



Introduction to GIS

The Role of GIS in Census

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GIS has been used in Census over 40 years

- 1 st GIS
 - ca in 60's in Statistics Finland
 - 1970 USA Census Bureau - DIME
 - 1988 TIGER - **T**opologically **I**ntegrated **G**eographic **E**ncoding and **R**eferencing system

- 2000 wide implementation of GIS in all Census phases:
 - Most European countries incl Estonia
 - Most North- and South American states
 - No of countries in Asia and Africa

- 2010/11 round census could be anticipated that only few countries will not use the GIS in Census



Why GIS is implemented

- Most of the human activities are linked directly or indirectly with the location
- Different sources guess, it is up to 80 % of all activities linked with the location
- Statistics is linked with location - geography (territories)
- GIS adds value to the traditional “table based” statistics

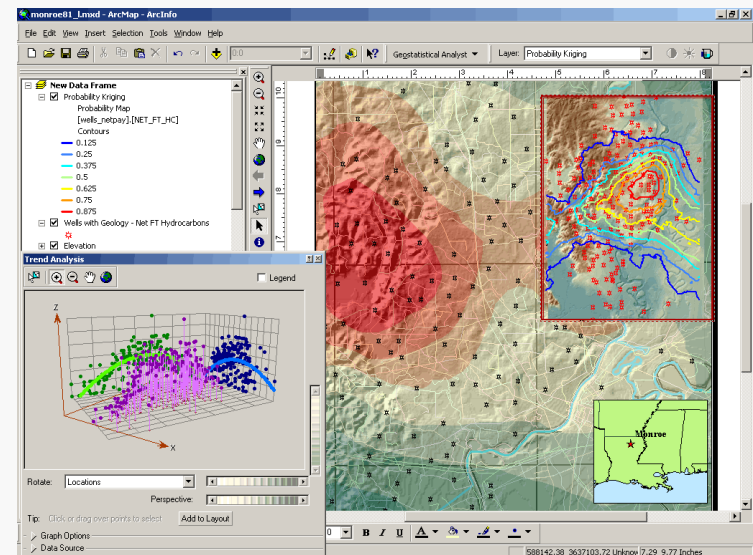
What is GIS ?

= Geo(graphic) information system for

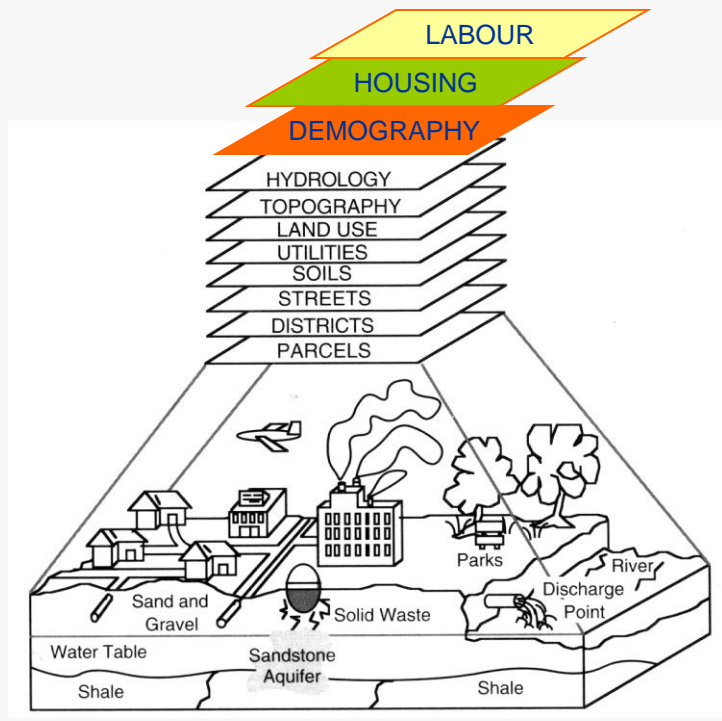
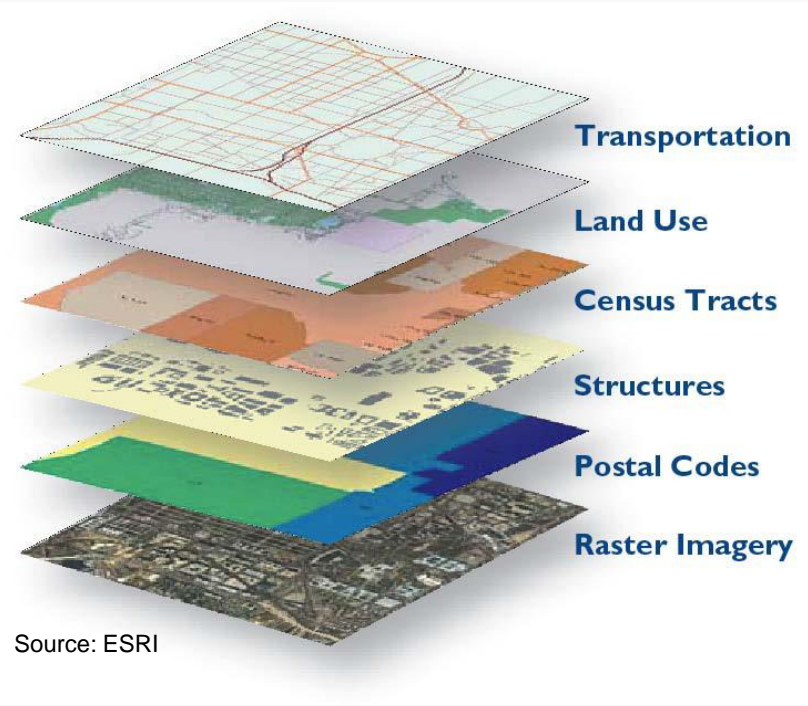
- Creating, compiling
- Editing
- Storing
- Managing
- Analysing / enabling spatial queries
- Visualising
- Distributing

