

# Trenton W. Ford

Assistant Professor

Department of Geography and Environmental Resources  
Southern Illinois University

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## Education:

**Texas A&M University** College Station, Texas  
*PhD (Geography): August 2015*

**Texas A&M University** College Station, Texas  
*Master of Science (Geography): May 2013*

**Illinois State University** Normal, Illinois  
*Bachelor of Science with Honors: May 2011*  
Major: Geography  
Minor: Geology

## Professional Experience:

**Assistant Professor** August 2015 – Present  
*Southern Illinois University-Carbondale Department of Geography and Environmental Resources*

**Research Assistant** August 2011 – August 2015  
*NSF-funded project: Role of Soil Moisture in Seasonal to Interannual Climate Variability in the U.S. Great Plains (PI: Dr. S. Quiring)*

**Instructor** Fall 2013 and Fall 2014  
*Texas A&M University College of Geosciences: GEOS 101 Freshman First-Year Seminar – Triple Digits and Two-a-Days*

**Summer Research Assistant** May 2011 – August 2011  
*USDA-funded project: Modeling the Movement of Asian Soybean Rust Spores into and amid the Contiguous United States (PI: Dr. D. Gay)*

**Summer Research Assistant** May 2010 – August 2010  
*ISU-funded project: Locating Pre-Columbian Settlement Sites and Ring Ditches in Beni, Bolivia (PI: Dr. J. Thayn)*

## Refereed Publications:

*Published or in press (\*denotes undergraduate student author):*

- Ford, T.W.**, and C.F. Labosier (accepted) Meteorological Conditions Associated with the Onset of Flash Drought in the Eastern United States. *Agriculture and Forest Meteorology*.
- Zhang, N., Quiring, S.M., Ochsner, T., and **T.W. Ford** (accepted) Comparison of Three Methods for Vertical Extrapolation of Soil Moisture in Oklahoma. *Soil Science Society of America Journal*.
- Schoof, J.T., **Ford, T.W.**, and S.C. Pyror (accepted) Recent Historical Changes in the Moisture Content of Heat Waves in the United States. *Journal of Applied Meteorology and Climatology*.
- Budikova, D., **Ford, T.W.**, and T. Ballinger (accepted) North-Central US Summer Hydroclimatology and Arctic Sea Ice Variability, *International Journal of Climatology*.
- Ford, T. W.**, and J. Schoof (2017) Characterizing Extreme and Oppressive Heat Waves in Illinois. *Journal of Geophysical Research-Atmospheres*. 122, 682-698.
- Ford, T.W.**, Quiring, S.M, and O.W. 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.
- Meng, L., **Ford, T.W.**, and Y. Guo (2017) Logistic Regression Analysis of Drought Persistence in East China. *International Journal of Climatology*. 37, 1444-1455.
- Teale, N.G., Quiring, S.M., and **T.W. Ford** (2017) Association of Synoptic-Scale Atmospheric Patterns with Flash Flooding in Watersheds of the New York City Water Supply System. *International Journal of Climatology*. 37, 358-370.
- Ford, T. W.**, and J. Schoof (2016) Oppressive Heat Events in Illinois Related to Antecedent Wet Soils. *Journal of Hydrometeorology*. 17, 2713-2726.
- Ford, T.W.**, Wang, Q., and S. M. Quiring (2016) The Observational Record Length Necessary to Generate Robust Soil Moisture Percentiles. *Journal of Applied Meteorology and Climatology*. 55, 2131-2149.
- Quiring, S. M., **Ford, T. W.**, Wang, J., Khong, A., Harris, E., Lindgren, T., Goldberg, D. W., and Z. Li (2016) The North American Soil Moisture Database: Development and Applications. *Bulletin of the American Meteorological Society*. 9, 1441-1459.
- Dirmeyer, P.A., Wu, J., Norton, H.E., Dorigo, W.A., Quiring, S.M., **Ford, T.W.**, Santanello, J.A., Bosilovich, M.G., Ek, M.B., Koster, R.D., Balsamo, G., and D.M. Lawrence (2016) Confronting weather and climate models with observational data from soil moisture networks over the United States. *Journal of Hydrometeorology*. 17, 1049-1067.
- Ford, T.W.**, and O. W. Frauenfeld (2016) Surface-Atmosphere Moisture Interactions in the Frozen Ground Regions of Eurasia. *Scientific Reports*. 6, 19163.

