Jeffrey W. Hollister

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Summary

I am an ecologist and environmental data scientist with interests and expertise at the intersection of limnology, landscape ecology, GIS, open science, R and data science. My past experience is in applications of geospatial technologies (such as geographic information systems, spatial statistics, and remote sensing) to environmental research and broad scale environmental monitoring, modeling and assessment. Currently, my research focus is on monitoring and forecasting cyanobacterial blooms in lakes and ponds. A unifying theme to my research is using open science (open access, open source, and open data) and data science to benefit environmental science. My work is unique in that it combines elements of traditional research with expert level consultation, teaching, mentoring, and advising on data science and open science.

Relevant Skills

R: 20+ years of experience using R for analysis, data management, data visualization, R package development, application development, and reproducible research.

Geospatial Analysis: 25+ years using GIS (ESRI and R), landscape analysis, lake morphometry

Data: Extensive user of columnar datasets (e.g., csv, feather, parquet), data pipelines with GitHub Actions, expert with R and Tidyverse for ETL and data management, learning SQL, learning DuckDB

Data science teaching and mentoring: Taught 25+ R workshops, Data Carpentry certified instructor, University of Rhode Island Adjunct Faculty member, co-founder of rhodyRstats, co-lead USEPA R User Group, and founding member of Inter-Agency R User Group

Open science: Evangelist for and avid user of open access publishing, open source software, and open data at USEPA and beyond. Former member of White House Office of Science and Technology Policy Year of Open Science/Engagement Subgroup.

Ecology/Environmental Science: 20+ years as a researcher and principal investigator on estuarine, lake, harmful algal bloom, and landscape ecology research efforts.

Communication: Co-author on 90+ presentations, poster, expert panels, and workshops and lead author or co-author on 40+ scientific publications, non-peer reviewed articles, and scientific software products.

Current Appointments

Dec 2021 - Present Associate Editor, rOpenSci Software Peer Review

Dec 2019 - Present Ecologist, U.S. Environmental Protection Agency, Atlantic Coastal Environmental Sciences Division

Nov 2016 - Present Adjunct Associate Professor, University of Rhode Island, Department of Natural Resources Science

Experience

Jan 2020 - Present Ecologist (GS-0408-14), U.S. Environmental Protection Agency, Atlantic Coastal Environmental Sciences Division, Narragansett, RI

I serve as principle investigator and Agency leader on freshwater Harmful Algal Bloom and environmental data science research. I also provide leadership to the Agency on geospatial sciences and Open Science applications in environmental research. I currently co-lead a project examining high-resolution spatial and temporal dynamics of harmful algal blooms and a project modelling long-term photic zone temperature in lakes across the U.S. I lead a project that is developing open tools for predicting and measuring morphometry in lakes and streams. Lastly, I serve as mentor for multiple post-baccalaureate and post-doctoral fellows.

Nov 2016 - Present Adjunct Associate Professor, University of Rhode Island, Department of Natural Resources Science, Kingston, RI

Team taught, with Drs. Rachel Schwartz and Harrison Dekker, Special Topics in Biology: Shiny apps for effective scientific communication, and Special Topics in R.

Dec 2022 - April 2023 and Dec 2023 - April 2024 Supervisory Ecologist (GS-0408-15), temporary promotion, U.S. Environmental Protection Agency, Atlantic Coastal Environmental Sciences Division, Narragansett, RI

I served as Acting Branch Chief for the Management and Assessment Branch of the Atlantic Coastal Environmental Sciences Division. In this role, I supervised 8 federal and 2 non-federal staff, planned and managed branch activities, mentored and coached staff as needed on research and career development, and contributed leadership to center and division management teams. I also contributed to and co-led research on freshwater ecology, harmful algal blooms, and data science. This included working with and co-leading several small research teams, managing research budgets and coordinating purchases of research equipment and supplies.

Aug 2008 - Dec 2019 Research Ecologist (GS-0408-13), U.S. Environmental Protection Agency, Atlantic Ecology Division, Narragansett, RI

I served as principle investigator and provided leadership to the division on landscape ecological research, on application of geospatial sciences to the understanding of water quality in fresh and estuarine waters, and on the use of informatics and information management tools in environmental research. In this role, I developed tools and methodologies (GIS and statistical) using numerous software packages and languages (R, ArcGIS, GRASS, Python, MS Excel) and continued prior research on technology transfer of data, analytical methods and predictive tools to Northeast States; and developed statistical and modeling tools to facilitate use of defensible techniques in water quality criteria development. Previously I have: served as Co-lead on a project studying ecosystem services related to nutrient cycling in Northeastern lakes and ponds, served as liaison between the National Ecological Observatory Network (NEON) and EPA's Ecosystem Services Research Program (ESRP), led lakes ecosystem services work, served as co-task lead for developing decision support tools for a project in Narragansett Bay and its watershed, and served as a co-task Lead on a project exploring cyanobacteria risk in lakes of the Northeastern US. I also explored the use of open science, data science, and computational ecology in our research programs.

Jan 2007 – Nov 2016 Adjunct Assistant Professor, University of Rhode Island, Department of Natural Resources Science, Kingston, RI

Team taught in alternating Spring Semesters, with Dr. Peter V. August, Ecology of Fragmented Landscapes (NRS 534) a graduate level seminar course in Landscape Ecology. Course included readings and group discussion of the concepts and principles of landscape ecology. Also team taught with Drs. Peter V August and Adam Smith, a scientific computing survey course focusing on R, version control, and reproducible research. Provided guest lecture on R in CSC 592 Programming For Scientists during Fall 2014.

May 2006 – July 2008 Postdoctoral Landscape Ecologist (GS-0408-12), U.S. Environmental Protection Agency, Atlantic Ecology Division, Narragansett, RI

Contributed to research and technology transfer of National Coastal Assessment data, analytical methods and predictive tools to Northeast States. Developed statistical and modeling tools (e.g. Conditional Probability Analysis with R and Excel) to facilitate use of defensible techniques in water quality criteria development. Provided Landscape Ecology, Spatial Statistics and GIS support to a variety of ongoing projects at the Atlantic Ecology Division and within US EPA's Office of Research and Development. Explored linkages between landscape and downstream receiving waters and examined utility of broad scale monitoring data in identifying and assessing ecological impairment.

Aug 2005 – May 2006 Postdoctoral Fellow, U.S. Coast Guard Academy, Department. of Science, Marine Sciences Section, New London, CT

Responsible for teaching 3 laboratory sections of Introduction to Geospatial Sciences (major topics include: introduction to ESRI products, geospatial data management, spatial analysis, cartography, coordinate systems and projections, geodatabases, development of geodatabase for emergency management and hazardous materials response) and teaching 3 sections of a core course in Oceanography (major topics include: marine and coastal ecology, fisheries, meteorology, physical oceanography, coastal oceanography, estuarine classification, and oil spill impact/response). Continued prior research on multi-scale interactions between landscape structure (via NLCD) and sediment metal concentrations (via EMAP) and predictive modeling of estuarine impairment. Worked with students, faculty and colleagues in the Marine Sciences Section, the International Ice Patrol, and Information Services Division on a wide variety of Geographic Information Systems projects.

Jan 2005 – July 2005 Postdoctoral Associate, American Institute of Biological Sciences, National Ecological Observatory (NEON) Project Office, Washington, DC

Researched and assisted in planning of ecological observatories designed to address the National Research Council's Environmental Grand Challenges. Made specific contributions in the design of the land use change component of NEON and design of a Multi-Scaled Remote Sensing System designed to support and develop NEON analytical tools and ecological forecasting models. Other duties included managing Geographic Information Systems operations in the Project Office, maintaining the NEON web presence (http://www.neoninc.org), interacting with research scientists and educators on the NEON Senior Management Team and National Network Design Committee, and assisting with the day-to-day operations of the NEON Project Office.

Sep 2000 – Dec 2004 U.S. EPA/URI Pre-doctoral Fellow/Doctoral Research/Graduate Research Assistant, USEPA Atlantic Ecology Division/University of Rhode Island Northeast Environmental Research Training Program, Narragansett, RI/Kingston, RI

Used monitoring data from the Environmental Monitoring and Assessment Program (EMAP) and the National Land Cover Dataset (NLCD) to explore relationships between landscape structure and indicators of estuarine condition. I specifically researched the accuracy of the NLCD at multiple spatial scales, the role of spatial scale on the relationship between landscape organization (e.g. landscape composition) and ecological health and integrity of Atlantic coast estuaries, and built predictive models of estuarine condition designed to locate estuaries with impacted ecological integrity. As member of Landscape Ecology Working Group, discussed and assisted on projects at USEPA Atlantic Ecology Division and URI utilizing landscape ecology, spatial analysis and broad scale environmental monitoring data, in particular NLCD and EMAP.

