URBAN BIODIVERSITY AND ECOSYSTEM SERVICES

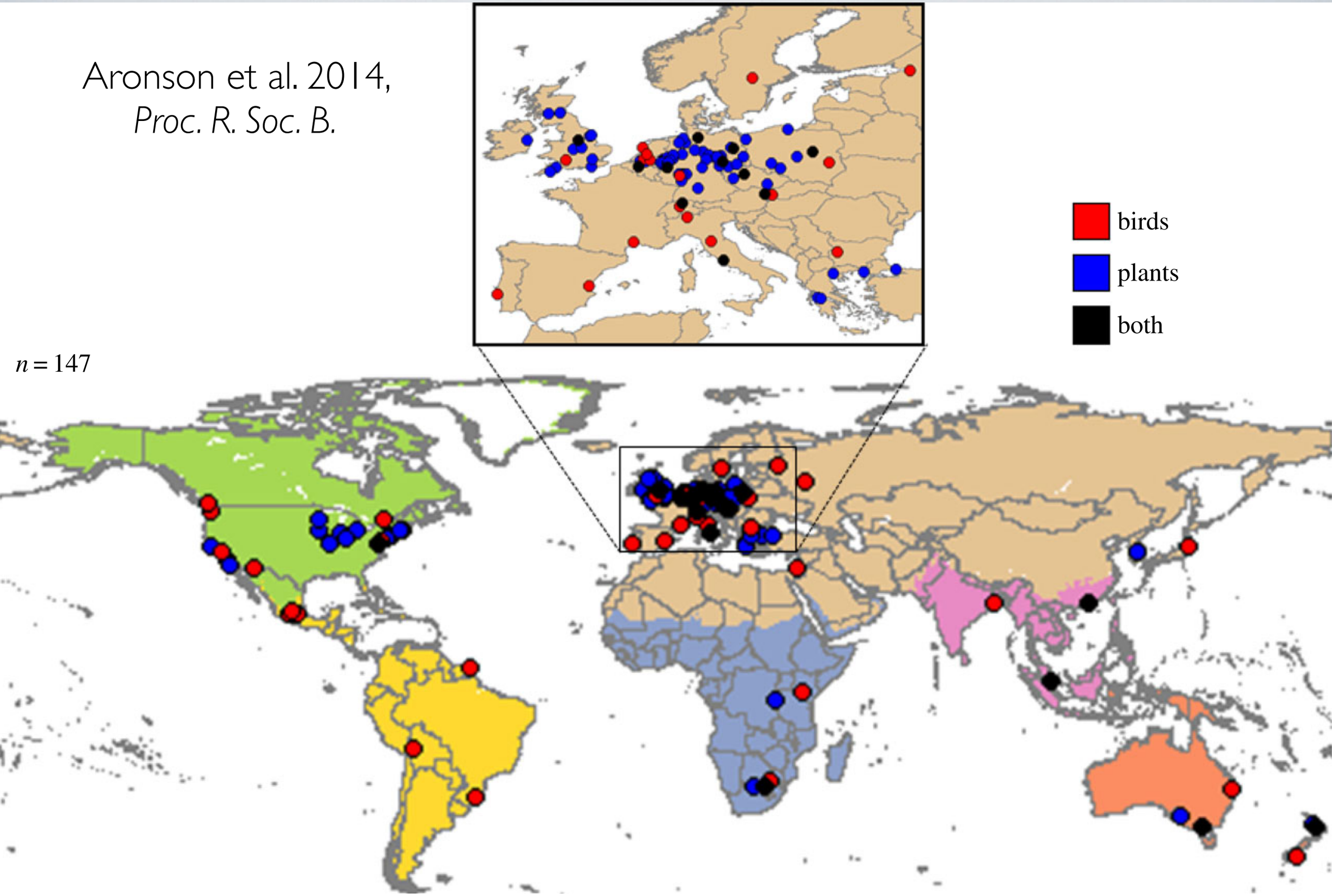
bioSUSTAINABILITY and Future Earth Urban Platform

