Methodological manual on territorial typologies

2018 edition

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Methodological manual on territorial typologies

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Abstract

This *Methodological manual on territorial typologies* provides information that data suppliers concerned with subnational statistics within the European Union (EU) need to ensure coherency and comparability. It also helps end-users understand and interpret the wide range of official statistics that are available at a subnational level for different areas and regions of the EU.

The publication marks an important milestone as it reflects legislative developments — through an initiative called Tercet — which integrated the most relevant territorial typologies into a consolidated and amended NUTS Regulation at the start of 2018.

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Introduction

Purpose of this publication

Reliable and comparable datasets for different territorial typologies can only be produced on the basis of coherent building blocks. Location is a key attribute to virtually all official statistics: it provides the structure for collecting, processing, storing, analysing and aggregating data. The framework provided by a specific geographic feature, such as a national border, or proximity to a coastline, is often the only feature shared by different datasets. Moreover, location is a concept that most people are comfortable with, as statistics on specific areas help people to understand the relevance of particular statistics.

Eurostat's *Methodological manual on territorial typologies* has been principally designed as a guide for data suppliers within the European Union (EU) so that they have the necessary information to ensure coherency within their data collections. It may also be of interest to users of subnational statistics so they may better understand and interpret the wide range of official statistics that are available at a subnational level for the EU.

The decision to make this publication reflects an important milestone concerning legislative developments: an amending Regulation (EU) 2017/2391 of the European Parliament and of the Council was adopted on 12 December 2017 as regards territorial typologies (Tercet), followed on 18 January 2018 by a consolidated and amended version of Regulation (EC) No 1059/2003 of the European Parliament and of the Council on the establishment of a common classification of territorial units for statistics (NUTS). Prior to the Tercet initiative, these territorial typologies and their related methodologies did not have any legal basis and they were, as such, not formally recognised by the European statistical system (ESS). These issues were subsequently addressed with subnational statistics now having a legal basis that is developed around a set of impartial and transparent territorial typologies. The main objectives of Tercet included, among others:

- establishing a legal recognition of territorial typologies for the purpose of European statistics by laying down core definitions and statistical criteria;
- integrating territorial typologies into the NUTS Regulation so that specific types of territory could be referred to in thematic statistical regulations or policy initiatives, without the need to (re-)define terminology such as cities, urban or coastal areas;
- ensuring methodological transparency and stability, by clearly promoting how to update the typologies.

To mark the end of this period of legislative developments, Eurostat has compiled this exhaustive guide providing information on the latest territorial typologies used for official statistics within the EU. The publication is structured following these legislative developments:

- it starts with this **introduction**, providing an overview of the typologies presented, details concerning the basic building blocks that are used to construct these typologies, and some background as to the various uses that can be made of subnational statistics;
- this is followed by an explanation of **cluster types** (**Part A**) — which are related groups of 1 km^2 grid cells that share the same characteristics in terms of their population density;
- the main body of the manual contains detailed explanations for the two main types of territorial typologies that are covered in Tercet-related legislation:
  - **local typologies** (**Part B**) — which presents a range of typologies that are based on data for local administrative units (LAUs);
  - **regional typologies** (**Part C**) — which presents a range of typologies that are based on regional data classified according to NUTS level 3;
- the last main part presents a number of **other regional typologies** that are not currently covered by legislation (**Part D**), where further development work and/or agreement with other European Commission services is required before a legislative basis might be established; these typologies are also based on regional data classified according to NUTS level 3;
- the publication concludes with an annex for regional typologies that are based on NUTS level 3, as well as a list of abbreviations and acronyms.

Overview of typologies

Most economic, social and environmental situations and developments have a specific territorial dimension — they are located in a fixed place — dependent, to some degree, upon a range of territorial resources, for example, transport or communications networks, access to services, as well as natural and human resources. Such geospatial diversity makes analysing different territories a complex task. In order to cast some light on territorial patterns, Eurostat has expanded its range of statistics that are published for territorial typologies.

A broad range of territorial typologies were integrated into the NUTS Regulation in December 2017, underlining the importance of subnational statistics as an instrument for targeted policymaking and a tool for understanding and quantifying the impact of policy decisions in specific territories. The Regulation provides a legal basis for the use of 1 km^2 grid cells,

Key terms

There are a number of key terms which appear in several places throughout this *Methodological manual on territorial typologies*. A short definition of these key terms is provided here before going into more detail later in this introduction (see *Overview of typologies* and *Building blocks for typologies* for more detailed definitions/descriptions).

Clusters: groups of grid cells that conform to a particular criterion in relation to their population density. For example, similar grid cells may be grouped into rural grid cells, urban clusters (moderate-density clusters) or urban centres (high-density clusters).

Local administrative units (LAUs): a system for dividing up a territory for the purpose of developing statistics at a local level. These units are usually low level administrative divisions within a country, ranked below a province, region, or state.

Classification of territorial units for statistics (NUTS): a territorial classification that subdivides the territory of the EU into three different hierarchical levels — NUTS level 1, level 2 and level 3 respectively — detailing larger to smaller territorial units. The NUTS is based on Regulation (EC) No 1059/2003 of the European Parliament and of the Council of 26 May 2003 on the establishment of a common classification of territorial units for statistics (NUTS), which is regularly updated. A consolidated version of the latest (amended) legislative text is available at: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:02003R1059-20180118.

Population grid: a lattice composed of 1 km^2 grid cells overlaying a particular territory, for which information is collected relating to the number of inhabitants. These grids are a powerful tool to describe the spatial distribution of population which may be used to analyse the interrelationships between human activities and the environment. The grid is stable over time, not dependant on changes in administrative boundaries and may be used for spatial aggregations to various territories of interest.

Region: a term with two distinct meanings in a statistical context. For the purpose of this Methodological manual on territorial typologies a region refers to a geographical area at a subnational level based on NUTS. Although not used in this publication, a region may also refer to a supranational level, as in a region of the world (for example, Latin America, south-east Asia, or indeed the EU).

local administrative units (LAUs) and NUTS, as well as providing information as to how each of these concepts relates to establishing a complementary set of territorial typologies. By integrating these territorial typologies into a single legal text, it is hoped that they will be applied consistently and harmoniously, making it possible for them to be cross-referenced from other acts and programmes.

Figure 0.1 presents an overview of the main territorial typologies that have been developed, often in conjunction with other European Commission services and/or other international organisations. At the most basic level, these concepts can be split into three different groups, covering grid typologies, local typologies and regional typologies.

Grid typologies: Eurostat collects population statistics based on 1 km^2 grid cells. These very detailed statistics are used to establish various cluster types — namely, urban centres, urban clusters and rural grid cells.

Local typologies: based on statistics for local administrative units (LAUs) which generally comprise municipalities or communes across the EU. Statistics for LAUs may be used to establish local typologies including the degree of urbanisation (cities; towns and suburbs; rural areas); functional urban areas (cities and their surrounding commuting zones); coastal areas (coastal and non-coastal areas).

Regional typologies: statistics that are grouped according to the classification of territorial units for statistics (NUTS); they provide information at a relatively aggregated level of detail, with data presented for NUTS level 1, level 2 and level 3 regions respectively, detailing larger to smaller territorial units. Only the most detailed statistics at NUTS level 3 are used as building blocks to establish the urban-rural typology (predominantly urban regions, intermediate regions and predominantly rural regions), the metropolitan typology (metropolitan and non-metropolitan regions), the coastal typology (coastal and non-coastal regions), each of which has a legislative basis. There are three other regional typologies (covered in this manual) for which there is, at present, no legal basis: the border typology (border and non-border regions), the island typology (island and non-island regions) and the mountain typology (mountain and non-mountain regions). The EU also has a number of outermost regions (defined by Article 349

Figure 0.1: Territorial typologies — an overview

	Geographical level	Basic territorial typologies	Urban typologies	Coastal typology	Border typology	Island typology	Mountain typology
Regional typologies:	**NUTS 1 regions**						
	NUTS 2 regions						
	NUTS 3 regions	**Urban-rural typology:** predominantly urban regions; intermediate regions; predominantly rural regions	**Metropolitan regions**	Coastal regions	Border regions	Island regions	Mountain regions
Local typologies:	**Local administrative units (LAU)**	**Degree of urbanisation (1):** cities; towns and suburbs; rural areas	**City definitions:** cities; functional urban areas (FUA) = cities and their commuting zones	Coastal areas			
Grid typologies:	**Grid cells (1 km²)**	**Cluster types:** urban centre; urban clusters; rural grid cells	Urban clusters and urban centres				

Individual codes and labels (based on geographical entity)
Three categories per country (aggregated)
Combination of individual codes and aggregation
Two categories per country (aggregated)
Technical level
As defined in Regulation (EC) No 1059/2003 on the establishment of a common classification of territorial units for statistics (NUTS).

(1) Within the degree of urbanisation typology the aggregation of cities with towns and suburbs is referred to as urban areas.

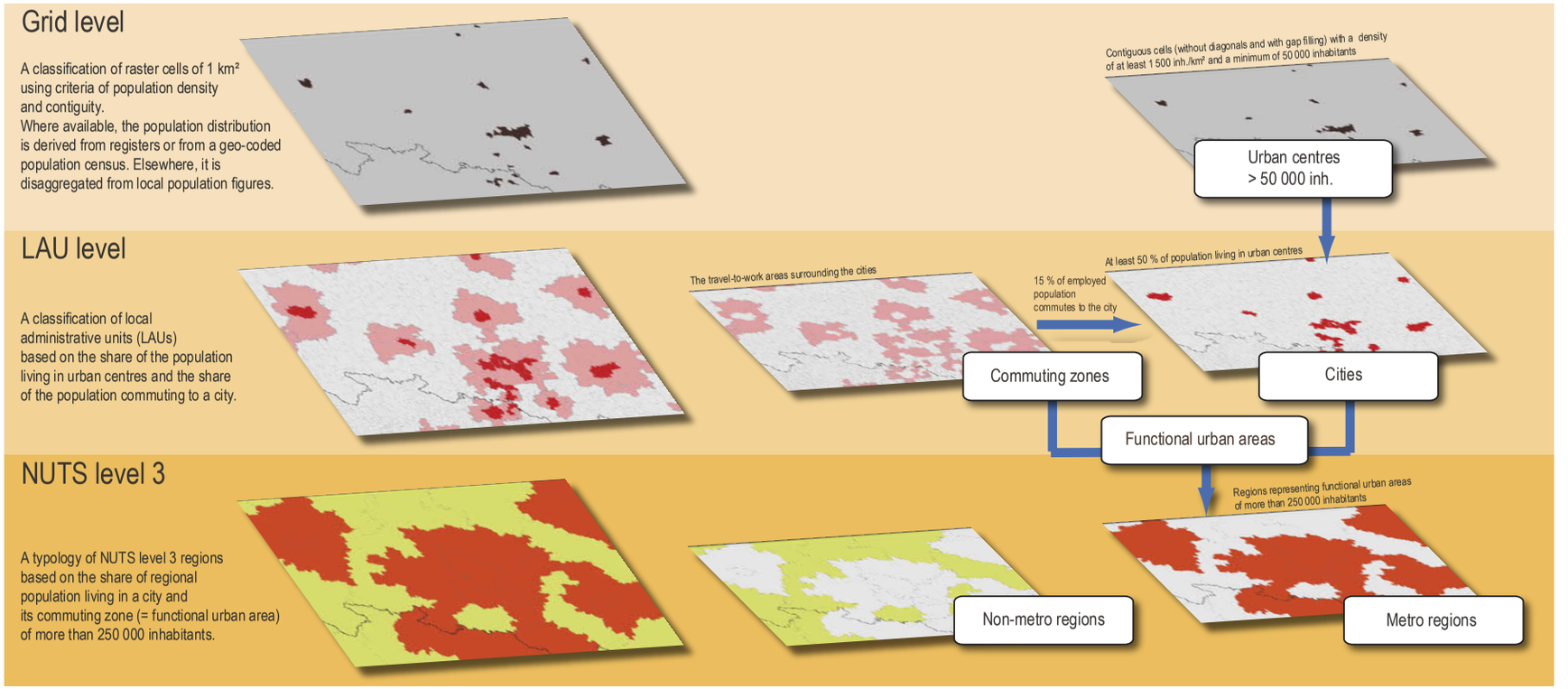
Source: Eurostat, Regulation (EC) No 1059/2003

of the Treaty of the Functioning of the European Union (TFEU)) which are geographically distant from the European continent. As their collective legal definition is provided for by the TFEU, this typology is not specifically covered in this manual. That said, the outermost regions form an integral part of the EU and as such they are included — as individual regional entities — within each regional typology.

The three different types of territorial typologies — grid, local and regional — are closely interlinked, as they are based on the same basic building blocks, namely, classifying population grid cells to different cluster types and then aggregating this information either by LAU or by region to produce statistics for a wide variety of different typologies. Figure 0.2 presents an example for how urban areas in the EU are defined at three different — but coherent — levels:

- at an initial level, urban centres (or high-density clusters) are identified as groups of grid cells with a population density of at least 1 500 inhabitants/km² and collectively a population of at least 50 000 inhabitants;
- these urban centres may be superimposed onto LAUs to identify cities (LAUs where at least 50 % of the population lives in an urban centre) and commuting zones (LAUs surrounding a city characterised by at least 15 % of their population commuting to work in the city); the term functional urban area is used to describe this wider aggregate that consists of a city and its surrounding commuting zone(s);
- functional urban areas may then be superimposed onto NUTS level 3 regions to identify metropolitan and non-metropolitan regions, defined as a NUTS level 3 region or groups of NUTS level 3 regions where at least 50 % of the population lives inside a functional urban area that is composed of more than 250 000 inhabitants.

Figure 0.2: Schematic overview defining urban areas in the EU

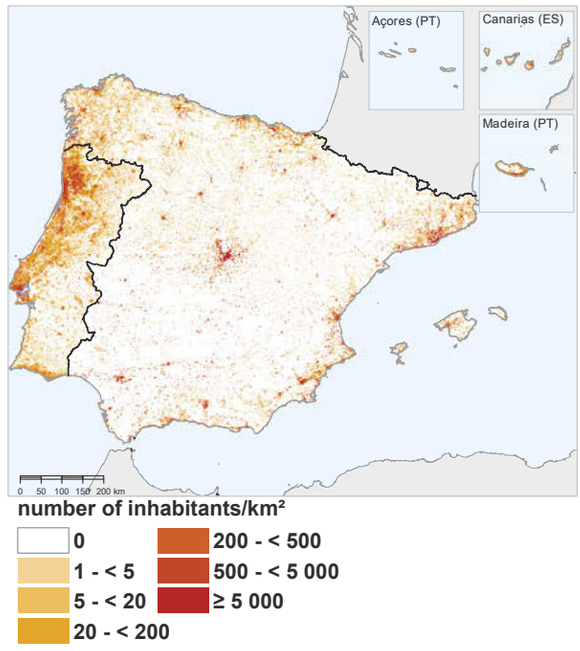


Note: for more information, https://ec.europa.eu/regional_policy/sources/docgener/focus/2012_01_city.pdf

Source: European Commission, Directorate-General Regional and Urban Policy, based on data from Eurostat, JRC, national statistical authorities

This brief overview concludes with a set of 11 maps for Spain and Portugal that show the various territorial typologies that are presented within the main body of this publication; they underline the broad range of potential analyses that may be carried out when exploiting Eurostat's subnational statistics. The first of these (Map 0.1) shows that the vast majority of the population in mainland Spain and Portugal is concentrated in areas that are close to the coastline, with relatively high population density in north-west and north-east Spain and northern Portugal. The principal urban centres shown in Map 0.2 — composed of high-density clusters — include Madrid, Barcelona and Valencia in Spain as well as Lisbon and Porto in Portugal.

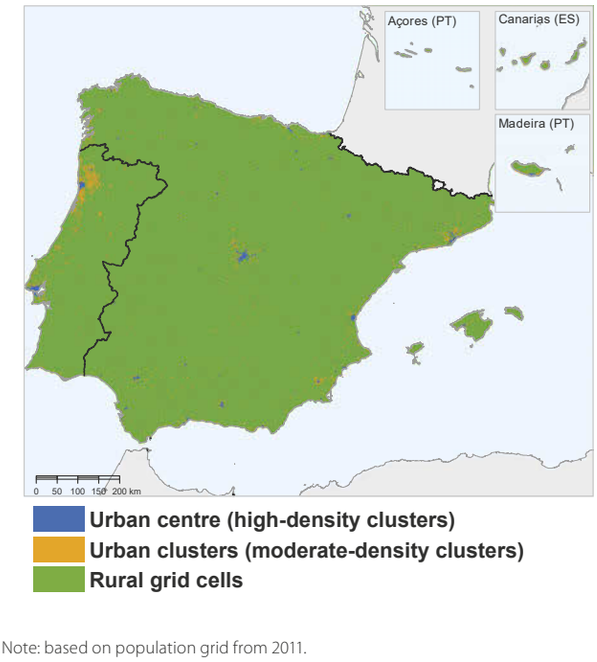
Map 0.1: Population density for Spain and Portugal based on the GEOSTAT population grid



Note: based on population grid from 2011.

Source: Eurostat, JRC and GEOSTAT population grid 2011

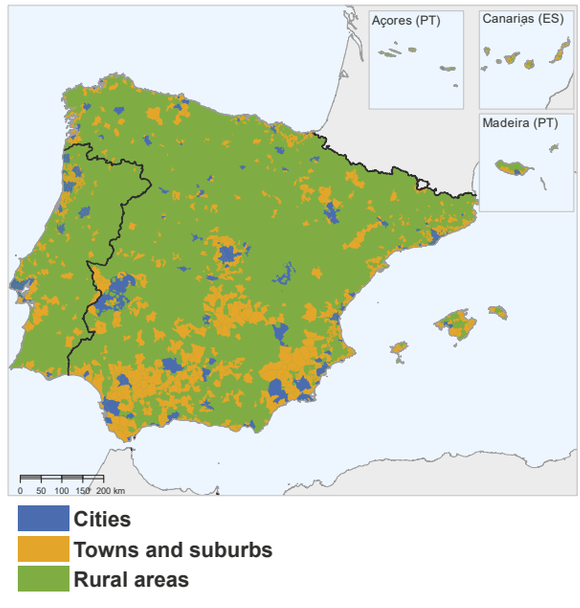
Map 0.2: Cluster types for Spain and Portugal



Note: based on population grid from 2011.

Source: Eurostat, JRC and European Commission, Directorate-General Regional and Urban Policy

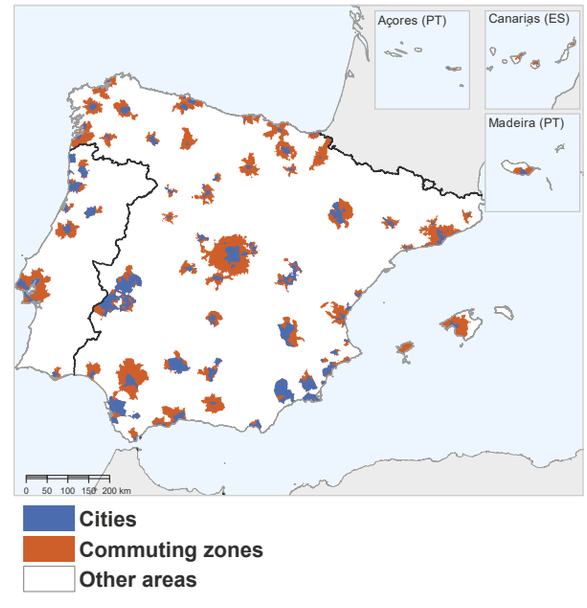
Map 0.3: Degree of urbanisation typology for Spain and Portugal



Note: based on population grid from 2011 and LAU 2016.

Source: Eurostat, JRC and European Commission, Directorate-General Regional and Urban Policy

Map 0.4: Functional urban areas typology for Spain and Portugal



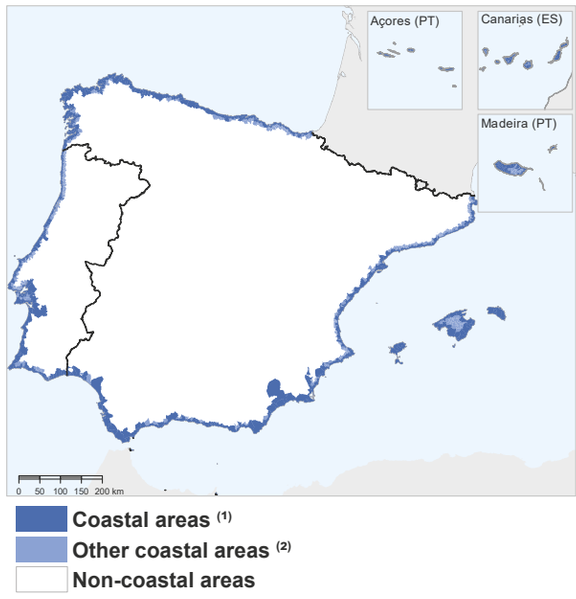
Note: based on population grid from 2011 and LAU 2016.

Source: Eurostat, JRC and European Commission, Directorate-General Regional and Urban Policy

The following two maps show local typologies. Map 0.3 confirms that large parts of the interior of Spain and Portugal are rural areas that have relatively low levels of population density. Commuting zones surrounding cities in Spain and Portugal are often relatively small with the exception of both capital cities (see Map 0.4). Indeed, many Iberian cities are characterised by highly concentrated city centres that remain relatively compact, with relatively clear boundaries dividing cities and sparsely-populated, surrounding areas.

There are two different territorial typologies that concern maritime areas, one based on LAUs and the other based on NUTS level 3 regions. Map 0.5 shows the first of these detailing coastal and non-coastal areas in Spain and Portugal and Map 0.8 shows the other, detailing coastal and non-coastal regions.

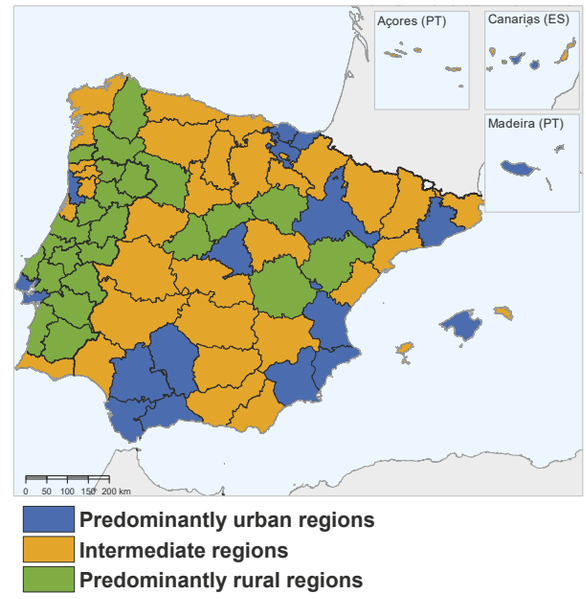
Map 0.5: Coastal areas typology for Spain and Portugal



(1) Bordering the sea,
(2) ≥ 50 % of surface area within 10 km of the sea.

Source: Eurostat (based on LAU 2016)

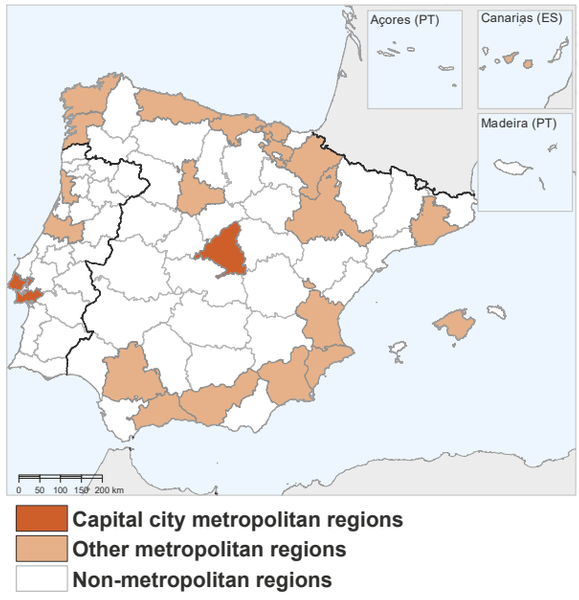
Map 0.6: Urban-rural typology for Spain and Portugal



Note: based on population grid from 2011 and NUTS 2016.

Source: Eurostat, JRC and European Commission, Directorate-General Regional and Urban Policy and Directorate-General Agriculture and Regional Development

Map 0.7: Metropolitan typology for Spain and Portugal



Note: based on population grid from 2011 and NUTS 2016.

Source: Eurostat, JRC and European Commission, Directorate-General Regional and Urban Policy

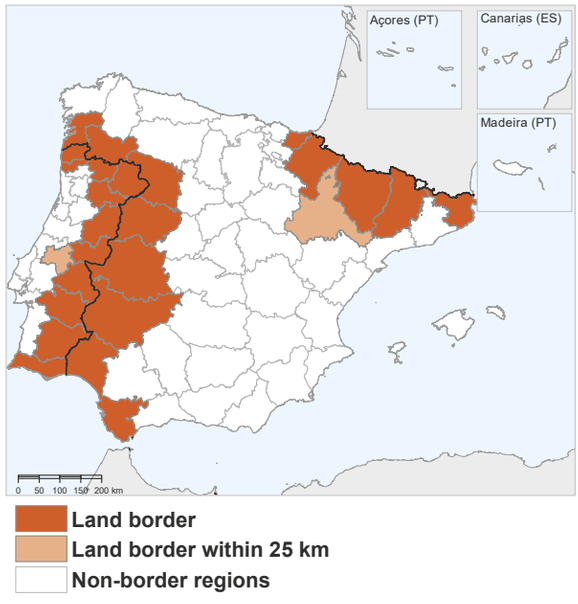
Map 0.8: Coastal typology for Spain and Portugal

Note: based on population grid from 2011 and NUTS 2016.

Source: Eurostat, JRC and European Commission

Maps 0.6 to 0.11 present information for regional typologies based on NUTS level 3 regions. The first of these shows the urban-rural typology, with the vast majority of regions in Portugal characterised as being predominantly rural. By contrast, relatively few regions in Spain are considered to be predominantly rural, with intermediate regions accounting for a majority of the NUTS level 3 regions in Spain. Map 0.7 shows that the vast majority of metropolitan regions in Spain and Portugal are located around their coastlines, with a few notable exceptions in Spain.

Map 0.9: Border typology for Spain and Portugal



Note: based on population grid from 2011.
Source: Eurostat, JRC and GEOSTAT population grid 2011

The final map for regional typologies shows the second typology related to the sea, namely, the coastal typology. This may be used to identify regions by individual sea basins (for example, regions that border the Mediterranean Sea or the North-East Atlantic Ocean), as well as outermost regions (which form an integral part of the EU). There are two such outermost regions in Portugal (Região Autónoma dos Açores and Região Autónoma da Madeira) and a single outermost region in Spain (Canarias; note this is composed of seven NUTS level 3 regions).

This final group of maps presenting the various territorial typologies shows three more regional typologies; note however that contrary to the typologies shown in Maps 0.6-0.8, the statistics collected for the typologies that are shown in Maps 0.9-0.11 do not have any legal basis. Map 0.9 identifies the (common) inland border regions of Spain and Portugal, as well as Spanish regions that share a land border with France.

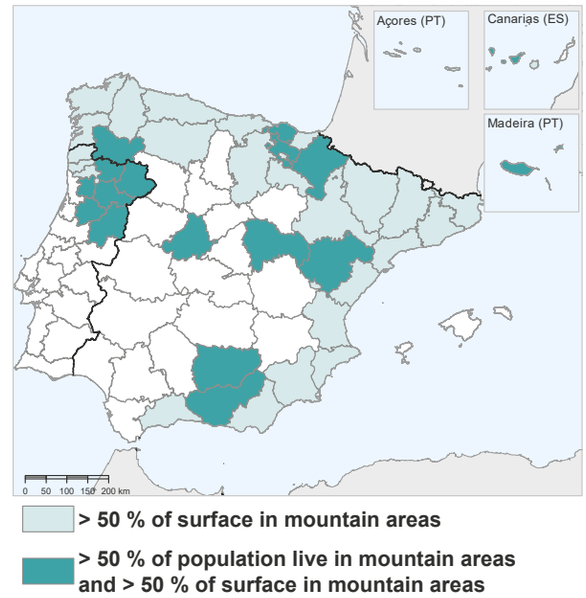
Island regions are defined as NUTS level 3 regions that consist entirely of territories that are at least 1 km from the mainland without a fixed link (bridge, tunnel or dyke), with a minimum surface of 1 km^2 and a resident population of more than 50 inhabitants. Map 0.10 shows the island regions of Spain and Portugal (which include the outermost regions, as shown by the insets of this map).

Map 0.11 presents the mountain typology, which is based on regions characterised by having more than half of their population and/or surface area in mountain areas. Topographic mountain areas are defined using a range of criteria linked to height/altitude: they include all areas that are above 2 500 m, but also include areas that are as low as 300 m if these are characterised by a sufficiently undulating landscape (for example, the Scottish lochs or Norwegian fjords).

Map 0.10: Island typology for Spain and Portugal

Note: based on population grid from 2011.
Source: Eurostat, JRC and GEOSTAT population grid 2011

Map 0.11: Mountain typology for Spain and Portugal



Note: based on population grid from 2011.
Source: Eurostat, JRC and GEOSTAT population grid 2011

Building blocks for typologies

As noted above, the territorial typologies that have been developed by Eurostat can be split into three principal groups, covering grid-based typologies, local typologies based on LAUs and regional typologies based on NUTS level 3. This section provides a more detailed explanation for the three basic building blocks that underpin the various typologies, namely:

- the population grid;
- local administrative units (LAUs);
- the classification of territorial units for statistics (NUTS).

POPULATION GRID

Short description

A population grid is composed of (usually square) grid cells containing population counts for each cell. Eurostat gives preference to the use of a 1 km^2 square grid that is overlaid across the EU territory.

Why use grid statistics?

Making use of a geographical grid for displaying population densities is not a new idea: indeed, examples exist from the late 18th century when this approach was adopted in statistical atlases. However, it is only relatively recently that it has become possible to consider the creation of population grids over very large areas, such as the EU, in a harmonised way. With the introduction of new technologies and increased computing power, a growing number of national statistical authorities developed the ability to produce statistics for very small areas. For example, during a census, most statistical authorities are now able to capture data based on geocoded data collection points such as addresses or buildings that is usually much more detailed than any other official data they publish.

Traditionally, official statistics have been reported in accordance with a hierarchical system of administrative units ranging from local administrative units (LAUs), through regions and countries to supranational aggregates covering, for example, the whole of the EU. While these systems provide high-quality data for accounting purposes and for the respective territorial authorities at each level of the hierarchy, they are not so suitable for studying the causes and effects of many socioeconomic and environmental phenomena which are often independent of administrative boundaries, for example, commuting, leisure activities, flooding or weather events. When studying such phenomena, a system of grids with equal-size grid cells has many advantages:

- grid cells all have the same size allowing for easy comparison;
- grids are stable over time;
- grids integrate easily with other (scientific) data;
- grid systems can be constructed/assembled to form areas that match a specific purpose or study area.

The detailed nature of population grid statistics is generally considered an advantage over more traditional statistics that are based on larger administrative or statistical areas. For example, the results presented for the urban-rural typology (in Map 0.6 above) do not show any variation in the level of population density for urban-rural regions around the Spanish capital of Madrid. By contrast, the information shown for the population grid (in Map 0.1 above) contrasts extremely dispersed populations for most areas around the Spanish capital with distinct population concentrations, such as the cities of Guadalajara, Segovia or Toledo, thereby providing a more realistic portrait of where people actually live.

Explanation of the population grid

Population grids are a powerful tool for describing the spatial distribution of a population and are particularly useful for analysing socioeconomic phenomena that are independent of administrative boundaries. This next section provides an example of how population grids work in practice.

A population grid is composed of a set of equally-sized cells that is overlaid across the territory. For European data, a 1 km^2 grid represents a good compromise between analytical capacity and data protection. There are three methodological solutions foreseen for establishing the total number of inhabitants living in each of these 1 km^2 grid cells.

Method 1: aggregation method

The aggregation method for producing population grid data is based on aggregating geocoded micro data (it is also called the 'bottom-up approach'). This is the preferred method for producing population grid data, for example, aggregating a geocoded point-based data source, such as an address.

Population grid cells are referenced according to their coordinates which makes it possible to pinpoint them on a map. The example of Figure 0.3 shows a large number of point-based data plots — the individual blue circles — that have been overlaid onto a statistical grid; the plots represent the population at their usual place of residence.

In the example, the geocoded references in each grid cell relate to the lower left corner of each cell and provide information concerning their relative position in relation to the origin (as measured in a northerly and

easterly direction): for example, cell B2 concerns grid reference N4626E5034, while the adjacent cell C2 is referenced as N4626E5035. These references indicate that grid cell N4626E5034 identifies a 1 km^2 cell that has coordinates for its lower left corner of Y=4 626 km (north), X=5 034 km (east) in relation to the origin (0 km, 0 km). Note that a new coding system will be introduced when the grid is revised as part of the 2021 census exercise.

This point-based information in each cell may be aggregated to produce a population count for each cell, as shown in Figure 0.4. For example, cell B2 has a total population count of 58 inhabitants, while in the adjacent cell (C2) the count is 52 inhabitants. The population density of each grid cell may subsequently be assigned to a population density class, as shown by the coloured shading in Figure 0.4: no inhabitants per km^2 (white background); 1-4 inhabitants per km^2 (light yellow shade); 5-19 inhabitants per km^2 (medium yellow shade); 20-199 inhabitants per km^2 (darker yellow shade).

Figure 0.3: Point-based data overlaid on a statistical grid

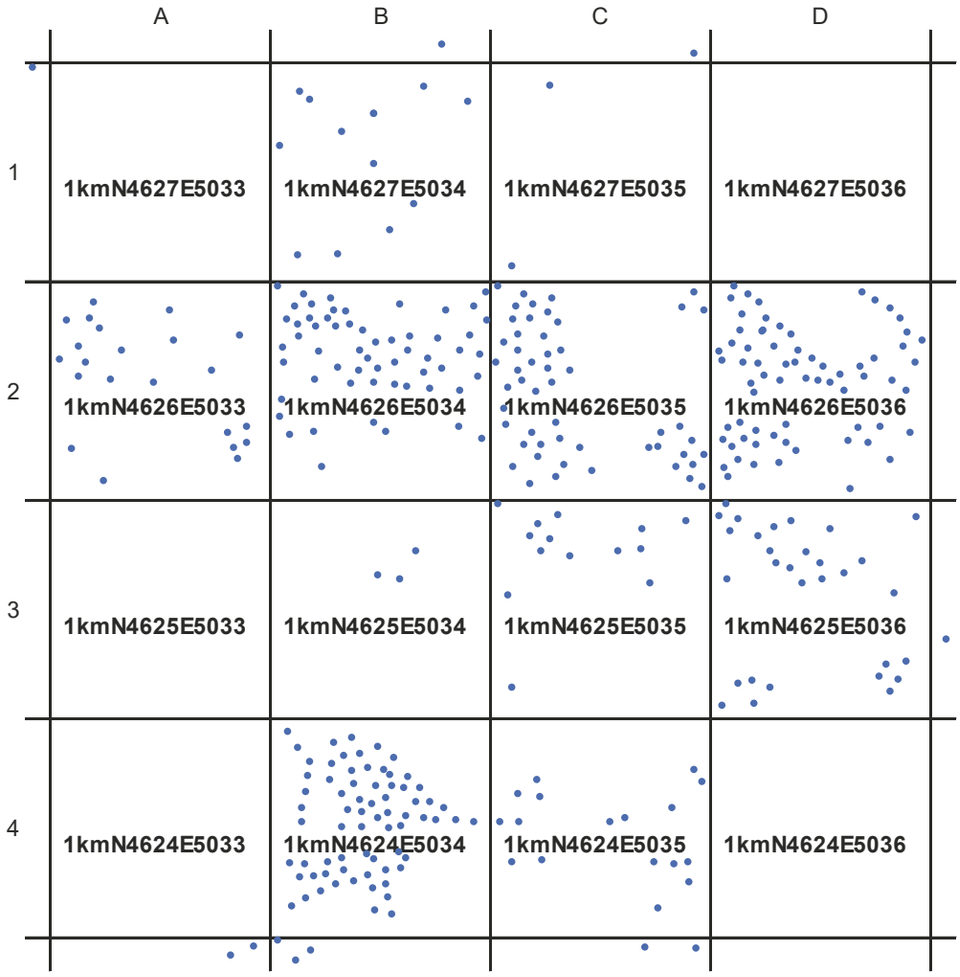
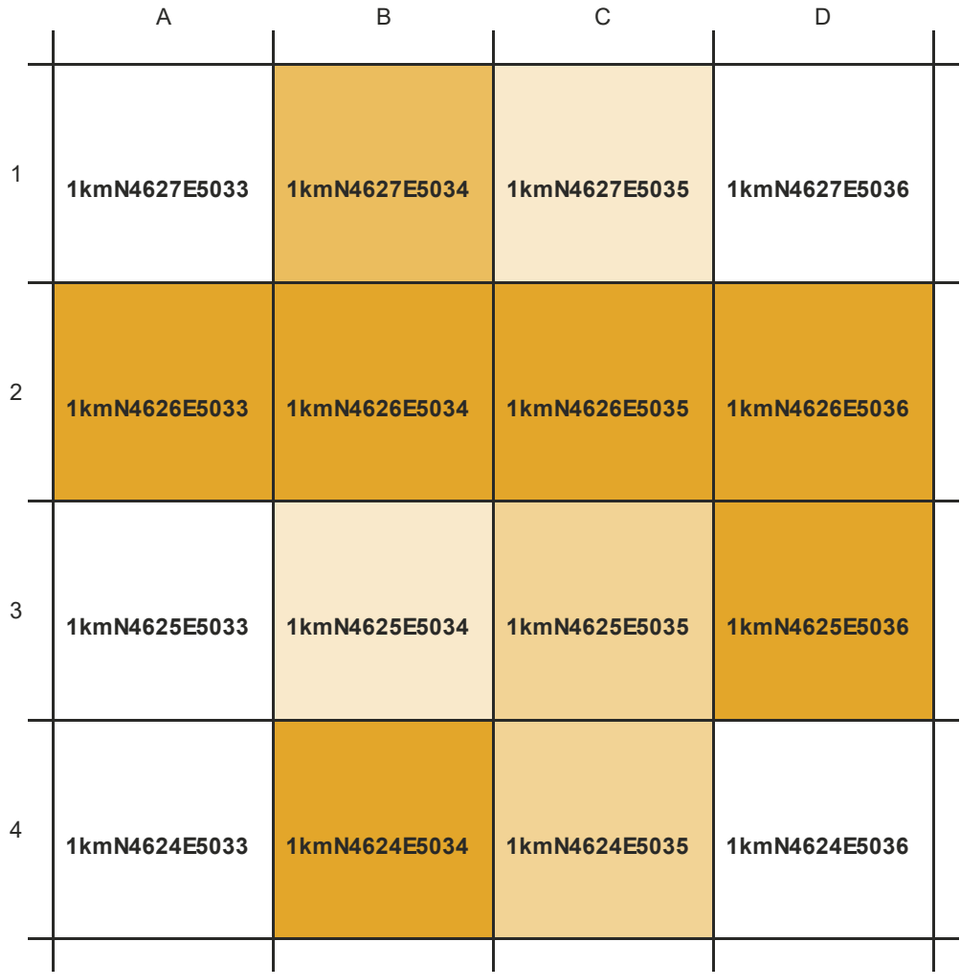


Figure 0.4: Population count for aggregated point-based information



Method 2: disaggregation method

In the absence of geocoded micro data, alternative approaches may be employed to produce data for the grid. The first of these approaches — the disaggregation method (also called the 'top-down approach') — uses population statistics for LAUs in combination with auxiliary spatial data. The total population count for an LAU may be disaggregated using data on land use and/or land cover to estimate the number of inhabitants that are living in each 1 km^2 grid cell; this may be done, for example, through the visual inspection of satellite images overlaid on the grid to determine if there are any buildings in each grid cell. Such an approach may have some limitations: for example, it is difficult to define the actual height of buildings from a satellite image and, as a consequence, the number of dwellings for each building's footprint. This has been identified as a shortcoming, insofar as models using this approach tend to systematically underestimate the population living in densely populated areas (where there tend to be higher buildings that may be composed of multiple dwellings) while overestimating the population of thinly populated areas (that are generally characterised by one or two-storey dwellings). For more information, see:

- *Spatially disaggregated population estimates in the absence of national population and housing census data*, N. A. Wardrop, W. C. Jochem, T. J. Bird, H. R. Chamberlain, D. Clarke, D. Kerr, L. Bengtsson, S. Juran, V. Seaman, and A. J. Tatem; https://www.pnas.org/content/early/2018/03/15/1715305115
- *A high-resolution population grid map for Europe*, F. Batista e Silva , J. Gallego and C. Lavalle; https://www.tandfonline.com/doi/pdf/10.1080/17445647.2013.764830
- *Spatial disaggregation of population data onto Urban Footprint data*, S. M. Starmans; https://elib.dlr.de/97390/1/Masterarbeit_Sina_Starmans.pdf
- *A volumetric approach to spatial population disaggregation using a raster build-up layer, land use/land cover databases (SIOSE) and LIDAR remote sensing data*, F. J. Goerlich; https://polipapers.upv.es/index.php/raet/article/view/4710

Method 3: hybrid method

The third and final method for producing population grid statistics is a hybrid method based on combining the aggregation and disaggregation techniques; this method provides a compromise between accuracy and the availability of data. Hybrid solutions may refer to using different source data to establish a geocoded framework, for example, combining geospatial, administrative and statistical sources.

Note for the 2021 census exercise it is likely that the second and third methods will become largely obsolete, as data providers are generally expected to switch to aggregation methods (at least for total population measures).

GEOSTAT

GEOSTAT was launched by Eurostat in cooperation with the European Forum for Geography and Statistics (EFGS) in early 2010. It is a long-term programme designed to set up and promote the use of geospatial statistics including grid-based statistics through developing a methodology for official geospatial statistics in the EU, both for individual EU Member States and the EU as a whole. The initiative also aims to develop a set of common guidelines for the collection and production of population grid statistics.

In part to meet their requirements in relation to Regulation (EC) 763/2008 on the population and housing census, public administrations developed their geospatial statistics, collecting information either for LAUs or at an even more detailed level. Indeed, the census acted as a stimulus to trigger a range of initiatives for establishing geocoded building, address and population registers. As geocoded data sources with sufficient accuracy and reliability were made available, many of these were subsequently used as inputs for developing the GEOSTAT 2011 population grid as part of the GEOSTAT programme, which contains information for 29 EU and European Free Trade Association (EFTA) countries. As a result, the aggregation method was used to derive population grid statistics for 62 % of the census population in 2011, while the corresponding share for the GEOSTAT 2006 population grid was 30 % coverage. The geospatial framework for GEOSTAT 2011 is a standardised 1 km² grid that follows INSPIRE specifications and is based on the adoption of the ETRS89 Lambert Azimuthal Equal Area coordinate reference system. The grid is currently used in various statistical production processes, including grid-based typologies, local typologies and regional typologies. The underlying data can be downloaded and used free of charge for non-commercial purposes and may be found at: https://ec.europa.eu/eurostat/web/gisco/geodata/reference-data. While the GEOSTAT population grid covers continental Europe, as well as the Açores, Canarias and Madeira, it does not extend to the remaining outermost regions of the EU. The Joint Research Centre (JRC) of the European Commission's produced a global population grid that was used to determine regional typologies for the remaining outermost regions.

One negative effect of developing grid-based statistics that have a much greater level of geographical detail is that there are increased concerns around data confidentiality and/or the risk of disclosure. Moreover, when introducing supplementary variables linked to the population (such as analyses by sex, by age or by type of housing) these issues may become even greater. The GEOSTAT 2011 population grid only contains information for the total number of inhabitants at their place of usual residence. This statistic was usually considered as non-sensitive by national statistical authorities which, as a result, did not apply any data protection methods for confidentiality issues; note however that national laws may require NSIs to protect the identification of individual citizens. For those countries that set confidentiality thresholds for GEOSTAT 2011 the minimum number of inhabitants per grid cells was 3 to 10 individuals; under this threshold the population count was suppressed.

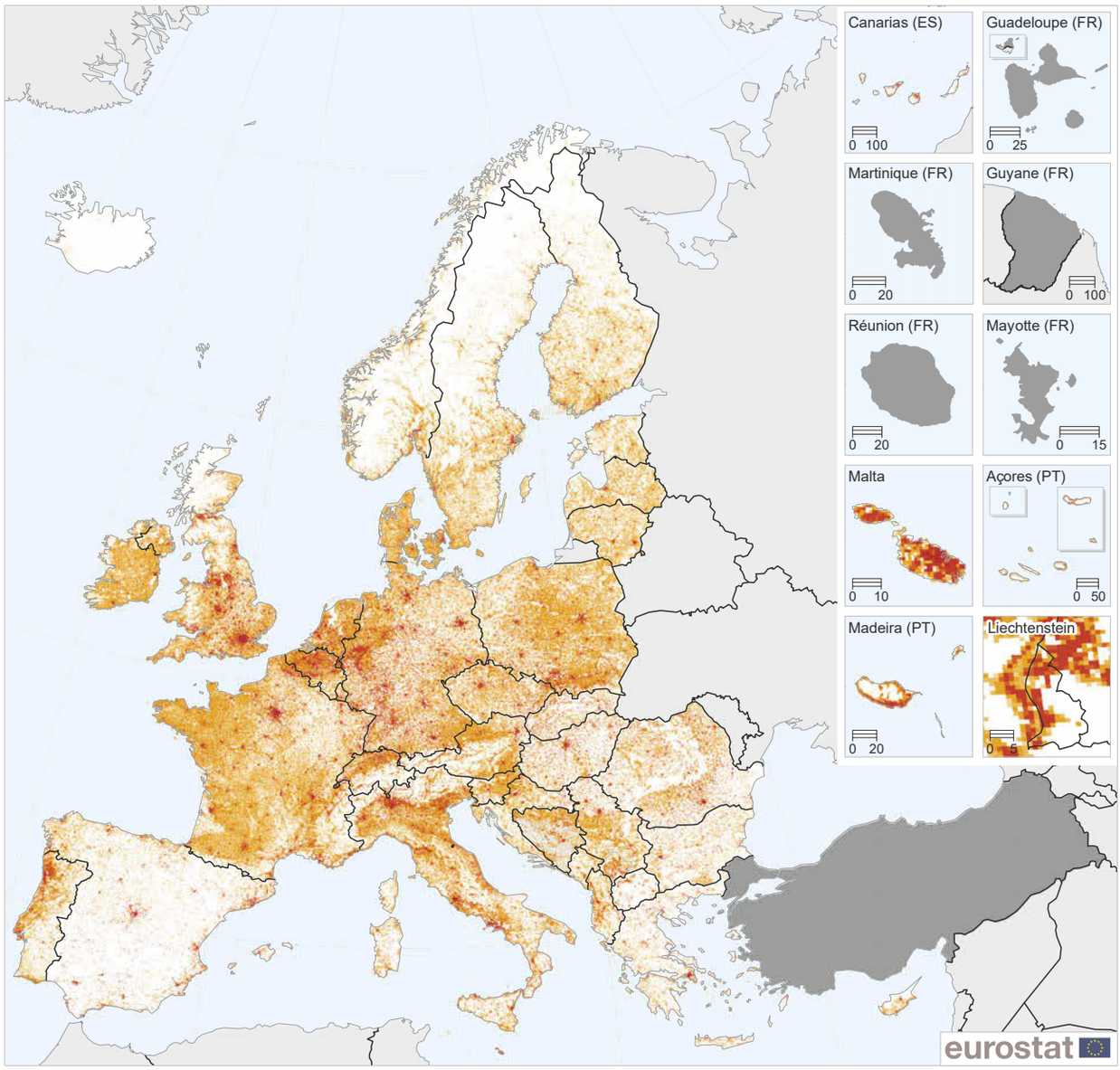
The results from the GEOSTAT 2011 exercise are shown in Map 0.12; it presents the number of inhabitants per 1 km² grid cell and uses the same population density classes as Figure 0.4 in order to classify the grid cells from sparsely populated (a light orange shade) to densely populated (a dark orange shade).

Beyond GEOSTAT 2011

Broadening the methodology of the GEOSTAT 2011 population grid, GEOSTAT subsequently proposed a generic national (point-based) geocoding infrastructure for statistics (https://www.efgs.info/geostat/geostat2), building on registers for national addresses, buildings and/or dwellings. One of the principal drivers behind this initiative was the goal of delivering a fully geocoded population census in 2021 and the geocoding of other social and economic statistics using the census infrastructure as a geocoding frame.

In the next iteration of GEOSTAT, on-going work is focused on developing and testing a European version of the Global Statistical Geospatial Framework (GSGF) for the European statistical system (ESS). One of the principal drivers behind this initiative is the goal of delivering a fully geocoded population census in 2021. The GSGF is expected to provide a full methodology for the capture and production of harmonised European geospatial statistics and its full integration of geospatial information into statistical production processes. For more information, see: http://ggim.un.org/meetings/GGIM-committee/8th-Session/documents/Global-Statistical-Geospatial-Framework-July-2018.pdf.

Map 0.12: Population density based on the GEOSTAT population grid
(number of inhabitants per km²)



number of inhabitants/km²

- 0
- 1 - < 5
- 5 - < 20
- 20 - < 200
- 200 - < 500
- 500 - < 5 000
- ≥ 5 000
- Data not available

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat — GISCO, 10/2018

0 200 400 600 800 km

Note: based on population grid from 2011.

Source: Eurostat, JRC and GEOSTAT population grid 2011

Does the population grid change over time?

Population grids essentially remain stable over time unlike systems that are based on administrative boundaries (which generally change each year). For example, the population grid that is currently in use by Eurostat is GEOSTAT 2011, while the next major update of the grid is expected to relate to 2021 (when the next census takes place).

As there have been only two population grids produced at a pan-European level — GEOSTAT 2006 and GEOSTAT 2011 — it is only possible to compare these for an analysis of changes to the population grid. Note that some of the differences between the results for these two grids may be linked to changes in the production methodology and in particular the fact that there was less disaggregated information used in 2011 (compared with 2006). Furthermore, GEOSTAT 2006 covered the territory of 26 EU Member States (no information for Croatia or Cyprus) and the four EFTA countries and was based on a total population of 502 6 million inhabitants, while GEOSTAT 2011 was extended to include information for Croatia and Cyprus, with 514.9 million inhabitants spread across 1.95 million unique grid cells, while there were 2.47 million uninhabited grid cells.

For the GEOSTAT 2011 population grid, there were 56 208 grid cells with only one inhabitant while at the other end of the scale the highest number of inhabitants per 1 km^2 grid cell — some 53 119 people — was recorded for Barcelona (Spain). There were almost 466 million persons living in grid cells that were characterised by 150 or more inhabitants. As such, around 90 % of the population was living in approximately 10 % of the grid cells. There were 132 million people (or 26 % of the total population) living in the most densely populated areas of the covered countries, characterised by at least 5 000 inhabitants per km^2, these grid cells covered just 0.35 % of the total area of the population grid.

While the underlying building blocks — the GEOSTAT 2011 population grid — remain stable, it is important to note that this does not preclude changes to statistics that are based on the population grid. For example, each time there are changes to the boundaries of LAUs (usually an annual exercise) or to the boundaries of NUTS regions (usually every three years) then changes to these classifications should be reflected in the statistics that are produced for territorial typologies. Taking the example of the schematic overview defining urban areas in the EU (as shown in Figure 0.2 above), any modification to the boundaries of LAUs or regions would require the underlying information — that derived from grid-based data — to be reassessed in relation to such boundary changes.

Note Eurostat are discussing post-2021 census developments with national statistical authorities. It is possible that from the mid-2020s onwards, the ESS will agree to produce annual counts of populations (based on usual place of residence) for a 1 km^2 grid, with data to be made available within 12 months of the end of the reference period.

Which territorial typologies are impacted by changes to the population grid?

Those territorial typologies impacted by changes to the population grid can be identified by referring to Figure 0.1 above. It shows that population grid statistics for 1 km^2 cells are used directly to classify groups of grid cells into the following cluster types: urban clusters, urban centres and rural grid cells (see Chapter 1 for more details on cluster types).

This link to cluster types is particularly important insofar as these statistics are themselves used as building blocks for developing basic territorial typologies such as the degree of urbanisation (see Chapter 2) or the urban-rural typology (see Chapter 5). Information for urban clusters and urban centres is also used as a building block for developing urban typologies, with these statistics forming the basis — as already shown in Figure 0.2 — for data on cities and their commuter zones (see Chapter 3) as well as statistics on metropolitan regions (see Chapter 6).

Further information

Glossary entry:

Statistics Explained, at: https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:Population_grid_cell

Detailed methodology:

GEOSTAT 2011, at: https://www.efgs.info/geostat/1b/

Dedicated section:

Eurostat website, at: https://ec.europa.eu/eurostat/web/gisco/overview

Other information sources:

European Forum for Geography and Statistics (EFGS), at: https://www.efgs.info/

INSPIRE — infrastructure for spatial information in Europe, at: https://inspire.ec.europa.eu/

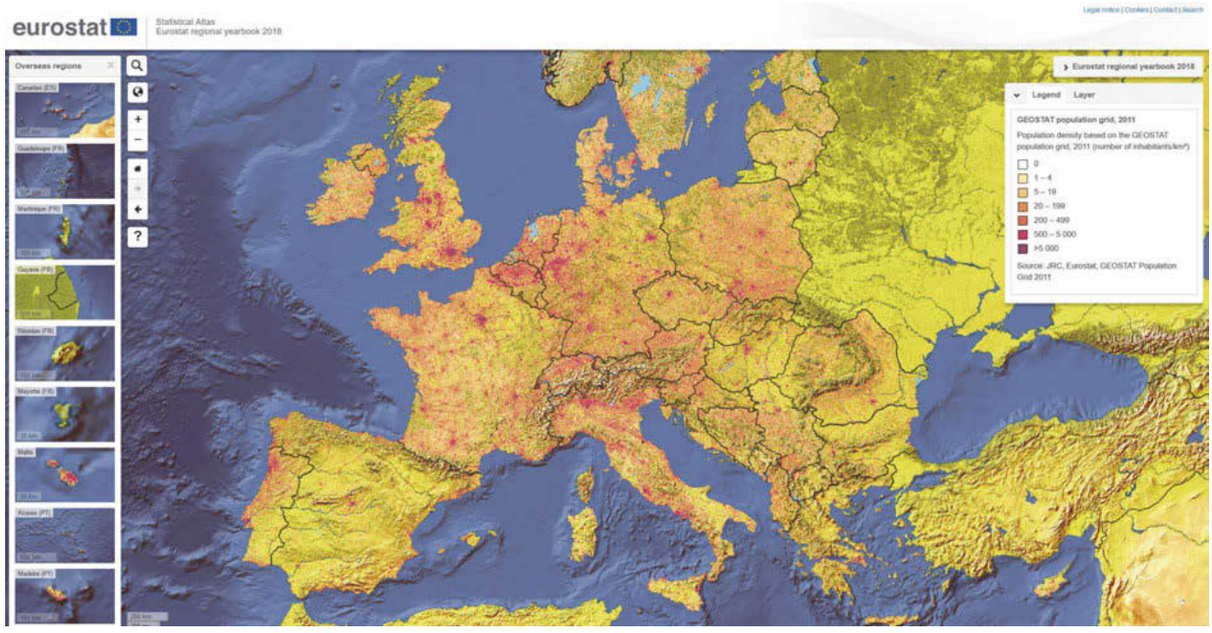
Published information

Visualisation tools:

Eurostat publishes data on the GEOSTAT 2011 population grid through the Statistical atlas (select Background maps and then GEOSTAT population grid, 2011), available at: http://ec.europa.eu/eurostat/statistical-atlas/gis/viewer/?mids=BKGCNT,BKGPGR,CNTOVL&o=1,1,0.7&ch=BKG,C02,TYP&center=50.03696,19.9883,3&lcis=BKGPGR&

Download data:

The GEOSTAT datasets can be accessed and used for non-commercial purposes. The data are available on Eurostat's website, at: https://ec.europa.eu/eurostat/web/gisco/geodata/reference-data/population-distribution-demography/geostat. GEOSTAT data are provided as shapefiles, geospatial vector data which is quasi-standard in the world of geographic information systems (GIS); indeed, almost any commercial or open source GIS software should be able to process shapefiles. Note that there are quite specific rules concerning the licensing conditions for these datasets that govern access, conditions and restrictions of use: see: https://ec.europa.eu/eurostat/web/gisco/geodata/reference-data/population-distribution-demography



LOCAL ADMINISTRATIVE UNITS

Short description

Local administrative units (LAUs) are used to divide up the territory of the EU for the purpose of providing statistics at a local level. They are low level administrative divisions of a country below that of a province, region or state. Not all countries classify their locally governed areas in the same way and LAUs may refer to a range of different administrative units, including municipalities, communes, parishes or wards.

What are local administrative units?

Administrative divisions are generally the oldest nomenclatures for territorial units provided for by law, as they delineate local authorities with representative bodies. These administrative units are — depending upon the degree or centralisation/autonomy of political systems — charged with fulfilling the needs of local communities, for example, socioeconomic development, spatial planning, utilities, culture or the environment.

Such administrative divisions usually exist at different hierarchical levels (although some levels may not exist in smaller EU Member States), ranging from regional and/or county/state administrations, through districts and/or local councils, down to municipalities/communes. It is this collection of units at the bottom of the administrative hierarchy that is used to define LAUs. LAUs implement policies and are considered as appropriate building blocks for constructing local level typologies, such as statistics for the degree of urbanisation, functional urban areas and coastal areas.

Up until 2016, there were two different levels of LAU:

- LAU level 1 (formerly NUTS level 4) which was defined for most, but not all of the EU Member States;
- LAU level 2 (formerly NUTS level 5) which consisted of municipalities/communes or equivalent units across all EU Member States.

Since 2017, only one level of LAU has been kept. It is important to note that existing administrative units within the EU Member States constitute the first criterion used to define LAUs. This means there are considerable differences across the EU Member States between the naming conventions and concepts used. Indeed, Regulation (EC) No 1059/2003 on the establishment of a common classification of territorial units for statistics (NUTS) defines an administrative unit as: a *geographical area with an administrative authority that has the power to take administrative or policy decisions for that area within the legal and institutional framework of the Member State*. The distinct administrative divisions used for each Member State are defined within Annex III.

Belgium	Gemeenten/Communes
Bulgaria	Населени места (Naseleni mesta)
Czechia	Obce
Denmark	Kommuner
Germany	Gemeinden
Estonia	Linn, vald
Greece	Δήμοι (Dimoi)
Spain	Municipios
France	Communes
Croatia	Gradovi, općine
Ireland	Counties, County boroughs
Italy	Comuni
Cyprus	Δήμοι, κοινότητες (Dimoi, koinotites)
Latvia	Republikas pilsētas, novadi
Lithuania	Savivaldybės
Luxembourg	Communes
Hungary	Települések
Malta	Localities
Netherlands	Gemeenten
Austria	Gemeinden
Poland	Gminy
Portugal	Freguesias
Romania	Municipii, Oraşe and Comune
Slovenia	Občine
Slovakia	Obce
Finland	Kunnat/Kommuner
Sweden	Kommuner
United Kingdom	Wards

To give an idea of the variations that may exist between these national concepts for LAUs, in 2016 there were 35 442 LAUs identified in France, compared with 11 135 in Germany, 7 983 in Italy and just 415 in the United Kingdom; these differences reflect, to a large degree, the organisation of local government/representation in each EU Member State.

Furthermore, there are often sizeable differences between LAUs within the same EU Member State, for example, in terms of their number of inhabitants or the area that they cover. In 2016, there was a single person living in the French commune of Rochefourchat in the south-east of France, while there were as many as 2.2 million inhabitants living within the commune of Paris. In the United Kingdom, the boundaries of the City of London delineated an area of just 3.15 km^2 which can be contrasted against an area of 7 763 km^2 for Caithness & Sutherland (in the north of Scotland).

Encoding administrative divisions within the national territory is an essential task of national statistical systems, assigning an alphanumerical code to the various levels. This makes it easier for national statistical authorities to provide a wide range of subnational statistics, often at a highly disaggregated level of detail, in an attempt to meet the growing need for socioeconomic information at a local level. As well as being a basis for statistical analysis in their own right, LAUs are also used as one of the principal building blocks to produce data for regions and for other territorial typologies.

Why does the list of local administrative units change?

To meet the increased demand for statistics at a local level, Eurostat maintains a list of LAUs. This tracks any changes that take place: some EU Member States make frequent changes to their LAUs while others almost never change them. Article 4 of the NUTS Regulation (EC) No 1059/2003 provides details of how this system should be managed:

- during the first six months of each calendar year, the Member States should provide details of any changes to local administrative units with reference to 31 December of the previous year;
- Eurostat is responsible for amending, on an annual basis, the complete list of LAUs on the basis of changes to administrative units that have been communicated to it by the Member States;
- Eurostat should publish the revised list of LAUs by the end of each calendar year.

