

Restoration of urban ecosystems

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Nature Restoration Law

	
EUROPEAN UNION	
THE EUROPEAN PARLIAMENT	THE COUNCIL
Brussels, 15 March 2024 (OR. en)	
2022/0195(COD)	PE-CONS 74/23
ENV 1402 CLIMA 605 FORETS 193 AGRI 758 POLMAR 60 CODEC 2314	
LEGISLATIVE ACTS AND OTHER INSTRUMENTS	
Subject: REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on nature restoration and amending Regulation (EU) 2022/869	
PE-CONS 74/23	LS/JGC/di
TREE.1.A	EN

SPECIFIC TARGETS

- Pollinating insects
- Forest ecosystems
- **URBAN ECOSYSTEMS**
- Agricultural ecosystems
- Marine ecosystems
- River ecosystems

Article 8: Restoration of urban ecosystems

No net loss of green urban space and tree cover by 2030, and a steady increase in their total area from 2050

Article 14: Preparation of the national restoration plan

4. Member States shall determine and map urban ecosystem areas as referred to in Article 8 for all their cities and towns and suburbs.

The urban ecosystem area of a city or of a town and suburb shall include:

- (a) the entire city or town and suburb; or
- (b) parts of the city or of the town and suburb, including at least its urban centres, urban clusters and, if deemed appropriate by the Member State concerned, peri-urban areas.

Member States may aggregate the urban ecosystem areas of two or more adjacent cities, or two or more adjacent towns and suburbs, or both, into one urban ecosystem area common to those cities, or towns and suburbs, respectively.

Article 3: Definitions

Local Administrative Units (LAU - Regulation EC 1059/2003) classified as city, town or suburbs

Sub-municipal areas classified as city, town or suburbs

➔ According to the eurostat classification system DEGURBA

➔ Using data available at national level or from the European Copernicus programme

Classification system

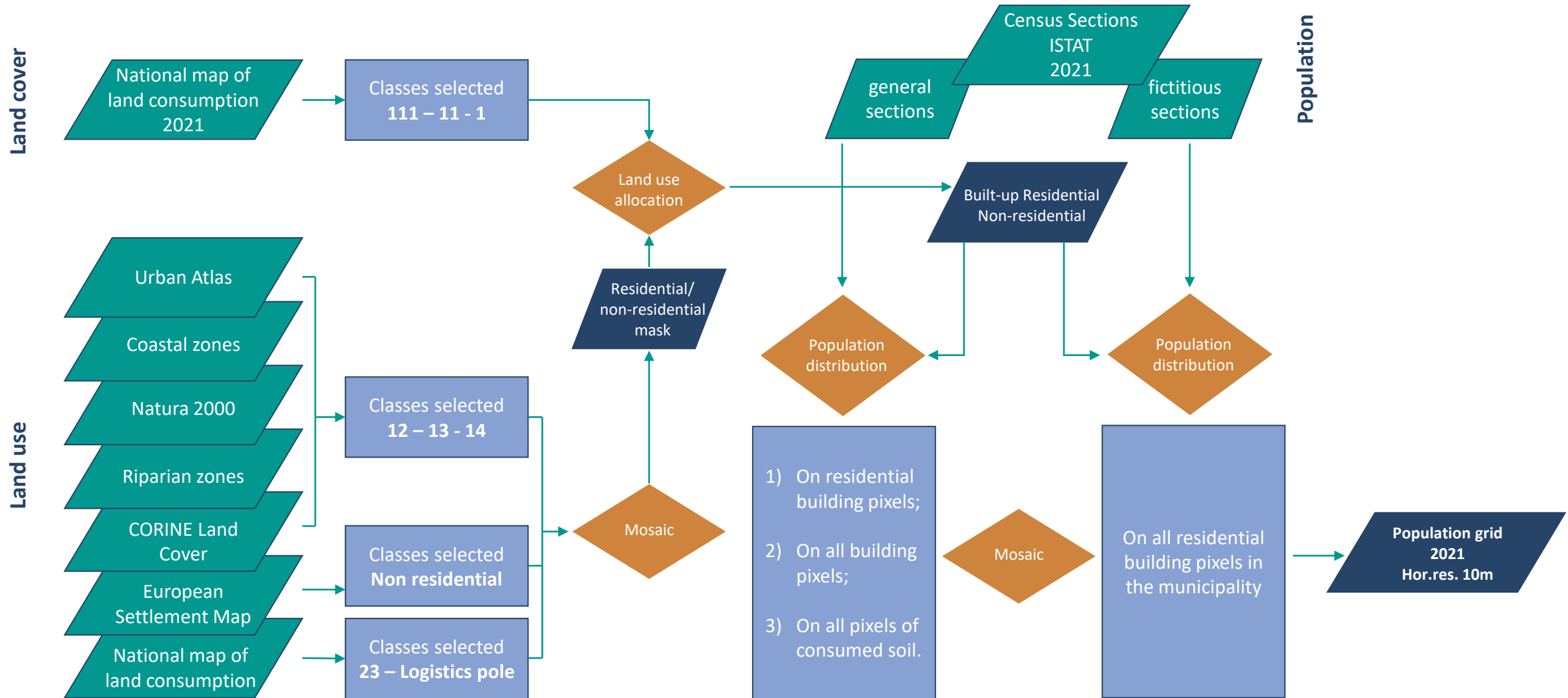
Classification system of the EUROSTAT population grid into DEGURBA classes

		Total population (n° inhabitants)			no dimensional criteria
		≥ 50.000	5.000 – 50.000	500 – 5.000	
Population density (n° inhabitants/km²)	≥ 1.500	Large urban centres	Dense urban cluster		
	≥ 300		Semi-dense urban cluster	Rural cluster	Suburban or periurban
	≥ 50				Rural low density
	< 50				Rural very low density

Classification system of territorial typologies based on the EUROSTAT grid

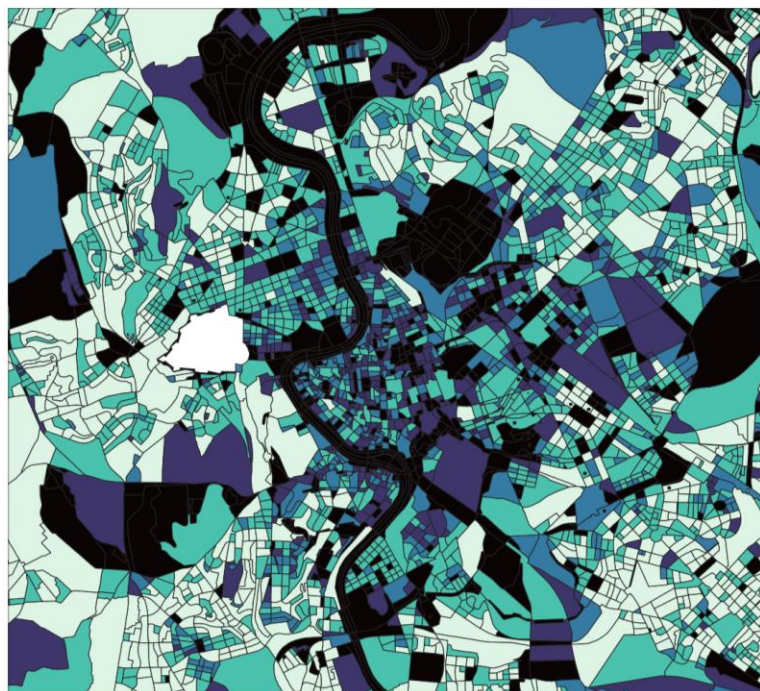
Element as established in regulation (CE) 1059/2003	Labels	Conditions
Grid-based typology	Rural grid cells or low-density grid cells	1 km² grid cells with density below 300 inhabitants/km² and other cells outside urban clusters.
	Urban cluster or moderate density cluster	Contiguous (including diagonals) 1 km² grid cells with a density of at least 300 inhabitants/km², and a minimum of 5 000 inhabitants in the cluster.
	Urban centres or high density cluster	Contiguous (without diagonals) 1 km² grid cells within the 'urban cluster' with a density of at least 1 500 inhabitants/km² and a minimum of 50 000 inhabitants in the cluster after gap filling.

Creation of the population grid

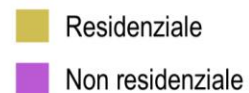


Population grid

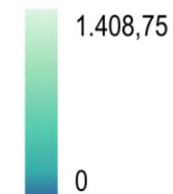
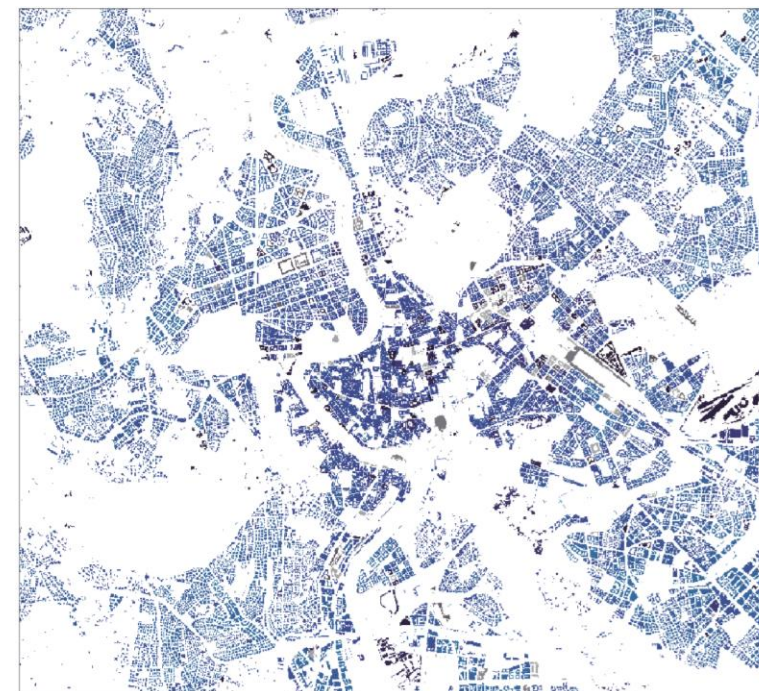
Population by census section 2021