May 2003 – Aug 2004 Geographic Information Systems/Biological Database Specialist, Rhode Island Natural History Survey, Kingston, RI

Contributed towards the design and implementation of the Rhode Island Natural History Survey (RINHS) Biodiversity Databases, specifically the Odonata of Rhode Island and the Biota of Rhode Island. Designed field sampling methodology to accurately map invasive species with geostatistical techniques. Provided training to Rhode Island Natural History Survey and Ecological Inventory and Monitoring Stewardship Program Staff on ArcView and ArcMap GIS and Trimble GPS. Training focused on use of these products for ecological and natural history applications. June 2001 Geographic Information Systems Consultant, National Park Service, Gateway National Recreation Area, Staten Island, NY Trained Gateway National Recreation Area staff in use of ArcView, Spatial Analyst, and Trimble GPS products.

Sep 2002 – Dec 2004 Graduate Teaching Assistant, University of Rhode Island, Department of Natural Resource Science, Kingston, RI

Coordinated Conservation of Populations and Ecosystems course (major topics include: conservation biology, ecological and socioeconomic importance of biodiversity, introductory population, community, and ecosystems ecology, genetics, metapopulations, landscape ecology, and data analysis for conservation biology). Taught laboratory sections for Fundamentals of Geographic Information Systems (major topics include: operating systems essentials for GIS, ArcInfo Workstation, Editing and creating spatial data, cartography, and introductory spatial analysis).

Jan 2001 – June 2001 Geographic Information System/Eelgrass Restoration Modeling Consultant, Save the Bay, Inc., Kingston, RI

Compiled bathymetry, current and historic eelgrass locations, historic, and water quality data sets for use in eelgrass restoration efforts. Using the Short et al. (2002) methodology, built geographic information system models of eelgrass restoration potential and generated maps of areas in Narragansett Bay with higher potential of eelgrass restoration success.

June 1998 – July 2000 Lead Research Technician in Landscape Ecology, J.W. Jones Ecological Research Center, Landscape Ecology Lab, Newton, GA

Conducted research on ecological impacts of small wetland loss in the Southeastern United States, use of home range in the design of gopher tortoise (Gopherus polyphemus) reserves, and habitat use and landscape ecology of Northern Bobwhite Quail . Other research duties included remote sensing data analysis (e.g. Landsat Thematic Mapper, SPOT-XS, B&W and CIR Aerial Photography), analysis of vector and raster GIS data, and field data collection (e.g. GPS, vegetation data). Supervised and assisted other technicians, graduate students and summer field workers and managed day-to-day operations of the Landscape Ecology Lab.

Aug 1997 – Jan 1998 Geographic Information Systems Specialist, Research Triangle Institute, Research Triangle Park, NC

Developed a GIS methodology and series of Arc Macro Language scripts to facilitate the identification of river reaches, as required by the Clean Water Act, in the states of North Dakota and Arkansas.

May 1996 – July 1997 Resource Ecology Master's Research, Duke University, Landscape Ecology Lab, Durham, NC

Researched environmental, ecological, and spatial controls on the establishment success of Red Spruce (Picea rubens) in northwestern Virginia. Research techniques included a variety of geographic information systems analytical tools (e.g. Topographic Convergence Index) and spatial statistics techniques (e.g. partial mantel's tests).

Education

2004 Ph.D. Environmental Science, University of Rhode Island, Kingtson, RI

Areas of emphasis: Landscape Ecology, Geospatial Sciences, and Environmental Monitoring *Coursework in:* Coastal Ecology, Geographic Information Systems, Landscape Ecology, and Statistics *Dissertation Topic:* Predicting Condition of Small Estuarine Systems along the United States' Atlantic Coast. (Advisor: Peter V. August, Ph. D.)

1997 Masters of Environmental Management, Duke University, Durham, NC

Areas of emphasis: Resource Ecology, Landscape Ecology, and Geospatial Sciences *Coursework in:* Ecology, Geographic Information Systems, Remote Sensing, Landscape Ecology, Spatial Statistics and Analysis, Conservation Biology, Statistics, and Forest Ecology *Master's project:* An Analysis of Red Spruce Establishment Success in Highland County, Virginia. (Advisor: Patrick N. Halpin, Ph. D.)

1995 Bachelor of Science (Magna Cum Laude), Baker University, Baldwin City, KS

Major: Biology with emphasis in ecology. (Advisor: Roger L. Boyd, Ph.D.)

2012-Present Additional Courses and Training

Software Carpentry Teacher Training, Fall 2014, Software Carpentry Online Teacher Training

Fundamentals of Website Development (CSCI E-12), Spring 2014, Harvard University, Division of Continuing Education

Introduction to Data Science, Coursera/University of Washington, Spring 2013

Introduction to Computer Science using Java II (CSCI E-50b), Spring 2013, Harvard University, Division of Continuing Education

Data Mining and Analysis (STATS 202), Fall 2012, Stanford University, Stanford Center for Professional Development

Introduction to Computer Science using Java I (CSCI E-50a), Fall 2012, Harvard University, Division of Continuing Education

Research Products and Presentations

Peer Reviewed Articles

Shivers, S. D., J. W. Hollister, S. Fournier, J. Stankoski, B. J. Kreakie. (Submitted). Comparing fluorometric methods (in vivo vs extracted) for cyanoHAB monitoring in six Rhode Island ponds. Submitted to Lake and Reservoir Management.

Kellogg, D. Q., J. W. Hollister, C. L. Arnold, A. J. Gold, E. H. Wilson, C. B. Chadwick, D. W. Dickson, Q. Lei-Parent, K. J. Forshay (2024). Assessing landscape N removal in coastal New England catchments using the N-Sink approach with the R Package, *nsink*. F1000Research. https://doi.org/10.12688/f1000research.144100.1

Lowndes, J., A. Holder, E. Markowitz, C. Claterbuck, A. Bradford, K. Doering, M. Stevens, S. Butland, D. Burke, S. Kross, J. W. Hollister, C. Stawitz, M. Siple, A. Rios, J. Welch, B. Li, F. Nojavan, A. Davis, E. Steiner, J. London, I. Fenwick, A. Hunzinger, J. Verstaen, E. Holmes, M. Virdi, A. Barrett, E. Robinson. (2024). Shifting institutional culture to develop climate solutions with Open Science. Ecology and Evolution. https://doi.org/10.1002/ece3.11341

Raposa, K.B., A. Woolfolk, C. A., Endris, M. C., Fountain, G. Moore, M. Tyrrell, R. Swerida, S. Lerberg, B.J. Puckett, M. C. Ferner, J. W. Hollister, D. M. Burdick, L. Champlin, J. R. Krause, D. Haines, A. B. Gray, E. B. Watson and K. Wasson (2023). Evaluating Thin-Layer Sediment Placement as a Tool for Enhancing Tidal Marsh Resilience: a Coordinated Experiment Across Eight US National Estuarine Research Reserves. Estuaries and Coasts. 10.1007/s12237-022-01161-y

Hollister, J. W., D. W. Kellogg, Q. Lei-Parent, E. Wilson, C. Chadwick, D. Dickson, A. Gold, C. Arnold (2022). nsink: An R package for flow path nitrogen removal estimation. Journal of Open Source Software, 7(71), 4039. 10.21105/joss.04039 GitHub

Kreakie, B. J., S. D. Shivers, J. W. Hollister, W. B. Milstead. (2021). Predictive Model of Lake Photic Zone Temperature Across the Conterminous United States. Frontiers in Environmental Science. 10.3389/fenvs.2021.707874 GitHub

Hollister, J. W., D. W. Kellogg, B. J. Kreakie, S. D. Shivers, W. B. Milstead, E. M. Herrong, L. T. Green, A. J. Gold. (2021). Analyzing long-term water quality of lakes in Rhode Island and the northeastern United States with an anomaly approach. Ecosphere. 10.1002/ecs2.3555 pre-print GitHub

Raposa, K. B., R. L. Weber, W. Ferguson, J. W. Hollister, R. Rozsa, N. Maher, A. Gettman. (2019). Drainage enhancement effects on a waterlogged Rhode Island (USA) salt marsh. Estuarine, Coastal and Shelf Science. 10.1016/j.ecss.2019.10643 GitHub

Nojavan, F. A., B. J. Kreakie, J. W. Hollister, S. S. Qian. (2019). Rethinking the Lake Trophic State Index. PeerJ. 10.7717/peerj.7936 pre-print GitHub

