Curriculum Vitae for Mark D. Risser
Staff Scientist

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Email: mdrisser@lbl.gov · Researcher ID: J-5801-2015 · ORCiD: 0000-0003-1956-1783

EDUCATION

Doctor of Philosophy, Statistics
The Ohio State University, Columbus, OH, August 2015
Thesis: Spatially-Varying Covariance Functions for Nonstationary Spatial Process Modeling
Graduate Interdisciplinary Specialization in College and University Teaching

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

PROFESSIONAL EXPERIENCE

Adjoint Assistant Professor, Vanderbilt University	6/2026–Present
Staff Scientist, LBNL	4/2025–Present
Research Scientist, LBNL	4/2021–3/2025
Career-Track Research Scientist, LBNL	10/2017–3/2021
Postdoctoral Fellow, LBNL	8/2015–9/2017
Visiting Scholar and Lecturer, UC Berkeley, Dept. of Statistics	8/2015–9/2017
Junior Statistician, Statistical Consulting Service, Ohio State Univ.	8/2014–5/2015
Statistical consultant, Peabody Research Institute, Vanderbilt Univ.	5/2014–6/2015
Assistant Director of Admissions, Eastern Mennonite University	6/2007–6/2010

AWARDED FUNDING

Localizing climate-model downscaled surface temperature, precipitation, and humidity to enable climate resiliency preparedness at the facility level
ESTCP Project Number: NH24-8399
Current 06/2024–06/2026

Domain-Aware Advanced Gaussian Process Driven UQ for Complex Stochastic Systems
Current 10/2023–09/2027

Calibrated and Systematic Characterization, Attribution, and Detection of Extremes (CASCADE) SFA
Current 10/2013–05/2027

REFEREED CITATIONS, CHRONOLOGICAL

Submitted

[72] Zhang, L., **Risser, M.D.**, Wehner, M.F. (2026+) Towards separating the forced direct and indirect changes to extreme heatwaves. Submitted to *Philosophical Transactions of the Royal Society A*.

[71] Rahimi, S., Norris, J., Huang, L., Bass, B., Thackeray, C.W., Hall, A., Rhoades,

A.M., **Risser, M.D.**, et al. (2026+) Bias adjustment can lead to physically interpretable trend modifications. Submitted to *Geophysical Research Letters*.

[70] Noack, M.M., Alghalayini, M.B., **Risser, M.D.** (2026+) A general kernel framework for non-CND distance measures using $|\mathcal{D}|$-dimensional sparse landmark embeddings Submitted to *NeurIPS 2026*.

[69] Luo, H., Noack, M.M., **Risser, M.D.**, Liu, Y., Qiang, J., Li, X.S. (2026+) Wasserstein-type Gaussian Process Regressions for Input Measurement Uncertainty. Submitted to *Transactions on Machine Learning Research*. Preprint on Arxiv: `https://doi.org/10.48550/arXiv.2603.17271`

[68] **Risser, M.D.**, Mahesh, A., North, J.S., Collins, W.D., Bonev, B., Kashinath, K., Kurth, T., Subramanian, S., Pritchard, M. (2026+) Surface temperature extremes produced by huge machine learning hindcasts of summer 2023. Submitted to *Geophysical Research Letters*. Preprint on Arxiv: `https://doi.org/10.48550/arXiv.2604.09754`

[67] Tekriwal, V., **Risser, M.D.**, Luo, H, Noack, M.M. (2026+) GGMPs: Generalized Gaussian Mixture Processes. Submitted to *NeurIPS 2026*. Preprint on Arxiv: `https://doi.org/10.48550/arXiv.2603.10442`.

[66] Jones, A.D., Longmate, J.M., **Risser, M.D.**, et al. (2026+) Probabilistic Storylines: Characterizing the Likelihood of Impactful Events in a Deeply Uncertain World. Submitted to *Bulletin of the American Meteorological Society*.

