



Developing a global people-based definition of cities and settlements

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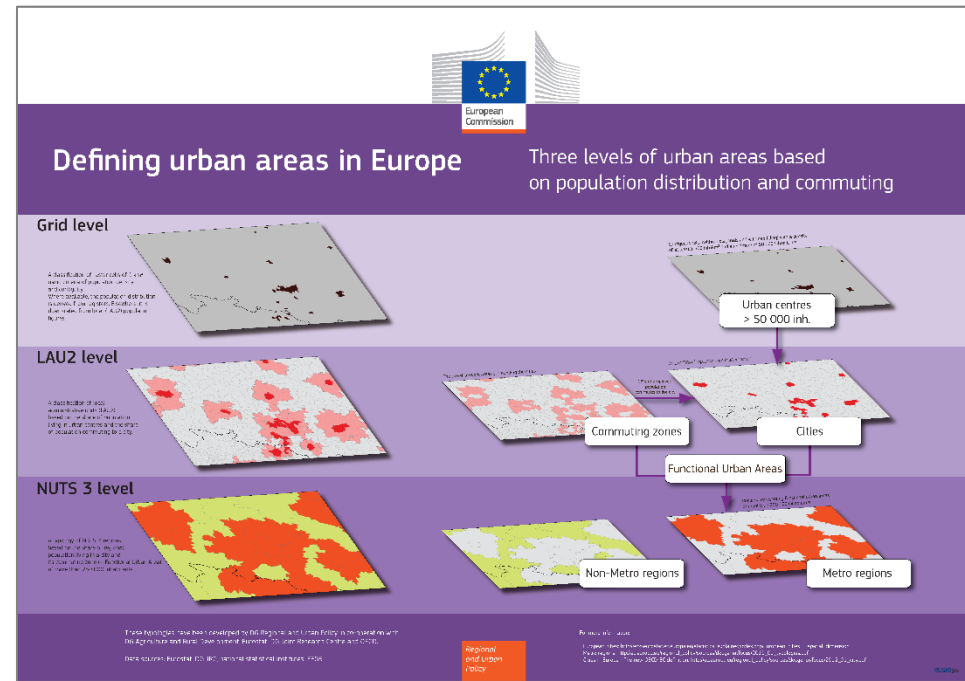
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Outline

- European system of city definitions
- Towards a global city definition
- Testing the methodology
- Opportunities relative to the urban Sustainable Development Goal
- Conclusion

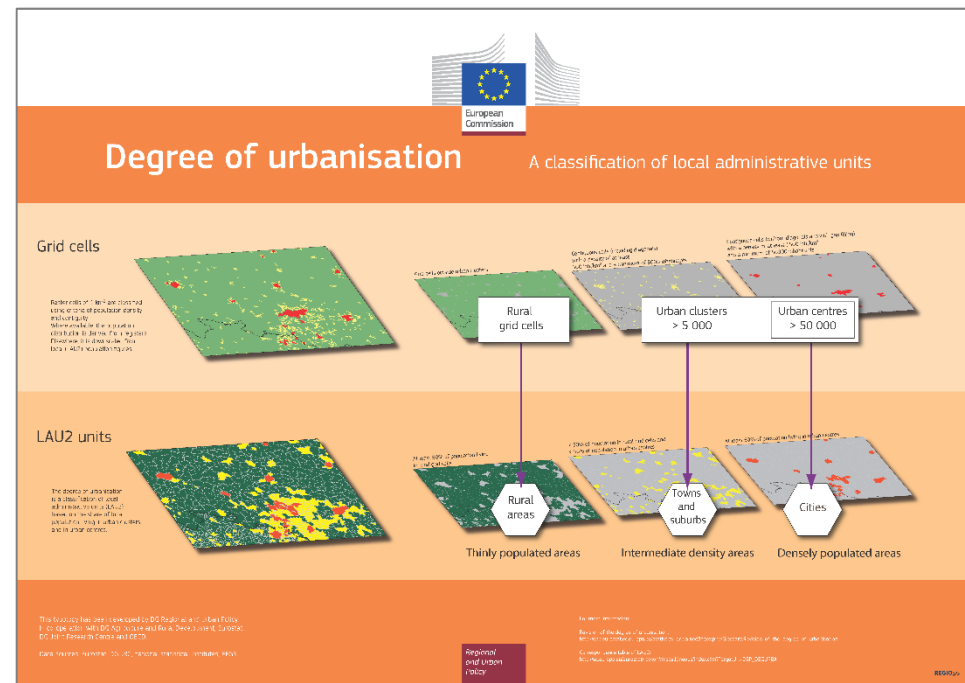
European system of city definitions (1)

- Harmonised people-based definition of cities and functional urban areas (incl. commuting)
- Based on 1 km² population grid
- Joint EC-OECD development

