontleend aan de analoge topografische kaarten, schaal 1: 25 000, en volgt de daarop geldende schrijfwijze. Als er geen beschrijving van het gebied aanwezig is, dan is aan de kern de naam van een naastgelegen grote kern toegekend, aangevuld met -Noord, -Oost, -Zuid of -West. Als er sprake is van een grote woonkern die zich over het grondgebied van twee of meer gemeenten van het jaar 2006 uitstrekt, wordt de naamgeving samengesteld uit de naam van de grootste gemeente naar inwonertal, voorafgegaan door het voorvoegsel "Groot - ". Voorbeelden zijn Groot-Amsterdam, Groot-Rotterdam, Groot-'s-Gravenhage en Groot-Utrecht.
7 Groepering_naar_provincie	PV20 – Groningen PV21 – Friesland PV22 – Drenthe PV23 – Overijssel PV24 – Flevoland PV25 – Gelderland PV26 – Utrecht PV27 – Noord-Holland PV28 – Zuid-Holland PV29 – Zeeland PV30 – Noord Brabant PV31 – Limburg Aan de kern is de provincie toegekend waarin deze gelegen is. Aan de 34 kernen waarvan het oppervlak zich over twee provincies uitstrekt is de provincie toegekend waarin het grootste deel van het oppervlak ligt. Van deze 34 kernen liggen er 28 voor 95 procent of meer binnen één provincie. Dit zijn - naar aftlopende grootte - Groot-Groningen, Voensendaal, Meppel, Goinchem, Lesk, Lithoorn, Hillegom/Beincloot, Lemmer, Surhústerfean, Hoevelaken, Scherpenzeel (Gld), Mook/Molenhoek, Roelofarendsveen/Oude Wetering, Bernbroek, Abcoude, Vollenhove (O.), Haulerwyk, Leimuiden, Hooglanderveen, Achterveld, Kuirre, Driemond, Hollandse Rading, Kedichem, Willensoord, Visvliet, Buitenkaag en IJpsingboermussel. Verder is aan de provincie Groningen toegekend de kern Stadskanaal (86 procent), aan Drenthe de kern Paterswold-Noord (91 procent), aan Overijssel de kern Steenkamer/De Hoven (62 procent), aan Noord-Holland de kernen Laren/Elaricum (93 procent) en Vogelenzang (92 procent) en aan Zuid-Holland de kern Lisse/Lisserbroek (88 procent).
8 Categorisering_naar_inwonertal	BKGR01 – Kern bevat minder dan 500 inwoners BKGR02 – Kern bevat 500 tot 1 000 inwoners

ISO 19.110



# SDMX

- Standardised Data and Metadata eXchange
- Data Structure Definition,  
structure of data flow
- Metadata Structure Definition  
content, methodology and quality
- Published october 2010?
  
- Content oriented guidelines (SDMX-COG)
  
- Area of interest?  
Ref\_area CL\_Area is LAU2 for Census
  
- Instrument for statistical data sharing
  
- SDMX: <http://.sdmx.org>  
User guide document [http://sdmx.org/?page\\_id=38](http://sdmx.org/?page_id=38)

## Metadata of more than one statistic

### Suggestions:

- Sdmx short description of content as keyword in field Keyword (ISO 19.115)?
- Use ISO 19.110 describing content, but where to publish?

## Considerations on infrastructure

		Datafiles	
		One integrated "European" file	Seperate file by each country
One statistical item	Metadata	Agree on contactpoint and common description of the content and the way it is derived (total population)	How to integrate different metadata files. Do they have to be integrated?
	Viewing	One WMS to be exploited by EFGS? ArcGIS.com? (ESRI only?)	How to explore an WMS with different contributors. Viewer that integrates different WMS.
	Download	One download file.(total population)	More than one download file.
More statistical items	Metadata	Agree on contactpoint and common description of the different content and the way it is derived.	How to integrate different metadata files on different statistics. Do they have to be integrated? Common description? Thesaurus?
	Viewing	One WMS containing different layers or one WMS with one layer and different SLD's for display.	How to explore an WMS with different contributors for different statistics.
	Download	One download file for each statistic.	More than one download file for each statistic.