Guidelines for developing LAU lists

- An LAU code is the key used for correspondence with all related territorial typologies.
- There are no coding conventions at an EU level for LAUs, national codes are employed.
- In the case of LAU closures, old codes must not be re-used or maintained.
- LAU codes should be provided as alphanumeric strings rather than numbers.

To amend the LAU list on an annual basis, Eurostat introduced a new transmission format in 2018. As well as detailing changes to LAUs it also seeks to integrate information on changes to territorial typologies for LAU-based classifications — the degree of urbanisation, functional urban areas and coastal areas — which are directly impacted by any LAU boundary changes. As such, the LAU list is managed together with local typologies in order to align correspondence tables at the same time. This single procedure makes it possible for Eurostat to publish annual updates for territorial typologies together with the annual LAU list at the end of each year.

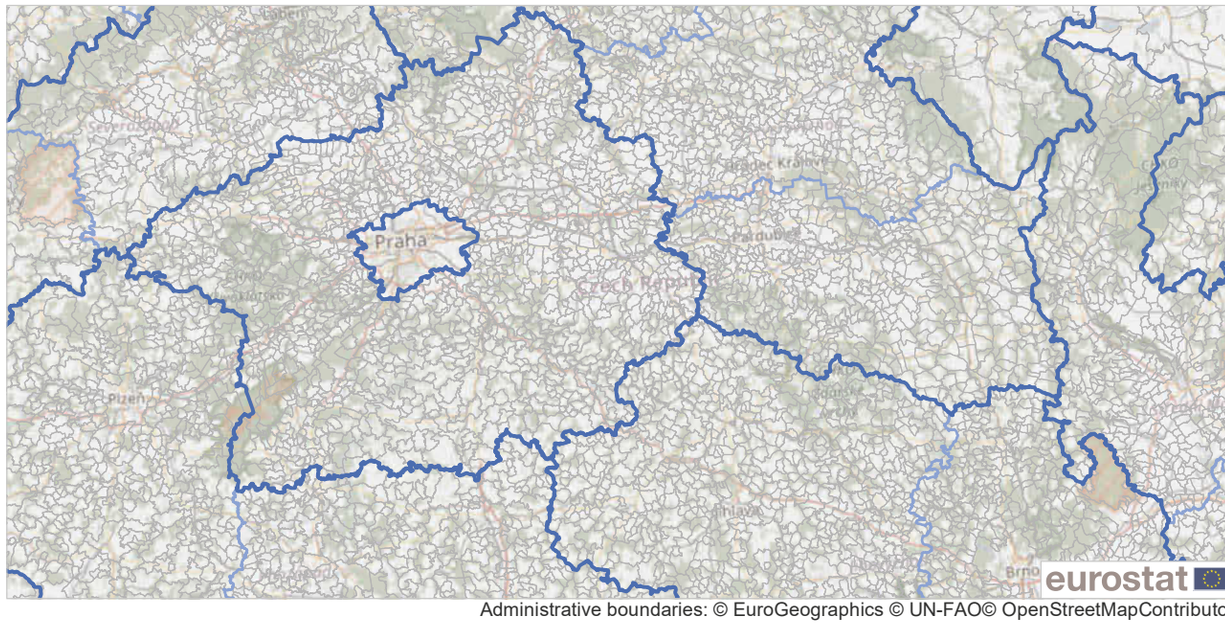
Which typologies are impacted by changes to LAUs?

At a local level (for LAUs), the following typologies are based on LAUs:

- degree of urbanisation — cities, towns and suburbs, rural areas (see Chapter 2);
- functional urban areas — cities and their surrounding commuting zones (see Chapter 3);
- coastal and non-coastal areas (see Chapter 4).

As such, any changes made to LAU boundaries need to be checked to see if they impact on these local level typologies and, where necessary, the correspondence tables for these typologies should be updated. Concerning the datasets compiled using

Map 0.13: An example of local administrative units and NUTS regions, Czechia



Administrative boundaries: © EuroGeographics © UN-FAO© OpenStreetMapContributors

Cartography: Eurostat — GISCO, 10/2018

NUTS level 3 regions
NUTS level 2 regions
Local admininstrative units (LAUs)

0 20 40 60 80 km

Source: Eurostat (based on NUTS 2016 and LAU 2016).

these, any modifications to the typologies caused by changes to the list of LAUs can be implemented in one of two different ways: applying the specific methodology for each data collection to the new LAU boundaries; or applying a simpler approach that does not use geographical information systems to estimate the resulting statistics based on changes to LAU boundaries. The first approach is more labour intensive, while the second is particularly suitable if boundary changes for LAUs are relatively small or consist principally of merging LAUs. A practical example of how this may be done is presented for the degree of urbanisation in Chapter 2 (under the heading, Changes over time that impact on the classification).

As well as providing basic statistics in their own right (for population and area) and serving as the building block for local level typologies, LAUs are also used as a building blocks for regions, as described in Article 4 of the NUTS Regulation: I*n each Member State, local administrative units (LAU) shall subdivide NUTS level 3 into one or two further levels of territorial units*. Map 0.13 provides an example for part of Czechia showing how its LAUs (identified by the grey borders) are aggregated to NUTS level 3 regions (identified by the light blue borders); note the interesting case of the capital city of Praha that is both an LAU and a NUTS level 3 (and indeed a NUTS level 2) region.

Further information

Glossary entry:

Statistics Explained, at: https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:Local_administrative_unit_(LAU)

Dedicated section:

Eurostat website, at: https://ec.europa.eu/eurostat/web/nuts/local-administrative-units

Download data:

The NUTS Regulation requires EU Member States to send lists of their LAUs to Eurostat each year. This information may be supplemented by additional administrative data for the population and the total area of each LAU. These lists are published each year, at: https://ec.europa.eu/eurostat/web/nuts/local-administrative-units

NUTS

Short description

NUTS, the classification of territorial units for statistics, is a geographical classification subdividing the territory of the EU into regions at three different levels — NUTS level 1, level 2 and level 3 (moving from larger to smaller territorial units). The legal basis for NUTS is provided for Regulation (EC) No 1059/2003, hereafter referred to as the NUTS Regulation. A consolidated version (including subsequent amendments) is available at: https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:02003R1059-20180118.

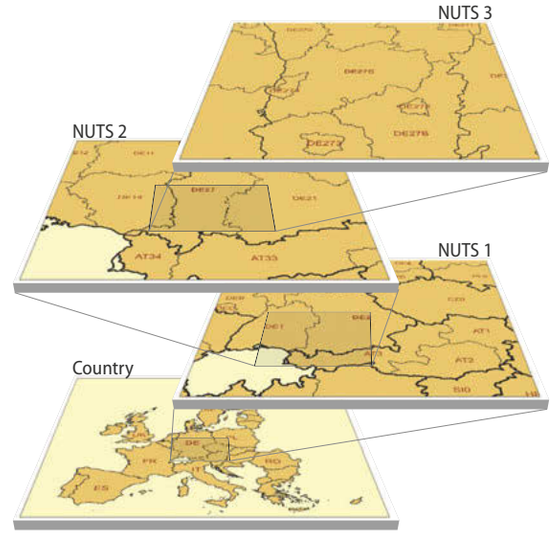
What is the NUTS classification?

The NUTS classification is a hierarchical system for dividing up the territory of the EU for the purpose of:

- the collection, development and harmonisation of EU regional statistics;
- socioeconomic analyses of the regions;
  - NUTS level 1: major socioeconomic regions;
  - NUTS level 2: basic regions for the application of regional policies;
  - NUTS level 3: small regions for specific diagnoses;
- framing EU regional policies;
  - regions eligible for support from cohesion policy have been defined at NUTS level 2;
  - the majority of the analyses made within European Commission cohesion reports are presented for NUTS level 2 regions.

The NUTS classification is set out in Annex I of Regulation (EC) No 1059/2003. It is a hierarchical classification that ascribes a specific code and name to each territorial unit and subdivides the EU Member States into NUTS level 1 territorial units, each of which is subdivided into NUTS level 2 territorial units, these in turn each being subdivided into NUTS level 3 territorial units. Note that a particular territorial unit may be classified at several NUTS levels — for example, the German capital city of Berlin is coded as DE3 (NUTS 1), DE30 (NUTS 2) and DE300 (NUTS 3), all of which cover the same area.

The diagram below shows the hierarchical structure of NUTS, moving from the national territory of Germany (DE) through progressively more detailed levels of NUTS. At NUTS level 1, the German regions are aligned with the Länder, for example, Baden-Württemberg (DE1) and Bayern (DE2). Each NUTS level 1 region is subsequently subdivided into NUTS level 2 regions, for example, Bayern is split into Oberbayern (DE21), Niederbayern (DE22), Oberpfalz (DE23), Oberfranken (DE24), Mittelfranken (DE25), Unterfranken (DE26) and Schwaben (DE27). In a similar vein, NUTS level 2 regions may be subdivided into the most disaggregated regional units, as defined by NUTS level 3, for example, some of the 14 different level 3 regions within Schwaben include Ostallgäu (DE27B), Unterallgäu (DE27C) and Oberallgäu (DE27C).



The current version of the NUTS classification is NUTS 2016. It covers 104 regions at NUTS level 1, 281 regions at NUTS level 2 and 1 348 regions at NUTS level 3. The amendment introducing NUTS 2016 came into force on 19 December 2016 and applies to the transmission of data (to Eurostat) as of 1 January 2018 onwards.

Note: the NUTS classification is defined only for the EU Member States. Eurostat, in agreement with the countries concerned, also has a coding of statistical regions for countries that do not belong to the EU, but which are:

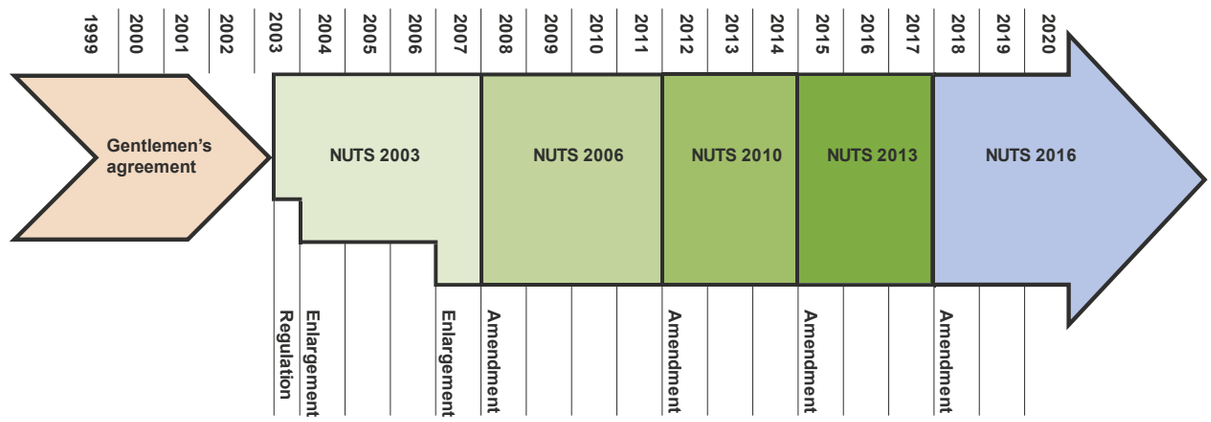
- candidate countries awaiting accession to the EU; or
- potential candidates; or
- EFTA countries.

History of the NUTS classification

At the beginning of the 1970's, Eurostat set-up the NUTS classification as a single, coherent system for dividing up the EU's territory in order to produce regional statistics. For around 30 years, the implementation and updating of the NUTS classification was managed under a series of "gentlemen's agreements" between the EU Member States and Eurostat. Work on Regulation (EC) No 1059/2003, to give NUTS a legal status, started in spring 2000; it was adopted in May 2003 and entered into force in July 2003.

The NUTS Regulation specifies that there should be stability in the classification to ensure that data refers to the same regional unit (considered crucial for time series statistics). However, sometimes national interests require changes to the classification of a territory and when this happens, the EU Member State concerned informs the European Commission about the changes. The European Commission, in turn, amends the classification at the end of each predefined period of stability.

History of NUTS



Principles and characteristics used in the NUTS classification

The development of the NUTS classification is based on three underlying principles.

Principle 1: population thresholds

The NUTS Regulation defines minimum and maximum population thresholds for the size of NUTS regions (see Table 0.1); for the purpose of the Regulation, the population of each territorial unit consists of those persons who have their usual place of residence in the area concerned.

If the total population of an EU Member State is below the minimum threshold for a given NUTS level, then the whole of that Member State shall be covered by a single territorial unit for the level in question. For example, Cyprus and Luxembourg are both covered by single territorial units at each NUTS level (1, 2 and 3).

For NUTS regions that are based on administrative levels, it is sufficient if the average size of the corresponding regions lies within the thresholds; in case of regions not based on administrative levels, each individual region should do so. However, exceptions do exist in case of geographical, socioeconomic, historical, cultural or environmental circumstances. For example, in 2016 the population of 30 NUTS level 1 regions was below the minimum threshold, including, among others: seven EU Member States, eight German Länder, the Portuguese autonomous regions of Madeira and Açores, the Spanish and Finnish island regions of Canarias and Åland, as well as the French Départements

Table 0.1: Minimum and maximum population thresholds for NUTS regions
(number of inhabitants)

	Minimum	Maximum
NUTS 1	3 000 000	7 000 000
NUTS 2	800 000	3 000 000
NUTS 3	150 000	800 000

Source: Regulation (EC) No 1059/2003 of the European Parliament and of the Council of 26 May 2003 on the establishment of a common classification of territorial units for statistics (NUTS)

d'outre-mer. As a result, despite the aim of ensuring that regions of comparable size all appear at the same NUTS level, each level may contain regions which differ greatly in terms of their total population size.

Principle 2: NUTS favours administrative divisions

As noted above, for practical reasons the NUTS classification generally mirrors the territorial administrative divisions of each EU Member State. In doing so, this supports the availability of data and the capacity to implement policy developments.

Principle 3: regular and extraordinary amendments

The NUTS classification can be amended: the Regulation specifies under regular circumstances the classification should remain (unchanged) for a period of at least three years. Note however that additional amendments to the NUTS classification may take place for exceptional circumstances, for example, when new Member States join the EU, or if there is a substantial reorganisation of the administrative structure of an EU Member State; at the time of writing this has only happened once, in 2014 for Portugal. In the case of either regular or extraordinary amendments to the NUTS classification, the Member State concerned should replace its historical data by time series according to their new regional classification within a period of two years.

Which typologies are impacted by changes to NUTS?

As such, any changes made to NUTS level 3 boundaries need to be checked to see if they impact on the regional typologies (applying again any rules for determining classifications to the new NUTS boundaries), with updates to the NUTS classification reflected in correspondence tables for each of the regional typologies.

At a regional level (for NUTS level 3 regions), the following typologies have a legal basis:

- the urban-rural typology — predominantly urban regions, intermediate regions, rural regions (see Chapter 5);
- the metropolitan typology — metropolitan regions and non- metropolitan regions (see Chapter 6);
- the coastal typology — coastal and non-coastal regions (see Chapter 7).

Note there are three additional regional typologies (also based on NUTS level 3 regions) for which there is (currently) no legal basis:

- the border typology — border and non-border regions (see Chapter 8);
- the island typology — island and non-island regions (see Chapter 9);
- the mountain typology — mountain and non-mountain regions (see Chapter 10).

Further information

Glossary entry:

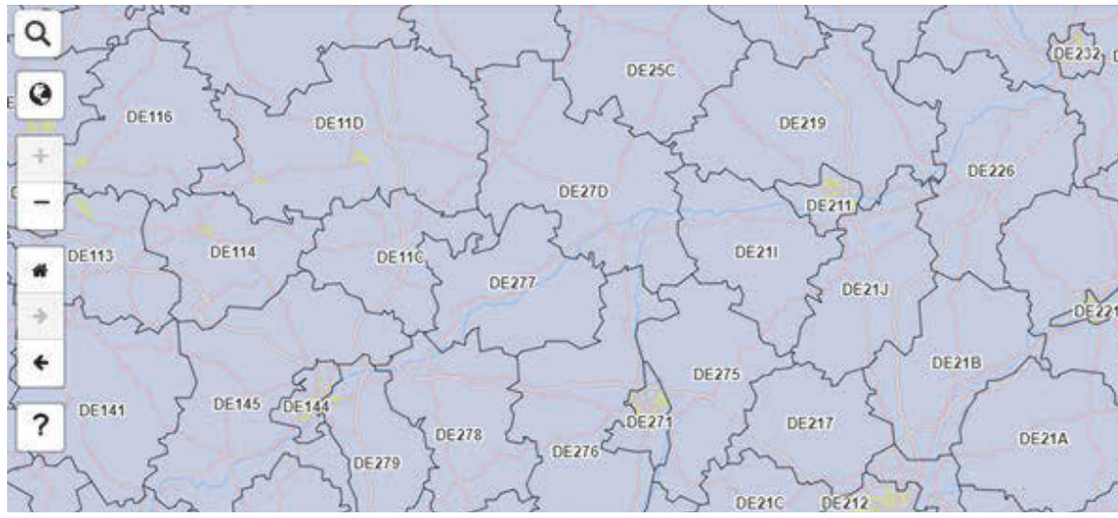
Statistics Explained, at: https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary: NUTS

Legislation:

Eurostat website, at: https://ec.europa.eu/eurostat/web/nuts/legislation

Dedicated section:

Eurostat website, at: https://ec.europa.eu/eurostat/web/nuts/overview



Published information

Visualisation tools:

Eurostat publishes data in the form of maps that are based on NUTS regions through Regions and cities illustrated (RCI), available at: https://ec.europa.eu/eurostat/cache/RCI/

The different levels of the NUTS classification may be viewed through the Statistical atlas, available at: http://ec.europa.eu/eurostat/statistical-atlas/gis/viewer/?mids=BKGCNT,NUTS3,CNTOVL&o=1,1,0.7&ch=C02,TRC,NUTS&center=50.03696,19.9883,3&lcis=NUTS3&; the example at the bottom of the previous page shows NUTS level 3 regions in Germany.

Maps:

Maps (in *.PDF format) presenting the different NUTS levels are available on Eurostat's website, at: https://ec.europa.eu/eurostat/web/nuts/nuts-maps

Database:

Eurostat's website provides regional statistics by NUTS for 16 separate domains covering a wide range of socioeconomic data. These statistics are available for the following areas: demography, education, health, the labour market, labour costs, poverty and social exclusion, crime, economic accounts, structural business statistics, business demography, tourism, the digital economy and society, science and technology, transport, agriculture, the environment and energy. The data may be found at: https://ec.europa.eu/eurostat/data/database.

Using data on territorial typologies

Eurostat publishes EU statistics at a regional level for many statistical domains: these statistics are widely used in the context of EU regional policy. Through the Tercet initiative, the European Commission has defined territorial typologies in cooperation with the OECD, establishing legal recognition for these typologies by integrating them into the NUTS Regulation and its implementing provisions, thereby promoting a set of harmonised definitions that are based on methodological transparency, core definitions, and established criteria for creating and updating each typology (as required). The Tercet initiative therefore aims to improve the comparability and stability of these territorial typologies and has been designed to impact on the compilation and dissemination of EU subnational statistics. In turn, this has made it possible for those developing thematic statistical and policy-based regulations to refer directly to the territorial typologies when they instigate new areas for collecting or analysing subnational statistics.

The integration of a broad range of territorial typologies into the NUTS Regulation in December 2017, underlines the importance of subnational statistics as an instrument for targeted policymaking and a tool for understanding and quantifying the impact of policy decisions for specific types of territories. As shown in Maps 0.1-0.8 these cover several different territorial typologies for which data are now available across the EU at different levels — grid typologies, local typologies and regional typologies. The availability of these typologies and related data have in turn stimulated policymakers to ask questions such as: does it make sense to have the same policy target for pollution in a city centre as in an area of natural beauty? or does it make sense to have the same policy target for educational attainment in a capital city as in a remote, sparsely-populated rural area?

Analyses such as these have led to a territorial dimension being introduced into a range of EU policy areas and their related statistics. Grouping different types of regions and/or areas according to territorial types can help in understanding common patterns, for example, urban areas/regions generally perform better in economic terms and may act as hubs for innovation and education; at the same time, they may also be characterised by a range of different challenges such as congestion, pollution or housing problems.

Indeed, while some of the most pressing challenges facing the EU — for example, globalisation, climate change or poverty and social exclusion — have traditionally been approached through broad sectoral policies, often implemented across the EU, policymakers have more recently analysed spatial developments for these challenges at a much more disaggregated level of detail between different types of territory both within and across EU Member States; more details are provided below.

Cohesion policy

The EU's cohesion policy invests in measures to support growth and jobs and promotes territorial cooperation; it is behind thousands of projects that have taken place all over the EU. It aims to reduce the disparities that exist between EU regions, promoting a balanced and sustainable pattern of territorial development, by supporting job creation, business competitiveness, economic growth, sustainable development, and an overall improvement in the quality of life. The bulk of cohesion policy funding is concentrated on less developed EU regions in order to help them to catch-up with other regions and to reduce the economic, social and territorial disparities that exist across the EU.

The EU's cohesion policy is established on the basis of seven-year funding periods. The current period covers 2014-2020, for which expenditure of EUR 352 billion has been allocated for measures in the EU Member States, equivalent to almost one third of the total EU budget.

Cohesion policy is delivered through three main funds (the European Regional Development Fund (ERDF), the Cohesion Fund and the European Social Fund (ESF): the NUTS classification defines the regional boundaries that are used to determine geographic eligibility for two of these funds. For the programming period 2014-2020, eligibility for the European Regional Development Fund (ERDF) and the European Social Fund (ESF) was calculated on the basis of regional GDP per inhabitant (in PPS and averaged over the period 2007-2009), with NUTS level 2 regions ranked and split into three groups:

- less developed regions (where GDP per inhabitant was less than 75 % of the EU-27 average);
- transition regions (where GDP per inhabitant was between 75 % and 90 % of the EU-27 average); and
- more developed regions (where GDP per inhabitant was more than 90 % of the EU-27 average).

The European Commission's cohesion policy for 2014-2020 emphasised territorial development strategies focusing on urban, rural and coastal areas. The principles for cohesion policy were set out in a common strategic framework (Regulation (EU) No 1303/2013) stressing that the promotion of smart, sustainable and inclusive growth must reflect the role of cities, urban, rural and coastal areas and take urban-rural linkages into account. An early example of this approach is the use that was made of the degree of urbanisation typology in Regulation (EU) No 522/2014 to define eligibility for ERDF support to carry out innovative actions in cities or in towns and suburbs.

Europe 2020

The Europe 2020 strategy is the EU's agenda for growth and jobs: it emphasises smart, sustainable and inclusive growth as a way to overcome the structural weaknesses in the EU's economy, improving its competitiveness and productivity and underpinning a sustainable social market economy. As the period covered by the strategy (2010-2020) passed, there was a switch in policy focus towards a more integrated territorial approach that sought to understand more clearly the uneven socioeconomic developments experienced both within and across EU Member States, for example, differences between urban and rural areas or differences between capital city metropolitan regions and smaller metropolitan regions.

Although the Europe 2020 strategy does not specifically refer to regional policy, the European Commission has underlined that it may be neither realistic nor desirable that all regions seek to attain the same national targets. Rather, it was considered important for the EU Member States to take account of their different needs and to draw up national and regional programmes that reflect local specificities so as to promote smart, sustainable and inclusive growth. Highlighting these regional and territorial aspects, there have been a number of calls to align regional funding more closely with the Europe 2020 strategy and to monitor in more detail the performance of EU regions with respect to Europe 2020 targets. This approach was also supported by the findings of the mid-term review of the Europe 2020 strategy, which noted that there was growing evidence of regional divergence in several EU Member States. More practically, the Directorate-General for Regional and Urban Policy has increased its efforts to align the various dimensions of regional funding more closely to the Europe 2020 targets.

Sustainable development goals

Sustainable development may be defined as economic growth and social progress that meets the needs of present generations without jeopardising future generations. It provides a comprehensive approach bringing together economic, social and environmental considerations in ways that mutually reinforce each other.

The United Nations (UN's) 2030 Agenda for Sustainable Development, adopted by world leaders in 2015, represents a global sustainable development framework based around 17 Sustainable Development Goals (SDGs) and 169 specific targets. It is a commitment to eradicate poverty and achieve sustainable development by 2030 worldwide, ensuring that no one is left behind.

European policymakers recognise that coherent and integrated regional policy should form an essential part of the EU's implementation strategy for the 2030 Agenda, whereby SDG indicators have to capture problems at a scale where they occur (the regional, sub-regional and city-level). The EU is fully committed to be at the forefront of implementing the UN's 2030 Agenda. In November 2016, the European Commission outlined its strategic approach in a Communication, Next steps for a sustainable European future: European action for sustainability (COM(2016) 739 final).

The EU's Urban Agenda

The EU's Urban Agenda is an integrated and coordinated approach designed to deal with the urban dimension of EU and national policies. By focusing on concrete issues through dedicated partnerships, the Urban Agenda seeks to improve the quality of life in urban areas. In 2016, EU ministers responsible for urban matters agreed the Pact of Amsterdam which underlies the Urban Agenda. It is based on the principles of subsidiarity and proportionality, focusing on three key pillars of EU policymaking: better regulation, better funding and better knowledge.

Through a series of dedicated partnerships which involve — on a voluntary and equal basis — cities, EU Member States, the European Commission and stakeholders such as businesses or non-governmental organisations (NGOs), work programmes and actions are designed to successfully tackle the principal challenges that are facing cities as well as contributing towards smart, sustainable and inclusive growth. For more information, see: https://ec.europa.eu/futurium/en/urban-agenda.

Urban development in the EU

The various dimensions of urban life — economic, social, cultural and environmental — are closely inter-related. Successful urban developments are often based on coordinated/integrated approaches that seek to balance these dimensions through a range of policy measures such as increasing education opportunities, urban renewal, preventing crime, encouraging social inclusion or encouraging environmental protection. As such, urban development policy has the potential to play an important role in promoting the Europe 2020 strategy and delivering smart, sustainable and inclusive growth.

One important change in European policymaking for the 2014-2020 funding period is recognition of the important role that may be played by the urban dimension of regional policy, in particular concerning measures that are designed to assist in the fight against poverty and social exclusion. Indeed, the EU has put the urban dimension at the heart of cohesion policy, with at least half of the resources foreseen under the ERDF being invested in urban areas. The European Commission estimates that during this six-year period some EUR 10 billion from the ERDF will be allocated to sustainable urban development, covering around 750 different cities.

A number of commentators and stakeholders have argued that cities need to be more involved in the conception and implementation of EU policies, as, despite their economic weight, there is no explicit urban dimension to the Europe 2020 strategy or its targets, although three flagship projects — the digital agenda, the innovation union and youth on the move — address particular urban challenges.

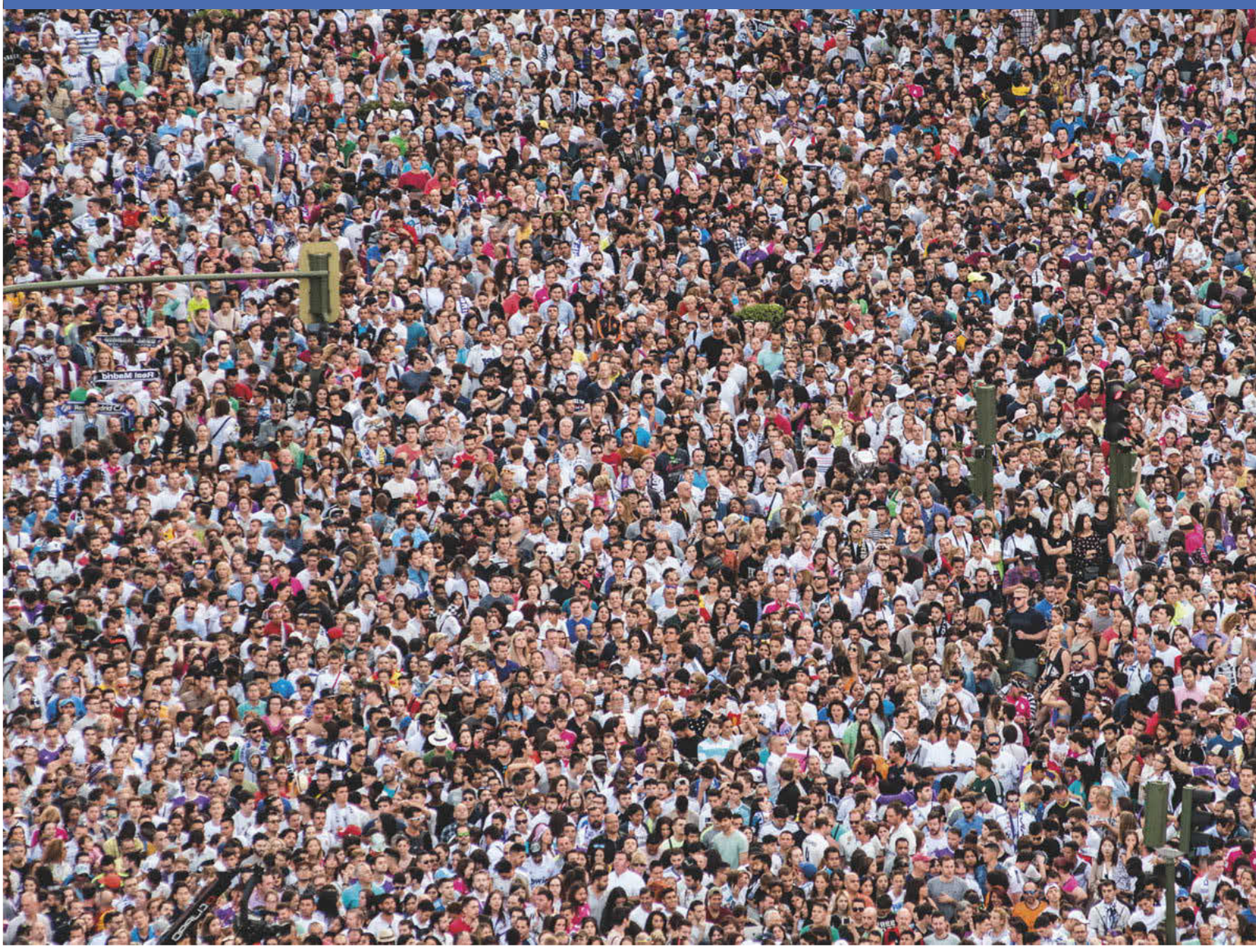
Rural development in the EU

There are also considerable differences between EU Member States as regards their urban-rural territorial divisions. Some Member States — for example, Ireland, Sweden or Finland — are very rural in character. By contrast, the Benelux Member States and Malta have a high degree of urbanisation. Equally, within individual Member States there can be a wide range of different typologies, for example, the densely-populated, urbanised areas of Nordrhein-Westfalen in western Germany may be contrasted with the sparsely-populated, largely rural areas of Brandenburg or Mecklenburg-Vorpommern in north-eastern Germany.

EU rural development policy is designed to help rural areas and regions meet a wide range of economic, social and environmental challenges; it complements the system of direct payments to farmers and measures to manage agricultural markets. The European agricultural fund for rural development (EAFRD) provides finance for the EU's rural development policy, which is used to promote sustainable rural development and to contribute towards the goals of the Europe 2020 strategy for smart, sustainable and inclusive growth.

For the period 2014-2020, the EAFRD has been allocated EUR 99.6 billion. The EAFRD is intended to help develop farming and rural areas, by providing a competitive and innovative stimulus, at the same time as seeking to protect biodiversity and the natural environment. As with other structural and investment funds, from 2014 onwards, rural development policy is based on the development of multiannual partnership and operational programmes which are designed at a national/regional level by individual EU Member States.

A Cluster types



1. Cluster types

Short description

Cluster types are groups of 1 km² population grid cells that share similar characteristics, based on a combination of their population density and geographical contiguity.

Classes for the typology and their conditions

DETAILS OF THE TYPOLOGY

The following three types of clusters may be identified:

- urban centre (high-density cluster): a cluster of contiguous grid cells of 1 km² (excluding diagonals) with a population density of at least 1 500 inhabitants per km² and collectively a minimum population of 50 000 inhabitants after gap-filling;
- urban cluster (moderate-density cluster): a cluster of contiguous grid cells of 1 km² (including diagonals) with a population density of at least 300 inhabitants per km² and a minimum population of 5 000 inhabitants.
- rural grid cells: grid cells that are not identified as urban centres or as urban clusters.

METHODOLOGY FOR THE TYPOLOGY

Cluster types may be identified in relation to the total population living in 1 km² grid cells; note, the introductory chapter provides a more detailed explanation of the population grid. The vast majority of the geographical territory of the European Union (EU) (continental Europe, the Açores, Canarias and Madeira) is covered by the GEOSTAT population grid, while the remaining outermost regions are covered by a global population grid produced by the Joint Research Centre (JRC) of the European Commission.

Understanding contiguous cells

Before looking at the identification of the three cluster types, it is necessary to understand the concept of contiguous cells. Figure 1.1 shows an array of nine grid cells, with the focus on the central cell which is surrounded by eight others, numbered 1 to 8.

Figure 1.1: contiguous grid cells

1	2	3
4		5
6	7	8

Two types of contiguous grid cells can be identified:

- **a narrower definition excluding diagonals: all cells that touch each other excluding those cells that only touch each other on a diagonal; only cells numbered 2, 4, 5 and 7 are contiguous to the central cell in Figure 1.1 according to this narrower definition, which is used for identifying urban centres (high-density clusters).**
- **a broad definition including diagonals: all cells that touch each other in any way, including cells that are linked only on a diagonal; all cells numbered 1 to 8 are contiguous to the central cell in Figure 1.1 according to this broader definition, which is used for identifying urban (moderate-density) clusters.**

Each cluster type is identified by classifying 1 km² population grid cells according to characteristics that are based on their total population and population density. Grid cells are classified according to the steps detailed below (note that a cell may belong to an urban centre and an urban cluster as their definitions are not mutually exclusive).

Step 1: identifying urban centres (high-density clusters)

The identification of urban centres (high-density clusters) is done in two steps: first, all cells with a population density of at least 1 500 inhabitants per km² are plotted (light blue shading in Figure 1.2); secondly, groups of contiguous grid cells are identified (groups G1 and G2 in Figure 1.2); remember that these contiguous grid cells may include cells that are linked only on a diagonal — as shown, for example, by cell C2.

The method used to identify urban centres (high-density clusters) is similar to that used for urban (moderate-density) clusters. Rather than using a threshold of 300 inhabitants per km², the identification of urban centres is based on grid cells with a population density of at least 1 500 inhabitants per km² (see Figure 1.2).

Contiguous cells are grouped together: however, when identifying urban centres diagonal contiguity is excluded. As such, in the example of Figure 1.2, cells C2 and D3 are not considered as contiguous; rather, they are each part of different groups (G1 and G2).

Figure 1.2: Contiguous groups for urban centres

	A	B	C	D	E	F
1	15 000	16 500	5 000			
2	15 000		6 000			
3	15 000	18 500		2 500	3 500	
4	15 500				7 000	

Population ≥ 1 500 inhabitants/km²

Population < 1 500 inhabitants/km²

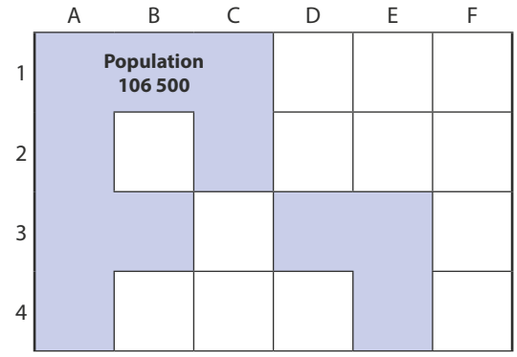
	A	B	C	D	E	F
1	G1	G1	G1			
2	G1		G1			
3	G1	G1		G2	G2	
4	G1				G2	

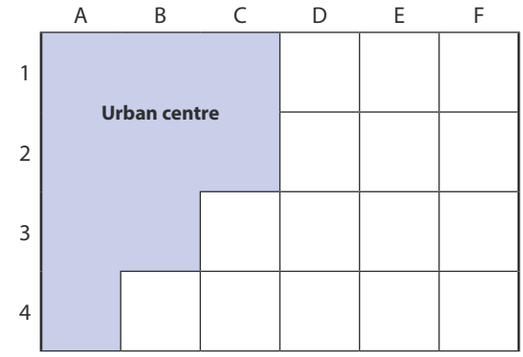
G1 **Group 1 of contiguous cells**

G2 **Group 2 of contiguous cells**

In a second step, each group of contiguous grid cells is analysed in relation to its total number of inhabitants and only those groups of contiguous cells with 50 000 inhabitants or more are selected (see Figure 1.3).

Figure 1.3: Identifying urban centres



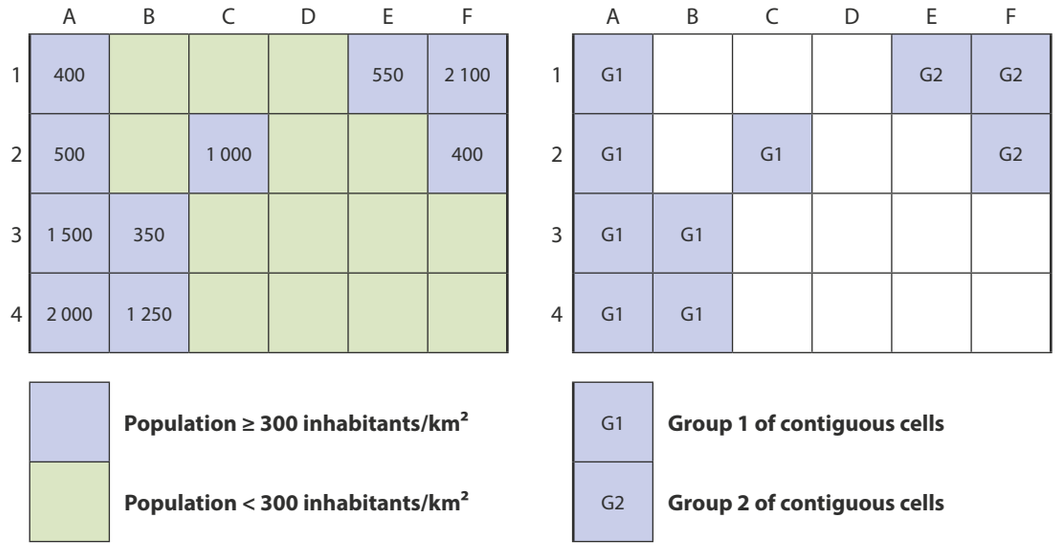


The identification of urban centres involves a third step, which is taken to fill gaps and smooth borders. This is done by applying an iterative majority rule: if five or more of the (eight) cells surrounding a particular cell belong to the same unique urban centre, then that cell is also considered to belong to the same urban centre; this process is repeated (iteratively) until no more cells are added. Note that the criterion for gap-filling includes cells that are linked only on a diagonal. For example, cell B2 on the left-hand side of Figure 1.3 has seven of its eight surrounding cells that belong to the same urban centre. This cell should therefore subsequently be added to the urban centre to smooth borders (as shown on the right-hand side of Figure 1.3).

Step 2: identifying urban clusters (moderate-density clusters)

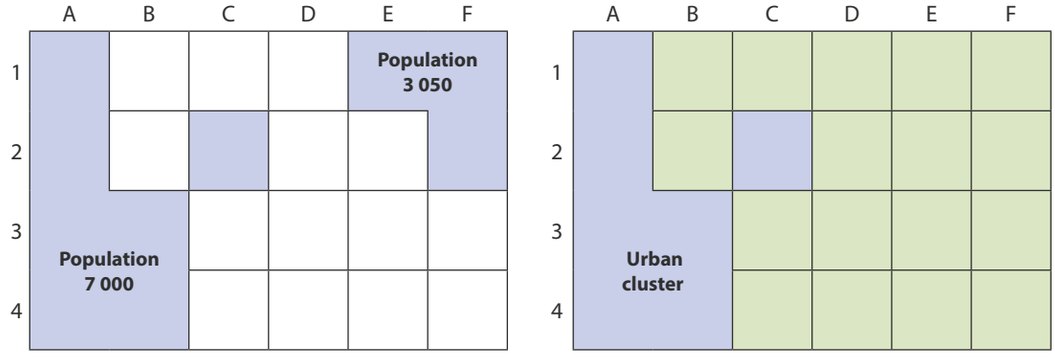
The method used to identify urban clusters (moderate-density clusters) is similar to that used for urban centres (high-density clusters). Rather than using a threshold of at least 1 500 inhabitants per km^2, the identification of urban clusters is based on grid cells with a population density of at least 300 inhabitants per km^2 (see Figure 1.4).

Figure 1.4: Contiguous groups for urban clusters



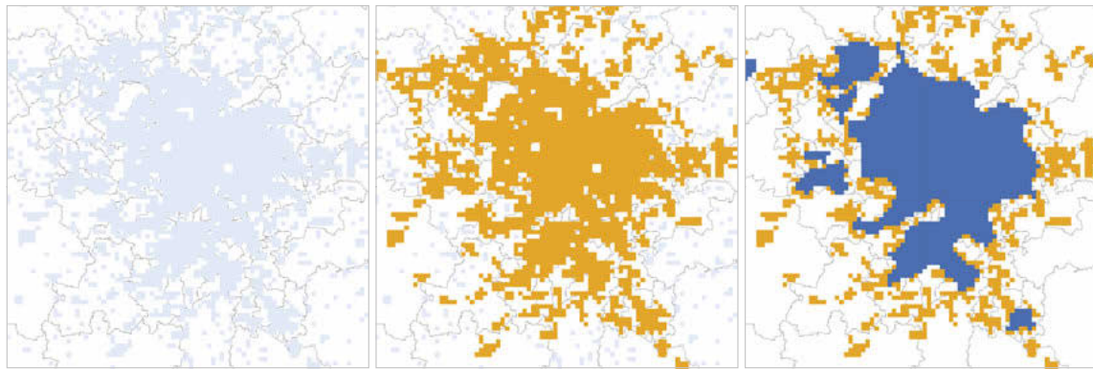
The identification of urban clusters is done in two steps: first, all cells with a population density of at least 300 inhabitants per km^2 are plotted (light blue shading in Figure 1.4); secondly, groups of contiguous grid cells are identified (groups G1 and G2 in Figure 1.4); note that contiguous grid cells may include cells that are linked only on a diagonal — as shown, for example, by cell C2.

Figure 1.5: Identifying urban clusters



Thereafter, each group of contiguous grid cells is analysed in relation to its number of inhabitants and those groups of contiguous cells with 5 000 inhabitants or more are selected; these are urban clusters. Continuing with the same example, Group G1 is considered an urban cluster as it has a population of 7 000 inhabitants, as shown in Figure 1.5, while G2 is not an urban cluster as its population is only 3 050 inhabitants.

Figure 1.6: Schematic overview identifying urban centres and urban clusters



Source: Eurostat, JRC and European Commission, Directorate-General Regional and Urban Policy and Directorate-General Agriculture and Regional Development

Step 3: identifying rural grid cells

Rural grid cells are those cells that are not identified as urban centres or as urban clusters. The majority of rural grid cells have a population density that is less than 300 inhabitants per km^2, although this is not necessarily the case. Some rural grid cells may have a higher number of inhabitants if they do not form part of a cluster that meets the criteria for an urban centre or an urban cluster.

Figure 1.7: Detecting rural grid cellss

	A	B	C	D	E	F
1					550	2 100
2			450			
3	1 500	350				
4		1 600				

	A	B	C	D	E	F
1					G1	G1
2			G2			
3	G2	G2				
4		G2				

Population ≥ 300 inhabitants/km²

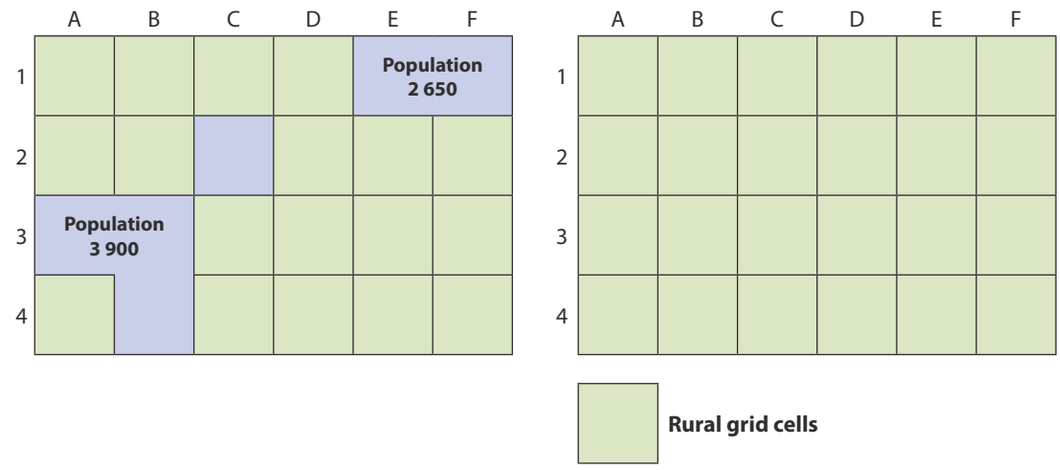
Population < 300 inhabitants/km²

G1 **Group 1 of contiguous cells**

G2 **Group 2 of contiguous cells**

In Figure 1.7, cells A3, B4 and F1 each meet the population criterion for an urban centre (at least 1 500 inhabitants per km^2), while cells B3, C2 and E1 each meet the population criterion for an urban cluster (at least 300 inhabitants per km^2). Each group of contiguous grid cells (groups G1 and G2 in the right-hand side of Figure 1.7) may be analysed in relation to their total number of inhabitants and those groups of contiguous cells with 5 000 inhabitants or more are selected.

Figure 1.8: Identifying rural grid cells



In Figure 1.8, neither group G1 with a total population of 3 900 inhabitants, nor group G2 with a total population of 2 650 inhabitants reaches the population threshold for an urban cluster. As such, each cell in these two groups is classified as a rural grid cell, as shown on the right-hand side of Figure 1.8.

Note also, as mentioned above, that it is possible for grid cells with a population density of less than 300 inhabitants per km^2 to be classified as part of an urban centre, due to gap-filling.

Links to other spatial concepts/ typologies

Cluster types are used as a basis for the following local territorial typologies:

- the degree of urbanisation (see Chapter 2 for more information), to identify cities, towns and suburbs and rural areas.

Commuting flows may then be used to identify:

- the commuting zones of cities and hence their functional urban areas (see Chapter 3 for more information).

Cluster types are used as a basis for the following regional territorial typologies:

- the urban-rural typology (see Chapter 5), to identify predominantly urban regions, intermediate regions and predominantly rural regions.

Functional urban areas may then be used as a basis for the following regional territorial typology:

- the metropolitan typology (see Chapter 6), to identify metropolitan and non-metropolitan regions.

Results

Map 1.1 provides an overview of the final classification of cluster types for a 1 km^2 population grid (as established in 2011). It shows that the largest concentrations of urban centres are located in western Germany, the Benelux countries and the United Kingdom.

The results in Map 1.1 may be compared with those for Map 0.12 (in the introductory chapter) which shows the population density of individual 1 km^2 grid cells. While aggregating information for cluster types (as done for Map 1.1) allows some of the noise to be removed from the map, thereby highlighting more clearly the main urban centres in the EU, it is also apparent that a considerable amount of information is lost (when compared with that shown in Map 0.12). For example, Map 0.12 shows the clear distinction that may be made contrasting the high number of uninhabited grid cells in Spain with a relatively large number of inhabited grid cells in France. By contrast, rural grid cells dominate the vast majority of both of these territories in Map 1.1.

Further information

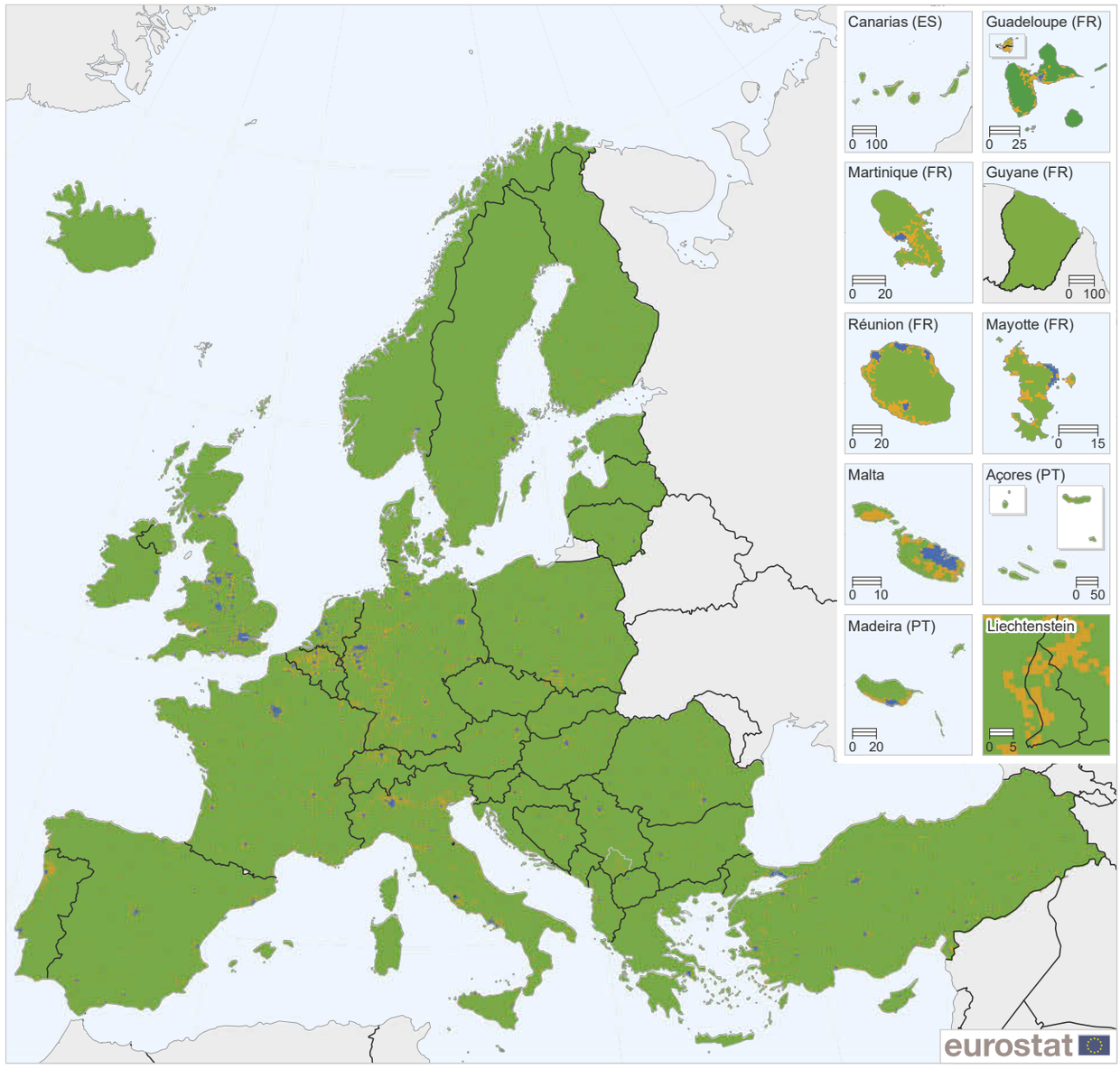
GLOSSARY ENTRIES

Urban centre (high-density cluster) — https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:Urban_centre

Urban cluster (moderate-density cluster) — https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:Urban_cluster

Rural grid cell — https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:Rural_grid_cell

Map 1.1: Cluster types based on 1 km² grid cells



Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat - GISCO, 09/2018

0 200 400 600 800 km

Urban centres (high-density clusters):
a cluster of contiguous grid cells of 1 km² with a density of at least 1 500 inhabitants per km² and a minimum population of 50 000 after gap-filling

Urban clusters (moderate-density clusters):
a cluster of contiguous grid cells of 1 km² with a density of at least 300 inhabitants per km² and a minimum population of 5 000

Rural grid cells:
grid cells of 1 km² outside of urban centres and urban clusters

Note: based on GEOSTAT population grid from 2011, additional data from Columbia University, Center for International Earth Science Information Network - CIESIN (2015): GHS population grid.

Source: Eurostat, JRC and European Commission, Directorate-General Regional and Urban Policy and Directorate-General Agriculture and Regional Development

B

Local typologies

2. Degree of urbanisation

Short description

The degree of urbanisation classifies local administrative units (LAUs) as cities, towns and suburbs or rural areas based on a combination of geographical contiguity and population density, measured by minimum population thresholds applied to 1 km² population grid cells; each LAU belongs exclusively to one of these three classes.

Classes for the typology and their conditions

DETAILS OF THE TYPOLOGY

The degree of urbanisation is a classification based on the following three categories:

- cities, otherwise referred to as densely populated areas — code 1;
- towns and suburbs, otherwise referred to as intermediate density areas — code 2;
- rural areas, otherwise referred to as thinly populated areas — code 3.

'Urban areas' refers to an aggregate composed of information covering cities as well as towns and suburbs (in other words, densely populated areas and intermediate density areas).

METHODOLOGY FOR THE TYPOLOGY

The basis for the degree of urbanisation classification is data for 1 km² population grid cells. Each cell has the same shape and surface area, thereby avoiding distortions caused by using units varying in size. This is a considerable advantage when compared with alternative approaches such as those based on the use of population data for local administrative units (such as municipalities).

The use of relatively small (1 km²) and uniform grid cells means that the basic concept for the degree of urbanisation looks inside larger local administrative units to detect the presence of individual rural areas, towns and suburbs, or cities, providing more accurate data for the three categories when aggregated to produce national data. Note that to have a population grid covering all of the EU Member States, it was necessary to employ a 'top-down' approach (or a disaggregation grid) for those Member States which did not dispose of a 1 km² grid; such an approach is based on disaggregating population data for local administrative units according to land use or land cover information. In some other cases, Member States use a hybrid approach to manage situations where the coverage of the population grid is incomplete. More information pertaining to population grids as a basis for developing territorial typologies is provided in the introductory chapter.

Step 1: classifying grid cells

Groups of 1 km² population grid cells are plotted in relation to their neighbouring cells to identify:

- rural grid cells: all grid cells outside of urban clusters/centres;
- urban clusters (or moderate-density clusters): a cluster of contiguous grid cells of 1 km² (in other words, grid cells that share a common border including grid cells that only touch diagonally at corners) with a population density of at least 300 inhabitants per km² and a minimum population of at least 5 000 inhabitants;
- urban centres (or high-density clusters): a cluster of non-diagonal contiguous grid cells (in other words, excluding those cells with only touching corners) with a population density of at least 1 500 inhabitants per km² and collectively at least 50 000 inhabitants after gap-filling.

For a more detailed explanation of how grid cells are classified to the various cluster types (including the gap-filling process), see Chapter 1.

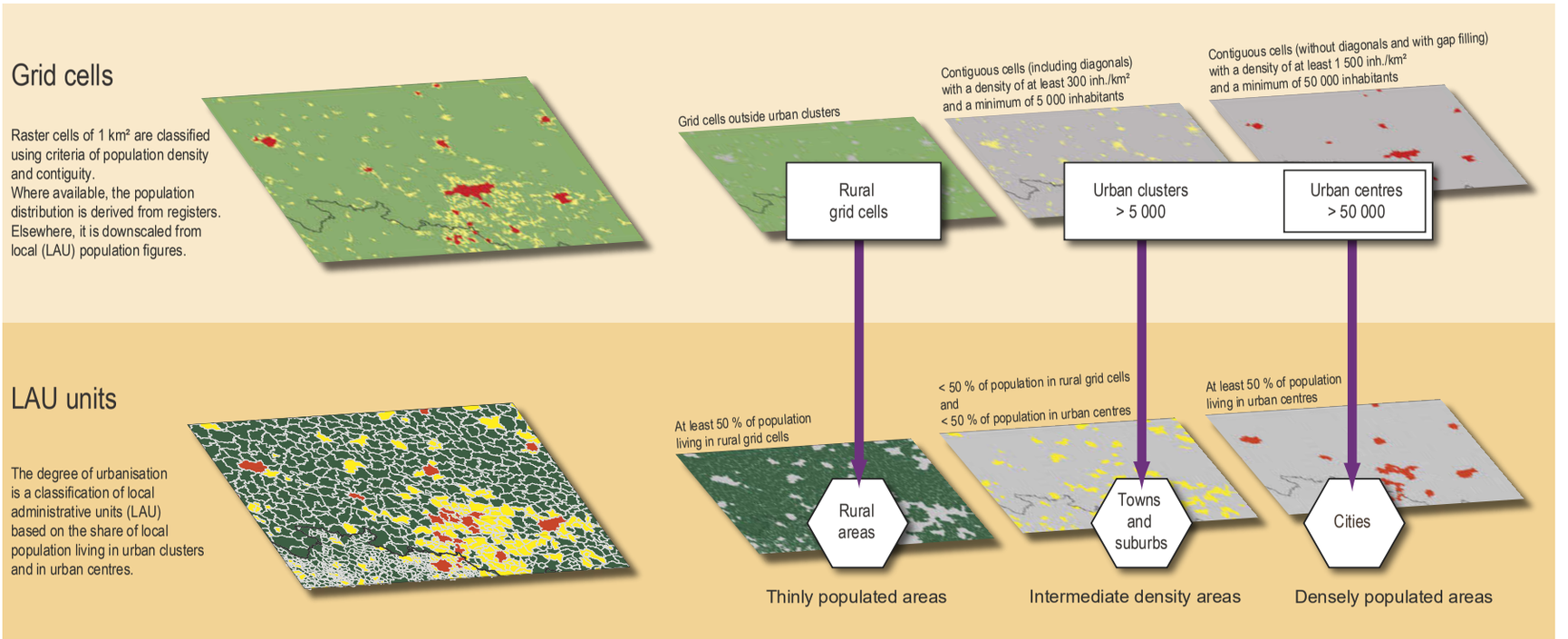
Step 2: classifying local administrative units according to the degree of urbanisation

Once all grid cells have been classified and urban centres, urban clusters and rural grid cells identified, the next step concerns overlaying these results onto local administrative units (LAUs), as follows:

- cities (densely populated areas) — where at least 50 % of the population lives in one or more urban centres (code 1);
- towns and suburbs (intermediate density areas) — where less than 50 % of the population lives in an urban centre, but at least 50 % of the population lives in an urban cluster (code 2);
- rural areas (thinly populated areas) — where more than 50 % of the population lives in rural grid cells (code 3).

Note that once this second step has been completed, then each LAU should be classified to one and only

Figure 2.1: Schematic overview of the degree or urbanisation classification

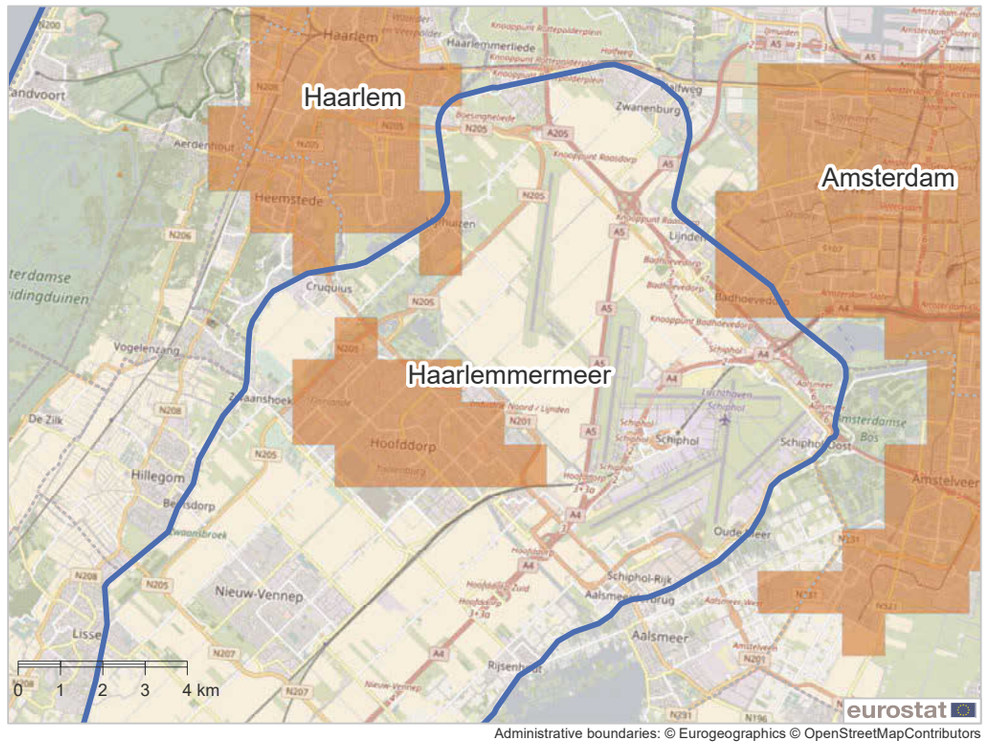


Note: for more information, see https://ec.europa.eu/regional_policy/sources/docgener/work/2014_01_new_urban.pdf.

