

Curriculum Vitae

Kathleen Cushing Weathers

Distinguished Senior Scientist
Cary Institute of Ecosystem Studies
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Education

Rutgers University, Piscataway, New Jersey
Ph.D., Ecology, 1993

Yale University, New Haven, Connecticut
M.F.S., Forest Science, 1983

Albion College, Albion, Michigan
B.A., English (*cum laude*), 1978

Professional Experience

Primary Positions

- 2023-present **Distinguished Senior Scientist**, Cary Institute of Ecosystem Studies, Millbrook, NY
- 2016-2022 **G. Evelyn Hutchinson Chair in Ecology**, Cary Institute of Ecosystem Studies, Millbrook, NY
- 2007-2023 **Senior Scientist**, Cary Institute of Ecosystem Studies, Millbrook, NY
- 2004-2006 **Senior Scientist, Head of Laboratory Services**, Institute of Ecosystem Studies, Millbrook, NY
- 2004 **Scientist, Head of Laboratory Services**, Institute of Ecosystem Studies, Millbrook, NY (50:50 Administration/Research)
- 1999-2004 **Associate Scientist, Head of Laboratory Services**, Institute of Ecosystem Studies, Millbrook, NY (50:50 Administration/Research)
- 1994-1999 **Forest Ecologist, Head of Laboratory Services**, Institute of Ecosystem Studies, Millbrook, NY (50:50 Administration/Research)
- 1988-1994 **Forest Ecologist, Manager of Laboratory Facilities**, Institute of Ecosystem Studies, Millbrook, NY (75:25 Administration/Research)
- 1984-1986 **Coordinator, Cloud Water Project**, Institute of Ecosystem Studies, Millbrook, NY
- 1982, 1983 **Research Assistant**, Yale University/AMC, New Haven, CT

Additional Positions

- 2019-2020 **Expert**, National Science Foundation, BIO-DEB, Alexandria, VA
- 2005-present **Volunteer Research Director**, Lake Sunapee Station, Sunapee, NH
- 2006-present **Graduate Faculty**, Rutgers University, New Brunswick, NJ

2019-2022 **Visiting Scholar**, Dartmouth College, Hanover, NH
2010-2013 **Lecturer** in Environmental Studies, Bates College, Lewiston, ME
2009-2010 **Program Officer**, National Science Foundation, BIO-DEB, Arlington, VA
2004-2007 **Visiting Scholar**, Dartmouth College, Hanover, NH
2004-2007 **Graduate Faculty**, University of Maine, Orono, ME
2004-2005 **Visiting Scientist**, Lake Sunapee Protective Association, Sunapee, NH
1999-2004 **Graduate Faculty, Graduate Committee**, Bard College Center for Environmental Policy, Annandale-on-Hudson, NY
1995-present **Faculty, Program in Biogeochemistry and Environmental Change**, Cornell University, Ithaca, NY
1994-2002 **Graduate Faculty, Graduate Committee**, Bard College Graduate Program in Environmental Studies, Annandale-on-Hudson, NY

Selected Professional Honors and Awards

Eugene P. Odum Award, Ecological Society of America, 2017
G. Evelyn Hutchinson Chair in Ecology, Cary Institute of Ecosystem Studies, 2016-2022
Elected Fellow, Ecological Society of America (ESA), 2015
Elected Fellow, American Association for the Advancement of Science (AAAS), 2002
Marie Tharp Visiting Fellowship, Earth Institute, Columbia University, 2007-2008
NSF Director's Award, Collaborative Integration: Water, Sustainability and Climate Team, 2010
Rolf Eliassen Award, Research, management, outreach, LSPA, 2006
Cary Graduate Fellowship, 1986-1988

Leadership and Professional Boards

Elected President, Ecological Society of America (ESA); President-elect (2019-2020), President (2020-2021), Past-President (2021-2022)
Elected Chair (2012-2017), SESYNC (The National Socio-Environmental Synthesis Center) External Advisory Board
Elected Vice Chair (2013), and **Chair** (2015) Gordon Research Conference on Catchment Science
Elected co-Chair of the Global Lakes Ecological Observatory Network (GLEON) Steering Committee, 2010-2013, re-elected 2013-2016, 2016-2018
Elected Executive Committee, National Atmospheric Deposition Program (NADP), Vice Chair 2010-2011, **Chair** 2011-2012, Past Chair 2013
Elected Member, International Society of Fog and Dew Research (2019-present)

Ecological Forecasting Initiative, External Advisory Board member, 2023-
SITES (Swedish Infrastructure for Ecosystem Science) Scientific Advisory Board (SAB) member, 2022-2025

National Water Quality Monitoring Council (NWQMC), representing GLEON, 2018-
EPA Clean Air Scientific Advisory Committee (CASAC), 2009-2015; 2021-2023
EPA CASAC, NO_x-SO_x Secondary Standard Review Committee, 2013 and 2015 -2019
Appointed Scientific Advisory Committee Interuniversity Research Group in Limnology and

Aquatic Environments (GRIL), Quebec, Canada, 2016
American Women in Science (AWIS), Finance Committee, 2009-2015
EPA Clean Air Scientific Advisory Committee (NO_x and SO_x Secondary and Ozone NAAQS Reviews), 2007-2013
Global Lake Ecological Observatory Network (GLEON), Steering Committee, 2007-2019
Editorial Board, *Tree Physiology*, 2006-2012
Hubbard Brook Research Foundation, Board of Trustees, 2006-2008
Ecological Society of America's Public Affairs Committee, 2005-2009
Advisory Board, *Biologist*, 2004-2015
Editorial Board, *GigaScience*, 2015-present
National Academy of Sciences, National Transportation Board, 2000-2002, Committee to evaluate the Congestion Mitigation and Air Quality Program (CMAQ, ISTEA, TEA-21)

Publications (asterisk denotes undergraduate, graduate, postdoc, or research support staff authors at time the manuscripts were drafted; ^indicates corresponding-, senior anchor-, or co-first- author): ORCID 0000-0002-3575-6508

- Han, B.A., K.R. Varshney, S. LaDeau, A. Subramaniam, K.C. Weathers, and J. Zwart. A synergistic future for AI and Ecology. 2023. *Proceedings of the National Academy of Sciences* 120: DOI: 10.1073/pnas.2220283120.
- *Elderbrock, E., A. Ponette-González, J Rindy*, Jun-Hak Lee, Y. Ko, and K.C. Weathers. 2023. Urban Form and Black Carbon Removal by City Trees: Spatial Modeling to Enhance Urban Forest Planning. *Urban Forestry & Urban Greening*. 86: 128013. DOI: 10.1016/j.ufug.2023.
- *Wynne, Jacob, Whitney Woelmer*, Tadhg N Moore*, R Quinn Thomas, Kathleen C Weathers, Cayelan C Carey. 2023. Uncertainty in projections of future lake thermal dynamics is differentially driven by lake and global climate models. *PeerJ* 11:e15445 DOI: 10.7717/peerj.15445
- *Volponi, S.N., H.L. Wander*, D.C. Richardson, C.J. Williams, D.A. Bruesewitz, S. Arnott, J.A. Brentrup, H.L. Edwards*, H.A. Ewing, K. Holeck, L. Johnson, B. S. Kim*, A.M. Morales-Williams, N. Nadkarni*, B.C. Norman, L. Parmalee, A. Shultis, A. Tracy, N.K. Ward*, K.C. Weathers, C. R. Wigdahl-Perry, K. Yokota. 2022. Nutrient function over form: Organic and inorganic nitrogen additions have similar effects on lake phytoplankton nutrient limitation. *Limnology and Oceanography*. DOI:10.1002/lno.12270
- *Herrick, C., B.G. Steele*, J.A. Brentrup*, K.L. Cottingham, M.J. Ducey, D.A. Lutz, M.W. Palace, M.C. Thompson*, J.V. Trout-Haney*, and K.C. Weathers. 2022. lakeCoSTR: A tool to facilitate use of the Landsat Collection 2 to estimate lake surface water temperatures. *Ecosphere*. DOI: 10.1002/ecs2.4357
- Ponette-González, A.G., Dongmei Chen, Evan Elderbrock*, Jenna Rindy*, Tate Barrett*, Brett Luce*, Jun-Hak Lee, Yekang Ko, and Kathleen C. Weathers. 2022. Urban edge trees: urban form and meteorology drive elemental carbon deposition to canopies and soils. *Environmental Pollution*. DOI: 10.1016/j.envpol.2022.120197
- Ponette-González, A.G., H. Lewis*, B. Henderson, D. Carnelos, G. Pineiro, K.C. Weathers, D. Schwede. 2022. Wet nitrogen (N) deposition to urban Latin America: filling in the