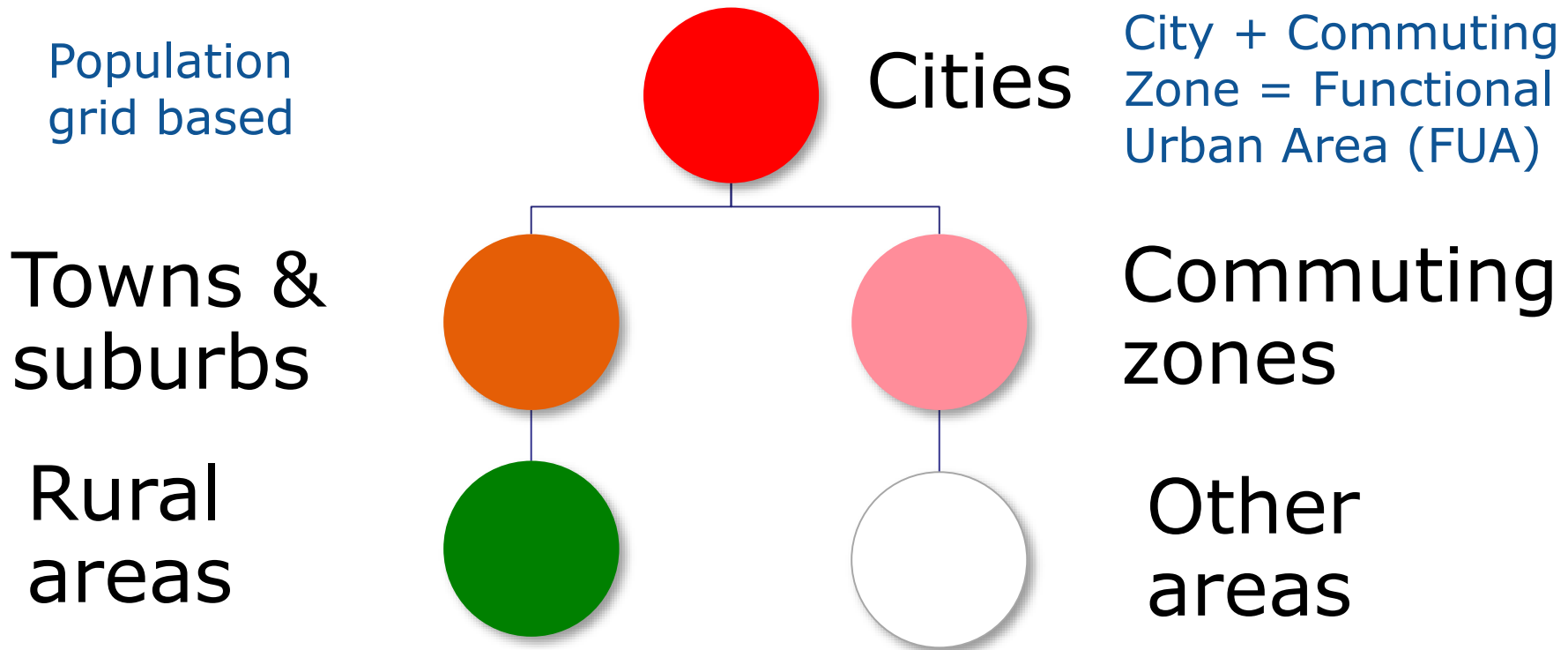


European system of city definitions (2)

- Degree of urbanisation
 - Cities
 - Towns and suburbs
 - Rural areas
- Two-level classification
 - grid cells
 - local administrative units (municipalities)



Two definitions with a common element: cities



Towards a global city definition

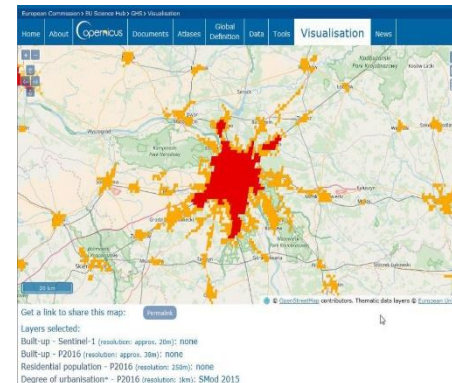
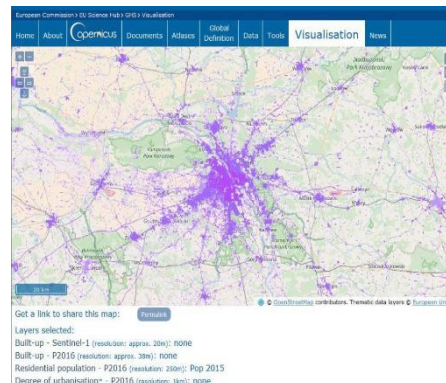
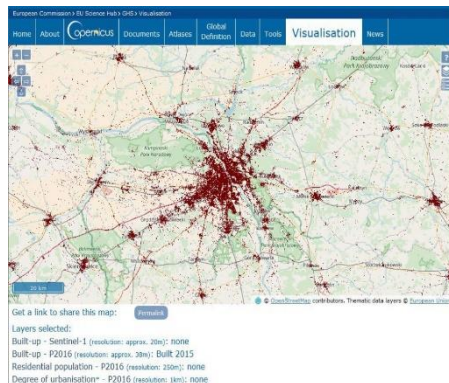
- Harmonised concepts enhance the opportunities to produce comparable statistics
- People-based definition is relevant in various domains: natural or man-made risks, emergency response, SDG monitoring, etc.
- Currently there is a lack of comparable, documented concepts

Commitment to develop global definition

- Initiative of the EU, OECD and World Bank
 - Launched at Habitat III conference, Quito, 2016
- Joined by FAO and UN-Habitat
- Goal: present a definition to the UN Statistical Commission in 2019
- Test two linked definitions
 - EC-OECD cities and functional urban areas
 - Degree of urbanisation

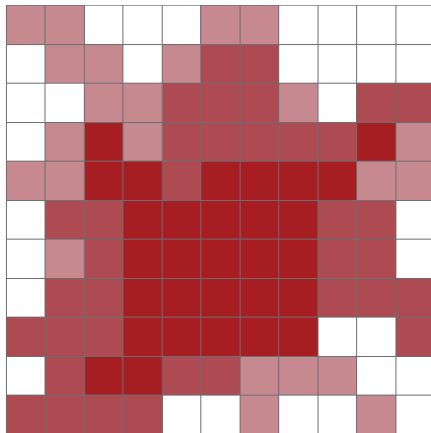
Global application: first results

- Implemented by the EC Joint Research Centre
- Created a new, open and public 1 km² population grid (years 1975, 1990, 2000 and 2015)
- Will be updated in 2018 using better satellite imagery (Sentinel 1 and 2)



