Taylor J Minich
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EDUCATION

Aug 2017 – Dec 2019
Durham, North Carolina

Duke University, Nicholas School of the Environment
Master of Environmental Management (MEM)
Concentration: Ecosystem Science & Conservation
Master of Forestry (MF)
Awards: Nicholas Scholarship

Sept 2012 – April 2016
NYC, New York

Columbia University, Columbia College
Bachelor of Arts (BA)
Major: Ecology, Evolution & Environmental Biology
Minor: Classics
Awards: Robert R. Brookhart Memorial Scholarship

PROFESSIONAL EXPERIENCE

Oct 2020 – Sept 2025
RTP, North Carolina

Research Biologist
U.S. Environmental Protection Agency
Office of Research & Development
Center for Public Health & Environmental Assessment
Public Health & Environmental Systems Division
Environmental Pathways Modeling Branch

- Led the AFOmap project in mapping animal feeding operations (AFOs), concentrated AFOs (CAFOs), and livestock production across the nation
- Analyzed the impacts of the wood pellet production industry in the Southeast in relation to environmental justice, public health, and ecosystem function
- Managed the EnviroAtlas mapping application as part of a team dedicated to sharing geospatial data on ecosystem services, their chemical and non-chemical stressors, and human health with the public
- Studied how smoke from wildland fires can act as a vector for microbial pathogens

Jan 2020 – Oct 2020
RTP, North Carolina

National Student Services Contractor
U.S. Environmental Protection Agency | Oak Ridge Associated Universities

- Supported EnviroAtlas by developing geospatial data on ecosystem services
- Coded script tools in ArcPy to automate the process of updating geospatial data layers on the EnviroAtlas web map

Sept 2019 – Dec 2019
Durham, North Carolina

Research Assistant
Nicholas Institute for Energy, Environment & Sustainability

- Collaborated with US Forest Service researchers to understand the impacts of the agency's management practices, like fire regimes and harvesting operations, on local communities in terms of wildfire risk, public health, recreation, and biodiversity

June 2019 – Aug 2019
Washington, D.C.

Research Intern
The Defenders of Wildlife, Center for Conservation Innovation

- Trained deep learning models (convolutional neural networks) to identify solar panels, parking lots, and mountaintop mines from high-resolution satellite imagery in collaboration with The Nature Conservancy

Aug 2018 – Dec 2019
Durham, North Carolina

Teaching Assistant
Duke University, Nicholas School of the Environment

- Devised and implemented lesson plans for the graduate-level courses: *Applied Statistics for the Environmental Sciences*, *Environmental Data Analytics*, and *Advanced GIS*
- Led training lessons in R, Python, ArcGIS, and Google Earth Engine

May 2018 – Aug 2018
Sylva, North Carolina

Landscape Connectivity Intern
The Wilderness Society

- Mapped the connectivity of elk and salamander species across the Great Smoky Mountains National Park using tracking data, field sampling, and remote sensing
- Reviewed the US Forest Service's management plans for the Nantahala and Pisgah Forests in a public comment jointly with the Southern Environmental Law Center

May 2017 – Aug 2017
Salisbury, North Carolina

Geospatial Analysis Intern
Three Rivers Land Trust

- Prioritized the conservation value of over 75,000 parcels within ten counties of central North Carolina to better understand where to focus efforts for future land acquisition and conservation easements
- Led volunteer workshops to monitor and maintain stewardship on existing conservation easements

June 2016 – Oct 2016
Cayo Santiago, Puerto Rico

Research Assistant
The Caribbean Primate Research Center

- Designed and implemented experimental protocols for collecting behavioral and biological data from female rhesus macaques (*Macaca mulatta*) and their infants for the publication: 10.1073/pnas.1817148116

PUBLICATIONS

2025
In review

"Wildland fire smoke plumes as generators and mobilizers of biological aerosols" in Biological Highways in the Sky
Kobziar L, Bonfantine K, Markwiese J, Reichman J, ***Minich T****, Dean T, Lampman P, Bistolas K*

2021
Pre-print:
10.20944/202005.0345.v2

A Season Independent U-Net Model for Robust Mapping of Solar Arrays Using Sentinel-2 Imagery
Evans M, ***Minich T****, Soobitsky R, Mainali K*
MDPI Meteorology

2021
10.3389/fevo.2021.789264

Long Distance Seed Dispersal by Forest Elephants
Poulsen JR, Beirne C, Rundel C, Baldino M, Kim S, Knorr J, ***Minich T****, Jin L, Núñez CL, Xiao S, Mbamy W, Obian GN, Masseloux J, Nkoghe T, Ebanega MO, Clark CJ, Fay MJ, Morkel P, Okouyi J, White LJT, Wright JP*
Frontiers in Ecology and Evolution

2019
10.2981/wlb.00543

Estimation of Gut Passage Time of Wild, Free Roaming Forest Elephants
Beirne C, Núñez CL, Baldino M, Kim S, Knorr J, ***Minich T****, Lingron J, Shuyun X, Mbamy W, Obian G, Masseloux J, Nkoghe T, Ebanega M, Rundel C, Wright J, Poulsen JR*
Wildlife Biology

2018
10.1002/ajp.22761

Evidence for Paternal Kin Bias in the Social Affiliation of Adult Female Blue Monkeys
Cords M, ***Minich T****, Roberts SJ, Sleator C*
American Journal of Primatology

SKILLS

Coding languages:	R, Python, JavaScript
GIS Tools:	ArcGIS, QGIS, Google Earth Engine
Data Science:	Machine & Deep Learning, Frequentist & Bayesian Statistics, Time-Series Analysis
Data Visualization	ggplot2, RShiny, matplotlib
Version Control:	Git, GitHub