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EDUCATION

2012	Ph.D., Cornell University, Ithaca, New York, USA Ecology and Evolutionary Biology
2006	A.B., Dartmouth College, Hanover, New Hampshire, USA Environmental and Evolutionary Biology, High Honors, *cum laude*

RESEARCH AND TEACHING POSITIONS HELD

2022-present	Professor, Department of Biological Sciences, Virginia Tech, Blacksburg, Virginia, USA
2022	Future Fulbright Fellow and Robert and Maude Gledden Visiting Fellow, School of Agriculture and Environment, University of Western Australia, Perth, Australia
2021-2022	Visiting Scholar, Dartmouth College, Department of Biological Sciences, Hanover, New Hampshire, USA
2019-present	Roger Moore and Mojdeh Khatam-Moore Faculty Fellow, College of Science, Virginia Tech, Blacksburg, Virginia, USA
2019-2022	Associate Professor, Department of Biological Sciences, Virginia Tech, Blacksburg, Virginia, USA
2013-2019	Assistant Professor, Department of Biological Sciences, Virginia Tech, Blacksburg, Virginia, USA
2012-2013	Postdoctoral Research Associate, Center for Limnology, University of Wisconsin-Madison, Madison, Wisconsin, USA
2007-2012	National Science Foundation Graduate Research Fellow, Dept. of Ecology and Evolutionary Biology, Cornell University, Ithaca, New York, USA
2006-2007	Fulbright Scholar, Institute of Limnology, Uppsala University, Uppsala, Sweden
2004-2006	Research Assistant, Department of Biological Sciences, Dartmouth College, Hanover, New Hampshire, USA

HONORS AND AWARDS

2022	Earth Leadership Fellowship, Future Earth and Stanford Woods Institute for the Environment
2022	Fulbright Fellowship, Australian-U.S. Fulbright Commission
2022	Robert and Maude Gledden Senior Visiting Fellowship, University of Western Australia
2021	Outstanding Faculty Research Award, Department of Biological Sciences, Virginia Tech
2020	Kilham Memorial Award, International Society of Limnology (SIL)
2020	Best Paper Award from the journal *Toxins* for Mantzouki et al. (2018)
2019	College of Science Outreach Award, Virginia Tech
2019	Roger Moore and Mojdeh Khatam-Moore Virginia Tech Faculty Fellowship

2019 Outstanding Teaching Award, Department of Biological Sciences, Virginia Tech
2018 Fellow, Association for the Sciences of Limnology & Oceanography (ASLO)
2018 Yentsch-Schindler Early Career Award, Association for the Sciences of Limnology & Oceanography (ASLO)
2018 Outstanding Faculty Research Award, Department of Biological Sciences, Virginia Tech
2017 Outstanding Graduate Advising Award, Dept. of Biological Sciences, Virginia Tech
2017 Favorite Faculty Award, Division of Student Affairs, Virginia Tech
2015 Outstanding Faculty Research Award, Department of Biological Sciences, Virginia Tech
2015 Fralin Young Investigator Award, Fralin Life Sciences Institute at Virginia Tech
2014 Ralph E. Bennett Endowed Lecture in Plant Ecology, University of Michigan
2014 Best Science Visualization of the Year, *Wired Magazine* for Pauli et al. (2018)
2014 Outstanding Reviewer Award, *Journal of Plankton Research*
2014 Featured Article, *Freshwater Science* for Carey et al. (2014)
2014 Dave Pearson Watershed Excellence Award, Virginia Lakes and Watershed Association
2014 Invited Speaker, Early Career Scientists Symposium, University of Michigan
2012 Best Oral Presentation in Applied Research, Society for Freshwater Science meeting
2012 Eco-DAS X Fellow, funded by NSF, ONR, NASA, & NOAA
2011 R.H. Whittaker Award, Cornell Department of Ecology & Evolutionary Biology
2007 Oral Presentation Award, Symposium of European Freshwater Scientists, Palermo, Italy
2006 2nd place prize for best presentation, Dartmouth College Karen Wetterhahn Symposium
2006 President's Award, Northeast Algal Society Meeting, Poughkeepsie, New York
2006 Christopher Reed Biology Award, Dartmouth College Dept. of Biological Sciences

PUBLICATIONS (^{G} = mentored graduate student, ^{U} = undergraduate student, ^{P} = postdoc)

117 Thomas, R.Q., R.P. McClure[P], T.N. Moore[P], W.M. Woelmer[G], C. Boettiger, R.J. Figueiredo, and **C.C. Carey**. Near-term forecasts of NEON lakes reveal gradients of environmental predictability across the U.S. In press at *Frontiers in Ecology and the Environment.*

116 Weyhenmeyer, G.A., and 27 co-authors, including **C.C. Carey**. Towards critical white ice conditions in lakes under global warming. In press at *Nature Communications.*

115 Moore, T.N.[P], R.Q. Thomas, W.M. Woelmer[G], and **C.C. Carey**. Integrating ecological forecasting into undergraduate ecology curricula with an R Shiny application-based teaching module. In press at *Forecasting.*

114 Thierry, W. et al. with 65 co-authors, including T. Moore[P], **C.C. Carey**, and N.K. Ward[G]. A framework for ensemble modelling of climate change impacts on lakes worldwide: the ISIMIP Lake Sector. In press at *Geoscientific Model Development*.

113 **Carey, C.C.**, P.C. Hanson, R.Q. Thomas, A.B. Gerling[G], A.G. Hounshell[P], A.S. Lewis[G], M.E. Lofton[G], R.P. McClure[G], H.L. Wander[G], W.M. Woelmer[G], B.R. Niederlehner, and M.E. Schreiber. Anoxia decreases the magnitude of the carbon, nitrogen, and phosphorus sink in freshwaters. *Global Change Biology*. 28: 4861-4881. DOI: 10.1111/gcb.16228

112 Woelmer, W.W.[G], R.Q. Thomas, M.E. Lofton[G], R.P. McClure[G], and **C.C. Carey**. Near-term phytoplankton forecasts reveal the effects of model time step and forecast horizon on predictability. In press at *Ecological Applications*. DOI: 10.1002/eap.2642

111 Lofton, M.E.[G], J.A. Brentrup, W. Beck, J.A. Zwart, R. Bhatttacharya, L. Brighenti, S.H. Burnet, I. McCullough, B. Steele, **C.C. Carey**, K.L. Cottingham, M.C. Dietze, H.A.

Ewing, K.C. Weathers, and S. LaDeau. 2022. Using near-term forecasts and uncertainty partitioning to improve prediction of oligotrophic lake cyanobacterial density. *Ecological Applications.* 32: e2590. DOI: 10.1002/eap.2590

110 Ward, N.K.[G], J.A. Brentrup, D.C. Richardson, K.C. Weathers, P.C. Hanson, R.J. Hewett, and **C.C. Carey**. 2022. Dynamics of the stream – lake transitional zone affect littoral lake metabolism. *Aquatic Sciences.* 84: art31. DOI: 10.1007/s00027-022-00854-7

109 Ward, N.K.[G], M.G. Sorice, M.S. Reynolds[U], K.C. Weathers, W. Weng, and **C.C. Carey**. 2022. Can interactive data visualizations promote waterfront best management practices? *Lake and Reservoir Management.* 38: 95–108. DOI: 10.1080/10402381.2021.2021335

108 Lewis, A.S.L.[G], W.W. Woelmer[G], H.L. Wander[G], D.W. Howard[G], J.W. Smith[G], R.P. McClure[P], M.E. Lofton[G], N.W. Hammond[G], R.S. Corrigan[G], R.Q. Thomas, and **C.C. Carey**. 2022. Increased adoption of best practices in ecological forecasting enables comparisons of forecastability. *Ecological Applications*. 32(2):e2500. DOI: 10.1002/eap.2500

107 **Carey, C.C.**, W.M. Woelmer[G], M.E. Lofton[G], R.J. Figueiredo, B.J. Bookout, R.S. Corrigan[G], V. Daneshmand[G], A.G. Hounshell[P], D.W. Howard[U], A.S.L. Lewis[G], R.P. McClure[G], H.L. Wander[G], N.K. Ward[G], and R.Q. Thomas. 2022. Advancing lake and reservoir water quality management with near-term, iterative ecological forecasting. *Inland Waters*. 12: 107-120. DOI: 10.1080/20442041.2020.1816421

106 Reinl, K.L, J.D. Brookes, **C.C. Carey**, T.D. Harris, B.W. Ibelings, M. Morales-Williams, L.N. De Senerpont Domis, K.S. Atkins, P.D.F. Isles, J.P. Mesman, R.L. North, L.G. Rudstam, J.A.A. Stelzer, J.J. Venkiteswaran, K. Yokota, and Q. Zhan. 2021. Cyanobacterial blooms in oligotrophic lakes: shifting the high nutrient paradigm. *Freshwater Biology.* 66: 1846-1859. DOI: 10.1111/fwb.13791

105 Donis, D. et al. and 194 other co-authors, including **C.C. Carey**. 2021. Stratification strength and light climate explain variation in chlorophyll-a at the continental scale in a European multi-lake survey in a heatwave summer. *Limnology & Oceanography.* 66: 4314-4333. DOI: 10.1002/lno.11963

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103 McClure, R.P.[G], R.Q. Thomas, M.E. Lofton[G], W.M. Woelmer[G], and **C.C. Carey**. 2021. Iterative forecasting improves near-term predictions of methane ebullition rates. *Frontiers in Environmental Science*. 9: 756603. DOI: 10.3389/fenvs.2021.756603

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101 Hounshell, A.G.[P], K.J. Farrell[P], and **C.C. Carey**. 2021. Macrosystems EDDIE teaching modules increase students' ability to define, interpret, and apply concepts in macrosystems ecology. *Education Sciences.* 11(8): 382. DOI: 10.3390/educsci11080382

100 Ladwig, R., P.C. Hanson, H.A. Dugan, **C.C. Carey**, Y. Zhang, L. Shu, C.J. Duffy, and K.M. Cobourn. 2021. Lake thermal structure drives inter-annual variability in summer

anoxia dynamics in a eutrophic lake over 37 years. *Hydrology and Earth System Sciences*. 25: 1009-1032. DOI: 10.5194/hess-25-1009-2021

99 Howard, D.W.[U], A.G. Hounshell[P], M.E. Lofton[G], W.M. Woelmer[G], P.C. Hanson, and **C.C. Carey**. 2021. Variability in fluorescent dissolved organic matter concentrations across diel to seasonal time scales is driven by water temperature and meteorology in a eutrophic reservoir. *Aquatic Sciences.* 83: 30. DOI: 10.1007/s00027-021-00784-w

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97 Cottingham, K.L., K.C. Weathers, H.A. Ewing, M.L. Greer, and **C.C. Carey**. 2021. Predicting the effects of climate change on freshwater cyanobacterial blooms requires consideration of the complete cyanobacterial life cycle. *Journal of Plankton Research.* 43: 10-19. DOI: 10.1093/plankt/fbaa059

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94 Brentrup, J.A., D.C. Richardson, **C.C. Carey**, N.K. Ward[G], D.A. Bruesewitz, and K.C. Weathers. 2021. Under-ice respiration rates shift the annual carbon cycle in an oligotrophic lake from net autotrophy to net heterotrophy. *Inland Waters.* 11: 114-123. DOI: 10.1080/20442041.2020.180526110.1080/20442041.2020.1805261

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92 **Carey, C.C.**, K.J. Farrell[P], A.G. Hounshell[P], and K. O'Connell. 2020. Macrosystems EDDIE teaching modules significantly increase ecology students' proficiency and confidence working with ecosystem models and use of systems thinking. *Ecology & Evolution.* 10: 12515–12527. DOI: 10.1002/ece3.6757

91 Thomas, R.Q, R.J. Figueiredo, V. Daneshmand, B.J. Bookout, L. Puckett, and **C.C. Carey**. 2020. A near-term iterative forecasting system successfully predicts reservoir hydrodynamics and partitions uncertainty. *Water Resources Research*. 56, e2019WR026138. DOI: 10.1029/2019WR026138

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88 Krueger, K.M.[G], C.E. Vavrus[U], M.E. Lofton[G], R.P. McClure[G], P. Gantzer, **C.C. Carey**, and M.E. Schreiber. 2020. Iron and manganese fluxes across the sediment-water interface in a drinking water reservoir. *Water Research.* 182: 116003. DOI: 10.1016/j.watres.2020.116003

87 Ward, N.K.[G], B.G. Steele, K.C. Weathers, K.L. Cottingham, H.A. Ewing, P.C. Hanson, and **C.C. Carey.** 2020. Differential responses of maximum and median chlorophyll-a to air temperature and nutrient load in a 31-year oligotrophic lake simulation. *Water Resources Research.* 56: e2020WR027296. DOI: 10.1029/2020WR027296

86 Hanson, P.C., A.B. Stillman, X. Jia, A. Karpatne, H.A. Dugan, **C.C. Carey**, J. Stachelek, N. Ward[G], Y. Zhang, J.S. Read, and V. Kumar. 2020. Predicting lake surface water phosphorus dynamics using process-guided machine learning. *Ecological Modelling.* 430: 109136. DOI: 10.1016/j.ecolmodel.2020.109136

85 Lofton, M.E.[G], T.H. Leach, B.E. Beisner, and **C.C. Carey**. 2020. Relative importance of top-down versus bottom-up control of lake phytoplankton vertical distributions varies among fluorescence-based spectral groups. *Limnology and Oceanography*. 65: 2485-2501. DOI: 10.1002/lno.11465

84 Stachelek, J.[G], W. Weng[G], **C.C. Carey**, A. Kemanian, K.M. Cobourn, T. Wagner, K.C. Weathers, and P.A. Soranno. 2020. Agricultural land-use and lake water quality relationships differ when considering predictor granularity at macroscales. *Ecological Applications.* 30: e02187. DOI: 10.1002/eap.2187

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82 Ewing, H.A., K.C. Weathers, K.L. Cottingham, P.R. Leavitt, M.L. Greer, **C.C. Carey**, B.G. Steele, A.U. Fiorillo[U], and J.P. Sowles[U]. 2020. "New" cyanobacterial blooms are not new: two centuries of lake productivity are related to ice cover and land use. *Ecosphere.* 11(6):e03170. DOI: 10.1002/ecs2.3170

81 Hipsey, M.R., G. Gal, G.B. Arhonditsis, **C.C. Carey**, J.A. Elliott, M.A. Frassl, J.H. Janse, L. de Mora, and B.J. Robson. 2020. A system of metrics for the assessment and improvement of aquatic ecosystem models. *Ecological Modelling and Software*. 128: 104697. DOI: 10.1016/j.envsoft.2020.104697

80 McClure, R.P.[G], M.E. Lofton[G], S. Chen[G], J.C. Little, and **C.C. Carey**. 2020. The magnitude and drivers of methane ebullition and diffusion vary on a longitudinal gradient in a small freshwater reservoir. *Journal of Geophysical Research-Biogeosciences*. 125(3): e2019JG005205 DOI: 10.1029/2019JG005205

79 Stockwell, J., J.P. Doubek[G], R. Adrian, O. Anneville, **C.C. Carey**, L. Carvalho, L. de Senerpont Domis, G. Dur, M. Frassl, H.-P. Grossart, B. Ibelings, M. Lajeunesse, A. Lewandowska, M. Llames, S.S. Matsuzaki, E. Nodine, P. Noges, V. Patil, F. Pomati, K. Rinke, L. Rudstam, J. Rusak, N. Salmaso, C. Seltmann, D. Straile, S. Thackeray, W. Thiery, P. Urrutia-Cordero, P. Venail, P. Verburg, R. Woolway, T. Zohary, M. Andersen, R. Bhattacharya, J. Hejzlar, N. Janatian Ghadikolaei, T. Kpodonu, T. Williamson, and H. Wilson. 2020. Storm impacts on phytoplankton community dynamics in lakes. *Global Change Biology*. 26: 2756-2784. DOI: 10.1111/gcb.15033

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modeling to evaluate the effects of nutrient loading. *Ecological Economics.* 169:106556.

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63 **Carey, C.C.**, J.P. Doubek[G], R.P. McClure[G], and P.C. Hanson. 2018. Oxygen dynamics control the burial of organic carbon in a eutrophic reservoir. *Limnology and Oceanography-Letters.* 3:293-301. DOI: 10.1002/lol2.10057

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Carey, C.C., R.P. McClure[G], B.R. Niederlehner, M.E. Lofton[G], A.G. Hounshell[P], and A.S. Lewis[G]. 2021. Time series of dissolved methane and carbon dioxide concentrations for Falling Creek Reservoir and Beaverdam Reservoir in southwestern Virginia, USA during 2015-2020 ver 5. Environmental Data Initiative. DOI: 10.6073/pasta/4e65443dda8e180fae3077b8f6502d3f

Carey C.C., H.L. Wander[G], W.M. Woelmer[G], M.E. Lofton[G], A. Breef-Pilz, J.P. Doubek[G], A.B. Gerling[G], A.G. Hounshell[P], R.P. McClure[G], and B.R. Niederlehner. 2021. Water chemistry time series for Beaverdam Reservoir, Carvins Cove Reservoir, Falling Creek Reservoir, Gatewood Reservoir, and Spring Hollow Reservoir in southwestern Virginia, USA 2013-2020. Environmental Data Initiative. DOI: 10.6073/pasta/8d83ef7ec202eca9192e3da6dd34a4e0

Carey, C.C., W.M. Woelmer[G], A.S. Lewis[G], A. Breef-Pilz, D.W. Howard[G], and B.J. Bookout. 2021. Time series of high-frequency sensor data measuring water temperature, dissolved oxygen, pressure, conductivity, specific conductance, total dissolved solids, chlorophyll a, phycocyanin, and fluorescent dissolved organic matter at discrete depths in Falling Creek Reservoir, Virginia, USA in 2018-2020 ver 5. Environmental Data Initiative. DOI: 10.6073/pasta/88896f4a7208c9b7bddcf498258edf78

Carey C.C., J.P. Doubek[G], and K.L. Campbell[U]. 2018. Crustacean zooplankton density and biomass and rotifer density for Beaverdam Reservoir, Carvins Cove Reservoir, Gatewood Reservoir, and Spring Hollow Reservoir in southwestern Virginia, USA 2014-2016. Environmental Data Initiative. DOI: 10.6073/pasta/ff123d20e55608ee0fba1000da60a35e

GRANTS (at Virginia Tech, total grants = $10.3 million; $ to Carey Lab=$3,898,205)

Current support

2022-2026	National Science Foundation, Macrosystems Biology Program, DEB-2213550, "Collaborative Research: MRA: Advancing process understanding of lake water quality to macrosystem scales with knowledge-guided machine learning," $1.1 million among subawards ($256,808 to co-PI Carey)
2021-2024	National Science Foundation, Major Research Instrumentation Program, MRI-2117649, "MRI: Acquisition of a Chemical Ionization Mass Spectrometer for Measuring Organic Compounds at the Interface of Earth's Systems," $501,183 ($0 to co-PI Carey)
2020-2022	National Science Foundation, Macrosystems Biology Program, EF-1926050, "MSA: Macrosystems EDDIE: An undergraduate training program in macrosystems science and ecological forecasting," $300,000 ($260,167 to lead PI Carey)
2020-2022	National Science Foundation, Division of Biological Infrastructure, DBI-1933016, "Collaborative Research: CIBR: Cyberinfrastructure Enabling End-to-End Workflows for Aquatic Ecosystem Forecasting," $1,371,516 ($517,533 to PI Carey)
2020-2023	National Science Foundation, Office of Advanced Cyberinfrastructure, OAC-2004323, "Collaborative Research: Elements: EdgeVPN: Seamless secure virtual networking for edge and fog computing," $599,968 ($80,387 to PI Carey)
2020-2022	University of Western Australia, Robert and Maude Gledden Senior Visiting Fellowship, "Developing a novel freshwater forecasting system for drinking water management" $20,600 AUD (sole PI Carey)
2020-2025	National Science Foundation, Ecosystem Science Program, DEB-1926388, "NEON RCN: The Ecological Forecasting Initiative RCN: Using NEON-enabled near-term forecasting to synthesize our understanding of predictability across ecological systems and scales," $500,000 ($5965 to Senior Personnel Carey)
2020-2022	Lake Sunapee Protective Association, "Calhoun LSPA-VT Fellowship for graduate training" $38,427 (sole PI Carey)
2019-2021	National Science Foundation, Office of Advanced Cyberinfrastructure, OAC-1938743, "Creating FAIR data in lake observatories of the future," $49,958 ($0 to co-PI Carey)