- 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. *Geophysical Research Letters*. 42, 9790-9798.
- Ford, T.W.,** Quiring, S.M., Frauenfeld, O.W., and A.D. Rapp (2015) Synoptic Conditions Related to Land-Atmosphere Interactions and Unorganized Convection in Oklahoma. *Journal of Geophysical Research*. 120, 11519-11535
- Wang, J.K., **Ford, T.W.,** and S.M. Quiring (2015) Distinguishing between Unorganized and Organized Convection when Examining Land-Atmosphere Relationships. *Journal of Applied Meteorology and Climatology*. 54, 2229-2243.
- Xia, Y., Ek, M. B., Wu, Y., **Ford, T.** and S. M. Quiring (2015) Comparison of NLDAS-2 Simulated and NASMD Observed Daily Soil Moisture. Part I: Comparison and Analysis. *Journal of Hydrometeorology*. 16, 1962-1980.
- Xia, Y., Ek, M. B., Wu, Y., **Ford, T.** and S. M. Quiring (2015) Comparison of NLDAS-2 Simulated and NASMD Observed Daily Soil Moisture. Part II: Impact of Soil Texture and Vegetation Type Mismatches. *Journal of Hydrometeorology*. 16, 1981-2000.
- Ford, T.W.,** Rapp, A.D., Quiring, S.M., and \*J. Blake (2015) Soil Moisture – Precipitation Coupling: Observations from the Oklahoma Mesonet and Underlying Physical Mechanisms. *Hydrology and Earth Systems Science*. 19, 3667-3679.
- Xia, Y., **Ford, T. W.,** Wu, Y., Quiring, S. M., and M. B. Ek (2015) Automated Quality Control of *in situ* Soil Moisture from the North American Soil Moisture Database using NLDAS-2 Products. *Journal of Applied Meteorology and Climatology*. 54, 1267-1282.
- Ford, T. W.,** Rapp, A. D., and S. M. Quiring (2015) Does Afternoon Precipitation Occur Preferentially over Dry or Wet Soils in Oklahoma? *Journal of Hydrometeorology*. 16, 874-888.
- \*Khong, A., \*Wang, J. K., Quiring, S. M., and **T. W. Ford** (2015) Soil Moisture Variability in Iowa. *International Journal of Climatology*. 35, 2837-2848.
- Ford, T. W.** (2014) Precipitation Anomalies in Eastern-Central Iowa from 1640 – Present. *Journal of Hydrology*. 519, 918 – 924.
- Ford, T. W.,** \*Wulff, C. O. and S. M. Quiring (2014) Assessment of Observed and Model-Derived Soil Moisture-Evaporative Fraction Relationships over the United States Southern Great Plains. *Journal of Geophysical Research*. 119, 6279 – 6291.
- Ford, T. W.** and S. M. Quiring (2014) In-situ Soil Moisture Coupled with Extreme Temperatures: A Study Based on the Oklahoma Mesonet. *Geophysical Research Letters*. 41, 4727 – 4734.
- Ford, T. W.** and S. M. Quiring (2014) Comparison and Application of Multiple Methods for Temporal Interpolation of Daily Soil Moisture. *International Journal of Climatology*. 34, 2604 – 2621.

**Ford, T. W.** and C. F. Labosier (2014) Spatial Patterns of Drought Persistence in the Southeastern United States. *International Journal of Climatology*. 34, 2229 – 2240.

**Ford, T. W.**, \*Harris, E. and S. M. Quiring (2014) Estimating Root Zone Soil Moisture using Near-surface Observations from SMOS. *Hydrology and Earth System Sciences*, 18, 139 – 154.

**Ford, T. W.** and S. M. Quiring (2013) Influence of a MODIS-derived Dynamic Vegetation Parameter on VIC Hydrologic Model Soil Moisture Simulations in Oklahoma. *Journal of Hydrometeorology*. 14, 1910 – 1921.

***Submitted (\*denotes undergraduate student author):***

**Ford, T.W.**, Dirmeyer, P.D., and D.O. Benson (in review) Evaluation of Heat Wave Forecasts Seamlessly Across S2S Time Scales: Skill Attribution and the Role of Land-Atmosphere Interactions. *NPG Climate and Atmospheric Sciences*.

Otkin, J.A., Svoboda, M., Hunt, E.D., **Ford, T.W.**, Anderson, M.C., and J.B. Basara (in review) Flash Droughts: A Review and Assessment of the Challenges Imposed by Rapid-Onset Droughts in the United States. *Bull. Amer. Meteorol. Soc.*

Lucido, J.M., Quiring, S.M., Winslow, L., **Ford, T.W.**, and M.L. Strobel (in review) Building a Coordinated National Soil Moisture Network: A pilot study. *JAWRA*.