Residential/non-residential buildings 2021

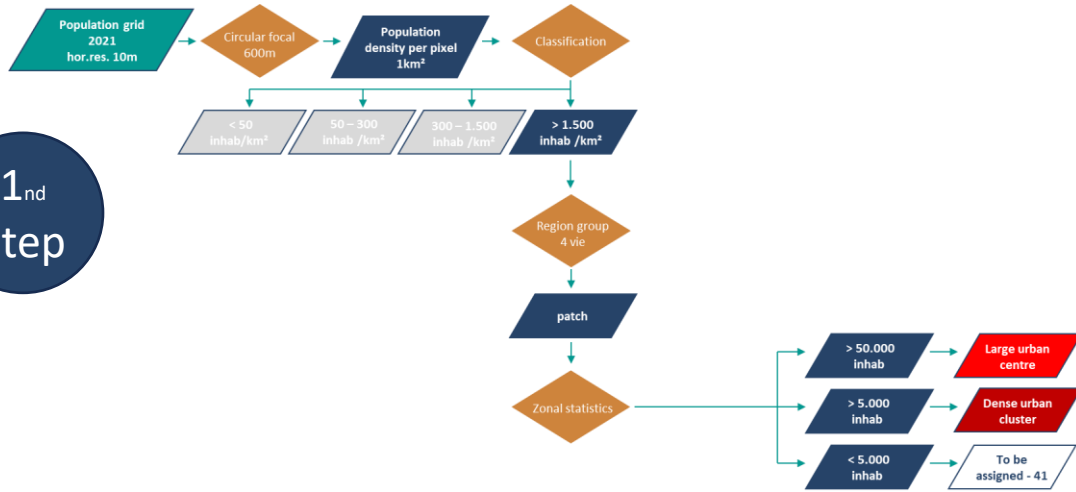


Population grid 2021 hor.res. 10m (pop. per pixel)

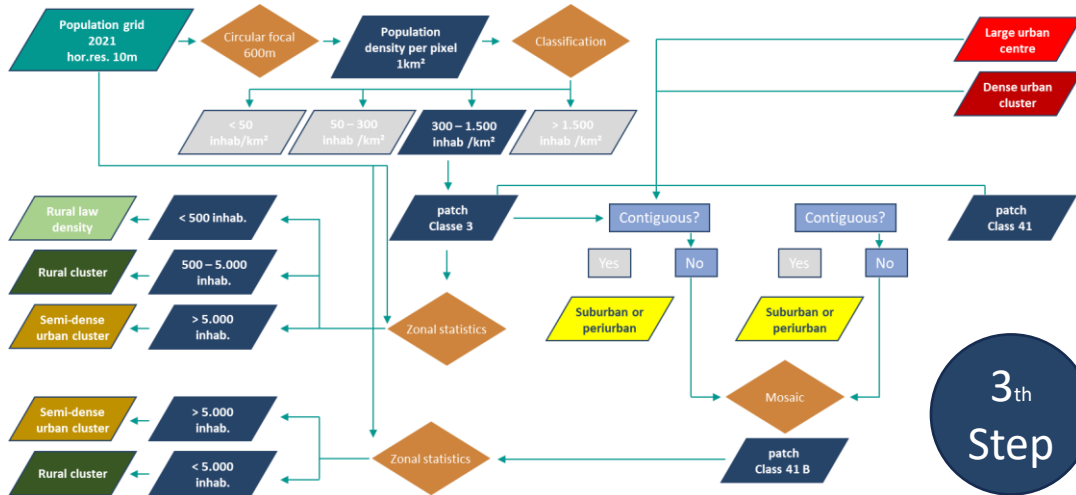
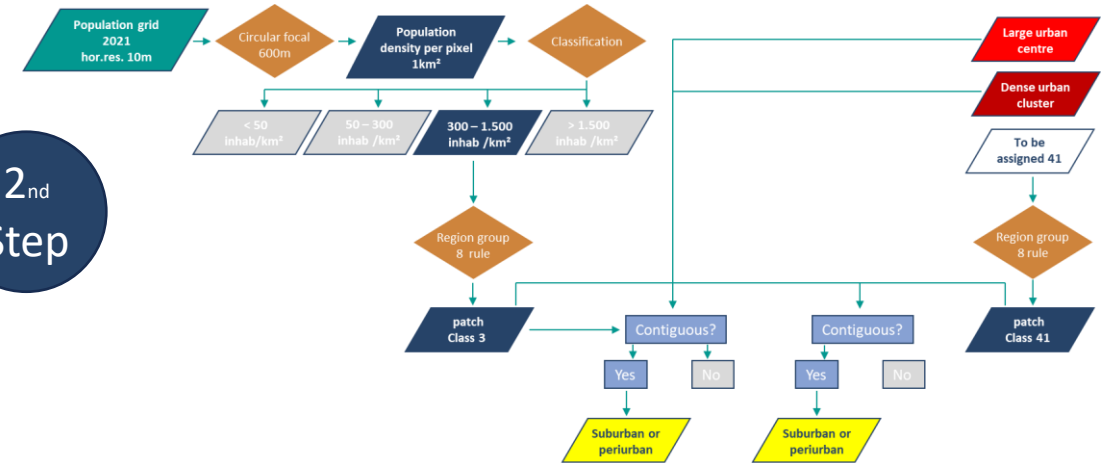