- gaps with GEOS-Chem. *Atmos. Environ.* 278: DOI: 10.1016/j.atmosenv.2022.119095.
- *Ward, N.K., M.G. Sorice, M.S. Reynolds*, 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
- *Lofton, M.E., J.A. Brentrup*, W.S. Beck*, J.A. Zwart*, R. Bhattacharya*, L.S. Brighenti*, S.H. Burnett*, I.M. McCullough*, B.G. Steele*, C.C. Carey, K.L. Cottingham, M.C. Dietze, H.A. Ewing, K.C. Weathers, and S.L. LaDeau. 2022. Using near-term forecasts and uncertainty partitioning to inform prediction of oligotrophic lake cyanobacterial activity. *Ecological Applications*. DOI: 10.1002/eap.2590.
- *Ward, N.K., 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 affects littoral lake metabolism. *Aquatic Sciences* 84:31. DOI: 10.1007/s00027-022-00854-7.
- Weathers, K.C., D. Ojima, S.K. Collinge, and O. Sala. 2021. Leveraging the Anthropause. *Frontiers in Ecology and Environment* 19:315. DOI: 10.1002/fee.2382.
- Brahney, J., K.C. Weathers, and I. Reche. 2021. Dust and fog effects on inland waters, *Encyclopedia of Inland Waters*, 2nd edition.
- El Serafy, G.Y.H., B.A. Schaeffer, M-B Neely, A. Spinosa, D. Odermatt, K.C. Weathers, T. Baracchini, D. Bouffard, L. Carvalho, R.N. Conmy, L. DeKeukelaere, P.D. Hunter, C. Jamet, K.D. Joehnk, J.M. Johnston, A. Knudby, C. Minaudo, N. Pahlevan, I. Reusen, K.C. Rose, J. Schalles, and M. Tzortziou. 2021. Integrating inland and coastal water quality data for actionable knowledge. *Remote Sensing* 13. DOI: 10.3390/rs13152899.
- *Rubin, H, David A. Lutz, Bethel G. Steele*, Kathryn L. Cottingham, Kathleen C. Weathers, Mark J. Ducey, Michael Palace, Kenneth M. Johnson, and Jonathan W. Chipman. 2021. Remote Sensing of Lake Water Clarity: Performance and Transferability of Both Historical Algorithms and Machine Learning. *Remote Sensing* 13: 1434. DOI: 10.3390/rs13081434.
- *Frêne, Cristián, Juan J. Armesto, Freddy Veliz, Fernando D. Alfaro, and Kathleen C. Weathers. 2021. High-frequency monitoring of hydrological and biogeochemical fluxes in forested catchments of southern Chile. *Hydrological Processes*. DOI: 10.1002/hyp.14175
- *Janes, S., Gretchen J. A. Hansen, Benjamin M. Kraemer*, Peter R. Leavitt, Joshua L. Mincer, Rebecca L. North, Rachel M. Pilla*, Jonathan T. Stetler, Craig E. Williamson, R. Iestyn Woolway, Lauri Arvola, Sudeep Chandra, Curtis L. DeGasperi, Laura Diemer, Julita Dunalska, Oxana Erina, Giovanna Flaim, Hans-Peter Grossart, K. David Hambright, Catherine Hein, Josef Hejzlar, Lorraine L. Janus, Jean-Philippe Jenny, John R. Jones, Lesley B. Knoll, Barbara Leoni, Eleanor Mackay, Shin-Ichiro S. Matsuzaki, Chris McBride*, Dörthe C. Müller-Navarra, Andrew M. Paterson, Don Pierson, Michela Rogora, James A. Rusak, Steven Sadro, Emilie Saulnier-Talbot, Martin Schmid, Ruben Sommaruga, Wim Thiery, Piet Verburg, Kathleen C. Weathers, Gesa A. Weyhenmeyer, Kiyoko Yokota, and Kevin C. Rose. 2021. Widespread deoxygenation of temperate lakes. *Nature*. 594: 66–70. DOI: 10.1038/s41586-021-03550-y
- *Simkin, S.M., B.L. Bedford, and K.C. Weathers. 2021. Regional wetland plan responses to sulfur and other porewater chemistry in calcareous rich fens. *Wetlands*. 41:42: DOI: 10.1007/s13157-021-01438-1.
- Van Stan, J., A. Ponette-Gonzalez, T. Swanson and K.C. Weathers. 2021. Throughfall & stemflow: Hydrologic highways for particulate traffic through canopies. *Frontiers in Ecology and the Environment*. 19: DOI: 10.1002/fee.2360

- *Farrell, K.J., K.C. Weathers[^], S.H. Sparks, J.A. Brentrup*, C.C. Carey, M.C. Dietze, J.R. Foster*, K.L. Grayson, J.H. Matthes, and M.D. SanClements. 2021. Training macrosystems scientists requires both interpersonal and technical skills. *Frontiers in Ecology and Environment* 19:39-46. DOI: 10.1002/fee.2287.
- Cottingham, K.L., K.C. Weathers, H.A. Ewing, M. Greer, and C.C. Carey. 2020. Predicting the effects of climate change on freshwater cyanobacterial blooms requires consideration of the complete cyanobacterial life cycle. *Journal of Plankton Research*. DOI: 10.1093/plankt/fbaa059.
- *Brentrup, J.A., D.C. Richardson, C.C. Carey, N.K. Ward*, D.A. Brusewitz, and K.C. Weathers. 2020. Under-ice respiration rates shift the annual carbon cycle in an oligotrophic lake from autotrophy to heterotrophy. *Inland Waters*. DOI: 10.1080/20442041.2020.1805261.
- *Henson, V.R., Kelly M. Cobourn, Kathleen C. Weathers, Cayelan Carey, Kaitlin Farrell*, Jennifer Klug, Michael Sorice, Nicole Ward*, Weizhe Weng*. 2020. A practical guide for managing interdisciplinary teams: lessons learned from coupled natural and human systems research. *Social Sciences* 9:119. DOI: 10.3390/sosci9070119.
- *Weng, Weizhe, K.J. Boyle, K.J. Farrell*, C.C. Carey, K.M. Cobourn, H.A. Dugan*, P.C. Hanson, N.K. Ward*, K.C. Weathers. 2020. Coupling natural and human models in the context of a lake ecosystem: Lake Mendota, Wisconsin, USA. *Ecological Economics* 169: 106556. DOI: 10.1016/j.ecolecon.2019.106556.
- *Ward, N.K., B.G. Steele*, K.C. Weathers, K.L. Cottingham, H.A. Ewing, P.C. Hanson, R. Wood, J. Fichter, 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*. DOI:10.1029/2020WR027296.
- Dugan, H., N. Skaff*, J. Doubek*, S. Bartlett*, S. Burke*, F. Krivak-Tetley*, J. Summers*, P.C. Hanson, and K.C. Weathers. 2020. Lakes at risk of chloride contamination. *Environmental Science and Technology*. DOI: 10.1021/acs.est.9b07718.
- Ewing, H.A. K.C. Weathers, K.L. Cottingham, P. Leavitt, M. Greer, C.C. Carey, B.G. Steele*, A. Fiorillo*, and J. Sowles*. 2020. “New” cyanobacterial blooms are not new: Two centuries of lake productivity are related to ice cover and land use. *Ecosphere*. DOI: 10.1002/eap.2187.
- *Stachelek, J, W.Weng*, C.C. Carey, A.R. Kemanian, K.M. Cobourn, T. Wagner, K.C. Weathers, and P.S. Soranno. 2020. Agricultural land-use and lake water quality relationships differ when considering predictor granularity at macroscales. *Ecological Applications*. 30: DOI: 10.1002/eap.2187
- *Fitchett, L., M.G. Sorice, K.M. Cobourn, K.J. Boyle, J.L. Klug, and K.C. Weathers. *In press*. Pathways to enhanced lake integrity: A framework to assess effectiveness of local lake associations. *Lakes & Reservoirs: Science, Policy and Management for Sustainable Use*.
- Weathers, K.C., A.G. Ponette-González, and T.E. Dawson. 2020. Medium, vector, and connector: Fog and the maintenance of ecosystems. *Ecosystems* 23:217-229. DOI:10.1007/s10021-019-00388-4.
- *Lewis, A.S.L., B.S. Kim*, H.L. Edwards*, H.L. Wander*, C.M. Garfield*, H.E. Murphy*, N.D. Poulin*, S.D. Princiotta, K.C. Rose, A.E. Taylor, K.C. Weathers, C.R. Wigdahl-Perry, K.Yokota, D.C. Richardson, and D.A. Bruesewitz. 2020. Prevalence of phytoplankton limitation by both nitrogen and phosphorus related to nutrient stoichiometry, land use, and primary producer biomass across the northeastern United States. *Inland waters*. DOI:10.1080/20442041.2019.1664233.