Leasor, Z.T., Quiring, S.M., **Ford, T.W.**, and D.B. McRoberts (in review) Spatiotemporal Variations in Temperature Persistence in the South-Central US. *Int. J. Climatol*.

**Books & Chapters**

Quiring, S. M., **Ford, T. W.**, and S. Yuan (2015) Climate of the Critical Zone. In: Principles and Dynamics of the Critical Zone, prepared by: J. R. Giardino and C. Houser, 19, Elsevier.

**Other Publications**

**Ford, T.W.**, and P. A. Dirmeyer (2016) Land-atmosphere interactions and subseasonal-to-seasonal forecasting of extreme heat in the United States. *US CLIVAR Variations*, 14, 30-35.

**Funded Research Grants and Contracts:**

2017 Principal Investigator: NOAA MAPP, *Developing National Soil Moisture Products to Improve Drought Monitoring* (09/01/2017 – 08/31/2020; \$493,000); with Steven Quiring (Co-PI), and Jessica Lucido (Co-PI).

2016 Co-Investigator: NASA ROSES, *Investigating Soil Moisture-Convection Precipitation Feedbacks with Soil Moisture-Active Passive* (08/01/16 – 07/31/19; \$810,000); with Steven Quiring (PI) and Adam Houston (Co-I).

2016 Principal Investigator: NOAA MAPP, *North American Heat Wave Predictability: Assessing the Role of Land Surface Initialization on S2S and NMME Model Forecasts* (08/01/16 – 07/31/19; \$510,000); with Paul Dirmeyer (Co-PI).

- 2016 Principal Investigator: SIU Center for Undergraduate Research and Creative Activities, *Synoptic Analysis of Meteorological Conditions Associated with Elevated Near-Surface Ozone Concentrations in Illinois* (08/01/16 – 07/31/17; \$15,000); (internal).
- 2015 Co-Principal Investigator: NOAA South Central Climate Science Center, *Improved Seasonal Climate/Drought Forecasting in the SCIPP Region* (09/01/15 – 09/01/16); \$38,622; with Steven Quiring (co-PI).
- 2014 Co-Principal Investigator: National Science Foundation Doctoral Dissertation Research Improvement, *Mesoscale Impacts of Soil Moisture on Precipitation* (07/25/14 – 07/25/15); \$11,874); with Steven Quiring (co-PI).
- 2014 Co-Authored: NOAA South Central Climate Science Center, *Developing Effective Tools for Communicating Drought Information* (10/01/14 – 09/31/16; \$188,145); with Steven Quiring (PI) and Mark Shafer (PI).
- 2010 Co-Principal Investigator: Illinois State University Honors Program, *Locating Pre-Columbian Settlement Sites and Ring Ditches in Beni, Bolivia* (05/01/10 – 08/01/10; \$2500); with J. Thayn (co-PI).

**Pending Research Grants and Contracts:**

- 2017 Co-Investigator: NASA ROSES Terrestrial Hydrology, *Improving Prediction of Root-Zone Soil Moisture with Soil Moisture Active-Passive* (\$553,000); with Steven Quiring (PI) and Shanshui Yuan (Co-I).
- 2017 Co-Investigator: NOAA MAPP, *Assessing the Accuracy of Different CMIP6 Model Formulations During Rapid Onset Flash Drought Events* (\$495,000); with Jason Otkin (PI).

**Unfunded Research Grants and Contracts:**

- 2017 Principal Investigator: NSF Climate and Large-Scale Dynamics, *Remote and Local Forcing of Oppressive Heat and Consequent Human Health Impacts in the Central United States* (\$660,000); with Jennifer Vanos (Co-PI), Justin Schoof (Co-PI), and David Hondula (Co-PI).
- 2017 Co-Principal Investigator: NASA Earth and Space Science Fellowship, *Tracing Invisible Water by Quantifying the Soil Moisture Recycling Dynamics in an Illinois Catchment* (\$39,238); with Liliana Lefticariu (PI) and Stephania Zneimer (PI).
- 2017 Co-Principal Investigator: USGS South Central Climate Science Center, *Improved Understanding and Monitoring of Flash Drought in the South Central Region* (\$287,312); with Tyson Ochsner (PI), and Steven Quiring (Co-PI).
- 2017 Co-Principal Investigator: Illinois Water Resources Center, *Tracing Invisible Water by Quantifying the Soil Moisture Recycling Dynamics in an Illinois Catchment* (\$32,500); with Liliana Lefticariu (PI).

