United Nations Expert Group Meeting on Statistical Methodology for Delineating Cities and Rural Areas

FRANCISCO VALA | Statistics Portugal

New York, 28-30 January 2019

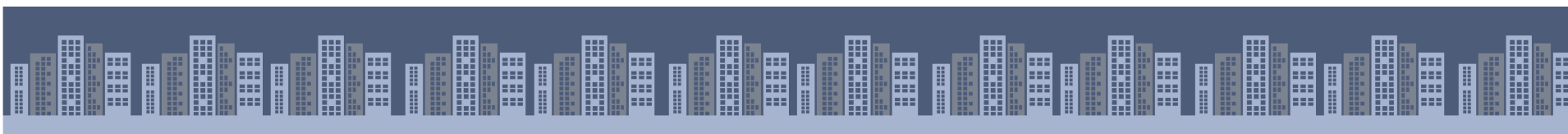# AGENDA

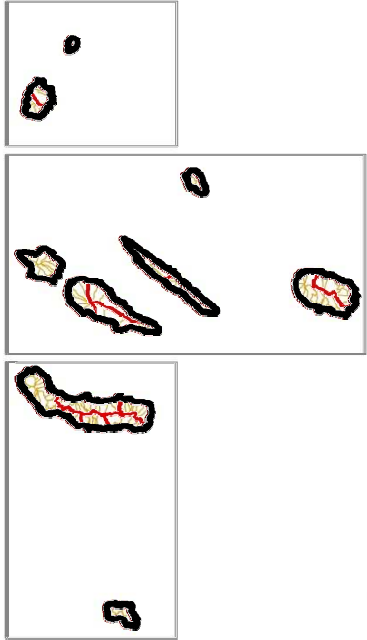**1** | National Definitions on urban and rural

2 | National definitions vs. DEGURBA
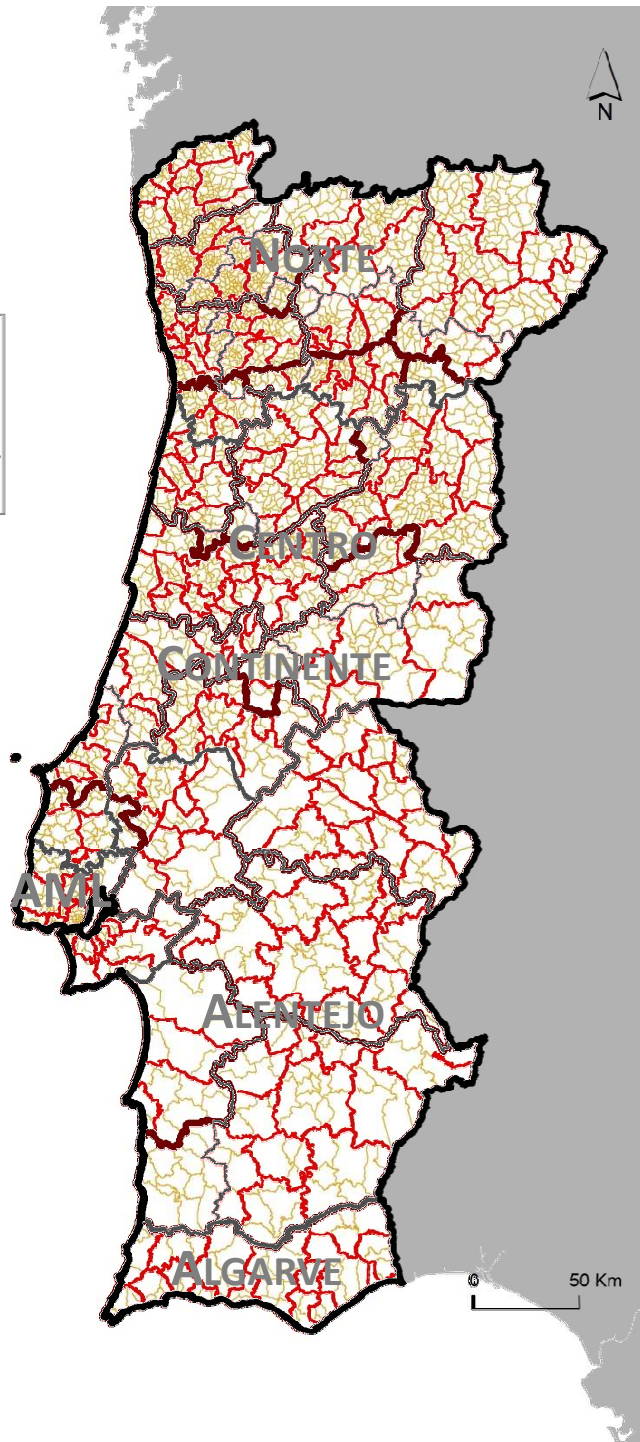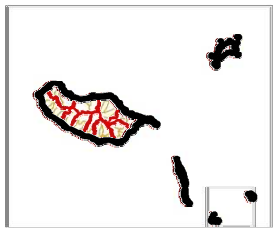
3 | Global DEGURBA : PT exercise

