

STEVEN M. QUIRING

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Department of Geography
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Education

PhD (2005) Climatology, University of Delaware. Newark, DE, USA
Dissertation: Developing a real-time agricultural drought monitoring system for Delaware
Advisor: Dr. D. Legates

Higher Education Teaching Certification (2005), Center for Teaching Effectiveness, University of Delaware. Newark, DE, USA

MA (2001) Geography, University of Manitoba. Winnipeg, MB, Canada
Thesis: The detection and prediction of agricultural drought in the Canadian prairies
Advisor: Dr. T. Papakyriakou

BA (Honours) (1999) Geography, University of Winnipeg. Winnipeg, MB, Canada
Thesis: The utility of global teleconnection indices for long-range crop forecasting on the Canadian prairies
Advisor: Dr. D. Blair

Professional Experience

Professor, The Ohio State University, Atmospheric Sciences Program, Department of Geography, 2016–present

Principal Investigator, Byrd Polar and Climate Research Center at The Ohio State University, 2017–present

Fellow, The Risk Institute at The Ohio State University Fisher College of Business, 2017–present

Member, Translational Data Analytics Institute at The Ohio State University, 2016–present

Faculty Affiliate, Sustainability Institute at The Ohio State University, 2019–present

Curriculum Vitae for Steven M. Quiring

Associate Professor, Texas A&M University, Department of Geography, September 2011–2016

Director, Environment Grand Challenge, Texas A&M University, 2013–2015

Graduate Director, Department of Geography, September 2014–2016

Member, NASA Soil Moisture Active-Passive (SMAP) Early Adopter Team, March 2014–2018

Water Faculty, Texas A&M University Interdisciplinary Graduate Water Degree Program, 2006–2016

Associate Member of the Environmental Faculty, College of Geosciences, Texas A&M University, 2009–2016

Faculty Collaborator, Smart Grid Center, Texas A&M Engineering Experimental Station, 2014–2016

Assistant Professor, Texas A&M University, Department of Geography, 2005–2011

Graduate Research Assistant, University of Delaware, 2003–2004

NSF-funded project: Development of a bias-corrected precipitation database and climatology for Arctic regions (PI: Dr. David Legates)

Lecturer, University of Delaware, Dept. of Geography, Summer 2002 & Winter 2004

Lab Instructor, University of Delaware, Department of Geography, Fall 2002

Lecturer, University of Manitoba, Department of Geography, Summer 2001

Field Research Assistant, University of Manitoba, summer 2000

ARDI-funded project: Estimation of phenological development and fractional leaf area of canola (*Brassica napus* L.) from temperature (PI: Dr. C. Shaykewich)

Graduate Teaching Assistant, University of Manitoba, Department of Geography, 1999–2000

Graduate Research Assistant, University of Manitoba, 1999–2000

NSERC-funded project: Examination of the surface energy balance of the North Water Polynya (PI: Dr. T. Papakyriakou)

GIS Programmer/Analyst, Centre for Earth Observation Science, University of Manitoba, summer 1999

NSERC-funded project: Developing a geospatial framework for the North Water Polynya Study (PI: Dr. David Barber)

Undergraduate Research Assistant, University of Winnipeg, Department of Geography, 1998–1999 (Advisor: Dr. Danny Blair)

Grants and Contracts (Received)

- 2020 Principal Investigator: University Corporation for Atmospheric Research, *Developing an objective, impacts-based framework for drought mitigation in Ohio* (06/26/20-08/31/21; \$185,6333) (GRT00060185).
- 2020 Principal Investigator: University Corporation for Atmospheric Research, *Developing National Soil Moisture Products to Improve Drought Monitoring, Phase 2* (08/01/20-08/31/21; \$91,132) (GRT00060185).
- 2020: Principal Investigator: Alabama Power (Southern Company), *Operation of HOPM/SIPM* (08/01/20–08/01/21; \$30,000).
- 2020 Principal Investigator: National Science Foundation, *Doctoral Dissertation Research: Relative Importance of Drivers of River Discharge and Prediction of Flow Regimes across the United States* (06/15/20-11/30/21; \$17,023) (NSF Award: BCS-2003248).
- 2019: Principal Investigator: Mettler-Toledo, *Truck Scale Dynamic Weighing Analysis* (12/15/2019-04/30/2020, \$22,670).
- 2019: Principal Investigator: American Electrical Power, *Storm Impact Modeling-Phase II* (09/01/2019-08/31/2020, \$408,127).
- 2019: Principal Investigator: First Energy, *Outage Volume Model* (10/23/2019-08/31/2020, \$318,220).
- 2019: Senior Personnel: National Science Foundation, *NRT-HDR: Convergent Graduate Training and EmPOWERment for a Sustainable Energy Future*, with Ramteen Sioshansi (PI), Rajiv Ramnath, Elena G. Irwin, Matthew Mayhew, and Jeffrey M. Bielicki (09/01/2019-08/31/2024, \$2,980,383) (NSF Award: DGE-1922666).
- 2019: Principal Investigator: Alabama Power (Southern Company), *Implementation of HOPM/SIPM* (02/01/19–08/01/20; \$30,000).
- 2018: Principal Investigator: American Electrical Power, *Storm Impact Modeling* (06/15/2018-04/30/2019, \$306,027).
- 2018: Co-Principal Investigator: The Risk Institute at The Ohio State University, Fisher College of Business, *Modeling of Catastrophic Weather Losses to Support Risk Management for the Insurance Industry* (6/1/2018-5/31/2020; \$20,000).

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- 2018: Principal Investigator: Guangdong Power, *Typhoon Power Outage Modeling* (02/01/2018-12/31/2018, \$200,000).
- 2017: Co-Principal Investigator: NOAA MAPP, *Improving the Drought Monitoring Capabilities of Land Surface Models by Integrating Bias-Corrected, Gridded Precipitation Estimates*, with D. B. McRoberts (PI), J. Nielsen-Gammon, B. Zavadosky, J. Case, C. Peters-Liddard, and D. Mocko (09/01/2017-08/31/2020, \$510,000).
- 2017: Co-Principal Investigator: NOAA MAPP, *Developing National Soil Moisture Products to Improve Drought Monitoring*, with T. Ford (PI), J. Lucido and M. Strobel (09/01/2017-08/31/2020, \$499,249; Grant number: NA17OAR4310136).
- 2017: Principal Investigator: OSU Connect and Collaborate Grant, *Improving Power Outage Prediction and Response through Community Partnerships* (6/1/2017-5/31/2018; \$20,000).
- 2017: Principal Investigator: The Risk Institute at The Ohio State University, Fisher College of Business, *Improved Power Outage Modeling to Support Risk Management for Electrical Utilities* (5/1/2017-4/30/2018; \$20,000).
- 2016: Co-Principal Investigator: OSU Connect and Collaborate Grant, *Connecting Climate and People to Improve Outcomes for Ohio and Beyond*, with B. Mark (PI) (1/1/2017-12/31/2017; \$45,000).
- 2016: Co-Principal Investigator: OSU Translational Data Analytics, *Robust Agricultural Conservation in a Changing Climate: Supporting Decision Making under Deep Uncertainty*, with M. Kalcic (PI) (1/1/2017-12/31/2017; \$30,000).
- 2016: Principal Investigator: NASA, *Investigating Soil Moisture-Convective Precipitation Feedbacks with Soil Moisture-Active Passive* (8/17/2016-8/16/2019; \$799,786; Grant number: NNX16AO97G).
- 2016: Co-Principal Investigator: Texas Water Development Board, *Feasibility Study for Development of a Statewide Evapotranspiration Network*; with J. Nielsen-Gammon (PI), Todd Caldwell and Guy Fipps. (08/1/2016-7/31/2017; \$149,964).
- 2016: Co-Principal Investigator: DOE Grid Modernization Lab Call, *Web Tool for Improved Electric Outage Forecasting for Response to Tropical Cyclone Events* (4/1/2016-3/31/2017; \$900,000).
- 2015 Principal Investigator: USDA, *Developing gridded soil moisture maps using NRCS SSURGO* (9/1/2015-9/30/2017; \$145,544).

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- 2015 Co-Principal Investigator: Texas A&M University-Research Development Fund, *Texas Water Observatory: Capacity Building in Brazos Corridor* (8/1/2015-7/31/2017; \$1,333,000 (including \$330,000 in college matching funds)).
- 2015 Principal Investigator: Southern Company, *Hurricane Outage Prediction Modeling* (5/1/2015-2/28/2016; \$44,500).
- 2015 Principal Investigator: NOAA SCIPP RISA, *Improved Seasonal Climate/Drought Forecasting in the SCIPP Region* (09/01/15-08/31/16; \$38,622)
- 2015 Co-Principal Investigator: South Central Climate Science Center, *Soil Moisture-Based Drought Monitoring for the South Central region* (10/1/2015-9/31/2017; \$232,437; T. Ochsner (Oklahoma State University)).
- 2014 Co-Principal Investigator: National Integrated Drought Information System, *Development of a pilot national soil moisture network* (12/01/14-06/30/15; \$105,000 (TAMU = \$45,956) with J. Lucido (USGS)).
- 2014 Principal Investigator: Department of Energy- Energy Infrastructure Modeling and Analysis (EIMA), *Increasing grid resilience through data-driven modeling for storm outage prediction and long-term planning* (09/01/14-12/31/15; \$160,000 (TAMU = \$62,740) with S. Guikema (Johns Hopkins University)).
- 2014 Principal Investigator: National Science Foundation, *Doctoral Dissertation Research: Mesoscale impacts of soil moisture on precipitation* (08/01/14-02/28/16; \$11,874) (NSF Award: BCS-1433881).
- 2014 Principal Investigator: National Science Foundation, *Alliances for Minority Participation – Student Research Supplements (AMP-SRS)* (06/01/14-02/28/16; \$84,454) (NSF Award: AGS-1056796).
- 2014 Principal Investigator: Summer Program for Undergraduate Research, Office of Undergraduate Studies, Texas A&M University: *Drought Science Learning Community* (05/01/14-08/31/14; \$7,500).
- 2014 Co-Principal Investigator: South Central Climate Science Center, *Developing Effective Tools for Communicating Drought Information* (10/01/14-9/31/16; \$188,145).
- 2013 Co-Principal Investigator: National Oceanic and Atmospheric Administration, Regional Integrated Sciences and Assessments (RISA), *Southern Climate Impacts Planning Program (SCIPP) Phase II* (09/01/13-08/31/18; \$3,500,000).
- 2013 Principal Investigator: Summer Program for Undergraduate Research, Office of Undergraduate Studies, Texas A&M University: *Drought Science Learning Community* (05/01/13-08/31/13; \$7,500).

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- 2012 Principal Investigator: Summer Program for Undergraduate Research, Office of Undergraduate Studies, Texas A&M University: *Drought Science Learning Community* (05/01/12-08/31/12; \$5,000).
- 2012 Co-Principal Investigator: College of Geosciences, Texas A&M University: *Enhancing Research Intensive Capstone Courses with more Fieldwork* (01/01/12-5/31/14; \$61,000); with Co-PIs: D. Cairns, D. Collins, O. Frauenfeld, C. Houser, A. Klein, C. Lafon, S. Quiring and B. Roark.
- 2012 Co-Principal Investigator: College of Geosciences, Texas A&M University: *Engaging Students Early through Field Based Experiences in Introductory Courses* (01/01/12-5/31/14; \$62,712) with Co-PIs: C. Brannstrom, M. Ewers, O. Frauenfeld, C. Houser, and B. Roark.
- 2011 Principal Investigator: National Science Foundation, *CAREER: Drought Predictability and the Role of Land-Atmosphere Interactions in the U.S. Great Plains* (03/15/11-02/28/17; \$486,121) (NSF Award: AGS-1056796).
- 2011 Co-Principal Investigator: Texas Department of Emergency Management, *Development of a Web-Based Hurricane Hazard Communication Document with Interactive Tools for Texas Planners* (12/01/11-01/31/13; \$60,000).
- 2010 Principal Investigator: The Southern Company, *Hurricane Risk Modeling Project: Phase III* (04/01/10–09/01/10; \$21,213) (TAMRF Proposal #1001027).
- 2010 Principal Investigator: Saskatchewan Watershed Authority, *Evaluation of Drought and Excessive Moisture Monitoring in Saskatchewan* (03/01/10–01/31/11; \$45,590) (TAMRF Proposal #1001104).
- 2009 Principal Investigator (with C. Houser): Study Abroad Experiences for First-year Students sponsored by the Office of the Dean of Undergraduate Programs, *Physical Geography Field Course in Costa Rica* (Spring 2009; travel grant of \$22,500).
- 2008 Co-Principal Investigator: Department of Energy, *Collaborative Proposal: Climate-Induced Changes in Hurricane Winds, Surge, and Risk to Electric Power Systems* (09/01/08–08/31/11; \$450,000); with S. Guikema (PI) and J. Irish (PI) (Grant No. DE-FG02-08ER64644).
- 2008 Co-Principal Investigator: The Southern Company, *Hurricane Risk Modeling Project: Phase II* (04/11/08–03/31/09; \$67,512; contract extension 04/01/09–07/31/09; \$15,000); with S. Guikema (PI) (TAMRF Proposal #0800755).
- 2007 Co-Principal Investigator: The Southern Company, *Testing hurricane power system risk models through real-time prediction of outages and customers without*

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power (08/01/07–07/31/08; \$2,000 per hurricane); with S. Guikema (PI) (TEES Contract 07-1115).

- 2006 Principal Investigator: Center for Teaching Excellence Incentive Grant, *Climate Visualization and Analysis using Google Earth* (9/01/06–9/01/07; \$1,000).
- 2005 Principal Investigator: Texas Water Development Board, *Drought Monitoring Index for Texas* (11/01/05–1/31/07; \$138,846); with J. Nielsen-Gammon (Co-PI), R. Srinivasan (Co-PI), T. Miller (Co-PI), and B. Narasimhan (Co-PI) (TWDB Contract No. 2005-483028).
- 2005 Co-Principal Investigator: Texas Water Development Board, *Digital Climate Atlas of Texas* (11/01/05–2/28/07; \$87,300); with R. Srinivasan (PI), J. Nielsen-Gammon (Co-PI), B. Narasimhan (Co-PI), and J. Jacobs (Co-PI) (TWDB Contract No. 2005-483559).

Patents

Seasonal hurricane forecasting with random forests. U.S. patent pending (provisional patent application filed on Nov. 8th 2011; application number: 61/557,107). Patent rights: Seth Guikema, Roshi Nateghi and Steven Quiring.

Software

Anderson B, Schumacher A, Guikema S, Ferreri J and **Quiring S** (2017). *Stormwindmodel*. R package version 0.0.1, <https://cran.r-project.org/web/packages/stormwindmodel/vignettes/Overview.html> .

Anderson B, Schumacher A, Crosson W, Al-Hamdan M, Yan M, Ferreri J, Chen Z, **Quiring S** and Guikema S (2017). *hurricaneexposedata: Data Characterizing Exposure to Hurricanes in United States Counties*. R package version 0.0.1, <URL: <https://github.com/geanders/hurricaneexposedata>>.

Refereed Publications

Submitted or in preparation:

Yuan, S., **Quiring, S. M.** and Z. Leasor (under revision) Historical changes in soil moisture over the contiguous United States: an assessment of CMIP6. *Geophysical Research Letters*.

Zhang, N., Li, Z. and **S. M. Quiring** (under review) Developing Impacts-Based Drought Thresholds for Ohio. *Agricultural and Forest Meteorology*.

Kabir, E., Guikema, S. D. and **S. M. Quiring** (under review) Adaptive Two-stage Bayesian Model Averaging for Estimating the Impact of Hazards on Power System Service. *European Journal of Operations Research*.

Kabir, E., Guikema, S. D. and **S. M. Quiring** (in preparation) Studying Power System Damages Using Bayesian Belief Network Analysis. *Journal*.

Pino, J. V., **Quiring, S. M.**, Manousos, P. C. and J. L. Huber (under review) A Comparative Analysis of Service Territory and Regionally Defined Electrical Utility Winter Storm Impact Models for the Northern United States. *Applied Geography*.

Yuan, S., Lu, P., **Quiring, S. M.** and Y. Wang (in preparation) Impacts of Teleconnections on Tropical Cyclone Precipitation in the North Atlantic. *International Journal of Climatology*.