Source: Directorate-General Regional and Urban Policy, based on data from Eurostat, JRC, national statistical authorities

one class/category. However, in order to classify LAUs based on the population grid, the LAUs have to be transformed into a raster as well, which can lead to some situations which require an ad-hoc solution (see further adjustments below). For more information on LAUs, see the section on Building blocks for typologies in the introductory chapter.

Figure 2.2: More than one urban centre needed to define a city — an example for Haarlemmermeer



Administrative boundaries: © Eurogeographics © OpenStreetMapContributors

Local administrative unit (LAU) boundaries

LAU boundary of Haarlemmermeer

Urban centre (cluster of high-density cells with population of ≥ 50 000 inhabitants)

Source: Eurostat (based on GEOSTAT population grid from 2011 and LAU 2016)

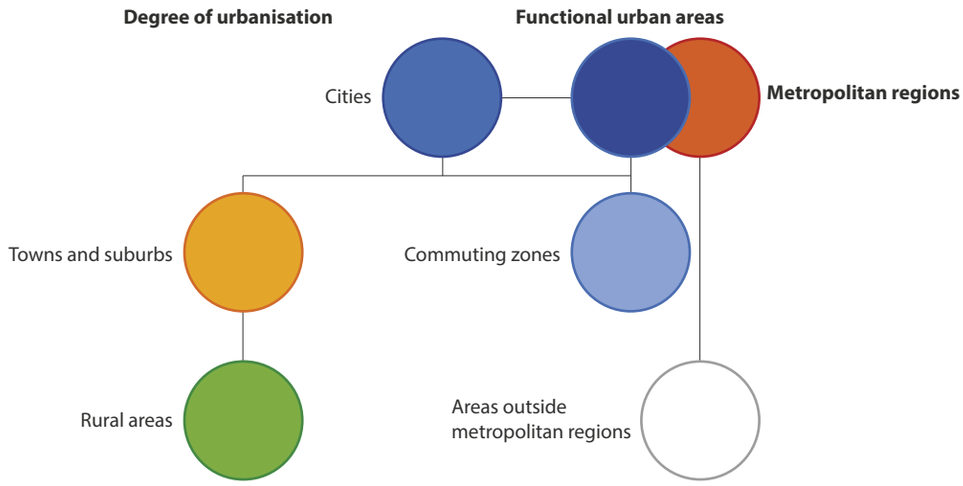
Figure 2.2 shows that when classifying LAUs as cities, it may be necessary to consider more than one urban centre. In this example, there were 65 593 people living in the urban centre of Haarlemmermeer in the Netherlands, which equated to just 46 % of the total population of the LAU for Haarlemmermeer (below the threshold of 50 % that is required to identify a city). Nevertheless, as shown in the example, there were two adjacent LAUs — Amsterdam and Haarlem — and their urban centres spill over into Haarlemmermeer. Aggregating the total population of the three urban centres that are located within the boundaries of Haarlemmermeer results in the share of those living in urban centres rising to some 54 % of the total population; as such, Haarlemmermeer is classified as a city within the degree of urbanisation.

Further adjustments

Adjusting the results for cities

As the typologies for the degree or urbanisation and for functional urban areas (cities and their commuting zones) share a common definition of cities, any changes that may be made to the classification of cities should be adopted for both typologies (using the same rules). More information on adjustments that might be made when classifying cities is provided in Chapter 3 (under the heading Further adjustments), while the relationships between these typologies (and the related typology of metropolitan regions — NUTS level 3 regions where at least half of the population lives in a functional urban area composed of at least 250 000 inhabitants; see Chapter 6 for more information) is shown in Figure 2.3.

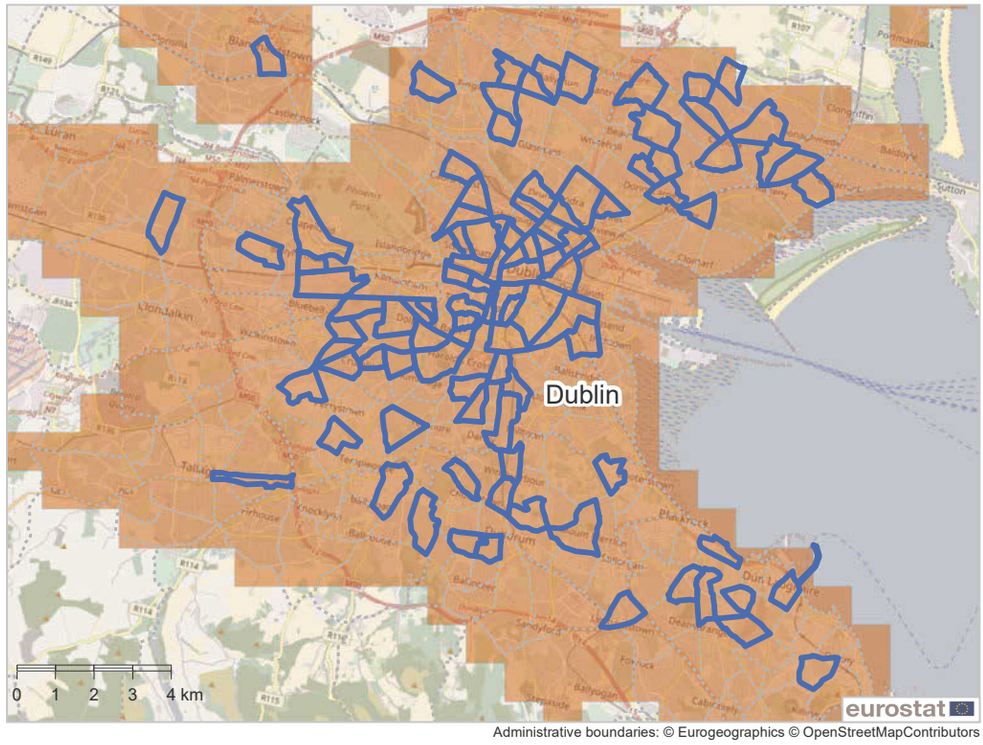
Figure 2.3: Three typologies joined together by a common definition for cities



Local administrative units with no population in the raster equivalent

A number of LAUs do not have any population for their raster equivalent. When calculating their degree of urbanisation, these LAUs are not assigned any population as they are too small (smaller than one grid cell); as such, they are given no initial classification. These LAUs with no population in the raster equivalent are classified according to their surrounding cluster; they were found to be exclusively in high-density clusters (urban centres). An example is provided for Dublin in Ireland (see Figure 2.4).

Figure 2.4: Local administrative units with no population in the raster equivalent — an example for Dublin



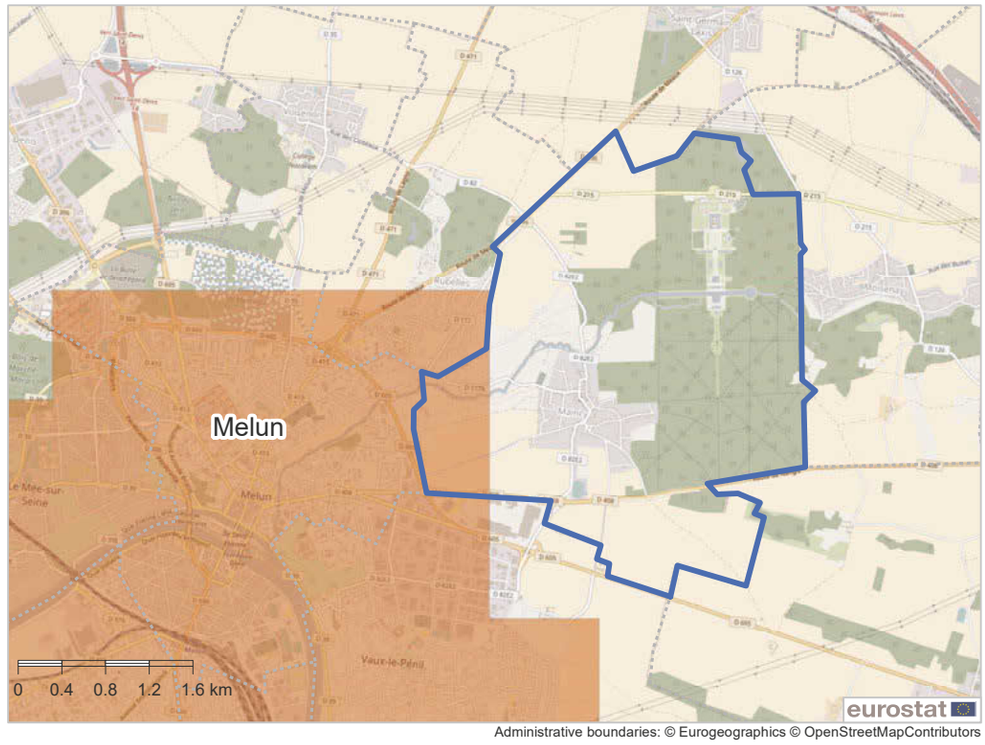
Source: Eurostat (based on GEOSTAT population grid from 2011 and LAU 2016)

Border effects

Thinly populated LAUs that are classified as intermediate density areas or densely populated areas may be classified incorrectly if rural grid cells cover most of their territory. Those LAUs with a total population of less than 5 000 inhabitants and with 90 % or more of their area composed of rural grid cells could be reclassified as thinly populated areas; this adjustment is optional. An example is provided for Maincy in France (LAU code FR77269), see Figure 2.5: based on the population grid, it has a population of 4 575 inhabitants, with some 2 941 of these living in a high-density cluster. However, as its overall population is less than 5 000 inhabitants and just 7.3 % of Maincy's total area of 10 km^2 is covered by this cluster, it is reclassified as a rural area.

In a similar vein, small LAUs classified as rural areas may be classified incorrectly due to the coarse resolution of the population grid compared with the small size of some LAUs. Those LAUs with an area of less than 5 km^2 and with more than 30 % of their surface area covered by non-rural grid cells could be reclassified as intermediate density areas or densely populated areas according to the respective shares of these clusters; this adjustment is also optional.

Figure 2.5: Local administrative units reclassified due to border effects — an example for Maincy



Source: Eurostat (based on GEOSTAT population grid from 2011 and LAU 20

Links to other spatial concepts/ typologies

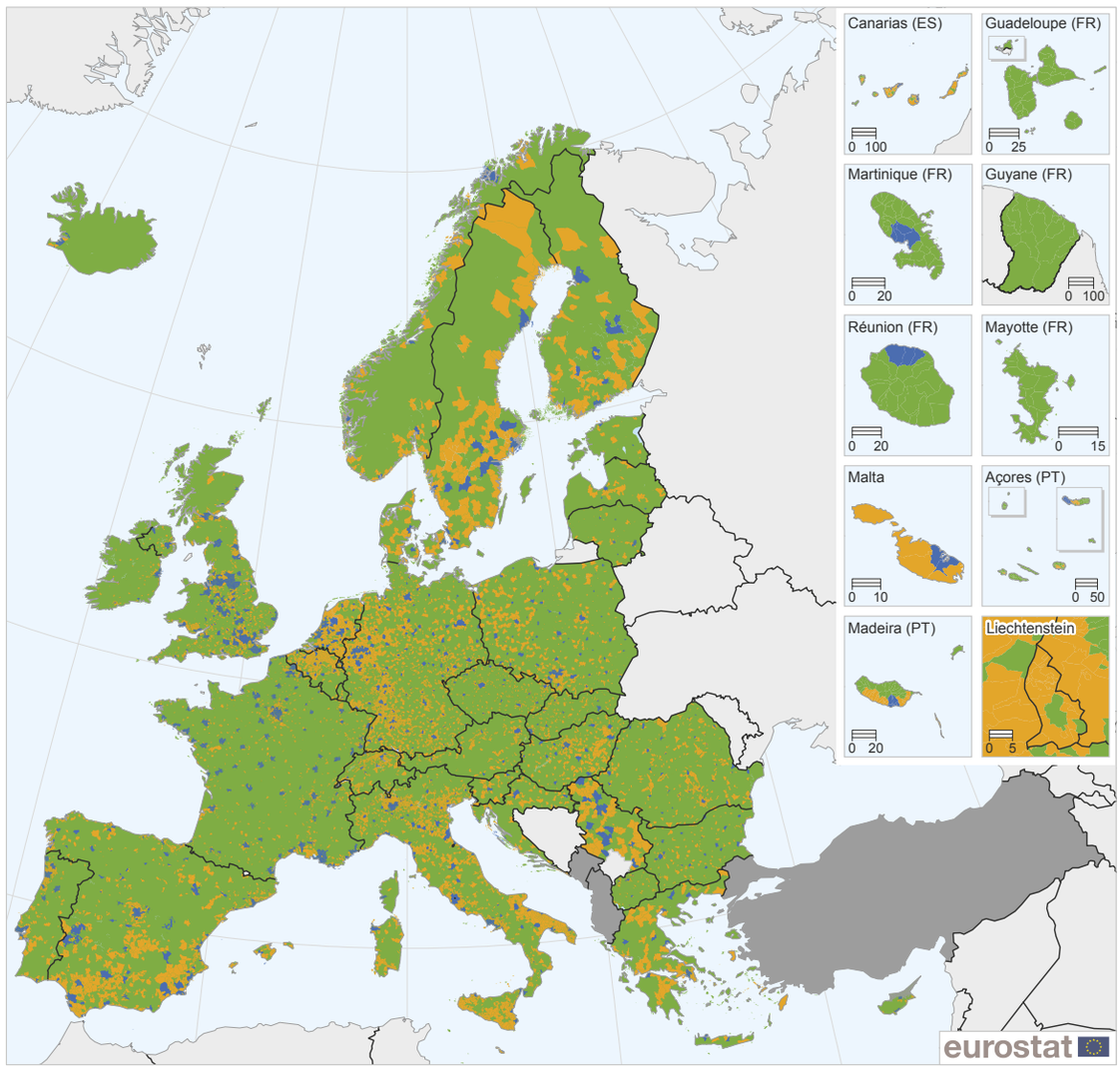
The degree of urbanisation classification provides streamlined and harmonised definitions for a number of similar but not identical spatial concepts, for example, all urban centres with at least 50 000 inhabitants — cities — are included in the city statistics data collection exercise (see Chapter 3 for more information), while rural areas identified by the degree of urbanisation and predominantly rural regions (from the urban-rural typology; see Chapter 5 for more information) are both based on the share of population living in rural grid cells.

Results

Map 2.1 provides an overview of the final classification for the degree of urbanisation by LAU.

For all EU Member States, EFTA countries and some candidate countries a list of their LAUs with their degree of urbanisation category is available at: https://ec.europa.eu/eurostat/ramon/miscellaneous/index.cfm?TargetUrl=DSP_DEGURBA.

Map 2.1: Degree of urbanisation for local administrative units (LAU)



Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat — GISCO, 05/2018

Cities
(Densely populated areas: at least 50 % of the population lives in urban centres)

Towns and suburbs
(Intermediate density areas: less than 50 % of the population lives in rural grid cells and less than 50 % of the population lives in urban centres)

Rural areas
(Thinly populated areas: more than 50 % of the population lives in rural grid cells)

Data not available

0 200 400 600 800 km

Note: based on population grid from 2011 and LAU 2016.

Source: Eurostat, JRC and European Commission Directorate-General for Regional Policy

Changes to the typology over time

HISTORICAL DEVELOPMENTS

Urban and rural developments are central concepts used by a wide range of policymakers, researchers, national administrations and international organisations. While these terms may be readily understood by the general public, a clear statistical definition at an international level has proved elusive.

The degree of urbanisation classification was originally introduced in 1991, distinguishing between densely, intermediate and thinly populated areas. It was based on information for numbers of inhabitants, population density and the contiguity of local administrative units at level 2 (LAU2), otherwise referred to as municipalities. As LAU2s varied considerably in terms of their size/area, the results were compromised in terms of comparability; this was especially the case for EU Member States characterised by relatively large or relatively small LAUs. Note also that the original classification for the degree of urbanisation was based on different population density thresholds to those currently employed: for example, densely populated areas had a lower threshold of 500 inhabitants per km^2, which led to many smaller towns and some suburbs being classified within this category.

In 2011, the OECD together with the European Commission's Directorates-General for Regional and Urban Policy, Eurostat, Agriculture and Rural Development and the Joint Research Centre (JRC) started working on revising the degree of urbanisation classification. As a result the methodology has been improved see: A harmonised definition of cities and rural areas: the new degree of urbanisation; WP 01/2014. The refinement of the methodology also provided an opportunity to harmonise several similar but not identical spatial concepts.

CHANGES OVER TIME THAT IMPACT ON THE CLASSIFICATION

The degree of urbanisation classification should be updated to reflect any changes to the underlying sources of information that are used in the compilation of this classification. As such, the classification may be updated to reflect: changes to LAU boundaries or changes to population distributions for 1 km^2 grid cells. The frequency of such updates varies according to the source of information.

Changes to the degree of urbanisation classification resulting from a revision of population distributions for 1 km^2 grid cells are less common and these may be expected every 10 years, when new census data becomes available. The next major update of the population grid is foreseen to take place for the 2021 reference year.

Annual updates of the degree of urbanisation classification should be made to reflect changes to LAU boundaries. These modifications can be implemented in two ways: applying the degree of urbanisation methodology as described above for the new layer of LAUs; or estimating the degree of urbanisation based on changes to LAU boundaries. The first approach is more labour intensive, while the second is particularly suitable if boundary changes for LAUs are relatively small or consist principally of merging LAUs, especially if these have the same degree of urbanisation.

Updating the degree of urbanisation to reflect changes in LAU boundaries

LAU boundaries may change over time in three different ways: LAUs can merge, they may undergo a boundary shift, or they may be split. The most common change for LAUs within the EU in recent years has been for two or more units to be merged; boundary shifts have been less common, while splitting units apart has been rare.

Case 1: LAU mergers

Merging two LAUs with different degrees of urbanisation may be resolved by giving precedence to the more densely populated unit: when merging LAUs composed of a city and a town or suburb, reclassify the new LAU as a city; when merging LAUs composed of a town or suburb and a rural area, reclassify the new LAU as a town or suburb. Such a process may be further refined by taking into account the relative population sizes of the two LAUs.

Case 1a: LAU mergers involving the same degree of urbanisation

The degree of urbanisation is additive, meaning that if two LAUs classified as thinly populated areas are subsequently merged into a single LAU then they will remain a thinly populated area; this is also true for the other degrees of urbanisation.

Case 1b: LAU mergers involving a densely populated area

The degree or urbanisation methodology specifies that each high-density cluster should have at least 75 % of its population covered by densely populated LAUs. It also foresees a method to match densely populated areas with the geographic areas of administrative or political functions and links the degree of urbanisation to the city data collection exercise. This means that any merger involving an LAU that has been previously classified as a densely populated area should result in the newly merged LAU also being classified as a densely populated area.

Case 1c: LAU mergers involving thinly populated and intermediate density areas

These mergers can be addressed in two simple ways: using the population of the urban cluster or using the population of the LAUs.

In the first case, if the population of the relevant urban cluster(s) is available then add the population inhabiting the urban cluster for each of the LAUs and divide this by the total population of the new LAU to determine the new degree of urbanisation. If more than 50 % of the population of the new LAU lives in an urban cluster, the new LAU should be classified as an intermediate density area. If the population share is less than 50 %, then the new LAU should be classified as a thinly populated area.

In the second case, if the population living in the urban cluster cannot be identified, then the degree of urbanisation may be determined based on the population distribution between the LAUs. If more than 50 % of the population of the new LAU comes from thinly populated LAUs, the new LAU should be classified as thinly populated. If more than 50 % of the population of the new LAU comes from intermediate density LAUs, the new LAU should be classified as intermediate density.

Case 2: LAU boundary shifts

Whereas mergers can be dealt with using simple methods, boundary shifts cannot always be as reliably addressed. Indeed, in some rare cases, boundary shifts between LAUs that have the same degree of urbanisation can lead to a change in classification. Such complexity means that a simple rule of thumb is often the preferred and most efficient approach.

A simple rule may be established whereby if an LAU loses less than 25 % of its previous population or gains less than 50 % of its population due to boundary shifts, then the degree of urbanisation does not change. This rule of thumb is likely to cover 90 % of all boundary shifts and ensures continuity. If this is not the case, then further investigation is required, as described below:

Case 2a: changes in the degree of urbanisation from boundary shifts are excluded

For each LAU, the share of population in the three different types of population grids cells is known. For example, if as the result of a boundary shift the population of an LAU that has 100 % of its population in rural grid cells shrinks, then it will remain a thinly populated area. Equally, if a boundary shift for an LAU that has 100 % of its population in rural grid cells rises, then the new LAU would need to more than double its population before it could (potentially) become an intermediate density area. As a result, if the boundary shift leads to a change in population that is too small to tip the population share of the revised LAU below 50 % of the relevant grid cells, it keeps the same degree of urbanisation.

Case 2b: changes in the degree of urbanisation from boundary shifts are unlikely (but cannot be excluded)

If the boundary shift leads to a change in population that is theoretically sufficient to the tip the population share of the revised LAU below or above 50 %, but the shift is between LAUs with the same degree of urbanisation, then the same degree of urbanisation should be kept.

Case 2c: changes in the degree of urbanisation from boundary shifts are likely

In some cases, changes in the degree of urbanisation are likely. Take for example, if a city were to gain part of a suburb as a result of a boundary shift. The city (a densely populated area) gains a small number of additional inhabitants (which does not have an impact on its degree of urbanisation). The suburb loses some of its population (that is reclassified to the city). As a result, the population in the revised LAU covered by the suburb may have less than 50 % of its population living in an urban cluster in which case it should subsequently be reclassified as a thinly populated area.

Case 3: splitting LAUs

This type of change is relatively rare. Therefore, the main recommendation is one of continuity; in other words, maintain the same degree of urbanisation. If an LAU is split, the new LAUs should have the same degree of urbanisation as the old LAU. If there are concerns, that the new LAUs may have different urban structures, the same approaches as described for boundary shifts can be used.

FUTURE DEVELOPMENTS

At the time of writing, a 2021 population and housing census implementing regulation is in the process of being adopted by the European Commission. It includes an article for 1 km^2 population grid statistics: as well as information for annual counts of populations, it also foresees more detailed analyses, including population by sex, population by age, number of employed persons, population by place of birth, population by usual place of residence one year prior to the census.

Eurostat are also discussing post-2021 census developments with national statistical authorities. It is possible that from the mid-2020s onwards, the ESS will agree to produce annual counts of populations (based on usual place of residence) for a 1 km^2 grid, with data to be made available within 12 months of the end of the reference period.

Further information

GLOSSARY ENTRY:

https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:Degree_of_urbanisation

DETAILED METHODOLOGY:

A harmonised definition of cities and rural areas: the new degree of urbanisation (WP 01/2014), European Commission, Directorate-General for Regional and Urban Policy

DEDICATED SECTION:

https://ec.europa.eu/eurostat/web/degree-of-urbanisation/background

CORRESPONDENCE FOR LOCAL ADMINISTRATIVE UNITS:

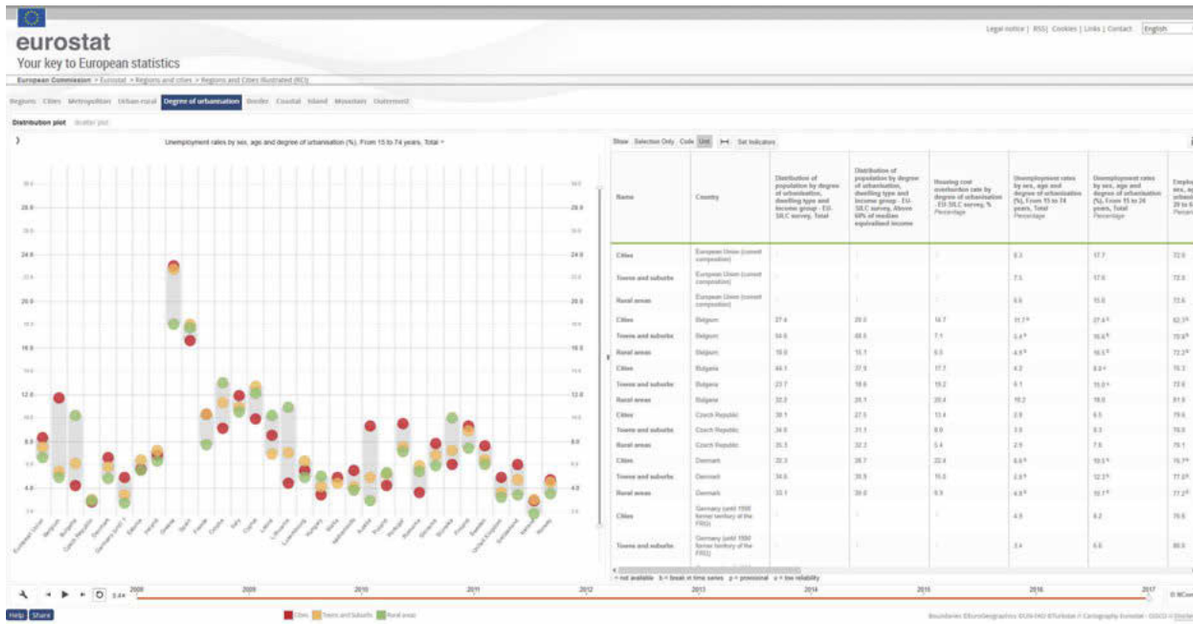
https://ec.europa.eu/eurostat/ramon/miscellaneous/index.cfm?TargetUrl=DSP_DEGURBA

Published indicators

A variety of different statistical surveys collect data for LAUs and this information may be used to calculate data for the three different degrees or urbanisation. This process involves aggregating the data for all cities within a territory (for example a Member State, or the EU as a whole) into one value, and doing the same for all towns and suburbs and for all rural areas. Indeed, the classification provides a means for accessing a much broader range of data from a number of different surveys, including the EU's labour force survey (LFS) and EU statistics on income and living conditions (EU-SILC) and tourism statistics; see below for more details relating to the available data.

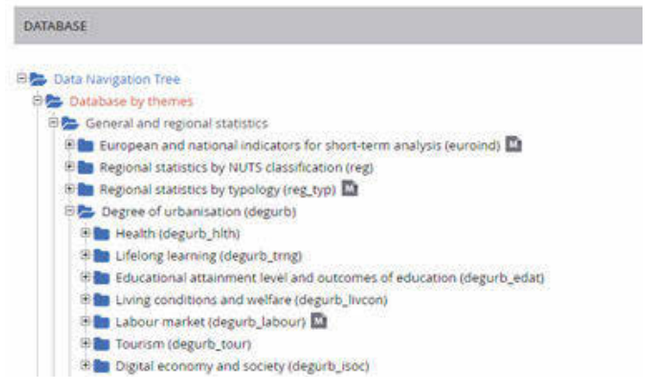
VISUALISATION TOOLS:

Eurostat publishes data on the degree of urbanisation through Regions and cities illustrated, available at: https://ec.europa.eu/eurostat/cache/RCI/#?vis=degurb.gen&lang=en.



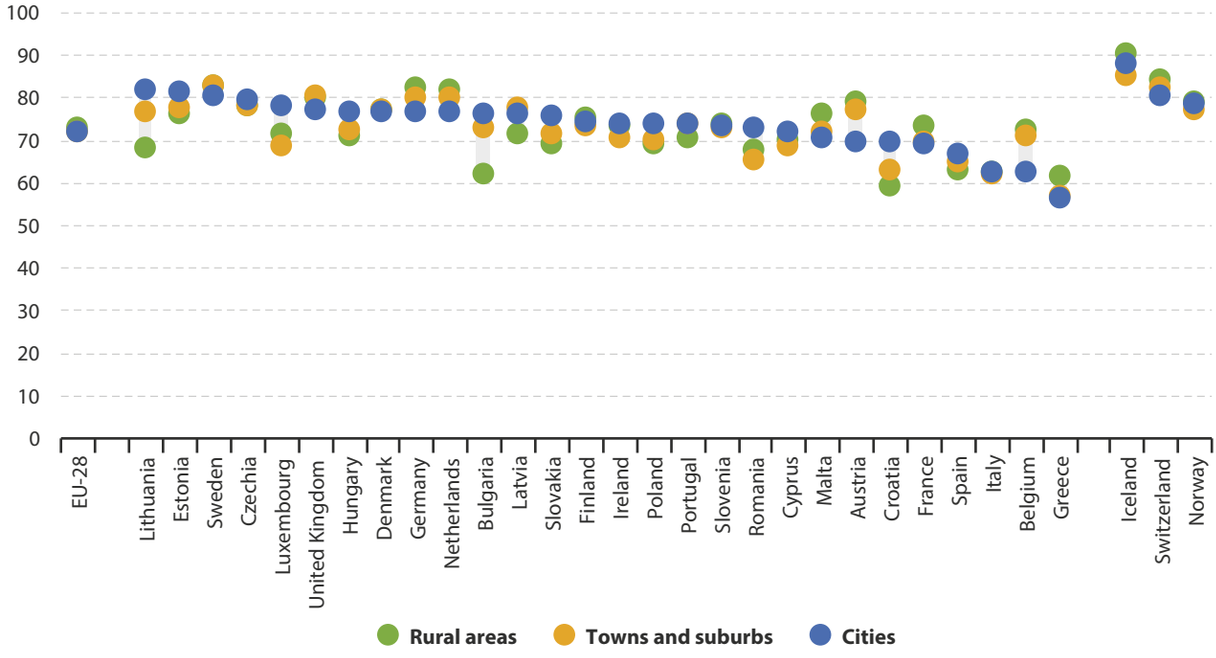
DATABASE:

Eurostat's website provides information for over 100 indicators by degree of urbanisation. These statistics are available for the following statistical domains: health, education, living conditions and welfare, the labour market, tourism, and the digital economy and society. They are available at: https://ec.europa.eu/eurostat/data/database.



Examples

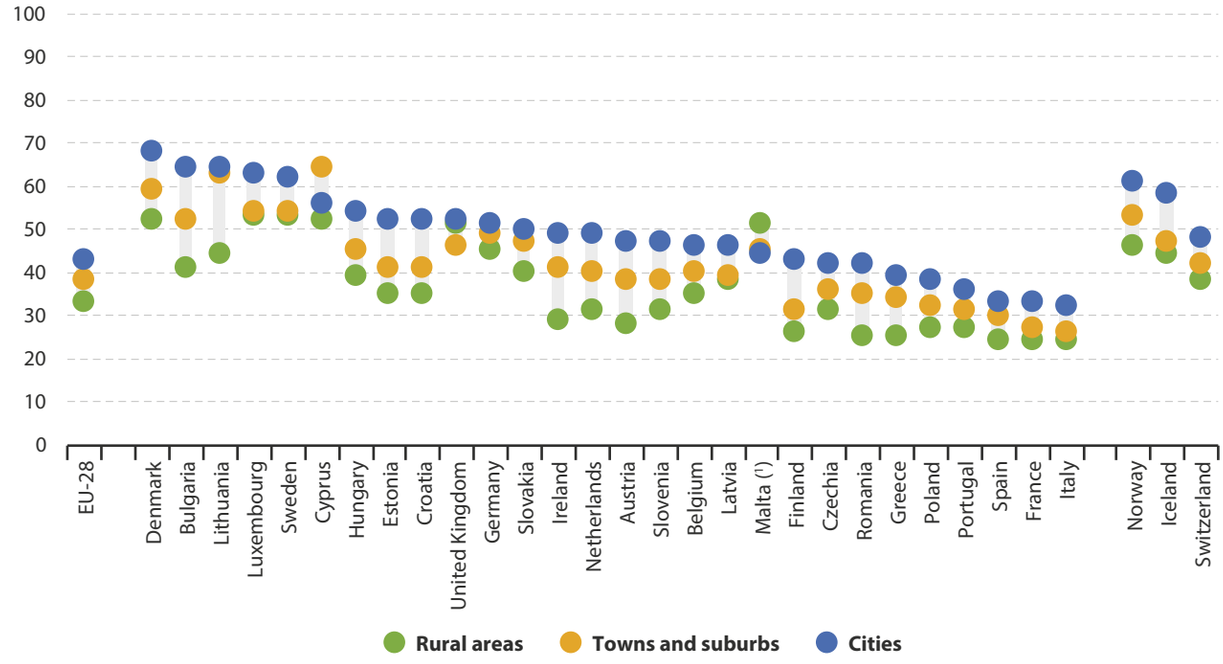
Figure 2.6: Employment rate, by degree of urbanisation, 2017
(% share of population aged 20-64)



Note: ranked on cities.

Source: Eurostat (online data code: lfst_r_ergau)

Figure 2.7: Proportion of people using online telephone or video calls, by degree of urbanisation, 2017
(% share of people aged 16-74; based on frequency of use during the three months prior to the survey)

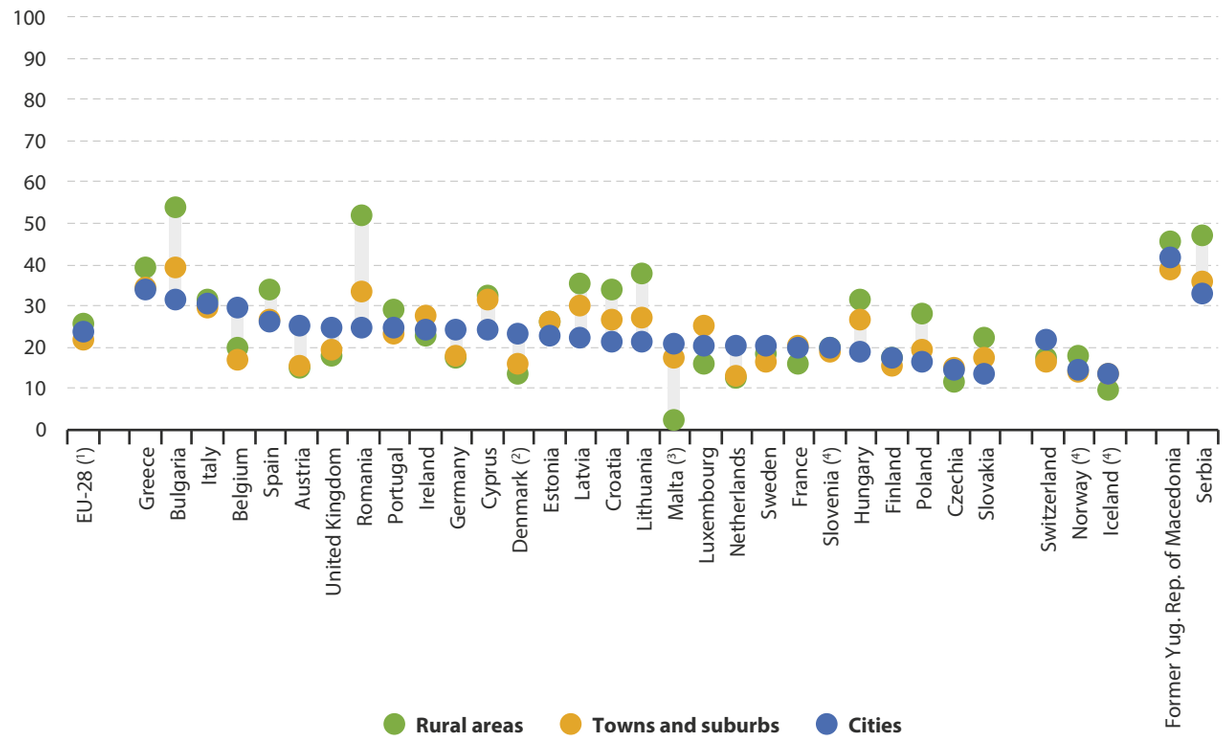


Note: ranked on cities.

(1) Rural areas: low reliability.

Source: Eurostat (online data code: isoc_ci_ac_i)

Figure 2.8: Proportion of people at risk of poverty or social exclusion, by degree of urbanisation, 2016
(% share of population)



Note: ranked on cities.

(1) Rural areas: estimate.
(2) 2017.
(3) Rural areas: low reliability
(4) 2015.

Source: Eurostat (online data codes: ilc_peps13 and ilc_peps01)

3. Cities, commuting zones and functional urban areas

Short description

A city is a local administrative unit (LAU) where a majority of the population lives in an urban centre of at least 50 000 inhabitants.

A commuting zone contains the surrounding travel-to-work areas of a city where at least 15 % of employed residents are working in the city.

A functional urban area consists of a city and its commuting zone. Functional urban areas therefore consist of a densely inhabited city and a less densely populated commuting zone whose labour market is highly integrated with the city (OECD, 2012).

Classes for the typology and their conditions

DETAILS OF THE TYPOLOGY

Functional urban areas are a classification based on the following two categories:

- cities, otherwise referred to as densely populated areas;
- commuting zones.

Note these two categories are not exhaustive; they do not cover the whole territory.

METHODOLOGY FOR THE TYPOLOGY

The starting point for defining a city and its commuting zone is to consider what features form a city. The definition used builds on the idea of a city as a place with a relatively high spatial concentration of population.

The main building blocks are data for 1 km^2 population grid cells. Each grid cell has the same shape and surface area, thereby avoiding distortions caused by using units varying in size. This is a considerable advantage when compared with alternative approaches such as those based on the use of administrative data for LAUs (such as municipalities).

Step 1: classifying grid cells

These 1 km^2 population grid cells are plotted in relation to their neighbouring cells to identify cluster types; note this is the same process that is used for the degree of urbanisation typology (see Chapter 2). The cluster type used to identify cities is that of:

- urban centres (or high-density clusters): a cluster of non-diagonal contiguous grid cells (in other words, excluding those cells with only touching corners) having a population density of at least 1 500 inhabitants per km^2 and collectively at least 50 000 inhabitants after gap-filling.

For a more detailed explanation of how densely populated grid cells are classified to urban centres (including the gap-filling process), see Chapter 1.

Step 2: classifying cities

The typology for functional urban areas is established at the level of local administrative units (LAUs). Once all grid cells have been classified and urban centres identified, the next step concerns overlaying these results onto LAUs, to identify cities:

- cities (densely populated areas) — where at least 50 % of the population lives in one or more urban centres (note this definition is identical to that used for the degree of urbanisation typology).

A city is defined in an identical way to the approach adopted for the degree of urbanisation (see Chapter 2) when identifying densely populated areas (and thereafter cities). In both of these typologies, cities are covered by the exact same local administrative units. There is, however, a difference in the coding of the two concepts. The degree of urbanisation classifies all local administrative units in three groups, which means that all the densely populated areas or all cities get the same code. Each city is assigned an individual code, which allows LAUs for each city to be grouped and classified (by population size). In simple terms, the degree of urbanisation typology results in data that may be analysed at an aggregate level for all of the cities in a specific country, while the functional urban area definition allows data to be analysed at the level of each individual city.

In most cases, defining a city is a simple task, insofar as the city consists of a single administrative unit that covers the entire urban centre. However, in some cases the relationship between LAUs and urban centres may be more complex — these are examined below.

The urban centre is much bigger than the 'central' administrative unit

In some cases, the urban centre may stretch far beyond the boundaries of the 'central' LAU (or municipality). This is often the case with large capital cities that have outgrown the small LAU that carries their name. To strictly define the city as the central LAU would create a problem of 'under-bounding', in other words the city would be too small relative to its urban centre and a large share of the population living in the urban centre would inhabit areas outside the city. As the methodological definition of a city states that all LAUs with at least 50 % of their population in the urban centre are part of the city, the boundaries of the city are extended to include these units (in order to better capture and represent all urban centres).

To avoid any confusion between the 'central' LAU which gives its name to the city and this broader concept covering greater cities, Eurostat gives preference to analysing information for greater cities (when available). In some EU Member States, such cities can be easily identified as they have the prefix 'greater' added to the city name, for example, the Métropole du Grand Paris (France) or Greater London (the United Kingdom). Otherwise, some greater cities are defined as a combination of two or more cities: for example, the greater city of Porto (Portugal) is made up of five cities (Porto, Vila Nova de Gaia, Gondomar, Valongo and Matosinhos). In a few cases, the greater city may include several cities and other communes, for example, Milan, Naples (both Italy), Rotterdam (the Netherlands) or Helsinki (Finland).

The urban centre covers two (or more) distinct cities

Some urban centres cover more than one (distinct) city. This can be due to inaccuracies in the population grid or because two (or more) cities have almost grown together — but remain functionally distinct. In such cases, a national statistical authority may choose to create multiple cities to cover the single urban centre. Note that when multiple cities are defined as covering a single urban centre, each of the (distinct) cities should have a population of at least 50 000 inhabitants.

Poole and Bournemouth (in the United Kingdom, see Figure 3.1) provide an example: they share a single urban centre, but are identified as two distinct cities. These two cities may still belong to the same (single) commuting zone if one of the cities has a flow of commuters to the other city that reaches at least 15 %.

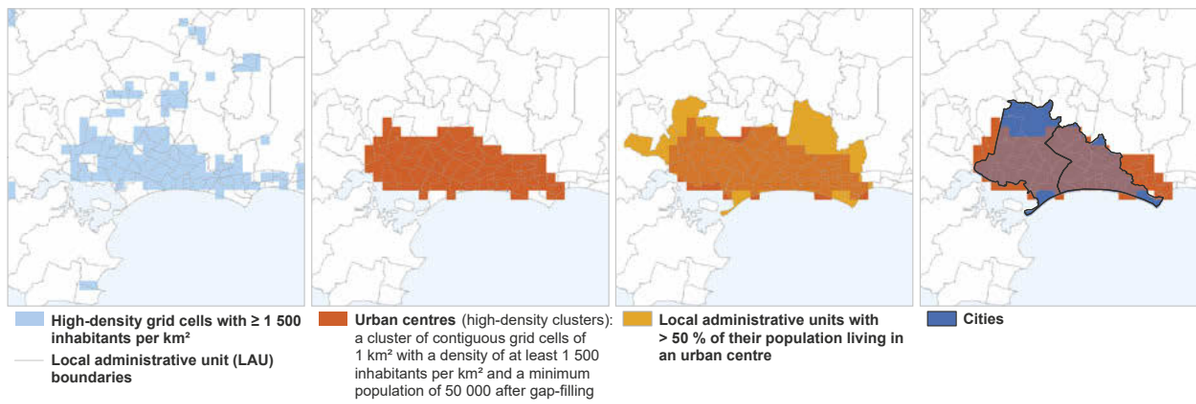
A city includes more than one urban centre

This situation is usually caused by topographical features, such as a wide river/estuary or a mountain ridge that may lead to an urban centre being split into two unique parts; this occurs, for example, in Tromsø (Norway). In such a case, the city is defined to cover both urban centres.

The administrative unit is located between two urban centres

If an LAU has a share of its population in two urban centres, the unit should belong to the urban centre that captures the largest share of its population; even if that share is below 50 %. For example, if an LAU has 40 % of its population in urban centre A and 20 % of its population in urban centre B, then it should be classified as part of the city that represents urban centre A.

Figure 3.1: High-density grid cells, urban centres and city boundaries — an example for Poole and Bournemouth



Note: the dark line within the shaded area for the final map demarcates the city of Poole (on the left side of the line) from the city of Bournemouth (on the right side of the line).

Source: Eurostat

Step 3: classifying commuting zones

As a final step, the commuting zone is defined. The city plus its commuting zone forms what is known as a functional urban area.

- **commuting zones** — are based on commuting patterns:
  - if at least 15 % of employed persons living in one city work in another city, these cities are treated as a single destination for the commuting analysis;
  - all LAUs from which at least 15 % of the employed population commute to the city are identified as commuting zones;
  - enclaves (LAUs surrounded by a single functional urban area) are included as part of the commuting zone and exclaves (non-contiguous LAUs) are excluded from commuting zones;
- **functional urban areas** — are defined as a city and its commuting zone. In cases where cities are connected by commuting, the functional urban area may consist of multiple cities and their single commuting zone. There are a few cases where cities do not have a commuting zone: for these, the city is equal to the functional urban area.

Figure 3.2: City and related typologies — an example for Milano

A **city** is a local administrative unit (LAU) where the majority of the population lives in an urban centre of at least 50 000 inhabitants. The city of Milano has 1 346 000 inhabitants.

A **functional urban area** consists of a city and its commuting zone. The functional urban area of Milano has 5 111 000 inhabitants.

Metropolitan regions are NUTS 3 regions or a combination of NUTS 3 regions which represent all agglomerations of at least 250 000 inhabitants. These agglomerations were identified using the functional urban area. Each agglomeration is represented by at least one NUTS 3 region. If in an adjacent NUTS 3 region more than 50 % of the population also lives within this agglomeration, it is included in the metropolitan region. The metropolitan region of Milano has 4 316 000 inhabitants.

Source: Eurostat

The destination to be used for identifying commuting flows should be the best approximation of the urban centre. For cities where their boundary is adjusted (see below) to match the boundaries of a city administration, the commuting zone should ideally be based on the unadjusted boundaries, in other words, before adding or excluding LAUs.

Data availability can also require the commuting zone to be defined at a more aggregated geographical level. For example at NUTS level 3 instead of for LAUs. In such cases, it is better to first define the commuting zone at the LAU level and only subsequently match this with NUTS level 3 regions. The OECD uses the same approach in the United States, where commuting zones are first defined at the census tract level, which is subsequently matched with data for counties.

Identifying unique commuting zones

To classify commuting zones the first step is to identify if there are any polycentric developments, in other words, commuting zones that are characterised by two (or more) cities that are linked by their commuting flows. If city A has 15 % of its employed residents commuting to city B, then the two cities are classified as sharing a single commuting zone; note that city B does not also need to have a flow of at least 15 % of its employed residents commuting to city A.

In more complex cases involving three cities, the following rules should be applied:

- if both city A and city B have commuting flows of more than 15 % of their employed residents to city C, then all three cities share a single (unique) commuting zone;
- if city A has a commuting flow of 20 % to city B, while all remaining commuting flows between cities A, B and C are less than 15 %, then cities A and B will have a shared commuting zone, while city C will have its own, (individual) commuting zone.

Assigning local administrative units to commuting zones

The next step is to determine if the remaining LAUs (outside of the city) belong to a commuting zone, again based on identifying all LAUs with at least 15 % of their employed residents working in the city (or two or more cities in those cases where cities share a commuting zone).

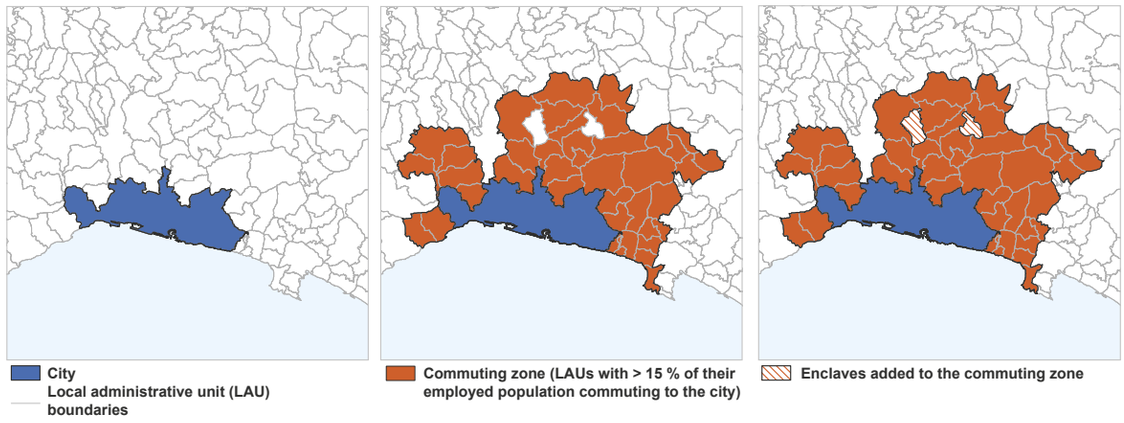
If an LAU has a commuting flow of more than 15 % of its employed residents to more than one city, it should become part of the commuting zone of that city for which it has the largest commuting flow. For example, if an LAU has a commuting flow of 20 % of its employed residents to city A and 17 % of its employed residents to city B, then it should be considered as part of the commuting zone for city A.

An enclave is defined as an LAU that shares 100 % of its land border with a single (unique) functional urban area; water borders are not considered. In such a case, the LAU is assigned to the commuting zone. By contrast, exclaves (or non-contiguous LAUs), in other words, those LAUs that do share a common border with the functional urban area should be dropped from the commuting zone. As a result, the resulting commuting zone should be an integrated, contiguous area around the city (as shown in Figure 3.3).

Further adjustments for cities and their commuting zones

As noted above, the typology for cities is based on information for 1 km^2 population grid cells, which helps overcome problems associated with units that vary in size. This methodology usually results in a closer match between urban centres and densely populated LAUs for those EU Member States that are characterised by relatively small LAUs, as these minimise any shifts in population between the grid classification and the classification of LAUs. Despite making use of the grid concept, there may be a variety of distortions when defining city boundaries that are linked to the size of LAUs and the political/administrative organisation of cities (these are discussed below). The adjustments that are made to take account of these distortions generally result from requests made by national statistical authorities, which are subsequently verified by the European Commission.

Figure 3.3: A city and its commuting zone — an example for Genova



Source: Eurostat

Large local administrative units may lead to an urban centre that is not represented by a city

Large LAUs may result in an urban centre not having a single LAU with at least 50 % of its population in that urban centre; this is more likely to happen for relatively small urban centres (with a population just above 50 000 inhabitants).

In such a case, there are two options, neither of which is ideal:

- classify the LAU with the highest share of its population in that urban centre as a city;
- do not classify any LAU as a city.

The first option leads to an over-representation of the population in the urban centre, the second leads to an under-representation (or non-representation) of the population in the urban centre. The latter usually arises for those EU Member States characterised by relatively large LAUs: indeed, they are systematically biased towards an under-representation of smaller cities. For example, if a Member State has administrative units composed of at least 200 000 residents, then the urban centre will need to have a population of at least 100 000 residents for it to be classified as a city.

Small local administrative units may impact on links to the city administration

In those EU Member States characterised by fairly large LAUs, most cities consist of a single administrative unit. However, in Member States characterised by smaller administrative units, individual cities may be composed of multiple administrative units.

Some EU Member States are characterised by cities being administered at a more aggregated level than other parts of their territory. For example, in Portugal part of the degree of urbanisation classification (for towns and suburbs and for rural areas) is applied at the parish level (freguesia), whereas cities are organised at the municipal level (municipio or concelho); note that the level applied for cities has to be identical for both the degree of urbanisation and functional urban areas. Other Member States have created a unique level of administration to govern their largest cities: for example, France has 21 métropoles for administering its biggest cities.

In order to facilitate a better link to these different levels of administration, which do not emerge automatically if using smaller administrative units, the following two cases may be applied when classifying cities:

- a local unit with at least 50 % of its population in an urban centre can be excluded from the city as long as 75 % of the population of the urban centre is covered by that city (case 1);
- a local unit without 50 % of its population in an urban centre can be added to a city if that unit is included as part of the city administration and at least 50 % of the population of the 'expanded' city lives in the urban centre (case 2).

These two cases provide clear statistical limits to the changes that may be made, insofar as all cities should have at least 50 % of their population living in an urban centre and all urban centres should have at least 75 % of their population living in a city.

Case 1: excluding local administrative units

An example of the first case is provided by the Austrian capital of Wien. Several LAUs just south of the city have 50 % or more of their population in the urban centre of Vienna, although they are not within the boundaries of the city's single administrative body. As more than 75% of the population of the urban centre live in the city of Vienna, these administrative units (Gemeinden shown in orange outside of the blue city area in the right hand part of Figure 3.4) can be dropped from the city without significantly compromising the comparability of the results, thereby ensuring a direct link to the political/administrative organisation of the city.

Case 2: adding local administrative units

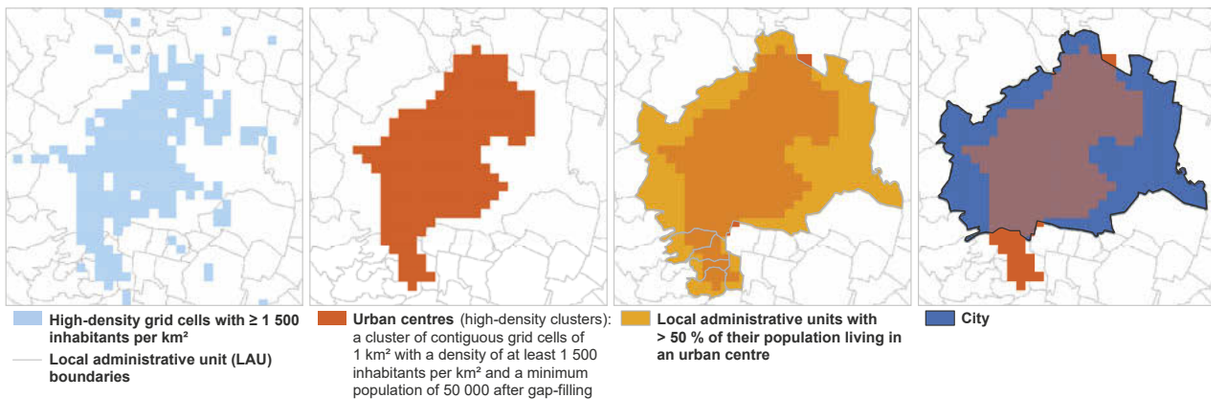
An example of the second case is provided by the Portuguese city of Braga. The Munícipo de Braga (the municipality of Braga in the north of Portugal) is delineated by an area that is somewhat bigger than that initially identified for the collection of city statistics. However, as more than 50 % of the population of Braga still live within the urban centre, several relatively small administrative units (freguesias) around the city have been added to its definition without significantly compromising the comparability of the results (see Figure 3.5), thereby ensuring a direct link between the statistics presented and the political/administrative organisation of the city.

Urban centres that have a population that is close to the threshold of 50 000 inhabitants

The methodology provides an estimate of the population for an urban centre. Two elements may reduce the accuracy of this estimate: i) geographic features and ii) the source of the population grid data.

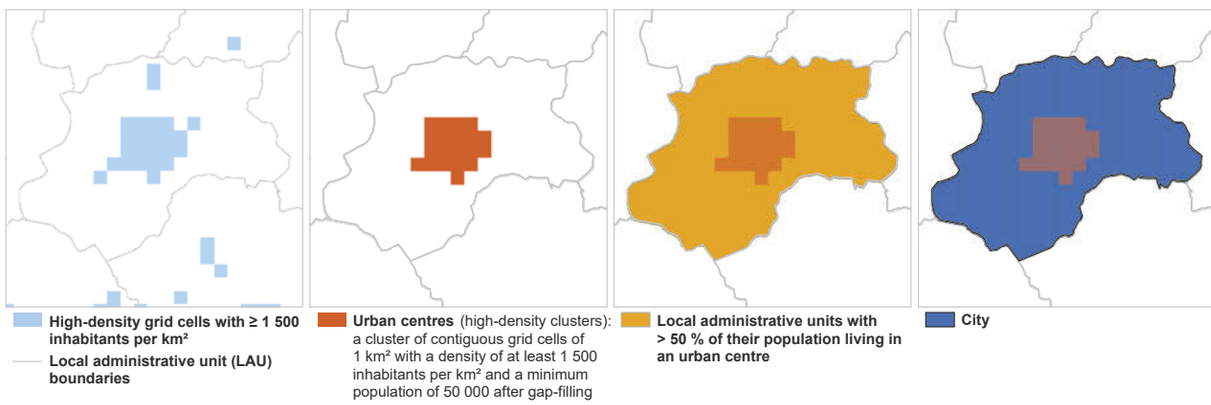
The methodology does not take into account the specific geography/topography of a city. Some features, such as steep slopes, cliffs or bodies of water may lead to an underestimation of population size for urban centres: this may affect, in particular, those cities characterised by a small urban centre; in these cases, an expert decision should be taken.

Figure 3.4: High-density grid cells, urban centres and city boundaries — an example for Wien



Source: Eurostat

Figure 3.5: High-density grid cells, urban centres and city boundaries — an example for Braga



Source: Eurostat

Defining cities with a strong separation of functions

In those EU Member States where land use planning enforces a strong separation of functions (industrial, commercial and residential) and where there is a relatively low level of population density in cities, the methodology may lead to excessive fragmentation of urban centres. In these cases, grid cells with shopping malls, transport infrastructure or business parks are unlikely to reach the population density threshold and hence are excluded from urban centres, creating non-contiguous, fragmented grid cells for urban centres.

To resolve this issue, population grid cells which are at least 50 % built-up may be added to the urban centre. This resolves the problem for this specific type of city and has little to no impact on those cities which are more densely populated, as virtually all of their grid cells which are at least 50 % built-up have a population density above the threshold or are added as part of the gap-filling process.

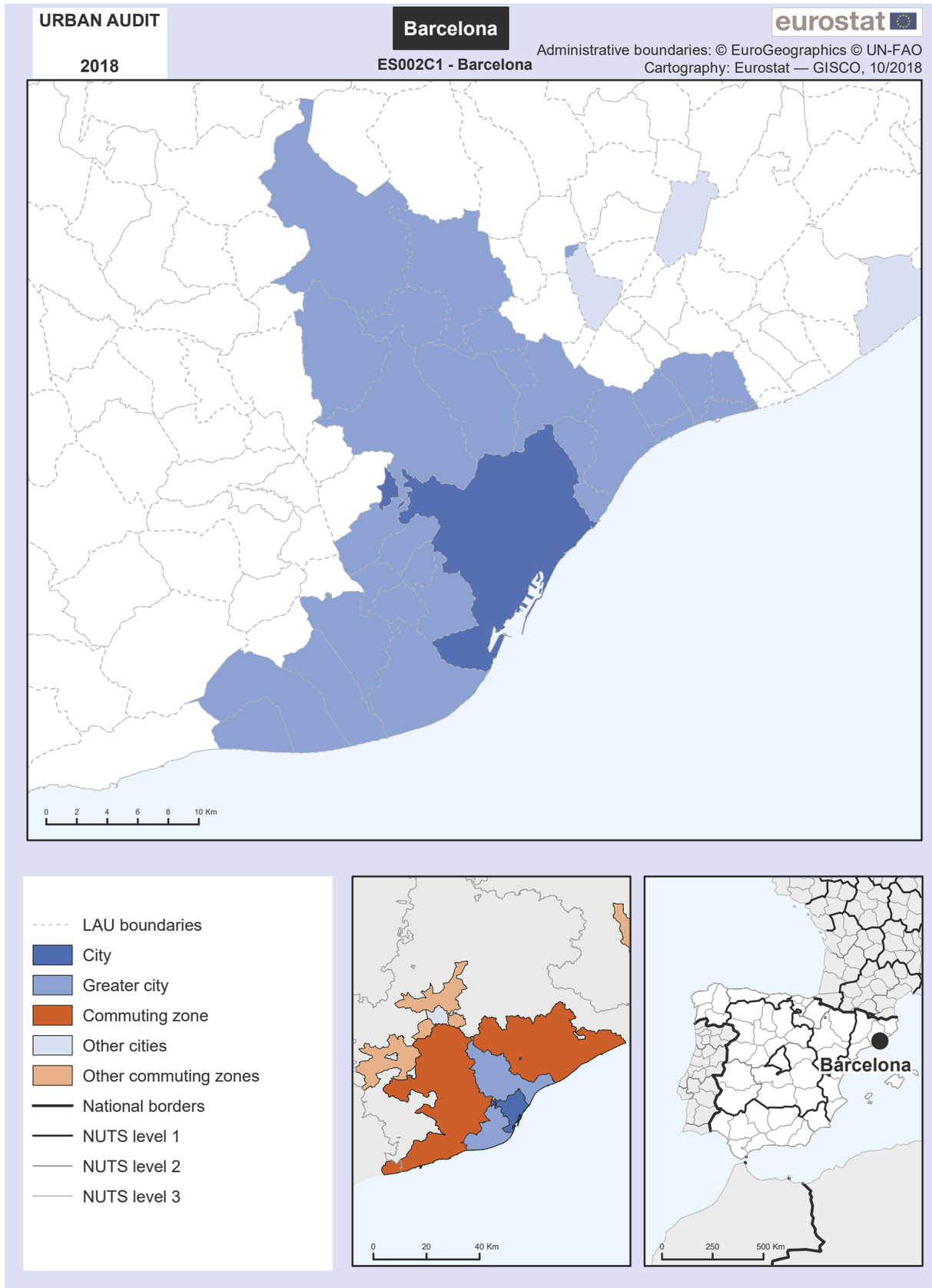
Case studies

The two maps which follow illustrate some specific cases.

Map 3.1 shows the development of the city of Barcelona, which has been constrained by the sea to the south-east and by some mountainous terrain to the north-west. The greater city and functional urban area of Barcelona reflect, to some degree, the main transport arteries that lead into the city (as used by commuters), with a relatively large amount of urban development along the coastline, as well as inland on the other side of the mountains (which are circumvented by a series of road tunnels).

