

# TONI KLEMM, PH.D.

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U.S. residency status: permanent resident (Green Card holder)

## CURRENT POSITION

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**Postdoctoral Research Associate, Texas A&M University** Since 3/2018  
Project: "Vulnerability Assessment of U.S. Great Plains Cattle Production to Climate Variability and Change"  
Supervisor: David D. Briske, Ph.D.

## EDUCATION

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**Ph.D., Geography, The University of Oklahoma** 2012 - 2018  
Dissertation title: "Assessing User Needs and Model Accuracy of Seasonal Climate Forecasts for Winter Wheat Producers in the Southern Great Plains"  
Committee chair: Renee A. McPherson, Ph.D.

**Diplom-Geograf\*, Dresden University of Technology, Germany** 2004 - 2011  
Thesis title: "The effects of the North Atlantic Oscillation on precipitation in Morocco"  
Advisors: Christoph Zielhofer, Ph.D. (University of Leipzig), Arno Kleber, Ph.D. (Dresden University of Technology)  
\* equivalent to MSc Geography

## PUBLICATIONS

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Briske, David D., John P. Ritten, Amber R. Campbell, **Toni Klemm**, Audrey E. King: Future Climate Variability Will Challenge Rangeland Beef Cattle Production in the Great Plains. *Rangelands*. In review

**Klemm, Toni**, David D. Briske, and Matthew C. Reeves: Potential Natural Vegetation and NPP Responses to Future Climates in the U.S. Great Plains. *Ecosphere*. Accepted

**Klemm, Toni**, David D. Briske, and Matthew C. Reeves: Vulnerability of Rangeland Beef Cattle Production to Climate-Induced NPP Fluctuations in the U.S. Great Plains. *Global Change Biology*. ([link](#)) 2020

**Klemm, Toni** and David D. Briske: Retrospective Assessment of Beef Cow Numbers to Climate Variability Throughout the U.S. Great Plains. *Rangeland Ecology & Management*. ([link](#)) 2019

**Klemm, Toni** and Renee A. McPherson: Assessing Decision Timing and Seasonal Climate Forecast Needs of Winter Wheat Producers in the South-Central United States. *Journal of Applied Meteorology and Climatology*, 57, 2129-2140. ([link](#)) 2018

**Klemm, Toni** and Renee A. McPherson: The development of seasonal climate forecasting for agricultural producers. *Agricultural and Forest Meteorology* 232, 384-399. ([link](#)) 2017

## PROFESSIONAL DEVELOPMENT

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**Summer Policy Colloquium** Jun - Sep 2020  
American Meteorological Society

- 7-day colloquium (via video conference) on science and climate policy, public-private partnerships, national and environmental security implications of climate change, and advocacy, taught by U.S. Senators, executives from private sector businesses and non-profit science organizations, senior political appointees and federal officials, and Senate staffers

<b>Summer School for Sustainable Climate Risk Management</b> The Pennsylvania State University, University Park, PA	Jul/Aug 2019
<ul style="list-style-type: none"> <li>• <i>5-day course on climate dynamics, policy analysis, robust decision making, social cost of carbon, risk analysis, integrated assessment modeling, ethical-epistemic analysis</i></li> </ul>	
<b>Toastmasters International</b> Norman, OK	2017 - 2018
<ul style="list-style-type: none"> <li>• <i>Modular, weekly course in leadership and public speaking</i></li> </ul>	
<b>Northwest Climate Science Center Boot Camp</b> HJ Andrews Experimental Forest, Oregon	August 2012
<ul style="list-style-type: none"> <li>• <i>5-day workshop on ecological monitoring of climate change impacts, infrastructure impacts of climate extremes, media communication, Native American Traditional Ecological Knowledge, mitigation and adaptation to climate change</i></li> </ul>	

