CURRICULUM VITAE

Andrew Trlica

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EDUCATION

PhD Earth & Environment – 2019, Boston University, Boston. Advisor Lucy Hutyra
-Biogeosciences Advanced Graduate Certificate

MS Forest Resources – 2010, University of Washington, Seattle. Advisor Sally Brown

BA Integrative Biology and **Anthropology** – 2004, University of California, Berkeley.

PEER-REVIEWED PUBLICATIONS

Trlica, A., V. Pasquarella, C. Brown, R.L. Cook and M. Sumnall. (in prep). Predicting LIDAR-derived leaf area index in Loblolly pine plantations via Sentinel-2 reflectance.

Woods, E., **A. Trlica**, P. Berlin, S. Bloszies, A. Woodley, R Cook and W. Sauges. 2025. Alkaline mineral residues from pulp mills as a sustainable and economical alternative to lime fertilizers. *RSC Sustainability* (in review).

Ribas-Costa, V.A., **A. Trlica** and A. Gastón-Gonzáles. 2025. Mapping discrete forest age classes of Mediterranean pinelands since the pre-satellite era using historical orthoimage mosaics and machine learning. *Journal of Forestry Research* 36: 81. https://doi.org/10.1007/s11676-025-01870-7

Cohrs, C.W., A. Lyons, T.J. Albaugh, D.R. Carter, O.C. Campoe, R.A. Rubilar, M. Sumnall, **A. Trlica,** M. Corrao, S. Virk, R. Lester and R.L. Cook. 2025. Precision forestry in actively managed loblolly pine plantations: leaf area index response one growing season following a variable-rate fertilization. *Forest Ecology & Management 595*: 122989. https://doi.org/10.1016/j.foreco.2025.122989

Ribas-Costa, V., A. Gastón-Gonzáles, S.A. Bloszies, J.D. Henderson, **A. Trlica**, D.R. Carter, R.A. Rubilar, O.C. Campoe, T.J. Albaugh and R.L. Cook. 2024. Nature vs. nurture: drivers of site productivity in loblolly pine (*Pinus taeda* L.) forests in the southeastern U.S. *Forest Ecology & Management 572*: 122334. https://doi.org/10.1016/j.foreco.2024.122334

Cook, R.L, T.R. Fox, H.L. Allen, C.W. Cohrs, V. Ribas-Costa, **A. Trlica**, M. Ricker, D.R. Carter, R. Rubilar, O. Campoe, T.J. Albaugh, P. Kleto, E. O'Brien and K. McEachern. 2024. Forest soil classification for intensive pine management: "Site Productivity for Optimization of Trees" system. *Forest Ecology & Management 556*: 121732. https://doi.org/10.1016/j.foreco.2024.121732

Puls, S., R.L. Cook, J.S. Baker, J.L. Rakestraw and **A. Trlica.** 2024. Modeling wood product carbon flows in Southern US pine plantations: implications for carbon storage. *Carbon Balance & Management* 19: 8. https://doi.org/10.1186/s13021-024-00254-4

Gould, E., H.S. Fraser, T.H. Parker... **A. Trlica** et al. 2023. Same data, different analysts: variation in effect sizes due to analytical decisions in ecology and evolutionary biology. *BMC Biology 23: 35.* https://doi.org/10.1186/s12915-024-02101-x

Trlica, A., R.L. Cook, T.J. Albaugh, R. Parajuli, D. Carter and R. Rubilar. 2021. Financial returns for biomass on short-rotation loblolly pine plantations in the southeastern United States. *Forest Science* 67(6): 670–681. https://doi.org/10.1093/forsci/fxab033

Sumnall, M.J., **A. Trlica,** D.R. Carter, R.L. Cook, M.L. Schulte, O.C. Campoe, R.A. Rubilar, R.H. Wynne and V.A. Thomas. 2021. Estimating the overstory and understory vertical extents and their leaf area index in intensively managed loblolly pine (*Pinus taeda* L.) plantations using airborne laser scanning. *Remote Sensing of Environment* 254(1): 112250. https://doi.org/10.1016/j.rse.2020.112250

Trlica, A., L.R. Hutyra, L.M. Morreale and I.A. Smith. 2020. Current and future biomass carbon uptake in Boston's urban forest. *Science of the Total Environment* 709: 136196. https://doi.org/10.1016/j.scitotenv.2019.136196