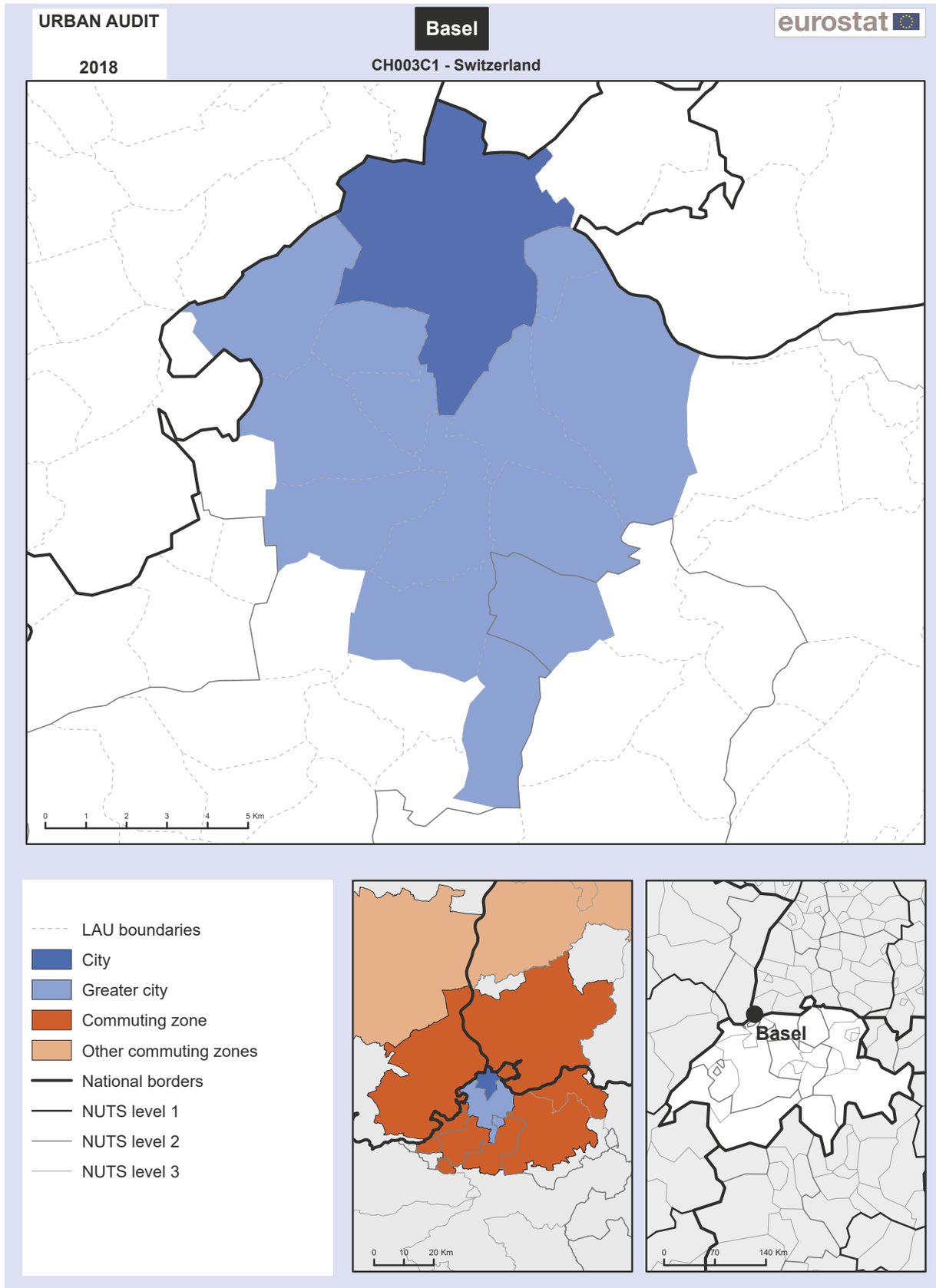
Map 3.2 provides an example of a transnational functional urban area, delineating the functional urban area of Basel in Switzerland (the only other transnational functional urban area is also in Switzerland, namely, that of Genève). The functional urban area of Basel includes the region of Basel-Stadt, while the commuting zone extends into parts of the surrounding region of Basel-Landschaft, as well as across the border to cover some LAUs in the neighbouring regions of Haut-Rhin (France) and Lörrach (Germany). Note that national functional urban areas (based on commuting flows within a single country) cannot overlap, whereas transnational functional urban areas (based on national and transnational commuting flows) may overlap with national functional urban areas. For instance, the French administrative unit of Petit-Landau (FR68254) is part of the transnational functional urban area of Basel in Switzerland (CH003T2) and is also part of the national functional urban area of Mulhouse in France (FR040L2).

Map 3.1: A city and its commuting zone — an example for Barcelona



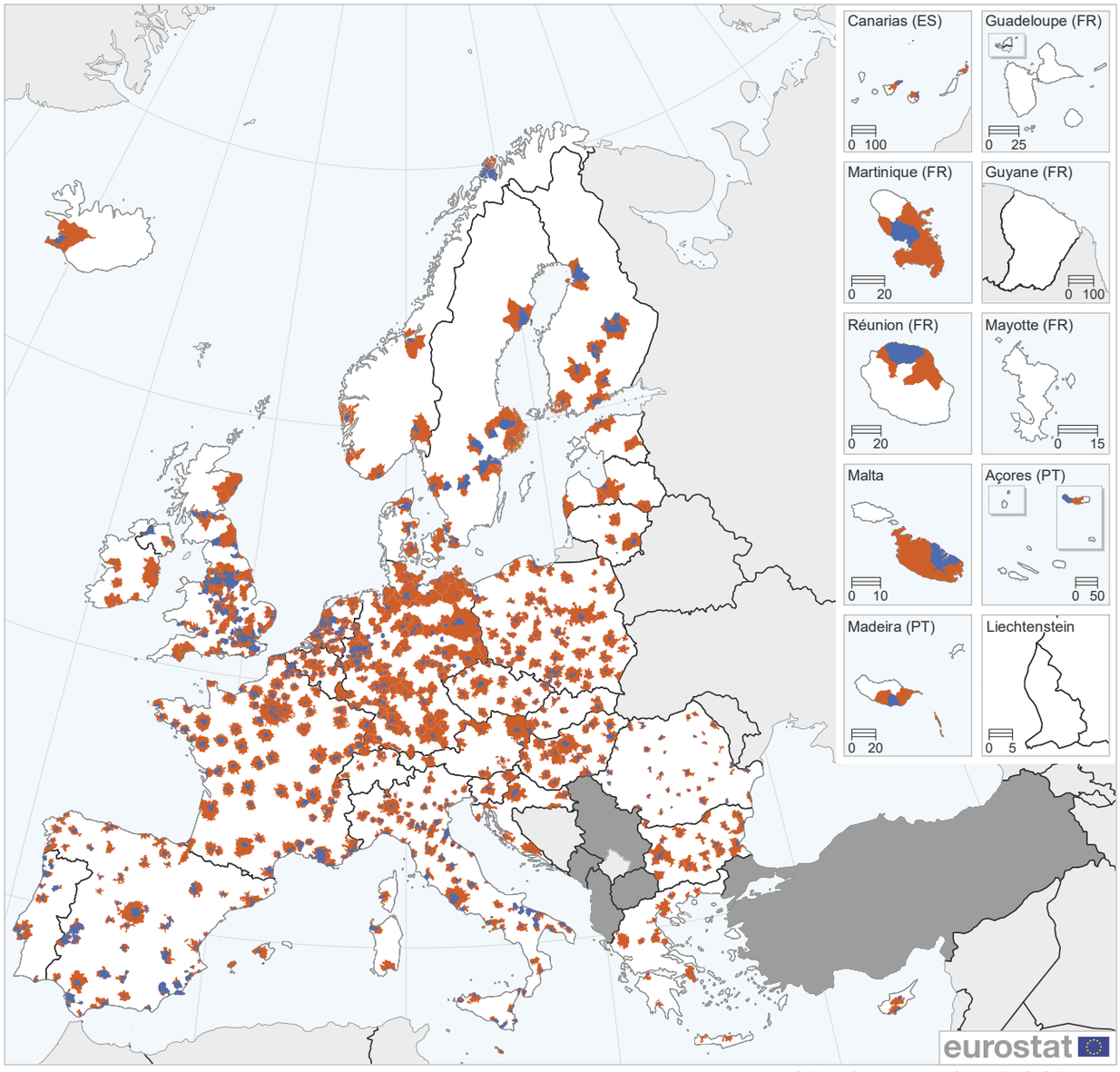
Source: Eurostat, JRC and European Commission, Directorate-General for Regional Policy

Map 3.2: A city and its commuting zone — an example for Basel



Source: Eurostat, JRC and European Commission, Directorate-General for Regional Policy

Map 3.3: Cities and commuting zones



Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat

City
Commuting zone
Other areas
Data not available

0 200 400 600 800 km

Note: based on population grid from 2011 and LAU 2016.

Source: Eurostat, JRC and European Commission, Directorate-General for Regional and Urban Policy

Links to other spatial concepts/ typologies

As shown in Figure 0.2 in the introductory chapter and in the specific example of Figure 3.2 above, the local typologies for functional urban areas and the degree of urbanisation (see Chapter 2 for more information) are closely linked, insofar as the common concept of the city is used within both classifications and is defined in an identical manner: LAUs where a majority of the population lives in an urban centre of at least 50 000 inhabitants. While cities share a common definition, the degree of urbanisation also identifies towns and suburbs (or intermediate density areas) and rural areas (or thinly-populated areas). These two categories partially overlap with the commuting zones: towns and suburbs occur both inside commuting zones (more likely if they are suburbs) and outside (more likely if they are towns); while rural areas primarily fall outside commuting zones, some have a strong relationship with a nearby city and are therefore also classified as commuting zones.

There is also an indirect link between functional urban areas and a regional typology, insofar as the former are used as a building block to construct the typology for metropolitan regions (see Chapter 6), which are defined as one or more NUTS level 3 regions with at least 50 % of their regional population living inside a functional urban area with at least 250 000 inhabitants.

Note that one region (at NUTS level 3) can contain more than one city and/or more than one functional urban area: for example, the Czech region of Ústecký kraj has three of each (Chomutov-Jirkov, Most and Ústí nad Labem), while the same is true for the Spanish region of A Coruña (A Coruña, Ferrol and Santiago de Compostela). Each functional urban area with more than 250 000 inhabitants needs to be captured by a metropolitan region composed of one (or more) NUTS level 3 region(s).

Results

Based on the above definitions, there were 960 cities and 715 functional urban areas in the EU-28 covered by the city data collection exercise in 2017. For 40 of these cities, information was collected for both the 'core' city and the 'Greater' city concept. Map 3.3 provides an overview of the final classification.

For all EU Member States, Iceland, Norway, Switzerland and Turkey, a list of cities and their functional urban areas is available at: https://ec.europa.eu/eurostat/documents/4422005/4430532/City-FUAs-Greater-cities-list-2017.xls. Note that for the purpose of this typology, the 33 individual boroughs that make-up Greater London are considered as cities in their own right (for example, Barking and Dagenham, Hammersmith and Fulham, Islington, or Wandsworth).

Changes to the typology over time

HISTORICAL DEVELOPMENTS

The collection of statistics for cities started in the 1990s. Data on European cities with more than 100 000 were collected through the Urban Audit and the Large City Audit projects. Their ultimate goal was to contribute towards improvements in the quality of urban life by: supporting the exchange of information/experiences between EU cities; helping to identify best practices; facilitating benchmarking across the EU; providing information on the dynamics within the cities and between cities and their surrounding areas. Within the Urban Audit, cities were previously referred to as 'core cities', greater cities were previously referred to as 'kernels', while functional urban areas were previously referred to as 'larger urban zones'.

In 2011, the European Commission and the OECD developed a harmonised definition of a city and its commuting zone, which led to extension of the city list, resulting in better coverage and geographical comparability.

CHANGES OVER TIME THAT IMPACT ON THE CLASSIFICATION

The functional urban areas classification should be updated to reflect changes to the underlying sources of information that are used in the compilation of these statistics. As such, the classification may be updated to reflect: changes to LAUs and other administrative boundaries; changes to population distributions for 1 km^2 grid cells; or changes to the underlying data that were used to identify commuting shares. The frequency of such updates therefore varies according to the source of information.

Changes to functional urban areas resulting from a revision of population distributions for 1 km^2 grid cells or underlying information for commuting shares are relatively scarce, with their main source being population and housing censuses which are generally conducted every 10 years. The next major update of the population grid is foreseen to take place for the 2021 reference year. However, with an increasing number of countries expected to switch to a register-based census in the future, it might be possible to have more frequently updated information on commuting flows/zones.

For the EU as a whole, the boundaries of cities and functional urban areas are updated once a year based on changes in the LAU list. New codes are assigned by Eurostat after notification to the national statistical authorities. The resulting list of cities and functional urban areas is then used as the basis for the city statistics data collection.

FUTURE DEVELOPMENTS

Eurostat is in the process of consolidating the list of cities and greater cities used within the city statistics data collection. Cities and greater cities are, at the time of writing, distinguished within the database through the coding system: greater cities are coded with a K, while other cities are coded with a C.

Among the ideas that have been discussed for future developments, Eurostat has considered systematically adding the term 'Greater' to the name of all greater cities and then modifying the codes concerned so that all greater cities are coded with a C. As such, the default level of analysis will be the harmonised code (C) — composed of greater cities and all other cities (for which no information is available at the level of the greater city). Cities inside greater cities will thereafter be reclassified as components of the greater city and will not form part of the default level of analysis.

Further information

GLOSSARY ENTRIES:

City — https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:City

Commuter zone — https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:Commuting_zone

Functional urban area — https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:Functional_urban_area

DETAILED METHODOLOGY:

Methodological manual on city statistics, Eurostat (2017)

The EU-OECD definition of a city, commuting zone and a functional urban area, European Commission and the OECD

DEDICATED SECTION:

https://ec.europa.eu/eurostat/web/cities/background

CORRESPONDENCE FOR LOCAL ADMINISTRATIVE UNITS:

https://ec.europa.eu/eurostat/documents/345175/501971/EU-28_2012.xlsx

PUBLICATIONS:

Urban Europe — Statistics on cities, towns and suburbs, Eurostat (2016)

The state of European cities report, 2016 — cities leading the way to a better future, European Commission, Directorate-General for Regional and Urban Policy (2016)

Quality of life in European cities, Eurobarometer (2016)

Published indicators

VISUALISATION TOOLS:

Eurostat publishes data on cities through Regions and cities illustrated, available at: https://ec.europa.eu/eurostat/cache/RCI/#?vis=city.statistics&lang=en.

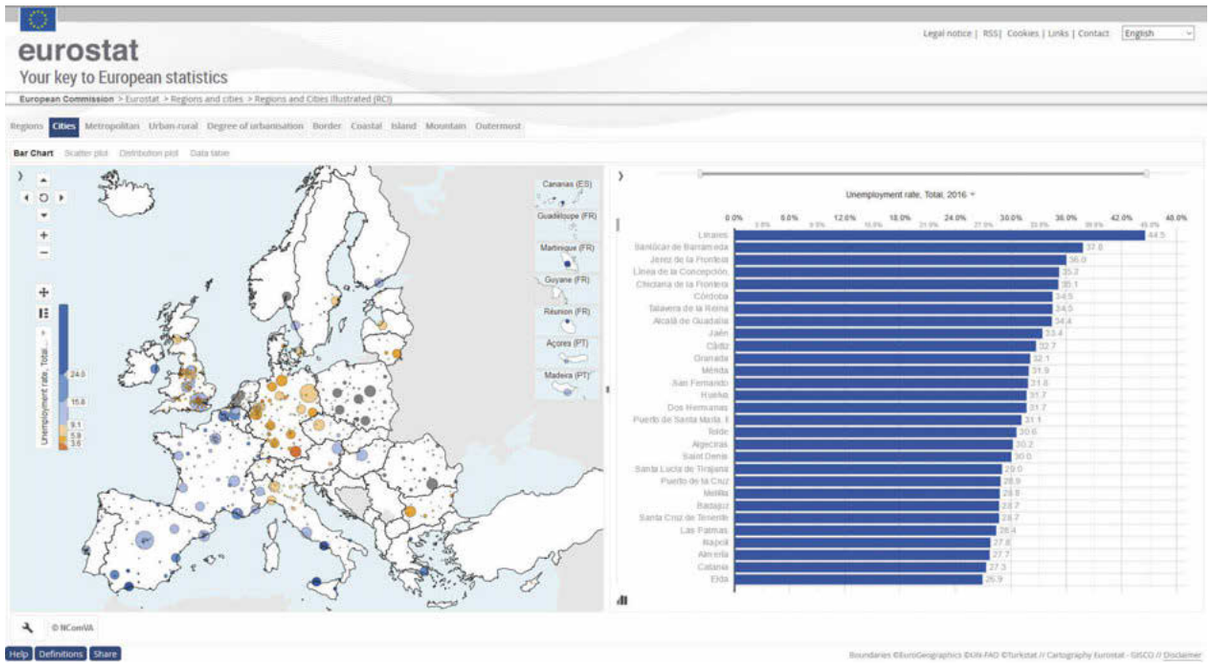
DATABASE:

The city statistics database provides data relating to most aspects concerning the quality of life in the cities of EU Member States, Iceland, Norway, Switzerland and Turkey. The datasets encompass statistical information on individual cities and on functional urban areas. The data collection exercise is undertaken jointly by national statistical authorities, the Directorate-General for Regional and Urban Policy and Eurostat.

Eurostat's website provides information on 233 variables/indicators for around one thousand different cities. Note that as these statistics are provided solely for cities and for functional urban areas, it is necessary to derive information for commuting zones by subtracting the data for cities from that for functional urban areas (in those cases where the variable/indicator concerned is additive).

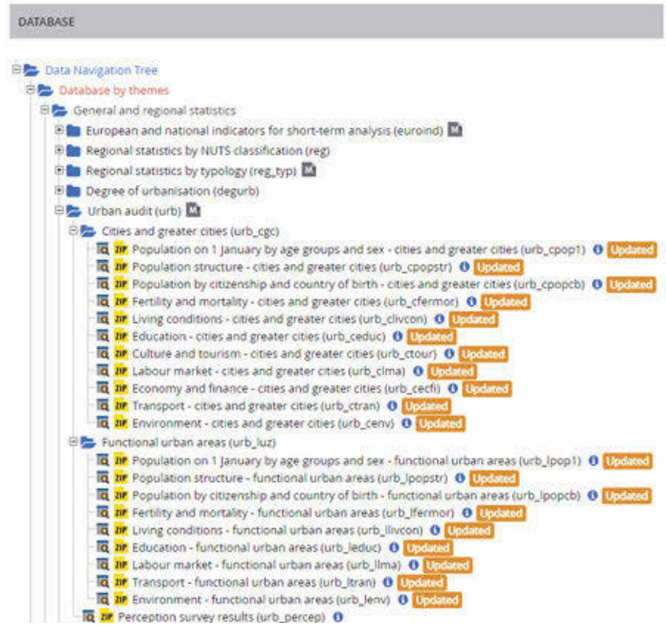
Data on cities and functional urban areas are available for the following statistical domains: demography, living conditions, education, culture and tourism, the labour market, economy and finance, transport and the environment. Data availability differs across statistical domains from year to year, in part reflecting the fact that these statistics are provided on a voluntary basis (in other words, there is no EU legislation covering the collection of these statistics). The statistics may be accessed at: https://ec.europa.eu/eurostat/data/database.

There is also a separate data collection exercise that concerns a perception survey for the quality of life in European cities; the most recent survey took place in 2015 and covered 79 cities across the EU Member States, Iceland, Norway, Switzerland and Turkey. This survey is organised by the Directorate-General for



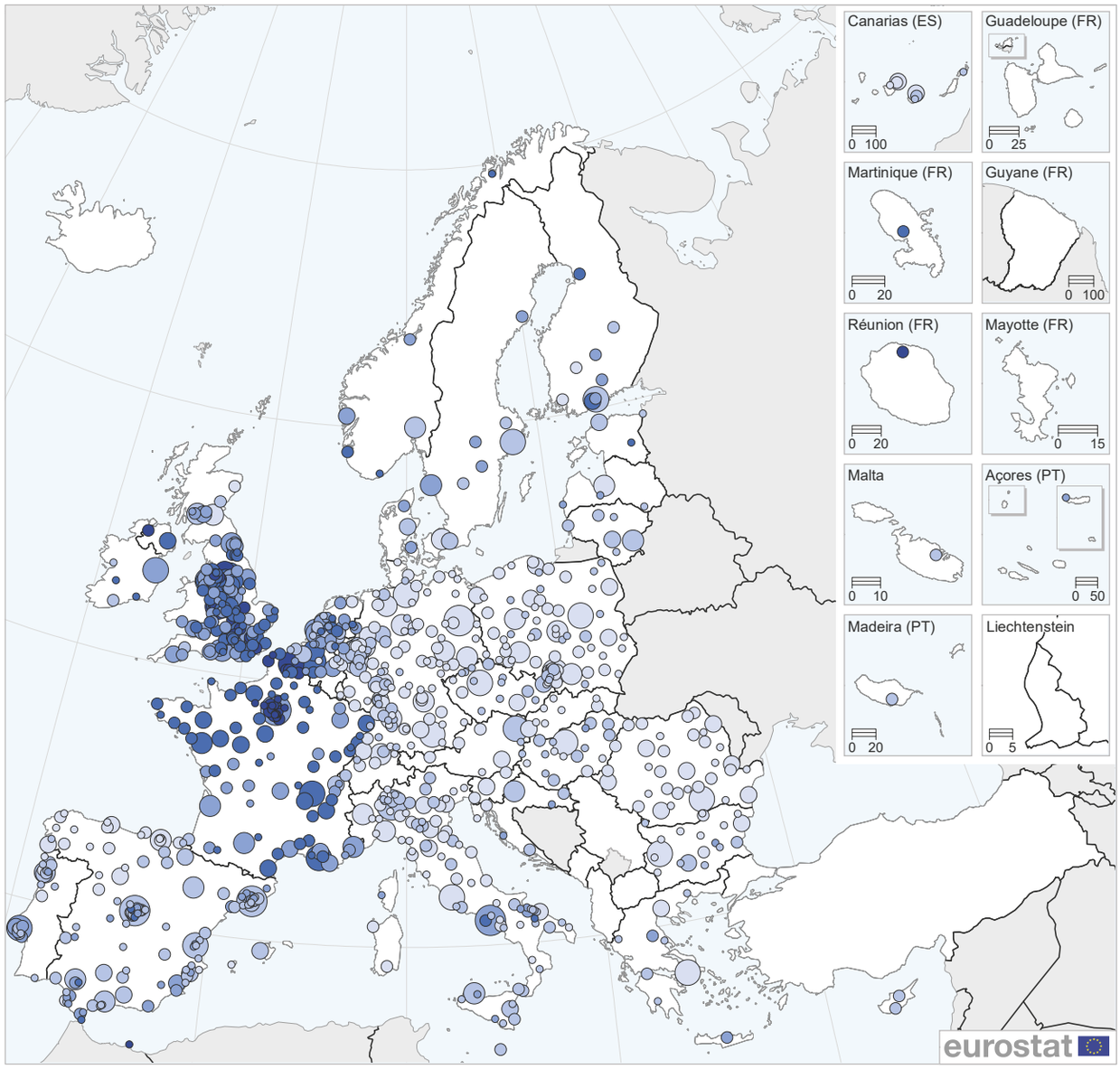
Regional and Urban Policy and the next reference year will be 2018. For more information, see: https://ec.europa.eu/regional_policy/index.cfm/en/policy/themes/urban-development/audit.

Data from the perception survey cover the satisfaction of individuals living in cities in terms of: their overall experience of living in the city; their satisfaction with their city's infrastructure, facilities and environment; their views concerning various aspects of life in their city (employment opportunities; the housing situation; the presence and integration of foreigners; safety and trust; or city administrative services); their satisfaction with their personal situation; as well as the three most important issues that they feel need to be addressed in their city.



Examples

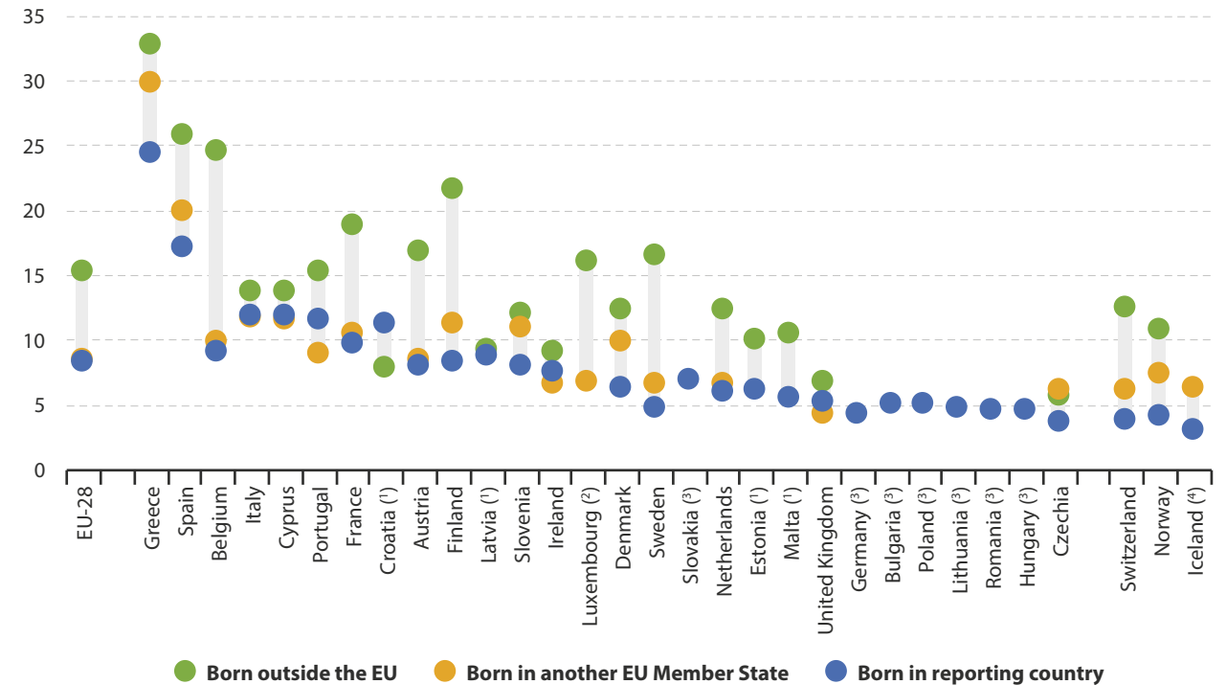
Map 3.4: Young-age dependency ratio, selected cities, 2016
(%)



Note: based on the ratio of the total population aged 0-19 years / the total population aged 20-64 years, expressed in percentage terms. Dublin (IE), Athina (EL), Madrid (ES), Barcelona (ES), Valencia (ES), Sevilla (ES), Pamplona/Iruña (ES), Bilbao (ES), Santa Cruz de Tenerife (ES), Elda (ES), Granada (ES), Puerto de la Cruz (ES), Igualada (ES), Paris (FR), Milano (IT), Napoli (IT), Lisboa (PT), Porto (PT), Helsinki/Helsingfors (FI), Stockholm (SE), London (UK), Glasgow (UK), Liverpool (UK), Manchester (UK), Leicester (UK), Portsmouth (UK), Stoke-on-Trent (UK), Nottingham (UK), Brighton and Hove (UK), Southampton (UK), Bournemouth (UK), Southend-on-Sea (UK), Reading (UK), Preston (UK), Rushmoor (UK), Zürich (CH), Genève (CH), Basel (CH), Bern (CH), Lausanne (CH), Luzern (CH) and Lugano (CH): greater city. Belgium, Czechia, Germany, Italy, Hungary and Romania: 2015. France, the Netherlands, Austria, Poland, Winterthur (CH) and Biel/Bienne (CH): 2014. Denmark: 2013. Ireland, Greece, Cyprus, Luxembourg, Sweden and Norway: 2011. Germany (various cities), Lithuania and Poland: estimates. EU-28: provisional.

Source: Eurostat (online data codes: urb_cpopstr, urbcpop1 and demo_pjanind)

Figure 3.6: Analysis by country of birth of the unemployment rate in cities, 2016
(% share of labour force aged 15-74)

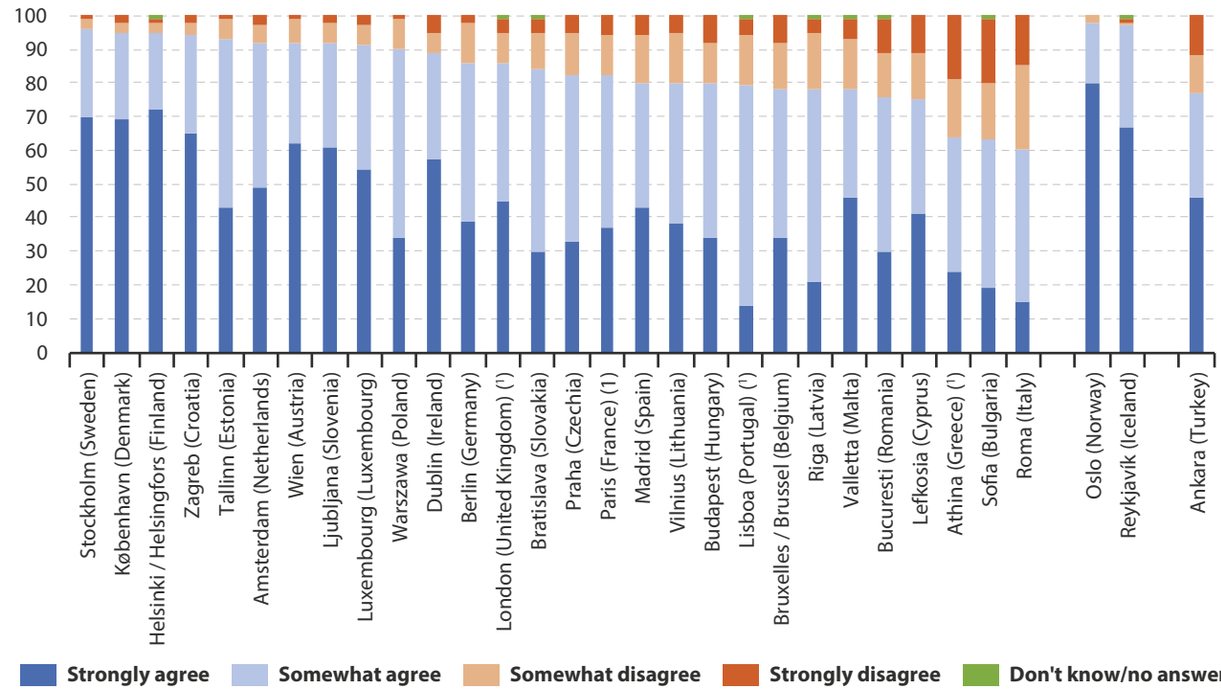


Note: ranked on total unemployment rate in cities.

(1) Born in another EU Member State: not available.
(2) Born in reporting country: not available.
(3) Born in another EU Member State and born outside the EU: not available.
(4) Born outside the EU: not available.

Source: Eurostat, labour force survey

Figure 3.7: Respondents' answers to the question do you feel safe in the neighbourhood where you live, capital cities, 2015
(% share of total)



(1) Greater city.

Source: Eurostat (online data code: urb_percep)

4. Coastal areas

Short description

Coastal areas are local administrative units (LAUs) that are bordering or close to a coastline. A coastline is defined as the line where land and water surfaces meet (border each other). Due to the existence of several measures (for example, the mean or median tides, high- or low-tides), the European Commission has adopted the harmonised use of the mean high tide (EC, 1999) in order to delineate EU coastlines.

Classes for the typology and their conditions

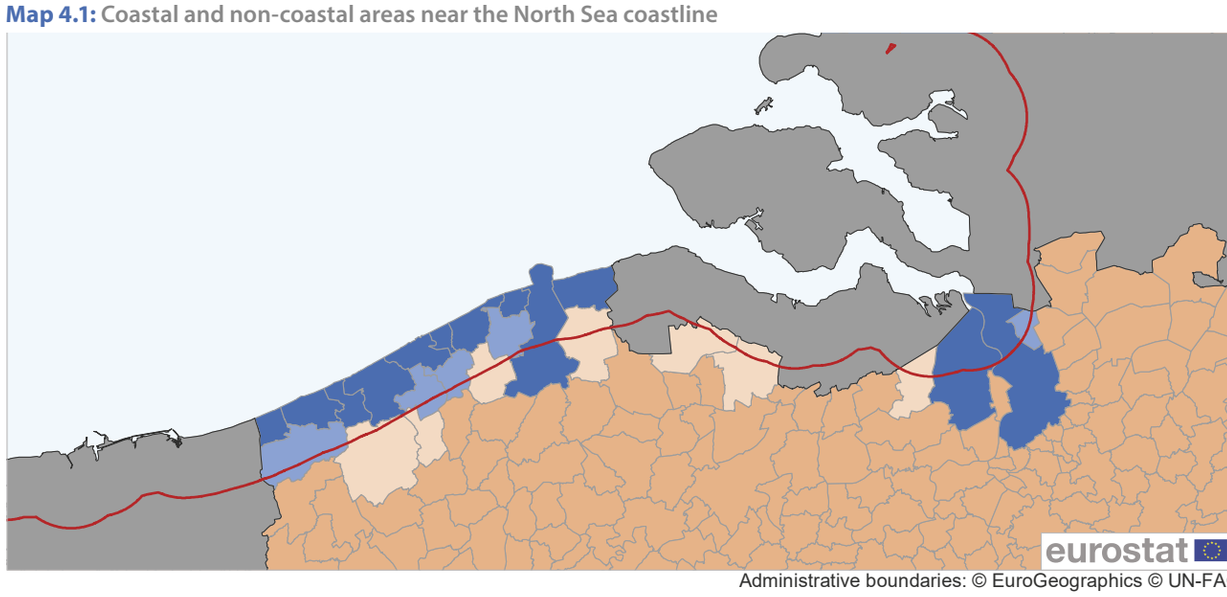
Coastal areas are a classification based on the following two categories:

- coastal areas: LAUs that border the coastline or LAUs that have at least 50 % of their surface area within a distance of 10 km from the coastline;
- non-coastal areas: LAUs that are not 'coastal areas'; in other words, LAUs that do not border the coastline and have less than 50 % of their surface area within a distance of 10 km from the coastline.

The main building blocks for the coastal areas classification are data for local administrative units (such as municipalities). Coastal areas and non-coastal areas are classified according to the distance of each LAU to the coastline. The coastal areas typology is therefore atypical, insofar as it is based exclusively on topographical information, while other local typologies are constructed from statistics on population grids. If an LAU borders the coastline, it is by default coastal. If an LAU does not border the coastline but it has at least 50 % of its surface area within a distance of 10 km from the coastline, then it is also considered to be a coastal area. All remaining LAUs are considered as non-coastal areas. An example showing how the methodology is applied to the coastline of Belgium is shown in Map 4.1.

The coastal areas typology is exhaustive, insofar as coastal and non-coastal areas together cover the whole of a territory. Note that among the European Union (EU) Member States, Czechia, Hungary, Luxembourg, Austria and Slovakia are landlocked and therefore do not have any coastal areas; the same is true for the European Free Trade Association (EFTA) countries of Liechtenstein and Switzerland and for the candidate countries of the former Yugoslav Republic of Macedonia and Serbia.

Map 4.1: Coastal and non-coastal areas near the North Sea coastline



Administrative boundaries: © EuroGeographics © UN-FAO

Cartography: Eurostat — GISCO, 10/2018

Coastal areas bordering the coastline

Other coastal areas (≥ 50 % of surface area within 10 km of the coastline)

Non-coastal areas (no surface area within 10 km of the coastline)

Non-coastal areas (> 0 % and < 50 % of surface area within 10 km of the coastline)

10 km from the coastline

0 10 20 30 40 km

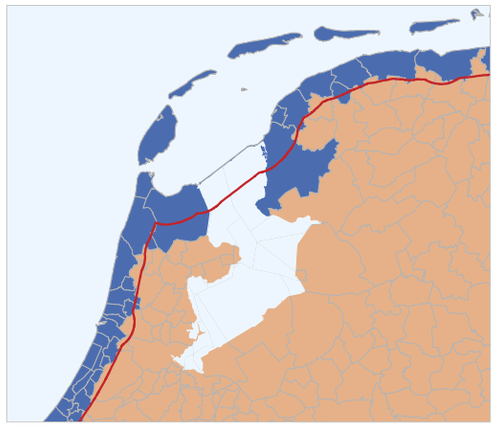
Source: Eurostat (based on LAU 2016)

FURTHER ADJUSTMENTS

There are a small number of special cases where the definition of a 'coastline' is treated on a case-by-case basis; for example, how to treat fjords, river estuaries or small islands. These country-specific exceptions to the underlying methodology have been agreed with the national statistical authorities of the EU Member States or EFTA countries in question.

Map 4.2: Special cases for the classification of coastal and non-coastal areas

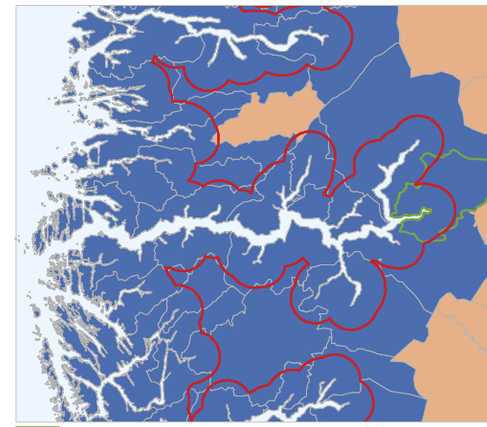
Sea or inland water? An example for the Netherlands



Coastal areas
Non-coastal areas
10 km from the coastline

In the Netherlands, the IJsselmeer is a closed area of inland water separated from the sea by a man-made dam (dyke). When applied rigorously the line marking the buffer zone that is 10 km from the coastline should be drawn with reference to the dam (as shown and as applied in the classification). An alternative would be to draw the buffer with reference to the inland coastline around the IJsselmeer (not shown), the result would be quite different.

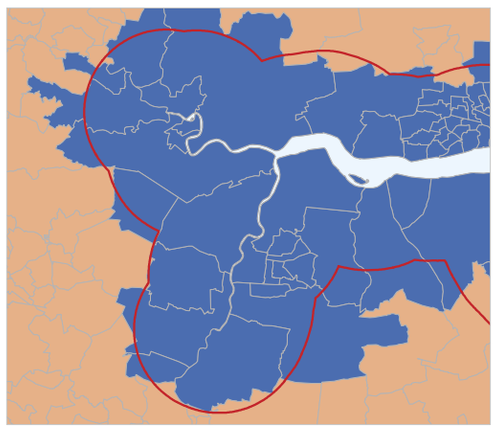
Fjords? An example for Norway



LAU boundary of Årdal
Coastal areas
Non-coastal areas
10 km from the coastline

The municipality of Årdal (shown by the green line) is located at the end of Sognefjord, which is the deepest and longest fjord in Norway. It is a major tourist destination due to the spectacular scenery along this stretch of water. Årdal, together with other LAUs along the fjord, is considered as a coastal area (despite being approximately 200 km from the open sea).

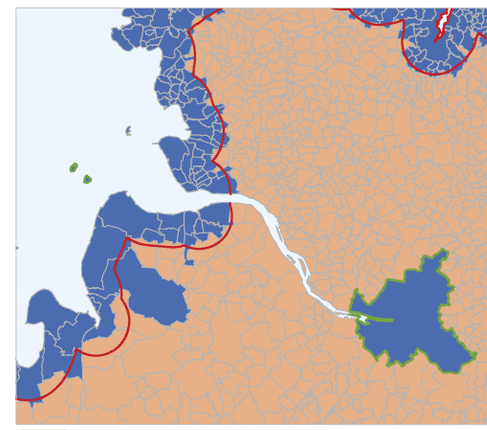
Estuary? An example for the United Kingdom



Coastal areas
Non-coastal areas
10 km from the coastline

In the United Kingdom, the estuary of the river Humber begins at Trent Falls which marks the confluence of the river Ouse and the river Trent. All three of these rivers are tidal and hence there are a relatively large number of LAUs that are considered to be coastal areas. An all-encompassing definition (as shown above, but not applied for the classification) would include all of the LAUs along the estuary up to and including the city of Hamburg as coastal areas.

Small islands? An example for Germany



LAU boundary of Hamburg
Coastal areas
Non-coastal areas
10 km from the coastline

In Germany, the estuary of the Elbe river provides an alternative example for an estuary. Contrary to the all-encompassing definition applied for the river Humber in the United Kingdom, a stricter definition was applied for the river Elbe, whereby a majority of the estuary is excluded from being classified as a coastal area although the city of Hamburg (shown by the green line) is considered as a coastal area. This may be attributed to Hamburg's strong maritime influence (with easy access its ports), while some small islands off the German coast (Neuwerk, Nigehörn and Scharhörn) are administratively part of the city of Hamburg and, as such, the LAU of Hamburg borders the coastline.

Source: Eurostat (based on LAU 2016)

Links to other spatial concepts/ typologies

Coastal areas are a subgroup of coastal regions (see Chapter 7).

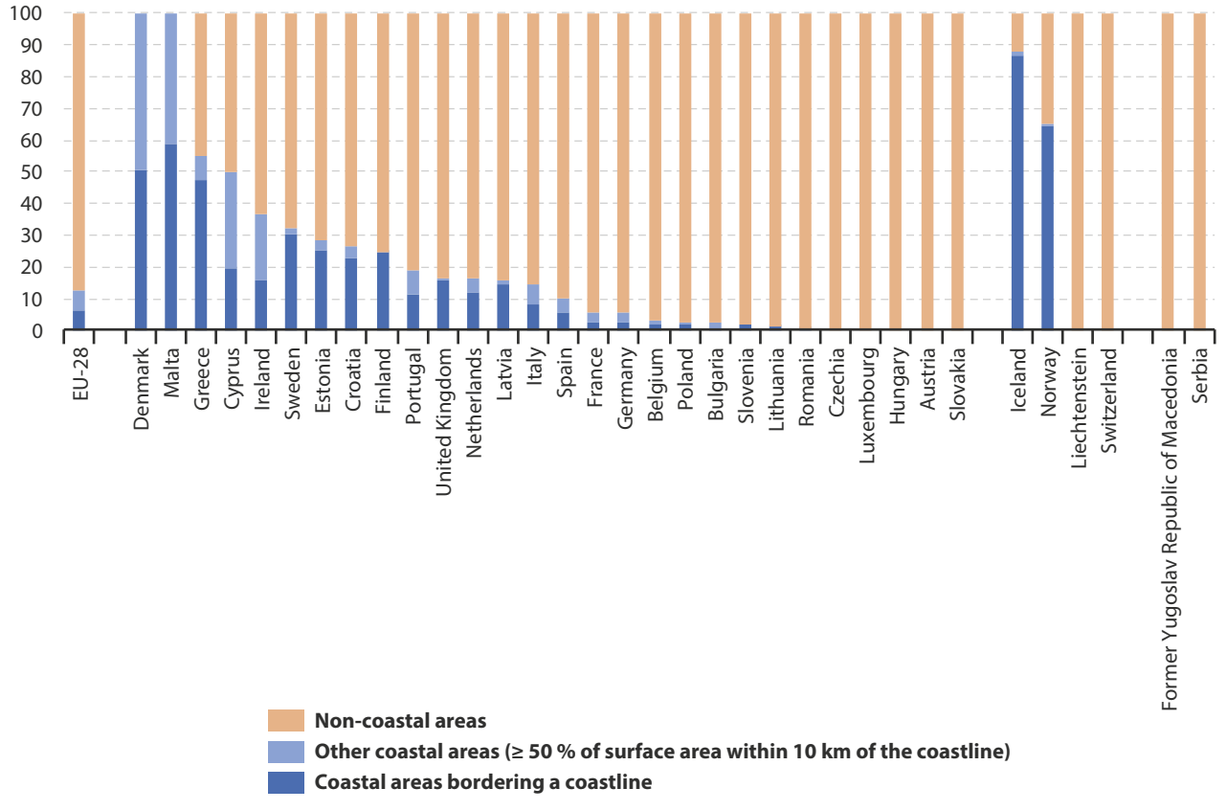
Within this context, it also worthwhile noting that the EU's outermost regions — principally islands and archipelagos in the Caribbean, the Western Atlantic and Indian Ocean — are largely composed of coastal areas (except Guyane). Furthermore, to address an ad-hoc request from the Directorate-General for Maritime Affairs and Fisheries, Eurostat identified 255 coastal cities/maritime ports and produced some basic statistics on these; for more information, see: https://www.q2018.pl/papers-presentations/?drawer=Sessions*Session 09*Valeriya Angelova Tosheva.

Results

Using the above definition, and on the basis of data for reference year 2016, there were 6 838 LAUs in the EU-28 that were bordering the sea and a further 6 985 LAUs that were not bordering the sea but had at least 50 % of their surface area within 10 km of the sea. As such, more than 12 % of all LAUs in the EU-28 were coastal areas, a share that ranged — among those EU Member States with a coastline — from 0.7 % in Romania to 100.0 % in Denmark and in Malta (see Figure 4.1).

A correspondence table between coastal/non-coastal areas and LAUs is available at: https://ec.europa.eu/eurostat/ramon/miscellaneous/index.cfm?TargetUrl=DSP_DEGURBA.

Figure 4.1: Distribution of local administrative units between coastal and non-coastal areas
(%)



Source: Eurostat (based on LAU 2016)

Maps 4.3-4.8 provide an overview of the final classification of coastal and non-coastal areas for the six sea basins that border the EU: the Baltic Sea, the North Sea, the North-East Atlantic Ocean, the Mediterranean Sea, the Black Sea and the EU's outermost regions.

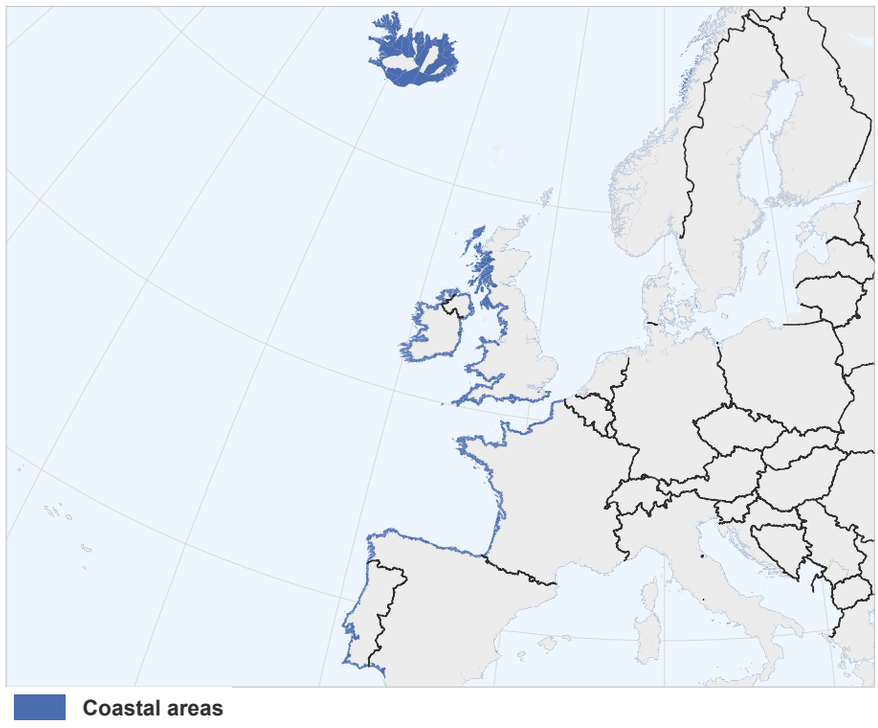
Map 4.3: Coastal and non-coastal areas for the Baltic Sea

Source: Eurostat (based on LAU 2016)

Map 4.4: Coastal and non-coastal areas for the North Sea

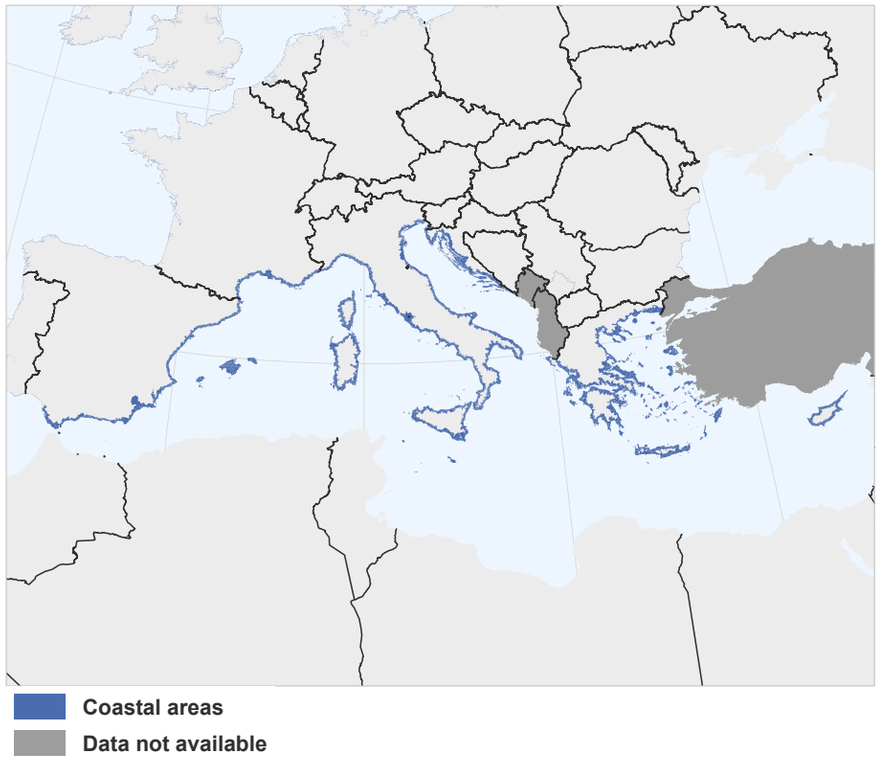
Source: Eurostat (based on LAU 2016)

Map 4.5: Coastal and non-coastal areas for the North-East Atlantic Ocean



Source: Eurostat (based on LAU 2016)

Map 4.6: Coastal and non-coastal areas for the Mediterranean Sea

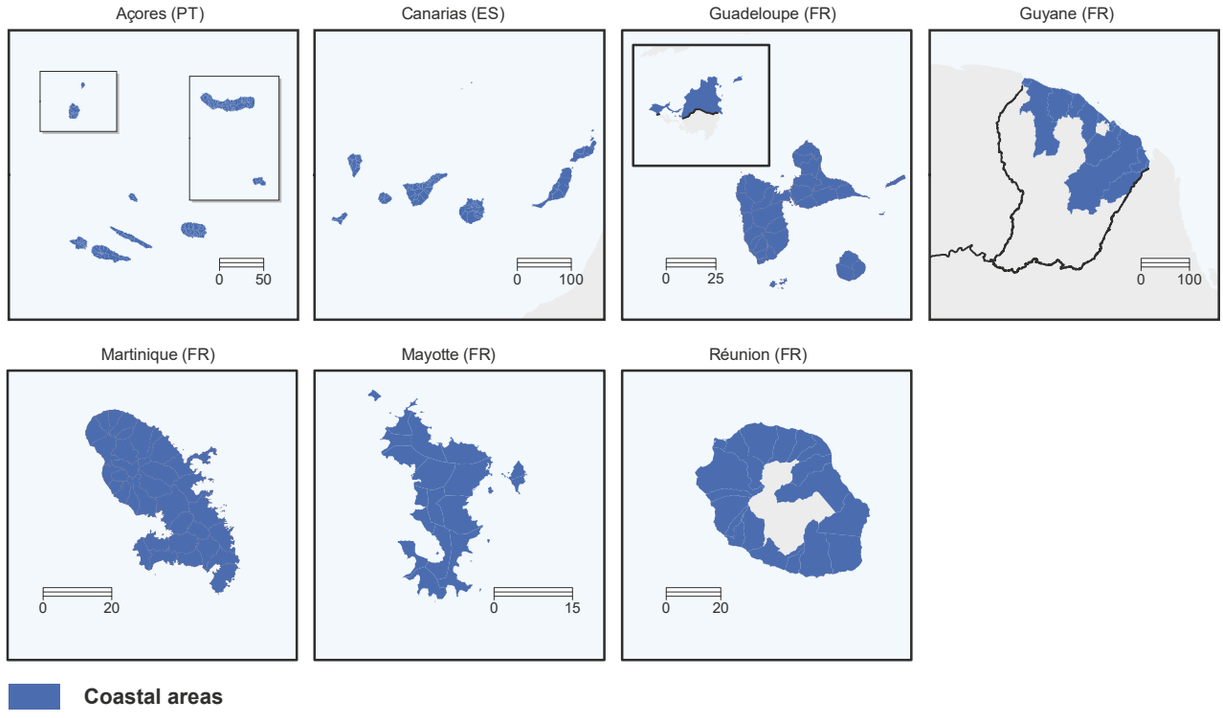


Source: Eurostat (based on LAU 2016)

Map 4.7: Coastal and non-coastal areas for the Black Sea

Source: Eurostat (based on LAU 2016)

Map 4.8: Coastal and non-coastal areas for outermost regions



Source: Eurostat (based on LAU 2016)

Changes to the typology over time

The coastal areas classification should be updated to reflect any changes in LAU boundaries. The list of LAUs is updated on an annual basis:

- information relating to any changes to the boundaries or structure of LAUs should be communicated by EU Member States to the European Commission (Eurostat) within the first six months of each calendar year, with reference to 31 December of the previous year;
- Eurostat publishes a revised list of LAUs before the end of the same year.

Once geodata for the new LAU breakdowns become available in late autumn of each year, Eurostat updates the coastal area typology in the LAU list.

Further information

GLOSSARY ENTRY:

https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:Coastal_area

DETAILED METHODOLOGY:

https://ec.europa.eu/eurostat/web/coastal-island-outermost-regions/methodology

DEDICATED SECTION:

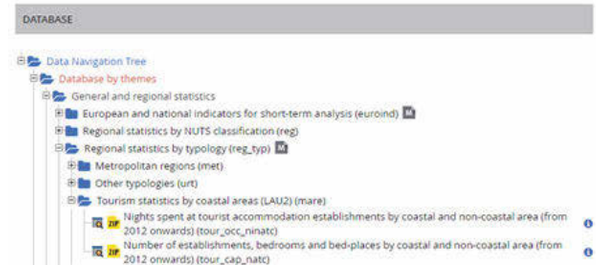
https://ec.europa.eu/eurostat/web/coastal-island-outermost-regions/background

Published indicators

Tourism statistics for coastal and non-coastal areas have been collected by Eurostat since the 2012 reference year. The legal basis for the collection of this data is Regulation (EU) No 692/2011.

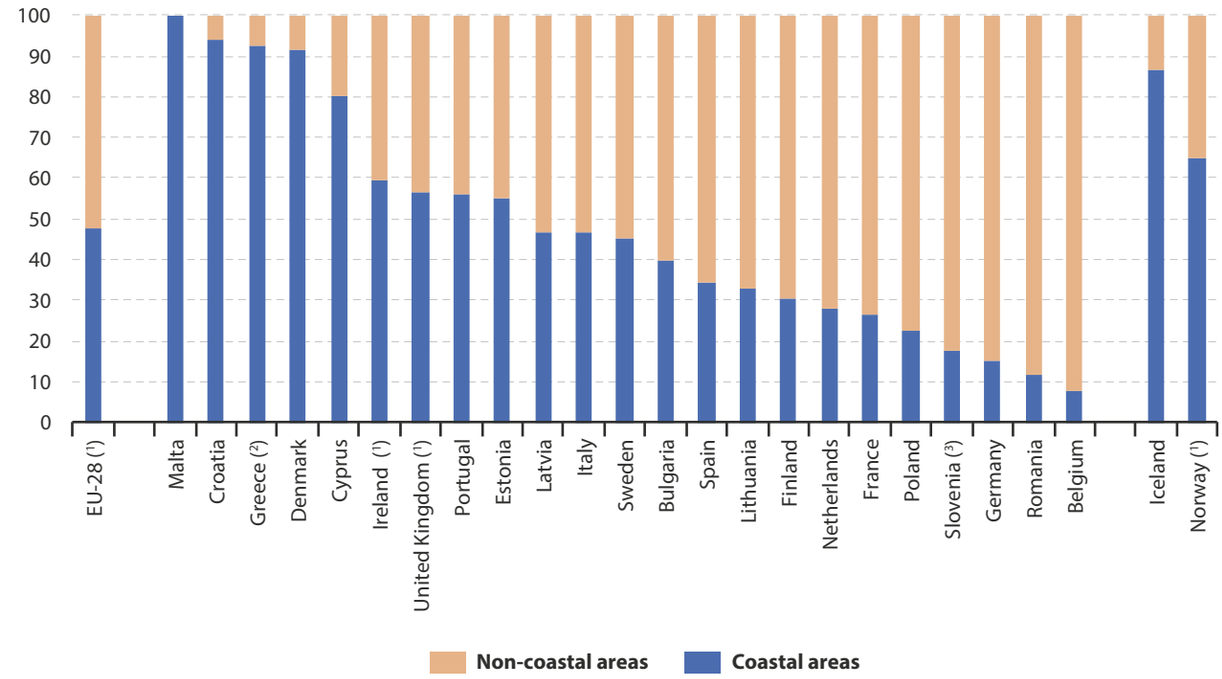
DATABASE:

Eurostat's website presents statistics for coastal and non-coastal areas. They are available at: https://ec.europa.eu/eurostat/data/database.



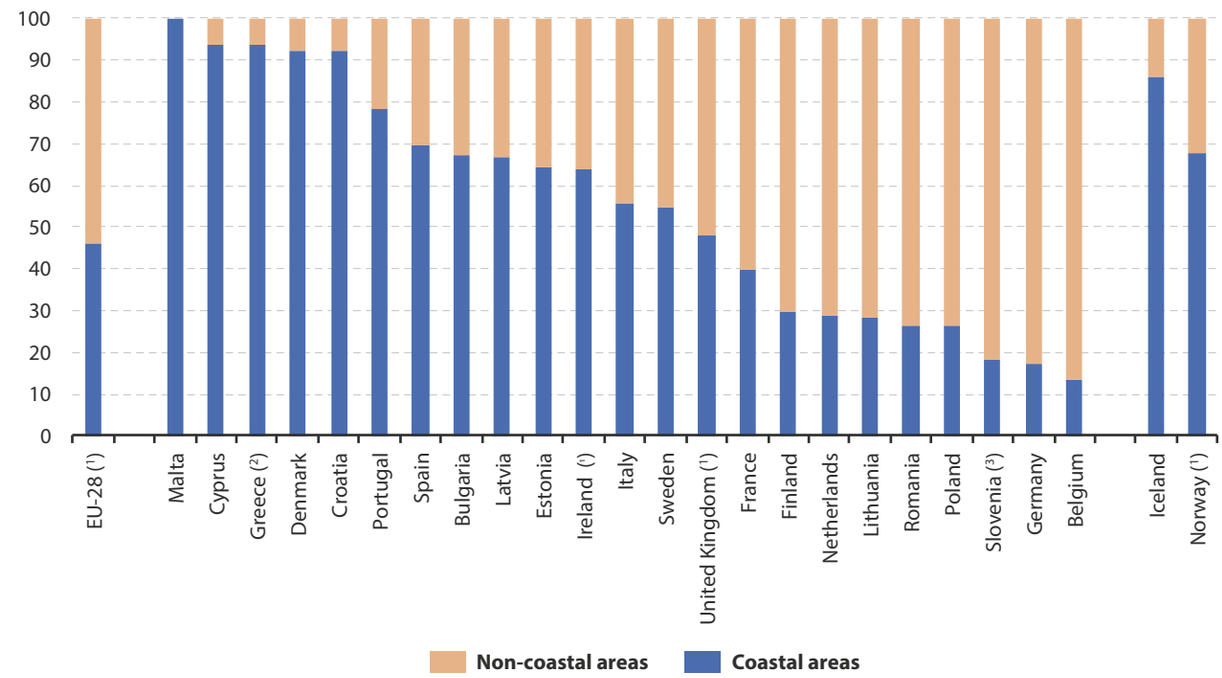
Examples

Figure 4.2: Distribution of tourist accommodation establishments, 2016
(% share of total number of tourist accommodation establishments)



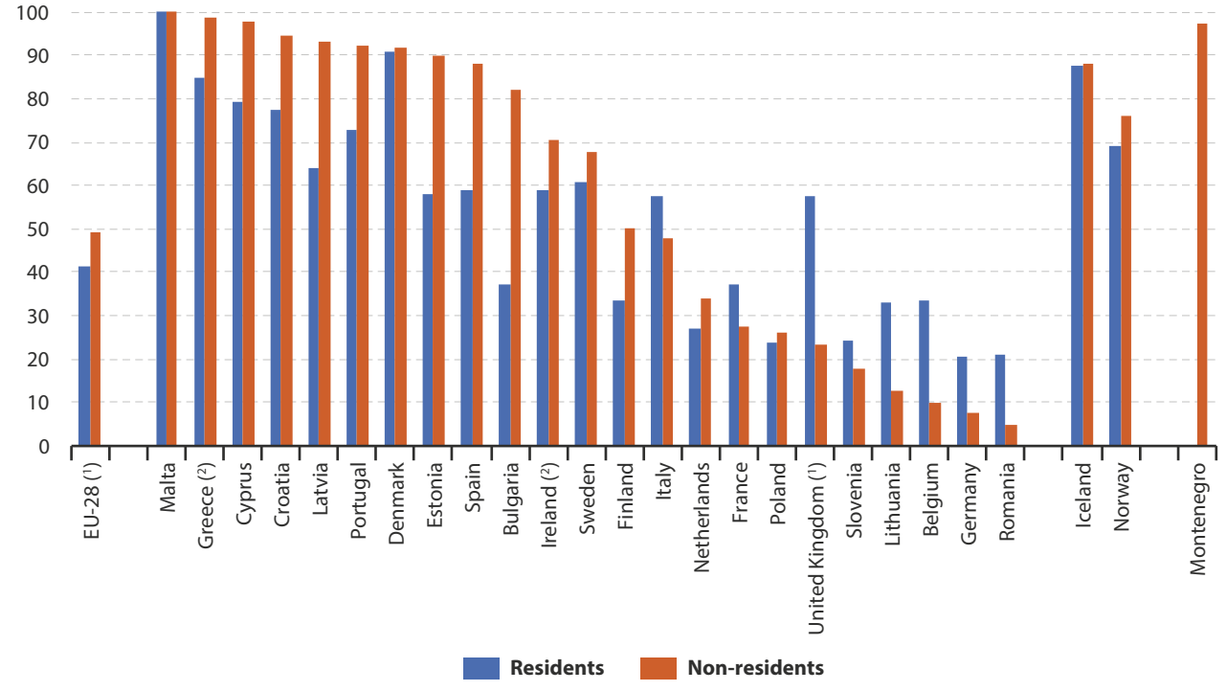
Note: Czechia, Luxembourg, Hungary, Austria and Slovakia are landlocked countries and therefore not shown.
(1) 2015.
(2) Estimates.
(3) Low reliability.
Source: Eurostat (online data code: tour_cap_natc)

Figure 4.3: Distribution of bedplaces in tourist accommodation, 2016
(% share of total number of bedplaces)



Note: Czechia, Luxembourg, Hungary, Austria and Slovakia are landlocked countries and therefore not shown.
(1) 2014.
(2) Estimates.
Source: Eurostat (online data code: tour_cap_natc)

Figure 4.4: Distribution by residents and non-residents of nights spent in tourist accommodation in coastal areas, 2016
(% share of total nights spent in coastal and non-coastal areas)



Note: Czechia, Luxembourg, Hungary, Austria and Slovakia are landlocked countries and therefore not shown.
(1) 2015. (2) Estimates.