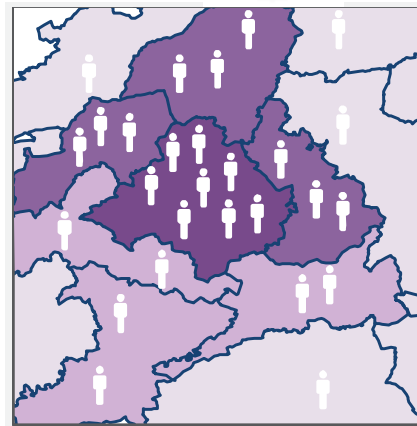
A global population grid

Share of area covered
by buildings based on
satellite imagery



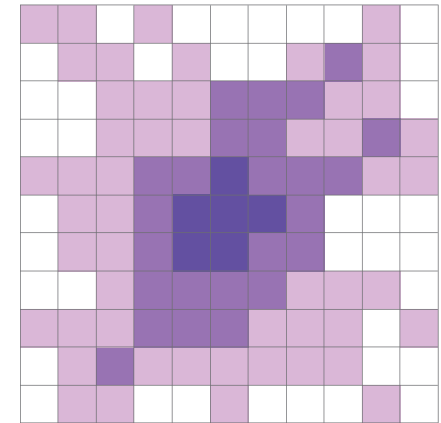
Source: JRC GHSL

Census data
on population



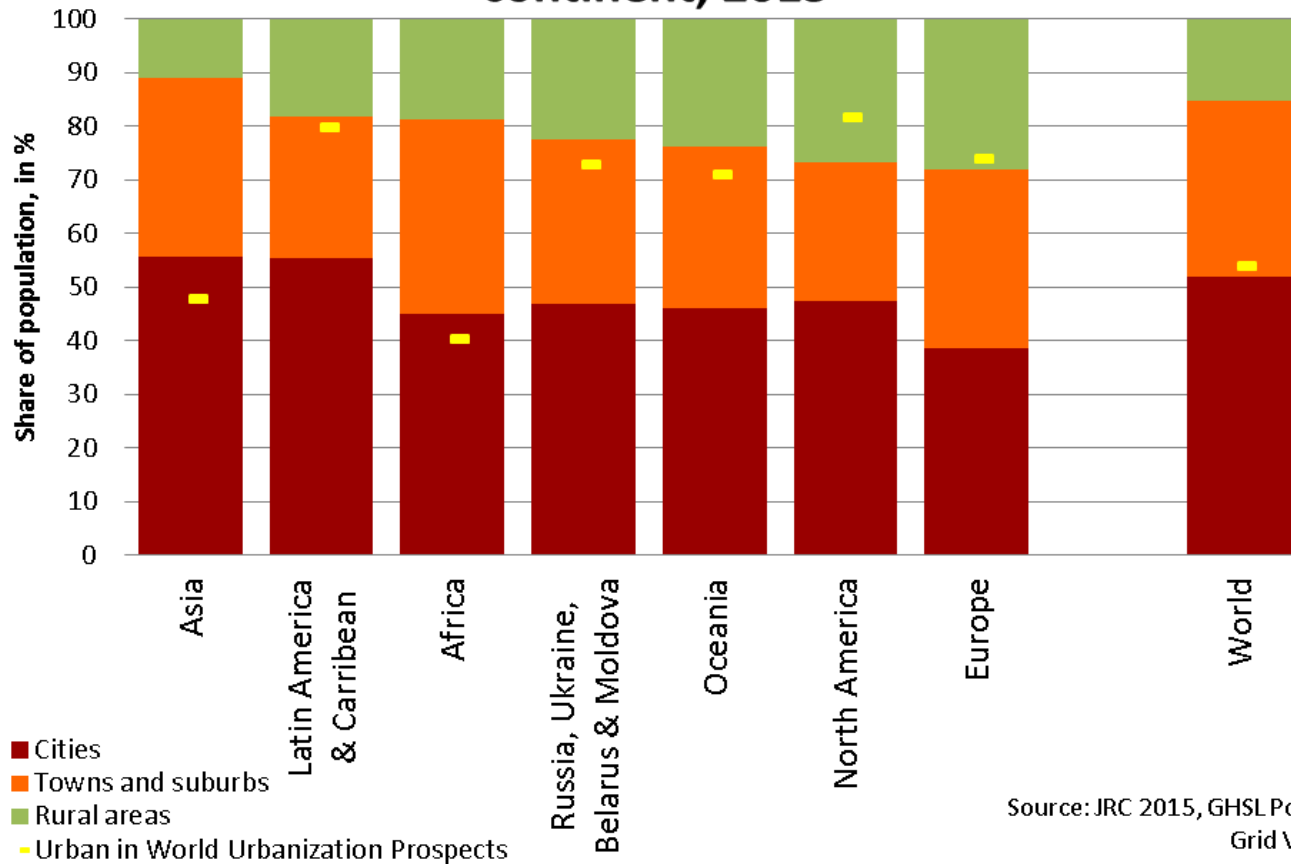
Source: CIESIN,
Columbia University

Total population by
1km grid cell



Source: JRC GHS Pop

Population by degree of urbanisation per continent, 2015



Differences compared to traditional city definitions

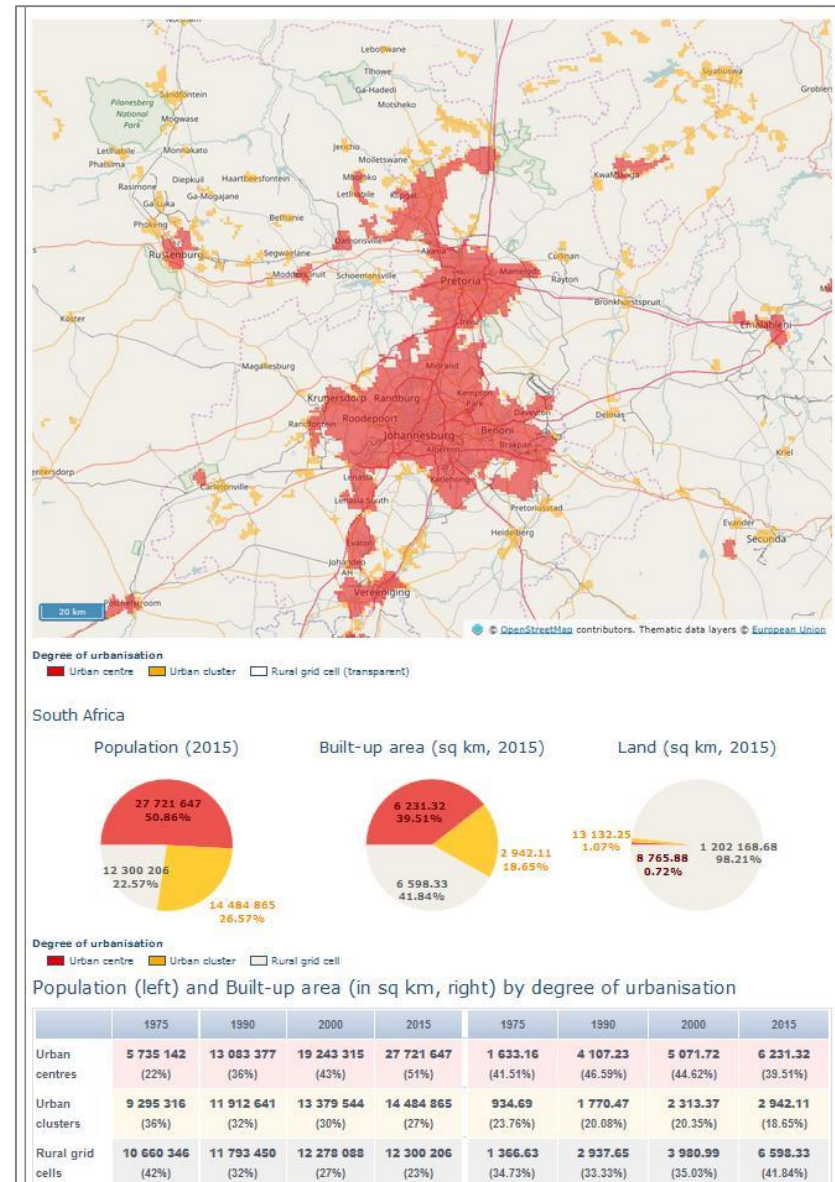
- National definitions vary substantially: minimum population threshold between 200 and 50,000
- Half of the countries do not report a definition
- How often are definitions updated?
