Curriculum Vitae

Kelly Lynn Hondula
khondula@asu.edu | hondula@battelleecology.org
908-472-9463

Academic training

2021	Ph.D., Marine Estuarine & Environmental Sciences, University of Maryland
2012	M.S., Environmental Sciences, University of Virginia
2009	B.A., Environmental Sciences, University of Virginia
	B.A., Environmental Thought & Practice, University of Virginia

Professional appointments

2022–present	Carbon Mapper Postdoctoral Research Scholar, Arizona State University, Center for Global Discovery and Conservation Science
2022–present	Aquatic Remote Sensing Scientist, National Ecological Observatory Network
2021–2022	NSF Postdoctoral Fellow, National Ecological Observatory Network
2014–2021	Faculty Specialist in Data Science & Cyberinfrastructure, National Socio-Environmental Synthesis Center
2018	Data Science Fellow, ROpenSci
2012–2014	Faculty Research Assistant, National Socio-Environmental Synthesis Center
2009–2012	Graduate Teaching and Research Assistant, University of Virginia Department of Environmental Sciences

Peer-reviewed publications Link to Google Scholar Profile

1. Read QD, **KL Hondula**, MK Muth. 2022. Biodiversity effects of food system sustainability actions from farm to fork. *Proc Natl Acad Sci*. 119 (15) e2113884119 https://doi.org/10.1073/pnas.2113884119
2. **Hondula KL**, CN Jones, MA Palmer. 2021. Effects of seasonal inundation on methane fluxes from forested freshwater wetlands. *Environ Res Lett* 16(8): 084016. https://doi.org/10.1088/1748-9326/ac1193
3. Ordway EL +32 coauthors. Leveraging the NEON Airborne Observation Platform for socio-environmental systems research. *Ecosphere* 12(6): e03640. http://doi.org/10.1002/ecs2.3640
4. Nagy RC +118 coauthors. Harnessing the NEON Data Revolution to Advance Ecological Science and Improve our Management of Environmental Change. *Ecosphere* 12(12): e03833. https://doi.org/10.1002/ecs2.3833
5. Knighton, J, **KL Hondula**, C Sharkus, C Guzman, R Elliott. 2021. Flood Risk Behaviors of US Riverine Metropolitan Areas are Driven by Local Hydrology and Shaped by Race. *Proc Natl Acad Sci.* 118 (13) e2016839118. https://doi.org/10.1073/pnas.2016839118
6. **Hondula, KL**, B DeVries, CN Jones, MA Palmer. 2021. Estimating Methane Fluxes from Forested Wetlands Using High Resolution Satellite-based Inundation Time Series. *Geophys Res Lett* 48, e2021GL092556. https://doi.org/10.1029/2021GL092556
7. Kincaid, DW, WS Beck, JE Brandt, MM Brisbin, KJ Farrell, **KL Hondula**, EI Larson, AJ Shogren. Wikipedia helps resolve information inequality in the aquatic sciences. 2021. *Limnol & Oceanog Lett* 6:18-23. http://dx.doi.org/10.1002/lol2.10168