Yuan, S., Zhu, L. and **S. M. Quiring** (under third review) Evaluation of the Ability of TRMM and GPM to Measure Tropical Cyclone Precipitation in the United States and Mexico. *Journal of Hydrometeorology*.

Zhang, N., **Quiring, S. M.**, and T. W. Ford (under revision) Blending SMAP, Noah and In Situ Soil Moisture Using Multiple Error Estimation Methods. *Journal of Hydrometeorology*.

Quiring, S. M., D'Amico, D. F., Maderia, C. M. and D. B. McRoberts (in preparation) Improving the Hurricane Outage Prediction Model by Including Precipitation. *Theoretical and Applied Climatology*.

Pino, J. V., **Quiring, S. M.**, Manousos, P. C. and J. L. Huber (under revision) Development of Electrical Utility Winter Storm Impact Models for the Northern United States. *International Journal of Electrical Power and Energy Systems*.

Wang, Y. and **S. M. Quiring** (in preparation) Impacts of Soil Moisture Initializations on WRF-Simulated North American Monsoon System. *Journal of Geophysical Research-Atmospheres*.

Zhang, N., **Quiring, S. M.**, Ochsner, T. E., Cosh, M. H. and S. R. Evett (in preparation) Methods for Standardizing Soil Moisture Data Across Different Sensors.

Shield, S. A., **Quiring, S. M.**, Pino, J. V., and K. Buckstaff (under revision) Major Impacts of Weather Events on the Electrical Power Distribution System in the United States. *Energy*.

Quiring, S. M., McRoberts, D. B., Guikema, S. D., Shield, S. A. and B. Alvarado (in preparation) Using NASA SMAP Soil Moisture Data to Improve the Accuracy of Power Outage Models.

Anderson, G. B., Ferreria, J., Al-Hamdan, M., Crosson, W., Schumacher, A., Guikema, S., **Quiring, S.**, Eddebuette, D., Yana, M. and R. D. Peng (under revision) Assessing United States county-level exposure for hurricane and tropical storm impact research. *Environmental Health Perspectives*.

Shield, S., **Quiring, S. M.** and D. B. McRoberts (in preparation) Difficulties in High Resolution Prediction of Thunderstorm-Related Power Outages. *Energy & AI*.

Li, Z. and **S. M. Quiring** (under review) Identifying the Dominant Drivers of Hydrological Change in the Contiguous United States. *Water Resources Research*.

Published or in press:

96. Ford, T. W., **Quiring, S. M.**, Zhao, C., Leasor, Z. T., and C. Landry (in press) Statistical Evaluation of In Situ Soil Moisture Observations from 1,200+ Stations as part of the U.S. National Soil Moisture Network. *Journal of Hydrometeorology*.
<https://doi.org/10.1175/JHM-D-20-0108.1>

95. Yuan, S., **Quiring, S. M.** and C. Zhao (2020) Evaluation of Drought Indices as Soil Moisture Proxies in the Southern U.S. Great Plains. *Journal of Hydrometeorology*, **21** (9): 2157–2175. doi: <https://doi.org/10.1175/JHM-D-20-0022.1>.

94. Wongso, E., Nateghi, R., Zaitchik, B., **Quiring, S. M.** and R. Kumar (2020) Leveraging statistical learning theory to characterize the U.S. water consumption. *Water Resources Research*, **56**: e2019WR024894. <https://doi.org/10.1029/2019WR024894>

93. Tian, L., Leasor, Z. and **S. M. Quiring** (2020) Developing a new drought index: Precipitation Evapotranspiration Difference Condition Index. *Climate Risk Management*. **29**: 100238. <https://doi.org/10.1016/j.crm.2020.100238>

92. Yuan, S., **Quiring, S. M.**, Kalcic, M. M., Postel, A. M., Evenson, G. R., and H. A. Kujawa (2020) Optimizing climate model selection for hydrological modeling: a case study in the Maumee River Basin using SWAT. *Journal of Hydrology*, **588**: 125064. <https://doi.org/10.1016/j.jhydrol.2020.125064>

91. Leasor, Z. T., **Quiring, S. M.** and M. D. Svoboda (2020) Utilizing Objective Drought Severity Thresholds to Improve Drought Monitoring. *Journal of Applied Meteorology and Climatology*, **59**: 455–475. <https://doi.org/10.1175/JAMC-D-19-0217.1>

90. Zhao, C., **Quiring, S. M.**, Yuan, S., McRoberts, D. B., Zhang, N. and Z. Leasor (2020) Developing and Evaluating National Soil Moisture Percentile Maps. *Soil Science Society of America Journal*, **84**: 443-460. <https://doi.org/10.1002/saj2.20045>

89. Yuan, S., Wang, Y., **Quiring, S. M.**, Ford, T. W. and A. L. Houston (2020) A sensitivity study on the response of convective initiation to in situ soil moisture in the central United States. *Climate Dynamics*, **54**: 2013–2028. <https://doi.org/10.1007/s00382-019-05098-0>

88. Yuan, S., **Quiring, S. M.**, Zhu, L., Huang, Y. and J. Wang (2020) Development of a Typhoon Power Outage Model in Guangdong, China. *International Journal of Electrical Power and Energy Systems*: **117**: 105711. <https://doi.org/10.1016/j.ijepes.2019.105711>

87. Zhang, N., Li, Z., Zou, X. and **S. M. Quiring** (2019) Comparison of three short-term load forecast models in Southern California. *Energy*: **119**: 116358. <https://doi.org/10.1016/j.energy.2019.116358>
86. Vicente-Serrano, S., **Quiring, S. M.**, Peña-Gallardo, M., Yuan, S. and F. Domínguez-Castro (2020) A review of environmental droughts: Increased risk under global warming? *Earth-Science Reviews*: **201**: 102953. <https://doi.org/10.1016/j.earscirev.2019.102953>
85. D'Amico, D. F., **Quiring, S. M.**, Maderia, C. M. and D. B. McRoberts (2019) Improving the Hurricane Outage Prediction Model by Including Tree Species. *Climate Risk Management*: **25**: 100193. <https://doi.org/10.1016/j.crm.2019.100193>
84. Tavakol, A., Rahmani, V., **Quiring, S. M.** and S. V. Kumar (2019) Validation analysis of NASA SMAP and SPoRT-LIS soil moisture data in the United States. *Remote Sensing of Environment*: **229**: 234-246.
83. Kabir, E., Guikema, S. D. and **S. M. Quiring** (2019) Probabilistic Mixture Models for Predicting Thunderstorm-Induced Power Outages. *IEEE Transactions on Power Systems*: **34**: 4370 – 4381. DOI: 10.1109/TPWRS.2019.2914214
82. Ford, T. W. and **S. M. Quiring** (2019) Comparison of contemporary in situ, model, and satellite remote sensing soil moisture with a focus on drought monitoring. *Water Resources Research*, **55**: 1565-1582. DOI: 10.1029/2018WR024039
81. Li, Z., Li, X., Wang, Y. and **S. M. Quiring** (2019) Impact of climate change on precipitation patterns in Houston, Texas USA. *Anthropocene*: **25**: 100193. <https://doi.org/10.1016/j.ancene.2019.100193>
80. Tian, L., and **S. M. Quiring** (2019) Spatial and temporal patterns of drought in Oklahoma (1901 to 2014). *International Journal of Climatology*: **39**: 3365–3378. <https://doi.org/10.1002/joc.6026>
79. Krueger, E. S., Ochsner, T. E., and **S. M. Quiring** (2019) Development and evaluation of soil moisture-based indices for agricultural drought monitoring. *Agronomy Journal*: **111**: 1-15. doi: 10.2134/agronj2018.09.0558
78. Leasor, Z., **Quiring, S. M.**, T. W. Ford and D. B. McRoberts (2019) Spatiotemporal variations of temperature persistence in the South-Central U.S. *Climate Research*, **77**: 181-192. <https://doi.org/10.3354/cr01550>
77. Shashanni, S., Guikema, S. D., Zhai, C., Pino, J. V. and **S. M. Quiring** (2018) Multi-stage prediction for zero-inflated hurricane induced power outages. *IEEE Access*, **6**: 62432-62449. DOI: 10.1109/ACCESS.2018.2877078
76. Peña-Gallardo, M., Vicente-Serrano, S., **Quiring, S. M.**, Svoboda, M., Hannaford, J., Tomas-Burguera, M., Martin-Hernandez, N., Domínguez-Castro, F., El Kenawy, A.

- (2019) Response of crop yield to different time-scales of drought in the United States: spatio-temporal patterns and climatic and environmental drivers. *Agricultural and Forest Meteorology*, **264**: 40-55. <https://doi.org/10.1016/j.agrformet.2018.09.019>
75. Berke P., Olivera F., **Quiring, S. M.** and J. A. Horney (2018) Addressing Challenges to Building Resilience through Interdisciplinary Research and Engagement *Risk Analysis*. DOI: 10.1111/risa.13202
74. Ford, T. W., **Quiring, S. M.**, Thakur, B., Jogineedi, R., Houston, A., Yuan, S., Kalra, A. and N. Lock (2018) Evaluating Soil Moisture-Precipitation Interactions Using Remote Sensing: A Sensitivity Analysis. *Journal of Hydrometeorology*. **19**: 1237–1253. <https://doi.org/10.1175/JHM-D-17-0243.1>
73. Peña-Gallardo, M., Vicente-Serrano, S., Domínguez-Castro, F., **Quiring, S. M.**, Svoboda, M., Hannaford, J., Tomas-Burguera, M., Martin-Hernandez, N., and A. El (2018) Analysis of the performance of drought indices to identify drought impacts in different crops over United States. *Climate Research*. **75**: 221-240. <https://doi.org/10.3354/cr01519>.
72. Tian, L., Yuan, S. and **S. M. Quiring** (2018) Evaluation of six indices for monitoring agricultural drought in the south-central United States. *Agricultural and Forest Meteorology*, **249**: 107-119. <https://doi.org/10.1016/j.agrformet.2017.11.024>
71. Zhang, N., Zhao, C., **Quiring, S. M.** and J. Lin (2017) Winter wheat yield prediction based on NDVI and agro-climate parameters in Oklahoma. *Agronomy Journal*, **109**: 2700–2713. doi:10.2134/agronj2017.03.0133
70. Zhang, N., **Quiring, S. M.**, Ochsner, T. and T. W. Ford (2017) Comparison of Three Methods for Vertical Extrapolation of Soil Moisture in Oklahoma. *Vadose Zone*, **16(10)**: doi:10.2136/vzj2017.04.0085
69. Zhu, L. and **S. M. Quiring** (2017) Developing a new extraction method for long-term tropical cyclone precipitation from daily rain gauges. *Journal of Hydrometeorology*, **18**: 2559–2576. <https://doi.org/10.1175/JHM-D-16-0291.1>
68. Krueger, E. S., Ochsner, T. E., **Quiring, S. M.**, Engle, D. M., Carlson, J.D., Twidwell, D. and S. D. Fuhlendorf (2017) Measured soil moisture is a better predictor of large growing-season wildfires than Keetch-Byram Drought Index. *Soil Science Society of America Journal*, **81**: 490–502. doi:10.2136/sssaj2017.01.0003
67. Yuan, S. and **S. M. Quiring** (2017) Evaluation of soil moisture in CMIP5 simulations over contiguous United States using in situ and satellite observations. *Hydrology and Earth System Science*, **21**: 2203–2218. doi:10.5194/hess-21-2203-2017

66. Tian, L., Leason, Z. and **S. M. Quiring** (2017) Potential to improve precipitation forecasts in Texas through incorporation of multiple teleconnections. *International Journal of Climatology*, **37**: 3863–3872. doi:10.1002/joc.4960
65. McRoberts, D. B., Guikema, S. D. and **S. M. Quiring** (2018) Improving hurricane power outage risk models through the inclusion of environmental factors. *Risk Analysis*, **38**: 2722-2737. DOI: 10.1111/risa.12728
64. Ford, T. W., Wang, Q. and **S. M. Quiring** (2016) The observation record length necessary to generate robust soil moisture percentiles. *Journal of Applied Meteorology and Climatology*, **55**: 2131-2149. DOI: 10.1175/JAMC-D-16-0143.1
63. Ford, T. W., **Quiring, S. M.** and O. Frauenfeld (2017) Multi-decadal variability of soil moisture-temperature coupling over the contiguous United States modulated by Pacific and Atlantic sea surface temperatures. *International Journal of Climatology*, **37**: 1400–1415. DOI: 10.1002/joc.4785
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Invited Presentations

Quiring, S. M. (2020) Drought and Land-Atmosphere Interactions in a Changing Climate. Department of Geographic and Atmospheric Sciences, Northern Illinois University, October 2020.

Quiring, S. M. (2020) Modeling Weather Risks: Applying analytics to inform electrical utilities and the insurance industry. Department of Geography, University of Colorado-Boulder, September 2020.

Quiring, S. M. (2020) Modeling Storm-Related Power Outages for AEP. Geography Club, Ohio State University, March 2020.

Quiring, S. M. (2020) Modeling weather-related power outages. Brookhaven National Lab, Upton, N.Y., February 2020.

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Quiring, S. M. (2018) Modeling the Impact of Hurricanes on Electrical Power Systems: Lessons Learned from Harvey and Irma. 22nd Annual Severe Weather Symposium, The Ohio State University, Columbus, OH, March 2018.

Quiring, S. M. (2017) Climate Change 101. Maumee Watershed HABRI Stakeholder Advisory Group. Heidelberg University, Tiffin, OH, December 2017.

Quiring, S. M. (2017) Drought and Land-Atmosphere Interactions in a Changing Climate. 7th Annual Water, Climate & the Environment Mini-Symposium. The Ohio State University, December 2017.

Quiring, S. M. (2017) Modeling the Impact of Hurricanes on Electrical Power Systems: Lessons Learned from Harvey and Irma. Southern Illinois University, Carbondale, IL, November 2017.

Quiring, S. M. (2017) Drought and Land-Atmosphere Interactions in a Changing Climate. Department of Geography, The Ohio State University, September 2017.

Shafer, M. and **S. M. Quiring** (2017) Developing Effective Drought Monitoring Tools for Farmers and Ranchers in the South Central U.S. National Climate Change and Wildlife Science Center, August 2017.

Quiring, S. M. (2017) Modeling weather-related storm outages for Southern California Edison. Fifth Annual California Utility Forecasters Meeting, San Diego, CA, June 2017.

Quiring, S. M. (2017) Vision and Opportunities for the National Soil Moisture Network. Invited paper presented at the 2017 MOISST Workshop, Stillwater, OK, May 2017.

Quiring, S. M. (2017) Modeling the Impact of Tropical Storms on Electrical Power Systems. Nagoya University Signing Ceremony and Seminar, Columbus, OH, March 2017.

Quiring, S. M. and S. G. Guikema (2017) Modeling the Impact of Tropical Storms on Electrical Power Systems: Lessons Learned From A Decade of Research, Los Alamos National Laboratory, Los Alamos, NM, March 2017.

Quiring, S. M. (2017) Does soil moisture influence precipitation? Department of Geography, Western Michigan University, February 2017.

Quiring, S. M. and D. B. McRoberts (2017) How can soil moisture help predict power outages caused by hurricanes? SMAP Early Adopter Teleconference, January 2017.

Quiring, S. M. (2016) Power outage modeling using weather data analytics. TDA@Ohio State Fall Forum, Columbus, OH, November 2016.

Guikema, S. G. and **S. M. Quiring** (2016) Modeling the Impact of Tropical Storms on Electrical Power Systems: Lessons Learned From A Decade of Research in the U.S. Guangdong Power Technology Conference, Guangzhou, China, November 2016.

Quiring, S. M. (2016) Modeling weather-related storm outages: New tools for enhancing utility preparedness and response. Fourth Annual California Utility Forecasters Meeting, Folsom, CA, May 2016.

Quiring, S. M. (2016) Impacts of climate change on precipitation in Houston, TX. Resilience and Climate Change Cooperative, Texas A&M University, April 2016.

Quiring, S. M. (2016) Power outage modeling using weather data analytics. Ohio State University, Columbus, OH, April 2016.

Quiring, S. M., Strobel, M. and J. Lucido (2016) Overview of SMAP Integration with the National Soil Moisture Network. 4th SMAP Applications Workshop, Austin, Texas, April 2016.

Shafer, M. and **S. M. Quiring** (2016) Assessing Effectiveness of Drought Monitoring Tools in the South Central U.S. South Central Climate Science Center, February 2016 (webinar).