- Uncertainties in the global grid
 - Census population not reported accurately
 - Over/underestimation of presence of buildings
 - Distortions due to combinations of different data sources

Global definition: next steps

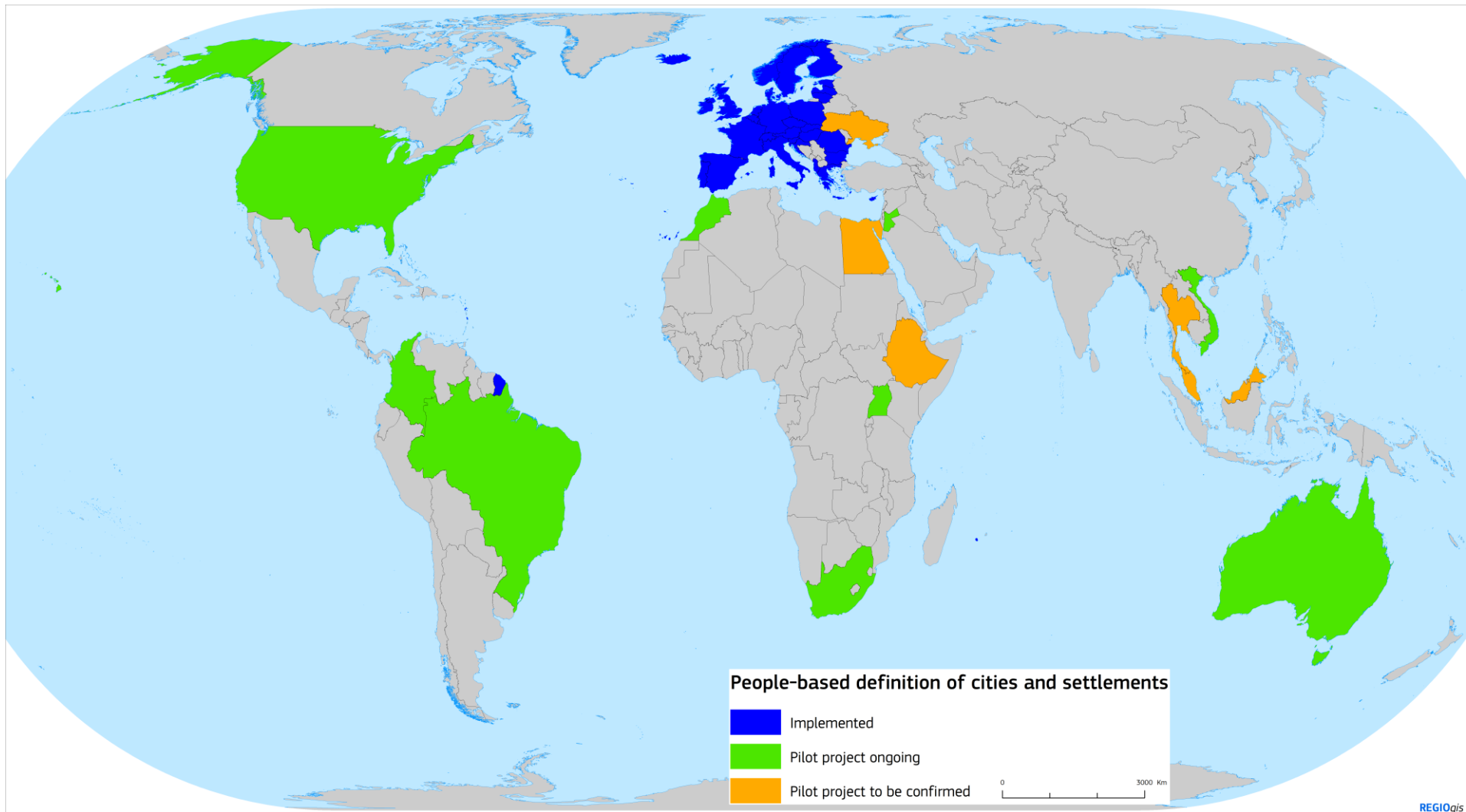
- Presentations at various conferences
- Pilot projects ongoing or forthcoming by national statistical institutes
 - Assess validity, utility and feasibility of the approach
 - Apply the method to national data sources
 - Report on the national experiences

Assessment tools

- Country factsheets presenting the modelled results at grid cell level
- Supporting the assessment by national statistical institutes of the degree of urbanisation method



