

# Toni Klemm, Ph.D.

Leibniz Centre for Agricultural Landscape Research (ZALF)  
[www.toni-klemm.de](http://www.toni-klemm.de) | [toni@toni-klemm.de](mailto:toni@toni-klemm.de) | (+49) 157-3679 3390  
[Twitter](#) | [LinkedIn](#) | [Vimeo](#) | [Flickr](#)

## EMPLOYMENT

<b>Participatory Modeler (postdoc), Leibniz Centre for Agricultural Landscape Research (ZALF)</b> Müncheberg, Germany Participatory modeler for living labs in agricultural landscapes Supervisors: Frank Ewert, Ph.D., Annette Piorr, Ph.D.	Since 01/2022
<b>Research Scientist (postdoc), USDA-ARS Rangeland Resources and Systems Research Unit</b> Fort Collins, Colorado, USA Project: "Vulnerability Assessment of Northern Mixed-Grass Prairie to Climate Change"	1/2021-12/2021
<b>Postdoctoral Research Associate, Texas A&amp;M University</b> College Station, Texas, USA Project: "Vulnerability Assessment of U.S. Great Plains Cattle Production to Climate Variability and Change" ( <a href="#">website</a> )	2018 - 2020
<b>Graduate Research Assistant, USGS South Central Climate Adaptation Science Center</b> Norman, Oklahoma, USA	2012 - 2018
<b>Freelance writer, photographer, and editor</b> Dresden, Germany <ul style="list-style-type: none"><li>• <i>Developed, pitched, and published 200+ stories on science, human interest, sports for local and regional newspapers</i></li><li>• <i>Responsible for page planning and staff management of the sports desk of an independent student newspaper (25.000 circulation), photography, copy editing, review, and feedback</i></li></ul>	2007 - 2012
<b>Farm Hand</b> Australia <ul style="list-style-type: none"><li>• <i>Handled rangeland sheep and cattle, harvested fruit and vegetables</i></li></ul>	2003 - 2004

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## EDUCATION

<b>Ph.D., Geography, The University of Oklahoma</b> Dissertation: "Assessing User Needs and Model Accuracy of Seasonal Climate Forecasts for Winter Wheat Producers in the Southern Great Plains" ( <a href="#">summary</a> ) Committee chair: Renee A. McPherson, Ph.D.	2012 - 2018
<b>Diplom-Geograf*, Dresden University of Technology, Germany</b> Thesis: "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	2004 - 2011

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## LEADERSHIP AND PROFESSIONAL EXPERIENCE

<b>Round-table discussion facilitator on "Rangelands and Climate Change"</b> Society for Range Management annual meeting, Denver, CO, February 18, 2020 <ul style="list-style-type: none"><li>• <i>World Café-style discussions between ranchers, public land managers, Tribal members, and researchers on climate change impacts on rangeland operations and potential solutions</i></li></ul>	2020
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<b>Session organizer and host, "Agriculture under Climate Change"</b>	2017
American Association of Geographers annual meeting, Boston, MA, April 8, 2017	
<ul style="list-style-type: none"> <li>• <i>five speakers introducing agricultural sustainability challenges from four continents, discussion and Q&amp;A</i></li> </ul>	
<b>Sergeant-at-arms</b>	2017-2018
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>Photographer and videographer</b>	2013-2019
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>	2012-2021
<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>	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>	

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## MENTORING AND TEACHING

<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 from middle school students</i></li> </ul>	

<b>Workshop “Improving Communication and Collaboration Among Diverse Experts” (<a href="#">tool kit</a>)</b>	2020
Society for Range Management annual meeting, Denver, CO, February 19, 2020	
<ul style="list-style-type: none"> <li>• <i>Applying the Compass Message Box and And-But-Therefore format to reframe scientific work for more effective interdisciplinary collaboration</i></li> <li>• <i>Practice transdisciplinary collaboration</i></li> </ul>	
<b>Undergraduate/graduate student mentor</b>	2019-2021
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>Discussed 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>, <a href="#">podcast</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>Workshop “Communicating with the media”</b>	2016
National Climate Science Center Early Career Training, Amherst, MA, November 3, 2016	
<ul style="list-style-type: none"> <li>• <i>Applying the And-But-Therefore format to train researchers in public communication</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</b>	2014
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>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>	

