

# Ethan White's Curriculum Vitae

## Contact

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## Education

2005 PhD Biology (with distinction), University of New Mexico

1998 BA Biology (*magna cum laude*), Colorado College

## Research and Professional Experience

2024- Professor, Dept. Wildlife Ecology & Conservation, University of Florida

2015-2024 Associate Professor, Dept. Wildlife Ecology & Conservation, University of Florida

2012-2015 Associate Professor, Dept. of Biology and Ecology Center, Utah State University

2007-2012 Assistant Professor, Dept. of Biology and Ecology Center, Utah State University

2005-2007 NSF Postdoctoral Fellow in Biological Informatics, Univ. of AZ & U.C. Merced

## Fellowships and Awards

Moore Foundation Investigator in Data-Driven Discovery 2014-2023

NSF CAREER 'Young Investigators' Award 2010-2016

NSF Postdoctoral Fellowship in Biological Informatics 2005-2007

NSF Graduate Research Fellowship 2000-2005

University of New Mexico Biocomplexity Fellowship 2002-2004

Richard G. Beidleman Award 1998 (Colorado College)

Phi Beta Kappa 1998

## Publications

\*\*undergraduate, \*graduate student, +postdoc

## Journal Articles

Harmon I., B.G. Weinstein, S.A. Bohlman, E.P. White, D.Z. Wang. In press. A Neuro-Symbolic Framework for Tree Crown Delineation and Tree Species Classification. Remote Sensing. <https://doi.org/10.3390/rs16234365> [Code, Data]

White, E.P., L. Garner, B.G. Weinstein, H. Senyondo, A. Ortega, A. Steinkraus, G.M. Yenni, P. Frederick, S.K.M. Ernest. 2024. Near real-time monitoring of wading birds using uncrewed aircraft systems and computer vision. Remote Sensing in Ecology and Conservation <http://doi.org/10.1002/rse2.421> [Code (model training), Code (workflow), Code (visualization website), Data (training), Data (predictions), Preprint]

Dietze, M., E.P. White, A. Abeyta, C. Boettiger, N. Bueno Watts, C.C. Carey, R. Chaplin-Kramer, R.E. Emanuel, S.K.M. Ernest, R.J. Figueiredo, M.D. Gerst, L.R. Johnson, M.A. Kenney, J.S. McLachlan, I.Ch. Paschalidis, J.A. Peters, C. R. Rollinson, J. Simonis, K. Sullivan-Wiley, R. Q. Thomas, G. M. Wardle, A. M. Willson, and J. Zwart. 2024. Near-term Ecological Forecasting for Climate Change Action. Nature Climate Change <https://doi.org/10.1038/s41558-024-02182-0>

Dumandan, P.K.T., J.L. Simonis, G.M Yenni, S.K.M. Ernest, and E.P. White. 2024. Transferability of ecological forecasting models to novel biotic conditions in a long-term experimental study. *Ecology*: 105:e4406 <https://doi.org/10.1002/ecy.4406> [Code, Data, Preprint]

Weinstein, B.G., S. Marconi, A. Zare, S.A. Bohlman, A.Singh, S.J. Graves, L. Magee, D.J. Johnson, S. Record, V.E. Rubio, N.G. Swenson, P. Townsend, T.T. Veblen, R.A. Andrus, E.P. White. 2024. Individual tree crown maps for the National Ecological Observatory Network. *PLOS Biology* 22:e3002700 <https://doi.org/10.1371/journal.pbio.3002700> [Data, Code, Website, Preprint]

Graves, S.J., S. Marconi, D. Stewart, I. Harmon, B.G. Weinstein, Y. Kanazawa, V.M. Scholl, M.B. Joseph, J. McClinchy, L. Browne, M.K. Sullivan, S. Estrada-Villegas, E. Tusa, D.Z. Wang, A. Singh, S.A. Bohlman, A. Zare, E.P. White. 2023. Data science competition for cross-site delineation and classification of individual trees from airborne remote sensing data. *PeerJ* 11:e16578. <https://doi.org/10.7717/peerj.16578> [Code, Data, Preprint]

Ernest, S.K., H. Ye, and E.P. White. 2023. Ecological Forecasting and Dynamics: A graduate course on the fundamentals of time series and forecasting in ecology. *Journal of Open Source Education* 6: 198 <https://doi.org/10.21105/jose.00198> [Preprint]

Harmon, I., S. Marconi, B. Weinstein, Y. Bai, D. Wang, E.P. White, and S. Bohlman. 2023 Improving Rare Tree Species Classification using Domain Knowledge. *IEEE Geoscience and Remote Sensing Letters* 20: 8500305 <https://doi.org/10.1109/LGRS.2023.3278170> [Preprint]

Weinstein, B.G., S. Marconi, S.J. Graves, A. Zare, A. Singh, S.A. Bohlman, L. Magee, D.J. Johnson, P.A. Townsend, and E.P. White. 2023. Capturing long-tailed individual tree diversity using an airborne multi-temporal hierarchical model. *Remote Sensing in Ecology and Conservation* 9:656-670 <https://doi.org/10.1002/rse2.335>. [Code, Data, Preprint]

Weinstein, B.G., L. Garner, V.R. Saccomanno, A. Steinkraus, A. Ortega, K. Brush, G.M. Yenni, A.E. McKellar, R. Converse, C.D. Lippitt, A. Wegmann, N.D. Holmes, A.J. Edney, T. Hart, M.J. Jessopp, R.H. Clarke, D. Marchowski, H. Senyondo, R. Dotson, E.P. White, P. Frederick, S.K.M. Ernest. 2022. A general deep learning model for bird detection in high-resolution airborne imagery. *Ecological Applications*: e2694 <https://doi.org/10.1002/eap.2694> [OA version, Code, Data, Model, Preprint]

Harmon, I., S. Marconi, B.G. Weinstein, S.J. Graves, D.Z. Wang, S.A. Bohlman, A. Zare, A. Singh, and E.P. White. 2022. Injecting Domain Knowledge Into Deep Neural Networks for Tree Crown Delineation. *IEEE Transactions on Geoscience and Remote Sensing* 60:1-19 <https://doi.org/10.1109/TGRS.2022.3216622> [OA version, Preprint]

Marconi, S., B.G. Weinstein, S. Zou, S.A. Bohlman, A. Zare, A. Singh, D. Stewart, I. Harmon, A. Steinkraus, and E.P. White. 2022. Continental-scale hyperspectral tree species classification in the United States National Ecological Observatory Network. *Remote Sensing of Environment* 282:113264 <https://doi.org/10.1016/j.rse.2022.113264> [OA, Code, Data]

Di Cecco, G.J., S.J. Snell Taylor, E.P. White, A.H. Hurlbert. 2022. More individuals or specialized niches? Distinguishing support for hypotheses explaining positive species-energy relationships. *Journal of Biogeography* 49:1629-1639 <https://doi.org/10.1111/jbi.14459> [Code, Data, Data]

Simonis J.L., G.M. Yenni, E.K. Bledsoe, E.M. Christensen, H. Senyondo, S.D. Taylor, H. Ye, E.P. White, and S.K.M. Ernest. 2022. portacasting: Supporting automated forecasting of rodent populations. *Journal of Open Source Software* 7:3220 <https://doi.org/10.21105/joss.03220> [OA, Code, Documentation]

White, E.P., Z.T. Brym, A.J. Marx, K. Riemer, S. Marconi, D.J. Harris, V. Cruz and S.K.M. Ernest. 2022.

Data Carpentry for Biologists: A semester long Data Carpentry course using ecological and other biological examples. *Journal of Open Source Education* 5:139 <https://doi.org/10.21105/jose.00139> [OA, Code, Website]

Stewart D., A. Zare, S. Marconi, B.G. Weinstein, E.P. White, S.J. Graves, S. Bohlman, A. Singh. 2021. Addressing annotation imprecision for tree crown delineation using the RandCrowns index. *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing* 14:11229-11239 <https://doi.org/10.1109/JSTARS.2021.3122345> [OA, Preprint]

Weinstein, B.G., S.J. Graves, S. Marconi, A. Singh, A. Zare, D. Stewart, S.A. Bohlman, E.P. White. 2021. A benchmark dataset for individual tree crown delineation in co-registered airborne RGB, LiDAR and hyperspectral imagery from the National Ecological Observation Network. *PLOS Computational Biology* 17:e1009180 <https://doi.org/10.1371/journal.pcbi.1009180> [OA, Code, Data (Benchmark), Data (Training), Preprint]

Simonis, J.L., E.P. White, S.K. Morgan Ernest. 2021. Evaluating probabilistic ecological forecasts. *Ecology* 102:e03431. <https://doi.org/10.1002/ecy.3431> [Code]

Marconi, S. S.J. Graves, B.G. Weinstein, S. Bohlman, and E.P. White. 2021. Estimating individual level plant traits at scale. *Ecological Applications* 31:302300 <https://doi.org/10.1002/eap.2300> [OA, Code, Data, Preprint]

Senyondo, H., D.J. McGlinn, P. Sharma, D.J. Harris, H. Ye, S.D. Taylor, J. Ooms, F. Rodríguez-Sánchez, K. Ram, A. Pandey, H. Bansal, M. Pohlman, and E.P. White. 2021. Rdataretriever: R Interface to the Data Retriever. *Journal of Open Source Software* 6:2800 <https://doi.org/10.21105/joss.02800> [OA, Code, Website]