4 | Final remarks

R.A. Açores

R.A. Madeira

NORTE

CENTRO

CONTINENTE

AML

ALENTEJO

ALGARVE

N

50 Km

PT: Portugal

NUTS I: 3 regions
Mainland and 2 Autonomous Regions

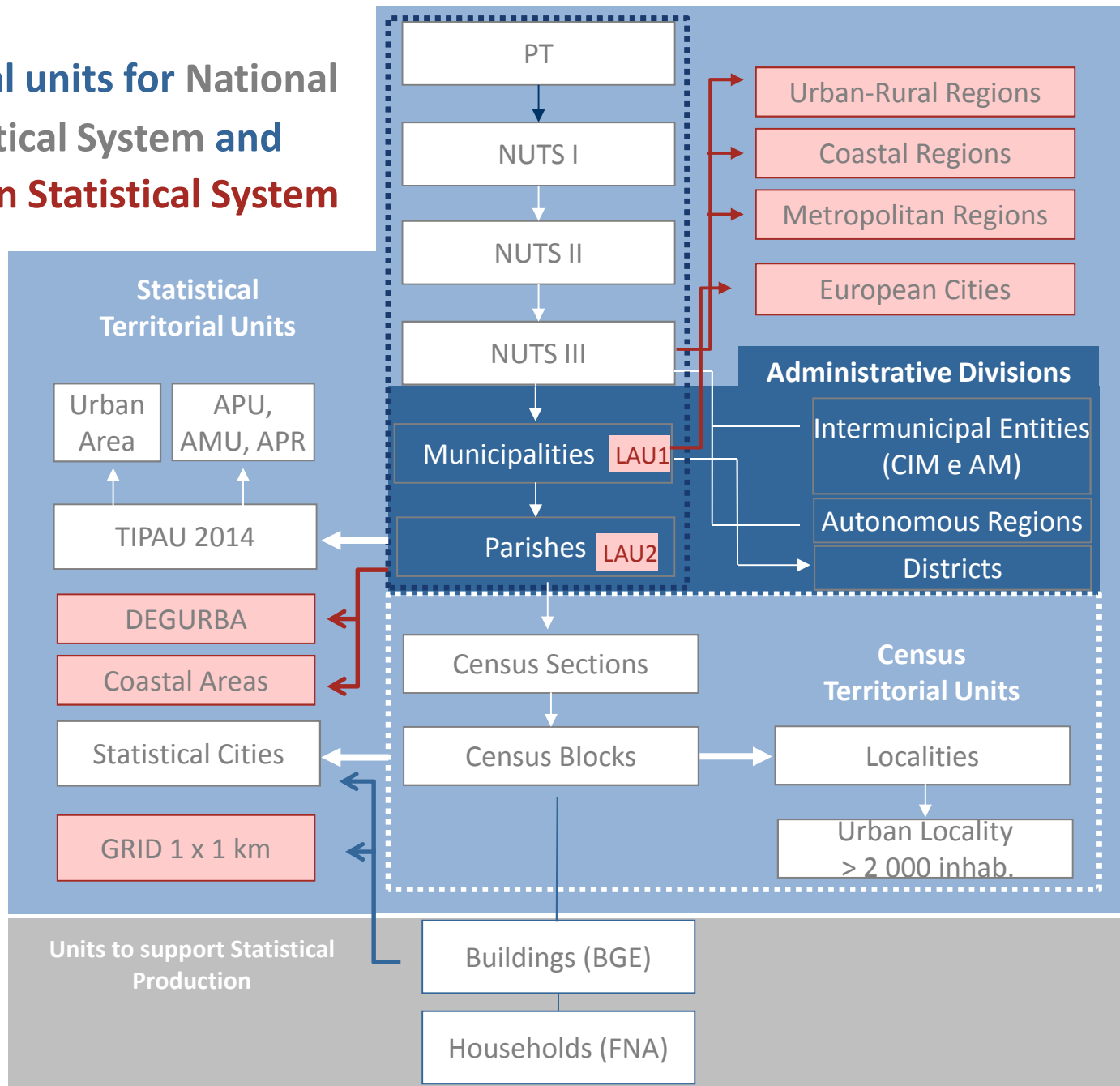**NUTS II**: 7 regions

NUTS III: 25 regions

Local Administrative Unit (LAU1): 308 Municipalities

Local Administrative Unit (LAU2): 3092 Parishes

NUTS + **Município** + Freguesia

Spatial references for statistical data

Territorial units for National Statistical System **and** **European Statistical System**

Statistical Territorial Units

Urban Area	APU, AMU, APR

TIPAU 2014

DEGURBA

Coastal Areas

Statistical Cities

GRID 1 x 1 km

PT

↓

NUTS I

↓

NUTS II

↓

NUTS III

↓

Municipalities LAU1

↓

Parishes LAU2

Urban-Rural Regions

Coastal Regions

Metropolitan Regions

European Cities

Administrative Divisions

Intermunicipal Entities (CIM e AM)

Autonomous Regions

Districts

Census Territorial Units

Census Sections

↓

Census Blocks → Localities

↓

Urban Locality > 2 000 inhab.

Units to support Statistical Production

Buildings (BGE)

Households (FNA)

1. National definitions on urban and rural

- **Urban locality**
  - ✓ Census locality with 2 thousand or more inhabitants

- **Statistical Cities**
  - ✓ administrative definition – localities with city status defined by law
  - ✓ urban perimeter as laid down in municipal land use plans and adapted to census blocks limits
  - ✓ delimitation results from a partnership between Statistics Portugal and municipalities
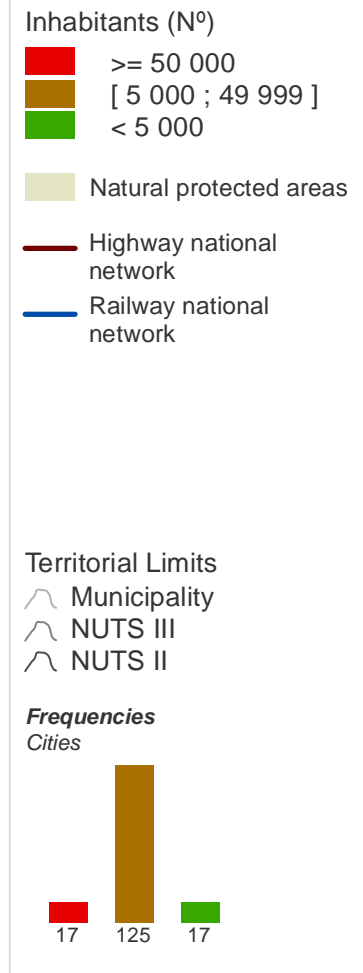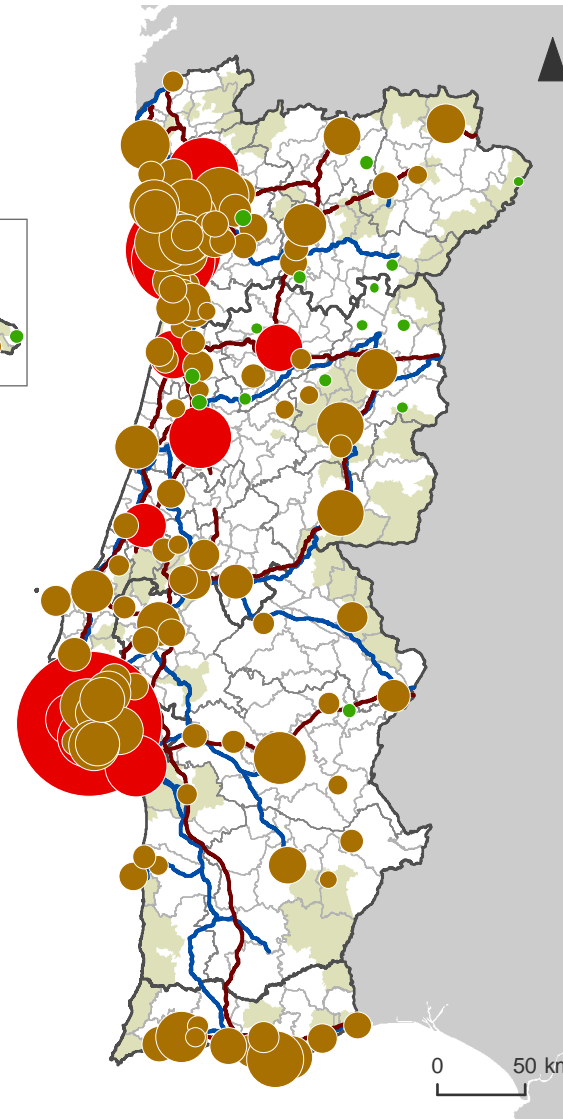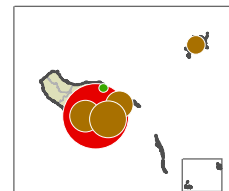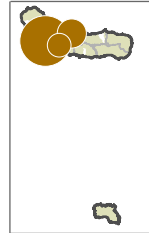 - ✓ Definition used for PT UN-Habitat III report (and metropolitan areas)

