TODD W. MOORE

CURRICULUM VITAE

A. Personal Information

Associate Professor and Chair
Department of Geosciences
Fort Hays State University
600 Park Street
Tomanek Hall 233
Hays, KS 67601
Email: twmoore@fhsu.edu
Phone: 785-628-4587

B. Education

Doctor of Philosophy, May 2013, Texas State University–San Marcos, Department of Geography
Master of Science, May 2009, Texas State University–San Marcos, Department of Geography
Bachelor of Science, May 2005, Texas State University–San Marcos, Department of Geography

C. Areas of Expertise

Physical Geography
Climatology
Severe weather climatology and hazard
Climate change and variability

D. Courses Taught

Fort Hays State University (Fall 2020–present)

1. Elements of Physical Geography
2. Climatology
3. Climate Change: Science and Impacts
4. Severe and Hazardous Weather
5. Scientific Research Design
6. World Geography
7. Seminar in Geosciences

Towson University (Fall 2013–Spring 2020) and Texas State University (Fall 2011–Spring 2013)

1. Physical Geography
2. Meteorology
3. Severe and Hazardous Weather
4. Climatology
5. Applied Climatology
6. Climate Change: Science to Policy
7. Quantitative Methods in geography
8. Research Design

E. Date of Appointment to the Faculty at Fort Hays State University

Associate Professor and Chair, Department of Geoscience, Fort Hays State University, June 2020–present

F. Prior Service at Other Institutions

Associate Professor, Department of Geography and Environmental Planning, Towson University, 2018–2020

Graduate Director, Department of Geography and Environmental Planning, Towson University, 2018–2020

Assistant Professor, Department of Geography and Environmental Planning, Towson University, 2013–2018

Graduate Teaching Assistant, Department of Geography, Texas State University–San Marcos, 2009–2013

Graduate Research Assistant, Department of Geography, Texas State University–San Marcos, 2008–2009, summer 2010

G. Departmental and Institutional Service

Departmental

Advisor, Sternberg Geosciences Club, Fort Hays State University, 2022–present

Committee Member, Geosciences Diversity, Equity, and Inclusion Committee, Fort Hays State University, 2020–present

Committee Member, Geoscience Recruitment and Retention, Fort Hays State University, 2020–present

Committee Member, Geosciences Program Assessment, Fort Hays State University, 2020–present

Committee Member, Geosciences Scholarship Committee, Fort Hays State University, 2020–present

Chair, Assistant Professor of Geospatial Technologies Search Committee, Towson University, 2019

Committee Member, Assistant Professor of Human Geography Search Committee, Towson University, 2016

Coordinator, Department of Geography and Environmental Planning Seven Year Review, Towson University, 2015

Faculty Advisor, Geography Society, Towson University, 2014–2018

Committee Member, Instructor of Geography Search Committee, Towson University, 2014

Committee Member, Physical Geography Assessment Instrument Team, Towson University, 2013

Graduate Co-Chair, Texas State Geography Student Research Symposium, Texas State University–San Marcos, 2013

Committee Member, Texas State Geography Student Research Symposium, Texas State University–San Marcos, 2011, 2012

University

Committee Member, General Education Committee, Fort Hays State University, 2022–present

Chair, Sustainability Task Force, Fort Hays State University, 2022–present

Chair, Agriculture Faculty Search Committee, Fort Hays State University, 2021

JEDI (Justice, Equity, Diversity, and Inclusion) Faculty Search Committee Advisor, Fort Hays State University, 2021–present

Task Force Member, Provosts Tenure and Promotion Portfolio Task Force, Fort Hays State University, 2021

Chair and committee member, Graduate Council Awards Committee, Fort Hays State University, 2021–present

Committee Member, President's Climate Change Commitment Committee, Towson University, 2016–2017.