- 2016 Co-Principal Investigator: SIU Elevating Research 2.0, *The Land-Atmosphere Water Fluxes in Southern Illinois* (\$3,195); with Liliana Leticariu (PI), April Vigaradt (Co-PI), Gregory Whitledge (Co-PI), and Mihai Leticariu (Co-PI).
- 2015 Principal Investigator: NSF Stimulating Research Using NEON, *Using NEON Observations to Investigate Land-Atmosphere Interactions in Diverse Ecosystems* (\$150,000); with Steven Quiring (Co-PI).
- 2015 Principal Investigator: NOAA SARP, *Assessing the Utility of In Situ and Satellite Soil Moisture Observations for Flash Drought Early Warning in the Midwestern United States* (\$280,000); with Steven Quiring (Co-PI).

### **Invited Talks and Seminars**

- Ford, T.W.** (2016) “Land-Atmosphere Interactions as a Forcing of Extreme Heat and Humidity”. Illinois State University Department of Geography-Geology Lecture Series. November 3, 2016. Normal, Illinois.
- Ford, T.W.** (2016) “Integrating Research and Teaching for the Mutual Benefit of Students and Faculty”. SIU Center for Teaching Excellence Graduate Teaching Workshop. November 16, 2016. Carbondale, Illinois.
- Ford, T.W.** (2016) “The Observation Record Length Necessary to Generate Robust Soil Moisture Percentiles”. The 2016 Workshop at MOISST: The Growing Science of Soil Moisture Sensing. May 18, 2016. Stillwater, Oklahoma.
- Ford, T.W.** (2016) “The Land Surface as a Forcing of Hydroclimate Variability”. Southern Illinois University Environmental Resources and Policy Program Seminar Series: Perspectives on Hydroclimate. April 19, 2016. Carbondale, Illinois.
- Ford, T.W.** (2015) “Dawn of the Soil Moisture Information Age: Coordinating a National Soil Moisture Network”. Illinois State Water Survey Speaker Seminar Series. October 27, 2015. Champaign, Illinois.
- Ford, T.W.** (2015) “Maximum Temperatures Coupled with Satellite Remote Sensing Soil Moisture: Applications for Monthly Temperature Forecasts”. The 2015 Workshop at MOISST: The Dawn of the Soil Moisture Information Age. June 2, 2015. Stillwater, Oklahoma.

### **Conference Papers and Presentations (\* denotes undergraduate student author)**

- Ford, T.W.,** Quiring, S.M., Lucido, J., Strobel, M., and L. Winslow (2017) “A Coordinated National Soil Moisture Network: Pilot Study and Quasi-Recent Advances”. American Meteorological Society 23<sup>rd</sup> Conference on Applied Climatology. June 27, 2017. Asheville, NC.
- Ford, T.W.,** Thakur, B., Jogineedi, R., Quiring, S.M., Houston, A., and A.J. Kalra (2017) “Applying Multiple, Diverse Sources of Soil Moisture to Better Understand Soil

Moisture-Precipitation Coupling in the Central United States”. The 2017 Workshop at MOIST: Integrating Diverse Sources of Soil moisture Information. May 24, 2017. Stillwater, OK.

**Ford, T.W.**, and J.T. Schoof (2017) “Characterizing Extreme and Oppressive Heat Waves in Illinois”. AAG Annual Meeting. April 7, 2017. Boston, MA.

Schoof, J.T., **Ford, T.W.**, and S.C. Pryor (2017) “High Resolution Projections of 21<sup>st</sup> Century Eastern United States Heat Waves”. AAG Annual Meeting. April 7, 2017. Boston, MA.

Quiring, S.M., **Ford, T.W.**, Houston, A.L., Wang, Y., and L. Goldstein (2017) “Investigating Soil Moisture-Convective Precipitation Feedbacks with NASA SMAP”. AAG Annual Meeting. April 7, 2017. Boston, MA.

Ballinger, T.J., Budikova, D., and **T.W. Ford** (2017) “Declining Summer Arctic Sea Ice Linked to North-Central United States Moisture Extremes”. CLIVAR Arctic Change and Its Influence on Mid-Latitude Climate & Weather Workshop. February 2, 2017. Washington, D.C.

**Ford, T.W.**, Dirmeyer, P.A., and D. Benson (2016) “Evaluation of the Ability of S2S and NMME Models to Predict Heat Waves Following Drought Events in the United States”. American Geophysical Union Fall Meeting. December 15, 2016. San Francisco, California.

