Regional Focus

A series of short papers on regional research and indicators
produced by the Directorate-General for Regional Policy

Regional typologies: a compilation

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Contents

A file with all these classifications can be found here: https://circabc.europa.eu/d/d/workspace/SpacesStore/ea154527-d900-431f-b5a8-97fbea6e4b08/regtyp.xls
Please note that this link may not work with certain versions of Internet Explorer. Please try Chrome, Opera or Firefox if you encounter problems"

Introduction

This paper provides an overview of six regional typologies used in the 5th Cohesion Report[1]. The goal of each of these regional typologies is to provide an analytical and descriptive lens on these types of territories through the use of NUTS 3 data.

Not all these territories, however, can be easily identified at the NUTS 3 level, depending on the type of territory and the size and shape of the NUTS 3 region. As a result, classifications on a lower geographical level remain necessary and may capture these territories better. However, annual data availability below NUTS 3 for all of Europe is extremely limited and does not allow for regular monitoring. These typologies are not intended for direct policy use.

For each typology a short overview of the evolution of the definition, the methodology and a map are provided. Where possible, EFTA and candidate countries have been included in this paper to facilitate a wider use of these typologies. These typologies will be updated after each round of NUTS modifications.

1. Urban-rural typology including remoteness

1.1. Evolution

This is a new classification that combines elements from the OECD classification with the new urban-rural typology developed by the Commission[2].

The OECD classification was developed in the early 1990s with a three-way classification (predominantly urban; intermediate; predominantly rural) based on the population density of districts (Local Administrative Unit Level 2 or LAU2). In 2009, the OECD[3] extended its classification to include the remoteness dimension. It followed the approach developed by Dijkstra and Poelman[4] who tested such an approach for the EU and found significant socio-economic differences between rural regions close to a city and remote rural regions.

The new urban-rural typology developed by the Commission takes the OECD approach based on districts and TL3 regions and applies it to population grid cells and to NUTS 3 regions. The OECD's TL3 regions differ from NUTS 3 regions in Belgium, the Netherlands and Greece, where they are NUTS 2 regions, and in Germany, where they are spatial planning regions. The new urban-rural typology developed by the Commission does not include the remoteness dimension.

1.2. Changes and updates

This remoteness dimension has been adopted by the OECD and is not expected to change. Modifications of the road network, data about the road network, population distribution within the regions, or population size and the definition of cities, may have an impact on the classification.

The new urban-rural typology as developed by the Commission has already been presented to many stakeholders for information and comments. The Commission will assess the comments and may adapt the methodology if necessary and feasible.

This typology will be updated when a new population grid becomes available for the entire EU.

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[1] Fifth report on economic, social and territorial cohesion, European Commission, COM(2010)642, 2010, or http://ec.europa.eu/regional_policy/sources/docoffic/official/reports/cohesion5/index_en.cfm

[2] Eurostat regional yearbook 2010, European Commission, Luxembourg, Publications Office of the EU, 2010, pp. 240-253 or http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Urban-rural_typology

[3] Dijkstra, L. and Ruiz, V., Refinement of the OECD regional typology, Paris, OECD, 2010, or http://www.oecd.org/dataoecd/41/56/45511797.pdf

[4] Dijkstra, L. and Poelman H., Remote rural regions, Regional Focus 01/2008, Brussels, DG REGIO, 2008, or http://ec.europa.eu/regional_policy/sources/docgener/focus/2008_01_rural.pdf

1.3. Methodology

The urban-rural including remoteness typology classifies all NUTS 3 regions according to criteria based on population density and population distribution (urban-rural). This classification is combined with a distinction between areas located close to city centres and areas that are remote. It creates five categories of NUTS 3 regions:

1. predominantly urban regions;
2. intermediate regions, close to a city;
3. intermediate, remote regions;
4. predominantly rural regions, close to a city;
5. predominantly rural, remote regions.

Urban-rural typology

The classification is completed in three steps: identify rural area population, classify NUTS 3 regions and adjust classification based on the presence of cities.

Population in rural areas

This typology uses a simple two-step approach to identify population in rural areas:

1. Rural areas are all areas outside urban clusters
2. Urban clusters are clusters of contiguous[5] grid cells of 1 km^2 with a density of at least 300 inhabitants per km^2 and a minimum population of 5 000

Regional classification

NUTS 3 region are classified on the basis of the share of population in rural areas:

- Predominantly Rural if the share of population living in rural areas is higher than 50 %;

- Intermediate, if the share of population living in rural areas is between 20 % and 50 %;

- Predominantly Urban, if the share of population living in rural areas is below 20 %.

To resolve the distortion created by extremely small NUTS 3 regions, regions smaller than 500 km^2 are combined for classification purposes with one or more of their neighbours.

Presence of cities

In a third step, the size of the urban centres in the region is considered:

- A predominantly rural region which contains an urban centre of more than 200 000 inhabitants representing at least 25 % of the regional population it becomes intermediate.

- An intermediate region which contains an urban centre of more than 500 000 inhabitants representing at least 25 % of the regional population becomes predominantly urban.

For more details consult the Chapter in the Eurostat regional yearbook 2010[6].

Remoteness dimension

All predominantly urban regions are considered close to a city.

A predominantly rural or intermediate regions is considered remote if less than half of its residents can drive to the centre of a city of at least 50 000 inhabitants within 45 minutes. If more than half of the regions population can reach a city of at least 50 000, it is considered close to a city. For more details on the methodology please consult Regional Focus 01/2008.