Committee Member, Curriculum Subcommittee of the President's Climate Change Commitment Committee, Towson University, 2016–2017

Discipline

Editorial Board Member, *Annals of the American Association of Geographers*, 2017–present

Manuscript Reviewer: *Annals of the American Association of Geographers; International Journal of Climatology; Journal of Climate; Journal of Applied Meteorology and Climatology; Meteorological Applications; Atmosphere; Weather, Climate, and Society; Physical Geography; Progress in Physical Geography; Professional Geographer; Paper in Applied Geography; Environmental Modeling and Assessment; International Journal of Applied Geospatial Research; Southeastern Geographer; Geosystem Core (Chapter 4, Atmospheric Water and Weather)*

Honors Director, Climate Change Specialty Group of the American Association of Geographers, 2017–2019

Session Chair, Paper Session C, Locating Climate Change, Middle Atlantic Division of the American Association of Geographers Conference, Towson, MD, 2015

Session Chair, Paper Session G, Cyclonic Storms, Applied Geography Conference, Atlanta, GA, 2014

H. Scholarly Submissions, Publications, and Presentations

*In preparation and submitted (*current or former student)*

1. Moore TW. Global Wind Oscillation. In preparation. Will submit to *Atmospheric Oscillations* (book)

2. Moore TW, Gensini VA, McGuire MP, Bernhardt J. Soil moisture and tornadoes in the United States. In preparation. Will submit to *Physical Geography*

*Publications (*current or former student)*

30. McGuire MP, **Moore TW**. 2021. Prediction of tornado days in the United States with deep convolutional neural networks. *Computers & Geosciences* 159:104990

29. **Moore TW**. 2021. Decreasing trends in consecutive-day tornado events in the United States. *International Journal of Climatology.* doi: 10.1002/JOC.7210

28. **Moore TW**, *St Clair JM, McGuire MP. 2021. Climatology and trends of tornado-favorable environmental ingredients in the United States. *Annals of the American Association of Geographers.* doi: 10.1080/24694452.2021.1910479

27. **Moore TW**, Fricker T. 2020. Tornadoes in the United States are concentrating on fewer days, but their power dissipation is not. *Theoretical and Applied Climatology* 142:1569–1579. doi: 10.1007/s00704-020-03402-1

26. **Moore TW**, McGuire MP. 2020. Tornado-days in the United States by phase of the Madden-Julian and global wind oscillation. *Climate Dynamics* 54:17–36

25. Brace AM, **Moore TW**, Matthews TL. 2020. The relationship between food deserts, farmers' markets, and food assistance programs in Hawai'i census tracts. *Hawai'i Journal of Health and Social Welfare* 79:36–41

24. **Moore TW**, McGuire MP. 2019. Using the standard deviational ellipse to document changes to the spatial dispersion of tornado activity in the United States. *npj Climate and Atmospheric Science* 2:1–8
23. **Moore TW**. 2019. Seasonal frequency and spatial distribution of tornadoes in the United States and their relationship to the El Niño/Southern Oscillation. *Annals of the American Association of Geographers* 109:1033–1051
22. **Moore TW**, *DeBoer TA. 2019. A review and analysis of possible changes to the climatology of tornadoes in the United States. *Progress in Physical Geography* 43:365–390
21. **Moore TW**, *St Clair JM, *DeBoer TA. 2018. An analysis of anomalous winter and spring tornado frequency by phase of the El Niño/Southern Oscillation, the Global Wind Oscillation, and the Madden-Julian Oscillation. *Advances in Meteorology. d*oi: 10.1155/2018/3612567
20. McGuire MP, **Moore TW**. 2018. Analysis of tornado environments using convolutional neural networks. *Proceedings of the 14th International Conference on Data Science*. Las Vegas, NV.
19. Dixon RW, Hervey JN, **Moore TW**, Townsend CG. 2018. Baseline climatology of sounding-measured variates associated with Atlantic and Gulf Coast tropical cyclone tornado clusters. *Papers in Applied Geography* 4:113–121
18. **Moore TW**. 2018. Annual and seasonal tornado activity in the United States and the Global Wind Oscillation. *Climate Dynamics* 50:4323–4334
17. **Moore TW**. 2018. Annual and seasonal tornado trends in the contiguous United States and its regions. *International Journal of Climatology* 38:1582–1594
16. **Moore TW**, *Sokol NJ, *Blume RA. 2017. Spatial distributions of tropical cyclone tornadoes by intensity and size characteristics. *Atmosphere*. doi: 10.3390/atmos8090160
15. Lian J, McGuire MP, **Moore TW**. 2017. A cloud-based system for exploring tornado events. *International Journal of Digital Earth* 10:1030–1054
14. **Moore TW**. 2017. On the temporal and spatial characteristics of tornado days in the United States. *Atmospheric Research* 184:56–65
13. **Moore TW**, Dixon RW, *Sokol NJ. 2016. Tropical cyclone Ivan's tornado cluster in the Mid-Atlantic Region of the United States on 17–18 September 2004. *Physical Geography* 37:210–227
12. Dixon RW, **Moore TW**, Townsend CG. 2016. Baseline climatology of sounding-derived parameters associated with Atlantic and Gulf Coast tropical cyclone tornado clusters. *Papers in Applied Geography* 2:129–136
11. *Alghamdi AS, **Moore TW**. 2015. Detecting temporal changes in Riyadh City's urban heat island. *Papers in Applied Geography* 1:312–325
10. **Moore TW**, Dixon RW. 2015. A spatiotemporal analysis and description of Hurricane Ivan's (2004) tornado clusters. *Papers in Applied Geography* 1:192–196
9. **Moore TW**. 2015. A statistical analysis of the association between tropical cyclone intensity change and tornado frequency. *Theoretical and Applied Climatology* 125:149–159
8. Dixon RW, **Moore TW**. 2015. The relationship between the Madden-Julian Oscillation and tropical cyclone tornado clusters. *Papers in Applied Geography* 1:86–89
7. **Moore TW**, Dixon RW. 2015. Pattern in 500 hPa geopotential height associated with temporal clusters of tropical cyclone tornadoes. *Meteorological Applications* 22:314–322
6. *Alghamdi AS, **Moore TW**. 2014. Analysis and comparison of trends in extreme temperature indices in Riyadh City, Kingdom of Saudi Arabia, 1985–2010. *Journal of Climatology* doi: 10.1155/2014/560985
5. **Moore TW**, Dixon RW. 2013. Preliminary analysis of the synoptic0scale environment associated with tropical cyclone tornado clusters, 1995–2010. *Papers in Applied Geography* 36:1–10

