

# DAVID ADRIAN ORTIZ

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## **Education**

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- 2024      Ph.D., Freshwater and Marine Sciences, University of Wisconsin-Madison  
Major Professor: Emily Stanley  
Dissertation title: Spatial-Temporal Heterogeneity of Lakes Across Varying Scales and Trophic Status
- 2019      M.S., Environmental Science, Iowa State University  
Major Professor: Grace Wilkinson  
Thesis title: Evaluation of temporal and spatial indicators of regime shifts in shallow lakes
- 2017      B.S., Environmental Science, Iowa State University  
Minors: Geology, Sustainability, U.S. Latino Studies

## **Research Interests**

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Aquatic ecosystem functions, harmful algal blooms; temporal and spatial early warning indicators; spatial heterogeneity; nutrient transport, disruptions to ecosystem

## **Other Research Experiences**

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- 2023 -      Conservation Fellow, Wisconsin's Green Fire (Non-profit organization)
- 2015 – 2017    Field and lab technician, independent research, Crumpton Wetland Research Lab, Iowa State University
- 2016      University of Toledo, Lake Erie Center REU, Becker Environmental Remote Sensing Lab

## **Peer-reviewed Articles:**

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6. Wilkinson, G.M., J.A. Walter, E. Albright, R. Fleck, E. Moody, **D.A. Ortiz**. Evaluating microcystin detection models for lakes in a nutrient-rich landscape applied under varying climate conditions. *Ecological Applications* (*submitted*)

5. Walter, J.A., Johnson, R.A., Atkins, J.W., **Ortiz, D.A.**, Wilkinson, G.M. Toward a Standardized Method for Quantifying Ecosystem Hot Spots and Hot Moments. *Ecosystems* (2023). <https://doi.org/10.1007/s10021-023-00839-z>
4. Buelo, C., Pace, M., Carpenter, S., Stanley, E., **Ortiz, D.**, Ha, D. (2022). Evaluating the performance of temporal and spatial early warning statistics of algal blooms. *Ecological Applications*. <https://doi.org/10.1002/eap.2616>
3. **Ortiz, D. A.**, & Wilkinson, G. M. (2021). Capturing the spatial variability of algal bloom development in a shallow temperate lake. *Freshwater Biology*, 00, 1–12. <https://doi.org/10.1111/fwb.13814>
2. **Ortiz, D.A.**, J. Palmer, and G. Wilkinson. 2020. Detecting changes in statistical indicators of resilience prior to algal blooms in shallow eutrophic lakes. *Ecosphere* 11(10):e03200. 10.1002/ecs2.3200
1. Moody, E., Albright, E., Cope, K., Fleck, R., Grigel, H., **D. A. Ortiz**, Wilkinson, G. (2019) "Taxonomic and Geographic Gaps in the Functional Importance of Imperiled Fishes" *Frontiers in Ecology and the Environment*.00: 1– 7. <https://doi.org/10.1111/faf.12376>

### **Published Datasets:**

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5. **Ortiz, D.A.** 2022. Atlantic sand fiddler differences in antimony, running velocity, and behavior, Sapelo Island, Georgia: 2021 ver 1. Environmental Data Initiative. <https://doi.org/10.6073/pasta/349056fbfa0df3cf55a587c4593c0502>
4. Buelo, C.D., M.L. Pace, S.R. Carpenter, E.H. Stanley, **D.A. Ortiz**, and D.T. Ha. 2022. Cascade Project at North Temperate Lakes LTER – Daily Bloom Data for Whole Lake Experiments 2011 - 2019 ver 1. Environmental Data Initiative. <https://doi.org/10.6073/pasta/71a1ceec0826f8170577a6090963b80da>
3. Buelo, C.D., M.L. Pace, S.R. Carpenter, E.H. Stanley, **D.A. Ortiz**, and D.T. Ha. 2022. Cascade Project at North Temperate Lakes LTER – High-resolution Spatial Data for Whole Lake Experiments 2018 - 2019 ver 1. Environmental Data Initiative. <https://doi.org/10.6073/pasta/169773df848d273445017e189f1d4214>
2. **Ortiz, D.A.** and Wilkinson, G.M. 2019. Hypereutrophic lake spatial sensor data during summer bloom, Swan Lake, Iowa, USA 2018 ver 1. Environmental Data Initiative. <https://doi.org/10.6073/pasta/2c0ca177438a3d422925811514e86cd8>
1. **Ortiz, D.A.**, J. Palmer, and G.M. Wilkinson. 2019. Hypereutrophic lake sensor data during summer algae blooms in Iowa, USA, 2014 - 2018 ver 1. Environmental Data Initiative. <https://doi.org/10.6073/pasta/30070d41fbcdf36387f33d9108f570f8>

