

**Mantova, Teatro sociale, 27 November 2018**

# **The present status of urban forestry in the world**

**Francesco Ferrini**

francesco.ferrini@unifi.it

**Giovanni Sanesi**

giovanni.sanesi@uniba.it



**COMUNE DI  
MANTOVA**



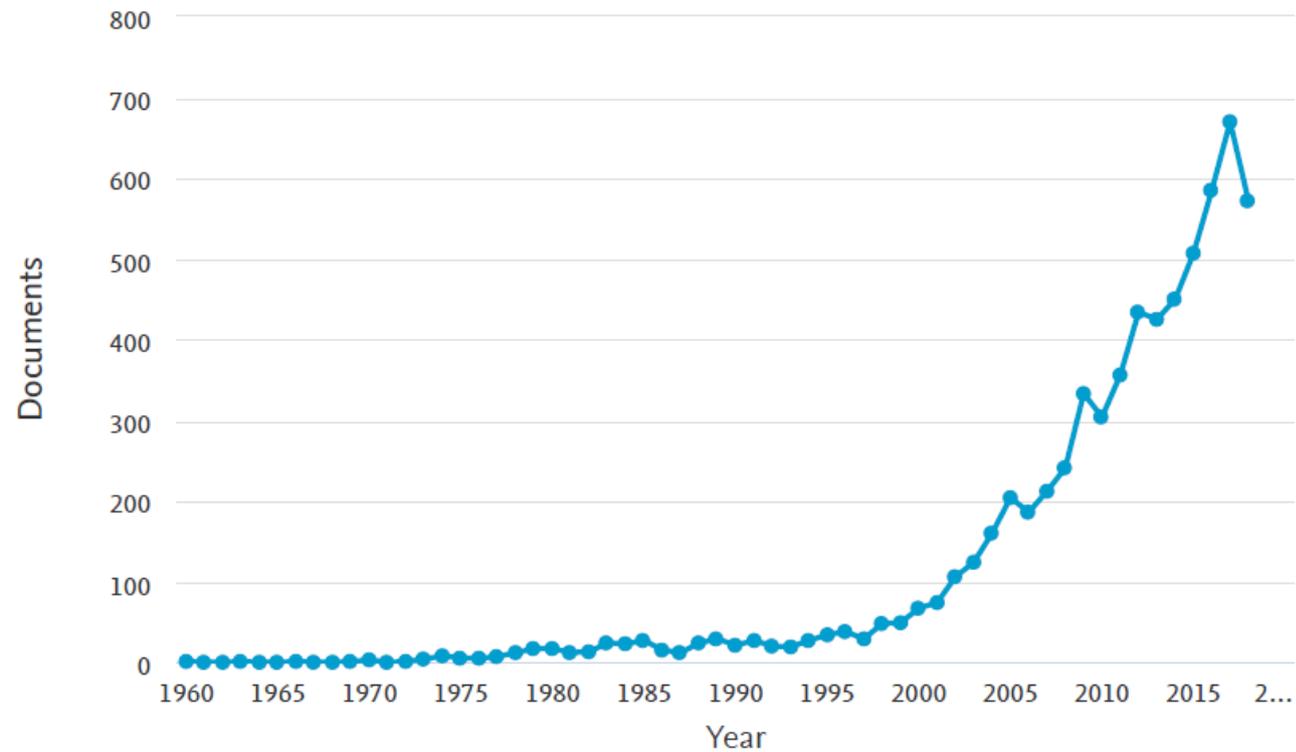
**POLITECNICO  
MILANO**



# Temporal interest towards Urban Forestry in scientific literature

(Scopus accessed 19 November 2018)

Documents by year

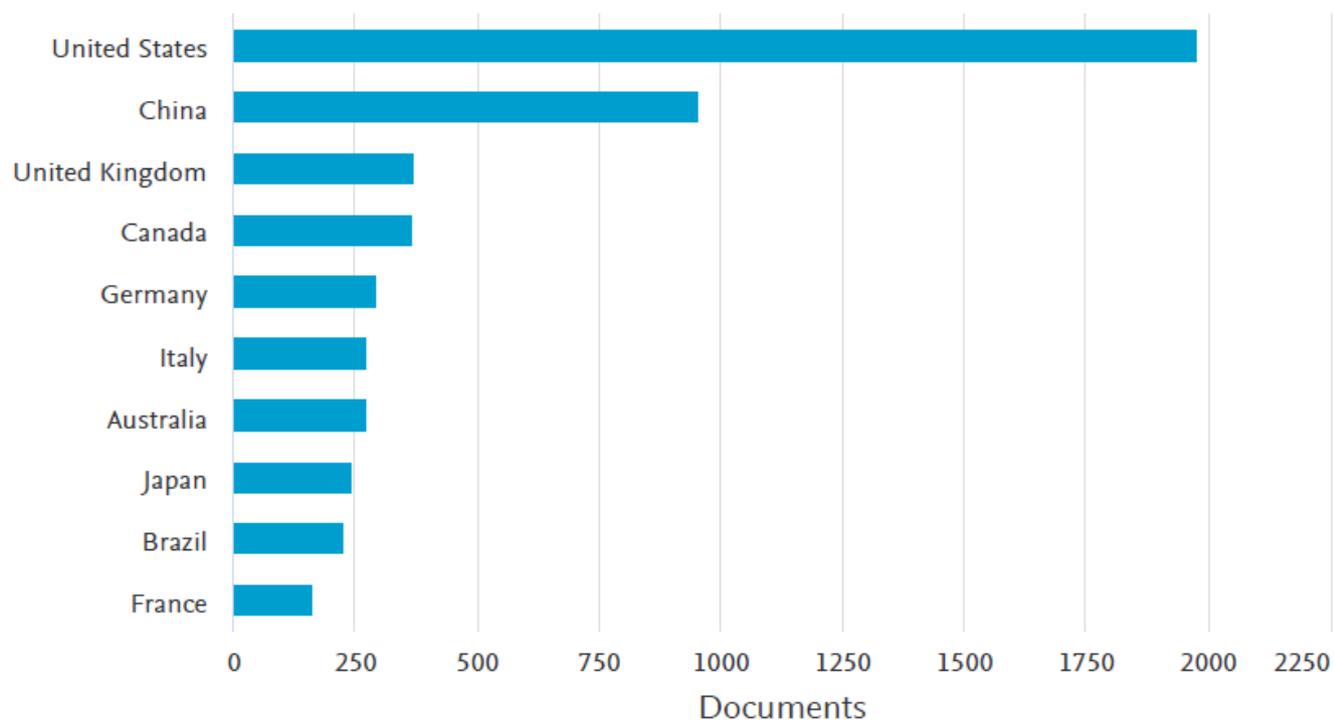


# Temporal interest towards Urban Forestry in scientific literature

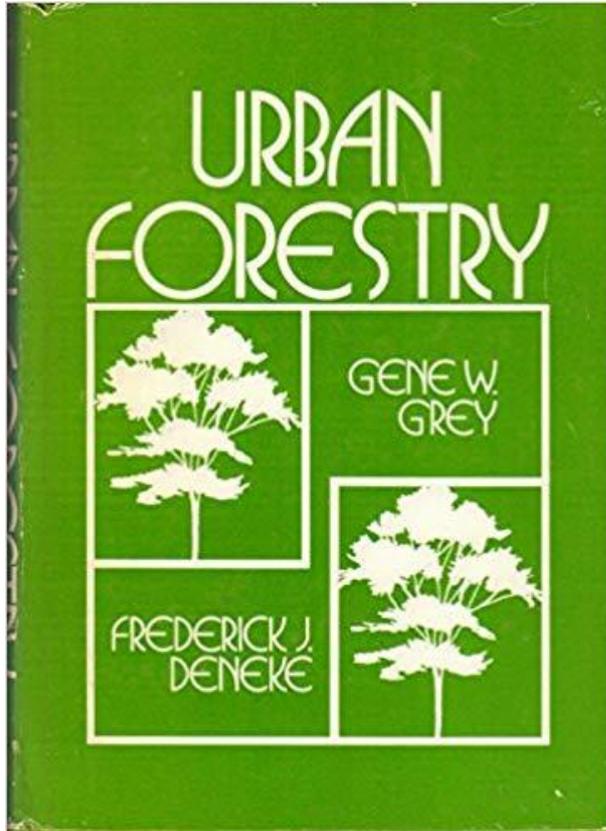
(Scopus accessed 19 November 2018)

## Documents by country or territory

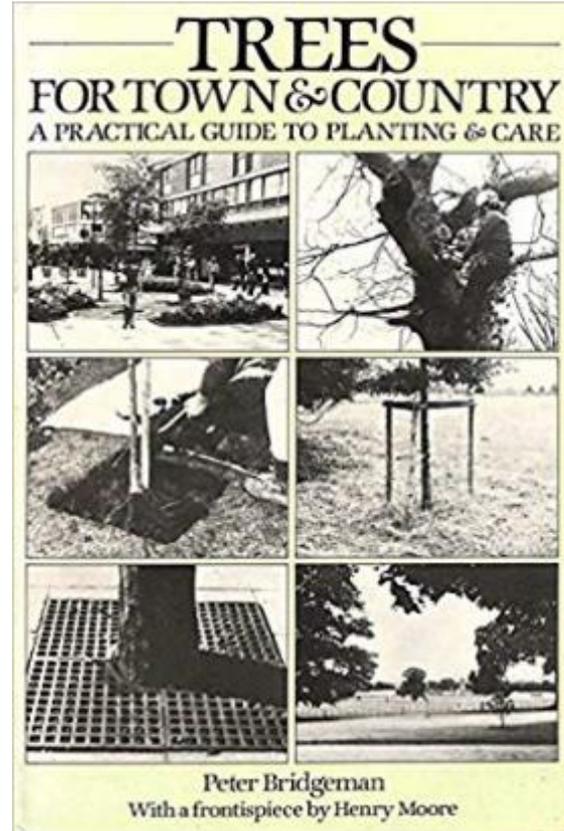
Compare the document counts for up to 15 countries/territories



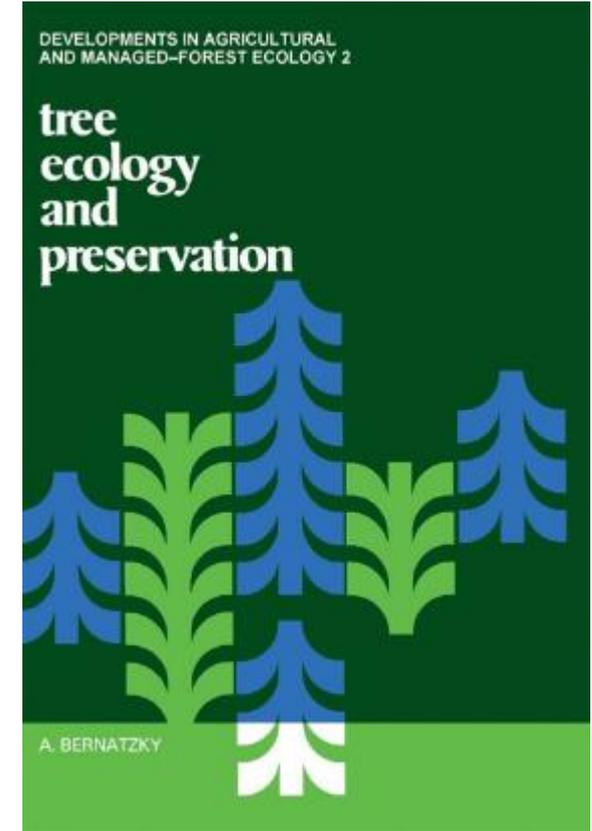
# Books on Arboriculture & Urban Forestry