4. Dixon RW, **Moore TW**. 2012. Tornado vulnerability in Texas. *Weather, Climate, and Society* 4:59–68
3. **Moore TW**, Dixon RW. 2012. Tropical cyclone tornado casualties. *Natural Hazards* 61:621–634
2. Dixon RW, **Moore TW**. 2011. Trend detection in Texas temperature and precipitation. *Southeastern Geographer* 15:80–103
1. **Moore TW**. Dixon RW. 2011. Climatology of tornadoes associated with Gul Coast-landfalling hurricanes. *The Geographical Review* 101:371–395

*Conference presentations (*current or former student)*
29. Moore TW, Lisichenko R, Schafer T, Howard J*. NW Kansas Mineralization Study Update. Kansas Department of Health and Environment 2022 Environmental Conference. Paper presentation. Manhattan, KS, August 2022.
28. Howard J*, Knolla J*, Moore TW, Lisichenko R, Schafer T. Contaminant Analysis of Domestic Well Water in Norton and Phillips Counties, Kansas. Poster presentation. Geography and Environmental Studies Student Research Symposium. San Marcos, TX, February 2022.
27. Moore TW. Tornado ingredients in the United States: Climatology and Trends. Poster presentation. The American Association of Geographers Annual Meeting. Virtual, April 2022.
26. Moore TW. A review and analysis of possible changes to the climatology of tornadoes in the United States. Paper presentation. The American Association of Geographers Annual Meeting. Washington, DC, April 2019
25. Moore TW. Spatial distributions of tropical cyclone tornadoes by intensity. Paper presentation. The American Association of Geographers Annual Meeting. New Orleans, LA, April 2018
24. *St Clair JM, *DeBoer TA, Moore TW. Analysis of anomalous tornado activity during El Niño/Southern Oscillation phases. Poster presentation. The American Association of Geographers Annual Meeting. New Orleans, LA, April 2018
23. *DeBoer TA, Moore TW. Seasonal tornado trends in the southeast United States and the El Niño/Southern Oscillation. Poster presentation. The American Association of Geographers Annual Meeting. New Orleans, LA, April 2018
22. Day A, Moore TW. Hydrometeorology of recent flooding events along Flash Flood Alley, Texas. Poster presentation. The American Association of Geographers Annual Meeting. New Orleans, LA, April 2018
21. *Lingo RC, Moore TW. Baltimore's urban heat island and preceding precipitation. Poster presentation. The American Association of Geographers Annual Meeting. New Orleans, LA, April 2018
20. Moore TW, *Sokol NJ. Statistical characteristics of high-frequency tornado days and preliminary observations of their associated synoptic patterns. Paper presentation. The American Association of Geographers Annual Meeting. Boston, MA, April 2017
19. *Sokol NJ, Moore TW. The influence of ENSO on nocturnal and diurnal tornado activity in the United States. Poster presentation. The American Association of Geographers Annual Meeting. Boston, MA, April 2017
18. *Lingo RC, Moore TW. Long-term trend analysis and changes to the mean and variability of temperature in Pennsylvania from 1983 to 2014. Poster presentation. The American Association of Geographers Annual Meeting. Boston, MA, April 2017
17. Moore TW, *Brand TJ, *Heslin JL, *Klara RC, *Lingo RC, *Mastroianni AJ, *Mikulski AM, *Rickman ZP, *Shiplet JL, *Stepleton D, *Tagliaferro AE. Applications of remote sensing in Applied Climatology: An

