Quentin D. Read

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

SESYNC
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Professional appointments

Agricultural Research Service, U.S. Department of Agriculture, Raleigh, NC 2021–
Applied Consulting Statistician, Southeast Area
- 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 data analysis, management, and visualization in R and Python
- Supported research users of a high-performance computing cluster
- Maintained the R package *rslurm*, and developed new features
- Maintained, updated, 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 RMarkdown
- 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, presentations, 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 whom I mentored, in *Ecology* and *Oecologia*
- Seventeen other co-authored publications in journals including *Science of the Total Environment, Global Ecology and Biogeography,* and *PLoS One*

Invited research 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
- University of Notre Dame biology education seminar, Notre Dame, IN 2015
- Rocky Mountain Biological Laboratory seminar, Gothic, CO 2014
- Oak Ridge National Laboratory, Environmental Sciences Division, Oak Ridge, TN 2014

Conference presentations

- U.S. Society for Ecological Economics, Louisville, KY 2019
- International Association of Landscape Ecology, Chicago, IL 2018
- Ecological Society of America, Baltimore, MD; Portland, OR 2015, 2017

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 on an NSF-funded project 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
- Gave public research talks on climate change and citizen science 2017, 2018
- Organized Darwin Day, a campus-wide science education event 2014