1978

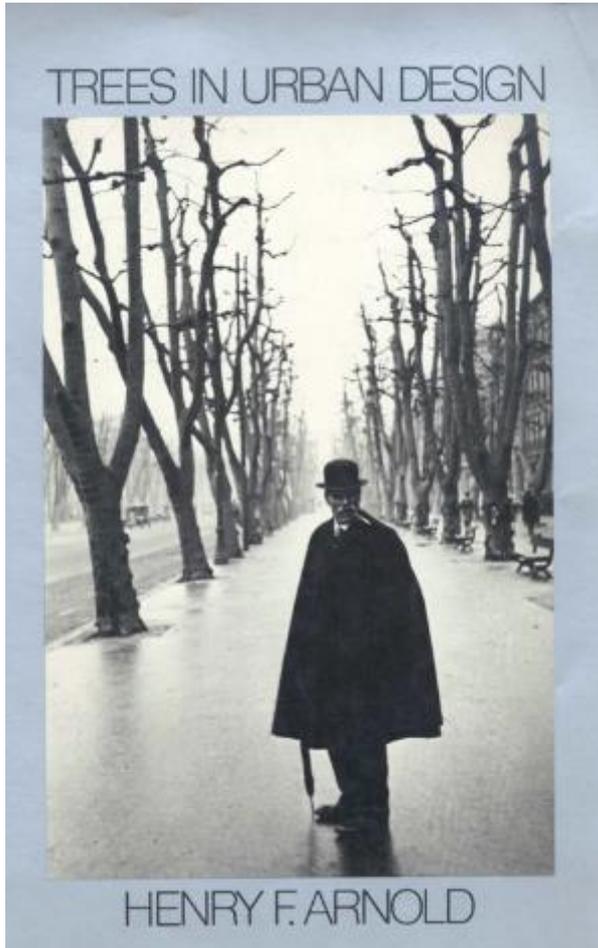


1979

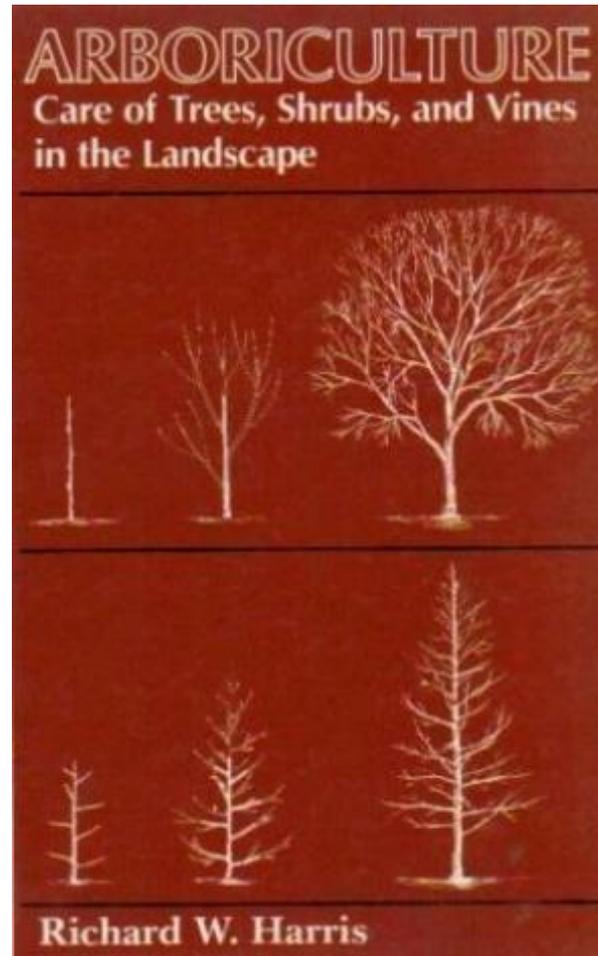


1982

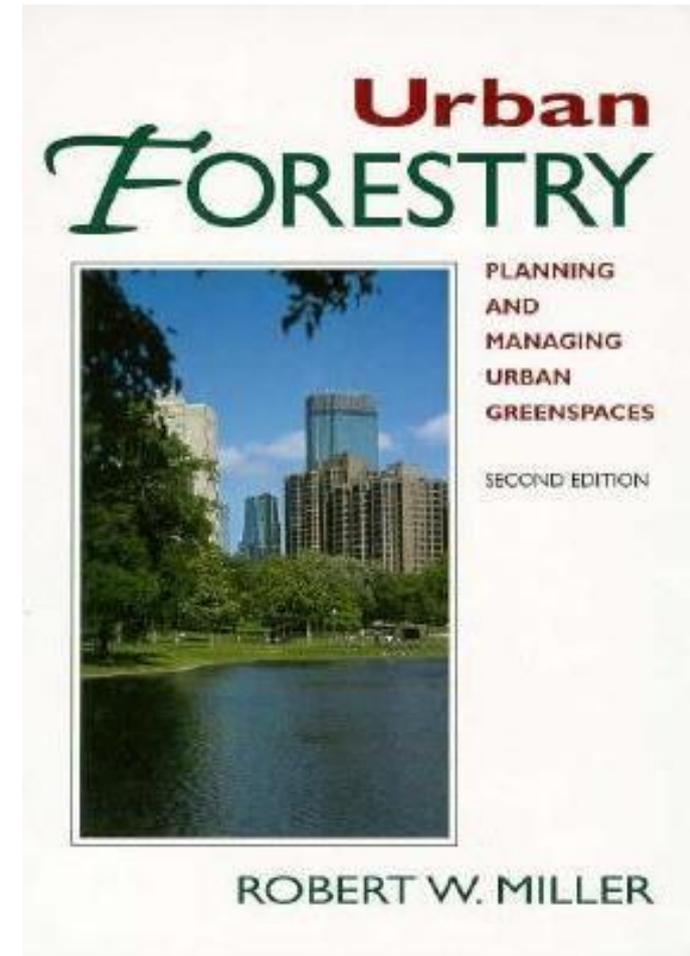
# Books on Arboriculture & Urban Forestry



1982

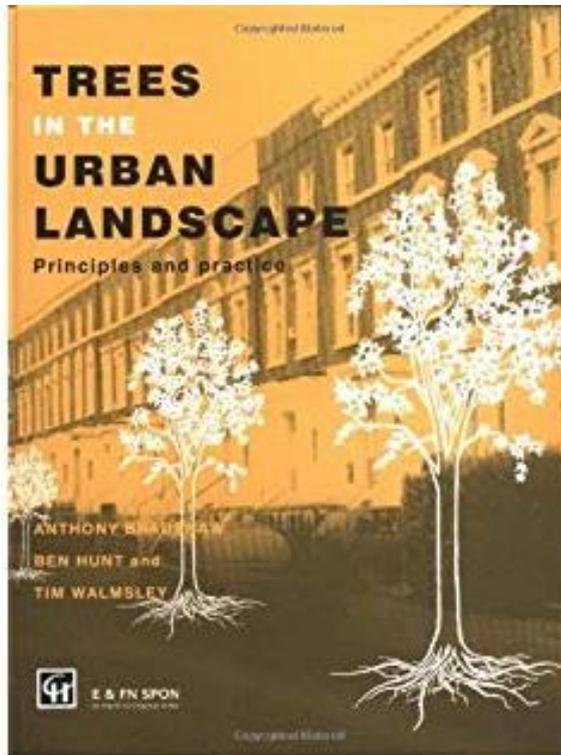


1983

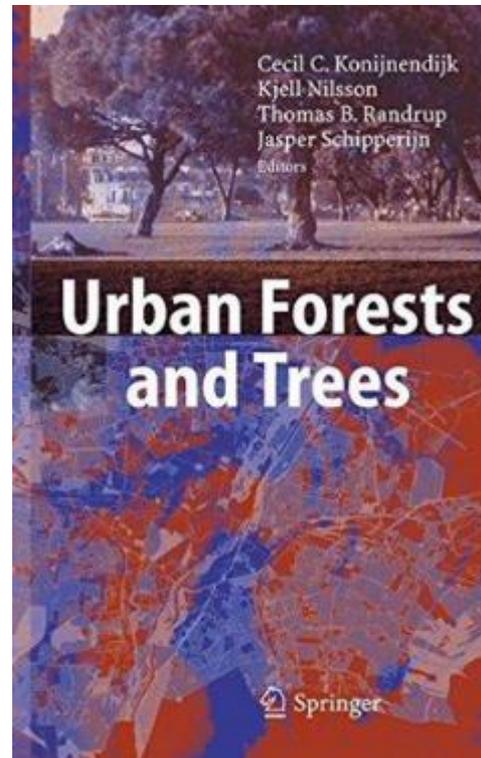


1988

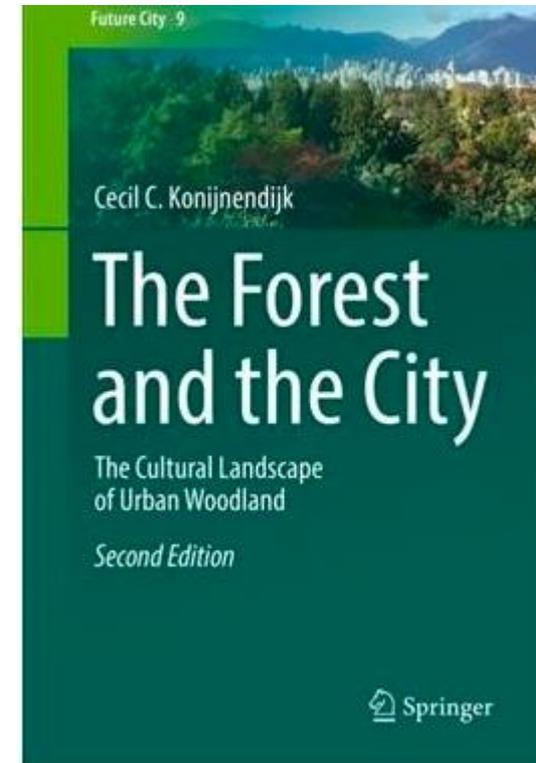
# Evolution of the concept from (urban) tree ecology Urban Forestry



1995

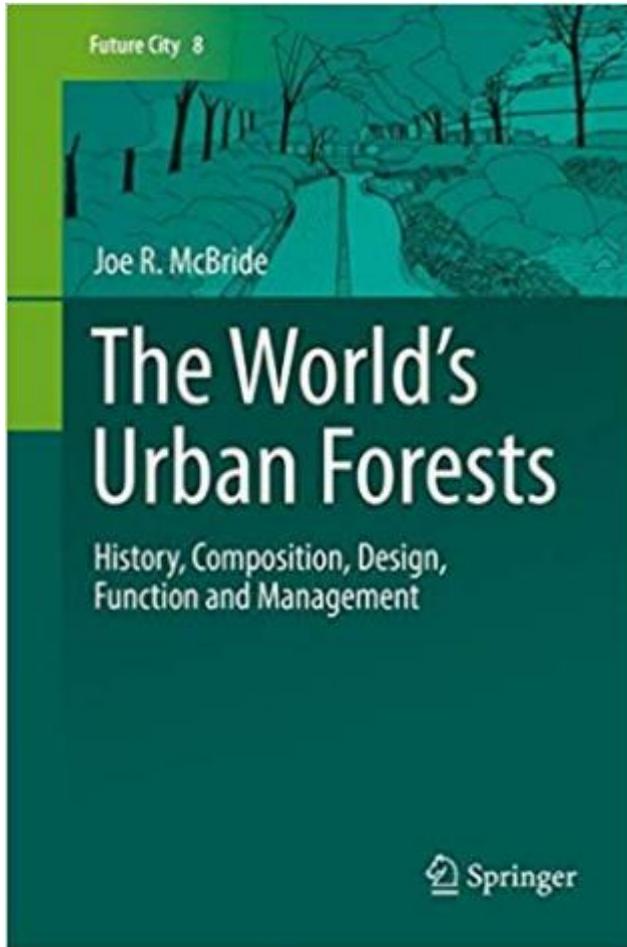


2005

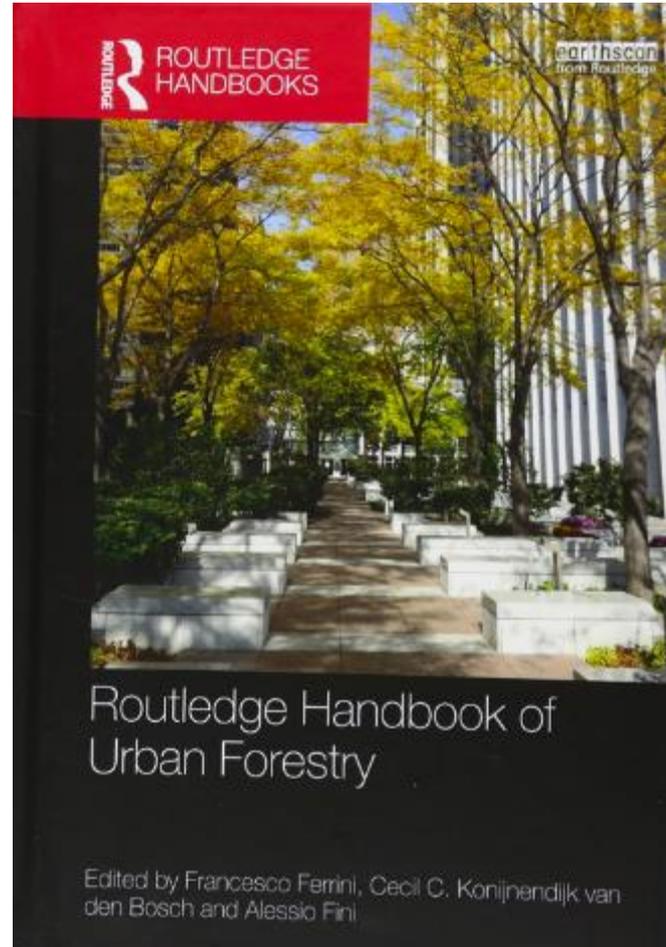


2008

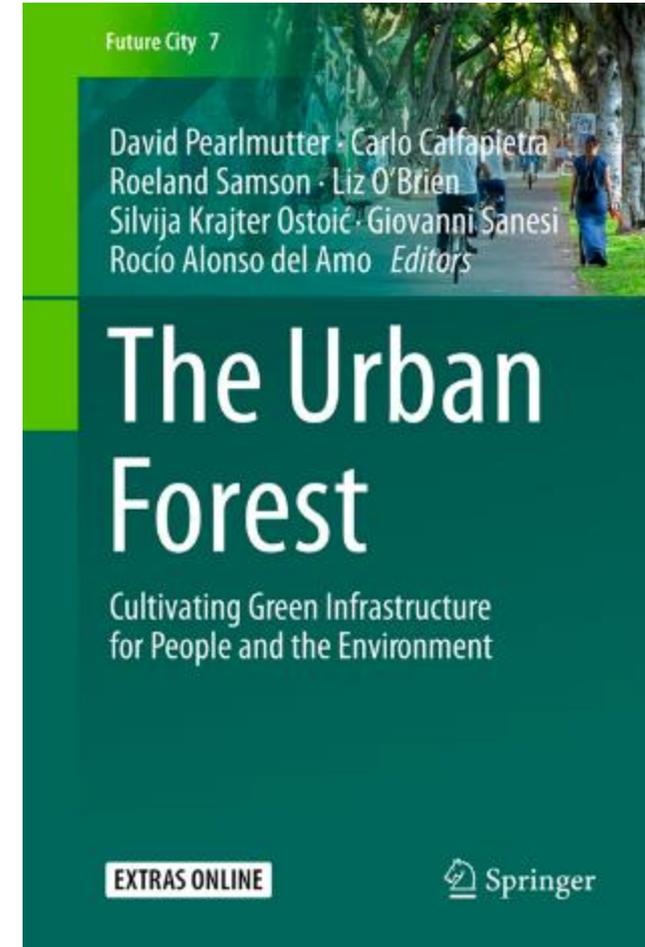
# Books on Arboriculture & Urban Forestry



