

Tedward Erker

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Summary of Qualifications and Skills

Biometry M.S. and Forestry Ph.D. (expected spring 2019) with 5 years of research and data analysis experience and 2 years of high school teaching experience. Comfortable with a wide range of statistical methods including generalized linear models and tree-based methods. Driven to understand complex problems and distill key findings for nonexpert audiences via fully reproducible reports and compelling figures. Independently motivated. A positive, constructive team member and leader. Passionate about working in education.

Experience

2015–Present **Research Assistant**, *UW-Madison*.

- Map Urban Forests of Wisconsin
 - Tested 3 machine learning algorithms to classify nearly a terabyte of imagery
 - Processed imagery in parallel at UW's Center for High Throughput Computing
 - Geospatial analysis in R and image segmentation in python.
- Carbon Budget of Urban Forest
 - Assessed impact of tree canopy on residential building energy use and carbon emissions of ~30,000 Madison homes.
- Canopy Foliar Trait Mapping with Imaging Spectroscopy.
 - Applied partial least squares regression models to predict foliar canopy traits (e.g. nitrogen content) from imaging spectroscopy data
 - Explored anthropogenic and environmental drivers of trait variation across Madison, WI.

2013–2015 **Teaching Assistant**, *UW-Madison*.

- Statistical Methods for Bioscience II, Spring 2015
 - Led 2 weekly discussion groups, graded homework and exams for this graduate-level course largely covering multiple linear and logistic regression
- Forest Ecology, Fall 2013 and Fall 2014
- Living With Wildlife, Spring 2014

2010–2012 **Chemistry and Biology Teacher**, *Confluence Prep Academy*, St. Louis.

- Educated over 120 students in six classes daily.
- As first year teacher, developed chemistry curriculum for new charter school integrating College Readiness Standards with Missouri Science Standards.

2010–2012 **Corps Member**, *Teach For America*, Chicago & St. Louis.

Education

2013–Present **Ph.D.**, *University of Wisconsin–Madison*, 3.929.
Forestry, Department of Forest and Wildlife Ecology

2013–Present **M.S.**, *University of Wisconsin–Madison*.
 Biometry, Department of Statistics

2006–2008 **B.A.**, *Washington University in St. Louis*, 3.83.

2009–2010 Environmental Studies–Ecology/Biology, Summa Cum Laude

Relevant graduate coursework

- Tools for Reproducible Research
- Statistical Methods-Spatial Data
- Intro Mathematical Statistics I & II
- Teaching Statistics
- Advanced Data Analysis with R
- Multilevel Models
- Statistical Meth. for Bioscience I & II
- Inquiry-Based Biology Teaching

skills

Statistical Analysis GLMs, GAMs, multilevel models, shrinkage and dimension reduction, tree-based methods in R and

Writing 1 scientific paper in review; over \$150,00 in proposals

Presenting 2 scientific posters, 1 academic presentation, years of teaching

Data Display Daily use of grammar of graphics in R's ggplot2

webscraping

html css

R ggplot

writing

- paper in review
- proposals over 150k