Classification of the population grid into DEGURBA classes

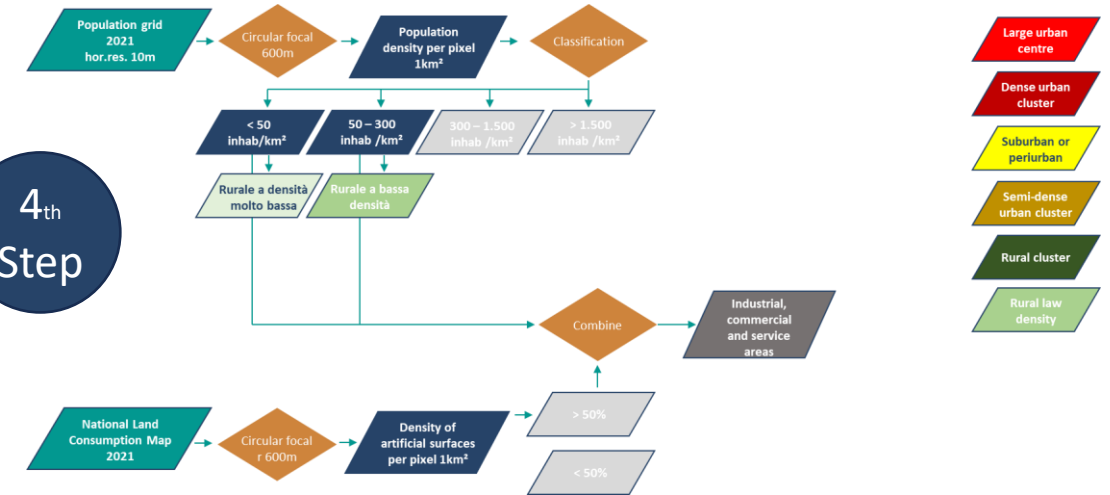
1st
Step



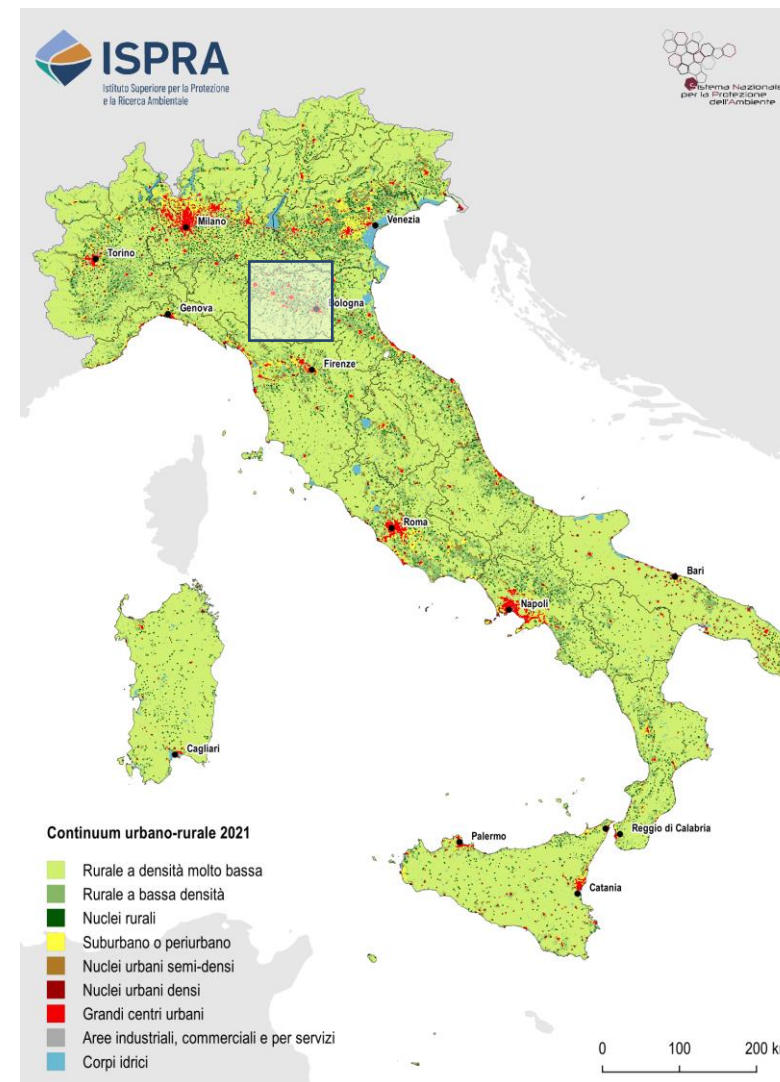
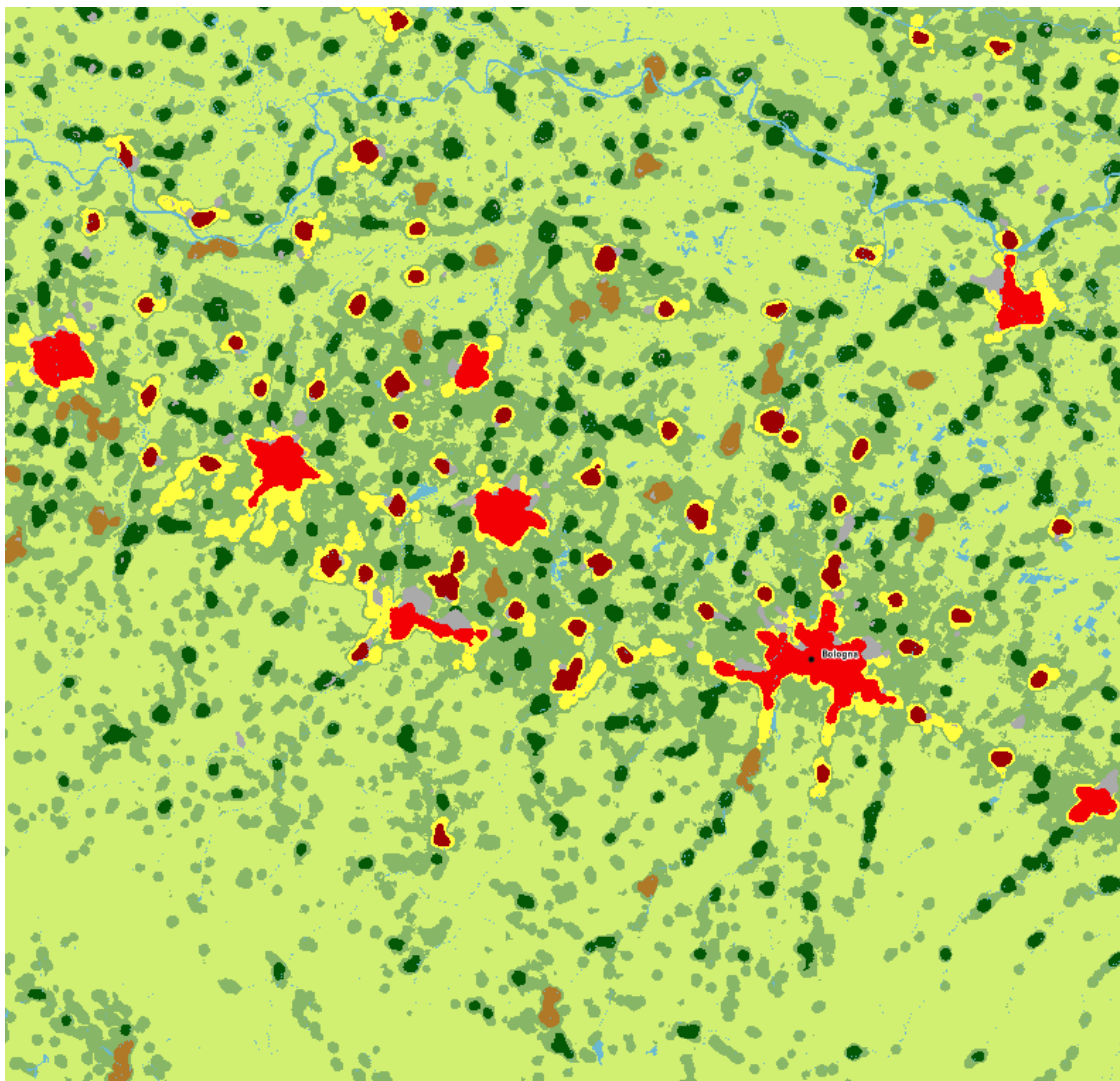
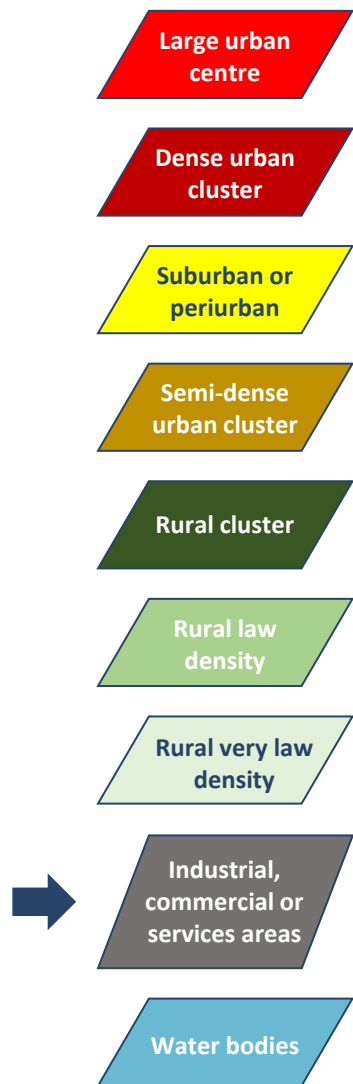
2nd
Step



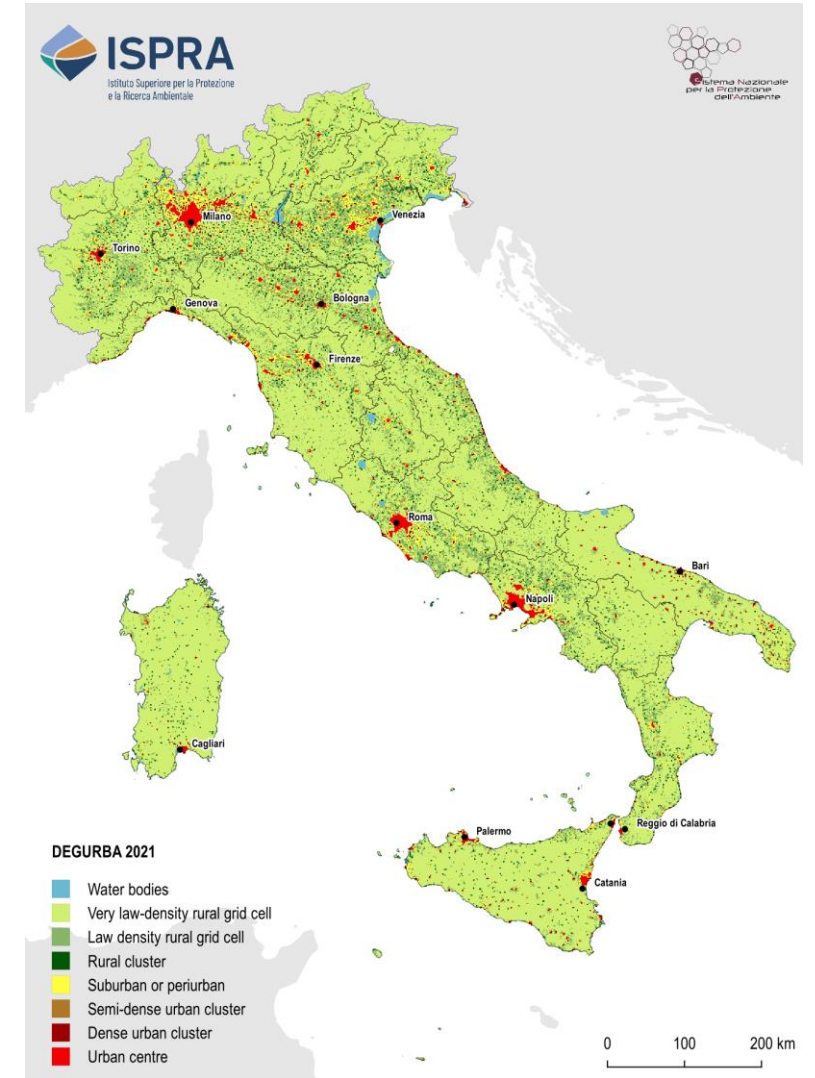
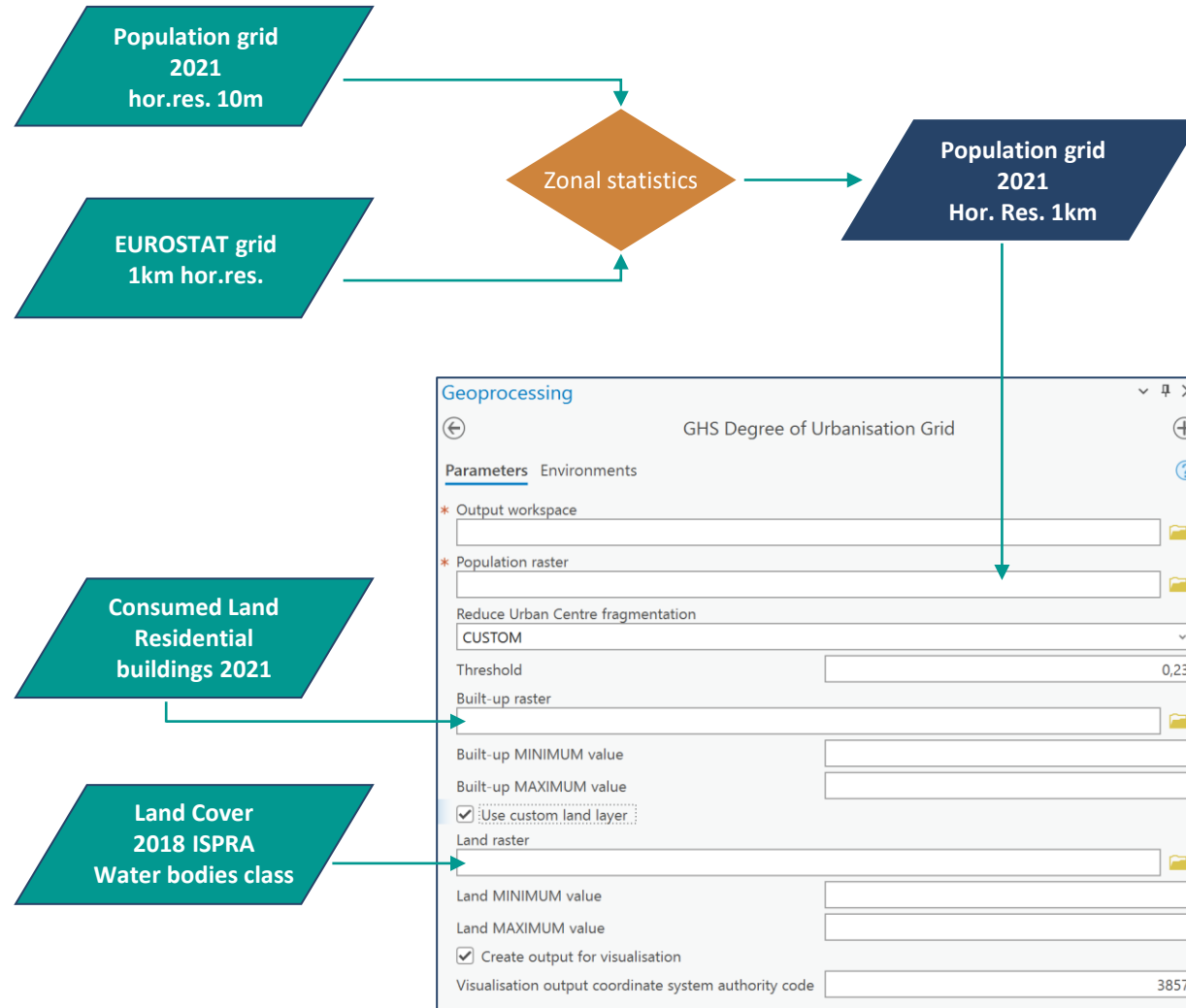
4th
Step



