Quentin D. Read

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

SESYNC
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Professional appointments

National Socio-Environmental Synthesis Center (SESYNC), Annapolis, MD 2018-present

Data scientist (September 2019-present); *Postdoctoral fellow* (2018-2020)

- Model environmental impacts of food waste using input-output and nonlinear optimization
- Participate in SESYNC's postdoctoral immersion program, receiving training on socio-environmental synthesis research
- Provide data science consulting for socio-environmental research teams, including data analysis, management, and visualization in R and Python
- Support research users of a high-performance computing cluster
- Maintain the R package *rslurm*, and develop new features
- Maintain, update, and write content for SESYNC's cyberhelp website
- Develop lessons for data science curriculum and teach courses

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 and Evolutionary Biology

Dissertation: "Individual variation in plant traits drives species interactions, ecosystem functioning, and responses to global change"

University of North Carolina, Chapel Hill, NC 2005-2009

B.S. with highest distinction, Environmental Science

Skills and languages

- Data processing, visualizing, and analysis in R, including tidyverse and RMarkdown
- Bayesian modeling with Stan and JAGS
- Spatial analysis and modeling with GDAL and GIS libraries in R
- Working knowledge of Python and Julia
- High-performance parallel computing using Linux server
- Website content creation and development using Markdown and Jekyll
- Using git/GitHub for version control and remote collaborations
- Fluent in spoken and written German; communicate effectively in spoken and written Spanish

Grants

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

Publications and presentations

Publications (for full list see Google Scholar)

- Eight first-authored publications in *Science of the Total Environment, Global Ecology and Biogeography, Ecography, Biology Letters, Oikos,* and *Functional Ecology*
- Two publications first-authored by undergraduates whom I mentored, in *Ecology* and *Oecologia*

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

Invited research talks

- 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) 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

Teaching and mentoring

Teaching

- Co-teacher of a week-long online applied socio-environmental data science course at SESYNC (Computational Summer Institute) 2020
- Co-instructor of graduate course at MSU 2017
- Graduate teaching assistant for eight semesters at UT 2011-2016
- Delivered four guest lectures in undergraduate courses at UT 2013-2015

Curriculum development and course design

- Designed and led workshop on best practices for collaboration with GitHub 2020
- Designed graduate teaching module at MSU 2018
- Designed and led workshop on R and ggplot2 2015
- Designed and led workshop on statistical analyses in R 2014
- Served on panel developing and reforming undergraduate biology curriculum at UT 2013-2014

Mentoring

- 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 and UT 2012-2015

Selected honors and awards

- Science Alliance award, for exemplary accomplishments as a graduate student, UT 2015
- Outstanding Outreach and Community Service award, UT Department of Ecology and Evolutionary Biology 2014
- Dr. Jean H. Langenheim Endowed Graduate Fellowship in the Ecology and Evolution of Plants, Rocky Mountain Biological Laboratory 2013-2014
- Dr. Lee R. G. Snyder Memorial Fellowship, Rocky Mountain Biological Laboratory 2012

Professional and public outreach

- Peer reviewer for >35 manuscripts in 27 different journals 2013-present
- Maintainer, R package *rslurm* 2019-present
- 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