1.National definitions on urban and rural

✓ 49% of population living in coastal areas

✓ 42% of population living in Cities (159)

✓ Only seven cities with more than 100.000 inhab.

✓ 17 cities with less than 5.000 inhab.
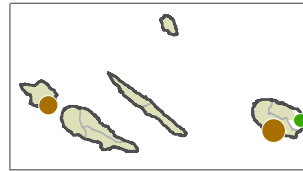
Inhabitants (Nº)

- >= 50 000
- [5 000 ; 49 999]
- < 5 000

Natural protected areas

Highway national network

Railway national network

Territorial Limits
- Municipality
- NUTS III
- NUTS II

Frequencies
Cities

17   125   17

0   50 km

1. National definitions on urban and rural

- **Urban/Rural Typology (TIPAU2014)**

  - ✓ Classifies Local Administrative Units (Parishes) into three categories:

    - ✓ predominantly urban areas (APU) → Urban Areas

    - ✓ medium urban areas (AMU)

    - ✓ predominantly rural areas (APR)

  - ✓ Based on the analysis of **census blocks**:

    - ✓ morphological criteria:

      - ✓ Population density: 100 – 500 ; > 500 inhab./km^2

      - ✓ Locality dimension: 2 000 – 5 000 ; > 5 000

    - ✓ administrative criteria: Urban land use in municipal plans

  - ✓ Location of Municipality Council
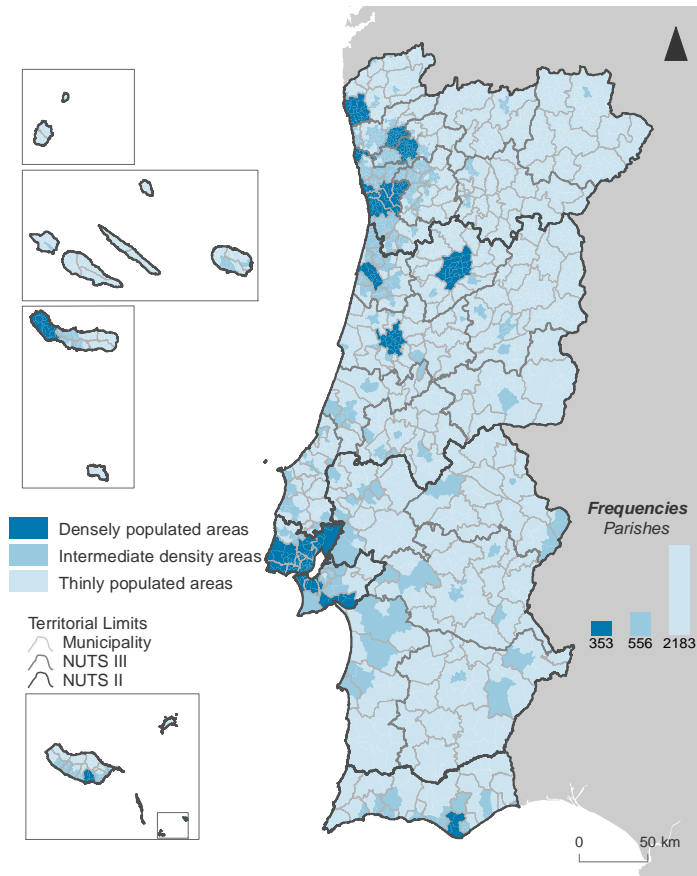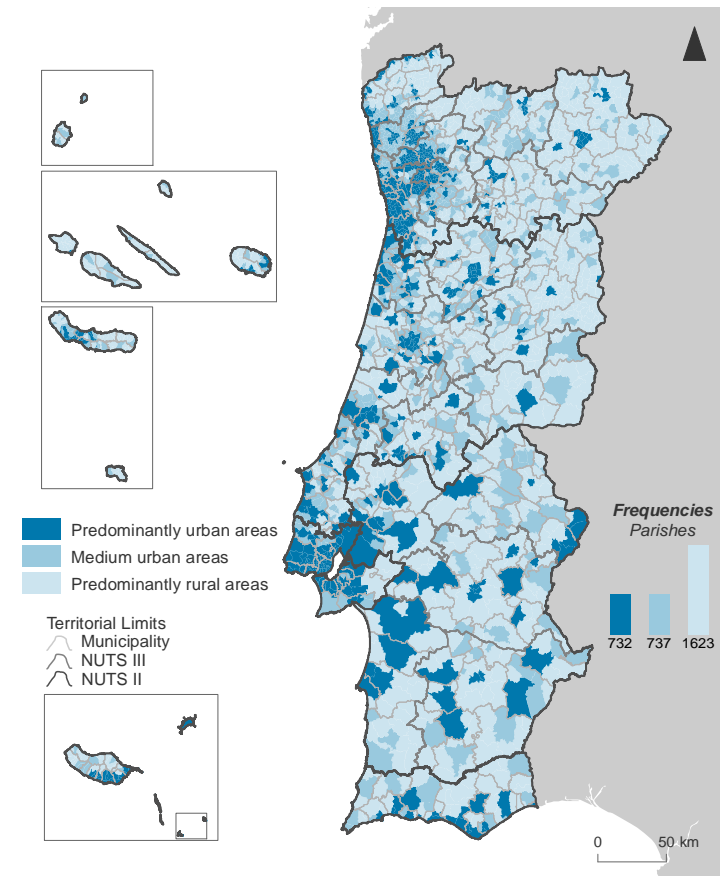
2. DEGURBA vs National Definitions

