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**NOAA High Plains Regional Climate Center**  
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## **EDUCATION**

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- Ph.D. *Natural Resource Sciences with specialization in Climate Assessment and Impacts*, School of Natural Resources, University of Nebraska-Lincoln (expected 2018)
- M.S. *Geosciences with emphasis in Meteorology-Climatology*, Department of Geosciences, University of Nebraska-Lincoln (2008)
- B.S. *Meteorology-Climatology*, Department of Geosciences, University of Nebraska-Lincoln (2005)

## **PROFESSIONAL EXPERIENCE**

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- 2008-present Regional Climatologist, NOAA High Plains Regional Climate Center, University of Nebraska-Lincoln
- 2016-2018 Interim Director, NOAA High Plains Regional Climate Center, University of Nebraska-Lincoln
- 2006-2008 Resident Scientist, Project Fulcrum, NSF Graduate STEM Fellows in K-12 Education (GK-12) Program, University of Nebraska-Lincoln
- 2005-2006 Graduate Teaching Assistant, Department of Geosciences, University of Nebraska-Lincoln
- 2005 Intern, Meteorological Education and Secondary-School Outreach, Department of Geosciences, University of Nebraska-Lincoln
- 2004-2005 Researcher, Undergraduate Creative Activities and Research Experiences, Department of Geosciences, University of Nebraska-Lincoln
- 2004 Intern, Sand Hills Biocomplexity Project, Department of Geosciences, University of Nebraska-Lincoln

## **PUBLICATIONS**

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### **Peer-Reviewed Articles**

1. Hu, Q., M. Shulski, **N. Umphlett**, T. Abdel-Monem, F.E. Uhlarik, and Z. Tang, 2018: An Examination of Midwestern U.S. Cities' Preparedness for Climate Change and Extreme Hazards. (Submitted)
2. Stiles, C.J., and **N. Umphlett**, 2018: Building Adaptive Capacity in Tribal Communities: A Case Study from the Northern Plains. (Submitted)
3. Stiles, C.J., **N. Umphlett**, J. Rattling Leaf, M.D. Shulski, D. Kluck, M. Hayes, and C. McNutt, 2015: Improving Climate Resiliency in Tribal Communities: Partnering for Change in the Missouri River Basin. *Water Resources IMPACT*, **17(4)**, 15-17.
4. Shulski, M.D., W. Baule, C. Stiles, and **N. Umphlett**, 2015: A Historical Perspective on Nebraska's Variable and Changing Climate. *Great Plains Research*, **25(2)**, 109-120.
5. Pathak, T., T. Bernadt, and **N. Umphlett**, 2014: Climate Masters of Nebraska: An Innovative Action-Based Approach for Climate Change Education. *Journal of Extension*, 52(1), Article# 1IAW1.

6. Lussenden, H., **N.A. Umphlett**, M.D. Shulski, and D. Ebert, 2014: Wind Chill Climatology for the High Plains Region. *Journal of Service Climatology*, **7(1)**, 1-21.
7. Shulski, M., **N. Umphlett**, T. Pathak, and K. Hubbard, 2013: Climate Change – What does it mean for Nebraska? *NebGuide*: G2208.
8. Pytlik Zillig, L.M., T. Steffensmeier, A. Campbell Hibbs, B. Champion, E.D. Hunt, J. Harrington, J. Spears, **N. Umphlett**, T. Abdel-Monem, R. Bruning, and D. Kahl, 2013: Fostering Climate Change Education in the Central Great Plains: A Public Engagement Approach. *International Journal of Sustainability*, **8(1)**, 161-177.
9. Kunkel, K.E., L.E. Stevens, S.E. Stevens, L. Sun, E. Janssen, D. Wuebbles, M.C. Kruk, D.P. Thomas, M.D. Shulski, **N.A. Umphlett**, K.G. Hubbard, K. Robbins, L. Romolo, A. Akyuz, T. Pathak, T.R. Bergantino, and J.G. Dobson, 2013: Regional Climate Trends and Scenarios for the U.S. National Climate Assessment, Part 4: Climate of the U.S. Great Plains. NOAA Technical Report NESDIS 142-4. [Available online at: [http://www.nesdis.noaa.gov/technical\\_reports/NOAA\\_NESDIS\\_Tech\\_Report\\_142-4-Climature\\_of\\_the\\_U.S.%20Great\\_Plains.pdf](http://www.nesdis.noaa.gov/technical_reports/NOAA_NESDIS_Tech_Report_142-4-Climature_of_the_U.S.%20Great_Plains.pdf)]
10. **Umphlett, N.**, T. Brosius, R. Laungani, J. Rousseau, and D.L. Leslie-Pelecky, 2009: Ecosystem Jenga®! *Science Scope*, **33**, 57-60.