## **LEADERSHIP AND PROFESSIONAL EXPERIENCE**

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<b>Co-organizer, workshop “Improving Communication and Collaboration Among Diverse Experts”</b> Society for Range Management annual meeting, Denver, CO, February 19, 2020	2020
<ul style="list-style-type: none"> <li>• <i>workshop applying the Compass Message Box concept to reframe results of scientific studies for more effective interdisciplinary collaboration</i></li> <li>• <i>Idea and content development, facilitation</i></li> </ul>	
<b>Co-organizer, symposium “Vulnerability of Beef Cattle Production to Ecological and Socio-Economic Challenges of Future Climates”</b> Society for Range Management annual meeting, Denver, CO, February 19, 2020	2020
<ul style="list-style-type: none"> <li>• <i>content development, speaker selection, facilitation, moderation of presentations</i></li> <li>• <i>author on proceedings paper (draft stage)</i></li> </ul>	
<b>Round-table discussion facilitator on “Rangelands and Climate Change”</b> Society for Range Management annual meeting, Denver, CO, February 18, 2020	2020
<ul style="list-style-type: none"> <li>• <i>World Café style conversations between ranchers, federal land managers, Tribal members, and researchers on climate change impacts on rangeland operations and potential solutions</i></li> </ul>	
<b>Session moderator</b> Symposium on Agricultural and Ecological Vulnerability to a Changing Climate, College Station, TX, October 26, 2018	2018
<ul style="list-style-type: none"> <li>• <i>introducing speakers, moderating Q&amp;A</i></li> </ul>	
<b>Session assistant</b> Climate Diagnostics and Prediction Workshop, Norman, OK, October 23-26, 2017	2017
<ul style="list-style-type: none"> <li>• <i>introducing speakers, taking time, moderating Q&amp;A</i></li> </ul>	
<b>Session organizer and chair, “Agriculture under Climate Change”</b> American Association of Geographers annual meeting, Boston, MA, April 8, 2017	2017
<ul style="list-style-type: none"> <li>• <i>developing concept and scope, recruiting diverse, international speakers, coordinating individual presentations, individual introductions, moderating Q&amp;A</i></li> </ul>	
<b>Sergeant-at-arms</b> Toastmasters International club “Boomer Nooners”, Norman, OK	2017-2018
<ul style="list-style-type: none"> <li>• <i>calling to order and adjourning weekly Toastmasters meetings</i></li> </ul>	
<b>Co-organizer and -host, workshop “Communicating with the media”</b> National Climate Science Center Early Career Training, Amherst, MA, November 3, 2016	2016
<ul style="list-style-type: none"> <li>• <i>content development, facilitation</i></li> </ul>	

<b>Photographer and videographer</b>	Since 2013
TEDx conferences, Norman, OK ( <a href="http://www.tedxou.com">www.tedxou.com</a> ) and College Station, TX ( <a href="http://www.tedxtamu.com">www.tedxtamu.com</a> )	
<ul style="list-style-type: none"> <li>• <i>providing professional coverage of TEDx talks, break activities, behind the scenes</i></li> </ul>	
<b>Co-founder, editorial board member, contributor, Early Career Climate Forum</b>	Since 2012
<a href="http://www.eccforum.org">www.eccforum.org</a>	
<ul style="list-style-type: none"> <li>• <i>concept and content development, strategic planning and leadership, funding</i></li> <li>• <i>content creator (blog posts, videos, podcasts), social media management</i></li> </ul>	
<b>Editorial Intern, "Die Erde" (English language peer-reviewed journal)</b>	2009
Geographical Society of Berlin, Berlin, Germany, October - December 2009	
<ul style="list-style-type: none"> <li>• <i>management of all editorial stages of producing a peer-reviewed journal</i></li> <li>• <i>communication with authors and reviewers, proof reading, copy editing, page building</i></li> </ul>	
<b>Research intern</b>	2009
Department of the Environment, Agriculture and Geology of the State of Saxony Dresden, Germany, January - February 2009	
<ul style="list-style-type: none"> <li>• <i>comparing and reporting statewide, station-based precipitation data</i></li> </ul>	
<b>Research intern</b>	2007
German Weather Service, Lindenberg Meteorological Observatory Lindenberg, Germany, July - September 2007	
<ul style="list-style-type: none"> <li>• <i>homogenizing historic high altitude weather balloon data with recent records</i></li> </ul>	
<b>Freelance photographer, writer, and editor</b>	2007-2012
Germany	
<ul style="list-style-type: none"> <li>• <i>online and print media</i></li> <li>• <i>topics: science, sports, travel, human interest</i></li> <li>• <i>story development and pitching, scheduling, writing, photography, communication with co-authors and editors</i></li> <li>• <i>page planning, staff management, copy editing, review and feedback to authors</i></li> </ul>	
<b>Farm hand</b>	2003 - 2004
Australia	
<ul style="list-style-type: none"> <li>• <i>moving and herding cattle and sheep on motorbike, horse, and quad/ATV</i></li> <li>• <i>rotational grazing, fence maintenance, weed control</i></li> <li>• <i>branding, milking, and feeding cattle</i></li> <li>• <i>sheering and vaccinating sheep</i></li> </ul>	

## MENTORING AND TEACHING

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<b>Science Fair Judge</b>	2020
Texas Science and Engineering Fair (online), May 4-11, 2020	
<ul style="list-style-type: none"> <li>• <i>judge for Earth and Environmental Science projects by middle school students or student teams</i></li> </ul>	
<b>Undergraduate/graduate student mentor</b>	Since 2019
Society of Range Management annual meetings	
<ul style="list-style-type: none"> <li>• <i>mentoring students and young professionals in range science and range management about academic and non-academic career options</i></li> </ul>	
<b>Youth group activity (6th - 12th grade) "Why stewardship matters to us,"</b>	2019
Friends Congregational Church (UCC), College Station, TX, October 20, 2019	
<ul style="list-style-type: none"> <li>• <i>discussing solutions to global environmental problems</i></li> </ul>	