Raposa, K. B., R. A. McKinney, C. Wigand, J. W. Hollister, C. Lovall, K. Szura, J. A. Gurak Jr., J. McNamee, C. Raithel, and E. B. Watson. (2018). Top-down and bottom-up controls on overabundant New England salt marsh crab populations. PeerJ. 10.7717/peerj.4876 GitHub

Kuhn, A., S. G. Leibowitz, Z. C. Johnson, J. Lin, J. A. Massie, J. W. Hollister, J. L. Ebersole, J. L. Lake, J. R. Serbst, J. James, M. G. Bennett, R. J. Brooks, C. T. Nietch, L. C. Alexander, J. E. Compton. (2018). Performance of national maps of watershed integrity at watershed scales. Water. 10.3390/w10050604 pdf GitHub

Hollister, J. W. and J. J. Stachelek. (2017). lakemorpho: Calculating lake morphometry metrics in R. F1000Research. 6:1718. 10.12688/f1000research.12512.1. pdf GitHub

Chamberlain, S, and J.W. Hollister (2017). lawn: R Client for turf.js for Geospatial Analysis. Version 0.3.3. Journal of Open Source Software 2:11. 10.21105/joss.00194 CRAN GitHub

Hart, E., Barmby, P., LeBauer, D., Michonneau, F., Mount, S., Mulrooney, P., Poisot, T., Woo, K.H., Zimmerman, N., Hollister, J. W. (2016). Ten simple rules for digital data storage. PLoS Computational Biology. e1005097. 10.1371/journal.pcbi.1005097 pre-print GitHub

Hollister, J. W., W. B . Milstead, B. J. Kreakie. (2016). Modeling Lake Trophic State: A Random Forest Approach. Ecosphere 7:3 10.1002/ecs2.1321. pdf pre-print GitHub

Hollister, J.W., B.J. Kreakie (2016). Associations between Chlorophyll a and various Microcystin-LR Health Advisory Concentrations. F1000Research 5:151 10.12688/f1000research.7955.2. pdf GitHub

Milstead, W. B., J.W. Hollister, R. B. Moore, H. A. Walker. (2013). Estimating Summer Nutrient Concentrations in Northeastern Lakes from SPARROW Load Predictions and Modeled Hydraulic Residence Time. PLoS ONE 8(11): e81457 10.1371/journal.pone.0081457. pdf

Hollister, J. W., W.B. Milstead, M.A. Urrutia (2011). Predicting Maximum Lake Depth from Surrounding Topography. PLoS ONE 6(9): e25764 10.1371/journal.pone.0025764. pdf

Hollister, J. W., W.B. Milstead (2010). Using GIS to Estimate Lake Volume from Limited Data. Lake and Reservoir Management. 26(3)194-199 10.1080/07438141.2010.504321. pdf corrigenda: 10.1080/10402381.2014.930627 pdf.

Morzillo, A. T., A. G. Mertig, J. W. Hollister, N. Garner, J. Liu (2010). Socioeconomic Factors Affecting Local Support for Black Bear Recovery Strategies. Environmental Management. 45:1299-1311 10.1007/s00267-010-9485-3. pdf

Benyi, S. J., J. W. Hollister, J. A. Kiddon, H. A. Walker. (2009). A Process for Comparing and Interpreting Differences in Two Benthic Indices in New York Harbor. Marine Pollution Bulletin. 59:65-71. 10.1016/j.marpolbul.2008.11.009.

Hale, S. S. and J. W. Hollister. (2009) Beyond Data Management: How Ecoinformatics Can Benefit Environmental Management Programs. Environmental Monitoring and Assessment. 150:227-235 10.1007/s10661-008-0675-x. pdf

Hollister, J. W., J. F. Paul, and H. A. Walker (2008). CProb: A Computational Tool for Conducting Conditional Probability Analysis. Journal of Environmental Quality. 37(6):2392-2396 10.2134/jeq2007.0536. pdf

Hollister, J. W., P. V. August, J. F. Paul, and H. A. Walker. (2008). Predicting Estuarine Sediment Metal Concentrations and Inferred Ecological Conditions: An Information Theoretic Approach. Journal of Environmental Quality. 37(1):234-244 10.2134/jeq2007.0105.

Hollister, J. W., P. V. August, and J. F. Paul. (2008). Effects of Spatial Extent on Landscape Structure and Sediment Metal Concentration Relationships in Small Estuarine Systems of the United States' Mid-Atlantic Coast. Landscape Ecology. 23(SI):91-106 10.1007/s10980-007-9143-1.

Hollister, J. W., M. L. Gonzalez, J. F. Paul, P. V. August, J. L. Copeland (2004). Assessing the Accuracy of the National Land Cover Dataset at Multiple Spatial Extents. Photogrammetric Engineering and Remote Sensing. 70(4):405-414 10.14358/PERS.70.4.405. pdf.

Paul, J. F., J. L. Copeland, M. Charpentier, P. V. August, and J. W. Hollister (2003). Overview of Geographic Information Systems applications in Estuarine Monitoring and Assessment Research. Marine Geodesy. 26:63-72 10.1080/01490410306704.

Eubanks, J. O., J. W. Hollister C. Guyer, and W.K. Michener. (2002). Reserve Area Requirements for Gopher Tortoises (Gopherus polyphemus). Chelonian Conservation and Biology. 4(2). pdf

Chapters

Cormier, S. and J. W. Hollister. (2011). Chapter 6: Types of Spatial and Landscape Data and Sampling Designs. Pages 6-1:6-32. in USEPA. Landscape and Predictive Tools A Guide to Spatial Analysis for Environmental Assessment. EPA/100/R-11/002. web pdf

Cormier, S. and J. W. Hollister. (2011). Chapter 7: Methods and Tools for Analyzing Spatially Explicit Information. Pages 7-1:7-34. in USEPA. Landscape and Predictive Tools A Guide to Spatial Analysis for Environmental Assessment. EPA/100/R-11/002. web pdf

Michener, W. K., J. B. Atkinson, D. G. Edwards, J. W. Hollister, P. F. Houhoulis, P. M. Johnson, and R. N. Smith. (2000). Habitat Characteristics of Northern Bobwhite Quail-Hunting Party Encounters: A Landscape Perspective. Pages 173-182 in L.A. Brennan, W.E. Palmer, L.W. Burger, Jr., and T.L. Pruden (eds.). Quail IV: Proceedings of the Fourth National Quail Symposium, Tall Timbers Research Station, Tallahassee, FL. pdf

Non-peer reviewed work

Salmon, M, MacDonald A., Woo K., Boettiger, C., Hollister, J. (2017). emldown - From machine readable EML metadata to a pretty documentation website. ROpenSci Blog. web.

von Hardenberg A, Obeng A, Pawlik A, Pletzer A, Shiklomanov A, Fouilloux A, Fournier A, Marwick B, Brown C. T., Voter C, Hulshof C, Bahlai C, Shaw C, Bouquin D, Stubbs D, Vanichkina D, Fishman D, Wilson E, Hart E, Hannon E, Sügis E, Strauss E, Gan E, Becker E, White E, Rodriguez-Sanchez F, Michonneau F, Boehm F, Ye H, Dashnow H, Lapp H, Ashander J, Byrnes J, Hollister J. W., Chen J, Dunic J, Keane J, Stachelek J, Herr J, Mislan K. A. S., Woo K, Cranston K, Jordan K. L., Ram K, Hertweck K, Todd-Brown K, Lotterhos K, Peck K, Direk K, Hall K, Tylén K, Chatzidimitriou K, Deer L, Gatto L, Wasser L, Tarkowski L, Breckels L, Foos M, Chiapello M, Robinson M, Akenbrand M. J., Kuzak M, Grenié M, Grenié M, Duffy M, Koontz M, Johnston M, Marino N, Carchedi N, Burge O, Lijnzaad P, Lijnzaad P, Peek R, Supp S, Taylor S, Labou S, Pederson S, Webster T, Sandmann T, Teal T, Furnass W, Pearse W, Li Y, Lapp Z, ashander, sfn_brt and suparee (2017). "Data Carpentry: R for data analysis and visualization of Ecological Data." 10.5281/zenodo.569338, web.

