

## TONI KLEMM, PH.D.

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### CURRENT POSITION

**Research Social Scientist (postdoc), USDA-ARS Rangeland Resources and Systems Research Unit, Ft. Collins, CO** Since 1/2021  
Project: "Vulnerability Assessment of Northern Mixed-Grass Prairie to Climate Change"  
Supervisors: Justin D. Derner, Ph.D., Dannele E. Peck, Ph.D.

### PREVIOUS EMPLOYMENT

**Postdoctoral Research Associate, Texas A&M University** 3/2018 - 1/2021  
Project: "Vulnerability Assessment of U.S. Great Plains Cattle Production to Climate Variability and Change"  
Supervisor: David D. Briske, Ph.D.

**Graduate Research Assistant, South Central Climate Adaptation Science Center** 8/2012 - 2/2018  
Supervisor: Renee A. McPherson, Ph.D.

### EDUCATION

**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 MS Geography

### PROFESSIONAL DEVELOPMENT

**American Meteorological Society Summer Policy Colloquium** June-September 2020  
Virtual  

- 7-day colloquium 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

**Software Carpentry** August 2019  
Texas A&M University, The University of Oklahoma Library  
April 2016  

- 2-day interactive workshop on R, R Studio, GitHub, Unix Shell, and Python

**Summer School for Sustainable Climate Risk Management** Jul/Aug 2019  
The Pennsylvania State University, University Park, PA  

- 5-day course on climate dynamics, policy analysis, robust decision making, social cost of carbon, risk analysis, integrated assessment modeling, ethical-epistemic analysis

**Toastmasters International** 2017 - 2018  
Norman, OK  

- Modular, weekly course in leadership and public speaking

**Northwest Climate Science Center Boot Camp**

HJ Andrews Experimental Forest, Oregon

August 2012

- 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

**PUBLICATIONS**

Hunt, Eric, Cory Walters, <b>Toni Klemm</b> , Iyore Eronmwon: Using seasonal climate analogs to improve grain marketing decisions. <i>Choices Magazine</i> .	Submitted
Schulz, Terri, Hailey Wilmer, Heather Yocum, Eric Winford, Dannele Peck, Anna Clare Monlezun, Heidi Schmalz, <b>Toni Klemm</b> , Kathleen Epstein, Vincent Jansen, Windy Kelley, Retta Bruegger, Stephen Fick, Joseph Gazing Wolf, Joshua Grace, Justin Derner: Campfire Conversations at the 2020 SRM Annual Meeting: Insights & Lessons Learned from “Cuss-and-Discuss” rather than “Chalk-and-Talk”. <i>Rangelands</i> .	Submitted
Briske, David D., John P. Ritten, Amber R. Campbell, <b>Toni Klemm</b> , Audrey E. King: Future Climate Variability Will Challenge Rangeland Beef Cattle Production in the Great Plains. <i>Rangelands</i> . ( <a href="#">link</a> )	In press
<b>Klemm, Toni</b> , David D. Briske, and Matthew C. Reeves: Potential Natural Vegetation and NPP Responses to Future Climates in the U.S. Great Plains. <i>Ecosphere</i> , 11 (10), e03264. ( <a href="#">link</a> )	2020
<b>Klemm, Toni</b> , David D. Briske, and Matthew C. Reeves: Vulnerability of Rangeland Beef Cattle Production to Climate-Induced NPP Fluctuations in the U.S. Great Plains. <i>Global Change Biology</i> , 26, 4841-4853. ( <a href="#">link</a> )	2020
<b>Klemm, Toni</b> and David D. Briske: Retrospective Assessment of Beef Cow Numbers to Climate Variability Throughout the U.S. Great Plains. <i>Rangeland Ecology &amp; Management</i> . ( <a href="#">link</a> )	2019
<b>Klemm, Toni</b> and Renee A. McPherson: Assessing Decision Timing and Seasonal Climate Forecast Needs of Winter Wheat Producers in the South-Central United States. <i>Journal of Applied Meteorology and Climatology</i> , 57, 2129-2140. ( <a href="#">link</a> )	2018
<b>Klemm, Toni</b> and Renee A. McPherson: The development of seasonal climate forecasting for agricultural producers. <i>Agricultural and Forest Meteorology</i> 232, 384-399. ( <a href="#">link</a> )	2017