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[5] *Contiguity for urban clusters includes the diagonals (i.e. cells with only the corners touching). Gaps in the urban cluster are not filled (i.e. cells surrounded by urban cells).*
[6] *Eurostat regional yearbook 2010, European Commission, Luxembourg, Publications Office of the EU, 2010, pp. 240-253 or*
http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Urban-rural_typology

Map 1: Urban-rural typology of NUTS3 regions including remoteness
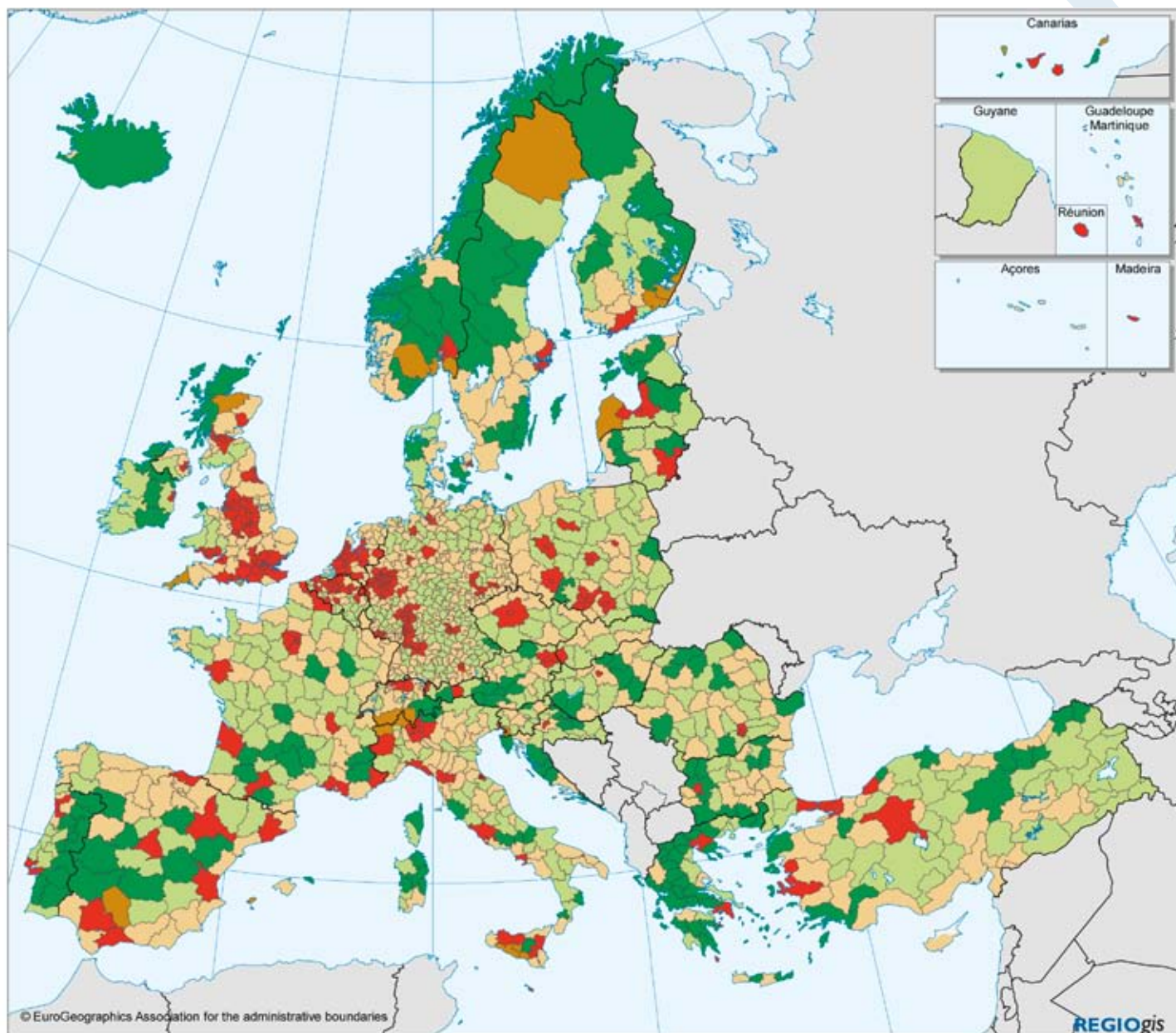
Type of NUTS3 region

- 🟥 Predominantly urban regions
- 🟧 Intermediate regions, close to a city
- 🟫 Intermediate, remote regions
- 🟩 Predominantly rural regions, close to a city
- 🟢 Predominantly rural, remote regions

Close to a city: at least 50% of the population of the region lives at less than 45 minutes travel by road to a city of at least 50 000 inhabitants.
Results for Turkey are provisional.
Sources: Eurostat, JRC, EFGS, LandScan, REGIO-GIS

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2. Metro regions

2.1. Evolution

This typology was first presented in the Green Paper on Territorial Cohesion[7] and subsequently in a Regional Focus by Dijkstra[8]. They are approximations of the Larger Urban Zones (LUZs) as used in the Urban Audit.

Subsequently, the EU metro regions were compared with the OECD metro regions. This led to a harmonisation of the definitions of the metro regions used by both organisations. The OECD metro regions cover only OECD member countries and focus exclusively on larger metro regions. The EU metro regions cover all metro regions with at least 250 000 inhabitants.

2.2. Changes and updates

A significant modification to a LUZ may result in a modification of its metro region.