2017

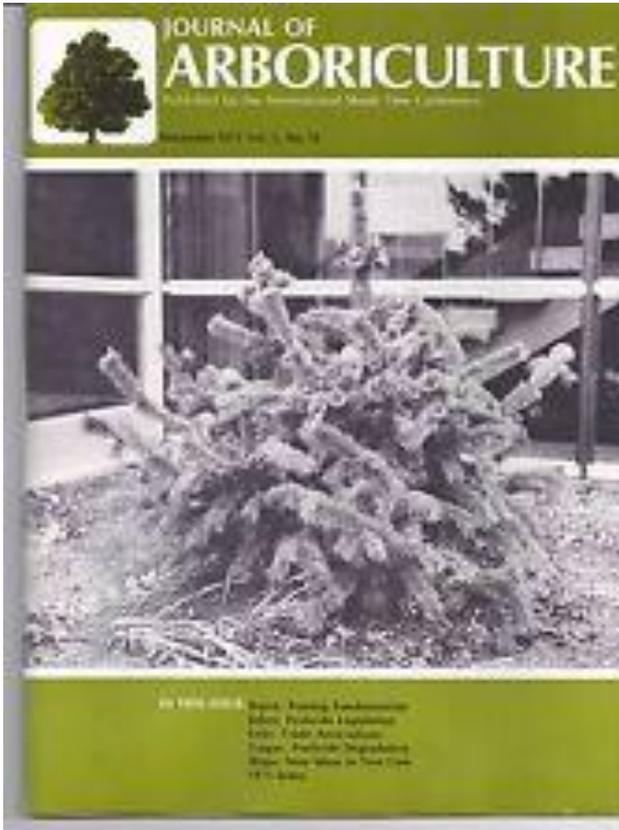


2017

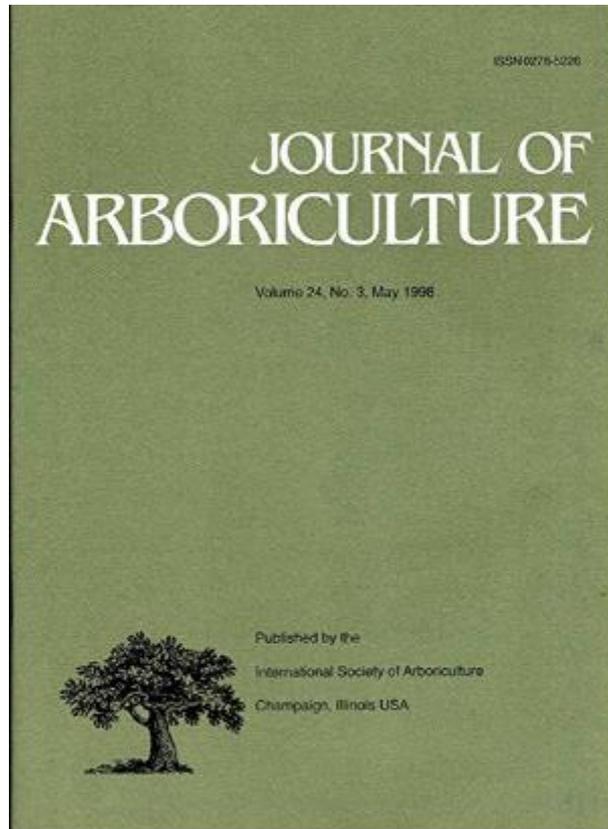


2017

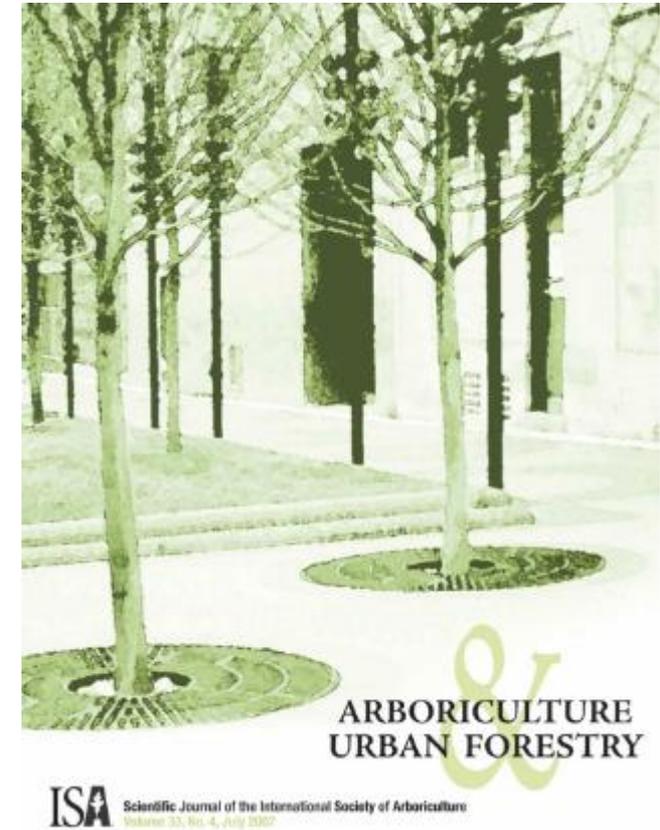
# Journals on Arboriculture & Urban Forestry