2018-2022	National Science Foundation, Ecosystem Science Program, DEB-1753639, "Collaborative Research: Consequences of changing oxygen availability for carbon cycling in freshwater ecosystems," $997,691 ($707,827 to lead PI Carey)
2018-2021	National Science Foundation, Smart and Connected Communities Program, CNS-1737424, "SCC-IRG Track 2: Resilient water systems: Integrating environmental sensor networks and real-time forecasting to adaptively manage drinking water quality and build social trust," $999,998 ($616,234 to lead PI Carey)
2013-2022	Western Virginia Water Authority, "Western Virginia Water Authority Fellowship for graduate training" $328,211 (sole PI Carey)
2021-2022	Virginia Tech College of Science, Dean's Discovery Fund, "Using a nanoscale to whole-ecosystem scale approach to examine the role of reactive metal nanoparticles in drinking water reservoirs," $13,200 (0 to co-PI Carey)
2021-2022	Virginia Tech College of Science, Luther and Alice Hamlett Research Grant, $2000 (PI Carey, co-PI Carey lab undergrad student J. Wynne)
2021-2022	Virginia Water Resources Research Center, Competitive Student Research Grant, $5000 (PI Carey, co-PI Carey lab graduate student D. Howard)
2019-2022	Virginia Tech Fralin Life Sciences Institute, "Ecological Forecasting Initiative Conference" $40,000 (PI Carey)

Past support

2019-2020	Virginia Department of Environmental Quality, "Assessment of lake dissolved oxygen monitoring program," $10,000 (sole PI Carey)
2019-2020	Virginia Water Center, "Schoenholtz Fellowship for undergraduate training" $3000 (PI Carey, co-PI Carey lab undergrad student D. Howard)
2018-2019	Virginia Tech Global Change Center, "Drivers and patterns of dissolved organic matter cycling in drinking water reservoirs" $1000 (PI Carey, co-PI Carey lab undergrad student D. Howard)
2017-2020	National Science Foundation, Macrosystems Biology Program, EF-1702506, "MSB-ECA: A macrosystems science training program: developing undergraduates' simulation modeling, distributed computing, and collaborative skills," $299,992 (sole PI Carey)
2017-2020	National Science Foundation, Engineering Education Program, EEC-1659495, "REU: Enhancing student learning in interdisciplinary science and engineering via high-frequency real-time environmental data monitoring" $512,078 ($0 to Senior Personnel Carey)
2016-2020	National Science Foundation, Coupled-Natural Human Systems Program, ICER-1517823, "CNH-L: Linking land-use decision making, water quality, and lake associations to understand human-natural feedbacks in lake catchments," $1,799,931 ($313,302 to co-PI Carey)
2016-2020	National Science Foundation, Computer & Information Science & Engineering program, Supplement to ACI-1234983 "PRAGMA: Enabling Scientific Expeditions and Infrastructure Experimentation for Pacific Rim Institutions and Researchers," $200,000 (PI P. Papadopoulos, $171,194 to co-PI Carey)

2017-2019	Virginia Water Center, "Schoenholtz Fellowship for undergraduate training" $3000 (PI Carey, co-PI Carey lab undergrad student D. Howard)
2017-2019	Institute for Critical Technology and Applied Science, "Measuring rapid elemental fluxes in freshwater ecosystems: Implications for greenhouse gases and water quality," $80,000 ($66,000 to PI Carey, with co-PI M. Schreiber)
2017-2018	Virginia Water Center, "Sustainable Water Fellowship for undergraduate training" $6000 (PI Carey, co-PI Carey lab undergrad student K. Campbell)
2016-2018	National Science Foundation, Population and Community Ecology Program, DEB-1601061, "Dissertation Research: Hypoxia-induced trade-offs on zooplankton vertical distribution and community structure in freshwaters," $20,880 (PI Carey, co-PI Carey lab grad student J. Doubek)
2016-2017	Global Change Center at Virginia Tech, "Integrating an economic input-output model with watershed and energy models using a system-of- systems approach," $28,000 (PI John Little, $0 to co-PI Carey)
2014-2016	Institute for Critical Technology and Applied Science, "Dynamics of coupled P-Fe-Mn cycling in drinking water reservoirs and implications for water quality," $118,134 ($100,000 to PI Carey, with co-PI M. Schreiber)
2014-2016	National Fish & Wildlife Foundation, "Reservoir water quality monitoring in Roanoke, Virginia," $25,000 (sole PI Carey)
2014-2016	Dartmouth Neukom Institute for Computational Science; $18,440 (PI K.L. Cottingham, $0 to co-PI Carey)
2013-2017	National Science Foundation, Transforming Undergraduate Education in STEM Program, TUES-1245707, "The use of high-frequency data to engage students in quantitative reasoning and scientific discourse," $217,328 (PI C.M. O'Reilly; $11,120 to co-PI Carey)
2014	Coca-Cola Consolidated, "Reservoir water quality monitoring in Roanoke, Virginia," $3000 (sole PI Carey)
2013-2017	National Science Foundation, Emerging Frontiers Program, "Workshop: Value and development of grassroots networks for doing team science," $84,983 (PI K.C. Weathers, $0 to co-PI Carey)
2014-2015	Virginia Tech Global Change Center, "Managing human needs and ecosystem services in drinking water reservoirs confronted with global change," $18,753 (PI Carey, with co-PIs M. Schreiber, R.Q. Thomas, J.C. Little)
2013-2014	Virginia Tech Organismal Biology and Ecology Interdisciplinary Grant, $8000 ($8000 to PI Carey, with co-PI W.A. Hopkins),
2013	Virginia Tech Organismal Biology and Ecology Interdisciplinary Grant, $7300 ($7300 to PI Carey, with co-PI B.L. Brown)
2010-2012	National Science Foundation Doctoral Dissertation Improvement Grant, $15,000
2007-2010	National Science Foundation Graduate Research Fellowship
2006-2012	Cornell Graduate School, Sigma Xi, and other Research Grants; $42,155 total
2006-2007	Fulbright Fellowship to Sweden
2004-2007	Dartmouth College Presidential Scholarship & Research Grants; $18,800 total
2002	New York Water Environmental Association; $500

SELECTED INVITED SEMINARS AND PRESENTATIONS

2022 Invited seminar, Australian Rivers Institute, Griffiths University, Brisbane, Australia, June 2022
Invited seminar, School of Agriculture and Environment, University of Western Australia, Perth, Australia, May 2022
Invited seminar, School of Arts and Sciences, Colby-Sawyer College, New London, New Hampshire, March 2022

2021 Invited seminar, Ecology, Evolution, Environment, and Society Seminar Series, Dartmouth College, Hanover, New Hampshire, October 2021
Invited plenary address, Germany Society of Limnology, Magdeburg, Germany, September 2021 (virtual due to COVID)
Invited plenary address, Kilham Memorial Lecture, Gwangju, South Korea, August 2021 (virtual due to COVID)
Invited presentation, Lake Sunapee Protective Association, Sunapee, New Hampshire, July 2021 (virtual due to COVID)
Invited seminar, National Ecological Observatory Network (NEON) Science Monthly Series, Boulder, Colorado, May 2021 (virtual due to COVID)
Invited panel, Ecological Forecasting Initiative Series on Online Tools for Remote Learning, March 2021 (virtual due to COVID)
Invited seminar, Center for Limnology, University of Wisconsin-Madison, Madison, Wisconsin, February 2021 (virtual due to COVID)
Invited presentation, Salem Rotary Club, Salem, Virginia, January 2021 (virtual due to COVID)

2020 Invited seminar, National Oceanographic and Atmospheric Administration (NOAA) Northwest Fisheries Science Center, Seattle, Washington, November 2020 (virtual due to COVID)
Invited seminar, Department of Biological Sciences, University of Cincinnati, Cincinnati, Ohio, October 2020 (virtual due to COVID)
Invited webinar, National Association of Geoscience Teachers (NAGT), March 2020 (virtual presentation)
Invited seminar, Program in Ecology, Duke University, Durham, North Carolina, February 2020

2019 Invited oral presentation, GSA-sponsored workshop on Ecological Forecasting at the Global Lake Ecological Observatory Network conference, Huntsville, Ontario, November 2019
Invited seminar, Program in Biogeoscience, Boston University, Boston, Massachusetts, September 2019
Invited oral presentation, Ignite session on “Assembling data for synthesis - the good, bad and in-between,” Ecological Society of America, Louisville, Kentucky, August 2019
Invited keynote, Gordon Research Conference on Catchment Science, Andover, New Hampshire, June 2019
Invited plenary, U.S. Ignite Summit/Smart Cities Connect Conference and Expo, Denver, Colorado, April 2019
Invited plenary, CENTRA (Collaborations to Enable TRansnational cyberinfrastructure Applications) 4 conference, Jeju, South Korea, April 2019

Invited seminar, Department of Geosciences, Virginia Tech, Blacksburg, Virginia, February 2019

2018 Invited oral presentation, American Geophysical Union, Washington, D.C., December 2018.

Invited oral presentation, National Science Foundation Office of Advanced Cyberinfrastructure. Washington, D.C., November 2018.

Invited oral presentation and panel, Fall 2018 Advisory Committee Meeting for the Directorate for Biological Sciences. National Science Foundation, Alexandria, Virginia, September 2018.

Invited oral presentation, NSF-sponsored workshop on "A new paradigm in lake and reservoir research and management through global monitoring, modeling, and engaging and empowering people networks", Alexandria, Virginia, September 2018.

Invited panel on "NEON Resources for Your Research," Ecological Society of America, New Orleans, Louisiana, August 2018

Invited seminar, U.S. EPA Numeric Nutrient Criteria Webinar Series, July 2018. [virtual presentation]

Invited plenary address for Yentsch-Schindler Award, Association for the Society of Limnology and Oceanography, Victoria, British Columbia, June 2018

Invited seminar, Department of Biochemistry, Virginia Tech, Blacksburg, Virginia, April 2018

Invited presentation, NSF Principal Investigators meeting for Smart and Connected Communities Program, Kansas City, Missouri, March 2018

2017 Invited seminar, Department of Biological and Environmental Sciences, Longwood University, Longwood, Virginia, October 2017

Invited oral presentation, 32nd Pacific Rim Applications and Grid Middleware Assembly (PRAGMA) meeting, Gainesville, FL, April 2017

Invited seminar, Department of Environmental Sciences, University of Virginia, Charlottesville, Virginia, January 2017

2016 Invited seminar, Department of Biology, Virginia Commonwealth University, Richmond, Virginia, November 2016

Invited oral presentation, Fralin Life Sciences Institute, Virginia Tech, Blacksburg, Virginia, November 2016

Invited oral presentation, 31st Pacific Rim Applications and Grid Middleware Assembly (PRAG3MA) meeting, Bangkok, Thailand, September 2016

Invited oral presentation, Inter-American Institute for Global Change Research, Instituto Argentino de Oceanografía, Bahia Blanca, August 2016 [by Skype]

Invited oral presentation, Special session on "Disentangling the effects of climate change and management in aquatic ecosystems," Association for the Society of Limnology and Oceanography, Santa Fe, New Mexico, June 2016.

2015 Invited keynote address, SIL Plankton Ecology Group Meeting, Guangzhou, China, November 2015

Invited keynote presentation, Cyanobacteria Symposium sponsored by the National Institute of Environmental Research, Chuncheon, Korea, October 2015

Invited lecture, CYANOCOST/Netlake Training School sponsored by the Université de Genève, Evian-les-bains, France, May 2015.

Invited seminar, Institut National de la Recherche Agronomique (INRA), Station d'Hydrobiologie Lacustre [National Institute of Agronomic Research, Alpine Lake Center], Thonon-les-bains, France, May 2015.
Invited seminar, Department of Biology, Miami University, Oxford, Ohio, April 2015.
Invited seminar, Department of Biological Sciences, Université du Québec à Montréal, Montréal, Canada, April 2015.
Invited presentation. The 28th Pacific Rim Applications and Grid Middleware Assembly (PRAGMA) meeting, Nara, Japan, April 2015.

2014 Invited seminar, Department of Civil Engineering, Virginia Tech, Blacksburg, Virginia, December 2014.
Invited seminar, School of Natural Sciences and Mathematics, Ferrum College, Ferrum, Virginia, September 2014.
Invited Ralph E. Bennett Endowed Lecture in Plant Ecology. University of Michigan Biological Station, Pellston, Michigan, August 2014.
Invited oral presentation, Special session on "Interactive effects of climate change and other anthropogenic drivers on aquatic ecosystems," Association for the Society of Limnology and Oceanography, Portland, Oregon, May 2014.
Invited oral presentation. The 26th Pacific Rim Applications and Grid Middleware Assembly (PRAGMA) meeting, Tainan, Taiwan, April 2014.
Invited symposium presentation. Early Career Scientists Symposium on Humans as a Force of Ecological and Evolutionary Change, University of Michigan, Ann Arbor, Michigan, March 2014.
Invited seminar, Annis Water Resources Institute, Grand Valley State University, Muskegon, Michigan, February 2014.

2013 Invited presentation, Ecological Society of America meeting, Minneapolis, Minnesota, August 2013.

2012 Invited oral presentation, Bridging Big Data Infrastructure workshop, National Center for High Performance Computing, Taichung, Taiwan, December 2012.
Invited seminar, Department of Biology, Lawrence University, Appleton, Wisconsin, October 2012.
Invited oral presentation, Eco-DAS X (Ecological Dissertations in Aquatic Sciences, formerly DIALOG), Honolulu, Hawaii, October 2012.
Invited oral presentation, Ecological Society of America (ESA), Portland, Oregon, August 2012.
Invited oral presentation, Society for Freshwater Science (SFS), Louisville, Kentucky, May 2012.

2011 Invited seminar, Department of Biological Sciences, Virginia Tech, Blacksburg, VA, December 2011.
Invited oral presentation, U.S. National Science Foundation, Washington, D.C., October 2011.
Invited All-Camp Lecture, University of Michigan Biological Station, Pellston, Michigan, July 2011.
Invited Seminar, Department of Aquatic Sciences and Assessment, Swedish Agricultural University, Uppsala, Sweden, June 2011.

2010 Invited oral presentation. The 10th GLEON meeting, Torres, Brazil, May 2010.

Invited oral presentation. Engaging America's Talent NSF Education Outreach Conference, Arkansas EPSCoR, Little Rock, Arkansas, March 2010.

2008 Invited oral presentation. International Microbial Community Dynamics Workshop, Uppsala University, Sweden, October 2008.

Invited seminar. Department of Limnology, Lund University, Sweden, May 2008.

2007 Invited seminar. Department of Swiss Federal Institute of Aquatic Science and Technology, Dübendorf, Switzerland, November 2007.

2006 Invited "Lunch Bunch" oral presentation. Institute of Ecosystem Studies, Millbrook, New York, April 2006.

SELECTED CONTRIBUTED PRESENTATIONS (Carey as presenter only; co-authored student and postdoc presentation information available upon request) (Presenter is underlined, ^{G} denotes mentored graduate students, ^{U} denotes mentored undergraduate students, ^{P} denotes mentored postdocs)

2021 D'Acunha, B., A.G. Hounshell^{P}, A. Breef-Pilz, R.Q. Thomas, M.S. Johnson, and **C.C. Carey**. Eddy covariance data reveal that small freshwater reservoirs emit a substantial amount of carbon dioxide and methane. Poster presentation. American Geophysical Union. New Orleans, Louisiana, December 2021. [virtual due to COVID]

Figueiredo, R.J., V. Daneshmand, Y.-J. Ku, K. Subratie, A. Breef-Pilz, **C.C. Carey**, and R.Q. Thomas. Cyberinfrastructure for near real-time water quality forecasting in lakes and reservoirs. Oral presentation. American Fisheries Society. Baltimore, Maryland, November 2021. [virtual due to COVID]

Carey, C.C. Integrating whole-ecosystem experiments and forecasting to predict the future of lakes. Promotion seminar. Department of Biological Sciences, Virginia Tech. Blacksburg, Virginia, October 2021. [virtual]

Howard, D.W.^{G}, J.A. Brentrup, D.C. Richardson, A.S.L. Lewis^{G}, and **C.C. Carey**. The influence of winter dynamics on annual metabolism rates in a eutrophic reservoir over multiple years. Poster presentation. Global Lakes Ecological Observatory Network (GLEON) conference, October 2021. [virtual due to COVID]

Lewis, A.S.^{G}, A. Das, N.W. Hammond, M.E. Schreiber, and **C.C. Carey**. High levels of iron-bound organic carbon correspond to multi-annual oxygenation history in two reservoirs. Poster presentation. Global Lakes Ecological Observatory Network (GLEON) conference, October 2021. [virtual due to COVID]

Lofton, M.E.^{P}, R.Q. Thomas, W.M. Woelmer^{G}, T.N. Moore^{P}, R.P. McClure^{P}, A.S. Lewis^{G}, and **C.C. Carey**. Assessing model parameter sensitivity of phytoplankton functional groups in a one-dimensional lake ecosystem model. Poster presentation. Global Lakes Ecological Observatory Network (GLEON) conference, October 2021. [virtual due to COVID]

Wander, H.L.^{G}, R.Q. Thomas, T.N. Moore^{P}, R.P. McClure^{G}, W.M. Woelmer^{G}, V. Daneshmand, R.J. Figueiredo, and C.C. Carey. Predicting 16-day water temperature and dissolved oxygen in a eutrophic drinking water reservoir using an open-source forecasting system. Poster presentation. Global Lakes Ecological Observatory Network (GLEON) conference, October 2021. [virtual due to COVID]

Woelmer, W.M.^{G}, A.G. Hounshell^{P}, H.L. Wander^{G}, N. Hammond, D.W. Howard^{G}, A.S.L. Lewis^{G}, M.E. Lofton^{G}, R.P. McClure^{G}, and **C.C. Carey**. Biogeochemical patterns from the riverine to lacustrine zones of two small reservoirs. Poster

presentation. Global Lakes Ecological Observatory Network (GLEON) conference, October 2021. [virtual due to COVID]

Moore, T.N.[P], R.Q. Thomas, W.M. Woelmer[G], and **C.C. Carey**. Macrosystems EDDIE: Benefits of integrating ecological forecasting into undergraduate ecology curricula. Poster presentation. Global Lakes Ecological Observatory Network (GLEON) conference, October 2021. [virtual due to COVID]

Carey, C.C., K.J. Farrell[P], A.G. Hounshell[P], and T. Moore[P]. Macrosystems EDDIE modules increase students' proficiency and confidence working with R in both face-to-face and virtual classrooms. Poster presentation. Ecological Society of America. Long Beach, California, August 2021. [virtual due to COVID]

Moore, T.N.[P], **C.C. Carey**, W.M. Woelmer[G], and R.Q. Thomas. Macrosystems EDDIE: Teaching Ecological Forecasting to Undergraduates. Oral Presentation and Workshop. Ecological Society of America. Long Beach, California, August 2021. [virtual due to COVID]

McClure, R.P.[P], **C.C. Carey**, V. Daneshmand[G], R.J. Figueiredo, T. Moore[P], and R.Q. Thomas. Application of a novel near-term, iterative water quality forecasting workflow to NEON lakes. Poster presentation. Ecological Society of America. Long Beach, California, August 2021. [virtual due to COVID]

Man, X.[G], C. Lei, A.S. Lewis[G], **C.C. Carey**, and J.C. Little. Modelling oxygen dynamics across the sediment-water interface in a shallow, oxygenated reservoir. Oral presentation. 12th Australasian Heat and Mass Transfer Conference. Sydney, Australia, July 2021.