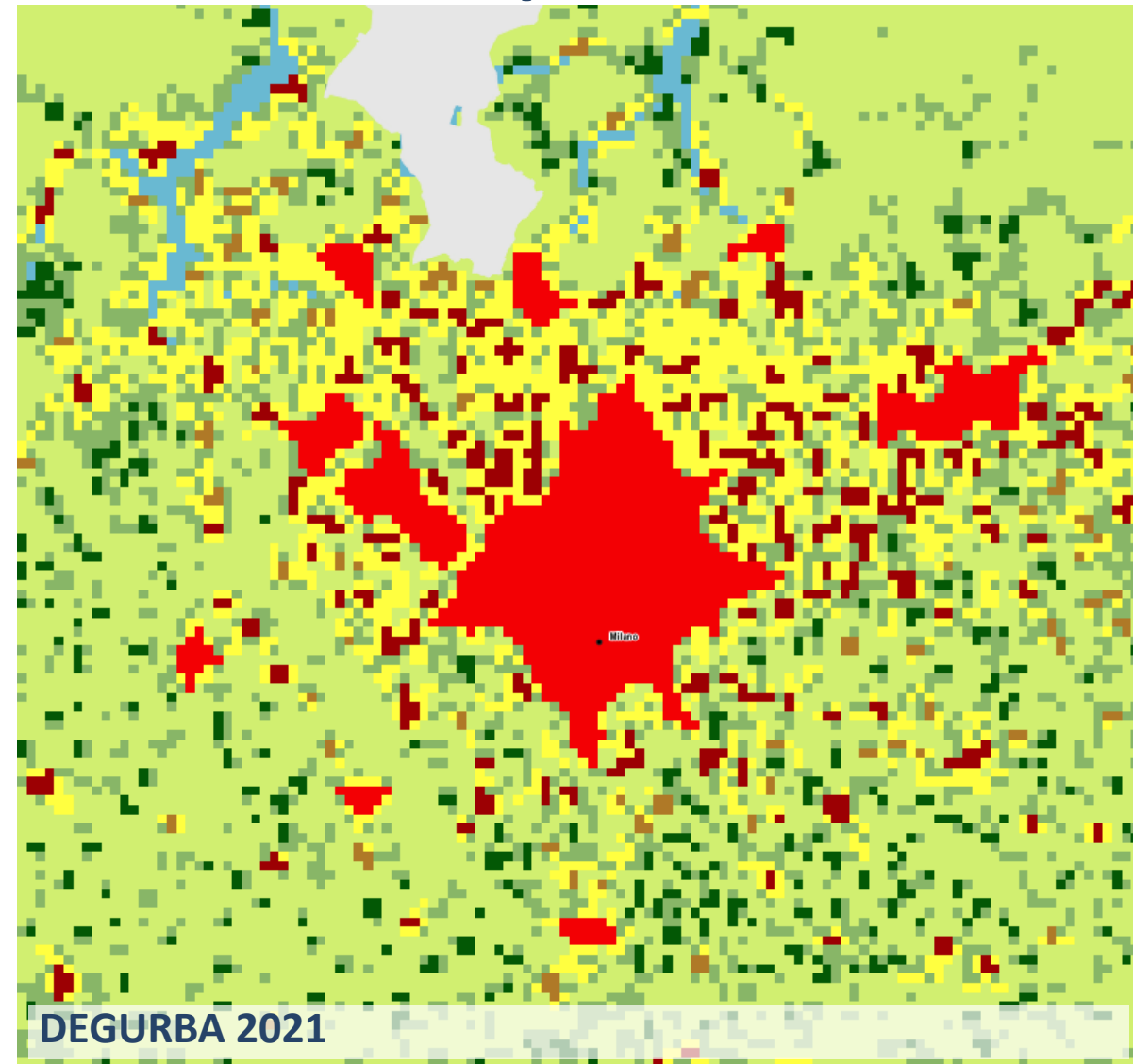
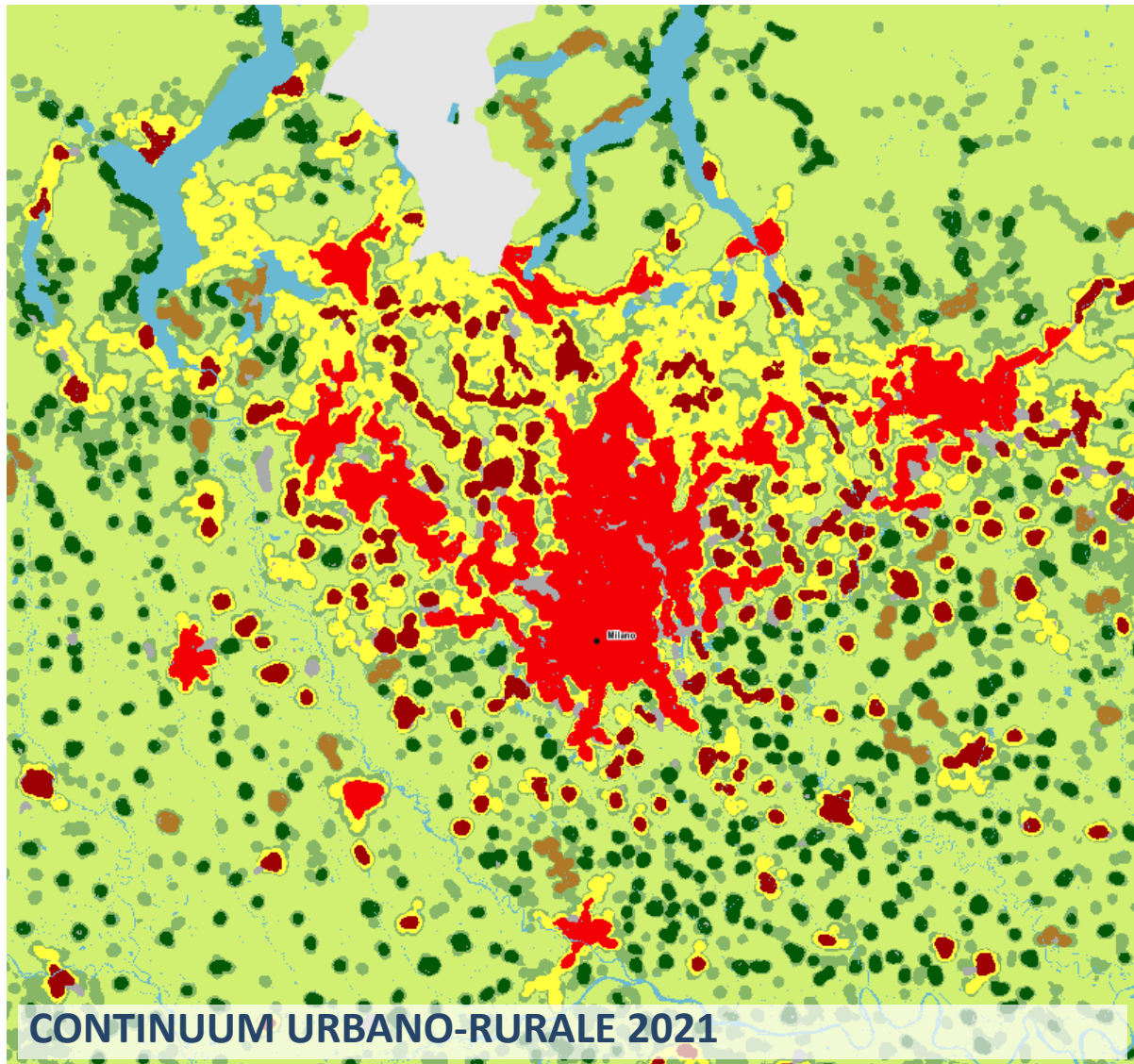
Urban- rural continuum 2021



