Zachary Dorminey

Pursuing PhD in Geography at University of Tennessee, Knoxville

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Google Scholar: https://scholar.google.com/citations?user=cgzOfIYAAAAJ&hl=en&oi=ao

Education & Credentials

Pursuing Doctor of Philosophy in Geography – University of Tennessee, Knoxville
(Expected Graduation Spring 2027)

Masters of Science in Geography - University of Tennessee, Knoxville
(Graduated Summer 2024)
- 4.0 GPA

Bachelor of Science in Civil Engineering - West Virginia University
(Graduated Spring 2019)
- Magna Cum Laude (GPA: 3.7)
- Tau Beta Pi member (Engineering Honors Society)
- Chi Epsilon member (Civil Engineering Honors Society)

Work/Research towards PhD in Geography

(August 2024 to present)
Faculty advisor: Dr. Nicholas Nagle
Courses taken/taking include: Machine Learning, Agricultural Economic Policy, Seminar in Geographic Information Science, Advanced Remote Sensing, Watershed Dynamics

Details of Current (PhD) Work:

Primarily working to develop small area estimation methodologies for forest inventories in multivariate frameworks. Handling high dimensionality in datasets to improve representations of multivariate ecosystems in estimation methods.

Developing a geographical Python package from Geographic Software Design course

- beta: https://pypi.org/project/basal-and-bark/

Graduate Research Assistant at the OIT Research Computing Support group

- Provide GIS research consulting services to the statewide network of University of Tennessee campuses
- Using multiple platforms, primarily ArcGIS Pro and Online - Statistical consulting services include work in R and Python

Work/Research towards MS in Geography

(August 2022 to August 2024)

Faculty advisor: Dr. Nicholas Nagle

Courses taken/taking include: Intermediate GIS, Categorical Data Analysis, Geographic Software Design, Quantitative Methods in Geography, Spatial Data Management

Details of Past (MS) Work:

Working under Dr. Nagle's management on US Forest Service research in quantitative methods
- Small area estimation

Developing a geographical Python package from Geographic Software Design course
- beta: https://pypi.org/project/basal-and-bark/

Graduate Research Assistant at the OIT Research Computing Support group
- Provide GIS research consulting services to the statewide network of University of Tennessee campuses
- Using multiple platforms, primarily ArcGIS Pro and Online
- Statistical consulting services include work in R and SPSS
- Development of python package basal-and-bark for combining forestry data from different sources into python workflows
- This package was originally developed in Geographic Software Design coursework
- This package is under ongoing development
- Created an R Shiny app that provides cluster analyses between user-provided data (Right of Way permits) and Population Distribution in Davidson County, TN

Presentations

Dorminey, Zachary, Nicholas Nagle, Todd Schroeder, Bergit Uhran, Dingfan Xing. Multi-Metric Forest Inventory Estimation. 2025 Annual Conference of the Association of American Geographers. March 2025.

Dorminey, Zachary, Nicholas Nagle, Todd Schroeder, Bergit Uhran, Dingfan Xing. A Multi-Metric Forest Inventory Estimation Methodology. 2024 American Geophysical Union. December 2024.

Dorminey, Zachary, Nicholas Nagle, Todd Schroeder, Bergit Uhran. Small Area Estimates of Virginia's Forests from Coast to Mountains: Does canopy height help? 2024 Annual Conference of the Association of American Geographers. March 2024.

Uhran, Bergit, Nagle, Nicholas, Dorminey, Zachary. Presenting on the comparison of unit-level vs area-level small area estimation in forestry and tradeoffs in accuracy of estimates. 2023 Joint Meeting of Southern and Northern Mensurationists (SOMENS & NEMO). October 2023.

Dorminey, Zachary. Assessing the Spatial Clustering of Right of Way Permits in Davidson County, Tennessee. 4th Biennial Geo Symposium Feb 9-10, 2023.

Dorminey, Zachary. Assessing the Spatial Clustering of Right of Way Permits in Davidson County, Tennessee. 2023 Annual Conference of the Association of American Geographers. March 2023.

Relevant Work Experience

Graduate Research Assistant at the OIT Research Computing Support group

- Provide GIS research consulting services to the statewide network of University of Tennessee campuses
- Using multiple platforms, primarily ArcGIS Pro and Online
- Statistical consulting services include work in R and Python
- Develop and teach workshops for GIS software use across campus

Dorminson Consulting LLC

- Partner (August 2021 to current - part-time)

Municipal Work

- Nature of work includes economic and financial analyses and feasibility reports
- Conduct different data analysis procedures for clients' needs
- Write reports for clients
- Provide interpretable and actionable solutions to clients

Michael Baker International

- Civil Associate I
- Land Development (June 2019 to May 2021) Natural Gas Pipeline Projects:
    - Erosion and Sediment Control plans (PADEP E&S BMP Manual)

    Municipal Projects:

    - Worked between multiple municipalities, contributing to a vast array of projects including field and office work

Federal Work:
- Primarily drafting tasks which differed from project to project
- Utility mapping, placement, profiles, tie-ins, etc.
- Implemented site design concepts