The European Commission's science and knowledge service

Joint Research Centre

European Commission

Accounting for urban areas in Europe

Joachim Maes

2019 forum of experts on SEEA Experimental Ecosystem Accounting

27 June 2019| Glenn Cove

European Commission

Urban ecosystems and urban ecosystem services

- How green are Europe's cities and how do green spaces contribute to delivering urban ecosystem services?

- Two dynamics in the changes in urban green space:

➔ in core cities (parks, trees, lawns)

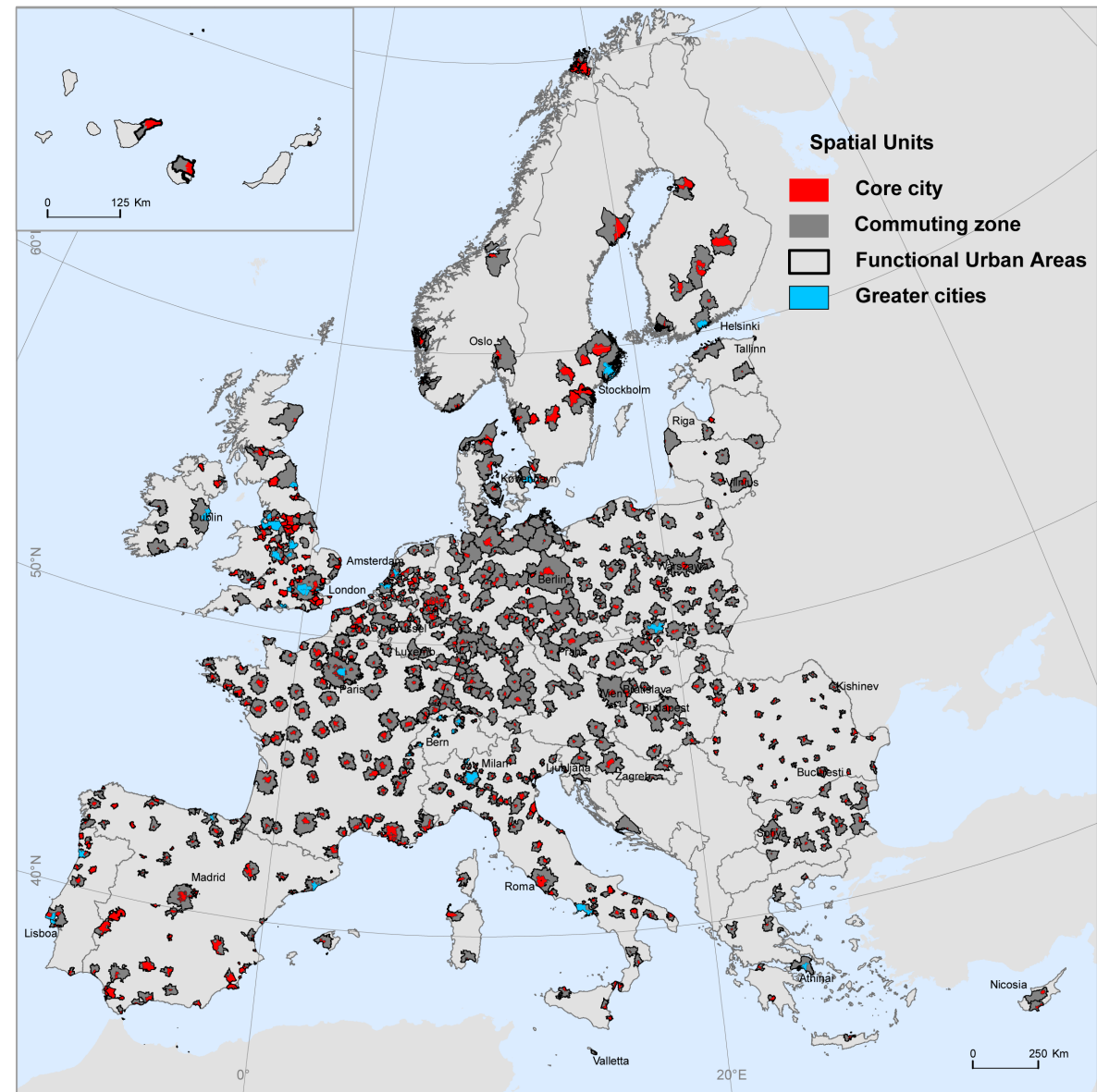➔ in functional urban areas: conversion between cropland, artificial land, and semi-natural and natural ecosystems
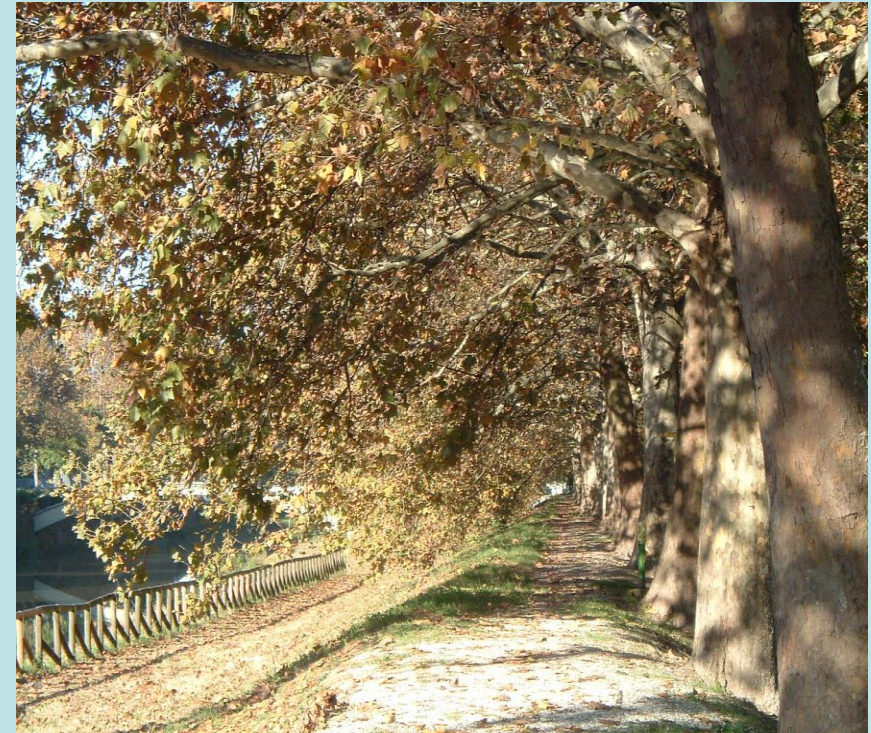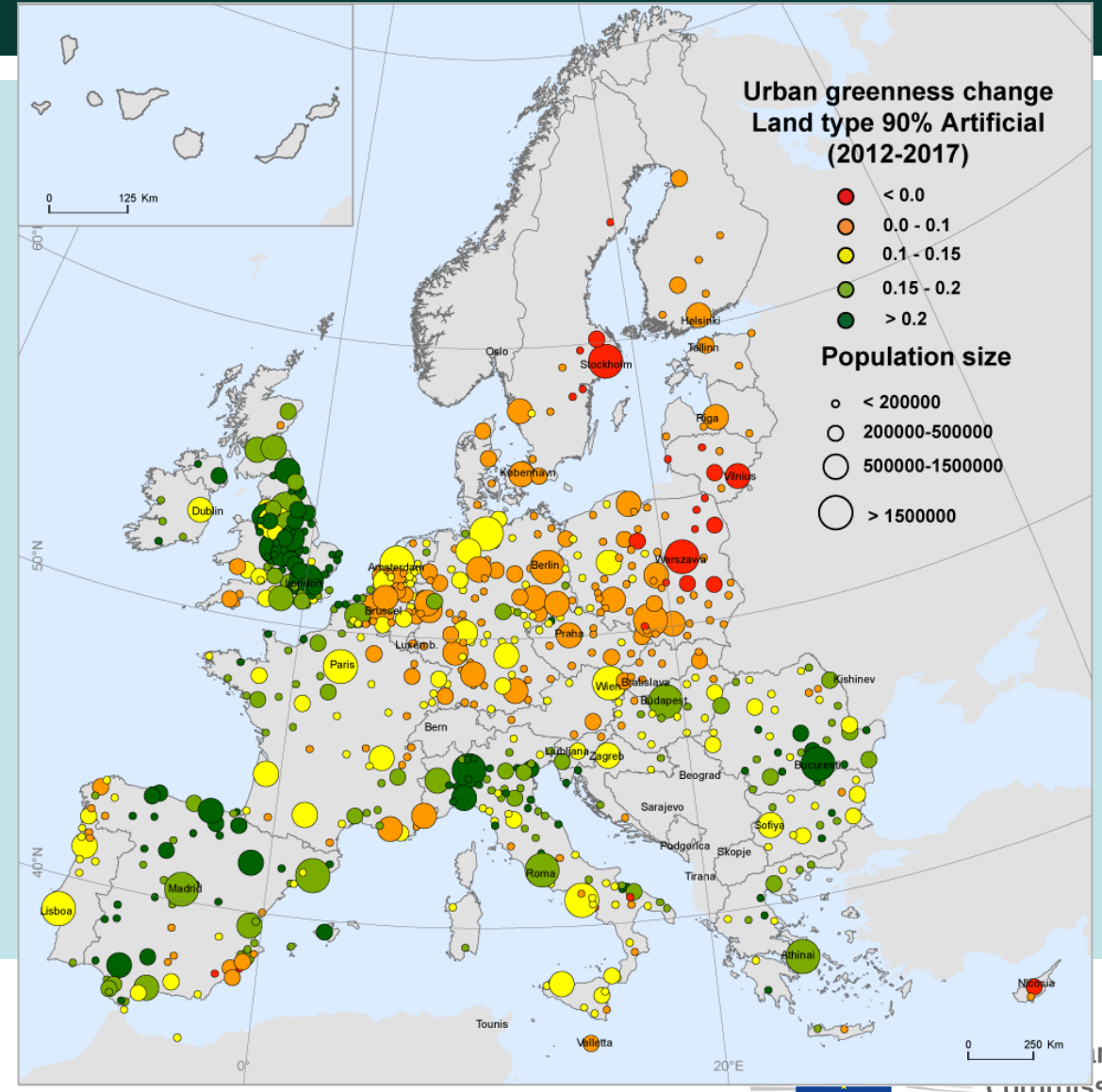
City of Padua, Italy

