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
- 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, including analysis, management, and visualization, and high-performance computing
- 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 program, receiving training on socio-environmental synthesis research
- Published two first-authored manuscripts and multiple co-authored manuscripts

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, visualizing, and analysis in R, including tidyverse and data.table
- Bayesian modeling with Stan
- Spatial analysis and modeling with GDAL and R
- Working knowledge of Python and Julia
- High-performance parallel computing using Linux server
- Website development using Markdown and Jekyll
- Using git/GitHub for version control and remote collaborations

Grants

Macrosystems Biology, NEON-Enabled Science (National Science Foundation; $536,800)
Role: senior personnel, co-writer of grant   2019-2024

Publications, invited talks, and software

Publications (for full list see Google Scholar)
- Nine first-authored publications in journals including *Resources Conservation & Recycling, Science of the Total Environment, Ecography,* and *Biology Letters*
- Two publications first-authored by undergraduates I mentored, in *Ecology* and *Oecologia*

- Eighteen other co-authored publications in journals including *Science of the Total Environment, Global Ecology and Biogeography,* and *PLoS One*

Selected invited talks

• Duke University, University Program in Ecology Seminar Series, Durham, NC	2020
• Commission for Environmental Cooperation, Arlington, VA	2018
• German Centre for Integrative Biodiversity Research (iDiv), Leipzig, Germany	2017
• 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

• 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

Teaching and mentoring

Teaching and course design

• 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-teacher of day-long whirlwind data science course for postdocs at SESYNC	2020
• Designed graduate teaching module on ecological data at MSU	2018
• Co-instructor of graduate seminar course in ecology at MSU	2017
• Graduate teaching assistant for eight semesters at UT	2011-2016
• Delivered four guest lectures in undergraduate courses at UT	2013-2015
• Served on panel developing and reforming UT undergraduate biology curriculum	2013-2014

Mentoring

• 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

• 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

Professional and public outreach

• Peer reviewer for >50 manuscripts in 33 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