Spatial data and/or data linked with location

- ◆ Representation of the real world
- ◆ Technology (for example in society widely used Google Maps or Earth etc)



Layers concepts



Gridded statistics (statistics in small uniform territorial units , 1x1km²)



What does GIS enables, what IS does not enable?

GIS enables :

- visualisation, analyse, storing etc of **spatial data** (data representing the location)
- Use on spatial functionalities as for example:
 - Spatial search (region, territory, point of interest);
 - Spatial analyse / spatial patterns;
 - Distance and directions measures;
 - Neighbourhood analyses;
 - Map production based on mathematical framework (projections, scales)
- Enables to describe complex geometries and their relationships, topology rules, etc.



Building Blocks of GIS

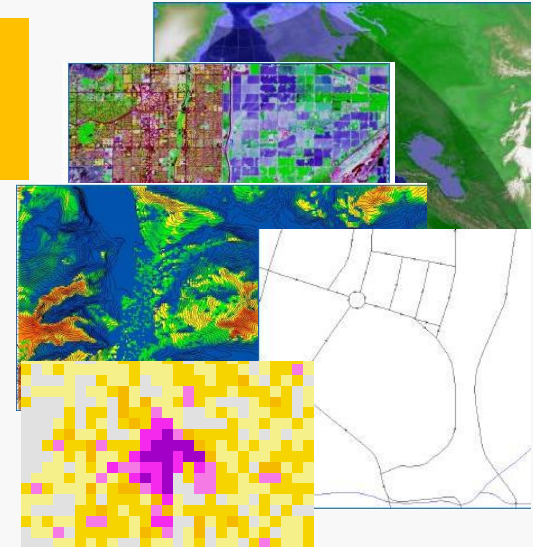


Brain:

- Proper education
- Experience
- Motivation
- Creativity

Data:

- Spatial
- Attribute

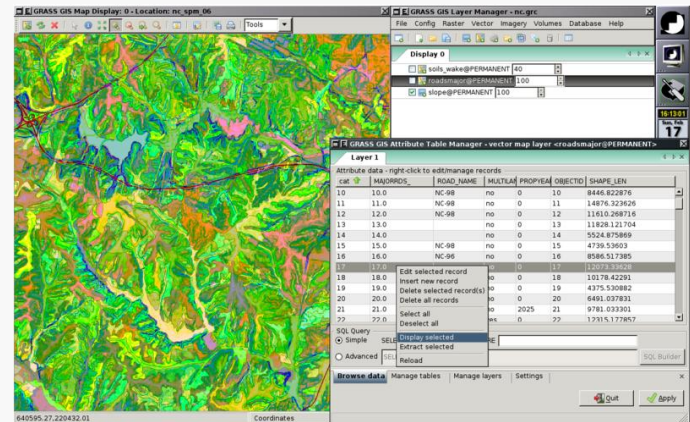


GIS

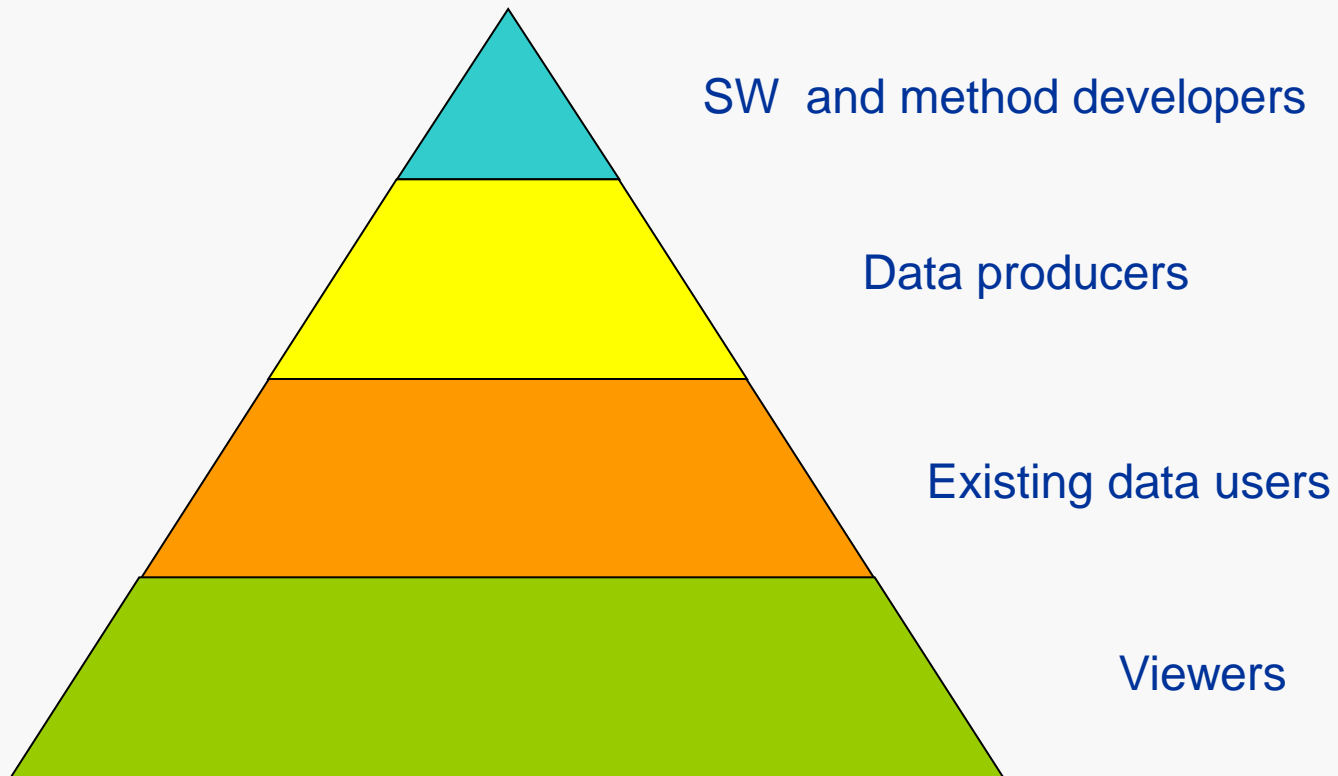
Hardware



Software



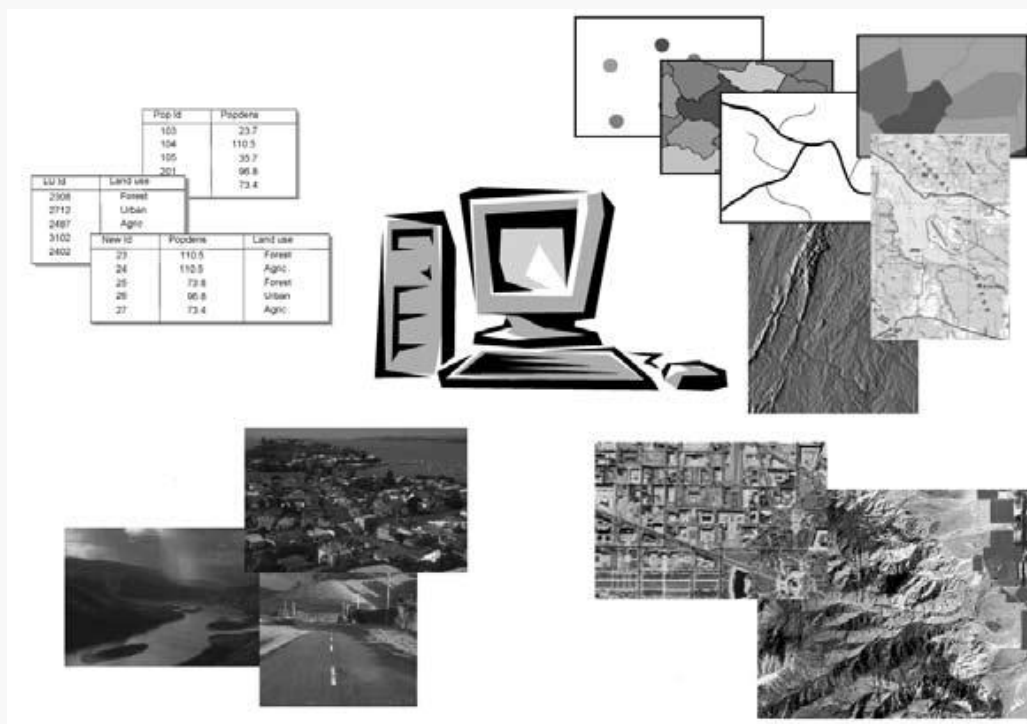