[65] **Risser, M.D.**, Feldman, D.R. (2026+) Data-driven and physics-constrained risk assessment for severe heatwaves in the United States. Submitted to *Science Advances*.

[64] Bercos-Hickey, E., Mafouz, N., Beydoun, H., Keen, N.D., Patricola-DiRosario, C.M., **Risser, M.D.** (2026+) Orographic Effects on Precipitation from Hurricane Helene. Submitted to *Geophysical Research Letters*.

[63] Wang, L., Callaway, D.S., Fletcher, S., **Risser, M.D.**, Jones, A.D. (2026+) Planning for a changing climate: examining future extreme heat event risk for California grid planners. Submitted to *Earth's Future*.

[62] Rahimi, S., Huang, L., Thackeray, C.W., **Risser, M.D.**, Tarouilly, E., Rhoades, A.M., Bass, B., Hall, A., Lebo, Z., Liu, W., Lehner, F., Corrie, T., Dixit, A. (2026+) Bias correction choices strongly shape California's projected megaflood risk. Submitted to *Journal of Geophysical Research - Atmospheres*.

2026

[61] Rhoades, A.M., North, J.S., Rudisill, W., Hatchett, B., **Risser, M.D.**, et al. (2026) Snow-eater heatwaves of the western United States. *Science Advances*, `https://doi.org/`.

[60] North, J.S., **Risser, M.D.**, Rhoades, A.R. (2026) Bayesian Regression for Dependent Tensor-Valued Data from Exponential Families. *Journal of Agricultural, Biological, and Environmental Statistics*, `https://doi.org/`.

[59] Noack, M.M., **Risser, M.D.**, Luo, H., Tekriwal, V., Pandolfi, R. (2026) *gp2Scale*: A Class of Compactly-Supported Non-Stationary Kernels and Distributed Computing

for Exact Gaussian Processes on 10 Million Data Points. *ICML 2026*. https://doi.org/10.48550/arXiv.2512.06143

[58] Shi, M., Zhang, L., Shaby, B., **Risser, M.D.** (2026) Spatial scale-aware tail dependence modeling for high-dimensional spatial extremes. *Journal of the American Statistical Association*, https://doi.org/10.1080/01621459.2026.2627493.

[57] Kouski, R., Patricola, C.M., Bercos-Hickey, E.M., **Risser, M.D.** (2026) The Influence of African Easterly Waves on Atlantic Tropical Cyclone Tracks and Landfall in Large Ensembles. *Journal of Geophysical Research - Atmospheres*, https://doi.org/10.1029/2025JD044501.

2025

[56] **Risser, M.D.**, Noack, M.M., Luo, H., Pandolfi, R. (2025) Compactly-supported nonstationary kernels for computing exact Gaussian processes on big data. *Environmetrics*, https://doi.org/10.1002/env.70054

[55] **Risser, M.D.**, Feldman, D.R., Boos, W.R, Rahimi, S. (2025) Upper bounds for 21st-century surface air temperatures in the Western United States. *Environmental Research Letters*, https://doi.org/10.1088/1748-9326/adda62

[54] Mahesh, A., Collins, W.D., Bonev, B., Brenowitz, N., Cohen, Y., Elms, J., Harrington, P., Kashinath, K., Kurth, T., North, J., O'Brien, T., Pritchard, M., Pruitt, D., **Risser, M.D.**, Subramanian, S., Willard, J. (2025) Huge Ensembles Part II: Properties of a Huge Ensemble of Hindcasts Generated with Spherical Fourier Neural Operators. *Geoscientific Model Development*, https://doi.org/10.5194/gmd-18-5605-2025