Budikova, D., and **T.W. Ford** (2016) “Declining Arctic Sea Ice and North-Central US Summer Hydroclimatology”. American Geophysical Union Fall Meeting. December 16, 2016. San Francisco, California.

Schoof, J.T., **Ford, T.W.**, and S.C. Pryor (2016) “Recent Changes in United States Heat Wave Characteristics Derived from Multiple Reanalyses”. American Geophysical Union Fall Meeting. December 16, 2016. San Francisco, California.

Gomez-Jacobo, M.L., Schoof, J.T., and **T.W. Ford** (2016) “Assessing Equivalent Temperature Trends in the Eastern United States”. American Geophysical Union Fall Meeting. December 12, 2016. San Francisco, California.

Dirmeyer, P.A., **Ford, T.W.**, and D. Benson (2016) “Predictability of Heat Waves Following Drought Events in the United States in S2S Models”. NOAA Sub-seasonal to Seasonal Extremes Workshop. December 7, 2016. Palisades, New York.

**Ford, T.W.**, and J. Schoof (2016) “The Role of Soil Moisture in the Onset and Persistence of Equivalent Temperature Heat Wave Events”. Association of American Geographers Annual Meeting. March 31, 2016. San Francisco, California.

- Budikova, D., and **T.W. Ford** (2016) “Arctic Sea Ice Variability and Summer Extreme Precipitation across Eastern U.S.”. Association of American Geographers Annual Meeting. March 31, 2016. San Francisco, California.
- Schoof, J., and **T.W. Ford** (2016) “Coupling Between Eastern United States Warm Season Extreme Equivalent Temperatures and Soil Moisture in High Resolution Land Surface Data. Association of American Geographers Annual Meeting. March 29, 2016. San Francisco, California.
- \*Hall, R.E., McRoberts, D.B., and **T.W. Ford** (2016) “Utility of In Situ Soil Moisture for Drought Early Warning in California”. Association of American Geographers Annual Meeting. March 29, 2016. San Francisco, California.
- 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”. American Geophysical Union Fall Meeting. December 18, 2015. San Francisco, California.
- \*Giles, S., Quiring, S.M., **Ford, T.W.**, \*Chavez, N., and J. Galvan III (2015) “Evaluating Land-Atmosphere Interactions with the North American Soil Moisture Database. American Geophysical Union Fall Meeting. December 18, 2015. San Francisco, California.
- 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”. American Geophysical Union Fall Meeting. December 17, 2015. San Francisco, California.
- 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”. American Geophysical Union Fall Meeting. December 18, 2015. San Francisco, California.
- \*Chavez, N., \*Galvan III, 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”. American Geophysical Union Fall Meeting. December 16, 2015. San Francisco, California.
- \*Newman, N., \*Alvarado, B., McRoberts, D.B., Quiring, S.M., and **T. W. Ford** (2015) “Evaluation of NLDAS-2 Simulated Daily Soil Moisture”. American Geophysical Union Fall Meeting. December 16, 2015. San Francisco, California.
- Ford, T.W.**, Quiring, S.M., and J. Blake (2015) “Soil Moisture – Precipitation Coupling: Observations from the Oklahoma Mesonet”. Annual Meeting of the Association of American Geographers. April 21 – 25. Chicago, Illinois.