The Commission is currently undertaking a review of the Urban Audit cities and their Larger Urban Zones with the goal of making them more comparable. This will be done on the basis of joint work with the OECD on a new metro area definition based on population grids and commuting data. This may result in some modifications to the LUZ and, subsequently perhaps, to its metro region as well.

2.3. Methodology

The NUTS 3-based typology of metro regions contains groupings of NUTS 3 regions used as approximations of the main metropolitan areas.

The initial methodology for the selection of the NUTS 3 components of the metro regions is based on the Urban Audit definition of Larger Urban Zones (LUZ). These LUZs contain the major cities and their surrounding travel-to-work areas. LUZs are defined as groupings of existing administrative areas (often LAU2 units). Their boundaries do not necessarily coincide with those of NUTS 3 regions. Consequently, NUTS 3 regions in which at least 50% of the regional population lives inside a given LUZ were considered to be the components of the metro region related to that LUZ.

Hence, the quality of the territorial approximation depends on the average size of the NUTS 3 regions concerned.

In cooperation with the OECD, refined versions of the methodology are being tested, using population distribution at a fine level of disaggregation (1 km²) to identify the cores of the metro regions. Census-based local commuting data are then used to define contiguous areas around the cores, where substantial levels of commuting to these cores occur.

This approach has resulted in revised definitions of the extent of several metro regions.

The typology distinguishes three types of metro regions:

1. capital city regions;
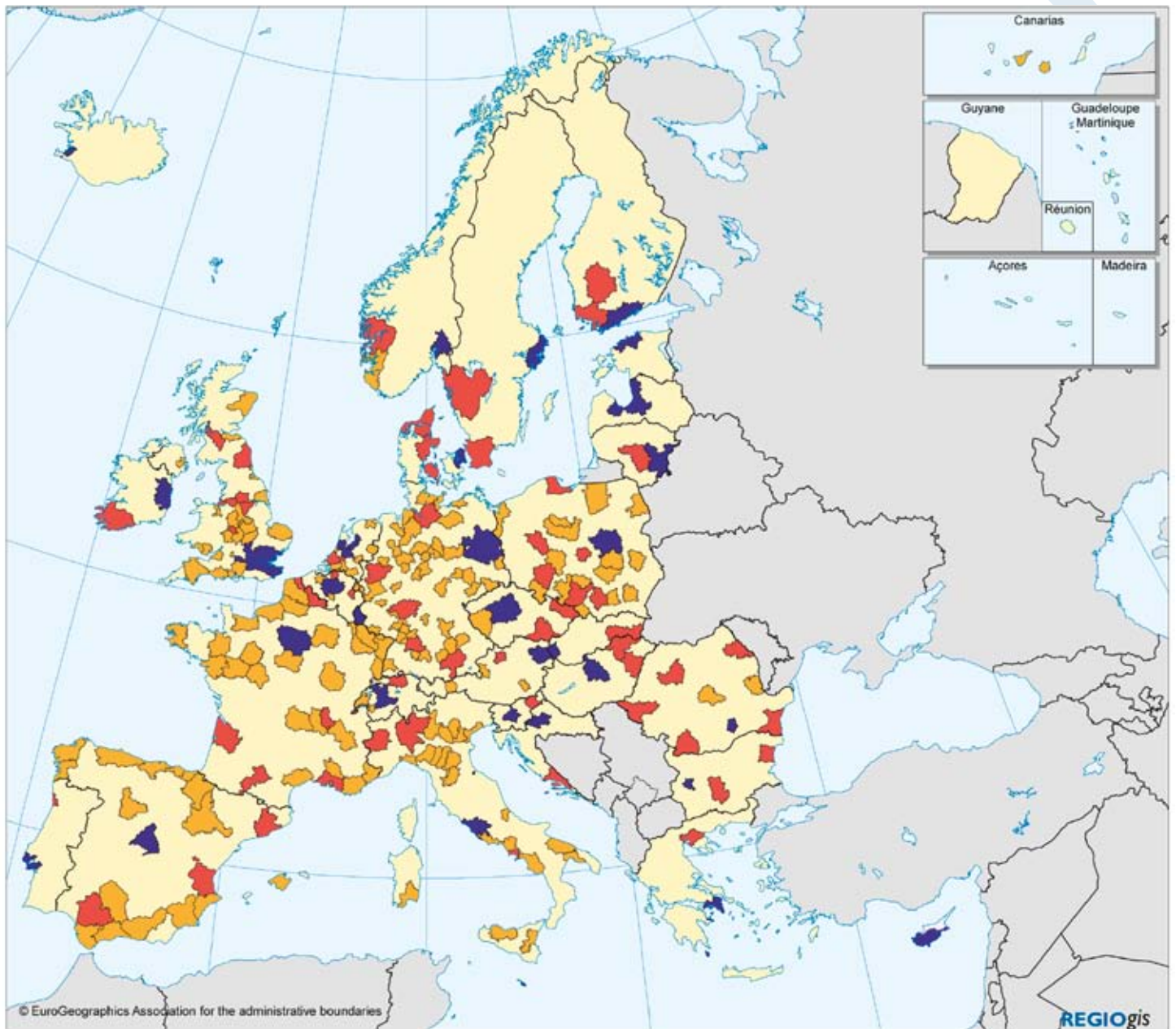2. second-tier metro regions;
3. smaller metro regions.

The capital city region is the metro region which includes the national capital.

Second-tier metro regions are the group of largest cities in the country excluding the capital. For this purpose, a fixed population threshold could not be used. As a result, a natural break served the purpose of distinguishing the second tier from the smaller metro regions. The distinction between second tier and smaller metro regions may be adapted in future to provide a closer match with the distinctions used in, especially national, policy debates.