Kreakie, B. J., J.W. Hollister, W. B. Milstead, F. Nojavan (2015). Computational Ecology and Open Science: Tools to Help Manage Cyanobacteria in Lakes. LakeLines Magazine. pdf

Kreakie, B. J., J.W. Hollister, W. B. Milstead (2014). Modeling Cyanobacteria Ecology to Keep Harmful Algal Blooms at Bay. US EPA It All Starts with Science Blog. web

Hollister, J. W., B. J. Kreakie, and W. B. Milstead. (2014). Opening our Science: Open Science and Cyanobacterial Research at EPA. US EPA It All Starts with Science Blog. web

Hollister, J. W., A. Smith, P. V. August. (2014). Keeping the Bootcamp Fun Alive! Software Carpentry Blog. web

Hollister, J. W., W. B. Milstead. (2013). SPARROWs, Lakes, and Nutrients? US EPA It All Starts with Science Blog. web

Hollister, J. W. (2010). Ecology on the Web – 3 Years Old. Submitted to Ecology on the Web, Bulletin of the Ecological Society of America. 91(2)232–234. doi: 10.1890/0012-9623-91.2.232. pdf

Morzillo, A. T., J. W. Hollister, C. A. Drew, M. E. Rocca, M. E. Baker, J. M. Bossenbroek, C. A. Mazzarella. (2008). A Young Scientist's Guide to Gainful Employment: Recent Graduates' Experiences and Successful Strategies. Bulletin of the Ecological Society of America. 89(2)193-203. doi: 10.1890/0012-9623(2008)89[193:AYSGTG]2.0.CO;2. pdf

Hollister, J. W. (2007). Moving Forward with Ecological Informatics and Reproducibility. ESA News and Views Blog. web

Hollister, J. W. (2007). Natural Resource Management Partnership Annotated Website Link. Submitted to Ecology on the Web, Bulletin of the Ecological Society of America. 88(2). doi: 10.1890/0012-9623(2007)88[204:WSOITE]2.0.CO;2. pdf.

Hollister, J. W. and H. A. Walker (2007). Beyond Data: Reproducible Research in Ecology and Environmental Science. Frontiers in Ecology and the Environment. 5(1):11-12. doi: 10.1890/1540-9295(2007)5[10a:TPOC]2.0.CO;2.

Hollister, J. W. and L. M. Ernst (2001) Eelgrass Habitats get a Boost from Geographic Information Systems. Maritimes. 43(1):16-18. pdf

Thesis and Dissertation

Hollister, J. W. (2004). Predicting Condition of Small Estuarine Systems Along the United States' Atlantic Coast. Ph.D. Dissertation, University of Rhode Island. 143 pp. pdf.

Hollister, J. W. (1997). An Analysis of Red Spruce Establishment Success in Highland County, Virginia. Masters of Environmental Management Project, Duke University. pdf

Software and Repositories (date of first release)

Hollister, J. W., D. Q. Kellogg, Q. Lei-Parent. (2021). nsink: Flow path based nitrogen removal estimation. Version 1.0.19. GitHub

Hollister, J. W. (2021). dadjokeapi: Return a Random Dad Joke. Version 1.0.2 CRAN GitHub

Hollister, J. W. (2016). elevatr: Download Elevation Datasets from Various APIs. Version 0.1.1 CRAN GitHub

Hollister, J. W. and J. J. Stachelek. (2016). lakemorpho: Lake morphometry in R. Version 1.1.0 CRAN GitHub 10.5281/zenodo.51415

Hollister, J. W. (2016). quickmapr: Quickly Map and Explore Spatial Data. Version 0.1.1. CRAN GitHub 10.5281/zenodo.33135

Chamberlain, S, and J. W. Hollister (2015). lawn: R Client for turf.js for Geospatial Analysis. Version 0.1.4. CRAN GitHub

Hollister, J. W. (2014). manuscriptPackage: Template package for creating manuscript within an R Package. Version 0.1. GitHub

Bootcamps, Workshops, and Panels

Hollister, J. W. (2023). Introduction to R: USEPA Atlantic Coastal Environmental Sciences Division and Center for Environmental Meaurement and Modelling Quality Assurance Staff. Virtual Workshops. January 2023 - March 2023. GitHub

Hollister, J. W. (2021). USEPA Developer Guilds 5-year Anniversary AMA Panelist. Invited panelist. October, 2021.

Hollister, J. W. (2021). Introduction to R: Northeast National Estuarine Research Reserve. Virtual workshops. Oct 2020 - January 2021. GitHub

Hollister, J. W. (2020). Introduction to R. Virtual workshops. Mar 2020 - May 2020. Github

Hollister, J. W., S. Krabbe, D. Boring, S. Henderson. (2019). Introduction to R: Co-hosted with EPA Region 7 and Kansas Department of Health and Environment. University of Kansas Edwards Campus, December 2019. GitHub

Hollister, J. W. (2019). Mini-Workshop on using R for spatial and limnological analysis. Trout Lake Station, Boulder Junction, WI, July 17, 2019. GitHub

Hollister, J. W. (2019). Introduction to R. Invited by RI NSF EPSCoR, Coastal Ecology Assessment Innovation and Modeling and INBRE, University of Rhode Island, June 2019. GitHub

Hollister, J. W. (2019). A primer for R with ESRI for UCONN CLEAR. University of Rhode Island, March 2019. GitHub

Litterman, R., S. Shivers, H. Dekker, R. Schwartz, and J. W. Hollister. (2019). Data Carpentry Social Science Workshop. Co-hosted with rhodyRstats and URI Coastal Institute. University of Rhode Island, Kingston, RI. January 2019. GitHub.

Hollister, J. W. (2018). Introduction to R. US EPA Region 2 Regional Offices. New York, NY. June 5-6, 2018. GitHub

Hollister, J. W. (2018). Introduction to R and Markdown. Narraganset Bay Commission, Providence, RI. April 23, 2018. GitHub

Hollister, J. W. and F. Nojavan (2018). Introduction to Reproducible Workflows with R, Markdown, and GitHub. Yale University, Center for Industrial Ecology. March 9, 2018. GitHub

Hollister, J. W. and M. Beck. (2017). Introduction to R for Analysis of Coastal and Estuarine Data. Coastal and Estuarine Research Fedaration Annual Meeting, Providence, RI. November 2017. Web and Web Materials

Hollister, J. W. (2017). R-a-palooza: Introduction to R, Reproducible Research with R, and Spatial analysis/GIS with R. Co-hosted with Stephen KRabbe (USEPA Region 7). US EPA Region 7 Laboratory and Regional Offices. Kansas City, KS and Lenexa, KS. October 2017. GitHub

Hollister, J. W. (2017). Spatial Analysis/GIS with R. Workshop at USEPA R User Group Workshop, Washington, DC. Sep 11- 13, 2017. GitHub

Schwartz, R. S. and J. W. Hollister. (2017). Data Carpentry Workshop. Co-hosted with rhodyRstats and URI Coastal Institute. Co-taught with Rachel Schwartz. University of Rhode Island Coastal Institute, Narragansett, RI. June 07-08, 2017. web

Hollister, J. W. (2017). Introduction to R Workshop. Co-hosted with Stephen Krabbe (USEPA Region 7). US EPA Region 7 Regional Laboratory. Kansas City, KS. February 2017. GitHub

Hollister, J. W. (2017). rhodyRstats Introduction to R Workshop. Co-hosted with rhodyRstats and URI Coastal Institute. University of Rhode Island Coastal Institute, Narragansett, RI. Jan 19, 2017 GitHub

Peek, R. and J. W. Hollister (2016). Data Carpentry Workshop. Co-hosted with rhodyRstats and URI Coastal Institute. Co-taught with Ryan Peek. University of Rhode Island Coastal Institute, Narragansett, RI. Aug 29-30, 2016. web

Hollister, J. W. (2016). Introduction to R. US EPA Atlantic Ecology Division. Narragansett, RI, July 2016 GitHub

Hollister, J. W. (2016). Introduction to R. Co-hosted with Erik Beck (USEPA/Region 1) and Katrina Kipp (USEPA/Region 1). US EPA New England Regional Laboratory. Chelmsford, MA. June 2016. GitHub

Hollister, J. W. (2016). Introduction to R. Co-hosted with Erik Beck (USEPA/Region 1). US EPA Region 1 Headquarters. Boston, MA. May 2016. GitHub

Hollister, J. W. (2016). Introduction to GIS with R. Co-hosted with Sandra Gaona (USEPA/OEI), Shea Caspersen (USEPA/OEI) and Paul Stey (USEPA/OECA). US EPA. Washington, DC. March 2016. GitHub

Hollister, J. W. (2016). rhodyRstats Intro to R Workshop. Co-Hosted with J. Swift and P. V. August. University of Rhode Island Coastal Institute. Narragansett, RI. January 2016. GitHub

Wilson, A. et. al. (2015). Federal Agency Networking Session. Invited panelist. Organizers: Alan Wilson, Henry Gholz, and Daniel B. Stover. 100th Annual Ecological Society of America meeting. Baltimore, MD. August 2015.