[53] Mahesh, A., Collins, W.D., Bonev, B., Brenowitz, N., Cohen, Y., Elms, J., Harrington, P., Kashinath, K., Kurth, T., North, J., O'Brien, T., Pritchard, M., Pruitt, D., **Risser, M.D.**, Subramanian, S., Willard, J. (2025) Huge Ensembles Part I: Design of Ensemble Weather Forecasts using Spherical Fourier Neural Operators. *Geoscientific Model Development*, https://doi.org/10.5194/gmd-18-5575-2025

[52] **Risser, M.D.**, Ombadi, M., Wehner, M.F. (2025) Granger causal inference for climate change attribution. *Environmental Research: Climate*, https://doi.org/10.1088/2752-5295/add046

[51] **Risser, M.D.**, Zhang, L., Wehner, M.F. (2025) Data-driven upper bounds and event attribution for unprecedented heatwaves. *Weather and Climate Extremes*, https://doi.org/10.1016/j.wace.2025.100743

[50] Zhou, Y., North, J.S., Rhoades, A.M., Tao, J., Rudisill, W., **Risser, M.D.**, Collins, W.D. (2025) Atmospheric River Frequency-Category Characteristics Shape U.S. West Coast Runoff. *JGR: Atmospheres*, https://doi.org/10.1029/2024JD041805

2024

[49] North, J.S., **Risser, M.D.**, Briedt, J. (2024) A flexible class of priors for orthonormal matrices with basis function-specific structure. *Spatial Statistics*, https://doi.org/10.1016/j.spasta.2024.100866

[48] Srivastava, A.K.,Wehner, M.F., Bonfils, C., Ullrich, P.A., **Risser, M.D.** (2024)

Local hydroclimate drives differential warming rates between regular summer days and extreme hot days in the Northern Hemisphere. *Weather and Climate Extremes*, https://doi.org/10.1016/j.wace.2024.100709

[47] Zhang, L., **Risser, M.D.**, Wehner, M.F., O'Brien, T.A. (2024) Leveraging extremal dependence to characterize the 2021 Pacific Northwest heatwave. *Journal of Agricultural, Biological and Environmental Statistics*, https://doi.org/10.1007/s13253-024-00636-8

[46] Rahimi, S., Huang, L., Goldenson, N., **Risser, M.D.**, Feldman, D.R., Lebo, Z.J., Norris, J., Dennis, E., Thackeray, C., Hall, A. (2024) Understanding the Cascade: Removing GCM biases improves dynamically downscaled climate projections. *Geophysical Research Letters*, https://doi.org/10.1029/2023GL106264

[45] **Risser, M.D.**, Rahimi, S., Goldenson, N., Hall, A., Lebo, Z.J., Feldman, D.R. (2024) Is bias correction in dynamical downscaling defensible? *Geophysical Research Letters*, https://doi.org/10.1029/2023GL105979

[44] Duan S., Ullrich, P.A., **Risser, M.D.**, Rhoades, A.M. (2024) Using Temporal Deep Learning Models to Estimate Daily Snow Water Equivalent over the Rocky Mountains. *Water Resoures Research*, https://doi.org/10.1029/2023WR035009

[43] Wehner, M.F., Duffy, M., **Risser, M.D.**, Paciorek, C.J., Stone, D.A., Pall, P. (2024). On the uncertainty of long-period return values of extreme daily precipitation. *Frontiers in Climate: Climate Monitoring*, https://doi.org/10.3389/fclim.2024.1343072

[42] Noack, M.M., Luo, H., **Risser, M.D.** (2024) A Unifying Perspective on Non-Stationary Kernels for Deeper Gaussian Processes. *APL Machine Learning*, https://doi.org/10.1063/5.0176963

[41] **Risser, M.D.**, Collins, W.D., Wehner, M.F., O'Brien, T.A., Huang, H., Ullrich, P.A. (2024) Anthropogenic aerosols mask increases in US rainfall by greenhouse gases. *Nature Communications*, https://doi.org/10.1038/s41467-024-45504-8.