Quiring, S. M. (2015) Forecasting power outages for weather events. Smart Grid Mini-Workshop, Texas A&M University, November 2015.

Quiring, S. M. (2015) Texas Water Observatory: Developing a Geospatial Data Portal. GEOSAT Faculty Voices, Texas A&M University, November 2015.

Quiring, S. M. (2015) Recent developments in drought monitoring and drought prediction using in situ soil moisture. Consortium of Universities for the Advancement of Hydrologic Science, October 2015 (webinar).

Quiring, S. M. (2015) Increasing resilience of the electrical power grid through hurricane outage prediction modeling. Department of Nuclear Engineering, Texas A&M University, September 2015.

Quiring, S. M. (2015) Recent developments in drought monitoring and drought prediction using in situ soil moisture. Texas Water Development Board, September 2015.

Guikema, S. D. and **S. M. Quiring** (2015) Predicting Electricity Outages. State Energy Risk Assessment Workshop, Denver, CO, April 2015.

Quiring, S. M. (2015) Land-atmosphere interactions and drought in the U.S. Great Plains. Department of Earth and Atmospheric Sciences Stout Lecture, University of Nebraska-Lincoln, March 2015.

Quiring, S. M. and S. D. Guikema (2014) Increasing Grid Resilience Through Data-Driven Modeling for Storm Outage Prediction and Long-Term Planning. Department of Energy, Washington, D.C., December 2014.

Quiring, S. M. (2014) Investigating land-atmosphere interactions using the North American Soil Moisture Database. Department of Atmospheric Sciences, Texas A&M University, September 2014.

Quiring, S. M. (2014) Modeling the impact of hurricanes on the power grid. Center for Emergency Informatics, Texas A&M University, February 2014.

Quiring, S. M. (2013) Lessons learned while building the North American Soil Moisture Database. Developing a Coordinated National Soil Moisture Network Workshop, NWS National Training Center, Kansas City, November 2013.

Quiring, S. M. (2013) Investigating land-atmosphere interactions using the North American Soil Moisture Database. Department of Geography, Texas A&M University, September 2013.

Quiring, S. M. (2013) Modeling the impact of hurricanes on the power grid. Ocean Engineering Seminar Series, Texas A&M University, April 2013.

Quiring, S. M. (2013) Does soil moisture influence climate? Department of Geography, Western Michigan University, March 2013.

Quiring, S. M. (2012) Climate variability and drought: Understanding the role of land-atmosphere interactions. TAMU-Brazil Water Seminar Series, October 2012.

Quiring, S. M. (2012) Investigating the influence of soil moisture on land-atmosphere interactions in the U.S. Great Plains. Department of Geography, University of Alabama, September 2012.

Quiring, S. M. (2012) Tempests and transformers: Modeling the impact of hurricanes on the power grid. Department of Geography, University of Minnesota, February 2012.

Quiring, S. M. (2011) Climate variability and drought: Understanding the role of land-atmosphere interactions. Water, Climate and Society Workshop, University of Guanajuato, Mexico, May 2011.

Quiring, S. M. (2010) Tempests and transformers: Modeling the impact of hurricanes on the power grid. Department of Geography, Texas A&M University, October 2010.

Quiring, S. M. (2009) Climate change: A Texas perspective. Geography Society, Blinn College, Bryan, TX, November 2009.

Quiring, S. M. (2009) What causes drought? An examination of the role of land surface conditions. Water Management and Hydrological Sciences Seminar Series, Texas A&M University, November 2009.

Quiring, S. M. (2009) Climate change, drought and agricultural adaptation: A Texas perspective. Agriculture and Agri-Food Canada Climate Change Adaptation Workshop, Winnipeg, MB, November 2009.

Quiring, S. M. (2009) Modeling hurricane surface wind fields: Theoretical considerations and practical applications. Ocean Engineering Program Seminar Series, Texas A&M University, October 2009.

Quiring, S. M. (2009) What causes drought? An examination of the role of land surface conditions. Department of Geography and Environmental Engineering, Johns Hopkins University, April 2009.

Quiring, S. M. (2007) Characteristics and causes of drought in the southwestern United States. Bi-National Water Seminar, Texas A&M University Water Program, March 2007.

Quiring, S. M. (2006) What causes drought? An examination of the role of land surface conditions. Department of Atmospheric Sciences Seminar Series, Texas A&M University, October 2006.

Quiring, S. M. (2004) From Delaware to Resolute: Following in the footsteps of C. W. Thornthwaite. Department of Geography, University of Ottawa, December 2004.

Quiring, S. M. (2004) Dry times in North America: An examination of drought monitoring, drought prediction, and climate variability. Department of Geography, Texas A&M University, December 2004.

Quiring, S. M., and D. Blair (2001) Recent developments in teleconnection indices and their application in long-range forecasting. Invited paper presented at the 4th Meeting of the Long-Range Weather and Crop Forecasting Working Group, Regina, SK, March 2001.

Quiring, S. M. (2000) The detection and prediction of agricultural drought in the Canadian prairies. Department of Geography Graduate Seminar Series, University of Manitoba, November 2000.

Conference Papers and Presentations

AMS (Josh, Zack?, Yuechun?)

AGU?

Ford, T. W., **S. M. Quiring**, Y. Wang, K. Grady, S. Shield, and A. Houston (2021) Investigation of Soil Moisture - Precipitation Interactions in the Central United States using Thunderstorm Observation by Radar (ThOR). Contributed presentation given at the 35th Conference on Hydrology, Annual Meeting of the American Meteorological Society, January 2021.

Quiring, S. M., and T. W. Ford (2021) Developing National Soil Moisture Products Using In Situ, Satellite and Model-derived Data. Contributed presentation given at the 35th Conference on Hydrology, Annual Meeting of the American Meteorological Society, January 2021.

Li, Z. and **S. M. Quiring** (2021) Climatic, physiographic, and anthropogenic factors controlling spatial and temporal variability of water balance within the Budyko framework. Contributed presentation given at the 35th Conference on Hydrology, Annual Meeting of the American Meteorological Society, January 2021.

Li, Z. and **S. M. Quiring** (2020) Climatic, physiographic, and anthropogenic factors controlling spatial and temporal variability of water balance within the Budyko framework. Contributed paper presented at the Fall Meeting of the American Geophysical Union, December 2020.

Quiring, S. M., T. W. Ford and R. Viger (2020) Developing National Soil Moisture Products Using In Situ, Satellite and Model-derived Data. Contributed presentation given at the National Soil Moisture Workshop (online), August 2020.

Wang, Y. and **S. M. Quiring** (2020) Observed Influence of Soil Moisture on the North American Monsoon: An Assessment Using SGEFA. Contributed poster given at the National Soil Moisture Workshop (online), August 2020.

Leasor, Z. and **S. M. Quiring** (2020) Examining the Sensitivity of Monthly Temperature Forecast Models to Multiple Sources of Soil Moisture Data. Contributed poster given at the National Soil Moisture Workshop (online), August 2020.

Li, Z., Zhang, N. and **S. M. Quiring** (2020) Developing Impacts-Based Drought Thresholds for Ohio. Contributed poster given at the National Soil Moisture Workshop (online), August 2020.

Quiring, S. M. and T. W. Ford (2020) Developing Improved Forest Soil Moisture Products from In Situ, Satellite and Land-Surface Models. Contributed presentation given at the USFS – NASA Joint Applications Workshop: “Earth Observations in Support of Forest and Rangeland Response to Changing Environmental Conditions”, June 2020.

Quiring, S. M., Ford, T., Zhang, N., Zhao, C. and Z. Leasor (2020) Developing National Soil Moisture Products Using In Situ, Satellite and Model-derived Data. Contributed paper presented at the Annual Meeting of the American Association of Geographers, Denver, April 2020.

Leasor, Z. and **S. M. Quiring** (2020) Examining the Sensitivity of Monthly Temperature Forecast Models to Multiple Sources of Soil Moisture Data. Contributed paper presented at the Annual Meeting of the American Association of Geographers, Denver, April 2020.

Li, Z. and **S. M. Quiring** (2020) Spatio-temporal Patterns of Hydrological Drivers over the Contiguous United States. Contributed paper presented at the Annual Meeting of the American Association of Geographers, Denver, April 2020.

Ford, T. W. and **S. M. Quiring** (2020) Developing a Soil Moisture-Based Drought Early Warning System. Contributed paper presented at the Annual Meeting of the American Association of Geographers, Denver, April 2020.

Ning Zhang and **S. M. Quiring** (2020) Comparing Time Series and Spatial Regression Models in Maize Yield Prediction. Contributed paper presented at the Annual Meeting of the American Association of Geographers, Denver, April 2020.

Yuan, S. and **S. M. Quiring** (2019) Impacts of Soil Moisture-Atmosphere Interactions on Drought over CONUS. Contributed poster to be presented at the Annual Meeting of the American Geophysical Union, San Francisco, December 2019.

Zhang, N., **Quiring, S. M.** and T. W. Ford (2019) Soil moisture mapping in south central United States by blending in-situ and modeled data. Contributed poster to be presented at the Annual Meeting of the American Geophysical Union, San Francisco, December 2019.

Cosh, M. and others (including **S. M. Quiring**) (2019) The National Soil Moisture Network: Building a strategy from the ground up. Contributed poster to be presented at the Annual Meeting of the American Geophysical Union, San Francisco, December 2019.

Quiring, S. M. and T. W. Ford (2019) Integrating In Situ, Satellite and Modeled Data for the National Soil Moisture Map. Contributed paper presented at the National Soil Moisture Network Meeting, Kansas State University, May 2019.

Wang, Y. and **S. M. Quiring** (2019) Impacts of Soil Moisture Initializations on WRF-Simulated North American Monsoon System. Contributed poster presented at the National Soil Moisture Network Meeting, Kansas State University, May 2019.

Zhao, C. and **S. M. Quiring** (2019) Sensitivity of WRF-Hydro simulated runoff to initial soil moisture conditions. Contributed poster presented at the National Soil Moisture Network Meeting, Kansas State University, May 2019.

Yuan, S. and **S. M. Quiring** (2019) The role of soil moisture-atmosphere interactions in drought. Contributed poster presented at the National Soil Moisture Network Meeting, Kansas State University, May 2019.

Leasor, Z. and **S. M. Quiring** (2019) Developing Daily Blended Soil Moisture Products in Near Real-Time. Contributed poster presented at the National Soil Moisture Network Meeting, Kansas State University, May 2019.

Zhang, N. and **S. M. Quiring** (2019) A hybrid soil moisture product using model simulated and in-situ measured soil moisture. Contributed poster presented at the National Soil Moisture Network Meeting, Kansas State University, May 2019.

Quiring, S. M., Yuan, S., Wang, Y. and T. W. Ford (2019) Investigating Soil Moisture-Convection Precipitation Feedbacks with NASA SMAP. Contributed paper presented at the Annual Meeting of the American Association of Geographers, Washington, DC, April 2019.

Zhang, N. and **S. M. Quiring** (2019) Root-zone soil moisture estimation using in-situ measurements and remote sensing data. Contributed poster presented at the Annual Meeting of the American Association of Geographers, Washington, DC, April 2019.

Quiring, S. M., Ford, T., Leasor, Z. and C. Zhao (2018) Developing National Soil Moisture Products Using In Situ, Satellite and Model-derived Data. Invited poster presented at the at the Annual Meeting of the American Geophysical Union, Washington, December 2018.

Zhang, N. and **S. M. Quiring** (2018) A hybrid root-zone soil moisture product based on in-situ measurements and remote sensing data. Contributed poster presented at the at the Annual Meeting of the American Geophysical Union, Washington, December 2018.

Leasor, Z. and **S. M. Quiring** (2018) Examining the Relationship between Antecedent Soil Moisture and Monthly Temperatures Using SMERGE. Contributed poster presented at the at the Annual Meeting of the American Geophysical Union, Washington, December 2018.

Zhao, C. and **S. M. Quiring** (2018) Validation of WRF-Hydro simulated soil moisture at the watershed scale. Contributed poster presented at the at the Annual Meeting of the American Geophysical Union, Washington, December 2018.

Yuan, S. and **S. M. Quiring** (2018) The Role of Soil Moisture-Atmosphere Interactions in Drought. Contributed poster presented at the at the Annual Meeting of the American Geophysical Union, Washington, December 2018.

Li, Z. and **S. M. Quiring** (2018) Spatio-temporal Hydroclimatic Variability in Ohio. Contributed poster presented at the at the Annual Meeting of the American Geophysical Union, Washington, December 2018.

Wang, Y. and **S. M. Quiring** (2018) Impacts of Soil Moisture Initializations on WRF-Simulated North American Monsoon System. Contributed poster presented at the at the Annual Meeting of the American Geophysical Union, Washington, December 2018.

Pino, J. and **S. M. Quiring** (2018) Developing a Winter Storm Power Outage Impact Model for a Midwestern Utility. Contributed poster presented at the at the Annual Meeting of the American Geophysical Union, Washington, December 2018.

Quiring, S. M., Ford, T. Thakur, B., Jogineedi, R., Yuan, S., Wang, Y. and A. Houston (2018) Evaluating Soil Moisture-Precipitation Interactions Using Remote Sensing: A Sensitivity Analysis. Contributed paper presented at the NASA SUSMAP PI Meeting, Arcadia, CA, November 2018.

Quiring, S. M., Ford, T., Yuan, S., Wang, Y., and A. L. Houston (2018) Investigating Soil Moisture–Convective Precipitation Feedbacks Using Satellite and In Situ Soil

Moisture in the Central United States. Contributed paper presented at the 2018 MOISST Workshop, Lincoln, NE, June 2018.

Leasor, Z. and **S. M. Quiring** (2018) Improvements in Monthly Temperature Forecasts Utilizing Antecedent Soil Moisture: A Comparison of Observational and Modeled Soil Moisture Products. Contributed poster presented at the 2018 MOISST Workshop, Lincoln, NE, June 2018.

Zhang, N., **Quiring, S. M.**, Ochsner, T. and M. Cosh (2018) Study on Standardization of Soil Moisture Measurements from Multiple Sensors Using the Marena, Oklahoma, In Situ Sensor Testbed (MOISST). Contributed poster presented at the 2018 MOISST Workshop, Lincoln, NE, June 2018.

Yuan, S., Wang, Y., **Quiring, S. M.**, Ford, T., and A. L. Houston (2018) Investigating Soil Moisture–Convective Precipitation Feedbacks Using In Situ Soil Moisture in the Central United States. Contributed poster presented at the 2018 MOISST Workshop, Lincoln, NE, June 2018.

Zhao, C., **Quiring, S. M.**, Yuan, S. and D. B. McRoberts (2018) Gridded National Soil Moisture Database: Development and Application. Contributed poster presented at the 2018 MOISST Workshop, Lincoln, NE, June 2018.

Ochsner, T., Kruger, E. and **S. M. Quiring** (2018) Development and Evaluation of Soil Moisture-Based Indices for Agricultural Drought Monitoring. Contributed paper presented at the 2018 MOISST Workshop, Lincoln, NE, June 2018.

Tavakol, A., Rahmani, V. and **S. M. Quiring** (2018) Evaluation of NASA SMAP L4 soil moisture products over continental US using the NASMD ground-based data. Contributed poster presented at the 2018 MOISST Workshop, Lincoln, NE, June 2018.

Ford, T. W., **Quiring, S. M.**, Lucido, J. and M. Stroebel (2018) Developing Integrative Soil Moisture Products to Improve Drought Monitoring and Forecasting in the United States. Contributed paper presented at the 2018 MOISST Workshop, Lincoln, NE, June 2018.

Vicente Serrano, S. M., Peña-Gallardo, M., Hannaford, J., Lorenzo-Lacruz, J., Svoboda, M., **Quiring, S.**, Domínguez-Castro, F., Maneta, M., Tomas-Burguera, M. and A. El Kenawy (2018) Climatic drought time-scales show varied spatial and seasonal effects on hydrological droughts in natural basins of U.S. Contributed paper presented at EGU General Assembly 2018, Vienna, Austria, April 2018.

Quiring, S. M., Ford, T. W. and J. Lucido (2018) Developing National Soil Moisture Products to Improve Drought Monitoring. Contributed paper presented at the Annual Meeting of the American Association of Geographers Meeting, New Orleans, LA, April 2018.

