UN-GGIM: Europe webinar
Showcasing the added-value of geospatial and statistical data integration to compute SDG indicators

Célia Ferreira - Statistics Portugal

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COMMITTEE OF EXPERTS ON
GLOBAL GEOSPATIAL
INFORMATION MANAGEMENT

SDG indicator 15.1.1

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SDG 15.1.1
Core indicator

Compiled by Statistics Portugal with the contributions of:

Austria (NSI) | Czech Republic (NMCA) | EEA | Germany (BKG) | Italy (e-GEOS) | Serbia (NSI)

Forest area as a proportion of total land area

DEFINITION

→ **FAO definitions**

- Forest area → "Land spanning more than 0.5 hectares with trees higher than 5 m and a canopy cover of more than 10%, or trees able to reach these thresholds in situ. It does not include land that is predominantly under agricultural or urban land use."

- Total land area → "Country area excluding area under inland waters - natural or artificial water courses - and coastal waters - comprising internal water, territorial sea, and archipelagic waters."
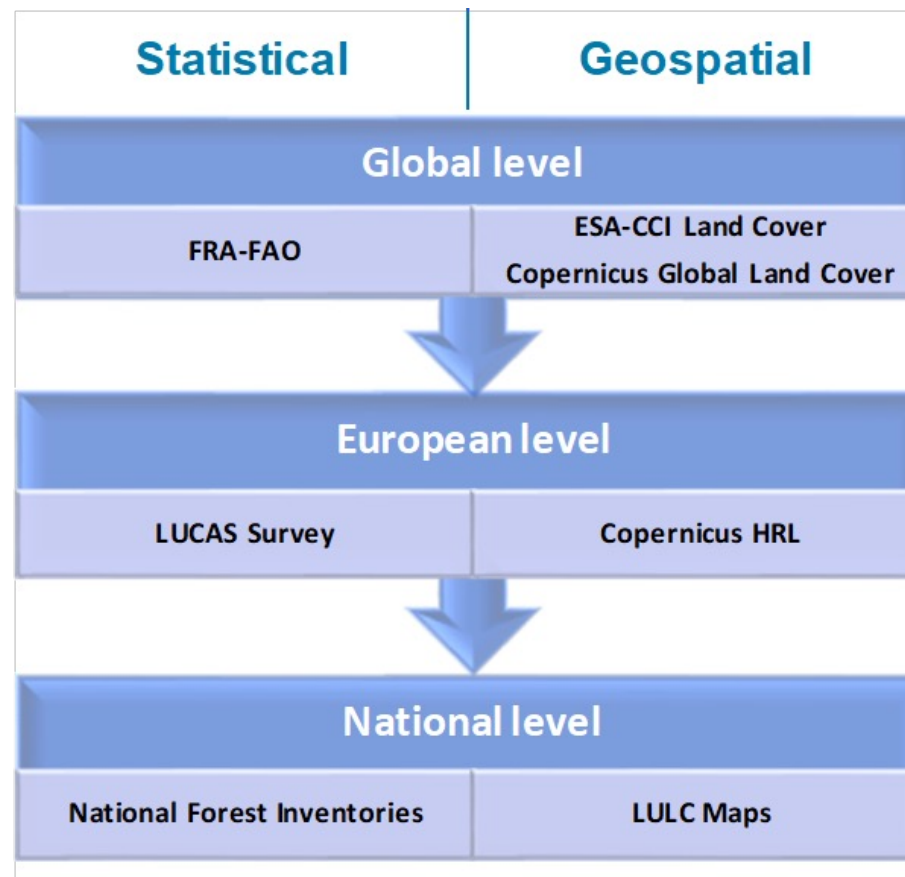
SDG indicator analysis – 15.1.1

Forest area as a proportion of total land area

FINDINGS

- Relatively straightforward indicator to compute

- Data sources differ in type and scope

- European geospatial layers are, in general, more detailed (thematic and spatial resolution) and reliable than global ones