2023

[40] Vishnu, S., **Risser, M.D.**, O'Brien, T.A., Ullrich, P.A., Boos, W. (2023) Observed increase in the peak rain rates of monsoon depressions. *npj Climate and Atmospheric Science*, https://doi.org/10.1038/s41612-023-00436-w.

[39] Longmate, J.M., **Risser, M.D.**, Feldman, D.R. (2023) Prioritizing the Selection of CMIP6 Model Ensemble Members for Downscaling Projections of CONUS Temperature and Precipitation. *Climate Dynamics*, https://doi.org/10.1007/s00382-023-06846-z

[38] Ombadi, M., **Risser, M.D.**, Rhoades, A.M., Varadharajan, C. (2023) A warming-induced reduction in snow fraction amplifies rainfall extremes. *Nature*, https://doi.org/10.1038/s41586-023-06092-7

[37] Pierce, D.W., Cayan, D.R., Feldman, D.R., **Risser, M.D.** (2023) Future Increases in North American Extreme Precipitation in CMIP6 downscaled with LOCA *Journal of Hydrometeorology*, https://doi.org/10.1175/JHM-D-22-0194.1

[36] Noack, M.M., Krishnan, H., **Risser, M.D.**, Reyes, K.G. (2023) Exact Gaussian Processes for Massive Datasets via Non-Stationary Sparsity-Discovering Kernels. *Nature Scientific Reports*, https://doi.org/10.1038/s41598-023-30062-8

2022

[35] Bercos-Hickey, E., O'Brien, T.A., Wehner, M.F., Zhang, L., Patricola, C.M., Huang, H., **Risser, M.D.** (2022) Anthropogenic contributions to the 2021 Pacific Northwest heatwave. *Geophysical Research Letters*, https://doi.org/10.1029/2022GL099396

[34] Rhoades, A.M., Hatchett, B.J., **Risser, M.D.**, Collins, W.D., et al. (2022) Asymmetric Emergence of Low-to-No Snow in the Midlatitudes of the American Cordillera. *Nature Climate Change*, https://doi.org/10.1038/s41558-022-01518-y

[33] Ombadi, M., **Risser, M.D.** (2022) How is the weather tomorrow? Increasing Trends in Volatility of Daily Maximum Temperature in Central and Eastern United States (1950–2019). *Weather and Climate Extremes*, https://doi.org/10.1016/j.wace.2022.100515

[32] Zhang, L., **Risser, M.D.**, Molter, E.M., Wehner, M.F., O'Brien, T.A. (2022) Accounting for the spatial structure of weather systems in detected changes in precipitation extremes. *Weather and Climate Extremes*, https://doi.org/10.1016/j.wace.2022.100499

[31] Charn, A.B., O'Brien, T.A., **Risser, M.D.**, Longmate, J.M., Feldman, D.R. (2022) Sign of Observed California Temperature Trends Depends on Data Set Homogenization: Implications for Weighting and Downscaling. *Geophysical Research Letters*, https://doi.org/10.1029/2022GL099186

[30] **Risser, M.D.**, Collins, W.D., Wehner, M.F., O'Brien, T.A., Paciorek, C.J., O'Brien, J.P., Patricola, C.M., Huang, H., Ullrich, P.A., Loring, B. (2022) A framework for detection and attribution of regional precipitation change: Application to the United States historical record. *Climate Dynamics*, https://doi.org/10.1007/s00382-022-06321-1

2021

[29] **Risser, M.D.**, Feldman, D.R., Wehner, M.F., Pierce, D.W., Arnold, J. (2021). Identifying and Correcting Biases in Localized Downscaling Estimates of Daily Precipitation Return Values. *Climatic Change*, https://doi.org/10.1007/s10584-021-03265-z.