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[7] Green Paper on Territorial Cohesion: Turning diversity into strength, European Commission, COM(2008)616, 2008, or http://ec.europa.eu/regional_policy/consultation/terco/index_en.htm

[8] Dijkstra, L., Metropolitan regions in the EU, Regional Focus 01/2009, Brussels, DG REGIO, 2009, or http://ec.europa.eu/regional_policy/sources/docgener/focus/2009_01_metropolitan.pdf
Commission Decisions 2006/769/EC and 2007/190/EC.

Map 2: Typology of metro regions

Type of metro region

- Capital city region
- Second tier metro region
- Smaller metro region

Metro regions definition v.2009
Sources: Eurostat, DG REGIO

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3. Border regions

3.1. Evolution

This classification is based on the 2007-2013 cross-border cooperation programmes. Compared to the previous Cohesion Policy period, the biggest differences are due to the accession of 12 Member States and the inclusion of a new type of border region: NUTS 3 regions along maritime borders separated by a maximum distance of 150 km.

Initial classifications were based on the list of eligible NUTS 3 regions as included in the regulation[9] based on the previous NUTS classification. Now that all the programmes are up and running, the classification described here is based on the new NUTS classification and on actual programme participation.

3.2. Methodology

The NUTS 3-based selection of border regions refers to the regions participating in the core areas of cross-border cooperation programmes in the programming period 2007-2013.

This includes:

- programme areas of cross-border programmes co-financed by ERDF under the European territorial cooperation objective;

- areas of the cross-border cooperation component of IPA (Instrument for Pre-Accession Assistance);

- areas of the cross-border cooperation programmes within ENPI (European Neighbourhood and Partnership Instrument).

The typology lists regions according to the current NUTS classification (valid from 1/1/2008 to 31/11/2011). Some programme areas have been determined on the basis of a former NUTS classification. Due to NUTS boundary changes, some current NUTS 3 regions are only partly eligible as programme areas.

The typology does not consider areas adjacent to the core programme areas, i.e. the 'flexibility areas' referred to in Art. 21(1) of Regulation 1080/2006 of 05/07/2006.

Two main types of border regions can be distinguished:

1. internal border regions – these regions are located on borders between EU Member States and/or European Free Trade Area (EFTA) countries;

2. external borders – these regions participate in programmes involving countries outside both the EU and EFTA.

Sources: programme documents (Directorate-General for Regional Policy, Enlargement and External Relations).

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[9] *NORDREGIO, Mountain Areas in Europe: analysis of mountain areas in EU Member States, acceding and other European countries, European Commission contract No 2002.CE.16.0.AT.136, Final report, 2004.*

Map 3: Cross-border cooperation programme areas (ERDF, IPA and ENPI), 2007-2013
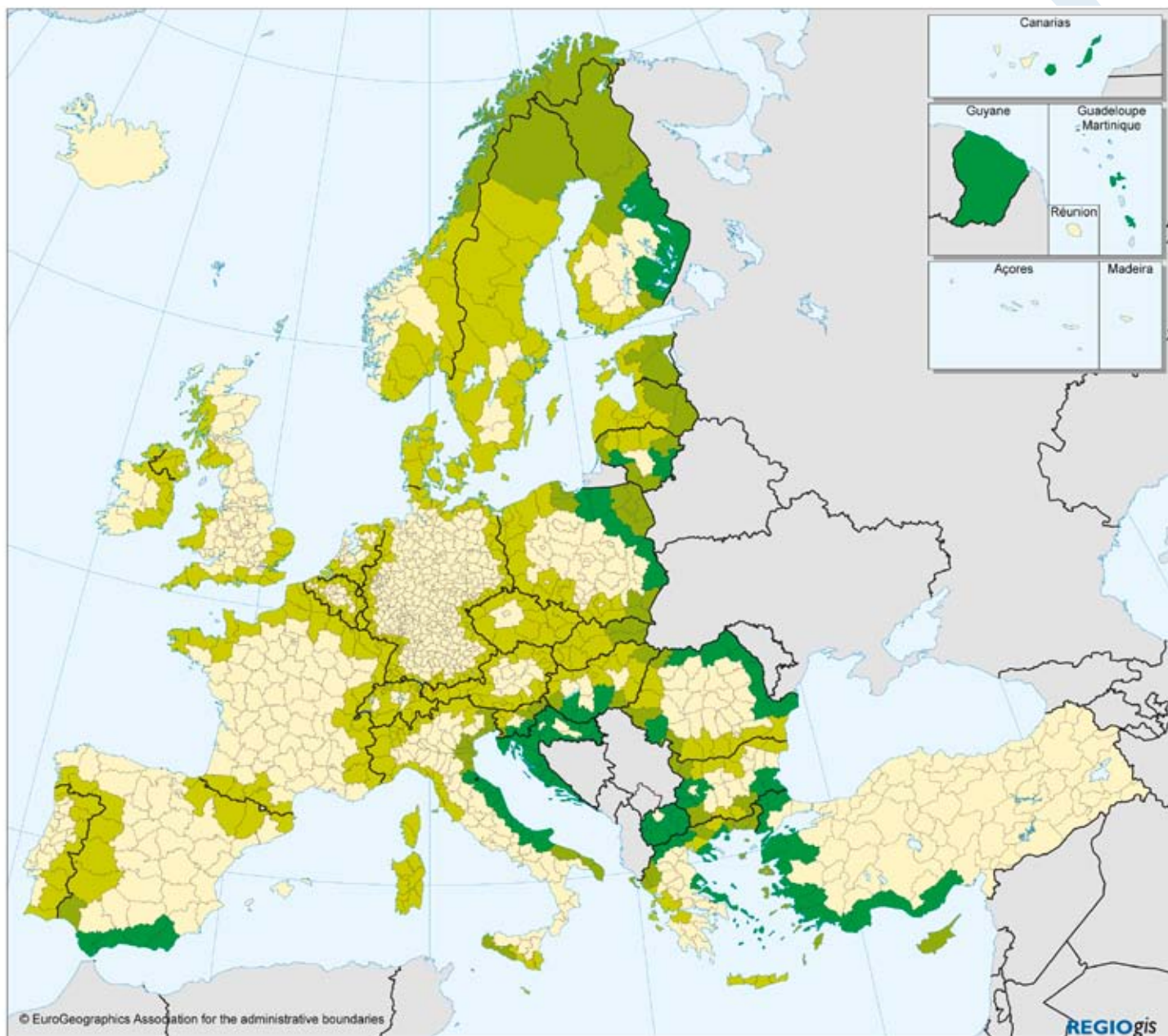
NUTS3 regions