example of a project on Baltimore, Maryland's urban heat island. Poster presentation. AmericaView Fall Technical Meeting, Lafayette, LA, October 2016

16. Hervey JN, Dixon RW, Moore TW, Townsend CG. Baseline climatology of sounding-measured variates associated with Atlantic and Gulf Coast tropical cyclone tornado clusters. Poster presentation. The 39th Applied Geography Conference, Louisville, KY, October 2016

15. Moore TW, Morgan JW, *Levy SH, *Simon BD. Detecting changes in Baltimore's heat island. Paper presentation. The 7th Annual Environmental Conference, Towson University, Towson, MD, April 2016

14. Moore TW, Morgan JW, *Levy SH, *Simon BD. Detecting changes in Baltimore's heat island. Poster presentation. The American Association of Geographers Annual Meeting, San Francisco, CA, March/April 2016

13. *Shiplet JL, Moore TW. ENSO and tornadoes in the United States. Poster presentation. The American Association of Geographers Annual Meeting, San Francisco, CA, March/April 2016

12. Dixon RW, Moore TW, Townsend CG. Baseline climatology of sounding-derived parameters associated with Atlantic and Gulf Coast tropical cyclone tornado clusters. Paper presentation. The 38th Applied Geography Conference, San Antonio, TX, November 2015

11. *Alghamdi AS, Moore TW. Detecting temporal changes in Riyadh City's urban heat island. Paper presentation. The 38th Applied Geography Conference, San Antonio, TX, November 2015

10. Barnes KB, Moore TW. Local differences in high temperature days and duration periods: A comparison of two Baltimore weather stations from 1939 to 2012. Paper presentation. Middle Atlantic Division of the American Association of Geographers Conference, Towson, MD, October 2015

9. Dixon RW, Moore TW. The relationship between the Madden-Julian Oscillation and Gulf Coast tropical cyclone tornado clusters. Poster presentation. The 95th American Meteorological Society Annual Meeting, Phoenix, AZ, January 2015

8. Moore TW, Dixon RW. A spatio-temporal analysis and description of Hurricane Ivan's (2004) tornado clusters. Paper presentation. The 37th Applied Geography Conference, Atlanta, GA, October 2014

7. Dixon RW, Moore TW. The relationship between the Madden-Julian Oscillation and Gulf Coast tropical cyclone tornado clusters. Paper presentation. The 37th Applied Geography Conference, Atlanta, GA, October 2014

6. Moore TW, Dixon RW. Preliminary analysis of the synoptic-scale environment associated with tropical cyclone tornado clusters, 1995–2010. Paper presentation. The 36th Applied Geography Conference, Annapolis, MD, October/November 2013

5. Dixon RW, Barrett K, Moore TW. Monthly temperature and precipitation persistence in the mid-south region. Poster presentation. The 93rd American Meteorological Society Annual Meeting, Austin, TX, January 2013

4. Moore TW, Dixon RW. Tropical cyclone tornadoes as hazards. Paper presentation. The American Association of Geographers Annual Meeting, New York, NY, February 2012