<b>Volunteer online educator with Skype a Scientist (<a href="http://www.skypeascientist.com">www.skypeascientist.com</a>)</b>	Since 2018
<ul style="list-style-type: none"> <li>• <i>teaching 4th - 12th grade school students via Skype about climate science, climate change impacts, and food production, following state standards for science education</i></li> </ul>	
<b>Educator, guided inquiry lecture on impacts of climate change</b>	2017
Irving Middle School, Norman, OK, May 23, 2017 ( <a href="#">blog post</a> ) <ul style="list-style-type: none"> <li>• <i>answered questions of 8th-grade students for science projects about climate change impacts on marine life and ecology, agriculture, and food production</i></li> </ul>	
<b>Lecturer teaching "Cloud formation and air masses"</b>	2016
University of Oklahoma, September 27, 2016 <ul style="list-style-type: none"> <li>• <i>75-minute lecture for ca. 150 freshmen students in physical geography</i></li> <li>• <i>presenting lecture content for students from science and non-science majors</i></li> </ul>	
<b>High school student mentor</b>	2014, 2015, 2017
University of Oklahoma School of Meteorology meteorology camp <ul style="list-style-type: none"> <li>• <i>mentoring high school students about science, science careers, and study abroad</i></li> </ul>	
<b>Teaching assistant, Regional Climatology (Dr. Renee McPherson)</b>	2014, spring semester
University of Oklahoma <ul style="list-style-type: none"> <li>• <i>in-class assistant, homework grading, one-on-one student meetings</i></li> </ul>	
<b>Panelist on annual undergraduate panels on career and professional development</b>	2014 - 2018
Department of Geography and Environmental Sustainability, University of Oklahoma	
<b>Journal club presenter and discussion moderator</b>	2012 - 2018
South Central Climate Adaptation Science Center journal club	
<b>Lecturer, creative photography workshops</b>	2011 - 2012
Church summer camps, Germany <ul style="list-style-type: none"> <li>• <i>teaching image composition, storytelling, and camera techniques to teenagers</i></li> </ul>	

## RESEARCH SEMINARS

<b>Department of Ecology and Conservation Biology, Texas A&amp;M University</b>	2020
"Vulnerability of rangeland beef cattle production to future climates across the Great Plains", February 11, 2020	
<b>Department of Atmospheric Sciences, Texas A&amp;M University</b>	2019
"Assessing User Needs and Model Accuracy of Seasonal Climate Forecasts for Winter Wheat Producers in the Southern Great Plains", March 27, 2019	
<b>National Center for Atmospheric Research (NCAR), Capacity Center for Climate &amp; Weather Extremes (C3WE), Boulder, CO</b>	2017
"Developing Tailored Seasonal Climate Forecasts for Winter Wheat Producers in the Southern Great Plains", October 11, 2017	
<b>North Central Climate Science Center, Ft. Collins, CO</b>	2017
"Developing Tailored Seasonal Climate Forecasts for Winter Wheat Producers in the Southern Great Plains", October 10, 2017	
<b>Department of Geography and Environmental Sustainability, University of Oklahoma, Norman, OK</b>	2017
"Developing Tailored Seasonal Climate Forecasts for Winter Wheat Producers in the Southern Great Plains", May 5, 2017	
<b>National Weather Service Climate Prediction Center, College Park, MD</b>	2016
"Improving Seasonal Climate Forecasts for Winter Wheat Producers in the Southern Great Plains", November 1, 2016	

USDA Grazinglands Research Laboratory, El Reno, OK 2016  
 "Improving Seasonal Climate Forecasts for Winter Wheat Producers in the Southern Great Plains", September 29, 2016

## CONFERENCE PRESENTATIONS AND POSTERS

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**American Association of State Climatologists annual meeting (virtual)** 2020  
 Presentation (**invited**): "What Farmers Want: Developing Seasonal Climate Forecasts for Winter Wheat Producers in the Southern Great Plains", June 12, 2020 ([Video](#))

**Society for Range Management annual meeting, Denver, CO** 2020  
 Presentation: "Future Climate and Forage Projections: Implications for Beef Cattle Numbers and Distribution", February 19, 2020

**Society for Range Management annual meeting, Minneapolis, MN** 2019  
 Presentation: "Projections of Climate-Induced Land Cover Change in the U.S. Great Plains", February 11, 2019

**International Conferences on Subseasonal to Decadal Prediction, Boulder, CO** 2018  
 Poster: "Assessing User Needs and Model Accuracy of Seasonal Climate Forecasts for Winter Wheat Producers in the Southern Great Plains", September 19, 2018