Reporting on cities in Europe

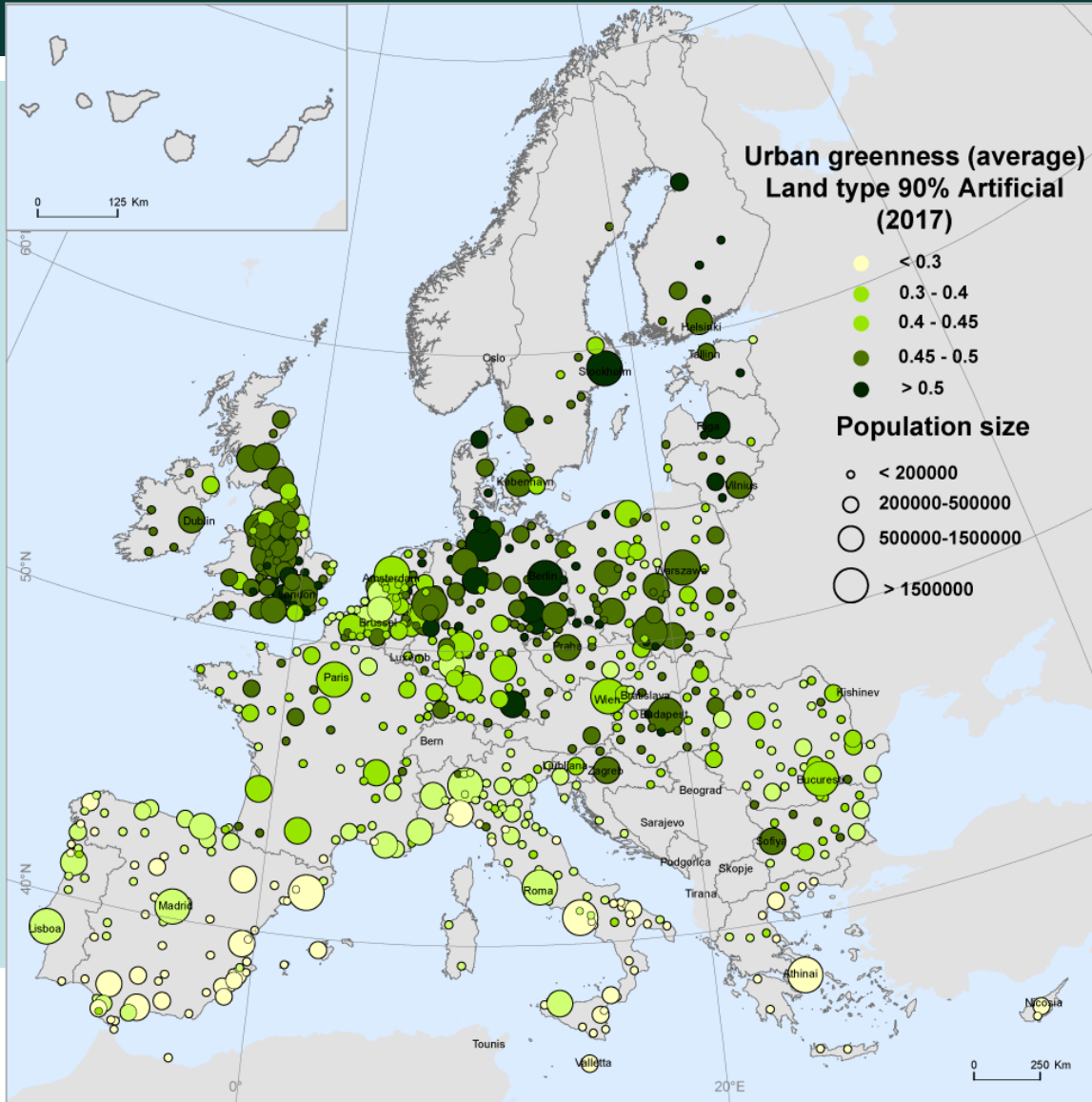

917
Core cities

690
Functional Urban
Areas

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Core cities cover 3.48 %

Functional urban areas cover 20.3 %

Spatial Units

- Core city
- Commuting zone
- Functional Urban Areas
- Greater cities

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Green in core cities

Urban greenness (average)
Land type 90% Artificial
(2017)
- < 0.3
- 0.3 - 0.4
- 0.4 - 0.45
- 0.45 - 0.5
- > 0.5

Population size
- < 200000
- 200000-500000
- 500000-1500000
- > 1500000

Urban greenness change
Land type 90% Artificial
(2012-2017)
- < 0.0
- 0.0 - 0.1
- 0.1 - 0.15
- 0.15 - 0.2
- > 0.2