EUROSTAT methodology applied to the 1km population grid



Urban rural continuum and DEGURBA 2021 compared



Urban-rural continuum and DEGURBA 2021 compared

Changes between the Urban-Rural Continuum 2021 classes and the DEGURBA 2021 expressed as a percentage of the total class size mapped by DEGURBA

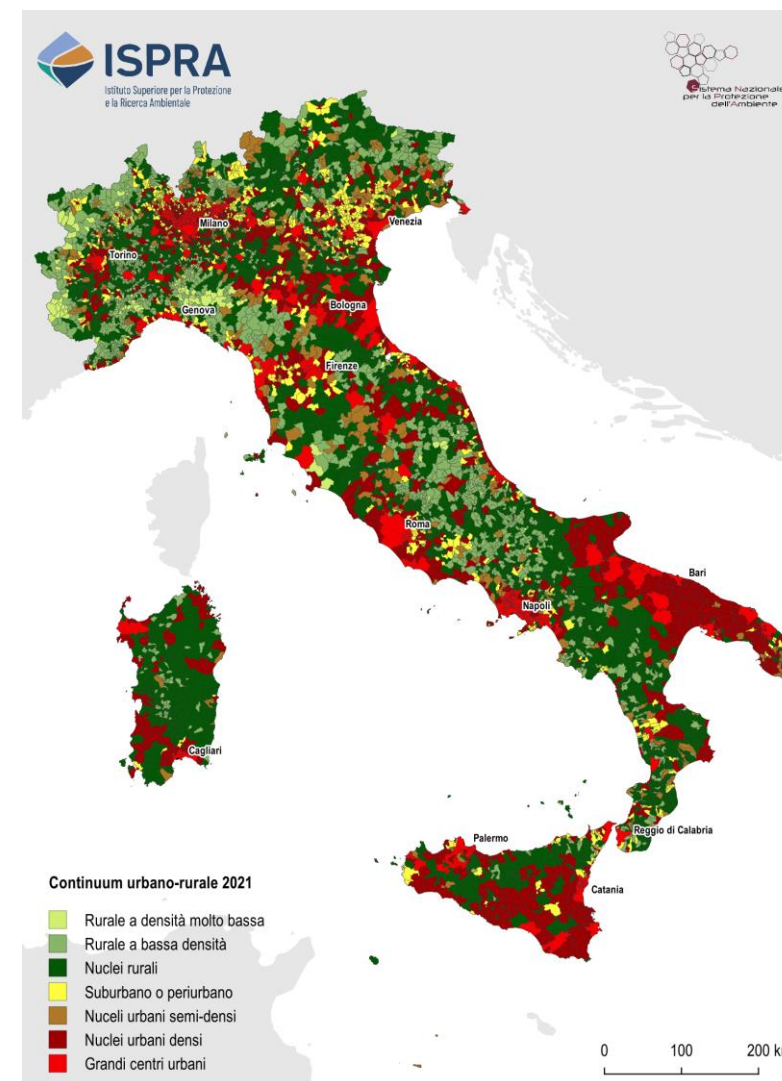
		Urban-rural continuum 2021								
		10	11	12	13	21	22	23	30	50
DEGURBA 2021	10	40,5	58,1	0,6	0,1	0,1	-	-	-	0,4
	11	0,2	93,1	5,8	0,4	0,2	-	-	-	0,2
	12	0,4	19,6	66,3	6,6	4,9	1,1	0,3	0,1	0,7
	13	0,6	5,4	22,4	68,7	0,5	1,7	-	-	0,7
	21	0,9	3,0	17,6	8,1	48,9	8,1	7,7	3,1	2,6
	22	0,9	0,9	4,4	5,3	32,5	32,9	21,3	0,2	1,7
	23	0,5	0,4	1,7	-	16,7	0,4	72,2	6,8	1,3
	30	0,1	1,3	2,5	0,1	10,5	-	1,0	81,4	3,2
Total		0,6	72,2	16,0	3,5	3,7	0,8	1,4	1,4	0,4

The definition of semi-dense urban cluster lies somewhere between that of dense urban cluster and suburban or peri-urban cells, so the difference can be attributed both to the spatial resolution of the population grid and to the interpretation of the suburban or peri-urban class in the Urban-rural Continuum. In the Urban-rural Continuum the suburban or peri-urban cells are connected to an urban centre or dense urban cluster.

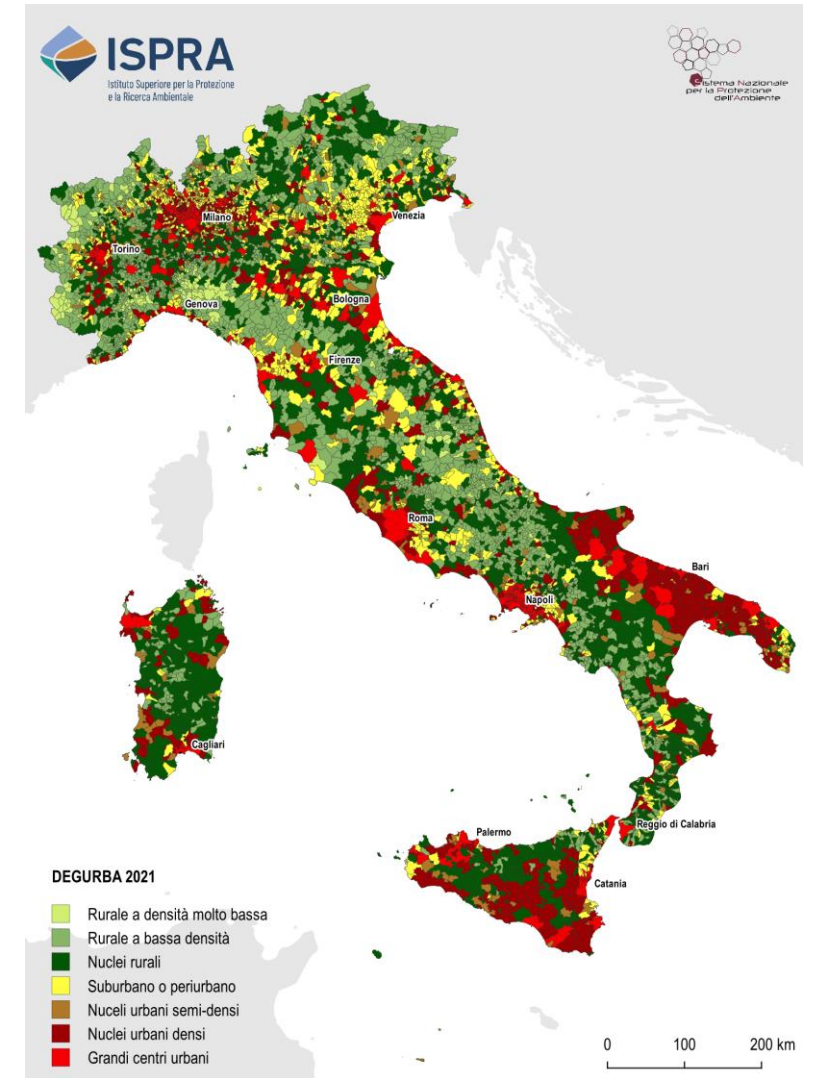
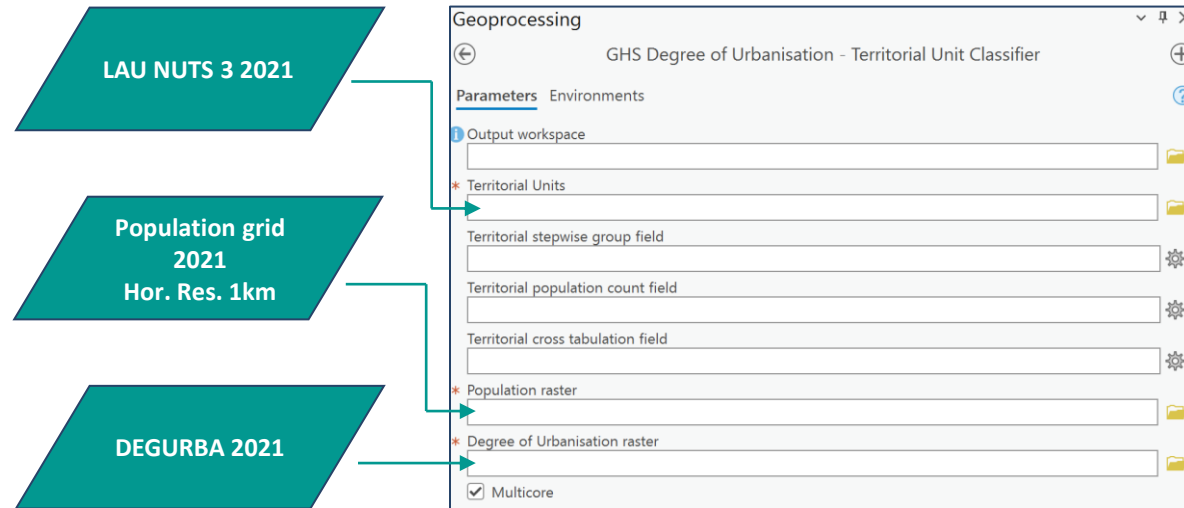
Urban-rural continuum 2021 Classification of LAU - Municipalities

DEGURBA Labels	Rule 1	Rule 2
Large urban centre	50% Pop. in urban centres	-
Dense urban cluster	Pop. Dense urban cluster > Pop. Semi-dense urban cluster	Pop. Dense urban cluster + Pop. Semi-dense urban cluster > Pop. Suburban or periurban
Semi-dense urban cluster	Pop. Semi-dense urban cluster > Pop. Dense urban cluster	Pop. Dense urban cluster + Pop. Semi-dense urban cluster > Pop. Suburban or periurban
Suburban or periurban	Pop. Suburban or periurban > Pop. Dense urban cluster + Pop. Semi-dense urban cluster	-
Rural cluster	Pop. Rural cluster > Pop. Rural low density and Pop. Rural very low density	-
Rural low density	Pop. Rural low density > Pop. Rural cluster and Pop. Rural low density	-
Rural very low density	Pop. Rural very low density > Pop. Rural cluster e Pop. Rural low density	-

