

Curriculum Vitae for Mark D. Risser

Research Scientist

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- EDUCATION** *Doctor of Philosophy, Statistics*
The Ohio State University, Columbus, OH, August 2015
Advisor: Catherine A. Calder, Ph.D.
Thesis: Spatially-Varying Covariance Functions for Nonstationary Spatial Process Modeling
- Master of Science, Statistics*
The Ohio State University, Columbus, OH, June 2012
- Bachelor of Science, Mathematics*
Eastern Mennonite University, Harrisonburg, VA, April 2007
Minor: Psychology
- RESEARCH INTERESTS** Spatial and environmental statistics, Bayesian modeling, spatio-temporal statistics, extreme value statistics, computational methods, detection and attribution, data visualization, climate modeling
- PROFESSIONAL EXPERIENCE** *Research Scientist* October, 2017–Present
Lawrence Berkeley National Laboratory, Berkeley, California
- Postdoctoral Fellow* August, 2015–September 2017
Lawrence Berkeley National Laboratory, Berkeley, California
- Visiting Scholar and Lecturer* August, 2015–Present
University of California, Berkeley
Department of Statistics
- Junior Statistician* August, 2014–May, 2015
Statistical Consulting Service, The Ohio State University
- Assistant Director of Admissions* June 2007–June 2010
Office of Admissions, Eastern Mennonite University
- PUBLICATIONS** *Nonstationary Spatial Prediction of Soil Organic Carbon: Implications for Stock Assessment Decision Making*
Mark D. Risser, Catherine A. Calder, Veronica J. Berrocal, Candace Berrett
Annals of Applied Statistics August 2018
DOI: pending
- Spatially-Dependent Multiple Testing Under Model Misspecification, with Application to Detection of Anthropogenic Influence on Extreme Climate Events*
Mark D. Risser, Christopher J. Paciorek, Dáithí A. Stone
Journal of the American Statistical Association March 2018
DOI: 10.1080/01621459.2018.1451335

Observationally derived rise in methane surface forcing mediated by water vapour trends
D.R.Feldman, W.D.Collins, S.C.Biraud, **M.D.Risser**, D.D.Turner, P.J.Gero, J. Tadić,
D. Helmig, S.Xie, E.J.Mlawer, T.RShippert, M.S. Torn
Nature Geosciences February 2018
DOI: 10.1038/s41561-018-0085-9

Attributable human-induced changes in the likelihood and magnitude of the observed extreme precipitation during Hurricane Harvey
Mark D. Risser and Michael F. Wehner
Geophysical Research Letters December 2017
DOI: 10.1002/2017GL075888

A basis set for exploration of sensitivity to prescribed ocean conditions for estimating human contributions to extreme weather in CAM5.1-1degree
D.A. Stone, **M.D. Risser**, O. Angélil, M.F. Wehner, S. Cholia, N. Keen, H. Krishnan,
T.A. O'Brien, W.D. Collins
Weather and Climate Extremes December 2017
DOI: 10.1016/j.wace.2017.12.003

Quantifying the Effect of Interannual Ocean Variability on the Attribution of Extreme Climate Events to Human Influence
M.D. Risser, D.A. Stone, C.J. Paciorek, M.F. Wehner, O. Angélil
Climate Dynamics January 2017
DOI: 10.1007/s00382-016-3492-x

Moral Distress in Nurses Providing Direct Patient Care at an Academic Medical Center
J. Sirilla, K. Thompson, T. Yamokoski, **M.D. Risser**, E. Chippis
Worldviews on Evidence-Based Nursing December 2016
DOI: 10.1111/wvn.12213

Local Likelihood Estimation for Covariance Functions with Spatially-Varying Parameters: the convoSPAT Package for R
Mark D. Risser and Catherine A. Calder
Journal of Statistical Software October, 2016
DOI: 10.18637/jss.v081.i14

A Meta-Analysis of Brief Alcohol Interventions for Adolescents and Young Adults: Variability in Effects across Alcohol Measures
Emily E. Tanner-Smith and **Mark D. Risser**
The Am J of Drug and Alcohol Abuse, Vol. 42, No. 2, p. 140-151 March 2016
DOI: 10.3109/00952990.2015.1136638

Regression-Based Covariance Functions for Nonstationary Spatial Modeling
Mark D. Risser and Catherine A. Calder
Environmetrics, Vol. 26, No. 4, p. 284-297. June 2015
DOI: 10.1002/env.2336

**TALKS GIVEN
SINCE 2017**

Spatial statistics for improving collective estimates of extreme precipitation at weather stations
Oral Presentation August 2018
Joint Statistical Meetings, Vancouver, BC, Canada

Spatially-Dependent Multiple Testing Under Model Misspecification
Oral Presentation June 2018
International Society for Bayesian Analysis World Meeting, Edinburgh, Scotland, UK

Spatial modeling for improving estimates of extreme precipitation statistics at weather stations
Oral Presentation May 2018
Statistical and Applied Mathematical Sciences Institute, Research Triangle Park, NC

Spatial statistics for identifying trends in extreme precipitation
Oral Presentation March 2018
International Detection and Attribution Group Workshop, Berkeley, CA

Attributable human-induced changes in the likelihood and magnitude of the observed extreme precipitation during Hurricane Harvey
Oral e-Presentation December 2017
Climate Extremes/CASCADE/WACCEM teleconference