O'Brien, D. T., B. Gridley, **A. Trlica,** J.A. Wang and A. Shrivastava. 2020. Urban heat islets: Street segments, land surface temperatures, and medical emergencies during heat advisories. *American Journal of Public Health* 110(7): 994–1001. https://doi.org/10.2105%2FAJPH.2020.305636

Trlica, A., L.R. Hutyra, C.L. Schaaf, A. Erb and J.A. Wang. 2017. Albedo, land cover, and daytime surface temperature variation across an urbanized landscape. *Earth's Future* 5(11): 1084–1101. https://doi.org/10.1002/2017EF000569

Trlica, A., M. Walia, R. Krausz and R.L. Cook. 2017. Continuous corn and corn-soybean profits over a 45-year tillage and fertilizer experiment. *Agronomy Journal* 109(1): 1–9. https://doi.org/10.2134/agronj2016.06.0377

Reinmann, A., L.R. Hutyra, **A. Trlica** and P. Olofsson. 2016. Assessing the global warming potential of human settlement expansion in a mesic temperate landscape from 2005 to 2050. *Science of the Total Environment 545–546*: 512–524. https://doi.org/10.1016/j.scitotenv.2015.12.033

Cook, R.L. and **A. Trlica.** 2016. Tillage and fertilizer effects on crop yield and soil properties over 45 years in southern Illinois. *Agronomy Journal* 108(1): 415–426. https://doi.org/10.2134/agronj2015.0397

Trlica, A. and S. Brown. 2013. Greenhouse gas emissions and the interrelation of urban and forest sectors in reclaiming one hectare of land in the Pacific Northwest. *Environmental Science & Technology 47*(13): 7250–7259. https://doi.org/10.1021/es3033007

OTHER PUBLICATIONS + DATASETS

Trlica, A. 2024. FPC Soil Productivity Optimization for Trees ("SPOT") Soil Classification Map, v3.1. Available at forestproductivity.org/soil-classification.

Trlica, A. 2022. Annual Leaf Area Index of Loblolly pine plantations (2019–2025), Southeast US. Raster collections based on Sentinel-2 imagery available at map.forestproductivity.org.

Trlica, A. 2017. Urban land cover and urban heat island effect database. Harvard Dataverse V2, doi:10.7910/DVN/GLOJVA.

Trlica, A., M.L. Walia, R. Krausz, S. Secchi and R.L. Cook. 2016. Data from: *Continuous corn and corn-soybean profits over a 45-year tillage and fertilizer experiment.* Dryad Digital Repository. https://doi.org/10.5061/dryad.g1n25.

Cook, R.L and **A. Trlica.** 2016. Data from: *Tillage and fertilizer effects on crop yield and soil properties over 45 years in southern Illinois*. Dryad Digital Repository. https://doi.org/10.5061/dryad.7920c.

Trlica, A. 2016. "Soil carbon sequestration and organic wastes." In: *Sowing Seeds in the City: Ecosystem and Municipal Services*. S. Brown, K. McIvor & E.H. Snyder (Eds.), pp. 153–159. Dordrecht, Netherlands: Springer Science+Business Media. https://doi.org/10.1007/978-94-017-7453-6_11.

Trlica, A. and M. Teshima. 2011. Assessing soil carbon storage and climate change mitigation in biosolids mine reclamation projects. In: *Proc. 2011 Int'l Mine Closure Conf., Sept. 18–21, 2011, Lake Louise, Alberta, Canada – Vol. 2: Post-closure Monitoring and Responsibilities,* pp. 551–558. https://doi.org/10.36487/ACG_rep/1152_123_Trlica

Trlica, A. 2010. Measuring carbon storage in biosolids-amended mine land. *Biocycle*, November 2010, pp. 25–27.

PRESENTATIONS

Loblolly live crown length predicts future volume growth
Forest Prod. Coop Annual Meeting, 23 September 2025, Durham, North Carolina.

Progress in satellite remote sensing and future directions
Forest Prod. Coop Annual Meeting, 23 September 2025, Durham, North Carolina.

Harvested wood products carbon life cycle modeling
Forest Prod. Coop Latin America Annual Meeting, 19 November 2024, Cali, Colombia.

Updates to the SPOT v3 soil classification system for Loblolly pine management
Forest Prod. Coop Latin America Annual Meeting, 21 November 2024, Cali, Colombia.

Síntesis de avances en proyecto LiDAR & Sensoramiento Remoto, Cooperativa de Productividad Forestal
Forest Prod. Coop Latin America Annual Meeting, 21 November 2024, Cali, Colombia.