Zhao, C., **Quiring, S. M.**, McRoberts, D. B., Zhang, N., Yuan, S. and Z. Leasor (2018) Gridded National Soil Moisture Maps: Development and Application. Contributed paper presented at the Annual Meeting of the American Association of Geographers Meeting, New Orleans, LA, April 2018.

Pino, J. and **S. M. Quiring** (2018) Modeling the Effects of Winter Storms on the Power Infrastructure System in the Northern United States. Contributed paper presented at the Annual Meeting of the American Association of Geographers, New Orleans, LA, April, 2018.

Cosh, M., Berg, A., Bindlish, R., Caldwell, T., Colliander, J., Jackson, T., Ochsner, T., Qu, J. and **S. M. Quiring** (2018) Toward the development of protocols for soil moisture monitoring and measurement. Invited presentation given at the Annual Meeting of the American Meteorological Society, Austin, January 2018.

Shield, S., McRoberts, D. B. and **S. M. Quiring** (2018) Development of a Thunderstorm Power Outage Prediction Model. Contributed paper presented at the Annual Meeting of the American Meteorological Society, Austin, January 2018.

Ford, T. W. and **S. M. Quiring** (2018) Developing Integrative Soil Moisture Products to Improve Drought Monitoring and Forecasting in the United States. Invited presentation given at the Annual Meeting of the American Meteorological Society, Austin, January 2018.

McRoberts, D. B., **Quiring, S. M.**, Zavodsky, B. T., Peters-Lidard, C. D., Nielsen-Gammon, J. W., Case, J. L. and D. M. Mocko (2018) Improving the Drought Monitoring Capabilities of Land Surface Models by Integrating Bias-Corrected, Gridded Precipitation Estimates. Contributed poster presented at the Annual Meeting of the American Meteorological Society, Austin, January 2018.

Yuan, S., Wang, Y., **Quiring, S. M.**, Ford, T., Houston, A. L. and L. Goldstein (2018) Investigating Soil Moisture–Convective Precipitation Feedbacks Using In Situ Soil Moisture in the Central United States. Contributed poster presented at the Annual Meeting of the American Meteorological Society, Austin, January 2018.

Pino, J. V., **Quiring, S. M.**, Guikema, G., Shashaani, S., Linger, S. and S. Backhaus (2017) A High Resolution Tropical Cyclone Power Outage Forecasting Model for the Continental United States. Contributed poster presented at the Annual Meeting of the American Geophysical Union, New Orleans, December 2017.

Leasor, Z., and **S. M. Quiring** (2017) Utilizing Objective Drought Thresholds to Improve Drought Monitoring with the SPI. Contributed paper presented at the Annual Meeting of the American Geophysical Union, New Orleans, December 2017.

Zneimer, S. L., Ford, T. W., **Quiring, S. M.** and A. L. Houston (2017) Investigating Soil Moisture-Convective Precipitation Feedbacks with Soil Moisture – Active Passive

Mission. Contributed poster presented at the Annual Meeting of the American Geophysical Union, New Orleans, December 2017.

Zhang, N., **Quiring, S. M.** and T. E. Ochsner (2017) Comparison of Three Soil Moisture Sensor Types Under Field Conditions Based on the Marena, Oklahoma, In Situ Sensor Testbed (MOISST). Contributed poster presented at the Annual Meeting of the American Geophysical Union, New Orleans, December 2017.

Wang, Y., Yuan, S., **Quiring, S. M.**, Ford, T., Houston, A. L. and L. Goldstein (2017) Investigating Soil Moisture–Convective Precipitation Feedbacks Using In Situ Soil Moisture in the Central United States. Contributed paper presented at the Annual Meeting of the American Geophysical Union, New Orleans, December 2017.

Quiring, S. M., Ford, T. and A. Houston (2017) Investigating Soil Moisture-Convective Precipitation Feedbacks with Soil Moisture-Active Passive. Contributed paper presented at the NASA SUSMAP PI Meeting, MIT, Boston, MA, October 2017.

Vecellio, D. J., Vanos, J. K., **Quiring, S. M.**, and A. H. Garza (2017) Exploring the use of emergency response data related to extreme heat in large city centers. Contributed paper presented at the 21st International Congress of Biometeorology, Durham, UK, September 2017.

Quiring, S. M., Zhang, N., Ochsner, T. and T. W. Ford (2017) Towards a Harmonized Soil Moisture Database for the South Central United States: Evaluating Methods for Depth Standardization and Quality Control. Contributed paper presented at the 2017 MOISST Workshop, Stillwater, OK, May 2017.

Ford, T., Thakur, B., Jogineedi, R., **Quiring, S.**, Houston, A. and A. Kalra (2017) Applying Multiple, Diverse Sources of Soil Moisture to Better Understand Soil Moisture-Precipitation Coupling in the Central United States. Contributed paper presented at the 2017 MOISST Workshop, Stillwater, OK, May 2017.

Carlson, J. D., E. S. Krueger, D. M. Engle, T. E. Ochsner and **S. M. Quiring** (2017) Comparison of Keetch-Byram Drought Index and In-Situ Measured Soil Moisture as Predictors of Large Wildfires in Oklahoma. Contributed paper presented at the 2017 MOISST Workshop, Stillwater, OK, May 2017.

Leasor, Z. and **S. M. Quiring** (2017) Improvements in Monthly Temperature Forecasts Utilizing Antecedent Soil Moisture in the South-Central U.S. Contributed poster presented at the 2017 MOISST Workshop, Stillwater, OK, May 2017.

Zhang, N., **Quiring, S. M.**, and T. Ochsner (2017) Improvement on Quality Control of In Situ Soil Moisture using POLARIS soil properties data. Contributed poster presented at the 2017 MOISST Workshop, Stillwater, OK, May 2017.

Zhao, C. and **S. M. Quiring** (2017) Sensitivity analysis of the soil moisture interpolation methods in U.S. Contributed poster presented at the 2017 MOISST Workshop, Stillwater, OK, May 2017.

Quiring, S. M., Ford, T. W., Houston, A. L., Wang, Y. and L. Goldstein (2017) Investigating Soil Moisture-Convective Precipitation Feedbacks with NASA SMAP. Contributed paper presented at the Annual Meeting of the American Association of Geographers, Boston, April 2017.

Tian, L. and **S. M. Quiring** (2017) Analysis of Spatial-Temporal Patterns of Drought in Oklahoma. Contributed paper presented at the Annual Meeting of the American Association of Geographers, Boston, April 2017.

Zhang, N. and **S. M. Quiring** (2017) Study on Vertical Interpolation of Soil Moisture. Contributed paper presented at the Annual Meeting of the American Association of Geographers, Boston, April 2017.

Zhao, C., **Quiring, S. M.** and S. Yuan (2017) Sensitivity study of the factors affecting soil moisture interpolation performance. Contributed paper presented at the Annual Meeting of the American Association of Geographers, Boston, April 2017.

Shield, S., McRoberts, D. B. and **S. M. Quiring** (2017) Statistical Modeling of Thunderstorm Related Power Outages. Contributed paper presented at the Annual Meeting of the American Association of Geographers, Boston, April 2017.

Pino, J., **Quiring, S. M.**, Guikema, S. D. and T. Williams (2017) Improved Electric Outage Forecasting for Response to Tropical Cyclone Events. Contributed paper presented at the Annual Meeting of the American Association of Geographers, Boston, April 2017.

Zhang, N. and **S. M. Quiring** (2016) Comparison of three methods for vertical interpolation of soil moisture. Contributed poster presented at the Annual Meeting of the American Geophysical Union, San Francisco, December 2016.

Zhao, C. and **S. M. Quiring** (2016) Comparison of soil moisture interpolation methods at regional scale – Case study in Oklahoma. Contributed poster presented at the Annual Meeting of the American Geophysical Union, San Francisco, December 2016.

Leasor, Z. and **S. M. Quiring** (2016) Spatial variations in drought persistence in the south-central U.S. Contributed poster presented at the Annual Meeting of the American Geophysical Union, San Francisco, December 2016.

Yuan, S. and **S. M. Quiring** (2016) Evaluation of long-term soil moisture proxies in the U.S. Great Plains. Contributed poster presented at the Annual Meeting of the American Geophysical Union, San Francisco, December 2016.

Giles, S. and **S. M. Quiring** (2016) Investigating the local forcing effect of soil moisture on precipitation and temperature in Oklahoma. Contributed poster presented at the Annual Meeting of the American Geophysical Union, San Francisco, December 2016.

Quiring, S. M., McRoberts, D. B., Shield, S., Toy, B. and B. Alvarado (2016) Does NASA SMAP improve the accuracy of power outage models? Contributed poster presented at the Annual Meeting of the American Geophysical Union, San Francisco, December 2016.

Quiring, S. M. (2016) Advancing the Coordinated National Soil Moisture Network. Contributed paper presented at the 2016 MOISST Workshop, Stillwater, OK, May 2016.

McRoberts, D. B., Toy, B. and **S. M. Quiring** (2016) Sensitivity analysis comparing SMAP versus NLDAS soil moisture in the Spatially Generalized Hurricane Power Outage Model. 4th SMAP Applications Workshop, Austin, Texas, April 2016.

Quiring, S. M. and C. Zhao (2016) Developing Gridded Soil Moisture Maps using NRCS SSURGO. 2016 Soil Survey & Land Resource Workshop. College Station, Texas, February 2016.

Quiring, S. M., Lucido, J., Winslow, L., Ford, T. W., Baruah, P. B., Verdin, J., Pulwarty, R. and M. Strobel (2016) Development of a Coordinated National Soil Moisture Network: A Pilot Study. Contributed paper presented at the Annual Meeting of the American Meteorological Society, New Orleans, January 2016.

Vecellio, D. J., **Quiring, S. M.**, Vanos, J. K. and A. Garza (2016) A Comparison of Heat Indices for Quantifying Heat-Health Risk. Contributed paper presented at the Annual Meeting of the American Meteorological Society, New Orleans, January 2016.

Yuan, S. and **S. M. Quiring** (2016) Evaluation of Long-term Soil Moisture Proxies in the U.S. Great Plains. Contributed paper presented at the Annual Meeting of the American Meteorological Society, New Orleans, January 2016.

McRoberts, D. B., Guikema, S. G. and **S. M. Quiring** (2016) Spatially Generalized Model for Predicting Power Outages Caused by Tropical Cyclones. Contributed paper presented at the Annual Meeting of the American Meteorological Society, New Orleans, January 2016.

Tian, L. and **S. M. Quiring** (2016) A New Index for Drought Monitoring: Precipitation Evapotranspiration Difference Condition Index. Contributed poster presented at the Annual Meeting of the American Meteorological Society, New Orleans, January 2016.

Chavez, N., Galvan, J., McRoberts, D. B., **Quiring, S. M.** and T. W. Ford (2015) Comparison of Multiple Satellite Soil Moisture Products Using In-Situ Soil Moisture Observations Over the Continental United States. Contributed poster presented at the Fall Meeting of the American Geophysical Union, San Francisco, CA, December 2015.

Xia, Y., Ford, T. W., Wu, Y., **Quiring, S. M.** and M. Ek (2015) Automated Quality Control of *in Situ* Soil Moisture from the North American Soil Moisture Database Using NLDAS-2 Products. Contributed poster presented at the Fall Meeting of the American Geophysical Union, San Francisco, CA, December 2015.

Tian, L. and **S. M. Quiring** (2015) Comparison of seven precipitation datasets for drought monitoring over the United States/global scale. Contributed poster presented at the Fall Meeting of the American Geophysical Union, San Francisco, CA, December 2015.

Quiring, S. M., Lucido, J., Winslow, L., Ford, T. W., Baruah, P. B., Verdin, J., Pulwarty, R. and M. Strobel (2015) Development of a Coordinated National Soil Moisture Network: A Pilot Study. Contributed poster presented at the Fall Meeting of the American Geophysical Union, San Francisco, CA, December 2015.

Giles, S., **Quiring, S. M.**, Ford, T. W., Chavez, N. and J. Galvan (2015) Evaluating Land-Atmosphere Interactions with the North American Soil Moisture Database. Contributed poster presented at the Fall Meeting of the American Geophysical Union, San Francisco, CA, December 2015.

Newman, N., Alvarado, B., McRoberts, D. B., **Quiring, S. M.**, and T. W. Ford (2015) Evaluation of NLDAS-2 Simulated Daily Soil Moisture. Contributed poster presented at the Fall Meeting of the American Geophysical Union, San Francisco, CA, December 2015.

Yuan, S. and **S. M. Quiring** (2015) Evaluation of soil moisture simulations in the GLACE-CMIP5 experiment using satellite and in situ observations over CONUS. Contributed paper presented at the Fall Meeting of the American Geophysical Union, San Francisco, CA, December 2015.

Ford, T. W., McRoberts, D. B., **Quiring, S. M.** and R. Hall (2015) On the Utility of In-Situ Soil Moisture Observations for Flash Drought Early Warning in the Central United States. Contributed poster presented at the Fall Meeting of the American Geophysical Union, San Francisco, CA, December 2015.

Teale, N. G. and **S. M. Quiring** (2015) Synoptic-scale atmospheric conditions associated with flash flooding in watersheds of the Catskill Mountains, New York, USA. Contributed poster presented at the Fall Meeting of the American Geophysical Union, San Francisco, CA, December 2015.

Mohanty, B., Moore, G., Miller, G., **Quiring, S. M.**, Everett, M. and C. Morgan (2015) The Texas Water Observatory: Utilizing Advanced Observing System Design for Understanding Water Resources Sustainability Across Climatic and Geologic Gradients of Texas. Contributed poster presented at the Fall Meeting of the American Geophysical Union, San Francisco, CA, December 2015.

Ford, T. W. and **S. M. Quiring** (2015) Maximum temperatures coupled with satellite remote sensing soil moisture: applications for monthly temperature forecasts. Contributed paper presented at the 2015 MOISST Workshop, Stillwater, OK, June 2015.

Quiring, S. M. and T. W. Ford (2015) Validation of European Space Agency's CCI soil moisture using the North American Soil Moisture Database. Contributed paper presented at the 2015 MOISST Workshop, Stillwater, OK, June 2015.

Quiring, S. M. and T. W. Ford (2015) Improving our Understanding Land-Atmosphere Interactions with the North American Soil Moisture Database (NASMD). Contributed poster presented at the Annual Meeting of the American Association of Geographers, Chicago, IL, April 2015.

Yuan, S. and **S. M. Quiring** (2014) Evaluation of soil moisture simulations in the CMIP5 models using satellite and in situ observations over CONUS. Contributed poster presented at the Fall Meeting of the American Geophysical Union, San Francisco, CA, December 2014.

Teale, N. G. and **S. M. Quiring** (2014) Hydrometeorological and climatological conditions associated with flash flooding in the Catskill Mountains, NY. Contributed poster presented at the Fall Meeting of the American Geophysical Union, San Francisco, CA, December 2014.

Ford, T. W. and **S. M. Quiring** (2014) In-situ Soil Moisture Coupled with Extreme Temperatures: A Study Based on the Oklahoma Mesonet. Contributed poster presented at the Fall Meeting of the American Geophysical Union, San Francisco, CA, December 2014.

Zhu, L., **Quiring, S. M.** and S. D. Guikema (2014) A New Method to estimate Daily Tropical Cyclone Precipitation from the GHCND Rain Gauges. Contributed poster presented at the Fall Meeting of the American Geophysical Union, San Francisco, CA, December 2014.

Quiring, S. M., T. W. Ford and A. D. Rapp (2014) Does rain fall preferentially over wet or dry soils? Contributed poster presented at the Fall Meeting of the American Geophysical Union, San Francisco, CA, December 2014.

Xia, Y., Ek, M. B., Wu, Y., Ford, T. W. and **S. M. Quiring** (2014) Evaluation of NLDAS-2 Multi-Model Simulated Soil Moisture Using the Observations from North American Soil Moisture Dataset (NASMD). Contributed poster presented at the Fall Meeting of the American Geophysical Union, San Francisco, CA, December 2014.

Chavez, N., Galvan, J., **Quiring, S. M.** and T. W. Ford (2014) Recent Enhancements in the North American Soil Moisture Database (NASMD). Contributed poster at the Fall Meeting of the American Geophysical Union, San Francisco, CA, December 2014.

Ford, T. W. and **S. M. Quiring** (2014) Building a nationwide soil moisture database: Current and future developments. Contributed paper presented at the 20th Conference on Applied Climatology, Denver, CO, June 2014.