McClure, R.P.[P], **C.C. Carey**, V. Daneshmand, R.J. Figueiredo, T.N. Moore[P], R.Q. Thomas. Application of an iterative, near-term water temperature forecasting workflow in NEON lakes. Oral presentation. Incorporating Data Science and Open Science in Aquatic Research Summit, July 2021. [virtual due to COVID]

Wander, H.L.[G], R.Q. Thomas, A.G. Hounshell[P], V. Daneshmand[G], R.J. Figueiredo, R.P. McClure[P], and **C.C. Carey**. Application of an open-source forecasting system for predicting future water temperature and dissolved oxygen in a eutrophic drinking water reservoir. Poster presentation. Association for the Society of Limnology and Oceanography, Mallorca, Spain, June 2021. [virtual due to COVID]

Lewis, A.S.L.[G], R.P. McClure[G], P.C. Hanson, and **C.C. Carey**. Integrated whole-ecosystem experiments and ecosystem modeling reveal that seasonal oxygen depletion is driven primarily by temperature in a eutrophic reservoir. Oral presentation. Association for the Society of Limnology and Oceanography, Mallorca, Spain, June 2021. [virtual due to COVID]

Carey, C.C., P.C. Hanson, R.Q. Thomas, A.B. Gerling[G], A.G. Hounshell[P], M.E. Lofton[G], R.P. McClure[G], B.R. Niederlehner, H.L. Wander[G], and W.M. Woelmer[G]. Anoxia alters freshwater ecosystem stoichiometry and decreases carbon and nutrient retention in reservoirs. Oral presentation. Association for the Society of Limnology and Oceanography, Mallorca, Spain, June 2021. [virtual due to COVID]

Howard, D.W.[G], A.S. Lewis[G], J.A. Brentrup, D.C. Richardson, and **C.C. Carey**. Metabolism varies seasonally over multiple years in a eutrophic reservoir. Poster presentation. Association for the Society of Limnology and Oceanography, Mallorca, Spain, June 2021. [virtual due to COVID]

Lofton, M.E.[G], D.W. Howard[G], R.P. McClure[G], H.L. Wander[G], W.M. Woelmer[G], A.G.

Hounshell[P], A.S. Lewis[G], and **C.C. Carey**. Whole-ecosystem experiments reveal that thermocline deepening shifts the peak biomass depth and community structure of phytoplankton in a eutrophic reservoir. Oral presentation. Association for the Society of Limnology and Oceanography, Mallorca, Spain, June 2021. [virtual due to COVID]

Ladwig[P], R., P.C. Hanson, H. Dugan, C.C. Carey, Y. Zhang, L. Shu, C. Duffy, and K.M. Cobourn. Stratification and heat budget drive inter-annual variability of hypolimnetic anoxia in a eutrophic lake. Oral presentation. Association for the Society of Limnology and Oceanography, Mallorca, Spain, June 2021. [virtual due to COVID]

Hounshell, A.G.[P], W.M. Woelmer[G], H.L. Wander[G], D.T. Scott, and **C.C. Carey**. Organic matter quantity and quality from lotic to lentic along a reservoir continuum. Society for Freshwater Science, Virtual Meeting, May 2021. [virtual due to COVID]

Yang, B., M. Wells, B. McMeans, H. Dugan, J. Rusak, G. Weyhenmeyer, J.A. Brentrup, A. Hrycik, A. Laas, R. Pilla, J. Austin, P. Blanchfield, **C.C. Carey**, M. Guzzo, N. Lottig, M. Mackay, T. Middel, D. Pierson, J. Wang, and J. Young. A new thermal categorization of ice-covered lakes. Oral presentation. European Geophysical Union, Vienna, Austria, May 2021. [virtual due to COVID]

Hammond, N.W.[G], M.E. Schreiber, B.J. Bookout, R.S. Corrigan, F. Birgand, R. Q. Thomas, and **C.C. Carey**. Assessing short-term variability of iron and manganese cycling in a drinking-water reservoir using a high-frequency water quality sensor. Geological Society of America Southeastern Section Meeting, Auburn, Alabama, April 2021. [virtual due to COVID]

Lofton, M.E.[G], D.W. Howard[G], R.P. McClure[G], H.L. Wander[G], W.M. Woelmer[G], A.G. Hounshell[P], A.S. Lewis[G], and **C.C. Carey**. Epilimnetic mixing deepens maximum phytoplankton biomass and reduces phytoplankton biodiversity in a eutrophic reservoir. Oral presentation. Virginia Water Conference, Richmond, Virginia, March 2021. [virtual due to COVID]

2020 Lewis[G], A.S.L., M.E. Lofton[G], R.P. McClure[G], W.M. Woelmer[G], P.C. Hanson, R.Q. Thomas, and **C.C. Carey**. Near-term, iterative ecological forecasts highlight the relative importance of two drivers for dynamic oxygen concentrations in a drinking water reservoir. Oral presentation. American Geophysical Union, San Francisco, California, December 2020. [virtual due to COVID]

Thomas, R.Q., C. Boettiger, **C.C. Carey**, M.C. Dietze, A. Fox, M.A. Kenney, C.M. Laney, J.S. McLachlan, J. Peters, J.F. Weltzin, W.M. Woelmer, J.R. Foster, J.P. Guinnip, A. Spiers, S. Ryan, K.I. Wheeler, A.R. Young, and L.R. Johnson. Introducing the NEON Ecological Forecasting Challenge hosted by the Ecological Forecasting Initiative Research Coordination Network. Poster presentation. American Geophysical Union, San Francisco, California, December 2020. [virtual due to COVID]

Hammond[G], N.W., M.E. Schreiber, B.J. Bookout, R.S. Corrigan[G], F. Birgand, and **C.C. Carey**. Identifying hot moments of iron and manganese cycling in a drinking-water reservoir using a high-frequency water quality sensor. Poster presentation. American Geophysical Union, San Francisco, California, December 2020. [virtual due to COVID]

D'Acunha, B., A.G. Hounshell[P], H.L. Wander[G], R.Q. Thomas, **C.C. Carey**, and M.S.

Johnson. Fluxes of CO_2 and CH_4 from a small, eutrophic, managed reservoir as determined by eddy covariance. Poster presentation. American Geophysical Union, San Francisco, California, December 2020. [virtual due to COVID]

Carey, C.C., R.Q. Thomas, R.J. Figueiredo, and M.C. Dietze. The power and potential for iterative, near-term ecological forecasting to advance freshwater science. Poster presentation. American Geophysical Union, San Francisco, California, December 2020. [virtual due to COVID]

Hounshell[P], A.G., R.P. McClure[G], H.L. Wander[G], W.M. Woelmer[G], D.T. Scott, and **C.C. Carey**. Seasonality and dissolved oxygen control dissolved organic carbon quantity, quality, and dissolved greenhouse gases in a eutrophic freshwater reservoir. Poster presentation. American Geophysical Union, San Francisco, California, December 2020. [virtual due to COVID]

Hounshell, A.G.[P], K.J. Farrell, and **C.C. Carey**. Hands-on modeling activities in Macrosystems EDDIE teaching modules increase undergraduate students' ability to define, interpret, and apply advanced concepts in the environmental sciences. Poster presentation. American Geophysical Union, San Francisco, California, December 2020. [virtual due to COVID]

McClure, R.P.[G], R.Q. Thomas, M.E. Lofton[G], W.M. Woelmer[G], and **C.C. Carey**. Near-term, iterative forecasting suggests high predictability of reservoir methane ebullition at weekly time scales. Poster presentation. American Geophysical Union, San Francisco, California, December 2020. [virtual due to COVID]

Lewis[G], A.S.L., M.E. Lofton[G], R.P. McClure[G], W.M. Woelmer[G], P.C. Hanson, R.Q. Thomas, and **C.C. Carey**. Bottom-water temperatures drive changing rates of oxygen depletion in a drinking water reservoir. Poster presentation. 21.5 GLEON meeting, October 2020. [virtual due to COVID]

Carey, C.C., K.J. Farrell, A.G. Hounshell[P], and T. Moore[P]. Macrosystems EDDIE teaching modules significantly increase ecology students' proficiency working with ecosystem models and use of systems thinking. Poster presentation. 21.5 GLEON meeting, October 2020. [virtual due to COVID]

Lofton[G], M.E., D.W. Howard[U], R.P. McClure[G], and **C.C. Carey**. Relating depth distribution of phytoplankton to community structure over time in a small, eutrophic drinking water reservoir. Poster presentation. 21.5 GLEON meeting, October 2020. [virtual due to COVID]

Ward, N.K.[G], M.G. Sorice, K.C. Weathers, and **C.C. Carey**. Evaluation of an interactive data visualization as a behavioral intervention to promote improved fertilizer use and waterfront buffers in a New England lake watershed. Poster presentation. NALMS meeting, November 2020. [virtual due to COVID]

Woelmer[G], W.M. and C.C. Carey. How uncertain is future water quality? Optimizing forecast visualizations for drinking water managers. Poster presentation. NALMS meeting, November 2020. [virtual due to COVID]

Carey, C.C., W.M. Woelmer[G], M.E. Lofton[G], R.J. Figueiredo, B.J. Bookout, R.S. Corrigan[G], V. Daneshmand[G], A.G. Hounshell[P], D.W. Howard[1], A.S.L. Lewis[G], R.P. McClure[G], H.L. Wander[G], N.K. Ward[G], and R.Q. Thomas. Advancing lake and reservoir water quality management with near-term, iterative ecological forecasting. Poster presentation. Ecological Society of America, Salt Lake City, Utah, August 2020. [virtual due to COVID]

Lewis[G], A.S.L., M.E. Lofton[G], R.P. McClure[G], W.M. Woelmer[G], P.C. Hanson, R.Q. Thomas, and **C.C. Carey**. Near-term, iterative ecological forecasts provide insight into the drivers of changing oxygen concentrations in a drinking water reservoir. Poster presentation. Ecological Society of America, Salt Lake City, Utah, August 2020. [virtual due to COVID]

Ward, N.K.[G], K.C. Weathers, and **C.C. Carey**. Evaluation of an interactive visualization as a behavioral intervention to promote improved fertilizer use and waterfront buffers in a New England lake watershed buffer. Oral presentation. Ecological Society of America, Salt Lake City, Utah, August 2020. [virtual due to COVID]

McClure, R.P.[G], R.Q. Thomas, M.E. Lofton[G], W.M. Woelmer[G], and **C.C. Carey**. Near-term iterative forecasting and data assimilation improve methane ebullition rate estimates in a small reservoir. Poster presentation. Ecological Society of America, Salt Lake City, Utah, August 2020. [virtual due to COVID]

Thomas, R.Q., **C.C. Carey**, R.S. Corrigan[G], M.E. Lofton[G], R.P. McClure[G], and W.M. Woelmer[G]. Near-term, iterative forecasts of freshwater ecosystem dynamics enable a novel strategy for managing reservoir drinking water quality. Oral presentation. Ecological Society of America, Salt Lake City, Utah, August 2020. [virtual due to COVID]

Cottingham, K.L., and 29 co-authors, including **C.C. Carey**. Predicting cyanobacterial blooms in freshwater lakes: the promise of new partners, tools and technologies. Poster presentation. Ecological Society of America, Salt Lake City, Utah, August 2020. [virtual due to COVID]

Dietze, M.C., and 27 co-authors, including **C.C. Carey.** Improving ecological prediction: the role of cross-network data fusion in iterative ecological forecasting. Oral presentation. Ecological Society of America, Salt Lake City, Utah, August 2020. [virtual due to COVID]

Farrell, K.J.[P], A.G. Hounshell[P], and **C.C. Carey**. Hands-on ecosystem modeling activities increase students' understanding of macrosystems ecology. Poster presentation. Ecological Society of America, Salt Lake City, Utah, August 2020. [virtual due to COVID]

Wander, H.L.[G], J.P. Doubek, and **C.C. Carey**. Zooplankton functional traits mediate migration patterns in response to hypolimnetic anoxia in a eutrophic reservoir. Poster presentation. Ecological Society of America, Salt Lake City, Utah, August 2020. [virtual due to COVID]

Weathers, K.C., P.C. Hanson, and **C.C. Carey**. Science takes a village: Perspectives from the Global Lake Ecological Observatory Network (GLEON). Poster presentation. Ecological Society of America, Salt Lake City, Utah, August 2020. [virtual due to COVID]

Carey, C.C., R.Q. Thomas, R.J. Figueiredo, and M.C. Dietze. The power and potential for iterative, real-time ecological forecasting to advance the aquatic sciences. Oral presentation. Association for the Society of Limnology and Oceanography, Madison, Wisconsin, June 2020. [cancelled due to COVID]

Carey, C.C., A.G. Hounshell[P], and K.J. Farrell[P]. Hands-on ecosystem modeling activities increase students' understanding of aquatic ecology. Oral presentation. Association for the Society of Limnology and Oceanography, Madison, Wisconsin, June 2020. [cancelled due to COVID]

Hounshell[P], A.G., R.P. McClure[G], H.L. Wander[G], W.M. Woelmer[G], D.T. Scott, and **C.C. Carey**. Seasonality and dissolved oxygen control dissolved organic carbon quantity, quality, and dissolved greenhouse gases in a eutrophic freshwater reservoir. Oral presentation. Association for the Society of Limnology and Oceanography, Madison, Wisconsin, June 2020. [cancelled due to COVID]

Ladwig[P], R., P.C. Hanson, H. Dugan, C.C. Carey, Y. Zhang, L. Shu, C. Duffy, and K.M. Cobourn. Stratification and heat budget drive inter-annual variability of hypolimnetic anoxia in a eutrophic lake. Oral presentation. Association for the Society of Limnology and Oceanography, Madison, Wisconsin, June 2020. [cancelled due to COVID]

Woelmer, W.W.[G], B.J. Bookout, M.E. Lofton[G], R.P. McClure[G], R.Q. Thomas, and **C.C. Carey**. Near-term iterative hindcasts at multiple time scales improves understanding of phytoplankton dynamics. Oral presentation. Association for the Society of Limnology and Oceanography, Madison, Wisconsin, June 2020. [cancelled due to COVID]

McClure, R.P.[G], R.Q. Thomas, M.E. Lofton [G], W.M. Woelmer [G], and **C.C. Carey**. Iterative near-term forecasts improve estimates of methane ebullition efflux from a small temperate reservoir. Oral presentation. Association for the Society of Limnology and Oceanography, Madison, Wisconsin, June 2020. [cancelled due to COVID]

Wander, H.L.[G]J.P. Doubek , and **C.C. Carey**. Zooplankton functional traits mediate migration patterns in response to hypolimnetic anoxia in a eutrophic reservoir. Poster presentation. Association for the Society of Limnology and Oceanography, Madison, Wisconsin, June 2020. [cancelled due to COVID]

Lewis, A.S.L.[G], B.R. Niederlehner, N. Hammond[G], M.E. Schreiber, and **C.C. Carey**. High levels of iron-bound organic carbon correspond to multi-annual oxygenation history in two reservoirs. Poster presentation. Association for the Society of Limnology and Oceanography, Madison, Wisconsin, June 2020. [cancelled due to COVID]

Figueiredo, R.J., V. Daneshmand[G], **C.C. Carey**, and R.Q. Thomas. End-to-end ecological forecasting: cyber-infrastructure challenges and frontiers from sensors to clouds. Oral presentation. Association for the Society of Limnology and Oceanography, Madison, Wisconsin, June 2020. [cancelled due to COVID]

Ward, N.K.[G], J.A. Brentrup, D.C. Richardson, K.C. Weathers, and **C.C. Carey**. Spatial variability in lake metabolism may be an early indicator of ecosystem change due to stream loading. Oral presentation. Association for the Society of Limnology and Oceanography, Madison, Wisconsin, June 2020. [cancelled due to COVID]

Brentrup, J.A., R. Adrian, O. Anneville, R. Bhattacharya, S. Burnet, **C.C. Carey**, and 27 co-authors. Riders of the storm: are phytoplankton communities shaped by long-term history of storm disturbances? Oral presentation. Association for the Society of Limnology and Oceanography, Madison, Wisconsin, June 2020. [cancelled due to COVID]

Hounshell, A.G.[P], K.J. Farrell[P], and **C.C. Carey**. Macrosystems EDDIE modules increase students' proficiency and confidence working with models and their use of systems thinking. Poster presentation. Association for the Society of Limnology and Oceanography, Madison, Wisconsin, June 2020. [cancelled due to COVID]

Carey, C.C., A.G. Hounshell[P], A.S.L. Lewis[G], D.W. Howard[U], R.P. McClure[G], N.W. Hammond[G], M.E. Lofton[G], P.C. Hanson, J.C. Little, M.E. Schreiber, F. Birgand. Dynamic carbon-oxygen interactions over minute to annual time scales in an experimentally-oxygenated reservoir. Poster presentation. European Geophysical Union, Vienna, Austria, May 2020. [virtual due to COVID]

Lewis, A.S.L.[G], P.C. Hanson, and **C.C. Carey**. Oxygen demand is highly-sensitive to temperature and hypolimnetic oxygenation. Oral presentation. Virginia Water Conference, Richmond, Virginia, March 2020.

Wander, H.L.[G], J.P. Doubek , and **C.C. Carey**. Zooplankton migration as a water quality indicator: examining the prevalence of diel vertical vs. diel horizontal migration in anoxic reservoirs. Oral presentation. Virginia Water Conference, Richmond, Virginia, March 2020.

Howard, D.W.[U], M.E. Lofton[G], A.G. Hounshell[P], R.P. McClure[G], W.M. Woelmer[G], and **C.C. Carey**. Drivers of dissolved organic matter vary across multiple time scales in a drinking water reservoir. Oral presentation. Virginia Water Conference, Richmond, Virginia, March 2020.

Woelmer, W.W.[G], M.E. Lofton[G], R.P. McClure[G], B.J. Bookout, R.Q. Thomas, and **C.C. Carey**. Translating forecasts of algal blooms into decision support tools for drinking water management. Oral presentation. Virginia Water Conference, Richmond, Virginia, March 2020.

2019 Hounshell, A.G.[P], R.P. McClure[G], M.E. Lofton[G], and **C.C. Carey**. Whole-ecosystem oxygenation experiments reveal substantially greater CH4 production and efflux from reservoirs during anoxia. Poster presentation. American Geophysical Union, San Francisco, California, December 2019.

McClure, R.P.[G], R.Q. Thomas, M.E. Lofton [G], W.M. Woelmer [G], A.M. Mickens [U], and **C.C. Carey**. Successful real-time prediction of methane ebullition rates in a eutrophic reservoir using temperature via iterative near-term forecasts. Oral presentation. American Geophysical Union, San Francisco, California, December 2019.

Hounshell, A.G.[P], K.J. Farrell[P], and **C.C. Carey**. Macrosystems EDDIE: Using hands-on teaching modules to build computational literacy and water resources concepts in undergraduate curricula. Oral presentation, American Geophysical Union, San Francisco, California, December 2019.

Thomas, R.Q., C.C. Carey, M.E. Lofton[G], R.P. McClure[G], and W.W. Woelmer[G]. Near-term iterative forecasting of water quality in a reservoir reveals relative forecastability of physical, chemical, and biological dynamics. Poster presentation, American Geophysical Union, San Francisco, California, December 2019.