### **Book Chapters and Other Publications**

1. **Umphlett, N.**, 2013-present. Quarterly Climate Impacts and Outlook for the Missouri Basin. [Available online at <http://www.hprcc.unl.edu/climatesummaries.php>].
2. **Umphlett, N.**, 2008-2015. Monthly climate summary for the High Plains Region. [Available online at <http://www.hprcc.unl.edu/climatesummaries.php>].
3. **Umphlett, N.A.**, M.S. Timlin, and B. Fuchs, 2014: Regional Drought Perspective. *From Too Much to Too Little: How the Midwest Drought of 2012 Evolved Out of One of the Most Devastating Floods on Record in 2011*, B.A. Fuchs, D.A. Wood, and D. Ebbeka, Ed., 1-19.
4. **Umphlett, N.A.** and B. Fuchs, 2014: Nebraska. *From Too Much to Too Little: How the Midwest Drought of 2012 Evolved Out of One of the Most Devastating Floods on Record in 2011*, B.A. Fuchs, D.A. Wood, and D. Ebbeka, Ed., 67-72.
5. Shulski, M. and **N. Umphlett**, 2013. Climate Change on the Prairie: A Basic Guide to Climate Change in the High Plains Region. [Available online at: <http://www.hprcc.unl.edu/pdf/HighPlainsClimateChangeGuide-2013.pdf>].
6. **Umphlett, N.**, T. Brosius, R. Laungani, J. Rousseau, and D.L. Leslie-Pelecky, 2010: Ecosystem Jenga®! *The Frugal Science Teacher Pre-K-5: Strategies and Activities*, L. Froschauer, Ed., NSTA Press, 55-58.

## **PRESENTATIONS**

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### **Invited speaker**

- *U2U and NOAA Regional Collaboration: Examples of Integrated Team Models*, Montana Climate Mini-Summit, Missoula, MT, September 2017.
- *Experiences with Usability Testing for Improving Climate-based Decision Tools*, Weather and Climate Decision Tools for Farmers, Ranchers, and Land Managers, Gainesville, FL, December 2016.
- *High Plains Regional Climate Center Overview*, Food and Water Security-Feeding 2 Billion More by 2050, Lincoln, NE, October 2016.
- *Meet the Regional Climate Services Program: HPRCC*, NCEI Seminar Series, Asheville, NC, August 2016.

- *Increasing the Capacity for Municipal Climate Adaptation Planning in the Missouri River Basin*, USDN Heartland Region Annual Meeting, Lincoln, NE, June 2016.
- *High Plains Regional Climate Center*, Climate Change Seminar for Elected Officials, Lincoln, NE, June 2016.
- *Weather and Climate of the Plains: The Land of Extremes*, CoCoRaHS WxTalk Webinar, May 2016. [Recording available: <http://www.cocorahs.org/Content.aspx?page=wxtalk48>]
- *High Plains and Midwest Climate Change Trends and Impacts*, Emerging Trends Impacting Design Firms, Lamp Rynearson, Omaha, NE, January 2016.
- *Tackling Climate Change: Municipal Adaptation Planning*, Urban Thinkers Campus: The City We Need, The Role and Opportunities in Urban Sustainability for Small and Mid-Sized Cities, Omaha, NE, November 2015.
- *Climate change 101*, Climate Friendly Parks, National Park Service Workshop, Beatrice, NE, July 2014.
- *Drought resources at the High Plains Regional Climate Center*, Missouri River Basin Regional Drought Early Warning Kickoff Meeting, Nebraska City, NE, February 2014.
- *Climate change in the Great Plains*, Climate Change Adaptation Planning, Institute for Tribal Environmental Professionals, Missoula, MT, September 2012.
- *Climate data and services for the Great Plains*, Climate Change Adaptation Planning, Institute for Tribal Environmental Professionals, Missoula, MT, September 2012.
- *Weather and Crop Water Use in the Republican River Basin*, Republican River Task Force Meeting, McCook, NE, July 2011.
- *2008 Forum for School Science: Programs that Create a New Science Professional – The Ph.D. as Public Educator*, American Association for the Advancement of Science Annual Meeting, Boston, MA, February 2008.