8. Maietta, CE, **KL Hondula**, CN Jones, and MA Palmer. 2020. Hydrological conditions influence soil and methane-cycling microbial populations in seasonally saturated wetlands. *Front Environ Sci.* 8:593942. https://doi.org/10.3389/fenvs.2020.593942
9. Stachelek, J, **KL Hondula**, DW Kincaid, AJ Shogren. 2020. Ripples on the web: spreading lake information via Wikipedia. *Limnol & Oceanog Bull.* http://dx.doi.org/10.1002/lob.10382.
10. Fernández-Giménez ME, GRH Allington, J Angerer, RS Reid, C Jamsranjav, T Ulambayar, **KL Hondula**, B Baival, B Batjav, T Altanzul, Y Baasandorj. 2018. Using an integrated social-ecological analysis to detect effects of household herding practices on indicators of rangeland resilience in Mongolia. *Environ Res Lett* 13(7):075010. https://doi.org/10.1088/1748-9326/aacf6f
11. Woznicki SA, **KL Hondula**, ST Jarnagin. 2018. Effectiveness of landscape-based green infrastructure for stormwater management in suburban catchments. *Hydrol Process*. 32(15): 2346-2361 https://onlinelibrary.wiley.com/doi/abs/10.1002/hyp.13144
12. Metson GS, SM Powers, RL Hale, JS Sayles, G Öberg, GK MacDonald, Y Kuwayama, NP Springer, AJ Weatherley, **KL Hondula**, K Jones, RB Chowdhury, AHW Beusen, AF Bouwman. 2017. Socio-environmental consideration of phosphorus flows in the urban sanitation chain of contrasting cities. *Reg Environ Change* 18(5):1387-1401. https://doi.org/10.1007/s10113-017-1257-7
13. Suding K, MA Palmer, E Higgs, JB Callicot, C Anderson, J Gutrich, **KL Hondula**, M LaFevor, A Randall, JB Ruhl, K Schwartz, ME Baker. 2015. Taking the path of comprehensive ecological restoration. *Science*. 348:638-640. https://www.doi.org/10.1126/science.aaa4216
14. Palmer MA, **KL Hondula**, BJ Koch. 2014. Ecological restoration of streams and rivers: shifting strategies and shifting goals. *Annual Review of Ecology, Evolution & Systematics* 45:247–69. https://doi.org/10.1146/annurev-ecolsys-120213-091935
15. Palmer MA & **KL Hondula**. 2014. Restoration as mitigation: analysis of stream mitigation for coal mining impacts in southern Appalachia. *Envir Sci & Tech* 48: 10552–60. https://doi.org/10.1021/es503052f
16. **Hondula KL**, ML Pace, JJ Cole, RD Batt. 2014. Hydrogen isotope fractionation in aquatic primary producers: implications of aquatic food web studies. *Aquatic Sci* 76(2): 217–229. https://doi.org/10.1007/s00027-013-0331-6
17. **Hondula KL** & ML Pace. 2014. Macroalgal support of cultured hard clams in a low nitrogen coastal lagoon. *Marine Ecology Progress Series* 498:187–201. https://doi.org/10.3354/meps10644

Prepared Manuscripts (w/complete drafts available)

1. Richardson DC, MA Holgerson + 18 coauthors. Ponds are neither lakes nor wetlands: Functionally defining small freshwater ecosystems. In revision for *Scientific Reports*.
2. Swanwick R, QD Read, S Guinn, M Williamson, KL Hondula, A Elmore. Dasymetric Population Mapping Based on US Census Data and 30-m Gridded Estimates of Impervious Surface. In revision for *Scientific Data*.
3. J Gareis, Larson EK + 14 coauthors. Using Wikipedia assignments teach critical thinking and scientific writing in STEM courses. Submitted for special issue on Innovations in Remote and Online Education by Hydrologic Scientists (invited).

4. Hondula KL, MR Williams, CN Jones, MA Palmer. Quantifying hydrologic export of methane from headwater wetlands. For submission to *Limnology and Oceanography Letters*.
5. Hondula KL, SW Ploum, CN Jones. Simplified management for complex field data using rodm2. Technical Note for submission to *Hydrology and Earth System Sciences*.

