

STEVEN M. QUIRING

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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

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

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

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, Department 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)

- 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 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) (Account No. 510258).

- 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).

Refereed Publications

Submitted or in preparation:

Guikema, S. D., Han, S.R. and **S. M. Quiring** (submitted) Pre-storm estimation of hurricane damage to electric power distribution systems. *IEEE Trans. on Reliability*.

Sherman, D.J., Li, B., **Quiring, S.M.**, and E. Farrell (submitted) Identifying entry points for exit strategies for the war against global warming. *Annals of the Association of American Geographers*. Special Issue on Climate Change.

Treviño, A. and **S. M. Quiring** (submitted) Has the growth of the Dallas/Fort Worth Metroplex changed regional precipitation patterns? *International Journal of Climatology*.

Quiring, S.M. and J. M. Shockley (to be submitted in September 2009). A comparison of in situ, passive microwave, and model-derived snow water equivalent estimates in the Northern Great Plains. *Remote Sensing of Environment*.

Quiring, S. M. and D.R. Legates (under revision) Comparing the performance of a statistical crop model to that of CERES-Maize for predicting corn yields in Delaware, USA. *Agricultural and Forest Meteorology*.

Quiring, S. M. and S. Ganesh (accepted pending major revisions) Evaluating the utility of the Vegetation Condition Index (VCI) for monitoring meteorological drought in Texas. *Agricultural and Forest Meteorology*.

Han, S.R., Guikema, S. D., **Quiring, S. M.**, Lee, K. H., Rosowsky, D. V., and R.A. Davidson (to be submitted in September 2009) Supporting pre-hurricane planning through forecasts of customer loss of power and power system damage. *Reliability Engineering & System Safety*.

Quiring, S.M., Zhu, L., and S. Guikema (to be submitted in September 2009) Importance of soil and elevation characteristics for modeling power system outages due to hurricanes. *Natural Hazards*.

Treviño, A. and **S. M. Quiring** (under revision) Trends in the North American Monsoon (1918–2007). *International Journal of Climatology*.

Nateghi, R., **Quiring, S.**, and S. D. Guikema (under revision) Estimating the impact of climate change and climate variability on hurricane hazard in the U.S. through data mining. *Journal of Applied Meteorology and Climatology*.

Meng, L. and **S. M. Quiring** (submitted) 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). *Journal of Geophysical Research–Atmospheres*.

Published or in press:

Han, S.R., Guikema, S. D., **Quiring, S. M.** (in press) Improving the predictive accuracy of hurricane power outage forecasts using Generalized Additive Models. *Risk Analysis*.

Quiring, S. M. and D. B. Kluver (in press) Relationship between winter/spring snowfall and summer precipitation in the northern Great Plains of North America. *Journal of Hydrometeorology*.

<http://ams.allenpress.com/perlserv/?request=get-abstract&doi=10.1175%2F2009JHM1089.1>

Meng, L. and **S. M. Quiring** (in press) Observational relationship of sea surface temperatures and precedent soil moisture with summer precipitation in the U.S. Great Plains. *International Journal of Climatology*.

<http://www3.interscience.wiley.com/journal/122371909/abstract>

Cox, W. D., Meng, L., Khedun, C. P., Nordfelt, A., and **S. M. Quiring** (in press) Discharge variability for an artesian spring of the Edwards Aquifer: Comal Spring (1933–2007). *International Journal of Climatology*.

<http://www3.interscience.wiley.com/cgi-bin/fulltext/122206731/PDFSTART>

Quiring, S. M. (2009) Developing objective operational definitions for monitoring drought. *Journal of Applied Meteorology and Climatology*, 48: 1217–1229.

<http://dx.doi.org/10.1175/2009JAMC2088.1>

Quiring, S. M. (2009) Monitoring drought: An evaluation of meteorological drought indices. *Geography Compass*, 3/1: 64–88, 10.1111/j.1749-8198.2008.00207.x

Han, S.R., Guikema, S. D., **Quiring, S. M.**, Lee, K. H., Rosowsky, D. V., and R.A. Davidson (2009) Estimating the spatial distribution of power outages during hurricanes in the Gulf coast region. *Reliability Engineering & System Safety*, 94: 199-210.

<http://dx.doi.org/10.1016/j.res.2008.02.018>

Quiring, S. M. and G. B. Goodrich (2008) Nature and causes of the 2002 to 2004 drought in the southwestern United States compared with the historic 1953 to 1957 drought. *Climate Research*, 36: 41-52.