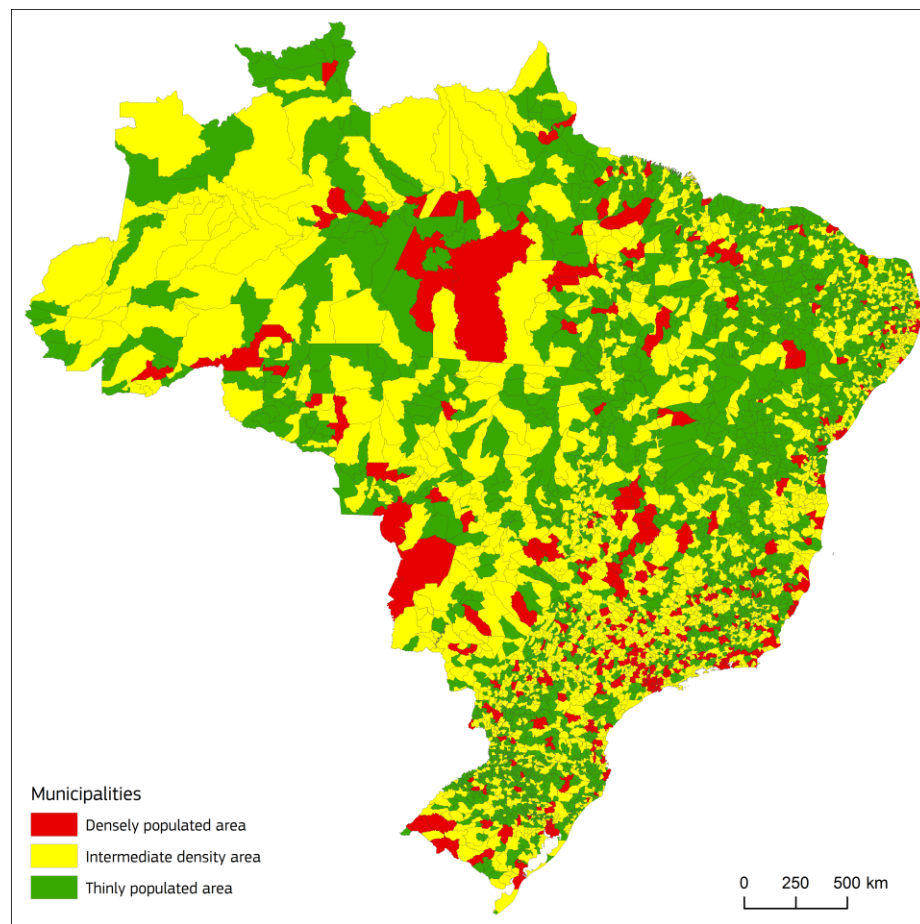
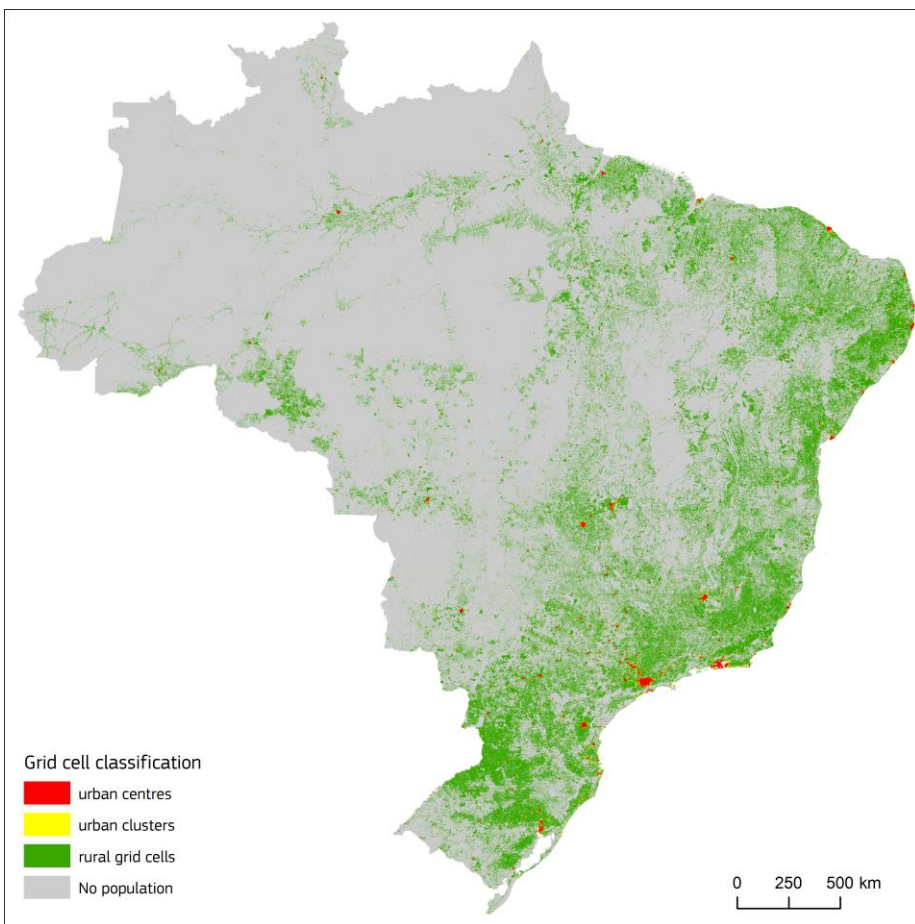
Pilot projects