- \*Chavez, N., \*Galvan, J., Quiring, S. M., and **T. W. Ford** (2014) “Recent Enhancements in the North American Soil Moisture Database (NASMD). American Geophysical Union Fall Meeting. December 15, 2014. San Francisco, California.
- Quiring, S. M., and **T. W. Ford** (2014) “Does Rain Fall Preferentially over Wet or Dry Soils?”. American Geophysical Union Fall Meeting. December 15, 2014. San Francisco, California.
- Frauenfeld, O. W., and **T. W. Ford** (2014) “Surface-Atmosphere Moisture Coupling in Eurasian Frozen Ground Regions”. American Geophysical Union Fall Meeting. December 15, 2014. San Francisco, California.
- Xia, Y., Ek, M., Wu, Y., **Ford, T.**, and S. Quiring (2014) “Evaluation of NLDAS-2 Multi-Model Simulated Soil Moisture using the Observations from North American Soil Moisture Database (NASMD)”. American Geophysical Union Fall Meeting. December 15, 2014. San Francisco, California.
- Ford, T.W.**, and S. M. Quiring (2014) “In-situ Soil Moisture Coupled with Extreme Temperatures: A Study Based on the Oklahoma Mesonet”. American Geophysical Union Fall Meeting. December 15, 2014. San Francisco, California.
- Ford, T.W.**, and S. M. Quiring (2014) “Building the North American Soil Moisture Database: Current and Future Applications”. American Meteorological Society 21<sup>st</sup> Conference on Applied Climatology. June 10-13, 2014. Westminster, Colorado.
- Ford, T.W.**, and S. M. Quiring (2014) “Evaluation of AMSR-E surface and root zone soil moisture products with *in situ* observations”. 2014 Workshop at MOISST: Advancing Soil Moisture Science and Applications. June 3-5, 2014. Stillwater, Oklahoma.
- Ford, T.W.**, Rapp, A., and S. M. Quiring (2014) “Does convection occur preferentially over dry or wet soils in Oklahoma”. Annual Meeting of the Association of American Geographers. April 9 -12, 2014. Tampa, Florida.
- Xia, Y., Ek, M.B., Wu, Y., **Ford, T. W.**, and S. M. Quiring (2014) “Evaluation of multi-model simulated NLDAS-2 soil moisture using the North American Soil Moisture Database (NASMD)”. American Meteorological Society 2014 Annual Meeting. February 3-7, 2014. Atlanta, Georgia.
- Ford, T. W.**, Harris, E., and S. M. Quiring (2013) “Estimating root zone soil moisture using near-surface observations from SMOS”. American Geophysical Union 2013 Fall Meeting. December 9-13, 2013. San Francisco, California.

- \*Wang, J. K., Quiring, S. M., and **T. W. Ford** (2013) “Does rain fall preferentially over dry soils or wet soils”. American Geophysical Union 2013 Fall Meeting. December 9-13, 2013. San Francisco, California.
- Quiring, S. M. and **T. W. Ford** (2013) “Investigating Land-Atmosphere Interactions using the North American Soil Moisture (NASM) Database”. American Geophysical Union 2013 Fall Meeting. December 9-13, 2013. San Francisco, California.
- \*Khong, A., \*Wang, J. K., Quiring, S. M. and **T. W. Ford** (2013) “Soil moisture variability in Iowa”. American Geophysical Union 2013 Fall Meeting. December 9-13, 2013. San Francisco, California.
- Quiring, S. M. and **T. W. Ford** (2013) “The North American Soil Moisture Database”. Developing a Coordinated National Soil Moisture Network Meeting, NOAA. November 12-14, 2013. Kansas City, Missouri.
- Quiring, S. M., and **T. W. Ford** (2013) “The North American Soil Moisture Database”. NASA Soil Moisture Active-Passive (SMAP) Workshop. November 4-6, 2013. Pasadena, California.
- Ford, T. W.**, Quiring, S. M., and \*C. Wulff (2013) “Assessment of Observed and Model-Derived Soil Moisture-Evaporative Fraction Interactions over the United States Southern Great Plains”. Association of American Geographers 2013 Annual Meeting. April 9-13, 2013. Los Angeles, California.
- Quiring, S. M., **Ford, T. W.**, and A. Rapp (2013) “Is precipitation more likely over dry soils”. Association of American Geographers 2013 Annual Meeting. April 9-13, 2013. Los Angeles, California.
- Quiring, S. M., and **T. W. Ford**. (2013) “Investigating Land-Atmosphere Interactions using the North American Soil Moisture (NASM) Database”. 93rd American Meteorological Society Annual Meeting. January 9, 2013. Austin, Texas.
- \*Wang, \*J. K., Khong, A., Quiring, S. M., and **T. W. Ford**. (2013) “Spatial Variability of *In Situ* Soil Moisture in Iowa”. 93rd American Meteorological Society Annual Meeting. January 10, 2013. Austin, Texas.
- \*Khong. A., \*Wang, J. K., Quiring, S. M., and **T. W. Ford**. (2013) “Temporal Analysis of Interannual Soil Moisture Variability in Iowa”. 93rd American Meteorological Society Annual Meeting. January 10, 2013. Austin, Texas.
- \*Harris, L. S, and **T. W. Ford**. (2013) “Comparison of *In-Situ* and Satellite Derived Soil Moisture Observations under Different Types of Land Use and Land Cover in

Oklahoma”. 93rd American Meteorological Society Annual Meeting. January 9, 2013. Austin, Texas.

**Ford, T. W.,** and S. Quiring. (2013) “Influence of remotely-sensed vegetation conditions as an input parameter on the VIC hydrologic model”. 93rd American Meteorological Society Annual Meeting. January 8, 2013. Austin, Texas.