- *Weng, W, K.J. Boyle, K.J. Farrell*, C.C. Carey, K.M. Cobourn, H.A. Dugan*, P.C. Hanson, N.K. Ward*, and K.C. Weathers. 2019. Coupling natural and human models in the context of a lake ecosystem: Lake Mendota, WI. *Ecological Economics* 169. DOI:10.1016/j.ecolecon.2019.106556.
- *Rindy, J, A.G. Ponette-González, T. Barrett*, R. Sheesley, and K.C. Weathers. 2019. Urban trees are sinks for soot: Elemental carbon accumulation by two widespread oak species. *Environmental Science and Technology* 53: 10092-10101. DOI:10.1021/acs.est.9b02844.
- *Broadley, H., K.L. Cottingham, N.A. Baer, K.C. Weathers, H.A. Ewing, R. Chaves-Ulloa*, J. Chickering*, A.M. Wilson*, J. Shrestha*, and C.Y. Chen. 2019. Factors affecting MeHg bioaccumulation in stream biota: The role of dissolved organic carbon and diet. *Ecotoxicology* 29:949-963. DOI:10.1007/s10646-019-02086-2.
- *Barrett, T, A. G. Ponette-González, J. Rindy*, and K.C. Weathers. 2019. Wet deposition of black carbon: A Synthesis. *Atmospheric Environment*. DOI:10.1016/j.atmosenv.2019.06.033.
- *Ward, N.K., L. Fitchett*, J.A. Hart*, L. Shu*, J. Stachelek*, W. Weng*, Y. Zhang*, H. Dugan*, A. Hetherington*, K. Boyle, C.C. Carey, K.M. Cobourn, P.C. Hanson, A.R. Kemanian, M.G. Sorice, K.C. Weathers*. 2019. Integrating fast and slow processes is essential for simulating human-freshwater interactions. *Ambio*. DOI:10.1007/s13280-018-1136-6.
- Kelly, V.R., S.E.G. Findlay, S. Hamilton, G. Lovett, and K.C. Weathers. 2019. Seasonal and long-term dynamics in streamwater sodium chloride concentrations and the effectiveness of road salt best management practices. *Water, Air, and Soil Pollution*. DOI:10.1007/s11270-018-4060-2
- Evans, S., M.E. Dueker, R. Logan*, and K.C. Weathers. 2019. The biology of fog: results from coastal Maine and Namib Desert reveal common drivers of fog microbial composition. *Science of the Total Environment* 647:1547-1556. DOI: 10.1016/j.scitotenv.2018.08.045.
- *McCullough, I, H.A. Dugan*, K.J. Farrell*, A.M. Morales-Williams*, Z. Ouyang*, D. Roberts, F. Scordo*, S.L. Bartlett*, S.M. Burke*, J.P. Doubek*, F.E. Krivak-Tetley*, N.K. Skaff*, J.C. Summers*, K.C. Weathers, and P.C. Hanson. 2018. Dynamic modeling of organic carbon fates in lake ecosystems. *Ecological Modelling* 386:71-82. DOI:10.1016/j.ecolmodel.2018.08.009.
- Ponette-González, A.G., J.D. Collins*, J.E. Manuel, T.A. Byers*, G.A. Glass, K.C. Weathers, and T.E. Gill. 2018. Wet dust deposition across Texas during the 2012 drought: An overlooked pathway for elemental flux to ecosystems. *Journal of Geophysical Research: Atmospheres*. DOI: 10.1029/2018JD028806.
- *Boucher, J., K.C. Weathers*, H. Norouzi, and B.G. Steele. 2018. Assessing the effectiveness of Landsat 8 chlorophyll-a retrieval algorithms for regional freshwater monitoring. *Ecological Applications* 28:1044-1054. DOI:10.1002/eap.1708.
- Cobourn, K.A., C.C. Carey, K. Boyle, C. Duffy, H. Dugan*, K. Farrell*, L. Fitchett*, P. Hanson, J. Hart*, V. Henson*, A. Hetherington*, A. Kemanian, L. Rudstam, L. Shu, P. Soranno, M. Sorice, J. Stachelek, N. Ward*, K.C. Weathers, W. Weng*, and Y. Zhang*. 2018. From concept to practice to policy: Modeling coupled natural and human systems in lake catchments. *Ecosphere* 9(5):e02209. DOI.org/10.1002/ecs2.2209.
- *Engel, F., K.J. Farrell*, I.M. McCullough*, F. Scordo*, B.A. Denfeld*, H.A. Dugan*, E. de Eyto, P.C. Hanson, R.P. McClure*, P. Nöges, T. Nöges, E. Ryder, K.C. Weathers, and G.A. Weyhenmeyer. 2018. A lake classification concept for a more accurate global

- estimate of the dissolved inorganic carbon export from terrestrial ecosystems to inland waters. *The Science of Nature* 105:25. DOI:10.1007/s00114-018-1547-z.
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- Brantley, S.L., D.M. Eissenstat, J.A. Marshall, S.E. Godsey, Z. Balogh-Brunstad, D.L. Karwan, S.A. Papuga, J. Roering, T.E. Dawson, J. Evaristo, O. Chadwick, J.J. McDonnell, and K.C. Weathers. 2017. On the roles trees play in building and plumbing the critical zone. *Biogeosciences* 14:5115-5142.
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- Ponette-González, A., Y. Perroni, K.C. Weathers, P.A. deSouza*, F. Garcia-Oliva, and W.Z. deMello. 2017. Nitrogen cycling in tropical Atlantic forests differing in exposure to urban atmospheric nitrogen deposition. *Plant Soil* 420:451-465. DOI:10.1007/s11104-017-3421-8.
- Richardson, D.C., S.J. Melles*, R.M. Pilla*, A.L. Hetherington*, L.B. Knoll*, C.E. Williamson, B.M. Kraemer*, J.R. Jackson, E.C. Long, K. Moore, L.G. Rudstam, J.A. Rusak, J.E. Saros, S. Sharma, K.E. Strock, K.C. Weathers, and C.R. Wigdahl-Perry. 2017. Transparency, geomorphology and mixing regime explain variability in trends in lake temperature and stratification across northeastern North America (1975–2014). *Water* 9:442. DOI:10.3390/w9060442.
- *Dugan, H.A., J.C. Summers*, N.K. Skaff*, F.E. Krivak-Tetley*, J.P. Doubek*, S.M. Burke*, S.L. Bartlett*, L. Arvola, H. Jarjanazi, J. Korponai, A. Kleeberg, G. Monet, D. Monteith, K. Moore, M. Rogora, P.C. Hanson, and K.C. Weathers. 2017. Long-term chloride trends in North American and European freshwater lakes. *Nature Data*. DOI:10.1038/sdata.2017.101.
- Arthur, M.A., K.C. Weathers, G.M. Lovett, M.P. Weand*, and W.C. Eddy*. 2017. Beech bark disease induced changes in tree species composition influences forest floor acid-base chemistry. *Canadian Journal of Forest Research* 47:9875-882. DOI:10.1139/cjfr-2016-0341.
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- Ponette-González, A.P., H.A. Ewing, and K.C. Weathers. 2016. Interactions between