3. Moore TW, Dixon RW. Temperature trends in Texas. Paper presentation. The American Association of Geographers Annual Meeting, Seattle, WA, April 2011

2. Moore TW, Dixon RW. Climatological description of tornadoes associated with Gulf Coast-landfalling hurricanes. Paper presentation. The 33rd Applied Geography Conference, Fort Worth, TX, October 2010

1. Moore TW, Dixon RW. A climatology of tornadoes associated with Gulf Coast-landfalling hurricanes (1950–2005). Poster presentation. The American Association of Geographers Annual Meeting, Washington, DC, April 2010

Invited research presentations and guest lectures

Moore TW. Climate Change: Vulnerability and Inequity. Guest lecture given to Global Challenges course at Fort Hays State University, Spring 2021, Spring 2022

Moore TW. Polar vortex – Utility reliability and economic implications. Presentation and panel given for the Science Café series at Fort Hays State University, Fall 2021

Moore TW. Leveraging GIS for climate and weather research. A presentation for GIS Day, Fort Hays State University. Fall 2020

Moore TW. Oh the places I've lived. A presentation in the Travelogue Series for the Department of Geosciences, Fort Hays State University. Fall 2020

Moore TW. Possible changes to the climatology of tornadoes in the United States. Department of Geoscience Colloquium Series, Fort Hays State University, Spring 2017

Moore TW. Tornadoes produced by tropical cyclones and the role of the midlatitude westerlies in their production. Department of Physics, Astronomy, and Geosciences Seminar Series, Towson University, Spring 2015

Moore TW. Tornado clusters produced by tropical cyclones---synoptic patterns. Department of Geography and Environmental Planning What Matters Speaker Series, Towson University, Fall 2013

Dixon RW, Moore TW. Tropical cyclone induced tornadoes associated with Gulf Coast landfall. Austin-San Antonio American Meteorological Society/National Weather Association, Fall 2011

I. Research Grants Received

Moore TW (PI), Lisichenko R (Co-PI), Schafer T (Co-PI). 2021–2023. Kansas Department of Health and Environment. Northwest Kansas Private Water Well Mineralization Study. Awarded $116,925

Moore TW (PI), Morgan JW. 2015–2016. AmericaView. StateView Program Development and Operations for the State of Maryland. Awarded $23,500 per GY, $47,000 total

J. Honors and Distinctions

Wiley Outstanding Graduate Student in Geography Award, 2012, 2013

K. Community Service

Communications

Moore TW. New Orleans-area tornadoes are not unusual, but warning are improving, experts say. Commentary given for an article in *NOLA.com*. Spring 2022. https://www.nola.com/news/weather/article_b09c9652-aad1-11ec-95d8-77aeca1b4d0d.html

Moore TW. Is climate change pushing severe springtime storms, tornadoes toward the Tri-State Area? Commentary given for an article in the *Gothamist*. Spring 2021. https://gothamist.com/news/climate-change-pushing-severe-springtime-storms-tornadoes-toward-tri-state-area

Moore TW. The science of snow and when we'll finally see some: TU climatology expert Todd Moore shares his winter weather predictions and busts common cold weather myths. Interview with Towson University News and Media. Spring 2019

Moore TW. TU professor talks hurricanes: A Q&A with CLA professor Todd Moore ahead of the 2018 hurricane season. Interview with Towson University News and Media. Spring 2018

Moore TW. Baltimore's urban heat island: An example of undergraduate applied research. Talk given to potential incoming freshman. Towson University. Fall 2014

Moore TW. Climate change. Commentary given to the Around the world in five columns section of the *Towerlight*. Fall 2014

Moore TW. Causes and consequences of climate change. Lecture given to pre-service science teachers. Maryland and Delaware Climate Change Education Assessment and Research Program. Towson University. Fall 2014

Events

Moore TW, McGuire MP, Thebpanya P. Visualizing Baltimore. Geospatial technology training event. Spring 2017

Moore TW and The Sternberg Geosciences Club. Stormwater Cleanup with the city of Hays, KS. Fall 2021, Fall 2022

Professional organizations

American Association of Geographers, 2009–present

- Climate Specialty Group
- Hazards, Risks, and Disasters Specialty Group

American Meteorological Society, 2010–2018

AmericaView Consortium Member (MarylandView), 2014–2018