Types of GIS users



Data in GIS

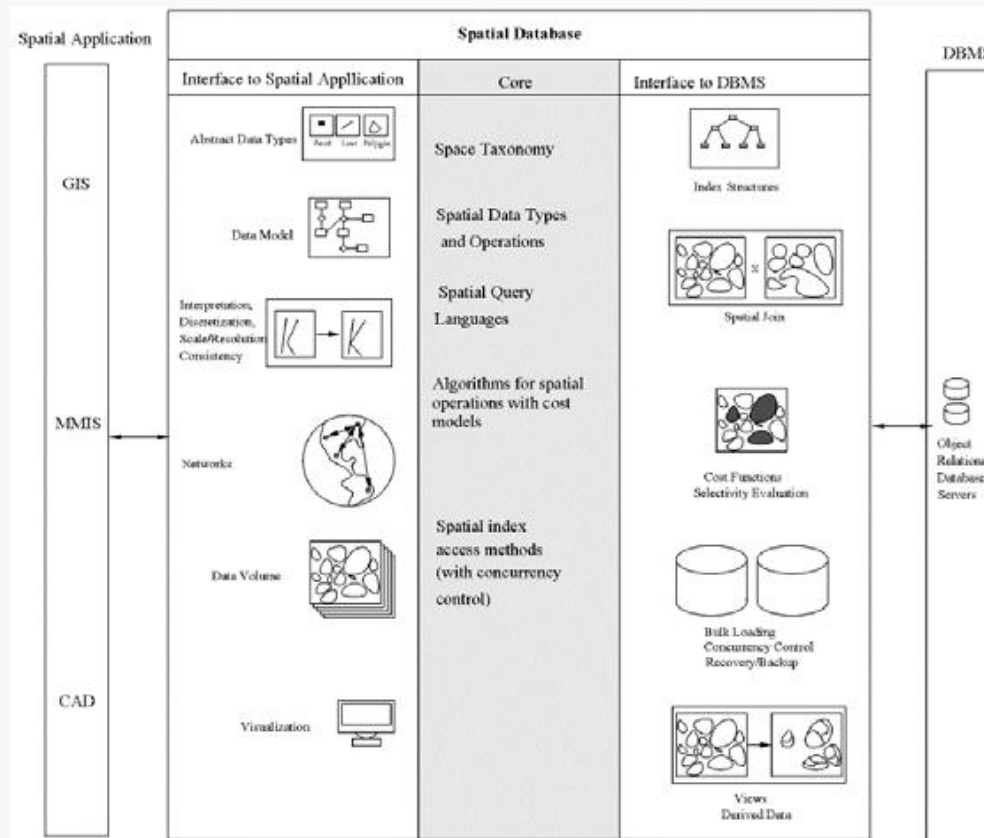
- Stores spatially linked data, their geometry and topology and thematic attribute data