**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, 3rd 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

## MENTORING AND TEACHING

<b>Science Fair Judge</b>	<b>2020</b>
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>	<b>Since 2019</b>
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>	<b>2019</b>
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>	<b>Since 2018</b>
<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>	<b>2017</b>
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>	<b>2016</b>
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>	<b>2014, 2015, 2017</b>
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>	<b>2014, spring semester</b>
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>	<b>2014 - 2018</b>
Department of Geography and Environmental Sustainability, University of Oklahoma	
<b>Journal club presenter and discussion moderator</b>	<b>2012 - 2018</b>
South Central Climate Adaptation Science Center journal club	
<b>Lecturer, creative photography workshops</b>	<b>2011 - 2012</b>
Church summer camps, Germany	
<ul style="list-style-type: none"> <li>• <i>teaching image composition, storytelling, and camera techniques to teenagers</i></li> </ul>	

## LEADERSHIP AND PROFESSIONAL EXPERIENCE

<b>Co-organizer, workshop "Improving Communication and Collaboration Among Diverse Experts"</b>	<b>2020</b>
Society for Range Management annual meeting, Denver, CO, February 19, 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>	<b>2020</b>
Society for Range Management annual meeting, Denver, CO, February 19, 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>	<b>2020</b>
Society for Range Management annual meeting, Denver, CO, February 18, 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>	<b>2018</b>
Symposium on Agricultural and Ecological Vulnerability to a Changing Climate, College Station, TX, October 26, 2018	
<ul style="list-style-type: none"> <li>• <i>introducing speakers, moderating Q&amp;A</i></li> </ul>	
<b>Session assistant</b>	<b>2017</b>
Climate Diagnostics and Prediction Workshop, Norman, OK, October 23-26, 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>	<b>2017</b>
American Association of Geographers annual meeting, Boston, MA, April 8, 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>	<b>2017-2018</b>
Toastmasters International club “Boomer Nooners”, Norman, OK	
<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>	<b>2016</b>
National Climate Science Center Early Career Training, Amherst, MA, November 3, 2016	
<ul style="list-style-type: none"> <li>• <i>content development, facilitation</i></li> </ul>	
<b>Photographer and videographer</b>	<b>Since 2013</b>
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 Network</b>	<b>Since 2012</b>
<a href="http://www.earlycareerclimate.org">www.earlycareerclimate.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>	<b>2009</b>
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>	<b>2009</b>
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>	<b>2007</b>
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>	

**Freelance photographer, writer, and editor**

2007-2012

Germany

- *online and print media*
- *topics: science, sports, travel, human interest*
- *story development and pitching, scheduling, writing, photography, communication with co-authors and editors*
- *page planning, staff management, copy editing, review and feedback to authors*

**Farm hand**

2003 - 2004

Australia

- *moving and herding cattle and sheep on motorbike, horse, and quad/ATV*
- *rotational grazing, fence maintenance, weed control*
- *branding, milking, and feeding cattle*
- *sheering and vaccinating sheep*

**RESEARCH SEMINARS****Department of Atmospheric Sciences, University of Hawaii at Manoa (invited, virtual)**

2020

"Ranching in a Warming World - How Climate Change Will Affect Cattle Production in the Great Plains", October 7, 2020

**Department of Ecology and Conservation Biology, Texas A&M University**

2020

"Vulnerability of rangeland beef cattle production to future climates across the Great Plains", February 11, 2020

**Department of Atmospheric Sciences, Texas A&M University**

2019

"Assessing User Needs and Model Accuracy of Seasonal Climate Forecasts for Winter Wheat Producers in the Southern Great Plains", March 27, 2019

**National Center for Atmospheric Research (NCAR), Capacity Center for Climate & Weather Extremes (C3WE), Boulder, CO**

2017

"Developing Tailored Seasonal Climate Forecasts for Winter Wheat Producers in the Southern Great Plains", October 11, 2017