DEGURBA, Eurostat, 2016

Frequencies
Parishes

- Densely populated areas
- Intermediate density areas
- Thinly populated areas

Territorial Limits
Municipality
NUTS III
NUTS II

353   556   2183

0   50 km

TIPAU, Statistics Portugal, 2014

Frequencies
Parishes

- Predominantly urban areas
- Medium urban areas
- Predominantly rural areas

Territorial Limits
Municipality
NUTS III
NUTS II

732   737   1623

0   50 km

Eurostat defines "Urban" based on two classes – **'Densely populated areas'/'Cities'** and **'Intermediate density areas'/'Towns and Suburbs'** – while the national typology only considers one – **'Predominantly urban areas'**
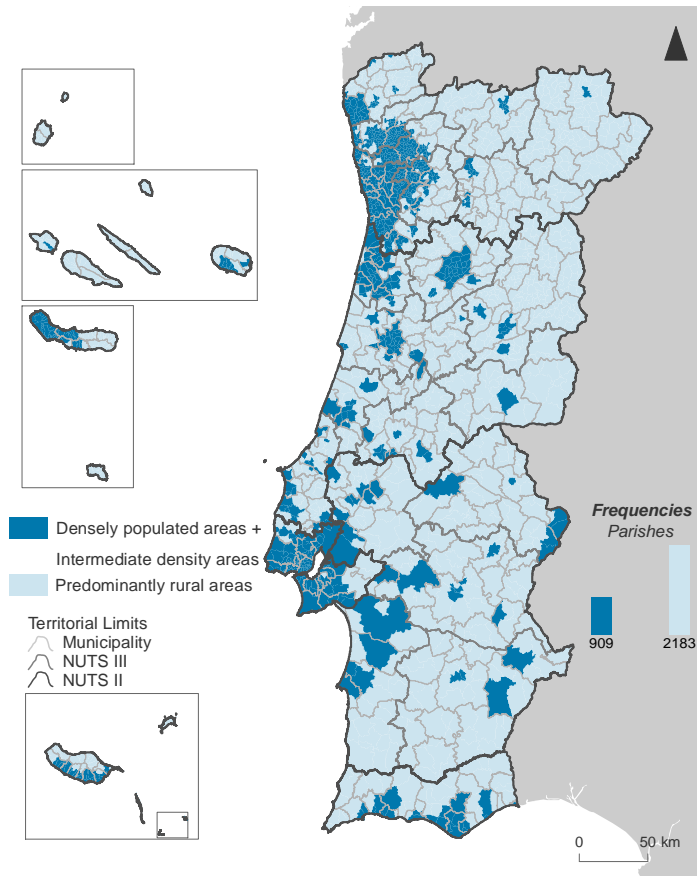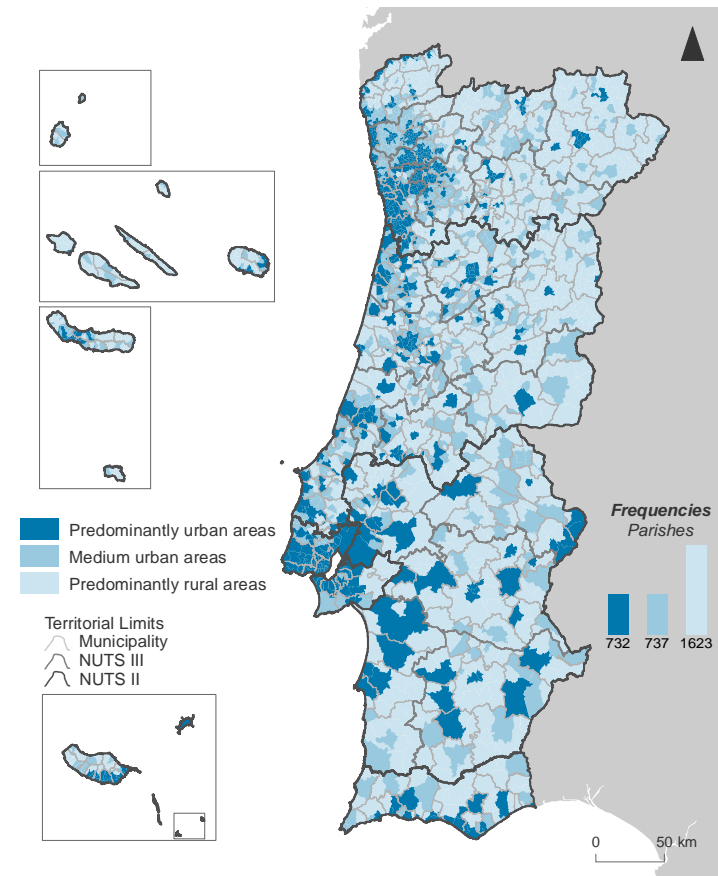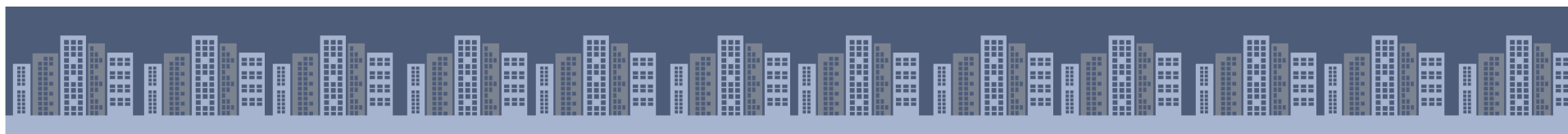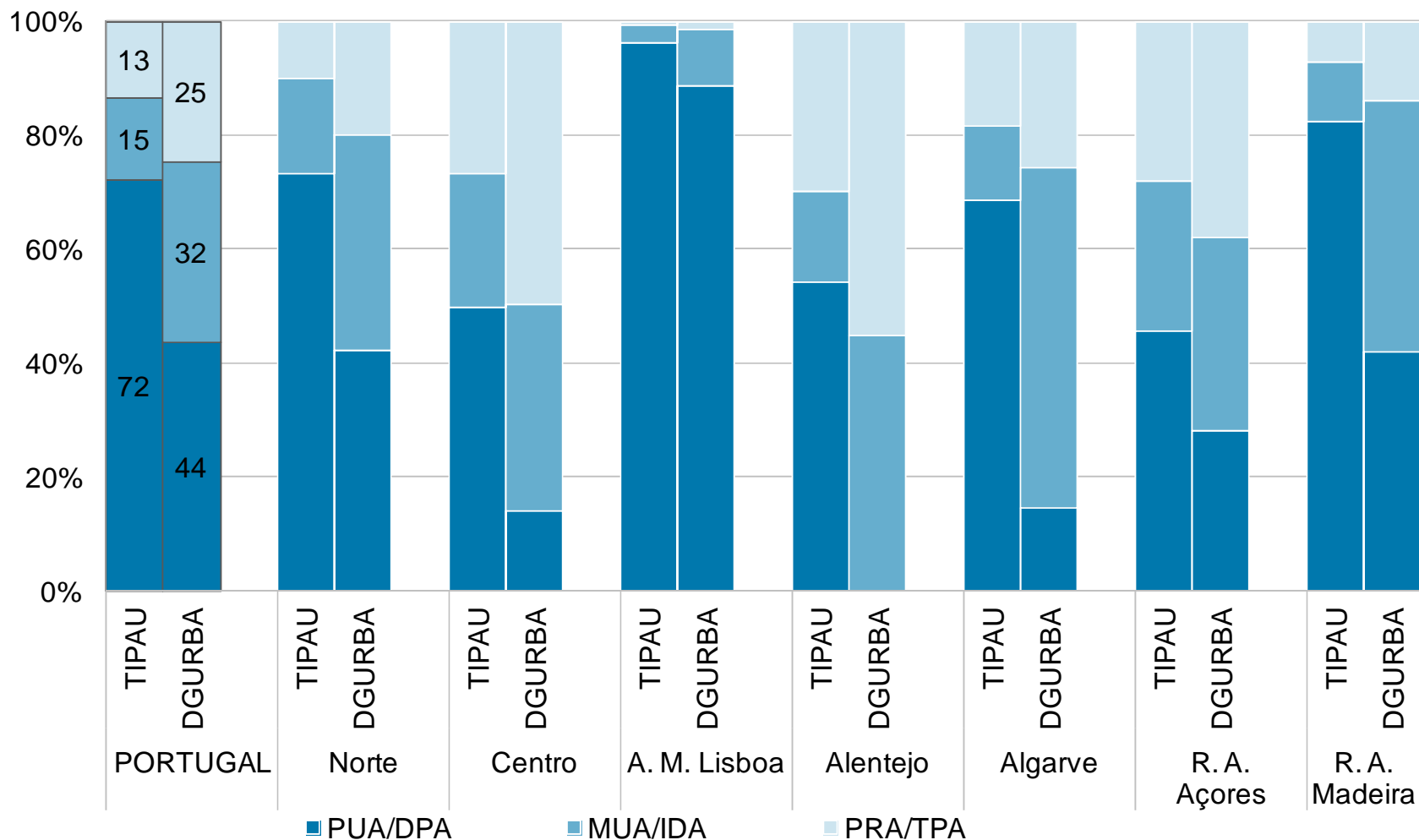
2. DEGURBA vs National Definitions

