

Education

Graduate: Michigan State University, 2014

MS Plant Biology

Ecology, Evolutionary Biology, and Behavior Interdisciplinary Program

GPA: 4.0 Scale: 4.0

Undergraduate: Michigan State University, 2009

BS Forestry with Honors

BS Zoology with Honors

GPA 3.98 Scale 4.0

Research Funding

EPA Star fellowship (\$74,000)

Computer and Statistical Skills

- Proficient in frequentist and Bayesian statistics, including hierarchical modeling.
- Proficient in analyzing spatial and temporal data, including spatially-explicit modeling.
- Proficient in using R, WinBUGS, LaTeX, SQL, Microsoft Access, and Microsoft Office.
- Working knowledge of Python, ArcGIS, SAS Statistical Software, and SYSTAT Statistical Software.

Publications

DM Minor and RK Kobe. 2017. Fruit production is influenced by tree size and size-asymmetric competition in a wet tropical forest. *Journal of Ecology*. In Review.

JC Villegas, DJ Law, SC Stark, **DM Minor**, DD Breshears, SR Saleska, ALS Swann, ES Garcia, EM Bella, JM Morton, NS Cobb, GA Barron-Gafford, ME Litvak, and TE Kolb. 2017. Prototype campaign assessment of disturbance-induced tree loss effects on surface properties for atmospheric modeling. *Ecosphere*. In press.

DM Minor and RK Kobe. 2017. Masting synchrony in northern hardwood forests: super-producers govern population fruit production. *Journal of Ecology*. doi:10.1111/1365-2745.12729

SC Stark, DD Breshears, ES Garcia, DJ Law, **DM Minor**, SR Saleska, ALS Swann, JC Villegas, LEOC Aragão, EM Bella, LS Borma, NS Cobb, ME Litvak, W Magnuson, JM Morton, MD Redmond. 2016. Toward accounting for ecoclimate teleconnections: intra- and inter-continental consequences of altered energy balance after vegetation change. *Landscape Ecology* 31(1): 181-194. doi:10.1007/s10980-015-0282-5

Elizabeth S. Garcia, Abigail L. S. Swann, David D. Breshears, Jason P. Field, David J. P. Moore, Scott R. Saleska, Scott C. Stark, Juan C. Villegas, Darin J. Law, and **David M. Minor**. Ranking potential of forest die-offs to reduce U.S. cross-regional ecosystem productivity reveals risk from California tree mortality. *Proceedings of the National Academy of Science* (in prep).

David D. Breshears, Juan C. Villegas, Scott C. Stark, Darin J. Law, **David M. Minor**, Rafael Leandro de Assis, Susan Aragón, Elizabeth C. Garcia, Scott R. Saleska, Abigail L.S. Swann, José Mauro S. Maura, Jose Luis Carmago. Toward Improving Assessment of Energy Implications of Amazon Forest-to-Savanna-like Transitions. *Earth's Future* (in prep).

Achievements

- Environmental Protection Agency Science to Achieve Results Fellowship, 2010
- Organization for Tropical Studies Post-course Research Fellowship, 2010
- MSU Forestry Alumni Association Senior Scholarship, 2009
- MSU Forestry Carl O. Basel Endowed Scholarship, 2009
- MSU Forestry Clare & Myrtle Hendee Scholarship, 2009
- MSU Forestry Herbert S. Humphrey Scholarship, 2009
- MSU Forestry Robert Leavengood Scholarship, 2009
- MSU Forestry Faculty Senior Scholarship, 2009
- MSU Forestry Terrill D. Stevens Scholarship, 2009
- Golden Key International Honor Society Member, 2007 – 2009
- College of Natural Science Dean's List, 2005 – 2009
- College of Agriculture and Natural Resources Dean's List, 2008 – 2009
- MSU Alumni Distinguished Scholarship Commended Semi-finalist, 2005

Presentations

Minor, David M and Richard K Kobe. Soil nutrient and neighborhood competition influences on northern hardwood reproduction. Ecological Society of America Conference, August 2012. Presentation

Minor, David M and Richard K Kobe. Soil nutrient influence on reproductive output of tropical tree species. Midwest Ecology and Evolution Conference, March 2012. Presentation

Minor, David M and Richard K Kobe. The influence of soil nutrients on fruit production in northern hardwood trees. EPA STAR Graduate Fellowship Conference, September 2011. Poster.

Minor, David M and Richard K Kobe. Soil nutrient influence on subcanopy palm reproduction. Ecological Society of America Conference, August 2011. Poster

Minor, David M and Richard K Kobe. Tree species' fruit production respond differently along soil resource gradients in northern hardwood forests. National Atmospheric Deposition Program Annual Meeting, October 2010. Poster.