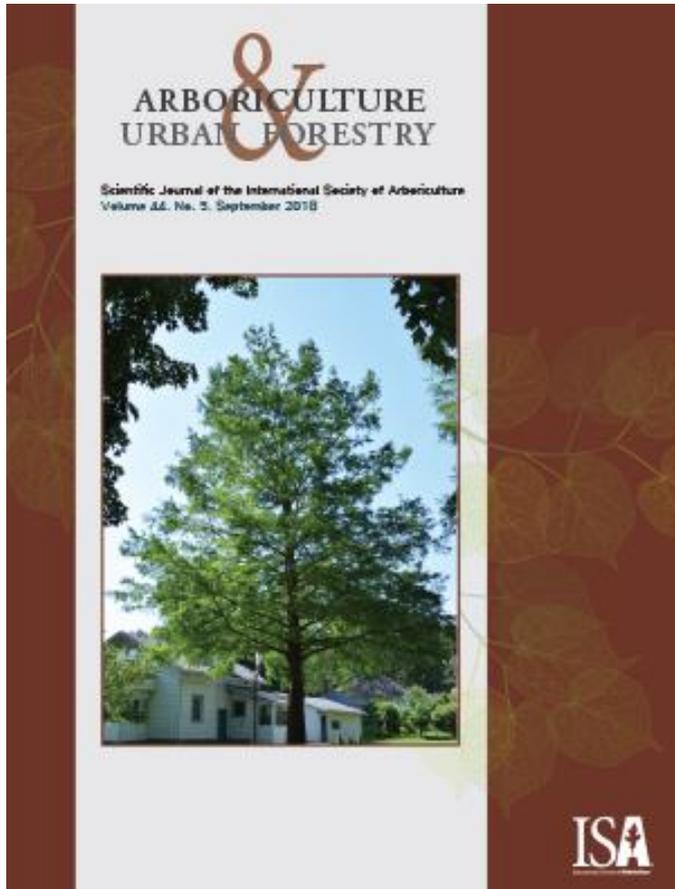
1975



80's-90's

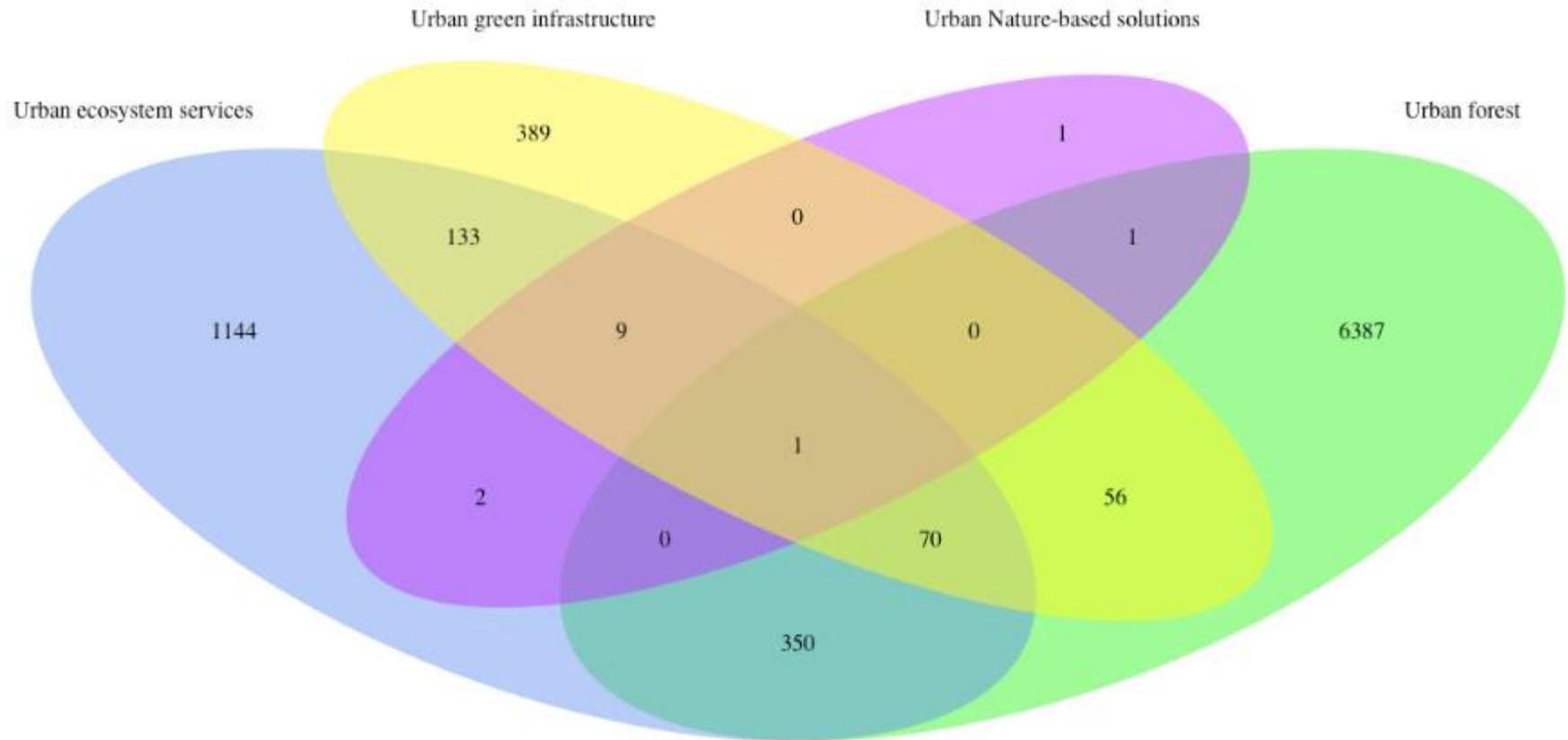


2000's

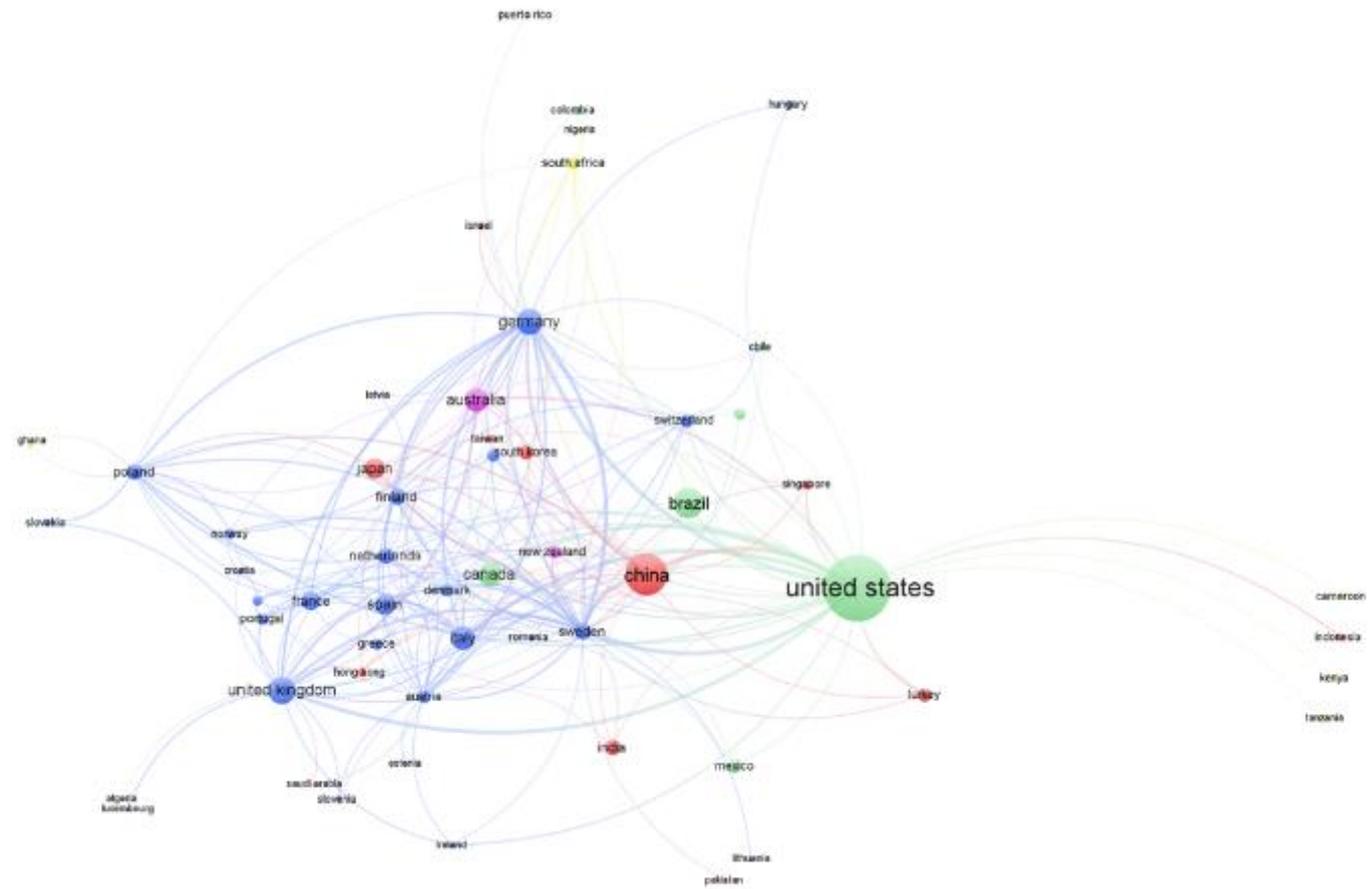


**2010's**

# The evolution of the concept and merging with UES, UGI, UNBS



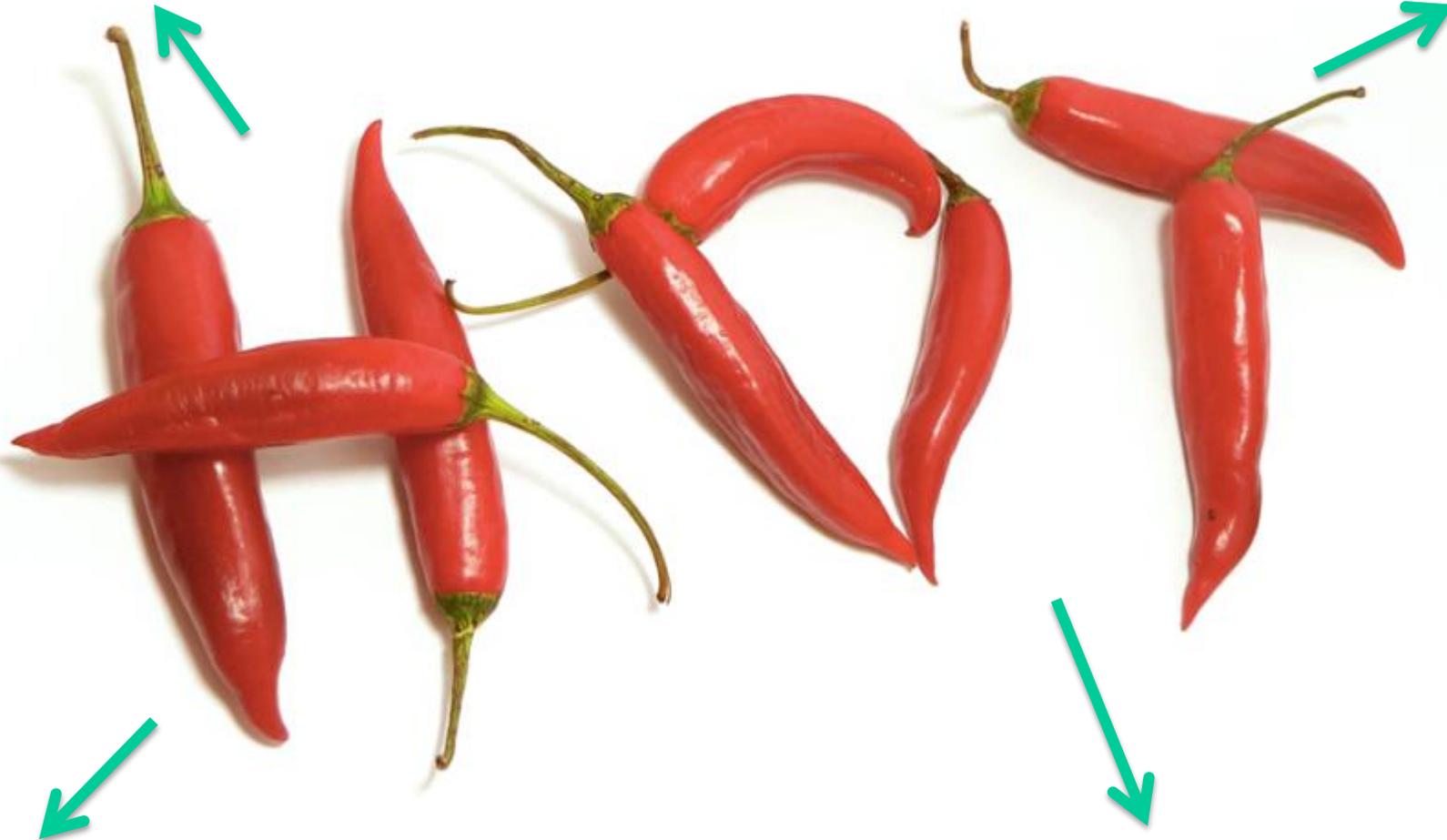
# The global research network on Urban Forestry



Escobedo et al., 2018

**Lots of questions**

**Lots of buzz about it**



**Novelty – to academics and practitioners**

(do you remember the histograms about the number of research published?)

**Important, relevant, meaningful**



<https://www.fs.fed.us/research/urban/>

# Working groups





Food and Agriculture  
Organization of the  
United Nations

*for a world without hunger*

Google™ Custom Search 

[FAO Home](#)



## Working Group on Urban and peri-urban forestry



INTERNATIONAL UNION  
OF FOREST RESEARCH  
ORGANIZATIONS

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EVENTS

PUBLICATIONS

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MEDIA

# INTERCONNECTING FORESTS, SCIENCE AND PEOPLE

## DIVISIONS

DIVISION 1

DIVISION 2

DIVISION 3

DIVISION 4

DIVISION 5

DIVISION 6

6.00.00

6.01.00

6.02.00

6.03.00

6.04.00

6.05.00

[Home](#) | [Division 6](#) | [6.00.00](#) | [6.07.00 - Urban forestry](#)



## 6.07.00 - URBAN FORESTRY

### Coordinator:

[David Nowak](#), United States

### Deputies:

[Marcus Hedblom](#), Sweden  
[Cecil C. Konijnendijk van den Bosch](#), Canada  
[Sreetheran Maruthaveeran](#), Malaysia

### Unit 6.07.00

- > Activities and events
- > Publications and references
- > Expertise offered by Unit
- > Toolbox
- > Unit Noticeboard

### UNIT NOTICEBOARD

2018-01-09

**URBAN FORESTRY CONGRESS (IUGC) IN AUTUMN 2018**



## GdL Verde Urbano

Gruppo di Lavoro SISEF

**Verde Urbano**

Attivo dal 2017

Coordinatore: **Fabio Salbitano**

DISTAF Università di Firenze

via S. Bonaventura 13, Firenze (Italy)

E-mail: [fabio.salbitano@unifi.it](mailto:fabio.salbitano@unifi.it)

[☑ Presentazione GdL](#)

[☑ Contenuti](#)

[☑ Lista Componenti](#)

[☑ Adesione al GdL](#)

[☑ Torna a GdL SISEF](#)





**ISA**  
Chapters  
& Associate  
Organizations

*Green  
Industry  
&  
Government  
Agencies*





## Iscriviti all'Associazione

Iscriversi alla SIA è facile e semplice: compila il modulo di iscrizione, versa la quota associativa ed invia il modulo e la ricevuta del pagamento via fax, email o per posta ordinaria alla Segreteria.



Clicca qui sotto "Iscriviti" per iniziare!

[Iscriviti alla SIA](#)

# EUROPEAN FORUM ON URBAN FORESTRY (EFUF)

Website of the European Forum on Urban Forestry Association



[home](#) / [about the european forum on urban forestry](#) / [efuf2019](#) / [#efuf2016 blog](#) / [efuf mailing list](#) / [credits & copyrights](#)

## URBAN FORESTRY EVENTS

EUROPEAN YOUNG  
URBAN FORESTER OF THE  
YEAR AWARD

FAO TREES FOR THE  
CITIES D-GROUP

URBAN FORESTRY  
LINKEDIN GROUP

URBAN FORESTRY  
RELATED WEBINARS

## ABOUT THE EUROPEAN FORUM ON URBAN FORESTRY

The European Forum on Urban Forestry (EFUF) is a **unique meeting place** for practitioners, policy-makers, managers, educators and scientists who are active in urban forestry, urban greening and green infrastructure. Since 1998, the EFUF has met annually to **discuss new developments, to exchange experiences, and to visit examples of good practices** on planning, design and management of urban forests (from woodland to urban parks and street trees).

The Forum is associated with the International Union of Forest Research Organisations' (IUFRO Division 6.07.00 – Urban forestry) urban forestry group, as well as with several European and Nordic networks for urban forestry.

EFUF2019

**EFUF2019 - call for papers**  
February 1st, 2019

**70**

days to go.

SOCIAL



# EUROPEAN FORUM ON URBAN FORESTRY (EFUF)

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# COST ACTIONS ON URBAN FORESTRY



The screenshot shows the website for COST Action E12. The header includes the COST logo (EUROPEAN COOPERATION IN SCIENCE & TECHNOLOGY) and navigation links for News, Events, Multimedia, Publications, Contact Us, e-COST, and a search bar. A secondary navigation bar contains 'Who We Are', 'Funding', 'COST Actions', and 'Academy'. The main content area features the title 'E12 - Urban forests and trees' with a breadcrumb trail 'Home > Browse Actions > Urban forests and trees'. Below the title are links for 'Downloads' and 'Team'. At the bottom, there are three tabs: 'Description' (selected), 'Parties', and 'Management Committee'. The background is a large image of a modern building facade with a grid of orange and red panels.



The screenshot shows the website for COST Action E39. The header is identical to the E12 page. The main content area features the title 'E39 - Forests, Trees and Human Health and Wellbeing' with a breadcrumb trail 'Home > Browse Actions > Forests, Trees and Human Health and Wellbeing'. Below the title is a link to the website 'www.c39.web24.ec/en/m-9/' and links for 'Downloads' and 'Team'. At the bottom, there are three tabs: 'Description' (selected), 'Parties', and 'Management Committee'. The background is the same large image of a modern building facade with a grid of orange and red panels.



Courtesy of Carlo Calfapietra



Green Infrastructure approach: linking environmental with social aspects in studying and managing urban forests - (GreenInUrbs) 2013-2017  
Chair: Carlo Calfapietra, IBAF-CNR







SEVENTH FRAMEWORK  
PROGRAMME





## GREEN SURGE

### Green Surge

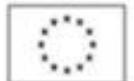
- » Home
- » Products
- » About
- » Partners
- » Urban Learning Labs
- » Working Packages
- » Meeting and events
- » Contacts
- » Links

Involving 24 partners from 11 countries,  
and several of Europe's leading researchers.

### Green Infrastructure and Urban Biodiversity for Sustainable Urban Development and the Green Economy

The GREEN SURGE project is a collaborative project between 24 partners in 11 countries. It is funded by the European Commission Seventh Framework Programme (FP7).

GREEN SURGE will identify, develop and test ways of linking green spaces, biodiversity, people and the green economy in order to meet the major urban challenges related to land use conflicts, climate change adaptation, demographic changes, and human health and wellbeing. It will provide a sound evidence base for urban green infrastructure planning and implementation, exploring the potential for innovation in better linking environmental, social and economic ecosystem services with local communities.