Hollister, J. W., B. J. Kreakie, W. B. Milstead, and S. Chamberlain (2015). An Open Science And Reproducible Research Primer For Landscape Ecologists. Co-presented with W. B. Milstead, B. J. Kreakie, and S. Chamberlain. International Association for Landscape Ecology World Congress. Portland, OR. July 2015. web

Hollister, J. W. (2015). Introduction to R Workshop. USEPA Atlantic Ecology Division. Narragansett, RI Jan 2015 web

Hollister, J. W. and M. Beck (2015). Introduction to R Workshop. USEPA Gulf Ecology Division. Gulf Breeze, FL. Jan 2015. web

Hollister, J. W. (2014). Introduction to R Workshop. USEPA Atlantic Ecology Division. Narragansett, RI Dec 2014 web

Gonzalez, I., P. Fuller, and J. W. Hollister (2014). Software Carpentry Bootcamp. Co-hosted with J. Swift and P. V. August. Co-taught with P. Fuller and I. Gonzalez. University of Rhode Island Coastal Institute. Narragansett, RI. January 2014. web

Hollister, J. W. (2013). R for Spatial Data Management and Analysis. Presented during Student Workshop, US Chapter of the International Association for Landscape Ecology Annual Meeting, Austin, TX. April 2013. web slides code/data.

Morzillo, A. T., and J. W. Hollister. (2007). Job Hunting Experiences of Recent Graduates in Landscape Ecology. Co-organized with A. T. Morzillo US Chapter of the International Association for Landscape Ecology Annual Meeting, Tucson, AZ. April 2007.

Paul, J. F. and J. W. Hollister. (2006). Conditional Probability Analysis: Demonstration using R and R-Excel. Co-presented with J. F. Paul Workshop for Developing Suspended and Bedded Sediment Water Quality Criteria, Arlington, VA. November 2006.

Hollister, J. W. (2002). Spatial Analysis Workshop. Invited workshop on Spatial Statistics and Spatial Analysis for St. Lawrence University Faculty and Staff. St. Lawrence University, Canton, NY. December 2002. slides

Seminars and Presentations

Hagler, G. J. W. Hollister, F. Nojavan, M. McManus, J. S. Stewart-Lowndes, S. Butland. (2024). Cultivating open and collaborative data science at a U.S. EPA research center. American Geophysical Union 2024. Washington, DC/Online. December 2024.

Deemer, B. R., J. J. Beaulieu, K. Forshay, N. Griffiths, L. Herger, J. W. Hollister, S. Jacobs, P. Leinenbach, R. Pilla, S. Shivers, A. Tatters. (2024). Moedling methane and carbon dioxide emissions from U.S. reservoirs. American Geophysical Union 2024. Washington, DC/Online. December 2024.

Beaulieu, J., B. Deemer, K. Forshay, N. Griffiths, L. Herger, J. W. Hollister, S. Jacobs, P. Leinenbach, R. Pilla, S. D. Shivers, A. Tatters, K. Buckler, J. Corra, P. Goodwin, L. Juilfs, R. Neill, B. Richmond, T. Sabol. (2024). Results from a National Scale Survey of Methane and Carbon Dioxide Emissions from U.S. Reservoirs. Association for the Science of Limnology and Oceanography Annual Meeting, Madison, WI. June 2024.

Shivers, S. D., J. W. Hollister, J. Stankoski. (2024). Evaluation of Sample Shipping, Handling, and Storage on Algal Pigments (Chlorophyll a and Phycocyanin). Association for the Science of Limnology and Oceanography Annual Meeting, Madison, WI. June 2024.

Hollister, J. W. (2024). Can't Get There From Here. Invited by Stefanie Butland and Julia Stewart-Lowndes, Presentation to USEPA/CEMM Openscapes Cohort Call. April 2024.

Hollister, J. W. (2023). Can't Get There From Here. Invited by Julia Stewart-Lowndes, Presentation to USEPA/CEMM Openscapes Cohort Call. February 2023.

Hollister, J. W.. (2022). Automating an ecological data workflow with Github Actions and R. Invited by Valerie Bataille, Tribal Data management Work Group. April 2022

Hollister, J. W. (2022) Automating an ecological data workflow with GitHub Actions and R. Government Advances in Statistical Programming (GASP) 2022. February 2022.

Hollister, J. W., G. Hagler, T. Gleason. (2022). R in 10 Minutes, Invited by Gayle Hagler and Alice Gilliland, CEMM Management Team Meeting. February 2022.

East, A., P. S. Price, K. Dionisio, K. Isaacs, J. W. Hollister, D. Dawson, E. Hubal, R. Tornero-Velez, K. Phillips, G. Glen, H. Hubbard, J. Levasseur, J.Luh, A. Fisher. (2021). The Residential Population Generator (RPgen): A Tool for Creating Internally Consistent Populations and Households. ISES Annual Meeting, Virtual. August 2021.

Hollister, J. W. and S. D. Shivers. (2021). HABs monitoring in Shubael Pond. Invited by Tim Gleason, Nutrients Solutions Driven Research Pilot Partners Call. July 2021.

Shivers, S., B. J. Kreakie, J. W. Hollister, S. Fournier, W. B. Milstead. (2021). Temporal Dynamics of Cyanobacteria in Three Rhode Island Ponds. 12th National Monitoring Conference. April 2021.

Hollister, J. W. (2021) Introduction to R. Invited talk for the USEPA's Emerging Leaders Network Professional Development Crew. February 2021.

Lei-Parent, Q., C. Arnold, C. Chadwick, E. Wilson, D. Dickson, D. Q. Kellogg, J. W. Hollister. (2021). N-Sink, a Web Tool to Support Community Nitrogen and Land Use Decisions in Watersheds. Coastal GeoTools. February 2021.

Hollister, J. W. (2020) Open source tools to calculate and predict lake morphometry metrics. Invited talk for the Virtual Summit: Incorporating Data Science and Open Science in Aquatic Research. July 2020.

Hollister, J. W., S. Shivers, S. Fournier, and B. J. Kreakie. (2020) Computational ecology approaches to understanding cyanobacteria: It's just ecology but with more computers! USEPA Atlantic Coastal Environmental Sciences Division Monthly Webinar. March 2020.

Hollister, J. W. and D. Smith. (2019) Scaling Data Science at the EPA. Invited RStudio webinar. November 2019 link.

Hollister, J. W. (2019). Two steps forward, one step back: A reluctant open data science transformation in lakes research and beyond. Invited seminar, USGS Upper Midwest Water Science Center, Madison WI. July 2019.

Hollister, J. W. (2018). Git, GitHub and EPA. US EPA's Water Quality Benefits Workgroup (BEN-SPLASH) Webinar. August 2018.

Kellogg, D., J. W. Hollister, B. J. Kreakie, S. Shivers, E. Herron, L. Green, and A. Gold. (2018). 25 Years of Water Quality Change in Rhode Island Lakes and Ponds. Association for the Sciences of Limnology and Oceanography (ASLO) Summer Meeting, Victoria, British Columbia. June 2018.

Hollister, J. W. and W. B. Milstead. (2018). Lakes, landscapes, and R: A framework for open science on freshwater cyanobacteria. U.S. Chapter of the International Association of Landscape Ecology (US-IALE) Annual Meeting, Chicago, IL. April 2018. slides

Shiver, S., J. W. Hollister, B. J. Kreakie, W. B. Milstead. (2018). Spatial and Temporal Dynamics of Cyanobacterial Blooms in Two Rhode Island Ponds. New England Association of Environmental Biologists (NEAEB) Annual Conference, Devens, MA. March 2018.

Hollister, J. W. and B. J. Kreakie. (2017). Using Chlorophyll *a* as a surrogate for exceeding Microcystin Health Advisory Concentrations. Cyanobacteria - Monitoring and Treating Drinking Water: A Workshop for Water Suppliers. December 2017. Worcester, MA. slides

Hollister, J. W. (2017). An Open Science Framework for Research on Cyanobacteria in Lakes and Ponds. US EPA Region 7 Regional Office, October 2017. Lenexa, KS. slides

Hollister, J. W. (2017). R packages as a reproducible framework for lake and cyanobacteria research. US EPA R User Group Annual Meeting. September 2017. Washington, DC. slides

Hollister, J. W. F. Nojava A., B. J. Kreakie. (2017). An Open Science Approach to Modeling and Visualizing Cyanobacteria Blooms in Lakes and Ponds. American Association of Geographsers Annual Meeting. April 2017, Boston, MA. slides

Nojavan, F., B. J. Kreakie, J. W. Hollister. (2017). A Bayesian Multilevel Model for Microcystin Prediction in Lakes of the Continental United States. American Association of Geographers Annual Meeting. April 2017, Boston, MA.