- internal border programmes (and assimilated)
- external border programmes
- internal and external border programmes
- other regions

Excluding adjacent regions
Source: DG REGIO, DG ELARG, DG RELEX

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4. Mountain regions

4.1. Evolution

The first typology of mountain areas in Europe was developed by Nordregio[10]. The typology, used for analytical purposes, defined LAU2 units as 'mountain municipalities' if more than 50% of their surface was covered by selected topographic mountain areas (criteria: see 5.2).

For the Green Paper on Territorial Cohesion, an alternative approach was needed, as annual socio-economic data sets at NUTS 3 regional level were the only recent sources of information. As a result, the Green Paper defined a NUTS 3 region as a mountain region if the majority of the population lived in a mountain grid cell.

Ultimately, this typology was modified for the 5th Cohesion Report[1] to take into account mountain regions in which the majority of the surface was classified as mountainous even if the majority of the population lived in non-mountainous grid cells. This approach allows a distinction between regions with a predominantly mountainous surface and a predominantly mountainous population.

If an analysis focuses on the impact on people of living in mountainous areas, the mountain regions with a majority of their population living in a mountain area are the most appropriate. If a study wants to measure the impact on land use or other environmental issues of mountainous conditions, the regions with a majority of mountainous surface would be the most appropriate.

This classification is now stable.

4.2. Methodology

Mountain regions at NUTS 3 level are defined as regions in which more than 50% of the surface is covered by topographic mountain areas, or in which more than 50% of the regional population lives in these topographic mountain areas.

The study on mountain areas in Europe defines topographic mountain areas using the following criteria:

- above 2500m, all areas are included within the mountain delimitation;

- between 1500m and 2500m, only areas with a slope of over two degrees within a 3 km radius are considered mountainous.

Between 1000m and 1500m, areas had to justify one of two sets of criteria in order to be considered mountainous. The first of these is that the slope within a 3 km radius should exceed five degrees. If the slope is less steep than this, the area can still be considered mountainous if elevations encountered within a radius of 7 km vary by at least 300 metres. If neither of these two sets of criteria is met, the area is considered non-mountainous.

Between 300m and 1000m, only the latter of the two previous sets of criteria is applied. This means that only areas in which elevations encountered within a radius of 7 km vary by at least 300 metres are considered mountainous.

Below 300m, the objective was to identify areas with strong local contrasts in topography, such as Scottish and Norwegian fjords and Mediterranean coastal mountain areas. Selecting areas according to the standard deviation of elevations in the immediate vicinity of each appeared to be the best approach for the inclusion of these types of landscape. For each point of the digital elevation model, the standard deviation from the eight cardinal points surrounding it (North – North-East – East – South-East – South – South-West – West – North-West) was calculated. If this standard deviation is greater than 50 metres, the landscape is sufficiently undulating to be considered mountainous despite its low elevation.

The typology of NUTS 3 mountain regions distinguishes three categories:

1. regions with more than 50% of their population living in mountain areas;

2. regions with more than 50% of their surface covered by mountain areas;

3. regions with more than 50% of their surface covered by mountain areas, and with more than 50% of their population living in mountain areas.

Sources:
- *geometry of topographic mountain areas: Nordregio, DG REGIO;*
- *geometry of NUTS3 regions: Eurostat-GISCO;*
- *distribution of regional population: JRC (population disaggregation grid), EFGS population grids (for selected countries).*

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[10] *Portrait of Islands, European Commission, Eurostat, 1994.*