[28] Molter, E.M., Collins, W.D., **Risser, M.D.** (2021). Quantitative Precipitation Estimation of Extremes in CONUS with Radar Data. *Geophysical Research Letters*, https://doi.org/10.1029/2021GL094697

[27] Pierce, D.W., Su, L., Cayan, D.R., **Risser, M.D.**, Livneh, B., Lettenmaier, D.P. (2021). An extreme-preserving long-term gridded daily precipitation data set for the conterminous United States. *Journal of Hydrometeorology*, https://doi.org/10.1175/JHM-D-20-0212.1

[26] Rhoades, A.M., **Risser, M. D.**, Stone, D.A., Wehner, M.F., Jones, A.D. (2021) Implications of warming on western United States landfalling atmospheric rivers and their flood damages, *Weather and Climate Extremes*, https://doi.org/10.1016/

j.wace.2021.100326

[25] Charn, A.B.. Collins, W. D., Parishani, H., **Risser, M.D.** (2021) Global microphysical sensitivity of superparameterized precipitation extremes. *Earth and Space Science*, https://doi.org/10.1029/2020EA001308

[24] Huang, H., Patricola, C.M., O'Brien, T.A., Bercos-Hickey, E., Zhou, Y., Rhoades, A.M., **Risser, M. D.**, Collins, W.D. (2021) Sources of subseasonal-to-seasonal predictability of atmospheric rivers and precipitation in the western United States. *JGR-Atmospheres*, https://doi.org/10.1029/2020JD034053

[23] **Risser, M.D.**, Wehner, M.F., O'Brien, J.P., Patricola, C.M., O'Brien, T.A., Collins, W.D., Paciorek, C.J., Huang, H. (2021) Quantifying the influence of natural climate variability on in situ measurements of seasonal total and extreme daily precipitation. *Climate Dynamics*, https://doi.org/10.1007/s00382-021-05638-7

[22] Wehner, M.F., Lee, J., **Risser, M.D.**, Ullrich, P., Gleckler, P., Collins, W.D. (2021) Evaluation of extreme subdaily precipitation in high-resolution global climate model simulations. *Philosophical Transactions of the Royal Society*, https://doi.org/10.1098/rsta.2019.0545.

2020

[21] O'Brien, T.A., **Risser, M. D.**, Loring, B., Elbashandy, A.A., Krishnan, H., Johnson, J., Patricola, C.M., O'Brien, J.P., Mahesh, A., Arriaga Ramirez, S. and Rhoades, A.M. (2020) Detection of Atmospheric Rivers with Inline Uncertainty Quantification: TECA-BARD v1. 0. *Geoscientific Model Development Discussions*. https://doi.org/10.5194/gmd-2020-55

[20] **Risser, Mark D.**, Wehner, M.F. (2020) The effect of geographic sampling on evaluation of extreme precipitation in high resolution climate models. *Advances in Statistical Climatology, Meteorology and Oceanography*, 6, 115–139. https://doi.org/10.5194/ascmo-6-1-2020

[19] **Risser, Mark D.**, Turek, Daniel. (2020) Bayesian inference for high-dimensional nonstationary Gaussian processes. *Journal of Statistical Computation and Simulation*. https://doi.org/10.1080/00949655.2020.1792472

[18] Charn, A.B.. Collins, W. D., Parishani, H., **Risser, M.D.**, O'Brien, T.A. (2020) Microphysical sensitivity of superparameterized precipitation extremes in the continental US due to feedbacks on large-scale circulation. *Earth and Space Science*, 7(7). https://doi.org/10.1029/2019EA000731

[17] Patricola, C.M., O'Brien, J.P., **Risser, M.D.**, Rhoades, A.M., O'Brien, T.A, Ullrich, P.A., Stone, D.A., Collins, W.D. (2020). Maximizing ENSO as a source of western US hydroclimate predictability. *Climate Dynamics*, 54(1-2), 351-372. https://doi.org/10.1007/s00382-019-05004-8