- precipitation and vegetation canopies. In: A Biogeoscience Approach to Ecosystems. E.A. Johnson and Y.E. Martin, eds. Cambridge University Press. ISBN:9781107046702.
- Smyth, R.L., A. Caruso*, L. Borre*, G. Zhu, M. Zhu, A.L. Hetherington*, E. Jennings, J.L. Klug, M.C. Piccolo, J.A. Rusak, K.C. Weathers, and C. Wigdahl-Perry. 2016. High frequency lake data benefit society through broader engagement with stakeholders: A synthesis of GLEON data use survey and member experiences. *Inland waters* 6:555-564. DOI:10.5268/IW-6.4.894.
- ^Hanson, P.C., K.C. Weathers^, and T.K. Kratz. 2016. Networked lake science: How the Global Lake Ecological Observatory Network (GLEON) works to understand, predict, and communicate lake ecosystem response to global change. *Inland Waters* 6:543-554. DOI:10.5268/IW-6.4.904.
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- *Dugan, H.A., R. Iestyn Woolway*, A.B. Santoso*, J.R. Corman*, A. Jaimes*, E.R. Nodine*, V.P. Patil*, J.A. Zwart*, J.A. Brentrup*, A.L. Hetherington*, S.K. Oliver*, J.S. Read*, K.M. Winters*, P.C. Hanson, E.K. Read*, L.A. Winslow*, and K.C. Weathers. 2016. Consequences of gas flux model choice on the interpretation of metabolic balance across 15 lakes. *Inland Waters* 6:581-592. DOI:10.5268/IW-6.4.836.
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*Daniels, J., L. Liang, J. Brahney, R. Rangel, K.C. Weathers, and A.G. Ponette-Gonzalez. Changes in wildfire smoke affect satellite-based aerosol optical depth estimates. In review. *STOTEN*.

Skoglund, S., A. Bah, H. Norouzi, K.C. Weathers^, H.A. Ewing, B.G. Steele*, and L. Bacon. Approximation of ice phenology of Maine lakes using Aqua MODIS surface temperature data. In review. *Ecosphere*.

Books

Weathers, K.C., D.L. Strayer, and G.E. Likens (eds). 2021. Fundamentals of Ecosystem Science. Academic Press, 2nd edition. Paperback ISBN: 9780128127629; eBook ISBN: 9780128127636

Weathers, K.C., D.L. Strayer, and G.E. Likens. 2013. Fundamentals of Ecosystem Science. Academic Press. 312 p. ISBN 978-0-12-088774-3.

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Panel Discussions/Misc Videos

Sept 2023: UN SDG Side Panel on Water Insecurity: Harnessing the Power of Big Data, Novel Technologies, and International Collaboration:
<https://sharmalab.wordpress.com/harnessing-the-power-of-big-data-novel-technologies-and-international-collaboration/>

June 2023:A conversation with Laura Knoy: A bright future for Lake Sunapee
<https://ycnow.com/2023/06/21/a-bright-future-for-lake-sunapee-a-conversation-with-laura-knoy-and-lake-scientists/>

2012: A New View on Adirondack Lakes:
<https://www.caryinstitute.org/news-insights/video/new-view-adirondack-lakes> (starts minute 16:20)

Letters, Book Reviews and Reports

Weathers, K.C., J. Collett, Jr., R. Garreaud, C. Jordan, P. Matrai, M. O'Rourke, A. Torregrosa, and L. Borre. 2014. Fog Research Frontiers: An Interdisciplinary Research Agenda for Coastal Fog Systems:
https://www.caryinstitute.org/sites/default/files/public/reprints/weathers_coastal_fog_as_a_system_white_paper_2014.pdf; <http://www.moore.org/grants/list/GBMF3414>.

Ewing, H.A., K.C. Weathers, A.M. Lindsey*, P.H. Templer, T.E. Dawson, D.C. Bradbury*,

- M.K. Firestone, and V.K.S. Boukili*. 2012. Fog and soil weathering as sources of nutrients in a California redwood forest. In: R.B. Standiford, T.J. Weller, D.D. Piirto, and J.D. Stuart (technical coordinators). Proceedings of coast redwood forests in a changing California: A symposium for scientists and managers. Gen. Tech. Rep. PSW-GTR-238. Albany, CA: Pacific Southwest Research Station, Forest Service, U.S. Department of Agriculture. 675 p.
- Carey, C.C., P.C. Hanson, D.A. Bruesewitz, G.W. Holtgrieve, E. Kara, K. Rose, R. Smyth, and K.C. Weathers. 2012. Novel applications of high-frequency sensor data in aquatic ecosystems: Discoveries from GLEON, the Global Lake Ecological Observatory Network. Ecological Society of America Bulletin.
- Hartmann, M.D., J.S. Baron, D.W. Clow, I.F. Creed, C.T. Driscoll, H.A. Ewing, B.D. Haines, J. Knoepp, K. Latjha, D.S. Ojima, W.J. Parton, J. Renfro, R.B. Robinson, H. VanMiegroet, K.C. Weathers, and M.W. Williams. 2009. DayCent-Chem simulations of ecological and biogeochemical processes in eight mountain ecosystems in the United States. Scientific Investigations Report 2009-5150.
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- Weathers, K.C., A.M. Elliott, and A. Ponette-Gonzalez. 2008. North American Wet Deposition Map. CEC Report.
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- Likens, G.E., K.C. Weathers, D.C. Buso, and T.J. Butler. 1998. Solving the acid rain problem. *Science* 282:1991.
- Weathers, K.C. 1993. Review of The Earth in Transition: Patterns and Processes of Biotic Impoverishment, G.M. Woodwell, (ed.). *Quarterly Review of Biology* 68:129-130.
- Eaton, J.S., K.C. Weathers, and G.E. Likens. 1986. An interlaboratory comparison between the Illinois State Water Survey and the Institute of Ecosystem Studies. 24 pp.

Leadership: Scientific Conferences, Meetings, Workshops

- AI and Ecology: Synergistic Futures Workshop, Co-Leader, New Paltz, NY October 2022, Millbrook, New York March 2023*
- Ecological Long Tail Workshop, Co-Leader, Millbrook, NY, December 2019.*
- Global Lakes Ecological Observatory Network (GLEON). All Hands' Meeting 19, Chair, New Paltz, NY, November 2017.*
- Global Lakes Ecological Observatory Network (GLEON), Steering Committee Visioning Meeting, Chair and Host, SESYNC, Annapolis, MD, April 2016.*
- National Science Foundation Macrosystems Biology PIs' Meeting, Chair, Arlington, VA, June 2015.*
- Gordon Research Conference on Catchment Science, Chair, June 2015.*
- Coastal Fog as a System: Catalyzing an Interdisciplinary Research Agenda. Workshop, Leader, Convener, Pescadero, CA, June 2013.*
- Global Lakes Ecological Observatory Network (GLEON). All Hands' Meeting 13, Host, Chair, Sunapee, NH, October, 2011.*