## **Oral Presentations**

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- 2023 **Ortiz, D.A.**, “The Effects of Wake Boats on Lake Health” Science in the Northwoods, (Woodruff, WI)
- 2022 **Ortiz, D.A.**, S.R. Carpenter, D. Ha, M.L. Pace, E.H. Stanley, & C. Vines “Diel Spatial Variability Among North Temperate Lakes with Various Trophic Status” Joint Aquatic Science Meeting. (Grand Rapids, MI)
- 2020 **Ortiz, D.A.**, C.D. Buelo, P. Schramm, Emily Stanley, S.R. Carpenter, M.L. Pace. “North Temperate Spatial Lake Survey: Drivers of Horizontal Heterogeneity” Association for the Sciences of Limnology and Oceanography National Conference. (Madison, WI) – *Canceled due to COVID 19*
- 2019 **Ortiz, D. A.** and G.M. Wilkinson. “The Swan Lake story: regime shift prediction and detection in both space and time” Great Plains Limnology Conference. (Ames, IA)
- Ortiz, D.A.**, C.D. Buelo, S.R. Carpenter, E.H. Stanley, and M.L. Pace. “Algal bloom early warnings: space vs time” Science in the Northwoods (Woodruff, WI)
- Ortiz, D. A.** and G.M. Wilkinson. “Detecting Temporal Early Warning Indicators in Shallow Lakes” Association for the Sciences of Limnology and Oceanography National Conference. (San Jose, PR)
- 2017 **Ortiz, D. A.**, D.I. Green, and W.G. Crumpton. “Geospatial Assessment of Subsurface Drainage Tile Locations” University of Maryland National Conference for McNair Scholars. (Baltimore, MD)

## **Poster Presentations**

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- 2023 **Ortiz, D.A.**, E.H. Stanley, S.K. Bertalot, A.M. Kundinger “Do precipitation events drive surface water quality heterogeneity on Lake Mendota?” Water @ UW-Madison (Madison, WI)
- Bertalot, S., **D.A. Ortiz**, E.H. Stanley. “Cyanobacteria blooms: Coupling satellite remote sensing and high-resolution spatial data” Atmospheric and Ocean Science Community Poster Reception (Madison, WI)
- 2022 **Ortiz, D.A.**, S.R. Carpenter, D. Ha, M.L. Pace, E.H. Stanley, & C. Vines “Diel Spatial Variability Among North Temperate Lakes with Various Trophic Status” Society for the Advancement of Chicanos/Hispanics and Native Americans in Science national conference. (San Juan Puerto)

- Ortiz, D.A.,** S.R. Carpenter, D. Ha, M.L Pace, E.H. Stanley, & C. Vines “Diel Spatial Variability Among North Temperate Lakes with Various Trophic Status” Long Term Ecological Research All Scientist Meeting. (Monterey Bay, CA)
- 2018 **Ortiz, D. A.** and G.M. Wilkinson. “Detecting Temporal Early Warning Indicators in Shallow Lakes” Society of Advancing Chicanos/Hispanics & Native Americans in Science National Conference. (San Antonio, TX)
- 2017 **Ortiz, D. A.** and G.M. Wilkinson. “De-stratification From Aeration: Oxygen Redistribution or Metabolic Reduction?” Great Plains Limnology Conference. (Columbia, MO)
- 2016 **Ortiz, D. A.** and R.H. Becker. “Strategic Addition of Wetlands to a Watershed: Reduction of Total Sediment Loads” LEC REU Symposium. (Toledo, OH)