Weinstein, B.G., S. Marconi, S. Bohlman, A. Zare, A. Singh, S.J. Graves, E.P. White. 2021. A remote sensing derived data set of 100 million individual tree crowns for the National Ecological Observatory Network. *eLife* 10:62922 <https://doi.org/10.7554/eLife.62922> [OA, Data, Preprint]

Weinstein, B.G., S. Marconi, M. Aubry-Kientz, G. Vincent, H. Senyondo, E.P. White. 2020. DeepForest: A Python package for RGB deep learning tree crown delineation. *Methods in Ecology and Evolution* 11:1743–1751. <https://doi.org/10.1111/2041-210X.13472> [OA, Code, Preprint]

Snell Taylor, S., J.R. Coyle, E.P. White, and A.H. Hurlbert. 2020. A simulation study of the use of temporal occupancy for identifying core and transient species. *PLOS ONE*. <https://doi.org/10.1371/journal.pone.0241198> [OA, Code, Preprint]

Adler, P.B., E.P. White, M.H. Cortez. 2020. Matching the forecast horizon with the relevant ecological processes. *Ecography* 43:1729–1739. <https://doi.org/10.1111/ecog.05271> [Code, Preprint]

Burgio, K.R., C.M. MacKenzie, S.B. Borrelle, S.K.M. Ernest, J.L. Gill, K.E. Ingeman, A.K. Teffer and E.P. White. 2020. Ten simple rules for a successful remote postdoc. *PLOS Biology* 16:e1007809 <https://doi.org/10.1371/journal.pcbi.1007809> [OA, Preprint]

Weinstein, B.G., S. Marconi, S.A. Bohlman, A. Zare, E.P. White. 2020. Cross-site learning in deep learning RGB tree crown detection. *Ecological Informatics* 56:101061. <https://doi.org/10.1016/j.ecoinf.2020.101061> [OA, Website, Code, Preprint]

Taylor, S.D. and E.P. White. 2020. Automated data-intensive forecasting of plant phenology throughout the United States. *Ecological Applications* 30:e02025 <https://doi.org/10.1002/eap.2025> [OA, Code, Website, Preprint]

Brown, P., RELISH Consortium (including E.P. White), and Y. Zhou. 2019. Large expert-curated database for benchmarking document similarity detection in biomedical literature search. Database: baz085. <https://doi.org/10.1093/database/baz085>

[//doi.org/10.1093/database/baz085](https://doi.org/10.1093/database/baz085) OA

Weinstein B., S. Marconi, S. Bohlman, A. Zare, E.P. White. 2019. Individual tree-crown detection in RGB imagery using self-supervised deep learning neural networks. *Remote Sensing* 11: 1309. <https://doi.org/10.3390/rs11111309> [OA, Code, Preprint]

Yenni, G.M., E.M. Christensen, E.K. Bledsoe, S.R. Supp, R.M. Diaz, E.P. White, S.K.M. Ernest. 2019. Developing a modern data workflow for regularly updating data. *PLOS Biology* 17:e3000125. <https://doi.org/10.1371/journal.pbio.3000125> [OA, Website, Code, Data, Preprint]

Marconi, S., S.J. Graves, D. Gong, M. Shahriari Nia, M. Le Bras, B.J. Dorr, P. Fontana, J. Gearhart, C. Greenberg, D.J. Harris, S.A. Kumar, A. Nishant, J. Prarabdh, S.U. Rege, S.A. Bohlman, E.P. White, D.Z. Wang. 2019. A data science challenge for converting airborne remote sensing data into ecological information. *PeerJ* 6:e5843. <https://doi.org/10.7717/peerj.5843> [OA, Website, Preprint].

Taylor, S.D., J.M. Meiners, K. Riemer, M.C. Orr, and E.P. White. 2019. Comparison of large-scale citizen science data and long-term study data for phenology modeling. *Ecology* 100: e02568. <https://doi.org/10.1002/ecy.2568> [OA, Code, Preprint].

Christensen, E.M., G.M. Yenni, H. Ye, J.L. Simonis, E.K. Bledsoe, R. Diaz, S.D. Taylor, E.P. White, S.K.M. Ernest. 2019. portalr: an R package for summarizing and using the Portal Project data. *Journal of Open Source Software* 4:1098. <https://doi.org/10.21105/joss.01098> [OA, Code, Website]

Perkins, D.M., A. Perna, R. Adrian, P. Cermeño, U. Gaedke, M. Huete-Ortega, E.P. White, G. Yvon-Durocher. 2019. Energetic equivalence underpins the divergent size structure of tree and phytoplankton communities. *Nature Communications* 10:255. <https://doi.org/10.1038/s41467-018-08039-3> [OA, Code, Peer Review]

White, E.P., G.M. Yenni, S.D. Taylor, E.M. Christensen, E.K. Bledsoe, J.L. Simonis, S.K.M. Ernest. 2019. Developing an automated iterative near-term forecasting system for an ecological study. *Methods in Ecology and Evolution* 10:332–344. <https://doi.org/10.1111/2041-210X.13104> [OA, Website, Data, Code, Preprint]

Jenkins, M.S., E.P. White, and A.H. Hurlbert. 2018. The proportion of core species in a community varies with spatial scale and environmental heterogeneity. *PeerJ* 6:e6019. <https://doi.org/10.7717/peerj.6019> [OA, Code, Preprint]

Snell, S., B. Evans, E.P. White, A.H. Hurlbert. 2018. The prevalence and impact of transient species in ecological communities. *Ecology* 99: 1825-1835. <https://doi.org/10.1002/ecy.2398> [Code, Preprint]

Dornelas, M., L.H. Antao, F. Moyes, A.E. Bates, A.E. Magurran... E.P. White et al. 2018. BioTIME: a database of biodiversity time series for the anthropocene. *Global Ecology and Biogeography* 27:760 - 786. <https://doi.org/10.1111/geb.12729> [OA, Website, Data]

Dietze M.C., A. Fox, J. Betancourt, M. Hooten, C. Jarnevich, T. Keitt, M. A. Kenney, C. Laney, L. Larsen, H.W. Loescher, C. Lunch, B. Pijanowski, J.T. Randerson, E. Read, A. Tredennick, K.C. Weathers and E. P. White. 2018. Iterative ecological forecasting: Needs, opportunities, and challenges. *Proceedings of the National Academy of Sciences* 201710231 <https://doi.org/10.1073/pnas.1710231115>

Harris, D.J., S. Taylor\* and E.P. White. 2018. Forecasting biodiversity in breeding birds using best practices. *PeerJ* 6:e4278 <https://doi.org/10.7717/peerj.4278> [OA, Code, Code Archive, Preprint]

Riemer, K.\*, R.P. Guralnick, and E.P. White. 2018. No general relationship between mass and temperature in endothermic species. *eLife* 7:e27166 <https://doi.org/10.7554/eLife.27166.001> [OA, Code, Code Archive, Preprint]

Senyondo, H., B.D. Morris, A. Goel\*, A. Zhang\*, A. Narasimha, S. Negi\*, D.J. Harris, D.G. Digges, K. Kumar, A. Jain, K. Pal, K. Amipara, and E.P. White. 2017. Retriever: Data Retrieval Tool. Journal of Open Source Software 2:451 <https://doi.org/10.21105/joss.00451> [OA, Code, Code Archive, Website].

Hampton, S.E., M.B. Jones, L.A. Wasser, M.P. Schildhauer, S.R. Supp, J. Brun, R.R. Hernandez, C. Boettiger, S.L. Collins, L.J. Gross, D.S. Fernández, A. Budden, E.P. White, T.K. Teal, S. Labou, and J.E. Aukema. 2017. Skills and knowledge for data-intensive environmental research. Bioscience 67:546-557 <https://doi.org/10.1093/biosci/bix025> OA

Baldrige, E.\*, D.J. Harris+, X. Xiao\*, and E.P. White. 2016. An extensive comparison of species-abundance distribution models. PeerJ 4:e2823 <https://doi.org/10.7717/peerj.2823> [OA, Code, Data, Preprint]

Xiao, X.\*, J.P. O'Dwyer, and E.P. White. 2016. Comparing process-based and constraint-based approaches for modeling macroecological patterns. Ecology 97:1228-1238. <https://doi.org/10.1890/15-0962.1> [OA, Code, Preprint]

Mislan, K.A.S., J.M. Heer, and E.P. White. 2016. Elevating the status of code in ecology. Trends in Ecology and Evolution 31: 4-7 <http://dx.doi.org/10.1016/j.tree.2015.11.006> [OA, Code, Data, Preprint]

Xiao, X.\*, K.J. Locey\*, and E.P. White. 2015. A process-independent explanation for the general form of Taylor's Law. American Naturalist 186:E51-E60. <http://dx.doi.org/10.1086/682050> [OA, Code, Data, Preprint]

White, E.P. 2015. Some thoughts on best publishing practices for scientific software. Ideas in Ecology and Evolution 8:55-57. <http://dx.doi.org/10.4033/iee.2015.8.9.c> OA

McGlinn, D.J.+, X. Xiao\*, J. Kitze and E.P. White. 2015. Exploring spatially explicit predictions of the Maximum Entropy Theory of Ecology. Global Ecology and Biogeography 24:675-684. <http://dx.doi.org/10.1111/geb.12295> [OA, Code, Preprint]