DEGURBA, Eurostat, 2016

Densely populated areas +
Intermediate density areas
Predominantly rural areas

Territorial Limits
Municipality
NUTS III
NUTS II

Frequencies
Parishes

909   2183

TIPAU, Statistics Portugal, 2014

Predominantly urban areas
Medium urban areas
Predominantly rural areas

Territorial Limits
Municipality
NUTS III
NUTS II

Frequencies
Parishes

732   737   1623

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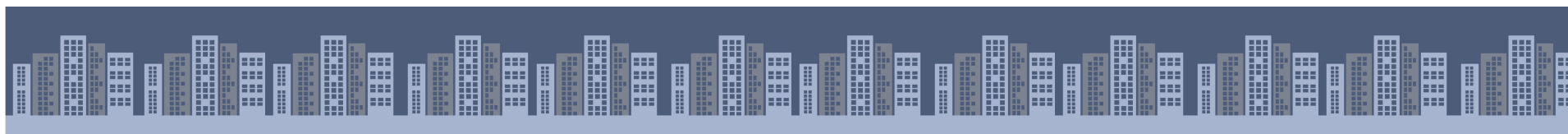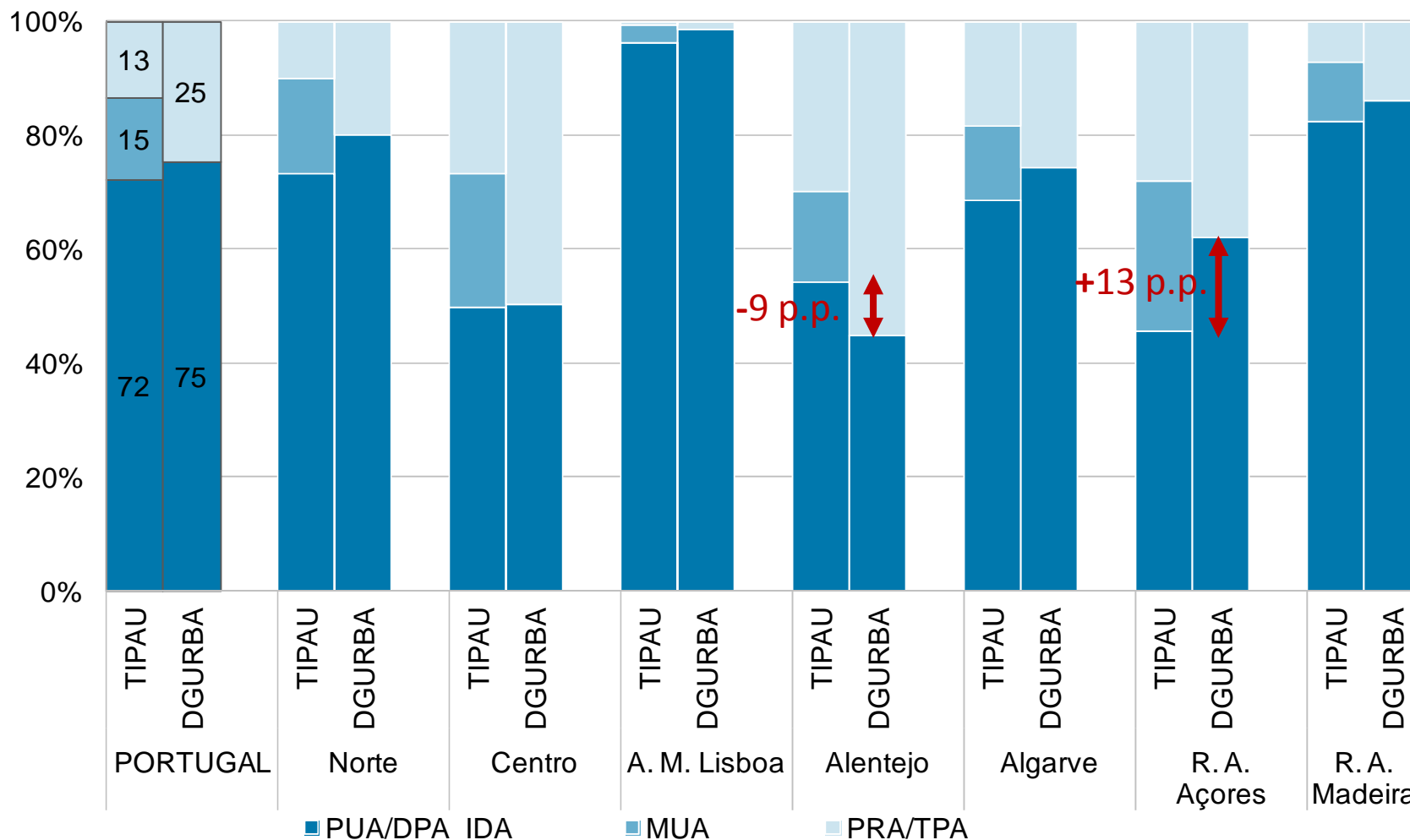
2. DEGURBA vs National Definitions