2019

[16] Srivastava, A., Grotjahn, R., Ullrich, P. A., **Risser, M.** (2019). A unified approach to evaluating precipitation frequency estimates with uncertainty quantification: Application to Florida and California watersheds. *Journal of Hydrology*, 578, 124095. https://doi.org/10.1016/j.jhydrol.2019.124095

[15] **Risser, M.D.**, Paciorek, C.J., O'Brien, T.A., Wehner, M.F., Collins, W.D. (2019). Detected changes in precipitation extremes at their native scales derived from in situ measurements. *Journal of Climate*, 32(23), 8087-8109. https://doi.org/10.1175/JCLI-D-19-0077.1

[14] Russell, B. T., **Risser, M.D.**, Smith, R. L., Kunkel, K. E. (2019). Investigating the association between late spring Gulf of Mexico sea surface temperatures and US Gulf Coast precipitation extremes with focus on Hurricane Harvey. *Environmetrics*, e2595. https://doi.org/10.1002/env.2595

[13] **Risser, M.D.**, Paciorek, C.J., O'Brien, T.A., Wehner, M.F., Collins, W.D. (2019). A probabilistic gridded product for daily precipitation extremes over the United States. *Climate Dynamics*, 53(5):2517–2538. https://doi.org/10.1007/s00382-019-04636-0

[12] **Risser, M.D.**, Calder, C. A., Berrocal, V. J., Berrett, C. (2019). Nonstationary spatial prediction of soil organic carbon: Implications for stock assessment decision making. *The Annals of Applied Statistics*, 13(1), 165-188. https://doi.org/10.1214/18-AOAS1204

2018

[11] **Risser, M.D.**, Paciorek, C.J., Stone, D.A. (2018). Spatially-Dependent Multiple Testing Under Model Misspecification, with Application to Detection of Anthropogenic Influence on Extreme Climate Events. *Journal of the American Statistical Association*, 114(525):61-78. https://doi.org/10.1080/01621459.2018.1451335

[10] Feldman, D. R., Collins, W. D., Biraud, S. C., **Risser, M.D.**, Turner, D. D., Gero, P. J., et al. (2018). Observationally derived rise in methane surface forcing mediated by water vapour trends. *Nature Geoscience*, 11(4), 238. https://doi.org/10.1038/s41561-018-0085-9

[9] Stone, D. A., **Risser, M.D.**, Angélil, O. M., Wehner, M. F., Cholia, S., Keen, N., et al. (2018). A basis set for exploration of sensitivity to prescribed ocean conditions for estimating human contributions to extreme weather in CAM5. 1-1degree. *Weather and climate extremes*, 19, 10-19. https://doi.org/10.1016/j.wace.2017.12.003

2017

[8] **Risser, M.D.**, Wehner, M.F. Attributable human-induced changes in the likelihood and magnitude of the observed extreme precipitation during hurricane Harvey. *Geophysical Research Letters*, 44(24):12-457. https://doi.org/10.1002/2017GL075888

[7] Dayton, E. A., Holloman, C. H., Subburayalu, S., **Risser, M.D.** (2017). Using crop management scenario simulations to evaluate the sensitivity of the Ohio phosphorus risk index. *Journal of Environmental Protection*, 8(02), 141. https://doi.org/10.4236/jep.2017.82012

[6] **Risser, M.D.**, Stone, D. A., Paciorek, C. J., Wehner, M. F., Angélil, O. (2017). Quantifying the effect of interannual ocean variability on the attribution of extreme climate events to human influence. *Climate Dynamics*, 49(9-10), 3051-3073. https://doi.org/10.1007/s00382-016-3492-x

[5] **Risser, M.D.**, Calder, C.A. (2017). Local Likelihood Estimation for Covariance Functions with Spatially-Varying Parameters: The convoSPAT Package for R. *Journal of Statistical Software*, 81(14), 1–32. `https://doi.org/10.18637/jss.v081.i14`