THE NEW SCHOOL
URBAN ECOLOGY LAB

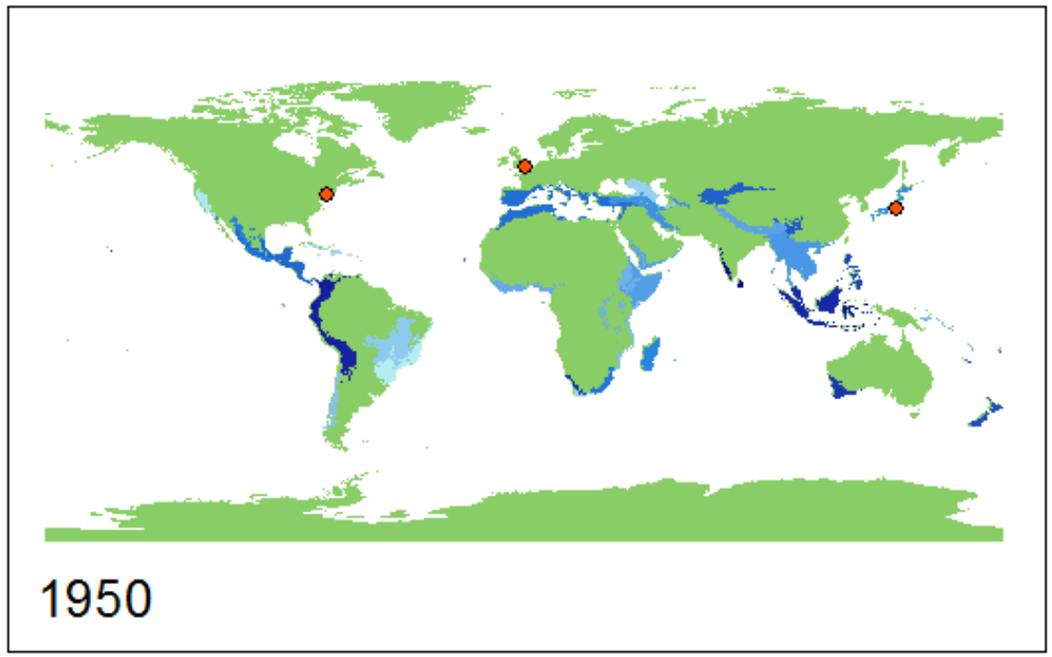
Timon McPhearson

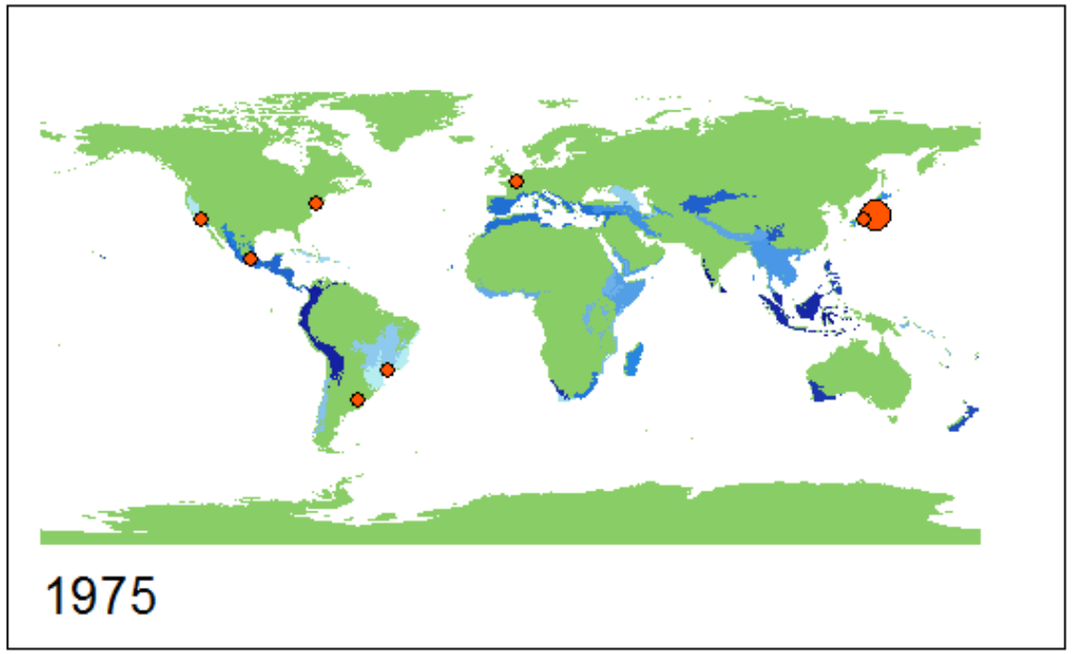
@timonmcphearson
timon.mcphearson@newschool.edu

Aronson et al. 2014,
Proc. R. Soc. B.