	Urban-rural continuum classes 2021							
	11	12	13	21	22	23	30	Total
n° NUTS 3	120	1.673	2.933	916	562	1.184	516	7.904
% NUTS 3	1,5	21,2	37,1	11,6	7,1	15,0	6,5	

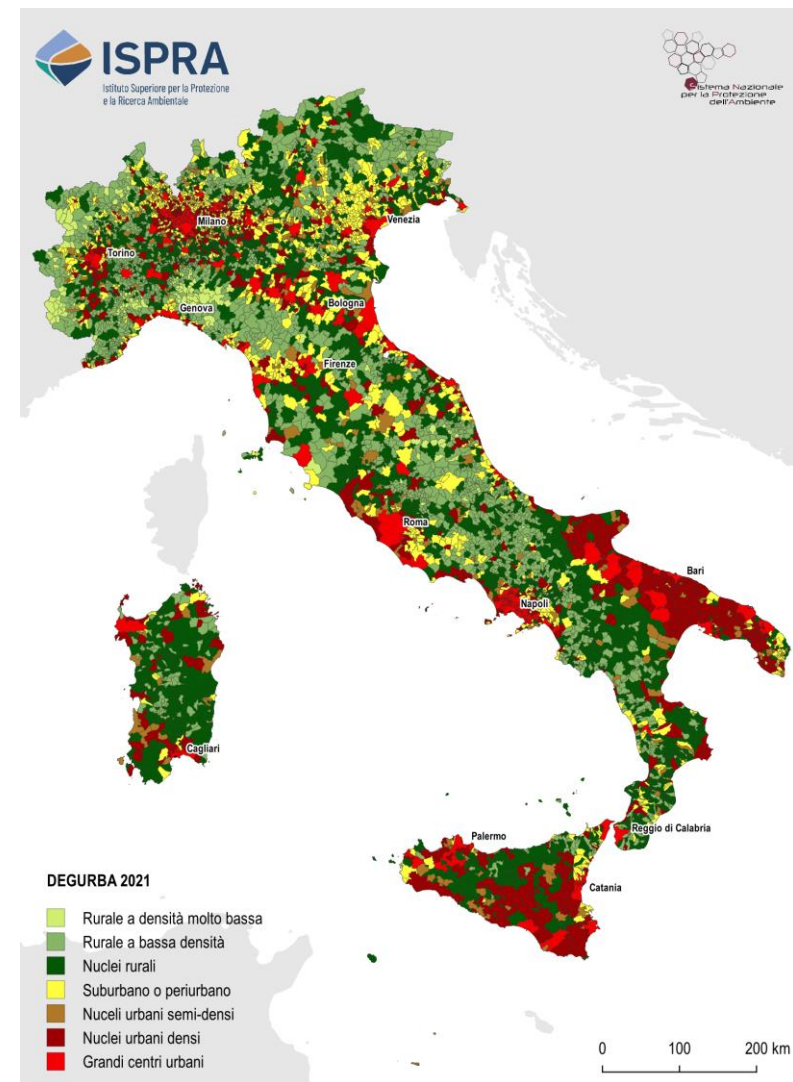


DEGURBA 2021 Classification of LAU - Municipalities

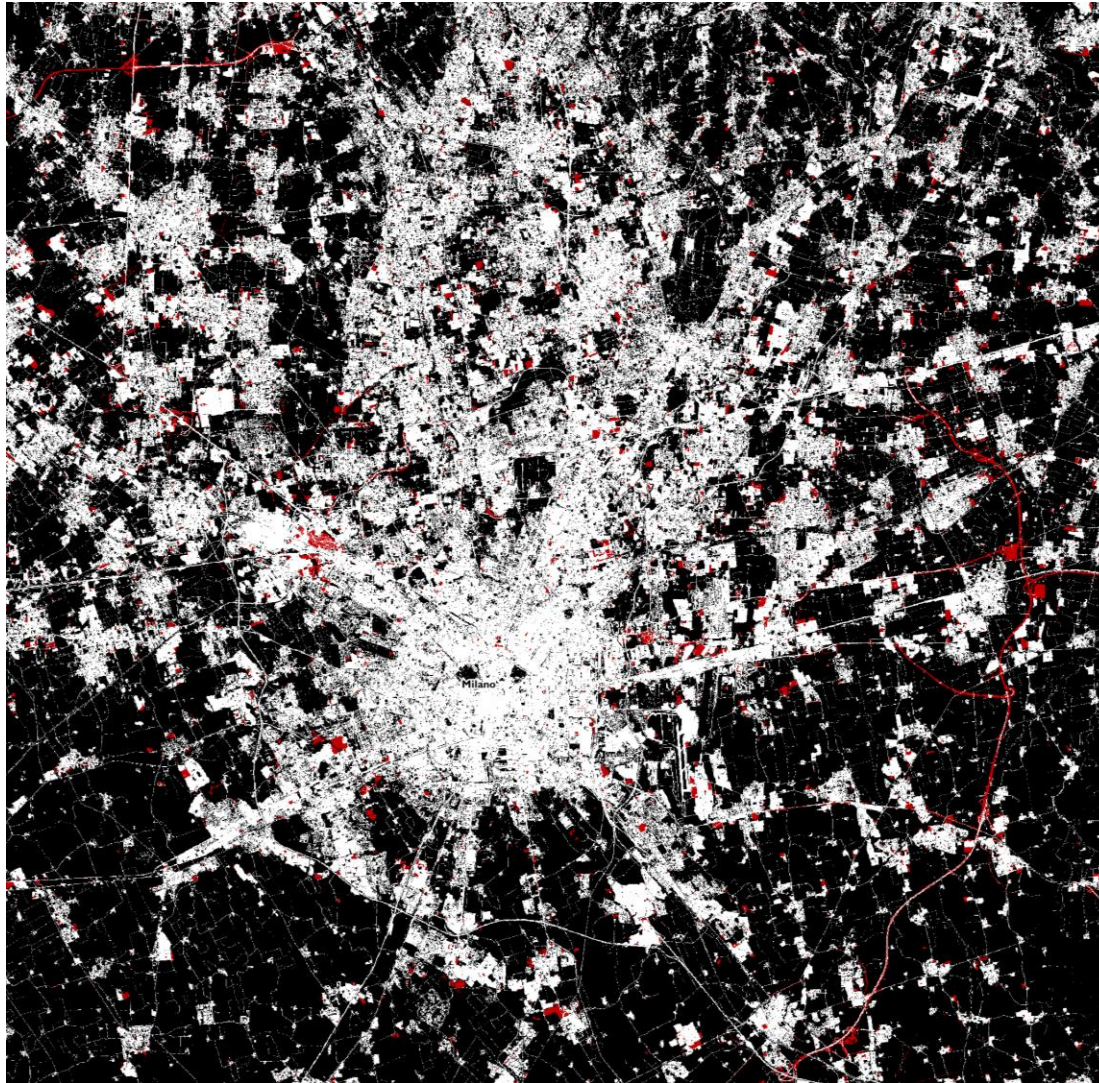


Municipalities to be monitored under the NRL

NUTS 2	DEGURBA 2021							Total
	11	12	13	21	22	23	30	
Piemonte	104	532	283	147	43	59	13	1.181
Valle d'Aosta	7	39	12	14	1	1	-	74
Lombardia	19	242	344	417	112	241	131	1.506
Trentino Alto-Adige	-	97	120	43	8	12	2	282
Veneto	2	127	141	210	42	32	9	563
Friuli-Venezia Giulia	9	80	64	42	8	7	5	215
Liguria	9	109	30	56	5	20	5	234
Emilia-Romagna	12	87	100	55	22	41	13	330
Toscana	1	88	70	59	15	29	11	273
Umbria	4	37	32	13	2	3	1	92
Marche	9	85	69	26	12	22	2	225
Lazio	5	135	123	49	23	36	7	378
Abruzzo	5	177	74	26	8	12	3	305
Molise	1	81	46	2	2	4	-	136
Campania	1	138	152	87	21	52	99	550
Puglia	-	5	61	38	25	118	10	257
Basilicata	-	36	76	4	6	8	1	131
Calabria	-	103	206	46	15	30	4	404
Sicilia	-	35	160	40	29	100	27	391
Sardegna	1	93	215	16	16	30	6	377
Total	189	2.326	2.378	1.390	415	857	349	7.904



Monitoring of the loss of natural areas in selected municipalities under the NRL



National Land Consumption map.
In white the soil consumed as of 2006 and in red the soil consumption between 2006 and 2022