- Tables
- Vector data
- Raster data
- Topology
- Domains
- Networks
- DEM

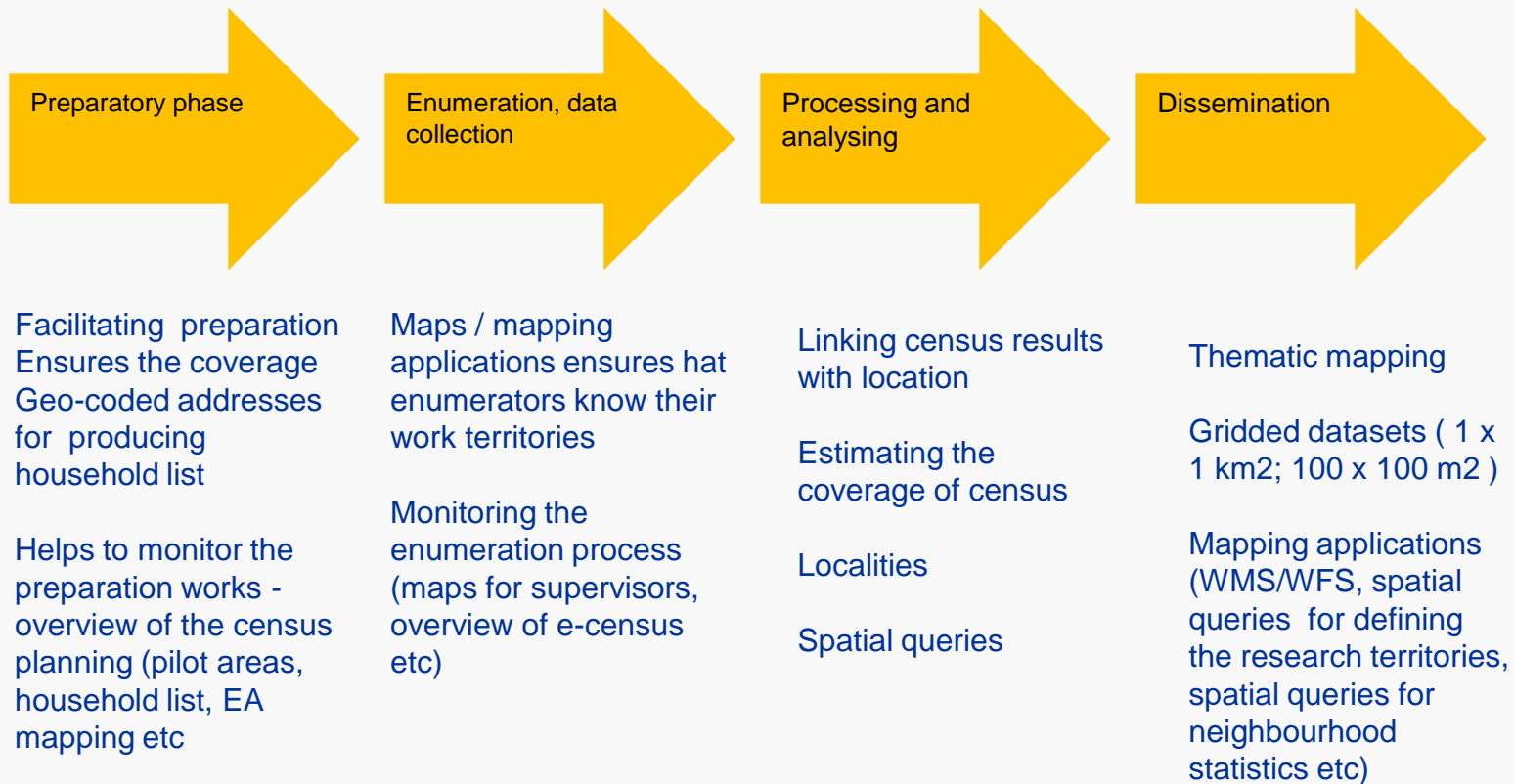




Spatial Databases



When to use the GIS in census?



Census GIS is not only for producing Enumerator Maps once in 10 years.

Census GIS is continuous process supporting the production of geostatistics = linking statistics with location



Thank You!

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