Other Contributions _____Link to GitHub profile

1. (in production) Knighton J, Hondula KL, and Palmer MA. Socio-hydrology modeling tutorial video.
2. Erdmann, Christopher, Meyer, Michael F., Little, John R., Hondula, Kelly, Stachelek, Jemma, Oleksy, Isabella, Brousil, Matthew R., Claborn, Kelly, Mesman, Jorrit, & Dennis, Tim. (2021). Guidance for AGU Authors: R Script(s)/Markdown. Zenodo. https://doi.org/10.5281/zenodo.5647998
3. Wikiproject Limnology & Oceanography videos: why and how to improve aquatic science content on Wikipedia. https://www.youtube.com/watch?v=6ny9Z7CDWq8; https://www.youtube.com/watch?v=_Nin4RENHU4
4. Hondula KL. 2021. Using leaflet for interacting with geospatial data in R. Recorded presentation in AEMON-J/DSOS Workshop Archive. https://osf.io/682v5/; https://youtu.be/WB4RvSGZvpE
5. Hondula, KL. 2020 November 25. Shiny App Accessibility, Part 2: Accessible design. SESYNC Cyberhelp blog. https://sesync-ci.github.io/blog/shiny-accessibility.html
6. Hondula, KL. 2020 November 10. Shiny App Accessibility, Part 1: Only you can prevent link rot. SESYNC Cyberhelp blog. https://sesync-ci.github.io/blog/shiny-in-pubs.html
7. Hondula, K.L. 2020 May 13. Oh, the places you can get census population data for! SESYNC Cyberhelp blog. https://sesync-ci.github.io/blog/census-pops.html
8. Hondula, K.L. 2020 March 3. Databases, huh? What are they good for? SESYNC Cyberhelp blog. https://sesync-ci.github.io/blog/db-what-r-they-good-for.html
9. Farrell KJ, AN Cramer, KL Hondula, SK Thompson, JA Zwart. Support of Early-Career Researchers Supports the Future of ASLO. ASLO Bulletin, February 2019. https://doi.org/10.1002/lob.10295
10. Hondula KL and CN Jones. 2019. rodm2: Use an ODM2 Database in R. R package version 0.1.0. https://khondula.github.io/rodm2/
11. Hondula, K.L. 2019 April 12. Publishing Data Papers. SESYNC Cyberhelp Blog. https://sesync-ci.github.io/blog/data-papers.html
12. Hondula K.L. 2019 February 13. Sharing your RShiny app. SESYNC Cyberhelp Blog. https://sesync-ci.github.io/blog/shiny-sharing.html
13. Kelly Hondula, Ian Carroll, Quentin Read, Philippe Marchand, Rachael E. Blake, & Andres Garcia. (2021). SESYNC-ci/leaflet-in-R-lesson: Handouts - Zenodo (v0.5). Zenodo. https://doi.org/10.5281/zenodo.5708841
14. Kelly Hondula, Ian Carroll, Philippe Marchand, Quentin Read, & Rachael E. Blake. (2021). SESYNC-ci/basic-Shiny-lesson: Handouts - Zenodo (v0.7). Zenodo. https://doi.org/10.5281/zenodo.5705573
15. Kelly Hondula, Quentin Read, Rachael E. Blake, & Ian Carroll. (2021). SESYNC-ci/advanced-tidyverse-lesson: Handouts - Zenodo (v0.3). Zenodo. https://doi.org/10.5281/zenodo.5708787

16. Ian Carroll, Kelly Hondula, Rachael E. Blake, Quentin Read, & Philippe Marchand. (2021). SESYNC-ci/basic-R-lesson: Handouts - Zenodo (v0.9). Zenodo. https://doi.org/10.5281/zenodo.5705384
17. Ian Carroll, Kelly Hondula, Philippe Marchand, Mary Glover, Quentin Read, & Rachael E. Blake. (2021). SESYNC-ci/census-data-manipulation-in-R-lesson: Handouts - Zenodo (v0.5). Zenodo. https://doi.org/10.5281/zenodo.5708315
18. Ian Carroll, Mary Shelley, Kelly Hondula, Philippe Marchand, Rachael E. Blake, & Quentin Read. (2021). SESYNC-ci/sqlite-lesson: Handouts - Zenodo (v0.5). Zenodo. https://doi.org/10.5281/zenodo.5708814
19. Ian Carroll, Kelly Hondula, Philippe Marchand, Rachael E. Blake, & Quentin Read. (2021). SESYNC-ci/interactive-rmarkdown-lesson: Handouts - Zenodo (v0.3). Zenodo. https://doi.org/10.5281/zenodo.5708827
20. Ian Carroll, Quentin Read, Kelly Hondula, Philippe Marchand, Rachael E. Blake, & Andres Garcia. (2021). SESYNC-ci/basic-git-lesson: Handouts - Zenodo (v0.8). Zenodo. https://doi.org/10.5281/zenodo.5705586
21. Boettiger C, S Chamberlain, A Fournier, K Hondula, A Krystalli, B Mecum, M Salmon, K Webbink and K Woo. 2020. dataspice: Create Lightweight Schema.org Descriptions of Data. R package version 1.0.0. https://CRAN.R-project.org/package=dataspice
22. Hondula, KL 2018 January 3. Images for data exploration in RShiny Apps. SESYNC Cyberhelp blog. https://sesync-ci.github.io/blog/blog-shiny-pix.html
23. Hondula, KL 2018 January 27. Writing data management plans. SESYNC Cyberhelp blog. https://sesync-ci.github.io/blog/data-management-plans.html
24. Hondula, KL 2018 April 19. Build a shiny app to explore MODIS data. SESYNC Cyberhelp blog. https://sesync-ci.github.io/blog/browse-wms-with-shiny.html
25. Jones, K., N Magliocca, KL Hondula 2017. An Overview of Conceptual Models, Analytical Frameworks and Research Questions in the Food-Energy-Water Nexus. White paper. https://doi.org/10.13016/M2BK10