Nojavan A., F., B. J. Kreakie, J. W. Hollister, S.S. Qian. (2016). Assessing Lake Trophic Status: A Proportional Odds Logistic Regression Model. The Association for the Sciences of Limnology and Oceanography (ASLO) Annual Meeting. June 2016, Santa Fe, NM.

Kreakie, B. J., F. Nojavan A., J. W. Hollister, W. B. Milstead. (2016). Computational Approaches to Predict Indices of Cyanobacteria Toxicity, National Water Quality Monitoring Council (NWQMC) Annual Meeting. May 2016, Tampa, FL.

Kreakie, B. J., S. Ernst, T. Hollenhorst, J.W. Hollister, W.B. Milstead, and H. Snook. (2016). cyanoScope: Mapping cyanobacteria one slide at a time. New England Association of Environmental Biologists (NEAEB) Annual Meeting. February 2016, Rockport, ME.

Hollister, J. W. (2015). Spatial Data Analysis in R: Lightning Demo! Lightning Talk at Northeast Arc Users Group Fall Meeting, November 2015, Burlington, VT. GitHub.

Hollister, J. W. (2015). Open Science: A Zealot's View. Invited Symposium Speaker, "Emerging Issues and Novel Technologies in Coastal Ecosystem Science", New England Estuarine Research Society Spring Meeting, April 2015, Bristol, RI. slides

Kreakie, B. J., F. Nojavan, J. W. Hollister. (2014). When Green Goes Bad: A Computational Ecology Approach to a Better Understanding of Cyanobacteria, Nutrients, and Lakes. USEPA Office of Water Oceans, and Wetlands Cyanobacteria webinar series. October 2014. web slides.

Kreakie, B. J., W. B. Milstead, J. W. Hollister. (2014). When Green Goes Bad: An Interdisciplinary Approach to Better Understand Cyanobacteria, Nutrients, and Lakes. USEPA Safe and Sustainable Water Resources Webinar Series. June 2014. web.

Kreakie, B. J., W. B. Milstead, J. W. Hollister. (2014). Combined Influence of Landscape Composition and Nutrient Inputs on Lake Trophic Structure. US Chapter of the International Association for Landscape Ecology Annual Meeting, Anchorage, AK. May 2014.

Hollister, J. W. (2014). Blogging, Social Media, and Science: EPA Edition. Presentation given at USEPA Atlantic Ecology Division. March 2014. slides.

Hollister, J. W. (2012). Who am I and Why am I here: Lakes, Linked Data, and R Invited presentation to Data.gov Semantic Web and Linked Data working group. Aug 2012. slides.

Hollister, J.W., W. B. Milstead, K. C. Hychka, H.A. Walker, J. L. Copeland. (2011). Nutrients, Ecosystem Services, and Human Health in Northeastern Lakes and Ponds. Invited Seminar at Western Connecticut State University, Dept of Biology Seminar Series. 30 November, 2011. slides.

Hollister, J. W. and W. B. Milstead. Using GIS to Estimate Lake Volume from Limited Data. Annual Meeting of the North American Lake Management Society, Hartford, CT. October 2009. slides.

Hollister, J. W. and W. B. Milstead. A Simple GIS Approach for Estimating Lake Volume from Limited Data. Northeast Arc Users Group Annual Meeting, Nashua, NH. October 2009.

Hollister, J.W. Using CProb in R and Excel to conduct conditional probability analysis. Annual Meeting of the North East Association of Environmental Biologists, Westport, CT. March 2009.

Walker, H. A., J. W. Hollister, B. Wilson, R. Scarborough, D. Carter, D Kreeger, K. Laudenabuch-Nelson, A. Howell, C. Strobel. More precise assessment of benthic conditions in Delaware Bay using probability survey data, targeted sampling and acoustic habitat maps. Sixth National Monitoring Conference, Monitoring: Key to understanding our waters. Atlantic City, New Jersey. May 2008.

Hollister, J. W. The new space race: Getting landscape data more fully integrated into causal analysis. Super Causal Analysis Team Workgroup (SuperCAT) Meeting. February 2008.

Hollister, J. W. Estuarine monitoring and assessment: The integral role of GIS. Rhode Island Geographic Information Systems Conference, Narragansett RI, June 2007.

Walker, H. A., J. W. Hollister, B. Wilson, R. Scarborough, D. Carter, D Kreeger, K. Laudenabuch-Nelson, A. Howell, C. Strobel. More precise assessment of benthic conditions in Delaware Bay. Environmental Monitoring and Assessment Program Annual Symposium, Washington DC, April 2007.

Hollister, J. W. Ecoinformatics: What is it and why should you care? Seminar at US EPA Atlantic Ecology Division, February 2007.

Hollister, J. W. Predicting Condition of Small Estuarine Systems along the United States Atlantic Coast. Seminar at US EPA Atlantic Ecology Division, June 2006.

Hollister, J. W., P.V. August, J.F. Paul. Predicting Estuarine Sediment Metal Concentration along the United States' Atlantic Coast. North Atlantic Chapter of the Society of Environmental Toxicology and Chemistry 12th Annual Meeting, Portland, ME. June 2006.

Hollister, J. W., P. V. August, J. F. Paul. Predictive modeling of estuarine condition along the United States' Atlantic Coast. US Chapter of the International Association for Landscape Ecology Annual Meeting, San Diego, CA. April 2006.

Hollister, J. W., J. Copeland, P. V. August, J. F. Paul. Coastal landscape structure and estuarine condition relationships: How does scale alter model reliability? US Chapter of the International Association for Landscape Ecology Annual Meeting, Las Vegas, Nevada. April 2004.

Hollister, J. W. Assessing and Monitoring out Nation's Estuaries: The Past, Present and Future of Geographic Information Systems Applications? Invited Speaker for Geographic Information Systems and Environmental Monitoring special session at the North Atlantic Chapter of the Society of Environmental Toxicology and Chemistry 9th Annual Meeting, Mystic, CT. April 2003

Hollister, J. W., J. Copeland, P. V. August, J. F. Paul. Assessing the Predictive Capability of Hydrologically Defined Sampling Units for Landscape Analysis. Invited speaker at St. Lawrence University, Canton, NY. December 2002

Hollister, J. W., J. Copeland, P. V. August, J. F. Paul. Utilizing Hydrologically Defined Sampling Units for Landscape Analysis. Northeast Arc Users Group Annual Meeting, Mt. Washington Hotel, Bretton Woods, NH. November 2002.

Posters

Hollister, J. W., J. Beaulieu, B. Deemer, A. Hall. (2024). Development of a reservoir morphology dataset to inform modeling greenhouse gas emissions from U.S. reservoirs. American Geophysical Union 2024. Washington, DC/Online. December 2024.

Stankoski, J., S. D. Shivers, J. W. Hollister, S. Fournier, B. J. Kreakie. (2024). Comparing Fluorometric Methods (in-vivo vs Extracted) for cyanoHAB Monitoring in Six Rhode Island Ponds. Northeast Aquatic Biologists Conference. Fairlee, VT. February 2024.

Snook, H., B. J. Kreakie, W. B Milstead, and J. W. Hollister. The Cyanobacteria Monitoring Collaborative: Multi-Tiered Approach to Citizen Science Based Cyanobacteria Monitoring. Office of Research and Development Regional Science Poster Session, Durham, NC. September 2018.

Nojavan, F., B. J. Kreakie. A Bayesian Multilevel Model for Microcystin Prediction in the Continental United States Lakes. 2015 Society for Freshwater Science (SFS) Annual Meeting, Milwaukee, WI May 2015.

Hollister, J. W., W. B. Milstead, B. J. Kreakie. Expanding Models of Lake Trophic State to Predict Cyanobacteria in Lakes: A Data Mining Approach. 99th Annual Ecological Society of America Annual Meeting, Sacramento, CA. August 2014. poster

Copeland, J. L., J. W. Hollister. Geospatial Tools for Ecosystem Services. ESRI International Users Conference, San Diego, CA. June 2010.

Hollister, J. W., W. B. Milstead. Linking landscapes to ecosystem services: Landscape structure as an indicator and predictor of water clarity in New England lakes. US Chapter of the International Association for Landscape Ecology Annual Meeting, Athens, GA. April 2010.

Milstead, W. B., J. W. Hollister, H. A. Walker, J. A. Kiddon, J. L. Copeland, H. W. Buffum, M. A. Charpentier, D. J Keith. A Northeastern US Lakes Database to Support Ecosystem Services Research. Annual Meeting of the North East Association of Environmental Biologists, Newport, RI, March 2010.

Hollister, J. W., A. Kuhn-Hines, J. L. Copeland. Mapping human population density in and around New Hampshire's common loon lakes: A comparison of dasymetric methods. US Chapter of the International Association for Landscape Ecology Annual Meeting, Snowbird, UT April 2009.