*National Atmospheric Deposition Program. Fall Meeting, **Chair**, Providence, RI, October 2011.*
*Global Lakes Ecological Observatory Network (GLEON). Steering Committee Visioning Meeting, **Host and Co-convener**, Sunapee, NH, August, 2010.*
*The ecological effects of biofuels. **Steering Committee**, Washington, DC, March 2008.*
*Systems in transition: What's happening and what's to be done? **Convener**, New London, NH, 10-11 December 2007.*
*What good is GLEON? A Workshop to Explore Buoy Data as a Tool to Link Outreach, Education and Research, **Convener and Chair**, New London, NH, 13 November 2006.*
*Workshop on fog research in redwood forest, **Co-convener**, Berkeley, CA, December 2005.*
*Ecological Circuitry Collaboratory. Final synthesis workshop, **Co-convener**, Minneapolis, MN, November 2005.*
*Ecological Society of America, Workshop on modeling in ecology, **Co-convener**, 90th Annual Meeting, ESA. Montreal, Canada, August, 2005.*
*Lake Science: Regional Connections and Vision: A workshop of education and research professionals from northern New England, **Convener, Chair**, New London, NH, April 2005.*
*NEON Planning Committee, Research Infrastructure, Facilities Infrastructure Committee, **Co-chair**, 3 meetings, 2004, 2005.*
*Ecological Society of America. The mechanics of integrating ecological science and public policy, **Co-leader**, 89th Annual Meeting, Portland, OR, August 2004.*
*The Nature Conservancy and Institute of Ecosystem Studies. Workshop on Air Pollution and Biodiversity, **Co-convener**, Millbrook, NY, May 2004.*
*New York State Energy Research and Development Authority (NYSERDA). Acid Rain Research, **Co-chair**, Ecosystem Response Session. Albany, NY, October 2003.*
*An international workshop on fog, trees, ecosystem functioning and biodiversity of relict temperate rain forest patches in Fray Jorge National Park, Chile, **Co-convener**, La Serena, Chile, May 2003.*
*Cary Conference X, Ecosystem function in heterogeneous landscapes, **Co-chair**, Institute of Ecosystem Studies, Millbrook, NY, April 2003.*
*Structure and Function of Boundaries in Ecological Mosaics: A Workshop on the status and opportunities for integrated research, **Co-convener**, Institute of Ecosystem Studies, Millbrook, NY, October 2000.*
*Acid Rain: The Ecological Response, **Co-convener**, Washington, DC, 1999.*

Invited Participation in Meetings and Panels (representative examples)

Panelist: UN SDG 2023 Side Event: Addressing Global Water Insecurity: Harnessing the power of big data, novel technologies, and international collaboration, 18 September 2023

Keynote Speaker: Aquacosm All Hands' meeting, April 2021

Keynote Speaker: Ottawa-Carleton Institute of Biology, Ottawa, Canada, May 2019

Keynote Speaker: Women and Climate Change, Roosevelt Library, Hyde Park, NY, April 2015

Gordon Research Conference: Catchment Science, Lewiston, ME, July 2011, **invited speaker**

EPSCoR Arkansas: Engaging America's Talent, Little Rock, AR, March 2010, **invited speaker**

Cary Conference XIII, *Effective communication of science in environmental controversies.*

Millbrook, NY, May, 2009, **invited speaker**

Global Lakes Ecological Observatory Network (GLEON), steering committee member and

presenter for Lake Sunapee, New Hampshire buoy and working group 4th, 5th, 6th, and 7th

International Meetings; Finland, March 2007, Montreal, August 2007, Florida, February 2008, Sweden, September 2008, **invited participant**

Global Lakes Ecological Observatory Network (GLEON), member and presenter for Lake Sunapee, New Hampshire buoy and working group, March 2005, 2nd and 3rd International Meetings; Australia, March 2005; Taiwan, October 2006, **invited participant**

Critical Loads, Baltimore, MD, 11-14 February 2008, **invited participant**

Sustainability of BioFuels, Institute of Ecosystem Studies, Millbrook, NY, November 2007, **invited participant**

Urban Air Pollution Workshop, Baltimore LTER Program, Baltimore, MD, September, 2007, **invited participant**

Metamodels: Developing novel approaches to biocomplexity in endangered species management workshop, Chicago, IL, 16-18 November 2006, **invited participant**

Northeast Ecosystem Research Cooperative, Biannual Meeting, Durham, NH, October 2006, **invited speaker**

Program Evaluator, EPA Office of Air and Radiation, 2006, **invited**

Deans' and Forestry School Leaders', Summit on Forest Research for the 21st Century: Defining Strategic Directions and Rebuilding Capacity, 4-6 January 2006, **invited participant**

National Institutes of Medicine, Environmental Medicine Round Table, **invited speaker**

Member, North Temperate Lakes LTER External Review Committee, May 2005, **invited committee member**

EPA Office of Air and Radiation Program Evaluation Workshop, Washington, DC, 29-30 November 2005, **invited participant**

NEON Planning Committee, 2004, 2005, Research Infrastructure, Facilities Infrastructure Committee, Co-Chair, **invited**

Nitrogen Deposition-Ecosystem Function Long Term Ecological Research Workshop, Boulder, CO, 7-9 November 2004, **invited participant**

Northeast Ecosystem Research Cooperative, Biannual Meeting, Amherst, MA, October 2003, **invited speaker**

North Eastern Regional Air Quality Consortium Meeting, Lubec, ME, June 2003, **invited speaker**

Steering Committee, Seventh, ninth, and tenth Cary Conferences, Millbrook, NY, 1989, 2001, 2003, **invited**

EPA Ecological Thresholds Workshop, Washington, DC. November 2002, **invited speaker**

Hubbard Brook Research Foundation, "Science Links" scientist, 2000-2001, **invited**

Evaluating Biogeochemistry Programs in Northwestern National Parks, Seattle, WA, January 2001, **invited**

American Women in Science, 2002 Dissertation Improvement Grant Reviewer, **invited**

Advisory Workshop for Hudson River Tributaries of Dutchess County, Poughkeepsie, NY, April 2001, **invited**

CASTNet Dry Deposition Workshop, Washington, DC, March 2000, **invited**

New York State Energy Research and Development Authority (NYSERDA), *Acid Rain Research*, Albany, NY, December 1999, **invited panel member**

Nitrogen in Coastal Watersheds Workshop, Narragansett, RI, 1997, **invited participant**

National Center for Ecological Analysis and Synthesis (NCEAS) Workshop, Santa Barbara, CA, 1997, **invited participant**

Dissolved Organic Nitrogen in the Atmosphere Workshop, College Park, MD, 1998, **invited**

participant

American Association of University Women American Foundation Panel, 1997-2000. Review of approximately 30-50 research proposals annually for this panel meeting, **invited**

National Science Foundation, Ecosystem Studies Advisory, Field Station and Marine Biological Laboratories Panel and Major Research Instrumentation Panels, 1995-2006, **invited**

Forest Response Program/Western Conifer Planning Meeting, Corpus Christi, TX, February 1988, **invited speaker**

National Atmospheric Deposition Program Technical Meeting, Minneapolis, MN, November 1987, **invited speaker**

NATO Advanced Research Workshop, Edinburgh, Scotland, September 1986, **invited speaker**

NAPAP Mountain Cloud Chemistry Project Protocol Meetings, Albany, NY, November 1984 and March 1986, **invited speaker**

Institute of Ecosystem Studies - Cary Conferences I-XIII, Millbrook, NY 1985-present, **invited participant**