Urban-rural continuum 2021 – NUTS 3 classification

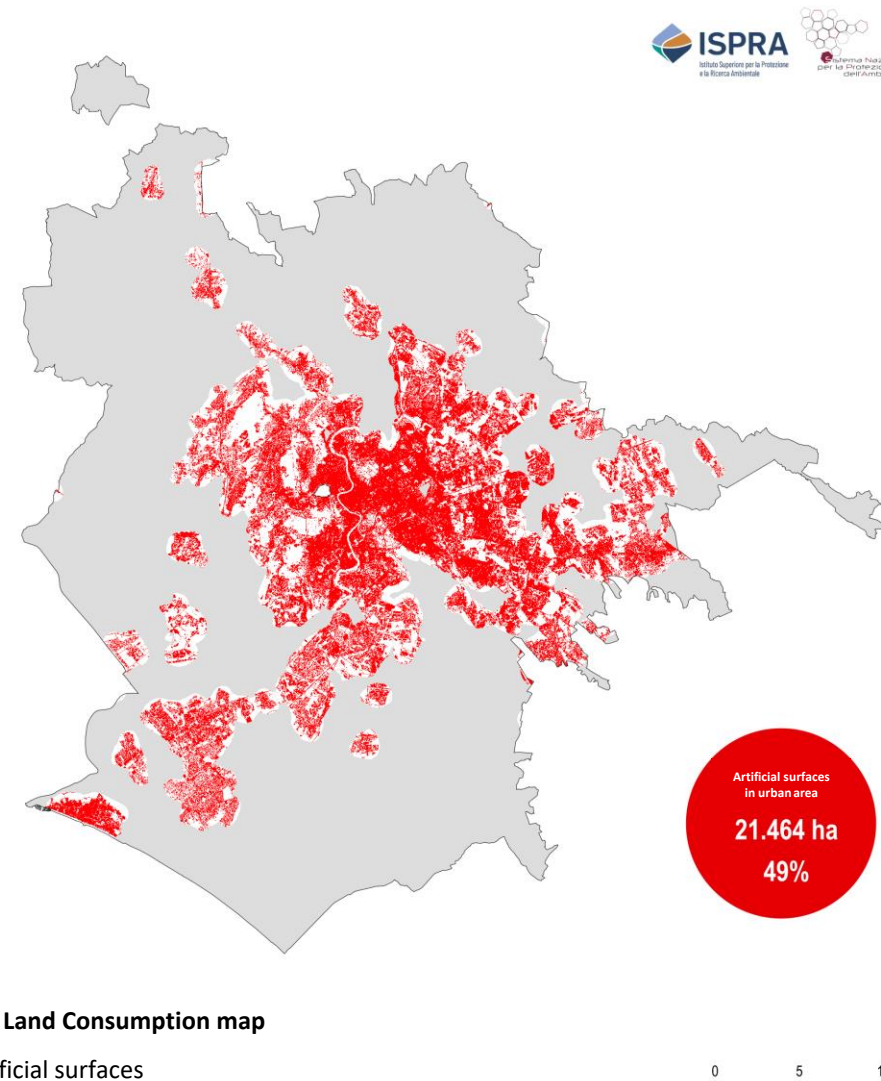
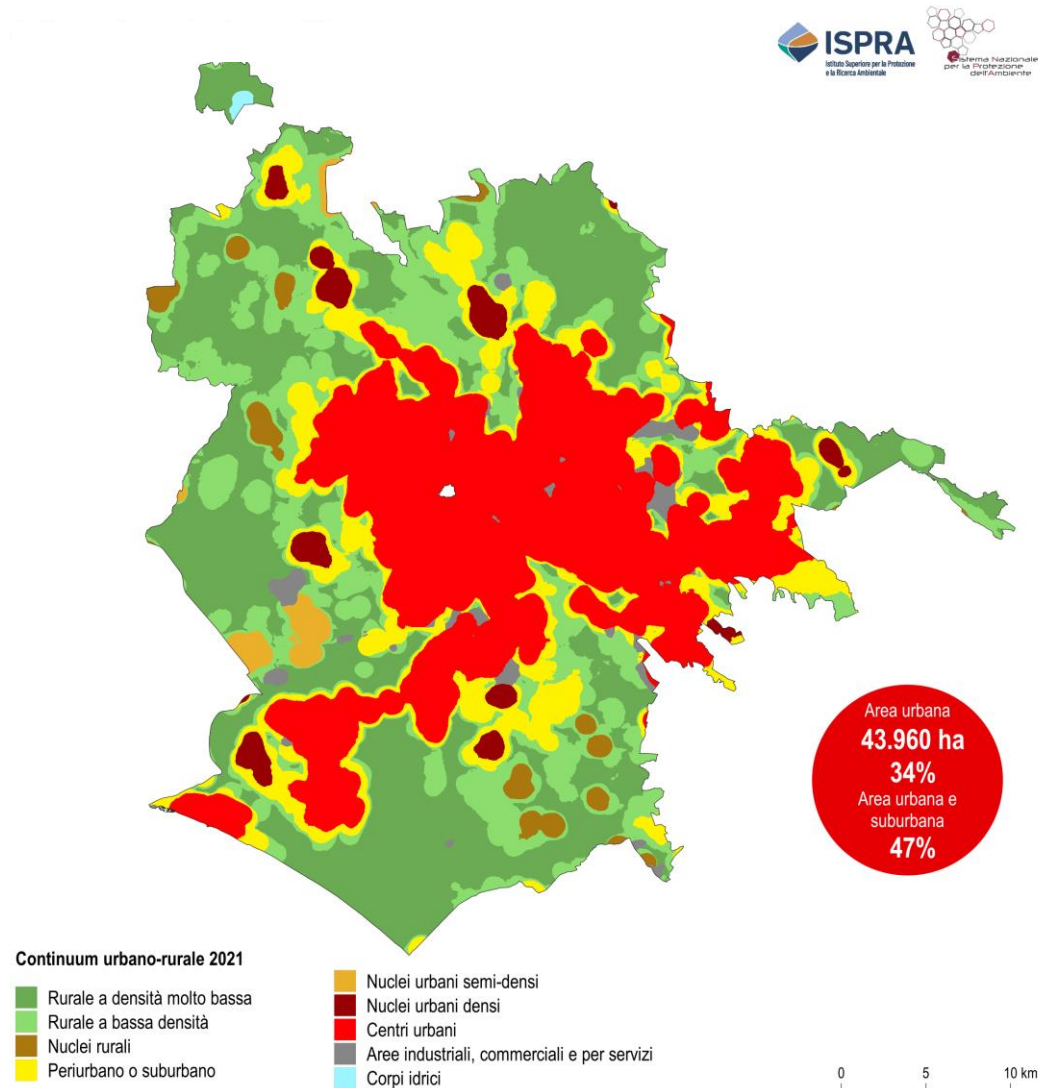
Land consumption 2021 - 2022					
	Total	stable or reduction		Increased	
	(n°)	(n°)	(%)	(n°)	(%)
30	516	52	8,4	464	18,1
23	1.184	153	24,6	1.031	40,3
22	562	149	24	413	16,2
21	916	266	43	650	25,4
Total	3.178	620		2.558	

DEGURBA 2021 – NUTS 3 classification

Land consumption 2021 - 2022					
	Total	stable or reduction		Increased	
	(n°)	(n°)	(%)	(n°)	(%)
30	349	28	4,8	321	13,2
23	857	106	18,1	751	31
22	415	85	14,5	330	13,6
21	1.390	367	62,6	1.023	42,2
Total	3.011	586		2.425	

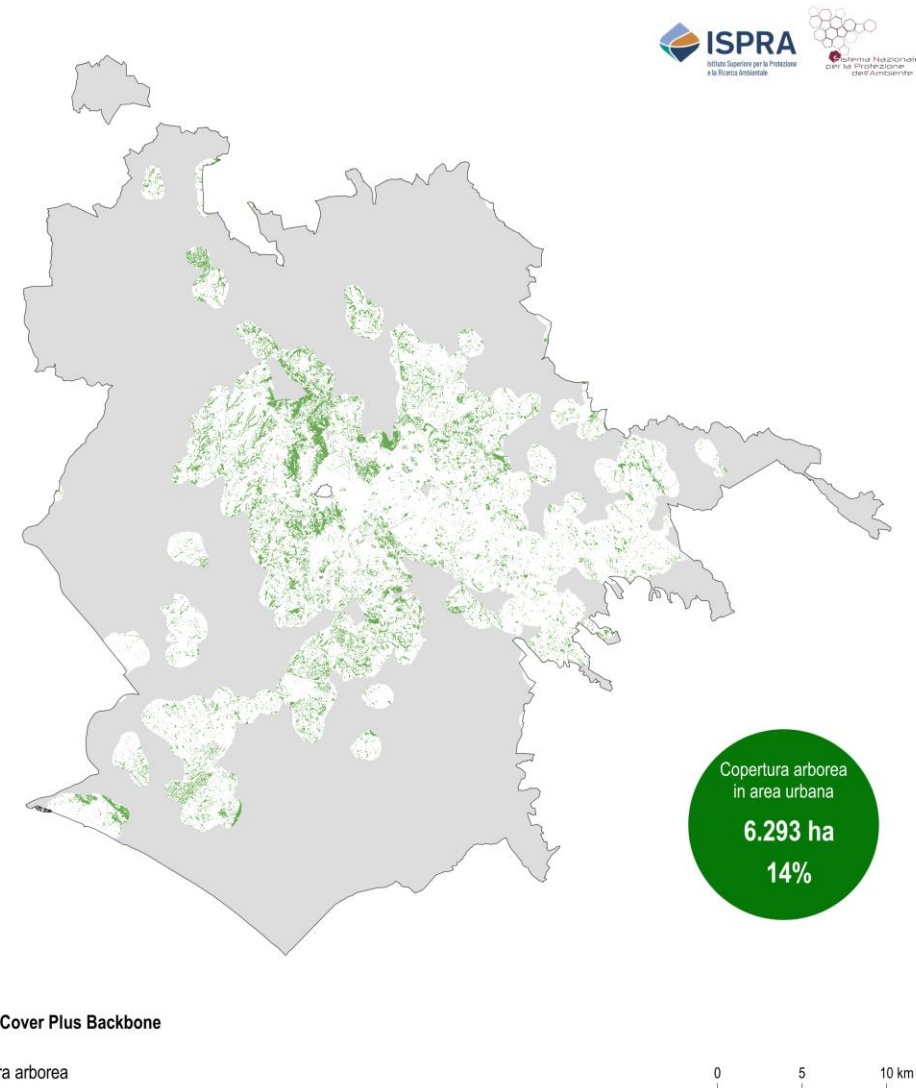
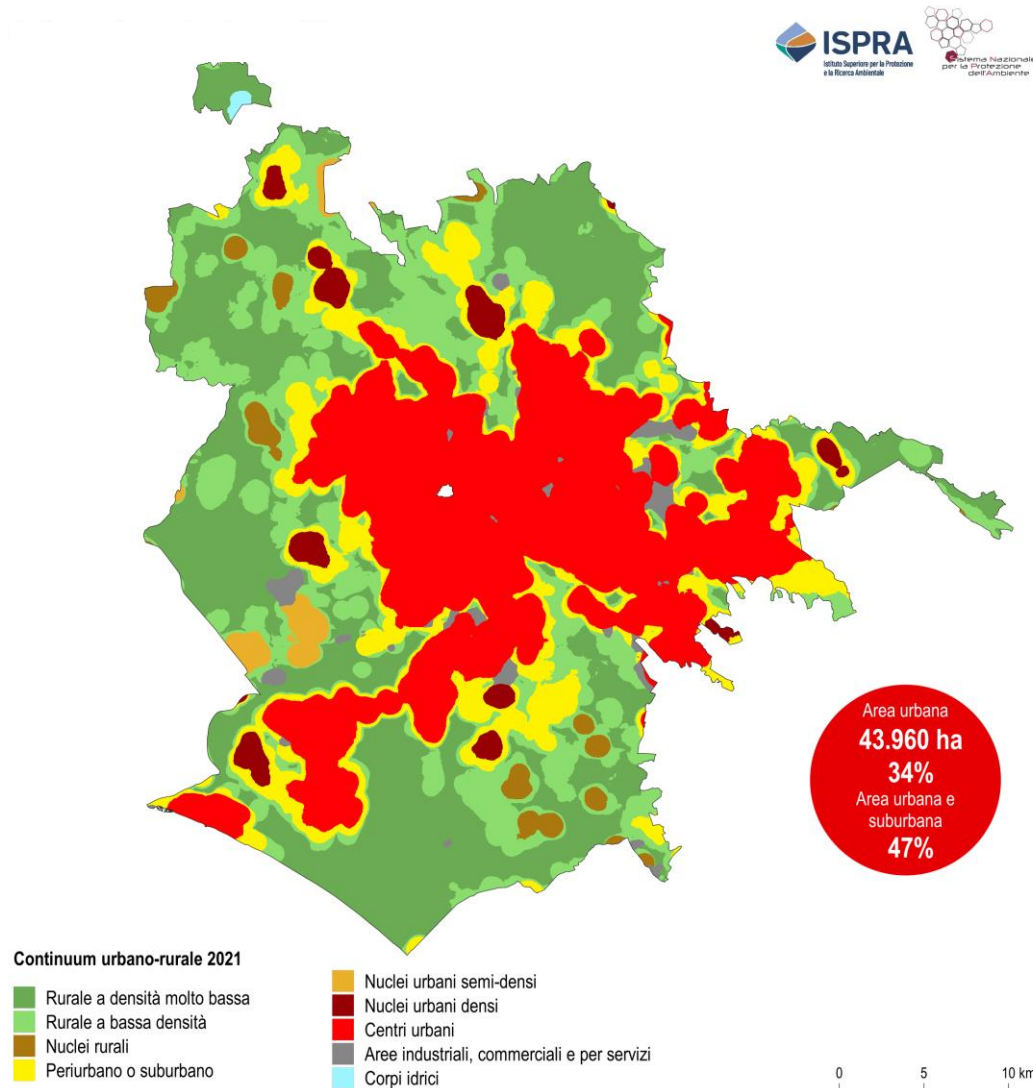
Monitoring land consumption in urban area