Hollister, J. W., J. L Copeland. Where New England Lives: A dasymetric population map for New England. Northeast Arc Users Group Annual Meeting, Hyannis, MA September 2008.

Hollister, J. W., H. W. Walker. Landscape Thresholds and the Condition of Northeastern Estuaries. New England Estuarine Research Society Spring Meeting. Portsmouth, NH. May 2008.

Keith, D. J., J. W. Hollister, A. Kuhn-Hines. The Distribution of Colored Dissolved Organic Matter and Salinity along the Southern New England Coast from Aircraft Remote Sensing. American Society of Limnology and Oceanography annual meeting, Orlando, FL. March 2008.

Hollister, J.W., A. T. Morzillo, E. J. Weissberger, J. A. Nestlerode, and J. F. Paul. Comparing Apples to Apples: Generating a Nationally Consistent Index of Benthic Biology in Estuarine Waters. Estuarine Research Foundation Annual Meeting, Providence, RI November 2007.

Benyi, S.J., Kiddon, J. A., Hollister, J.W., Walker, H. A. Interpreting Differences in Several Benthic Indices. Estuarine Research Foundation Annual Meeting, Providence, RI November 2007.

Hollister, J.W. and J.L. Copeland. Relating distance weighted measures of landscapes to water quality: Does distance matter? US Chapter of the International Association for Landscape Ecology Annual Meeting, Tucson, AZ. April 2007.

Weissberger, E. J. , J. A. Nestlerode, A. T. Morzillo, J. W. Hollister, J. F. Paul. Developing a nationally consistent approach for assessing regional associations between nutrients and benthic biological condition in estuarine waters. Environmental Monitoring and Assessment Program Annual Symposium, Washington DC, April 2007.

Hollister, J. W., J. F. Paul, J. L. Copeland, M. L. Gonzalez, P.V. August. Accuracy of the 1992 National Land Cover Dataset area estimates: An analysis at multiple spatial extents. North American Land Cover Summit, Washington, DC. September 2006.

Hayden, B., Brewer C., Estrin D., Goldman J., Michener W., Baru C., Cid C., Collinge S., Foster D., Franklin, J., Goldberg, D., Huenneke, L., Krishtalka, L., Levitt, J., MacMahon, J., Nadelhoffer, K., Palmer, M., Reichman, O. J., Swain, H., Welge, M., Hollister, J. W. Designing the National Ecological Observatory Network (NEON). North American Carbon Program Data Management Workshop, New Orleans, LA. January 2005.

Hollister, J. W., J. Copeland, P. V. August, J. F. Paul. Assessing the Predictive Capability of Landscape Sampling Units of Varying Scale in the Analysis of Estuarine Condition. US Chapter of the International Association for Landscape Ecology Annual Meeting, Banff, Alberta. April 2003.

Hollister, J. W., J. F. Paul, J. Copeland, R. L. Comeleo, M. Charpentier, P. V. August, M. Brush. Relating Estuarine Condition with Landscape Structure in the Mid-Atlantic Region of the United States. Ecological Society of America Annual Meeting, Madison, WI. August 2001.

Hollister, J. W., J. F. Paul, J. Copeland, R. L. Comeleo, M. Charpentier, P. V. August, M. Brush. Landscape Structure and Estuarine Condition in the Mid-Atlantic Region of the United States: II. Assessing the Accuracy of the National Land Cover Dataset at Multiple Extents. Poster Presentation for the US-International Association for Landscape Ecology Annual Meeting, Tempe, AZ. April 2001.

J. Ott., J. W. Hollister, C. Guyer, and W. K. Michener. Re-evaluating Guidelines for Gopher Tortoise (Gopherus polyphemus) Reserve Design. Ecological Society of America Annual Meeting, Snowbird, UT. August 2000.

Hollister, J. W., J. Ott, C. Guyer, and W. K. Michener. Estimating Preserve Size for Gopher Tortoises (Gopherus polyphemus). US Chapter of the International Association for Landscape Ecology Annual Meeting, Ft. Lauderdale, FL. April 2000.

Hollister, J. W. and W. K. Michener. Landscape Ecology of the Northern Bobwhite Quail in the Coastal Plain of Georgia. International Association for Landscape Ecology World Congress, Snowmass, CO. July/Aug 1999.

Qualifications and Activities

Programming

R: I started using R in 2003 for data analysis and have been using it daily for basic computing and programming tasks since 2011. I have created packages with five on CRAN (quickmapr (archived), lakemorpho, elevatr, lawn (archived), and dadjokeapi) and several in development on GitHub. I have developed a few Shiny apps for internal audiences. I co-moderate (with Sarah Goslee) the R-SIG-Ecology mailing list, and have taught many classes/workshops on R. I have been active with the rOpenSci community since 2014 through package reviews, remote participation in hackathons, and contributions to packages. I currently serve as an rOpenSci Associate Editor for Software Peer Review.

Web: Although not a web developer, I have served as a web page maintainer for various organizations since ~2000. I use HTML, CSS, Jekyll, Hugo, Github pages as the primary development environment and I am comfortable coding sites from scratch and have experience implementing templates and frameworks (i.e. Skeleton or Bootstrap). I have limited experience with javascript and in the past have been responsible for limited maintenance of Apache and IIS servers.

Python: Starting in 2006, I have written Python scripts to interact with ESRI products. Since then, I have also developed many scripts for data management, data collection, interacting with the Twitter API, and communicating with R.

Java: I have about one year experience with Java, primarily from computer science coursework.

Misc: I use markdown, Rmarkdown, and Quarto extensively for developing web content, creating reproducible presentations and writing manuscripts. Over the years I have also used a variety of tools for individual projects. These include Visual Basic for Applications, Arc Macro Language, Typo3, Dreamweaver, Movable Type, Drupal, and RApache

Data Management and Analysis

GIS: Since 2012, I have used R (with `sp`, `rgdal`, `rgeos`, `raster`, and, since their releases, `sf` and `terra`) as my primary GIS and spatial analysis platform. The prior 17 years I extensively used the ESRI product line including ArcGIS, Arc/INFO, ArcView, ArcIMS and ArcGIS Server, and Geostatistical Analyst. I have limited experience using GRASS and QGIS.

Statistics: My statistics work has been conducted primarily in R since 2003. I have experience with many statistical methods including least squares, logistic regression, information theoretic model selection, principal components, multi-dimensional scaling, boosted regression, and Random Forests. In the past I have used SAS, SPSS, SPlus, and SigmaPlot.

Data: I have very extensive experience managing research datasets ranging in size up to 100GB. I have done this using relational databases (Access, SQLite), flat files (e.g. csv and Excel), and for spatial data, shapefiles, coverages, File Geodatabases, and recently GeoJSON. Recently, I have begun using columnar datasets through the Apache Arrow R client to manage medium sized datsets (100 MB to several GB) with Feather and Parquet files.

Remote Sensing: I have experience analyzing aerial photography and satellite imagery to develop land use/land cover classifications and used a variety of accuracy assessment methods and approaches. Must of my past remote sensing work was conducted with ERDAS Imagine.

GPS: I have collected GPS data from a variety of devices including Trimble ProXR, Trimble GeoExplorer, Trimble GeoXT, Garmin Chartplotters, and associated device specific software.

OS and Misc

Linux: I have used Red Hat (RHEL 6, 7) and several versions of Ubuntu and Debian. I have built and have managed several linux systems.

Windows: I use Windows (2010/2011) daily and am capable of basic systems administration.

Misc: I have extensive knowledge of Microsoft products including, the Office suite, Teams and Sharepoint. In addition I have some networking and hardware maintenance experience.

Funding

USEPA Regional Applied Research Effort, RARE 2236: CyanoHABs Evaluation and Prediction (CHEAP). ORD Project Lead 2020-2023.

USEPA Safe and Sustainable Water Research Program, Product 4.3.02: HAB Models, software, and tools. Sub-product Lead. 2020-2022.

USEPA Safe and Sustainable Water Research Program, Product 4.3.01: Monitoring for improved HAB assessment and characterization. Sub-product Lead. 2020-2022

USEPA Safe and Sustainable Water Research Program Task 4.01C: A Data Intensive Investigation of Temperature Impacts and Bloom Modelling. Deputy Task Lead with B. J. Kreakie, Lead. 2016 - 2019.

Cyanoscope: Smartphone based field microscopy of harmful algal blooms. USEPA, National Health and Environmental Effects Research Lab Citizen Science Competition. With W. B. Milstead, H. Snook., T. Hollenhorst, and B. J. Kreakie. 2016 - 2017. Proposal

USEPA Safe and Sustainable Water Research Program Task 2.3C: Cyanobacteria, nutrients, and land use – a nexus for sustainable water resources and human health protection, co-lead with B. J. Kreakie. 2013 - 2015.