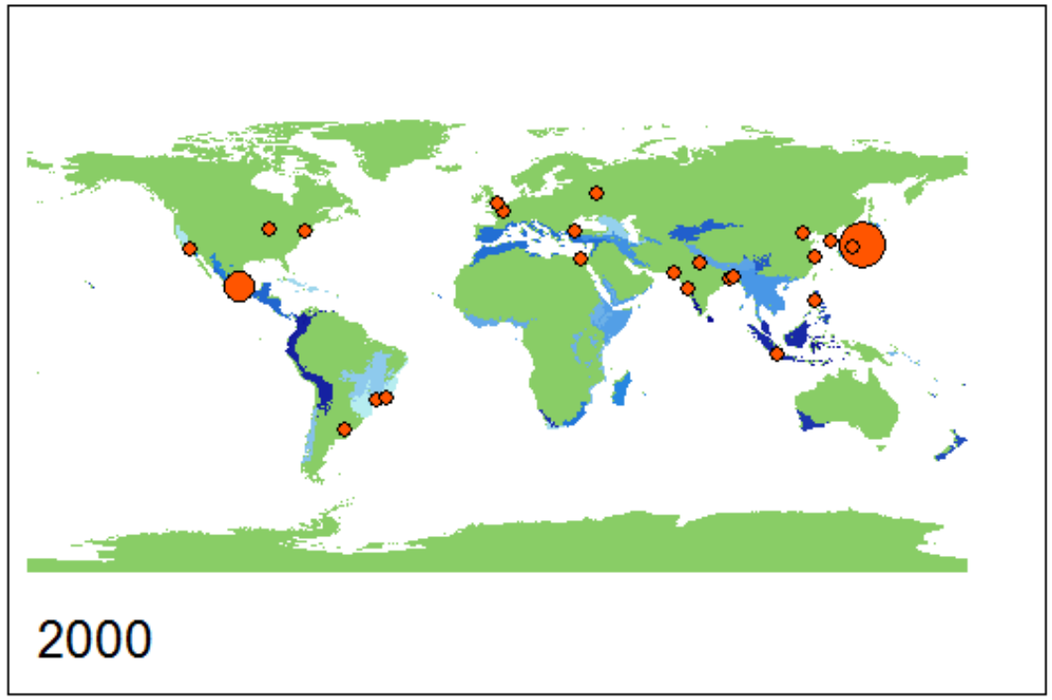


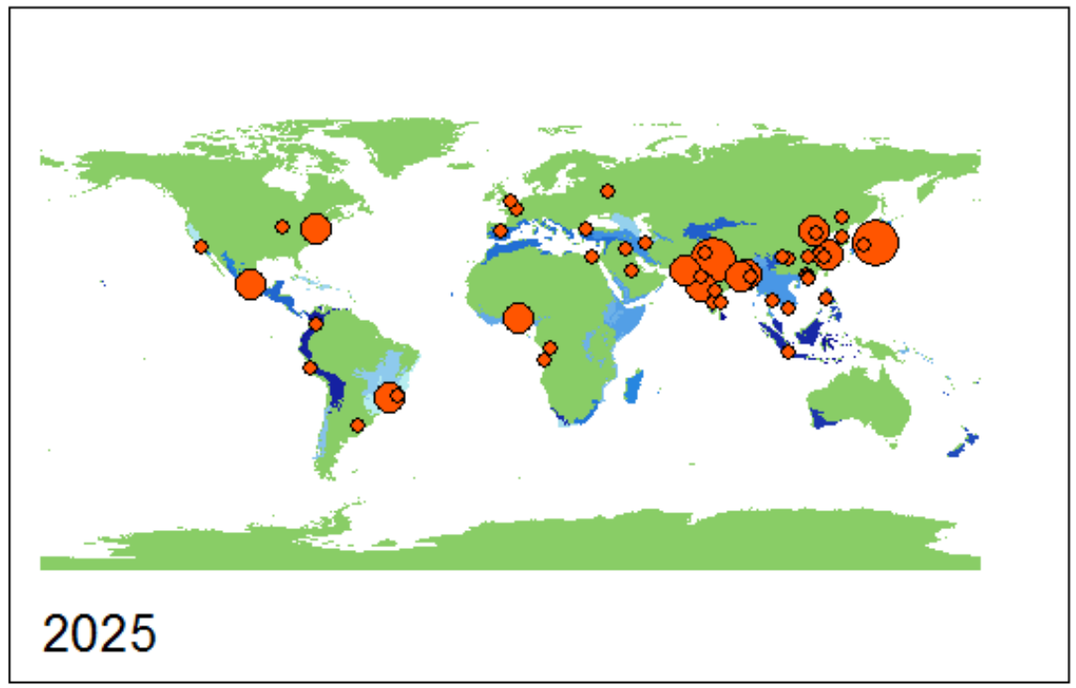
Cities and Urban Areas are Biodiverse



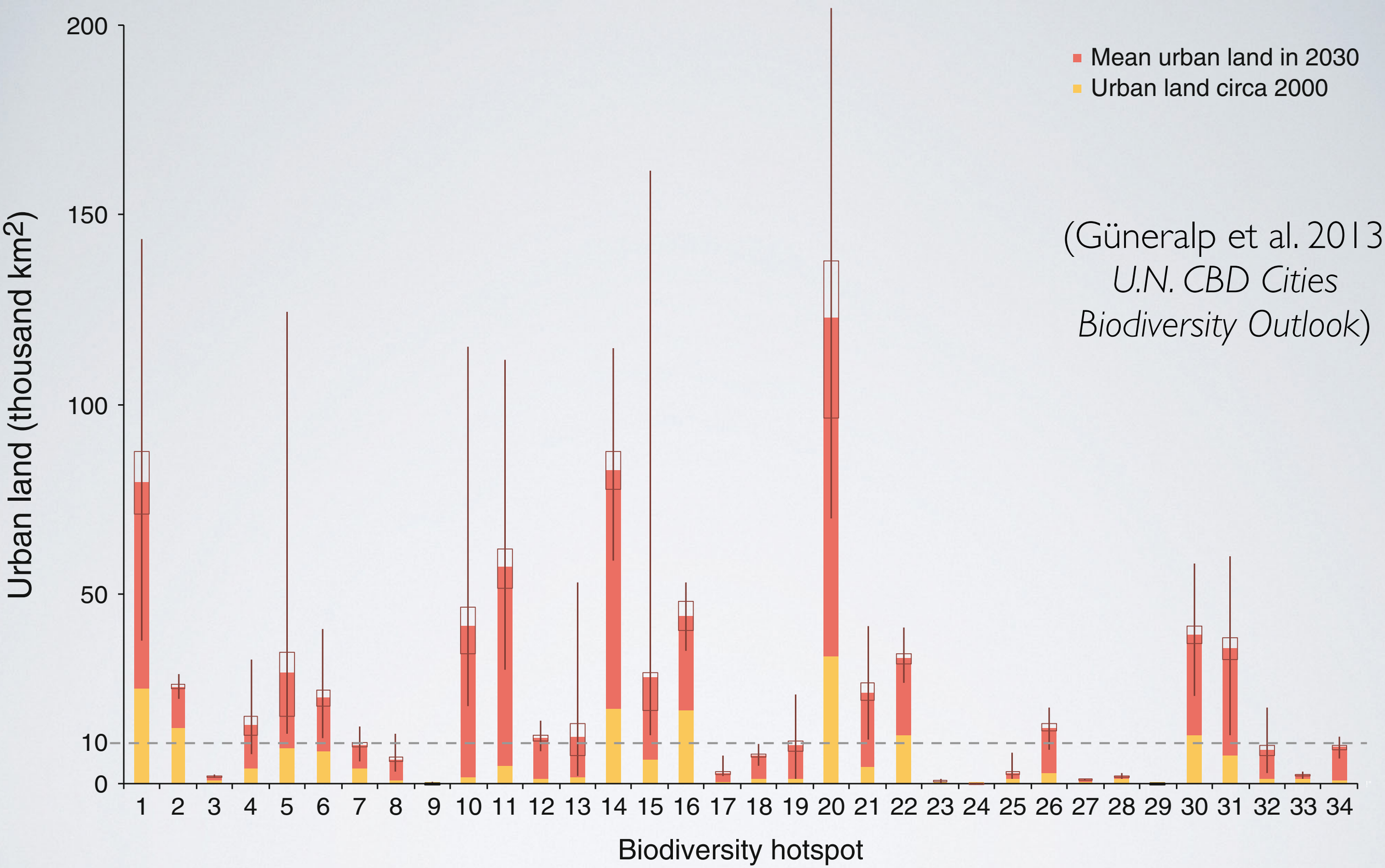


(Schewenius, McPhearson, Elmqvist, 2014, *AMBIO*)





URBANIZATION IN BIODIVERSITY HOTSPOTS



(Güneralp et al. 2013, *U.N. CBD Cities Biodiversity Outlook*)

URBANIZATION IN BIODIVERSITY HOTSPOTS

bioSUSTAINABILITY
a core project of DIVERSITAS

DIVERSITAS
an international programme
of biodiversity science

- Urban Biodiversity and Ecosystem Services Project (URBESproject.org)

biodiversa

- *Cities Biodiversity Outlook*

Convention on Biological Diversity

the URBES project

AMBIO 2014, 43:434–444
DOI 10.1007/s13280-014-0505-z