Quiring, S. M. and D.R. Legates (2008) Application of CERES-Maize for within-season prediction of rainfed corn yields in Delaware, USA. *Agricultural and Forest Meteorology*, 148: 964–975. <http://dx.doi.org/10.1016/j.agrformet.2008.01.009>

*Meng, L. and **S. M. Quiring** (2008) A comparison of soil moisture models using Soil Climate Analysis Network (SCAN) observations. *Journal of Hydrometeorology*, 9:641-659. <http://dx.doi.org/10.1175/2008JHM916.1>
(*AAG Climate Specialty Group “John Russell Mather” Paper of the Year)

Levia Jr., D. F. and **S. M. Quiring** (2008) Assessment of student learning in a hybrid PBL capstone seminar. *Journal of Geography in Higher Education*, 32(2): 217-231.

Quiring, S. M. (2007) Trends in publication outlets of geographer-climatologists. *The Professional Geographer*, 59(3): 357-364.

Quiring, S. M. and T. N. Papakyriakou (2005) Characterizing the spatial and temporal patterns of June–July moisture conditions in the Canadian prairies. *International Journal of Climatology*, 25: 117-138.

Quiring, S. M. (2004) Growing-season moisture variability in the Eastern USA during the last 800 years. *Climate Research*, 27: 9-17.

Quiring, S. M. and T. N. Papakyriakou (2003) An evaluation of agricultural drought indices for the Canadian prairies. *Agricultural and Forest Meteorology*, 118: 49-62.

Conference Proceedings

Nateghi, R., **Quiring, S.**, and S. D. Guikema (2008) Establishing the Link Between Climate Change, Climate Variability and Hurricane Hazard in the U.S.. In *JSM Proceedings*, Physical and Engineering Sciences Section. Alexandria, VA: American Statistical Association.

Guikema, S. D., Han, S.-R., and **S. M. Quiring** (2008) Estimating power outages during hurricanes using semi-parametric statistical methods. In: *Proceedings of the 2008 Structures Congress*, v. 318, DOI: 10.1061/41016(314)189.

Quiring, S. M. and D. B. Kluver (2006) Influence of snowfall anomalies on summer precipitation in the Northern Great Plains of North America. In *Proceedings of the 63rd Annual Eastern Snow Conference*, June 7-9, Newark DE, pp. 65-72.

Quiring, S.M. and D. Blair (2001) Recent Developments in Teleconnection Indices and their Application in Long-Range Forecasting. In *Proceedings of the Long-Range Weather and Crop Forecasting Work Group Meeting IV*, March 5-6, 2001, Regina SK. pp. 19-21.

Quiring, S.M. and D. Blair (2000) The Utility of Global Teleconnection Indices for Long-Range Crop Forecasting on the Canadian Prairies. In *Reflections from the Prairies: Geographical Essays* (Ed. Romanowski, J.), v.3, 23-61. Winnipeg: University of Manitoba.

Theses & Dissertation

Quiring, S. M. (2005) Developing a Real-time Agricultural Drought Monitoring System for Delaware. Doctoral Dissertation, Department of Geography, University of Delaware.

Quiring, S. M. (2001) The Detection and Prediction of Agricultural Drought in the Canadian Prairies. Masters Thesis, Department of Geography, University of Manitoba.

Quiring, S. M. (1999) The Utility of Global Teleconnection Indices for Long Range Crop Forecasting on the Canadian Prairies. Honours Thesis, Department of Geography, University of Winnipeg.

Other Publications

Quiring, S. M. (to be published in 2010) Teleconnections. *Encyclopedia of Climate and Weather* (2nd Ed.), S. Schneider (Ed.), Oxford University Press.

Quiring, S. M. (to be published in 2010) Numerical Methods. *Encyclopedia of Climate and Weather* (2nd Ed.), S. Schneider (Ed.), Oxford University Press.

Quiring, S. M. (to be published in 2009) Albedo. *Encyclopedia of Geography*, B. L. Warf (Ed.), Sage Publishing.

Quiring, S. M. (Ed.) (2008) Planet Earth Laboratory Manual, 2008-2009 Edition, Hayden-McNeil. [and annually thereafter]

Quiring, S. M. (2007) Science and Hollywood: A discussion of the scientific accuracy of *An Inconvenient Truth*. *GeoJournal*, 70: 1-3. <http://dx.doi.org/10.1007/s10708-008-9128-x>

Quiring, S. M. (Ed.) (2007) Planet Earth: An Introduction to Earth Systems Science Lab Manual, 4th Edition, Pearson-Prentice Hall.

