



A population grid for the Republic of Ireland

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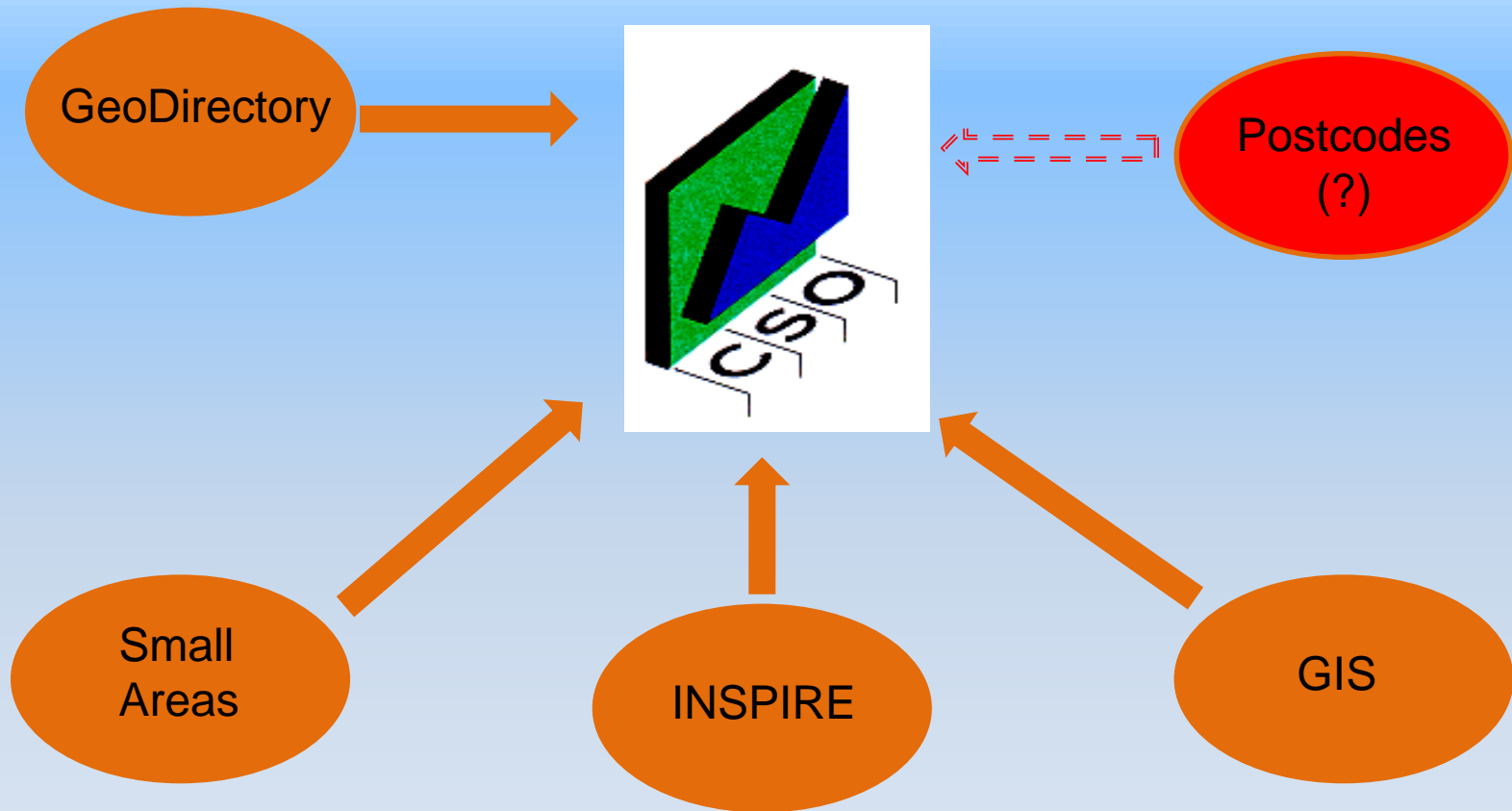
Layout of presentation

- Introduction: CSO and the Irish Census
- Spatial data and the CSO
- GeoDirectory and Small Area boundaries
- Producing the grid population
- Future plans

Introduction: The CSO and the Census

- **Role** - Government agency which collects and publishes most official statistics in Ireland
- **Legal basis** - Statistics Act 1993
- Census is the largest statistical operation run by the office every five years