Leaf Area Index estimates to inform midrotation treatments: Initial results of variable fertilizer x herbicide rate trials.
Forest Prod. Coop Latin America Annual Meeting, 21 November 2024, Cali, Colombia.

Using a network of old-growth grassland remnants to evaluate the potential for soil health revitalization across the Great Plains.
Society for Ecological Restoration North American Conference, 30 Oct 2024, Vancouver, Brit. Col.

Leaf area index estimates to inform midrotation treatments (CAFS.21.87).
Center for Advanced Forestry IAB Meeting, 11 June 2024, Madison, Wisconsin.

Assessing & mapping regional variation in site productivity (CAFS.19.76).
Center for Advanced Forestry IAB Meeting, 11 June 2024, Madison, Wisconsin.

"Growing" forestry data at the FPC: Big Data for better forest management.
Forest Prod. Coop Annual Meeting, 15 August 2023, Blacksburg, Virginia.

Mapping remnant grasslands across the Great Plains of North America to guide soil health restoration (COS 755-5).
Ecol. Soc. Amer./Can. Soc. Ecol. Evol. Annual Meeting, 18 August 2022, Montreal, Canada.

Mapping deciduous understory via Google Earth Engine/GEE Workshop.
Forest Productivity Cooperative Annual Meeting, 10 August 2022, Raleigh, NC.

Loblolly leaf area index from Sentinel-2.
Google Geo For Good Lightning Talks #7: Forest & Nature Part 2, 27 January 2022.
https://www.youtube.com/watch?v=FYIk84prUQk

Using satellite imagery to assess Loblolly canopy and understory.
Forest Productivity Cooperative Industry Contact Meeting, 19 August 2021, Dillwyn, VA.

A neural network approach to generating leaf area index estimates using the Sentinel-2 satellite record.
Forest Productivity Cooperative Annual Meeting, 12 August 2021 (online).

Maximizing financial returns for biomass on dedicated short-rotation loblolly pine (Pinus taeda L.) plantations in the southeast United States.
Forest Productivity Cooperative Annual Meeting, 13 August 2020 (online).

Current and potential future net C uptake in Boston's urban forest (PS94-217).
Ecological Society of America Annual Meeting, 16 August 2019, Louisville, KY.

Urban biogenic C uptake estimated based on high-resolution remotely sensed biomass and urban-specific field measurements in Boston, Massachusetts (A43R-3467).
American Geophysical Union, 10–14 Dec. 2018, Washington, DC.

Current and potential future C uptake in Boston's urban trees.
CO2USA Annual Meeting, 24 October 2018, Salt Lake City, UT.

Boston's urban land cover and the urban heat island.
Gates Foundation and BARI, 20 June 2018, Boston, MA.

Sap flow measurement: Theory and implementation.
National Institute of Standards and Technology, 22 May 2017, Gaithersburg, MD.

Albedo and its relationship to land cover and the urban heat island in the Boston metropolitan region (H11H-07).
American Geophysical Union, 12–16 Dec. 2016, San Francisco, CA.

Tillage is recreational, fertilizer is essential: Costs and profits over 44-year tillage x fertilizer corn/soybean trials in Southern Illinois.
Soil Science Society of America, 2–5 Nov. 2014, Long Beach, CA.
https://scisoc.confex.com/scisoc/2014am/videogateway.cgi/id/22304?recordingid=22304.

Soil Amendment Applications and Mine Site Restoration Impacts on Soil Ecosystem Services: Reclamation of Degraded Land with Biosolids.
EPA CLU-IN Online Seminar, May 7, 2014. https://cluin.org/conf/tio/mining_050714/.

Greenhouse gas mitigation in the urban core via land restoration
Biocycle West Coast Conference, April 9–10, 2013, San Diego, California.

ACTIVITIES + ASSOCIATIONS

Central Grasslands Roadmap, Expert-on-Tap, Summit Meeting Ft. Collins CO, May 2022
BU Graduate Workers Union, organizer, 2017–2019
BU Graduate and Professional Leadership Council, Executive Committee, 2016–2018
BU Graduate Student Organization, Department Rep, 2014–2018
BU Earth & Environment Faculty Committee, Graduate Rep, 2017
BU Earth & Environment Grad Students Assoc., Founding Committee, 2017

Ecological Society of America, 2019, 2022
American Geophysical Union, 2016–2019
BU Graduate Academic Affairs Committee, Student Rep, 2015
Soil Science Society of America, 2010–2014
Northwest Biosolids Management Association, Information and Education Chair, 2011–2013

TEACHING

Basics of Soil Science, Guest Lect., *Engaging in Grassland Restoration*, Cornell U., Spr. 2024.