False Discovery Control for Spatially-Dependent Hypothesis Testing, with Application to Detection of Anthropogenic Influence on Extreme Climate Events
Oral Presentation October 2017
Detection and Attribution Working Group, SAMSI, Research Triangle Part, NC

Hurricane Harvey and Time Trends in Extreme Precipitation
Oral Presentation October 2017
Extreme Precipitation Working Group, SAMSI, Research Triangle Part, NC

Spatially-dependent multiple testing under model misspecification, with application to extreme event attribution
Oral Presentation August 2017
Joint Statistical Meetings, Baltimore, MD

Spatial statistics for improving collective estimates of extreme precipitation at weather station and its subsequent gridding
Oral Presentation June 2017
10th Extreme Value Analysis Conference, Delft, Netherlands

Spatially-dependent multiple testing under model misspecification, with application to detection of anthropogenic influence on extreme climate events
Invited Presentation May 2017
Statistics Department Seminar, UC Irvine, Irvine, CA

Quantifying the effect of ocean variability on the attribution of extreme climate events to human influence
Oral Presentation March 2017
Climate Conversations Seminar, Berkeley National Laboratory, Berkeley, CA

False discovery control for a large collection of simultaneous attribution statements
Oral Presentation March 2017
International Detection and Attribution Group Workshop, Berkeley, CA

Spatially-dependent multiple testing under model misspecification, with application to detection of anthropogenic influence on extreme climate events
Oral Presentation February 2017

Data Sciences Seminar Series, Livermore National Laboratory, Livermore, CA

Multiple testing under spatially-dependent hypotheses for quantifying human influence on extreme weather

Oral e-Presentation February 2017
RGCM Climate Extremes teleconference

**TEACHING
EXPERIENCE**

Statistics 133: Concepts in Computing with Data
University of California, Berkeley Summer 2017

- Duties include: lecturing, curriculum design, assessment preparation, and mentoring of a lab section teaching assistant.

Beyond P-values: Regression analysis
National Center for Atmospheric Research March 2017

- Lecturer and coach for a three-day short course on regression analysis for atmospheric scientists

Statistics 3470: Introduction to Probability and Statistics for Engineers
The Ohio State University Spring 2014

- Duties include: lecturing, curriculum design, assessment preparation.
- Technology used: TodaysMeet for a student backchannel; Camtasia and YouTube for students to view lecture recordings.

Statistics 1450: Introduction to the Practice of Statistics
The Ohio State University Autumn 2012–Autumn 2013

- Duties include: lecturing, lead teaching assistant for the course team (Autumn 2012, Spring 2013), recitation leader (Autumn 2013), grading exams, curriculum design.
- Technology used: Adobe Connect for live lecture streaming and recording; PollEverywhere, Twitter, Top Hat Monocle, and TodaysMeet for live polling and a student backchannel; Classroom Salon and YouTube for students to view lecture recordings.
- Autumn 2012, Spring 2013: Course structured using a HyFlex (“hybrid, flexible”) model which combined traditional and online components.

**TEACHING
PROFESSIONAL
DEVELOPMENT**

Fellow, Preparing Future Faculty program
The Ohio State University Fall 2013–Spring 2014

- Observed and experienced faculty roles and responsibilities at a liberal arts institution.
- Mentored by Dr. Joan Krone, Professor of Computer Science and Benjamin Barney chair at Denison University, Granville, Ohio.

**PROFESSIONAL
SERVICE**

Referee

- 2018: *Environmetrics* (1); *Statistica Sinica* (1); *Geophysical Research Letters* (1); *Mathematical Geosciences* (1)
- 2017: *Advances in Statistical Climatology, Meteorology and Oceanography* (1); *Spatial Statistics* (1); *Journal of Agricultural, Biological, and Environmental Statistics* (1); *Journal of Computational and Graphical Statistics* (1)
- 2016: *Advances in Statistical Climatology, Meteorology and Oceanography* (1); *Climate Dynamics* (1); *Annals of Applied Statistics* (1); *Spatial Statistics* (1)

- 2015: Bayesian Analysis (1); Advances in Statistical Climatology, Meteorology and Oceanography (2); Environmetrics (1)

To the University

- 2012 Innovate Conference selection committee, Office of the Chief Information Officer, Ohio State University. February 2012.
- 2012 Impact Grant recommendation committee, Office of the Chief Information Officer, Ohio State University. December 2011.

To the Department of Statistics

- Co-President for department graduate students, Ohio State University. June 2013-May 2014.
- Graduate student recruitment and campus visit volunteer, Ohio State University. January 2011-Present.
- Communications Committee, Ohio State University. September 2010-June 2013.

To Students

- Undergraduate research assistant coordination, Ohio State University, January 2012-March 2012.

ADDITIONAL HONORS

Junior Researcher Travel Support recipient, International Society for Bayesian Analysis. 2016.

Craig Cooley Memorial Prize recipient, Department of Statistics. 2015.

Winner, Student Paper Competition, Section on Statistics and the Environment, American Statistical Association. 2015.

The Thomas and Jean Powers Student Teaching Award recipient, Department of Statistics. 2014.

University Fellow, The Ohio State University. 2010-2011.