Population size
- < 200000
- 200000-500000
- 500000-1500000
- > 1500000

Green in the wider urban environment

Natural
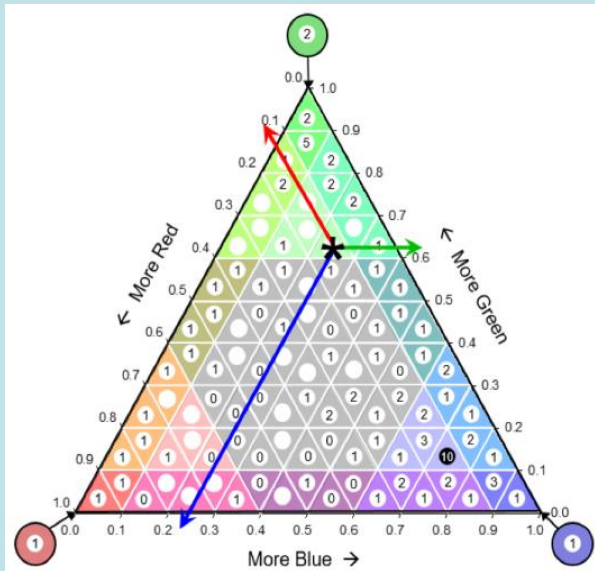
Artificial

Agricultural
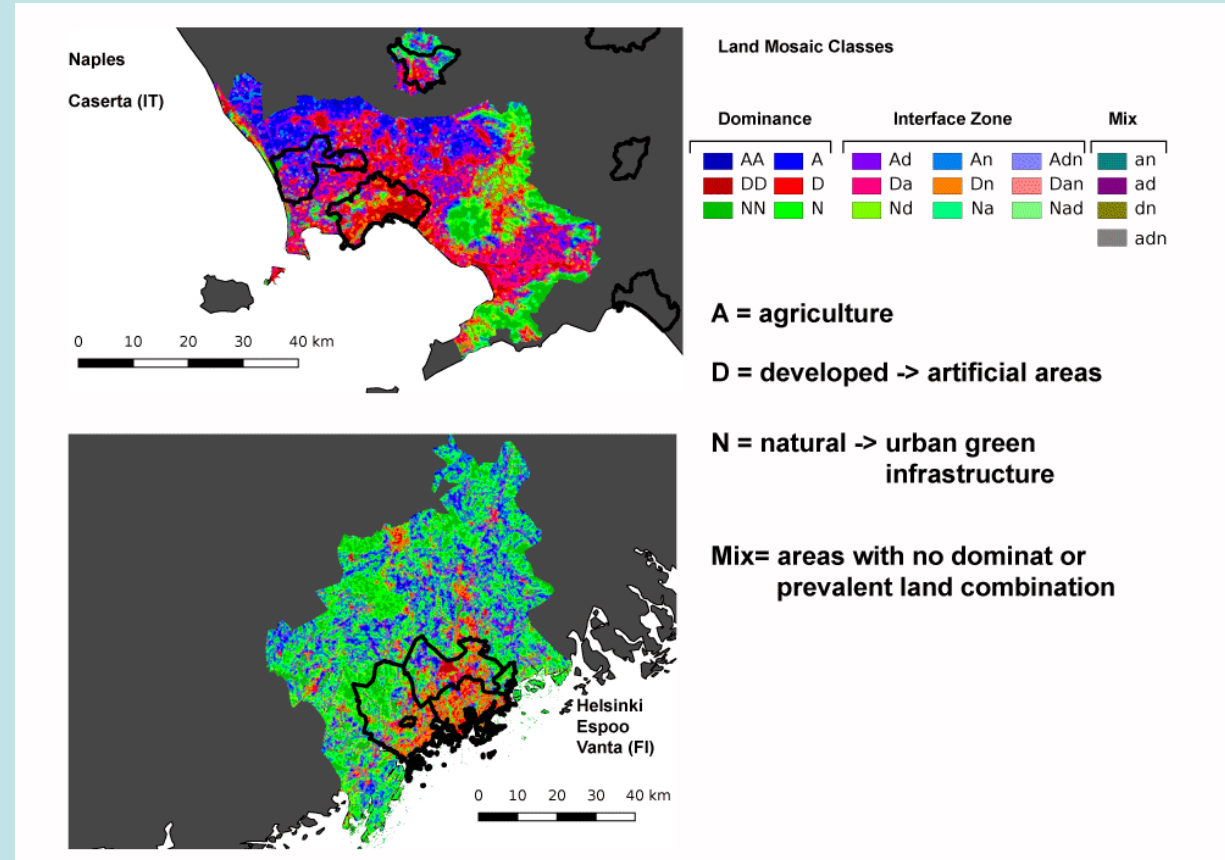
Naples
Caserta (IT)

Helsinki
Espoo
Vanta (FI)

Land Mosaic Classes

Dominance	Interface Zone	Mix
AA A	Ad An Adn	an
DD D	Da Dn Dan	ad
NN N	Nd Na Nad	dn
		adn