Presentations and Seminars

1. KL Hondula. Measuring, modeling, and monitoring aquatic ecosystems. Invited seminar at Desert Research Institute April 2022.
2. KL Hondula, RT Hensley, T Goulden, JD Hosen, ER Hotchkiss, MG Tulbure. Landscape scale variability in optical water quality indicators at NEON sites. AGU Fall Meeting 2021 (Recorded oral presentation).
3. KL Hondula, CN Jones, MA Palmer. Inundation Duration and Extent Affect Methane Flux Rates and Scaling for Forested Mineral Soil Wetlands. AGU Fall Meeting 2021.
4. KL Hondula. Using leaflet for interacting with geospatial data in R. July 2021 Hacking Limnology Virtual Summit (online).
5. JD Hosen (presenter), J Blaszczak, MJ Cohen, R Hensley, K Hondula, W McDowell, J Potter, PA Raymond, B Yoon. Spectroscopic time series from continental network of *in situ* sensors indicate hydrology and water clarity influence organic matter processing rates. SFS Annual Meeting 2021.
6. KL Hondula, B DeVries, CN Jones, MA Palmer. Capturing inundation dynamics of small forested wetlands at high spatial resolution for improved estimation of methane fluxes. AGU Fall Meeting 2019.

7. KL Hondula, JE Brandt, K Farrell, DW Kincaid, A Shogren, JA Zwart. From classroom to community: Student contributions to WikiProject Limnology & Oceanography expand public education in the aquatic sciences. AGU Fall Meeting 2019. Link to iPoster.
8. KL Hondula, B DeVries, CN Jones, MA Palmer. Scaling up empirical methane fluxes from forested seasonal wetlands using high resolution satellite-based inundation time series. Gordon Research Conference on Catchment Science: Interactions of Hydrology, Biology and Geochemistry 2019.
9. KL Hondula, B DeVries, CN Jones, MA Palmer. Scaling up field measurements of methane fluxes from forested wetlands using ground and satellite-based inundation time series. AGU Fall Meeting 2018.
10. CE Maietta (presenter), KL Hondula, CN Jones, MA Palmer. Methane-cycling microbial communities vary along a hydrologic gradient in depressional freshwater wetland soils. AGU Fall Meeting 2018.
11. KL Hondula, B DeVries, C Huang, CN Jones, MW Lang, MA Palmer. Unravelling the effects of inundation dynamics on methane cycling in forested wetlands using spaceborne optical and radar data. ForestSat 2018.
12. KL Hondula, C Maietta, & MA Palmer. Seasonal patterns of methane concentrations and fluxes from Delmarva Bays in relation to hydrologic variability. ASLO 2018 Summer Meeting.
13. KL Hondula & MA Palmer. Linking seasonal surface water dynamics with methane emissions and export from small, forested wetlands. AGU Fall Meeting, 2017.
14. (Invited) KL Hondula & MA Palmer. Mitigation mismatches: Ecological interpretation of some common assumptions underlying mitigation protocols. Society for Freshwater Science Annual Meeting 2016.
15. KL Hondula, D Hogan, ST Jarnagin. Accounting for disproportionately large runoff events in urban catchments. Catchment Science Gordon Research Conference, Andover, New Hampshire, June 2015.
16. NR Magliocca, D Hart, KL Hondula, I Munoz, M Shelley, M Smorul. Data-driven synthesis for investigating food systems resilience to climate change. AGU Fall Meeting, 2014.
17. MA Palmer (presenter) & K Hondula. Stream restoration outcomes: What is being measured? What should be measured? European Society for Ecological Restoration Conference. 2014.
18. KL Hondula & MA Palmer. Restoration as mitigation: ecological vs. regulatory approaches to evaluating stream and wetland mitigation. Joint Aquatic Sciences Meeting, 2014.
19. KL Hondula & ML Pace. Diet of cultured hard clams in a Virginia coastal lagoon determined by multiple stable isotopes. Virginia Coast Reserve LTER All Scientists Meeting 2012.
20. KL Hondula, ML Pace, JJ Cole, RD Batt. Hydrogen isotope fractionation in aquatic plants. Robert J. Huskey Research Exhibition, University of Virginia. 21 March 2012. 2nd place Biological and Biomedical sciences.
21. KL Hondula, ML Pace, JJ Cole, RD Batt. Hydrogen isotope fractionation in aquatic plants: implications for food web studies. Fall meeting of the American Geophysical Union 2011.
22. KL Hondula & LK Reynolds. Reproduction of *Zostera marina* in a chronosequence of seagrass meadows. EnviroDay Student Research Symposium, University of Virginia 2009.
23. KL Hondula, M Potapova, D Charles. An Investigation of the Freshwater Diatom Genus *Reimeria*: Distinctions between *Reimeria sinuata* and *Reimeria uniseriata*. North American Diatom Symposium 2007.

