

Summary

- Creative researcher who looks for innovative interdisciplinary solutions
- Team builder who fosters collaboration across space, time, and borders
- Experienced executive focused on bringing together stakeholders, experts, and leadership teams to create successful and streamlined strategies and processes
- Proven track record implementing and refining analytics solutions that drive progress towards organizational goals

Education

North Carolina State University, Raleigh, NC, USA

Anticipated December 2026

PhD – Forestry and Environmental Resources

North Carolina State University, Raleigh, NC, USA

Conferred December 2024

MS – Forestry and Environmental Resources, Economics Minor

Michigan State University, East Lansing, MI, USA

Conferred May 2008

BS – Economics

Publications and Presentations

Caldwell, Peter V., et al. *Benefits of southern forests for drinking water*, Gen. Tech. Rep. SRS-283. U.S. Department of Agriculture, Forest Service, Southern Research Station, 2026, <https://doi.org/10.2737/SRS-GTR-283>.

Manner, Richard H., et al. “Globally informed and locally refined: Market, management, and carbon projections for the Southeastern United States forest sector”. *Forest Policy and Economics*, vol. 186, 2026, p. 103755. <https://doi.org/10.1016/j.forpol.2026.103755>.

Manner, Richard H., and Justin S. Baker. “Climate Uncertainty and Future Tree Growth; an Application of Artificial Neural Nets to Tree Level Growth”. *AGU25 Annual Meeting*. 2025, agu.confex.com/agu/agu25/meetingapp.cgi/Paper/1958059.

Nehra, Arpita, et al. “The potential impact of forest loss on drinking water treatment costs in the southeastern U.S.” *Forest Policy and Economics*, vol. 179, 2025, p. 103603. <https://doi.org/10.1016/j.forpol.2025.103603>.

Baker, Justin S., and Richard H Manner. “Portfolio of Trees in a Changing Climate: Using Signal Processing and Individual Tree Growth Simulations to Develop Mean-Variance Tradeoff Frontiers for Forest Establishment in the Southern United State”. *EGU General Assembly 2025*. 2025, <https://doi.org/10.5194/egusphere-egu25-20362>.

Manner, Richard H, et al. “The Sub-Regional Timber Supply Model (SRTS): A New Platform, New Carbon Calculations, and a Prospective on the Forest Sector in the Southeastern United States.” *2025 International Society of Forest Resource Economics (ISFRE) Symposium*. 2025.

Manner, Richard H. “The Portfolio of Trees: An Application of Portfolio Selection to Forest Stand Diversification.” 2024. North Carolina State U, Master’s thesis. www.lib.ncsu.edu/resolver/1840.20/44450.

Manner, Richard H., et al. “Introducing pySRTS: The next generation of the Sub-Regional Timber Supply Model”. Under Review.

Manner, Richard H., et al. “The Uncertainty of Planted Pine: Modeling the effect of Daily Weather Variability on Individual Tree Growth in the Southern U.S. using Artificial Neural Networks”. In Progress.

Cabiyo, Bodie, et al. “Impacts of unprecedented wood demand for bioenergy in the Southeastern US”. In progress.

Galik, Christopher, et al. “Means, ends, and tradeoffs: A reframing of prominent fracture lines in bioenergy.” In preparation.

Experience

North Carolina State University

Raleigh, NC, USA

SOFAC Research Associate

December 2024 – Present

Research Assistant

January 2023 – December 2024

Teaching Assistant

January 2023 – May 2024

Notable Projects

pySRTS Model

- Ground up re-imagining of the Sub-Regional Timber Supply (SRTS) model in Python
- Focus on modularity and generalization making it easier to move to new regions.
- Enhanced model with endogenous product weights and regional price premiums.

SRTS Excel add-in

- Transition existing SRTS model from Visual Basic application to Excel add-in
- Build out integration between Excel and existing data structures
- Design UI and workflow to take advantage of Excel features

New SRTS carbon conversion coefficients

- Leveraged new national scale volume and biomass (NSVB) equations from the USDA US Forest Service to revamp the conversion of volume and acreage to aboveground carbon

Research Interests

Climate induced tree growth risk

Machine learning applications to forestry and economics

Timber product markets, movement, and mill demand

Applications of signal processing to forest analysis

Teaching Experience

Natural Resource Management (NR4/500): Spring 2023 (TA), Spring 2024 (TA)

Forest Economics (FOR3/519): Fall 2023 (TA)

Natural Resource Management Lab: Spring 2025, Spring 2026

Quantworks, Inc.

Chapel Hill, NC, USA

Sr. Director – Retail Analytics

June 2017 – February 2022

lululemon athletica

Vancouver, BC, Canada

Manager of Business Solutions

May 2016 – May 2017

Sears Holdings Corporation

Hoffman Estates, IL, USA

Director of Strategic Development

March 2015 - May 2016

Strategic Development Manager

December 2011 - February 2015

Inventory Manager

March 2011 - December 2011

Sr. Business Analyst/Sr. Inventory Analyst

June 2009 - February 2011

Business Analyst

June 2008 - June 2009

Fellowships and Programs

Young Scientists Summer Program

International Institute of Applied Systems Analysis, Laxenburg, Austria

Research Assistant

June 2026 – August 2026

Activities

Objective: Expand pySRTS model to the European Union

- Collect and format European forest inventory data
- Calibrate model to unique market dynamics in the EU
- Produce member state-level projections factoring in shifting forest species composition

Funding: USA Member Organization (NSF)

Technical Capabilities

Strategic Planning
Linear Regression
Python Programming
Machine Learning

Linear Programming
SAS Programming
SQL Development
Data Visualization

Inventory Management
Excel/VBA Development
Non-linear Optimization
Sub-Regional Timber Supply Model