Map 4: Typology of mountain regions at NUTS3 level
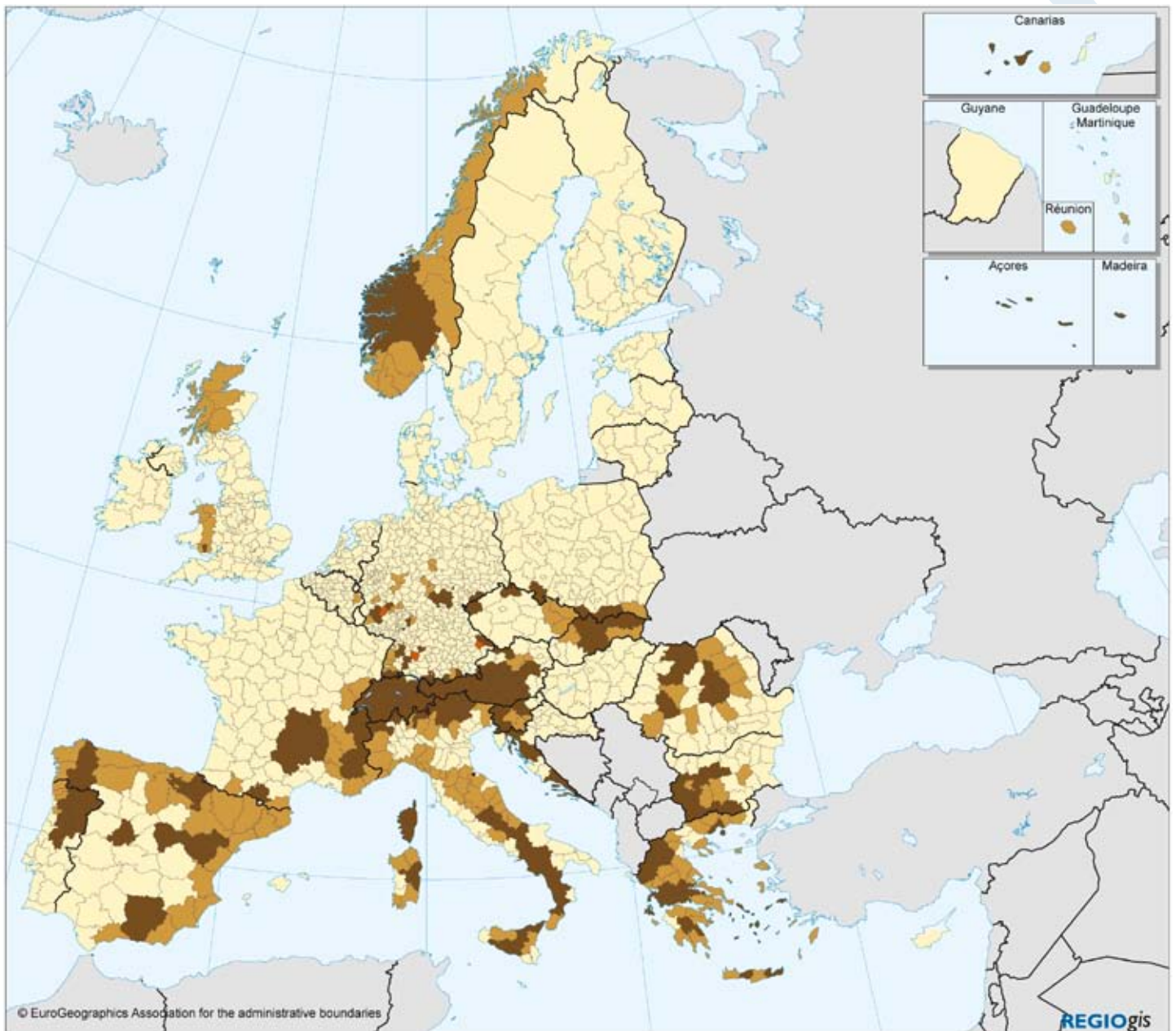
Share of mountain area in NUTS3 region

- ■ > 50 % of population
- ■ > 50 % of surface
- ■ > 50 % of population and 50 % of surface
- □ Other regions

Sources: Eurostat, JRC, EFGS, DG REGIO

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5. Island regions

5.1. Evolution

Islands were defined by a Eurostat publication study *Portrait of the Island'*[11] in 1994, which excluded islands with a national capital. This was subsequently used in a DG REGIO study to define island regions[12]. Within the EU-15 the only impact was to exclude Ireland and the UK (prior to the construction of the Channel Tunnel) as an 'island'. To ensure access to annual data, a regional approximation of islands was made focusing on regions whose entire populations lived on an island[13]. This is the definition used in the Green Paper on Territorial Cohesion[14].

Subsequently, this definition was modified to include Malta and Cyprus as island regions despite the presence of a national capital. The modification in this paper was intended to include islands with a national capital if the country was eligible for the Cohesion Fund[15].

Ultimately, the methodology was modified for the 5th Cohesion Report to simplify and harmonise the definition[16]. The criteria relating to the presence of a national capital and Cohesion Fund eligibility were both discarded.

This classification is now stable.

5.2. Methodology

Island regions are NUTS 3 regions entirely covered by islands.

In this context, islands are defined as territories having:

- a minimum surface of 1 km^2;

- a minimum distance between the island and the mainland of 1 km;

- a resident population of more than 50 inhabitants;

- no fixed link (bridge, tunnel, dyke) between the island and the mainland.

NUTS 3 island regions can correspond to a single island, or can be composed of several islands, or can be part of a bigger island containing several NUTS 3 regions.

The typology of NUTS 3 island regions distinguishes five categories, depending on the size of the major island related to the NUTS 3 region:

1. regions where the major island has less than 50 000 inhabitants;

2. regions where the major island has between 50 000 and 100 000 inhabitants;

3. regions where the major island has between 100 000 and 250 000 inhabitants;

4. regions corresponding to an island with 250 000 to 1 million inhabitants, or being part of such an island;

5. regions being part of an island with at least 1 million inhabitants.