- National data can provide greater territorial and forest segmentation detail, but definitions may differ across national sources compromising cross-country data comparability
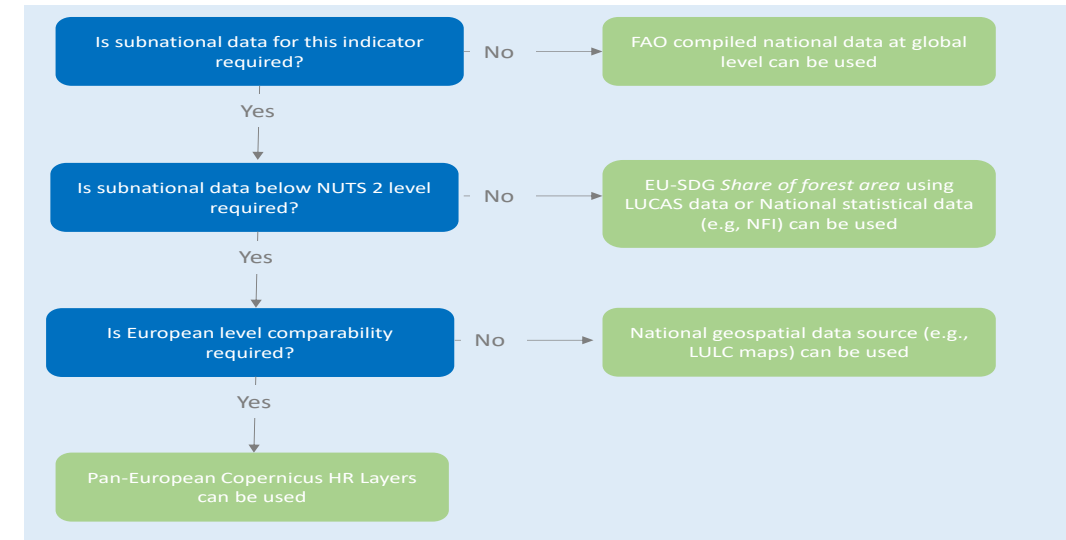
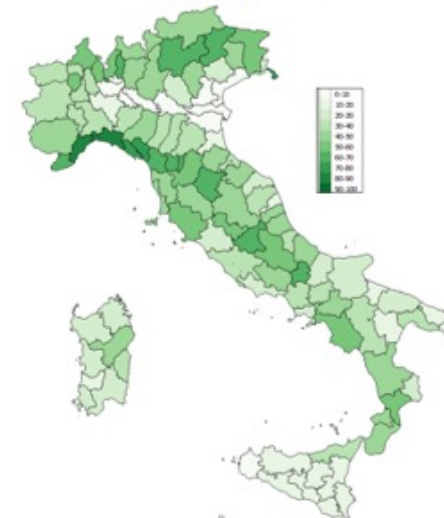| Statistical	Geospatial
Global level	
FRA-FAO	ESA-CCI Land Cover Copernicus Global Land Cover
European level	
LUCAS Survey	Copernicus HRL
National level	
National Forest Inventories	LULC Maps

SDG indicator analysis – 15.1.1

Forest area as a proportion of total land area

RECOMMENDATIONS

- Select data source(s) to capture both components of the indicator by considering the need for international and/or European comparability and the need /relevance to have subnational data at different territorial levels

- At European level, the **Copernicus HRL (Forest Type and Water&Wetness)** provide comparable, reliable and territorial detailed results

- At national level, data sources provide greater segmentation of results according **to different types of forests** (e.g., indigenous forests; deciduous forest), which can be an important input for forest policy management and planning at local level

Is subnational data for this indicator required? — No → FAO compiled national data at global level can be used

Yes

Is subnational data below NUTS 2 level required? — No → EU-SDG *Share of forest area* using LUCAS data or National statistical data (e.g, NFI) can be used

Yes

Is European level comparability required? — No → National geospatial data source (e.g., LULC maps) can be used

Yes

Pan-European Copernicus HR Layers can be used

Forest area as a proportion of total land area by NUTS 3 level

Forest area as a proportion of total land area based by commune level,

Source: Copernicus High Resolution Layers.