### **Select Meeting/Conference Presentations**

- *ACIS-based GIS Data Retrieval Portal*, AASC Annual Meeting, Nebraska City, NE, June 2018.
- *Utilizing Climate Data to Inform Municipal Planning in the Lower Missouri River Basin*, Fargo, ND, May 2018.
- *Climate of the Plains and Nebraska*, Climate and Wildlife Workshop, Wood River, NE, May 2018.
- *Assessment and Adaptation to Extreme Events in the Great Plains*, Governor's Conference on the Future of Water in Kansas, Manhattan, KS, November 2017.
- *Climate of Northeastern Kansas and Tribal Lands*, Kansas Indian Nations Climate Summary Workshop, Lawrence, KS, October 2017.
- *Climate of the Dakotas and Tribal Lands*, Great Plains Tribal Water Alliance Climate Training Workshop, Lincoln, NE, May 2017.
- *Engaging Municipalities for Increased Resilience to Climate Extremes in the Missouri River Basin*, National Adaptation Forum, St. Paul, MN, May 2017.
- *Climate Trends and Projections for Cities*, Utilizing Climate Data to Inform Municipal Planning and Increase Resilience Workshop, Lincoln, NE, March 2017.
- *Advancing Climate Knowledge from Local to National Scales*, Crops and Climate Scenario Planning, Mead, NE, March 2017.
- *Applied Climate Information System-based Climate and Information Tools*, Nebraska Extension Climate Resources In-Service, Mead, NE, March 2017.

- *Increasing Climate Resiliency in the Lower Missouri River Basin*, Nebraska Annual Planning Conference, Kearney, NE, March 2017.
- *Climate Information Tools for Decision-making*, 77<sup>th</sup> Midwest Fish and Wildlife Conference, Lincoln, NE, February 2017.
- *Projects in the Missouri River Basin*, Regional Climate Services Workshop, Lincoln, NE, September 2016.
- *Mesonets in the Missouri River Basin*, Regional Climate Services Workshop, Lincoln, NE, September 2016.
- *Regional Climate Centers and the HPRCC*, Regional Climate Services Workshop, Lincoln, NE, September 2016.
- *Regional Climate Services Workshop for NWS Climate Focal Points*, AASC Annual Meeting, Santa Fe, NM, June 2016.
- *Recent Activities of the High Plains Regional Climate Center*, Climate and Agriculture Tools Workshop, Brookings, SD, March 2016.
- *Missouri River Basin Climate Update and Outlook*, Climate and Agriculture Tools Workshop, Brookings, SD, March 2016.
- *High Plains and Midwest Climate Change Trends and Impacts*, Emerging Trends Impacting Design Firms, Omaha, NE, January 2016.
- *From Too Much to Too Little: A State-by-state Assessment of the 2012 Central U.S. Drought*, American Meteorological Society, New Orleans, LA, January 2016.
- *Increasing the Capacity for Municipal Climate Adaptation Planning in the Missouri River Basin*, American Meteorological Society Annual Meeting, New Orleans, LA, January 2016.
- *Climate Masters of Nebraska: An action based approach to climate change education*. American Geophysical Union Fall Meeting, San Francisco, CA, December 2014.
- *Services at the High Plains Regional Climate Center*, Eureka! 2014 Conference, Lincoln, NE, February 2014.
- *The Climate Impact Reporter*, American Association of State Climatologists Annual Meeting, St. Louis, MO, July 2013.
- *Climate Impact Reporter: A new tool for archiving and displaying climate-related impacts to extreme events*. Climate Prediction Applications Science Workshop, Logan, UT, April 2013.
- *Climate Masters of Nebraska: Community Stewardship Toward Environmental Sustainability*. American Association of State Climatologists Annual Meeting, Destin, FL, July 2012.
- *Climate-related risk and a resilient rural future: An exploration of linkages and the role of the High Plains Regional Climate Center and the National Drought Mitigation Center*. Rural Futures Conference, Lincoln, NE, May 2012.
- *Stakeholder Engagement in the U.S. Central Region for Improving Regional Climate Services and Climate Change Education*. American Meteorological Society Annual Meeting, New Orleans, LA, January 2012.
- *High Plains Regional Climate Center: Increasing the awareness of climate issues through stakeholder engagement and public outreach events*. American Meteorological Society Annual Meeting, Seattle, WA, January 2011.
- *Project Fulcrum: Incorporating Graduate Fellow Research into K-12 Classrooms*. American Association for the Advancement of Science Annual Meeting, Boston, MA, February 2008.
- *Behavior of the WRF Model's Boundary Layer Schemes and Land Surface Models in Simulations of an Urban Heat Island*. Student Conference, American Meteorological Society Annual Meeting, New Orleans, LA, January 2008.
- *Project Fulcrum: Building Partnerships*. National Science Foundation GK-12 Annual Meeting, Washington, DC, March 2007.