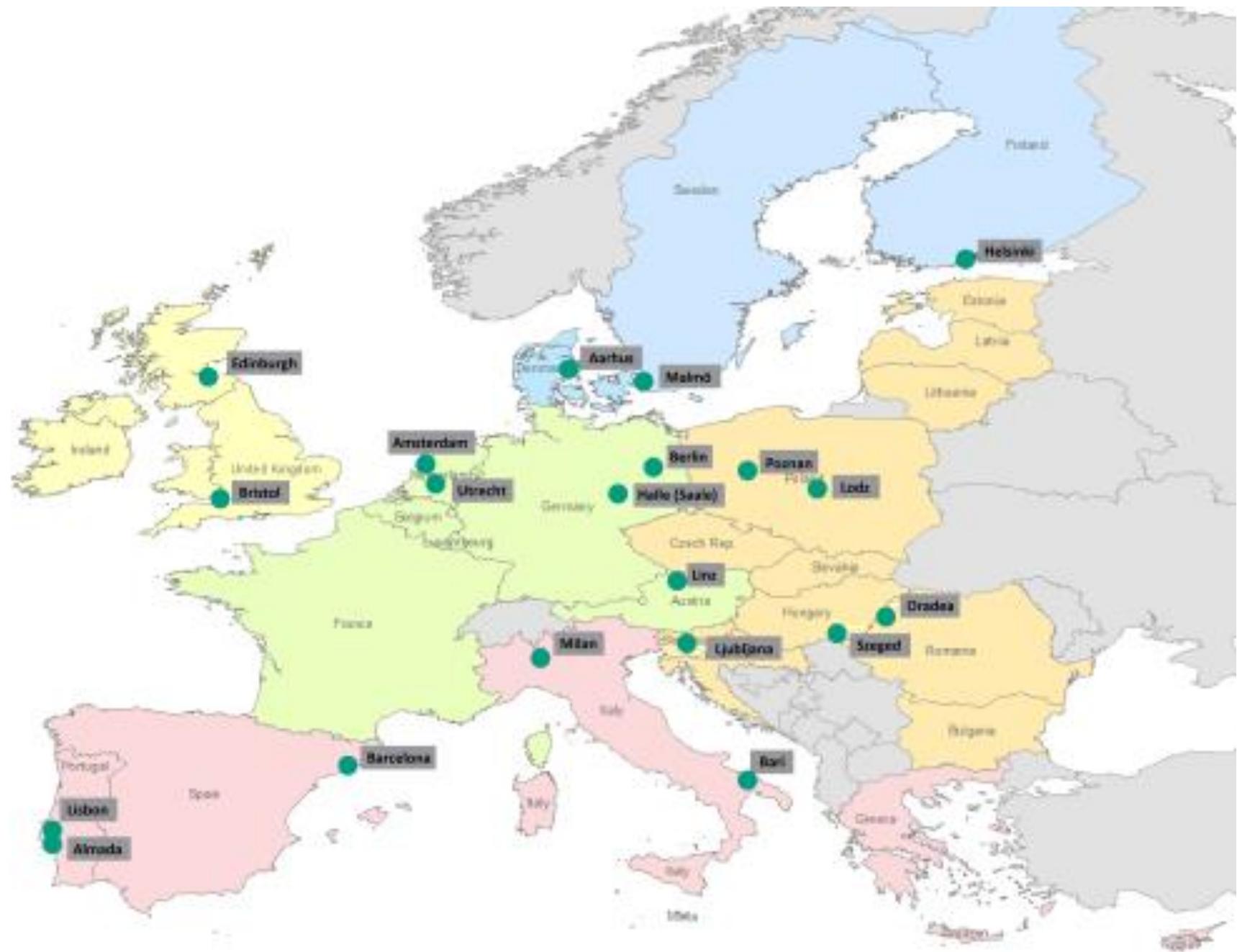
### Join European Learning Alliance

#### What is the Colour in Urban Infrastructure?

Join the European Learning Alliance to find out!

[Read more](#)

GREEN SURGE invites you to join its





[ABOUT](#) | [CHALLENGES](#) | [SOLUTIONS](#) | [CITIES](#) | [INSIGHTS](#) | [NEWS & EVENTS](#) | [CONTACT US](#)

## URBAN GreenUP

aims at developing, applying and validating a methodology for Renaturing Urban Plans to mitigate the effects of climate change, improve air quality and water management and increase the sustainability of our cities through innovative nature-based solutions.



Meet us @ the

**World Forum on  
Urban Forests**  
Mantova 2018

28 November – 1 December 2018  
Mantova, Italy

**URBAN GreenUP** is a project funded under the European Union's Horizon 2020 programme. Its objective is the development, application and replication of **Renaturing Urban Plans in a number of European and non-European partner cities with the aim to mitigate the effects of climate change, improve air quality and water management, as well as to increase the sustainability of our cities through innovative nature-based solutions.**

Three runner cities - of Valladolid (Spain), Liverpool (UK) and Izmir (Turkey) – will validate and demonstrate the effectiveness of the URBAN GreenUP methodology. Based on their experience, five follower cities, Mantova (Italy), Ludwigsburg (Germany) Medellin (Colombia), Chengdu (China) and Binh Dinh-Quy Nhon (Vietnam), will set up their own Renaturing Urban Plans to replicate the URBAN GreenUP strategy and its green economy approach.



# PROGIREG



**proGireg: productive Green Infrastructure for post-industrial urban regeneration (2018-2023)**

## • The 8 nature-based solutions of proGInreg

<b>No. 1</b>	Renaturing landfill sites for leisure use and energy production
<b>No. 2</b>	New regenerated soil thanks to biotic compounds for urban forestry and urban farming
<b>No. 3</b>	Community-based urban farming and gardening on post-industrial sites
<b>No. 4</b>	Aquaponics as soil-less agriculture for polluted sites
<b>No. 5</b>	Capillary GI on walls and roofs
<b>No. 6</b>	Making post-industrial sites and renatured river corridors accessible for local residents
<b>No. 7</b>	Establishing protocols and procedures for environmental compensation at local level
<b>No. 8</b>	Pollinator biodiversity improvement activities and citizen science project

The screenshot displays the LIFE Programme website interface. At the top, the European Commission logo is visible on the left, and the text 'ENVIRONMENT LIFE Programme' is centered. Below this is a navigation bar with links: HOME, ABOUT LIFE, NEWS, FUNDING, PUBLICATIONS, TOOLKIT, CONTACT, and SITE MAP. The main content area features a banner with various environmental images. The primary headline is '2015 Call for proposals for LIFE Grants', with a sub-headline '2015 Call for proposals for LIFE Action Grants'. The text describes the LIFE Regulation and provides links to the regulation and a call calendar. A sidebar on the left offers navigation by theme (Nature, Biodiversity, Environment, Climate Action) and search options (By country, Project database, Best projects, Project publications, Natura 2000 sites). A right sidebar contains quick links for the 2015 call, including FAQ and Background, and a 'Quick Links 2015 call provisional calendar' section listing 'Traditional', Preparatory, and Integrated projects.

European Commission

## ENVIRONMENT

### LIFE Programme

European Commission > Environment > LIFE Programme

HOME | ABOUT LIFE | NEWS | FUNDING | PUBLICATIONS | TOOLKIT | CONTACT | SITE MAP



#### LIFE by theme

- Nature, Biodiversity
- Environment
- Climate Action

#### LIFE search

- By country
- Project database
- Best projects
- Project publications
- Natura 2000 sites

Home | Funding | LIFE 2014-2020: 2015 Call for proposals for LIFE Grants

## 2015 Call for proposals for LIFE Grants

The LIFE (the Financial Instrument for the Environment and Climate Action) Regulation, which was published on 20 December 2013, sets a budget for the funding period 2014–2020 of €3.4 billion in current prices. [View the LIFE Regulation](#)

### 2015 Call for proposals for LIFE Action Grants

The Commission invites legal persons (entities) registered in the European Union (EU) to present proposals for the 2015 Call for proposals for LIFE Action Grants. The call covers proposals for both LIFE sub-programmes.

For the sub-programme for Environment, this call will cover action grants for **"Traditional" projects**, **Preparatory projects**, **Integrated projects**, **Technical Assistance projects** and **Capacity Building projects**.

- LIFE 2015 Call
  - FAQ
  - Background
- LIFE 2014 Call
- NGOs
- LIFE financial instruments

#### Quick Links 2015 call provisional calendar

- "Traditional" projects
- Preparatory projects
- Integrated projects

Search...



establishing a monitoring network  
to assess lowland forest  
and urban plantation in Lombardy  
and urban forest in Slovenia

LIFE+10 ENV/IT/000399



Goal: establish a monitoring network of UPFs for their preservation and assessment of long-term evolution

Research topics:

- Monitoring protocols and procedures;
- Evaluation of ecosystem services;
- Relationship (biodiversity, flora, fauna, climate, pathologies, soil, etc.).

# LIFE URBANGREEN project

LIFE URBANGREEN aims at integrating an existing urban green management platform with **innovative components to maximise the provision of ecosystem services** by urban greeneries and to **improve the efficiency** of maintenance activities.

The main expected result is a smart and integrated management system which monitors and governs all activities related to urban green areas management, maximising ecological benefits.

The tools developed in the project will be tested in **Rimini**, **Krakow** and without EU co-funding in **Taipei** and **Moscow**.



## What is Interreg Europe?

Interreg Europe helps regional and local governments across Europe to develop and deliver better policy. By creating an environment and opportunities for sharing solutions, we aim to ensure that government investment, innovation and implementation efforts all lead to integrated and sustainable impact for people and place.

### Interreg Europe key documents

Lear more about the programme.

[Read more](#)

INTERREG CENTRAL EUROPE



 PRIORITY: NATURAL AND CULTURAL RESOURCES

 Interreg  
CENTRAL EUROPE  
European Union  
European Regional  
Development Fund  
**UGB**

## UGB – Urban Green Belts

# URBFORDAN

## Management and Utilization of Urban Forests as Natural Heritage in Danube Cities

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Today's lifestyle in cities is fast and very intense. Therefore, many citizens and visitors actively search for places to relax. Often, there is no time for "the escape from the city", so they look for alternatives. Traditionally, they find them in urban and peri-urban forests (UPF). Their status of "green city lungs" is the main reason why forests in the project partner cities have so far survived all urbanization pressures mostly intact (over 35 square kilometres of forests in seven project partner cities).

However, the increasing numbers of citizens (almost 6,5 Million in project partner cities) and visitors (over 15 Million per year in project partner cities) and their need for outdoor activities put urban forests under pressure. Even if many of the forests are protected as natural/cultural heritage, they are impaired by inappropriate management, overuse and poor coordination between key actors.



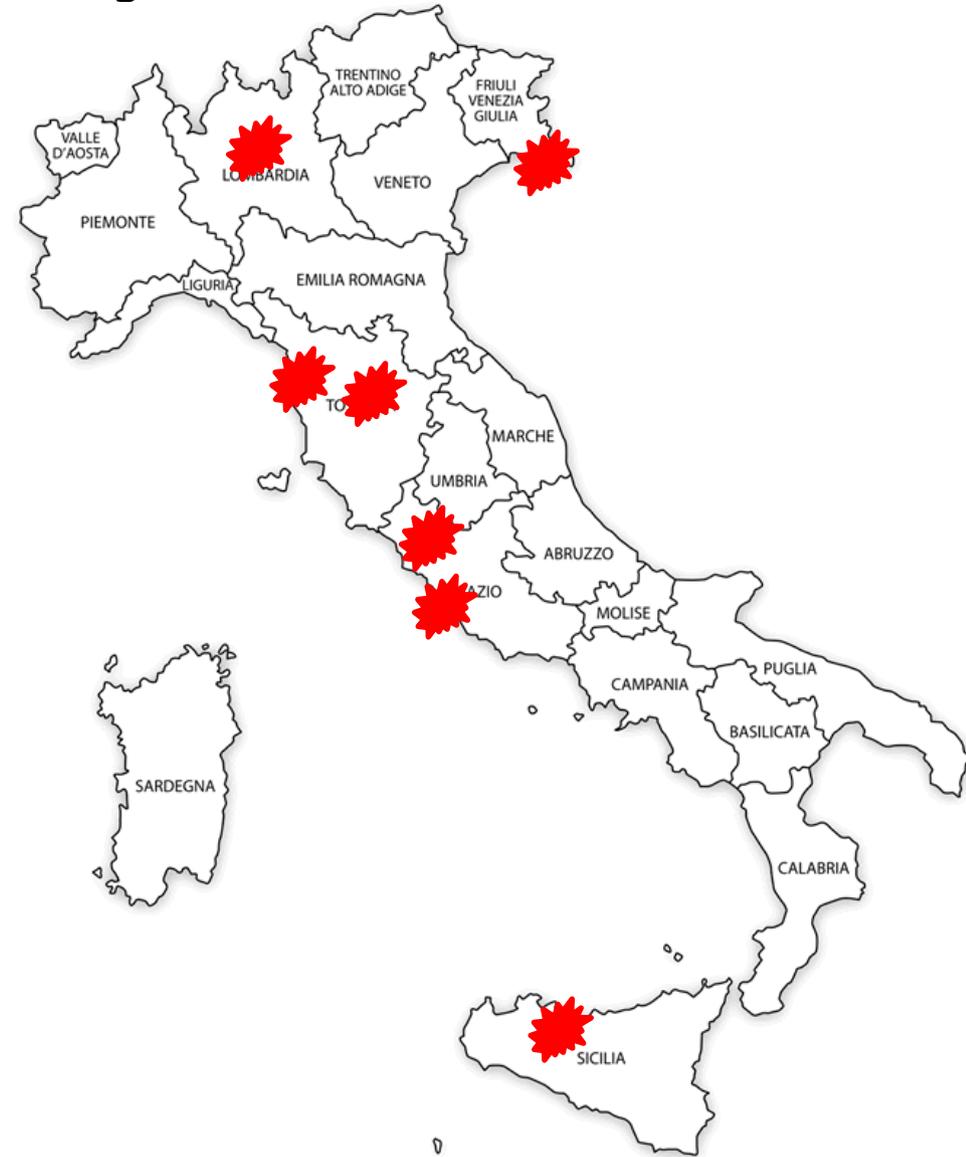
**Start date**  
01-06-2018

**End date**  
30-11-2020

**Budget in Euro**  
Overall: 2788566,61  
ERDF Contribution: 1906965,66  
IPA Contribution: 281691,62  
ENI Contribution: 181624,3