Quiring, S. M. and T. W. Ford (2014) The North American Soil Moisture Database: Development and Applications. Contributed paper presented at the 2014 MOISST Workshop, Stillwater, OK, June 2014.

Ford, T. W. and **S. M. Quiring** (2014) Land Surface Impact on Convective Precipitation over the Southern Great Plains. Contributed paper presented at the Annual Meeting of the American Association of Geographers, Tampa, FL, April 2014.

Zhu, L., **S. M. Quiring**, I. Guneralp, and W. G. Peacock (2013) Trends in Tropical Cyclone Precipitation and Discharge in Watersheds near Houston, Texas. Paper presentation given at American Geophysical Union Fall Meeting, San Francisco, CA, December 2013.

Quiring, S. M. and T. W. Ford (2013) Investigating Land-Atmosphere Interactions using the North American Soil Moisture (NASM) Database. Contributed poster presented at the Fall Meeting of the American Geophysical Union, San Francisco, CA, December 2013.

Khong, A., Wang, J. K., **Quiring, S. M.** and T. Ford (2013) Soil Moisture Variability in Iowa. Contributed poster presented at the Fall Meeting of the American Geophysical Union, San Francisco, CA, December 2013.

Wang, J. K., **Quiring, S. M.** and T. Ford (2013) Does rain fall preferentially over dry soils (or wet soils)? Contributed poster presented at the Fall Meeting of the American Geophysical Union, San Francisco, CA, December 2013.

Teale, N. G., Mahan, H., Bleakney, S., Berger, A., Frauenfeld, O. W., Rapp, A. D., **Quiring, S. M.** and E. B. Roark (2013) Impacts of Vegetation and Precipitation on Throughfall Heterogeneity in a Tropical Pre-Montane Transitional Cloud Forest. Contributed poster presented at the Fall Meeting of the American Geophysical Union, San Francisco, CA, December 2013.

Quiring, S. M. and T. W. Ford (2013) North American Soil Moisture Database. Contributed poster presented at the 4th NASA SMAP Cal/Val Workshop, Pasadena, CA, November 2013.

Guikema, S. D., Nateghi, R. and **S. M. Quiring** (2013) Statistical forecasting of hurricane power outages. Contributed paper presented at the Joint Statistical Meetings, Montreal, QC, August 2013.

Quiring, S. M., Ford T. W. and A. Rapp (2013) Is rain more likely over dry soils? Contributed paper presented at the Annual Meeting of the American Association of Geographers, Los Angeles, CA, April 2013.

Quiring, S. M. and T. W. Ford (2013) Investigating land-atmosphere interactions using the North American Soil Moisture Database (NASMD). Contributed paper presented at the 20th Conference on Applied Climatology, Austin, TX, January 2013.

Khong, A., Wang, J. K., **Quiring, S. M.** and T. W. Ford (2013) Temporal Analysis of Interannual Soil Moisture Variability in Iowa. Contributed poster presented at the 25th Conference on Climate Variability and Change, Austin, TX, January 2013.

Wang, J. K., Khong, A., **Quiring, S. M.** and T. W. Ford (2013) Spatial Variability of In Situ Soil Moisture in Iowa. Contributed poster presented at the 25th Conference on Climate Variability and Change, Austin, TX, January 2013.

Shibley, N. C., Teale, N. G., Morris, E. R., **Quiring, S. M.**, Frauenfeld, O. W., Roark, E. B. and A. D. Rapp (2013) Characterizing Spatial Variability in Precipitation and Throughfall in a Tropical Pre-Montane Cloud Forest. Contributed poster presented at the 20th Conference on Applied Climatology, Austin, TX, January 2013.

Peterson, A., Rapp, A. D., Frauenfeld, O. W., **Quiring, S. M.** and E. B. Roark (2013) Characteristics of precipitating systems over Costa Rica using TRMM. Contributed poster presented at the 27th Conference on Hydrology, Austin, TX, January 2013.

Yuan, S. and **S. M. Quiring** (2013) Evaluation of Model Simulated Soil Moisture Using Long-term In Situ Data from Iowa. Contributed poster presented at the 27th Conference on Hydrology, Austin, TX, January 2013.

Yuan, S. and **S. M. Quiring** (2012) Evaluation of Soil Moisture Simulations Using In Situ Data from Iowa (1954 to 1990). Contributed poster presented at the Fall Meeting of the American Geophysical Union, San Francisco, CA, December 2012.

R. A. Washington-Allen and 29 other authors (including **S. M. Quiring**) (2012) Exploratory Water Budget Analysis of A Transitional Premontane Cloud Forest in Costa Rica Through Undergraduate Research. Contributed poster presented at the Fall Meeting of the American Geophysical Union, San Francisco, CA, December 2012.

Nateghi, R., **Quiring, S. M.** and S. D. Guikema (2012) Increased accuracy in statistical seasonal hurricane forecasting. Contributed poster presented at the Fall Meeting of the American Geophysical Union, San Francisco, CA, December 2012.

Teale, N. G., Shibley, N. C., Morris, E. R., Peterson, A., **Quiring, S. M.**, Frauenfeld, O. W., Roark, E. B. and A. D. Rapp (2012) Microscale Throughfall and Precipitation Heterogeneity in a Transitional Cloud Forest. Contributed poster presented at the Fall Meeting of the American Geophysical Union, San Francisco, CA, December 2012.

Ford, T. W. and **S. M. Quiring** (2012) The North American Soil Moisture Database (NASMD). Contributed poster presented at the Fall Meeting of the American Geophysical Union, San Francisco, CA, December 2012.

Ferreira, C., Irish, J. L., Olivera, F. and **S. M. Quiring** (2012) Potential effects of wetlands restoration projects on reducing hurricane coastal flooding and damage under climate change and sea level rise scenarios. Contributed poster presented at the Brazil-TAMU Science and Education Internationalization Conference, Brazil, March, 2012.

Quiring, S. M. (2012) Climate variability and drought: Understanding the role of land-atmosphere interactions. Contributed poster presented at the Brazil-TAMU Science and Education Internationalization Conference, Porto de Galinhas, Pernambuco, Brazil, March, 2012.

Quiring, S. M. (2011) Building the North American Soil Moisture (NASM) Database. Contributed paper presented at the Fall Meeting of the American Geophysical Union, San Francisco, CA, December 2011.

Quiring, S. M. (2011) Building A Drought Science Learning Community: Education and Engagement in an NSF CAREER Grant. Contributed poster presented at the Fall Meeting of the American Geophysical Union, San Francisco, CA, December 2011.

C. Houser, T. Cahill, S. Brooks, O. Frauenfeld, K. Lemmons, K. McKinnis, G. Miller, G. Moore, **S. Quiring**, A. Rapp, B. Roark, G. Schade, C. Schumacher, M. Tjoekler, R. Washington-Allen (2011) Eco-Hydrology of a Tropical Pre-Montane Forest. Contributed poster presented at the Fall Meeting of the American Geophysical Union, San Francisco, CA, December 2011.

Guikema, S. D., Irish, J. I., **Quiring, S. M.**, Nateghi, R., Zhu, L. and I. Udoh (2011) Integrated Modeling of Hurricane Impacts on Power Systems in a Changing Climate. Contributed poster presented at DOE Climate Modeling PI Meeting, Washington, D.C., September 2011.

Quiring, S. M. and S. Patil (2011) Evaluation of drought monitoring in Saskatchewan. Contributed paper presented at the 19th Conference on Applied Climatology, July 2011, Asheville, NC.

Nateghi, R., Guikema, S. D. and **S. M. Quiring** (2011) Estimating power outage duration in the event of hurricane landfalls in the U.S.. Contributed paper presented at the Joint Statistical Meetings, Miami Beach, FL, August 2011.

Quiring, S. M., Dippe, T., Nateghi, R. and S.D. Guikema (2011) Modeling variations in Atlantic tropical cyclone activity. Contributed paper presented at the Annual Meeting of the American Association of Geographers, Seattle, WA, April 2011.

Lafon, C. W. and **S. M. Quiring** (2011) Relationships of fire and precipitation regimes in temperate and subtropical forests. Contributed paper presented at the Annual Meeting of the American Association of Geographers, Seattle, WA, April 2011.

Schumacher, A. B. and **S. M. Quiring** (2011) A methodology for incorporating hurricane forecast errors into decision-support systems for energy and utility companies. Contributed poster presented at the Interdepartmental Hurricane Conference, Miami, FL, February 2011.

Guikema, S. D., Nateghi, R. and **S. M. Quiring, S. M.** (2011) Climate change, hurricanes, and implications for the new energy economy. Contributed paper presented at the Second Conference on Weather, Climate, and the New Energy Economy, Seattle, WA, January 2011.

Nateghi, R., **Quiring, S. M.**, Guikema, S. D., and A. Schumacher (2011) Predicting Atlantic tropical cyclone activity. Contributed paper presented at 9th Conference on Artificial Intelligence and its Application to the Environmental Sciences, Seattle, WA, January 2011.

Nateghi, R., Guikeman, S. D., and **S. M. Quiring** (2010) Improved statistical modeling of power outages during hurricanes in the U.S. Contributed paper at the American Statistical Association Joint Statistical Meetings, Vancouver, B.C., August 2010.

Nateghi, R., Guikeman, S. D., and **S. M. Quiring** (2010) Estimating hurricane power outage duration. Contributed paper presented at 10th International Probabilistic Safety Assessment & Management Conference, Seattle, WA, June 2010.

Quiring, S. M., Nelson, T. A., Stewart, B., and J. Shockley (2010) A comparison of in situ, passive microwave, and model-derived snow water equivalent estimates in the North Great Plains. Contributed paper presented at the Annual Meeting of the American Association of Geographers, Washington, D.C., April 2010.

Guikema, S. D., Irish, J. I., **Quiring, S. M.**, Nateghi, R., Schumacher, A. and I. Udoh (2010) Climate-induced changes in hurricane winds, surge, and risk to electric power systems. Contributed poster presented at DOE Integrated Climate Change Science Team Meeting, Washington, D.C., March 2010.

Quiring, S. M., Guikema, S. D., Nateghi, R., and A. Schumacher (2010) Modeling future changes in Atlantic hurricane activity. Contributed paper presented at 22nd Conference on Climate Variability and Change, Atlanta, GA, January 2010.

Quiring, S. M. and G. B. Goodrich (2009) Comparing the nature and causes of the recent drought in the southwestern United States with the historic 1950s drought. Contributed paper presented at the Annual Meeting of the Society for the Advancement of Hispanics/Chicanos and Native Americans in Science, Dallas, TX, October 2009.

Nateghi, R., Guikema, S. D., and **S. Quiring** (2009) Comparison of methods to understand the link between climate variability and hurricane counts. Contributed paper presented at the American Statistical Association Joint Statistical Meetings, Washington, D.C., August 2009.

Nateghi, R., **Quiring S. M.**, and S. D. Guikema (2009) Modeling hurricane hazard in the United States through data mining. Contributed poster presented at the Symposium on Climate, Statistics, and Satellites, Texas A&M University, College Station, TX, June 2009.

Meng, L. and **S. M. Quiring** (2009) Examining the influence of spring soil moisture anomalies on summer precipitation in the U.S. Great Plains using the Community Atmosphere Model version 3 (CAM3). Contributed poster presented at the Symposium on Climate, Statistics, and Satellites, Texas A&M University, June 2009.

Quiring, S. M. and D. B. Kluver (2009) Relationship between winter/spring snowfall and summer precipitation in the northern Great Plains of North America. Contributed paper presented at the Annual Meeting of the American Association of Geographers, Las Vegas, NV, March 2009.

Meng, L. and **S. M. Quiring** (2009) Observational relationship between precedent soil moisture and summer precipitation in the U.S. Great Plains. Paper presented at Annual Meeting of the American Association of Geographers, Las Vegas, NV, March 2009.

Meng, L., and **S. M. Quiring** (2009) Influence of Niño sea-surface temperatures and soil moisture on summer precipitation in the U.S. Great Plains. Contributed poster presented at the 23rd Conference on Hydrology, Phoenix, AZ, January 2009.

Nateghi, R., **Quiring S. M.**, and S. D. Guikema (2009) Modeling hurricane hazard in the United States using regression trees. Contributed poster presented at 21st Conference on Climate Variability and Change, Phoenix, AZ, January 2009.

Nateghi, R., **Quiring S. M.**, and S. D. Guikema (2008) Climate variability, climate changes and hurricane hazard in the U.S. Contributed paper presented at the Society for Risk Analysis Annual Meeting, Boston, MA, December 2008.

Guikema, S. D. and **S. M. Quiring** (2008) Modeling electric power outage risk during hurricanes using statistical methods. Contributed paper presented at the Society for Risk Analysis Annual Meeting, Boston, MA, December 2008.

McRoberts, D. B., Nielsen-Gammon, J., and **S. M. Quiring** (2008) Spatial depiction of drought variability from merged recent and historical data. Contributed paper presented at the 17th Conference on Applied Climatology, Whistler, BC, August 2008.

Nateghi, R., **Quiring S.**, and S. D. Guikema (2008) Regression analysis investigation of the link between hurricane frequency and climate change. Contributed paper presented at

the American Statistical Association Joint Statistical Meetings, Denver, CO, August 2008.

Cox, W., Meng, L., Nordfelt, A., Khedun, P., Kincaid, J., and **S. Quiring** (2008) Teleconnections and discharge characteristics for an artesian spring of the Edwards Aquifer: Comal Springs 1933-2007. Contributed poster presented at “Forecast: Climate Change Impacts on Texas Water”, Austin, TX, April 2008.

Quiring, S. M. and G. B. Goodrich (2008) Comparing the nature and causes of the recent drought in the southwestern United States with the historic 1950s drought. Contributed paper presented at the Annual Meeting of the American Association of Geographers, Boston, MA, April 2008.

Meng, L. and **S. M. Quiring** (2008) Relationship between antecedent soil moisture and summer precipitation in the northern Great Plains. Contributed paper presented at the Annual Meeting of the American Association of Geographers, Boston, MA, April 2008.

Nordfelt, A., and **S. M. Quiring** (2008) Urban effects on precipitation in the Dallas/Fort Worth (DFW) Metroplex. Contributed paper presented at the Annual Meeting of the American Association of Geographers, Boston, MA, April 2008.

Guikema, S. D., Han, S.-R., and **S. M. Quiring** (2008) Estimating power outages during hurricanes using semi-parametric statistical methods. Contributed paper presented at the Structures Congress, Vancouver, BC, April 2008.

Meng, L. and **S. M. Quiring** (2008) Examining the relationship between fall/spring soil moisture and summer precipitation in the northern Great Plains. Contributed poster presented at Student Research Week, Texas A&M University, March 2008.

*Nordfelt, A., and **S. M. Quiring** (2008) Precipitation pattern changes in the Dallas/Fort Worth (DFW) Metroplex as influenced by urban growth since 1900. Contributed poster presented at Student Research Week, Texas A&M University, March 2008.

**First place winner in student poster competition*

Nordfelt, A., and **S. M. Quiring** (2008) The influence of urbanization on precipitation patterns in the Dallas/Fort Worth (DFW) Metroplex since 1900. Contributed poster presented at the 20th Conference on Climate Variability and Change, New Orleans, LA, January 2008.

Meng, L., and **S. M. Quiring** (2008) Examining the relationship between fall/spring soil moisture and summer precipitation in the northern Great Plains. Contributed poster presented at the 22nd Conference on Hydrology, New Orleans, LA, January 2008.

S. M. Quiring and A. Nordfelt (2008) Trends in the onset, severity and duration of the North American Monsoon (1918–2007). Contributed paper presented at the 20th Conference on Climate Variability and Change, New Orleans, LA, January 2008.

Nordfelt, A., and **S. M. Quiring** (2007) Urban area impacts on precipitation patterns in the Dallas/Fort Worth (DFW) Metroplex since the early 1900s. Contributed paper presented at the Annual Meeting of the Southwest Division of the American Association of Geographers, Bryan, TX, November 2007.

Meng, L., and **S. M. Quiring** (2007) Evaluation of water balance models: A soil moisture perspective. Contributed paper presented at the Annual Meeting of the Southwest Division of the American Association of Geographers, Bryan, TX, November 2007.