Spatial data and the CSO



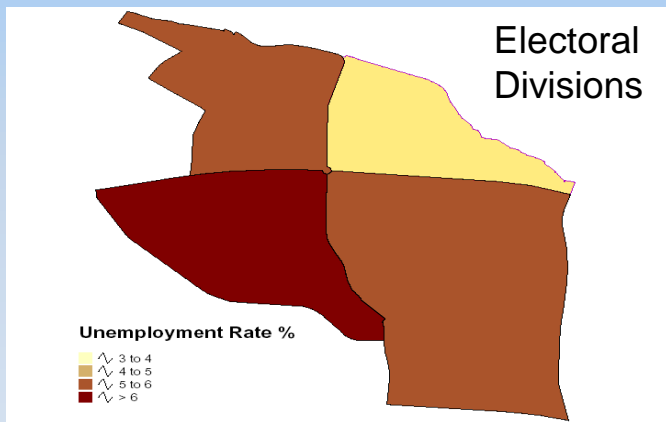
GeoDirectory



- The Irish address database created in 1998
- The postal address of most address points (approx 2.1 million) in the State
- The co-ordinates and geographical position of each building (accurate to 1m, building centre)
- Whether a building is commercial, residential or mixed residential/commercial or has single or multiple addresses
- 40% of addresses are non-unique(rural areas, small towns and villages)

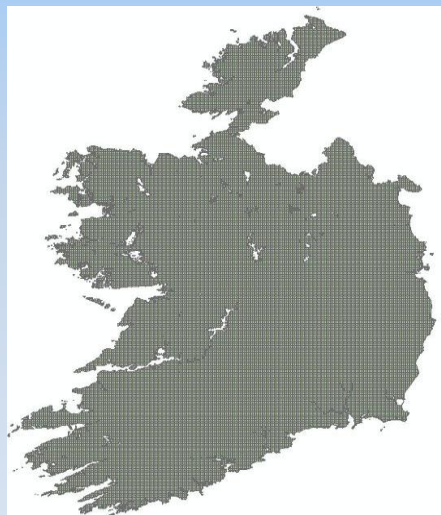
Small Areas

- New geographical area created by Ordnance Survey Ireland (OSi) and released in 2009
- ‘Quasi-spatial’ boundaries. Based upon location of residential address points (75-150), but respectful of legacy geography (e.g. Electoral Divisions, Townlands in rural areas)



Producing the grid population

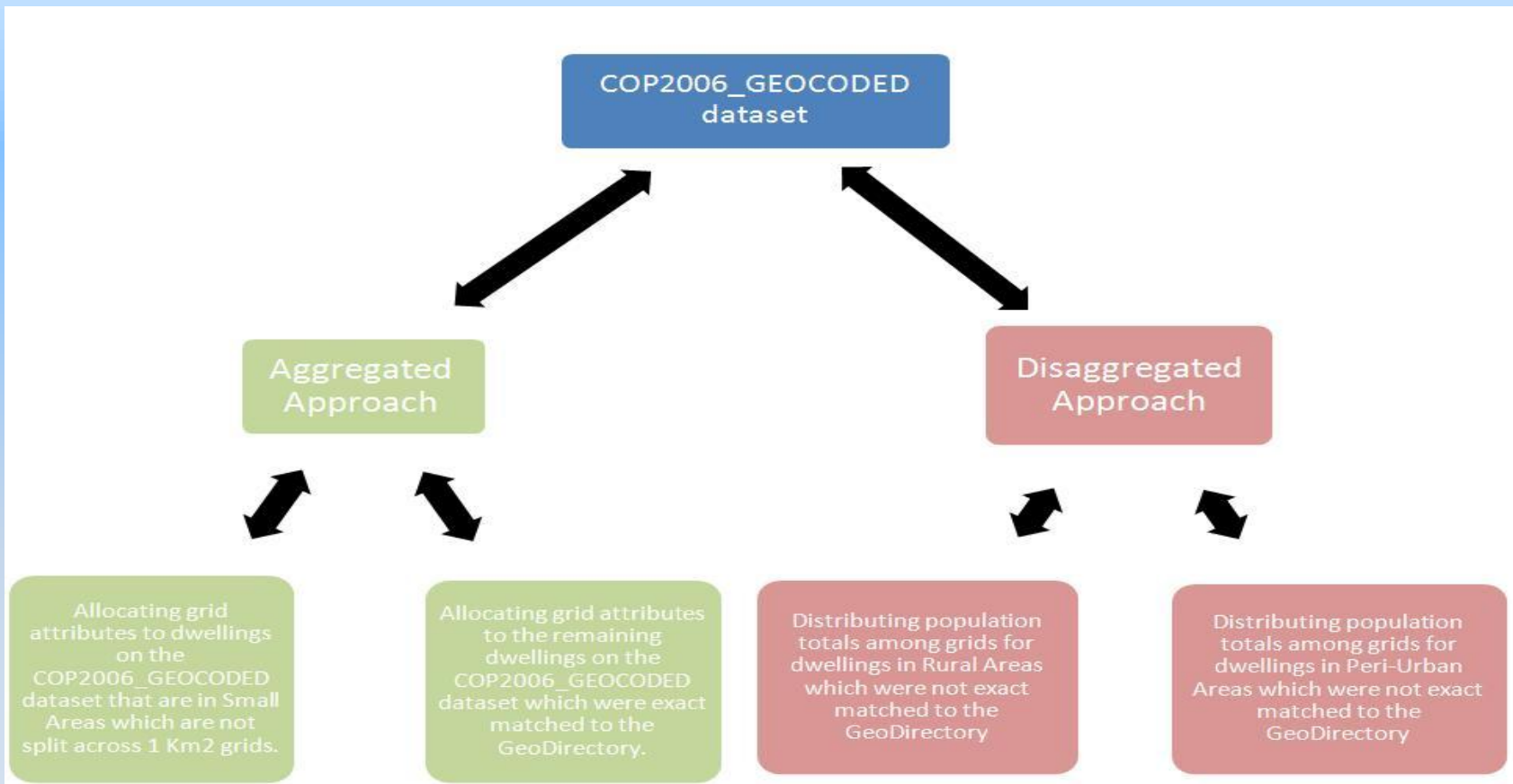
- Used an ESRI application called 'Fishnet'
- Can set the coordinate reference system, size of grid and total number of grids to be created.
- Areas relating to Irish water bodies imported into GIS and 'clipped' out of grid shapefile.