Ward, N.K.[G], J.A. Brentrup, D.C. Richardson, K.C. Weathers, and **C.C. Carey**. Horizontal variability in lake metabolism to prioritize watershed locations for nutrient runoff reduction. Oral presentation. North American Lake Management Society, Burlington, Vermont, November 2019.

Thomas, R.Q., R.J. Figueiredo, M.E. Lofton[G], R.P. McClure[G], W.W. Woelmer[G], and **C.C. Carey**. Near-term iterative forecasting with GLM-AED and daily data assimilation reveals the forecastability of water quality dynamics. Poster presentation, 21st GLEON meeting, Huntsville, Ontario, Canada, November 2019.

Carey, C.C., A.G. Hounshell[P], and K.J. Farrell[P]. Integrating simulation modeling into

undergraduate aquatic ecology courses increases students' understanding of global change on lakes. Poster presentation, 21st GLEON meeting, Huntsville, Ontario, Canada, November 2019.

Goldfarb, S.K. and 41 authors, including **C.C. Carey**. Day 'N' NightZ: the effects of hypoxia on zooplankton population estimates and migration patterns. Poster presentation, 21st GLEON meeting, Huntsville, Ontario, Canada, November 2019.

De Eyto, E., and 34 authors, including **C.C. Carey**. DC-FLUX – a GLEON initiative to measure diel CO2 fluxes from lakes across the world. Poster presentation, 21st GLEON meeting, Huntsville, Ontario, Canada, November 2019.

Lewis, A.S.L.[G], A.G. Hounshell[P], R.P. McClure[G], N. Hammond[G], D.W. Howard[U], M.E. Lofton[G], H.L. Wander[G], W.M. Woelmer[G], F. Birgand, P.C. Hanson, J.C. Little, M.E. Schreiber, and **C.C. Carey**. Consequences of changing oxygen availability for carbon cycling in freshwater ecosystems. Poster presentation, 21st GLEON meeting, Huntsville, Ontario, Canada, November 2019.

Hounshell, A.G.[P], R.P. McClure[G], M.E. Lofton[G], and **C.C. Carey**. Constraining greenhouse gas production and surface efflux from reservoirs with oxic and anoxic hypolimnia using whole-ecosystem oxygenation experiments. Poster presentation, 21st GLEON meeting, Huntsville, Ontario, Canada, November 2019.

Wander, H.L.[G], B.J. Bookout, J.P. Doubek[G], A.G. Hounshell[P], D.W. Howard[U], A.S. Lewis[G], M.E. Lofton[G], R.P. McClure[G], N.K. Ward[G], W.M. Woelmer[G], and **C.C. Carey**. Zooplankton horizontal migration in an anoxic reservoir. Poster presentation, 21st GLEON meeting, Huntsville, Ontario, Canada, November 2019.

Lofton, M.E.[G], J.A. Brentrup, W.S. Beck, R. Bhattacharya, L.S. Brighenti, S.H. Burnet, I.M. McCullough, S. Stewart, J.A. Zwart, **C.C. Carey**, K.L. Cottingham, H.A. Ewing, S.L. LaDeau, and K.C. Weathers. Near-term forecasts of cyanobacterial blooms in a large, oligotrophic temperate lake: identifying sources of uncertainty. Poster presentation, 21st GLEON meeting, Huntsville, Ontario, Canada, November 2019.

McClure, R.P.[G], R.Q. Thomas, M.E. Lofton[G], W.M. Woelmer[G], A.M. Mickens[U], and **C.C. Carey**. Successful real-time prediction of methane ebullition rates in a eutrophic reservoir using temperature via iterative near-term forecasts. Poster presentation, 21st GLEON meeting, Huntsville, Ontario, Canada, November 2019.

Brentrup, J.A., N.K. Ward[G], **C.C. Carey**, K.L. Cottingham, D.A. Bruesewitz, D.C. Richardson, and K.C. Weathers. A comparison of three winters of under-ice ecosystem metabolism estimates reveals high variability in under-ice net ecosystem production. Poster presentation, 21st GLEON meeting, Huntsville, Ontario, Canada, November 2019.

Woelmer, W.W.[G], M.E. Lofton[G], R.P. McClure[G], B.J. Bookout, R.Q. Thomas, and **C.C. Carey**. Looking backward to look forward: forecasting phytoplankton in a drinking water reservoir using multiple modeling approaches. Poster presentation, 21st GLEON meeting, Huntsville, Ontario, Canada, November 2019.

Howard, D.W.[U], M.E. Lofton[G], A.G. Hounshell[P], B.J. Bookout[G], R.P. McClure[G], and **C.C. Carey**. Drivers and patterns of dissolved organic matter fluorescence at diel to seasonal time scales in a drinking water reservoir. Poster presentation, 21st GLEON meeting, Huntsville, Ontario, Canada, November 2019.

Figueiredo, R.J., V. Daneshmand[G], **C.C. Carey**, and R.Q. Thomas. End-to-end

ecological forecasting: cyber-infrastructure challenges and frontiers from sensors to clouds. Invited oral presentation, Ecological Society of America, Louisville, Kentucky, August 2019.

Hanson, P.C., A.B. Stillman, **C.C. Carey**, X. Jia, and V. Kumar. Theory-guided data science improves understanding and predictions of lake phosphorus dynamics. Poster presentation. Ecological Society of America, Louisville, Kentucky, August 2019.

Stachelek, J., **C.C. Carey**, K.M. Cobourn, S.M. Collins, A.R. Kemanian, T. Wagner, K.C. Weathers, W. Weng, and P.A. Soranno. Analysis of 500 lake catchments reveals the relationship between crop type, fertilizer and manure inputs and lake nutrient concentrations. Oral presentation. Ecological Society of America, Louisville, Kentucky, August 2019.

Woelmer, W.W.[G], B.J. Bookout, M.E. Lofton[G], R.P. McClure[G], R.Q. Thomas, and **C.C. Carey**. Forecasting water quality in a drinking water reservoir: an ensemble model approach. Oral presentation. Ecological Society of America, Louisville, Kentucky, August 2019.

Ward, N.K.[G], J.A. Brentrup, D.C. Richardson, K.C. Weathers, and **C.C. Carey**. Spatial variability in lake metabolism may be an early indicator of ecosystem change due to localized stream loading. Oral presentation. Ecological Society of America, Louisville, Kentucky, August 2019.

Woelmer, W.M.[G], R.Q. Thomas, R. Figueiredo, V. Daneshmand, and **C.C. Carey**. Integrating sensor networks and real-time ecological forecasting to adaptively manage water quality. Oral presentation. Virginia Forests and Drinking Water Forum. Charlottesville, VA. June 2019.

Carey, C.C., K.J. Farrell, and A.G. Hounshell. Macrosystems EDDIE: Building computational literacy and macrosystems ecology knowledge through hands-on teaching modules. Poster presentation. NSF Macrosystems PI meeting, Boulder, Colorado, May 2019.

Carey, C.C., R.Q. Thomas, R.J. Figueiredo, V. Daneshmand[G], and B.J. Bookout. Integrating high-frequency environmental sensors, overlay virtual private networks, and simulation models in an end-to-end workflow to generate real-time iterative water quality forecasts. Oral presentation. Ecological Forecasting Initiative Conference, Washington, D.C., May 2019.

Carey, C.C., R.Q. Thomas, R.J. Figueiredo, V. Daneshmand[G], B.J. Bookout, F. Birgand, and H. Wander[G]. Integrating environmental sensor networks and real-time ecological forecasting to adaptively manage water quality. Poster presentation. Ecological Forecasting Initiative Conference, Washington, D.C., May 2019.

Lofton, M.E.[G], W.S. Beck, R. Bhattacharya, J.A. Brentrup, L.S. Brighenti, S.H. Burnet, I.M. McCullough, S. Stewart, J.A. Zwart, **C.C. Carey**, K.L. Cottingham, H.A. Ewing, S.L. LaDeau, and K.C. Weathers. Development of state-space Bayesian models for near-term forecasts of phytoplankton blooms in a large, north temperate lake. Poster presentation. Ecological Forecasting Initiative Conference, Washington, D.C., May 2019.

Woelmer, W.W.[G], B.J. Bookout, M.E. Lofton[G], R.P. McClure[G], R.Q. Thomas, and **C.C. Carey**. Forecasting harmful algal blooms in a drinking water reservoir: an ensemble model approach. Poster presentation. Ecological Forecasting Initiative Conference,

Washington, D.C., May 2019.

Burford, M.A., **C.C. Carey**, D.P. Hamilton, J. Huisman, H.W. Paerl, S.A. Wood, and A. Wulff. Effective approaches to improve prediction of the impacts of global change on cyanobacteria. Oral presentation. International Conference on Toxic Cyanobacteria, Krakow, Poland, May 2019.

Cottingham, K.L, C.C. Carey, H.A. Ewing, M.L. Greer, and K.C. Weathers. The net effects of stratification and mixing on cyanobacteria across the complete life cycle. Oral presentation. Society of Freshwater Science, Salt Lake City, Utah, May 2019.

Carey, C.C., R.J. Figueiredo, and P.C. Hanson. GRAPLEr, GLEON, and gateways: Updates from the PRAGMA lake expedition. Oral presentation. PRAGMA32 conference, Jeju, South Korea, April 2019.

Woelmer, W.W.[G], M.E. Lofton[G], R.P. McClure[G], B.J. Bookout, R.Q. Thomas, and **C.C. Carey**. Analysis of historical monitoring data to forecast future phytoplankton blooms in a small drinking water reservoir. Oral presentation. Virginia Water Conference, Richmond, Virginia, March 2019.

Carey, C.C., R.Q. Thomas, R.J. Figueiredo, M.E. Lofton[G], B.J. Bookout, V. Daneshmand[G], D. Howard[U], R.P. McClure[G], and W. Woelmer[G]. Real-time ecological forecasting enables adaptive water quality management in a drinking water reservoir. Oral presentation. Virginia Water Conference, Richmond, Virginia, March 2019.

Hanson, P.C., A.B. Stillman, **C.C. Carey**, X. Jia, and V. Kumar. Improved understanding and prediction of 37 years of surface water phosphorus dynamics using theory guided machine learning. Oral presentation. Association for the Society of Limnology and Oceanography, St. Juan, Puerto Rico, February 2019.

Lofton, M.E.[G], T.H. Leach, B.E. Beisner, and **C.C. Carey**. Seasonal variation in top-down versus bottom-up control of phytoplankton vertical distribution in north temperate lakes. Oral presentation. Association for the Society of Limnology and Oceanography, St. Juan, Puerto Rico, February 2019.

Carey, C.C., R.Q. Thomas, R.J. Figueiredo, and V. Daneshmand[G]. Real-time ecological forecasting enables adaptive water quality management in a drinking water reservoir. Oral presentation. Association for the Society of Limnology and Oceanography, St. Juan, Puerto Rico, February 2019.

Carey, C.C., and K.J. Farrell[P]. Integrating simulation modeling into undergraduate aquatic ecology courses increases students' understanding of global change on lakes. Oral presentation. Association for the Society of Limnology and Oceanography, St. Juan, Puerto Rico, February 2019.

2018 O'Reilly, C.M., **C.C. Carey**, D.C. Soule, R.D. Gougis, T. Meixner, K. Farrell[P], J.L. Klug, D.C. Richardson, N.E. Bader, D. Castendyk, W. Hunter, K. Weathers, C. Huyck-Orr. Environmental Data-Driven Inquiry and Exploration (Project EDDIE): Using large datasets to build quantitative literacy. Oral presentation. American Geophysical Union, Washington, D.C., December 2018.

Krueger, K.M.[G], C.E. Vavrus[U], M.E. Lofton[G], R.P. McClure[G], P.W. Gantzer, **C.C. Carey**, and M.E. Schreiber. Metal fluxes across the sediment water interface in a drinking water reservoir. Poster presentation. American Geophysical Union, Washington, D.C., December 2018.

McClure, R.P.[G], M.E. Lofton[G], K.M. Krueger[G], S. Chen[G], J.C. Little, M.E. Schreiber, and

C.C. Carey. The magnitude and drivers of methane emissions vary spatially along a reservoir continuum. Oral presentation. American Geophysical Union, Washington, D.C., December 2018.

Cobourn, K.M., **C.C. Carey**, K. Boyle, C. Duffy, H.A. Dugan, K. Farrell[P], L. Fitchett[G], P.C. Hanson, V.R. Henson, M. Sorice, A. Kemanian, L. Shu, W. Weng[G], K.C. Weathers, and Y. Zhang. Modeling coupled natural and human systems in lake catchments reveals feedbacks among land-management decisions, water quality degradation, and altered property values. Poster presentation. American Geophysical Union, Washington, D.C., December 2018.

Carey, C.C., R.Q. Thomas, R.J. Figueiredo, V. Daneshmand[G], B.J. Bookout, and F. Birgand. Integrating environmental sensor networks and real-time ecological forecasting to adaptively manage water quality. Poster presentation. 20th GLEON meeting, Rottnest Island, Australia, December 2018.

Ward, N.K.[G], J.A. Brentrup, D.C. Richardson, K.C. Weathers, A. Johnson[U], and **C.C. Carey**. Linking spatially-explicit lake metabolism to spatially-heterogeneous external nutrient loading. Poster presentation. 20th GLEON meeting, Rottnest Island, Australia, December 2018.

Lofton, M.E.[G], T.H. Leach, B.E. Beisner, and **C.C. Carey**. Relative importance of top-down vs. bottom-up control of phytoplankton vertical distribution in north temperate lakes. Poster presentation. 20th GLEON meeting, Rottnest Island, Australia, December 2018.

Stockwell, J.D., R. Adrian, M. Andersen, O. Anneville, R. Bhattacharya, W.G. Burns, **C.C. Carey**, L. Carvalho, C.-W. Chang, L.N. De Senerpont Domis, J.P. Doubek, G. Dur, M.A. Frassl, M.O. Gessner, J. Hejzlar, B.W. Ibelings, N. Janatian, A.T.N.K. Kpodonu, M.J. Lajeunesse, A.M. Lewandowska, M.E. Llames; S.S. Matsuzaki; E.R. Nodine, P. Nõges, H.D. Park, V.P. Patil, F. Pomati; K. Rinke; L.G. Rudstam; J.A. Rusak; N. Salmaso, F. Schmitt, C.T. Seltmann, S. Souissi, D. Straile, S.J. Thackeray; W. Thiery, P. Urrutia-Cordero, P. Venail, P. Verburg, T.J. Williamson, H.L. Wilson, and T. Zohary. Storm impacts on phytoplankton community dynamics in lakes. Poster presentation. 20th GLEON meeting, Rottnest Island, Australia, December 2018.

Brentrup, J.A., D.C. Richardson, **C.C. Carey**, N.K. Ward[G], D.A. Bruesewitz, and K.C. Weathers. The importance of ice-on and ice-off periods for driving under-ice metabolism dynamics in an oligotrophic lake. Poster presentation. 20th GLEON meeting, Rottnest Island, Australia, December 2018.

Farrell, K.J.[P] and **C.C. Carey**. Macrosystems EDDIE: Building computational literacy and macrosystems ecology knowledge through hands-on teaching modules. Poster presentation. 20th GLEON meeting, Rottnest Island, Australia, December 2018.

Figueiredo, R., **C.C. Carey**, and P.C. Hanson. On lakes and clouds: A retrospective on the PRAGMA/GLEON lake expedition. Keynote oral presentation, PRAGMA 35, Penang, Malaysia, October 2018.

Carey, C.C. Quantifying the effects of climate and management on ecosystem dynamics in drinking water reservoirs. Tenure Seminar. Biological Sciences, Virginia Tech, Blacksburg, Virginia, August 2018.

Ward, N.K.[G], B. Steele, K.C. Weathers, K.L. Cottingham, H.A. Ewing, P.C. Hanson, R. Wood, J. Fichter, and **C.C. Carey.** The relative importance of land use and climate

drivers of phytoplankton biomass in an oligotrophic lake varies seasonally. Oral presentation. Ecological Society of America, New Orleans, Louisiana, August 2018.

Farrell[P], K.J., **C.C. Carey**, A.I. Krinos[U], N.K. Ward[G], P.C. Hanson, R.J. Figueiredo, V. Daneshmand[G], and K. Subratie[G]. Increasing air temperatures differentially alter intra- and inter-annual nitrogen and phosphorus cycling in a eutrophic and an oligotrophic lake. Oral presentation. Ecological Society of America, New Orleans, Louisiana, August 2018.

Farrell[P], K.J., and **C.C. Carey.** Integrating simulation modeling into ecology curricula through hands-on teaching modules increases undergraduate students' understanding of macrosystems ecology. Oral presentation. Ecological Society of America, New Orleans, Louisiana, August 2018.

Cottingham, K.L., N.K.Ward[G], B. Steele, H.A. Ewing, K.C. Weathers, and **C.C. Carey**. Cyanobacterial blooms in oligotrophic Lake Sunapee, NH and their implications for lake phosphorus cycles. Oral presentation. Ecological Society of America, New Orleans, Louisiana, August 2018.

McClure[G], R.P., M.E. Lofton[G], K.M. Krueger[G], S. Chen[G], J.C. Little, M.E. Schreiber, and **C.C. Carey**. Hypolimnetic oxygenation increases methane ebullition in a eutrophic drinking water reservoir. Oral presentation. Association for the Society of Limnology and Oceanography, Victoria, British Columbia, June 2018.

Lofton, M.E.[G], D. Howard[U], R.P. McClure[G], and **C.C. Carey**. Whole-ecosystem mixing experiments suggest storms increase cyanobacterial recruitment from the sediments to the water column. Oral presentation. Association for the Society of Limnology and Oceanography, Victoria, British Columbia, June 2018.

Brentrup, J.A., D.C. Richardson, **C.C. Carey**, N.K. Ward[G], D.A. Bruesewitz, and K.C. Weathers. The importance of ice-on and ice-off periods for driving under-ice metabolism dynamics in an oligotrophic lake. Oral presentation. Association for the Society of Limnology and Oceanography, Victoria, British Columbia, June 2018.

Ward, N.K.[G], B. Steele, K.C. Weathers, K.L. Cottingham, H.A. Ewing, P.C. Hanson, R. Wood, J. Fichter, and **C.C. Carey.** Land use versus climate drivers of algal production in an oligotrophic lake: it depends on season. Oral presentation. University Council on Water Resources. Pittsburgh, Pennsylvania, June 2018.

Farrell[P], K.J., **C.C. Carey**, A.I. Krinos[U], N.K. Ward[G], P.C. Hanson, R.J. Figueiredo, V. Daneshmand[G], and K. Subratie[G]. GRAPLEr platform enables whole-ecosystem simulation modeling to increase understanding of climate change impacts on lake nutrient cycling. Poster presentation. PRAGMA 34 conference, Tokyo, Japan, May 2018.

Cottingham, K.L., N.K.Ward[G], B. Steele, H.A. Ewing, K.C. Weathers, and **C.C. Carey**. Cyanobacterial blooms in oligotrophic Lake Sunapee, NH and their implications for lake phosphorus cycles. Poster presentation. Society for Freshwater Science, Detroit, Michigan, May 2018.

Birgand, F., B. Allen, C.-W. Lin, R. Etheridge, and **C.C. Carey**. Generating water quality rating curves using in situ spectrophotometers. Oral presentation. European Geophysical Union. Vienna, Austria, April 2018.

Carey, C.C., R.J. Figueiredo, R.Q. Thomas, F. Birgand, J.C. Little, M.E. Schreiber, and M.G. Sorice. Resilient water systems: Integrating environmental sensor networks

and real-time forecasting to adaptively manage water quality and build social trust. Poster presentation. National Science Foundation Smart and Connected Communities Principal Investigator Meeting. Kansas City, Missouri, March 2018.