Minor, David M and Richard K Kobe. Tree size is a stronger influence on fruit production than soil resources and neighborhood crowding in northern hardwood forests. Ecological Society of America Conference, August 2010. Poster

Work Experience

Michigan State University

East Lansing, MI

Academic Specialist

July 2015 – present

- Perform spatially explicit analyses of raster LiDAR data, predicting leaf area in unmeasured areas and light transmission through the canopy.
- Collect forest structure and light transmission data using LiDAR, light sensors, and canopy photos.
- Assist in development of a canopy photo analysis algorithm that allow for photos to be taken under multiple sky conditions rather than overcast conditions only.
- Manage equipment and data organization for 6 field studies (MD, MI, Brazil, Panama).
- Facilitate graduate student research projects.
- Coordinate data collection and analysis efforts with colleagues from multiple institutions.
- Write and implement new protocols for data entry, processing, and storage, and metadata recording.
- Supervise collection of annual seedling and adult tree demography data in 18-year ecological project.
- Supervise 6 employees for data collection and entry.
- Collect fruit production data to improve regional allometric equations for sugar maple.

Ecology Research Technician

April 2014 – July 2015

- Coded routines for rasterization of LiDAR data, analysis of LiDAR data for leaf area and light transmission, and extraction of metadata; automating work throughput.
- Collected forest structure and light transmission data using LiDAR, light sensors, and canopy photos.
- Managed equipment and data organization for 5 field studies (AK, AZ, MI, NM, Brazil).
- Designed and built a carrying system for a ground-based LiDAR device, allowing for measurements in dense forest understories.
- Co-taught a course on LiDAR collection and analysis for graduate students in Brazil.

Data Manager

Jan 2014 – Mar 2014

- Organized and proofread data from long term ecological projects on seed dispersal and seedling demography in preparation for analysis.

Graduate Research Project

Aug 2009 – Nov 2013

- Investigated the effects of tree size, soil nutrient availability, and competition from neighboring trees on fruit production in 3,800 trees of 27 forest species across 4 years.
- Led parallel studies in Manistee National Forest, MI and La Selva Biological Research Station, Costa Rica.
- Analyzed the effects of individual trees on intra-annual population reproductive cycles.
- Used hierarchical Bayesian modeling to incorporate multiple ecological processes and sources of error.

Forest Ecology Laboratory Assistant

Mar 2007 – Aug 2009

- Collected field data (Manistee National Forest, MI): annual seedling censuses, DBH measurements.
- Processed forest floor litter for measurements of Net Primary Productivity and seed density.
- Prepared and performed soil extractions for measurements of nutrient availability.

David M. Minor

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Teaching Experience

- Co-taught a course on LiDAR collection and analysis for graduate students in Brazil. 2014
- Forest ecology guest lecture on seed production and dispersal. 2011, 2012
- Dendrology guest lecture on tree reproductive form and function. 2011
- Forest ecology field trip instructor on tree communities and soil environment. 2010, 2011
- ***Integrative Studies for the Biological Sciences Teaching Assistant.*** 2009
 - Engaged students in lecture and laboratory exercises spanning a variety of biological topics, with an emphasis on the scientific method. Prepared quizzes, and graded quizzes and assignments.
- ***Forest Ecology Teaching Assistant.*** 2007
 - Assisted in running lab exercises, graded student assignments, and provided feedback to professor on effectiveness of methods.

Languages

English; Basic Portuguese and Spanish

Leadership Experience

- Michigan State Forestry Club, President
- Eagle Scout

Conferences and Workshops

- Midwest Ecology and Evolution Conference, March 2012
- Society of American Foresters National Conference, November 2012
- Environmental Protection Agency Science to Achieve Results Graduate Fellowship Conference, September 2011
- Ecological Society of America Conference, August 2011
- National Atmospheric Deposition Program Annual Meeting, October 2010
- Ecological Society of America Conference, August 2010
- MSU Teaching Assistant Seminar on College Teaching, August 2009
- Michigan Society of American Foresters Conference, October 2008
- Michigan Forest Products Council Conference, October 2007

Community Involvement

- Mentored undergraduate student researchers. 2015 – 2017
- Instructor for Cub Scout Forester Activity Pin. 2011 – 2013
- Organizer for Plant Biology Graduate Student Retreat on Science Communication. 2012
- Mentored a high school student researcher, Multicultural Apprenticeship Program. 2012
- Children's programs on orienteering and wildlife at Wexford County Library, Cadillac, MI. 2010 – 2011
- Forest seed dispersal presentation to the Cadillac Garden Club. 2010