2016

[4] Sirilla, J., Thompson, K., Yamokoski, T., **Risser, M.D.**, Chipps, E. (2017). Moral distress in nurses providing direct patient care at an academic medical center. *Worldviews on Evidence-Based Nursing*, 14(2), 128-135. `https://doi.org/10.1111/wvn.12213`

[3] Tanner-Smith, E. E., **Risser, M.D.** (2016). A meta-analysis of brief alcohol interventions for adolescents and young adults: variability in effects across alcohol measures. *The American Journal of Drug and Alcohol Abuse*, 42(2), 140-151. `https://doi.org/10.3109/00952990.2015.1136638`

2015

[2] **Risser, M.D.**, Calder, C. A. (2015). Regression-based covariance functions for nonstationary spatial modeling. *Environmetrics*, 26(4), 284-297. `https://doi.org/10.1002/env.2336`

2013

[1] Miller, J., **Risser, M.**, Griffiths, R. (2013). Student choice, instructor flexibility: Moving beyond the blended instructional model. *Issues and trends in educational technology*, 1(1), 8-24.

LEAD-AUTHOR PUBLIC PRESENTATIONS (since 2023)

2025

Risser, M.D., Collins, W.D., Mahesh, A., North, J.S. (2025). Surface temperature extremes produced by huge ensembles of summer 2023 hindcasts. EnviBayes Workshop on Complex Environmental Data, College Station, TX, USA. (Invited presentation)

Risser, M.D., Feldman, D.R., Boos. W.R, Wehner, M.F., Zhang, L. (2025). Data-driven and physics-constrained estimates of upper bounds for surface air temperature. Joint Statistical Meetings, Nasvhille, TN, USA.

Risser, M.D., Collins, W.D., Mahesh, A., North, J.S., Zhang, L. (2025). Surface temperature extremes produced by huge ensembles of summer 2023 hindcasts. Contemporary Advances in Statistics of Extremes, Columbia, MO, USA.

Risser, M.D. Zhang, L., Wehner, M.F. (2025). Data-driven upper bounds and event attribution for unprecedented heatwaves. One World Extremes Seminar, vitual. (Invited presentation)

2024

Risser, M.D., Feldman, D.R., Boos, W.R., Rahimi, S. (2024). Worst-case scenarios for 21st century surface air temperatures in the Western United States: how hot will it get? AGU Fall Meeting, Washington, DC, USA.

Risser, M.D., Rhoades, A.M., Noack, M.M., Rudisill, W.J., North, J.S. (2024). Extremes-aware gridding of daily surface air temperature in mountains. AGU Fall Meeting, Washington, DC, USA.

Risser, M.D., Zhang, L., Wehner, M.F. (2024) Impossible temperatures are not as rare as you think. ENVR Workshop, Boulder, CO, USA.

Risser, M.D., Collins, W.D., Wehner, M.F., O'Brien, T.A., Huang, H., Ullrich, P.A. (2024). Detecting multiple anthropogenic forcing agents for attribution of regional precipitation change. Statistical Methods for the Physical Sciences Seminar, virtual. (Invited presentation)

Risser, M.D. and co-authors (2024). Compactly-supported nonstationary kernels for exact Gaussian processes on big data. The University of Missouri, Statistics Department Seminar, Columbia, MO, USA. (Invited presentation)

Risser, M.D. and co-authors (2024). Anthropogenic aerosols mask increases in US rainfall by greenhouse gases. Vanderbilt University Earth and Environmental Science Seminar, Nashville, TN, USA. (Invited presentation)

2023

Risser, M.D., Rahimi, S., Goldenson, N., Hall, A., Lebo, Z.J., Feldman, D.R. (2023). Is bias correction in dynamical downscaling defensible? AGU Fall Meeting, San Francisco, CA, USA.