Source: Eurostat (online data code: tour_occ_ninatc)

C Regional typologies

5. Urban-rural typology

Short description

The urban-rural typology is applied to NUTS level 3 regions: it identifies three types of region based on the share of the rural population, namely, predominantly rural regions, intermediate regions and predominantly urban regions.

Classes for the typology and their conditions

DETAILS OF THE TYPOLOGY

The urban-rural typology is a classification based on the following three categories:

- **predominantly urban regions**, NUTS level 3 regions where more than 80 % of the population live in urban clusters;
- **intermediate regions**, NUTS level 3 regions where more than 50 % and up to 80 % of the population live in urban clusters;
- **predominantly rural regions**, NUTS level 3 regions where at least 50 % of the population live in rural grid cells.

METHODOLOGY FOR THE TYPOLOGY

The urban-rural classification is based on data for 1 km^2 population grid cells. Each cell has the same shape and surface area, thereby avoiding distortions caused by using units varying in size. This is a considerable advantage when compared with alternative approaches such as those based on the use of administrative data for local administrative units (such as municipalities).

The use of relatively small (1 km^2) and uniform grid cells means that the building blocks for the urban-rural typology look inside larger local administrative units thereby providing more accurate data for the three categories. Note that to have a population grid covering all of the European Union (EU) Member States it was necessary to employ a 'top-down' approach (or a disaggregation grid) for those Member States which did not dispose of a 1 km^2 grid. Such an approach is based on disaggregating population data for local administrative units according to land use or land cover information. In some other cases, Member States use a hybrid approach to manage situations where the coverage of the population grid is incomplete. More information pertaining to population grids as building blocks for developing territorial typologies is provided in the introductory chapter.

Step 1: classifying grid cells

Groups of 1 km^2 population grid cells are plotted in relation to their neighbouring cells to identify:

- rural grid cells: all grid cells outside of urban clusters/centres, in other words, those cells with a population density that is (usually) less than 300 inhabitants per km^2 and/or fewer than 5 000 inhabitants;
- urban clusters (moderate-density clusters): a cluster of contiguous grid cells (in other words, grid cells that share a common border including grid cells that only touch diagonally at corners) with a population density of at least 300 inhabitants per km^2 and a minimum population of at least 5 000 inhabitants.

For a more detailed explanation of how grid cells are classified to the various cluster types, see Chapter 1.

Step 2: classifying the NUTS level 3 regions according to the urban-rural typology using the population living in rural grid cells and urban clusters

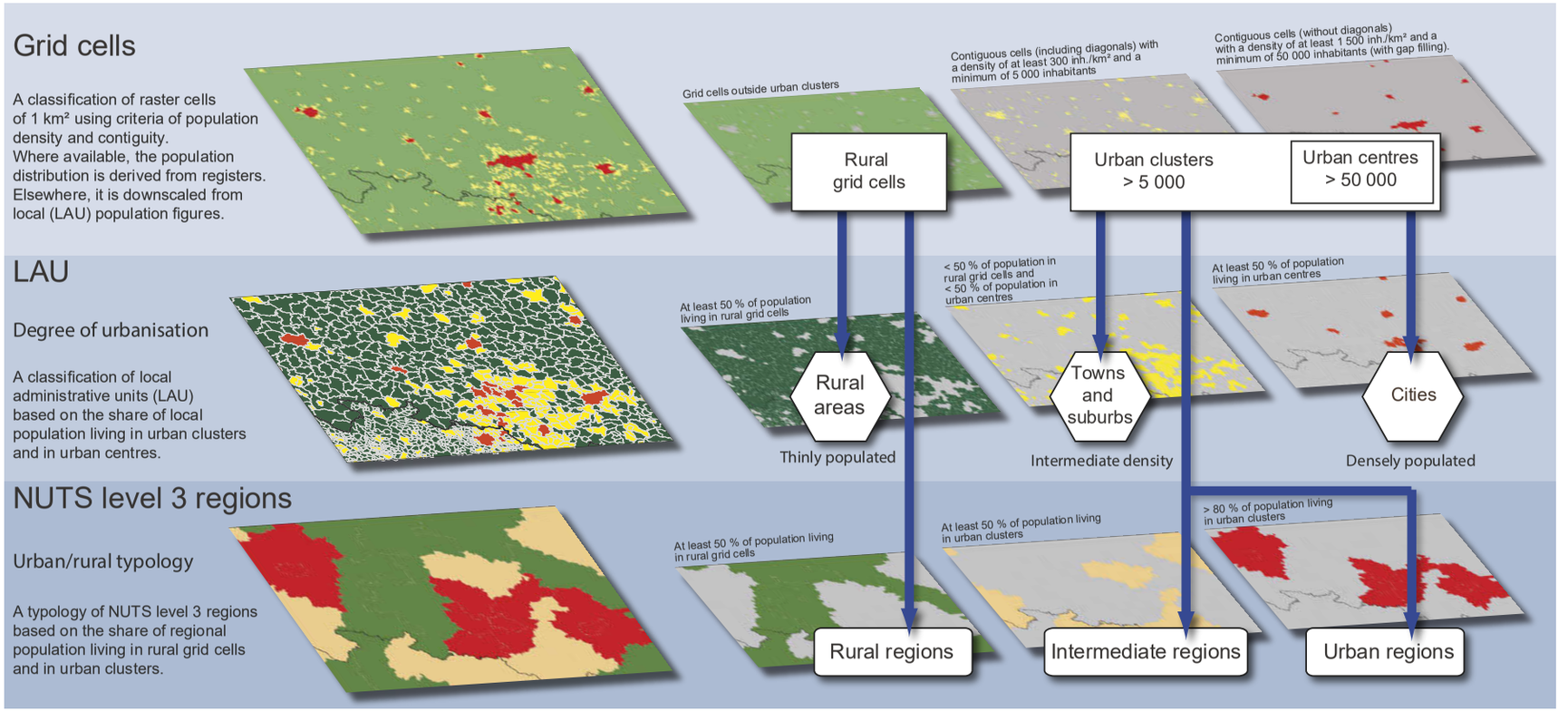
Once the grid cells have been classified as either rural grid cells or urban clusters, the next step concerns overlaying these results onto the NUTS level 3 regions, as follows:

- calculate the total grid-based population for each NUTS level 3 region (A);
- calculate the population living in urban clusters for each NUTS level 3 region (B);
- calculate the share of the population living in urban clusters for each NUTS level 3 region (B/A*100);
- make an initial classification based on these shares:
  - > 80 % live in urban clusters = predominantly urban region;
  - > 50 % and ≥ 80 % live in urban clusters = intermediate region;
  - ≥ 50 % live in rural grid cells = predominantly rural region.

By going straight from the population grid to the regional level, the potential for distortion from different sized local administrative units (LAUs) is circumvented. By avoiding the use of LAUs the results are also thought to be more representative:

- with an increase in the share of the population living in predominantly rural regions in, for example, Belgium, Germany or the Netherlands;
- with a reduction in the share of the population living in predominantly rural regions in, for example, Denmark, Finland or Sweden.

Figure 5.1: Schematic overview defining urban-rural typologies



Source: European Commission, Directorate-General Regional and Urban Policy, based on data from Eurostat, JRC, national statistical authorities, EFGS

Further adjustments

The urban-rural typology is then adapted to take account of two special cases, namely:

- the presence of small NUTS level 3 regions;
- the presence of main cities.

Adjusting for the presence of small NUTS level 3 regions

In order to avoid distortions to the classification that may result from differences in the size (area) of NUTS level 3 regions across the EU, those NUTS regions with a surface area of less than 500 km^2 are combined with one (or more) neighbouring regions to determine their classification.

NUTS level 3 regions with a surface area of less than 500 km^2 are identified and their population-weighted centroid point is calculated; this is the mean centre point for the region (sometimes referred to as the centre of gravity) that may be found by taking the arithmetic mean of each coordinate or geocoded reference for point-based population grid data (a more in-depth explanation of the population grid is provided in the introductory chapter).

The next step is to calculate the distance between the centroid of the small NUTS level 3 region and the centroid of the nearest neighbouring region. In the case that two small NUTS level 3 regions are adjacent to each other, this process may need to be repeated in order to add more neighbours. The following two cases may be identified:

- in the case that both regions have the same urban-rural class then no change is made to the classification;
- if the small regions have different urban-rural classes, then they are considered (together) as an ad-hoc NUTS region. A new calculation is made to determine the share of the total population living in urban clusters for the ad-hoc NUTS region. If this gives a different result compared with the initial class for the small NUTS region then the class for the small NUTS region is adjusted. Note the ad-hoc NUTS region is not used for any other purpose and is broken-up as soon as any adjustments have been made for small regions; as a result, the final outcome is a classification that maintains a full list of NUTS level 3 regions.

Note that this adjustment for small regions only concerns neighbouring regions from the same EU Member State, while regions from different countries are not considered. Furthermore, small island regions (that are themselves distinct NUTS regions) are not combined as they are considered not to have any neighbouring region. If there is no obvious way of grouping small neighbouring regions together then no change is made.

Adjusting for the presence of main cities

The second adjustment that is made to the urban-rural typology is in relation to main cities. Population gird figures from the latest census (reference year 2011) are used to determine if any adjustment needs to be made based on the following rules:

- any NUTS level 3 region which is classified (by the criteria described above) as predominantly rural becomes intermediate if it contains a city of more than 200 000 inhabitants representing at least 25 % of the region's total population;
- any NUTS level 3 region which is classified (by the criteria described above) as intermediate becomes predominantly urban if it contains a city of more than 500 000 inhabitants representing at least 25 % of the region's total population.

Links to other spatial concepts/ typologies

The urban-rural classification provides similar (but not identical) spatial concepts to the degree of urbanisation classification (see Chapter 2 for more information), as both predominantly rural regions and rural areas are based on the share of population living in rural grid cells. There are also close links between predominantly urban regions and metropolitan regions (see Chapter 6 for more information).

Results

Among the 1 348 NUTS 2016 level 3 regions in the EU-28, some 367 were classified as predominantly urban regions, 553 as intermediate regions and 428 as predominantly rural regions. There were 358 NUTS level 3 regions whose classification was impacted by the change to NUTS 2016.

Looking in more detail at the results for NUTS 2016, there were 25 EU Member States that have all three types of region in the urban-rural typology, while the three exceptions were:

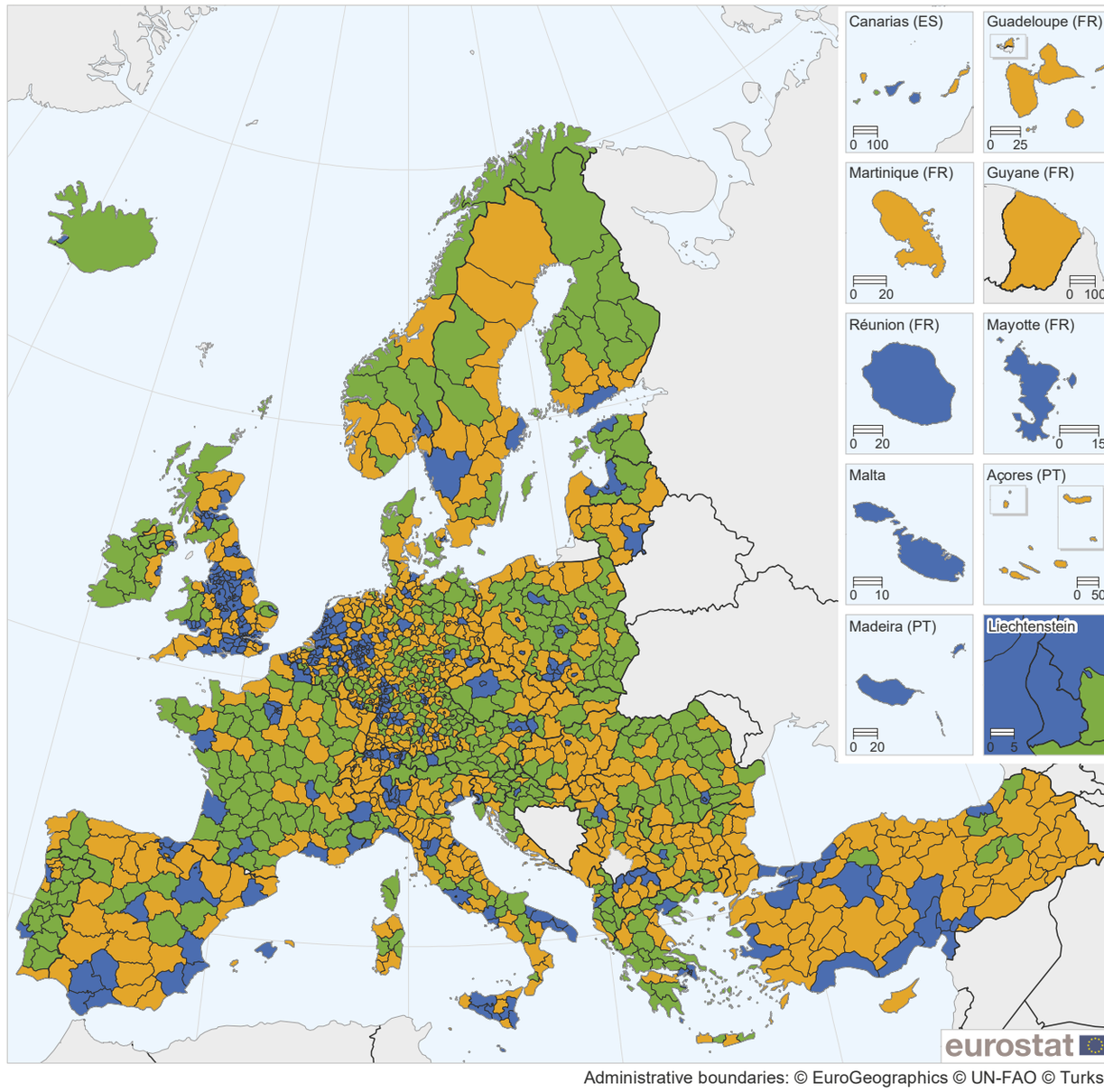
- Cyprus and Luxembourg (both composed of a single NUTS level 3 region), which were classified as intermediate regions;
- Malta (composed of two NUTS level 3 regions), both of which were classified as predominantly urban regions.

When classifying NUTS 2016 regions, there were 145 NUTS level 3 regions that were reclassified within the urban-rural typology as a result of adjusting for the presence of small regions with a surface area of less than 500 km^2.

When classifying NUTS 2016 regions, there were three NUTS level 3 regions that moved from being predominantly rural regions to intermediate regions as a result of the presence of a city with more than 200 000 inhabitants, they were: Maine-et-Loire (FRG02), Ille-et-Vilaine (FRH03) and Radomski (PL921). In a similar vein, there were 12 NUTS level 3 regions that moved from being intermediate regions to predominantly urban regions as a result of the presence of a city with more than 500 000 inhabitants, they were: Kortrijk (BE254), Hlavní město Praha (CZ010), Středočeský kraj (CZ020), Loire-Atlantique (FRG01), Gironde (FRI12), Haute-Garonne (FRJ23), Vilniaus apskritis (LT011), Miasto Kraków (PL213), Bytomski (PL228), Miasto Poznań (PL415), Miasto Wrocław (PL514) and Västra Götalands län (SE232).

Map 5.1 provides an overview of the final classification of the urban-rural typology.

Map 5.1: Urban-rural typology



Note: based on NUTS 2016 and GEOSTAT population grid from 2011, additional data from Columbia University, Center for International Earth Science Information Network - CIESIN (2015): GHS population grid.

Source: Eurostat, JRC and European Commission, Directorate-General Regional and Urban Policy and Directorate-General Agriculture and Regional Development

Changes to the typology over time

HISTORICAL DEVELOPMENTS

Urban and rural developments are central concepts used by a wide range of policymakers, researchers, national administrations and international organisations. The urban-rural typology was jointly developed by four different Directorates-General within the European Commission during a two year period through to 2010: the Directorate-General for Agriculture and Rural Development, Eurostat, the Joint Research Centre (JRC) and the Directorate-General for Regional and Urban Policy. The aim of the work to develop the typology was to build on work already done by the OECD so as to provide a consistent basis for the description of predominantly rural, intermediate and predominantly urban regions.

Although in principle this methodology can also be applied to higher geographical aggregates (such as NUTS level 2 or NUTS level 1 regions), Eurostat advises against this practice as its application for higher aggregates may, in some cases, hide considerable differences between neighbouring regions at a more detailed level.

CHANGES OVER TIME THAT IMPACT ON THE CLASSIFICATION

The urban-rural classification should be updated to reflect any changes to the underlying sources of information that are used in the compilation of this classification. As such, the classification may be updated to reflect: changes to population distributions for 1 km^2 grid cells or changes in the NUTS classification. The frequency of such updates varies according to the source of information.

Changes to the urban-rural classification resulting from a revision of population distributions for 1 km^2 grid cells are less common and these may be expected every 10 years. The next major update of the population grid is foreseen to take place for the 2021 reference year.

The NUTS Regulation specifies that the classification of regions should remain stable for a period of at least three years; the most recent updates were for NUTS 2010, NUTS 2013 and NUTS 2016. After each revision of the NUTS classification, population grid statistics should be re-assessed in order to (re-)classify each NUTS level 3 region. For the introduction of NUTS 2016, the urban-rural typology was updated exclusively to take into account changes to NUTS boundaries.

FUTURE DEVELOPMENTS

The next update of the NUTS classification is foreseen to take place in 2019.

At the time of writing, a 2021 population and housing census implementing regulation is in the process of being adopted by the European Commission. It includes an article for 1 km^2 population grid statistics. As well as information for annual counts of populations, it also foresees more detailed analyses: population by sex, population by age, number of employed persons, population by place of birth, population by usual place of residence one year prior to the census.

Eurostat are also discussing post-2021 census developments with national statistical authorities. It is hoped that the European statistical system (ESS) will agree to produce — from the mid-2020s onwards — annual counts of populations (based on usual place of residence) for a 1 km^2 grid, with data to be made available within 12 months of the reference period.

Further information

GLOSSARY ENTRIES:

https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:Urban-rural_typology

https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:Predominantly_urban_region

https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:Intermediate_region

https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:Predominantly_rural_region

DETAILED METHODOLOGY:

https://ec.europa.eu/eurostat/web/rural-development/methodology

CORRESPONDENCE FOR NUTS REGIONS:

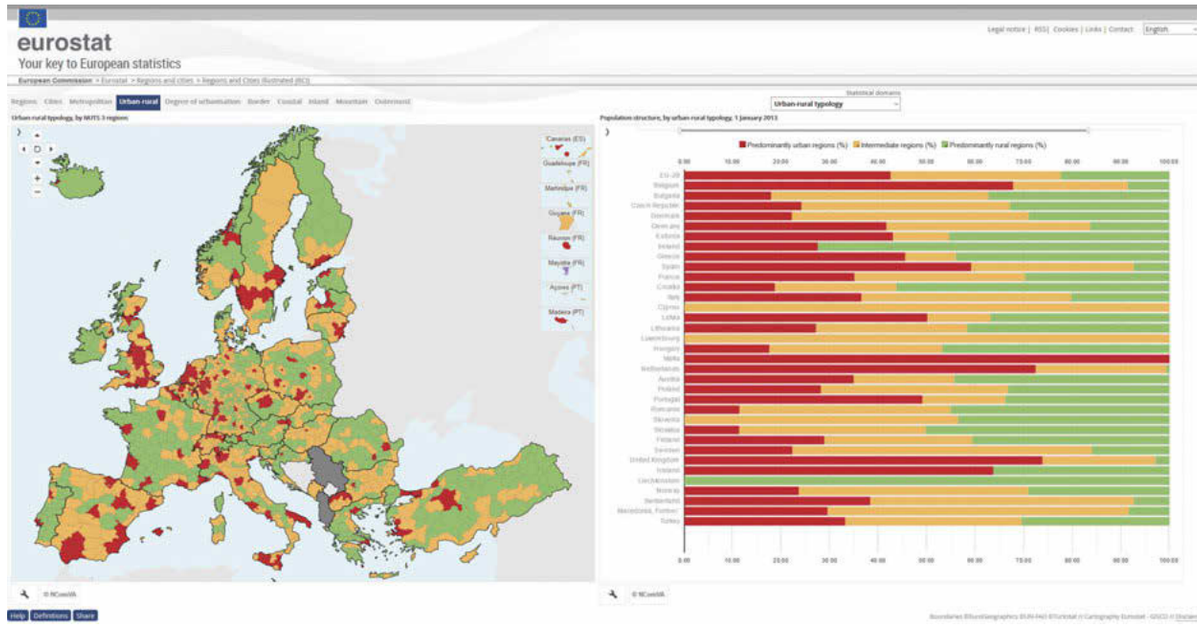
https://ec.europa.eu/eurostat/web/rural-development/methodology

Published indicators

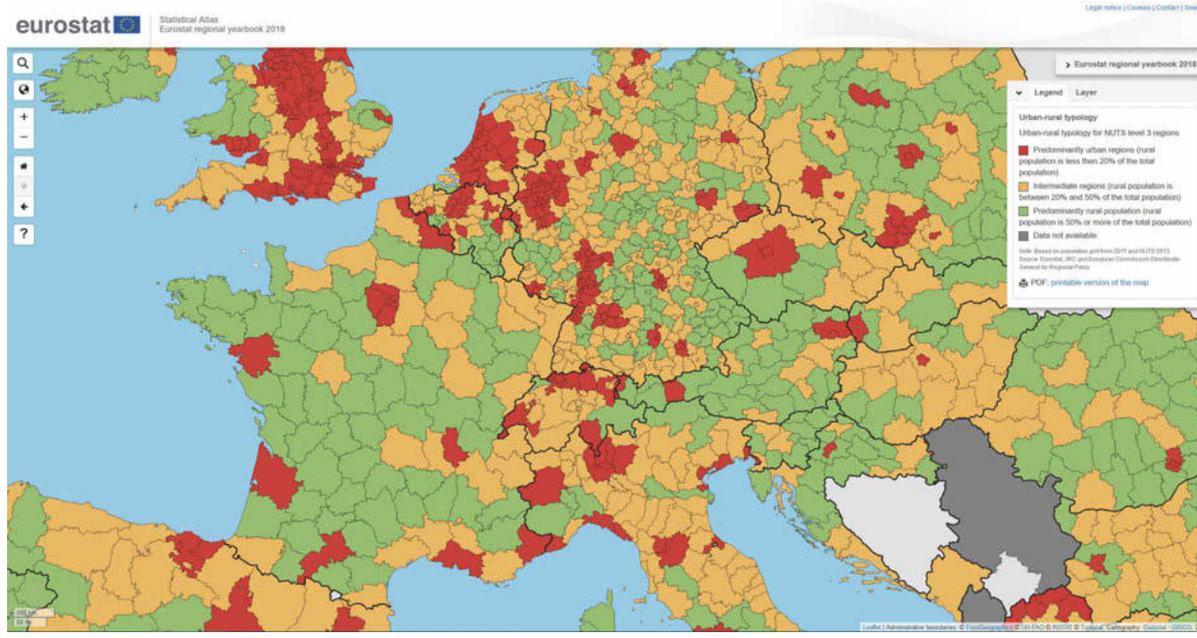
A variety of different statistical surveys collect data for NUTS level 3 regions and this information may be used to calculate data for the three different categories in the urban-rural typology. This process involves aggregating the data for NUTS level 3 regions to compute a total or an average for all predominantly rural regions, intermediate regions or predominantly urban regions within a territory (for example a Member State, or the EU as a whole).

VISUALISATION TOOLS:

Eurostat publishes data for the urban-rural typology through Regions and cities illustrated, available at: https://ec.europa.eu/eurostat/cache/RCI/#?vis=urbanrural.urb_typology&lang=en.

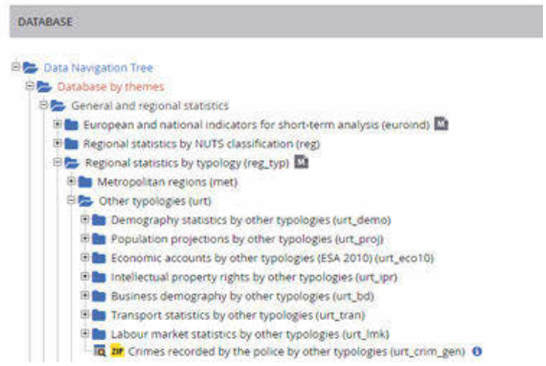


The urban-rural classification may be viewed through Eurostat's Statistical atlas, available at: https://ec.europa.eu/eurostat/statistical-atlas/gis/viewer/?mids=BKGCNT,C99M01,CNTOVL&o=1,1,0.7&ch=C02,TRC,TYP&center=49.13504,15.1891,4&lcis=C99M01&



DATABASE:

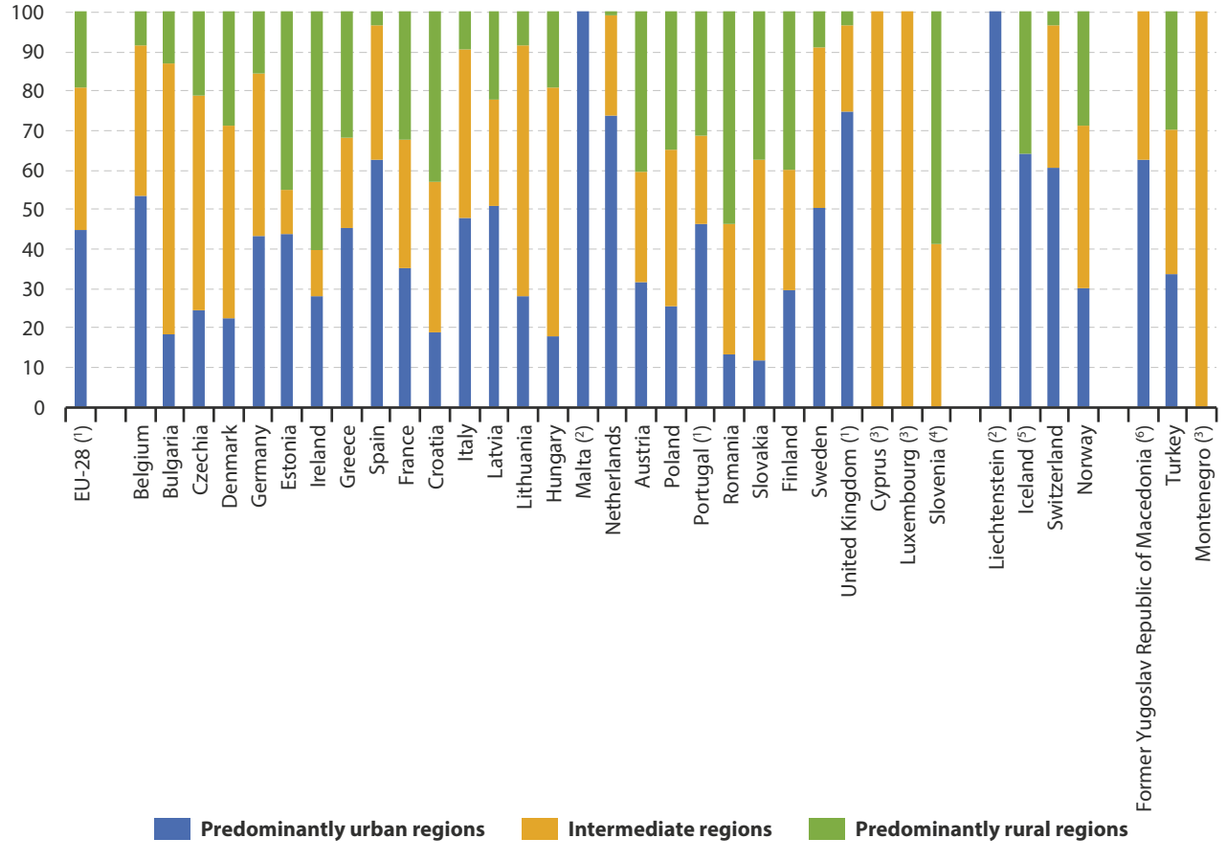
Eurostat's website provides information for a wide variety of indicators for the urban-rural typology. These statistics are available for the following statistical domains: demography, population projections, the labour market, crimes recorded by the police, economic accounts, business demography, intellectual property rights and transport. They are available at: https://ec.europa.eu/eurostat/data/database.



Examples

The information presented in Figures 5.2-5.5 concerns data for the urban-rural typology that is based on the NUTS 2013 classification.

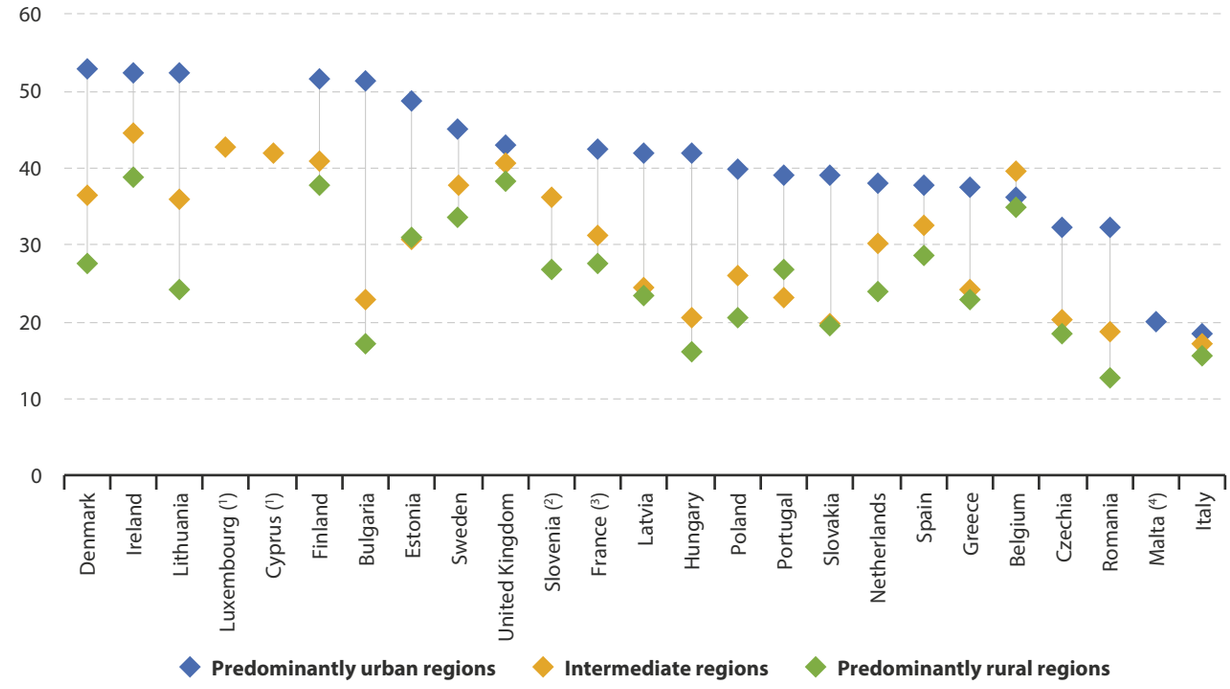
Figure 5.2: Population structure, by urban-rural typology, 2016
(% share of total population)



(1) Estimates.
(2) Intermediate regions and predominantly rural regions: not applicable.
(3) Predominantly urban regions and predominantly rural regions: not applicable.
(4) Predominantly urban regions: not applicable.
(5) Intermediate regions: not applicable.
(6) Predominantly rural regions: not applicable.

Source: Eurostat (online data code: urt_pjanaggr3)

Figure 5.3: Population aged 25-64 with a tertiary level of educational attainment, by urban-rural typology, 2016
(%)

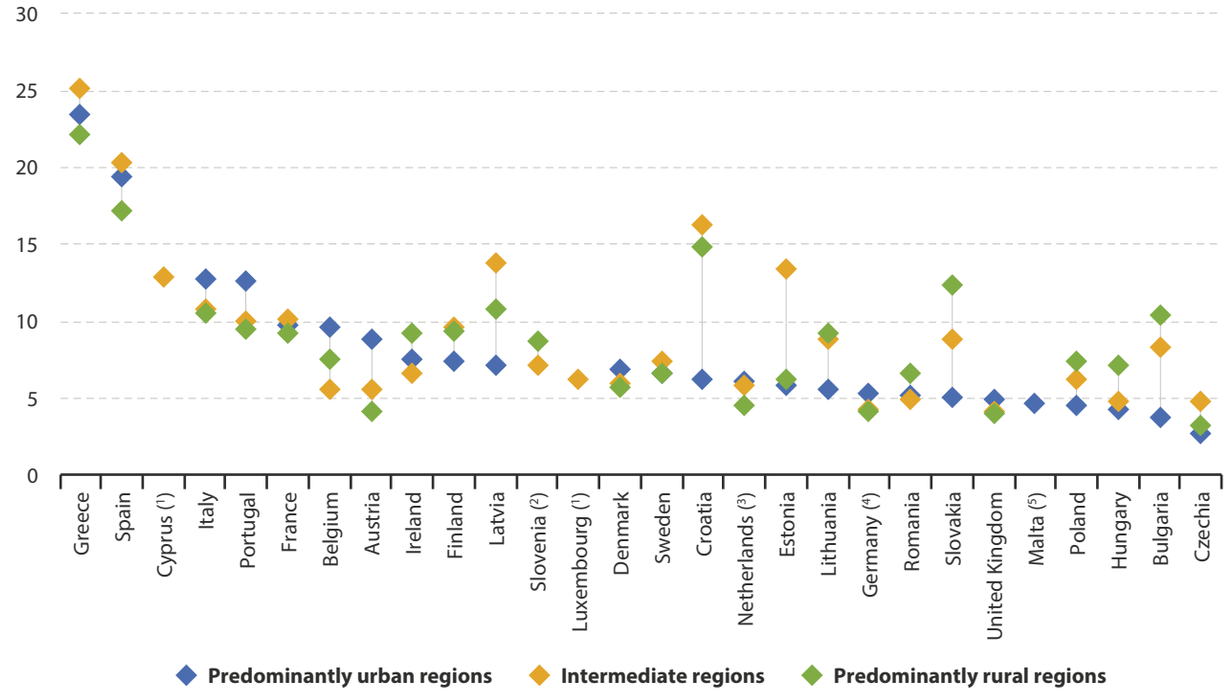


Note: Germany, Croatia and Austria, not available. Tertiary education is defined by ISCED 2011 levels 5-8.

(1) Predominantly urban regions and predominantly rural regions: not applicable.
(2) Predominantly urban regions: not applicable.
(3) 2014.
(4) Intermediate regions and predominantly rural regions: not applicable.

Source: Eurostat (online data code: urt_edat_lfse4)

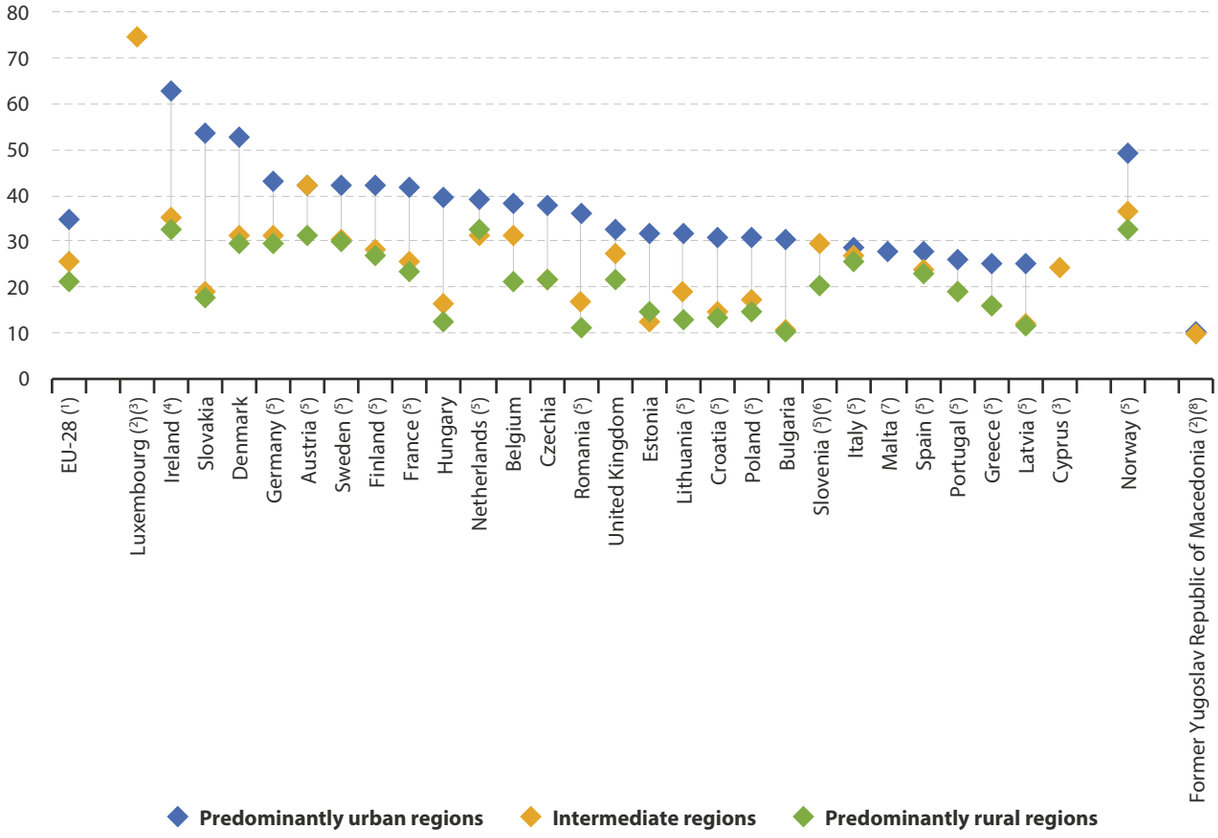
Figure 5.4: Unemployment rates, by urban-rural typology, 2016
(%)



(1) Predominantly urban regions and predominantly rural regions: not applicable.
(2) Predominantly urban regions: not applicable.
(3) Predominantly rural regions: low reliability.
(4) 2015.
(5) Intermediate regions and predominantly rural regions: not applicable.

Source: Eurostat (online data code: urt_lfu3rt)

Figure 5.5: GDP per inhabitant, by urban-rural typology, 2016
(thousand purchasing power standards (PPS) per inhabitant)



(1) Estimates, based on the latest available information for each of the EU Member States.
(2) 2014.
(3) Predominantly urban regions and predominantly rural regions: not applicable.
(4) Dublin (IE021) and South-West (IE025), 2014; all other regions, 2015.
(5) 2015.
(6) Predominantly urban regions: not applicable.
(7) Intermediate regions and predominantly rural regions: not applicable.
(8) Predominantly rural regions: not applicable.

Source: Eurostat (online data code: nama_10r_3gdp)

6. Metropolitan regions

Short description

The metropolitan typology is applied at the level of NUTS level 3 regions and identifies metropolitan regions in the European Union (EU). These regions are defined as urban agglomerations (NUTS level 3 regions or groups of NUTS level 3 regions) where at least 50 % of the population lives inside a functional urban area (FUA) that is composed of at least 250 000 inhabitants.

Classes for the typology and their conditions

DETAILS OF THE TYPOLOGY

The metropolitan typology is a classification based on the following two categories:

- **metropolitan regions**, a single NUTS level 3 region or an aggregation of NUTS level 3 regions in which 50 % or more of the population live in a functional urban area (FUA) that is composed of at least 250 000 inhabitants;
- **non-metropolitan regions**, NUTS level 3 regions that are not metropolitan regions.

Note that capital city metropolitan regions may be identified as a subdivision of metropolitan regions; these refer to the metropolitan region which includes the capital city.

METHODOLOGY FOR THE TYPOLOGY

Metropolitan regions are NUTS level 3 approximations of functional urban areas (composed of a city and its commuting zone) with at least 250 000 inhabitants. Each metropolitan region consists of one or more NUTS level 3 regions and is named after the principal functional urban area within its boundaries. For a schematic overview of how the different typologies fit together, see Figure 0.2 in the introductory chapter.

Step 1: classifying grid cells

The main building blocks used to identify functional urban areas are data for 1 km^2 population grid cells. Each grid cell has the same shape and surface area, thereby avoiding distortions caused by using units varying in size. This is a considerable advantage when compared with alternative approaches such as those based on the use of administrative data for local administrative units (LAUs).

These 1 km^2 population grid cells are plotted in relation to their neighbouring cells to identify cluster types; note this is the same process that is used for the degree of urbanisation typology (see Chapter 2). The cluster type used to identify cities is that of:

- urban centres (or high-density clusters) — a cluster of non-diagonal contiguous grid cells (in other words, excluding those cells with only touching corners) having a population density of at least 1 500 inhabitants per km^2 in each grid cell and collectively at least 50 000 inhabitants after gap-filling.

For a more detailed explanation of how densely populated grid cells are classified to urban centres (including the gap-filling process), see Chapter 1.

Step 2: classifying functional urban areas

The population grid cells are aggregated by functional urban area, thereby calculating the grid-based population of each functional urban area. From this aggregated table, functional urban areas with at least 250 000 inhabitants are selected. The identification of functional urban areas is described in detail within Chapter 3 — they are composed of the combination of:

- cities (densely populated areas) — where at least 50 % of the population lives in one or more urban centres (note this definition is identical to that used for the degree of urbanisation typology); and
- commuting zones — which are based on commuting patterns, and are defined as follows:
  - if at least 15 % of employed persons living in one city work in another city, these cities are treated as a single destination for the commuting analysis;
  - all LAUs from which at least 15 % of the employed population commute to the city are identified as commuting zones;
  - enclaves (LAUs surrounded by a single functional urban area) are included as part of the commuting zone and exclaves (non-contiguous LAUs) are excluded from commuting zones.

In some cases the relationship between LAUs and urban centres may be complex — details of exceptions and adjustments that are made when classifying functional urban areas are provided in Chapter 3.

Step 3: identifying metropolitan regions

The population grid cells are also aggregated for NUTS level 3 regions, determining the grid-based population of every region.

- calculate the total grid-based population for each functional urban area (A);
- calculate the total grid-based population living in each NUTS level 3 region (B);
- identify those functional urban areas that are composed of at least 250 000 inhabitants;
- calculate the share of the regional population living in each of these functional urban areas (B/A);
- identify metropolitan regions as those regions where the share of the regional population living in a functional urban area is at least 50 %;
- check to ensure that each functional urban area of at least 250 000 inhabitants has a metropolitan region; if not, the metropolitan region is defined as the NUTS level 3 region with the highest share of its population living in that functional urban area (even if its share is less than 50 %);
- check to ensure that each capital region has a metropolitan region

In some cases, the approximation of functional urban areas is very good, while for others, the metropolitan region may be larger or smaller than the functional urban area.

As noted above, each functional urban area of at least 250 000 inhabitants is represented by at least one NUTS level 3 region. If in an adjacent NUTS level 3 region at least 50 % of the population also lives within the same functional urban area, then it too should be included in the metropolitan region. As such, metropolitan regions may extend across more than one NUTS level 3 region. For example, the metropolitan region for Liège in Belgium is composed of Arr. Liège and Arr. Waremme (NUTS level 3 codes BE332 and BE334), while the metropolitan region for Milano in Italy is composed of Lodi, Milano and Monza e della Brianza (NUTS level 3 codes ITC49, ITC4C and ITC4D).

As metropolitan regions include the commuting zones around major cities, this approach corrects for some of the potential misinterpretations of data resulting from commuting patterns, for instance rendering measures such as GDP per inhabitant more meaningful. For example, statistics based on the NUTS classification for Paris and London tend to report very high levels of GDP per inhabitant in part due to the influence of commuters whose output is included in the numerator but who are excluded from the statistics for the population data used in the denominator. Extending any analyses to the wider geographical area defined by the metropolitan region corrects for distortions like these as there is a better relation in the coverage of the numerator and denominator.

Note that unlike functional urban areas — see the example of Basel in Switzerland, as presented in Chapter 3 — metropolitan regions should not cross international borders into neighbouring territories. This is relatively important for one specific case, namely Luxembourg, which is classified as a single NUTS level 3 region (and a single metropolitan region). A relatively high share (approaching half) of the workforce in Luxembourg commutes to work from the neighbouring countries of Belgium, France and Germany; as such, the metropolitan region of Luxembourg does not cover a large part of its commuting zone, which may make interpretation of some indicators difficult for this region. However, the population of cross-border functional urban areas may contribute towards defining national metropolitan regions. An example is provided by the metropolitan region for Annecy/Genève (which is located exclusively within France). More than one third (35 %) of the population in the French alpine region of Haute-Savoie (NUTS code; FRK28) lives in the functional urban area of Annecy, while just over one quarter (27 %) of the regional population commutes to work in the Swiss transnational functional urban area of Genève. Together, these two functional urban areas account for 62 % of the region's total population and more than 250 000 inhabitants; consequently, Haute-Savoie is defined as a metropolitan region (drawing on the contribution of both functional urban areas to surpass the minimum population threshold). Note also that the Swiss city of Genève (CH013) has its own metropolitan region, defined within the confines of its national territory.

Links to other spatial concepts/ typologies

As described above and as shown in Figure 0.2 in the introductory chapter, there is a direct link between the local typology of functional urban areas (see Chapter 3) and the regional typology for metropolitan regions, with the former being used as a basis to construct the typology for the latter.

There are also close links between the different concepts used for cities, functional urban areas and metropolitan regions; an example is shown for Barcelona in Chapter 3.

Finally, there is a relatively close relationship between the metropolitan typology and the urban-rural typology. Despite the absence of an identical category, these two regional typologies are quite similar, insofar as:

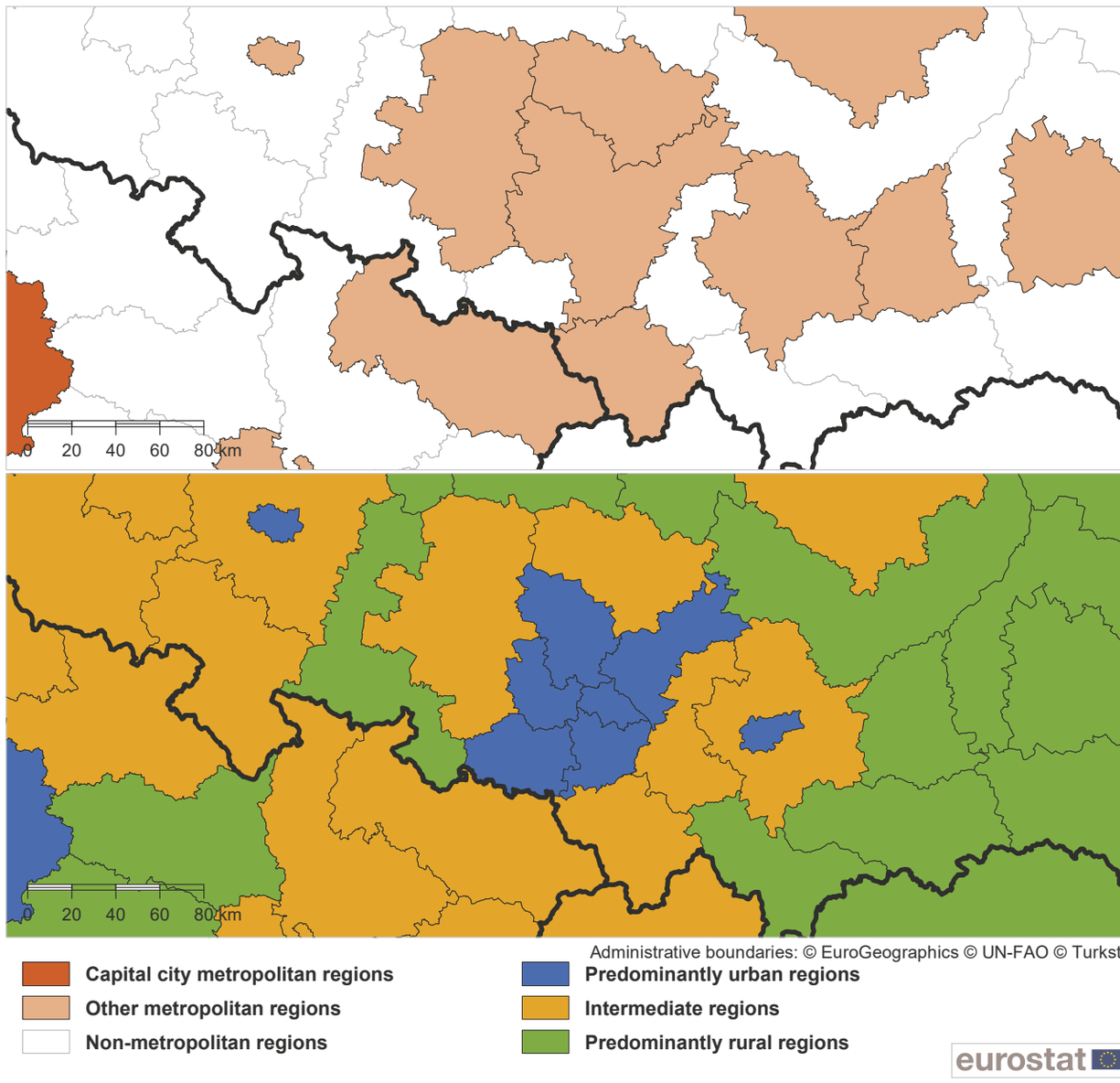
- most predominantly urban regions are also metropolitan regions and vice versa;
- most predominantly rural regions are also non-metropolitan regions and vice versa;
- intermediate regions are split between metropolitan regions and non-metropolitan regions.

Figure 6.1 shows the classification of NUTS level 3 regions close to the Polish-Slovakian border and provides an example of the links between these two typologies. The differences between the typologies arise from three main sources:

- a different logic — the logic behind these two typologies can be described as morphological and functional. The urban-rural typology depends more on population size and population density (morphology), while the metropolitan typology relies on the presence of an urban centre and of functional economic ties to a city centre (functional);
- different size thresholds — metropolitan regions are related to cities and their commuting zones with at least 250 000 inhabitants, whereas predominantly urban regions represent urban centres of 50 000 inhabitants or more (the definition for cities) and/or urban clusters of at least 5 000 inhabitants (the definition for towns and suburbs);
- a different number of classes/categories — the urban-rural typology identifies three different types of region, while the metropolitan typology has only two.

Due to these differences, some predominantly urban regions may be classified as non-metropolitan regions because the city and its commuting zone (the functional urban area) is too small. In a similar vein, some predominantly rural regions can become part of a metropolitan region if they have strong commuting links to a city.

Figure 6.1: Metropolitan typology compared with the urban-rural typology, Polish-Slovakian border



Note: based on population grid from 2011 and NUTS 2016.

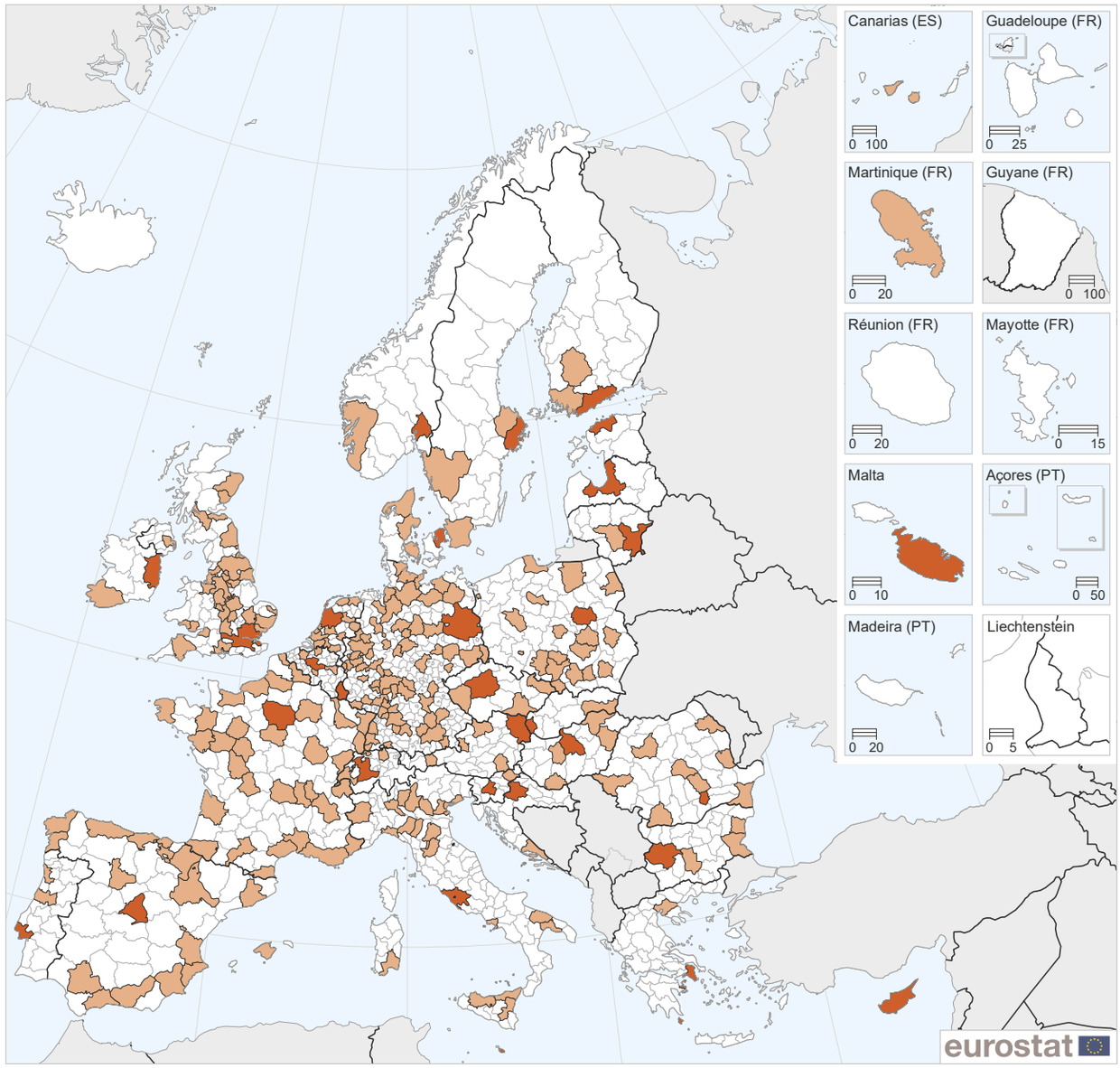
Source: Eurostat, JRC and European Commission, Directorate-General Regional and Urban Policy

Results

Based on the above definitions (for NUTS 2016), there are 28 capital city metropolitan regions and there are an additional 249 other metropolitan regions in the EU-28. Map 6.1 shows the final classification for metropolitan regions.

For all EU Member States, Norway and Switzerland, a list of metropolitan regions is available at: https://ec.europa.eu/eurostat/web/metropolitan-regions/background

Map 6.1: Metropolitan typology



Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat - GISCO, 09/2018

Note: based on population grid from 2011 and NUTS 2016.

Source: Eurostat, JRC and European Commission, Directorate-General Regional and Urban Policy

Changes to the typology over time

The metropolitan typology was developed by the European Commission's Directorate-General for Regional and Urban Policy in association with Eurostat. The aim of the typology was to build on work already done by the OECD so as to provide a consistent basis for the description of metropolitan and non-metropolitan regions.

The metropolitan typology was first presented in a Green paper on territorial cohesion (2009) and subsequently in a Regional Focus (2009). Subsequently, EU metropolitan regions were compared with OECD metropolitan regions and this led to a harmonisation exercise for the definition of metropolitan regions used by both organisations.

CHANGES OVER TIME THAT IMPACT ON THE CLASSIFICATION

The metropolitan regions classification should be updated to reflect any changes to the underlying sources of information that are used in its compilation. As such, the classification may be updated to reflect: changes to population distributions for 1 km^2 grid cells, changes to LAUs that are used as the basis for information on functional urban areas, changes to functional urban areas based on new commuting data, or changes in the NUTS classification. The frequency of such updates varies according to the source of information.

The NUTS Regulation specifies that the classification of regions should remain stable for a period of at least three years; the most recent updates were for NUTS 2010, NUTS 2013 and NUTS 2016. The NUTS Regulation also specifies that changes to LAUs may take place on an annual basis.

The frequency of updates for functional urban areas is a function of the availability of new commuting data; as such, it varies among the EU Member States. Most only collect LAU commuting data during a census year (generally once a decade). However, some Member States collect information on commuting each year through registers, they are in a position to update their classification of functional urban areas on a more regular basis.

Population grid statistics should be re-assessed in order to (re-)classify each NUTS level 3 region after each revision of LAUs, the functional urban areas, or the NUTS classification. Changes to the metropolitan regions classification resulting from a revision of population distributions for 1 km^2 grid cells are least common and these may be expected every 10 years. The next major update of the population grid is foreseen to take place for the 2021 reference year.

As an example, when moving from NUTS 2013 to NUTS 2016 there were two different situations identified which required changes to the metropolitan regions classification, namely:

- changes in the NUTS classification, such as NUTS level 3 regions merging together or being split apart into new codes when moving from NUTS 2013 to NUTS 2016;
- changes in metropolitan regions due to changes to the underlying data for functional urban areas, for example, when EU Member States updated the boundaries of their functional urban areas based on commuting data that was collected as part of the 2011 census exercise (or more recent data).

As a result of the latest changes to the NUTS classification the number of metropolitan regions in the EU-28 increased from 267 to 277. Only one metropolitan region from NUTS 2013 was reclassified as a non-metropolitan region in NUTS 2016, as the functional urban area of Liberec in Czechia saw its population fall to less than 250 000 inhabitants. By contrast, there were 11 new metropolitan regions that resulted from either newly created or expanding functional urban areas, they included: Düren and Bocholt (in Germany), Martinique (in France), Leeuwarden, North Overijssel and Breda (in the Netherlands) and Northampton, Cambridge, Colchester, Oxford and Plymouth (in the United Kingdom). A few existing metropolitan regions became larger in size when comparing the results for NUTS 2013 and NUTS 2016, they included: Amsterdam, s' Gravenhage, Leiden, Rotterdam and Groningen (in the Netherlands), Riga (in Latvia), Leeds, Manchester, Liverpool and Southampton (in the United Kingdom); as such, their metropolitan regions expanded to include one or more additional NUTS regions. In contrast, the capital metropolitan regions of Greece and Poland both lost one of their NUTS components as a result of re-evaluating the criteria. Western Attica was removed from the definition in Greece, as it had only 28.5 % of its population living in the functional urban area of the Greek capital, while Żyrardowski was removed from the definition in Poland, as it had only 18.3 % of its population living in the functional urban area of the Polish capital.