A = agriculture

D = developed -> artificial areas

N = natural -> urban green infrastructure

Mix= areas with no dominat or prevalent land combination

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Green in the wider urban environment
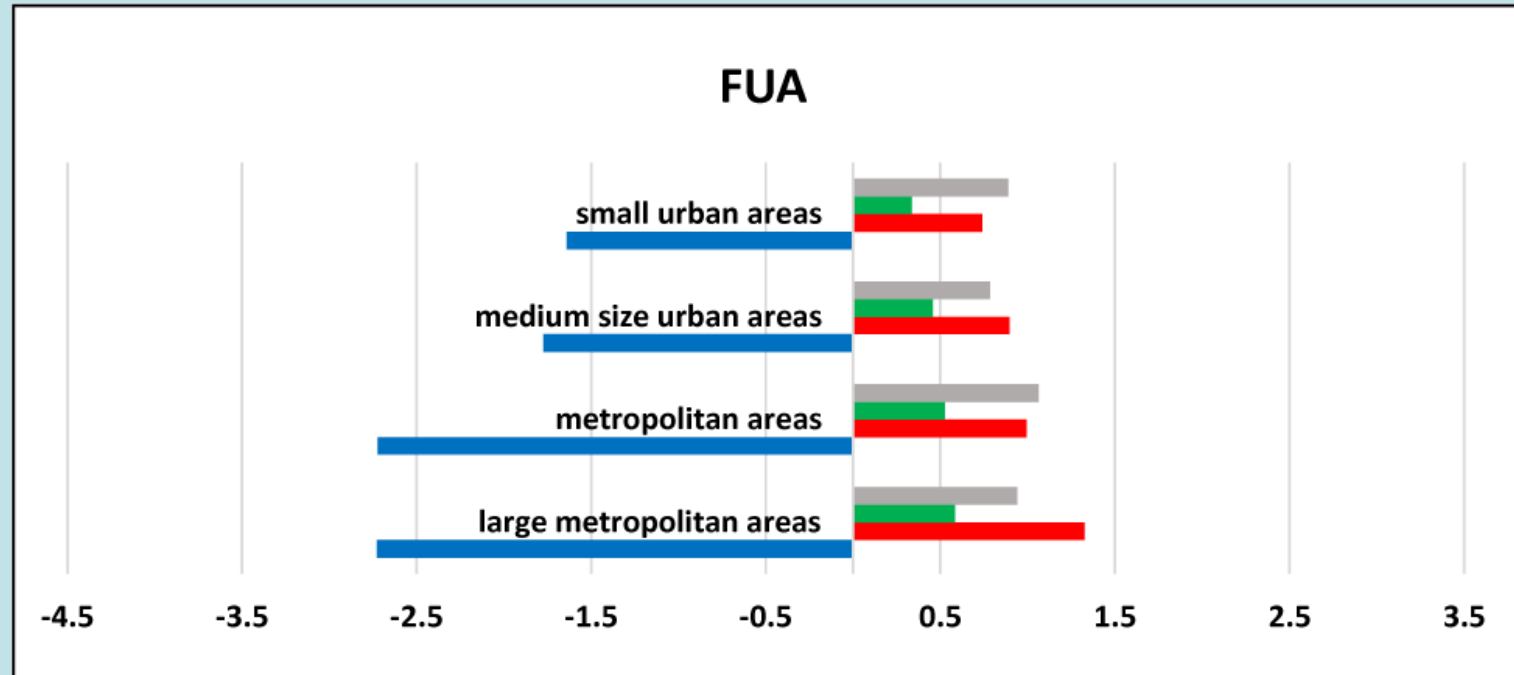
Ecosystem services in Europe's urban areas

- Two approaches:
- Pan-European mapping of ecosystem services across ecosystem types (including urban) ➔ INCA accounts
- Mapping of ecosystem services inside functional urban areas and core cities

INCA supply table

Year 2012, million EUR	Ecosystem type									Total
Ecosystem service	Urban	Cropland	Grassland	Heathland and shrub	Woodland and forest	Sparsely vegetated land	Wetlands	Rivers and lakes	Coastal and intertidal areas	
Crop provision		20,560								20,560
Timber provision					14,540					14,540
Global climate regulation	20	150	850	20	13,330	20	0	NA	NA	14,390
Flood control	90	1,020	3,130	360	11,390	0	330	NA	NA	16,320
Crop pollination		9,720								9,720
Nature-based recreation	80	4,070	7,480	3,100	30,720	1,350	2,300	1,020	280	50,400
Total	190	35,520	11,460	3,480	69,980	1,370	2,630	1,020	280	125,930
Value in EUR/km^2	880	22,090	22,610	19,250	44,010	23,410	26,890	9,320	14,530	28,740