SDG 15.1.1
Extending the indicator framework

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Indicator 15.1.1: what types of forest?

The forest is not all the same.
There are forest species that are more beneficial to the ecosystem than others.

- **Forest area as a proportion of total land area**
  - Core indicator: what is the relative importance of forest area in total land area?

- **What is the relative importance of different types of forest in total forest area?**
    - At country level
    - At municipality level

National statistical official data source:

- ICNF – National Forest Inventory (2015)

Alternative geospatial data source:

- DGT - Land Use Land Cover Map

National geospatial data source:

- DGT - Land Use Land Cover Map (2018), Mainland Portugal

What is the relative importance of different types of forest in total forest area?

- Disaggregation of species categories allows to produce an analytical framework

- **Proportion of forest area occupied by:**
  - **Eucalyptus species**
  - **Invasive alien species**
  - **Remaining forest (*proxy for native or non-harmful forest species*)**

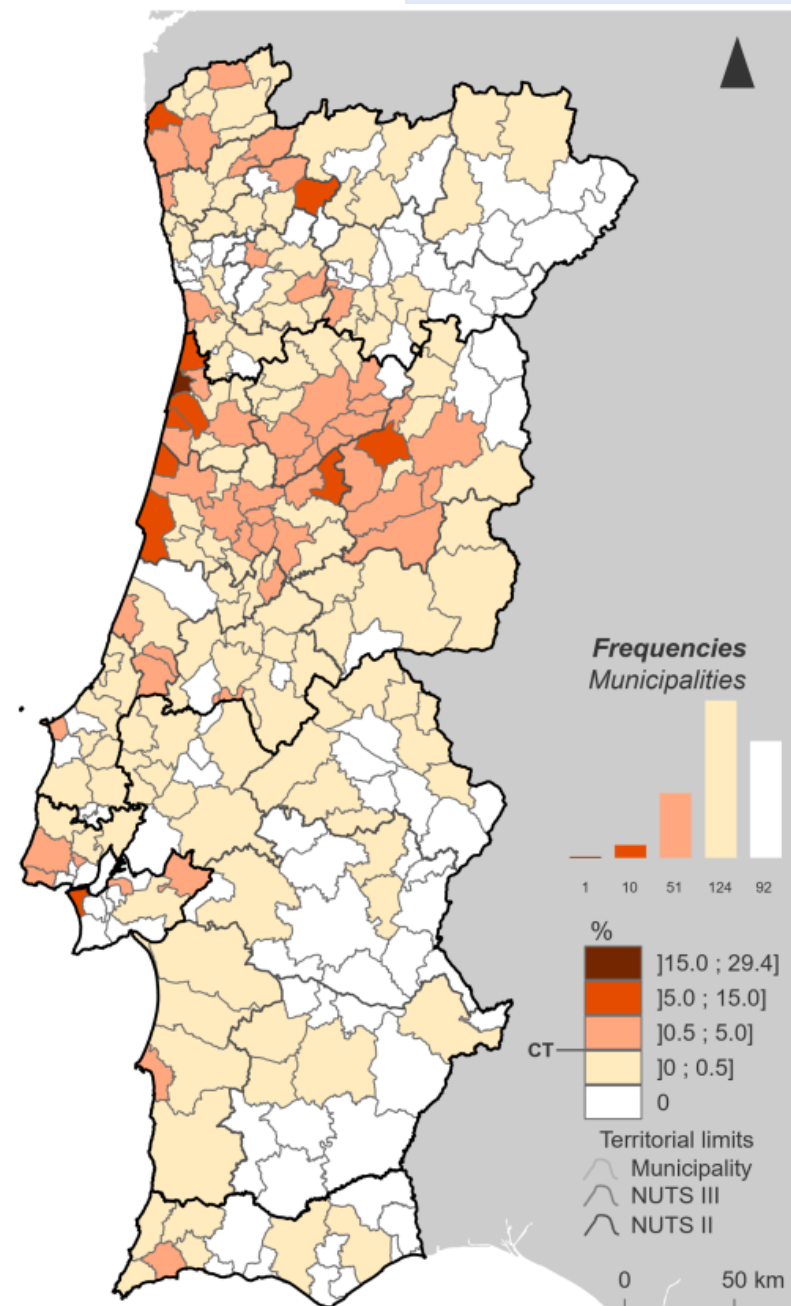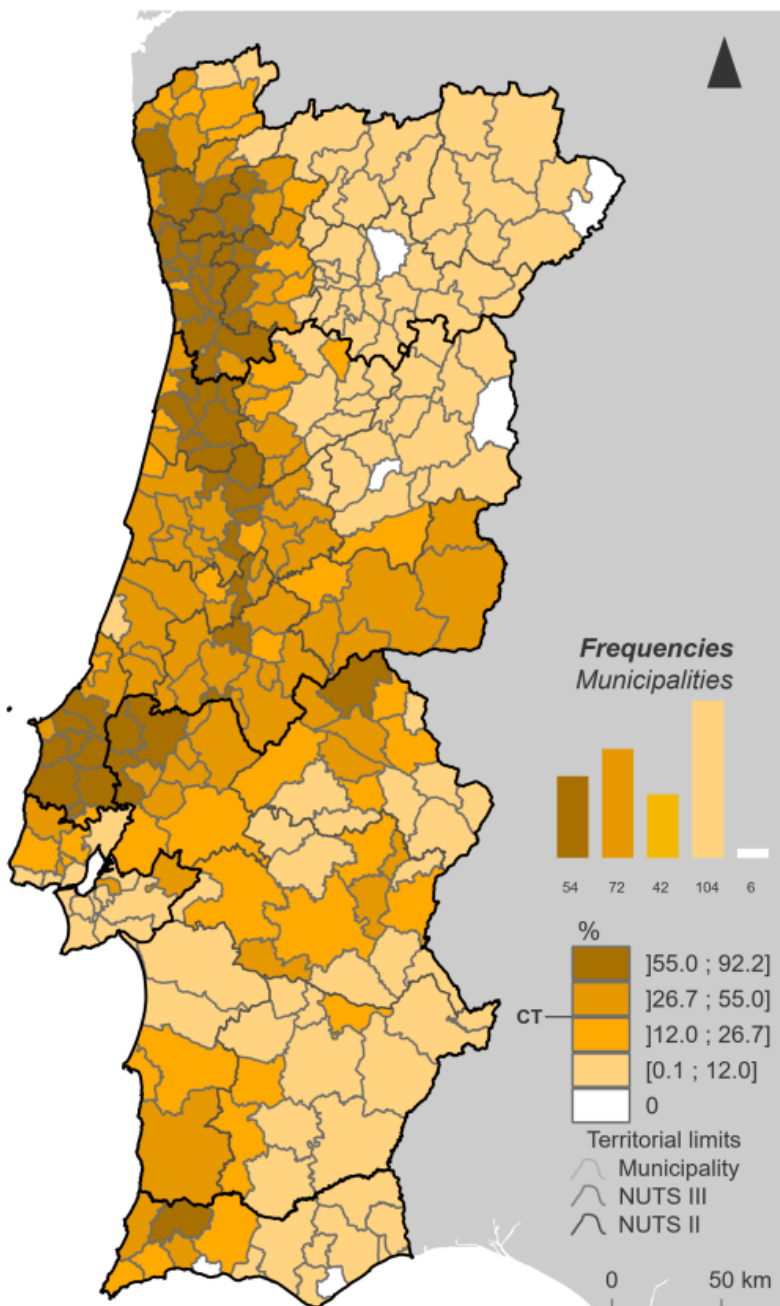**Portugal (Mainland) - % of total forest area**