Pilot projects



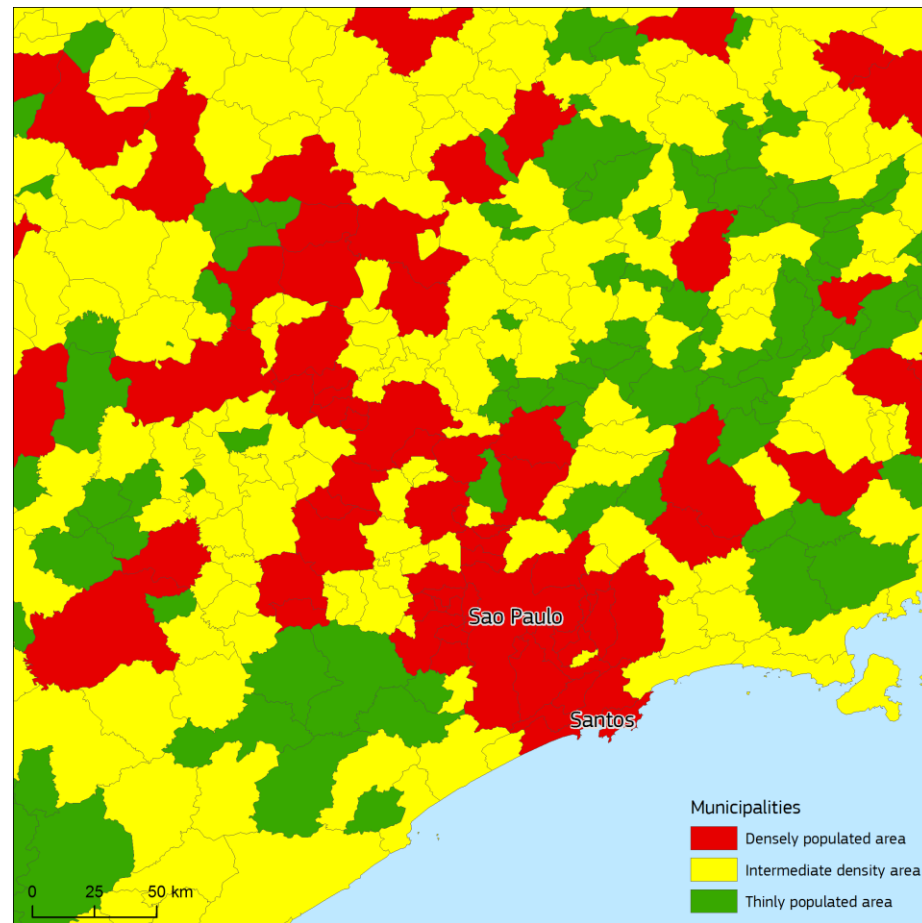
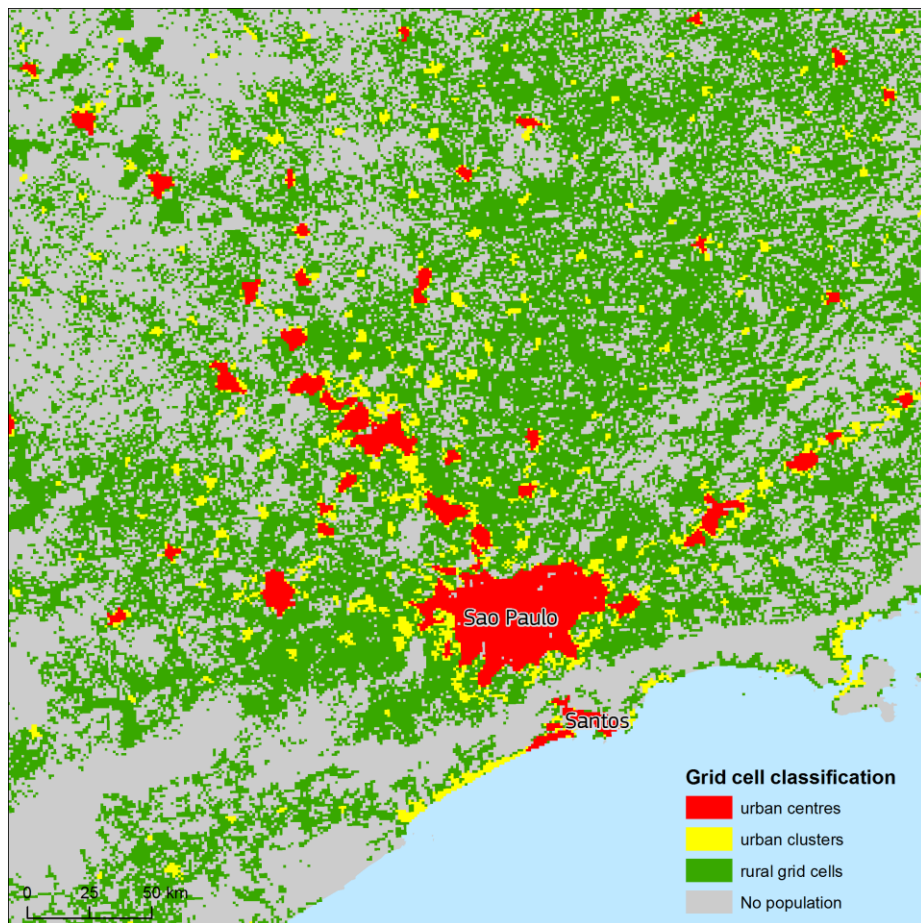
Brazil