Teal, T.K., K.A. Cranston, H. Lapp, E.P. White, G. Wilson, K. Ram, A. Pawlik. 2015. Data Carpentry: Workshops to Increase Data Literacy for Researchers. International Journal of Digital Curation 10:135-143. <http://dx.doi.org/10.2218/ijdc.v10i1.351> OA

Xiao, X.\*, D.J. McGlinn+, and E.P. White. 2015. A strong test of the Maximum Entropy Theory of Ecology. American Naturalist 185:E70-E80. <http://dx.doi.org/10.1086/679576> [OA, Code, Data, Preprint]

Wilson, G., D.A. Aruliah, C.T. Brown, N.P. Chue Hong, M. Davis, R.T. Guy, S.H.D. Haddock, K. Huff, I. Mitchell, M. Plumbley, B. Waugh, E.P. White, and P. Wilson. 2014. Best Practices for Scientific Computing. PLOS Biology. 12:e1001745. <http://doi.org/10.1371/journal.pbio.1001745> [OA, Preprint, Top 1% of articles for online impact]

McGlinn, D.J.+, X. Xiao\*, and E.P. White. 2013. An empirical comparison of four variants of a universal species-area relationship. PeerJ 1:e212. <http://doi.org/10.7717/peerj.212> [OA, Code, Preprint]

Locey, K.J.\* and E.P. White. 2013. How species richness and total abundance constrain the distribution of abundance. Ecology Letters. 16:1177-1185. <http://doi.org/10.1111/ele.12154> [OA version, Code]

White, E.P., E. Baldrige\*, Z.T. Brym\*, K.J. Locey\*, D.J. McGlinn+, S.R. Supp\*. 2013. Nine simple ways to make it easier to (re)use your data. Ideas in Ecology and Evolution 6(2):1-10. <http://doi.org/10.4033/iee.2013.6b.6.f> [OA, Preprint, PeerJ Pick 2014]

Desjardins-Proulx P., E.P. White, J.J. Adamson, K. Ram, T. Poisot, and D. Gravel. 2013. The case for open preprints in biology. PLOS Biology 11:e1001563. <http://doi.org/10.1371/journal.pbio.1001563> [OA, Preprint, Featured discussion in PLOS Biology, Top 1% of articles for online impact]



Morris, B.D.\*\* and E.P. White. 2013. The EcoData Retriever: improving access to existing ecological data. PLOS ONE 8:e65848. <http://doi.org/doi:10.1371/journal.pone.0065848> [OA, Software]

Coyle, J.R., A.H. Hurlbert, and E.P. White. 2013. Opposing mechanisms drive diversity patterns of core and occasional bird species. American Naturalist 181:E83-E90. <http://doi.org/10.1086/669903> [OA, Code, Data]

Supp, S.R.\*, X. Xiao\*, S.K.M. Ernest, and E.P. White. 2012. Experimental evidence suggests that macroecological patterns are determined primarily by species richness and total abundance. Ecology 93:2505-2511. <http://doi.org/10.1890/12-0370.1> [OA, Code, Data, Top 4 Articles in Ecology in year following publication]

White, E.P., K.M. Thibault+, and X. Xiao\*. 2012. Characterizing species-abundance distributions across taxa and ecosystems using a simple maximum entropy model. Ecology 93:1772-1778. <http://doi.org/10.1890/11-2177.1> [OA, Code, Data, White and Thibault contributed equally to this work]

Thibault, K.M.+, S. Supp, M. Giffen//, E.P. White, S.K.M. Ernest. 2011. Species composition and abundance of mammalian communities. Ecology 92:2316. <http://doi.org/10.1890/11-0262.1> OA

Xiao, X.\*, White, E.P., M.B. Hooten, and S.L. Durham. 2011. On the use of log-transformation vs. nonlinear regression for analyzing biological power-laws. Ecology 92: 1887-1894. <http://doi.org/10.1890/11-0538.1> [OA, Code, Data]

Stegen, J.C., N.G. Swenson, B.J. Enquist, E.P. White, O.L. Phillips, P.M. Jorgensen, M.D. Weiser, A.M. Mendoza, and P. Nunez Vargas. 2011. Variation in above-ground forest biomass across broad climatic gradients. Global Ecology and Biogeography 20:744-754. <http://doi.org/10.1111/j.1466-8238.2010.00645.x>

Locey, K.J.\* and E.P. White. 2011. Simple structural differences between coding and noncoding DNA. PLOS One 6:e14651. <http://doi.org/10.1371/journal.pone.0014651> OA

Thibault, K.M.+, E.P. White, A.H. Hurlbert, and S.K.M. Ernest. 2011. Multimodality in the individual size distribution of bird communities. Global Ecology and Biogeography 20:145-153. <http://doi.org/10.1111/j.1466-8238.2010.00576.x>

White, E.P., S.K.M. Ernest, P.B. Adler, A.H. Hurlbert, S.K. Lyons. 2010. Integrating spatial and temporal approaches to understanding species richness. Philosophical Transactions of the Royal Society B 365:3633-3643. <http://doi.org/10.1098/rstb.2010.0280> OA

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Supp, S.R.\* and E.P. White. 2010. Measures of journal quality should separate reviews from original research. Ideas in Ecology and Evolution 3:16-19. <http://doi.org/10.4033/iee.2010.3.4.c> OA

Thibault, K.M.+, S.K.M. Ernest, E.P. White, J.H. Brown, and J.R. Goheen. 2010. Long-term insights into the influence of precipitation on community dynamics in desert rodents. Journal of Mammalogy 91:787-797. <http://doi.org/10.1644/09-MAMM-S-142.1>

Price, C.A., K. Ogle, E.P. White, and J.S. Weitz. 2009. Evaluating allometric scaling models in biology using hierarchical Bayesian approaches. Ecology Letters 12:641-651. <http://doi.org/10.1111/j.1461-0248.2009.01316.x> OA

Ernest, S.K.M., E.P. White and J.H. Brown. 2009. Changes in a tropical forest support metabolic zero-sum dynamics. Ecology Letters 12:507-515. <http://doi.org/10.1111/j.1461-0248.2009.01305.x> [OA Version]

Morlon, H., E.P. White, R.S. Etienne, J.L. Green, A. Ostling, D. Alonso, B.J. Enquist, F. He, A.H. Hurlbert, A.E. Magurran, B.A. Maurer, B.J. McGill, H. Olff, D. Storch, and T. Zillio. 2009. Taking species abundance

distributions beyond individuals. *Ecology Letters* 12:488-501. <http://doi.org/10.1111/j.1461-0248.2009.01318.x> [OA Version]

White, E.P., B.J. Enquist, and J.L. Green. 2008. On estimating the exponent of power-law frequency distributions. *Ecology* 89:905-912. <http://doi.org/10.1890/07-1288.1> OA

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Stegen, J.C. and E.P. White. 2008. On the relationship between mass and diameter distributions in tree communities. *Ecology Letters* 11:1287-1293. <http://doi.org/10.1111/j.1461-0248.2008.01242.x> [OA Version]

White, E.P., S.K.M. Ernest, A.J. Kerkhoff, and B.J. Enquist. 2007. Relationships between body size and abundance in ecology. *Trends in Ecology and Evolution* 22:323-330. <http://doi.org/10.1016/j.tree.2007.03.007> [OA Version]

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## Book Chapters

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### **Preprints (not yet formally published)**

Clark, N.J., S.K.M Ernest, H. Senyondo, J. Simonis, E.P. White, G.M. Yenni, K.A.N.K. Karunarathna. 2023. Forecasting rodent population dynamics and community transitions with dynamic nonlinear models. *EcoEvoRxiv* <https://doi.org/10.32942/X2TS34> [Code]

Stewart, D., A. Zare, S. Marconi, B. Weinstein, E.P. White, S. Graves, S. Bohlman, and A. Singh. 2022. Sensor Fusion for Superpixel Oversegmentation. *Authorea Preprints* <https://doi.org/10.1002/essoar.10508293.1>

Marconi, S. B.G. Weinstein, J.W. Lichstein, S.A. Bohlman, A. Singh, E.P. White. 2021. Disentangling the roles of inter and intraspecific variation on leaf trait distributions across the eastern United States. *bioRxiv* 2021.04.01.438064; <https://doi.org/10.1101/2021.04.01.438064>

Taylor, S.D. and E.P. White. 2020. Influence of climate forecasts, data assimilation, and uncertainty propagation on the performance of near-term phenology forecasts *bioRxiv* 2020.08.18.256057 <https://doi.org/10.1101/2020.08.18.256057>

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### **Other publications**

Dietze, M. and E.P. White. 2019. Facilitating NASA Ecological Forecasts through shared cyberinfrastructure *NASA Biological Diversity and Ecological Forecasting Programs: White Papers on Important Questions*.

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Dietze M.C., A. Fox, J.Betancourt, M.Hooten, C.Jarnevich, T. Keitt, M. A. Kenney, C. Laney, L. Larsen, H.W. Loescher, C.Lunch, B.Pijanowski, J.T. Randerson, E.Read, A.Tredennick, K.C. Weathers, E. P. White. 2017. Iterative ecological forecasting: Needs, opportunities, and challenges. *NEON Workshop Report*. <https://doi.org/10.6084/m9.figshare.4715317>

White E.P. 2016. Data Management Plan for Moore Investigator in Data Driven Discovery Grant. *Research Ideas and Outcomes* 2: e10708. <https://doi.org/10.3897/rio.2.e10708>

### **Publications (and preprints) by lab members**

Members of my lab are encouraged to lead and participate in projects on which I am not an author. This is a list of this work done at least in part while the scientists were members of my group. Lab members' names are in **bold**.