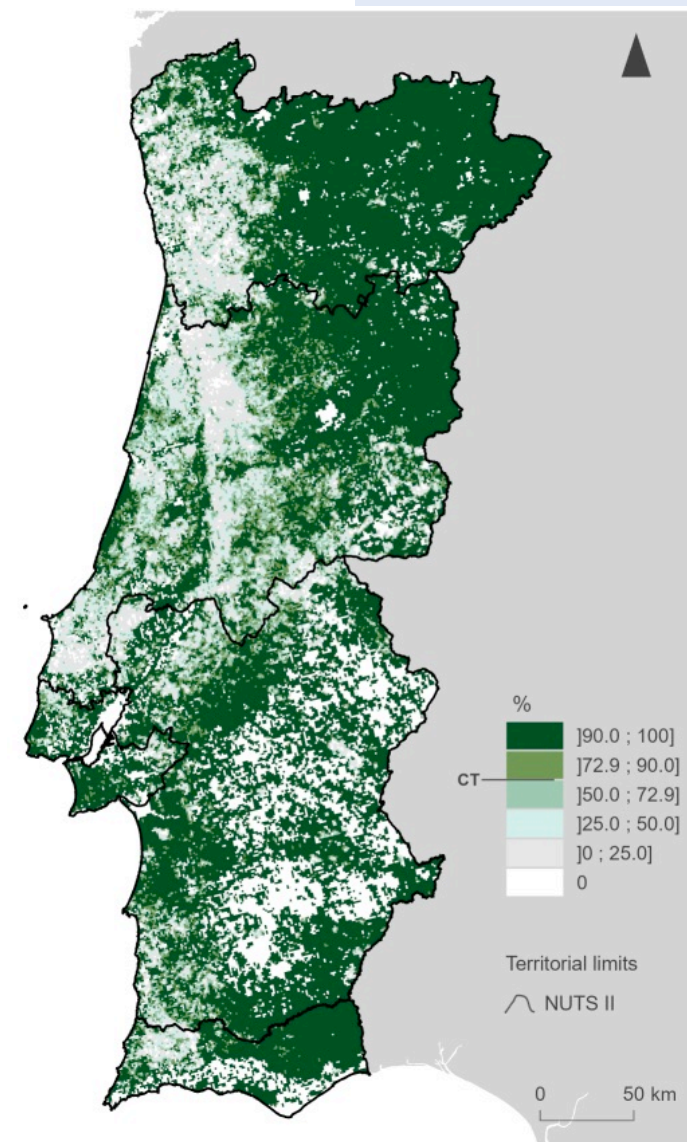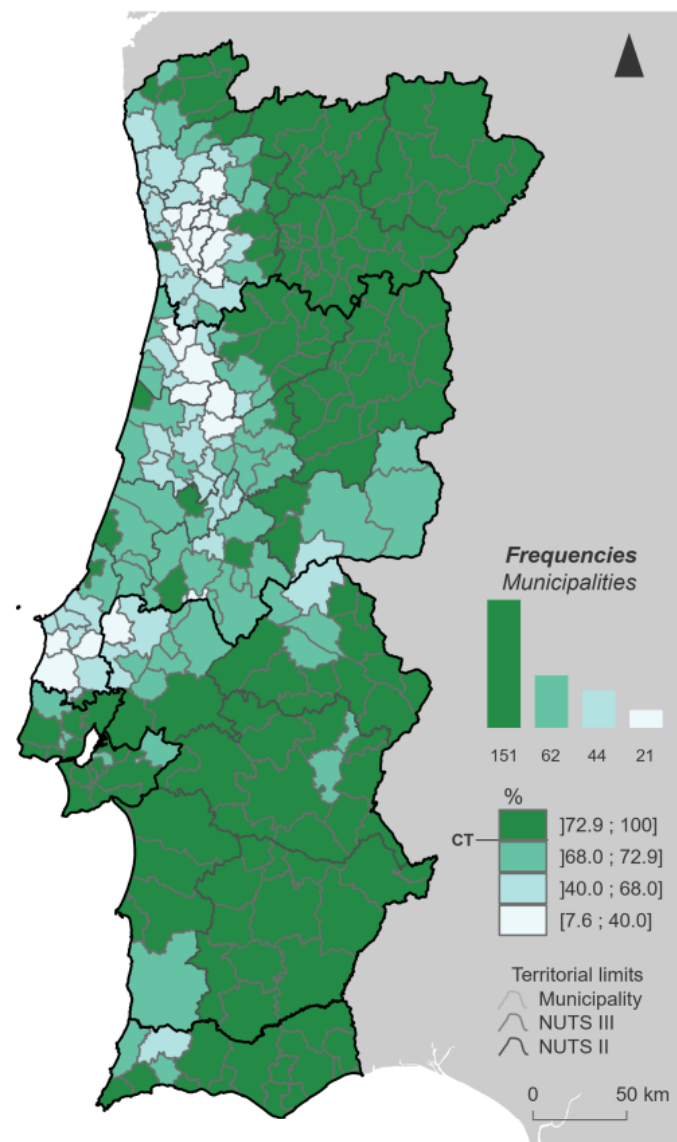| Eucalyptus forest area	Invasive alien species area	Remaining forest area
26,68	0,47	72,85