FUTURE DEVELOPMENTS

The next update of the NUTS classification is foreseen to take place in 2019.

At the time of writing, a 2021 population and housing census implementing regulation is in the process of being adopted by the European Commission. It includes an article for 1 km² population grid statistics. As well as information for annual counts of populations, it also foresees more detailed analyses: population by sex, population by age, number of employed persons, population by place of birth, population by usual place of residence one year prior to the census. LAU commuting data will also become available, as there is a strong stakeholder interest in commuting data within most of the EU Member States.

Eurostat are also discussing post-2021 census developments with national statistical authorities. It is hoped that the European statistical system (ESS) will agree to produce — from the mid-2020s onwards — annual counts of populations (based on usual place of residence) for a 1 km² grid, with data to be made available within 12 months of the reference period.

Further information

GLOSSARY ENTRY:

https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:Metro_regions

DETAILED METHODOLOGY:

https://ec.europa.eu/eurostat/cache/metadata/en/reg_typ_esms.htm

CORRESPONDENCE FOR NUTS REGIONS:

https://ec.europa.eu/eurostat/web/metropolitan-regions/background

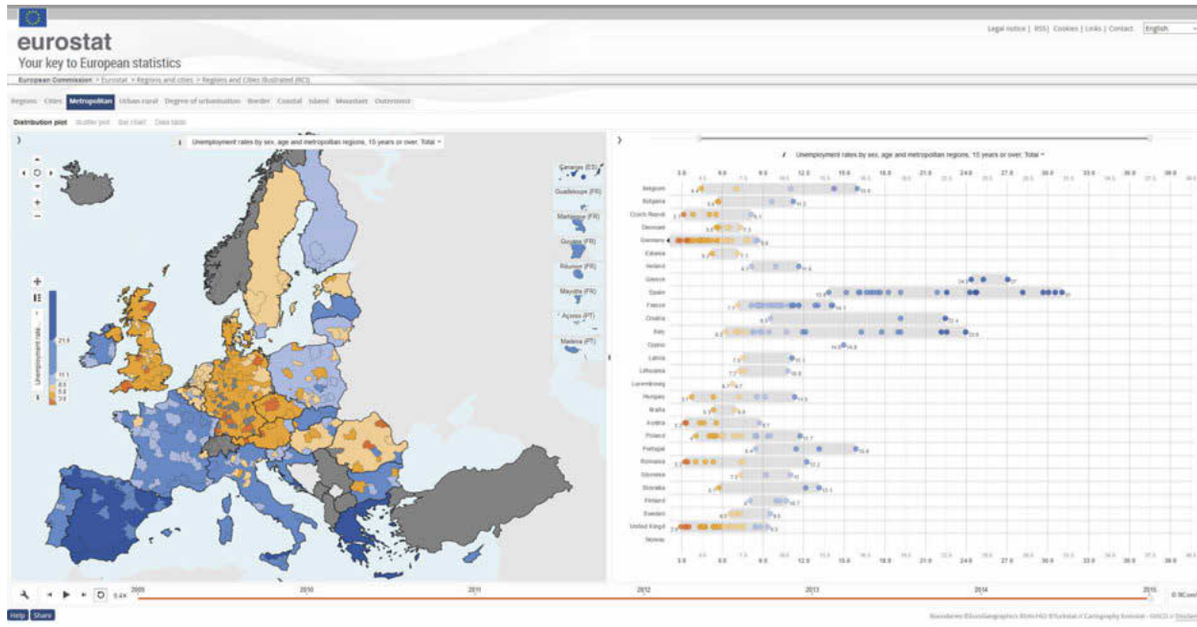
Published indicators

A variety of different statistical surveys collect data for NUTS level 3 regions and this information may be used to calculate data for the two different categories in the metropolitan typology. This process involves aggregating the data for NUTS level 3 regions to compute a total or an average for all metropolitan or non-metropolitan regions within a territory (for example a Member State, or the EU as a whole).

VISUALISATION TOOLS:

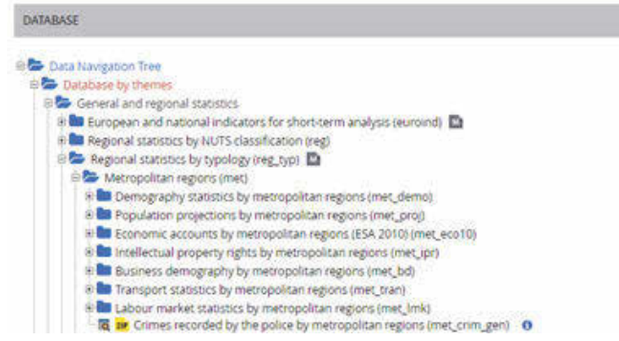
Eurostat publishes data for the metropolitan typology through Regions and cities illustrated, available at:

https://ec.europa.eu/eurostat/cache/RCI/#?vis=metropolitan.gen&lang=en



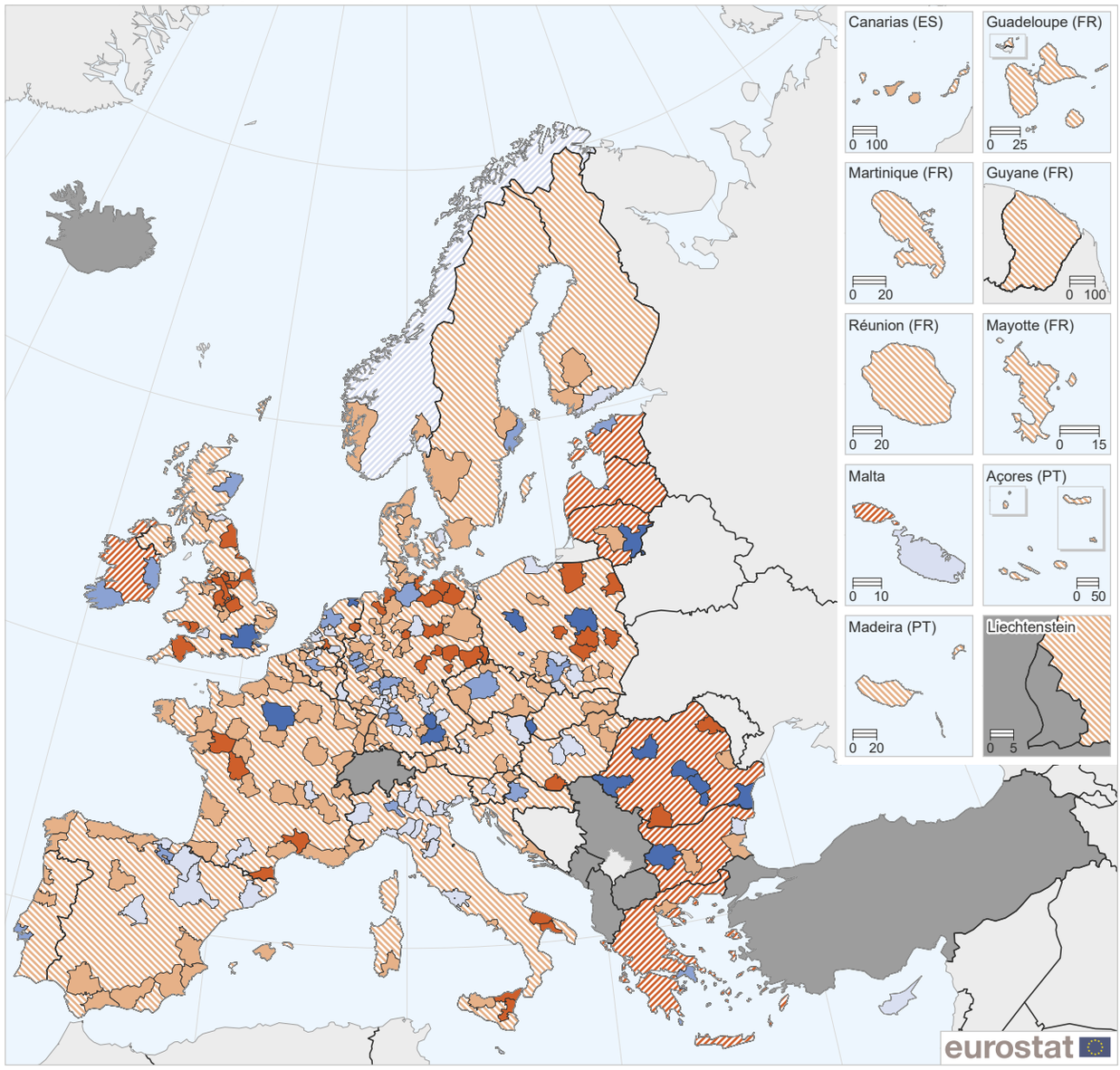
DATABASE:

Eurostat's website provides information for a wide variety of indicators for the metropolitan typology. These statistics are available for the following statistical domains: demography, population projections, the labour market, crimes recorded by the police, economic accounts, business demography, intellectual property rights and transport. They are available at: https://ec.europa.eu/eurostat/data/database.



Examples

Map 6.2: GDP per person employed relative to the national average, by metropolitan and aggregates of non-metropolitan regions, 2016
(based on data in EUR per person employed; national average = 100)



(based on data in EUR per person employed; national average = 100)

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat — GISCO, 09/2018

- < 85
- 85 - < 100
- 100 - < 115
- 115 - < 130
- ≥ 130
- Data not available

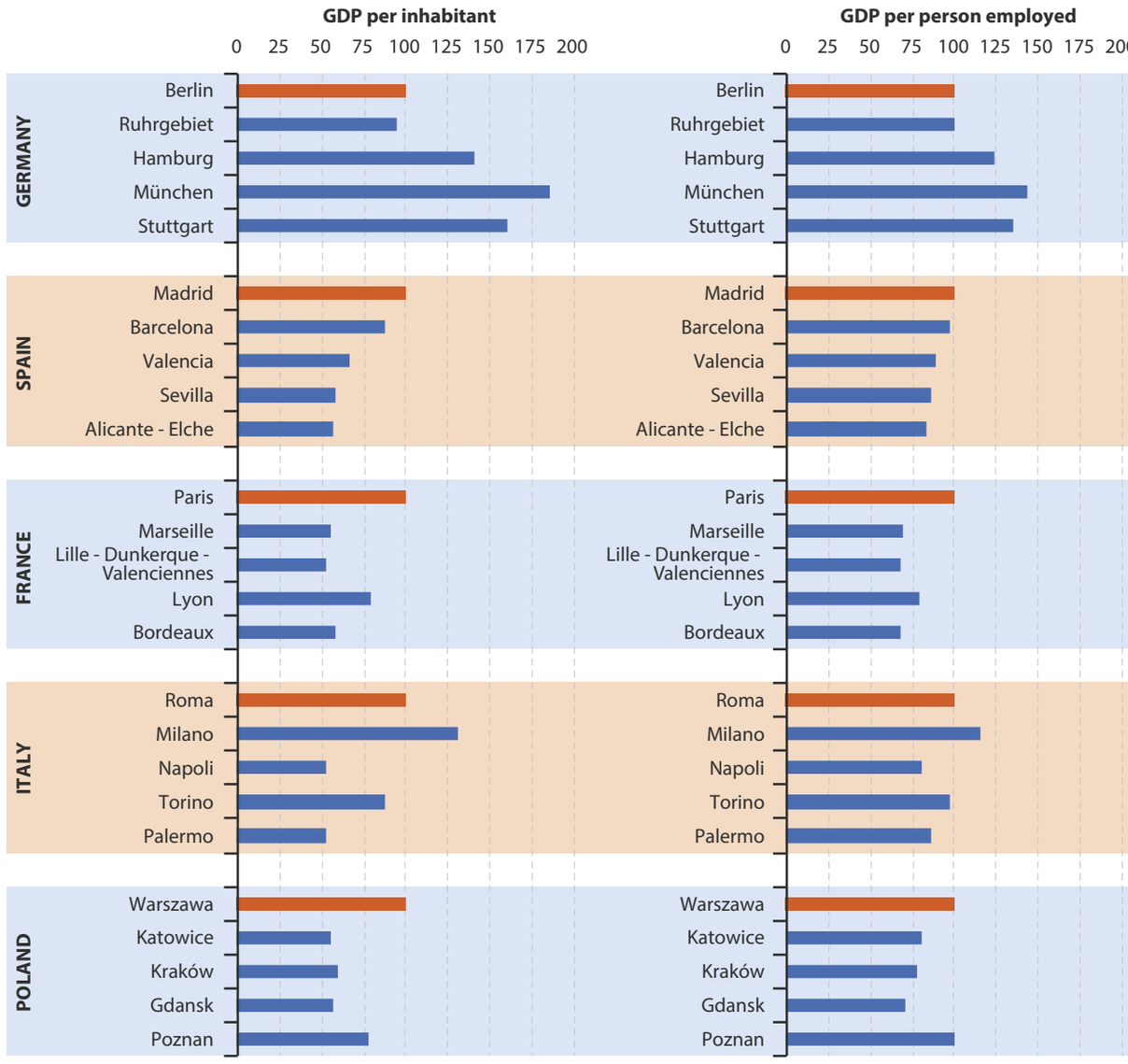
- < 85
- 85 - < 100
- 100 - < 115
- 115 - < 130
- ≥ 130

0 200 400 600 800 km

Note: Germany, Greece, Spain, France, Croatia, Italy, Latvia, Lithuania, Hungary, the Netherlands, Austria, Poland, Portugal, Romania, Sweden, the United Kingdom and Norway, 2015. Ireland: 2014.

Source: Eurostat (online data codes: met_10r_3gdp, met_10r_3emp, nama_10r_3gdp, nama_10r_3empers, nama_10_gdp and nama_10_pe)

Figure 6.2: GDP per inhabitant and GDP per person employed of metropolitan regions in selected EU Member States, 2015
(capital city = 100; based on values in PPS terms)



Note: the ranking of the other metropolitan regions is based on their respective number of inhabitants.

Source: Eurostat (online data codes: met_pjanaggr3, met_10r_3gdp and met_10r_3emp)

7. Coastal regions

Short description

The coastal typology is applied at the level of NUTS level 3 regions: it identifies coastal regions in the European Union (EU) as having a border with a coastline, having more than half their population within 50 km of the coastline, or having a strong maritime influence.

Classes for the typology and their conditions

DETAILS OF THE TYPOLOGY

The basic coastal typology is a classification based on the following two categories:

- coastal regions;
- non-coastal regions (those regions that are not defined as coastal regions).

Coastal regions can also be classified according to the sea basin in which they are located. A sea basin is a geographical entity composed of a sea/ocean and the coastal region (land basin) that borders the sea/ocean/coastline. At an aggregated level of detail the following sea basins may be identified for EU regions:

- Baltic Sea;
- North Sea;
- North-East Atlantic Ocean;
- Mediterranean Sea;
- Black Sea;
- outermost regions.

METHODOLOGY FOR THE TYPOLOGY

Coastal regions are NUTS level 3 regions in the EU, defined according to one of the following three criteria:

- any NUTS level 3 region with a sea border (coastline);
- any NUTS level 3 region that has more than half of its population within 50 km of the coastline, based on population data for 1 km^2 grid cells;
- the NUTS level 3 region for Hamburg in Germany.

Case 1: regions with a sea border (coastline)

The first of these criteria is self-explanatory. There are 23 EU Member States that have a coastline and therefore also have coastal regions, while Czechia, Luxembourg, Hungary, Austria and Slovakia are landlocked countries and are therefore exclusively composed of non-coastal regions.

Case 2: regions with more than 50 % of their population within 50 km of the coastline

This criterion requires two sources of information:

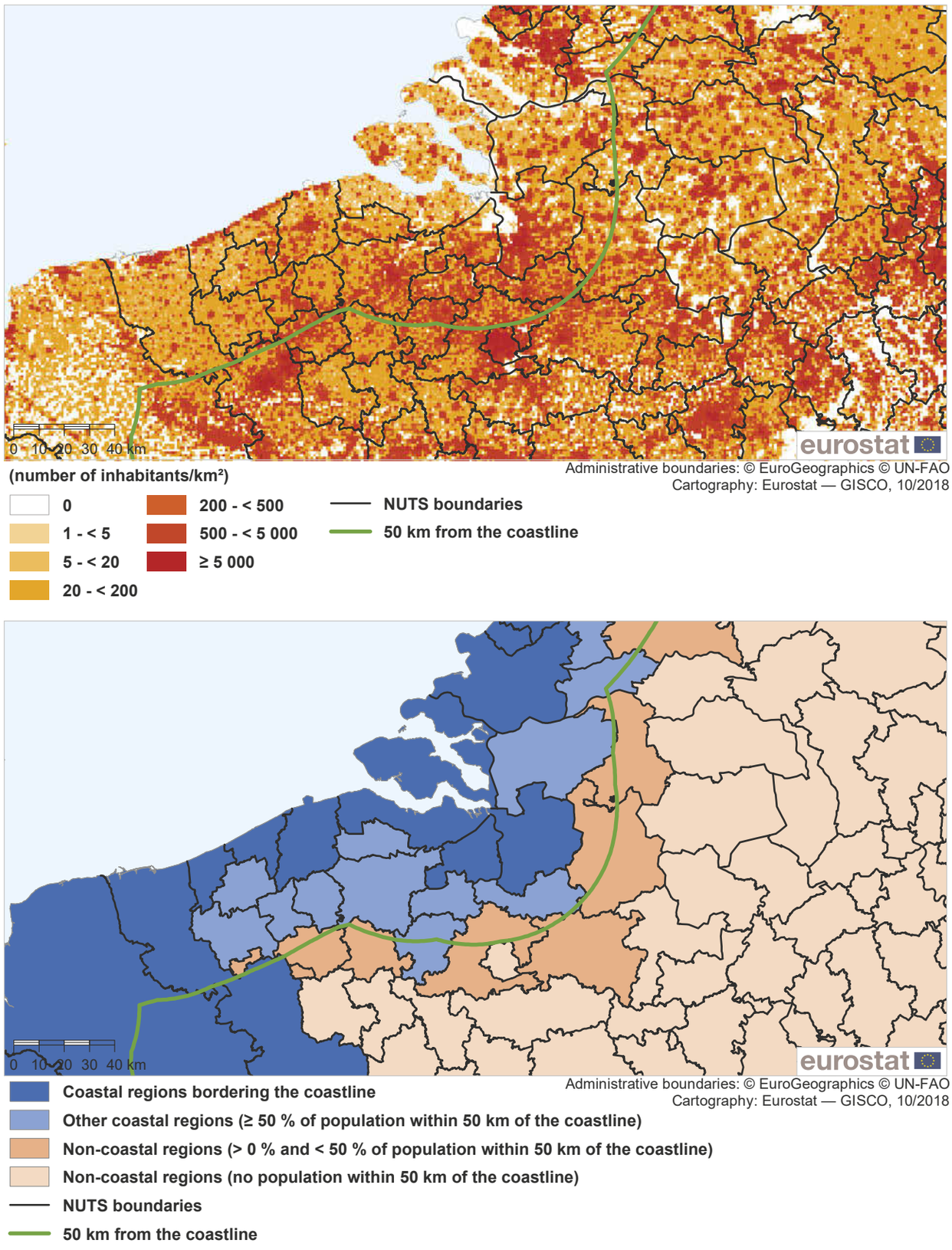
- the number of inhabitants living in 1 km^2 grid cells that are within 50 km of the coastline (A) — more information on population grid statistics is provided in the introductory chapter;
- the number of inhabitants living in each NUTS level 3 region (B);

Use this information to compute the share of the total population in each NUTS level 3 region that lives within 50 km of the coastline ((A/B)*100). Classify all regions that have shares that are greater than 50 % as coastal regions.

Case 3: the region is Hamburg

Although Hamburg (NUTS level 3 code DE600) is a significant distance from the sea, it is also considered as a coastal region given its strong maritime influence (with easy access for large ships down the river Elbe to its ports) and the fact that some small islands off the German coast — Neuwerk, Nigehörn and Scharhörn — are administratively part of the city of Hamburg and so it may said to border directly onto the coastline.

Figure 7.1: Coastal regions typology — an example for Belgium, France and the Netherlands



Note: based on population grid from 2011 and NUTS 2016.

Source: Eurostat, JRC and European Commission

Links to other spatial concepts/ typologies

There is a close link between the typologies for coastal regions and coastal areas (see Chapter 4). The latter are considered to be a subgroup of coastal regions: as such, any NUTS level 3 region that is classified as a non-coastal region cannot (by definition) have any coastal areas.

Results

Based on the above definitions, there are 491 NUTS 2016 level 3 coastal regions in the EU-28. Of these, 396 regions have a coastline, 95 regions have no coastline but more than 50 % of their population living within 50 km of the sea. For all EU Member States, Iceland, Norway, Montenegro, Albania and Turkey, a list of coastal regions is available at: https://ec.europa.eu/eurostat/web/coastal-island-outermost-regions/methodology.

Map 7.1 provides an overview of the final classification for the coastal typology (with a division between coastal and non-coastal regions, with the former being split between those regions that have a coastline and those which have more than 50 % of their population within 50 km of the sea).

As noted above, each coastal region can be assigned to a sea basin. Map 7.2 provides an overview of the main sea basins within the EU, EFTA and candidate countries.

Changes to the typology over time

The coastal typology was developed by Eurostat in consultation with other services of the European Commission.

CHANGES OVER TIME THAT IMPACT ON THE CLASSIFICATION

The coastal regions classification should be updated to reflect any changes to the underlying sources of information that are used in its compilation. As such, the classification may be updated to reflect: changes to population distributions for 1 km^2 grid cells, or changes in the NUTS classification. The frequency of such updates varies according to the source of information.

The NUTS Regulation specifies that the classification of regions should remain stable for a period of at least three years; the most recent updates were for NUTS 2010, NUTS 2013 and NUTS 2016. After each revision of the NUTS classification, population grid statistics should be re-assessed in order to (re-)compute the share of each NUTS level 3 region living within 50 km of the sea. Changes to the coastal regions classification resulting from a revision of population distributions for 1 km^2 grid cells are less common and these may be expected every 10 years. The next major update of the population grid is foreseen to take place for the 2021 reference year.

FUTURE DEVELOPMENTS

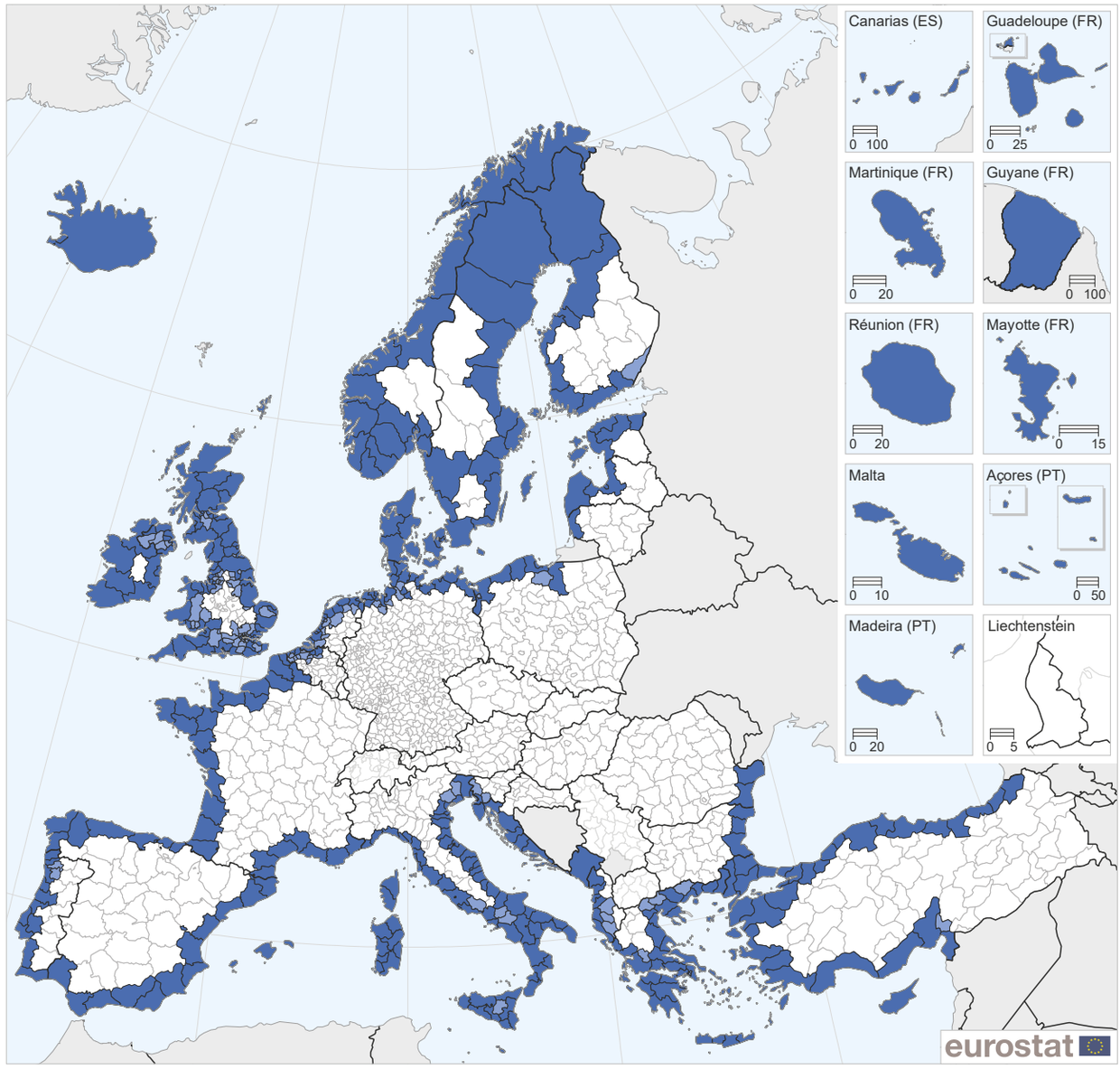
The next update of the NUTS classification is foreseen to take place in 2019.

At the time of writing, a 2021 population and housing census implementing regulation is in the process of being adopted by the European Commission. It includes an article for 1 km^2 population grid statistics. As well as information for annual counts of populations, it also foresees more detailed analyses: population by sex, population by age, number of employed persons, population by place of birth, population by usual place of residence one year prior to the census.

Eurostat are also discussing post-2021 census developments with national statistical authorities. It is hoped that the European statistical system (ESS) will agree to produce — from the mid-2020s onwards — annual counts of populations (based on usual place of residence) for a 1 km^2 grid, with data to be made available within 12 months of the reference period.

The European Commission's Directorate-General for Maritime Affairs and Fisheries intends to incorporate a coastal/non-coastal layer into the European Atlas of the Seas showing the most important socioeconomic indicators that are related to the blue economy.

Map 7.1: Coastal typology



Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat - GISCO, 09/2018

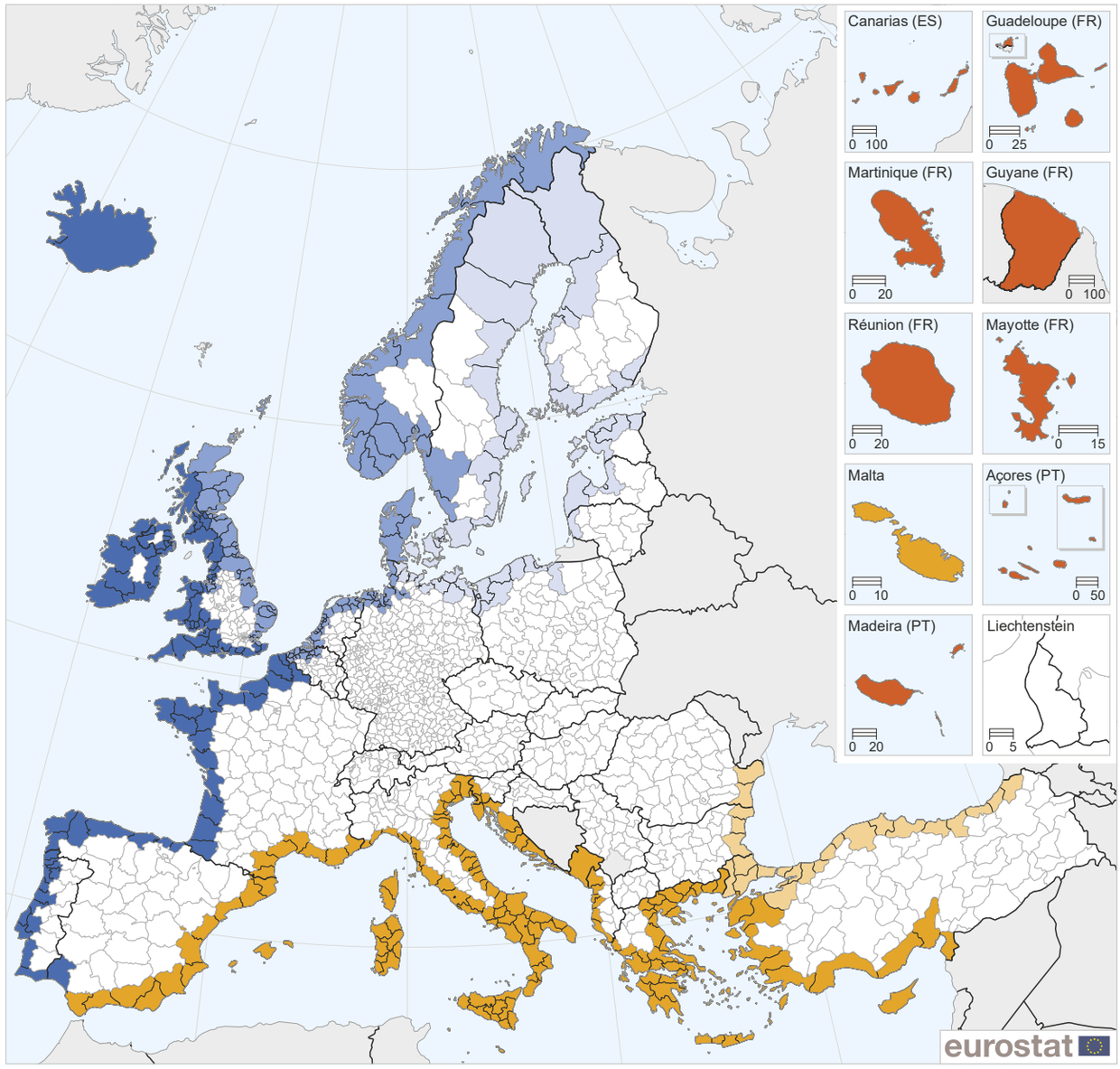
0 200 400 600 800 km

Coastal regions bordering the coastline
Coastal regions (≥ 50 % of population lives within 50 km of the coastline)
Non-coastal regions

Note: based on NUTS 2016 and GEOSTAT population grid from 2011, additional data from Columbia University, Center for International Earth Science Information Network - CIESIN (2015): GHS population grid.

Source: Eurostat, JRC and European Commission

Map 7.2: Coastal typology by sea basin



Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat - GISCO, 09/2018

- Baltic Sea
- North Sea
- North-East Atlantic Ocean
- Mediterranean Sea
- Black Sea
- Outermost regions

0 200 400 600 800 km

Note: based on NUTS 2016.

Source: Eurostat, JRC and European Commission

Further information

GLOSSARY ENTRY:

https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:Coastal_region

DETAILED METHODOLOGY:

https://ec.europa.eu/eurostat/web/coastal-island-outermost-regions/methodology

CORRESPONDENCE FOR NUTS REGIONS:

https://ec.europa.eu/eurostat/web/coastal-island-outermost-regions/methodology

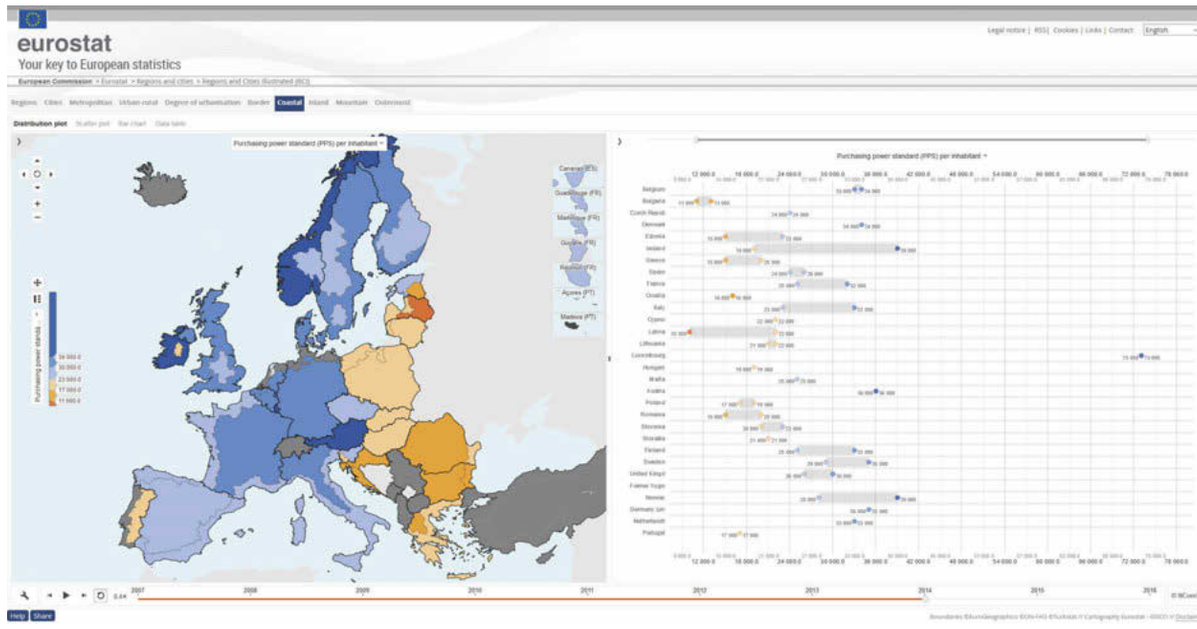
Published indicators

A variety of different statistical surveys collect data for NUTS level 3 regions and this information may be used to calculate data for coastal and non-coastal regions. This process involves aggregating the data for NUTS level 3 regions to compute a total or an average for all coastal (and non-coastal) regions within a territory (for example a Member State, or the EU as a whole).

VISUALISATION TOOLS:

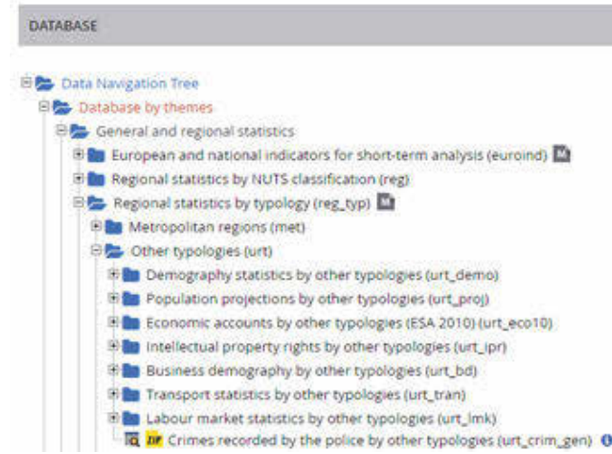
Eurostat publishes data for the coastal typology through Regions and cities illustrated, available at:

https://ec.europa.eu/eurostat/cache/RCI/#?vis=maritime.gen&lang=en



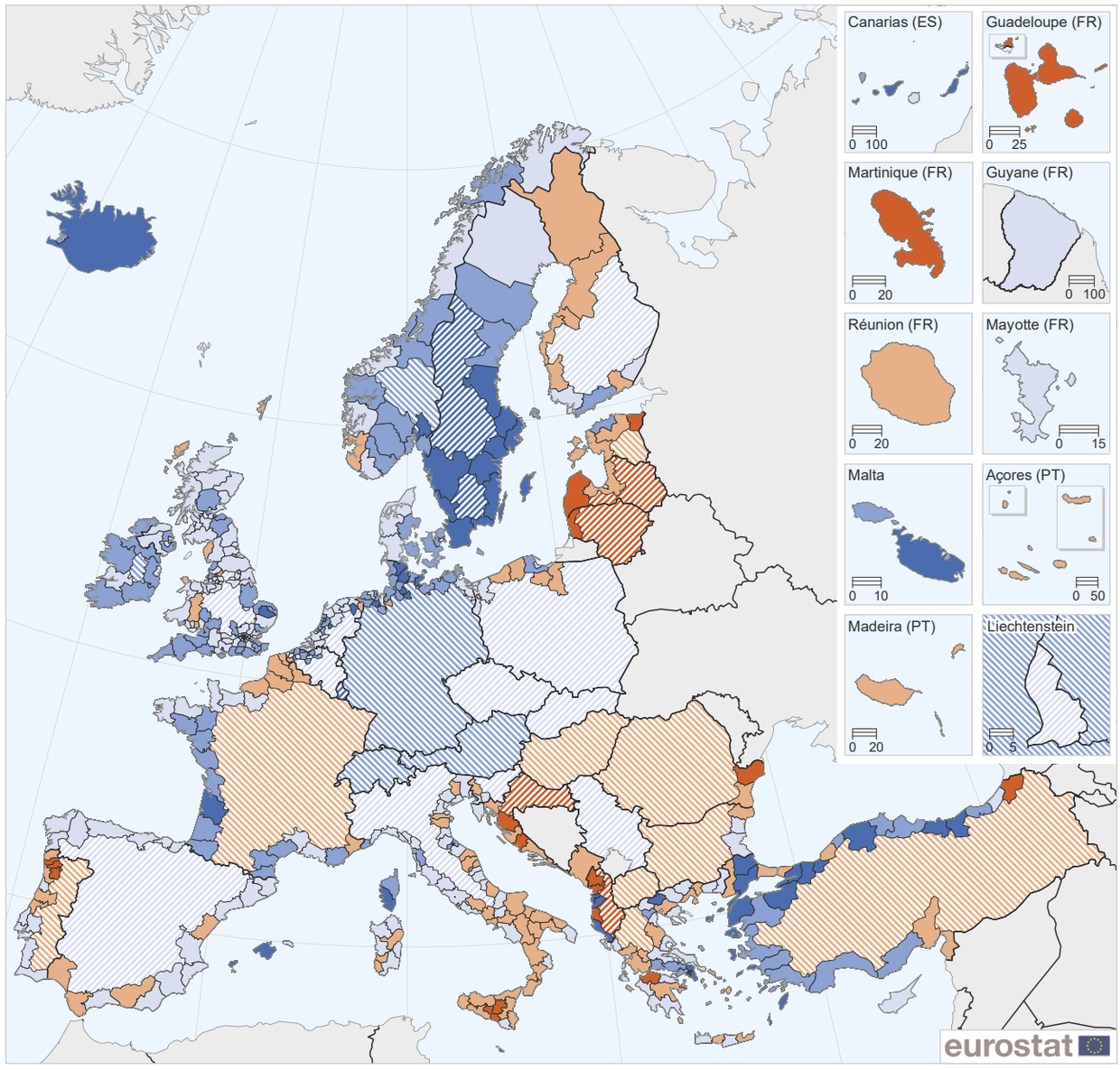
DATABASE:

Eurostat's website provides information for a wide variety of indicators for the coastal typology. These statistics are available for the following statistical domains: demography, population projections, the labour market, crimes recorded by the police, economic accounts, business demography, intellectual property rights and transport. They are available at: https://ec.europa.eu/eurostat/data/database.



Example

Map 7.3: Crude rate of net migration, by coastal and aggregates of non-coastal regions, 2016
(per 1 000 inhabitants)



(per 1 000 inhabitants)
EU-28 = 2.4

Administrative boundaries: © EuroGeographics © UN-FAO © INSTAT © Turkstat
Cartography: Eurostat — GISCO, 09/2018

Coastal regions
- < -5
- -5 - < 0
- 0 - < 5
- 5 - < 10
- ≥ 10
- Data not available

Non-coastal regions
- < -5
- -5 - < 0
- 0 - < 5
- 5 - < 10
- ≥ 10

0 200 400 600 800 km

Note: EU-28, Romania and the United Kingdom, estimates. Germany and France: provisional.
Source: Eurostat (online data codes: demo_r_gind3 and demo_gind)

D Other regional typologies — not covered by legislation

8. Border regions

Short description

The border typology is applied at the level of NUTS level 3 regions: it identifies border regions in the European Union (EU) as those regions with a land border, or those regions where more than half of the population lives within 25 km of such a border.

Classes for the typology and their conditions

DETAILS OF THE TYPOLOGY

The border typology is a classification based on the following two categories:

- border regions;
- non-border regions (those regions that are not defined as border regions).

METHODOLOGY FOR THE TYPOLOGY

In principle, border regions should ideally be defined as those regions which have part of their territory demarcated by an international border. However, for analytical purposes, border regions are defined as NUTS level 3 regions located along or very close to land borders. There are two main types of border region for analyses:

- internal border regions, in other words, those regions located on borders between EU Member States and/or EFTA countries; and,
- external border regions, in other words, those regions located on borders between EU Member States and non-member countries (outside of EFTA).

As the severity of border effects is likely to diminish as a function of the distance from a border, the definition of border regions is complemented by those regions which, although they do not have a border, are located within 25 km of a border. Using this broad definition, the following different types of border region may be identified:

- a land border;
- a land border within 25 km;
- non-border regions.

As this typology is based solely on the distance between a border and a region, there is no need to make use of any other data source when establishing the typology.

Note the border typology is not defined/recognised within the NUTS Regulation, although the NUTS level 3 regions themselves are defined therein. As such, EU legislation on border regions may, for specific reasons, make use of alternative definitions: for example, it may refer to both land and maritime borders or it could refer exclusively to the EU's external borders. Although not covered here, the following additional types of border region may be considered:

- a maritime border;
- a maritime border within 25 km;
- a land and a maritime border;
- a land border within 25 km and a maritime border within 25 km.

Links to other spatial concepts/typologies

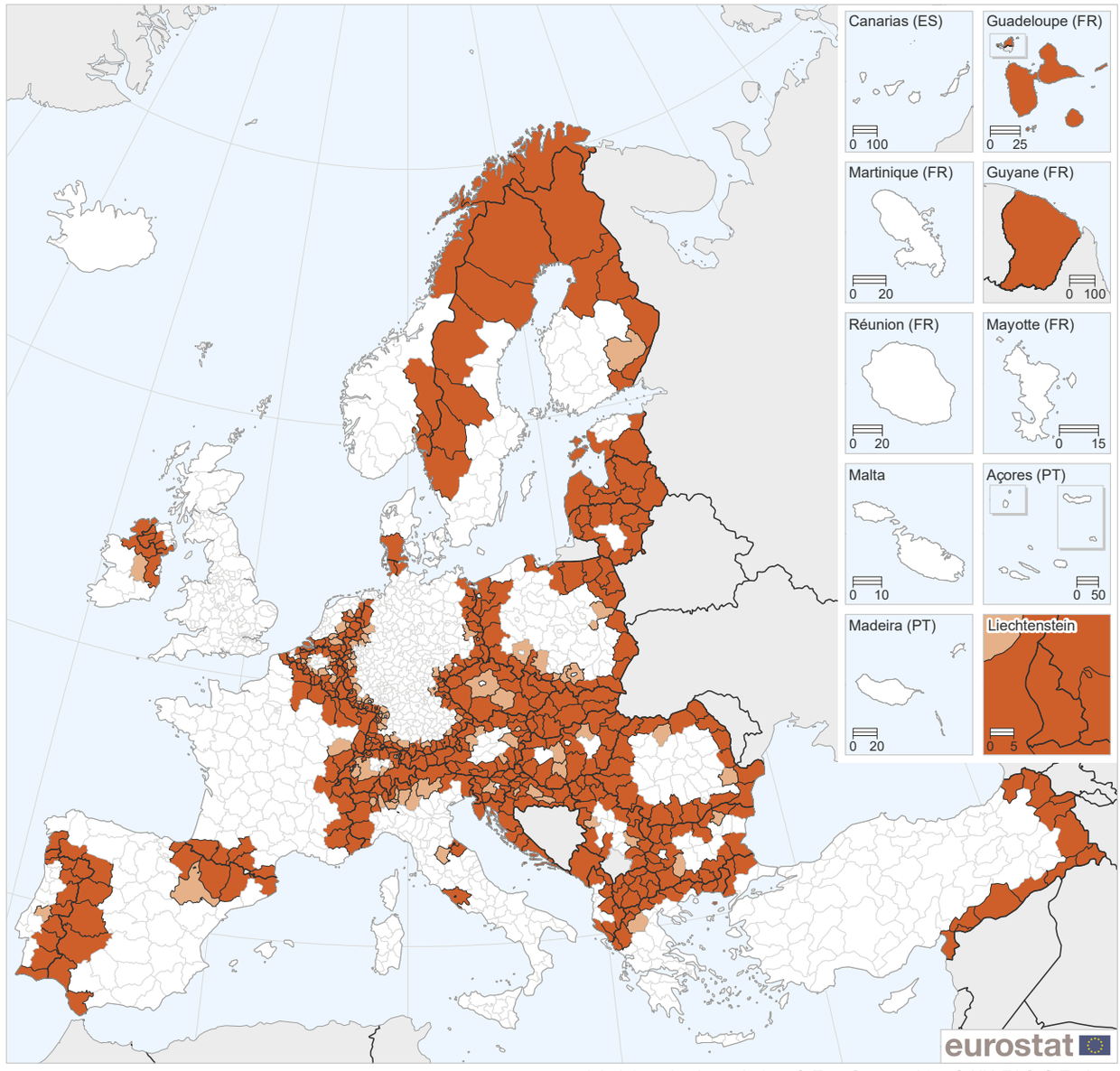
There are close links between the border typology and the urban-rural typology (see Chapter 5) as each border region is classified as a predominantly urban, intermediate or predominantly rural region. Some border regions may also be classified as mountain regions (see Chapter 10).

Results

Based on the above definitions, there are 463 NUTS 2016 level 3 border regions in the EU-28 and 885 non-border regions. The EU's border regions include the following classes: 360 regions have a land border and 103 regions are within 25 km of a land border.

Map 8.1 provides an overview of the final classification for the border typology showing the different classes described above.

Map 8.1: Border typology



Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat - GISCO, 09/2018

Note: based on NUTS 2016.

Source: Eurostat, JRC and European Commission, Directorate-General Regional and Urban Policy

Changes to the typology over time

The border typology was developed by the European Commission's Directorate-General for Regional and Urban Policy in association with Eurostat.

As noted above, the border typology is not defined/recognised within the NUTS Regulation and hence EU legislation may, for specific reasons, make use of alternative definitions (over time). For example, the exact definition of border regions within the context of cross-border cooperation has changed from one programming period to the next and currently includes support for regions with maritime borders. The EU seeks to boost growth and cohesion in EU border regions (COM(2017) 534 final) as, for example, border regions often perform less well economically and access to public services (such as hospitals or universities) is generally lower in border regions. Within this context, the EU uses a definition of border regions that is based exclusively on internal, land-based borders (note that borders with Liechtenstein, Norway and Switzerland are also included).

The flexible nature of definitions employed is one of the main reasons why a standardised definition of border regions has yet to be integrated into the legislation for territorial typologies.

CHANGES OVER TIME THAT IMPACT ON THE CLASSIFICATION

The border regions classification should be updated to reflect any changes to the underlying sources of information that are used in its compilation, in other words, changes to international borders or changes to the boundaries of NUTS level 3 regions.

The NUTS Regulation specifies that the classification of regions should remain stable for a period of at least three years; the most recent updates were for NUTS 2010, NUTS 2013 and NUTS 2016. After each revision of the NUTS classification, the distance between each international border and the boundaries of each NUTS level 3 region should be re-assessed in the event that some boundaries have moved closer to (or further away) from an international border; note that when the NUTS classification is revised it is also possible for some regions to be split or merged with other regions. Changes to international borders are far less common (although should not be entirely ruled out).

FUTURE DEVELOPMENTS

The next update of the NUTS classification is foreseen to take place in 2019.

Published indicators

A variety of different statistical surveys collect data for NUTS level 3 regions and this information may be used to calculate data for border and non-border regions. This process involves aggregating the data for NUTS level 3 regions to compute a total or an average for all border (and non-border) regions within a territory (for example a Member State, or the EU as a whole).

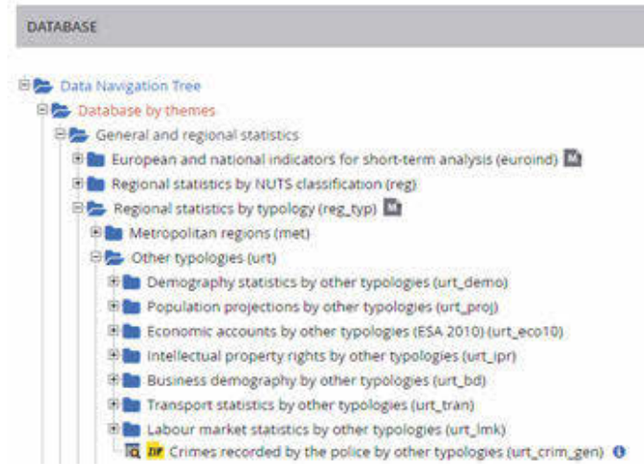
VISUALISATION TOOLS:

Eurostat publishes data for the border typology through Regions and cities illustrated, available at:

https://ec.europa.eu/eurostat/cache/RCI/#?vis=border.typology&lang=en

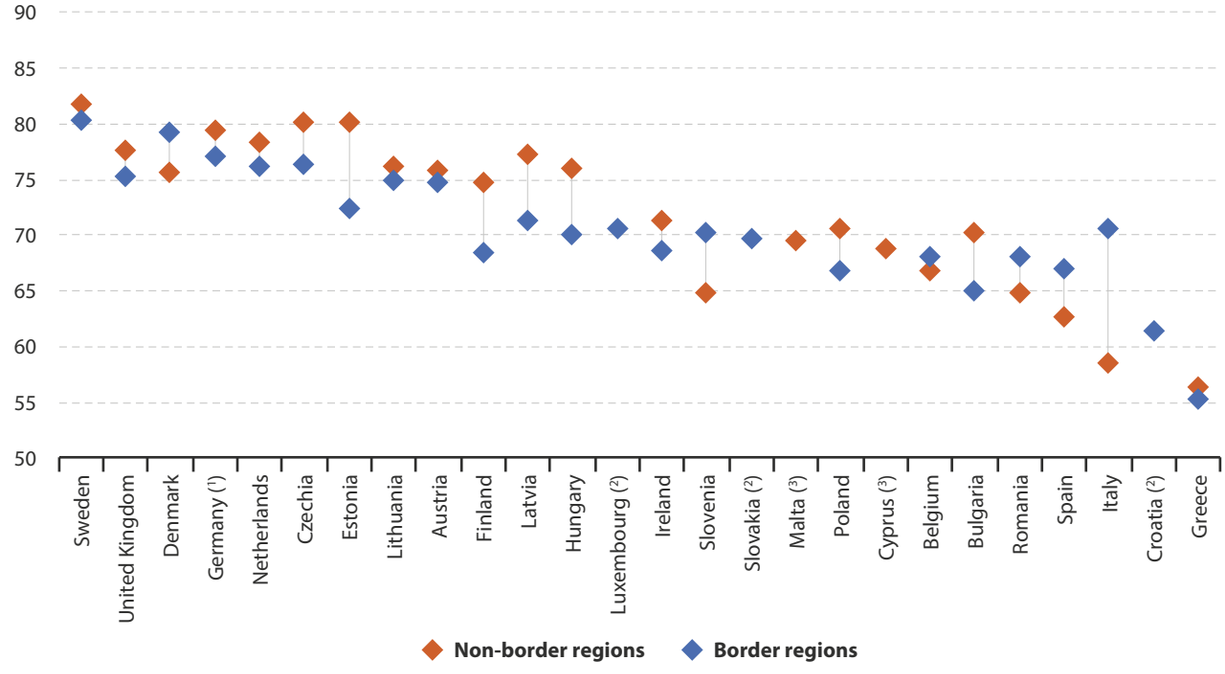
DATABASE:

Eurostat's website provides information for a wide variety of indicators for the border typology. These statistics are available for the following statistical domains: demography, population projections, the labour market, crimes recorded by the police, economic accounts, business demography, intellectual property rights and transport. They are available at: https://ec.europa.eu/eurostat/data/database.



Example

Figure 8.1: Employment rates for border and non-border regions, 2016
(% share of people aged 20-64)



Note: ranked on national employment rates (for people aged 20-64). France and Portugal: not available.

(1) 2013.
(2) Non-border regions: not applicable.
(3) Border regions: not applicable.

Source: Eurostat (online data codes: urt_lfe3emprt and lfsa_ergan)

9. Island regions

Short description

The island typology is applied at the level of NUTS regions. Island regions are defined as NUTS level 3 regions within the European Union (EU) that are entirely composed of one or more islands.

Classes for the typology and their conditions

DETAILS OF THE TYPOLOGY

The island typology is a classification based on the following two categories:

- island regions;
- non-island regions (those regions that are not defined as island regions).

METHODOLOGY FOR THE TYPOLOGY

Island regions are NUTS level 3 regions that are entirely composed of one or more 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 (for example, a bridge, a tunnel, or a dyke) between the island(s) and the mainland.

In order to determine whether or not the above criteria are met, Eurostat uses geographical information systems of the European Commission (GISCO) which provide, among others, thematic geospatial information and information on transport networks.

NUTS level 3 island regions may correspond to a single island or they may be composed of several islands. Furthermore, an island region may be part of a bigger island that contains more than one NUTS level 3 regions: for example, the regions that compose Ireland and Northern Ireland, Corsica, Sardinia, Sicily or Crete.

The typology of island regions may (optionally) be used to distinguish five different subcategories, depending on the size of the major island related to the NUTS level 3 region in question:

- regions where the major island has < 50 000 inhabitants;
- regions where the major island has 50 000 - < 100 000 inhabitants;
- regions where the major island has 100 000 - < 250 000 inhabitants;
- regions corresponding to an island with 250 000 - < 1 million inhabitants, or regions that form part of such an island;
- regions that form part of an island with ≥ 1 million inhabitants.

Note that the definition of an island region is such that it must be entirely composed of islands. There are many examples of islands in the EU that form part of a NUTS level 3 region characterised by its islands, but where part of the territory also contains mainland areas and where, as a result, the region is classified as a non-island region. For example, this is true along the whole of the Adriatic coastline in Croatia where each NUTS level 3 region is concurrently composed of a mainland territory and islands.

Note that the regions of Great Britain are not considered as island regions as Great Britain is connected to continental Europe by a tunnel under the English Channel and therefore does not meet the criteria of being an island. Equally, Bornholm is the only island region in Denmark, as all other regions either contain a combination of mainland and islands, or are composed of islands connected to the mainland by way of a bridge and/or tunnel.

Note the island typology is not defined/recognised within the NUTS Regulation, although the NUTS level 3 regions themselves are defined therein.

Links to other spatial concepts/ typologies

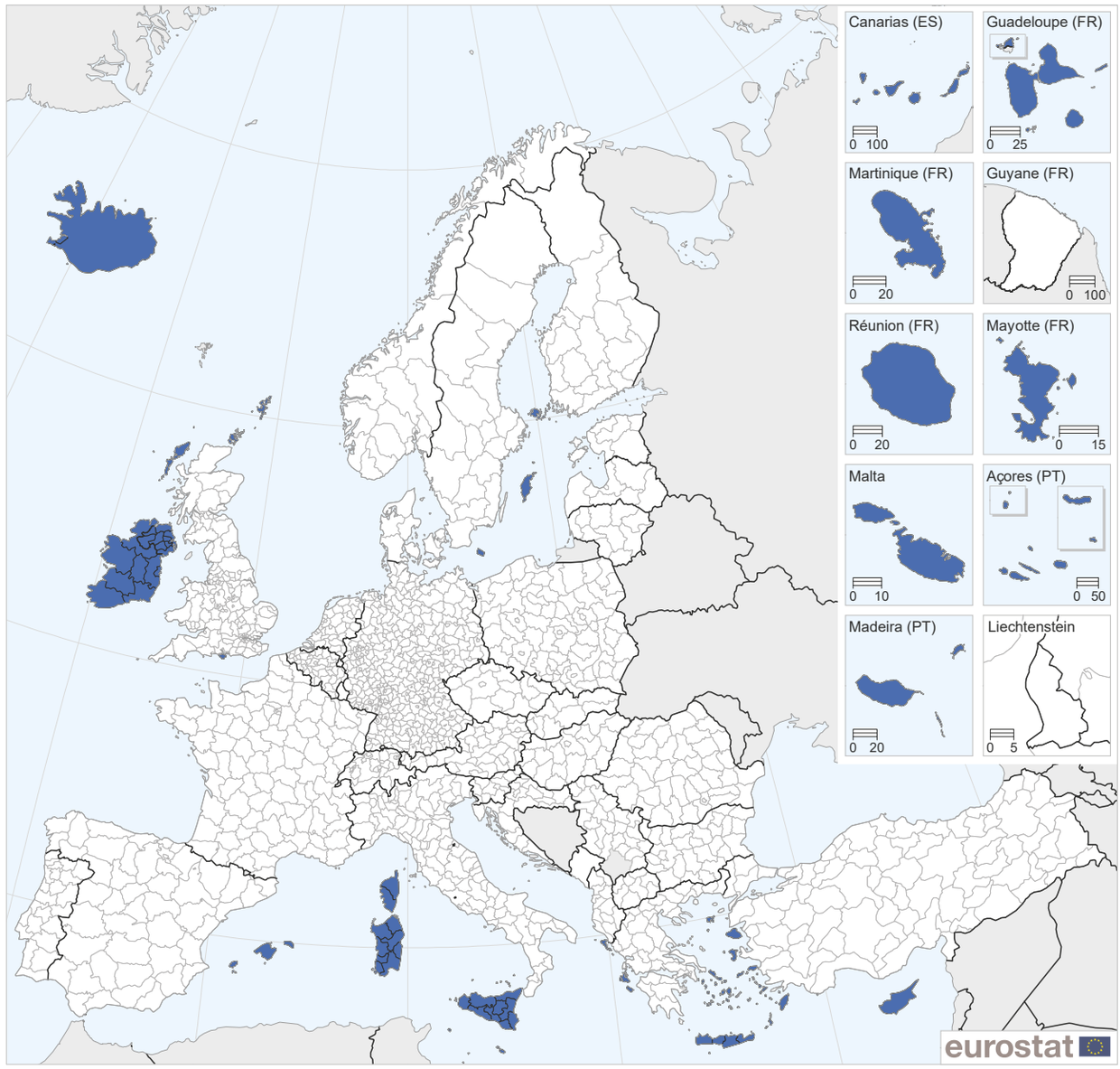
There are links between the typologies for coastal areas (see Chapter 4) and coastal regions (see Chapter 7) and the island typology, given that all island regions (by definition) have a coastline.

Results

Based on the above definitions, of the 1 348 NUTS 2016 level 3 regions there are just 76 island regions in the EU-28 and 1 272 non-island regions.

Map 9.1 provides an overview of the final classification for the island typology.

Map 9.1: Island typology



Note: based on NUTS 2016.

Source: Eurostat, JRC and European Commission, Directorate-General Regional and Urban Policy

Changes to the typology over time

The island typology was initially defined for a Eurostat publication titled, Portrait of the islands, which provided information on all of the inhabited islands within the EU, except for islands with a national capital city. This meant that Ireland and the United Kingdom were excluded from the typology (the publication was released before the Channel tunnel was in operation). For a Green Paper on Territorial Cohesion (COM(2008) 616 final), an alternative approach was adopted, based on those regions whose entire population lived on an island.

Thereafter, the most recent changes made to the island typology were developed by the Directorate-General for Regional and Urban Policy in association with Eurostat, whereby the classifications were simplified (as described above) by removing the criteria for the presence of a national capital, which meant that Ireland, Malta, Cyprus and Iceland could be included as island regions (despite the presence of a national capital).

CHANGES OVER TIME THAT IMPACT ON THE CLASSIFICATION

The island regions classification should be updated to reflect any changes to the underlying sources of information that are used in its compilation, in other words, changes to geospatial data (for example, the construction of a new bridge or tunnel) or changes to the boundaries of NUTS level 3 regions.

The NUTS Regulation specifies that the classification of regions should remain stable for a period of at least three years; the most recent updates were for NUTS 2010, NUTS 2013 and NUTS 2016. After each revision of the NUTS classification, the boundaries of the regions should be re-assessed to see if they have impacted on the delineation of any island regions (for example, an island region may be merged with a mainland region).

FUTURE DEVELOPMENTS

The next update of the NUTS classification is foreseen to take place in 2019.