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Taylor, S., 2018. NEON NIST data science evaluation challenge: methods and results of team Shawn. PeerJ Preprints, 6, p.e26967v1.

Taylor, S.D. and Marconi, S., 2019. Rethinking global carbon storage potential of trees. A comment on Bastin et. al 2019. bioRxiv, p.730325.

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**Marconi, S.**; Chiti, T.; Nole, A.; Valentini, R.; Collalti, A. The Role of Respiration in Estimation of Net Carbon Cycle: Coupling Soil Carbon Dynamics and Canopy Turnover in a Novel Version of 3D-CMCC Forest Ecosystem Model. Preprints 2017, 2017030141 (doi: 10.20944/preprints201703.0141.v3).

Meiners, J.M. T.L. Griswold, **D.J. Harris**, S.K. Morgan Ernest. 2017 Bees without Flowers: Before Peak Bloom, Diverse Native Bees Find Insect-Produced Honeydew Sugars," The American Naturalist.

Harris, S.J., **Harris, D.J.** and Li, C., 2017. Failure statistics for commercial lithium ion batteries: A study of 24 pouch cells. Journal of Power Sources, 342, pp.589-597.

**Harris, D.J.**, 2016. Inferring species interactions from co-occurrence data with Markov networks. Ecology, 97(12), pp.3308-3314.

Cornwell, W.K., Westoby, M., Falster, D.S., FitzJohn, R.G., O'Meara, B.C., Pennell, M.W., **McGlenn, D.J.**, Eastman, J.M., Moles, A.T., Reich, P.B. and Tank, D.C., 2014. Functional distinctiveness of major plant lineages. Journal of Ecology, 102(2), pp.345-356.

**McGlenn, D.J.** and Palmer, M.W., 2014. Examining the foundations of heterogeneity-based management for promoting plant diversity in a disturbance-prone ecosystem (No. e200v1). PeerJ PrePrints.

Zanne, A.E., Tank, D.C., Cornwell, W.K., Eastman, J.M., Smith, S.A., FitzJohn, R.G., **McGlenn, D.J.**, O'Meara, B.C., Moles, A.T., Reich, P.B. and Royer, D.L., 2014. Three keys to the radiation of angiosperms into freezing environments. Nature, 506(7486), pp.89-92.

**Xiao, X.**, and G. F. Fussmann. 2013. Armstrong-McGehee mechanism revisited: competitive exclusion and coexistence of nonlinear consumers. Journal of Theoretical Biology 339: 26-35.

**Locey, K.J.** and **McGlenn, D.J.**, 2013. Efficient algorithms for sampling feasible sets of macroecological patterns. PeerJ PrePrints, 1, p.e78v1.

Stabler, L.B., Johnson, W.L., **Locey, K.J.** and Stone, P.A., 2012. A comparison of Mediterranean Gecko (*Hemidactylus turcicus*) populations in two temperate zone urban habitats. *Urban Ecosystems*, 15(3), pp.653-666.

Stone, P.A., Stone, M.E., Stanila, B.D. and **Locey, K.J.** 2011. Terrestrial flight response: a new context for terrestrial activity in Sonoran mud turtles. *The American Midland Naturalist*, 165(1), pp.128-136.

**Locey, K.J.**, 2010. Synthesizing traditional biogeography with microbial ecology: the importance of dormancy. *Journal of biogeography*, 37(10), pp.1835-1841.

## Grants and Contracts

Bureau of Ocean Energy Management. Artificial intelligence, open data, and accessible visualization for monitoring protected birds in the Northern Gulf of Mexico. PI: Ethan P. White. 2024-2029. \$349,897

World Resources Institute. Improving tree detection from remote sensing through benchmark and software development. PI: Ethan P. White. 2024-2026. \$499,818

National Science Foundation. Cross-scale forecasting of Everglades wading bird dynamics. PI: Ethan P. White. Co-PI: S.K. Morgan Ernest. 2024-2028. \$749,988.

National Science Foundation. LTREB: Using forecasting and long-term experiments to understand ecological dynamics under novel conditions. PI: S.K. Morgan Ernest. Co-PI: Ethan P. White. 2019-2024. \$637,157

National Science Foundation. MRA: Disentangling cross-scale influences on tree species, traits, and diversity from individual trees to continental scales. PI: E.P. White. Co-PIs: S. Bohlman, A. Singh, D. Wang, A. Zare 2019-2023. \$1,313,135.00

Moore Foundation. Investigator in Data-Driven Discovery. PI: E.P. White. 2014-2023. <http://dx.doi.org/10.6084/m9.figshare.1189330> \$1,859,920

Microsoft AI for Earth. Tree Detection API for the National Ecological Observatory Network. PIs B. Weinstein and E.P. White. 2019-2020. 10,000 hours of cloud computing <https://www.dropbox.com/s/ykwc9txxqnn6i0/A%20deep%20learning%20tree%20detection%20API%20for%20the%20National%20Ecological%20Observation%20Network.docx?dl=0>

National Institute of Standards and Technology (NIST). Data Science Evaluation for Tree Identification using NEON. PIs: Z. Wang, E.P. White, S. Bohlman. 2017-2018. \$49,982

National Institute of Standards and Technology (NIST). Data Science for Multimodal Plant Identification Task. PIs: Z. Wang and E.P. White. Co PIs: S. Bohlman and P. Grader. 2016-2017. \$50,000

National Science Foundation (DEB-1354563). SG: Distinguishing between core and transient species: new insights into the determinants of species richness. PIs: A.H. Hurlbert and E.P. White. 2014-2018. \$154,843

University of Florida Creative Campus Catalyst Fund. Turning Scientific Data Into Digital SoundScapes. PIs: E.M. Bruna, J.C. Oliverio, and E.P. White. 2015-2016. \$20,000

National Science Foundation (DEB-0953694). CAREER: Advancing macroecology using informatics and entropy maximization. PI: E.P. White. 2010-2016. \$657,499 <http://doi.org/10.6084/m9.figshare.93937>

Amazon Web Services (AWS in Education Research Grant). Synthesizing molecular and ecological neutral theories via genome based simulation. PIs: E.P. White and K.J. Locey. 2011-2013. 10,000 hours of cloud computing

National Ecological Observatory Network. Existing terrestrial organismal data survey and secure database interface development. PI: E.P. White. 2012. \$65,896

National Science Foundation (DEB-0827826). Understanding multimodality in animal size distributions (Research Starter Grant). PI: E.P. White. 2008-2010. \$50,000 <http://doi.org/10.6084/m9.figshare.93939>

National Science Foundation (DBI-0532847). Broad-scale patterns of the distribution of body sizes of individuals in ecological communities (Postdoctoral Fellowship in Biological Informatics). PI: E.P. White. 2005-2007. \$120,000 <http://doi.org/10.6084/m9.figshare.93938>

LTER Network Office workshop grant. Species richness in space and time workshop. PIs: W.K. Lauenroth, E.P. White and P.B. Adler. 2004.

## Software

Marconi, S., N. Bansal, H. Senyondo, E.P. White. 2022-present. neonvegwrangler: A Python package for integrating the NEON Vegetation Structure (VST) and Airborne Observation Platform (AOP) Data. <https://github.com/weecology/neonwranglerpy>

Simonis J.L., G.M. Yenni, E.K. Bledsoe, E.M. Christensen, H. Senyondo, S.D. Taylor, H. Ye, E.P. White, and S.K.M. Ernest. 2020-present. portalcasting: Supporting automated forecasting of rodent populations. Journal of Open Source Software <https://github.com/weecology/portalcasting/>

Weinstein, B.G., S. Marconi, H. Senyondo, E.P. White. 2019-present. DeepForest: A Python package for RGB deep learning tree crown delineation. <https://github.com/weecology/DeepForest>

Christensen, E.M., G.M. Yenni, H. Ye, J.L. Simonis, E.K. Bledsoe, R. Diaz, S.D. Taylor, E.P. White, S.K.M. Ernest. 2017-present. portalr: an R package for summarizing and using the Portal Project data. <https://github.com/weecology/portalr>

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McGlinn, D., H. Senyondo, S.D. Taylor, M. Pohlman, and E.P. White. 2015-present. rdataretriever: R Interface to the Data Retriever. <https://cran.r-project.org/web/packages/rdataretriever/index.html>

Negi, S., H. Senyondo, and E.P. White. 2017-present. Retriever.jl: Julia Interface to the Data Retriever. <https://github.com/weecology/Retriever.jl>

X. Xiao, K.M. Thibault, D.J. Harris, E. Baldrige, and E.P. White. 2016-2019. macroecotools: v0.3. Zenodo. <https://doi.org/10.5281/zenodo.60207>

White, E.P., K.M. Thibault, X. Xiao, D.J. McGlinn and S. Supp. 2014-2019. METE - Software for Analyzing the Maximum Entropy Theory of Ecology. figshare. <https://dx.doi.org/10.6084/m9.figshare.815905.v4> [GitHub]