S. M. Quiring and A. Nordfelt (2007) Variability in the onset, severity and duration of the North American Monsoon (1918–2006). Contributed paper presented at the Southwest Division of the AAG, Bryan, TX, November 2007.

Nordfelt, A., and **S. M. Quiring** (2007) Influence of urbanization on precipitation patterns in the Dallas/Fort Worth (DFW) Metroplex since 1900. Contributed paper presented at Detecting the Atmospheric Response to the Changing Face of the Earth: A Focus on Human-Caused Regional Climate Forcings, Land-Cover/Land-Use Change, and Data Monitoring, Boulder, CO, August 2007.

Quiring, S. M. and J. W. Nielsen-Gammon (2007) Monitoring drought conditions at the local level in the State of Texas. Contributed paper presented at the Annual Meeting of the American Association of Geographers, San Francisco, CA, April 2007.

Levia, D. and **S. M. Quiring** (2007) Assessment of student learning in a hybrid PBL capstone seminar. Contributed paper presented at the Annual Meeting of the American Association of Geographers, San Francisco, CA, April 2007.

Meng, L. and **S. M. Quiring** (2007) A comparison of soil moisture models. Contributed paper presented at the Annual Meeting of the American Association of Geographers, San Francisco, CA, April 2007.

Nordfelt, A. and **S. M. Quiring** (2007) A study of the intensity and duration of the North American Monsoon as a function of winter and spring snowcover. Contributed paper presented at the Annual Meeting of the American Association of Geographers, San Francisco, CA, April 2007.

*Meng, L. and **S. M. Quiring** (2007) A comparison of soil moisture models. Contributed poster presented at Student Research Week, Texas A&M University, March 2007. **Second place winner in student poster competition*

Nordfelt, A. and **S. M. Quiring** (2007) A study of the intensity and duration of the North American Monsoon as a function of snow water equivalent values. Contributed poster presented at Student Research Week, Texas A&M University, March 2007.

Quiring, S. M. and J. W. Nielsen-Gammon (2007) Developing tools for

monitoring moisture conditions at the local level in the State of Texas. Contributed paper presented at the 21st Conference on Hydrology and AMS Forum: Climate Aspects of Hydrometeorology, San Antonio, TX, January 2007.

Nordfelt, A., and **S. M. Quiring** (2007) A study of the intensity and duration of the North American Monsoon as a function of winter and spring snowcover. Contributed poster presented at the 21st Conference on Hydrology and AMS Forum: Climate Aspects of Hydrometeorology, San Antonio, TX, January 2007.

*Han, S. R., Guikema, S., **Quiring, S.**, Davidson, R., Lee, K. H., and D. Rosowsky (2006) Estimating power outage risk during hurricanes in the Gulf Coast region. Contributed paper presented at the Annual Meeting of the Society for Risk Analysis, Baltimore, MD, December 2006. **runner-up for the SRA student paper competition*

Quiring, S. M. and G. B. Goodrich (2006) Comparing the nature and causes of the recent drought in the southwestern United States with the infamous 1950s drought. Contributed poster presented at Managing Drought and Water Scarcity in Vulnerable Environments: Creating a Roadmap for Change in the United States, Longmont, CO, September 2006.

Quiring, S. M. and J. W. Nielsen-Gammon (2006) Texas State Climate Office Initiatives. Presentation to the NWS Southern Region and Texas A&M Climate Workshop, College Station, TX, August 2006.

Quiring, S. M. and D. B. Kluver (2006) Influence of snowfall anomalies on summer precipitation in the Northern Great Plains of North America. Contributed poster presented at the Eastern Snow Conference, Newark, DE, June 2006.

Legates, D.R., Yang, D., Bogart, T. A., Freeman, K. F., and **S. M. Quiring** (2006) Obtaining more reliable estimates of Arctic precipitation by adjusting for gage measurement biases. Contributed paper presented at the Eastern Snow Conference, Newark, DE, June 2006.

Quiring, S. M. (2006) Selecting the most suitable drought indices for monitoring moisture conditions at the local level in the state of Texas. Contributed paper presented at the Annual Meeting of the Association of American Geographers, Chicago, IL, March 2006.

Bogart, T. A., Legates, D.R., Yang, D., **Quiring, S. M.**, and K. F. Freeman (2006) Sensitivity and spatial variability of Arctic precipitation bias adjustments. Contributed paper presented at the Annual Meeting of the Association of American Geographers, Chicago, IL, March 2006.

Quiring, S. M. (2006) Characterizing and understanding the causes of drought in the Northern Great Plains. Contributed paper presented at the First Annual Drought Research Initiative Workshop, Saskatoon, SK, Canada, January 2006.

Quiring, S. M. and D. B. Kluver (2005) Relationship between winter snowfall and summer droughts in the Northern Great Plains of North America. Contributed poster presented at the at the Fall Meeting of the American Geophysical Union, San Francisco, CA, December 2005.

Bogart, T. A., Legates, D. R., Yang, D., **Quiring, S.**, and K. Freeman (2005) Spatial variability of Arctic precipitation bias adjustments. Contributed poster presented at the Fall Meeting of the American Geophysical Union, San Francisco, CA, December 2005.

Quiring, S. M. (2005) Developing a real-time agricultural drought monitoring system for DELMARVA. Contributed paper presented at the Annual Meeting of the Association of American Geographers, Denver, CO, April 2005.

Legates, D. R., Yang, D., **Quiring, S. M.**, Freeman, K., and T. Bogart (2005) Bias adjustments to Arctic precipitation: A comparison of daily versus monthly adjustments. Contributed paper presented at the 8th Conference on Polar Meteorology and Oceanography, San Diego, CA, January 2005.

Malin, M. L., Frank, K. L., **Quiring, S.**, and L. S. Kalkstein (2005) An evaluation of January temperature anomalies in the United States utilizing a synoptic climatological approach. Contributed paper presented at the 16th Conference on Climate Variability and Change, San Diego, CA, January 2005.

Malin, M. L., Frank, K. L., **Quiring, S.**, Boutillier, R., and L. Kalkstein (2004) A synoptic climatological approach to the identification of January temperature anomalies in the United States. Contributed paper presented at the 16th Conference on Biometeorology and Aerobiology, Vancouver, BC, August 2004.

Quiring, S. M. and T. N. Papakyriakou (2004) An examination of the major spatial patterns of growing-season agricultural drought in the Canadian prairies. Contributed paper presented at the Annual Congress of the Canadian Meteorological and Oceanographic Society, Edmonton, AB, June 2004.

Quiring, S. M. (2004) Developing a real-time agricultural drought monitoring system for Delaware using a geospatial framework. Contributed poster presented at the Delaware GIS 2004 Conference, Dover, DE, April 2004.

Quiring, S. M. (2004) Developing a real-time agricultural drought monitoring system for DELMARVA. Contributed paper presented at the Annual Meeting of the Association of American Geographers, Philadelphia, PA, March 2004.

Malin, M., Frank, K., **Quiring, S.**, Kalkstein, L., Boutillier, R., and A. Terando (2004) The identification of January temperature anomalies in the United States. Contributed paper presented at the Annual Meeting of the Association of American Geographers, Philadelphia, PA, March 2004.

Quiring, S. M. and J. Kitchen (2004) Surviving the first year of graduate school. Workshop presented at the Colonial Academic Alliance Undergraduate Research Conference, University of Delaware, February 2004.

Quiring, S. M. and M. Leighey (2003) Making the most of your office hours: What works for you and your students. Workshop presented at the Annual Conference for Graduate Teaching Assistants, University of Delaware, August 2003.

Shipman, H., Mormul, M., and **S. M. Quiring** (2003) Being part of an instructional team: Working with your faculty mentor. Workshop presented at the Annual Conference for Graduate Teaching Assistants, University of Delaware, August 2003.

Quiring, S. M. and T. N. Papakyriakou (2003) Characterizing the spatial and temporal patterns of growing season agricultural drought in the Canadian prairies. Contributed poster presented at the Annual Meeting of the Canadian Geophysical Union, Banff, AB, May 2003.

Quiring, S. M. (2003) An investigation of the causes of the 2002 Mid-Atlantic drought. Contributed poster presented at the Annual Meeting of the Association of American Geographers, New Orleans, LA, March 2003.

Quiring, S. M. and T. N. Papakyriakou (2002) An examination of the spatial and temporal patterns of agricultural drought in the Canadian prairies. Contributed poster presented at the Fall Meeting of the American Geophysical Union, San Francisco, CA, December 2002.

Quiring, S. M. and T. N. Papakyriakou (2002) A comparative performance analysis of agricultural drought indices for the Canadian prairies. Contributed paper presented at the Annual Meeting of the Canadian Association of Geographers, Toronto, ON, May 2002.

Quiring, S. M. (2001) The prediction of agricultural drought in the Canadian prairies. Contributed paper presented at the Annual Congress of the Canadian Meteorological and Oceanographic Society, Winnipeg, MB, May 2001.

Quiring, S. M. (2001) The detection of agricultural drought in the Canadian prairies. Contributed paper presented at the Annual Meeting of the Association of American Geographers, New York, NY, March 2001.

Quiring, S. M. (2000) Drought modeling in Saskatchewan using global teleconnections. Contributed paper presented at the Annual Meeting of the Canadian Association of Geographers, Brock University, St. Catharines, ON, June 2000.

Quiring, S. M. (1999) Modeling crop yields in the Canadian prairies using global teleconnections. Contributed paper presented at the Annual Meeting of the Canadian Association of Geographers (Prairie Division), Winnipeg, MB, October 1999.

Awards and Honors

Academic:

Phi Kappa Phi Honor Society, Lifetime member, 2011
College-Level Distinguished Achievement Award in Teaching, Association of Former Students, Texas A&M University, 2010
Texas A&M University System Teaching Excellence Award (Top 5%), Fall 2009
Center for Teaching Excellence Montague Scholar (College of Geosciences), 2009–2010
University of Delaware Competitive Fellowship, 2003–2004 & 2004–2005
Award for Outstanding Accomplishment in Research, Department of Geography, University of Delaware, 2003–2004
Thomas Weir Award for Outstanding Master's Thesis, Department of Geography, University of Manitoba, 2002
Natural Sciences and Engineering Research Council of Canada Post-Graduate Scholarship (PGSB), 2002 (*declined*)
University of Delaware Graduate Entrance Fellowship, 2001
Natural Sciences and Engineering Research Council of Canada Post-Graduate Scholarship (PGSA), 2000
Student Paper Award at the Annual Meeting of the Canadian Association of Geographers (Prairie Division), Winnipeg MB, 1999
University of Manitoba Student Union Scholarship, 1999
University of Manitoba Graduate Fellowship, Duff Roblin Fellow, 1999
The 1999 University of Winnipeg Gold Medal (Geography (Honours))
The 1998 Susan L. Rodgers Scholarship in Geography, University of Winnipeg
The 1997 Humboldt Scholarship in Geography, University of Winnipeg
Board of Regents Academic Proficiency Scholarship, 1996, 1997 & 1998
University of Winnipeg Board of Regents Special Entrance Scholarship, 1995

Travel Grants:

Big 12 Faculty Fellowship, Texas A&M University, 2008
Faculty of Graduate Studies, University of Delaware, 2004 & 2005
Department of Geography, University of Delaware, 2002, 2003, 2004, & 2005
Canadian Meteorological and Oceanographic Society, 2004
Canadian Geophysical Union, 2003
Canadian Association of Geographers, 2000 & 2002
Department of Geography, University of Manitoba, 2000 & 2001
Faculty of Arts, University of Manitoba, 2000 & 2001
Faculty of Graduate Studies, University of Manitoba, 2000
Alumni Association, University of Manitoba, 2000
Graduate Students Association, University of Manitoba, 2000

Other:

Advanced Toastmaster Bronze (ATM-B) Designation, 2001
Competent Leader (CL) Designation, 2000
Competent Toastmaster (CTM) Designation, 1999

Awards to my students:

- Josh Steinner (MS Student): 2020 ENGIE-Axium Curricular Practical Training Scholarship Award, The Ohio State University, 2020
- Zack Leasor (PhD Student): E. Willard & Ruby S. Miller Award, Department of Geography, The Ohio State University, 2020
- Zhiying Li (PhD Student): NSF DDRI, National Science Foundation, 2020-2021
- Zhiying Li (PhD Student): Presidential Fellowship, The Ohio State University, 2019-2020
- Zhiying Li (PhD Student): Toracinta Graduate Fellowship, Byrd Polar and Climate Research Center, The Ohio State University, 2019
- Zhiying Li (PhD Student): Matthew J. Parker Travel Grant, American Meteorological Society, 2020
- Ning Zhang (PhD Student): E. Willard & Ruby S. Miller Award, Department of Geography, The Ohio State University, 2018
- Ning Zhang (PhD Student): Presidential Fellowship, The Ohio State University, 2018-2019
- Ning Zhang (PhD Student): Second place winner of the 2017 MOISST Workshop student poster competition
- Liyan Tian (PhD student): Honorable Mention in the 2017 Association of American Geographers Climate Specialty Group student paper competition
- Trent Ford (PhD Student): Awarded the 2016 Association of Former Students Distinguished Graduate Student Award for Excellence in Research.
- Ning Zhang (PhD Student): Second place winner of the 2016 MOISST Workshop student poster competition
- Natalie Teale (MS Student): Awarded an AGU Outstanding Student Paper Award (Hydrology), December 2015
- Liyan Tian (PhD Student): Awarded a 2015/16 Mills Scholarship (\$5000) from the Texas Water Resources Institute
- Trent Ford (PhD Student): Unocal Graduate Fellowship, College of Geosciences, Texas A&M University
- Trent Ford (PhD Student): Top Offer Scholar Fellowship, College of Geosciences, Texas A&M University
- Chris Maderia (MS Student): Second place winner of the 2014 American Meteorological Society student poster competition
- Laiyin Zhu (PhD Student): Awarded the Dissertation Medal in Applied Climatology from the American Association of State Climatologists in 2014.
- Laiyin Zhu (PhD Student): Awarded the 2014 Association of Former Students Distinguished Graduate Student Award for Excellence in Research.
- Chris Labosier (PhD student): Awarded the 2014 Association of Former Students Distinguished Graduate Student Award for Excellence in Teaching.
- Laiyin Zhu (PhD Student): Awarded the 2014 Association of American Geographers Climate Specialty Group "John Russell Mather" Paper of the Year
- Chris Labosier (PhD student): First place winner of the 2013 American Meteorological Society 27th Conference on Hydrology Student paper competition

Curriculum Vitae for Steven M. Quiring

- Chris Labosier (PhD student): 2013 Texas A&M University Doctoral Fellowship (\$15,000), Texas A&M University
- Chris Labosier (PhD student): 2013 U.S. Senator Phil Gramm Doctoral Fellowship (\$5000), Texas A&M University
- Chris Labosier (PhD student): First place winner of the 2012 Association of American Geographers Climate Specialty Group student paper competition
- Trent Ford (MS student): Third place winner of 2012 Association of American Geographers Climate Specialty Group student paper competition
- Sandeep Patil (MS student): Second place winner in student poster competition at Student Research Week, Texas A&M University, March 2011
- Lei Meng (PhD Student): Awarded the 2009 Association of American Geographers Climate Specialty Group “John Russell Mather” Paper of the Year
- Walter Cox (PhD student): Awarded a 2009 Knauss Fellowship, Sea Grant, National Oceanic and Atmospheric Administration
- Lei Meng (PhD student): Awarded a Research & Presentation Grant funded by the Association of Former Students and the Office of Graduate Studies, April 2008
- Anna Nordfelt (MS student): First place winner in student poster competition at Student Research Week, Texas A&M University, March 2008
- Anna Nordfelt (MS student): Student travel grant from UCAR to attend workshop in Boulder, CO and present a paper entitled “The influence of urbanization on precipitation patterns in the Dallas/Fort Worth (DFW) Metroplex since 1900”
- Lei Meng (PhD student): Awarded a 2007/2008 Mills Scholarship from The Texas Water Resources Institute
- Lei Meng (PhD student): Second place winner in student poster competition at Student Research Week, Texas A&M University, March 2007
- Anna Nordfelt (MS student): Awarded a 2006/2007 Mills Scholarship from The Texas Water Resources Institute