**Call number**  
Call 2

# National projects



## TreeCity

*An International Project for a Better  
Quality of Life in Our Cities*

*Sponsored by*





**The role of Urban Forestry in the achievement of the Sustainable Development Goals**

 **SUSTAINABLE DEVELOPMENT GOALS**

**1** NO POVERTY



**2** ZERO HUNGER



**3** GOOD HEALTH AND WELL-BEING



**4** QUALITY EDUCATION



**5** GENDER EQUALITY



**6** CLEAN WATER AND SANITATION



**7** AFFORDABLE AND CLEAN ENERGY



**8** DECENT WORK AND ECONOMIC GROWTH



**9** INDUSTRY, INNOVATION AND INFRASTRUCTURE



**10** REDUCED INEQUALITIES



**11** SUSTAINABLE CITIES AND COMMUNITIES



**12** RESPONSIBLE CONSUMPTION AND PRODUCTION



**13** CLIMATE ACTION



**14** LIFE BELOW WATER



**15** LIFE ON LAND



**16** PEACE, JUSTICE AND STRONG INSTITUTIONS

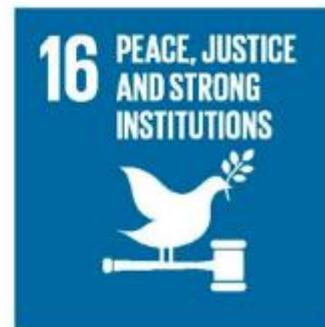


**17** PARTNERSHIPS FOR THE GOALS



  
**SUSTAINABLE DEVELOPMENT GOALS**

 **SUSTAINABLE DEVELOPMENT GOALS**

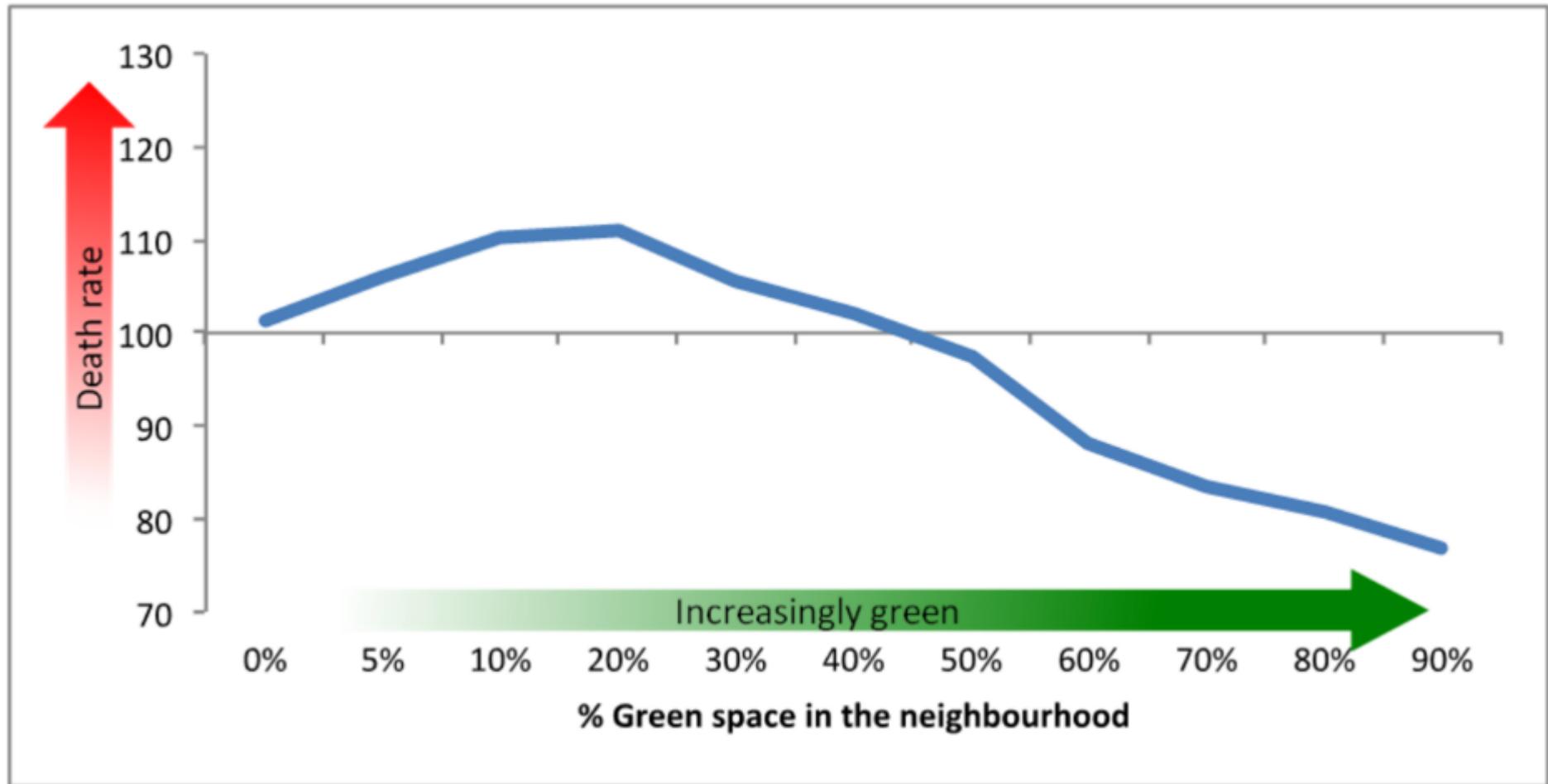


**3**

**GOOD HEALTH  
AND WELL-BEING**



# What can nature 'do' for us? The association between access to natural environments and population health.



Da Whyte e Crawford, 2014.

[http://www.gcph.co.uk/assets/0000/4177/Nature\\_and\\_nurture\\_people\\_and\\_places\\_event\\_report.pdf](http://www.gcph.co.uk/assets/0000/4177/Nature_and_nurture_people_and_places_event_report.pdf)

# 4

# QUALITY EDUCATION





Foto: <http://www.parks.it/parchi.astigiani/edu.dettaglio.php?id=3684>

**6**

**CLEAN WATER  
AND SANITATION**



# Phytoremediation

## PHYTO VOLATILIZATION:

Some plants take up volatile contaminants and release them into the atmosphere through transpiration. The contaminant is transformed or degraded within the plant to create a less toxic substance before and then released into the air.



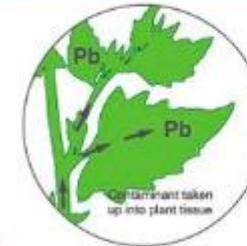
## PHYTO DEGRADATION:

Plants take up and break down contaminants through the release of enzymes and metabolic processes such as photosynthetic oxidation/reduction. In this process organic pollutants are degraded and incorporated into the plant or broken down in the soil.



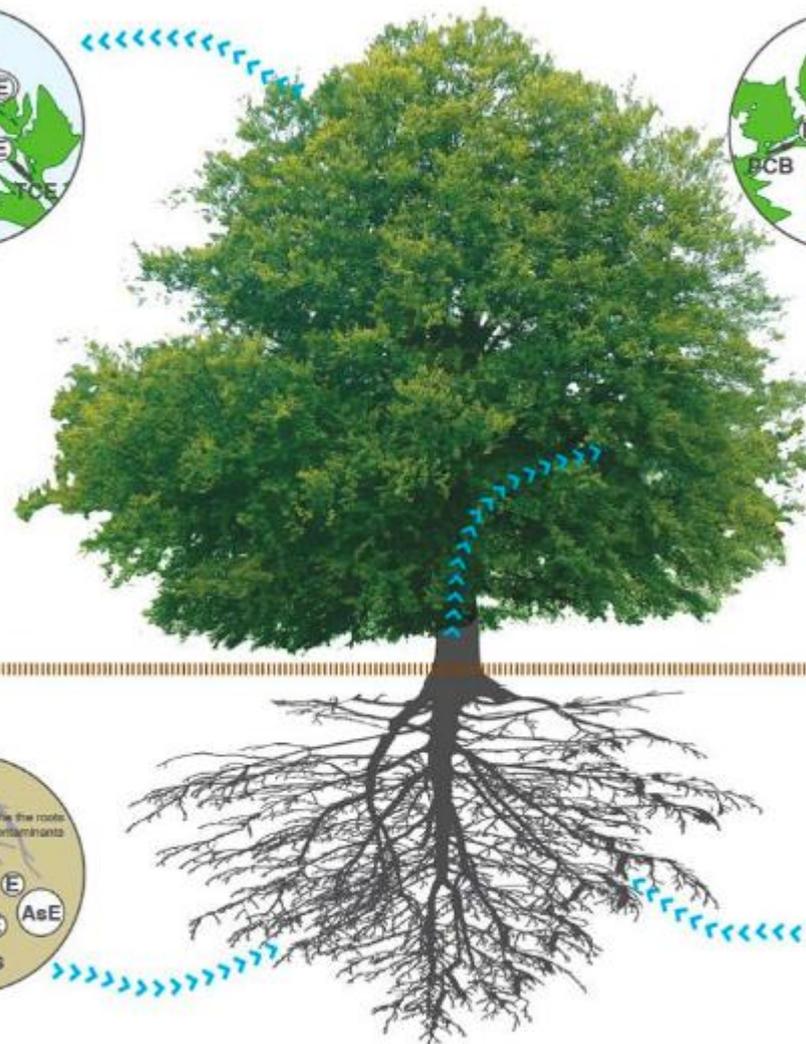
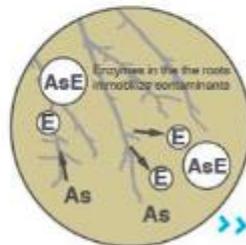
## PHYTO EXTRACTION:

Plants take up contaminants - mostly metals, metalloids and radionuclides- with their roots and accumulate them in large quantities within their stems and leaves. These plants have to be harvested and disposed as special waste.



## PHYTO STABILIZATION:

Some plants can sequester or immobilize contaminants by absorbing them into their roots and releasing a chemical that converts the contaminant to a less toxic state. This mechanism limits the migration of contaminants through water erosion, leaching, wind, and soil dispersion.