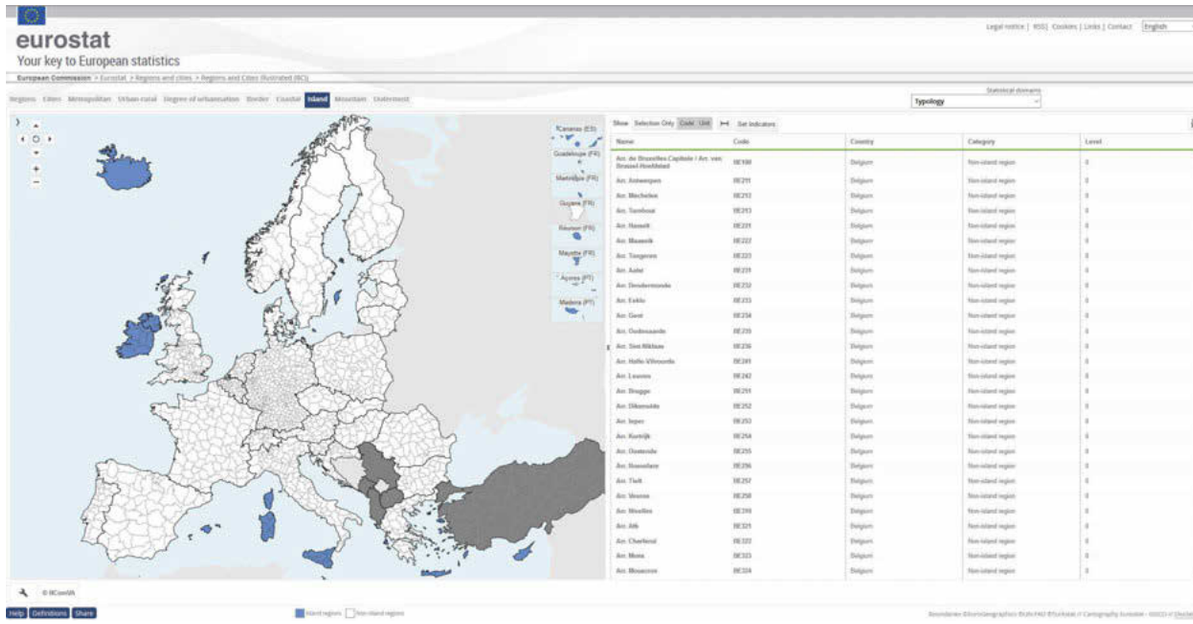
Published indicators

A variety of different statistical surveys collect data for NUTS level 3 regions and this information may be used to calculate data for island and non-island regions. This process involves aggregating the data for NUTS level 3 regions to compute a total or an average for all island (and non-island) regions within a territory (for example a Member State, or the EU as a whole).

VISUALISATION TOOLS:

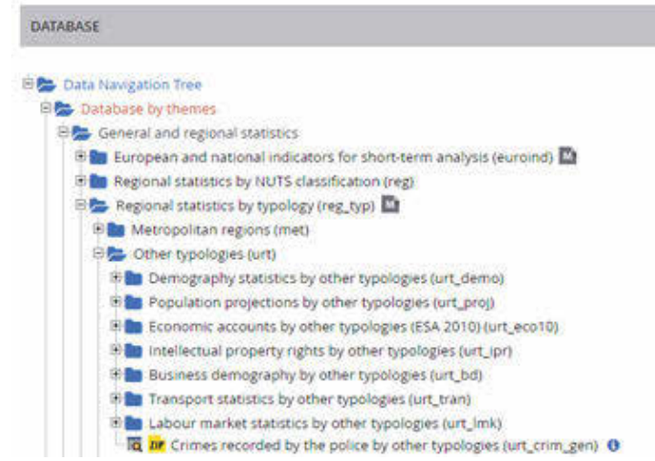
Eurostat publishes data for the island typology through Regions and cities illustrated, available at:

https://ec.europa.eu/eurostat/cache/RCI/#?vis=island.typology&lang=en



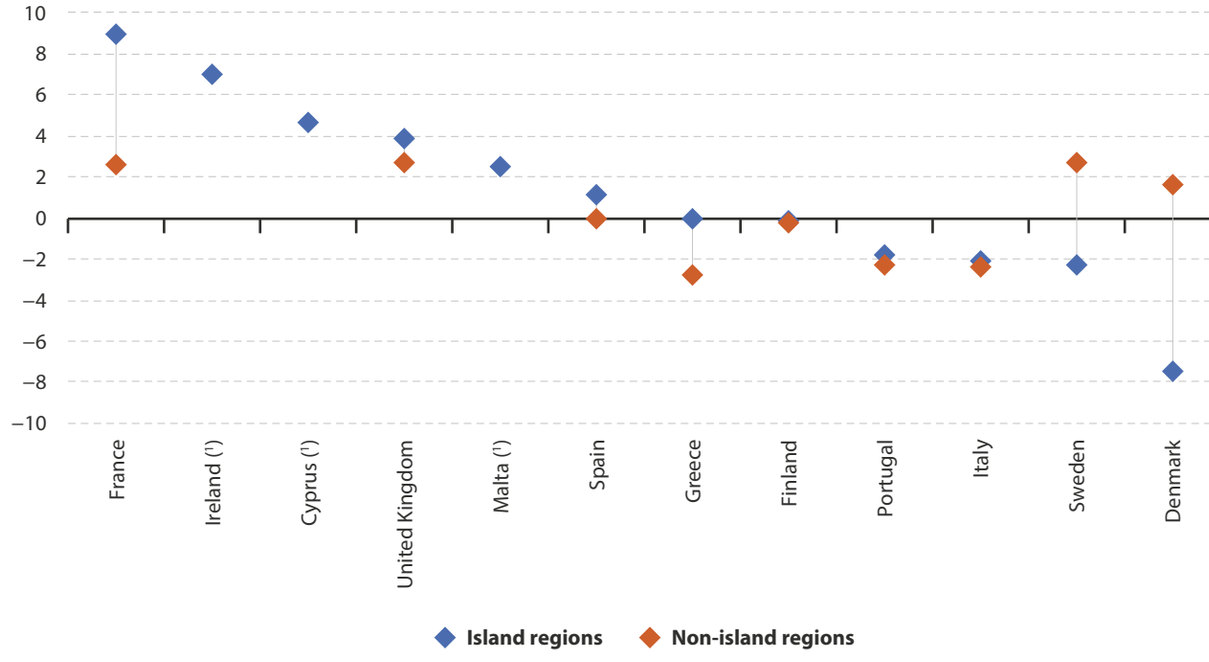
DATABASE:

Eurostat's website provides information for a wide variety of indicators for the island typology. These statistics are available for the following statistical domains: demography, population projections, the labour market, crimes recorded by the police, economic accounts, business demography, intellectual property rights and transport. They are available at: https://ec.europa.eu/eurostat/data/database.



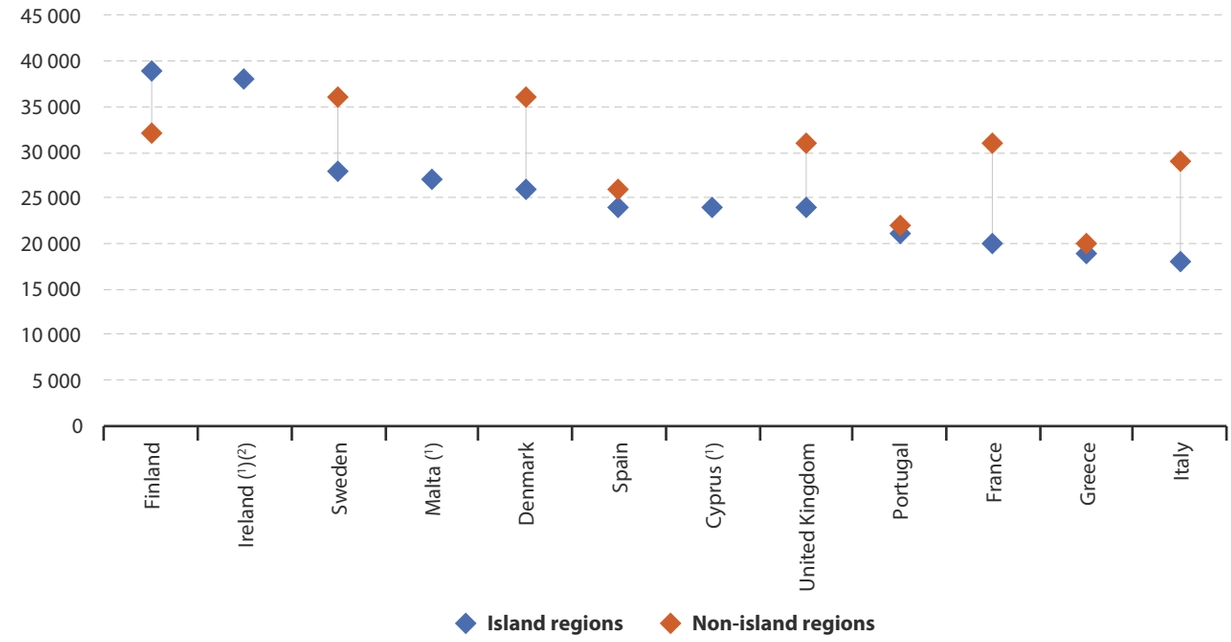
Examples

Figure 9.1: Crude rate of natural population change for island and non-island regions, 2016
(%)



Note: only those EU Member States with island regions are shown. Based on NUTS 2013.
(1) Composed exclusively of island regions.
Source: Eurostat (online data code: urt_gind3)

Figure 9.2: GDP per inhabitant for island and non-island regions, 2015
(PPS)

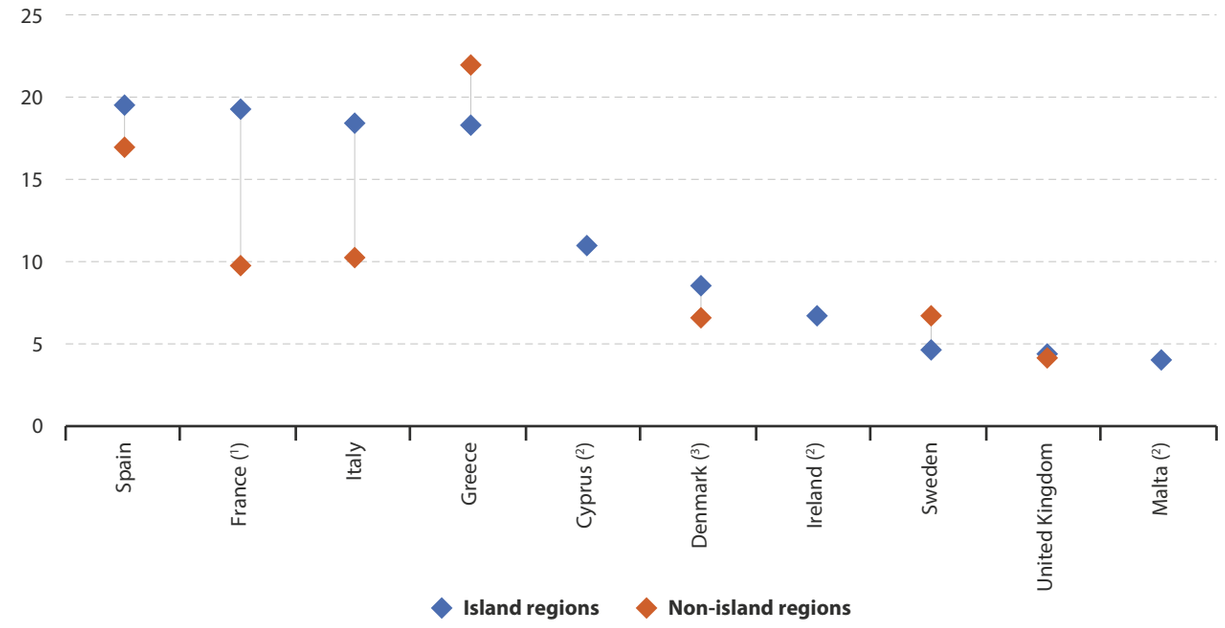


Note: only those EU Member States with island regions are shown. Based on NUTS 2013.

(1) Composed exclusively of island regions.
(2) 2014.

Source: Eurostat (online data code: urt_10r_3gdp)

Figure 9.3: Unemployment rate for persons aged 15 years or over for island and non-island regions, 2017
(%)



Note: only those EU Member States with data available for island regions are shown. Based on NUTS 2013.

(1) 2016.
(2) Composed exclusively of island regions.
(3) 2014.

Source: Eurostat (online data code: urt_gind3)

10. Mountain regions

Short description

The mountain typology is applied at the level of NUTS level 3 regions: it identifies mountain regions in the European Union (EU) as NUTS level 3 regions where more than half of the surface is covered by mountain areas, or in which more than half of the population lives in mountain areas.

Classes for the typology and their conditions

DETAILS OF THE TYPOLOGY

The mountain typology is a classification based on the following two categories:

- mountain regions;
- non-mountain regions (those regions that are not defined as mountain regions).

Mountain regions may be divided into three different categories, defined as NUTS level 3 regions:

- where more than 50 % of the surface is covered by topographic mountain areas;
- in which more than 50 % of the regional population lives in topographic mountain areas;
- where more than 50 % of the surface is covered by topographic mountain areas and where more than 50 % of the regional population lives in these mountain areas.

METHODOLOGY FOR THE TYPOLOGY

The first step for classifying mountain regions concerns the delineation of mountain areas. This was carried out using a digital elevation model (DEM), a 3-D approximation of the surface of a terrain produced from elevation data. The model provides a raster (grid) dataset with information captured every 30 arc-seconds (approximately, every 1 km^2).

Within a European context, topographic mountain areas are defined using the following criteria:

- areas with elevation ≥ 2 500 m — all areas are considered mountainous (included within the mountain areas delimitation);
- areas with elevation 1 500 m - < 2 500 m — areas within a 3 km radius of a DEM point that have a slope > 2 degrees are considered mountainous;
- areas with elevation 1 000 m - < 1 500 m — at this altitude areas have to meet at least one of two criteria:
- areas within a 3 km radius of a DEM point that have a slope > 5 degrees are considered mountainous;
- areas that are less steep may still be considered mountainous if the elevations encountered within a 7 km radius of a DEM point vary by at least 300 m;
- areas with elevation 300 m - <1 000 m — are considered mountainous if the elevations encountered within a 7 km radius of a DEM point vary by at least 300 m;
- areas with elevation < 300 m — for each point of the DEM, the standard deviation for the elevations of eight cardinal points surrounding it (north, north-east, east, south-east, south, south-west, west and north-west) is calculated; if the standard deviation is greater than 50 m, then the landscape is considered sufficiently undulating to be mountainous (despite its low elevation).

The objective of the final criterion (for areas with elevation < 300 m) was to identify mountain areas with relatively large local contrasts in topography, such as Scottish or Norwegian fjords, or Mediterranean coastal mountain areas (for example, in Greece).

Once the delineation of mountain areas has been finalised, it may be used to identify NUTS level 3 regions where more than 50 % of the surface is covered by mountain areas.

The second stage concerns accessing grid-based population data for 1 km^2 grid cells (for more information, see the introductory chapter). In conjunction with the delineation of mountain areas, these population grid statistics may be used to identify NUTS level 3 regions where more than 50 % of the population lives in mountain areas; note that the population grid statistics and the delineation of mountain areas both refer to observations that occur each kilometre; this makes it convenient to combine these two distinct sources of information. The approach provides a distinction between regions with a predominantly mountainous surface and a predominantly mountainous population: for an analysis of the impact on land use or similar environmental issues, it would be more appropriate to use the indicator for regions with a majority of mountainous surface, whereas for an analysis of the impact on people, it would be more appropriate to use the indicator for regions with a majority of their population living in a mountain area.

Note the mountain typology is not defined/recognised within the NUTS Regulation, although the NUTS level 3 regions themselves are defined therein.

Links to other spatial concepts/ typologies

There are links between the degree of urbanisation (see Chapter 2) or the urban-rural typology (see Chapter 5) and the typology for mountain regions, insofar as rural areas and predominantly rural regions overlap, to some degree, with mountain regions. On the other hand, there are three capital regions which are classified as mountain regions: Ljubljana (in Slovenia), Oslo (in Norway) and Bern (in Switzerland).

Results

Based on the above definitions, of the 1 348 NUTS 2016 level 3 regions, there are 323 mountainous regions in the EU-28 and 1 025 non-mountainous regions. The EU's mountainous regions may be broken down into the following classes: 170 NUTS level 3 regions have more than half their population living in mountain areas and more than half of their surface covered by mountain areas; 148 NUTS level 2 regions have more than half of their surface covered by mountain areas (with a lower population share); only four NUTS level 2 regions have more than half their population living in mountain areas (with a lower surface share).

Map 10.1 provides an overview of the final classification for the mountain typology showing each of the different classes described above.

Changes to the typology over time

The mountain typology was developed by Nordregio through a project that was financed by the European Commission. Initially, the typology was based on information for local administrative units (LAUs), with mountain units defined as those with more than half of their surface covered by topographic mountain areas.

For a Green Paper on Territorial Cohesion (COM(2008) 616 final), an alternative approach was adopted, based on the use of annual socioeconomic datasets for NUTS level 3 regions (as these provided the only recent source of information). The Green Paper defined NUTS level 3 regions as mountain regions if the majority of their population lived in mountain grid cells.

Thereafter, the most recent definition of mountain regions (as described above) was developed by the Directorate-General for Regional and Urban Policy in association with Eurostat.

CHANGES OVER TIME THAT IMPACT ON THE CLASSIFICATION

The mountain regions classification should be updated to reflect any changes to the underlying sources of information that are used in its compilation. As such, the classification may be updated to reflect: changes to population distributions for 1 km^2 grid cells, changes in the NUTS classification, or changes relating to the global digital elevation model. The frequency of such updates varies according to the source of information.

The NUTS Regulation specifies that the classification of regions should remain stable for a period of at least three years; the most recent updates were for NUTS 2010, NUTS 2013 and NUTS 2016. After each revision of the NUTS classification, population grid statistics should be re-assessed in order to (re-)compute the share of each NUTS level 3 region living within mountain areas. Changes to the mountain regions classification resulting from a revision of population distributions for 1 km^2 grid cells are less common and these may be expected every 10 years. The next major update of the population grid is foreseen to take place for the 2021 reference year. At the time of writing there is no change foreseen in relation to the use of information derived from the global digital elevation model, although new technologies may result in more detailed elevation models being made available over time.

FUTURE DEVELOPMENTS

The next update of the NUTS classification is foreseen to take place in 2019.

At the time of writing, a 2021 population and housing census implementing regulation is in the process of being adopted by the European Commission. It includes an article for 1 km^2 population grid statistics. As well as information for annual counts of populations, it also foresees more detailed analyses: population by sex, population by age, number of employed persons, population by place of birth, population by usual place of residence one year prior to the census.

Eurostat are also discussing post-2021 census developments with national statistical authorities. It is hoped that the European statistical system (ESS) will agree to produce — from the mid-2020s onwards — annual counts of populations (based on usual place of residence) for a 1 km^2 grid, with data to be made available within 12 months of the reference period.

Further information

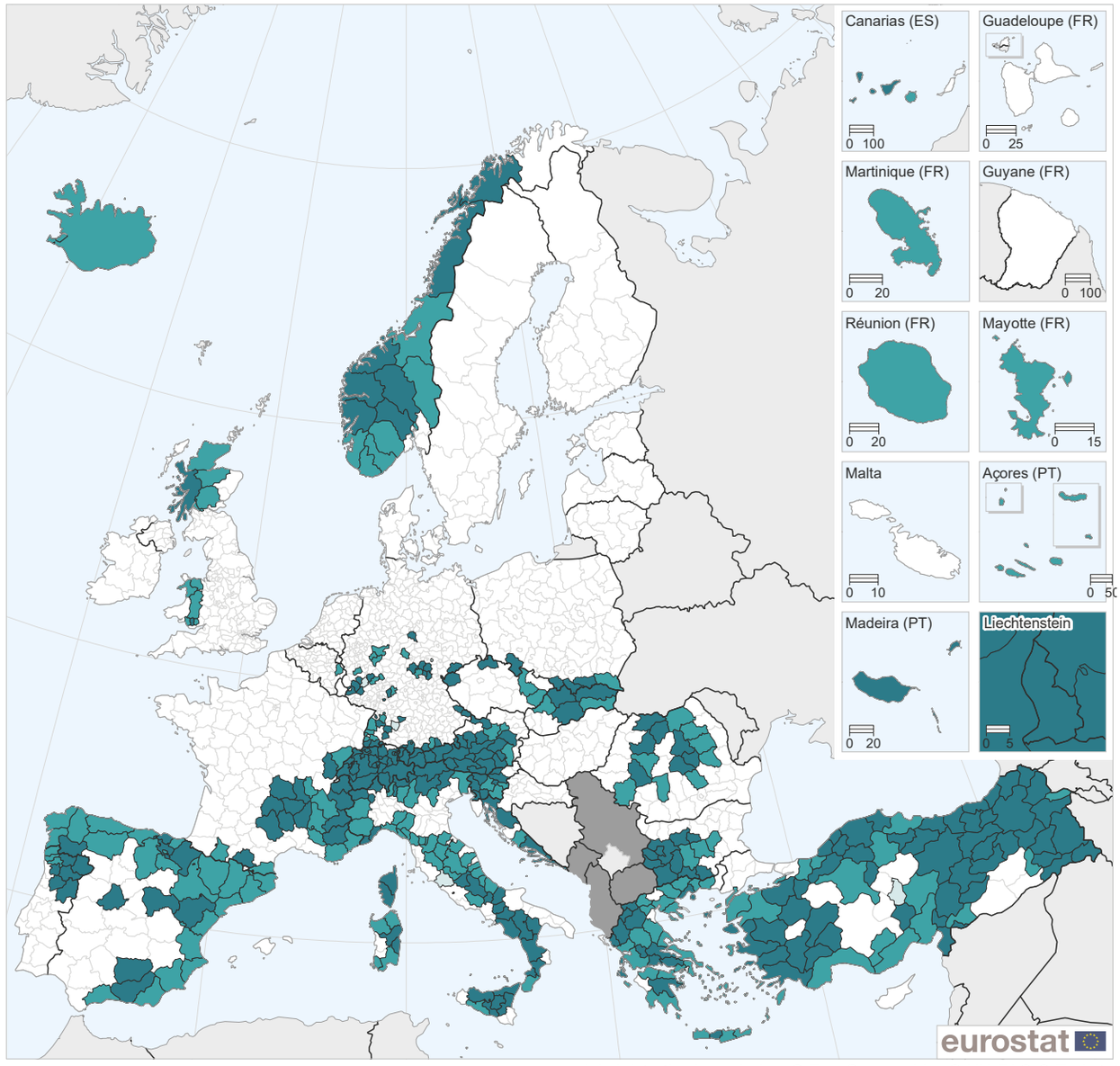
Detailed methodology:

https://ec.europa.eu/regional_policy/sources/docgener/studies/pdf/montagne/mount1.pdf

Geodata for mountain areas:

https://circabc.europa.eu/sd/a/2dff4616-2d7f-405c-8c16-be23d7304617/mountain_areas_ESPON_19072010.gdb.zip

Map 10.1: Mountain typology



Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat — GISCO, 10/2018

> 50 % of population live in mountain areas
> 50 % of surface in mountain areas
> 50 % of population live and > 50 % of surface in mountain areas
Non-mountain regions
Not applicable

0 200 400 600 800 km

Note: based on NUTS 2016 and mountain areas for 2004, GEOSTAT population grid from 2011, additional data from Columbia University, Center for International Earth Science Information Network — CIESIN (2015): GHS population grid.

Source: Eurostat, JRC and European Commission, Directorate-General Regional and Urban Policy

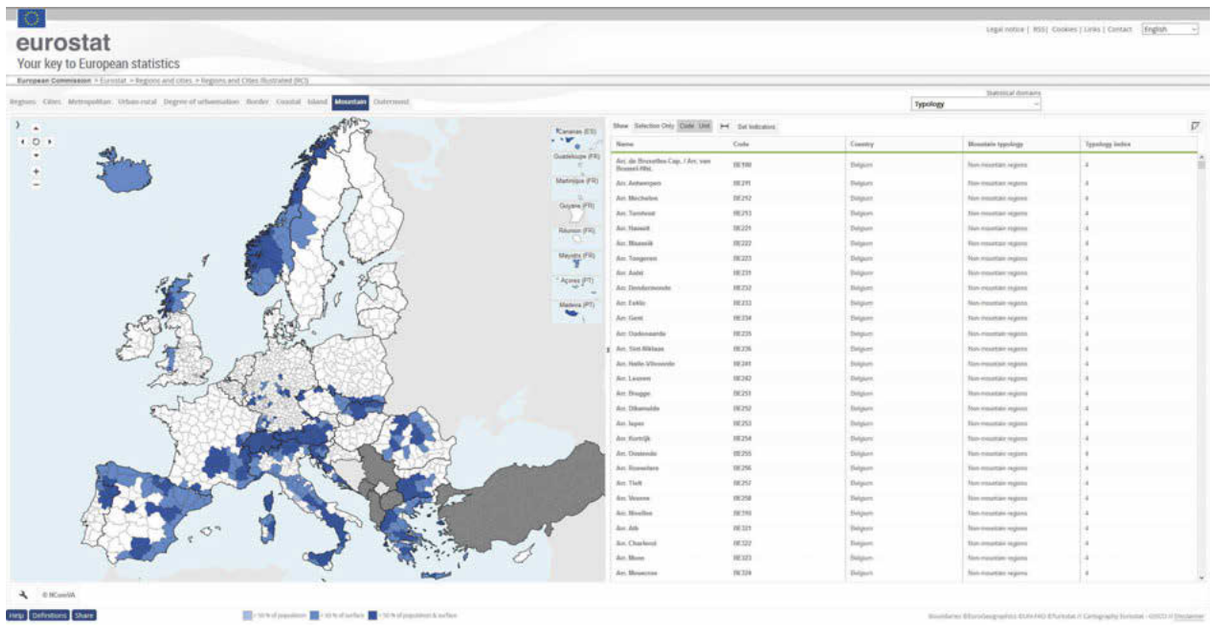
Published indicators

A variety of different statistical surveys collect data for NUTS level 3 regions and this information may be used to calculate data for mountain and non-mountain regions. This process involves aggregating the data for NUTS level 3 regions to compute a total or an average for all mountain (and non-mountain) regions within a territory (for example a Member State, or the EU as a whole).

VISUALISATION TOOLS:

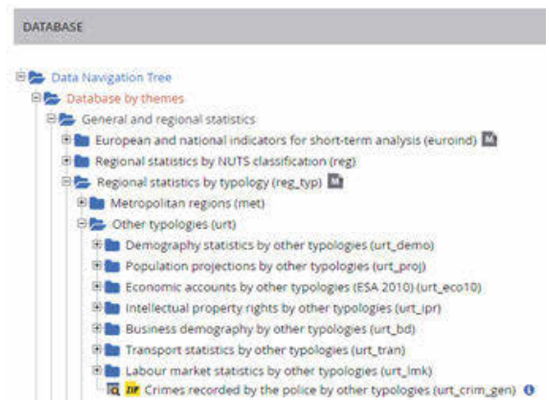
Eurostat publishes data for the mountain typology through Regions and cities illustrated, available at:

https://ec.europa.eu/eurostat/cache/RCI/#?vis=mountain.typology&lang=en



DATABASE:

Eurostat's website provides information for a wide variety of indicators for the mountain typology. These statistics are available for the following statistical domains: demography, population projections, the labour market, crimes recorded by the police, economic accounts, business demography, intellectual property rights and transport. They are available at: https://ec.europa.eu/eurostat/data/database.

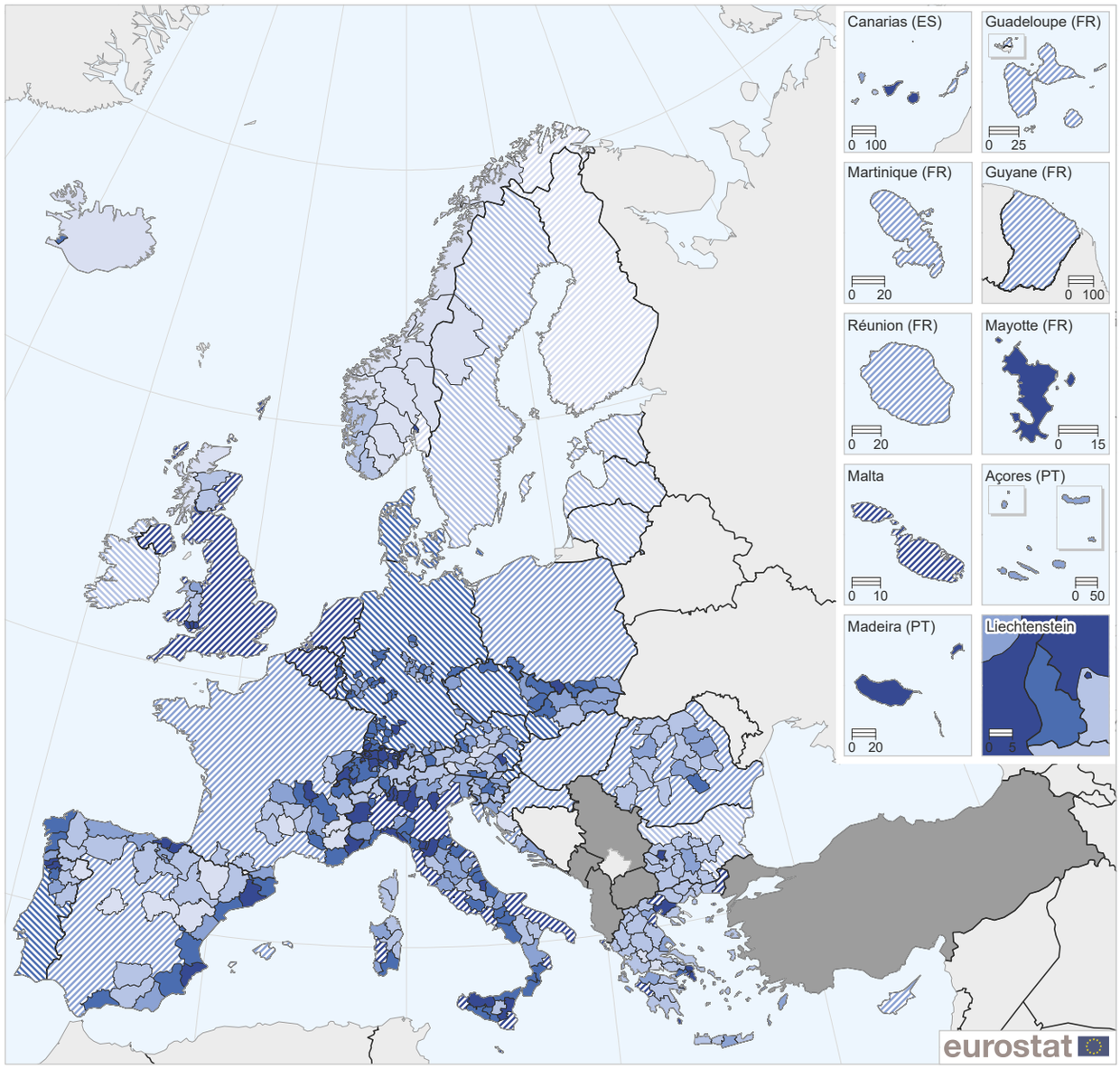


GEOGRAPHICAL INFORMATION FOR ELEVATIONS:

https://ec.europa.eu/eurostat/web/gisco/geodata/reference-data/elevation

Example

Map 10.2: Population density, by mountain and aggregates of non-mountain regions, 2015
(number of inhabitants/km²)



(number of inhabitants/km²)
EU-28 = 117.1

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat — GISCO, 05/2018

Mountain regions
- < 25
- 25 - < 75
- 75 - < 125
- 125 - < 250
- ≥ 250
- Data not available

Non-mountain regions
- < 25
- 25 - < 75
- 75 - < 125
- 125 - < 250
- ≥ 250

0 200 400 600 800 km

Note: EU-28, Portugal and the United Kingdom, estimates. France: provisional.
Source: Eurostat (online data codes: urt_d3dens, reg_area3 and demo_r_pjangrp3)

Annexes

NUTS: classification of territorial units for statistics

The following table is based on the NUTS 2016 classification and is the first version of the 2016 update. It lists all NUTS level 3 regions detailing their NUTS code and label, as well as their classification within the:

1. **Urban-rural typology** — predominantly urban region = URB; intermediate region = INT; predominantly rural region = RUR;
2. **Metropolitan typology** — metropolitan region = MET; non-metropolitan region = Non-MET;
3. **Coastal typology** — Baltic Sea = BAL; North Sea = NOR; Mediterranean Sea = MED; North-east Atlantic Ocean = NEA; Black Sea = BLK; Outermost regions = OUT; non-coastal region = Non-C.

Code	Label	Urban-rural typology	Metro-politan typology	Coastal typology
BE221	Arr. Hasselt	URB	Non-MET	Non-C
BE222	Arr. Maaseik	INT	Non-MET	Non-C
BE223	Arr. Tongeren	INT	Non-MET	Non-C
BE231	Arr. Aalst	URB	MET	NOR
BE232	Arr. Dendermonde	URB	Non-MET	NOR
BE233	Arr. Eeklo	INT	MET	NOR
BE234	Arr. Gent	INT	MET	NOR
BE235	Arr. Oudenaarde	INT	Non-MET	Non-C
BE236	Arr. Sint-Niklaas	URB	Non-MET	NOR
BE241	Arr. Halle-Vilvoorde	URB	MET	Non-C
BE242	Arr. Leuven	INT	Non-MET	Non-C
BE251	Arr. Brugge	INT	Non-MET	NOR
BE252	Arr. Diksmuide	INT	Non-MET	NOR
BE253	Arr. Ieper	INT	Non-MET	NOR
BE254	Arr. Kortrijk	URB	Non-MET	Non-C
BE255	Arr. Oostende	INT	Non-MET	NOR
BE256	Arr. Roeselare	INT	Non-MET	NOR
BE257	Arr. Tielt	INT	Non-MET	NOR
BE258	Arr. Veurne	INT	Non-MET	NOR
BE310	Arr. Nivelles	INT	MET	Non-C
BE321	Arr. Ath	RUR	Non-MET	Non-C
BE322	Arr. Charleroi	URB	MET	Non-C
BE323	Arr. Mons	URB	Non-MET	Non-C
BE324	Arr. Mouscron	URB	Non-MET	Non-C
BE325	Arr. Soignies	INT	Non-MET	Non-C
BE326	Arr. Thuin	INT	Non-MET	Non-C
BE327	Arr. Tournai	RUR	Non-MET	Non-C
BE331	Arr. Huy	RUR	Non-MET	Non-C
BE332	Arr. Liège	URB	MET	Non-C
BE334	Arr. Waremme	RUR	MET	Non-C
BE335	Arr. Verviers — communes francophones	INT	Non-MET	Non-C
BE336	Bezirk Verviers — Deutschsprachige Gemeinschaft	RUR	Non-MET	Non-C
BE341	Arr. Arlon	RUR	Non-MET	Non-C
BE342	Arr. Bastogne	RUR	Non-MET	Non-C
BE343	Arr. Marche-en-Famenne	RUR	Non-MET	Non-C
BE344	Arr. Neufchâteau	RUR	Non-MET	Non-C
BE345	Arr. Virton	RUR	Non-MET	Non-C
BE351	Arr. Dinant	RUR	Non-MET	Non-C
BE352	Arr. Namur	INT	Non-MET	Non-C
BE353	Arr. Philippeville	RUR	Non-MET	Non-C
BG311	Vidin	RUR	Non-MET	Non-C
BG312	Montana	INT	Non-MET	Non-C
BG313	Vratsa	INT	Non-MET	Non-C
BG314	Pleven	INT	Non-MET	Non-C
BG315	Lovech	INT	Non-MET	Non-C
BG321	Veliko Tarnovo	INT	Non-MET	Non-C
BG322	Gabrovo	INT	Non-MET	Non-C
BG323	Ruse	INT	Non-MET	Non-C
BG324	Razgrad	RUR	Non-MET	Non-C

Code	Label	Urban-rural typology	Metro-politan typology	Coastal typology
BG325	Silistra	RUR	Non-MET	Non-C
BG331	Varna	INT	MET	BLK
BG332	Dobrich	INT	Non-MET	BLK
BG333	Shumen	INT	Non-MET	Non-C
BG334	Targovishte	RUR	Non-MET	Non-C
BG341	Burgas	INT	MET	BLK
BG342	Sliven	INT	Non-MET	Non-C
BG343	Yambol	INT	Non-MET	Non-C
BG344	Stara Zagora	INT	Non-MET	Non-C
BG411	Sofia (stolitsa)	URB	MET	Non-C
BG412	Sofia	RUR	MET	Non-C
BG413	Blagoevgrad	INT	Non-MET	Non-C
BG414	Pernik	INT	MET	Non-C
BG415	Kyustendil	INT	Non-MET	Non-C
BG421	Plovdiv	INT	MET	Non-C
BG422	Haskovo	INT	Non-MET	Non-C
BG423	Pazardzhik	INT	Non-MET	Non-C
BG424	Smolyan	RUR	Non-MET	Non-C
BG425	Kardzhali	RUR	Non-MET	Non-C
CZ010	Hlavní město Praha	URB	MET	Non-C
CZ020	Středočeský kraj	URB	MET	Non-C
CZ031	Jihočeský kraj	RUR	Non-MET	Non-C
CZ032	Plzeňský kraj	RUR	MET	Non-C
CZ041	Karlovarský kraj	INT	Non-MET	Non-C
CZ042	Ústecký kraj	INT	Non-MET	Non-C
CZ051	Liberecký kraj	INT	Non-MET	Non-C
CZ052	Královéhradecký kraj	INT	Non-MET	Non-C
CZ053	Pardubický kraj	RUR	Non-MET	Non-C
CZ063	Kraj Vysočina	RUR	Non-MET	Non-C
CZ064	Jihomoravský kraj	INT	MET	Non-C
CZ071	Olomoucký kraj	INT	Non-MET	Non-C
CZ072	Zlínský kraj	INT	Non-MET	Non-C
CZ080	Moravskoslezský kraj	INT	MET	Non-C
DK011	Byen København	URB	MET	BAL
DK012	Københavns omegn	URB	MET	BAL
DK013	Nordsjælland	INT	MET	BAL
DK014	Bornholm	RUR	Non-MET	BAL
DK021	Østsjælland	INT	MET	BAL
DK022	Vest- og Sydsjælland	RUR	Non-MET	BAL
DK031	Fyn	INT	MET	BAL
DK032	Sydjylland	INT	Non-MET	NOR
DK041	Vestjylland	RUR	Non-MET	NOR
DK042	Østjylland	INT	MET	NOR
DK050	Nordjylland	RUR	MET	NOR
DE111	Stuttgart, Stadtkreis	URB	MET	Non-C
DE112	Böblingen	URB	MET	Non-C
DE113	Esslingen	URB	MET	Non-C
DE114	Göppingen	URB	MET	Non-C
DE115	Ludwigsburg	URB	MET	Non-C
DE116	Rems-Murr-Kreis	URB	MET	Non-C
DE117	Heilbronn, Stadtkreis	INT	MET	Non-C

Code	Label	Urban-rural typology	Metro-politan typology	Coastal typology
DE118	Heilbronn, Landkreis	INT	MET	Non-C
DE119	Hohenlohekreis	RUR	Non-MET	Non-C
DE11A	Schwäbisch Hall	RUR	Non-MET	Non-C
DE11B	Main-Tauber-Kreis	RUR	Non-MET	Non-C
DE11C	Heidenheim	INT	Non-MET	Non-C
DE11D	Ostalbkreis	INT	Non-MET	Non-C
DE121	Baden-Baden, Stadtkreis	URB	Non-MET	Non-C
DE122	Karlsruhe, Stadtkreis	URB	MET	Non-C
DE123	Karlsruhe, Landkreis	URB	MET	Non-C
DE124	Rastatt	URB	Non-MET	Non-C
DE125	Heidelberg, Stadtkreis	URB	MET	Non-C
DE126	Mannheim, Stadtkreis	URB	MET	Non-C
DE127	Neckar-Odenwald-Kreis	RUR	Non-MET	Non-C
DE128	Rhein-Neckar-Kreis	URB	MET	Non-C
DE129	Pforzheim, Stadtkreis	INT	MET	Non-C
DE12A	Calw	RUR	Non-MET	Non-C
DE12B	Enzkreis	INT	MET	Non-C
DE12C	Freudenstadt	RUR	Non-MET	Non-C
DE131	Freiburg im Breisgau, Stadtkreis	INT	MET	Non-C
DE132	Breisgau-Hochschwarzwald	INT	MET	Non-C
DE133	Emmendingen	INT	MET	Non-C
DE134	Ortenaukreis	INT	MET	Non-C
DE135	Rottweil	RUR	Non-MET	Non-C
DE136	Schwarzwald-Baar-Kreis	INT	Non-MET	Non-C
DE137	Tuttlingen	INT	Non-MET	Non-C
DE138	Konstanz	INT	MET	Non-C
DE139	Lörrach	INT	MET	Non-C
DE13A	Waldshut	INT	Non-MET	Non-C
DE141	Reutlingen	INT	MET	Non-C
DE142	Tübingen, Landkreis	INT	Non-MET	Non-C
DE143	Zollernalbkreis	INT	Non-MET	Non-C
DE144	Ulm, Stadtkreis	INT	MET	Non-C
DE145	Alb-Donau-Kreis	INT	MET	Non-C
DE146	Biberach	RUR	Non-MET	Non-C
DE147	Bodenseekreis	INT	Non-MET	Non-C
DE148	Ravensburg	INT	Non-MET	Non-C
DE149	Sigmaringen	RUR	Non-MET	Non-C
DE211	Ingolstadt, Kreisfreie Stadt	INT	MET	Non-C
DE212	München, Kreisfreie Stadt	URB	MET	Non-C
DE213	Rosenheim, Kreisfreie Stadt	INT	MET	Non-C
DE214	Altötting	INT	Non-MET	Non-C
DE215	Berchtesgadener Land	INT	Non-MET	Non-C
DE216	Bad Tölz-Wolfratshausen	INT	Non-MET	Non-C
DE217	Dachau	INT	MET	Non-C
DE218	Ebersberg	INT	MET	Non-C
DE219	Eichstätt	INT	MET	Non-C
DE21A	Erding	RUR	MET	Non-C
DE21B	Freising	INT	MET	Non-C
DE21C	Fürstenfeldbruck	INT	MET	Non-C
DE21D	Garmisch-Partenkirchen	INT	Non-MET	Non-C
DE21E	Landsberg am Lech	RUR	MET	Non-C
DE21F	Miesbach	INT	Non-MET	Non-C
DE21G	Mühldorf a. Inn	RUR	Non-MET	Non-C
DE21H	München, Landkreis	URB	MET	Non-C
DE21I	Neuburg-Schrobenhausen	RUR	MET	Non-C
DE21J	Pfaffenhofen a. d. Ilm	INT	MET	Non-C
DE21K	Rosenheim, Landkreis	INT	MET	Non-C
DE21L	Starnberg	INT	MET	Non-C
DE21M	Traunstein	RUR	Non-MET	Non-C
DE21N	Weilheim-Schongau	INT	Non-MET	Non-C
DE221	Landshut, Kreisfreie Stadt	RUR	Non-MET	Non-C
DE222	Passau, Kreisfreie Stadt	RUR	Non-MET	Non-C
DE223	Straubing, Kreisfreie Stadt	RUR	Non-MET	Non-C
DE224	Deggendorf	RUR	Non-MET	Non-C
DE225	Freyung-Grafenau	RUR	Non-MET	Non-C
DE226	Kelheim	RUR	MET	Non-C
DE227	Landshut, Landkreis	RUR	Non-MET	Non-C
DE228	Passau, Landkreis	RUR	Non-MET	Non-C
DE229	Regen	RUR	Non-MET	Non-C
DE22A	Rottal-Inn	RUR	Non-MET	Non-C
DE22B	Straubing-Bogen	RUR	Non-MET	Non-C
DE22C	Dingolfing-Landau	RUR	Non-MET	Non-C
DE231	Amberg, Kreisfreie Stadt	INT	Non-MET	Non-C
DE232	Regensburg, Kreisfreie Stadt	INT	MET	Non-C
DE233	Weiden i. d. Opf, Kreisfreie Stadt	RUR	Non-MET	Non-C
DE234	Amberg-Sulzbach	INT	Non-MET	Non-C
DE235	Cham	RUR	Non-MET	Non-C
DE236	Neumarkt i. d. OPf.	RUR	Non-MET	Non-C
DE237	Neustadt a. d. Waldnaab	RUR	Non-MET	Non-C
DE238	Regensburg, Landkreis	INT	MET	Non-C
DE239	Schwandorf	RUR	Non-MET	Non-C
DE23A	Tirschenreuth	RUR	Non-MET	Non-C
DE241	Bamberg, Kreisfreie Stadt	INT	Non-MET	Non-C
DE242	Bayreuth, Kreisfreie Stadt	INT	MET	Non-C
DE243	Coburg, Kreisfreie Stadt	INT	Non-MET	Non-C
DE244	Hof, Kreisfreie Stadt	INT	Non-MET	Non-C
DE245	Bamberg, Landkreis	INT	Non-MET	Non-C
DE246	Bayreuth, Landkreis	INT	MET	Non-C
DE247	Coburg, Landkreis	INT	Non-MET	Non-C
DE248	Forchheim	INT	Non-MET	Non-C
DE249	Hof, Landkreis	INT	Non-MET	Non-C
DE24A	Kronach	RUR	Non-MET	Non-C
DE24B	Kulmbach	RUR	MET	Non-C
DE24C	Lichtenfels	RUR	Non-MET	Non-C
DE24D	Wunsiedel i. Fichtelgebirge	RUR	Non-MET	Non-C
DE251	Ansbach, Kreisfreie Stadt	RUR	Non-MET	Non-C
DE252	Erlangen, Kreisfreie Stadt	URB	MET	Non-C
DE253	Fürth, Kreisfreie Stadt	URB	MET	Non-C
DE254	Nürnberg, Kreisfreie Stadt	URB	MET	Non-C
DE255	Schwabach, Kreisfreie Stadt	URB	MET	Non-C
DE256	Ansbach, Landkreis	RUR	Non-MET	Non-C
DE257	Erlangen-Höchstadt	URB	MET	Non-C
DE258	Fürth, Landkreis	URB	MET	Non-C
DE259	Nürnberger Land	INT	MET	Non-C
DE25A	Neustadt a. d. Aisch-Bad Windsheim	RUR	Non-MET	Non-C
DE25B	Roth	INT	MET	Non-C
DE25C	Weißenburg-Gunzenhausen	RUR	Non-MET	Non-C
DE261	Aschaffenburg, Kreisfreie Stadt	URB	MET	Non-C
DE262	Schweinfurt, Kreisfreie Stadt	INT	MET	Non-C
DE263	Würzburg, Kreisfreie Stadt	INT	MET	Non-C
DE264	Aschaffenburg, Landkreis	URB	MET	Non-C
DE265	Bad Kissingen	RUR	MET	Non-C
DE266	Rhön-Grabfeld	RUR	Non-MET	Non-C
DE267	Haßberge	RUR	Non-MET	Non-C
DE268	Kitzingen	RUR	MET	Non-C
DE269	Miltenberg	INT	MET	Non-C
DE26A	Main-Spessart	RUR	MET	Non-C
DE26B	Schweinfurt, Landkreis	INT	MET	Non-C
DE26C	Würzburg, Landkreis	INT	MET	Non-C
DE271	Augsburg, Kreisfreie Stadt	URB	MET	Non-C
DE272	Kaufbeuren, Kreisfreie Stadt	INT	Non-MET	Non-C
DE273	Kempten (Allgäu), Kreisfreie Stadt	INT	Non-MET	Non-C
DE274	Memmingen, Kreisfreie Stadt	RUR	Non-MET	Non-C
DE275	Aichach-Friedberg	INT	MET	Non-C
DE276	Augsburg, Landkreis	URB	MET	Non-C
DE277	Dillingen a.d. Donau	RUR	Non-MET	Non-C
DE278	Günzburg	RUR	Non-MET	Non-C
DE279	Neu-Ulm	INT	MET	Non-C
DE27A	Lindau (Bodensee)	URB	Non-MET	Non-C
DE27B	Ostallgäu	INT	Non-MET	Non-C
DE27C	Unterallgäu	RUR	Non-MET	Non-C
DE27D	Donau-Ries	RUR	Non-MET	Non-C

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DE27E	Oberallgäu	INT	Non-MET	Non-C
DE300	Berlin	URB	MET	Non-C
DE401	Brandenburg an der Havel, Kreisfreie Stadt	INT	Non-MET	Non-C
DE402	Cottbus, Kreisfreie Stadt	INT	Non-MET	Non-C
DE403	Frankfurt (Oder), Kreisfreie Stadt	INT	Non-MET	Non-C
DE404	Potsdam, Kreisfreie Stadt	INT	MET	Non-C
DE405	Barnim	INT	MET	Non-C
DE406	Dahme-Spreewald	INT	MET	Non-C
DE407	Elbe-Elster	RUR	Non-MET	Non-C
DE408	Havelland	INT	MET	Non-C
DE409	Märkisch-Oderland	INT	MET	Non-C
DE40A	Oberhavel	INT	MET	Non-C
DE40B	Oberspreewald-Lausitz	INT	Non-MET	Non-C
DE40C	Oder-Spree	INT	MET	Non-C
DE40D	Ostprignitz-Ruppin	RUR	Non-MET	Non-C
DE40E	Potsdam-Mittelmark	INT	MET	Non-C
DE40F	Prignitz	RUR	Non-MET	Non-C
DE40G	Spree-Neiße	INT	Non-MET	Non-C
DE40H	Teltow-Fläming	INT	MET	Non-C
DE40I	Uckermark	RUR	Non-MET	Non-C
DE501	Bremen, Kreisfreie Stadt	URB	MET	NOR
DE502	Bremerhaven, Kreisfreie Stadt	INT	MET	NOR
DE600	Hamburg	URB	MET	NOR
DE711	Darmstadt, Kreisfreie Stadt	URB	MET	Non-C
DE712	Frankfurt am Main, Kreisfreie Stadt	URB	MET	Non-C
DE713	Offenbach am Main, Kreisfreie Stadt	URB	MET	Non-C
DE714	Wiesbaden, Kreisfreie Stadt	URB	MET	Non-C
DE715	Bergstraße	URB	MET	Non-C
DE716	Darmstadt-Dieburg	URB	MET	Non-C
DE717	Groß-Gerau	URB	MET	Non-C
DE718	Hochtaunuskreis	URB	MET	Non-C
DE719	Main-Kinzig-Kreis	INT	MET	Non-C
DE71A	Main-Taunus-Kreis	URB	MET	Non-C
DE71B	Odenwaldkreis	RUR	Non-MET	Non-C
DE71C	Offenbach, Landkreis	URB	MET	Non-C
DE71D	Rheingau-Taunus-Kreis	INT	MET	Non-C
DE71E	Wetteraukreis	INT	MET	Non-C
DE721	Gießen, Landkreis	INT	MET	Non-C
DE722	Lahn-Dill-Kreis	INT	MET	Non-C
DE723	Limburg-Weilburg	INT	Non-MET	Non-C
DE724	Marburg-Biedenkopf	INT	Non-MET	Non-C
DE725	Vogelsbergkreis	RUR	Non-MET	Non-C
DE731	Kassel, Kreisfreie Stadt	INT	MET	Non-C
DE732	Fulda	INT	Non-MET	Non-C
DE733	Hersfeld-Rotenburg	RUR	Non-MET	Non-C
DE734	Kassel, Landkreis	INT	MET	Non-C
DE735	Schwalm-Eder-Kreis	RUR	Non-MET	Non-C
DE736	Waldeck-Frankenberg	RUR	Non-MET	Non-C
DE737	Werra-Meißner-Kreis	RUR	Non-MET	Non-C
DE803	Rostock, Kreisfreie Stadt	INT	MET	BAL
DE804	Schwerin, Kreisfreie Stadt	RUR	MET	BAL
DE80J	Mecklenburgische Seenplatte	RUR	MET	BAL
DE80K	Landkreis Rostock	INT	MET	BAL
DE80L	Vorpommern-Rügen	RUR	Non-MET	BAL
DE80M	Nordwestmecklenburg	RUR	Non-MET	BAL
DE80N	Vorpommern-Greifswald	RUR	Non-MET	BAL
DE80O	Ludwigslust-Parchim	RUR	MET	Non-C
DE911	Braunschweig, Kreisfreie Stadt	INT	MET	Non-C
DE912	Salzgitter, Kreisfreie Stadt	INT	MET	Non-C
DE913	Wolfsburg, Kreisfreie Stadt	INT	MET	Non-C
DE914	Gifhorn	INT	MET	Non-C
DE916	Goslar	INT	Non-MET	Non-C
DE917	Helmstedt	RUR	MET	Non-C
DE918	Northeim	RUR	MET	Non-C
DE91A	Peine	INT	MET	Non-C
DE91B	Wolfenbüttel	INT	MET	Non-C
DE91C	Göttingen	INT	MET	Non-C
DE922	Diepholz	INT	MET	Non-C
DE923	Hameln-Pyrmont	INT	Non-MET	Non-C
DE925	Hildesheim	INT	MET	Non-C
DE926	Holzminden	RUR	Non-MET	Non-C
DE927	Nienburg (Weser)	RUR	Non-MET	Non-C
DE928	Schaumburg	INT	MET	Non-C
DE929	Region Hannover	URB	MET	Non-C
DE931	Celle	INT	Non-MET	Non-C
DE932	Cuxhaven	INT	MET	NOR
DE933	Harburg	INT	MET	Non-C
DE934	Lüchow-Dannenberg	RUR	Non-MET	Non-C
DE935	Lüneburg, Landkreis	INT	Non-MET	Non-C
DE936	Osterholz	INT	MET	NOR
DE937	Rotenburg (Wümme)	RUR	MET	Non-C
DE938	Heidekreis	INT	Non-MET	Non-C
DE939	Stade	INT	MET	NOR
DE93A	Uelzen	RUR	Non-MET	Non-C
DE93B	Verden	INT	MET	Non-C
DE941	Delmenhorst, Kreisfreie Stadt	URB	MET	Non-C
DE942	Emden, Kreisfreie Stadt	INT	Non-MET	NOR
DE943	Oldenburg (Oldenburg), Kreisfreie Stadt	INT	MET	NOR
DE944	Osnabrück, Kreisfreie Stadt	INT	MET	Non-C
DE945	Wilhelmshaven, Kreisfreie Stadt	INT	Non-MET	NOR
DE946	Ammerland	INT	MET	NOR
DE947	Aurich	INT	Non-MET	NOR
DE948	Cloppenburg	RUR	Non-MET	Non-C
DE949	Emsland	RUR	Non-MET	Non-C
DE94A	Friesland (DE)	INT	Non-MET	NOR
DE94B	Grafschaft Bentheim	INT	Non-MET	Non-C
DE94C	Leer	INT	Non-MET	NOR
DE94D	Oldenburg, Landkreis	INT	MET	NOR
DE94E	Osnabrück, Landkreis	INT	MET	Non-C
DE94F	Vechta	INT	Non-MET	Non-C
DE94G	Wesermarsch	INT	Non-MET	NOR
DE94H	Wittmund	RUR	Non-MET	NOR
DEA11	Düsseldorf, Kreisfreie Stadt	URB	MET	Non-C
DEA12	Duisburg, Kreisfreie Stadt	URB	MET	Non-C
DEA13	Essen, Kreisfreie Stadt	URB	MET	Non-C
DEA14	Krefeld, Kreisfreie Stadt	URB	Non-MET	Non-C
DEA15	Mönchengladbach, Kreisfreie Stadt	URB	MET	Non-C
DEA16	Mülheim an der Ruhr, Kreisfreie Stadt	URB	MET	Non-C
DEA17	Oberhausen, Kreisfreie Stadt	URB	MET	Non-C
DEA18	Remscheid, Kreisfreie Stadt	URB	Non-MET	Non-C
DEA19	Solingen, Kreisfreie Stadt	URB	Non-MET	Non-C
DEA1A	Wuppertal, Kreisfreie Stadt	URB	MET	Non-C
DEA1B	Kleve	INT	Non-MET	Non-C
DEA1C	Mettmann	URB	MET	Non-C
DEA1D	Rhein-Kreis Neuss	URB	MET	Non-C
DEA1E	Viersen	URB	Non-MET	Non-C
DEA1F	Wesel	URB	MET	Non-C
DEA22	Bonn, Kreisfreie Stadt	URB	MET	Non-C
DEA23	Köln, Kreisfreie Stadt	URB	MET	Non-C
DEA24	Leverkusen, Kreisfreie Stadt	URB	MET	Non-C
DEA26	Düren	INT	MET	Non-C
DEA27	Rhein-Erft-Kreis	URB	MET	Non-C
DEA28	Euskirchen	INT	Non-MET	Non-C
DEA29	Heinsberg	INT	Non-MET	Non-C
DEA2A	Oberbergischer Kreis	INT	Non-MET	Non-C
DEA2B	Rheinisch-Bergischer Kreis	URB	MET	Non-C
DEA2C	Rhein-Sieg-Kreis	URB	MET	Non-C
DEA2D	Städteregion Aachen	URB	MET	Non-C
DEA31	Bottrop, Kreisfreie Stadt	URB	MET	Non-C
DEA32	Gelsenkirchen, Kreisfreie Stadt	URB	MET	Non-C

