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*
- 50 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   2024
  troubleshooting statistical models
- 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   2023
  visualization
- 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   2021
  prize in a 75-team competition
- Remotely mentored 2 undergraduates at Bryn Mawr College developing an R package   2020
- Mentored 4 undergraduates through Summer Research Opportunities Program and   2017-2018
  High Performance Computing Center, MSU
- Mentored 11 summer research undergraduates and laboratory assistants through   2012-2015
  Rocky Mountain Biological Laboratory (RMBL) and UT

Selected fellowships and awards

- 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