Municipality of Rome classified as Large urban cluster or «city» according to NRL definition



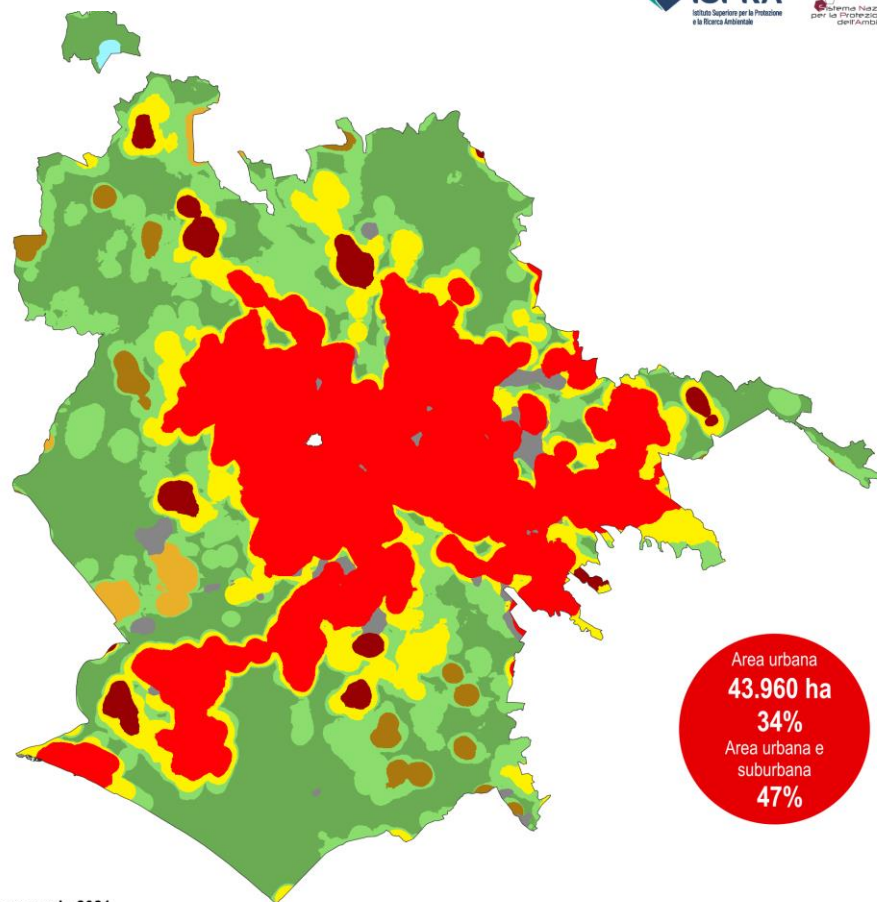
Monitoring tree cover in urban area

Municipality of Rome classified as Large urban cluster or «city» according to NRL definition



Monitoring natural surfaces in urban area

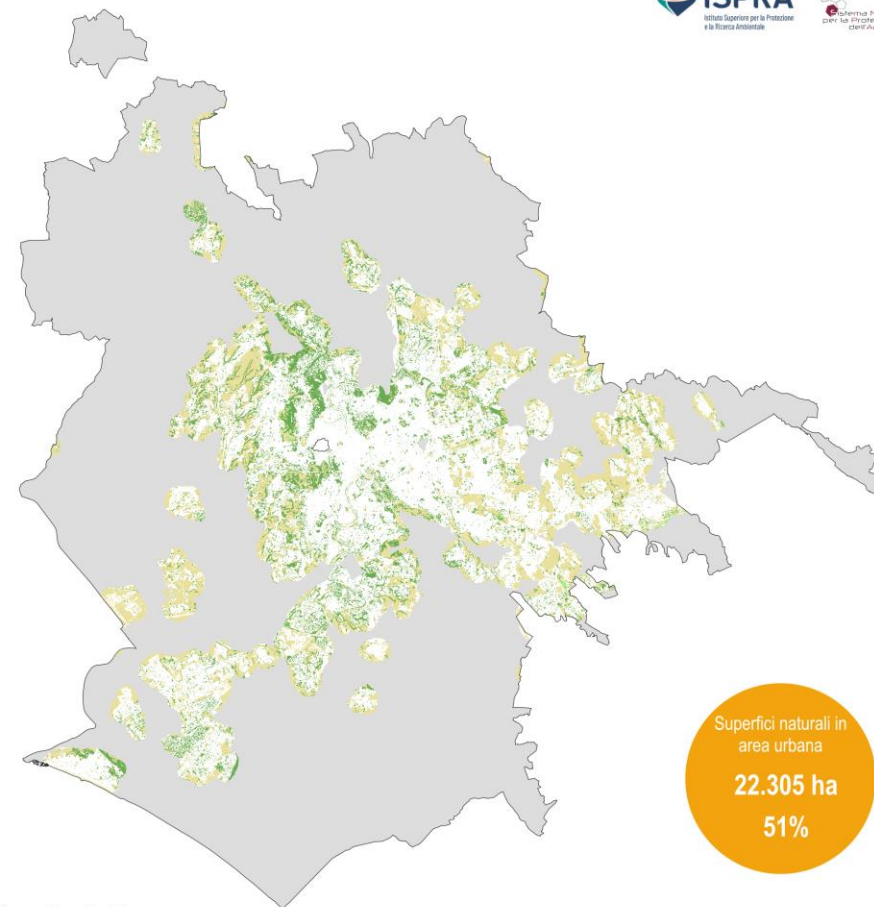
Municipality of Rome classified as Large urban cluster or «city» according to NRL definition



Continuum urbano-rurale 2021

- Rurale a densità molto bassa
- Rurale a bassa densità
- Nuclei rurali
- Periurbano o suburbano
- Nuclei urbani semi-densi
- Nuclei urbani densi
- Centri urbani
- Aree industriali, commerciali e per servizi
- Corpi idrici

0 5 10 km



Corine Land Cover Plus Backbone

- Copertura arborea
- Arbusti
- Erbaceo

0 5 10 km

Thank you



EcoAtl@nte 

le Mappe

Alcuni dati sembrano impossibili da trovare, comprendere ed utilizzare.
Raggiungi facilmente quelli di cui senti tanto parlare come l'economia circolare, il cambiamento climatico, le trasformazioni del territorio e tanti altri ancora

Componi la tua Mappa

TO CONSULT OR DOWNLOAD THE DATA SHOWN IN THE PRESENTATION

<https://sinacloud.isprambiente.it/portal/apps/MapSeries/index.html?appid=4a4a3792be324495b8f52f748c6649e0>