Editorships

- Associate Editor, *Physical Geography*, 2020-present
- Associate Editor, *Journal of Applied Meteorology and Climatology*, 2017-present
- Associate Editor, *Anthropocene*, 2015-2019
- Review Editor, *Climate Research*, 2011-present
- Review Editor, *Frontiers in Earth Science (Hydrosphere)*, 2014-present
- Guest Editor, *Earth Interactions* special issue on drought (2012)
- Guest Editor, *GeoJournal* forum (v. 70, no. 1) on *An Inconvenient Truth*

Manuscript Reviewer

- Agricultural and Forest Meteorology
- Anthropocene
- Arid Land Research and Management
- Atmosphere-Ocean
- Climatic Change
- Climate Research

Earth Interactions
Earth-Science Reviews
Environmental Research Letters
Frontiers in Earth Science
Geoderma
GeoJournal
Geophysical Research Letters
Global and Planetary Change
Hydrological Processes
IEEE Access
International Journal of Biometeorology
International Journal of Climatology
Journal of the American Water Resources Association
Journal of Applied Meteorology and Climatology
Journal of Climate
Journal of Geography in Higher Education
Journal of Geophysical Research–Atmospheres
Journal of Hydrology
Journal of Hydrometeorology
Journal of Infrastructure Systems
Journal of Irrigation and Drainage Engineering
Journal of Meteorological Research
Monthly Weather Review
Nature Climate Change
Nature Communications
Natural Hazards
Physical Geography
Reliability Engineering & System Safety
Remote Sensing of Environment
Risk Analysis
Science Advances
Southwestern Geographer
The Professional Geographer
Theoretical and Applied Climatology
Vadose Zone
Water Resource Management
Water Resources Research

Textbook Reviewer

Elsevier
McGraw-Hill
Oxford University Press
Wiley

Proposal Reviewer

Agriculture and Agri-Food Canada (AAFC)
Austrian Science Fund (FWF)
Canada First Research Excellence Fund
Centers for Disease Control and Prevention/NIH
Department of Interior Climate Science Center
Department of Energy
Kansas EPSCoR
Louisiana State University- Board of Regents
NASA
National Oceanic and Atmospheric Administration
National Science Foundation
Texas A&M-CONACYT: Collaborative Research Grant Program

Membership in Professional Organizations

American Association of State Climatologists (since 2012)
American Geophysical Union (since 1998)
American Meteorological Society (since 2002)
Association of American Geographers (since 2000)

Professional Service

Co-Organizer & Chair, Climate Change and Agriculture Sessions, Annual Meeting of the Association of American Geographers, 2019 & 2020
Panel Reviewer, National Oceanic and Atmospheric Administration, 2020
Past President, National Soil Moisture Network, 2018-2019
Member, Organizing Committee, National Soil Moisture Workshop, 2018-2019
Executive Committee, National Soil Moisture Network, 2018-present
Member, NOAA Drought Task Force, 2017-2020
Panel Reviewer, National Oceanic and Atmospheric Administration, 2017
Panel Reviewer, National Science Foundation, 2017
Member, National Integrated Drought Information System (NIDIS) Interdisciplinary Research and Applications Working Group, 2016
Panel Reviewer, Science Utilization SMAP, NASA, 2016
Session co-organizer & Chair, Land-atmosphere interactions sessions, Annual Meeting of the American Meteorological Society, 2016-2018
Member, Awards Committee, American Association of State Climatologists, 2015-2017
Member, National Integrated Drought Information System (NIDIS) Observations and Monitoring Working Group, 2015-2016
Session co-organizer & Chair, Land-atmosphere interactions sessions, Fall Meeting of the American Geophysical Union, 2013 & 2014
Panel Reviewer, Interdisciplinary Research in Earth Science, NASA, 2013
Panel Reviewer, Pacific Northwest National Laboratory Scientific Focus Areas, Department of Energy, 2012

Curriculum Vitae for Steven M. Quiring

Member, Drought statement writing team, American Meteorological Society, 2012
Co-Chair, 20th Conference on Applied Climatology, American Meteorological Society, 2013
Member, Applied Climate Committee, American Meteorological Society, 2010–2014
Judge, Applied Climate Student Competition, American Meteorological Society, 2011
Honors Director, Climate Specialty Group, Association of American Geographers, 2009–2011
Panel Reviewer, Regional Models for Climate Change Integrated Assessment, Department of Energy, 2010
Judge, Climate Specialty Group, Student Paper Competition, Annual Meeting of the Association of American Geographers, 2006–2011
Co-Organizer & Chair, Hydroclimatology Sessions, Annual Meeting of the Association of American Geographers, 2006–2013
Chair, Snow and Climate I, Annual Meeting of the Eastern Snow Conference, Newark, DE, June 2006

University Service

Organizing Committee, Climate Symposium, Byrd Polar and Climate Research Center, The Ohio State University, 2020
Faculty Engagement Group, Smart Campus Initiative, The Ohio State University, 2018
Director Search Committee, Translational Data Analytics Institute, The Ohio State University, 2018
University Fellowship Review Committee, Ohio State University, 2018–2020
Director, Environment Grand Challenge, 2013–2015
Past-President, Phi Kappa Phi, Texas A&M, 2015–2016
President, Phi Kappa Phi, Texas A&M, 2014–2015
President-elect, Phi Kappa Phi, Texas A&M, 2013–2014
Treasurer, Phi Kappa Phi, Texas A&M, 2012–2013
Koldus Award Selection Committee, Texas A&M University, 2012
University Library Council, College of Geosciences Representative, Texas A&M University, 2006–2012
Faculty Mentor, Graduate Teaching Academy, Texas A&M University, 2009–2012
Faculty Advisor, Focus the Nation, Texas A&M University, January 2008
Judge, Student Research Week, Texas A&M University, 2006–2008
Advisory Board, Center for Teaching Effectiveness, Univ. Delaware, 2004–2005
Vice-President of Education, University of Winnipeg Toastmasters, 2000–2001
Past-President, University of Winnipeg Toastmasters, 2000–2001
President, University of Winnipeg Toastmasters, 1999–2000
Treasurer, University of Winnipeg Toastmasters, 1998–1999

College Service

Tenure and Promotion Committee, College of Arts and Sciences, The Ohio State

Curriculum Vitae for Steven M. Quiring

University, 2018-present
Climate and Energy Strategic ARRA Response Team, College of Geosciences, Texas A&M University, 2009–2010
College of Geosciences High Performance Computing Committee, 2011–2013
College of Geosciences Lab Task Force, Texas A&M University, 2010–2016
Geoconnections Editorial Board, College of Geosciences, 2007–2010
Geosciences Faculty Advisory Committee (GFAC), College of Geosciences, Texas A&M University, 2007–2010
Atmospheric Sciences Faculty Search Committee, Texas A&M University, 2007–2008
Faculty of Arts Hiring Committee for Physical Geography, University of Manitoba, 2001

Departmental Service

Faculty Advisor, Chi Epsilon Pi, Atmospheric Sciences Honor Society, The Ohio State University, 2020–present
Chair, Graduate Studies Committee, Atmospheric Sciences Program, The Ohio State University, 2016–present
Graduate Studies Committee, Department of Geography, The Ohio State University, 2016–present
Personnel Committee, Department of Geography, The Ohio State University, 2018–present
Procedural Oversight Designee, Department of Geography, The Ohio State University, 2017
Executive Committee, Department of Geography, The Ohio State University, 2016–2018
Robert Max Thomas Search Committee, The Ohio State University, 2016–2017
Graduate Director, Department of Geography, Texas A&M University, 2014–2016
Course Fee Committee, 2014–2016
Ad-Hoc Committee on Performance Metrics, Texas A&M University, 2013–2014
Department of Geography Awards Committee, Texas A&M University, 2013–2014
Environmental Risk Search Committee, Texas A&M University, 2013–2014
Graduate Committee, Department of Geography, Texas A&M University, 2009–2016
GEOG203 Coordinator, Department of Geography, Texas A&M University, 2006–2011
Faculty Advisor, Association of Geography Graduate Students (AGGS), Texas A&M University, 2006–2012
Library Representative, Department of Geography, Texas A&M University, 2005–2013
Climate Search Committee, Texas A&M University, 2008–2009
Geography Colloquium Series Co-Coordinator, Texas A&M University, 2007–2009 & 2012–2014
QEP faculty participant, Department of Geography, Texas A&M University, 2007–2008
Geography/IODP Search Committee, Texas A&M University, 2006–2007
Human-Environment Search Committee, Texas A&M University, 2005–2006
Graduate Student Representative, Department of Geography, University of Delaware, 2002–2003
President, Geography Graduate Students Association (GGSA), University of Manitoba,

Curriculum Vitae for Steven M. Quiring

2000–2001

Geography Council, University of Manitoba, 2000–2001

Geography Council, University of Manitoba, 1999–2000

Curriculum Committee, University of Winnipeg, 1998–1999

Courses Taught

University of Manitoba

053.373 Geographic Information Systems

Summer 2001 (19)

University of Delaware

005.101 Introduction to Physical Geography: Climatic Processes

Summer 2002 (13), Winter 2004 (15)

005.111 Physical Geography: Climatic Processes Lab

Fall 2002 (39)

Texas A&M University [* denotes new courses that I developed]

Fall 2005

GEOG 324 Global Climatic Regions (number of students taught = 21)

One course teaching release in first semester

Spring 2006

GEOG 203 Planet Earth: Introduction to Earth System Science (98)

GEOG 203 (Honors) Planet Earth: Introduction to Earth System Science (9)

GEOG 485* Examining the causes of precipitation variability in the Southwestern United States: A study of the North American Monsoon

GEOG 485* Hydroclimatology: A study of the hydrology and climatology of Kenya

Summer 2006

GEOG 485* Anthropogenic Modification of Urban Hydroclimates: Mechanisms and Implications

Fall 2006

GEOG 203 Planet Earth: Introduction to Earth System Science (132)

GEOG 324 Global Climatic Regions (17)

GEOG 685* Soil Moisture Modeling

GEOG 685* An Evaluation of the NDVI-based Vegetation Condition Index Using Drought Indices

Spring 2007

GEOG 203 Planet Earth: Introduction to Earth System Science (145)

GEOG 434 Hydrology and Environment (8)

GEOG 685* Soil Moisture Dynamics

GEOG 685* Boundary Layer Climates

GEOG 685 Hydrology and Environment

Summer 2007

GEOG 685* Relationship between climate variability and the occurrence of Dengue Fever in Texas

Curriculum Vitae for Steven M. Quiring

Fall 2007

GEOG 203 Planet Earth: Introduction to Earth System Science (75)
GEOG 324W* Global Climatic Regions (19)
GEOG 485* Examining the Variability of the North American Monsoon
GEOG 685* Physical Climatology
GEOG 685 The College Classroom Online
GEOG 685* Examining Spatial Patterns of Urban Precipitation Around
Dallas/Fort Worth

Spring 2008

GEOG 434 Hydrology and Environment (21)
GEOG 689* Applied Climatology (5)
GEOG 485* Impact of Stress on Vegetation in the Southeastern United States
GEOG 685* Assessing Hurricane Risk in the Caribbean Basin

Summer 2008

GEOG 685* Linking Climatic Variability to the Occurrence of West Nile Virus

Fall 2008

GEOG 203 Planet Earth: Introduction to Earth System Science (350)
GEOG 324W Global Climatic Regions (19)

Spring 2009

Pre-tenure teaching release

Summer 2009

GEOG 203 Planet Earth (19)

Fall 2009

GEOG 203 Planet Earth (40)
GEOG 689 Applied Climatology (7)

Spring 2010

GEOG 434 Hydrology & Environment (9)
GEOG 611 Geographical Research Design (21)
GEOG 485* Examining the Variability of the North American Monsoon (1)
GEOG 485* Indian Ocean Dipole (1)
GEOG 685* Tropical Cyclone Precipitation in Texas (1)
GEOG 685* Climate and Disease in Tanzania (1)

Summer 2010

GEOG 203 Planet Earth (co-taught w/ C. Houser) (30)

Fall 2010

GEOG 203 Planet Earth (140)
UGST 181* Death and Destruction: How drought changed history (12)
GEOG 685* Environmental Programming for Climatologists (5)

Spring 2011

GEOG 203 Planet Earth (157)
GEOG 611 Geographical Research Design (17)
GEOG 604* Processes in Physical Geography: Synoptic Climatology (5)

Summer 2011

GEOG 380* Environmental Workshop (Study Abroad in Costa Rica) (18)

Fall 2011

GEOG 203 Planet Earth (193)

Curriculum Vitae for Steven M. Quiring

- GEOG 434 Hydrology and Environment (31)
- UGST 181 Death and Destruction: How drought changed history (17)
- GEOG 485 Present and future precipitation in the southwestern U.S. (1)
- GEOG 685 Hydroclimatology (4)
- GEOG 685* Assessing hurricane risk in Florida (1)
- Spring 2012
 - Post-tenure teaching release
- Summer 2012
 - GEOG 685 Land-atmosphere interactions (1)
- Fall 2012
 - UGST 181 Death and Destruction: How drought changed history (12)
 - GEOG 434 Hydrology and Environment (36)
 - GEOG 491* Land-atmosphere interactions in the U.S. Great Plains (1)
 - GEOS 491* Future Flooding in Houston (1) *Undergraduate Research Scholar
 - GEOG 612 Applied Climatology (20)
 - GEOG 685 Hydrology and Environment (1)
- Spring 2013
 - GEOG 324 Global Climate Regions (18)
 - GEOG 689* Hydroclimatology (7)
 - GEOS 491 Future Flooding in Houston (1) *Undergraduate Research Scholar
 - GEOS 491* Soil moisture and drought monitoring (1)
- Summer 2013
 - GEOG 380 Environmental Workshop (Study Abroad in Costa Rica) (12)
- Fall 2013
 - GEOG 434 Hydrology and Environment (33)
 - GEOS 101 Death and Destruction: How drought changed history (18)
 - GEOG 685 Hydrology and Environment (1)
 - GEOG 491 Rain over dry soils (1) *Undergraduate Research Scholar
 - GEOG 491 Urban climates (1)
 - GEOS 491 Land-atmosphere interactions (1)
- Spring 2014
 - GEOG 604 Processes in Physical Geography: Synoptic Climatology (5)
 - GEOG 491 Rain over dry soils (1) *Undergraduate Research Scholar
 - GEOG 491 Land-atmosphere interactions (1)
 - GEOG 685 Power outage modeling (1)
- Fall 2014
 - GEOG 434 Hydrology and Environment (28)
 - GEOS 101 Death and Destruction: How drought changed history (11)
 - GEOG 685 Hydrology and Environment (10)
- Spring 2015
 - GEOG 611 Geographical Research Design (16)
- Summer 2015
 - GEOG 380 Environmental Workshop (Study Abroad in Costa Rica) (14)
- Fall 2015
 - GEOG 612 Applied Climatology (7)
- Spring 2016

Curriculum Vitae for Steven M. Quiring

GEOG 611 Geographical Research Design (19)
GEOG 685 Atmospheric and Oceanic Teleconnections (1)

The Ohio State University

Fall 2016
GEOG 5900 Weather, Climate, and Global Warming (65)
Spring 2017
None
Fall 2017
GEOG 5900 Weather, Climate, and Global Warming (73)
Spring 2018
GEOG 8902 Applied Climatology (9)
GEOG 5921 Microclimatology: Boundary Layer Climatology (15)
Fall 2018
GEOG 5900 Weather, Climate, and Global Warming (84)
Spring 2019
GEOG 8901 Problems in Climatology (3)
GEOG 5921 Microclimatology: Boundary Layer Climatology (12)
Fall 2019
GEOG 5900 Weather, Climate, and Global Warming (81)
Spring 2020
GEOG 8902 Applied Climatology (4)
GEOG 5921 Microclimatology: Boundary Layer Climatology (26)
Fall 2020
GEOG 5900 Weather, Climate, and Global Warming (80)

Graduate Advising (ongoing)

Alex Ihle (committee member), M.S. (Geography), 2020–present
Kay Sung (committee member), Ph.D. (Civil and Environmental Engineering), Fall 2019–present
Sara Johnson (**chair**), Ph.D. (Geography), Fall 2020–present
Zack Leasor (**chair**), Ph.D. (Geography), Fall 2017–present
Zhiying Li (**chair**), Ph.D. (Geography), Fall 2017–present
Megan Lindstrom (committee member), Ph.D. (Geography), 2019–present
Jamison Orrell (**chair**), M.S. (Atmospheric Sciences), Fall 2019–present
Alyssa Reynolds (**chair**), M.S. (Atmospheric Sciences), Fall 2020–present
Josh Steiner (**chair**), M.S. (Atmospheric Sciences), 2020–present
Yuechun Wang (**chair**), Ph.D. (Atmospheric Sciences), Fall 2016–present