Pilot projects

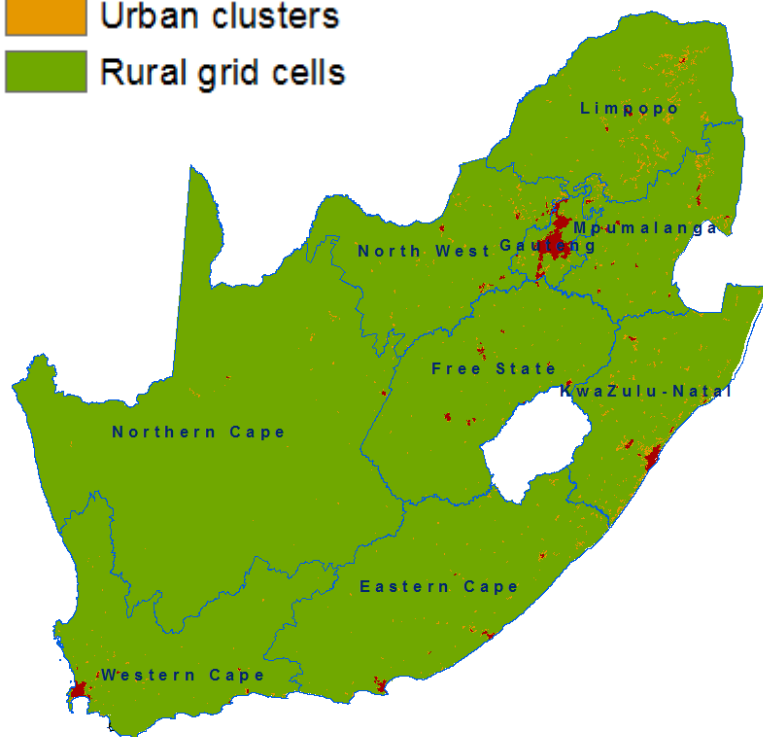


São Paulo



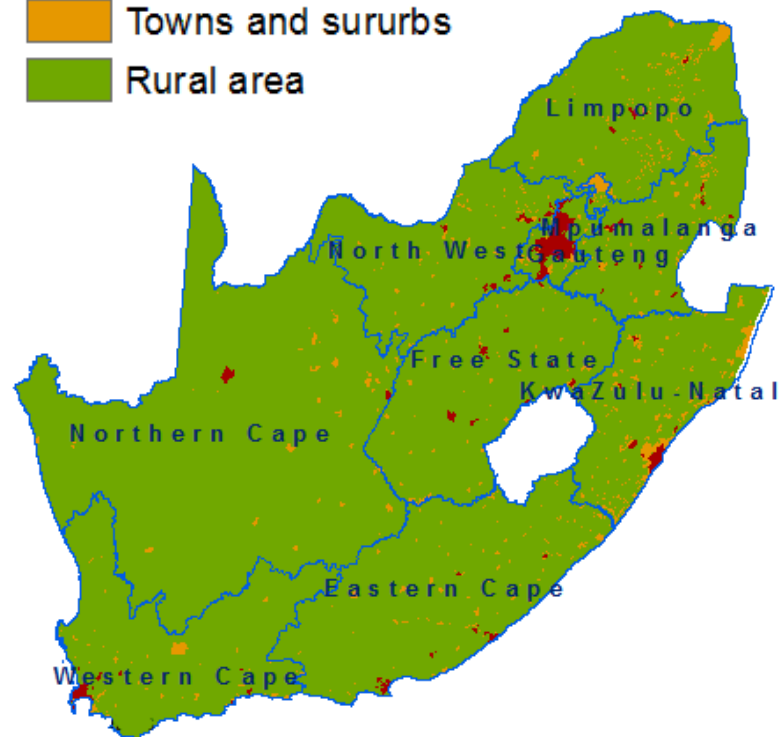
South Africa

- Urban centres
- Urban clusters
- Rural grid cells



Grid cells

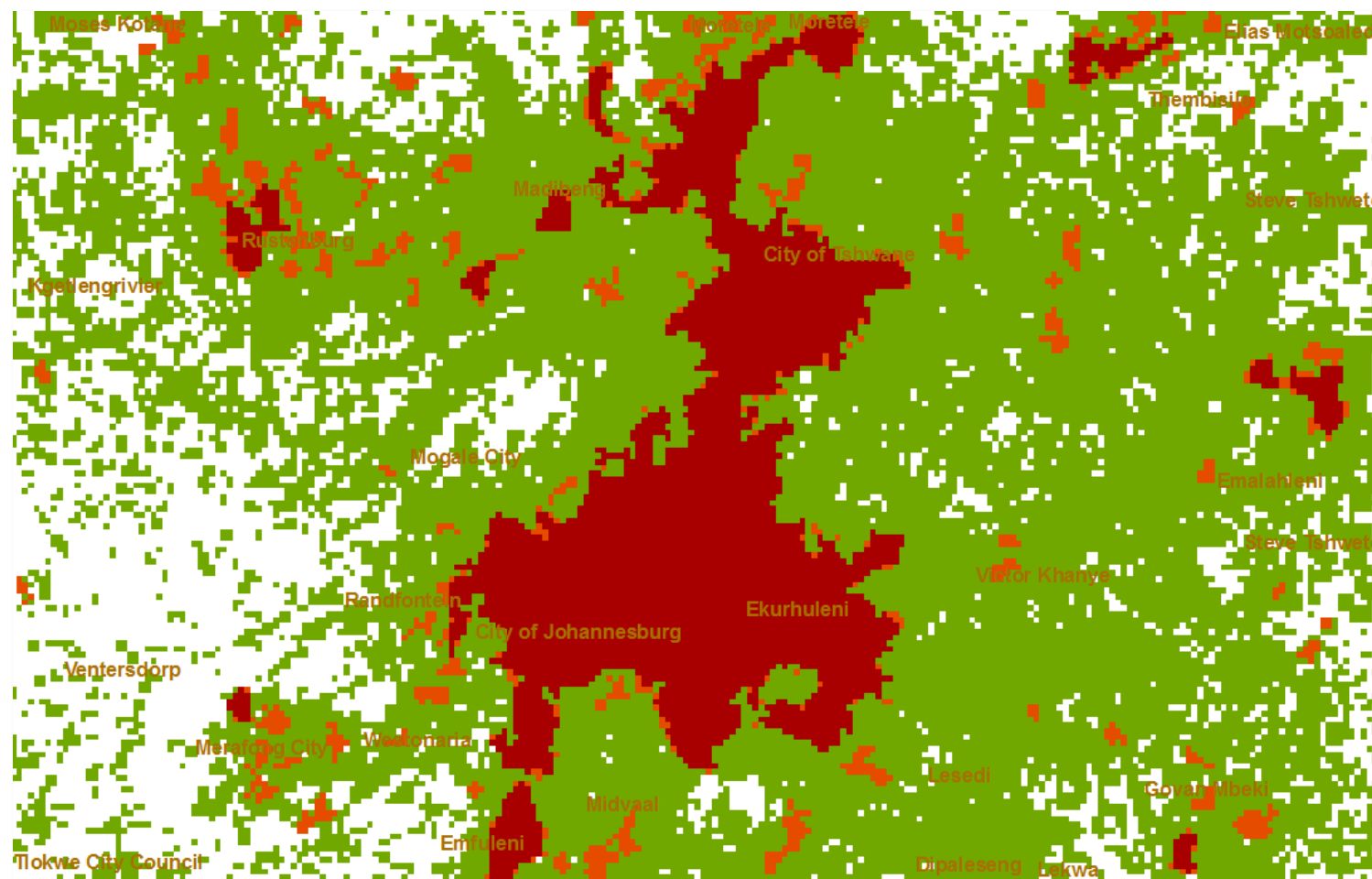
- City
- Towns and suburbs
- Rural area



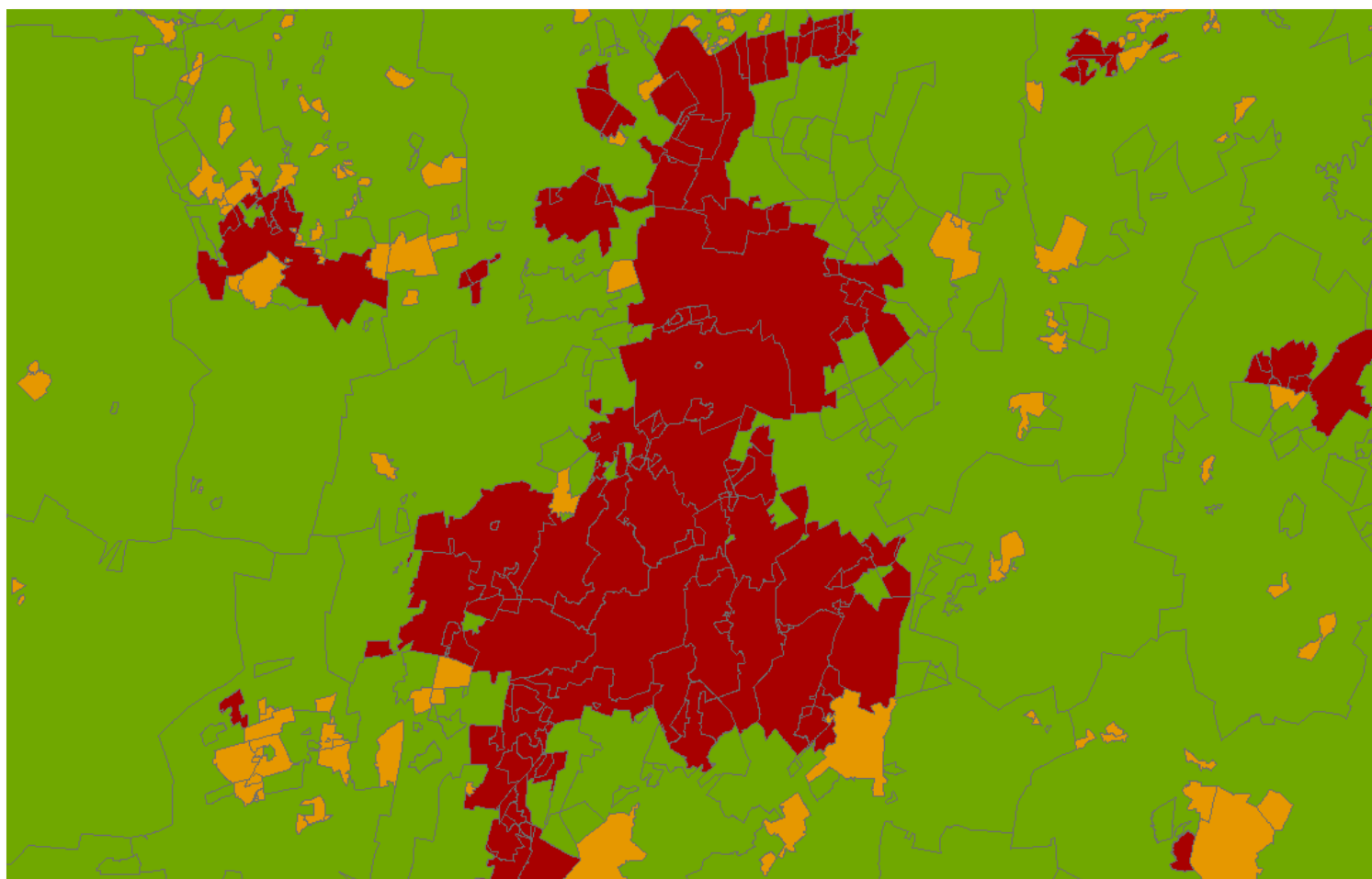
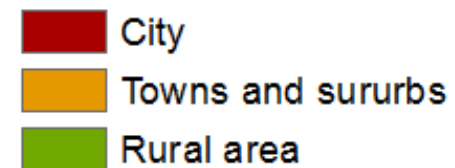
Main places

Johannesburg at grid level

- Urban centres
- Urban clusters
- Rural grid cells



Johannesburg, main places



Opportunities relative to the urban Sustainable Development Goal

- Combination of people-based city definition, spatial population distribution and land use data allows for the development of comparable spatial indicators, e.g. on access to services (open and green spaces, public transport, etc.)
- Methods have been developed using European data but can be extended/adapted for global use

Conclusion

- Harmonised city definitions improve the comparability of indicators
- Positive European experience in the uptake of the definitions
- Increasing interest in global applications of the concepts
- Promising analytical possibilities combining city concepts, settlements and population data, with the potential of more European and global use cases

More information

EU-OECD city definition:

http://ec.europa.eu/regional_policy/en/information/publications/regional-focus/2012/cities-in-europe-the-new-oecd-ec-definition

Degree of urbanisation:

http://ec.europa.eu/regional_policy/en/information/publications/working-papers/2014/a-harmonised-definition-of-cities-and-rural-areas-the-new-degree-of-urbanisation

Global Human Settlement Layer:

<http://ghsl.jrc.ec.europa.eu/degurba.php>

Country factsheets on the grid-based degree of urbanisation:

<http://ghsl.jrc.ec.europa.eu/CFS.php>

State of European cities report:

http://ec.europa.eu/regional_policy/en/policy/themes/urban-development/cities-report