27,15

STATS lab

Types of forest as a proportion of total forest area

- Eucalyptus forest (*left*)

- Invasive alien species (*right*)
  - List of UE/National Invasive alien species

Frequencies
Municipalities

54 72 42 104 6

%

]55.0 ; 92.2]
]26.7 ; 55.0]
]12.0 ; 26.7]
[0.1 ; 12.0]
0

CT —

Territorial limits
Municipality
NUTS III
NUTS II

0   50 km

Frequencies
Municipalities

1 10 51 124 92

%

]15.0 ; 29.4]
]5.0 ; 15.0]
]0.5 ; 5.0]
]0 ; 0.5]
0

CT —

Territorial limits
Municipality
NUTS III
NUTS II

0   50 km

Remaining forest area as a proportion of total forest area
(proxy of native or non-harmful forest species)

- Distribution by municipality

- Representation on GRID 1km

Frequencies
Municipalities

151 62 44 21

%
CT
■]72.9 ; 100]
■]68.0 ; 72.9]
■]40.0 ; 68.0]
□ [7.6 ; 40.0]

Territorial limits
⌒ Municipality
⌒ NUTS III
⌒ NUTS II

0   50 km

%
CT
■]90.0 ; 100]
■]72.9 ; 90.0]
■]50.0 ; 72.9]
■]25.0 ; 50.0]
□]0 ; 25.0]
□ 0

Territorial limits
⌒ NUTS II

0   50 km

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Territorial synthesis

- Monitoring public policies and support decision-making

  National Strategy for Forests
  Goals by 2030:

  - Enhance the area occupied by endogenous species

  - Stabilize (or reduce in some places) the area occupied by invasive alien species

  - Reduce the representativeness of eucalyptus, reaching 25% in the minimum scenario