Sources:
- *NUTS 3 geometry: Eurostat-GISCO;*
- *population: Eurostat (regional population, population at LAU2 level), national statistical offices.*

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[11] *Analysis of the island regions and outermost regions of the European Union, Final report of the study conducted for the European Commission, Planistat, 2006.*

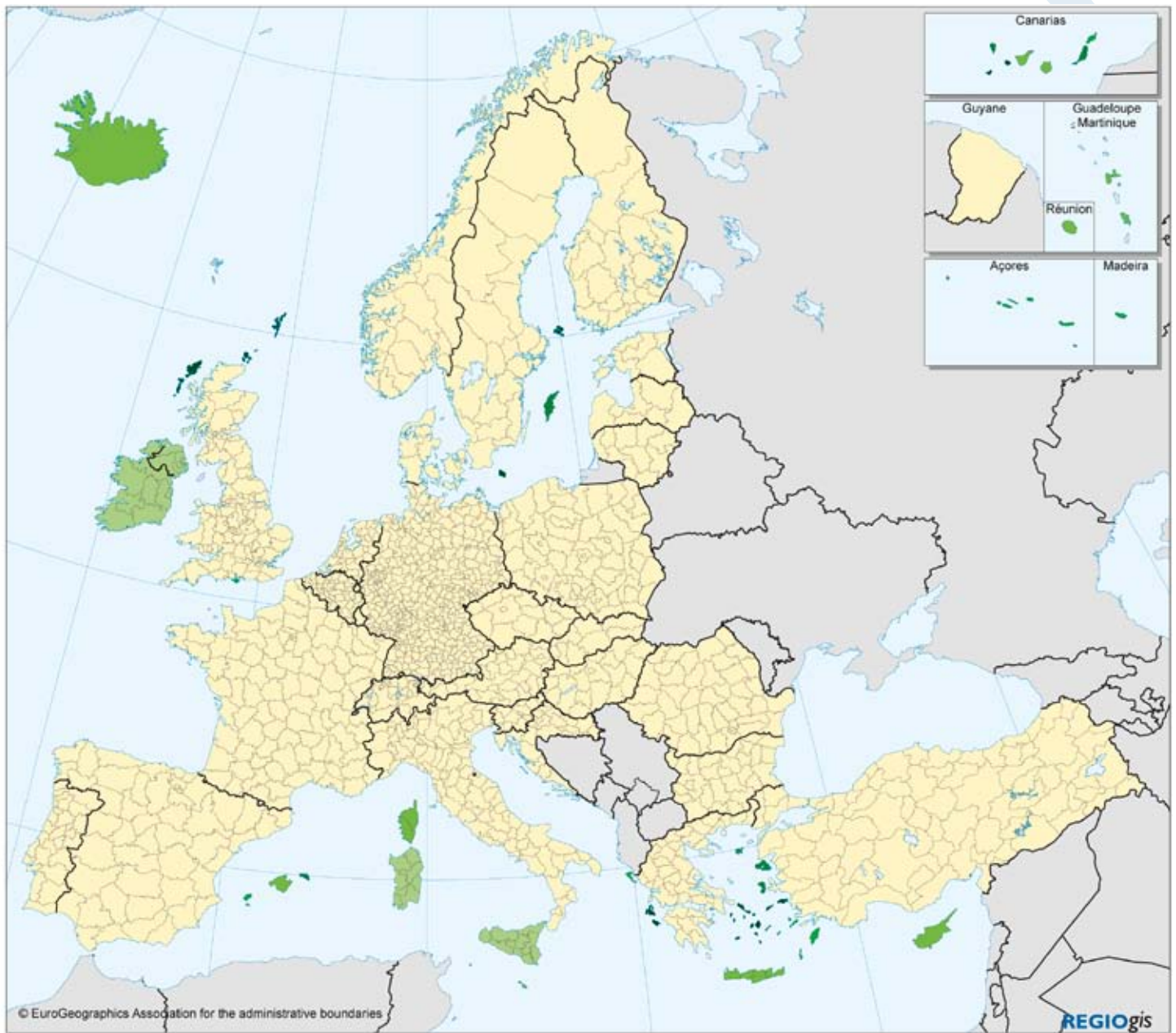[12] *In all other NUTS 3 regions the share of population living on an island is well below 50%.*

[13] *Monfort, P., Territories with specific geographical features, Working Paper 02/2009, Brussels, DG REGIO, 2009, or http://ec.europa.eu/regional_policy/sources/docgener/work/2009_02_geographical.pdf*

[14] *Green Paper on Territorial Cohesion: Turning diversity into strength, European Commission, COM(2008)616, 2008, or http://ec.europa.eu/regional_policy/consultation/terco/index_en.htm*

[15] *Monfort, P., Territories with specific geographical features, Working Paper 02/2009, Brussels, DG REGIO, 2009, or http://ec.europa.eu/regional_policy/sources/docgener/work/2009_02_geographical.pdf*

[16] *Fifth report on economic, social and territorial cohesion, European Commission, COM(2010)642, 2010, or http://ec.europa.eu/regional_policy/sources/docoffic/official/reports/cohesion5/index_en.cfm*

Map 5: Typology of island regions

Type of NUTS3 region

- major island < 50,000 inhabitants
- major island between 50,000 and 100,000 inh.
- major island between 100,000 and 250,000 inh.
- island with 250,000 - 1 million inhabitants
- island with >= 1 million inhabitants
- other regions

Sources: Eurostat, NSO, DG REGIO

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6. Sparsely-populated regions

6.1. Evolution

This definition has not changed during the current Cohesion Policy programming period.

