TIMON McPHEARSON

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Education:

PhD, Ecology, Evolution, and Natural Resources, Rutgers University, 2004

B.S., Environmental Biology, Taylor University, 1997

Professional Positions:

Faculty Affiliate, *Beijer Institute of Ecological Economics, Royal Swedish Academy of Sciences*, 2021-present

Senior Research Fellow, *Cary Institute of Ecosystem Studies*, 2017-present

Associate Research Fellow, *Stockholm Resilience Center, Stockholm University*, 2017-present

Visiting Research Fellow, *Humboldt University*, Berlin, Germany, 2017

Professor of Urban Ecology (w/tenure), *Environmental Studies, The New School*, 2016-present

Founder and Director, *Urban Systems Lab*, The New School, 2015-present

Chair, *Environmental Studies Program, The New School*, 2015-2017

Research Faculty, *Tishman Environment and Design Center, The New School*, 2008-present

Assistant Professor of Urban Ecology, *Environmental Studies, The New School*, 2008-2016

Visiting Assistant Professor of Ecology, *Earth Institute, Columbia University*,
2008-2009

Columbia Science Fellow (Post-doctoral), Ecology, Evolution, and Environmental Biology (E3B), *Earth Institute, Columbia University*, 2005-2008

Selected Professional Honors:

2023 *Sustainability Science Award.* The Ecological Society of America (ESA).

2022 *Gulbenkian Prize for Humanity.* Sixth Assessment Report (AR6), "Climate Change 2022: Impacts, Adaptation and Vulnerability".

2021 *BiodivERsA Prize*, "Enabling Green and Blue Infrastructure Potential in Complex Social-Ecological Regions" (ENABLE Project)

2020 *NYC Climate Heroes Award*, NYC Department of Transportation and Human Impacts Institute

2019-2021 *University Fellowship*, The New School

2019 *Sustainability Science Award*, Ecological Society of America

2019 *Innovation in Sustainability Science Award*, Ecological Society of America

2018 *BiodivERsA Prize*, "Urban Biodiversity and Ecosystem Services" (URBES Project)

2017 *Distinguished University Teaching Award*, The New School, New York

2017 *Civic Liberal Arts Sustaining Partnerships Residency*, Eugene Lang College, The New School

2014 *Visiting Research Fellow, Stockholm Resilience Center,* Stockholm University, Sweden

2005-07 *Columbia Science Fellowship*, The Importance of Cooperation in Ecological Communities, Columbia University

2006 *Young Scientist Award*, World Knowledge Dialogues, Crans-Montana, Switzerland

2006 Official Selection, SCINEMA Festival of Science Film, *Lemurs of Madagascar: Surviving on an Island of Change*, American Museum of Natural History

Research Interests and Activities:

My interdisciplinary scholarship, teaching, and community engagement addresses the interacting social-ecological-technological processes that drive urban system dynamics and impact human wellbeing in order to plan and design more equitable, resilient, and sustainable cities. My research utilizes both empirical (e.g. data science, AI, modeling, experiments) and theoretical approaches (complex systems and resilience theory) to advance research to support development of an urban systems science for improved urban planning, policy, design, and management at local, regional and global scales. See UrbanSystemsLab.com for more information.

My research focuses on advancing knowledge and impact in five overlapping areas:

1. Social vulnerability, equity and urban climate risk
2. Social-ecological-technological systems and urban resilience
3. Nature-based solutions for climate change adaptation
4. Data visualization and science communication
5. Modeling, data science, and spatial analytics

Selected Publications:

Chester, M. V., Miller, T. R., Muñoz-Erickson, T. A., Helmrich, A. M., Iwaniec, D. M., McPhearson, T., Cook, E. M., Grimm, N. B., & Markolf, S. A. (2023). Sensemaking for entangled urban social, ecological, and technological systems in the Anthropocene. Npj Urban Sustainability, 3(1), Article 1. https://doi.org/10.1038/s42949-023-00120-1

Hirye, M. C. M., Alves, D. S., Filardo Jr., A. S., McPhearson, T., & Wagner, F. (2023). Assessing Landslide Drivers in Social–Ecological–Technological Systems: The Case of Metropolitan Region of São Paulo, Brazil. Remote Sensing, 15(12), Article 12. https://doi.org/10.3390/rs15123048

Hoover, F.-A., Meerow, S., Coleman, E., Grabowski, Z., & McPhearson, T. (2023). Why go green? Comparing rationales and planning criteria for green infrastructure in U.S. city plans. Landscape and Urban Planning, 237, 104781. https://doi.org/10.1016/j.landurbplan.2023.104781

Wang, J., McPhearson, T., Zhou, W., Cook, E. M., Herreros-Cantis, P., & Liu, J. (2023). Comparing relationships between urban heat exposure, ecological structure, and socio-economic patterns in Beijing and New York City. Landscape and Urban Planning, 235, 104750. https://doi.org/10.1016/j.landurbplan.2023.104750