Geospatial Statistical Analysis Seminar, A Cooperative Training Project Between the University of Rhode Island and the US EPA Atlantic Ecology Division, US EPA NHEERL Grant, June 2003. PI's: P. August, L. González; Co-PI's: R. Sand, J. Opaluch, J. Hollister, and D. Grossman-Garber.

Estuarine Condition and Landscape Structure Relationships in the Mid-Atlantic and Southern New England Regions of the United States, EPA/URI Pre-Doctoral Fellowship (Major Advisor: Peter V. August, EPA Mentor: John F. Paul).

Awards

2024: US EPA National Honor Gold Medal Team award for "ORD Reservoir Greenhouse Gas Emissions Team." Nominated by Office of Research and Development

2024: US EPA Office of Research and Development Award for providing support to EPA on the topic of Open Science. Nominated by Kacee Deener, Director, ORD-OSAPE

2023: US EPA Office of Research and Development Kudos Award for CEMM-wide Collaborative and Open Data Science Team. Nominated by CEMM

2023: US EPA Peer-to-peer Shooting Stars Award for ORD Code Based Modeling QAPP Checklist. Nominated by Andrea Bartolotti

2023: US EPA Peer-to-peer Shooting Stars Award for R training provided to CEMM Quality Assurance Team. Nominated by Kara Godineaux

2022: US EPA Peer-to-peer Shooting Stars Award for ROCS-Net Training and HABs Presentation.

2019: US EPA Bronze Medal for Commendable Service for Collaborative Work to Produce the 2016-2019 Safe and Sustainable Water Resources Strategic Action Plan.

2019, Best Use of GitHub Award, April 2019, bestowed by Emily Stanley for my GitHub pancake recipe repository. Award Announcement Tweet

2017: US EPA Certificate of Appreciation for Co-Leading First EPA R Workshop. Nominated by Office of Environmental Information.

2016: US EPA Pathfinder Innovation Program, Stage 1 Award Winner, Watershed Aggregate Effects and Spatial Predictions on Stream Networks, with Michael McManus (PI), Philip Morefield, Jay Christensen, Drew Pilant, and Marc Weber

2015: USEPA Bronze Medal for Commendable Service to the Safe and Sustainable Water Resources National Program Team

2015: USEPA, Region 1, Science Achievement Award - Water Quality for Cyanobacteria Monitoring Initiative Team, with Hilary Snook, Betty Kreakie and Bryan Milstead.

2014: US Regional Association of the International Association for Landscape Ecology Certificate of Appreciation for Outsanding Service the US-IALE as Councilor-at-large.

2012: US Regional Association of the International Association for Landscape Ecology Certificate of Appreciation for Outsanding Service the US-IALE as Program Chair of the 2012 Annual Meeting.

2011: USEPA, Region 1, Commendable Service Award for Contributions to the Northeast Lakes and Ponds

2010: USEPA Science and Technological Achievement Award Honorable Mention

2010: ESRI International Users Conference, First Place Poster in Software Integration.

2007: USEPA, National Health and Environmental Effects Laboratory, 2007 Strategic Goal 4 Award: Science Integration – Interdivisional Laboratory Research, Received with Eric Weissberger, Anita Morzillo, Janet Nestelrode, and John Paul.

2006: USEPA, Atlantic Ecology Division, 2006 On The Spot Award, Contributions to SABS Workshop

2003:Best Student Presentation, North Atlantic Chapter of the Society of Environmental Toxicology and Chemistry 9th Annual Meeting, Mystic CT, 2003

2003: Rhode Island Surfrider Foundation Robert Lloyd Scholarship

2001: NASA-MSU Professional Enhancement Award

Phi Eta Sigma National Honor Society

Blue Key National Honor Society

Student research assistants

Jake Stankoski

2022-Present, ORAU Student Services Contract, Harmful Algal Bloom Monitoring and Forecasting

Sophie Fournier

2018-2022, ORISE Participant, Lab and Field Analysis of Cyanobacteria

Postdoctoral Scholars

Stephen Shivers

2017-2021, ORISE Post-doctoral Participant, Modelling and Visualizing Indicators of Cyanobacteria Blooms in Lakes and Ponds

Farnaz Nojavan

2014-2017, 2019, ORISE Post-doctoral Participant, Modeling Cyanobacteria Bloom Risk for US Drinking Water Lakes

Graduate Students

Galen Scott

2013-2015, Ph.D. Oral Defense Committee, University of Rhode Island, Kingston, RI

Kylie Bishop

2008, Ph. D. Thesis Defense Committee, Deakin University, Warrnambool, Australia

Ann Borowik

2008, Masters of Environmental Science and Management Written Comprehensive Exam Committee, University of Rhode Island, Kingston, RI.

Societies

US Chapter of the International Association of Landscape Ecology

Communications Committee and listserv (2019 - present)

Site Selection Committee 2012- Present (Chair 2012-2014)

Awards Committee, 2009-2013

Counselor at Large, 2012-2014

Program Chair, 2012 Annual Meeting, Newport, RI

Strategic Planning Committee, 2004-2006

Northeast Arc Users Group:

Host Committee and Social Chair, 2010 Northeast Arc Users Group annual meeting in Newport, RI.

Chair, Poster session 2006 Northeast Arc Users Group annual meeting in Mystic, CT

Host Committee for 2006 Northeast Arc Users Group annual meeting in Mystic, CT

Ecological Society of America

Member, Ecology Data Task Force

Member, lapsed

Rhode Island Natural History Survey

Member, lapsed

Society for Conservation GIS

Member, lapsed

Peer Review and Editorial Activities

ROpenSci, Editorial Board, 2021 - Present

Methodological Developments in Landscape Ecology and Related Fields, Section Co-Editor (with Yolanda Wiersma), Current Landscape Ecological Reports, 2020 - 2022

ROpenSci, Guest Editor, 2021

Bulletin of the Ecological Society of America, Section Editor,"Ecology on the Web", 2007 - 2010.

Provided Peer Review for: Inland Waters, Journal of Open Source Software, Journal of Open Source Education, Landscape Ecology, Trends in Ecology and Evolution, Plant Ecology, Integrated Environmental Assessment and Management, Remote Sensing of Environment, Journal of Environmental Quality, Selbyana, Minnesota Sea Grant, numerous USEPA Office of Research and Development internal reviews, and many others.

Other Activities

Member, Interagency R User Group, July 2015 - Present

Member, Rgovys, January 2022 - Present

Data Carpentry Instructor, Mar 2016 - Present.

Software Carpentry Instructor, Oct 2014 - Present.

List administrator for R-sig-ecology, a Special Interest Group mailing list on the use R in Ecology, April 2008 - Present.

Mentor, USEPA Center for Environmental Measurement and Modelling Collaborative Open Data Science Pilot with Openscapes. 2023 and 2024

Member, Data Carpentry Geospatial Curriculum Advisory Committee, March 2018 - 2024.

Member, R Consortium Diversity and Inclusion Working Group, June 2018 - December 2018.

Co-lead/co-founder of 2018 Nor'eastR Conference https://noreastrconf.com. July 2017 - Nov 2018.

Adjunct Assistant Professor, Department of Natural Resources Science, University of Rhode Island, Kingston, RI, Jan 2007 - Nov 2016.

Served on Steering Committee for The Nature Conservancy's Northeast Lake and Pond Classification System. link: (http://nature.ly/NElakes) pdf

Liaison between USEPA's Ecosystem Services Research Program (ESRP) and the National Ecological Observatory Network (NEON).

Participated in the Causal Analysis/Diagnosis Decision Information System (CADDIS) Planning Retreat at Hueston Woods Conference Center, Oxford, OH, April 30 – June 3.

Co-organized (along with Jason Grear, Suzy Ayvazian, Peter August and Deb Coty) a short course by David Anderson entitled, "Information Theoretic Model Selection and Multimodel Inference in Science and Management", March 28-29, URI Coastal Institute, Narragansett, RI.

Attended Science Environment for Ecological Knowledge (SEEK) Postdoctoral and New Faculty Training in ecoinformatics: Jan 8-12, 2007, University of New Mexico.

Graduate Student Representative to Department of Natural Resources Science at the University of Rhode Island for 4 years

Graduate student representative at URI-ADVANCE workshops with Department of Natural Resources Science at the University of Rhode Island

Helped draft a Diversity Statement for Department of Natural Resources Science at the University of Rhode Island

Assisted with compiling links of software and graduate programs in spatial ecology for the US-IALE web page.