Producing the grid population

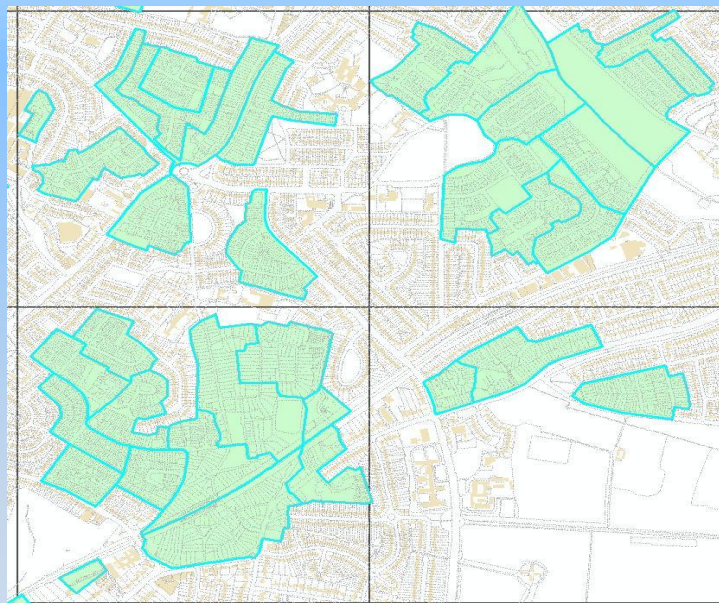
- In 2007-2008, CSO attempted to geocode the address on Census 2006 Forms against the GeoDirectory.
- Intention of exercise was to backcode Census 2006 data to Small Area level.
- Geocoding exercise had ~60% success due to non-unique addresses in rural areas, small towns and villages.
- At the end of the project all 1.485 occupied dwellings on Census 2006 file allocated a Small Area code.
- Geocoded Census 2006 data used to produce the grid data.

Producing the grid population



Producing the grid population: Aggregated approach

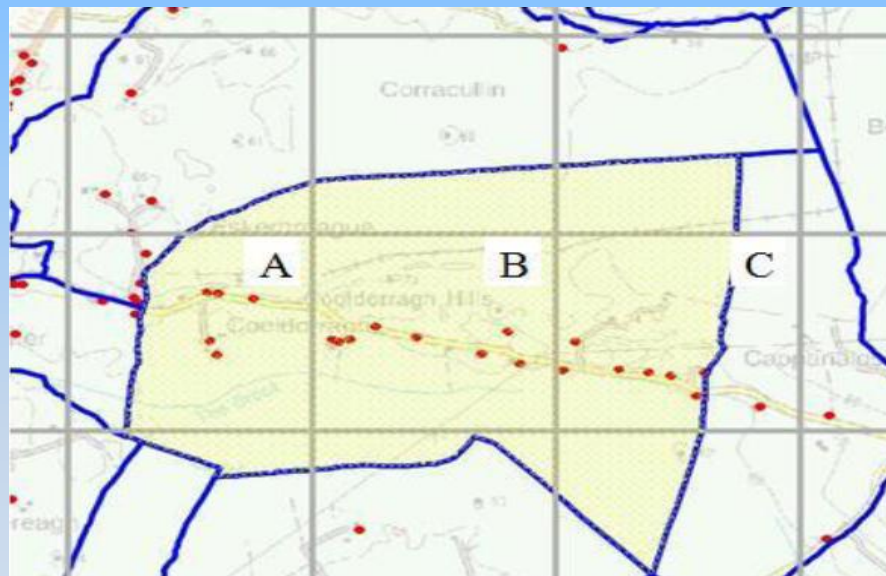
- 1. Identify Small Areas not split by 1 Km² grids.