**American Meteorological Society annual meeting, Austin, TX** 2018  
 Presentation: "Assessing User Needs and Model Accuracy of Seasonal Climate Forecasts for Winter Wheat Producers in the Southern Great Plains", January 8, 2018

**Climate Diagnostics and Prediction Workshop, Norman, OK** 2017  
 Presentation: "Developing Tailored Seasonal Climate Forecasts for Winter Wheat Producers in the Southern Great Plains", October 24, 2017

**American Association of Geographers annual meeting, Boston, MA** 2017  
 Presentation: "Developing Tailored Seasonal Climate Forecasts for Winter Wheat Producers in the Southern Great Plains", April 9, 2017

**National Climate Science Center Early Career Training, University of Massachusetts, Amherst, MA** 2016  
 Poster: "Needs for Seasonal Climate Forecast Products for Winter Wheat Producers in the South-Central U.S.", November 2, 2016

**Graduate Climate Conference, Pack Forest, WA** 2016  
 Poster: "Needs for Seasonal Climate Forecast Products for Winter Wheat Producers in the South-Central U.S.", October 29, 2016

**Conference of the Southwest Division of the American Association of Geographers, Denton, TX** 2016  
 Presentation: "Needs for Seasonal Climate Forecast Products for Winter Wheat Producers in the Southern Great Plains", October 21, 2016

**NSF EPSCoR Site Visit, Stillwater, OK** 2016  
 Poster: "Improving Seasonal Climate Forecasts for Winter Wheat Producers in the South-Central U.S.", September 21, 2016

**Oklahoma EPSCoR annual state conference, Norman, OK** 2015  
 Poster: "Improving Seasonal Climate Forecasts for Winter Wheat Producers in the South-Central U.S.", December 3, 2015

**GIS Day, University of Oklahoma, Norman, OK** 2015  
 Poster: "Improving Seasonal Climate Forecasts for Winter Wheat Farmers in the South-Central U.S.", November 17, 2015

<b>Conference of the Southwest Division of the American Association of Geographers, San Antonio, TX</b>	2015
Poster: "Improving Seasonal Climate Forecasts for Oklahoma Winter Wheat Farmers", November 6, 2015	
<b>Annual meeting of the Society of Environmental Journalists, Norman, OK</b>	2015
Poster: "Improving Seasonal Climate Forecasts for Winter Wheat Farmers in the South-Central U.S.", October 7, 2015 (3 <sup>rd</sup> prize poster competition)	
<b>Annual Climate Predictions Applications Science Workshop, Las Cruces, NM</b>	2015
Poster: "Tailoring Long-Term Climate Forecasts for Agricultural Producers in Oklahoma — Proposed Dissertation Research", March 24, 2015	
<b>South Central Climate Science Center Early Career Workshop, Norman, OK</b>	2014
3-minute speed talk: "Tailoring Long-Term Climate Forecasts for Agricultural Producers in Oklahoma", June 16, 2014	
<b>Drought Symposium, Lincoln, NE</b>	2014
Poster: "Improving Seasonal Climate Forecasts to Help Manage Future Droughts — Proposed Dissertation Research", April 2, 2014	
<b>Graduate Climate Conference, Woods Hole, MA</b>	2013
Poster: "Improving Seasonal Climate Projections to Help Agricultural Producers Adapt to Climate Variability - Proposed Dissertation Research", November 1, 2013	
<b>Conference of the Southwest Division of the American Association of Geographers, Nacogdoches, TX</b>	2013
Poster: "Improving Seasonal Climate Projections to Help Agricultural Producers Adapt to Climate Variability — Proposed Dissertation Research", October 25, 2013	

### **GRANTS AND AWARDS RECEIVED**

American Association of State Climatologists Dissertation Award	\$1,000	2020
SCRiM Summer School travel grant	\$1,578	2019
ORAU travel grant	\$1,674	2018
AMS travel grant	\$1,374	2017
U.S. Geological Survey travel grant	\$990	2016
Graduate Climate Conference travel grant	\$300	2016
Society of Environmental Journalists, 3 <sup>rd</sup> prize poster competition	\$100	2015
National Weather Center Biennale, finalist (photography)		2013
Ralph and Margaret Olson Scholarship	\$1,000	2013
Robberson Conference Presentation & Creative Exhibition Travel Grant	\$500	2013

### **PROFESSIONAL MEMBERSHIPS**

American Association of State Climatologists (AASC)	Since 2020
Society for Range Management (SRM)	Since 2019
American Association of Geographers (AAG)	Since 2016
American Meteorological Society (AMS)	Since 2013
Society of Environmental Journalists (SEJ)	Since 2013