PATRICK R. FEDOR

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RESEARCH INTERESTS

I focus on integrating quantitative and geospatial methods to evaluate the economic and policy dimensions of climate change. At Woodwell Climate Research Center, I have contributed to projects assessing the impacts of climate change on energy demand, including work with HVAC load forecasting and temperature change. In addition, my research supports the economic valuation of tropical forest ecosystem services, the analysis of conservation costs, and the development of opportunity cost frameworks for Brazil and the Democratic Republic of the Congo.

EDUCATION

2023 M.S. in Data Analytics and Policy, Johns Hopkins University
2022 B.A. in Political Economy, University of Massachusetts Amherst

PROFESSIONAL EXPERIENCE

Dec 2024 – present Research Assistant, Woodwell Climate Research Center, Falmouth, MA
Jul 2024 – Dec 2024 Research Assistant Intern, Woodwell Climate Research Center, Falmouth, MA
Sep 2022 – Dec 2023 Graduate Student Researcher, Johns Hopkins University, Washington, DC

RESEARCH & PROJECTS

Tropical Forest Finance Facility (TFFF) Secretariat Paper, Woodwell Climate Research Center, 2025

- Contributed research and economic analysis for a policy paper prepared for the TFFF Secretariat.
- Evaluated how forest definitions and canopy thresholds affect conservation incentives, finding that higher thresholds (≥80%) capture more intact and biodiverse forests but reduce eligible areas compared to lower thresholds (≥20%).
- Demonstrated that applying higher canopy thresholds, paired with adjusted per-hectare payments, can maintain budget neutrality while enhancing ecological integrity.
- Compared management costs ($5–$9/ha in Brazil; $5–$7/ha in DRC) with direct-use benefits, showing benefits far exceed costs in Brazil and roughly match costs in the DRC.
- Highlighted that the $4/ha rate is a national allocation metric tied to the Tropical Forest Investment Fund and should not be interpreted as a local opportunity cost of conservation.

Ethiopia Climate Risk Assessment Brief, Woodwell Climate Research Center, 2025

- Supported preparation of a climate risk assessment brief for Ethiopia as part of Woodwell's global risk analysis portfolio.
- Assisted with drought modeling in R, ensuring code functionality, data integration, and successful deployment for analysis of regional climate risks.

Master's Thesis – A Data Driven Investigation into the Existence of Parental Discrimination in the Labor Market, Johns Hopkins University, 2023

- Conducted empirical research utilizing audit study data to test discrimination in hiring.

- Developed R scripts to extract CPS data; applied regression modeling.
- Determined that parents earned on average $0.15/hour more than non-parents when controlling for covariates.

Urban Data Analytics Study – The Boston Housing Affordability Crisis, Johns Hopkins University, 2023

- Designed affordability index in R using Boston housing and census tract data.
- Applied regression analysis to identify demographic predictors of affordability.

WORKSHOPS & CONFERENCES

2025 Participant, New York Climate Week, New York, NY
2024 Co-organizer, *Not Just Carbon* Workshop, Brasília, Brazil

KEY SKILLS

Core skills: Econometrics, data visualization, statistics, stakeholder communication, leadership, human resources
Technical: Python, R, SQL, Tableau, Microsoft Excel, GEE, JavaScript

PROFESSIONAL EXPERIENCE (DETAIL)

Research Assistant II, Woodwell Climate Research Center — Falmouth, MA (Dec 2024–present)

- Support the Risk team in analyzing climate impacts on energy demand, including HVAC load forecasting and the relationship between temperature change and building resilience.
- Contribute to the Tropical Forest Finance Facility (TFFF) initiative by compiling and analyzing economic and geospatial data to assess the Total Economic Value of tropical forests in Brazil and the Democratic Republic of the Congo.
- Develop opportunity cost frameworks to evaluate trade-offs between conservation and land-use change, integrating ecosystem service values, canopy cover thresholds, and anthropogenic risk exposure.
- Apply statistical, econometric, and machine learning methods to large datasets, producing visualizations and insights to inform climate adaptation, mitigation, and finance strategies.
- Collaborate across interdisciplinary teams to align technical research with policy and stakeholder engagement.

Research Assistant Intern, Woodwell Climate Research Center — Falmouth, MA (Jul 2024–Dec 2024)

- Processed and gap-filled remote sensing data from eddy-covariance flux towers at the Tanguro field station in Brazil.
- Analyzed NASA MODIS satellite data.
- Assisted in organizing and hosting the *Not Just Carbon* workshop, fostering collaboration among scientists, policymakers, and private stakeholders on agricultural land use change in the Amazon.