Opportunities for Increasing Resilience and Sustainability of Urban Social–Ecological Systems: Insights from the URBES and the Cities and Biodiversity Outlook Projects

Maria Schewenius, Timon McPhearson, Thomas Elmqvist

Contents lists available at ScienceDirect

Ecosystem Services

journal homepage: www.elsevier.com/locate/ecoser

Mapping ecosystem services in New York City: Applying a social–ecological approach in urban vacant land

Timon McPhearson [a,*], Peleg Kremer [a], Zoé A. Hamstead [b]

AMBIO 2014, 43:502–515
DOI 10.1007/s13280-014-0509-8

Urban Ecosystem Services for Resilience Planning and Management in New York City

Timon McPhearson, Zoé A. Hamstead, Peleg Kremer

Contents lists available at ScienceDirect

Ecosystem Services

journal homepage: www.elsevier.com/locate/ecoser

The uptake of the ecosystem services concept in planning discourses of European and American cities

Rieke Hansen [a,*], Niki Frantzeskaki [b], Timon McPhearson [c], Emily Rall [a], Nadja Kabisch [d], Anna Kaczorowska [e], Jaan-Henrik Kain [e], Martina Artmann [f], Stephan Pauleit [a]

AMBIO 2014, 43:413–433
DOI 10.1007/s13280-014-0504-0

A Quantitative Review of Urban Ecosystem Service Assessments: Concepts, Models, and Implementation

Dagmar Haase, Neele Larondelle, Erik Andersson, Martina Artmann, Sara Borgström, Jürgen Breuste, Erik Gomez-Baggethun, Åsa Gren, Zoé Hamstead, Rieke Hansen, Nadja Kabisch, Peleg Kremer, Johannes Langemeyer, Emily Lorance Rall, Timon McPhearson, Stephan Pauleit, Salman Qureshi, Nina Schwarz, Annette Voigt, Daniel Wurster, Thomas Elmqvist