Invited Seminars

Marine Biological Laboratory (MBL), November 2022

Northern Arizona State University, Dec 2020

Carleton University, May 2019

National Science Foundation, February 2019

Pacific Northwest Laboratory, March 2019

SUNY New Paltz, March 2018, Harrison Lecture

Boston University, November 2018

Long-term Ecological Research (LTER)-All Scientists' Meeting, October 2018

University of Saskatchewan, October 2017

Michigan Tech University, October 2017

University of Saskatchewan, October 2017

Michigan Tech University, October 2017

Columbia University, Lamont Doherty, Nov 2016

Iowa State, May 2016

Virginia Tech University, April 2016

Michigan State University, February 2015

Utah State University, April 2014

Binghamton University, February 2013

Colby College, September 2012

Cary Institute, April 2012

Ohio University, May 2012

University of Massachusetts, Dartmouth, October 2011

Keene State University, February 2011

University of Kentucky, Lexington, KY, November 2010

Syracuse University, Syracuse, NY, March 2010

Miami University, Oxford, OH, April 2009

University of Maine, Orono, ME, November 2008

Lamont-Doherty of Columbia University, Palisades, NY, January 2008

University of Toronto, Toronto, Canada, March 2007

Columbia University, New York, NY, November 2006

Rutgers University, New Brunswick, NJ, September 2006
Dartmouth College, Hanover, NH, November 2005
Lamont-Doherty of Columbia University, Palisades, NY, November 2005
NAS, Institutes of Medicine, Environmental Medicine Round Table, "Ecological effects of the Cap and Trade Program," Washington, DC, February 2005
The Ecosystems Center, Woods Hole, MA, March 2004
Colby-Sawyer College, New London, NH, January 2004
Rensselaer Polytechnic Institute, Rensselaer, NY, April 2003
American Chemical Society, Mid-Hudson Chapter, Beacon, NY, March 2003
Vassar College Careers Symposium, Poughkeepsie, NY, February 2003
Cornell University, Ithaca, NY, November 2002
Indiana University, Bloomington, IN, March 2002
New York State Energy Research and Development Authority (NYSERDA), Albany, NY, November 2001
Clean Air Coalition, U.S. Senate - Staffer and Stakeholders' Briefing on the Science of Acid Deposition, Washington, DC, 2000
University of Virginia, Environmental Sciences, Charlottesville, VA, April 2001
Colorado State University, Fort Collins, CO, February 2000
The Ecosystems Center, Woods Hole, MA, November 1997
Cary Conference VII, Millbrook, NY, May 1997
Fordham University, Bronx, NY, October 1996
University of Rhode Island, Kingston, RI, February 1995
Pace University School of Law, New York, NY, 1995, 1996
St. Mark's Episcopal Church, Greenwich, CT, October 1995
Cornell University, Ithaca, NY, December 1992
Fordham University, Bronx, NY, March 1992
Calvin College, Grand Rapids, MI, January 1991
Bard College, Annandale, NY, July 1990
Albion College, Albion, MI, October 1986

Grants/Contracts

Research:

- 2022-2024 NASA/SBG: GLEON Early Career Lake Expedition, Kathleen Weathers (PI), Paul Hanson, \$175,000.
- 2020-2022 Collaborative Research: Cyberinfrastructure enabling end-to-end workflows for aquatic ecosystem forecasting. National Science Foundation. Renato Figueiredo (computer science, PI), Kathleen Weathers (co-PI), Cayelan Carey, VT (PI), R. Quinn Thomas, VT (co-PI), \$635,677 (UFlorida portion).
- 2019-2020 FAIR Data Workshop. NSF. Kathleen Weathers PI, Renato Figueiredo (co-PI), Paul Hanson (co-PI), Cayelan Carey (co-PI), \$49,958.
- 2018-2020 Building the community to address data integration of the ecological long tail.

- National Science Foundation. Kenneth Chiu (computer science), PI, Kathleen Weathers, Holly Ewing (Bates College), Kevin Rose (RPI), co-PIs. \$155,944 (Cary portion).
- 2017-2020 Interactive effects of catchment and climate change on water quality in forested North Temperate lakes: Historic trends and future predictions. NASA. David Lutz, Dartmouth College (PI), Kathleen Weathers (co-PI), \$314,520 (Cary portion).
- 2017-2021 Grassroots global network science: A macrosystems model. National Science Foundation. Kathleen Weathers, Cary Institute (PI), Paul Hanson, UWisconsin (co-PI), \$498,000.
- 2016-2021 Macrosystems biology: Ecological forecasting. National Science Foundation. Michael Dietze (PI), Boston University, Shannon LaDeau (co-PI), Kathleen Weathers (co-PI), \$555,805 (Cary portion).
- 2016-2019 CNH-L: Linking land-use decision making, water quality, and lake associations to understand human-natural feedbacks in lake catchments. National Science Foundation, ICER-1517823. Kelly Coburn, VT (PI), Kevin Boyle (co-PI), Cayelan Carey (co-PI), Chris Duffy, Paul Hanson, Pat Soranno, Kathleen Weathers (co-PI), \$1,799,931.
- 2013-2015 Development of real-time environmental sensor technology and applications for the Northeast: A proposal from the NERC Northeastern Environmental Sensor Working Group (NESN). NSRC. L. Rustad (PI), M. Martin, K.C. Weathers, K. Rose, J. Shanley, \$26,868.
- 2013-2014 Lessons learned from grassroots networks workshop. National Science Foundation. K.C. Weathers (PI), T. Kratz (co-PI), C. Carey (co-PI), \$87,993.
- 2012-2014 Coastal fog as a system: Catalyzing an interdisciplinary research agenda. Gordon and Betty Moore Foundation, K.C. Weathers (PI), \$157,000.
- 2012-2017 Building analytical, synthesis, and human network skills needed for macrosystem science: A next generation graduate student training model based on GLEON. National Science Foundation. K.C. Weathers (PI), P. Hanson (co-PI), \$2,100,000.
- 2012-2014 Frontiers in ecosystem ecology: Energizing the research agenda. National Science Foundation, P.M. Groffman, K.C. Weathers, \$157,773.
- 2011-2014 Ecosystem dynamics in a Mexican tropical forest: Pilot project. National Science Foundation. A. Ponette-Gonzalez, K.C. Weathers, \$53,296.
- 2010-2013 Appalachian Trail Mega Transect Project. National Park Service, K.C. Weathers, H.A. Ewing (funded through Bates College), \$100,000.

- 2009-2012 Collaborative research: Opening Pandora's box with a biotic key: Can cyanobacterial blooms in nutrient-poor lakes accelerate eutrophication. National Science Foundation, Emerging Frontiers, K.L. Cottingham, H.A. Ewing, K.C. Weathers, \$949,043.
- 2008-2010 Microbes, mariculture, forests and fog: Unexplored ecosystem interconnections in southern Chile. Ocean-Atmosphere-Terrestrial Systems Program, Earth Institute, Columbia University. M. Uriarte, K.C. Weathers, E. Dueker, C. Small, A. Subramaniam, G. O'Mullan, A. Juhl, \$200,000.
- 2008-2011 Cyber-Infrastructure-Team Demonstration: Developing a model for engagement of citizen scientists: Lake associations. National Science Foundation-OCI, K.C. Weathers, K. Chiu, B. Benson, A. Zimmerman, J. Fichter, \$249,900.
- 2008-2010 Empirical estimation of the critical load for inorganic aluminum mobilization in the western Adirondack region. New York State Energy Research and Development Association. K.C. Weathers, G. Lawrence, T. Sullivan, \$61,000.
- 2007-2009 Opening Pandora's Box: A cyanobacterial key and its potential to accelerate eutrophication. National Science Foundation. K.L. Cottingham, K.C. Weathers, H.A. Ewing, N. Caraco, \$49,999.
- 2007-2009 Mapping of total N and S deposition, eastern North America. NSRC, USDA-FS. K.C. Weathers, \$35,000.
- 2007-2010 A spatially-explicit watershed scale analysis of nutrient loading to Adirondack lake ecosystems. National Science Foundation. C.D. Canham, M.L. Pace, K.C. Weathers, \$301,000.
- 2006-2007 North American wet deposition mapping. Council for Economic/Ecological Cooperation, Montreal, Canada. K.C. Weathers, \$68,000.
- 2006-2008 Land cover effects on water fluxes and atmospheric deposition across a Mexican Tropical Montane landscape. Doctoral Improvement Grant: National Science Foundation. K.C. Weathers, A. Ponnette-Gonzalez, \$12,000.
- 2005-2007 Development of a strategic plan to assess field station needs for research, teaching, education and outreach in northern New England. National Science Foundation. K.C. Weathers, J. Callewaert, \$24,170.
- 2003-2007 An assessment of forest health and soil status to determine the effects of logging practices on water quality in the west-of-Hudson watersheds. SUNY Research Foundation. G.M. Lovett, K.C. Weathers, \$241,780.