# 9

# INDUSTRY, INNOVATION AND INFRASTRUCTURE



**Green urban  
infrastructure  
(GUI):**

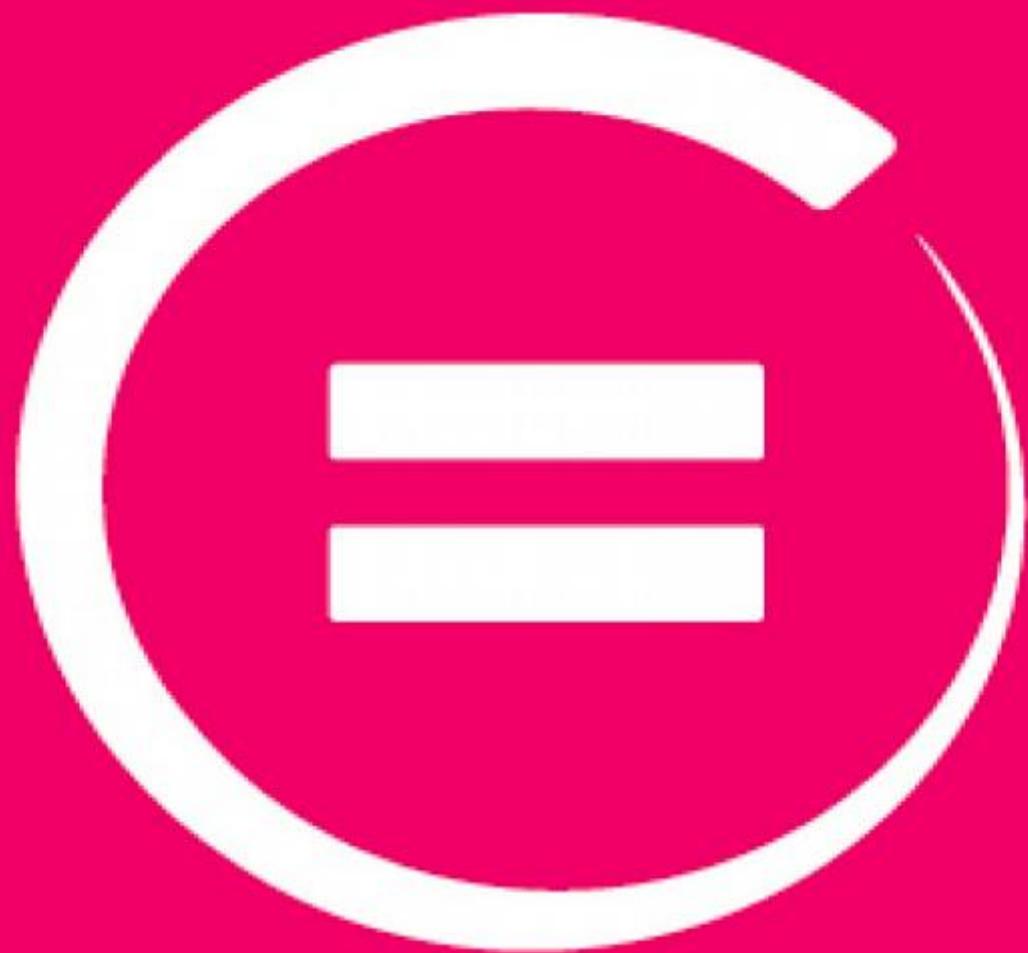
**Ecosystem  
services (ES)**

**Nature based  
solution  
(NBS)**



# 10

# REDUCED INEQUALITIES





## HHS Public Access

Author manuscript

*J Environ Manage.* Author manuscript; available in PMC 2018 April 06.

Published in final edited form as:

*J Environ Manage.* 2018 March 01; 209: 152–168. doi:10.1016/j.jenvman.2017.12.021.

### The relationship between urban forests and race: A meta-analysis

Shannon Lea Watkins<sup>a,\*</sup> and Ed Gerrish<sup>b</sup>

<sup>a</sup>University of California, San Francisco, USA

*Urban Forestry & Urban Greening* 16 (2016) 188–196

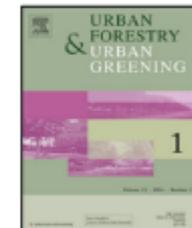


ELSEVIER

Contents lists available at [ScienceDirect](http://www.sciencedirect.com)

## Urban Forestry & Urban Greening

journal homepage: [www.elsevier.com/locate/ufug](http://www.elsevier.com/locate/ufug)



## Urban forests and social inequality in the Pacific Northwest

John R. Mills<sup>a,\*</sup>, Patrick Cunningham<sup>b</sup>, Geoffrey H. Donovan<sup>a</sup>

<sup>a</sup> USDA Forest Service, Pacific Northwest Research Station, 620 SW Main St., Suite 400, Portland, OR 97205, USA

<sup>b</sup> USDA Forest Service, Pacific Northwest Research Station, 3200 SW Jefferson Way, Corvallis, OR 97331, USA





**The risk of Gentrification:** a process of renovation of deteriorated urban neighborhoods by means of the influx of more affluent residents.



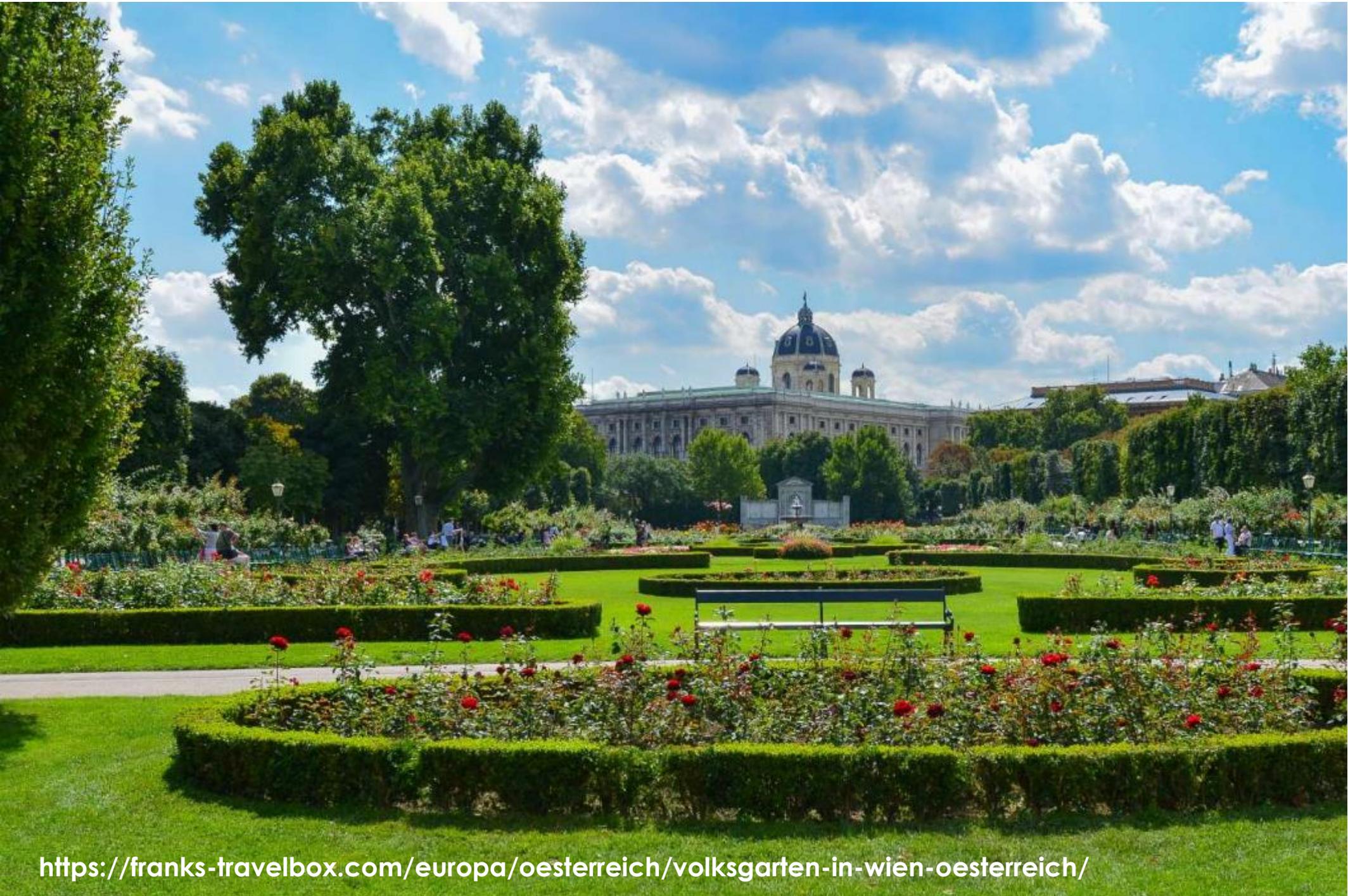
**Liz Diller says the High Line can teach architects "a really good lesson" on the need to manage gentrification. New York wasn't prepared for the pace of gentrification caused by the High Line** (<https://www.dezeen.com/2017/07/27/elizabeth-diller-interview-riba-architects-learn-lessons-high-line-manage-gentrification/>).

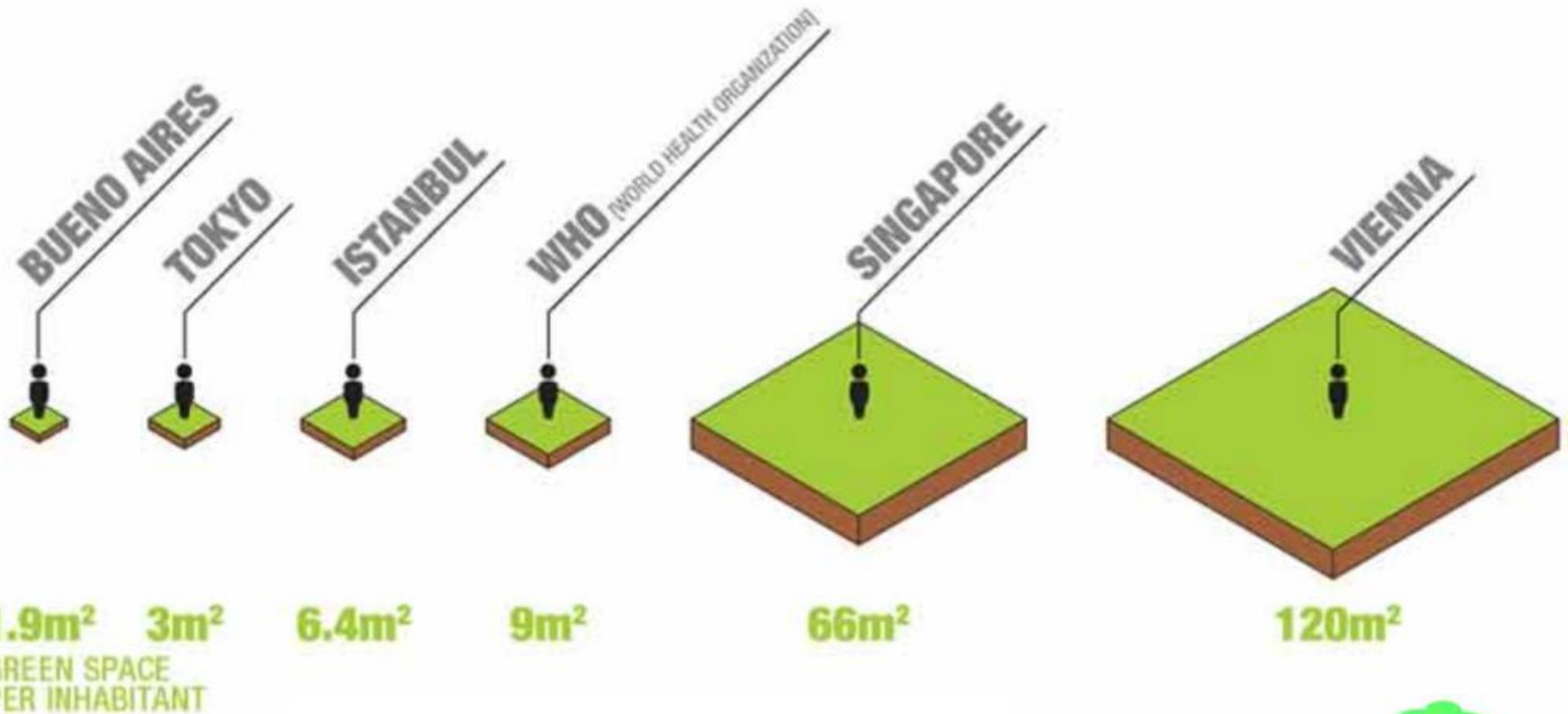
# 11 SUSTAINABLE CITIES AND COMMUNITIES



# Volksgarten – Vienna

(the more liveable city in the world according to the Economist Intelligence Unit - EIU)