Population distribution according to TIPAU and DEGURBA, Portugal and NUTSII regions

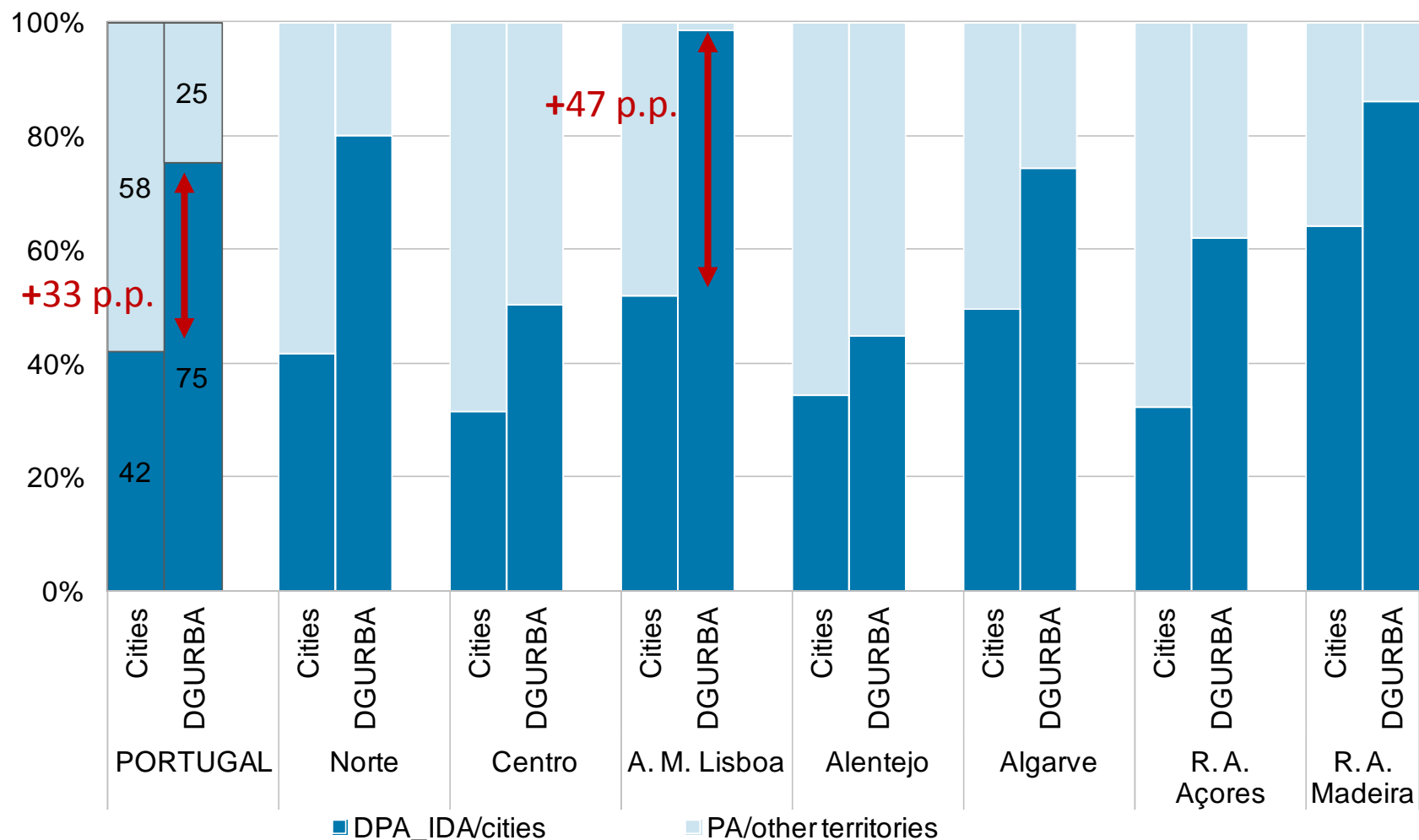Legend: PUA/DPA, MUA/IDA, PRA/TPA

2. DEGURBA vs National Definitions

Population distribution according to TIPAU and DEGURBA (Urban Areas), Portugal and NUTSII regions

2. DEGURBA vs National Definitions

Population distribution according to Statistical Cities and DEGURBA (Urban Areas), Portugal and NUTSII regions

Legend: ■ DPA_IDA/cities ■ PA/other territories

3. Global DEGURBA : PT exercise

✓ Refined Degree of urbanisation: definition of six classes

✓ Same criteria and thresholds

✓ Includes the simplification proposed on urban clusters: "(...) to use four-point contiguity in both urban centres and urban clusters."

✓ Does not include the **correction** and the **option** based on built-up data

Data sources and options for this exercise:

▫ European GRID

▫ Census 2011 population data

▫ National Land cover / Land use map to identify water bodies
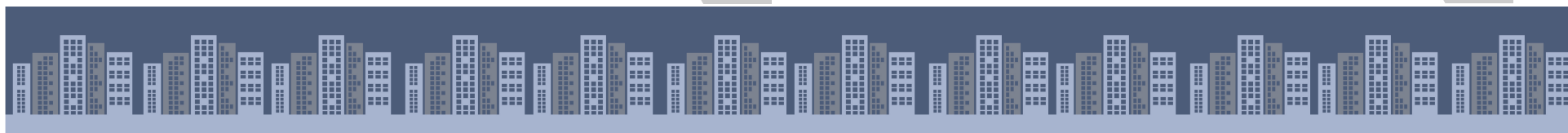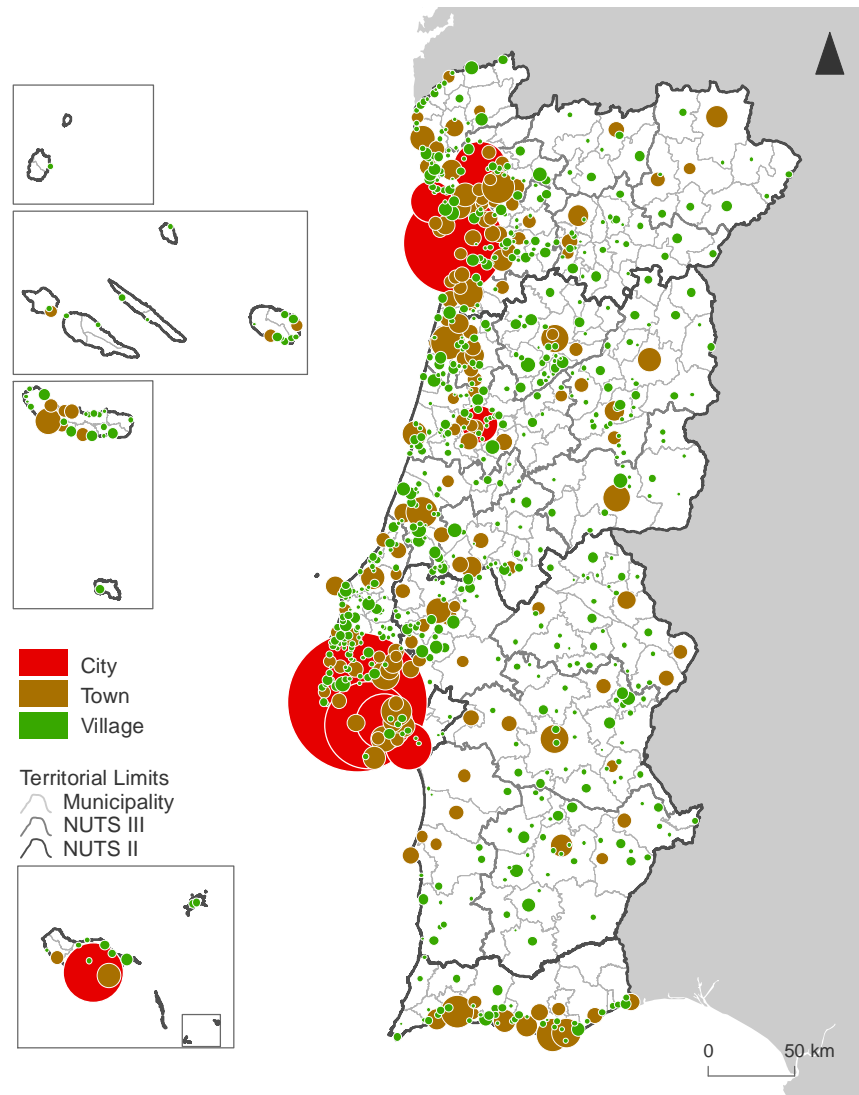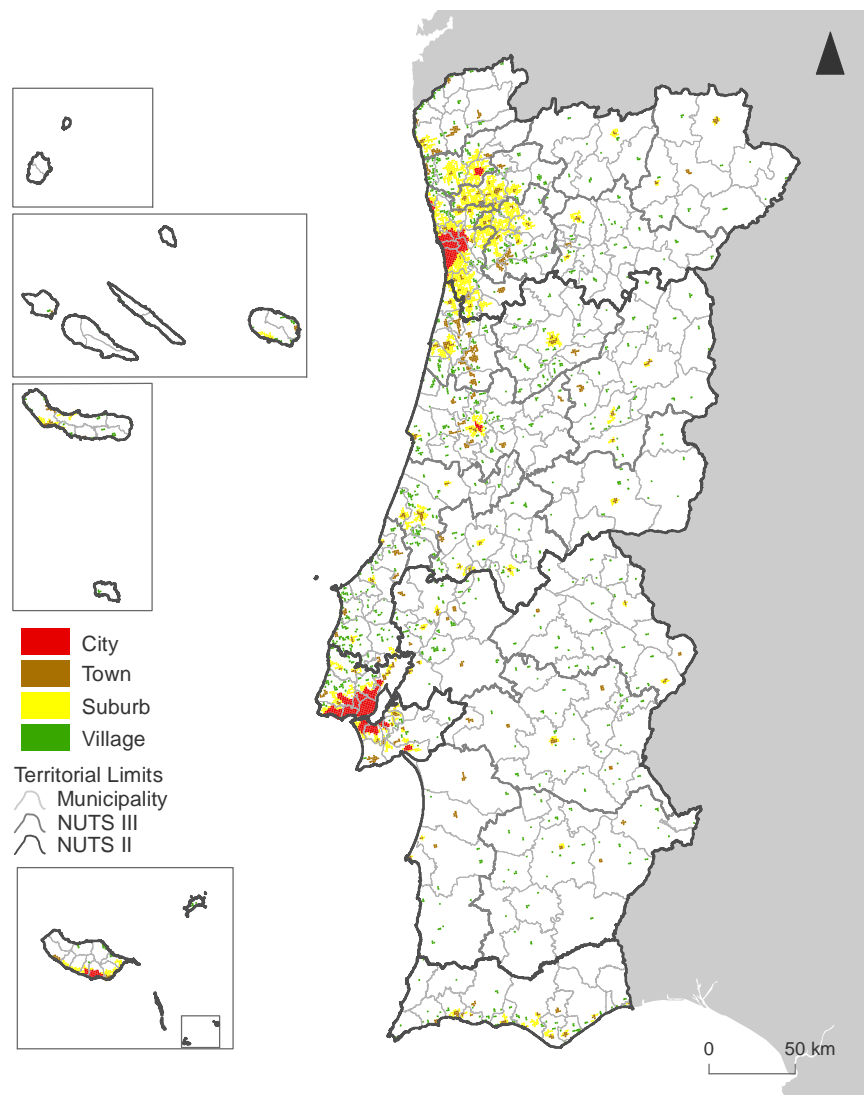
↓

Population density thresholds

3. Global DEGURBA : PT exercise

Global Degree of Urbanisation

Legend (left map):
- City (red)
- Town (brown)
- Suburb (yellow)
- Village (green)

Territorial Limits
- Municipality
- NUTS III
- NUTS II

Legend (right map):
- City (red)
- Town (brown)
- Village (green)

Territorial Limits
- Municipality
- NUTS III
- NUTS II

0   50 km

Instituto Nacional de Estatística
STATISTICS PORTUGAL

Global DEGURBA vs Statistical Cities

- ✓ The proposed methodology captures all Portuguese cities with 50.000 inhabitants or more (17): 15 by 'cities' and 2 by 'towns' (the smallest Statistical cities)