Competitive Funding & Synergistic Activities

1. NSF NEON Postdoctoral Fellowship: Advancing Landscape-Scale Characterization of Watershed Processes Through Integration of Airborne and Aquatic NEON Data Streams **($144,000)**
2. NSF DEB – MacroSysBIO & NEON-Enabled Sci: Uncovering local and regional controls on organic matter processing in freshwaters using in situ optical sensors. PIs: J Hosen, J Blaszczek (Senior personnel)
3. WikiMedia foundation project grant: Recruiting Aquatic Editors. WikiProject Limnology and Oceanography Project Team (8 members) **($9,200)**.
4. rOpenSci 2018 Fellowship: "Enhancing Reproducibility in Watershed Science" to develop open source software to assist scientists with the adoption of best practices for recording metadata associated with spatially discrete earth observations **($47,000)**.
5. Invited big data expert mentor at Ecological Society of America SEEDS Power of Data workshop (2021).
6. Invited workshop participant: rOpenSci unconference (2018); Ecological Dissertation in Aquatic Sciences symposium (2018); NEON Science Summit (2019); Environmental Data Science Summit 2022 (postponed); Variably Inundated Environments Workshop (April 2022) .
7. Ad-hoc peer reviewer for: *Nature Communications, Limnology and Oceanography Letters, Global Biogeochemical Cycles, Journal of Applied Ecology, Atmospheric Chemistry and Physics, Wetlands, Restoration Ecology, Journal of Hydrology, Aquatic Sciences,* rOpenSci (software packages)

Teaching Experience

1. Data Science instructor and lesson developer: SESYNC Computational Summer Institute (annually 2014–2020); SESYNC Geospatial Data Analysis Short Course (2018, 2019); Tidyverse training for SESYNC postdoctoral fellows (2018, 2020); Data skills workshop for UMD Plant Sciences (2017); SESYNC Introduction to Spatial Agent-Based Modeling workshop (2017); SAMSI Software Carpentry workshop: Developing, Maintaining, and Employing Large Computational Frameworks for the Ecological Sciences (2015)
2. Guest lecturer, UMD Global STEWARDS: Project-Based Data Practicum at the Nexus of Food, Energy, and Water Systems MIEH691 (2020); Data Graphics in R graduate seminar, MEES 608Y (2017).
3. Graduate teaching assistant, University of Virginia Department of Environmental Sciences: (2009-2012) for Fundamentals of Ecology (laboratory); Introduction to Environmental Policy (discussion); Beaches, Coasts, and Rivers; Coastal Geomorphology (laboratory)