## Open Educational Resources

### University Courses

White, E.P., Z.T. Brym, A.J. Marx, K. Riemer, S. Marconi, D.J. Harris, V. Cruz and S.K.M. Ernest. 2022. Data Carpentry for Biologists: A semester long Data Carpentry course using ecological and other biological examples. [Website], [GitHub Repository]

Ernest, S.K.M. and E.P. White. 2016. Ecological Dynamics and Forecasting. [Website, GitHub Repository]

White, E.P. 2012. Programming for Biologists. [[Website](#), [GitHub Repository](#)]

## Workshop Lessons

Teal, T., E. Becker, G. Wilson, A. Pawlik, R. Silva, L. Gatto, F. Michonneau, J. Steyn, A. Cabunoc, C. Bahlai, H. Lapp, E. White, K.L. Jordan, B. Marwick; Sebastian; leonorgg; Rémi Emonet; Piotr Banaszkiewicz; Angel Corpuz; Rudi Brauning; Amy Nurnberger; Anelda van der Walt; Casey Bergman; Harriet Dashnow; James Allen; Jon Pipitone; Karthik Ram; Maxim Belkin; Michael Hansen; Moritz Neeb; Nick Young; Zack Brym; evanwill; Alexander Konovalov; Bill Mills; Carlos Martinez; Dave Beck; Francisco Rodriguez-Sanchez; Gabriel A. Devenyi; Ian Carroll; Jaclyn Saunders; Jeffrey W. Hollister; Jonah Duckles; Kara Woo; Martin Dreyer; Timothée Poisot; W. Trevor King; rcarns. (2017, April). Data Carpentry Spreadsheet Ecology Lesson v2017.04.0. Zenodo. <http://doi.org/10.5281/zenodo.570047>

Francois Michonneau; Tracy Teal; Adam Obeng; Aleksandra Pawlik; Mateusz Kuzak; Edmund Hart; Kara Woo; Ethan White; Philip Lijnzaad; Hilmar Lapp; Karthik Ram; Ben Marwick; Kari L. Jordan; Matthias Grenié; Auriel Fournier; Harriet Dashnow; Kate Hertweck; Mark Robinson; ashander; Alexey Shiklomanov; K. A. S. Mislan; Steve Pederson; Alex Pletzer; Anne Fouilloux; C. Titus Brown; Christie Bahlai; Francisco Rodriguez-Sanchez; Jaime Ashander; Lisa Breckels; Markus J. Akenbrand; Meghan Duffy; Shawn Taylor; Stephanie Labou; Thomas Sandmann; Zena Lapp; Achaz von Hardenberg; Carolyn Voter; Catherine Hulshof; Clara Shaw; Daina Bouquin; Daniel Stubbs; Darya Vanichkina; Dmytro Fishman; Earle Wilson; Eillis Hannon; Elena Sügis; Eli Strauss; Emilia Gan; Erin Becker; Fred Boehm; Hao Ye; Jarrett Byrnes; Jeffrey W Hollister; Jieming Chen; Jillian Dunic; Jonathan Keane; Joseph Stachelek; Josh Herr; Karen Cranston; Kathe Todd-Brown; Katie Lotterhos; Kayla Peck; Kenan Direk; Kevin Hall; Kristian Tylén; Kyriakos Chatzidimitriou; Lachlan Deer; Laurent Gatto; Leah Wasser; Leszek Tarkowski; M. Foos; Marco Chiapello; Matthias Grenié; Michael Koontz; Myfanwy Johnston; Nicholas Marino; Nick Carchedi; Olivia Burge; Philip Lijnzaad; Ryan Peek; Sarah Supp; Tara Webster; Will Furnass; Will Pearse; Ye Li; sfn\_brt; suparee. (2017, April). Data Carpentry R Ecology Lesson v2017.04.3. Zenodo. <http://doi.org/10.5281/zenodo.569875>

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## **Other OER**

Yenni, G.M., A.Y. Kim, E.M. Christensen, E.K. Bledsoe, S.R. Supp, R.M. Diaz, S.K.M. Ernest, and E.P. White. 2019. UpdatingData: A step by step guide for using continuous integration to automate QA/QC, data archiving, and data access. <https://www.updatingdata.org/>

Ernest, S.K.M., J.H. Brown, T. Valone, and E.P. White. 2015-2020. Portal Project Teaching Database: a simplified version of the Portal Project Database designed for teaching. <https://doi.org/10.6084/m9.figshare.1314459>

## **Invited Seminars**

White, E.P. 2023. “Monitoring Ecosystems at Scale Using Airborne Remote Sensing & Computer Vision”. The Ohio State University. [Video]

White, E.P., S.K.M. Ernest, B. Weinstein, L. Garner, A. Ortega, H. Senyondo, G.M. Yenni, and P. Frederick. 2023. “Monitoring Wading Birds at Scale Using Drones & Computer Vision”. Everglades National Park (to delegation from the Cambodian government)

Ernest, S.K.M. and E.P. White. 2022. “Monitoring Wading Birds at Scale Using Drones & Artificial Intelligence”. University of Florida National History Museum. [Video]

“Data science and foresting competitions in ecology”. Ecological Foresting Initiative Research Coordination Network (EFI-RCN) Virtual Workshop. May 12th, 2020.

Marconi S, White E. “Big not just data: NEON as the trans-disciplinary, open community to unlock ecology across space, taxa, and time.”, Plenary talk at the first NEON Science Summit, 2019.

“From pixels to plants to (hopefully) the planet”. National Ecological Observatory Network. May 28th, 2019.

“From pixels to plants to the planet”. Moore Foundation Data-Driven Discovery Investigators Symposium. April 25th, 2019.

“Data-intensive ecology”. Computational Optical Remote Sensing of the Environment Summit. University of Florida. September 6th, 2017.

“Data-intensive approaches to ecological research”. University of Florida Collaborations in Biodiversity Research Symposium. May 8th, 2017. [Slides]

“Hot Climate Small Animals? A Data Package Manager & Juggling”. Moore Investigators Symposium. October 27th, 2016. New York University. [Slides]

“Data-intensive forecasting of ecological systems”. University of Wyoming 2015/2016 Botany Distinguished Speaker. May 5th, 2016. University of Wyoming. [Slides]

“Data-intensive forecasting of ecological systems”. Moore Investigators Symposium. October 8th, 2015. University of Washington. [[Slides](#)]

“On success and working openly in science”. July 7th, 2015. OpenCon Community Webcast. [[Video](#), [Slides](#)]

“The value of data-intensive approaches in ecology”. December 4th, 2014. University of Nebraska. [[Slides](#)]

“Mechanism, theory, data, and prediction in ecology”. July 22nd, 2014. Gordon Research Conference on Unifying Ecology Across Scale. [[Slides](#)]

“The value of data-intensive approaches in ecology”. April 4th, 2014. University of Victoria. [[Slides](#)]

“The value of data-intensive approaches in ecology”. February 25th, 2014. University of Florida. [[Slides](#), [Video](#)]

“Evaluating a general theory of macroecology”. September 18th, 2013. National Evolutionary Synthesis Center. Duke University. [[Slides](#)]

“Evaluating a general theory of macroecology” September 12th, 2013. University of North Carolina, Chapel Hill. [[Slides](#)]

“Evaluating a general theory of macroecology” July 10th, 2013. Keynote for the British Ecological Society’s Macroecology Special Interest Group Annual Meeting. [[Slides](#)]

“Evaluating a general theory of macroecology using big(ish) data” February 8th, 2013. Michigan State University. [[Slides](#)]

“Evaluating a general theory of macroecology using big(ish) data” February 4th, 2013. University of British Columbia. [[Slides](#)]

“Frontiers of Macroecological Theory in Three Acts” February 1st, 2013. University of California Berkeley workshop on Frontiers of Macroecological Theory. [[Slides](#)]

“A MaxEnt theory for macroecology?” July 25th, 2012. Gordon Research Conference on the Metabolic Basis of Ecology. [[Slides](#)]

“Building a bigger macroscope”. June 9th, 2012. University of New Mexico. [[Video](#)]

“Understanding ecology at broad scales: macroecology, maximum entropy, and environmental informatics”. February 11th, 2011. University of Maryland.

“Understanding ecology at broad scales using macroecology and ecoinformatics”. March 30th, 2010. University of Wyoming.

“A metabolic zero-sum approach to community ecology?”. March 28th, 2008. Keynote speaker at 21st Annual Colorado College Biology Day, Colorado Springs, Colorado.

### **Invited Workshops, Symposia, Panels, and Working Groups**

Ecological Forecasting Initiative, Diversity, Equity, and Inclusion Working Group. Remote. 2021.

“Ecological Forecasting Initiative 2020 Virtual Workshop: Coordinating the NEON-enabled forecasting challenge”. Remote. May 12-13, 2020. Organizers: Quinn Thomas and Jody Peters.

“UF/IFAS Faculty Forum: Living, Working, and Adapting to the New Normal of COVID-19”. University of Florida. April 23, 2020. Organizers: Rob Gilbert and Nick Place.

“NSF Biology Directorate Advisory Committee Subcommittee on NEON Community Engagement”. National Science Foundation. February-May 2019. Organizer: Stephanie Hampton.

“Education and Inclusion Panel”. Ecological Forecasting Initiative Conference. May 13, 2019. Organizers: Michael Dietze and Heather Lynch.