**North Central Climate Science Center, Ft. Collins, CO**

2017

"Developing Tailored Seasonal Climate Forecasts for Winter Wheat Producers in the Southern Great Plains", October 10, 2017

**Department of Geography and Environmental Sustainability, University of Oklahoma, Norman, OK**

2017

"Developing Tailored Seasonal Climate Forecasts for Winter Wheat Producers in the Southern Great Plains", May 5, 2017

**National Weather Service (NWS), Climate Prediction Center (CPC), College Park, MD**

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****American Association of State Climatologists annual meeting (invited, virtual)**

2020

Presentation: "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

<b>Society for Range Management annual meeting, Minneapolis, MN</b>	<b>2019</b>
Presentation: "Projections of Climate-Induced Land Cover Change in the U.S. Great Plains", February 11, 2019	
<b>International Conferences on Subseasonal to Decadal Prediction, Boulder, CO</b>	<b>2018</b>
Poster: "Assessing User Needs and Model Accuracy of Seasonal Climate Forecasts for Winter Wheat Producers in the Southern Great Plains", September 19, 2018	
<b>American Meteorological Society annual meeting, Austin, TX</b>	<b>2018</b>
Presentation: "Assessing User Needs and Model Accuracy of Seasonal Climate Forecasts for Winter Wheat Producers in the Southern Great Plains", January 8, 2018	
<b>Climate Diagnostics and Prediction Workshop, Norman, OK</b>	<b>2017</b>
Presentation: "Developing Tailored Seasonal Climate Forecasts for Winter Wheat Producers in the Southern Great Plains", October 24, 2017	
<b>American Association of Geographers annual meeting, Boston, MA</b>	<b>2017</b>
Presentation: "Developing Tailored Seasonal Climate Forecasts for Winter Wheat Producers in the Southern Great Plains", April 9, 2017	
<b>National Climate Science Center Early Career Training, University of Massachusetts, Amherst, MA</b>	<b>2016</b>
Poster: "Needs for Seasonal Climate Forecast Products for Winter Wheat Producers in the South-Central U.S.", November 2, 2016	
<b>Graduate Climate Conference, Pack Forest, WA</b>	<b>2016</b>
Poster: "Needs for Seasonal Climate Forecast Products for Winter Wheat Producers in the South-Central U.S.", October 29, 2016	
<b>Conference of the Southwest Division of the American Association of Geographers, Denton, TX</b>	<b>2016</b>
Presentation: "Needs for Seasonal Climate Forecast Products for Winter Wheat Producers in the Southern Great Plains", October 21, 2016	
<b>NSF EPSCoR Site Visit, Stillwater, OK</b>	<b>2016</b>
Poster: "Improving Seasonal Climate Forecasts for Winter Wheat Producers in the South-Central U.S.", September 21, 2016	
<b>Oklahoma EPSCoR annual state conference, Norman, OK</b>	<b>2015</b>
Poster: "Improving Seasonal Climate Forecasts for Winter Wheat Producers in the South-Central U.S.", December 3, 2015	
<b>GIS Day, University of Oklahoma, Norman, OK</b>	<b>2015</b>
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>	<b>2015</b>
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>	<b>2015</b>
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>	<b>2015</b>
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>	<b>2014</b>
3-minute speed talk: "Tailoring Long-Term Climate Forecasts for Agricultural Producers in Oklahoma", June 16, 2014	

**Drought Symposium, Lincoln, NE**

2014

Poster: "Improving Seasonal Climate Forecasts to Help Manage Future Droughts — Proposed Dissertation Research", April 2, 2014

**Graduate Climate Conference, Woods Hole, MA**

2013

Poster: "Improving Seasonal Climate Projections to Help Agricultural Producers Adapt to Climate Variability - Proposed Dissertation Research", November 1, 2013

**Conference of the Southwest Division of the American Association of Geographers, Nacogdoches, TX**

2013

Poster: "Improving Seasonal Climate Projections to Help Agricultural Producers Adapt to Climate Variability — Proposed Dissertation Research", October 25, 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