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. Extended abstract of poster presented at the American Meteorological Society Forum: Climate Aspects of Hydrometeorology, San Antonio, TX, January 2007. [Available online at: <http://ams.confex.com/ams/pdfpapers/117627.pdf>]

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. Extended abstract of paper presented at the 8th Conference on Polar Meteorology and Oceanography, San Diego, CA, January 2005. [Available online at: <http://ams.confex.com/ams/pdfpapers/86285.pdf>]

Quiring, S. M. (2004) Developing a Real-time Agricultural Drought Monitoring System for Delaware. *Publications in Climatology*, 57(1), 104 pp.

Quiring, S. (2003) Synoptic and Dynamic Climatology. Book review in *Canadian Meteorological and Oceanographic Society Bulletin*, 31(3), pp. 81-82.

Project Reports

Guikema, S., Han, S. R., **Quiring, S.**, Lee, K. H., Davidson, R., and D. Rosowsky (2007) Statistical modeling to support hurricane response planning for The Southern Company. Final report submitted to The Southern Company, 70 pp.

Narasimhan, B., Srinivasan, R., **Quiring, S.**, and J. Nielsen-Gammon (2007) Digital Climatic Atlas of Texas. Final project report submitted to Texas Water Development Board, Austin, TX. 94 pp.

Quiring, S., Nielsen-Gammon, J., Srinivasan, R., Miller, T., and B. Narasimhan (2007) Drought Monitoring Index for Texas. Final project report submitted to Texas Water Development Board, Austin, TX. 254 pp.

McCullough, G., **Quiring, S.**, Harouche, I., VanderKruys, J., and S. Roy (2000) Periodicity in stream flows on the prairies in relation to long term climatic variability. Final project report for Dr. W. Franzin, DFO, Fresh Water Institute, Winnipeg MB.

Sigurdson, C., Lenze, L., **Quiring, S.**, McLeod, D., Bailes, K., and A. Barrett (1999) Identification and inventory of urban open spaces in the City of Winnipeg. Final project report submitted to Kevin Nixon (Planner III), City of Winnipeg Planning and Land Use Division of the Properties and Development Services Department.

Invited Presentations

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 Series, 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

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

Meng, L. and **S. M. Quiring** (2010) Examining spring soil moisture-summer precipitation interactions over the U.S. Great Plains: Results from the coupled land-atmosphere model CAM3-CLM3. Contributed poster to be presented at 22nd Conference on Climate Variability and Change, Atlanta, GA, January 2010.

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. 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) 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 Annual Meeting of the Southwest Division of the American Association of Geographers, 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:

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:

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

Manuscript Reviewer

Agricultural and Forest Meteorology
Climate Research
GeoJournal
Geophysical Research Letters
Global and Planetary Change
Hydrological Processes
International Journal of Climatology
Journal of Applied Meteorology and Climatology
Journal of Geography in Higher Education
Journal of Geophysical Research–Atmospheres
Journal of Hydrometeorology
Journal of Irrigation and Drainage Engineering
Physical Geography
Southwestern Geographer
The Professional Geographer
Water Resource Management

Textbook Reviewer

McGraw-Hill, Wiley

Guest Editorships

GeoJournal forum (v. 70, no. 1) on *An Inconvenient Truth*

Proposal Reviewer

Centers for Disease Control and Prevention/NIH
National Science Foundation
Texas A&M-CONACYT: Collaborative Research Grant Program

Membership in Professional Organizations

American Association of State Climatologists (since 2008)
American Geophysical Union (since 1998)
American Meteorological Society (since 2002)
Association of American Geographers (since 2000)
Canadian Geophysical Union (since 2003)
Canadian Meteorological and Oceanographic Society (since 2001)

Executive Positions

Graduate Student Representative, Department of Geography, University of Delaware, 2002–2003
President, Geography Graduate Students Association (GGSA), University of Manitoba, 2000–2001
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