NA: not assessed
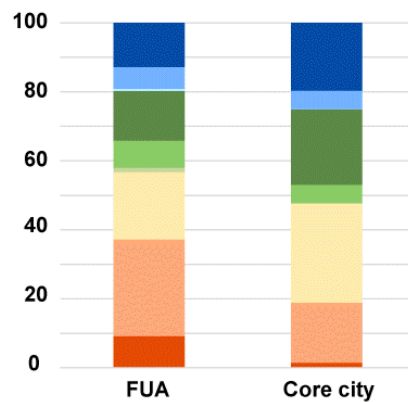
Values rounded to the nearest tens
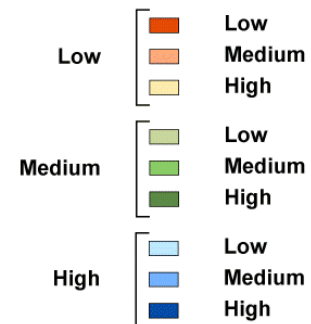
56,370 euro/km^2 of green urban area

World's first botanical garden (created in 1545)

Colli Euganei Regional Park
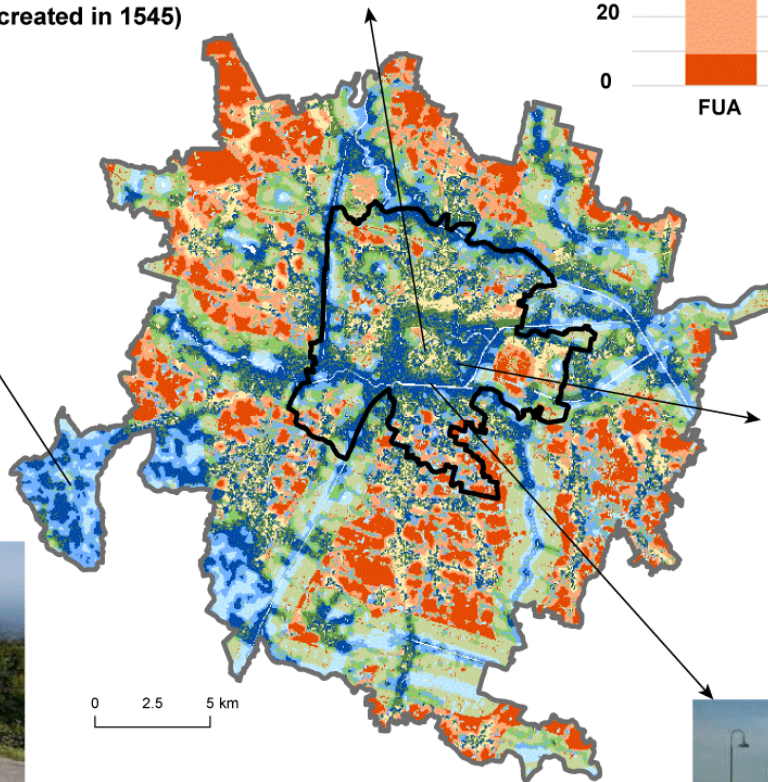
bike paths - connection with the core city

Recreation Opportunity Spectrum

recreation potential — **facilities to reach and enjoy**

Low	Low	(orange)
	Medium	
	High	
Medium	Low	(green)
	Medium	
	High	
High	Low	(blue)
	Medium	
	High	

FUA — Core city

IRIS Urban Park 6.5 ha with facilities to reach and enjoy
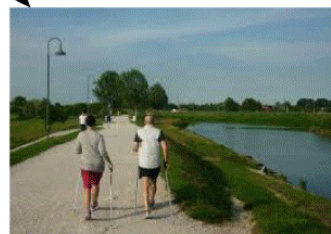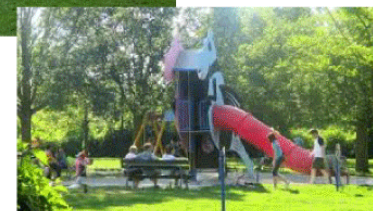
bike and walk path along the River

0   2.5   5 km

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Share of FUA with high recreation potential (%)

- < 15
- 15- 30
- 30 - 45
- 45 - 65
- > 65

Population size

- < 300000
- 300000-600000
- 600000-1000000
- 1000000-2000000
- > 2000000

EU average: 35.3 %

Canary Islands

0   125 Km

0   250 Km

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Thanks

You can find me at @MaesJoachim & joachim.maes@ec.europ.eu