

Peter Menzies

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EDUCATION

Master of Environmental Data Science, 4.0 GPA (June 2022)

Bren School of Environmental Science & Management – University of California, Santa Barbara

Highlighted Coursework: Machine Learning in Environmental Science, Data Visualization and Communication, Remote Sensing, Spatial Analysis, Statistics for Environmental Data Science

Bachelor of Science in Environmental Studies, 3.7 GPA (June 2016)

University of North Carolina at Asheville, Asheville, NC

Honors/Awards: Cum Laude, Honors Program graduate, Laurel Scholar, Departmental Distinction in Environmental Studies

Leadership/Involvement: Undergraduate Researcher, Ecology Department Tutor

DATA ANALYSIS EXPERIENCE

Data Analyst Fellow – National Center for Ecological Analysis and Synthesis

5/22 – 9/22

- Updating data layers and scoring methods for the Ocean Health Index
- Aquiring, wrangling, and analyzing data in R on a remote linux server
- Improving data workflows with newer packages and increased automation

Machine Learning Engineer – Masters Capstone Project

1/22 – 6/22

- Developed a reproducible workflow for applying machine learning techniques to explore ecohydrologic model output
- Built models using random forest and gradient boosting in R, and LSTM recurrent neural networks in Python
- Visualized results with an interactive R Shiny app

ENVIRONMENTAL EXPERIENCE

Environmental Educator – Asheville GreenWorks

1/19 – 7/21

- Led environmental education programs for K-12 and community groups
- Co-chaired the leadership committee for Asheville's Bee City initiative
- Filmed and edited educational videos

Research Technician – North Carolina State University

6/18 – 10/18

- Identified and mapped over 3000 trees to assess regeneration trends in forest gaps
- Processed spatial data in QGIS
- Assisted with LiDAR mapping of study sites

Field/Lab Technician – US Forest Service

10/15 – 8/16

- Collected data on eastern hemlocks and hemlock woolly adelgids
- Input, analyzed, and visualized data using Excel and SAS
- Processed foliage, bark, and soil samples to assess chemical trends in woolly adelgid resistance

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SKILLS

Data Science

- **Languages:** R, Python, SQL, Bash
- **Data processing:** importing, cleaning, and wrangling large datasets in R and Python
- **Data visualization:** creating static and interactive visualizations using R (ggplot2, Shiny), Python (Matplotlib, Plotly), and Tableau.
- **Machine learning:** data preprocessing, feature selection, and model tuning experience with supervised learning techniques including logistic regression, random forest, gradient boosting, and neural networks in R (caret, XGBoost) and Python (TensorFlow, Keras, scikit-learn). Some familiarity with clustering and principal component analysis.
- **Statistics:** conducting and interpreting linear regressions in R. Some experience with spatial interpolation.
- **Spatial analysis:** analyzing raster and vector data in R (SF, SP, raster, terra) and Python (GeoPandas, Google Earth Engine). Some experience with QGIS and PostGIS databases.
- **Versioning and collaboration:** git, GitHub, ZenHub, Google Colab

Scientific Writing

- Co-authored two papers published in *Journal of the Torrey Botanical Society and Southeastern Naturalist* (cited below)

Irene M. Rossell, Tyler T. Clabby, and Peter Menzies "The habitat and abundance of two wintergreen orchids (*Aplectrum hyemale* and *Tipularia discolor*) in western North Carolina," *The Journal of the Torrey Botanical Society* 144(4), 417-422, (13 September 2017). <https://doi.org/10.3159/TORREY-D-16-00039.1>

Peter F. Menzies and Irene M. Rossell "Potential Herbivory on the Wintergreen Orchids *Aplectrum hyemale* and *Tipularia discolor* by the Spur-Throated Grasshopper *Melanoplus acrophilus*," *Southeastern Naturalist*, 16(3), (1 September 2017). <https://doi.org/10.1656/058.016.0317>