- ✓ From all the Portuguese cities (159), 135 intersect either a 'city' or 'town'

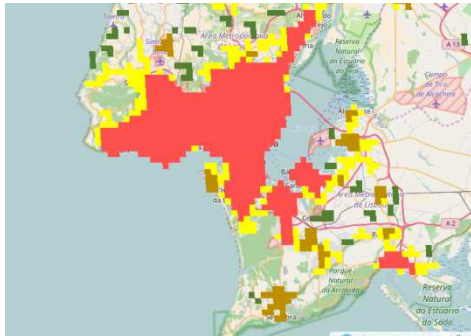- ✓ Statistical Cities not captured by 'cities' and 'towns' have around 5.000 inhabitants or less
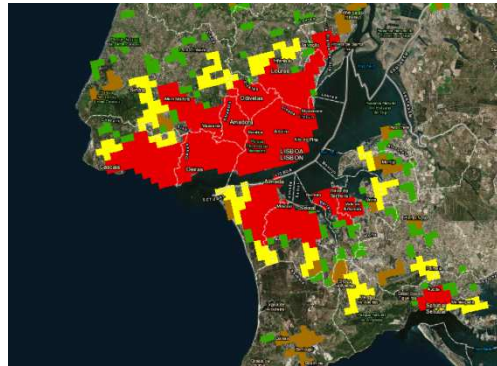
3. Global DEGURBA : PT exercise

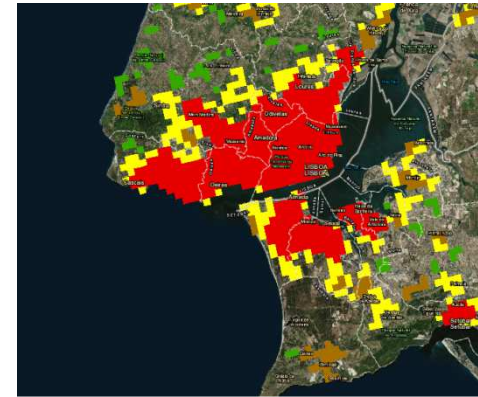## The option in this exercise for suburbs

Lisbon Area

Global DEGURBA - JRC

Global DEGURBA PT
exercise_version1

Global DEGURBA PT
exercise_version2

Suburban cells were included in a 'urban cluster' with less than 5.000 inhabitants:

✓ Cells with a population density of at least 300 inhabitants per sq km, and population under 5.000 inhabitants in the cluster, that are adjacent to cities and towns ≠ "(…) a town or suburb has an urban cluster with a population over 5.000"
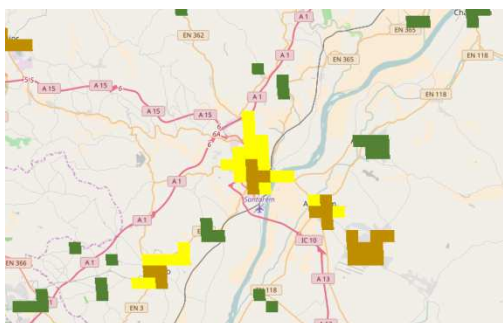
3. Global DEGURBA : PT exercise

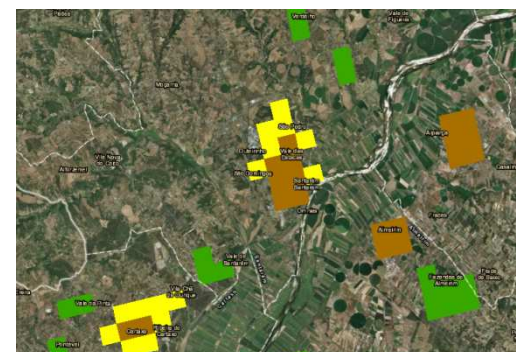## The option in this exercise for suburbs
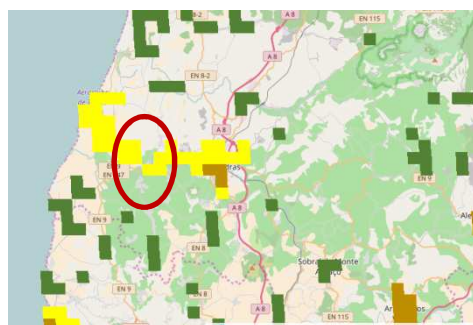
Santarém Area

Global DEGURBA - JRC

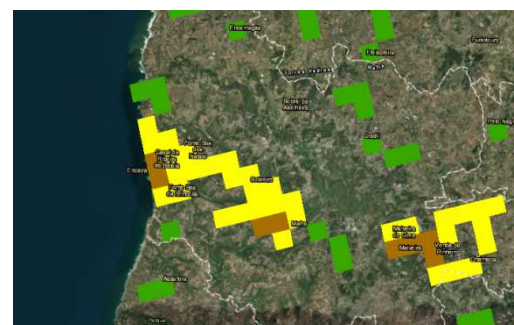
Global DEGURBA PT
exercise_version1

Global DEGURBA PT
exercise_version2

Ericeira Area

Global DEGURBA - JRC
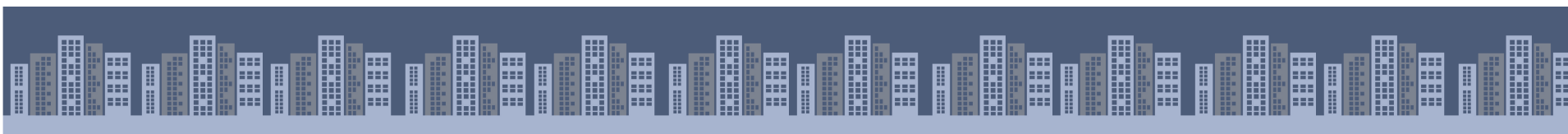
Global DEGURBA PT
exercise_version2

4. Final remarks

✓ Good results for DEGURBA - level 1, specially if we consider the national urban system in a European context.

✓ GLOBAL DEGURBA produces very meaningful results at the grid level and allows identifying the main urban agglomerations, and the system of medium and small sized cities which structures most of the inland territory.

✓ GLOBAL DEGURBA is particularly valuable to produce international comparisons, including for SDG monitoring, while allowing better benchmarking across countries.

✓ Robust comparability will be probably higher at the <u>grid level</u>: the process of classifying <u>small local units</u> in each country may introduce distortions if local units have different size from country to country and even within countries.

✓ The global methodology sequence should be presented in a more straightforward way, identifying objectively the steps and sequence to apply the different criteria to produce the refined degree of urbanisation...

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STATISTICS PORTUGAL

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