  Harmful forest distribution shows hotspots and therefore support the prioritization of LAU's where to intervene
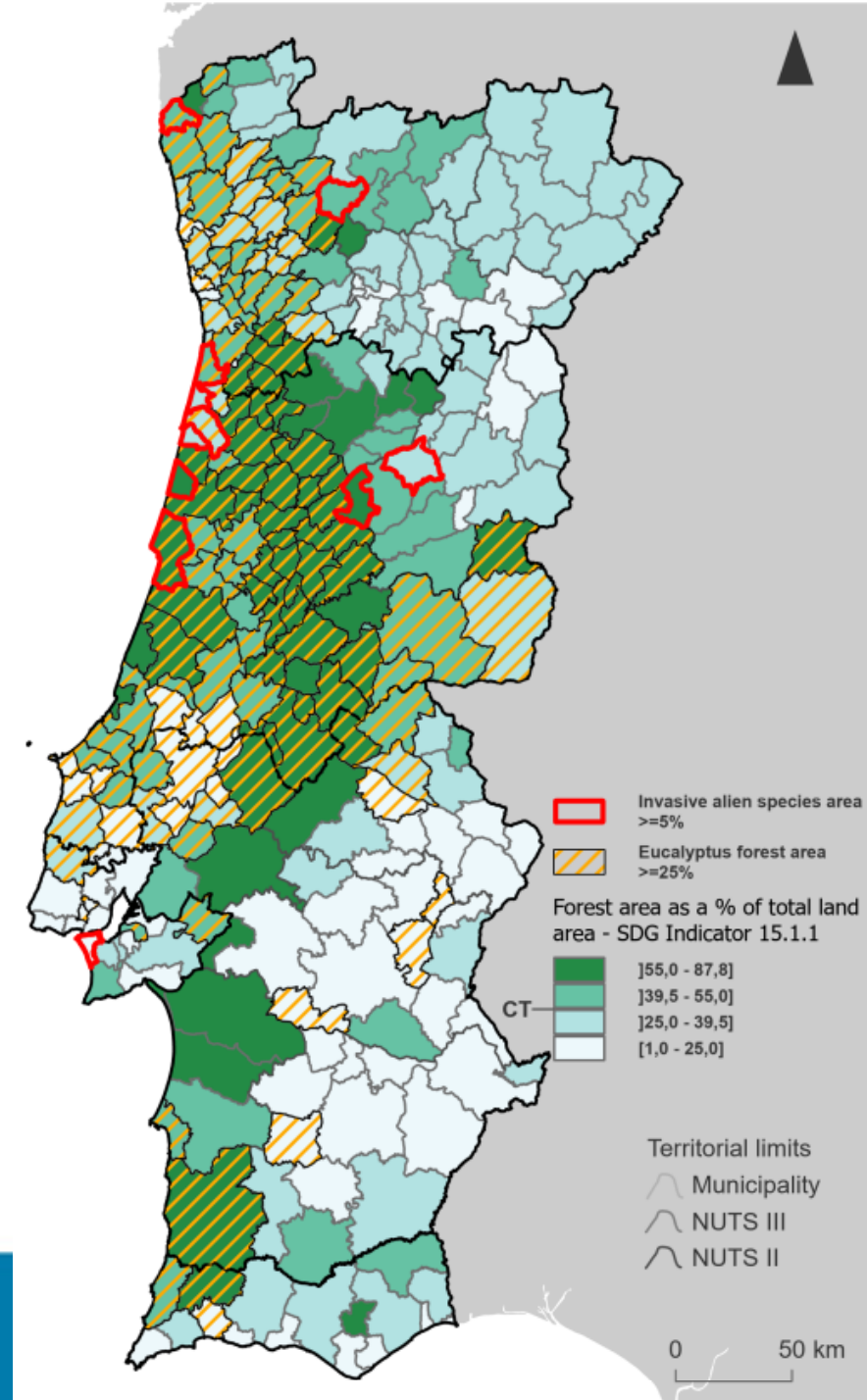
Concluding remarks

- Using geospatial data sources allows a greater territorial disaggregation:

    - To monitor forest evolution on a more detailed and reliable picture

    - To produce territorialized analyses to support forest policy management and informed decision making

- Thematic disaggregation of geospatial data allows:

    - To increase insight on forest monitoring

    - To produce analytical framework according to Policy Objectives and Goals

⇩

The production and availability of more detailed geospatial products is a positive development area to be encouraged. Nevertheless, it is important, within the framework of SDG monitoring, to ensure continuity and frequency in terms of data series.

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References

- EU - Regulation (EU) No 1143/2014 of the European Parliament and of the Council of 22 October 2014 on the prevention and management of the introduction and spread of invasive alien species. Available at https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1483614313362&uri=CELEX:32014R1143.

- ICNF - National Strategy for Forests. Available at https://planapp.gov.pt/instrumento/estrategia-nacional-para-as-florestas-enf/.

- UN-GGIM: Europe WG on "DI" - Guidelines for SDG Indicator Calculation: 15.1.1 | Forest area as a proportion of total land area. Available at https://un-ggim-europe.org/wp-content/uploads/2022/01/1511_UNGGIM_Europe_WG_DataIntegration_SWG1_SDG_IndicatorCalculation-and-Recommendations.pdf.

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THANK YOU!

Questions?

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