Lofton, M.E.[G], R.P. McClure[G], S. Chen[G], J.C. Little, and **C.C. Carey**. Phytoplankton community composition determines the effectiveness of epilimnetic mixing systems. Oral presentation. Virginia Water Conference, Richmond, Virginia, March 2018.

McClure, R.P.[G], M.E. Lofton[G], K.M. Krueger[G], M.E. Schreiber, and **C.C. Carey**. Hypolimnetic oxygenation may increase methane bubble fluxes in a eutrophic drinking water reservoir. Oral presentation. Virginia Water Conference, Richmond, Virginia, March 2018.

Farrell, K.J.[P], and **C.C. Carey**. Macrosystems EDDIE: Developing the first macrosystems ecology curriculum for undergraduates using modeling, sensor data, and R. National Science Foundation Macrosystems Biology Principal Investigator Meeting. Invited oral presentation. Arlington, Virginia, January 2018.

Farrell, K.J.[P], and **C.C. Carey**. Macrosystems EDDIE: Introducing undergraduate students to macrosystems ecology and simulation modeling through hands-on teaching modules. Poster presentation. Arlington, Virginia, January 2018.

2017 **Carey, C.C.,** R.J. Figueiredo, R.Q. Thomas, F. Birgand, J.C. Little, M.E. Schreiber, and M.G. Sorice. Integrating environmental sensor networks and real-time forecasting to adaptively manage drinking water quality and build social trust. Poster presentation. 19th GLEON meeting, Mohonk, New York, November 2017.

Farrell, K.J.[P], and **C.C. Carey**. Macrosystems EDDIE: Introducing undergraduate students to macrosystems ecology and simulation modeling through hands-on teaching modules. Poster presentation. 19th GLEON meeting, Mohonk, New York, November 2017.

Doubek[G], J.P., K.L. Campbell[U], K.M. Doubek, M.E. Lofton[G], R.P. McClure[G], N.K. Ward[G], and **C.C. Carey**. Oxygen-induced trade-offs on zooplankton diel vertical migration: caught between fish and an anoxic place. Poster presentation. 19th GLEON meeting, Mohonk, New York, November 2017.

McClure[G], R.P., L.J. Finegold[U], S. Chen[G], M.E. Lofton[G], K.M. Krueger[G], M.E. Schreiber, and **C.C. Carey**. Methane ebullition rates increase in response to hypolimnetic oxygenation in a eutrophic reservoir. Poster presentation. 19th GLEON meeting, Mohonk, New York, November 2017.

Lofton, M.E.[G], R.P. McClure[G], S. Chen[G], K. Krueger[U], M. Scheiber, J.C. Little, and **C.C. Carey**. Storms can both stimulate and inhibit phytoplankton communities: lessons from a whole-ecosystem lake mixing experiment. Poster presentation. 19th GLEON meeting, Mohonk, New York, November 2017.

Ward, N.K.[G], B. Steele, K.C. Weathers, K.L. Cottingham, H.A. Ewing, P.C. Hanson, R. Wood, J. Fichter, and **C.C. Carey.** Improving lake water quality with citizen scientists, high-frequency sensors, and ecosystem modeling. Poster presentation. 19th GLEON meeting, Mohonk, New York, November 2017.

Subratie, K.[G], R. Figueiredo, **C.C. Carey**, and P.C. Hanson. GRAPLEr: a distributed collaborative environment for lake ecosystem modeling. Oral presentation. 33rd PRAGMA Conference. Brisbane, Australia, October 2017.

Carey, C.C., A.I. Krinos[U], K.J. Farrell[P], J. Sukumar[G], K. Subratie[G], A. Hetherington[P],

P.C. Hanson, and R. Figueiredo. Simulation modeling reveals non-linear lake water quality responses to climate and land use change. Oral presentation. Ecological Society of America Conference, Portland, Oregon, August 2017.

Carey, C.C., R.D. Gougis, D.C. Richardson, J.L. Klug, and C.M. O'Reilly. Integrating high-frequency sensor data into undergraduate classrooms builds quantitative analysis and modeling skills. Oral presentation. Ecological Society of America Conference, Portland, Oregon, August 2017.

Cottingham, K.L., **C.C. Carey**, M.L. Greer, H.A. Ewing, and K.C. Weathers. Complex life cycles alter forecasts of cyanobacterial responses to global climate change. Oral presentation. Ecological Society of America Conference, Portland, Oregon, August 2017.

Lofton, M.E.[G], R.P. McClure [G], S. Chen [G], C.W. Harrell[U], K. Krueger[U], M. Scheiber, J.C. Little, and **C.C. Carey**. Storms can both stimulate and inhibit phytoplankton communities: lessons from a whole-ecosystem lake mixing experiment. Oral presentation. Ecological Society of America Conference, Portland, Oregon, August 2017.

Ward, N.K.[G], B. Steele, K.C. Weathers, K.L. Cottingham, H.A. Ewing, P.C. Hanson, R. Wood, J. Fichter, and **C.C. Carey.** Identifying early warning indicators of eutrophication in an oligotrophic lake with messy data, ecosystem modeling, committed citizen scientists, and remote sensing to inform real-world management. Oral presentation. Ecological Society of America Conference, Portland, Oregon, August 2017.

Doubek[G], J.P., K.L. Campbell[U], K.M. Doubek, K.D. Hamre[G], C.W. Harrell, M.E. Lofton[G], R.P. McClure[G], N.K. Ward[G], and **C.C. Carey**. Hypoxia-induced trade-offs on zooplankton vertical distribution and community structure in reservoirs. Oral presentation. Ecological Society of America Conference, Portland, Oregon, August 2017.

McClure[G], R.P., M.E. Lofton[G], K.D. Hamre[G], B.R. Niederlehner, Z.W. Munger[G], S. Chen[G], J.P. Doubek[G], M.E. Schreiber, and **C.C. Carey**. Metalimnetic oxygen minimum zones decouple diffusive CH4 and CO2 fluxes from seasonal turnover in a eutrophic reservoir. Oral presentation. Ecological Society of America Conference, Portland, Oregon, August 2017.

C.C. Carey, and N.K. Ward.[G] Overview to CNH-Lakes project, Sunapee modeling, and data collation. Oral presentation. CNH-NASA Scientist Meeting, Lake Sunapee Protective Association, Sunapee, NH, June 2017.

Chen, S.[G], R.P. McClure[G], M. Lofton[G], C. Lei, **C.C. Carey**, and J.C. Little. Impact of artificial mixing on water quality in a drinking water reservoir. Oral presentation. International Water Association (IWA) Lake and Reservoir Conference. Shanghai, China, May 2017.

Lofton, M.E.[G], R.P. McClure [G], S. Chen [G], C.W. Harrell[U], K. Krueger[U], M. Scheiber, J.C. Little, and **C.C. Carey**. Storms can both stimulate and inhibit phytoplankton communities: lessons from a whole-ecosystem lake mixing experiment. Oral and poster presentation. 32nd PRAGMA Conference. Gainesville, FL, April 2017.

Krinos[U], A.I., R.J. Figueiredo, P.C. Hanson, A.L. Hetherington[P], K. Subratie[G], J. T. Sukumar[G], and **C.C. Carey**. Numerical simulation modeling coupled to the GRAPLEr distributed computing platform provides insight into lake water quality

responses to climate and land use change. Oral and poster presentation. 32nd PRAGMA Conference, Gainesville, FL, April 2017.

Ward[G], N.K., B. Steele, K.C. Weathers, K.L. Cottingham, H.A. Ewing, P.C. Hanson, R. Wood, J. Fichter, and **C.C. Carey**. Identifying early warning indicators of eutrophication to inform real-world management: engaging long-term datasets, ecosystem modeling, committeed citizen scientists, and remote sensing. Oral and poster presentation. 32nd PRAGMA Conference, Gainesville, FL, April 2017.

McClure[G], R.P., M.E. Lofton[G], S. Chen[G], N.K. Ward[G], J.P. Doubek[G], C.W. Harrell[U], K. Krueger[U], B.R. Niederlehner, M.E. Schreiber, and **C.C. Carey**. Management alters carbon dioxide and methane dynamics within drinking water reservoirs. Oral and poster presentation. 32nd PRAGMA Conference, Gainesville, FL, April 2017.

Doubek[G], J.P., K.L. Campbell[U], K.M. Doubek, K.D. Hamre[G], C.W. Harrell, M.E. Lofton[G], R.P. McClure[G], N.K. Ward[G], and **C.C. Carey**. Hypoxia-induced trade-offs on zooplankton vertical distribution and community structure in reservoirs. Oral and poster presentation. 32nd PRAGMA Conference, Gainesville, FL, April 2017.

Doubek[G], J.P., M. Lavender[G], A.K. Winegardner[G], M. Beaulieu[G], P.T. Kelly[G], **C.C. Carey**, A.I. Pollard, D. Straile, and J.D. Stockwell. Reservoir discharge and management are important drivers of zooplankton community structure across the continental United States. Oral presentation. Virginia Water Conference. Richmond, VA, March 2017.

McClure[G], R.P., M.E. Lofton[G], S. Chen[G], N.K. Ward[G], J.P. Doubek[G], C.W. Harrell[U], K. Krueger[U], B.R. Niederlehner, M.E. Schreiber, and **C.C. Carey**. Oral presentation. Management alters carbon dioxide and methane dynamics within drinking water reservoirs. Virginia Water Conference. Richmond, VA, March 2017.

Lofton, M.E.[G], R.P. McClure [G], S. Chen [G], C.W. Harrell[U], K. Krueger[U], M. Scheiber, J.C. Little, and **C.C. Carey**. Effects of epilimnetic mixing on algal populations. Oral presentation. Virginia Water Conference. Richmond, VA, March 2017.

Stockwell, J.D., O. Anneville, V. Patel, A. Looi, **C.C. Carey**, G. Dur, B. Ibelings, S. MacIntyre, G. Morabito, P. Noges, D. Pierson, J. Rusak, S. Souissi, D. Straile, and S. Thackeray. Global evaluation of the impacts of storms on freshwater habit and structure of phytoplankton assemblages. Oral presentation. Association for the Sciences of Limnology & Oceanography (ASLO). Honolulu, HI, February 2017.

Cottingham, K.L., C.C. Carey, K.C. Weathers, M. Eliassen, H.A. Ewing, and M.L. Greer. Cyanobacterial blooms in oligotrophic Lake Sunapee and their implications for lake phosphorus cycles. Oral presentation. NH Water & Watersheds Conference. Concord, NH, February 2017.

2016 Chen[G], S., C. Lei, **C.C. Carey** and J.C. Little. Modelling the effect of artificial mixing on thermal stability and substance transport in a drinking-water reservoir using a 3D hydrodynamic model. Oral presentation. 20th Australasian Fluid Mechanics Conference. Perth, Australia, December 2016.

Meixner, T., R.D. Gougis, C. O'Reilly, J. Klug, D. Richardson, D. Castendyk, **C.C. Carey**, N. Bader, J. Stromberg, and D. Soule. Environmental data-driven inquiry and exploration (EDDIE)- water-focused modules for interacting with big hydrologic data. Oral presentation. American Geophysical Union. San Francisco, California, December 2016.

McClure[G], R.P., **C.C. Carey**, A.B. Gerling[G], J.P. Doubek[G], M. Schreiber, P. Gantzer, J.

Little, and J. Morris. Controlling water quality with hypolimnetic oxygenation in a small, eutrophic reservoir. Oral presentation. Virginia WaterJAM, Virginia Water Environment Association, Virginia Beach, VA, September 2016.

Weathers, K.C., **C.C. Carey**, P.C. Hanson, and M.L. Borre. Freshwater ecosystem conservation: a U.S. perspective. Oral presentation. Global Water Conference, Chuncheon, South Korea, September 2016.

Chen[G], S., C. Lei, A.B. Gerling[G], C.C. Carey, and J.C. Little. Effect of hypolimnetic oxygenation and epilimnetic mixing on water quality in a eutrophic reservoir. Oral presentation. International Water Association Lake and Reservoir Conference. Shanghai, China, September 2016.

Cottingham, K.L. and **C.C. Carey.** Managing multiple stressors: applying the exposome concept from human health to freshwater lakes. Oral presentation. Ecological Society of America conference, Fort Lauderdale, FL, August 2016.

Ibelings, B.W., E. Mantzouki[G], A. Gsell[G], M. Dionisio-Pires, A. Rigosi, J. Brookes, and **C.C. Carey**. Cyanobacterial blooms: what you see is what you get? Oral presentation. 2016 EcoSummit Congress, Montpellier, France, August 2016.

Ward[G], N.K., and **C.C. Carey**. Sunapee GLM: personal introduction and future research ideas. Oral presentation. Lake Sunapee Protective Association, Sunapee, NH, August 2016.

Carey, C.C. and N.K. Ward[G]. Overview to CNH-Lakes project, Sunapee modeling, and data collation. Oral presentation. Lake Sunapee Protective Association, Sunapee, NH, August 2016.

Chen[G], S., C. Lei, **C.C. Carey** and J.C. Little. Predicting the performance of an epilimnetic bubble-plume mixer in a shallow reservoir using a three-dimensional hydrodynamic model. Oral presentation. Australasian Heat and Mass Transfer Conference. Brisbane, Australia, July 2016.

Carey, C.C., R.D. Gougis, D.C. Richardson, J.L. Klug, and C.M. O'Reilly. Integrating high-frequency limnology data and distribute computing into undergraduate classrooms builds quantitative analysis and modeling skills. Oral presentation. Association for the Sciences of Limnology & Oceanography (ASLO), Santa Fe, NM, June 2016.

Hamre[G], K.D., A.B. Gerling[G], Z.W. Munger[G], J.P. Doubek[G], R.P. McClure[G], K.L. Cottingham, and **C.C. Carey**. Spatial and temporal variability in algal recruitment rates along a reservoir continuum. Oral presentation. Association for the Sciences of Limnology & Oceanography (ASLO), Santa Fe, NM, June 2016.

Cottingham, K.L., **C.C. Carey**, M. Eliassen, H.A. Ewing, M.L. Greer, and K.C. Weathers. Leveraging high-frequency measurements to understand and predict seasonal cyanobacterial blooms in an oligotrophic lake. Oral presentation. Association for the Sciences of Limnology & Oceanography (ASLO), Santa Fe, NM, June 2016.

Hanson, P.C., **C.C. Carey**, and H.A. Dugan. Exploring the controls over carbon storage and emission in lakes through simulation models. Oral presentation. Association for the Sciences of Limnology & Oceanography (ASLO), Santa Fe, NM, June 2016.

Doubek[G], J.P., K.A. Bierlein[G], K.L. Campbell[U], A.B. Gerling[G], K.D. Hamre[G], R.P. McClure[G], Z.W. Munger[G], R.J. Figueiredo, P.C. Hanson, and **C.C. Carey**. Hypoxia-induced trade-offs on zooplankton vertical distribution and community

structure in reservoirs. Poster presentation, 18th GLEON meeting, Gaming, Austria, July 2016.

McClure[G], R.P., J.P. Doubek[G], K.D. Hamre[G], M.E. Lofton[G], Z.W. Munger[G], B. Niederlehner, and **C.C. Carey**. Metalimnetic oxygen minima accumulate methane in the water column and alter greenhouse gas efflux phenology from a eutrophic reservoir. Poster presentation, 18th GLEON meeting, Gaming, Austria, July 2016.

Rigosi, A., **C.C. Carey**, B.W. Ibelings, and J.D. Brookes. Toxic blooms: towards improved predictions or more detailed dynamic simulations? Oral presentation, SIL meeting, Torino, Italy, July 2016.

Carey, C.C., A.L. Hetherington, R. Figueiredo, and P.C. Hanson. GRAPLE: GLEON Research and PRAGMA Lake Expedition. Oral presentation, 18th GLEON meeting, Gaming, Austria, July 2016.

Hetherington[P], A.L., **C.C. Carey**, K.M. Cobourn, R.J. Figueiredo, and P.C. Hanson. 2016. Modeling effects of human decision-making on lakes in coupled human natural systems. Poster presentation, 18th GLEON meeting, Gaming, Austria, July 2016.

Chen[G], S., C. Lei, **C.C. Carey** and J.C. Little. Predicting hypolimnetic oxygenation and epilimnetic mixing in a shallow eutrophic reservoir using a coupled three-dimensional hydrodynamic model. Oral presentation, Physical Processes in Natural Waters (PPNW), Bath, England, July 2016.

Hanson, P.C., R. Figueiredo, **C.C. Carey**, and J.S. Read. A new era of freshwater science: How research network collaborations and federal agencies are changing how we study lakes and reservoirs. Oral presentation, National Science Foundation, Arlington, VA, May 2016.

Doubek[G], J.P., A.B. Gerling[G], R.P. McClure[G], Z.W. Munger[G], P.A. Gantzer, J.C. Little, and **C.C. Carey**. Hypoxia-induced trade-offs on zooplankton vertical distribution and community structure in Virginia reservoirs. Oral presentation, Virginia Water Conference, Richmond, VA, March 2016.

McClure[G], R.P., K.D. Hamre[G], Z.W. Munger[G], B. Niederlehner, and **C.C. Carey**. Dynamic responses of greenhouse gases to water quality management in a eutrophic reservoir. Oral presentation, Virginia Water Conference, Richmond, VA, March 2016.

Hanson, P.C., **C.C. Carey**, R. Figueiredo, and K. Subratie[G]. New discoveries in the GLEON-PRAGMA Lake Expedition: modeling advances and scaling up. Oral presentation. PRAGMA meeting, Manila, Philippines, January 2016.

2015 Soule, D., N. Bader, **C.C. Carey**, D. Castendyk, R. Fuller, C. Gibson, R.D. Gougis, J. Klug, T. Meixner, L. Nave, C. O'Reilly, D.C. Richardson, and J. Stromberg[G]. Project EDDIE: Improving big data skills in the classroom. Oral presentation. American Geophysical Union (AGU), San Francisco, CA, December 2015.

Brookes, J.A., B.W. Ibelings, C. Wickramaratne[G], **C.C. Carey**, and A. Rigosi. Climate change and cyanobacteria: managing the risk in lakes. Keynote address. Plankton Ecology Group (PEG) conference, Guangzhou, China, November 2015.

Chen[G], S., A.B. Gerling[G], J.C. Little, C. Lei, and **C.C. Carey**. Effects of side-stream hypolimnetic oxygen on the hydrodynamics of a shallow, eutrophic reservoir. Oral presentation. North American Lake Management Society (NALMS) meeting, Saratoga Springs, NY, November 2015.

Munger[G], Z.M., A.B. Gerling[G], J.P. Doubek[G], K.D. Hamre[G], **C.C. Carey**, and M.E. Schreiber. The effects of hypolimnetic oxygenation on metal release from sediments and removal from the water column in a small, eutrophic drinking water reservoir. Poster presentation. Geological Society of America (GSA), Baltimore, MD, November 2015.

Castendyk, D., N. Bader, D. Soule, T. Meixner, D. Richardson, **C.C. Carey**, R. Gougis Darner, C. Gibson, J. Klug, and C. O'Reilly. Environmental data-driven inquiry and exploration (Project EDDIE): modules that engage students in quantitative reasoning scientific discourse using large, high-frequency and sensor-based datasets. Oral presentation, Geological Society of America (GSA), Baltimore, MD, November 2015.

McClure[G], R.P., J.P. Doubek[G], Z.W. Munger[G], B.R. Niederlehner, and **C.C. Carey**. Dynamic responses of greenhouse gases to whole-ecosystem manipulations in a eutrophic reservoir. The 17th GLEON meeting, Chuncheon, South Korea, October 2015.

Hanson, P., C.C. Carey, K. Subratie, S. Aditya, and R. Figueiredo. PRAGMA Lake expedition cyberinfrastructure. PRAGMA 29 meeting, Depok, Indonesia, October 2015.