“Terrestrial Sampling Working Group”. National Ecological Observatory Network. Summer-Fall 2017. Organizers: Katherine Thibault and James Clark.

“NEON: Looking Back, Looking Forward Panel”. University of Florida Collaborations in Biodiversity Research Symposium. May 8th, 2017. Organizers: John Davis and Pamela Soltis.

“Wildlife Graduate Student Association Science Communication Workshop”. University of Florida. 2016. Organizer: Arjun Srivathsa.

“Moore Investigators in Data-Driven Discovery Symposium”. New York University. 2016. Organizers: Chris Mentzel, Carly Strasser, and Natalie Caulk.

“Lab Carpentry”. New York University. 2016. Organizers: Casey Greene, Titus Brown, Blair Sullivan. Matt Turk.

“Mozilla Science Lab Global Sprint”. 2016. Internet. Organizer: Abby Cabunoc Mayes.

“School of Natural Resources and Environment Publishing Panel”. University of Florida. 2016. Organizer: Richard Tate.

“Biodiversity Symposium”. 2016. University of Florida. Organizers: UF Office of Sustainability and the UF Biodiversity Institute.

“Moore Investigators in Data-Driven Discovery Symposium”. University of Washington. 2015. Organizers: Chris Mentzel and Carly Strasser.

“Moore Data-Driven Discovery Training Club”. University of California, Davis. Organizers: Tracy Teal, Titus Brown, Matthew Turk, Ethan White

“Ignite Session: Constraints in Ecology”. 98th Annual Meeting of the Ecological Society of America. Organizers: Elita Baldrige and Ethan P. White. [[Schedule](#)]

“Israeli-American Kavli Frontiers of Science Symposium”. University of California Irvine. 2013. Irvine, CA. Organizers: National Academy of Sciences.

“Frontiers of Macroecological Theory”. University of California Berkeley. 2013. Berkeley, CA. Organizers: John Harte.

“Synthesizing Deep Time and Recent Community Ecology”. Smithsonian National Museum of Natural History Working Group. 2010-2011. Washington D.C. Organizers: A.K. Behrensmeyer, S.K. Lyons, and W.A. DiMichele.

“Tools and fresh approaches for species abundance distributions”. National Center for Ecological Analysis and Synthesis Working Group. 2006-2008. Santa Barbara, CA. Organizers: B. McGill, R.S. Etienne, J.S. Gray, and J.L. Green.

“Scaling Biodiversity”. Santa Fe Institute Workshop. 2004. Prague. (Invited Talk and Participant). Organizers: D. Storch, P.A. Marquet, J.H. Brown, and G.B. West.

“Species richness in space and time”. LTER sponsored working group. 2004. Albuquerque, NM. Organizers: W.K. Lauenroth, E.P. White, and P.B. Adler.

“Species richness in space and time”. LTER All Scientists Meeting Workshop. 2003. Seattle, WA. (Invited Talk and Participant). Organizer: W.K. Lauenroth.

“A Knowledge Network for Biocomplexity”. National Center for Ecological Analysis and Synthesis Working Group. 2001. Organizers: R.Waide, S. Andelman, M.R. Willig.

## **Interviews & Press**

“Collaborative software development made easy” by Andrew Silver. October 4, 2017. <https://doi.org/10.1038/550143a>

“Frictionless Data Case Studies: The Data Retriever, An Interview with Ethan White” by Daniel Fowler. May 24, 2017. <http://frictionlessdata.io/case-studies/data-retriever/>

“Scientific computing: Code alert” by Monya Baker. Nature. January 2017. <https://doi.org/10.1038/nj7638-563a>

“Beyond the Lab: Ethan White, Ph.D.” by Aditi Risbud. Gordon and Betty Moore Foundation. April 15, 2016. <https://www.moore.org/article-detail?newsUrlName=beyond-the-lab>

“USU Ecologist Ethan White Explores Tech Tools to Tame Data” by Mary-Ann Muffoletto. October 2nd, 2014. <https://www.usu.edu/today/story/usu-ecologist-ethan-white-explores-tech-tools-to-tame-data>

“My digital toolbox: Ecologist Ethan White on interactive notebooks” by Richard Van Noorden. Nature. September 30, 2014. <https://doi.org/10.1038/nature.2014.16015>

## **Professional and Community Service**

### **Grant Panels and Reviewing**

National Science Foundation Panelist Black Women in Computational Biology Review of grant applications for NSF (United States), NSERC (Canada), NRF (South Africa), rOpenSci

### **Conference Reviewing**

2017 International Workshop on Software Engineering for High Performance Computing in Computational and Data-Enabled Science and Engineering, Program Committee

### **Board Memberships & Affiliations**

OurResearch, Board of Directors (2014-present) Ecological Forecasting Initiative, Fiscal Sponsorship Task-force (2024) Ecological Forecasting Initiative Elections Subcommittee (2021-2022) Ecological Forecasting Initiative, Steering Committee (2021-2022)

Ecological Forecasting Initiative, Founding Board (2018-2021)

EarthLife Consortium, Board of Directors (2018-2021) Biology and Environmental Data Education Network, Steering Committee (2018-2020)

The Carpentries, Executive Council (2018-2019)

University of Florida Biodiversity Institute, Advisory Board (2015-present)

Public Library of Science, Data Guidelines Board (2015-2018)

University of Florida Informatics & Analytics Task Force (2017-2019)

Hypothesis, User Advisory Team (2015-2020)

Software Carpentry Foundation, Advisory Council (2015-2017)

Data Carpentry, Steering Committee (2015-2017)

Data Carpentry, Co-founder and Board of Directors (2014-2015)  
Software Carpentry, Advisory Board (2012-2014)

### **Editorial Boards**

PeerJ (2012-present)  
PLoS ONE (2011-2015)

### **Manuscript Reviewing**

Science, Nature, PNAS, PLOS Biology, Proceedings of the Royal Society B, Ecology, Ecology Letters, American Naturalist, Global Ecology and Biogeography, Journal of Animal Ecology, Journal of Ecology, Oikos, Frontiers in Ecology and the Environment, PLOS One, Bioscience, Bulletin of Mathematical Biology, Functional Ecology, Journal of Biogeography, Journal of Theoretical Biology, Theoretical Population Biology, Cambridge University Press, Acta Oecologica, Folia Geobotanica, Research Letters in Ecology, Geological Society of America

External examiner of Ph.D. Theses: Macquarie University (2008)

### **University Service**

WEC For All Committee, Department of Wildlife Ecology and Conservation, University of Florida (2023-present) Seminar Committee, Department of Wildlife Ecology and Conservation, University of Florida (2023-2024) Inclusion, Diversity, Equity & Access (IDEA) Committee, Department of Wildlife Ecology and Conservation University of Florida (2019-2023) Diversity and Inclusion Committee, Institute of Food and Agricultural Sciences, University of Florida (2019-2021) Seminar Committee, Department of Wildlife Ecology and Conservation, University of Florida (2016-2017)  
Biodiversity Symposium Participant, University of Florida (2016)  
Commencement Marshal, University of Florida (2015)  
Advisory Board Member for Biodiversity Institute, University of Florida (2015-present)  
Promotion and tenure committees (member), Utah State University (2012-2014)  
Adjunct appointment committee (chair), Utah State University (2011)  
Faculty search committee (member), Utah State University (2011)  
Staff search committee (member), Utah State University (2011)

### **Teaching**

#### **Courses Taught**

Data Carpentry for Biologists (2015-present)  
Ecological Dynamics and Forecasting (2016-present)  
Advanced Programming and Database Management for Biologists (2011-2014)  
Introduction to Programming and Database Management for Biologists (2010-2014)  
Maximum Entropy in Ecology (2011)  
Neutral Theories in Ecology (2010)  
Biogeography (2008, 2009)

#### **Workshops run (organized and/or taught)**

Introduction to Geospatial Data Analysis in R and Application to Remote Sensing Based Tree Inventories from Neon Sites, Ecological Society of America Annual Meeting, August 14 2022 Ally Skills Workshop,



University of Florida, February 21 2017

Data Carpentry, University of Florida, October 17-18 2016

Software Carpentry, University of Florida, August 17-18 2016

Software Carpentry, University of North Carolina, April 11-12 2016

Software Carpentry, University of Florida, March 23-24 2016

Software Carpentry, Utah State University, March 2015

Introduction to Git and Github, Gordon Research Conference on Unifying Ecology Across Scales, July 2014

Data Carpentry, National Evolutionary Synthesis Center at Duke University, May 2014  
Introduction to Git and GitHub, Gordon Research Conference on Unifying Ecology Across Scale, July 2014

Introduction to Git and GitHub, University of North Carolina, April 2014

Software Carpentry, University of Victoria, April 2014

Software Carpentry, Ecological Society of American Annual Meeting, August 2013

Software Carpentry, CUAHSI Water Data Center, July 2013

Software Carpentry, Utah State University, March 2013

Software Carpentry, University of British Columbia, February 2013

Software Carpentry, University of North Carolina, October 2012

Software Carpentry, Utah State University, April 2012

## **Research Mentoring**

### **Postdoctoral Associates**

Katherine Thibault (2008-2011)

- After finishing: Vertebrate Ecologist at National Ecological Observatory Network
- Currently: [National Ecological Observatory Network Science Lead](#)