Labosier, C. F., and **T. W. Ford.** (2013) “Spatial and Temporal Patterns of Drought Persistence in the Southeastern United States”. 93rd American Meteorological Society Annual Meeting. January 8, 2013. Austin, Texas.

**Ford, T. W.,** and S. Quiring. (2012) “The North American Soil Moisture Database”. American Geophysical Union 2012 Fall Meeting. December 6, 2012. San Francisco, California.

**Ford, T. W.,** Gay, D. and Lehmann, C. M. B. (2012) “Modeling the Movement of Asian Soybean Rust Spores into and amid the Contiguous United States.” Association of American Geographers 2012 Annual Meeting. February 26, 2012. New York City, New York.

**Ford, T. W.,** Gay, D. and Lehmann, C. M. B. (2011) “Modeling the Atmospheric Movement of Asian Soybean Rust Spores in the Central United States”. Association of American Geographers 2011 Southwest Division Annual Meeting. November 11, 2011. University of Texas, Austin, Texas.

\***Ford, T. W.,** and J. Thayn (2011) “Locating Pre-Columbian Settlement Sites and Ring Ditches in Beni, Bolivia”. Association of American Geographers 2011 Annual Meeting. April 12-15, 2011. Seattle Washington.

\***Ford, T. W.,** and J. Thayn (2010) “ASTER Atmospheric Correction”. Association of American Geographers 2010 West Lakes Division Annual Meeting. October 21-23, 2010. Western Illinois University Macomb, Illinois.

\***Ford, T. W.,** and D. Budikova (2009) “Glacier Retreat in Glacier National Park, Montana: a climate based review”. Association of American Geographers 2009 West Lakes Division Annual Meeting. October 29-31, 2009. Macalester College Saint Paul, Minnesota.

#### **Graduate Students (Primary Advisor)**

\_Stephania Zneimer, MS, Spring 2019 (Geography and Environmental Resources)

Anna Frailey, MS, Spring 2019 (Geography and Environmental Resources)

Chi Fai Wong, MS, Spring 2019 (Geography and Environmental Resources)

#### **Graduate Students (Committee Member)**

Brooke Haldeman, MS, Fall 2015 (Geography and Environmental Resources)  
Khara Lukancic, MS, Spring 2016 (Geography and Environmental Resources)  
Mercedes Gomez-Jacobo, MS, Spring 2017 (Geography and Environmental Resources)  
Aleesandria Gonzalez, MS, Spring 2017 (Geography and Environmental Resources)  
Kelsey Lyons, MS, Spring 2017 (Geography and Environmental Resources)  
Julia Ryherd, MS, Spring 2018 (Geography and Environmental Resources)  
Joseph Leonard, MS, Spring 2018 (Geography and Environmental Resources)  
Yao Xue, PhD, Spring 2019 (Environmental Resources and Policy)

**Undergraduate Researchers Mentored at Southern Illinois University (position upon graduation):**

Makenzee Loft, Fall 2016 – Present  
Stephania Zneimer, Spring 2016 – Spring 2017 (*Graduate Research Assistant at Southern Illinois University*)  
Katelyn Richie, Fall 2015 – Spring 2016

**Undergraduate Researchers Mentored at Texas A&M University (position upon graduation):**

Jennifer Blake, Fall 2014 – Fall 2015  
Brittany Toy, Fall 2014 – Spring 2015  
Ryann Hall, Fall 2014 – Fall 2015  
Nohemi Chavez, Spring 2014 – Fall 2015  
Jose Galvan, Spring 2014 – Fall 2015  
Jessica Wang, Spring 2012 – Spring 2014 (*Graduate Research Assistant at University of California, Irvine*)  
Angela Khong, Spring 2012 – Fall 2014 (*Peace Corps Water Quality Volunteer, Senegal, Africa*)  
Elizabeth Harris, Spring 2012 – Spring 2013 (*Graduate Research Assistant at Montana State University*)  
Christoph Wulff, Fall 2012 (*Undergraduate Student, University of Kiel, Germany*)  
Destiny Winning, Fall 2012 – Spring 2013 (*Environmental Scientist, Houston, TX*)

Jeanne Eckhart, Spring 2012 – Fall 2012 (*Graduate Research Assistant at University of Texas, Austin*)

**Courses Taught (\* denotes new courses that I developed):**

***Courses Taught at Southern Illinois University:***

GEOG 104 Weather, Climate, and Society: Fall 2015, Spring 2016, Summer 2016, Fall 2016, Spring 2017, Summer 2017, Fall 2017