**GEOSTAT 1 A**

# Styled Layer Descriptor (SLD)

## Usage

- Symbology for WMS
- More than one display graphic for a single WMS

## Creation

- OGC standard <http://schemas.opengis.net/sld/>
- ArcGIS2SLD (ESRI users)

## Example

<http://geoservices.cbs.nl/ArcGis/services/WijkenBuurten2008/MapServer/WMSServer?service=wms&version=1.3.0&request=getmap&styles=style2&layers=1&crs=EPSG:28992&format=image/jpeg&height=1000&width=937&bbox=80000,440000,90000,450000>

# Styled Layer Descriptor (SLD)

XML

<b>version</b>	1.0
<b>encoding</b>	ISO-8859-1
<b>standalone</b>	yes

Comment: edited with XMLSPY v5 rel. 4 U (<http://www.xmlspy.com>) by XMLSPY 5 Professional Ed. Release 4, Concurrent for 10 users (Statistics Netherlands)

**slid:StyledLayerDescriptor**

<b>version</b>	1.0.0
<b>xmlns:slid</b>	<a href="http://www.opengis.net/sld">http://www.opengis.net/sld</a>
<b>xmlns:ogc</b>	<a href="http://www.opengis.net/ogc">http://www.opengis.net/ogc</a>
<b>xmlns:xlink</b>	<a href="http://www.w3.org/1999/xlink">http://www.w3.org/1999/xlink</a>

**slid:NamedLayer** (3)

slid:Name	slid:UserStyle												
1 Community	slid:UserStyle (5) <table border="1"> <tr><th>slid:Name</th><th>slid:FeatureTypeStyle</th></tr> <tr><td>1 Style1</td><td>slid:FeatureTypeStyle</td></tr> <tr><td>2 Style2</td><td>slid:FeatureTypeStyle</td></tr> <tr><td>3 Style3</td><td>slid:FeatureTypeStyle</td></tr> <tr><td>4 Style4</td><td>slid:FeatureTypeStyle</td></tr> <tr><td>5 Style5</td><td>slid:FeatureTypeStyle</td></tr> </table>	slid:Name	slid:FeatureTypeStyle	1 Style1	slid:FeatureTypeStyle	2 Style2	slid:FeatureTypeStyle	3 Style3	slid:FeatureTypeStyle	4 Style4	slid:FeatureTypeStyle	5 Style5	slid:FeatureTypeStyle
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3 Style3	slid:FeatureTypeStyle												
4 Style4	slid:FeatureTypeStyle												
5 Style5	slid:FeatureTypeStyle												

# Styled Layer Descriptor (SLD)

XML

version 1.0  
 encoding ISO-8859-1  
 standalone yes

Comment edited with XMLSPY v5 rel. 4 U (http://www.xmlspy.com) by XMLSPY 5 Professional Ed. Release 4, Concurrent for 10 users (Statistics Netherlands)

StyledLayerDescriptor

version 1.0.0  
 xmlns:sld http://www.opengis.net/sld  
 xmlns:ogc http://www.opengis.net/ogc  
 xmlns:xlink http://www.w3.org/1999/xlink

NamedLayer (3)

1 0 sld:Name sld:UserStyle (5)

1 Style1 sld:UserStyle (5)

1 sld:Name sld:FeatureTypeStyle

1 sld:FeatureTypeStyle

1 sld:FeatureTypeName CBS\_Buurtten\_2008\_ungn2

1 sld:Rule (10)

sld:Name	sld:T	ogc:Filter	sld:PolygonSymbolizer
1 0	0	ogc:Filter	sld:PolygonSymbolizer
2 1	1	ogc:Filter	sld:PolygonSymbolizer
3 2	2	ogc:Filter	sld:PolygonSymbolizer
4 3 - 5	3 - 5	ogc:Filter	sld:PolygonSymbolizer
ogc:PropertyIsBetween			
ogc:PropertyIsLessThan			
ogc:LowerBoundary			
ogc:UpperBoundary			
ogc:Literal			
ogc:Literal			
sld:Fill			
sld:CssParameter (2)			
name			
fill			
fill-opacity			
5 6 - 10	6 - 10	ogc:Filter	sld:PolygonSymbolizer
6 11 - 15	11 - 15	ogc:Filter	sld:PolygonSymbolizer
7 16 - 20	16 - 20	ogc:Filter	sld:PolygonSymbolizer
8 21 - 25	21 - 25	ogc:Filter	sld:PolygonSymbolizer
9 26 - 50	26 - 50	ogc:Filter	sld:PolygonSymbolizer
10 51 - 91	51 - 91	ogc:Filter	sld:PolygonSymbolizer

2 1 sld:UserStyle (5)

3 2 sld:UserStyle (5)

2 Style2 sld:FeatureTypeStyle

3 Style3 sld:FeatureTypeStyle

4 Style4 sld:FeatureTypeStyle

5 Style5 sld:FeatureTypeStyle

Community

## Geoservices

- Viewer Landuse map

<http://download.cbs.nl/geoviewer/index.html?config=config-bodemgebruik.xml>

- Viewer Neighbourhood map

<http://download.cbs.nl/geoviewer/index.html?config=config-wijkenbuurten.xml>

- Location viewers

<http://www.cbs.nl/nl-NL/menu/themas/dossiers/nederland-regionaal/cijfers/cartografische-toegang/geoviewer.htm>