Richardson, D.C., D. Castendyk, N. Bader, **C.C. Carey**, R.D. Gougis, R. Fuller, C. Gibson, J. Klug, C. O'Reilly, and J. Stomberg[G]. Environmental data-driven inquiry and exploration (Project EDDIE): a model to engage students in quantitative reasoning and scientific discourse. Poster presentation. Ecological Society of America (ESA), Baltimore, MD, August 2015.

Gerling[G], A.B., Z.W. Munger[G], J.P. Doubek[G], K.D. Hamre[G], P.A. Gantzer, J.C. Little, and **C.C. Carey**. Whole-ecosystem manipulations of internal and external loading reveal the sensitivity of a century-old reservoir to hypoxia. Oral presentation. Ecological Society of America (ESA), Baltimore, MD, August 2015.

Hanson, P.C., H. Dugan, and **C.C. Carey**. Seasonal lake metabolism and its consequences for long-term organic carbon cycling in lakes. Oral presentation. Ecological Society of America (ESA), Baltimore, MD, August 2015.

Cottingham, K.L., **C.C. Carey**, M. Eliassen, H.A. Ewing, M.L. Greer, and K.C. Weathers. Leveraging high-frequency measurements to predict seasonal cyanobacterial blooms in an oligotrophic lake. Oral presentation. Ecological Society of America (ESA), Baltimore, MD, August 2015.

Carey, C.C., J.P. Doubek[G], A.B. Gerling[G], K.D. Hamre[G], Z.W. Munger[G], G.M. Wilkinson[G], F. Birgand, P.A. Gantzer, J.C. Little, M.L. Pace, and M.E. Schreiber. The effects of intermittent oxic-anoxic conditions on reservoir ecosystem services: a whole-ecosystem experiment. Oral presentation. Ecological Society of America (ESA), Baltimore, MD, August 2015.

Carey, C.C., Cottingham, K.L., Ewing, H.A., Greer, M.L., and K.C. Weathers. Cyanobacteria as drivers of lake nitrogen and phosphorus cycling. Oral presentation. International Water Association International Symposium on Lake and Reservoir Management, Pembroke, Virginia, August 2015.

Munger[G], Z.W, A.B. Gerling[G], **C.C. Carey**, and M.E. Schreiber. The effects of reservoir oxygenation on metal concentrations in a small, eutrophic drinking water reservoir. Oral presentation. International Water Association International Symposium on

Lake and Reservoir Management, Pembroke, Virginia, August 2015.

Gerling[G], A.B., Z.W. Munger[G], P.A. Gantzer, J.C. Little, J.P. Doubek[G], K.D. Hamre[G], and **C.C. Carey**. Nutrient release from reservoir sediments impacted by a legacy of historical agriculture practices. Poster presentation. International Water Association International Symposium on Lake and Reservoir Management, Pembroke, Virginia, August 2015.

Doubek[G], J.P., K.D. Hamre[G], A.B. Gerling[G], Z.W. Munger[G], P.A. Ganzter, J.C. Little, M.E. Schreiber, and **C.C. Carey**. Effects of reservoir anoxia on zooplankton community composition and spatial distribution. Poster presentation. International Water Association International Symposium on Lake and Reservoir Management, Pembroke, Virginia, August 2015.

McClure[G], R.P., J.P. Doubek[G], Z.W. Munger[G], B.R. Niederlehner, and **C.C. Carey**. Dynamic responses of greenhouse gases to whole-ecosystem manipulations in a eutrophic reservoir. Poster presentation. International Water Association International Symposium on Lake and Reservoir Management, Pembroke, Virginia, August 2015.

Hamre, K.D.[G], A.B. Gerling[G], R.P. McClure[G], Z.W. Munger[G], J.P. Doubek[G], and **C. C. Carey**. A tale of two reservoir ecosystem manipulations: phytoplankton responses and lessons learned. Oral presentation. International Water Association International Symposium on Lake and Reservoir Management, Pembroke, Virginia, August 2015.

Little, J.C., E. Hester, and **C.C. Carey**. A common interdisciplinary framework for assessing and enhancing sustainability. Oral presentation. International Society of Industrial Ecology (ISIE), Guildford, UK, July 2015.

Cottingham, K.L., K.C. Weathers, **C.C. Carey**, H.A. Ewing, D.C. Richardson, and M.L. Greer. Environmental thresholds: ecological concepts, models, and case studies. Gordon Research conference on Catchment Science: Interactions of Hydrology, Biology, and Geochemistry. Andover, New Hampshire, June 2015.

Figuieredo, R., K. Subratie[G], S. Aditya[G], K. Jeong[G], P.C. Hanson, **C.C. Carey**, S. Smallen, and N. Williams. IPOP: A peer-to-peer overlay virtual network. Poster presentation. The 28th Pacific Rim Applications and Grid Middleware Assembly (PRAGMA) meeting, Nara, Japan, April 2015.

Ewing, H.A., K.C. Weathers, K.L. Cottingham, P.R. Leavitt, A.U. Fiorillo[U], J.P. Sowles[U], J.E. MacKenzie[U], B.P. Quarrier[U], **C.C. Carey**, E. Rydin, and M. Greer. Watershed characteristics, climate, and in-lake dynamics in relationship to the history of *Gloeotrichia echinulata*. Geological Society of America Northeastern Section Meeting, Bretton Woods, NH, March 2015.

Doubek[G], J.P., K.D. Hamre[G], A.B. Gerling[G], Z.W. Munger[G], P.A. Gantzer, J.C. Little, M.E. Schreiber, and **C.C. Carey**. Hypolimnetic oxygenation alters planktonic community structure. Virginia Water Conference, Richmond, VA, March 2015.

Gerling[G], A.B., R. Browne[G], P.A. Gantzer, M.H. Mobley, J.C. Little, and **C.C. Carey**. External nutrient loads must be managed when controlling internal nutrient loads via hypolimnetic oxygenation. Virginia Water Conference, Richmond, VA, March 2015.

Gantzer, P.A., A.B. Gerling[G], **C.C. Carey**, M. Mobley, and J. Morris. Integrating micro-floc injection with hybrid oxygenation-aeration: applying a theoretical approach to

combat external nutrient loading. Virginia Water Conference, Richmond, VA, March 2015.

Carey, C.C., J.P. Doubek[G], A.B. Gerling[G], K.D. Hamre[G], Z.W. Munger[G], G.M. Wilkinson[G], P.A. Gantzer, J.C. Little, M.L. Pace, and M.E. Schreiber. Whole-ecosystem oxygenation demonstrates that episodic anoxic events promote internal loading of metals and carbon burial in a eutrophic reservoir. Oral presentation. Association for the Sciences of Limnology and Oceanography (ASLO), Granada, Spain, February 2015.

Rigosi, A., **C.C. Carey**, B.W. Ibelings, and J.D. Brookes. Cyanobacteria: can nutrient reduction offset temperature release? Oral presentation. Association for the Sciences of Limnology and Oceanography (ASLO), Granada, Spain, February 2015.

2014 O'Reilly, C.M., Meixner, T., Bader, B., **Carey, C.C.**, Castendyk, D., Darner, R.G., Fuller, R., Gibson, C., Klug, J., Richardson, D.C., and J. Stromberg[G]. The use of high-frequency data to engage students in quantitative reasoning and scientific discourse. Oral presentation. American Geophysical Union, San Francisco, CA, December 2014.

Gantzer, P.A., **C.C. Carey**, A.B. Gerling[G], J.C. Little, and M. Mobley. Quantifying decreased oxygen demand following several years of oxygenation. Oral presentation. North American Lake Management Society Annual Meeting, Tampa, FL, November 2014.

Hanson, P.C., **C.C. Carey**, M.R. Hipsey, and L. Bruce. Do we have the right rules for simulating phytoplankton? Oral presentation. Lake Mendota Research Group Meeting. Madison, WI, November 2014.

Carey, C.C., and P. Arzberger. Introduction to the Pacific Rim Applications and Grid Middleware Assembly. Oral presentation. NSF-sponsored workshop on "Grassroots Networks: Lessons Learned and Paths Forward." Cary Institute of Ecosystem Studies, Millbrook, NY, November 2014.

Doubek[G], J.P., **C.C. Carey,** and B.J. Cardinale. Anthropogenic land use increases N–fixing cyanobacterial dominance in lakes across the continental United States. Poster presentation. The 16th GLEON meeting, Orford, Quebec, October 2014.

Hanson, P.C., and **C.C. Carey**. GLEON-PRAGMA Science Expedition. Oral presentation. The 16th GLEON meeting, Orford, Quebec, October 2014.

Gerling, A.B.[G], R.G. Browne[G], P.A. Gantzer, M.H. Mobley, J.C. Little, and **C.C. Carey**. Whole-ecosystem hypolimnetic oxygenation suppresses internal nutrient loading in a eutrophic reservoir. Poster Presentation. The 16th GLEON meeting, Orford, Quebec, October 2014.

Hamre, K.D.[G], A.B. Gerling[G], and **C.C. Carey**. Effects of hypolimnetic oxygenation on the biology of a eutrophic reservoir. Poster presentation. The 16th GLEON meeting, Orford, Quebec, October 2014.

De Senerpont Domis, L.N., O. Anneville, S. Bertilsson, J. Brentrup[G], J. Brookes, L. Bruce, **C.C. Carey,** K. Chiu, J. Christensen, D. de Motta Marques, E. de Eyto, E.E. Gaiser, N. Gallina, S. Fey, P. Hanson, N. Hayes[G], A. Hetherington[G], L. Hislop, B.W. Ibelings, K. Kango, L. Knoll, A. Laas, V. McCarthy[G], B. Mette, A. Mulvhill, K. Muraoka[G], E. Nodine[G], M. Perga, A. Rigosi, J. Rusak, E. Ryder[G], A. Santoso[G], G. Valerio[G], C. Wickramarante[G], Y. Yang[G], and V. Veerkamp[G]. Spring Blitz:

Linking changes in water stability to plankton diversity. Oral presentation. The 16th GLEON meeting, Orford, Quebec, October 2014.

Snortheim[G], C., Hanson, P.C., McMahon, K.D., Read, J.S., Winslow, L., **Carey, C.C.**, Figueiredo, R., and L.C. Bruce. Response of anoxia and phytoplankton concentrations in Lake Mendota to seasonally and diurnally asymmetric changes in climate drivers. Poster presentation. 16th GLEON meeting, Orford, Quebec, October 2014.

Carey, C.C., O'Reilly, C.M., Richardson, D.C., Klug, J.L., Bader, N., Castendyk, D. Fuller, R., Gibson, C., Darner, R.G., Meixner, T., Stromberg, J.[G], and K.C. Weathers. A new undergraduate education project using GLEON data: the use of high-frequency data to engage students in quantitative reasoning and scientific discourse. Oral presentation. 16th GLEON meeting, Orford, Quebec, October 2014.

Castendyk, D., Bader, B., **Carey, C.C.**, Darner, R.G., Fuller, R., Gibson, C., Klug, J., Meixner, T., O'Reilly, C.M., and D.C. Richardson. The use of high-frequency data to engage students in quantitative reasoning and scientific discourse. Poster presentation. The 16th GLEON meeting, Orford, Quebec, October 2014.

Figueiredo, R., Subratie, K., Hanson, P.C., Snortheim, C. [G], Doubek, J.P. [G], and **C.C. Carey**. PRAGMA/GLEON Lake Expedition HTCondor Overlay Network. The 27th Pacific Rim Applications and Grid Middleware Assembly (PRAGMA) meeting, Bloomington, Indiana, October 2014.

Doubek[G], J.P., **Carey, C.C.**, and B.J. Cardinale. Anthropogenic land use increases N–fixing cyanobacterial dominance in lakes across the continental United States. Poster presentation. The 27th Pacific Rim Applications and Grid Middleware Assembly (PRAGMA) meeting, Bloomington, Indiana, October 2014.

Castendyk, D., Bader, B., **Carey, C.C.**, Darner, R.G., Fuller, R., Gibson, C., Klug, J., Meixner, T., O'Reilly, C.M., and D.C. Richardson. The use of high-frequency data to engage students in quantitative reasoning and scientific discourse. Poster presentation. Geological Society of America, Vancouver, BC, October 2014.

Carey, C.C., Hopkins, W.A., Little, J.C., Schreiber, M.E., and R.Q. Thomas. Managing human needs and ecosystem services in a drinking water reservoir confronted with global change. Oral presentation. Global Change Center Overview, Blacksburg, VA, September 2014.

Carey, C.C., Hopkins, W.A., and J.C. Little. Protecting long-term water quality for Roanoke: managing iron, manganese, and cyanotoxins in Carvins Cove. Oral presentation. Wells Fargo Foundation, Blacksburg, VA, August 2014.

Carey, C.C., Richardson, D.C., and Klug, J.L. Connecting high-frequency and long term data with traditional undergraduate lab activities to build quantitative reasoning and limnology literacy. Oral presentation. Transforming Undergraduate Education in STEM workshop, New Paltz, NY, July 2014.

Carey, C.C., Hopkins, W.A., and J.C. Little. Protecting long-term water quality for Roanoke: managing iron, manganese, and cyanotoxins in Carvins Cove. Oral presentation. Coca-Cola Foundation, Blacksburg, VA, August 2014.

Gerling[G], A.B., Doubek[G], J.P., and **C.C. Carey**. Maintaining high water quality in Roanoke reservoirs. Oral presentation. Coca-Cola Consolidated Bottling Company, Roanoke, VA, June 2014.

Doubek[G], J.P. and **C.C. Carey.** Phytoplankton communities are more likely to positively

respond to increased temperatures and nutrients in natural lakes than man-made reservoirs. Oral presentation. Association for the Society of Limnology and Oceanography, Portland, OR, May 2014.

Gerling[G], A.B., Browne[G], R.G., Gantzer, P.A., Little, J.C., and **C.C. Carey.** Whole-ecosystem hypolimnetic oxygenation suppresses internal nutrient loading and stimulates algal growth in a eutrophic reservoir. Oral presentation. Association for the Society of Limnology and Oceanography, Portland, OR, May 2014.

Richardson, D.C., Klug, J.L., and **C.C. Carey**. Connecting high-frequency and long term data with traditional undergraduate lab activities to build quantitative reasoning and limnology literacy. Oral presentation. Association for the Society of Limnology and Oceanography, Portland, OR, May 2014.

Sokol, E., Tornwall[G], B., **Carey, C.C.,** B. Brown, B.L., and C.M. Swan. Linking management to biodiversity in built ponds by coupling field surveys with metacommunity dynamics. Oral presentation. Association for the Society of Limnology and Oceanography, Portland, OR, May 2014.

Cottingham, K.L., Wood, Z., Eliassen, M., Herren, C.M., Greer, M.L., Ewing, H.A., **Carey, C.C**., and K.C. Weathers. Density-dependence in cyanobacteria? Population dynamics of *Gloeotrichia echinulata* at daily time scales. Oral presentation. Association for the Society of Limnology and Oceanography, Portland, OR, May 2014.

Hanson, P.C., **Carey, C.C**., Hu, Y.H., and K. Muraoka. Patterns in lake dynamics: do simulations and sensor networks speak the same language? Oral presentation. Association for the Society of Limnology and Oceanography, Portland, OR, May 2014.

O'Reilly, C.M., Darner, R., **Carey, C.C**., Richardson, D.C., and K.C. Weathers. The use of high-frequency data to engage students in quantitative reasoning and scientific discourse. Oral presentation. Association for the Society of Limnology and Oceanography, Portland, OR, May 2014.

Hanson, P.C., **Carey, C.C**., Figueirdo, R., Snortheim, C.*, and L. Winslow*. PRAGMA expedition: lake eutrophication. Oral presentation. The 26th Pacific Rim Applications and Grid Middleware Assembly (PRAGMA) meeting, Tainan, Taiwan, April 2014.

Figueirdo, R., Hanson, P.C., and **C.C. Carey**. IPOP overlay and lake ecology expedition. Oral presentation. The 26th Pacific Rim Applications and Grid Middleware Assembly (PRAGMA) meeting, Tainan, Taiwan, April 2014.

Bruesewitz, D.A., **Carey, C.C.**, Richardson, D.C., and K.C. Weathers. Lake Sunapee on ice: lessons from coupling citizen science and high-frequency buoy data. Oral presentation. Maine Water and Sustainability Conference, Augusta, ME, April 2014.

Gerling[G], A.B., Browne[G], R.G., Gantzer, P.A., Mobley, M., Little, J.C., and **C.C. Carey**. The viability of hypolimnetic oxygenation and its effects on nutrient cycling in a shallow, eutrophic drinking water reservoir. Oral presentation. Virginia Water Conference, Richmond, VA, March 2014.

Mobley, M., **Carey, C.C.,** Gantzer, P.A., Gerling[G], A.B., Grizzard, T.J., Prelewicz, G.J., and N. Saji. Hypolimnetic oxygenation system installation and operation in five Virginia water supply reservoirs. Oral presentation. Virginia Water Conference,

Richmond, VA, March 2014.

Gantzer, P.A., Little, J.C., Benninger, B., Mobley, M., Saji, N., Gerling[G], A.B., and **C.C. Carey.** Oxygenation design: developing a strategy to accommodate the uncertainty from induced oxygen demand. Oral presentation. Virginia Water Conference, Richmond, VA, March 2014.

Carey, C.C., Gantzer, P.A., Mobley, M., Gerling, A.B.*, Morris, J., and C. Edwards. Aeration, oxygenation, or both? A demonstration of how these dual strategies are being integrated to improve water quality. Oral presentation. Virginia Water Conference, Richmond, VA, March 2014.

Carey, C.C. Global Lakes Ecological Observatory Network (GLEON): an international, grassroots collaboration to study and improve water quality worldwide. Oral presentation. Dean's Forum on Global Engagement, Virginia Tech, Blacksburg, VA, March 2014.

Carey, C.C., Brown, B.L., Sokol, E.R., and C.M. Swan. Using a paleolimnological approach to explore biodiversity over time in Baltimore urban ponds. Oral presentation. Baltimore Ecosystem Study Long-term Ecological Research Quarterly Meeting. Columbia, MD, January 2014.

Brown, B.L., **Carey, C.C.,** Sokol, E.R., and C.M. Swan. Effects of management on aquatic biodiversity in the urban hydroscape. Oral presentation. Baltimore Ecosystem Study Long-term Ecological Research Quarterly Meeting. Columbia, MD, January 2014.

Bruesewitz, D.A., **Carey, C.C.,** Richardson, D.C., and K.C. Weathers. The evolution of synergistic science using Lake Sunapee buoy data: a case study of collaborative, high-frequency data analysis. Oral presentation. Lake Sunapee Protective Association Board Meeting, Sunapee, NH, January 2014.

Carey, C.C., Cottingham, K.L., Weathers, K.C., Ewing, H.A., and M.L. Greer. What factors control *Gloeotrichia* recruitment into the water column? Oral presentation. Lake Sunapee Protective Association Board Meeting, Sunapee, NH, January 2014.

2013 Veerkamp[G], V., O. Anneville, S. Bertilsson, J. Brentrup[G], J. Brookes, L. Bruce, **C.C. Carey,** K. Chiu, J. Christensen, D. de Motta Marques, E. de Eyto, E.E. Gaiser, N. Gallina, S. Fey, P. Hanson, N. Hayes[G], A. Hetherington[G], L. Hislop, B.W. Ibelings, K. Kango, L. Knoll, A. Laas, V. McCarthy[G], B. Mette, A. Mulvhill, K. Muraoka[G], E. Nodine[G], M. Perga, A. Rigosi, J. Rusak, E. Ryder[G], A. Santoso[G], G. Valerio[G], C. Wickramarante[G], Y. Yang[G], and L. Senerpont Domis. Spring Blitz: linking changes in water stability to plankton diversity. Oral presentation. The 15th GLEON meeting, Bahia Blanca, Argentina, November 2013.