Risser, M.D., Wehner, M.F., Zhang, L. (2023). Impossible temperatures are not as rare as you thought. AGU Fall Meeting, San Francisco, CA, USA. (Invited presentation)

Risser, M.D., Zhang, L., Wehner, M.F., O'Brien, T.A. (2023). Explaining the unexplainable: the role of characterizing extremal dependence in spatial analysis of 2021 Pacific Northwest heatwave. Joint Statistical Meetings, Toronto, Ontario, Canada.

Risser, M.D. and Noack, M.M. Exact Gaussian processes for massive datasets via non-stationary sparsity-discovering kernels. Spatial Statistics 2023: Climate and the Environment. Boulder, CO, USA.

Risser, M.D., and coauthors (2023). Detection & Attribution of Anthropogenic Climate Change. Seminar, Department of Statistics, University of California, Irvine. Irvine, CA, USA. (Invited presentation)

Risser, M.D., and coauthors (2023). Modeling big spatial data with nonstationary Gaussian processes. Lecture for Spatial Statistics seminar, University of Missouri. Columbia, MO, USA. (Invited presentation)

BOOK CHAPTERS

Risser, M.D. and Tebaldi, C. 2025. Uncertainty and extremes. In: Mearns, L.O., Forest, C.E., Fowler, H.J., Lempert, R. and Wilby, R.L. (Eds.) *Uncertainty in Climate Change Research – An Integrated Approach.* Springer Nature, Switzerland. `https://doi.org/10.1007/978-3-031-85542-9_21`

Risser, M.D., Noack, M.M. (2023) A High-Level Introduction to Uncertainty Quantification. Appears in *Methods and Applications of Autonomous Experimentation*.

Taylor & Francis, London, UK.

TEACHING EXPERIENCE

Lecturer	STAT133	Concepts in Computing with Data	UCB	Summer 2017
Lecturer	STAT3470	Introduction to Probability and Statistics for Engineers	OSU	Spring 2014
Lecturer	STAT1450	Introduction to the Practice of Statistics	OSU	Fall 2013
Lecturer	STAT1450	Introduction to the Practice of Statistics	OSU	Spring 2013
T.A.	STAT1450	Introduction to the Practice of Statistics	OSU	Fall 2012

AWARDS

- Top 20 downloaded paper of 2018, Geophysical Research Letters, for *Attributable human-induced changes in the likelihood and magnitude of the observed extreme precipitation during Hurricane Harvey*
- 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.

GRADUATE AND POSTDOC ADVISORS

- Ph.D. Advisor: Catherine A. Calder, *The Ohio State University*
- Postdoctoral Advisors: William D. Collins, *Lawrence Berkeley National Laboratory*, and Christopher J. Paciorek, *UC Berkeley*

SERVICE

- Chair-elect, American Statistical Association Section on Statistics and the Environment (October, 2025-present)
- Associate Editor, Journal of the American Statistical Association: Applications and Case Studies (October, 2023-present)
- Associate Editor, Ecological Applications (July, 2020-present)
- Associate Editor, Advances in Statistical Climatology, Meteorology, and Oceanography (March, 2020-present)
- Mentor, LBNL Earth and Environmental Sciences Area Mentoring Program (March 2023 to present).
- Served as an external committee member on the Ph.D. committee for Raymond Sukhdeo at the University of California, Davis, Climate and Global Change Group
- Organizing committee member for:
  - HeatHack, a hackathon for heat extremes for early-career researchers across climate science and statistics hosted at NCAR (June-July 2026)
  - American Statistical Association's Climate Symposia "Modeling Changing Climate and Extremes" (October 2024)
  - Interdisciplinary Workshop on Weather and Climate Extremes hosted at Clemson University (May 16-18, 2023)
  - Workshop on Risk Analysis for Extremes in the Earth System, LBNL, July 2019 (over 50 attendees from five countries)
- Organized conference sessions:

- American Geophysical Union Fall Meeting: 2024, 2023, 2022 (two sessions), 2021
- American Statistical Association Joint Statistical Meetings: 2024, 2023, 2021