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Select publications:

Hoover FA, Meerow S, Coleman E, Grabowski Z, and McPhearson T. 2023. **Why go green? Comparing rationales and planning criteria for green infrastructure in US city plans.** *Landscape and Urban Planning*.

Frantzeskaki N and McPhearson T. 2022. **Mainstream nature-based solutions for urban climate resilience.** *Bioscience*.

Grabowski Z, Wijsman K, Tomateo C, and McPhearson T. 2022. **How deep does justice go? Addressing ecological, indigenous, and infrastructural justice through nature-based solutions in New York City.** *Environmental Science & Policy*.

McPhearson T, Iwaniec D, and Bai X. 2017. **Positive visions for guiding transformations toward desirable urban futures.** *Current Opinion in Environmental Sustainability (special issue)*.

McPhearson T, Pickett STA, Grimm N, Niemelä J, et al. 2016. **Advancing urban ecology toward a science of cities.** *BioScience*.

McPhearson T, Parnell S, Simon D, Gaffney O, et al. 2016. **Scientists must have a say in the future of cities.** *Nature*.

McPhearson, T., E. Andersson, T. Elmqvist, and N. Frantzeskaki. 2015. **Resilience of and through urban ecosystem services.** *Ecosystem Services*.

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Timon McPhearson, Urban Systems Ecologist

Research mission:

- Identify connections among urban biodiversity, ecological processes, and ecosystem services; improve urban planning and policy
- Develop climate adaptation strategies through nature-based approaches in cities
- Guide urban forest planning and management

Summary:

Timon McPhearson studies the social and natural systems that operate in cities and the mechanisms that influence them. He examines urban social-ecological-technological system interactions in cities around the world with the aim to improve city planning, policy, and management while promoting essential ecosystem services such as recreation, storm water absorption, wildlife habitat, and temperature control.

Each city is unique, but many share similar attributes, patterns, and ecological processes. By comparing research on the ecology in and of cities across the US, Europe, and Latin America, McPhearson seeks to advance understanding of urban social and ecological patterns and processes.

Cities are threatened by climate change impacts, yet urban ecosystems hold tremendous potential to adapt to and even mitigate these effects, functioning

as nature-based solutions. Using big data, machine learning, and modeling approaches, McPhearson is examining how we can optimize urban ecosystems to reduce urban residents' vulnerability to heat and flooding, especially among high-risk populations.

Through multi-year ecological experiments in urban forests, McPhearson is assessing the short- and long-term impacts of urban tree planting on biodiversity and ecosystem structure and functioning in urban parks. This work encompasses changes in soil nutrients, heavy metals, carbon dynamics, and vegetation growth, and will inform urban forest management strategies.

McPhearson is professor of urban ecology and director of the Urban Systems Lab at The New School in Manhattan. He was lead author on the 'Cities' chapter of Working Group II of the IPCC's Sixth Assessment Report.



Science for environmental solutions