- 2003-2004 International: planning visit – Fog, trees, ecosystem functioning and the biodiversity of relict temperate rain forest patches in Fray Jorge National Park, Chile. National Science Foundation. C.G. Jones, K.C. Weathers, T. Dawson, H.A. Ewing, \$21,142.
- 2003-2004 Cary Conference X: Ecosystem function in heterogeneous landscapes. Environmental Protection Agency. G.M. Lovett, K.C. Weathers, C.G. Jones, \$20,000.
- 2003-2004 Cary Conference X: Ecosystem function in heterogeneous landscapes. USDA National Research Initiative Competitive Grants Program. G.M. Lovett, K.C. Weathers, C.G. Jones, \$15,000.
- 2002-2004 Atmospheric deposition to complex terrain: Scaling up to the landscape. National Park Service. K.C. Weathers (PI), G.M. Lovett, S.E. Lindberg, \$131,000.
- 2002-2004 Comparing atmospheric deposition estimates: Throughfall and inferential methods at CASTNet sites. Environmental Protection Agency. K.C. Weathers (PI), \$60,000.
- 2002-2004 Cary Conference X: Ecosystem function in heterogeneous landscapes. Andrew W. Mellon Foundation. G.M. Lovett, K.C. Weathers, C.G. Jones, \$30,000.
- 2002-2004 Cary Conference X: Ecosystem function in heterogeneous landscapes. National Science Foundation. G.M. Lovett, K.C. Weathers, C.G. Jones, \$50,000.
- 2001-2003 Fog mediates the hydrological and nitrogen cycles of Redwood forests. Andrew W. Mellon Foundation. K.C. Weathers, T.E. Dawson and M. Firestone, University of California, Berkeley for collaborative research, \$300,000.
- 2001-2003 An integrated assessment of the recovery of surface waters from reduced levels of acid precipitation in the Catskills and Adirondacks, NY. NYSERDA. G.M. Lovett, K.C. Weathers, \$173,462.
- 2001-2004 A regional model of atmospheric deposition for the Northeastern US. Northeast Regional Cooperative (US Forest Service). K.C. Weathers (PI), G.M. Lovett, S.V. Ollinger, \$191,000.
- 2000-2003 The effects of an introduced pest on the C and N dynamics of a northern hardwood forest. National Science Foundation. G.M. Lovett, K.C. Weathers, M.A. Arthur, M. Carreiro, \$974,748.

- 1999-2004 Under the Andrew W. Mellon Foundation grant to the Institute of Ecosystem Studies: Ecosystem function in mosaic landscapes: Boundaries, fluxes, and transformations. **Subgrants:** (1) The ecological function of forest edges. \$38,176. K.C. Weathers, S.T.A. Pickett, M.L. Cadenasso; (2) Nitrate loss from Catskill watersheds: Spatial patterns of forest type and history. \$63,411. G.M. Lovett, K.C. Weathers; (3) The role of spatial scale in hydrologic export of materials from heterogeneous watersheds: Scaling down from large-river models. \$32,619. N.F.M. Caraco, J.J. Cole, G.M. Lovett, K.C. Weathers; (4) Structure and function of ecological boundaries: A workshop on status and opportunities for integrated research. \$14,033. S.T.A. Pickett, M.L. Cadenasso, K.C. Weathers.
- 1998-2000 PRIMENet — Atmospheric deposition in mountainous terrain: Scaling up to the landscape. Environmental Protection Agency, Cooperative Agreement CR826558-01-0. K.C. Weathers, G.M. Lovett, and S.E. Lindberg, \$483,206.
- 1997-1998 Cloud water chemistry in the Catskill Mountains, NY. QST Environmental. G.M. Lovett and K.C. Weathers, \$34,272.
- 1997-1999 Atmospheric controls on nutrient cycles in remote, old growth, temperate forests of southern Chile. The Andrew W. Mellon Foundation. K.C. Weathers, G.M. Lovett, G.E. Likens, \$50,000.
- 1996-1997 The importance of cloud water for forested ecosystems in southern Chile. The Andrew W. Mellon Foundation. K.C. Weathers, G.M. Lovett, G.E. Likens, \$100,000.
- 1996-1999 Nitrate loss from Catskill watersheds: The role of forest change. USDA NRICGP. G.M. Lovett, K.C. Weathers, M.A. Arthur, \$378,000.
- 1988 Graduate student research - 1988. National Audubon Society. K.C. Weathers, \$1000.

Major Instruments and Laboratory Facilities:

- 1989-2007 Created, set vision for, administered, and managed IES Analytical Laboratory, a shared, in-house analytical facility with four (4) technical staff and up to \$300,000 annual budget (Cary Institute).
- 2005-2007 Acquisition of instrument and information infrastructure for the IES Analytical Laboratory. National Science Foundation, \$290,764. K.C. Weathers and D.A. Schmidt. Also, Research experiences for undergraduate (2 students), and research enhancement for undergraduate instructors supplements (1 undergraduate faculty member).
- 2002-2005 Acquisition of instrumentation for the Institute of Ecosystem Studies' Central Analytical Lab. National Science Foundation, \$154,337. K.C. Weathers, PI.

- 1999-2001 Multi-user biological instrumentation - A replacement scintillation counter and cation ion chromatograph for the IES Analytical Laboratory. National Science Foundation, \$46,134. K.C. Weathers, PI.
- 1998-1999 Multi-user biological instrumentation - Analytical laboratory equipment and development of laboratory computer network at the Institute of Ecosystem Studies. National Science Foundation, \$90,566. K.C. Weathers, PI; co-PI, C.D. Canham.
- 1994-1995 Facilities improvement at the Institute of Ecosystem Studies. National Science Foundation, \$99,000. K.C. Weathers, PI; co-PI, G.E. Likens.
- 1991-1992 Facilities upgrade at the Institute of Ecosystem Studies. National Science Foundation, \$48,000. K.C. Weathers, PI; co-PI, G.E. Likens, J.J. Cole.

Teaching

Fundamentals of Ecosystem Ecology. Cary Institute of Ecosystem Studies. The Cary Institute offers an intersession course for graduate students in the U.S. and abroad. One Institute staff member is responsible for all aspects of the course. To date, I have run the course four times: 1994, 1995, 2004, and 2014.

Ecosystem Ecology. Bard College Graduate Program in Environmental Studies. A 1-semester graduate course in ecosystem ecology for master's level environmental studies students. 1995-1998.

Forest, Land and Soils Module: (1) Fundamentals of Terrestrial Ecosystem Ecology, and (2) Fundamentals of Water. Bard College, Center for Environmental Policy. Master's degree program in Environmental Policy. 2001-2003.

Nitrogen Emissions, Chemistry and Deposition - lectures to MS students in the Ecology, Evolution, and Behavior Program, State University of New York, Albany. 2005, 2008.

Air Pollution – lectures for law students. Pace University, Environmental Law Program. 1990s.

Students Supervised

GLEON Fellowship Program (listed by Cohort):

Cohort 1

Jennifer Brentrup, Miami University, Ohio; Jessica Corman, Arizona State University; Hilary Dugan, University of Illinois, Chicago; Amy Hetherington, Cornell University; Aline Jaimes, University of Texas, El Paso; Emily Nodine, Florida International University; Samantha Oliver, University of Wisconsin, Madison; Vijay Patil, University of Alaska; Ari Santoso, Waikato University, New Zealand; Luke Winslow, University of Wisconsin, Madison; Kirsten Winters, Portland State University; Richard Woolway, University College, London, England; Jake Zwart, Notre Dame

Cohort 2

Flora Krivak-Tetley, Dartmouth College; Ana Morales, Iowa State; Nicholas Skaff, Michigan State University; Ian McCullough, University of California, Santa Barbara; Kaitlin Farrell, University of Georgia; Jonathan Doubek, Virginia Tech; Zutao Yang, The University of Toledo; Jamie Summers, Queen's University; Samantha Burke, The University of Waterloo; Derek Roberts, University of California – Davis; Sarah Bartlett, U. Wisconsin-Milwaukee; Facundo Scordo, Instituto Argentino de Oceanografía/Universidad Nacional del Sur

Cohort 3

Whitney Beck, Colorado State; Ruchi Bhattacharya, University of Waterloo, Canada; Ludmila Brighenti, Universidade do Estado de Minas Gerais Unidade Divinopolis; Sarah Burnet, University of Idaho; Mary Lofton, Virginia Tech

Cohort 4/LakeExpedition2020

Abdou Bah, City University, New York; Rosaura Chapina, University of Vermont; MJ Farrugia, UC Davis; Maarjte Kover, McGill University; Sofia LaFuente, Dundalk Institute of Technology, Ireland; Eric Massa, Queens University, Canada; Elias Munthali, Malawi; Jenna Robinson, RPI; Heather Wander, Virginia Tech