Bruesewitz, D.A, **Carey, C.C.,** Richardson, D.C., and K.C. Weathers. The evolution of synergistic science using Lake Sunapee buoy data: a case study of collaborative, high-frequency data analysis. Oral presentation. The 15th GLEON meeting, Bahia Blanca, Argentina, November 2013.

Carey, C.C., Gerling[G], A.B., Browne[G], R.G., Gantzer, P.A., and J.C. Little. Falling Creek Reservoir (Virginia, USA): a dynamic new GLEON site. Oral presentation. The 15th GLEON meeting, Bahia Blanca, Argentina, November 2013.

Doubek[G], J.P., and **Carey, C.C**. Different physical, chemical and human use properties promote higher dominance of N–fixing, potentially toxic cyanobacteria in reservoirs compared to natural lakes. Poster presentation. The 15th GLEON

meeting, Bahia Blanca, Argentina, November 2013.

Sokol, E., Tornwall[G], B., **Carey, C.C.,** B. Brown, B.L., and C.M. Swan. Linking management to metacommunity dynamics in ponds. Oral presentation. Baltimore Ecosystem Study LTER Annual Meeting, Baltimore, Maryland, October 2013.

Gantzer, P.A., Mobley, M., Gerling[G], A.B., and **C.C. Carey.** Combining super saturation and aeration for water quality control in a small water-supply reservoir. Oral presentation. North American Lake Management Society Annual Meeting, San Diego, California, October 2013.

Carey, C.C., Hanson, P.C., Lathrop, R.C. and St. Amand, A. Altered periodicity in long-term phytoplankton dynamics in response to drought. Oral presentation. Ecological Society of America, Minneapolis, Minnesota, August 2013.

Carey, C.C., and Lind, E.M. At the hub: lessons learned by early-career ecologists in grassroots research networks. Oral presentation. Ecological Society of America, Minneapolis, Minnesota, August 2013.

Cottingham, K.L., **Carey, C.C.,** Weathers, K.C., Ewing, H.A., and Greer, M.L. Spatial and temporal variability in the recruitment of the cyanobacterium *Gloeotrichia echinulata* in an oligotrophic lake. Oral presentation. Ecological Society of America, Minneapolis, Minnesota, August 2013.

Ibelings, B.W., Rigosi, A, **Carey, C.C.,** Brookes, J.D., and I. Chorus. Warmer, bloomier, riskier, more regulated?. Oral presentation. International Society of Limnology, Budapest, Hungary, August 2013.

Carey, C.C., Weathers, K.C., Ewing, H.A., Greer, M.L., and Cottingham, K.L. Spatial and temporal variability in the recruitment of the cyanobacterium *Gloeotrichia echinulata* in an oligotrophic lake. Oral presentation. Society of Freshwater Science, Jacksonville, Florida, May 2013.

2012 **Carey, C.C.,** Read, E.K., Read, J.S., Winslow, L.A., Chiu, K., Doan, A., Hipsey, M., Lin, F.-P., Livny, M., Wu, C., and Hanson, P.C. From site science to network science: using cyberinfrastructure to translate lake sensor data into ecological knowledge. Poster presentation. LTER All Scientists Meeting, Estes Park, Colorado, September 2012.

Ewing, H.A., Cottingham, K.L., Weathers, K.C., Leavitt, P.R., Fiorillo, A.U., MacKenzie, J.E., Quarrier, B.P., **Carey, C.C.,** and Rydin, E. Retrospective analysis of the role of *Gloeotrichia echinulata* in mediating early lake eutrophication. Oral presentation. Ecological Society of America, Portland, Oregon, August 2012.

Cottingham, K.L., Greer, M.L., Ewing, H.A., Weathers, K.C., Lustig, A., Herren, C.M., Leonard, S., **Carey, C.C.**, Griesinger, L.M., and Traver, E. Linking population dynamics and nutrient cycling: the effect of the nuisance cyanobacterium *Gloeotrichia echinulata* on lake ecosystem resilience. Poster presentation. Ecological Society of America, Portland, Oregon, August 2012.

2011 **Carey, C.C.,** Weathers, K.C., and Cottingham, K.L. The effect of cyanobacterial blooms on lake ecosystems may be determined by trophic status. Poster presentation. The 12th GLEON meeting, Ramot, Israel, April 2011.

Carey, C.C., Cottingham, K.L., Weathers, K.C., Brentrup, J.A., Ruppetsberger, N.M., Ewing, H.A., and Hairston, Jr., N.G. Cyanobacteria are not all bad: *Gloeotrichia echinulata* may stimulate plankton food webs in nutrient-limited freshwater

ecosystems. Ecological Society of America (ESA) meeting, Austin, Texas, August 2011.

Kara, E.L., Hanson, P.C., Hamilton, D.P., Winslow, L., Hipsey, M., Rose, K.C., Read, J., **Carey, C.C.,** McMahon, K.D., Bertilsson, S., da Motta Marques, D., Gaiser, E., Miller, T.R., Beversdorf, L., Wu, C., Hsieh, Y.-F., and T.K. Kratz. Time scale dependence in numerical simulations: predicting physical, chemical, and biological patterns in Lake Mendota, WI from hours to weeks. Ecological Society of America (ESA) meeting, Austin, Texas, August 2011.

2010 **Carey, C.C.,** Weathers, K.C., and Cottingham, K.L. Cyanobacterial blooms may increase nutrient cycling and subsidize plankton food webs in oligotrophic lakes. Oral presentation. Cornell Department of Ecology & Evolutionary Biology Annual Symposium, Ithaca, New York, December 2010.

Carey, C.C., Weathers, K.C., and Cottingham, K.L. The effect of cyanobacterial blooms on lake ecosystems may be determined by trophic status. Poster presentation. The 11th GLEON meeting, Nanjing, China, October 2010.

Carey, C.C., P.C. Hanson, and T.K. Kratz. Introduction to GLEON (Global Lake Ecological Observatory Network). Plenary presentation. The 11th GLEON meeting, Nanjing, China, October 2010.

Carey, C.C., Weathers, K.C., and Cottingham, K.L. Cyanobacterial blooms may increase nutrient cycling and subsidize plankton food webs in oligotrophic lakes. Oral presentation. American Society of Limnology & Oceanography (ASLO) Meeting, Santa Fe, New Mexico, June 2010.

Cottingham, K.L., Weathers, K.C., Ewing, H.A., **Carey, C.C**., Fey, S.B., Greer, M.L., and P.R. Leavitt. Opening Pandora's box with a biotic key: can cyanobacterial blooms in nutrient-poor lakes accelerate eutrophication? American Society of Limnology & Oceanography (ASLO) Meeting, Santa Fe, New Mexico, June 2010.

Hanson, P.C., Kara, E.L., Hamilton, D.P., McMahon, K.D., Hipsey, M., Hseih, Y., **Carey, C.C.**, Rose, K.C., Winslow, L.A., and S. Bertilsson. Prediction of phytoplankton blooms: using sensor data to work at the edge of knowledge. American Society of Limnology & Oceanography (ASLO) Meeting, Santa Fe, NM, June 2010.

Kara, E.L., Hanson, P.C., McMahon, K.D., Hamilton, D.P., Hipsey, M., Bertilsson, S., Wu, C., Hseih, Y., **Carey, C.C**., and K.C. Rose. Modeling phytoplankton bloom dynamics in Lake Mendota, WI with DYRESM-CAEDYM. American Society of Limnology & Oceanography (ASLO) Meeting, Santa Fe, New Mexico, June 2010.

Carey, C.C., and P.C. Hanson. Introduction to GLEON (Global Lake Ecological Observatory Network). Plenary presentation. The 10th GLEON meeting, Torres, Brazil, May 2010.

Carey, C.C. The ecosystem effects of cyanobacterial blooms: a cross-GLEON sampling and analysis program. Poster presentation. The 10th GLEON meeting, Torres, Brazil, May 2010.

Carey, C.C. GLEON (Global Lake Ecological Observatory Network): a global perspective for the next generation of limnology. "Lunch Bunch" oral presentation. Dept. of Ecology & Evolutionary Biology, Cornell University, Ithaca, NY, April 2010.

2009 **Carey, C.C.** The ecosystem impacts of cyanobacterial blooms: a pan-GLEON sampling

and analysis program. Oral and poster presentations. The 9th GLEON meeting, Boulder Junction, Wisconsin, October 2009.

Carey, C.C., Weathers, K.C., and Cottingham, K.L. Cyanobacterial blooms in oligotrophic lakes. Poster presentation. The 8th GLEON meeting, Hamilton, New Zealand, February 2009.

2008 **Carey, C.C.,** Weathers, K.C., and Cottingham, K.L. Cyanobacterial blooms in oligotrophic lakes: impacts on lake ecosystems and nutrient cycling. Poster presentation. The 7th GLEON meeting, Norrtälje, Sweden, September 2008.

Cottingham, K.L., Weathers, K.C., **Carey, C.C.,** Ewing, H.E., and Mayer, Z.A. Opening Pandora's Box. The role of *Gloeotrichia echinulata* in lake phosphorus cycling. Oral presentation. Ecological Society of America Meeting, Milwaukee, WI, August 2008.

Carey, C.C., Weathers, K.C., and Cottingham, K.L. Invasive *Gloeotrichia echinulata* blooms in GLEON lakes: causes, impacts, and future research. Poster presentation. The 6th GLEON meeting, Lake Annie, Florida, February 2008.

Carey, C.C., Weathers, K.C., and Cottingham, K.L. Invasive *Gloeotrichia echinulata* blooms in Northeastern U.S. lakes. Oral presentation. Northeast Aquatic Plant Management Society Meeting, West Dover, Vermont, January 2008.

2007 **Carey, C.C.,** Cottingham, K.L., and Weathers, K.C. Increased P concentrations at the sediment- water interface trigger cyanobacterial blooms in an oligotrophic lake. Oral presentation. The 30th International Association of Theoretical and Applied Limnology Meeting [SIL], Montreal, Canada, August 2007.

Carey, C.C., Cottingham, K.L., and Weathers, K.C. Increased P concentrations at the sediment-water interface trigger cyanobacterial blooms in an oligotrophic lake. Oral presentation. Symposium for European Freshwater Scientists [SEFS], Palermo, Italy, July 2007.

Carey, C.C., Cottingham, K.L., Weathers, K.C., and I. Karlsson-Elfgren. Bridging GLEON sites with *Gloeotrichia echinulata*. Oral presentation. The 4th GLEON [Global Lake Ecological Observatory Network] meeting, Lammi, Finland, March 2007.

Carey, C.C., Cottingham, K.L., Weathers, K.C., and J.F. Haney. The problematic *Gloeotrichia echinulata*: increasing eutrophication and toxicity in American oligotrophic lakes. Oral presentation. Limnology Weekly Seminar Series, Uppsala University, Uppsala, Sweden, February 2007.

Carey, C.C., Cottingham, K.L., Weathers, K.C., and J.F. Haney. The recruitment of *Gloeotrichia echinulata* in an oligotrophic lake: the importance of sediment phosphorus. Poster presentation. Northeast Aquatic Plant Management Society Meeting, Stowe, Vermont, January 2007.

2006 **Carey, C.C.**, Cottingham, K.L., Weathers, K.C., and J.F. Haney. The recruitment of *Gloeotrichia echinulata* in an oligotrophic lake. Poster presentation. Dartmouth College Karen Wetterhahn Symposium**,** Hanover, New Hampshire, May 2006.

Carey, C.C., Cottingham, K.L., and K.C. Weathers. The recruitment of *Gloeotrichia echinulata* in an oligotrophic lake. Oral presentation. Northeast Algal Society Meeting, Poughkeepsie, New York, April 2006.

GOVERNMENT REPORTS

2020 **Carey, C.C.**, and W.M. Woelmer[G]. Water quality assessment procedures for Virginia: dissolved oxygen assessment of lakes and reservoirs. Invited report for the Virginia Department of Environmental Quality. Submitted and presented on 21 May 2020.

INVITED WORKSHOP/SHORT COURSE PARTICIPATION

2022 *Co-organizer*, Macrosystems EDDIE: Teaching Ecological Forecasting to Undergraduates, Association of the Sciences of Limnology and Oceanography, Grand Rapids, MI, May 2022

2021 *Co-organizer and Presenter,* Macrosystems EDDIE: Teaching Ecological Forecasting to Undergraduates, Ecological Society of America Conference, August 2021 [virtual due to COVID]

2021 *Presenter,* Ecological Forecasting Initiative's Research Coordination Network Conference to Empower Development of the Next Generation of Educational Materials for Forecasting, June 2021 [virtual due to COVID]

2021 *Organizer, Presenter, and Moderator*, Smart and Connected Water Systems All-Hands Meeting, Blacksburg, VA, May 2021 [virtual due to COVID]

2020 *Co-organizer and Moderator*, Ecological Forecasting Initiative Research Coordination Network 1st All-hands Workshop, May 2020 [virtual due to COVID]

2020 *Organizer, Presenter, and Moderator*, Smart and Connected Water Systems All-Hands Meeting, Blacksburg, VA, May 2020 [virtual due to COVID]

2019 *Organizer*, *Moderator, and Presenter*, Learn to Integrate NEON and GLEON Data into your Classroom using Macrosystems EDDIE workshop, Ecological Society of America Conference, Louisville, KY, August 2019

2019 *Organizer and Moderator*, Smart and Connected Water Systems All-Hands Meeting, Blacksburg, VA, June 2019

2019 *Presenter*, Coupled-Natural Human Systems Lakes All-Hands Meeting, Asheville, NC, May 2019

2018 *Co-organizer, Moderator, and Presenter*, Introduction to Macrosystems EDDIE, Rottnest Island, Australia, December 2018

2018 *Co-organizer and Moderator*, Capturing and Analyzing Human-Natural Feedbacks in Lake Catchments, Sunapee, NH, May 2018

2018 *Organizer and Moderator*, Smart and Connected Water Systems All-Hands Meeting, Blacksburg, VA, May 2018

2018 *Organizer and Moderator,* Data Publication Pipeline Training, sponsored by Environmental Data Initiative, Blacksburg, VA, May 2018

2017 *Co-organizer and Moderator*, Modeling and Analysis of Lake CNHS workshop, Madison, WI, June 2017

2017 *Co-organizer*, General Lake Model Aquatic EcoDynamics workshop, Madison, WI, June 2017

2017 *Co-organizer*, PRAGMA Lake Expedition Workshop: Harnessing the GRAPLEr to predict water quality and biogeochemical responses to climate change, Gainesville, FL, April 2017

2016 *Participant,* Doing the most with your data: processing, products, metadata, and web applications, GLEON, Gaming, Austria, July 2016

2016 *Participant,* Transforming Undergraduate Education in STEM Project EDDIE workshop, NEON, Boulder, CO, June 2016

2016 *Co-organizer and Moderator*, Coupled-Natural Human System Lake Catchments: Science Foundations for Model Coupling workshop, Pembroke, VA, May 2016
2015 *Co-organizer and Moderator*, Introduction to Project EDDIE: Environmental Data-driven Inquiry and Exploration of GLEON Data in Classrooms workshop, Chuncheon, Korea, October 2015
2015 *Participant,* Transforming Undergraduate Education in STEM Project EDDIE workshop, NEON, Boulder, CO, June 2015
2014 *Co-organizer and Moderator,* Grassroots Networks: Lessons Learned and Paths Forward NSF-sponsored workshop, Cary Institute of Ecosystem Science, Millbrook, NY, November 2014
2014 *Co-organizer and Moderator,* GLEON-PRAGMA Science Expedition, 16th GLEON meeting, Orford, Quebec, October 2014.
2014 *Co-organizer,* PRAGMA Expedition Programming Challenge: Sensor Data QA/QC, 27th PRAGMA meeting, Bloomington, Indiana, October 2014.
2014 *Participant,* Transforming Undergraduate Education in STEM workshop, New Paltz, New York, July 2014
2014 *Participant,* Ecological Dissertations in the Aquatic Sciences (Eco-DAS) Workshop, Portland, Oregon, May 2014
2012 *Organizer and Instructor*, "Developing your Professional Identity in Science," GLEON, Mulranny, Ireland, October 2012.
2012 *Participant*, "Cyber-enabled Ecological Analysis in a Network of Lake Observatories Workshop," GLEON, Trout Lake, Wisconsin, August 2012.
2012 *Participant*, Hopkins Microbiology Course, Stanford University, Hopkins Marine Station, Pacific Grove, California, July 2012
2011 *Participant*, "Introduction to Lakebase: VADER, Lakebase and more," GLEON, Ramot, Israel, April 2011.
2010 *Invited speaker and Instructor*, "Tools for Dealing with Large Datasets: Sorting and Manipulating Text-based Data using R," GLEON, Nanjing, China, October 2010
2010 *Participant,* "Introduction to Hydrodynamics," GLEON, Torres, Brazil, May 2010.
2009 *Participant*, "Physical Limnology," GLEON, Boulder Junction, WI, October 2009.
2009 *Co-organizer*, "Model your Lake," GLEON, University of Waikato, Hamilton, NZ, February 2009.
2008 *Co-organizer and Instructor*, "How to Manage GLEON Data," GLEON, Norr Malma Field Station, Norrtalje, Sweden, October 2008.
2007 *Participant*, "Systems in transition," Colby Sawyer College, New London, NH, December 2007.
2005 *Participant*, "Lake Science- Regional Connections and Vision: A workshop of education and research professionals from northern New England," New London, NH, April 2005.