**Vancouver target “greenest city in the world by 2020”. will plant 150.000 trees**

 5 min walk



# 13 CLIMATE ACTION

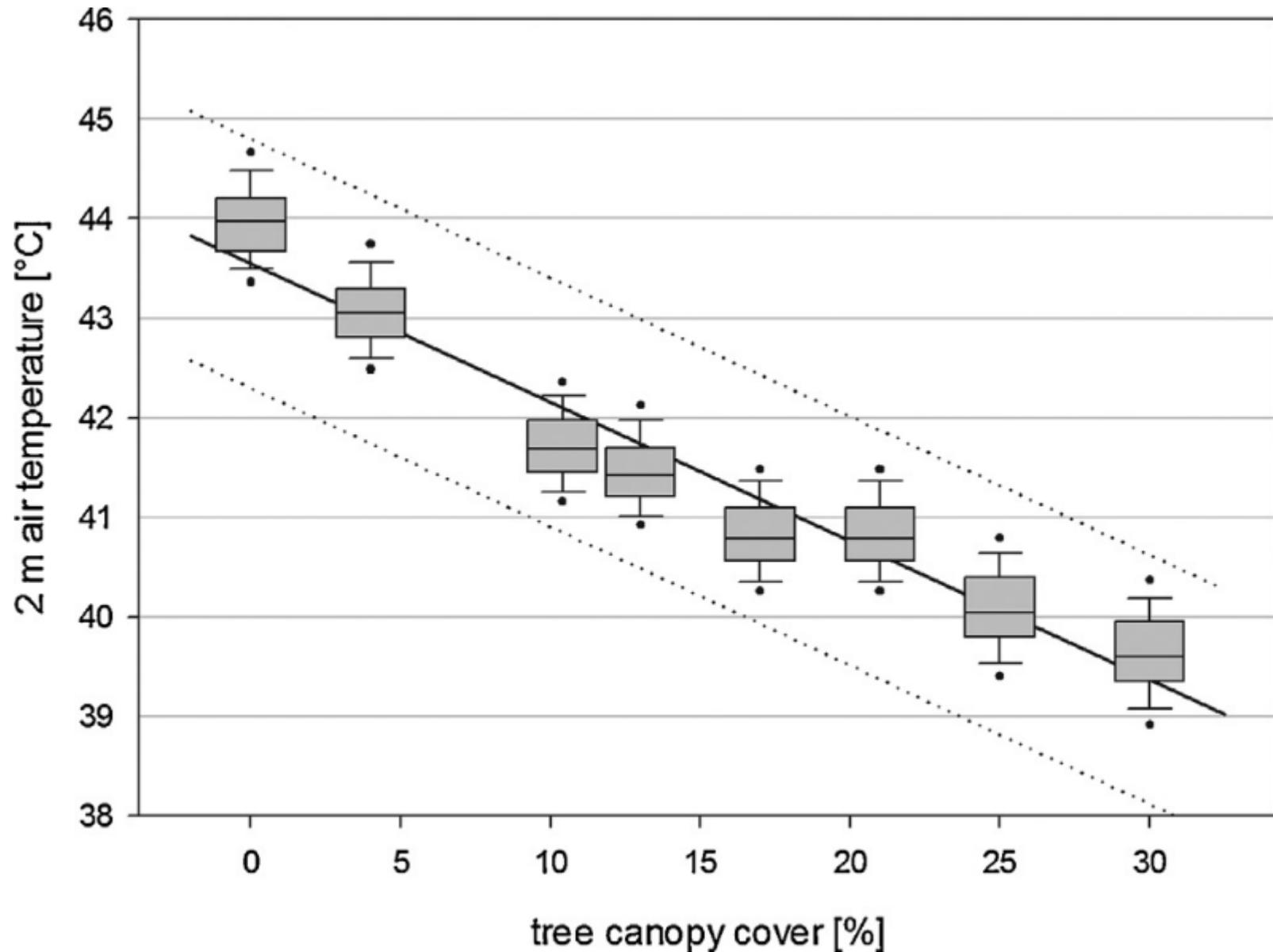


# The challenges of climate changes



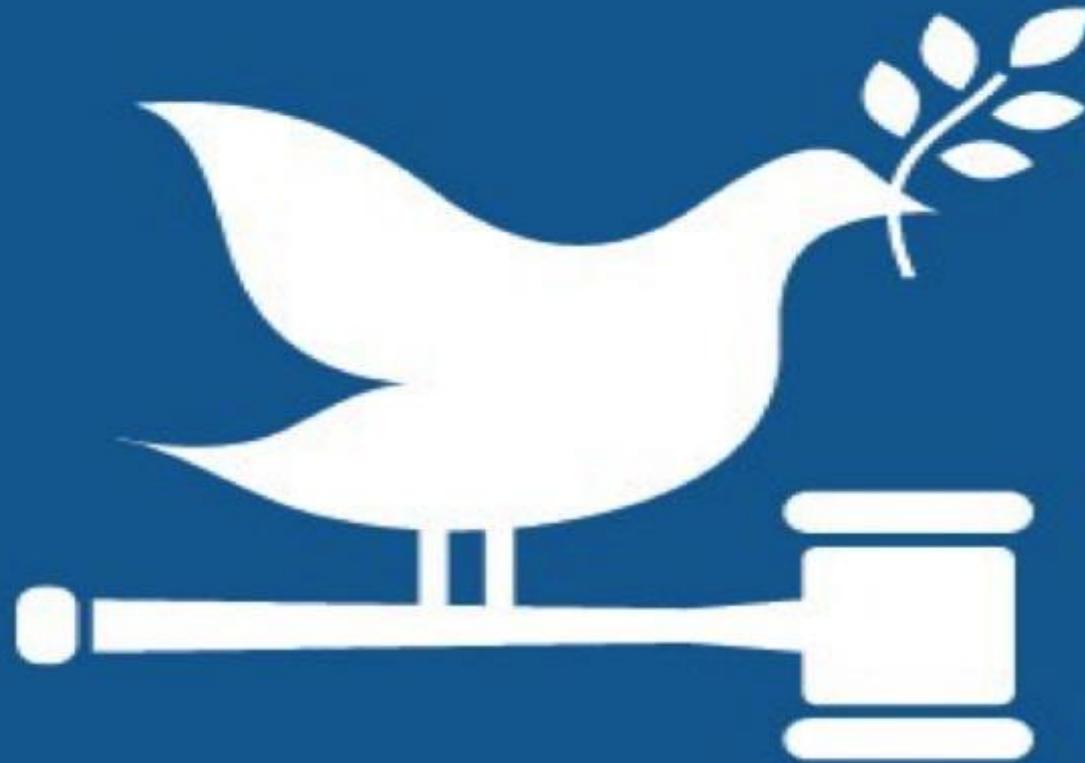
[Da voanews.com](http://Da.voanews.com)

# We need a higher canopy cover in our cities...SOON!!!!!!

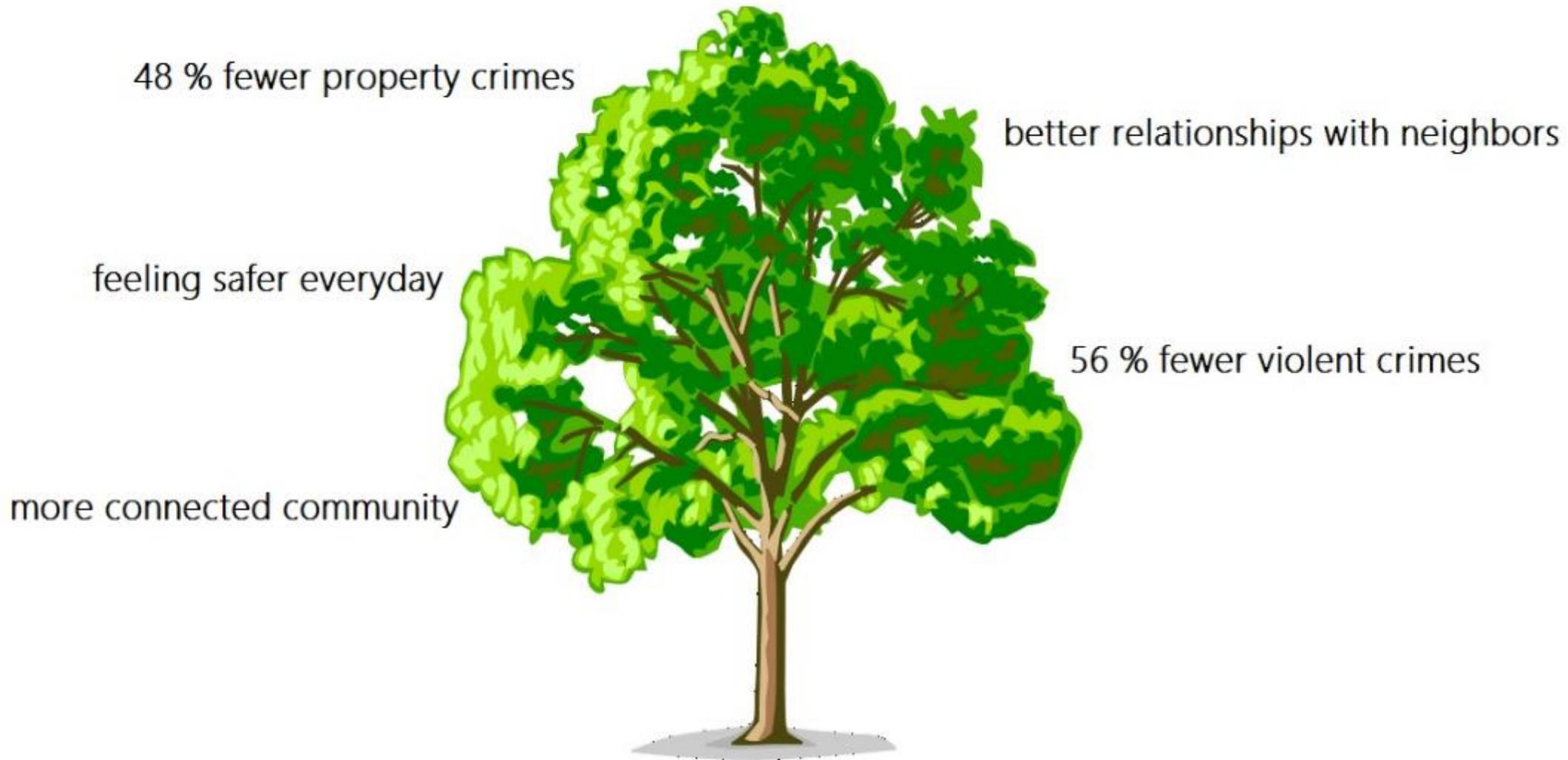


**16**

**PEACE, JUSTICE  
AND STRONG  
INSTITUTIONS**



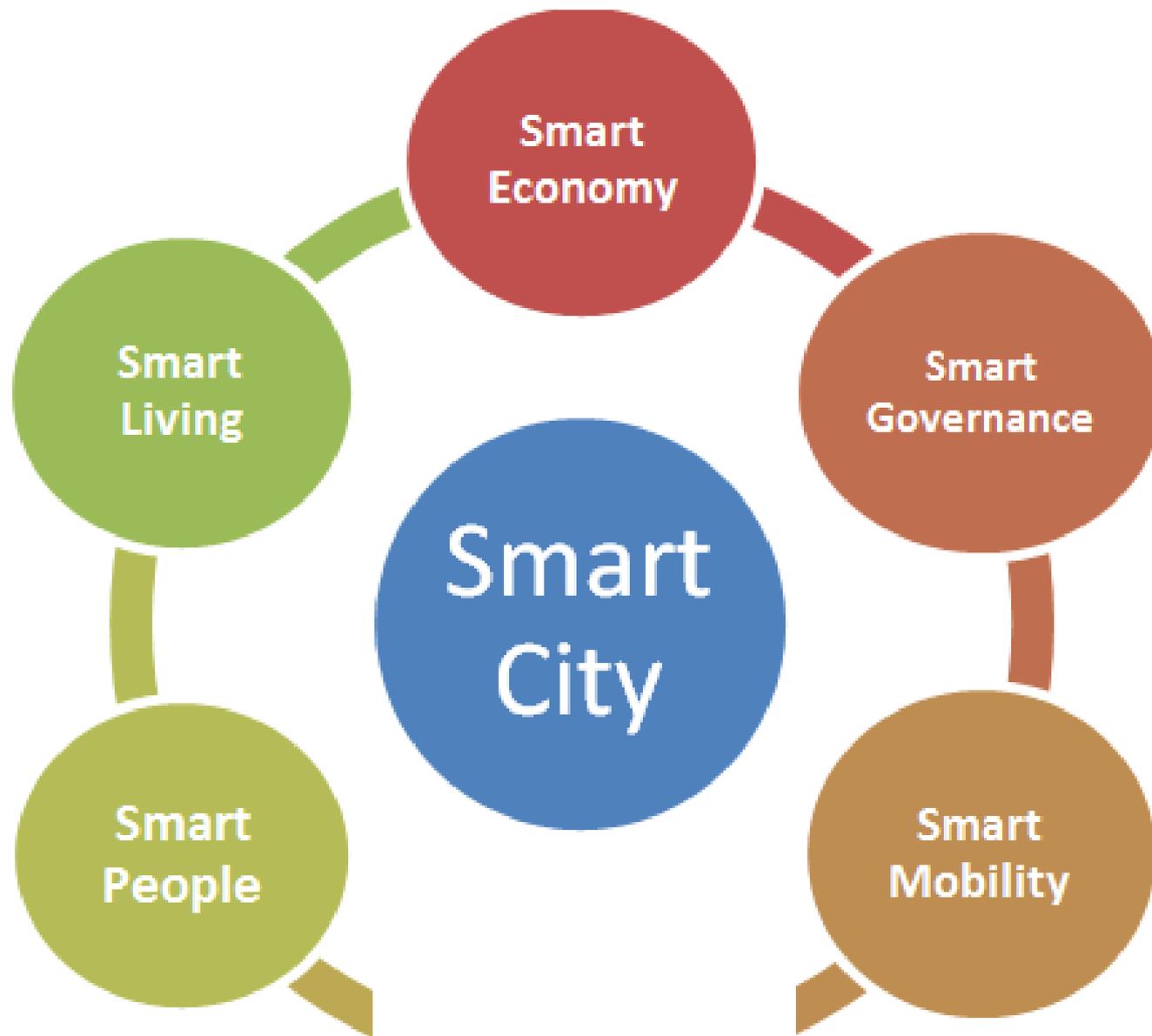
From Kuo e Sullivan, 2001, modified



**Green areas render the cities nicer and safer**

# Take home message





**“The world is a dangerous place to live; not because of the people who are evil, but because of the people who don't do anything about it.” (A. Einstein)**



# MAKING THE WORLD A BETTER PLACE ...ONE TREE AT A TIME



*Through research, technology, and education, the International Society of Arboriculture promotes the professional practice of arboriculture and fosters a greater worldwide awareness of the benefits of trees.*