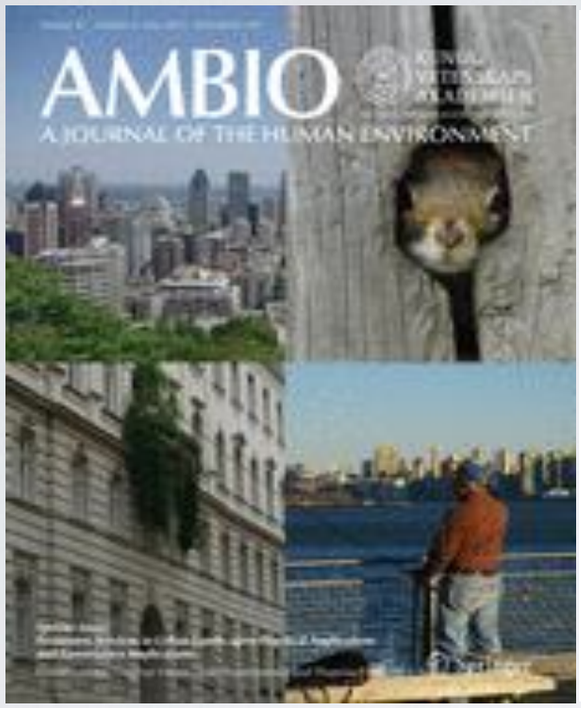
Contents lists available at ScienceDirect

Ecosystem Services

journal homepage: www.elsevier.com/locate/ecoser

Resilience of and through urban ecosystem services

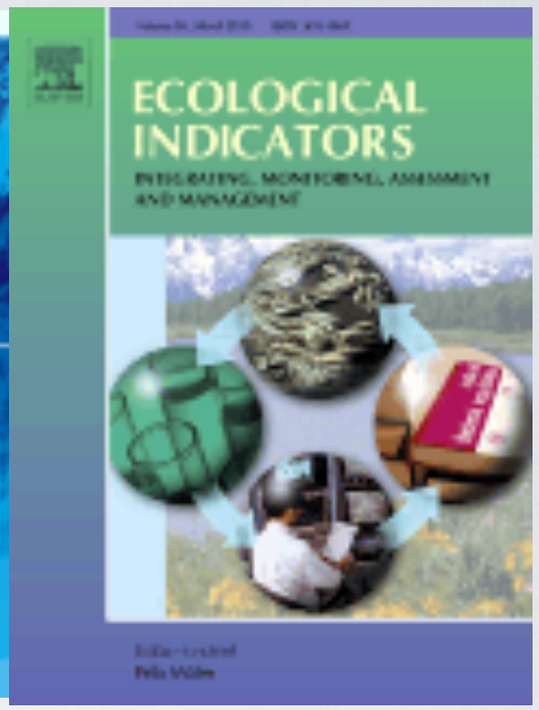
Timon McPhearson [a,*], Erik Andersson [b], Thomas Elmqvist [b], Niki Frantzeskaki [c]