SERVICE

Professional Service

- Founding Member, Ecological Forecasting Technical Working Group for the National Ecological Observatory Network (NEON) (2019-2021)
- Margalef Subcommittee of the Awards and Citations Executive Committee, Association for the Sciences of Limnology and Oceanography (2019-2022)

- Member, National Ecological Observatory Network (NEON) Advisory Committee for Aquatic Sciences (2019-present)
- Member, Ecological Forecasting Initiative NEON Research Coordination Network Steering Committee (RCN) (2020-present)
- Editorial Board, *Ecology Letters* (2020-present)
- Editorial Board, *Journal of Plankton Research* (2016-present)
- GLEON Steering Committee: Global Lakes Ecological Observatory Network (2010-2013, 2017-2021)
- Member, Ecological Forecasting Initiative Steering Committee (2019-present)
- Chair, Ecological Forecasting Technical Working Group for the National Ecological Observatory Network (NEON) (2019-2021)
- Secretary, Ecological Society of America Aquatic Ecology Section (2015-2017)
- International Water Association Lake and Reservoir Specialist Group Management Committee (2014-2016)
- International Water Association Symposium on Lake and Reservoir Management Organizing Committee (2014-2015)
- Guest Editor, *Ecological Applications*, 2013
- Phycological Society of America (PSA) Archives Committee (2014-2018)
- Conference Co-organizer: GLEON 13, Sunapee, New Hampshire, October 2011
- Committee member, GLEON Development Committee (2012-present)
- Committee Chair and co-Founder: GLEON Collaborative Climate Committee (2008-2013)
- Scientific working group co-organizer and moderator, “GLEON Plankton Theory Working Group” (2010-2017), "GLEON Lake Modeling Working Group" (2019-present)
- Team member, GLEON-RCN Bahia Blanca, Argentina buoy deployment (April 2008)
- Program Committee, GLEON 6 Meeting; GLEON 7 Meeting; GLEON 8 Meeting; GLEON 9 Meeting; GLEON 10 Meeting; GLEON 11 Meeting; GLEON 12 Meeting; GLEON 13 Meeting; GLEON 14 Meeting; GLEON 19 Meeting
- Co-Founder and first Chair, Global Lakes Ecological Observatory Network Student Association (2007-2009)

University and Departmental Service

- Departmental Committee on Graduate Mentoring (2021-present)
- Faculty Mentor, Dr. Austin Gray (2021-present)
- College of Science Committee on New Faculty Leadership (2018-present)
- College of Science Task Force on Women's Issues (2020-2021)
- Virginia Tech Commission on Research Open Access Policy Working Group (2018-present)
- Virginia Tech Cross-Boundary Biogeosciences Group, Co-Founder and Co-Organizer (2015-present)
- Global Change Center, Virginia Tech, Affiliated Faculty member (2014-present)
- Interfaces of Global Change, Core Faculty Member, Virginia Tech (2013-present)
- Watershed Management Minor Oversight Committee, Virginia Tech (2015-present)
- Global Systems Science Destination Area Faculty Committee, Virginia Tech (2016)
- Executive Committee, Biological Sciences, Virginia Tech (2015-2016)

- Search Committee Member, Stream Ecologist Faculty position, Biological Sciences (2015-2016)
- Faculty Mentor, Interdisciplinary Water Resources and Engineering REU (2013-2019)
- Virginia Tech Biological Sciences Research Day committee (2013-2015)
- Search Committee Member, Dean of the Libraries, Dartmouth College (2003-2004)
- Co-president, Cornell Biogeochemistry Graduate Student Association (2009-2010)

Symposia Organized

- Session co-organizer, "Advancing Near-term, Iterative Ecological Forecasting in Aquatic Ecosystems," Association of the Sciences of Limnology and Oceanography, Grand Rapids, MI, May 2022
- Session co-organizer, "Forecasting is the Future: Advancing Methods and Applications of Near-term, Iterative Ecological Forecasting in Aquatic Ecosystems," Association of the Sciences of Limnology and Oceanography, Mallorca, Spain, June 2021 [virtual due to COVID
- Session co-organizer and presenter, "Ecological Forecasting in the Earth System," American Geophysical Union, San Francisco, CA, December 2020 [virtual due to COVID]
- Session co-organizer, "Forecasting is the Future: Advancing Methods and Applications of Near-term, Iterative Ecological Forecasting in Aquatic Ecosystems," Association of the Sciences of Limnology and Oceanography, Madison, WI, June 2020 [cancelled due to COVID]
- Session co-organizer and speaker, "Forecasting is the Future: Advancing Methods and Applications of Ecological Forecasting in the Aquatic Sciences," Association of the Sciences of Limnology and Oceanography, San Juan, Puerto Rico, February 2019
- Session co-organizer, "Cyanobacterial ecology as a basis for their mitigation and control under global change," Association of the Sciences of Limnology and Oceanography, Victoria, BC, June 2018
- Session co-organizer and speaker, "Cross-scale perspectives: integrating long-term and high-frequency data into our understanding of aquatic communities and ecosystems," Association of the Sciences of Limnology and Oceanography, Santa Fe, NM, June 2016.
- Session co-organizer and speaker, "Reservoir limnology," Association of the Sciences of Limnology and Oceanography, Granada, Spain, February 2015.
- Session co-organizer and speaker, "Cross-scale perspectives: integrating long-term and high-frequency data into our understanding of physical-biological coupling," Ecological Society of America, Baltimore, MD, August 2015
- Session co-organizer, "The science of team science: effectively leveraging ecological research networks," Ecological Society of America, Sacremento, CA, August 2014
- Session co-organizer and speaker, "Bridging the gap: using high-frequency sensor-derived data and networks in education, training and outreach," Association of the Sciences of Limnology and Oceanography, Portland, OR, May 2014.
- Session co-organizer, "Meta-communities in the built environment," Association of the Sciences of Limnology and Oceanography, Portland, OR, May 2014.

- Session co-organizer and speaker, "At the hub: lessons learned by early-career ecologists in grassroots research networks," Ecological Society of America, Minneapolis, MN, August 2013
- Session organizer and moderator, "Novel Applications of High-frequency Sensor Data in Aquatic Ecosystems: Discoveries from GLEON, the Global Lakes Ecological Observatory Network," Ecological Society of American Meeting, August 2011
- Session organizer and chair, "Emerging Science from Aquatic Sensor Networks," American Society for Limnology & Oceanography Meeting, June 2010

Outreach

- Advisor, Western Virginia Water Authority: I provide biweekly management information for four reservoirs to a drinking water utility in Roanoke, Virginia using water quality data my lab collects. My lab routinely gives presentations on drinking water quality to the public and has developed educational materials about our local watersheds that are disseminated to all school children that visit the reservoirs on field trips (>10,000 students/year).
- Lead, Macrosystems EDDIE (Environmental Data-Driven Inquiry and Education; MacrosystemsEDDIE.org) and Co-Lead, Project EDDIE (projectEDDIE.org), a team of faculty that develop undergraduate curricular materials that use high-frequency data analysis and visualization to teach ecological concepts and quantitative skills. To date, I have led the development of ten teaching modules that have been beta-tested at dozens of universities and taught to thousands of students.
- Organizer and host of outreach events at the SEEDS Blacksburg Nature Center, including "What's in your neighborhood pond or stream?" (September 2013), the "Passport to Discovery" water quality session (April 2014), and "Zooplankton ecology" (April 2017)
- Instructor, Lake Erken Research School for Baltic high school students, Norr Malma Field Station, Norrtälje, Sweden (summers 2007, 2008, 2011)

REVIEWER FOR

Grant Agencies

Panelist, NSF Biological Infrastructure Program (2021)
Panelist, NSF Macrosystems Biological Program (2020)
Panelist, NSF DEB Ecosystems program (2014, 2016, 2017)
Ad hoc reviewer: NSF DEB Ecosystems program (2013, 2019, 2020), Dimensions of Biodiversity (2019), Cyber-Physical Systems (2019), Harnessing the Data Revolution Institute (2021)

Journals

Aquatic Ecology, Aquatic Microbial Ecology, Aquatic Sciences, Biogeochemistry, Cahiers de Biologie Marine, Chemical Geology, Ecological Applications, Ecological Research, Ecology, Ecology Letters, Ecosystems, Environmental Modeling and Software, Environmental Monitoring and Assessment, Environmental Science and Technology, Freshwater Science, Global Change Biology, Harmful Algae, Journal of Environmental Quality, Journal of Phycology, Journal of Plankton Research, Inland Waters, Lake and Reservoir Management, Limnology and Oceanography, Limnology and Oceanography-Letters, Nature, Science Reports, Water Resources Research

TEACHING (AS INSTRUCTOR OF RECORD)

2021 *Science of Team Science,* graduate-level lecture and discussion course; Virginia Tech, Department of Biological Sciences (BIOL 6064)
*Instructor, developed course, taught all lectures

2013-2020 *Freshwater Ecology*, senior-level undergraduate lecture and laboratory every fall semester; Virginia Tech, Department of Biological Sciences (BIOL 4004)
*Instructor, developed course, taught all lectures, developed all laboratory exercises, assisted with laboratory instruction

2018, 2020 *Ecological Forecasting*, graduate-level seminar, Virginia Tech, Department of Forest Resources and Environmental Conservation (FREC 5884)
*Co-instructor, developed course, led discussions and grading

2015, 2017 *Freshwaters in the Anthropocene*, graduate-level combined lecture, lab, and discussion every other spring semester; Virginia Tech, Department of Biological Sciences (BIOL 6064)
*Instructor, developed course, taught all lectures and modeling labs

GUEST LECTURES AND OTHER TEACHING

2022 Master Class on *Introduction in Ecological Forecasting*, Institute of Advanced Studies, University of Western Australia *Lead instructor

2018,2019 *Ethics and Integrity in Forest Resources and Environmental Conservation*, Dept. of Forest Resources & Environmental Conservation, Virginia Tech (FREC 5014) *Guest lecturer

2015-2017 *Climate Science*, Dept. of Forest Resources & Environmental Conservation, Virginia Tech (FREC 4984) *Guest lecturer

2016,2018 *Ecosystems and Climate*, Dept. of Forest Resources & Environmental Conservation, Virginia Tech (FREC 5204) *Guest lecturer

2013-2016 *Introduction to Graduate Studies in Biological Sciences*, Dept. of Biological Sciences, Virginia Tech (BIOL 5174) *Guest lecturer

2014 *Honors Biology*, Dept. of Biological Sciences, Virginia Tech (BIOL 1206) *Guest lecturer

2014 *Graduate Writing and Stats in Natural Resources*, Dept. of Forest Resources and Environmental Conservation seminar (FOR 5004) *Guest lecturer

2012 *Limnology- Conservation of Aquatic Resources*, junior level;
(University of Wisconsin-Madison, Department of Zoology) *Guest lecturer

2011 *Ecology and the Environment* (3 credit course with laboratory), freshman level;
(Cornell University, Department of Ecology & Evolutionary Biology)
*Head Teaching Assistant: Responsible for developing and teaching labs, grading, and working with students

2010 *Limnology: Ecology of Lakes* (3 credit course with 2 credit laboratory), senior level;
(Cornell University, Department of Ecology & Evolutionary Biology)
*Teaching Assistant: Responsible for developing new laboratory modules, demonstrations and assignments, teaching and coordinating labs, giving lectures, grading, and working with students

2011, 2008 Lake Erken Research School; (Norr Malma Field Station, Norrtalje, Sweden

2007 *Gave limnology lectures during field course for high school students

2005 *Aquatic Ecology*, senior undergraduates and graduate students; (Dartmouth College, Department of Biological Sciences)
*Teaching Assistant: Responsible for assisting with laboratory instruction

GRADUATE STUDENTS MENTORED (AS PRIMARY ADVISOR); major awards listed

2020-present Dexter Howard (Ph.D. expected 2025)
- Leo Bourassa Award, Virginia Lakes and Watershed Association, 2022
- VA Water Resources Research Student Competitive Grant Recipient, 2021
- Leo Bourassa Award, Virginia Lakes and Watershed Association, 2021
- Western Virginia Water Authority Fellow, 2021-present
- National Science Foundation Graduate Research Honorable Mention, 2022

2019-present Abigail Lewis (Ph.D. expected 2024)
- Virginia Tech College of Science Make-A-Difference Scholarship, 2022
- Karen DePauw Oral Presentation Award, Interfaces of Global Change Research Symposium, 2022
- ESA Katherine S. McCarter Graduate Student Policy Award, 2022
- Mary and George Schaeffer Stream Team Excellence Award, 2021
- Virginia Tech Commencement Invited Speaker, 2021
- National Science Foundation Graduate Research Fellow, 2019-present
- ICTAS Doctoral Scholar, 2019-present
- Virginia Tech Nutshell Games First Place Winner, 2020
- Interfaces of Global Change Fellow, 2019-present

2019-present Heather Wander (Ph.D. expected 2024)
- Interfaces of Global Change Fellow, 2019-present
- Western Virginia Water Authority Fellow, 2019-2021
- GLEON Lake Expedition Fellow, 2020-2022
- National Science Foundation Graduate Research Honorable Mention, 2020

2018-present Whitney Woelmer (Ph.D. expected 2023)
- Calhoun LSPA-VT Fellow, 2022
- VT College of Science Outstanding Doctoral Student, 2022
- Noel Krieg Graduate Scholarship, 2022-2023
- Calhoun LSPA-VT Fellow, 2021
- Ecological Forecasting Initiative Student Association Co-Chair, 2020-present
- Mary and George Schaeffer Stream Team Excellence Award, 2020
- Robert and Marion Patterson Scholarship, 2019-2020
- National Science Foundation Graduate Research Fellow, 2019-present
- VT Graduate Student Assembly Research Symposium Gold Award, 2019
- Mary and George Schaeffer Stream Team Excellence Award, 2020

2016-2021 Mary Lofton (Ph.D. conferred 2021), *now Postdoctoral Researcher at VT*
- College of Science Outstanding Doctoral Student, 2021
- Noel Krieg Graduate Scholarship, 2020-2021
- Virginia Tech College of Science Make-A-Difference Scholarship, 2019
- William R. Walker Award, Virginia Water Resources Research Center, 2018
- Mary and George Schaeffer Stream Team Excellence Award, 2018

- GLEON Graduate Student Association Chair, 2017-2019
- Leo Bourassa Award, Virginia Lakes and Watershed Association, 2017
- Western Virginia Water Authority Fellow, 2017-2019
- VA Water Resources Research Student Competitive Grant Recipient, 2017
- Interfaces of Global Change Fellow, 2016-2021
- National Science Foundation Graduate Research Honorable Mention, 2016

2016-2021 Nicole Ward (Ph.D. conferred 2021), *now Postdoctoral Fellow at Wisconsin Department of Natural Resources*

- John Palmer Memorial Graduate Scholarship, 2020-2021
- Noel Krieg Graduate Scholarship, 2019-2020
- Academy of Teaching Excellence elected member, 2019
- Virginia Tech College of Science Make-A-Difference Scholarship, 2018
- National Socio-Environmental Synthesis Center (SESYNC) Graduate Student Fellow, 2017
- Interfaces of Global Change Fellow, 2016-2021

2015-2020 Ryan McClure (Ph.D. conferred 2020), *now Postdoctoral Researcher at Washington State University*

- Karen DePauw Oral Presentation Award, Interfaces of Global Change Research Symposium, 2018
- Mary and George Schaeffer Stream Team Excellence Award, 2017
- Leo Bourassa Award, Virginia Lakes and Watershed Association, 2016
- Interfaces of Global Change Fellow, 2015-2020
- Western Virginia Water Authority Fellow, 2015-2017

2013-2018 Jonathan Doubek (Ph.D. conferred 2018), *now Assistant Professor at Lake Superior State University*

- College of Science Outstanding Doctoral Student, 2017
- GLEON Graduate Student Association Chair, 2016-2018
- NSF Doctoral Dissertation Improvement Grant recipient, 2016-2018
- Noel Krieg Graduate Scholarship, 2016-2017
- Mary and George Schaeffer Stream Team Excellence Award, 2016
- GLEON Graduate Fellow, 2015-2017
- Leo Bourassa Award, Virginia Lakes and Watershed Association, 2015
- VA Water Resources Research Student Competitive Grant Recipient, 2015
- Noel Krieg Fellowship for Research and Teaching Excellence, 2015
- Interfaces of Global Change Fellow, 2013-2018

2014-2016 Kathleen Hamre (M.S. conferred 2016), *now Independent Educator*

- William Preston Thesis Award for Best M.S. in STEM, 2017
- Buikema and Galway Graduate Student Teaching Award, 2016

2013-2015 Alexandra Gerling (M.S. conferred 2015), *now Water Quality Consultant at Hazen-Sawyer*

- William Preston Thesis Award for Best M.S. in STEM, 2016
- College of Science Outstanding Masters Student Award, 2015
- Leo Bourassa Award, Virginia Lakes and Watershed Association, 2014
- Western Virginia Water Authority Fellow 2013-2015

2013 Rick Browne, co-advised with John Little (Civil Engineering, M.S. 2013), *now Environmental Engineer at Kimley-Horn Associates*
- Western Virginia Water Authority Fellow 2011-2013

UNDERGRADUATES MENTORED

At Virginia Tech

2022-present	George Haynie, Undergraduate Research Assistant
2021-2022	Beckett Geisler, Undergraduate Research Assistant
2021-present	Connor Gnasso, Undergraduate Research Assistant
2020-present	Caroline Bryant, Undergraduate Research Assistant
2020	Mikaila Reynolds, Undergraduate Research Assistant
2020	Nick Ruszkowski, Undergraduate Research Assistant
2019-present	Arpita Das, Undergraduate Research Assistant
2019-2022	Jacob Wynne, Undergraduate Research Assistant; Undergraduate Thesis
2019-2020	Mitchell Turnage, Undergraduate Research Assistant
2019-2021	Rose Thai, Undergraduate Research Assistant
2019	Ashley Mickens, REU in Interdisciplinary Water Resources and Engineering
2019-2020	James Maze, Undergraduate Research Assistant
2018-2019	Ava Johnston, Undergraduate Research Assistant
2018-2019	Laura Puckett, Undergraduate Research Assistant
2018	Claire Vavrus, REU in Interdisciplinary Water Resources and Engineering
2018	Beatrice Scott, Undergraduate Research Assistant
2018-2019	Niall Goard, Undergraduate Research Assistant
2017-2019	Miles Goodall, Undergraduate Research Assistant
2016-2019	Arianna Krinos, Honors Independent Research; Undergraduate Research Assistant
2016-2020	Dexter Howard, Independent Research; Undergraduate Research Assistant, Undergraduate Thesis
2016-2018	Kylie Campbell, Independent Research; Undergraduate Research Assistant
2017	Leah Finegold, REU in Interdisciplinary Water Resources and Engineering
2016-2017	Joseph Famularo, Undergraduate Research Assistant
2016-2017	Katie Krueger, REU in Interdisciplinary Water Resources and Engineering, Undergraduate Research Assistant
2015	Spencer Klepatzki, Undergraduate Research Assistant
2015-2016	Madeline Ryan, REU in Interdisciplinary Water Resources and Engineering, Undergraduate Research Assistant
2014-2015	Elle Humes, Honors Independent Research; Undergraduate Research Assistant
2014-2015	Zach Gajewski, Undergraduate Research Assistant
2014-2017	Charlotte Harrell, Undergraduate Research Assistant
2014	Mariah Redmond, REU in Interdisciplinary Water Resources and Engineering
2014	Mariah Haberman, REU in Interdisciplinary Water Resources and Engineering
2013	Christina Urbancyzk, REU in Interdisciplinary Water Resources and Engineering
2013	Kavya Mathur, Independent Research; Undergraduate Research Assistant

2013-2014 Miranda Flood, Undergraduate Research Assistant

At UW-Madison, Cornell, and Dartmouth

2012-2013 Grant Langlois, UW-Madison Undergraduate Research Assistant
2010-2012 Michela Catena, Cornell EnviroMentors Mentee
2009-2011 Natalie Ruppertsberger, Summer Undergraduate Research Assistant
2008-2010 Jennie Brentrup, Summer Undergraduate Research Assistant
2009 Andrew McGarrah, Summer Undergraduate Research Assistant
2009 Aly Fiorillo, Summer Undergraduate Research Assistant
2009 Danny O'Donnell, Summer Undergraduate Research Assistant
2008 Stacy Davis, Summer Undergraduate Research Assistant
2007 Zachary Mayer, Summer Undergraduate Research Assistant
2006 Chad Gorbatkin, Summer Undergraduate Research Assistant

POSTDOCTORAL RESEARCH ASSOCIATES MENTORED

Mary Lofton (2021-present)
Tadhg Moore (2020-present)
Ryan McClure (2020-2021), *now Postdoctoral Researcher, Washington State University*
Alexandria Hounshell (2019-2021)*, now Research Scientist, NOAA*
Kaitlin Farrell (2017-2019), *now Faculty at Odum School of Ecology, University of Georgia*
Amy Hetherington (2016), *now Managing Director at VShift*

GRADUATE COMMITTEES SERVED ON

Carla López Lloreda (M.S. in Biological Sciences, 2021-present)
Nicholas Hammond (Ph.D. in Geosciences, 2019-present)
Sarah Power (Ph.D. in Biological Sciences, 2019-present)
Sarah Power (M.S. in Biological Sciences, 2018-2019)
Katie Krueger (M.S. in Geosciences, 2017-2019)
Shengyang Chen (Ph.D. in Civil Engineering, 2014-2018)
Zackary Munger (Ph.D. in Geosciences, 2014-2016)
Laura Dodson (M.S. in Applied Economics, 2014-2016)
Chelsea Taylor (M.S. in Biological Sciences, 2013-2016)

PROFESSIONAL MEMBERSHIPS

American Society of Limnology and Oceanography (ASLO)
Ecological Forecasting Initiative (EFI)
Ecological Society of America (ESA)
Global Lakes Ecological Observatory Network (GLEON)
International Society of Limnology (SIL)