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DEA33	Münster, Kreisfreie Stadt	URB	MET	Non-C
DEA34	Borken	INT	MET	Non-C
DEA35	Coesfeld	URB	MET	Non-C
DEA36	Recklinghausen	URB	MET	Non-C
DEA37	Steinfurt	INT	Non-MET	Non-C
DEA38	Warendorf	INT	Non-MET	Non-C
DEA41	Bielefeld, Kreisfreie Stadt	URB	MET	Non-C
DEA42	Gütersloh	URB	Non-MET	Non-C
DEA43	Herford	URB	Non-MET	Non-C
DEA44	Höxter	RUR	Non-MET	Non-C
DEA45	Lippe	INT	Non-MET	Non-C
DEA46	Minden-Lübbecke	INT	Non-MET	Non-C
DEA47	Paderborn	INT	MET	Non-C
DEA51	Bochum, Kreisfreie Stadt	URB	MET	Non-C
DEA52	Dortmund, Kreisfreie Stadt	URB	MET	Non-C
DEA53	Hagen, Kreisfreie Stadt	URB	MET	Non-C
DEA54	Hamm, Kreisfreie Stadt	URB	MET	Non-C
DEA55	Herne, Kreisfreie Stadt	URB	MET	Non-C
DEA56	Ennepe-Ruhr-Kreis	URB	MET	Non-C
DEA57	Hochsauerlandkreis	INT	Non-MET	Non-C
DEA58	Märkischer Kreis	URB	MET	Non-C
DEA59	Olpe	INT	Non-MET	Non-C
DEA5A	Siegen-Wittgenstein	INT	MET	Non-C
DEA5B	Soest	INT	Non-MET	Non-C
DEA5C	Unna	URB	MET	Non-C
DEB11	Koblenz, Kreisfreie Stadt	INT	MET	Non-C
DEB12	Ahrweiler	INT	Non-MET	Non-C
DEB13	Altenkirchen (Westerwald)	RUR	MET	Non-C
DEB14	Bad Kreuznach	INT	Non-MET	Non-C
DEB15	Birkenfeld	RUR	Non-MET	Non-C
DEB17	Mayen-Koblenz	INT	MET	Non-C
DEB18	Neuwied	INT	Non-MET	Non-C
DEB1A	Rhein-Lahn-Kreis	INT	Non-MET	Non-C
DEB1B	Westerwaldkreis	RUR	Non-MET	Non-C
DEB1C	Cochem-Zell	RUR	Non-MET	Non-C
DEB1D	Rhein-Hunsrück-Kreis	RUR	Non-MET	Non-C
DEB21	Trier, Kreisfreie Stadt	INT	Non-MET	Non-C
DEB22	Bernkastel-Wittlich	RUR	Non-MET	Non-C
DEB23	Eifelkreis Bitburg-Prüm	RUR	Non-MET	Non-C
DEB24	Vulkaneifel	RUR	Non-MET	Non-C
DEB25	Trier-Saarburg	INT	Non-MET	Non-C
DEB31	Frankenthal (Pfalz), Kreisfreie Stadt	URB	MET	Non-C
DEB32	Kaiserslautern, Kreisfreie Stadt	INT	MET	Non-C
DEB33	Landau in der Pfalz, Kreisfreie Stadt	URB	Non-MET	Non-C
DEB34	Ludwigshafen am Rhein, Kreisfreie Stadt	URB	MET	Non-C
DEB35	Mainz, Kreisfreie Stadt	URB	MET	Non-C
DEB36	Neustadt an der Weinstraße, Kreisfreie Stadt	INT	MET	Non-C
DEB37	Pirmasens, Kreisfreie Stadt	RUR	Non-MET	Non-C
DEB38	Speyer, Kreisfreie Stadt	URB	MET	Non-C
DEB39	Worms, Kreisfreie Stadt	URB	Non-MET	Non-C
DEB3A	Zweibrücken, Kreisfreie Stadt	INT	Non-MET	Non-C
DEB3B	Alzey-Worms	RUR	Non-MET	Non-C
DEB3C	Bad Dürkheim	INT	MET	Non-C
DEB3D	Donnersbergkreis	RUR	Non-MET	Non-C
DEB3E	Germersheim	URB	Non-MET	Non-C
DEB3F	Kaiserslautern, Landkreis	INT	MET	Non-C
DEB3G	Kusel	RUR	MET	Non-C
DEB3H	Südliche Weinstraße	URB	Non-MET	Non-C
DEB3I	Rhein-Pfalz-Kreis	URB	MET	Non-C
DEB3J	Mainz-Bingen	INT	MET	Non-C
DEB3K	Südwestpfalz	RUR	Non-MET	Non-C
DEC01	Regionalverband Saarbrücken	URB	MET	Non-C
DEC02	Merzig-Wadern	INT	Non-MET	Non-C
DEC03	Neunkirchen	INT	MET	Non-C
DEC04	Saarlouis	URB	MET	Non-C
DEC05	Saarpfalz-Kreis	URB	MET	Non-C
DEC06	St. Wendel	INT	Non-MET	Non-C
DED21	Dresden, Kreisfreie Stadt	URB	MET	Non-C
DED2C	Bautzen	RUR	MET	Non-C
DED2D	Görlitz	INT	MET	Non-C
DED2E	Meißen	INT	MET	Non-C
DED2F	Sächsische Schweiz-Osterzgebirge	URB	MET	Non-C
DED41	Chemnitz, Kreisfreie Stadt	INT	Non-MET	Non-C
DED42	Erzgebirgskreis	INT	Non-MET	Non-C
DED43	Mittelsachsen	INT	Non-MET	Non-C
DED44	Vogtlandkreis	INT	Non-MET	Non-C
DED45	Zwickau	INT	MET	Non-C
DED51	Leipzig, Kreisfreie Stadt	URB	MET	Non-C
DED52	Leipzig	URB	MET	Non-C
DED53	Nordsachsen	RUR	MET	Non-C
DEE01	Dessau-Roßlau, Kreisfreie Stadt	INT	Non-MET	Non-C
DEE02	Halle (Saale), Kreisfreie Stadt	INT	MET	Non-C
DEE03	Magdeburg, Kreisfreie Stadt	INT	MET	Non-C
DEE04	Altmarkkreis Salzwedel	RUR	Non-MET	Non-C
DEE05	Anhalt-Bitterfeld	INT	Non-MET	Non-C
DEE06	Jerichower Land	RUR	MET	Non-C
DEE07	Börde	INT	MET	Non-C
DEE08	Burgenlandkreis	RUR	Non-MET	Non-C
DEE09	Harz	INT	Non-MET	Non-C
DEE0A	Mansfeld-Südharz	RUR	Non-MET	Non-C
DEE0B	Saalekreis	INT	MET	Non-C
DEE0C	Salzlandkreis	INT	Non-MET	Non-C
DEE0D	Stendal	RUR	Non-MET	Non-C
DEE0E	Wittenberg	RUR	Non-MET	Non-C
DEF01	Flensburg, Kreisfreie Stadt	INT	MET	BAL
DEF02	Kiel, Kreisfreie Stadt	URB	MET	BAL
DEF03	Lübeck, Kreisfreie Stadt	INT	MET	BAL
DEF04	Neumünster, Kreisfreie Stadt	INT	Non-MET	BAL
DEF05	Dithmarschen	RUR	Non-MET	NOR
DEF06	Herzogtum Lauenburg	INT	MET	Non-C
DEF07	Nordfriesland	RUR	Non-MET	NOR
DEF08	Ostholstein	INT	MET	BAL
DEF09	Pinneberg	URB	MET	NOR
DEF0A	Plön	URB	MET	BAL
DEF0B	Rendsburg-Eckernförde	INT	MET	BAL
DEF0C	Schleswig-Flensburg	INT	MET	BAL
DEF0D	Segeberg	INT	MET	Non-C
DEF0E	Steinburg	INT	Non-MET	Non-C
DEF0F	Stormarn	INT	MET	Non-C
DEG01	Erfurt, Kreisfreie Stadt	INT	MET	Non-C
DEG02	Gera, Kreisfreie Stadt	INT	Non-MET	Non-C
DEG03	Jena, Kreisfreie Stadt	INT	Non-MET	Non-C
DEG04	Suhl, Kreisfreie Stadt	INT	Non-MET	Non-C
DEG05	Weimar, Kreisfreie Stadt	INT	Non-MET	Non-C
DEG06	Eichsfeld	RUR	Non-MET	Non-C
DEG07	Nordhausen	INT	Non-MET	Non-C
DEG09	Unstrut-Hainich-Kreis	RUR	Non-MET	Non-C
DEG0A	Kyffhäuserkreis	RUR	Non-MET	Non-C
DEG0B	Schmalkalden-Meiningen	INT	Non-MET	Non-C
DEG0C	Gotha	RUR	MET	Non-C
DEG0D	Sömmerda	INT	MET	Non-C
DEG0E	Hildburghausen	RUR	Non-MET	Non-C
DEG0F	Ilm-Kreis	RUR	MET	Non-C
DEG0G	Weimarer Land	INT	Non-MET	Non-C
DEG0H	Sonneberg	RUR	Non-MET	Non-C
DEG0I	Saalfeld-Rudolstadt	INT	Non-MET	Non-C
DEG0J	Saale-Holzland-Kreis	INT	Non-MET	Non-C
DEG0K	Saale-Orla-Kreis	RUR	Non-MET	Non-C
DEG0L	Greiz	INT	Non-MET	Non-C
DEG0M	Altenburger Land	INT	Non-MET	Non-C

Code	Label	Urban-rural typology	Metro-politan typology	Coastal typology
DEG0N	Eisenach, Kreisfreie Stadt	RUR	Non-MET	Non-C
DEG0P	Wartburgkreis	RUR	Non-MET	Non-C
EE001	Põhja-Eesti	URB	MET	BAL
EE004	Lääne-Eesti	RUR	Non-MET	BAL
EE006	Kesk-Eesti	RUR	Non-MET	BAL
EE007	Kirde-Eesti	INT	Non-MET	BAL
EE008	Lõuna-Eesti	RUR	Non-MET	Non-C
IE041	Border	RUR	Non-MET	NEA
IE042	West	RUR	Non-MET	NEA
IE051	Mid-West	RUR	Non-MET	NEA
IE052	South-East	RUR	Non-MET	NEA
IE053	South-West	RUR	MET	NEA
IE061	Dublin	URB	MET	NEA
IE062	Mid-East	INT	MET	NEA
IE063	Midland	RUR	Non-MET	Non-C
EL301	Voreios Tomeas Athinon	URB	MET	Non-C
EL302	Dytikos Tomeas Athinon	URB	MET	MED
EL303	Kentrikos Tomeas Athinon	URB	MET	Non-C
EL304	Notios Tomeas Athinon	URB	MET	MED
EL305	Anatoliki Attiki	URB	MET	MED
EL306	Dytiki Attiki	URB	Non-MET	MED
EL307	Peiraias, Nisoi	URB	MET	MED
EL411	Lesvos, Limnos	RUR	Non-MET	MED
EL412	Ikaria, Samos	RUR	Non-MET	MED
EL413	Chios	INT	Non-MET	MED
EL421	Kalymnos, Karpathos, Kos, Rodos	INT	Non-MET	MED
EL422	Andros, Thira, Kea, Milos, Mykonos, Naxos, Paros, Syros, Tinos	RUR	Non-MET	MED
EL431	Irakleio	INT	Non-MET	MED
EL432	Lasithi	RUR	Non-MET	MED
EL433	Rethymni	RUR	Non-MET	MED
EL434	Chania	INT	Non-MET	MED
EL511	Evros	INT	Non-MET	MED
EL512	Xanthi	INT	Non-MET	MED
EL513	Rodopi	RUR	Non-MET	MED
EL514	Drama	INT	Non-MET	MED
EL515	Thasos, Kavala	RUR	Non-MET	MED
EL521	Imathia	INT	Non-MET	MED
EL522	Thessaloniki	URB	MET	MED
EL523	Kilkis	RUR	Non-MET	MED
EL524	Pella	RUR	Non-MET	MED
EL525	Pieria	INT	Non-MET	MED
EL526	Serres	RUR	Non-MET	MED
EL527	Chalkidiki	RUR	Non-MET	MED
EL531	Grevena, Kozani	RUR	Non-MET	Non-C
EL532	Kastoria	INT	Non-MET	Non-C
EL533	Florina	RUR	Non-MET	Non-C
EL541	Arta, Preveza	RUR	Non-MET	MED
EL542	Thesprotia	RUR	Non-MET	MED
EL543	Ioannina	INT	Non-MET	Non-C
EL611	Karditsa, Trikala	RUR	Non-MET	Non-C
EL612	Larisa	INT	Non-MET	MED
EL613	Magnisia	INT	Non-MET	MED
EL621	Zakynthos	RUR	Non-MET	MED
EL622	Kerkyra	RUR	Non-MET	MED
EL623	Ithaki, Kefallinia	RUR	Non-MET	MED
EL624	Lefkada	RUR	Non-MET	MED
EL631	Aitoloakarnania	RUR	Non-MET	MED
EL632	Achaia	INT	Non-MET	MED
EL633	Ileia	RUR	Non-MET	MED
EL641	Voiotia	RUR	Non-MET	MED
EL642	Evvoia	RUR	Non-MET	MED
EL643	Evrytania	RUR	Non-MET	MED
EL644	Fthiotida	RUR	Non-MET	MED
EL645	Fokida	RUR	Non-MET	MED
EL651	Argolida, Arkadia	RUR	Non-MET	MED

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EL652	Korinthia	INT	Non-MET	MED
EL653	Lakonia, Messinia	RUR	Non-MET	MED
ES111	A Coruña	INT	MET	NEA
ES112	Lugo	RUR	Non-MET	NEA
ES113	Ourense	RUR	Non-MET	Non-C
ES114	Pontevedra	INT	MET	NEA
ES120	Asturias	INT	MET	NEA
ES130	Cantabria	INT	MET	NEA
ES211	Araba/Álava	URB	MET	Non-C
ES212	Gipuzkoa	URB	MET	NEA
ES213	Bizkaia	URB	MET	NEA
ES220	Navarra	INT	MET	Non-C
ES230	La Rioja	INT	Non-MET	Non-C
ES241	Huesca	INT	Non-MET	Non-C
ES242	Teruel	RUR	Non-MET	Non-C
ES243	Zaragoza	URB	MET	Non-C
ES300	Madrid	URB	MET	Non-C
ES411	Ávila	RUR	Non-MET	Non-C
ES412	Burgos	INT	Non-MET	Non-C
ES413	León	INT	Non-MET	Non-C
ES414	Palencia	INT	Non-MET	Non-C
ES415	Salamanca	INT	Non-MET	Non-C
ES416	Segovia	RUR	Non-MET	Non-C
ES417	Soria	RUR	Non-MET	Non-C
ES418	Valladolid	INT	MET	Non-C
ES419	Zamora	RUR	Non-MET	Non-C
ES421	Albacete	INT	Non-MET	Non-C
ES422	Ciudad Real	INT	Non-MET	Non-C
ES423	Cuenca	RUR	Non-MET	Non-C
ES424	Guadalajara	INT	Non-MET	Non-C
ES425	Toledo	INT	Non-MET	Non-C
ES431	Badajoz	INT	Non-MET	Non-C
ES432	Cáceres	INT	Non-MET	Non-C
ES511	Barcelona	URB	MET	MED
ES512	Girona	INT	Non-MET	MED
ES513	Lleida	INT	Non-MET	Non-C
ES514	Tarragona	INT	Non-MET	MED
ES521	Alicante/Alacant	URB	MET	MED
ES522	Castellón/Castelló	INT	Non-MET	MED
ES523	Valencia/València	URB	MET	MED
ES531	Eivissa y Formentera	INT	Non-MET	MED
ES532	Mallorca	URB	MET	MED
ES533	Menorca	INT	Non-MET	MED
ES611	Almería	INT	Non-MET	MED
ES612	Cádiz	URB	MET	MED
ES613	Córdoba	URB	MET	Non-C
ES614	Granada	INT	MET	MED
ES615	Huelva	INT	Non-MET	NEA
ES616	Jaén	INT	Non-MET	Non-C
ES617	Málaga	URB	MET	MED
ES618	Sevilla	URB	MET	Non-C
ES620	Murcia	URB	MET	MED
ES630	Ceuta	URB	Non-MET	MED
ES640	Melilla	INT	Non-MET	MED
ES703	El Hierro	RUR	Non-MET	OUT
ES704	Fuerteventura	INT	Non-MET	OUT
ES705	Gran Canaria	URB	MET	OUT
ES706	La Gomera	RUR	Non-MET	OUT
ES707	La Palma	INT	Non-MET	OUT
ES708	Lanzarote	INT	Non-MET	OUT
ES709	Tenerife	RUR	MET	OUT
FR101	Paris	URB	MET	Non-C
FR102	Seine-et-Marne	INT	MET	Non-C
FR103	Yvelines	URB	MET	Non-C
FR104	Essonne	URB	MET	Non-C
FR105	Hauts-de-Seine	URB	MET	Non-C

Code	Label	Urban-rural typology	Metro-politan typology	Coastal typology
FR106	Seine-Saint-Denis	URB	MET	Non-C
FR107	Val-de-Marne	URB	MET	Non-C
FR108	Val-d'Oise	URB	MET	Non-C
FRB01	Cher	RUR	Non-MET	Non-C
FRB02	Eure-et-Loir	RUR	Non-MET	Non-C
FRB03	Indre	RUR	Non-MET	Non-C
FRB04	Indre-et-Loire	INT	MET	Non-C
FRB05	Loir-et-Cher	RUR	Non-MET	Non-C
FRB06	Loiret	INT	MET	Non-C
FRC11	Côte-d'Or	INT	MET	Non-C
FRC12	Nièvre	RUR	Non-MET	Non-C
FRC13	Saône-et-Loire	RUR	Non-MET	Non-C
FRC14	Yonne	RUR	Non-MET	Non-C
FRC21	Doubs	INT	MET	Non-C
FRC22	Jura	RUR	Non-MET	Non-C
FRC23	Haute-Saône	RUR	Non-MET	Non-C
FRC24	Territoire de Belfort	INT	Non-MET	Non-C
FRD11	Calvados	INT	MET	NEA
FRD12	Manche	RUR	Non-MET	NEA
FRD13	Orne	RUR	Non-MET	Non-C
FRD21	Eure	RUR	Non-MET	NEA
FRD22	Seine-Maritime	INT	MET	NEA
FRE11	Nord	URB	MET	NEA
FRE12	Pas-de-Calais	INT	Non-MET	NEA
FRE21	Aisne	RUR	Non-MET	Non-C
FRE22	Oise	INT	Non-MET	Non-C
FRE23	Somme	RUR	MET	NEA
FRF11	Bas-Rhin	INT	MET	Non-C
FRF12	Haut-Rhin	INT	MET	Non-C
FRF21	Ardennes	RUR	Non-MET	Non-C
FRF22	Aube	INT	Non-MET	Non-C
FRF23	Marne	INT	MET	Non-C
FRF24	Haute-Marne	RUR	Non-MET	Non-C
FRF31	Meurthe-et-Moselle	INT	MET	Non-C
FRF32	Meuse	RUR	Non-MET	Non-C
FRF33	Moselle	INT	Non-MET	Non-C
FRF34	Vosges	RUR	Non-MET	Non-C
FRG01	Loire-Atlantique	URB	MET	NEA
FRG02	Maine-et-Loire	INT	MET	Non-C
FRG03	Mayenne	RUR	Non-MET	Non-C
FRG04	Sarthe	RUR	MET	Non-C
FRG05	Vendée	RUR	Non-MET	NEA
FRH01	Côtes-d'Armor	RUR	Non-MET	NEA
FRH02	Finistère	RUR	MET	NEA
FRH03	Ille-et-Vilaine	INT	MET	NEA
FRH04	Morbihan	RUR	Non-MET	NEA
FRI11	Dordogne	RUR	Non-MET	Non-C
FRI12	Gironde	URB	MET	NEA
FRI13	Landes	RUR	Non-MET	NEA
FRI14	Lot-et-Garonne	RUR	Non-MET	Non-C
FRI15	Pyrénées-Atlantiques	INT	MET	NEA
FRI21	Corrèze	RUR	Non-MET	Non-C
FRI22	Creuse	RUR	Non-MET	Non-C
FRI23	Haute-Vienne	RUR	MET	Non-C
FRI31	Charente	RUR	Non-MET	Non-C
FRI32	Charente-Maritime	RUR	Non-MET	NEA
FRI33	Deux-Sèvres	RUR	Non-MET	Non-C
FRI34	Vienne	RUR	MET	Non-C
FRJ11	Aude	RUR	Non-MET	MED
FRJ12	Gard	INT	MET	MED
FRJ13	Hérault	INT	MET	MED
FRJ14	Lozère	RUR	Non-MET	Non-C
FRJ15	Pyrénées-Orientales	INT	MET	MED
FRJ21	Ariège	RUR	Non-MET	Non-C
FRJ22	Aveyron	RUR	Non-MET	Non-C
FRJ23	Haute-Garonne	URB	MET	Non-C

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FRJ24	Gers	RUR	Non-MET	Non-C
FRJ25	Lot	RUR	Non-MET	Non-C
FRJ26	Hautes-Pyrénées	RUR	Non-MET	Non-C
FRJ27	Tarn	RUR	Non-MET	Non-C
FRJ28	Tarn-et-Garonne	RUR	Non-MET	Non-C
FRK11	Allier	RUR	Non-MET	Non-C
FRK12	Cantal	RUR	Non-MET	Non-C
FRK13	Haute-Loire	RUR	Non-MET	Non-C
FRK14	Puy-de-Dôme	INT	MET	Non-C
FRK21	Ain	RUR	Non-MET	Non-C
FRK22	Ardèche	RUR	Non-MET	Non-C
FRK23	Drôme	RUR	Non-MET	Non-C
FRK24	Isère	INT	MET	Non-C
FRK25	Loire	INT	MET	Non-C
FRK26	Rhône	URB	MET	Non-C
FRK27	Savoie	INT	Non-MET	Non-C
FRK28	Haute-Savoie	INT	MET	Non-C
FRL01	Alpes-de-Haute-Provence	RUR	Non-MET	Non-C
FRL02	Hautes-Alpes	RUR	Non-MET	Non-C
FRL03	Alpes-Maritimes	URB	MET	MED
FRL04	Bouches-du-Rhône	URB	MET	MED
FRL05	Var	INT	MET	MED
FRL06	Vaucluse	INT	Non-MET	Non-C
FRM01	Corse-du-Sud	RUR	Non-MET	MED
FRM02	Haute-Corse	RUR	Non-MET	MED
FRY10	Guadeloupe	INT	Non-MET	OUT
FRY20	Martinique	INT	MET	OUT
FRY30	Guyane	INT	Non-MET	OUT
FRY40	La Réunion	URB	Non-MET	OUT
FRY50	Mayotte	INT	Non-MET	OUT
HR031	Primorsko-goranska županija	INT	Non-MET	MED
HR032	Ličko-senjska županija	RUR	Non-MET	MED
HR033	Zadarska županija	INT	Non-MET	MED
HR034	Šibensko-kninska županija	INT	Non-MET	MED
HR035	Splitsko-dalmatinska županija	INT	MET	MED
HR036	Istarska županija	RUR	Non-MET	MED
HR037	Dubrovačko-neretvanska županija	INT	Non-MET	MED
HR041	Grad Zagreb	URB	MET	Non-C
HR042	Zagrebačka županija	RUR	MET	Non-C
HR043	Krapinsko-zagorska županija	RUR	MET	Non-C
HR044	Varaždinska županija	INT	Non-MET	Non-C
HR045	Koprivničko-križevačka županija	RUR	Non-MET	Non-C
HR046	Međimurska županija	RUR	Non-MET	Non-C
HR047	Bjelovarsko-bilogorska županija	RUR	Non-MET	Non-C
HR048	Virovitičko-podravska županija	RUR	Non-MET	Non-C
HR049	Požeško-slavonska županija	RUR	Non-MET	Non-C
HR04A	Brodsko-posavska županija	INT	Non-MET	Non-C
HR04B	Osječko-baranjska županija	INT	Non-MET	Non-C
HR04C	Vukovarsko-srijemska županija	RUR	Non-MET	Non-C
HR04D	Karlovačka županija	RUR	Non-MET	Non-C
HR04E	Sisačko-moslavačka županija	RUR	Non-MET	Non-C
ITC11	Torino	URB	MET	Non-C
ITC12	Vercelli	INT	Non-MET	Non-C
ITC13	Biella	INT	Non-MET	Non-C
ITC14	Verbano-Cusio-Ossola	INT	Non-MET	Non-C
ITC15	Novara	INT	Non-MET	Non-C
ITC16	Cuneo	RUR	Non-MET	Non-C
ITC17	Asti	RUR	Non-MET	Non-C
ITC18	Alessandria	RUR	Non-MET	Non-C
ITC20	Valle d'Aosta/Vallée d'Aoste	INT	Non-MET	Non-C
ITC31	Imperia	URB	Non-MET	MED
ITC32	Savona	INT	Non-MET	MED
ITC33	Genova	URB	MET	MED
ITC34	La Spezia	URB	Non-MET	MED
ITC41	Varese	URB	Non-MET	Non-C
ITC42	Como	URB	Non-MET	Non-C

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ITC43	Lecco	URB	Non-MET	Non-C
ITC44	Sondrio	INT	Non-MET	Non-C
ITC46	Bergamo	URB	MET	Non-C
ITC47	Brescia	INT	MET	Non-C
ITC48	Pavia	INT	Non-MET	Non-C
ITC49	Lodi	INT	MET	Non-C
ITC4A	Cremona	INT	Non-MET	Non-C
ITC4B	Mantova	RUR	Non-MET	Non-C
ITC4C	Milano	URB	MET	Non-C
ITC4D	Monza e della Brianza	URB	MET	Non-C
ITF11	L'Aquila	RUR	Non-MET	Non-C
ITF12	Teramo	INT	Non-MET	MED
ITF13	Pescara	INT	Non-MET	MED
ITF14	Chieti	INT	Non-MET	MED
ITF21	Isernia	RUR	Non-MET	Non-C
ITF22	Campobasso	RUR	Non-MET	MED
ITF31	Caserta	URB	Non-MET	MED
ITF32	Benevento	RUR	Non-MET	MED
ITF33	Napoli	URB	MET	MED
ITF34	Avellino	INT	Non-MET	MED
ITF35	Salerno	INT	Non-MET	MED
ITF43	Taranto	URB	MET	MED
ITF44	Brindisi	URB	Non-MET	MED
ITF45	Lecce	URB	Non-MET	MED
ITF46	Foggia	URB	Non-MET	MED
ITF47	Bari	URB	MET	MED
ITF48	Barletta-Andria-Trani	URB	Non-MET	MED
ITF51	Potenza	RUR	Non-MET	MED
ITF52	Matera	INT	Non-MET	MED
ITF61	Cosenza	INT	Non-MET	MED
ITF62	Crotone	INT	Non-MET	MED
ITF63	Catanzaro	INT	Non-MET	MED
ITF64	Vibo Valentia	RUR	Non-MET	MED
ITF65	Reggio di Calabria	INT	Non-MET	MED
ITG11	Trapani	INT	Non-MET	MED
ITG12	Palermo	URB	MET	MED
ITG13	Messina	INT	MET	MED
ITG14	Agrigento	INT	Non-MET	MED
ITG15	Caltanissetta	URB	Non-MET	MED
ITG16	Enna	INT	Non-MET	MED
ITG17	Catania	URB	MET	MED
ITG18	Ragusa	INT	Non-MET	MED
ITG19	Siracusa	URB	Non-MET	MED
ITG25	Sassari	INT	Non-MET	MED
ITG26	Nuoro	RUR	Non-MET	MED
ITG27	Cagliari	INT	MET	MED
ITG28	Oristano	RUR	Non-MET	MED
ITG29	Olbia-Tempio	INT	Non-MET	MED
ITG2A	Ogliastra	RUR	Non-MET	MED
ITG2B	Medio Campidano	INT	Non-MET	MED
ITG2C	Carbonia-Iglesias	INT	Non-MET	MED
ITH10	Bolzano-Bozen	RUR	Non-MET	Non-C
ITH20	Trento	INT	Non-MET	Non-C
ITH31	Verona	INT	MET	Non-C
ITH32	Vicenza	INT	Non-MET	Non-C
ITH33	Belluno	RUR	Non-MET	Non-C
ITH34	Treviso	INT	Non-MET	MED
ITH35	Venezia	URB	MET	MED
ITH36	Padova	INT	MET	MED
ITH37	Rovigo	RUR	Non-MET	MED
ITH41	Pordenone	INT	Non-MET	MED
ITH42	Udine	INT	Non-MET	MED
ITH43	Gorizia	INT	Non-MET	MED
ITH44	Trieste	URB	Non-MET	MED
ITH51	Piacenza	INT	Non-MET	Non-C
ITH52	Parma	INT	MET	Non-C

Code	Label	Urban-rural typology	Metro-politan typology	Coastal typology
ITH53	Reggio nell'Emilia	INT	MET	Non-C
ITH54	Modena	INT	Non-MET	Non-C
ITH55	Bologna	INT	MET	Non-C
ITH56	Ferrara	INT	Non-MET	MED
ITH57	Ravenna	INT	Non-MET	MED
ITH58	Forlì-Cesena	INT	Non-MET	MED
ITH59	Rimini	URB	Non-MET	MED
ITI11	Massa-Carrara	INT	Non-MET	MED
ITI12	Lucca	INT	Non-MET	MED
ITI13	Pistoia	URB	Non-MET	Non-C
ITI14	Firenze	URB	MET	Non-C
ITI15	Prato	URB	MET	Non-C
ITI16	Livorno	INT	Non-MET	MED
ITI17	Pisa	INT	Non-MET	MED
ITI18	Arezzo	INT	Non-MET	Non-C
ITI19	Siena	RUR	Non-MET	Non-C
ITI1A	Grosseto	RUR	Non-MET	MED
ITI21	Perugia	INT	Non-MET	Non-C
ITI22	Terni	INT	Non-MET	Non-C
ITI31	Pesaro e Urbino	INT	Non-MET	MED
ITI32	Ancona	INT	Non-MET	MED
ITI33	Macerata	INT	Non-MET	MED
ITI34	Ascoli Piceno	INT	Non-MET	MED
ITI35	Fermo	INT	Non-MET	MED
ITI41	Viterbo	RUR	Non-MET	MED
ITI42	Rieti	RUR	Non-MET	Non-C
ITI43	Roma	URB	MET	MED
ITI44	Latina	INT	Non-MET	MED
ITI45	Frosinone	INT	Non-MET	MED
CY000	Κύπρος	INT	MET	MED
LV003	Kurzeme	INT	Non-MET	BAL
LV005	Latgale	INT	Non-MET	Non-C
LV006	Rīga	URB	MET	BAL
LV007	Pierīga	INT	MET	BAL
LV008	Vidzeme	RUR	Non-MET	Non-C
LV009	Zemgale	RUR	Non-MET	Non-C
LT011	Vilniaus apskritis	URB	MET	Non-C
LT021	Alytaus apskritis	INT	Non-MET	Non-C
LT022	Kauno apskritis	INT	MET	Non-C
LT023	Klaipėdos apskritis	INT	Non-MET	BAL
LT024	Marijampolės apskritis	RUR	Non-MET	Non-C
LT025	Panevėžio apskritis	INT	Non-MET	Non-C
LT026	Šiaulių apskritis	INT	Non-MET	Non-C
LT027	Tauragės apskritis	RUR	Non-MET	Non-C
LT028	Telšių apskritis	INT	Non-MET	Non-C
LT029	Utenos apskritis	INT	Non-MET	Non-C
LU000	Luxembourg	INT	MET	Non-C
HU110	Budapest	URB	MET	Non-C
HU120	Pest	INT	MET	Non-C
HU211	Fejér	INT	MET	Non-C
HU212	Komárom-Esztergom	INT	Non-MET	Non-C
HU213	Veszprém	INT	Non-MET	Non-C
HU221	Győr-Moson-Sopron	INT	Non-MET	Non-C
HU222	Vas	INT	Non-MET	Non-C
HU223	Zala	RUR	Non-MET	Non-C
HU231	Baranya	INT	MET	Non-C
HU232	Somogy	RUR	Non-MET	Non-C
HU233	Tolna	RUR	Non-MET	Non-C
HU311	Borsod-Abaúj-Zemplén	INT	MET	Non-C
HU312	Heves	RUR	Non-MET	Non-C
HU313	Nógrád	RUR	Non-MET	Non-C
HU321	Hajdú-Bihar	INT	MET	Non-C
HU322	Jász-Nagykun-Szolnok	INT	Non-MET	Non-C
HU323	Szabolcs-Szatmár-Bereg	RUR	Non-MET	Non-C
HU331	Bács-Kiskun	INT	Non-MET	Non-C
HU332	Békés	INT	Non-MET	Non-C

Code	Label	Urban-rural typology	Metro-politan typology	Coastal typology
HU333	Csongrád	INT	Non-MET	Non-C
MT001	Malta	URB	MET	MED
MT002	Gozo and Comino/Għawdex u Kemmuna	URB	Non-MET	MED
NL111	Oost-Groningen	INT	Non-MET	NOR
NL112	Delfzijl en omgeving	INT	MET	NOR
NL113	Overig Groningen	INT	MET	NOR
NL124	Noord-Friesland	INT	MET	NOR
NL125	Zuidwest-Friesland	INT	Non-MET	NOR
NL126	Zuidoost-Friesland	INT	Non-MET	NOR
NL131	Noord-Drenthe	INT	Non-MET	NOR
NL132	Zuidoost-Drenthe	INT	Non-MET	Non-C
NL133	Zuidwest-Drenthe	INT	Non-MET	Non-C
NL211	Noord-Overijssel	INT	MET	Non-C
NL212	Zuidwest-Overijssel	INT	Non-MET	Non-C
NL213	Twente	URB	MET	Non-C
NL221	Veluwe	URB	Non-MET	Non-C
NL224	Zuidwest-Gelderland	INT	Non-MET	Non-C
NL225	Achterhoek	INT	Non-MET	Non-C
NL226	Arnhem/Nijmegen	URB	MET	Non-C
NL230	Flevoland	URB	MET	Non-C
NL310	Utrecht	URB	MET	Non-C
NL321	Kop van Noord-Holland	URB	MET	NOR
NL323	IJmond	URB	MET	NOR
NL324	Agglomeratie Haarlem	URB	MET	NOR
NL325	Zaanstreek	URB	MET	NOR
NL327	Het Gooi en Vechtstreek	URB	MET	NOR
NL328	Alkmaar en omgeving	URB	MET	NOR
NL329	Groot-Amsterdam	URB	MET	NOR
NL332	Agglomeratie 's-Gravenhage	URB	MET	NOR
NL333	Delft en Westland	URB	MET	NOR
NL337	Agglomeratie Leiden en Bollenstreek	URB	MET	NOR
NL33A	Zuidoost-Zuid-Holland	URB	MET	Non-C
NL33B	Oost-Zuid-Holland	URB	Non-MET	NOR
NL33C	Groot-Rijnmond	URB	MET	NOR
NL341	Zeeuwsch-Vlaanderen	RUR	Non-MET	NOR
NL342	Overig Zeeland	INT	Non-MET	NOR
NL411	West-Noord-Brabant	URB	MET	NOR
NL412	Midden-Noord-Brabant	URB	MET	Non-C
NL413	Noordoost-Noord-Brabant	INT	Non-MET	Non-C
NL414	Zuidoost-Noord-Brabant	URB	MET	Non-C
NL421	Noord-Limburg	INT	Non-MET	Non-C
NL422	Midden-Limburg	INT	Non-MET	Non-C
NL423	Zuid-Limburg	URB	Non-MET	Non-C
AT111	Mittelburgenland	RUR	Non-MET	Non-C
AT112	Nordburgenland	RUR	MET	Non-C
AT113	Südburgenland	RUR	Non-MET	Non-C
AT121	Mostviertel-Eisenwurzen	RUR	Non-MET	Non-C
AT122	Niederösterreich-Süd	INT	Non-MET	Non-C
AT123	Sankt Pölten	RUR	Non-MET	Non-C
AT124	Waldviertel	RUR	Non-MET	Non-C
AT125	Weinviertel	RUR	MET	Non-C
AT126	Wiener Umland/Nordteil	URB	MET	Non-C
AT127	Wiener Umland/Südteil	INT	MET	Non-C
AT130	Wien	URB	MET	Non-C
AT211	Klagenfurt-Villach	INT	Non-MET	Non-C
AT212	Oberkärnten	RUR	Non-MET	Non-C
AT213	Unterkärnten	RUR	Non-MET	Non-C
AT221	Graz	INT	MET	Non-C
AT222	Liezen	RUR	Non-MET	Non-C
AT223	Östliche Obersteiermark	INT	Non-MET	Non-C
AT224	Oststeiermark	RUR	Non-MET	Non-C
AT225	West- und Südsteiermark	RUR	MET	Non-C
AT226	Westliche Obersteiermark	RUR	Non-MET	Non-C
AT311	Innviertel	RUR	Non-MET	Non-C
AT312	Linz-Wels	INT	MET	Non-C

Code	Label	Urban-rural typology	Metro-politan typology	Coastal typology
AT313	Mühlviertel	RUR	MET	Non-C
AT314	Steyr-Kirchdorf	RUR	Non-MET	Non-C
AT315	Traunviertel	RUR	Non-MET	Non-C
AT321	Lungau	RUR	Non-MET	Non-C
AT322	Pinzgau-Pongau	RUR	Non-MET	Non-C
AT323	Salzburg und Umgebung	INT	MET	Non-C
AT331	Außerfern	RUR	Non-MET	Non-C
AT332	Innsbruck	URB	MET	Non-C
AT333	Osttirol	RUR	Non-MET	Non-C
AT334	Tiroler Oberland	RUR	Non-MET	Non-C
AT335	Tiroler Unterland	RUR	Non-MET	Non-C
AT341	Bludenz-Bregenzer Wald	RUR	Non-MET	Non-C
AT342	Rheintal-Bodenseegebiet	URB	Non-MET	Non-C
PL213	Miasto Kraków	URB	MET	Non-C
PL214	Krakowski	INT	MET	Non-C
PL217	Tarnowski	RUR	MET	Non-C
PL218	Nowosądecki	RUR	Non-MET	Non-C
PL219	Nowotarski	RUR	Non-MET	Non-C
PL21A	Oświęcimski	INT	Non-MET	Non-C
PL224	Częstochowski	INT	MET	Non-C
PL225	Bielski	INT	MET	Non-C
PL227	Rybnicki	URB	Non-MET	Non-C
PL228	Bytomski	URB	MET	Non-C
PL229	Gliwicki	URB	MET	Non-C
PL22A	Katowicki	URB	MET	Non-C
PL22B	Sosnowiecki	URB	MET	Non-C
PL22C	Tyski	URB	MET	Non-C
PL411	Pilski	RUR	Non-MET	Non-C
PL414	Koniński	RUR	Non-MET	Non-C
PL415	Miasto Poznań	URB	MET	Non-C
PL416	Kaliski	RUR	Non-MET	Non-C
PL417	Leszczyński	RUR	Non-MET	Non-C
PL418	Poznański	INT	MET	Non-C
PL424	Miasto Szczecin	INT	MET	BAL
PL426	Koszaliński	INT	Non-MET	BAL
PL427	Szczecinecko-pyrzycki	RUR	Non-MET	BAL
PL428	Szczeciński	INT	Non-MET	BAL
PL431	Gorzowski	INT	Non-MET	Non-C
PL432	Zielonogórski	INT	Non-MET	Non-C
PL514	Miasto Wrocław	URB	MET	Non-C
PL515	Jeleniogórski	INT	Non-MET	Non-C
PL516	Legnicko-głogowski	INT	Non-MET	Non-C
PL517	Wałbrzyski	INT	Non-MET	Non-C
PL518	Wrocławski	INT	Non-MET	Non-C
PL523	Nyski	RUR	Non-MET	Non-C
PL524	Opolski	INT	MET	Non-C
PL613	Bydgosko-toruński	URB	MET	Non-C
PL616	Grudziądzki	RUR	Non-MET	Non-C
PL617	Inowrocławski	RUR	Non-MET	Non-C
PL618	Świecki	RUR	Non-MET	Non-C
PL619	Włocławski	RUR	Non-MET	Non-C
PL621	Elbląski	INT	Non-MET	BAL
PL622	Olsztyński	INT	MET	Non-C
PL623	Ełcki	INT	Non-MET	Non-C
PL633	Trójmiejski	URB	MET	BAL
PL634	Gdański	INT	MET	BAL
PL636	Słupski	INT	Non-MET	BAL
PL637	Chojnicki	RUR	Non-MET	Non-C
PL638	Starogardzki	INT	Non-MET	Non-C
PL711	Miasto Łódź	URB	MET	Non-C
PL712	Łódzki	URB	MET	Non-C
PL713	Piotrkowski	RUR	Non-MET	Non-C
PL714	Sieradzki	RUR	Non-MET	Non-C
PL715	Skierniewicki	RUR	Non-MET	Non-C
PL721	Kielecki	INT	MET	Non-C
PL722	Sandomiersko-jędrzejowski	RUR	Non-MET	Non-C

Code	Label	Urban-rural typology	Metro-politan typology	Coastal typology
PL811	Bialski	RUR	Non-MET	Non-C
PL812	Chełmsko-zamojski	RUR	Non-MET	Non-C
PL814	Lubelski	INT	MET	Non-C
PL815	Puławski	RUR	Non-MET	Non-C
PL821	Krośnieński	RUR	Non-MET	Non-C
PL822	Przemyski	RUR	Non-MET	Non-C
PL823	Rzeszowski	RUR	MET	Non-C
PL824	Tarnobrzeski	RUR	Non-MET	Non-C
PL841	Białostocki	INT	MET	Non-C
PL842	Łomżyński	RUR	Non-MET	Non-C
PL843	Suwalski	RUR	Non-MET	Non-C
PL911	Miasto Warszawa	URB	MET	Non-C
PL912	Warszawski wschodni	INT	MET	Non-C
PL913	Warszawski zachodni	INT	MET	Non-C
PL921	Radomski	INT	MET	Non-C
PL922	Ciechanowski	RUR	Non-MET	Non-C
PL923	Płocki	RUR	Non-MET	Non-C
PL924	Ostrołęcki	RUR	Non-MET	Non-C
PL925	Siedlecki	RUR	Non-MET	Non-C
PL926	Żyrardowski	RUR	Non-MET	Non-C
PT111	Alto Minho	RUR	Non-MET	NEA
PT112	Cávado	INT	Non-MET	NEA
PT119	Ave	INT	Non-MET	NEA
PT11A	Área Metropolitana do Porto	URB	MET	NEA
PT11B	Alto Tâmega	RUR	Non-MET	Non-C
PT11C	Tâmega e Sousa	INT	Non-MET	NEA
PT11D	Douro	RUR	Non-MET	Non-C
PT11E	Terras de Trás-os-Montes	RUR	Non-MET	Non-C
PT150	Algarve	INT	Non-MET	NEA
PT16B	Oeste	RUR	Non-MET	NEA
PT16D	Região de Aveiro	INT	Non-MET	NEA
PT16E	Região de Coimbra	RUR	MET	NEA
PT16F	Região de Leiria	RUR	Non-MET	NEA
PT16G	Viseu Dão Lafões	RUR	Non-MET	Non-C
PT16H	Beira Baixa	RUR	Non-MET	Non-C
PT16I	Médio Tejo	RUR	Non-MET	Non-C
PT16J	Beiras e Serra da Estrela	RUR	Non-MET	Non-C
PT170	Área Metropolitana de Lisboa	URB	MET	NEA
PT181	Alentejo Litoral	RUR	Non-MET	NEA
PT184	Baixo Alentejo	RUR	Non-MET	Non-C
PT185	Lezíria do Tejo	RUR	Non-MET	NEA
PT186	Alto Alentejo	RUR	Non-MET	Non-C
PT187	Alentejo Central	RUR	Non-MET	Non-C
PT200	Região Autónoma dos Açores	INT	Non-MET	OUT
PT300	Região Autónoma da Madeira	URB	Non-MET	OUT
RO111	Bihor	RUR	Non-MET	Non-C
RO112	Bistrița-Năsăud	RUR	Non-MET	Non-C
RO113	Cluj	INT	MET	Non-C
RO114	Maramureş	RUR	Non-MET	Non-C
RO115	Satu Mare	RUR	Non-MET	Non-C
RO116	Sălaj	RUR	Non-MET	Non-C
RO121	Alba	RUR	Non-MET	Non-C
RO122	Braşov	INT	MET	Non-C
RO123	Covasna	RUR	Non-MET	Non-C
RO124	Harghita	RUR	Non-MET	Non-C
RO125	Mureş	RUR	Non-MET	Non-C
RO126	Sibiu	INT	Non-MET	Non-C
RO211	Bacău	RUR	Non-MET	Non-C
RO212	Botoşani	RUR	Non-MET	Non-C
RO213	Iaşi	INT	MET	Non-C
RO214	Neamț	RUR	Non-MET	Non-C
RO215	Suceava	RUR	Non-MET	Non-C
RO216	Vaslui	RUR	Non-MET	Non-C
RO221	Brăila	INT	Non-MET	Non-C
RO222	Buzău	RUR	Non-MET	Non-C
RO223	Constanța	INT	MET	BLK

Code	Label	Urban-rural typology	Metro-politan typology	Coastal typology
RO224	Galați	INT	MET	Non-C
RO225	Tulcea	RUR	Non-MET	BLK
RO226	Vrancea	RUR	Non-MET	Non-C
RO311	Argeş	RUR	Non-MET	Non-C
RO312	Călăraşi	RUR	Non-MET	Non-C
RO313	Dâmbovița	RUR	Non-MET	Non-C
RO314	Giurgiu	RUR	Non-MET	Non-C
RO315	Ialomița	RUR	Non-MET	Non-C
RO316	Prahova	INT	MET	Non-C
RO317	Teleorman	RUR	Non-MET	Non-C
RO321	Bucureşti	URB	MET	Non-C
RO322	Ilfov	URB	MET	Non-C
RO411	Dolj	INT	MET	Non-C
RO412	Gorj	RUR	Non-MET	Non-C
RO413	Mehedinți	RUR	Non-MET	Non-C
RO414	Olt	RUR	Non-MET	Non-C
RO415	Vâlcea	RUR	Non-MET	Non-C
RO421	Arad	INT	Non-MET	Non-C
RO422	Caraş-Severin	RUR	Non-MET	Non-C
RO423	Hunedoara	INT	Non-MET	Non-C
RO424	Timiş	INT	MET	Non-C
SI031	Pomurska	RUR	Non-MET	Non-C
SI032	Podravska	RUR	MET	Non-C
SI033	Koroška	RUR	Non-MET	Non-C
SI034	Savinjska	RUR	Non-MET	Non-C
SI035	Zasavska	RUR	Non-MET	Non-C
SI036	Posavska	RUR	Non-MET	Non-C
SI037	Jugovzhodna Slovenija	RUR	Non-MET	Non-C
SI038	Primorsko-notranjska	RUR	Non-MET	MED
SI041	Osrednjeslovenska	INT	MET	Non-C
SI042	Gorenjska	INT	Non-MET	Non-C
SI043	Goriška	RUR	Non-MET	MED
SI044	Obalno-kraška	INT	Non-MET	MED
SK010	Bratislavský kraj	URB	MET	Non-C
SK021	Trnavský kraj	RUR	Non-MET	Non-C
SK022	Trenčiansky kraj	INT	Non-MET	Non-C
SK023	Nitriansky kraj	INT	Non-MET	Non-C
SK031	Žilinský kraj	INT	Non-MET	Non-C
SK032	Banskobystrický kraj	RUR	Non-MET	Non-C
SK041	Prešovský kraj	RUR	Non-MET	Non-C
SK042	Košický kraj	INT	MET	Non-C
FI193	Keski-Suomi	RUR	Non-MET	Non-C
FI194	Etelä-Pohjanmaa	RUR	Non-MET	Non-C
FI195	Pohjanmaa	RUR	Non-MET	BAL
FI196	Satakunta	RUR	Non-MET	BAL
FI197	Pirkanmaa	INT	MET	Non-C
FI1B1	Helsinki-Uusimaa	URB	MET	BAL
FI1C1	Varsinais-Suomi	INT	MET	BAL
FI1C2	Kanta-Häme	INT	Non-MET	Non-C
FI1C3	Päijät-Häme	INT	Non-MET	Non-C
FI1C4	Kymenlaakso	INT	Non-MET	BAL
FI1C5	Etelä-Karjala	INT	Non-MET	BAL
FI1D1	Etelä-Savo	RUR	Non-MET	Non-C
FI1D2	Pohjois-Savo	RUR	Non-MET	Non-C
FI1D3	Pohjois-Karjala	RUR	Non-MET	Non-C
FI1D5	Keski-Pohjanmaa	RUR	Non-MET	BAL
FI1D7	Lappi	RUR	Non-MET	BAL
FI1D8	Kainuu	RUR	Non-MET	Non-C
FI1D9	Pohjois-Pohjanmaa	RUR	Non-MET	BAL
FI200	Åland	RUR	Non-MET	BAL
SE110	Stockholms län	URB	MET	BAL
SE121	Uppsala län	INT	MET	BAL
SE122	Södermanlands län	INT	Non-MET	BAL
SE123	Östergötlands län	INT	Non-MET	BAL
SE124	Örebro län	INT	Non-MET	Non-C
SE125	Västmanlands län	INT	Non-MET	Non-C

Code	Label	Urban-rural typology	Metro-politan typology	Coastal typology
SE211	Jönköpings län	INT	Non-MET	Non-C
SE212	Kronobergs län	RUR	Non-MET	Non-C
SE213	Kalmar län	RUR	Non-MET	BAL
SE214	Gotlands län	RUR	Non-MET	BAL
SE221	Blekinge län	INT	Non-MET	BAL
SE224	Skåne län	INT	MET	BAL
SE231	Hallands län	INT	Non-MET	NOR
SE232	Västra Götalands län	URB	MET	NOR
SE311	Värmlands län	INT	Non-MET	Non-C
SE312	Dalarnas län	RUR	Non-MET	Non-C
SE313	Gävleborgs län	INT	Non-MET	BAL
SE321	Västernorrlands län	INT	Non-MET	BAL
SE322	Jämtlands län	RUR	Non-MET	Non-C
SE331	Västerbottens län	INT	Non-MET	BAL
SE332	Norrbottens län	INT	Non-MET	BAL
UKC11	Hartlepool and Stockton-on-Tees	URB	MET	NOR
UKC12	South Teesside	URB	MET	NOR
UKC13	Darlington	URB	Non-MET	NOR
UKC14	Durham CC	URB	Non-MET	NOR
UKC21	Northumberland	INT	MET	NOR
UKC22	Tyneside	URB	MET	NOR
UKC23	Sunderland	URB	MET	NOR
UKD11	West Cumbria	INT	Non-MET	NEA
UKD12	East Cumbria	INT	Non-MET	NEA
UKD33	Manchester	URB	MET	Non-C
UKD34	Greater Manchester South West	URB	MET	Non-C
UKD35	Greater Manchester South East	URB	MET	Non-C
UKD36	Greater Manchester North West	URB	MET	NEA
UKD37	Greater Manchester North East	URB	MET	Non-C
UKD41	Blackburn with Darwen	URB	MET	NEA
UKD42	Blackpool	URB	MET	NEA
UKD44	Lancaster and Wyre	URB	Non-MET	NEA
UKD45	Mid Lancashire	URB	MET	NEA
UKD46	East Lancashire	URB	Non-MET	Non-C
UKD47	Chorley and West Lancashire	URB	MET	NEA
UKD61	Warrington	URB	Non-MET	NOR
UKD62	Cheshire East	URB	MET	NOR
UKD63	Cheshire West and Chester	URB	MET	NOR
UKD71	East Merseyside	URB	MET	NOR
UKD72	Liverpool	URB	MET	NOR
UKD73	Sefton	URB	MET	NOR
UKD74	Wirral	URB	MET	NOR
UKE11	Kingston upon Hull, City of	URB	MET	NOR
UKE12	East Riding of Yorkshire	URB	MET	NOR
UKE13	North and North East Lincolnshire	INT	Non-MET	NOR
UKE21	York	INT	Non-MET	NOR
UKE22	North Yorkshire CC	INT	MET	NOR
UKE31	Barnsley, Doncaster and Rotherham	URB	MET	Non-C
UKE32	Sheffield	URB	MET	Non-C
UKE41	Bradford	URB	MET	Non-C
UKE42	Leeds	URB	MET	Non-C
UKE44	Calderdale and Kirklees	URB	MET	Non-C
UKE45	Wakefield	URB	MET	Non-C
UKF11	Derby	URB	MET	Non-C
UKF12	East Derbyshire	URB	Non-MET	Non-C
UKF13	South and West Derbyshire	URB	MET	Non-C
UKF14	Nottingham	URB	MET	Non-C
UKF15	North Nottinghamshire	URB	Non-MET	Non-C
UKF16	South Nottinghamshire	URB	MET	Non-C
UKF21	Leicester	URB	MET	Non-C
UKF22	Leicestershire CC and Rutland	URB	MET	Non-C
UKF24	West Northamptonshire	INT	MET	Non-C
UKF25	North Northamptonshire	URB	Non-MET	Non-C
UKF30	Lincolnshire	INT	Non-MET	NOR
UKG11	Herefordshire, County of	RUR	Non-MET	NEA
UKG12	Worcestershire	INT	Non-MET	Non-C

Code	Label	Urban-rural typology	Metro-politan typology	Coastal typology
UKG13	Warwickshire	URB	MET	Non-C
UKG21	Telford and Wrekin	INT	Non-MET	Non-C
UKG22	Shropshire CC	INT	Non-MET	Non-C
UKG23	Stoke-on-Trent	URB	MET	Non-C
UKG24	Staffordshire CC	URB	MET	Non-C
UKG31	Birmingham	URB	MET	Non-C
UKG32	Solihull	URB	MET	Non-C
UKG33	Coventry	URB	MET	Non-C
UKG36	Dudley	URB	MET	Non-C
UKG37	Sandwell	URB	MET	Non-C
UKG38	Walsall	URB	MET	Non-C
UKG39	Wolverhampton	URB	MET	Non-C
UKH11	Peterborough	URB	Non-MET	NOR
UKH12	Cambridgeshire CC	INT	MET	Non-C
UKH14	Suffolk	INT	MET	NOR
UKH15	Norwich and East Norfolk	URB	MET	NOR
UKH16	North and West Norfolk	RUR	Non-MET	NOR
UKH17	Breckland and South Norfolk	RUR	Non-MET	NOR
UKH21	Luton	URB	Non-MET	Non-C
UKH23	Hertfordshire	URB	MET	Non-C
UKH24	Bedford	URB	Non-MET	Non-C
UKH25	Central Bedfordshire	URB	Non-MET	Non-C
UKH31	Southend-on-Sea	URB	MET	NOR
UKH32	Thurrock	URB	MET	NOR
UKH34	Essex Haven Gateway	INT	MET	NOR
UKH35	West Essex	INT	MET	Non-C
UKH36	Heart of Essex	URB	MET	NOR
UKH37	Essex Thames Gateway	URB	MET	NOR
UKI31	Camden and City of London	URB	MET	Non-C
UKI32	Westminster	URB	MET	Non-C
UKI33	Kensington & Chelsea and Hammersmith & Fulham	URB	MET	Non-C
UKI34	Wandsworth	URB	MET	Non-C
UKI41	Hackney and Newham	URB	MET	Non-C
UKI42	Tower Hamlets	URB	MET	Non-C
UKI43	Haringey and Islington	URB	MET	Non-C
UKI44	Lewisham and Southwark	URB	MET	Non-C
UKI45	Lambeth	URB	MET	Non-C
UKI51	Bexley and Greenwich	URB	MET	Non-C
UKI52	Barking & Dagenham and Havering	URB	MET	NOR
UKI53	Redbridge and Waltham Forest	URB	MET	Non-C
UKI54	Enfield	URB	MET	Non-C
UKI61	Bromley	URB	MET	Non-C
UKI62	Croydon	URB	MET	Non-C
UKI63	Merton, Kingston upon Thames and Sutton	URB	MET	Non-C
UKI71	Barnet	URB	MET	Non-C
UKI72	Brent	URB	MET	Non-C
UKI73	Ealing	URB	MET	Non-C
UKI74	Harrow and Hillingdon	URB	MET	Non-C
UKI75	Hounslow and Richmond upon Thames	URB	MET	Non-C
UKJ11	Berkshire	URB	MET	Non-C
UKJ12	Milton Keynes	URB	Non-MET	Non-C
UKJ13	Buckinghamshire CC	INT	Non-MET	Non-C
UKJ14	Oxfordshire	INT	MET	Non-C
UKJ21	Brighton and Hove	URB	MET	NEA
UKJ22	East Sussex CC	INT	Non-MET	NEA
UKJ25	West Surrey	URB	MET	Non-C
UKJ26	East Surrey	URB	MET	Non-C
UKJ27	West Sussex (South West)	URB	Non-MET	NEA
UKJ28	West Sussex (North East)	URB	Non-MET	NEA
UKJ31	Portsmouth	URB	MET	NEA
UKJ32	Southampton	URB	MET	NEA
UKJ34	Isle of Wight	INT	Non-MET	NEA
UKJ35	South Hampshire	URB	MET	NEA

Code	Label	Urban-rural typology	Metro-politan typology	Coastal typology
UKJ36	Central Hampshire	URB	MET	NEA
UKJ37	North Hampshire	URB	Non-MET	Non-C
UKJ41	Medway	URB	MET	NOR
UKJ43	Kent Thames Gateway	URB	MET	NOR
UKJ44	East Kent	URB	Non-MET	NEA
UKJ45	Mid Kent	INT	Non-MET	NEA
UKJ46	West Kent	INT	MET	Non-C
UKK11	Bristol, City of	URB	MET	NEA
UKK12	Bath and North East Somerset, North Somerset and South Gloucestershire	URB	MET	NEA
UKK13	Gloucestershire	INT	Non-MET	NEA
UKK14	Swindon	INT	Non-MET	Non-C
UKK15	Wiltshire CC	INT	Non-MET	NEA
UKK21	Bournemouth and Poole	URB	MET	NEA
UKK22	Dorset CC	URB	Non-MET	NEA
UKK23	Somerset	INT	Non-MET	NEA
UKK30	Cornwall and Isles of Scilly	INT	Non-MET	NEA
UKK41	Plymouth	URB	MET	NEA
UKK42	Torbay	URB	Non-MET	NEA
UKK43	Devon CC	URB	MET	NEA
UKL11	Isle of Anglesey	RUR	Non-MET	NEA
UKL12	Gwynedd	RUR	Non-MET	NEA
UKL13	Conwy and Denbighshire	INT	Non-MET	NEA
UKL14	South West Wales	RUR	Non-MET	NEA
UKL15	Central Valleys	URB	MET	NEA
UKL16	Gwent Valleys	URB	MET	NEA
UKL17	Bridgend and Neath Port Talbot	URB	MET	NEA
UKL18	Swansea	URB	MET	NEA
UKL21	Monmouthshire and Newport	URB	Non-MET	NEA
UKL22	Cardiff and Vale of Glamorgan	URB	MET	NEA
UKL23	Flintshire and Wrexham	URB	MET	NEA
UKL24	Powys	RUR	Non-MET	NEA
UKM50	Aberdeen City and Aberdeenshire	INT	MET	NOR
UKM61	Caithness & Sutherland and Ross & Cromarty	RUR	Non-MET	NOR
UKM62	Inverness & Nairn and Moray, Badenoch & Strathspey	INT	Non-MET	NOR
UKM63	Lochaber, Skye & Lochalsh, Arran & Cumbrae and Argyll & Bute	RUR	Non-MET	NEA
UKM64	Na h-Eileanan Siar (Western Isles)	RUR	Non-MET	NEA
UKM65	Orkney Islands	RUR	Non-MET	NOR
UKM66	Shetland Islands	RUR	Non-MET	NOR
UKM71	Angus and Dundee City	URB	MET	NOR
UKM72	Clackmannanshire and Fife	URB	Non-MET	NOR
UKM73	East Lothian and Midlothian	URB	MET	NOR
UKM75	Edinburgh, City of	URB	MET	NOR
UKM76	Falkirk	URB	Non-MET	NOR
UKM77	Perth & Kinross and Stirling	INT	Non-MET	NOR
UKM78	West Lothian	URB	MET	NOR
UKM81	East Dunbartonshire, West Dunbartonshire and Helensburgh & Lomond	URB	MET	NEA
UKM82	Glasgow City	URB	MET	NEA
UKM83	Inverclyde, East Renfrewshire and Renfrewshire	URB	MET	NEA
UKM84	North Lanarkshire	URB	MET	NEA
UKM91	Scottish Borders	RUR	Non-MET	NOR
UKM92	Dumfries & Galloway	RUR	Non-MET	NEA
UKM93	East Ayrshire and North Ayrshire mainland	INT	Non-MET	NEA
UKM94	South Ayrshire	INT	Non-MET	NEA
UKM95	South Lanarkshire	URB	MET	NEA
UKN06	Belfast	URB	MET	NEA
UKN07	Armagh City, Banbridge and Craigavon	INT	Non-MET	NEA
UKN08	Newry, Mourne and Down	RUR	Non-MET	NEA
UKN09	Ards and North Down	URB	MET	NEA
UKN10	Derry City and Strabane	INT	Non-MET	NEA
UKN11	Mid Ulster	RUR	Non-MET	Non-C
UKN12	Causeway Coast and Glens	RUR	Non-MET	NEA
UKN13	Antrim and Newtownabbey	INT	MET	NEA
UKN14	Lisburn and Castlereagh	URB	MET	NEA
UKN15	Mid and East Antrim	INT	Non-MET	NEA
UKN16	Fermanagh and Omagh	RUR	Non-MET	NEA

Abbreviations, acronyms and symbols

EU	European Union
EU-28	European Union (as of 01.07.2013)
BE	Belgium
BG	Bulgaria
CZ	Czechia
DK	Denmark
DE	Germany
EE	Estonia
IE	Ireland
EL	Greece
ES	Spain
FR	France
HR	Croatia
IT	Italy
CY	Cyprus
LV	Latvia
LT	Lithuania
LU	Luxembourg
HU	Hungary
MT	Malta
NL	Netherlands
AT	Austria
PL	Poland
PT	Portugal
RO	Romania
SI	Slovenia
SK	Slovakia
FI	Finland
SE	Sweden
UK	United Kingdom
IS	Iceland
LI	Liechtenstein
NO	Norway
CH	Switzerland
Arr.	Arrondissement (administrative unit in Belgium)
BAL	Baltic Sea
BLK	Black Sea
CIESIN	Center for International Earth Science Information Network (at Columbia University)
COM	Communication (of the European Commission)
DEM	Digital elevation model
EAFRD	European agricultural fund for rural development
EC	European Commission
EFTA	European Free Trade Association
EFGS	European Forum for Geography and Statistics
ERDF	European Regional Development Fund
ESF	European Social Fund
ESS	European statistical system
EU-SILC	EU statistics on income and living conditions
FAO	Food and Agriculture Organisation (of the United Nations)
FUA	Functional urban area
GDP	Gross domestic product
GHS	Global human settlement (population grid)
GHSL	Global human settlement layer
GIS	Geographic information systems
GISCO	Geographical information system of the (European) Commission
GSGF	Global Statistical Geospatial Framework
INSPIRE	Infrastructure for spatial information in Europe
INT	Intermediate region
JRC	Joint Research Centre (of the European Commission)
LAU	Local administrative unit
LAU2	Local administrative unit at level 2
LFS	Labour force survey
MED	Mediterranean Sea
MET	Metropolitan region
NEA	North-East Atlantic Ocean
NGO	Non-governmental organisation
No	Number
Non-C	Non-coastal (regions)
Non-MET	Non-metropolitan region
NOR	North Sea
NUTS	Nomenclature of Territorial Units for Statistics
OECD	Organisation for Economic Co-operation and Development
OUT	Outermost regions
RCI	Regions and cities illustrated
RUR	Predominantly rural region
SDG	Sustainable development goal
TFEU	Treaty of the Functioning of the European Union
UN	United Nations
URB	Predominantly urban region
WP	Working party
%	Per cent
©	Copyright
billion	Thousand million or 10^9
EUR	Euro
inh.	Inhabitants
km	Kilometre
km^2	Square kilometre
m	Metre

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Methodologial manual on territorial typologies

2018 edition

This publication provides the information that data suppliers concerned with subnational statistics within the European Union (EU) need to ensure coherency and comparability. It also helps end-users to understand and interpret the wide range of official statistics that are available at a subnational level for different areas and regions of the EU.

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