### **Teaching**

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- 2022 Zoology 511L – Grading Assistant, Ecology of Fishes Lab
- 2017 Biology 312 L – Teaching Assistant, Introduction to Ecology

### **Invited seminars, keynotes, and coordination roles**

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- 2023 AGU special issue: Drones for sensing freshwater ecosystems  
EcoLatinos, “Introduction to Lake Wingra watershed and issues it faces” (Spanish)
- 2022 Chair of Contributed Session on “Drones reveal patterns in aquatic ecosystems using high-frequency sampling”, ASLO Meeting (Grand Rapids, MI)
- 2020 Department of Biology, Middlebury College  
  
ASLO Aquatic Sciences Meeting (Madison, WI) – cancelled due to COVID-19 pandemic first author presentation
- 2019 Department Seminar, University of Wisconsin – Madison
- 2018 Invited Panelist, “Our Struggles as Minorities in High School & College” Iowa State University 4H Maize High School Nature Retreat
- 2017 Plenary Speaker, 23<sup>rd</sup> Annual Latino Students Award for the Des Moines School District

### **Grants, Awards, Fellowships**

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- 2023 University of Women – Madison Inclusion in Science & Engineering Leadership Institute, Celebrating Women and Gender Diversity in Science & Engineering Grant
- 2022 Anna Grant Birge Scholarship
- 2020 UW-Madison Center for Limnology Kenneth Malueg Scholarship
- 2019 UW-Madison Letters & Science Advance Opportunity Fellowship
- University of California Santa Cruz Climate Engagement Program Fellow
- UW Letters & Science Community of Graduate Research Scholars Fellowship
- 2018 Environmental Science Graduate Program Personal Development Grant
- Graduate and Professional Student Senate Program Personal Development Grant
- Story County, Ames, IA Outstanding Youth Group in Philanthropy;  
Latinx Student Leaders Council
- 2016 Sigma Lambda Beta International Fraternity Inc., Living the Value: Community Service National Award

## **Service**

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- 2023 - Friends of Lake Wingra – Vice Chair  
SACNAS UW-Madison Chapter – Treasurer  
East High School Expo  
Rising Tides – Diversity, Equity, and Inclusion year invited seminar
- 2022 - Center of Limnology Seminar and Kaeser Scholar Co-chair  
North Temperate Lakes LTER graduate student representative  
iBING Mentor (within Biology department)  
FMS Peer Mentor (within Program)  
Potter, Habitat for Humanity Souper Bowl
- 2020 - Mentor, UW-Madison McNair  
UW-Madison Center for Limnology Diversity, Equity, and Inclusion Committee
- 2019 Secretary, Iowa State SACNAS Chapter
- 2018 - 2019 Coordinator, 5K for DACA  
Iowa State University Latinx Student Leaders council member

2018 Coordinator, ISU and KU Grant Writing Workshop

2017 - 2019 Alum Chair, Iowa State University McNair Program Advisory Council  
Alum Advisor, Iowa State Sigma Lambda Beta International Fraternity Inc.  
Chapter

**Mentoring:**

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2019 - **UW – Madison** *\*Independent Research Credits*  
Sean Bertalot\*, Ally Kunding\*, Nicole Ibrahim, Cory Vines, Kevin Gauthier

Sean Bertalot - Integrating Remote Sensing and Fine-Scale Spatial Data for the  
Quantification of Freshwater Cyanobacteria Blooms

Ally Kunding - Zebra Mussel Population and Escape Risk Underestimated  
Because of Biotic Substrate

2017- 2019 **Iowa State University**  
Ryan Wagner