Professional Service

Member, Applied Climate Committee, American Meteorological Society, 2010–2013
Honors Director, Climate Specialty Group, Association of American Geographers, 2009–2011
Judge, Climate Specialty Group, Student Paper Competition, Annual Meeting of the Association of American Geographers, Boston, MA, April 2008
Co-Organizer & Co-Chair, Hydroclimatology Sessions (3), Annual Meeting of the Association of American Geographers, Boston, MA, April 2008
Judge, Climate Specialty Group, Student Paper Competition, Annual Meeting of the Association of American Geographers, San Francisco, CA, April 2007
Co-Organizer & Co-Chair, Hydroclimatology Sessions (3), Annual Meeting of the Association of American Geographers, San Francisco, CA, April 2007
Chair, Snow and Climate I, Annual Meeting of the Eastern Snow Conference, Newark, DE, June 2006
Judge, Climate Specialty Group, Student Paper Competition, Annual Meeting of the Association of American Geographers, Chicago, IL, March 2006
Organizer & Chair, Special Session in Hydroclimatology, Annual Meeting of the Association of American Geographers, Chicago, IL, March 2006

University Service

University Library Council, College of Geosciences Representative, Texas A&M University, Fall 2006–present
Faculty Advisor, Focus the Nation, Texas A&M University, January 2008
Judge, Student Research Week, Texas A&M University, 2006–2008
Proposal Reviewer, Texas A&M-CONACYT Collaborative Research Program, 2006
Faculty Advisory Board, Center for Teaching Effectiveness, University of Delaware, 2004–2005

College Service

Climate and Energy Strategic ARRA Response Team, College of Geosciences, Texas A&M University, Fall 2009–present

Geosciences Faculty Advisory Committee (GFAC), College of Geosciences, Texas A&M University, Fall 2007–present
Geoconnections Editorial Board, College of Geosciences, Texas A&M University, 2007–present
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

GEOG 203 Coordinator, Department of Geography, Texas A&M University, Fall 2006–present
Faculty Advisor, Association of Geography Graduate Students (AGGS), Texas A&M University, Fall 2006–present
Library Representative, Department of Geography, Texas A&M University, 2005–present
Climate Search Committee, Texas A&M University, Fall 2008–2009
Geography Colloquium Series Co-Coordinator, Texas A&M University, Fall 2007–Spring 2009
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
Geography Council, University of Manitoba, 2000–2001
Geography Council, University of Manitoba, 1999–2000
Curriculum Committee, University of Winnipeg, 1998–1999

Courses Taught

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

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 Environmental 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 (75)
GEOG 689 Applied Climatology (10)

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)

University of Manitoba

053.373 Geographic Information Systems
Summer 2001 (19)

Graduate Advising (ongoing)

- Walter Cox (**co-chair**), Ph.D. (Geography), “Evaluating the economic damage from hurricanes in the Caribbean Basin”, 2007–present
- Joni Kincaid (committee member), Ph.D. (Geography), “Assessing water resources in South America using remotely-sensed imagery”, 2007–present
- Christopher Labosier (**chair**), Ph.D. (Geography), “To be determined”, 2009–present
- Bailiang Li (committee member), Ph.D. (Geography), “Numerical modeling of aeolian saltation”, 2006–present
- Caroline Mardock (**chair**), M.S. (Geography), “To be determined”, 2009–present
- Sayena Farid Marandi (committee member), M.S. (Water Management & Hydrological Sciences), “Surface water modeling”, 2009–present
- Mlengi Fanuel Mgendi (**co-chair**), Ph.D. (Geography), “Modeling climate-induced health dynamics in tropical Africa”, 2008–present
- Andrea Schumacher (**chair**), Ph.D. (Geography), “To be determined”, 2009–present
- Laiyin Zhu (**chair**), Ph.D. (Geography), “Assessing hurricane risk to power systems”, 2008–present
- Kelin Zhuang (committee member), Ph.D. (Geology & Geophysics), “Impact of climate change on geomorphological processes in China”, 2007–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
[employed as Assistant State Climatologist-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, Environmental and Architectural 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
[PhD student at Louisiana State University]
- 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”, 2006–2009
[Post Doctoral Associate in the Department of Biological and Environmental Engineering (Dr. Peter Hess) at Cornell University]
- Christopher Dobbs (committee member), M.S. (Atmospheric Sciences),
“An analysis of global wind energy potential”, graduated 2009

Undergraduate & Graduate Research Assistants

- Anna Nordfelt (U&G), 2005–2007
Sarah Nuse (U), Spring 2006
Weslee Copeland (U), Summer 2006
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
Jessica Shockley (U), Summer 2009, Fall 2009

Community Service

- Co-Organizer of the Climate Section, Delaware Science Olympiad, 2003–2005
Volunteer Scorer, McDonald's LPGA Championship, 2003–2004
Mentor/Group Leader for Career Trek program, 1998–1999
Peer Tutor at Westwood Collegiate, 1991–1995