May 2014
Open Access

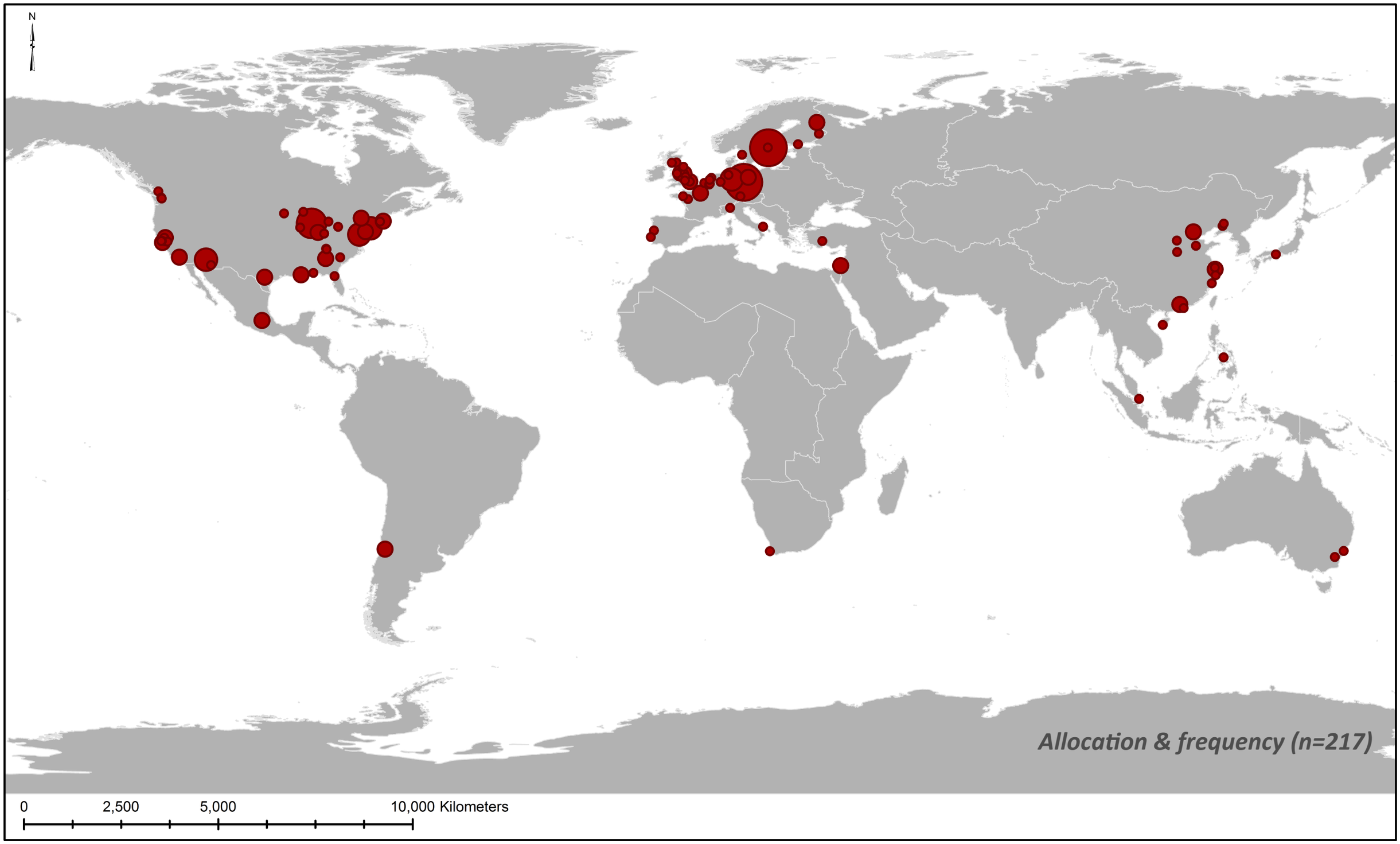
May 2015

Fall 2015



Spring 2016

URBES Special Issues



Review of Urban Ecosystem Services Research

(Haase et al., 2014, *AMBIO*)

URBES: KEY INSIGHTS

- Land cover and land use are useful, yet using them as proxies for UES can be problematic.
- **Relationships between biodiversity and ecosystem services require additional empirical research.**
- **Understanding boundary and scale mismatches is essential for applying the UES framework in planning and governance.**
- **Ecosystem services are often mediated by non-ecological, social and technological elements.**
- Cultural ecosystem services helps to embrace and emphasize the diverse values and meanings people find in nature
- An effective science-policy interface is essential for the implementation of UES based plans and policies.
- Cross-city comparisons are fundamental to advance understanding of a) drivers of ecosystem structure and function and b) to differentiate between dynamics of UES that are locally unique in cities versus those that generalizable to multiple urban contexts

FUTURE EARTH URBAN PLATFORM

FEUP Core Group

- Xuemei Bai—Australian National University
- Thomas Elmqvist—Stockholm Resilience Centre
- Corrie Griffith—UGEC
- Timon McPhearson—The New School
- Marcus Moench—ISET
- Jon Padgham—START
- Debra Roberts—eThekwini Municipality
- David Simon—Royal Holloway, University of London & Mistra Urban Futures
- Patricia Romero Lankao—National Center for Atmospheric Research

FUTURE EARTH URBAN PLATFORM

- **FEUP Scoping meetings in Taipei (Nov 2014), Boulder (March 2015), Paris (July 2015)**

- **FEUP Science Scoping Document in development**

- Research questions include: What are risks and tipping points for urban biodiversity, ecosystem functioning, and services?

- www.futureearth.org/liveable-urban-futures