\*GEOG 330 Severe & Hazardous Weather: Fall 2016, Fall 2017

***Courses Taught at Texas A&M University:***

\*GEOG 101 Sports and Climate: Fall 2013, Fall 2014

\*Summer Seminar Introduction to Matlab: Summer 2012, Summer 2013

***Courses Taught at Illinois State University:***

GEO 305 Remote Sensing I Lab: Fall 2010

**Honors and Awards:**

2016	Distinguished Graduate Student in Research, Texas A&M University
2014	Top Offer Scholar Fellowship, College of Geosciences, Texas A&M University
2014	Unocal Graduate Fellowship, College of Geosciences, Texas A&M University
2014	Association of American Geographers, 3 <sup>rd</sup> place Climate Specialty Group Student Paper Competition
2012	Association of American Geographers, 3 <sup>rd</sup> place Climate Specialty Group Student Paper Competition
2011	Illinois Geographical Society, Outstanding Senior
2007-2011	Illinois State University Presidential Scholar
2010	Illinois State University Honors Scholar

**Professional Society Memberships:**

American Association of Geographers (Climate Specialty Group)

American Geophysical Union

American Meteorological Society

European Geophysical Union

Illinois Geographical Society

Gamma Theta Upsilon

## **Professional Service:**

### ***External Service:***

Manuscript Reviewer: *International Journal of Climatology* (5), *Climate Research* (4), *Journal of Hydrometeorology* (4), *Journal of Hydrology* (4), *Journal of Geophysical Research* (4), *Earth Interactions* (3), *Hydrology and Earth System Sciences* (3), *Water Resources Research* (2), *Journal of Applied Meteorology and Climatology* (2), *Geophysical Research Letters* (2), *Remote Sensing of Environment* (2), *Agricultural and Forest Meteorology* (1), *Geoderma* (1), *International Journal of Applied Earth Observation and Geoinformation* (1), *Soil Science Society of America Journal* (1), *Advances in Water Resources* (1), *International Journal of Biometeorology* (1)

Associate Editor, *Earth Interactions*, August 2016 – present.

Committee Member, American Meteorological Society Committee on Applied Climatology, August 2015 – present

Honors Director and Committee Member, Association of American Geographers Climate Specialty Group, August 2015 – May 2017

Organizer and Chair, Climate Specialty Group Student Paper Competition Sessions I, II, and III, Annual Meeting of the Association of American Geographers, 2017, Boston, Massachusetts.

Co-Organizer and Chair, Hydroclimatology Sessions I, II, and III, Annual Meeting of the Association of American Geographers, 2017, Boston, Massachusetts.

Co-Organizer and Chair, Subseasonal to Seasonal Forecasting of High-Impact Weather and Climate Events, Atmospheric Sciences Session A33J, Fall Meeting of the American Geophysical Union, 2016, San Francisco, California.

Co-Organizer and Chair, Advances in Understanding Land-Atmosphere Interactions, Hydrology Session H31, Fall Meeting of the American Geophysical Union, 2015, San Francisco, California.

Co-Organizer and Chair, Hydroclimatology Sessions I, II, and III, Annual Meeting of the Association of American Geographers, 2015, Chicago, Illinois.

Co-Organizer, Advances in Understanding Land-Atmosphere Interactions, Hydrology Session H005, Fall Meeting of the American Geophysical Union, 2014, San Francisco, California.

Co-Organizer and Chair, Hydroclimatology Sessions I, II, and III, Annual Meeting of the Association of American Geographers, 2014. Tampa, Florida.

Graduate Student Committee Representative, American Meteorological Society Committee on Applied Climatology, January 2014 – August 2015.

Co-Organizer, Advances in Understanding Land-Atmosphere Interactions, Hydrology Session H005, Fall Meeting of the American Geophysical Union, 2013, San Francisco, California.

Graduate Student Judge, Texas A&M University 2013 Student Research Week, 2013, College Station, Texas.

Co-Organizer and Chair, Hydroclimatology Session II, Annual Meeting of the Association of American Geographers, 2013. Los Angeles, California.

Co-Organizer and Chair, Hydroclimatology Session III, Annual Meeting of the Association of American Geographers, 2012. New York City, New York.

***Departmental Service***

Faculty Committee Member, Department of Geography and Environmental Resources Undergraduate Committee, January 2016 – present

Faculty Representative and Sponsor, Geography Club, January 2016 – present