Daniel McGlinn (2011-2014)

- After finishing: Assistant Professor at the College of Charleston
- Currently: [Assistant Professor at the College of Charleston](#)

David Harris (2015-2018)

- Moore Data Fellow
- After finishing: Data Scientist at Wayfair
- Currently: Data Scientist at Wayfair

Jessica Coyle (2016)

- After finishing: Lecturer at Stanford University
- Currently: Assistant Professor at Saint Mary's College

Hao Ye (2017-present)

- Moore Data Fellow

Ben Weinstein (2018-present)

- Moore Data Fellow

## **Graduate Students**

Kenneth Locey (PhD; 2008-2013)

- Utah State University Eccles Fellow
- After graduating: Postdoctoral researcher at Indiana University
- Currently: [Assistant Professor at Diné College](#)

Xiao Xiao (PhD; 2008-2014)

- Utah State University Diversity Fellow
- After graduating: Postdoctoral research at University of Maine
- Currently: [Senior Data Scientist at Intuit](#)

Elita Baldrige (PhD; 2010-2015)

- Utah State University Dissertation Fellowship recipient
- After graduating: Independent scientist
- Currently: [Small Business Owner - Goat Breeder](#)

Kristina Riemer (PhD; 2013-2018)

- Outstanding Graduate Student in Wildlife Ecology and Conservation (2018-2019)
- After graduating: Scientific Programmer & Computational Trainer at University of Arizona
- Currently: Scientific Programmer & Computational Trainer at University of Arizona

Sergio Marconi (PhD; 2015-present)

- Fulbright Fellow, UF Biodiversity Institute Fellow, UF Informatics Institute Fellow

Shawn Taylor (PhD; 2015-2019)

- NSF Graduate Research Fellowship Honorable Mention

Virnaliz Cruz (MS; 2018-present)

- NSF Graduate Research Fellow

## **Undergraduate Researchers**

Mikaelle Giffen (2008-2009)

- After graduating: Research Assistant at Quansys Biosciences
- Currently: Biologist I at Fresenius Medical Care

Clayton Bingham (2009-2010)

- After graduating: Founded a startup - [LitRoost](#)
- Currently: Senior Data Engineering and Analytics Consultant at Rouse Services and a graduate student at the University of Southern California

Ben Morris (2010-2012)

- NSF Research Experience for Undergraduates student
- After graduating: PhD Student at University of North Carolina; awarded an NSF Graduate Research Fellowship
- Currently: Senior Software Engineer at Machine Zone

Kari Norman (2014-2016)

- Utah State Honors Thesis

- After graduating: PhD student at UC Berkeley; awarded an NSF Graduate Research Fellowship and a DOE Computer Science Graduate Fellowship
- Currently: PhD student at UC Berkeley

Andrew Zhang (2016-present)

- Student Software Developer, Internships at Microsoft & Facebook

Akash Goel (2016)

- Google Summer of Code student
- After graduating: Software developer at Amazon
- Currently: Software developer at Amazon

Shivam Negi (2017)

- Google Summer of Code student

Sumit Saha (2018)

- Google Summer of Code student

Pranita Sharma (2018)

- Google Summer of Code student
- After graduating: MS student in Computer Science at North Carolina State University

Apoorva Pandey

- Google Summer of Code student

## **Graduate Student Committees**

Renata Diaz (PhD), Dylan Steward (PhD), Dylan Sinnickson (PhD), Pablo Moreno (PhD), Anthony Melton (PhD), Leo Ohyama (PhD; partial), Ellen Bledsoe (PhD), Alicia McGrew (PhD), Sara Snell (PhD), Prabha Amarasinghe (PhD), Philippe Desjardins-Proulx (PhD), Erica Christensen (PhD), Martin Schilling (PhD, Utah State University), Zachary Brym (PhD, 2016, Utah State University), Jonathan Cardwell (PhD), Amy Croft (PhD), Jonathan Koch (PhD), Peter Mahoney (PhD), Sarah Supp (PhD, 2013, Utah State University), Lori Neuman-Lee (PhD), Daniel Olson (PhD), Gregory Vogel (PhD), Glenda Yenni (PhD, 2013, Utah State University), Chris Feldman (PhD, 2008, Utah State University), Ryan Choi (MS, 2011, Utah State University), Bridget Olson (MS, 2011, Utah State University), Lori Spears (PhD, 2011, Utah State University)

## **Software Development Mentoring**

### **Google Summer of Code**

Organization Administrator for NumFocus umbrella organization. 2015. Helped develop proposal for new NumFocus Google Summer of Code organization and helped run the organization during 2015.

Mentor. 2016. Mentored a Google Summer of Code student, Akash Goel, working on the Data Retriever software project. This student is now a software developer at Amazon.

## **Presentations**

\*\*undergraduate, \*graduate student, +postdoc

Bohlman S.A. et al. 2022. Individual tree characterization across diverse forest types of the US National Ecological Observatory Network: cross-site approaches yield information about multi-scale drivers. ForestSAT conference.

Simonis, J.L., E.P White, S.K. Morgan Ernest. 2021. Evaluating probabilistic ecological forecasts. Ecological Society of America Annual Meeting.

White. E.P. Data Science and Forecasting Competitions in Ecology. 2020. Ecological Forecasting Initiative 2020 Virtual Workshop: Coordinating the NEON-enabled forecasting challenge. Remote. [[Video](#), *Invited*]

Bohlman, S., B. Weinstein, S. Marconi, S. Graves, A. Singh, A. Zare, D. Wang, E.P. White. Cross-Site Remote Sensing Algorithms Produce Continental-Scale Observations on Density and Allometry for 180 Million Trees. Society of American Foresters Convention, 2020.

Adler, P.B., E.P. White, M. Cortez. 2020. Developing theory about the predictability of nature: what, where, when and how? Ecological Society of America Annual Meeting, 2020. [*Invited*]

Marconi S., Weinstein B., Bohlman S., White EP. “Disentangling the role of phylogeny and climate on joint leaf traits distribution across Eastern United States”, American Geophysical Union Fall Meeting, 2019.

Marconi S. Ethan White. Big Data in Ecology: Using HiPerGator to Disentangle the Effects of Climate on Millions of Trees. 2nd Annual HiperGator Symposium, 2019

Choi, H., Sadeghian, A., Marconi, S., White, E. and Wang, D.Z., 2019. Measuring Impact of Climate Change on Tree Species: analysis of JSDM on FIA data. NeurIPS 2019 Workshop: Tackling Climate Change with Machine Learning.

Sandboxing the pipeline: developing automated forecasting systems that facilitate model development Juniper L. Simonis, Glenda M. Yenni, Shawn Taylor, Erica Christensen, Ellen K. Bledsoe, Hao Ye, Ethan P. White, and S. K. Morgan Ernest [*Invited*]

Senyondo H. and E.P. White. 2019. The Data Weaver, A Package Manager for Integrated Datasets. SciPy.

White, E.P. 2018. NEON Investigator Panel and Q&A. National Science Foundation BIO Advisory Committee meeting. [*Invited*]

White, E.P. 2018. Software skills for data-intensive reproducible research. 102nd Annual Meeting of the Ecological Society of America. New Orleans, LA. [[Slides](#), *Invited*]

White, E.P. 2018. Cross-scale ecological modeling using NEON the airborne observation platform and field data *in* NEON Resources for Your Research. 102nd Annual Meeting of the Ecological Society of America. New Orleans, LA. [*Invited*]

\*Riemer, K., B. Narayani, B. Stucky, S.J. Mayor, R.P. Guralnick and E.P. White. 2018. Weak impacts of climatic factors on intraspecific body size variation in endothermic species. 102nd Annual Meeting of the Ecological Society of America. New Orleans, LA.

+Ye, H., E. Christensen, S.K.M. Ernest, J.L. Simonis, and E.P. White. 2018. Dynamic indicators of ecosystem resilience. 102nd Annual Meeting of the Ecological Society of America. New Orleans, LA.

\*Marconi, S., S.J. Graves, S.A. Bohlman, J.W. Lichstein, A. Singh, and E.P. White. 2018. Scaling up remote sensing fundamental unit: from pixel to crowns. Inferring forest structure and traits syndromes for each individual tree within NEON forest sites. 102nd Annual Meeting of the Ecological Society of America. New Orleans, LA.

Simonis, J.L., G.M. Yenni, S.D. Taylor, E. Christensen, E.K. Bledsoe, E.P. White, and S.K.M. Ernest. 2018. Prediction and forecasting of portal fauna via particle filtration. 102nd Annual Meeting of the Ecological Society of America. New Orleans, LA. [[website](#)]

\*Taylor, S.D. and E.P. White. 2018. Evaluating a near term ecological forecast of plant phenology. 102nd Annual Meeting of the Ecological Society of America. New Orleans, LA. [[website](#)]

White, E.P. 2017. Data-intensive approaches to forecasting biodiversity. 101st Annual Meeting of the Ecological Society of America. Portland, OR. [[Slides](#), *Invited*]

\*Riemer, K., R.P. Guralnick, and E.P. White. 2017. No general relationship between mass and temperature in endotherm species. 101st Annual Meeting of the Ecological Society of America. Portland, OR.

Hurlbert, A.H., S.J. Snell, and E.P. White. 2017. Transient species are common: Implications for ecological inference. 101st Annual Meeting of the Ecological Society of America. Portland, OR.