Cohort 5/LakeExpedition2022

Bryan Currinder, UC Davis Engineering; Max Glines, RPI; Adrianna Gorsky, University of Wisconsin; Elijah Hall, University of Pittsburgh; Dexter Howard, Virginia Tech; Lara Jansen, Portland State; Caroline Owens, UC Santa Barbara; Anna Schmidt, University of Vermont; Samantha Sharp, UC Davis

National Science Foundation Research Experience for Undergraduates Program (Advisees):

Lewis, Abigail. "Nutrient limitation of phytoplankton at varying depths in a stratified lake." 2017
Shrift, Margot. "Estimating chlorophyll-*a* and water quality for nutrient poor lakes using Landsat 8. 2017.
Skoglund, Sophia. Developing a model for lake ice phenology using satellite remote sensing observations." 2017.
Boucher, Jonah. "Assessing the effectiveness of Landsat 8 chlorophyll-*a* retrieval algorithms for regional freshwater management." 2016.
Saber, Saba. "Scanning from the sky: Using remote sensing to estimate gross primary production in lakes." 2016
Fiorillo, Alyeska. "Understanding ion chromatography for the analysis of environmental samples." 2008.
Parker, Claire. "Understanding ion chromatography for the analysis of environmental samples." 2008.
Voeller, Gabrielle. "Exploring resin technology for ecological studies." 2006.
Barron, Alexander. "Effects of leaf litter extracts on nitrification in Catskill soils." 1998.
Fuller, Amanda. "A comparison of nitrogen and mineralization rates for four species in the Catskill Mountains, NY, and White Mountains, NH." 1994.

- Perchemlides, Keith. "Influence of canopy tree species and elevation on rates of net N-mineralization and net nitrification in a Catskill Mountain watershed." 1993.
- Waters, Susan. "Effects of acid deposition: Influence of elevation and edge on nitrogen mineralization in a spruce forest." 1991.
- Arnott, A. Miles. "The effect of elevation and vegetation type on atmospheric lead deposition to the Catskill Mountains." 1991.

Undergraduate Theses/Final Projects Co-Supervised:

- Voeller, Gabrielle. 2007. Bates College, Chemistry and Environmental Studies, "Combined anion and cation resins for the collection and analysis of atmospheric deposition: Field and laboratory experiments."
- Carey, Cayelan. 2005-2007. Dartmouth College, "Controls on *Gloeotrichia* blooms, Lake Sunapee, New Hampshire."
- Savard, Michelle. 2005. Princeton University, Ecology and Evolutionary Biology, "Sulfate and nitrate deposition to balsam fir: Measured across an elevational gradient on Mt. Washington, White Mountains, New Hampshire."
- Maki, Christina. 2005. Bates College, Environmental Studies Program, "Ionic composition of streamwater and its relationship to conductivity in the Lake Sunapee Watershed."
- Van Steinburgh, Greg. 2005. Colby-Sawyer College, "Efficacy of catchment basins for trapping sediment in the Lake Sunapee Watershed."
- Gasarch, Eve. 2005. Bates College, Environmental Studies Program, "Fire as a local control on forest composition at Bad Man's Cave, Catskills, New York."

Eaton Fellows Supervised:

- Schmidt, Denise. "Expanding the analytical capabilities of the Cary Institute Analytical Laboratory." 2011.
- Hanson, Paul. "Exploring data and analytical flows, from sample collection to synthesis." 2006-2007.
- Fitzgerald, Neil. "Comparison of trace metal variations in buffered and poorly buffered streams in the Shawangunk Mountain range." 2002-2003.
- Perez, Cecilia. "C and N content in Chile forest litter and the purchase of a C/N Analyzer for ecological research in Chile." 1998.
- Laughlin, Janet. "Practical experience in an analytical laboratory." 1996.
- Schechter, Ludmilla. "C and N dynamics in ecological materials from the Negev, Israel." 1994.
- Begemann, Marianne. "A comparison of two methods for analysis of aluminum." 1992.
- Shultz, Alexandra. "The effects of pH on aluminum speciation in the Coxingkill." 1990.
- Ma, Xiaoying. "Elemental dynamics of the East Branch of Wappinger Creek during summer storm events." 1989.

Postdoctoral Scholars Supervised:

Pamela Templer (2003), David Richardson (2008-2009), Emily Kara Read (2012-2014), Hilary Dugan (2014-2016)

Graduate Students: notes: (1) the Cary Institute does not grant degrees, (2) all student advising for M.S. degrees occurred between 1994 and 2003.

Advisor or Co-Advisor

Carey, Cayelan, Cornell University (Ph.D.), 2007- 2012
Simkin, Samuel, Cornell University (Ph.D.), 2004-2012
Ponette-Gonzalez, Alexandra, Yale University (Ph.D.), 2004-2008
Skalla, Dennis, Bard College (M.S.)

Committee Member

Hall, Eli, University of Pittsburgh, PA (Ph.D.) 2022-2025
Bah, Abdou, City Technical College, New York (Ph.D.) 2019-2023
Ward, Nicole, Virginia Tech University (Ph.D.), 2017-2021
Fitchett, Leah, Virginia Tech University (MS), 2017-2019
Dueker, M. Elias, Columbia University (Ph.D.), 2007-2012
Schwarz, Kirsten, Rutgers University (Ph.D.), 2007-2010
Nelson, Sarah, University of Maine (Ph.D.), 2001-2007
Cadenasso, Mary, Rutgers University (Ph.D.), 1995-1998
O'Hara, Jennifer, Yale University (Ph.D.), 1997-2001
Dittersdorf, Joanne, Bard College (M.S.)
Ito, Pamela, Bard College (M.S.)
Lombardo, Melannie, Bard College (M.S.)
Macfarlane, Wallace, Bard College (M.S.)
Mele, Andre, Bard College (M.S.)
Miller, S.A. Mary, Bard College (M.S.)
Moffett, Elizabeth, Bard College (M.S.)
Morrison, Jennifer, Bard College (M.S.)
Ross, Daphne, Bard College (M.S.)

Reviewer for:

Arid Environments, Atmospheric Environment, Biogeochemistry, BioScience, Ecological Applications, Ecology, Ecography, Ecosystems, Environmental Pollution, Environmental Research Letters, Environmental Science and Technology, Environmental Studies and Science, Frontiers in Ecology and the Environment, Global Biogeochemical Cycles, Journal of Aerosol Science and Technology, Journal of Environmental Quality, Journal of Geophysical Research, Marine Environmental Research, National Science Foundation (outside reviewer, misc. panels), Nature, Oecologia, Plant, Cell and Environment, Science, Tree Physiology, Tellus, Water, Air and Soil Pollution, Water Resources Research

Cary Institute of Ecosystem Studies Service (* denotes current)***Cary Institute Board-of-Trustees***

Strategic Planning 2012-2017, Education Sub Committee (chair)

Visions Committee

Presidential Search Committee, 2008, 2013

Standing Committees (committees no longer active denoted as “past”)

Affirmative Action (past)

Cary Conference Steering (past)

Computer (chair; past)

Discussion groups (chair)*

Eaton Fellowship (chair; past)

Environmental Monitoring* (chair)

Local Area Network Establishment (past)

Milestones and Media (past)

Mosaic Landscape Research Management Team

New Laboratory Building and Space Allocation (chair; past)

PostDocs, Summer Fellows and Visiting Scientists*

Staff Review and Peer Advisory Preparedness*

Telecommunications (past)

Workplace Safety (past)

Ad hoc committees

Adjunct Scientists*

Archives (chair)

Centers at the Institute

Data Management

Graduate Opportunities

Emeritus Policy

Lyme Disease

Research Assistant Salary

Search Committees (Scientific staff-Chair*, Development Officer, Safety Officer, Support Staff)

Various Other Cary Related Presentations

Aldo Leopold Society

Volunteer Recognition Program

Trustees of the Mary Flagler Cary Charitable Trust

Board of Trustees

Spring Luncheon

Friday Night at Cary

Society Memberships

American Association for the Advancement of Science (AAAS)

American Society for Limnology and Oceanography (ASLO)

American Geophysical Union (AGU)

Ecological Society of America (ESA)

International Network for the Science of Team Science (INciTS)