- *Wind Flow over the Sand Hills*. Undergraduate Creative Activities and Research Experiences, Lincoln, NE, May 2005.

## GRANTS

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### Current:

- High Plains Regional Climate Center, \$1,460,937, NOAA, Aug 2016-Mar 2019. Natalie Umphlett, William Sorensen, and Crystal Stiles.
- High Plains Regional Climate Center: Additional Work Requirements, \$570,000, Sep 2016-Feb 2019. Natalie Umphlett, William Sorensen, Crystal Stiles, Mark Svoboda, Brian Fuchs, and Deb Bathke.
- Increasing the Capacity for Municipal Climate Adaptation Planning in the Lower Missouri River Basin States, NOAA SARP, \$207,842, Jul 2016-Jul 2019. Martha Shulski, Natalie Umphlett, Tarik Abdel-Monem, and Zhenghong Tang.
- Great Plains Tribal Water Alliance: Climate Adaptation Planning, \$30,902, BIA, Oct 2016-Sep 2018. Crystal Stiles and Natalie Umphlett.
- Scenario Planning for Resilient Cropping Systems, \$15,000, USDA, Jan 2017-Dec 2018. Tyler Williams, Al Dutcher, Justin McMechan, Ashley Mueller, Nathan Mueller, Crystal Powers, and Natalie Umphlett.
- Great Plains Tribal Water Alliance: Trainings and Workshops, \$11,694, BIA, Oct 2016-Sep 2018. Crystal Stiles and Natalie Umphlett.
- Enhanced Accessibility of Climate Data for Research and Teaching through a THREDDS Data Server, \$6,219, Unidata, Jul 2018-Mar 2019. Natalie Umphlett, Warren Pettee, and William Sorensen.

### Pending:

- Kansas, Nebraska, and Iowa Tribes Adaptation Planning, \$14,768, BIA, Oct 2018-Dec 2019. Crystal Stiles and Natalie Umphlett.

### Previous:

- Climate Focal Point Training – Year 2, NOAA Central Region Collaboration Team, \$8,500, Jan 2016-Dec 2016, Natalie Umphlett and Martha Shulski.
- Climate Focal Point Training – Year 1, NOAA Central Region Collaboration Team, \$8,500, Jan 2015-Dec 2015, Natalie Umphlett and Martha Shulski.
- Climate Masters of Nebraska: Putting Science into Action, NDEQ, \$31,847, Jan 2014-June 2015, Tapan Pathak, Natalie Umphlett, and Tonya Bernadt.
- Climate Masters of Nebraska, EPA Environmental Education Grant, \$41,752, Sep 2011-Aug 2013, Tapan Pathak, Natalie Umphlett, and Tonya Bernadt.
- Rural Futures Institute e-poster stipend, \$1,000, May 2012
- Weather Camp, NOAA Central Region Collaboration Team, \$4,300, June 2011, Natalie Umphlett and Martha Shulski.
- UNL Dept. of Geosciences Travel Grant. \$500 (2008 and 2006)

## HONORS AND AWARDS

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- *Fellow*, Center for Great Plains Studies (2016)
- *School of Natural Resources Staff Recognition Award* (2012)
- *Outstanding Women in the Sciences Award* (2004 and 2005)

## **OTHER PROFESSIONAL ACTIVITIES**

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- *Member*, American Meteorological Society (AMS), American Association of State Climatologists (AASC), American Geophysical Union (AGU)
- *Member*, NOAA Central Region Collaboration Team
- *Member*, AMS Committee on Applied Climatology (2016-2019)
- *Member*, UNL Earth and Atmospheric Sciences Alumni Advisory Board
- *Project Assistant*, Climate Masters of Nebraska, University of Nebraska-Lincoln (2011-2015)
- *Volunteer*, Central Plains Severe Weather Symposium, University of Nebraska-Lincoln (2009-2018)
- *Volunteer*, Dinosaurs and Disasters, University of Nebraska State Museum (2006-2012)
- *Planning Committee*, Weather Camp, University of Nebraska-Lincoln (2010-2011)
- *Search Committee Chair (2 searches)*, School of Natural Resources, University of Nebraska-Lincoln (2016-2017)
- *Search Committee Member (5 searches)*, School of Natural Resources, University of Nebraska-Lincoln (2008-present)
- *Search Committee Member*, Department of Geosciences, University of Nebraska-Lincoln (2006-2007)