Ghermandi, A., Langemeyer, J., Van Berkel, D., Calcagni, F., Depietri, Y., Egarter Vigl, L., Fox, N., Havinga, I., Jäger, H., Kaiser, N., Karasov, O., McPhearson, T., Podschun, S., Ruiz-Frau, A., Sinclair, M., Venohr, M., & Wood, S. A. (2023). Social media data for environmental sustainability: A critical review of opportunities, threats, and ethical use. One Earth, 6(3), 236–250. https://doi.org/10.1016/j.oneear.2023.02.008

Grabowski, Z. J., McPhearson, T., & Pickett, S.T.A. (2023). Transforming US urban green infrastructure planning to address equity. Landscape and Urban Planning, 229, 104591. https://doi.org/10.1016/j.landurbplan.2022.104591

Grilo, F., McPhearson, T., Santos-Reis, M., & Branquinho, C. (2022). A trait-based conceptual framework to examine urban biodiversity, socio-ecological filters, and ecosystem services linkages. npj Urban Sustainability, 2(1), https://doi.org/10.1038/s42949-022-00077-7

Gilbert, M. R., Eakin, H., & McPhearson, T. (2022). The role of infrastructure in societal transformations. Current Opinion in Environmental Sustainability, 57, 101207. https://doi.org/10.1016/j.cosust.2022.101207

Grabowski, Z. J., Wijsman, K., Tomateo, C., & 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, 138, 171–181. https://doi.org/10.1016/j.envsci.2022.09.022

Balk, D., Tagtachian, D., Jiang, L., Marcotullio, P., Cook, E. M., Jones, B., Mustafa, A., & McPhearson, T. (2022). Frameworks to envision equitable urban futures in a changing climate: A multi-level, multidisciplinary case study of New York City. Frontiers in Built Environment, 8. https://www.frontiersin.org/articles/10.3389/fbuil.2022.949433

Grabowski, Z. J., McPhearson, T., & Pickett, S. T. A. (2023). Transforming US urban green infrastructure planning to address equity. Landscape and Urban Planning, 229, 104591. https://doi.org/10.1016/j.landurbplan.2022.104591

Pineda-Pinto, M., Frantzeskaki, N., Chandrabose, M., Herreros-Cantis, P., McPhearson, T., Nygaard, C. A., & Raymond, C. (2022). Planning Ecologically Just Cities: A Framework to Assess Ecological Injustice Hotspots for Targeted Urban Design and Planning of Nature-Based Solutions. Urban Policy and Research, 1–17. https://doi.org/10.1080/08111146.2022.2093184

Krueger, E. H., McPhearson, T., & Levin, S. A. (2022). Integrated assessment of urban water supply security and resilience: Towards a streamlined approach. Environmental Research Letters, 17(7), 075006. https://doi.org/10.1088/1748-9326/ac78f4

Diep, L., & McPhearson, T. (2022). Nature-based solutions for global climate adaptation. Nature, 606(7915), 653–653. https://doi.org/10.1038/d41586-022-01698-9

Łaszkiewicz, E. Wolff, M., Andersson, E., Kronenberg, J., Barton, D., Haase, D., Langemeyer, J., Baro, F., and McPhearson, T. Greenery in urban morphology: a comparative analysis of differences in urban green space accessibility for various urban structures across European cities. Ecology and Society. (In press).

Treglia, M., McPhearson, T., Sanderson, E., Yetman, G., and Maxwell, E. Examining the distribution of green roofs in New York City through a lens of social-ecological-technological filters. Ecology and Society 27(3). https://doi.org/10.5751/ES-13303-270320

Branny, A., Møller, M. S., Korpilo, S., McPhearson, T., Gulsrud, N., Olafsson, A. S., Raymond, C. M., & Andersson, E. (2022). Smarter greener cities through a social-ecological-technological systems approach. Current Opinion in Environmental Sustainability, 55, 101168. https://doi.org/10.1016/j.cosust.2022.101168

McPhearson, T., E. Cook, M. Berbés-Blázquez, N. Grimm, C. Cheng, O. Barbosa, D. Chandler, H. Chang, M. Chester, D. Childers, H. Eakin, P. Groffman, R. Hale, D. Iwaniec, A. Lugo, S. Markolf, M. Matzler, L. McPhillips, T. Miller, E. Rosi, D. Swindell, R. Roy Chowdhury, and T. Troxler. A social-ecological-technological systems framework for urban ecosystem services. One Earth. DOI 10.1016/j.oneear.2022.04.007

Frantzeskaki, N. and McPhearson, T.. (2022). “Mainstreaming nature-based solutions in cities.” BioScience, biab105. https://doi.org/10.1093/biosci/biab105