\*Taylor, S., and E.P. White. 2016. Ecological forecasting and scale. Gordon Research Conference on Unifying Ecology Across Scale.

\*Marconi, S., and E.P. White. 2016. Scaling up competition for light from leaf to ecosystem: a new framework to represent intra-crown plasticity for evergreen species. Gordon Research Conference on Unifying Ecology Across Scale.

\*Riemer, K., and E.P. White. 2016. Questioning body size change as a response to climate warming. Gordon Research Conference on Unifying Ecology Across Scale.

White, E.P. 2016. Forecasting in Macroecology. NEON workshop on Operationalizing Ecological Forecasts. USGS Powell Center.

White, E.P. 2015. Data-intensive forecasting of ecological systems. Moore Investigators in Data-Driven Discovery Symposium. University of Washington. [[Slides](#)]

White, E.P. 2015. Facilitating data-intensive research in ecology. 100th Annual Meeting of the Ecological Society of America. Baltimore, MD. [[Slides](#), *Invited*]

White, E.P. 2015. Comparing snapshot methods, time series analysis, and simple bench marks for forecasting biodiversity. 100th Annual Meeting of the Ecological Society of America. Baltimore, MD. [[Slides](#), *Invited*]

Hurlbert, A.H., E.P. White, and B. Evans. 2015. Core versus transient species as a general framework for thinking about ecological assemblages. 100th Annual Meeting of the Ecological Society of America. Baltimore, MD. [[Slides](#)]

Baldrige, E. and E.P. White. 2015. Ecologist in silico: Facilitating access for chronically ill/disabled ecologists. 100th Annual Meeting of the Ecological Society of America. Baltimore, MD. [[Slides](#)]

Norman, K.\*\*, and E.P. White. 2015. Biodiversity prioritization: A comparison of data types. 100th Annual Meeting of the Ecological Society of America. Baltimore, MD.

White, E.P., X. Xiao\*, K.M. Thibault, D.J. McGlinn+, J.A. Kitzes. 2013. Evaluating a general theory of macroecology using big data. 98th Annual Meeting of the Ecological Society of America. Minneapolis, MN. [[Slides](#)]

White, E.P. 2013. Big data in ecology. 98th Annual Meeting of the Ecological Society of America. Minneapolis, MN. [[Slides](#)], [[Full Talk w/Slides & Script](#), *Invited*]



Locey, K.J.\*, and E.P. White. 2013. How species richness and total abundance constrain the distribution of abundance. 98th Annual Meeting of the Ecological Society of America. Minneapolis, MN. [Slides]

McGlinn, D.J.+ and E.P. White. 2013. Connecting the environment to a maximum entropy prediction of the species-abundance distribution across continents and taxa. 98th Annual Meeting of the Ecological Society of America. Minneapolis, MN. [Slides]

White, E.P., X. Xiao\*, D.J. McGlinn+, K.M. Thibault. 2013. Evaluating and using general theories in ecology. Israeli-American Kavli Frontiers of Science Symposium. University of California Irvine. 2013. Irvine, CA. <http://doi.org/10.6084/m9.figshare.719779>

Wolf, P.G., K.E. Mock, E.P. White, H.S. Rai, and B.A. Richardson. 2013. Genotyping-by-Sequencing (GBS) for Population Genomics of Aspen (*Populus tremuloides*). Plant & Animal Genome XXI. San Diego, CA.

Xiao, X.\* and E.P. White. 2012. The adequate currency for community-level energetic constraint based on Maximum Entropy. 97th Annual Meeting of the Ecological Society of America. Austin, TX.

McGlinn, D.+, X. Xiao\*, J. Kitze, and E.P. White. 2012. Testing the Spatial Predictions of the Maximum Entropy Theory of Ecology. Gordon Research Conference on the Metabolic Basis of Ecology.

Xiao, X.\* and E.P. White. 2012. Testing the individual- and species- level energy distributions of the Maximum Entropy Theory of Ecology (METE). Gordon Research Conference on the Metabolic Basis of Ecology.

E.P. White, B. Morris\*\*, S.K. Morgan Ernest, K.M. Thibault†, A.H. Hurlbert, A.J. Kerkhoff, Z.T. Brym\*. 95th Annual Meeting of the Ecological Society of America. Austin, TX.

J.R. Coyle, A.H. Hurlbert, E.P. White. 95th Annual Meeting of the Ecological Society of America. Austin, TX.

K.M. Thibault+, E.P. White, X. Xiao\*. 95th Annual Meeting of the Ecological Society of America. Austin, TX.

S.R. Supp, X. Xiao\*, S.K.M. Ernest, E.P. White. 95th Annual Meeting of the Ecological Society of America. Austin, TX.

A.H. Hurlbert, Thibault, K.M., E.P. White, and S.K.M. Ernest. 2010. 94th Annual Meeting of the Ecological Society of America. Pittsburgh, PA.

Xiao, X., E.P. White, M. Hooten, and S. Durham. 2010. Gordon Research Conference - Metabolic Basis of Ecology and Evolution, Biddeford, Maine.

A.H. Hurlbert, Thibault, K.M., E.P. White, and S.K.M. Ernest. 2010. Gordon Research Conference – Metabolic Basis of Ecology and Evolution, Biddeford, Maine.

Thibault, K.M., E.P. White, A.H. Hurlbert, and S.K.M. Ernest. 2009. 93rd Annual Meeting of the Ecological Society of America. Albuquerque, NM.

White, E.P., B.J. Enquist, J.C. Stegen, S.C. Stark, and C.A. Price. 2008. 92nd Annual Meeting of the Ecological Society of America. Milwaukee, WI.

Price, C.A., E.P. White, J.S. Weitz, and K. Ogle. 92nd Annual Meeting of the Ecological Society of America. Milwaukee, WI.

Ernest, S.K.M., E.P. White, and J.H. Brown. 2008. 92nd Annual Meeting of the Ecological Society of America. Milwaukee, WI.

White, E.P., B.J. Enquist, J.C. Stegen, S.C. Stark, and C.A. Price. 2008. Gordon Research Conference - Metabolic Basis of Ecology, Biddeford, Maine.

Ernest, S.K.M, E.P. White, and J.H. Brown. 2008. Gordon Research Conference – Metabolic Basis of Ecology, Biddeford, Maine.

White, E.P., A.H. Hurlbert, and S.K.M. Ernest. 2007. Macroecology of avian size distributions. 92nd Annual Meeting of the Ecological Society of America. San Jose, CA.

Ernest, S.K.M, J.H. Brown, J.R. Goheen, K.M. Thibault, and E.P. White. 2007. 87th Annual Meeting of the American Society of Mammalogists. Albuquerque, NM.

White, E.P., B.J. Enquist, S.K.M. Ernest, and J.L. Green. 2006. 91st Annual Meeting of the Ecological Society of America. Memphis, TN.

Ernest, S.K.M, J.H. Brown, J.R. Goheen, K.M. Thibault, and E.P. White. 2006. 91st Annual Meeting of the Ecological Society of America. Memphis, TN.

White, E.P., B.J. Enquist, S.K.M. Ernest, and J.L. Green. 2006. Gordon Research Conference - The Metabolic Basis of Ecology and Evolution. Lewiston, Maine.

Ernest, S.K.M, J.H. Brown, J.R. Goheen, K.M. Thibault, and E.P. White. 2006. Gordon Research Conference - The Metabolic Basis of Ecology and Evolution. Lewiston, Maine.

White, E.P., and M.A. Gilchrist. 2005. 90th Annual Meeting of the Ecological Society of America. Montreal, Canada.

Hurlbert, A.H., and E.P. White. 2005. 90th Annual Meeting of the Ecological Society of America. Montreal, Canada.

Goheen, J.R., E.P. White, S.K.M. Ernest, J.H. Brown, J.F. Merritt, P.L. Meserve, N.A. Slade. 2005. International Biogeography Society Meeting.

Hurlbert, A.H., and E.P. White. 2005. International Biogeography Society Meeting.

White, E.P. 2004. Santa Fe Institute Scaling Biodiversity Workshop. Prague, Czech Republic.

Hurlbert, A.H., and E.P. White. 2004. Southwestern Association of Biologists Annual Meeting. Portal, AZ.

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White, E.P, S.K.M. Ernest, and K.M. Thibault. 2004. 89th Annual Meeting of the Ecological Society of America. Portland, OR.

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White, E. P. 2003. Southwestern Association of Biologists Annual Meeting, Portal, AZ.

White, E. P. 2003. LTER All Scientists Meeting, Seattle, WA.

White, E. P. 2003. 88th Annual Meeting of the Ecological Society of America, Savannah, GA.

Brown, J. H., and E. P. White. 2003. Cary Conference, Millbrook, NY.

White, E. P. 2003. International Society of Biogeography Meeting, Mesquite, NV.

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Meehan, T. D., and E. P. White. 2002. Southwestern Association of Biologists Annual Meeting, Portal, AZ.

White, E. P. 2002. 87th Annual Meeting of the Ecological Society of America, Tucson, AZ.

White, E. P. 2002. British Ecological Society's Macroecology Conference, Birmingham, England.

White, E. P. 1998. Guild of Rocky Mountain Population Biologists Annual Meeting, Nederland, CO.

White, E. P. 1997. North American Symposium on Bat Research, University of Arizona, Tucson, AZ.