Silviculture Remote Sensing Lab, Guest Lect., NCSU Forestry 304: *Theor. Silv.*, Spr. 2022, 2024.

Forest Remote Sensing, Guest Lect., NCSU Forestry 713: *Adv. Top. Forestry*, Aut. 2022.

Teaching Fellow, GE 270: *Data, Models, and Analysis in Earth Sci.*, Boston U., Spr. + Aut. 2019.
2 sections, 30 students/sem.

Teaching Fellow, GE 100: *Env'l Change and Sustainability*, Boston U., Spring 2015 + Aut. 2017.
4 sections, 70-80 students/sem.

Mine Reclamation, Guest Lect., Crop Soil and Env. Mgmt. 443, Southern Illinois University, Aut. 2013

Teaching Assistant, BIOL 180: *Intro. Biology*, University of Washington, Aut. 2008.
4 sections, 40 students

OUTREACH + SERVICE

Reviewer: *Annals For. Sci., For. Ecol. Man., J. Env. Man., Rem. Sens. Env., J. Appl. Rem. Sens, Urban Ecosys., Sci. Total Environment, Sustainability, Functional Ecol., J. Appl. Ecol., ISPRS Int. J. Geo-Infor.*
Contributing writer, Envirobites.org, 2019–2020
Volunteer, Speak for the Trees Boston, 2019–2020
Skype a Scientist, 2019–2020
Organizer, BU Urban Climate Initiative graduate student forum, 2019
Organizer, BU Biogeosciences Annual Symposium, 2016–2019
Letters to a Pre-Scientist, 2018
Application committee, BU Pardee Center Summer Fellowship, 2018
Science fair judge, Coolidge Corner School, 2018–2019
A Year of Commuting in a Can, display at BU Dept. Earth & Environment, 2017
How can urban researchers engage communities for social change? 8 February 2017, BARI/URBAN
Urban Earth Science: Understanding the potential of a growing field 30 Nov. 2016, BU Initiative on Cities
Biogeosciences research demos, Get Growing Day, Cambridge Farmer's Market, 2014–2018
Soil science and community garden demos, Boston Youth Conservation Corps, 2016–2018

PROFESSIONAL EXPERIENCE

Research Scholar, Forest Productivity Cooperative (FPC), NC State University. 2021–present

Visiting Scholar, College of Agricultural and Life Science, Cornell University. 2022–2024.
Research and outreach on North American native prairie soil conservation

Postdoctoral Scholar, Forest Productivity Cooperative (FPC), NC State University. 2020–2021

Researcher, College of Agricultural Sciences, Southern Illinois University, Carbondale, IL. 2013–2014

Environmental Scientist, SYLVIS Environmental Services Inc., Vancouver, BC. 2010–2013

AWARDS AND HONORS

Cornell Atkinson Center Grassland Remnants Mapping**,** 2022, $30,000
NSF Skills Training in Advanced Research & Technology (START), 2021, $12,000
BU College of Arts & Sciences Outstanding Teaching Fellow, May 2020
Travel grant, BU Biogeosciences Program, Dec 2018, $500
Seed funding, BU Initiative on Cities, Jun 2016, $10,000
Research Seed Grant, Boston Area Research Initiative, Jan–Aug 2016, $10,000
Outstanding Poster, BU Biogeoscience Annual Symposium, Jan 2016
Summer Fellow, BU Pardee Center for the Study of the Longer-Range Future, Jun–Sept 2015, $5,000
Dean's Fellowship, Boston University, Aug–Dec 2014
College of Forest Resources Fellowship, University of Washington, 2007–2008
Sierra Club Southern Sierra Scholarship, UC Berkeley, 2000–2004, $8,000
Robert C. Byrd Scholarship, UC Berkeley, 2000–2004, $6,000

SKILLS

- Data analytics and GIS: R, Python, Google Earth Engine, ArcMap/QGIS, LINUX/bash, SAS/JMP
- Remote sensing: Sentinel-2, Landsat, MODIS, Aerial LiDAR
- Field data collection: Forest biometrics, soil carbon/fertility/trace elements/contaminants
- Greenhouse gas accounting: Carbon pool/flux quantification, life cycle assessment
- Conversational Spanish