6.2. Methodology

Sparsely-populated regions are regions with a population density below a certain threshold. Paragraph 30(b) of the Guidelines on national regional aid for 2007-2013[17] defines low population density regions as *'areas made up essentially of NUTS 2 geographic regions with a population density of less than 8 inhabitants per km², or NUTS 3 geographic regions with a population density of less than 12.5 inhabitants per km²'*. In the Cohesion Report, the analysis was based on the NUTS 3 regions.
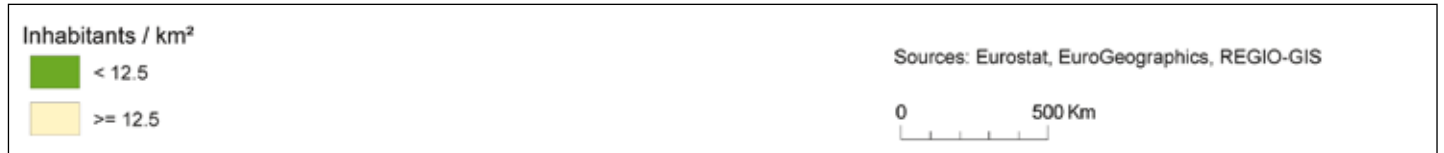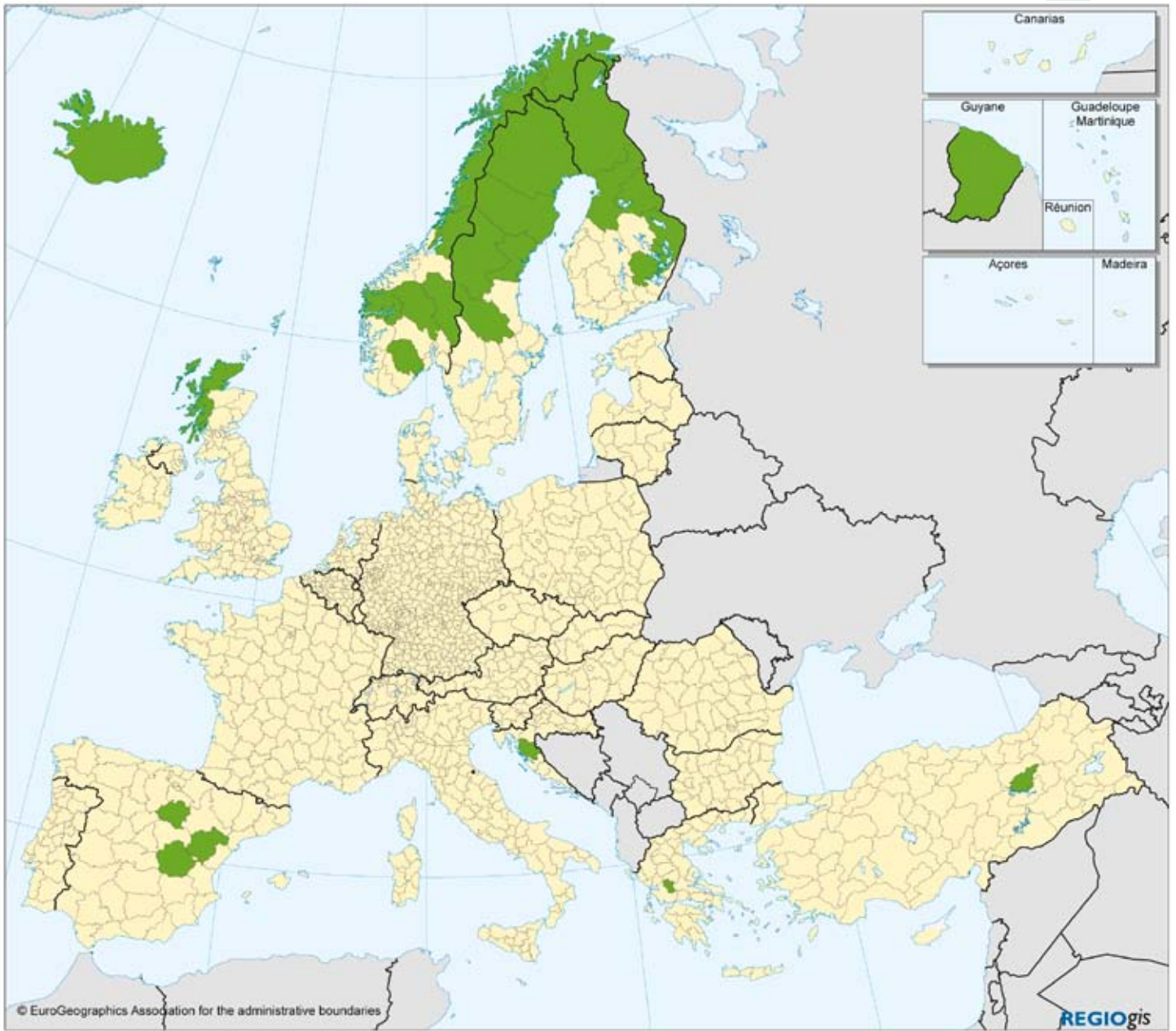
As a result, sparsely-populated areas are defined as NUTS 3 regions with a population density of fewer than 12.5 inhabitants per km².

Sources:
- *land area: Eurostat;*
- *population: Eurostat.*

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[17] *http://eur-lex.europa.eu/LexUriServ/site/en/oj/2006/c_054/c_05420060304en00130044.pdf*

Map 6: Sparsely populated NUTS3 regions, 2007

Inhabitants / km²

■ < 12.5

□ >= 12.5

Sources: Eurostat, EuroGeographics, REGIO-GIS

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