Graduate Advising (completed)

Srinivasan Ganesh (**chair**), M.S. (Geography), “Investigation of the utility of the Vegetation Condition Index (VCI) as an indicator of drought”, graduated 2007 [employed by Institute of Information Technology, Magnolia, TX]
Katie Collins (committee member), M.S. (Atmospheric Sciences), “How El Niño affects

- energy consumption: A study at national and regional levels”, graduated 2007
Veronica McNear (substitute committee member), M.S. (Atmospheric Sciences), “Impact of urban heat island and sea breeze on convergence, rainfall, and lightning in the Houston area”, graduated 2007
Douglas Brent McRoberts (committee member), M.S. (Atmospheric Sciences), “Drought over the past century in Texas and New Mexico: Reducing inhomogeneties in long-term climate records via statistical methods to study drought”, graduated 2008 [Research Assistant Professor at Texas A&M University]
Seung-Ryong Han (committee member), Ph.D. (Civil Engineering), “Statistical modeling of hurricane power outages and hurricane damage to power systems”, graduated 2008 [Department of Civil Engineering, Korea University]
Allison Cardona (committee member), M.S. (Atmospheric Sciences), “The frequency of tropopause-level thick and thin cirrus clouds as observed by CALIPSO and the relationship to relative humidity and outgoing longwave radiation”, graduated 2008
Anna Nordfelt (**chair**), M.S. (Geography), “Anthropogenic modification of precipitation around the Dallas/Fort Worth metroplex”, graduated 2008
Darren Ream (committee member), M.S. (Ecosystem Science & Management), “Tapping the urban forest wood resources for bioenergy in Texas”, graduated 2009
Lei Meng (**co-chair**), Ph.D. (Geography), “Examining the relationship between fall/spring soil moisture and summer precipitation in the northern Great Plains”, graduated 2009 [Assistant Professor at Western Michigan University]
Christopher Dobbs (committee member), M.S. (Atmospheric Sciences), “An analysis of global wind energy potential”, graduated 2009
Bailiang Li (committee member), Ph.D. (Geography), “Evaluating the von Kármán constant in sediment-laden air flow”, graduated 2010
Kelin Zhuang (committee member), Ph.D. (Geology & Geophysics), “Occurrence and stability of glaciations in geologic time”, graduated 2010
Serena Aldrich (substitute committee member), Ph.D. (Geography), “Fire Regimes and Successional Dynamics of Pine and Oak Forests in the Central Appalachian Mountains”, graduated 2010
Dean Edwards (committee member), M.S. (Water Management), graduated 2011
Galen Roberts (committee member), M.S. (Water Management), graduated 2011
Di Long (committee member), Ph.D. (Biological and Agricultural Engineering), “Improved modeling of evapotranspiration using satellite remote sensing at varying spatial and temporal scales”, graduated 2011
Gemma Barrett (committee member), M.S. (Geography), “Relationship between beach use and the morphology of the beach and near-shore environment”, 2009–2011
Kelly Keene (committee member), M.S. (Atmospheric Sciences), “Bow echoes with back building convection”, 2010–2011
Stephen Cathey (committee member), M.S. (Atmospheric Sciences), “Tropical cyclogenesis factors in a warmer climate”, 2008–2011
Aaron Christenberry (committee member), M.S. (Atmospheric Sciences), “Seasonal and regional variability of stratospheric dehydration”, 2011–2012
Roshanek Nateghi (committee member), Ph.D. (Johns Hopkins, Department of

- Geography and Environmental Engineering), “Modelling and assessment of power distribution systems’ reliability during hurricanes”, 2010-2012
- Benjamin Gardner (committee member) M.S. (Water Management), graduated 2012
- Celso Ferreira (committee member), Ph.D. (Civil Engineering), “Influence of coastal wetlands on hurricane surge and damage with application to planning under climate change”, graduated 2012
- Sandeep Patil (**chair**), M.S. (Hydrologic Science), “Analysis of spatial performance of meteorological drought indices”, 2009–2012
- Yongchul Shin (committee member), Ph.D. (Biological and Agricultural Engineering), “A unifying platform for water resources management using physical-based model and remote sensing data”, 2010–2012
- Wansang Ryu (committee member), Ph.D. (Geography), graduated 2012
- Mlenge Fanuel Mgendi (**co-chair**), Ph.D. (Geography), “An ecological analysis of the impact of weather, land cover and politics on childhood pneumonia in Tanzania”, 2008–2012
- Ikpoto Udoh (committee member), Ph.D. (Civil Engineering), “Robust surge response functions”, 2010–2012
- Jaison Sanwald (committee member), M.S. (Water Management), 2011–2012
- Trent Ford (**chair**), M.S. (Geography), “Investigation of vegetation-soil interactions and their influences on summer precipitation in the United States Great Plains”, 2011–2013
- Laiyin Zhu (**chair**), Ph.D. (Geography), “Investigation of variations and impacts of tropical cyclone precipitation in Texas (1960-2009)”, 2008–2013
- Matthew Webb (committee member), M.S. (Water Management), 2011–2013
- Katharine Bradley (committee member), M.S. (Water Management), 2011–2013
- Daniel Russell (**co-chair**), MGS- non-thesis (Geosciences), 2012–2013
- Laura Quirk (committee member), M.S. (Geography), “Assessing the predictability of the Beaufort Sea minimum ice extent in a changing climate”, 2012–2014
- Garrett Gamache (committee member), Ph.D. (Geology and Geophysics), “The impact of geologic and geomorphic characteristics on drainage efficiency and discharge; Uncompahgre, San Miguel and Animas river watersheds, Colorado, USA”, 2011–2014
- Christopher Labosier (**chair**), Ph.D. (Geography), “Hydroclimate-wildfire relationships in the southeastern U.S.”, 2009–2014
- Aaron Hsu (committee member), Ph.D. (Civil Engineering), “Hurricane flooding damage assessment and web-based game development to support K12 education for understanding climate change impact on hurricane flooding damage”, 2011–2014
- Douglas Brent McRoberts (committee member), Ph.D. (Atmospheric Sciences), “Minimizing systematic biases in radar precipitation estimates”, 2008–2014
- Alisha Multer (committee member), M.S. (Water Management), 2013–2014
- Michelle Ruiz (**chair**), M.S. (Geography), “Assessment of the potential effect of climate change on hurricane risk and vulnerability in Florida”, 2010–2014
- Gang Zhao (committee member), M.S. (Civil Engineering), “Effects of urbanization and climate change on hydrological processes over the San Antonio river basin, Texas”, 2013–2014
- Yue Wang (**chair**), M.S. (Geography), “The Effect of Teleconnections on North Atlantic

- Tropical Cyclone Precipitation”, 2012–2015
- Trent Ford (**chair**), Ph.D. (Geography), “Soil moisture impacts on convective precipitation in Oklahoma”, 2013–2015
- Natalie Teale (**chair**), M.S. (Geography), “Hydroclimatic conditions associated with rapid flooding in watersheds of the New York City Water Supply System”, 2013–2015
- Chris Maderia (**chair**), M.S. (Geography), “Importance of Tree Species and Precipitation for Modeling Hurricane-Induced Power Outages”, 2012–2015
- Liang Chen (committee member), Ph.D. (Geography), “Modeling the impact of landuse change in the Tibetan Plateau”, 2012–2015
- Manuel Hernandez, (committee member), M.S. (Geography), “Assessment of Statistically Downscaled CMIP5 Simulations of the North American Monsoon System”, 2012–2015
- Charles Fontanier (committee member), Ph.D. (Hydrologic Science), “Hydrological and biogeochemical investigations of irrigation and nutrient management effects on surface runoff from St. Augustine grass lawns”, 2012–2015
- Kyle Wodzicki (committee member), M.S. (Atmospheric Sciences), “A climatology of Pacific ITCZ characteristics from an automated, objective algorithm”, 2014–2015
- Jesse Stenweg-Woods (committee member), Ph.D. (ATMO), “A Lagrangian Analysis of Midlatitude Air-Sea Interaction Associated with Meoscale Oceanic Eddies”, 2013–2016
- Michael Denman (committee member), M.S. (Geography), “Lightning Ignited Fires in the Grandfather Ranger District, North Carolina”, 2015–2016
- Kayla Rohrbach (committee member), M.S. (Water Management), graduated 2016
- Jonathan Gross (committee member), M.S. (Soil and Crop Sciences), “Effect of vertically heterogeneous soil on simulated water storage and surface energy”, 2014–2016
- Zhengcong Yin (committee member), M.S. (Hydrological Sciences), “Effect of climate change on the precipitation patterns in the Houston metropolitan area”, 2014–2016
- Shanshui Yuan (**chair**), Ph.D. (Geography), “Assessment of multiple approaches for using soil moisture to evaluate drought in the U.S. Great Plains”, 2011–2016
- Zachary Leasor (**chair**), M.A. (Geography), “Spatiotemporal Variations of Drought Persistence in the South-Central United States”, 2015–2017
- Liyan Tian (**chair**), Ph.D. (Geography), “Analysis of Spatial-Temporal Variations of Drought in Oklahoma”, 2014–2017
- William Mobley (committee member), Ph.D. (URSC), “How does wildfire risk of the landscape differ across communities given variance in development patterns?”, 2015–2017
- Ganesh Chandra (committee member), M.S. (Atmospheric Sciences), “Evaluation of Regional Climate Model Simulated Rainfall over Indonesia and its Application for Downscaling Future Climate Projections”, 2017–2018
- Jason Murray (**chair**), M.S. (Hydrologic Sciences), “Hydrologic Impacts of Climate and Landuse Changes in the West Fork San Jacinto River Of Texas”, 2014–2018
- Stephen Shield (**chair**), M.A. (Geography), “Predictive Modeling of Thunderstorm-Related Power Outages”, 2016–2018
- Emily Sambuco (committee member), M.S. (Atmospheric Sciences), “Exploring Great

- Basin National Park using a high-resolution Embedded Sensor Network”, 2017–2019
- Dakota Crane (committee member), M.S. (Atmospheric Sciences), “Future Changes to Species’ Range along the South American Coast Based on Statistically Downscaled SST Projections”, 2017–2019
- Jiayong Liang (committee member), Ph.D. (Geography), “Flood Detection And Inundation Probability Estimation Using Multi-sensor Imagery And Multi-source Information”, 2016–2019
- Haley Kujawa (committee member), M.S. (Environmental Science), “Evaluation of uncertainty in a Maumee River Watershed Soil and Water Assessment Tool under current conditions and future climate projections”, 2017–2019
- Jiayong Liang (committee member), Ph.D. (Geography), “Flood Mapping in Riverine and Coastal Urban Areas Using Multi-sensor Imagery and Multi-source Information”, 2017–2019
- Jordan Pino (**chair**), Ph.D. (Geography), “Modeling the Effects of Winter Storms on Power Infrastructure Systems in the Northern United States”, 2016–2019
- Xiayu Liang (committee member), M.S. (Geography), “Quantile Regression-based Change Detection using Landsat Analysis Ready Data”, 2020
- Ning Zhang (**chair**), Ph.D. (Geography), “Soil Moisture Mapping in South Central United States by Blending In-situ, Modeled and Remote Sensing Data”, 2015–2020
- Chen Zhao (**chair**), Ph.D. (Geography), “Impact of Initial Soil Moisture on the Accuracy of Runoff Simulation”, 2015–2020

Undergraduate Theses

- William K. Blount (ENGS), “Future flooding in Houston: Modeling the impacts of climate and land cover change on hydrology in the Buffalo-San Jacinto watershed”, 2013
- Jessica K. Wang (METR), “Does rain occur preferentially over wet or dry soil?”, 2014

Post-doctoral Research Associates & Research Staff

- D. Brent McRoberts, Senior Researcher, October 2019–present
- Scott Hull, Software Developer, July 2019–present
- Jordan Pino, Post-doctoral Research Associate, August 2019–September 2019
- Dan D’Amico, Post-doctoral Research Associate, September 2017–February 2019
- Shanshui Yuan, Post-doctoral Research Associate, April 2017–June 2020
- D. Brent McRoberts, Post-doctoral Research Associate, January 2015–August 2017
- Zhongxia Li, Software Application Developer, December 2014–March 2015

Undergraduate & Graduate Research Assistants

- Anna Nordfelt (U&G), 2005–2007
- Sarah Nuse (U), Spring 2006
- Weslee Copeland (U), Summer 2006

Curriculum Vitae for Steven M. Quiring

Shawn Marino (U), Summer 2006
Srinivasan Ganesh (G), Summer 2006
Lei Meng (G), Fall 2006, Summer 2007–2009
Kelly Kay Clark (U), Fall 2006
Darrell Jackson (U), Fall 2006
John Tarlton (U), Spring 2007
Ryan Brown (U), Spring 2007
Philip Points (U), Fall 2007–Summer 2008
Jeff Hankamer (U), Fall 2007
Laiyin Zhu (G), Fall 2008, Summer 2010, Fall 2010–2011
Jessica Shockley (U), Summer 2009, Fall 2009, Spring 2010, Summer 2010
Andrea Schumacher (G), Fall 2009–Fall 2010
Sandeep Patil (G), Spring 2010–Spring 2011
Michelle Ruiz (G), Summer 2011
Chris Labosier (G), Summer 2011
William Blount (U), Spring 2011–Fall 2011
Liza Harris (U), Fall 2011–2013
Trent Ford (G), Fall 2011–Summer 2015
Clair Snodgrass (U), Spring 2012
Jeanne Eckhart (U), Spring 2012
Jessica Wang (U), Summer 2012–Summer 2014
Sam Williams (G), Summer 2012
Angela Khong (U), Summer 2012–Summer 2014
Daniel Russell (U), Summer 2012
Laura Quirk (G), Summer 2012
Shanshui Yuan (G), Fall 2012–Summer 2013, Spring 2014–Summer 2014, Summer
2015–Fall 2016
Terra Lindgren (U), Summer 2013–Spring 2014
Benjamin Holden (U), Summer 2013
Gretchen Hajdik (U), Summer 2013
Alexandria Bolten (U), Summer 2013
Nyna Knox (U), Fall 2013–Spring 2014
Jose Galvan (U), Spring 2014–Spring 2016
Nohemi Chavez (U), Spring 2014–Spring 2016
Nicole Newman (U), Spring 2014–Spring 2016
Natalie Teale (G), Spring 2014–Summer 2015
Yue Wang (G), Spring & Fall 2014
Brittany Toy (U), Fall 2014–Spring 2016
Ryann Hall (U), Fall 2014–Spring 2016
Jennifer Blake (U), Fall 2014–Spring 2015
Liyan Tian (G), Fall 2014–Spring 2017
Michelle Arman (U), Summer 2015–Spring 2016
Manuel Hernandez (G), Summer 2015
Daniel Vecellio (G), Summer 2015
Ning Zhang (G), Fall 2015–Summer 2018
Chen Zhao (G), Fall 2015–present

Curriculum Vitae for Steven M. Quiring

Zachary Leasor (G), Fall 2015–2019
Xiao Li (G), Fall 2015
Sarah Giles (U), Fall 2015–Spring 2017
Berenice Alvarado, Fall 2015–Spring 2016
Zilong Xu (U), Fall 2016
Brent Lary (U), Fall 2016–Spring 2017
Frances Kahler (U), Fall 2016–Spring 2017
Lisa Goldstein (U), Fall 2016–Spring 2018
Benjamin Elleman (U), Fall 2016–Spring 2017
Yuechun Wang (G), Fall 2016–present
Stephen Shield (G), Fall 2016–Summer 2018
Jordan Pino (G), Fall 2016–2019
Emily Sambuco (G), Summer 2017
Julia Andreasen (U), Fall 2017–Summer 2018
Josh Steiner (U), Summer 2018–Spring 2019
Patrick Bowsher (U), Fall 2018–Summer 2019
William Kelly (U), Fall 2018–Spring 2019
Hunter Hoffman (U), Summer 2019–Fall 2020
Hadhira Tahir (U), Summer 2019–Fall 2019
Ruixuan Ding (U), Fall 2019–present
Eddie Wolff (U), Spring 2020
Sean Whelan (U), Spring 2020–present