Quentin D. Read

Using big open data to understand how humans influence the natural world

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Professional appointments

Agricultural Research Service, U.S. Department of Agriculture, Raleigh, NC 2021–
Applied consulting statistician, Southeast Area (located at North Carolina State University)
- Support USDA researchers by designing experiments, processing and visualizing data, and doing statistical analyses using R, Stan, SAS, and Python
- Design and teach statistics and data science lessons to USDA researchers, topics including Bayesian regression, R programming, and data visualization
- Pursue a research program modeling the impacts of the food system on human and natural communities, using techniques from ecology, environmental science, and economics

National Socio-Environmental Synthesis Center (SESYNC), Annapolis, MD 2018-2021
Data scientist (2019-2021); *Postdoctoral fellow* (2018-2020)
- Provided data science consulting for socio-environmental research teams
- Maintained and developed new features for the R package *rslurm*
- Maintained and wrote content for SESYNC's cyberhelp website
- Developed and taught lessons for data science curriculum
- Modeled impacts of food waste and benefits of food waste reduction interventions
- Participated in SESYNC's postdoctoral immersion training program
- Published three first-authored manuscripts and multiple co-authored manuscripts
- Research featured in multiple media outlets (list)

Michigan State University (MSU), East Lansing, MI 2016-2018
Postdoctoral researcher, Department of Forestry
- Compiled, analyzed, and processed environmental and biodiversity datasets in R
- Fit spatial Bayesian models; did GIS analysis in R and GDAL
- Published three first-authored manuscripts and multiple co-authored manuscripts

Education

University of Tennessee (UT), Knoxville, TN 2011-2016
Ph.D., Ecology & Evolutionary Biology

University of North Carolina, Chapel Hill, NC 2005-2009
B.S., Environmental Science

Skills and languages

- Data processing and visualization in R, including tidyverse and data.table
- Bayesian modeling with Stan
- Geospatial analysis and modeling with GDAL and R
- Applying machine learning models for bioinformatics in R
- High-performance parallel computing using Linux
- Website development using Markdown and Jekyll
- Using git for version control and remote collaborations

Publications (for full list see Google Scholar)

- 10 first-authored publications in journals including *PNAS*, *Resources Conservation & Recycling*, *Science of the Total Environment, Ecography,* and *Biology Letters*
- Two publications with undergraduate first authors that I mentored, in *Ecology* and *Oecologia*
- 56 other co-authored publications in journals including *Science, Science of the Total Environment,* and *Global Ecology and Biogeography*
- Published an article based on my research in 360info special feature on food and climate change

Selected invited talks

- USDA ARS, 2023 IACUC workshop, Athens, GA (virtual) 2023
- N.C. State University, Plant & Microbial Biology department seminar, Raleigh, NC 2022
- Duke University, University Program in Ecology Seminar Series, Durham, NC (virtual) 2020
- Commission for Environmental Cooperation, Arlington, VA 2018
- National Ecological Observatory Network, Boulder, CO 2017
- MSU Department of Forestry, Hanover Forest Science Seminar Series, East Lansing, MI 2016
- Rocky Mountain Biological Laboratory seminar series, Gothic, CO 2014

Software

- Co-developer, *epi2me2r*: R package that helps users import Nanopore data into R 2022
- Lead developer, *Ostats*: R package for trait analysis of ecological communities 2021
- Co-developer, *ggalluvial*: R package adding functionality to ggplot2 2020
- Co-developer, *rslurm*: R package for running R code in parallel 2019

Selected teaching and course design

- Delivered lectures on statistical interactions, means comparisons, and troubleshooting statistical models 2024
- Designed and taught workshop on multiomics data integration 2024
- Delivered guest lecture on ethics in biostatistics at N.C. State University 2023
- Designed and taught workshops on Bayesian statistics, R for SAS users, and data visualization 2023
- Designed and taught two-day workshop on mixed models in R 2022
- Delivered guest lectures on food waste at UMD and George Washington University 2021, 2022
- Co-designed and taught lessons for day-long geospatial data workshop at SESYNC 2021
- Designed and led workshop on best practices for collaboration with GitHub 2020
- Co-instructor of graduate seminar course in ecology at MSU 2017
- Graduate teaching assistant for eight semesters at UT 2011-2016
- Served on panel developing and reforming UT undergraduate biology curriculum 2013-2014

Mentoring experience

- Mentored student team in University of Maryland Data Challenge; team won grand prize in a 75-team competition 2021
- Remotely mentored 2 undergraduates at Bryn Mawr College developing an R package 2020
- Mentored 4 undergraduates through Summer Research Opportunities Program and High Performance Computing Center, MSU 2017-2018
- Mentored 11 summer research undergraduates and laboratory assistants through Rocky Mountain Biological Laboratory (RMBL) and UT 2012-2015

Selected fellowships and awards

- USDA-ARS Southeast Area award: Customer Service and Technical Expertise 2024
- SESYNC NSF-funded postdoctoral immersion fellowship 2018-2020
- Science Alliance award for exemplary accomplishments as a graduate student, UT 2015
- Outstanding Outreach and Community Service award, UT 2014
- Dr. Jean H. Langenheim Endowed Graduate Fellowship, RMBL 2013-2014

Selected professional and public outreach

- Peer reviewer for >40 different journals 2013–
- Peer reviewer for R packages on ROpenSci 2020–
- Review panelist, SESYNC immersion postdoctoral fellowship program 2019
- Public research talks on climate change and citizen science 2017, 2018
- Organized Darwin Day, a campus-wide science education event 2014