- 2. Importing successfully geocoded data into GIS and allocate grid attributes.

Producing the grid population: Disaggregated approach

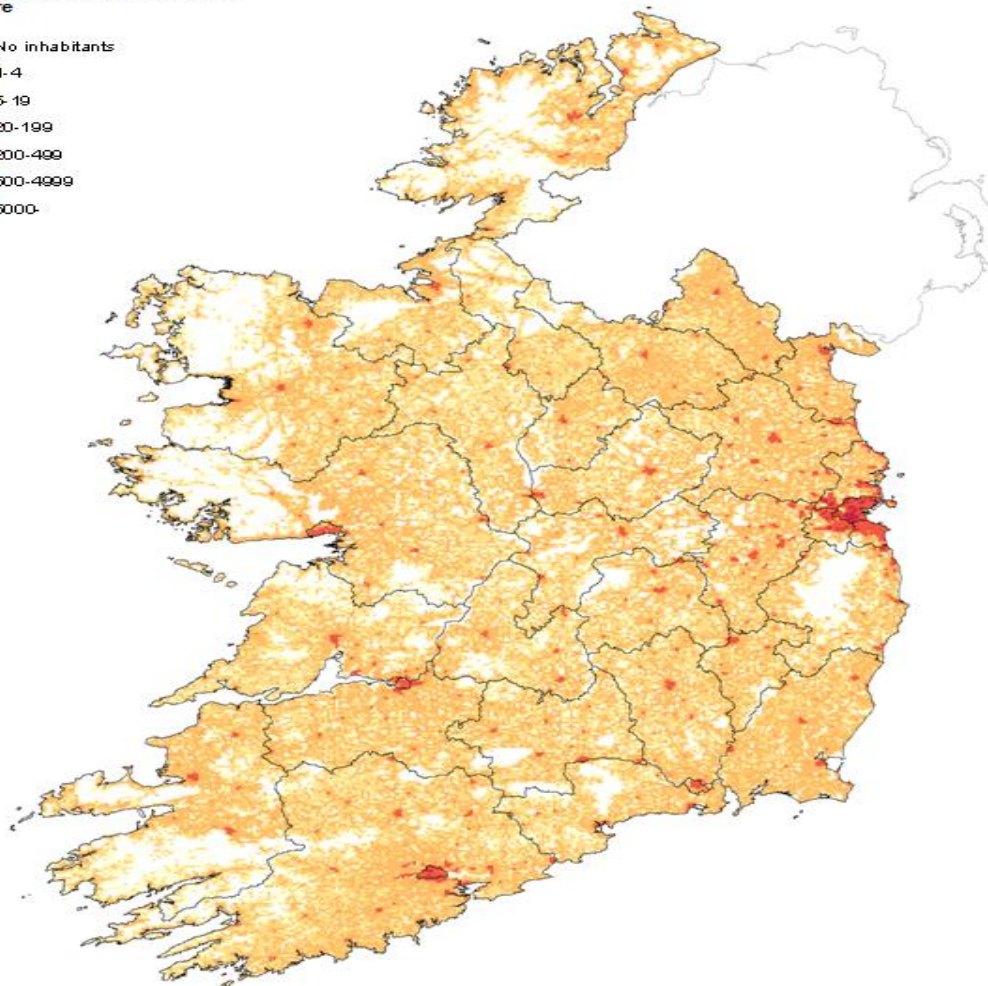
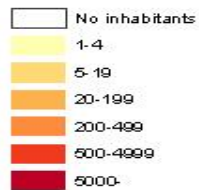
- 3. Disaggregation in rural areas uses Townland boundaries and the version of GeoDirectory closest to Census night in 2006.



- 4. Townlands not applicable in small towns and villages, so disaggregation involves the use of Small Area boundaries and GeoDirectory closest to Census night in 2006.

Producing the grid population

Inhabitants or estimated number of inhabitants per individual square kilometre



Future plans

- GeoDirectory used to underpin Census 2011
 - All Census data spatially referenced
- Can supply 100% aggregated statistical data at grid level from 2011 Census file
- Also place of work, school and college will be geocoded against the GeoDirectory
- Can supply population data for 1 Km² grids to EFGS and GEOSTAT project but....

Future plans

- Seek direction from the 'Grid community' relating to:
 - Disclosure control (Methods, Thresholds etc)
 - Coding and attributes attached to the grid dataset
 - Method of transmission of grid data
 - Nominating a recipient of the grid data from the NSIs (EFGS or Eurostat ?)

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Any questions
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