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## PROFESSIONAL DEVELOPMENT

<b>American Meteorological Society Summer Policy Colloquium</b>	2020
Virtual	
<ul style="list-style-type: none"> <li>• <i>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</i></li> </ul>	

<b>Summer School for Sustainable Climate Risk Management</b>	2019
The Pennsylvania State University, University Park, Pennsylvania	
<ul style="list-style-type: none"> <li>• 5-day course on climate dynamics, policy analysis, robust decision making, social cost of carbon, risk analysis, integrated assessment modeling, ethical-epistemic analysis</li> </ul>	
<b>Toastmasters International</b>	2017 - 2018
Norman, Oklahoma	
<ul style="list-style-type: none"> <li>• Modular, weekly course in leadership and public speaking</li> </ul>	
<b>Software Carpentry</b>	2016, 2019
Texas A&M University, The University of Oklahoma Library	
<ul style="list-style-type: none"> <li>• 2-day interactive workshop on R, R Studio, GitHub, Unix Shell, and Python</li> </ul>	
<b>Northwest Climate Science Center Boot Camp</b>	2012
HJ Andrews Experimental Forest, Oregon	
<ul style="list-style-type: none"> <li>• 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</li> </ul>	

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## PUBLICATIONS

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, and 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> . ( <a href="#">link</a> )	2021
Guckian, Meaghan, Ezra M. Markowitz, Clay S. Tucker, Elsit Kiekebusch, <b>Toni Klemm</b> , Lindsey Middleton, Adrienne Wootten, and Michelle D. Staudinger: Assessing the impact of an online climate science community: The Early Career Climate Forum. <i>Weather Climate, and Society</i> . ( <a href="#">link</a> )	2021
<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> )	2021
Briske, David D., John P. Ritten, Amber R. Campbell, <b>Toni Klemm</b> , and Audrey E. King: Future Climate Variability Will Challenge Rangeland Beef Cattle Production in the Great Plains. <i>Rangelands</i> . ( <a href="#">link</a> )	2021
Hunt, Eric, Cory Walters, <b>Toni Klemm</b> , and Iyore Eronmwon: Seasonal Forecast Based Preharvest Hedging. <i>Cornhusker Economics</i> . ( <a href="#">link</a> )	2020
<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 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

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## 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

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## SEMINARS AND WEBINARS

North Central Climate Adaptation Science Center Climate Adaptation Training Series for Grassland Conservation Practitioners (webinar) "Climate Change Impacts on Large-Bodied Grazing Ruminants and Forage Grazing", June 13, 2022		2022
Department of Atmospheric Sciences, University of Hawaii at Manoa ( <b>invited</b> , virtual) "Ranching in a Warming World - How Climate Change Will Affect Cattle Production in the Great Plains", October 7, 2020		2020
Department of Ecology and Conservation Biology, Texas A&M University "Vulnerability of rangeland beef cattle production to future climates across the Great Plains", February 11, 2020		2020
Department of Atmospheric Sciences, Texas A&M University "Assessing User Needs and Model Accuracy of Seasonal Climate Forecasts for Winter Wheat Producers in the Southern Great Plains", March 27, 2019		2019
National Center for Atmospheric Research (NCAR), Capacity Center for Climate & Weather Extremes (C3WE), Boulder, CO "Developing Tailored Seasonal Climate Forecasts for Winter Wheat Producers in the Southern Great Plains", October 11, 2017		2017
North Central Climate Science Center, Ft. Collins, CO "Developing Tailored Seasonal Climate Forecasts for Winter Wheat Producers in the Southern Great Plains", October 10, 2017		2017
Department of Geography and Environmental Sustainability, University of Oklahoma, Norman, OK "Developing Tailored Seasonal Climate Forecasts for Winter Wheat Producers in the Southern Great Plains", May 5, 2017		2017
National Weather Service (NWS), Climate Prediction Center (CPC), College Park, MD "Improving Seasonal Climate Forecasts for Winter Wheat Producers in the Southern Great Plains", November 1, 2016		2016
USDA Grazinglands Research Laboratory, El Reno, OK "Improving Seasonal Climate Forecasts for Winter Wheat Producers in the Southern Great Plains", September 29, 2016		2016

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## CONFERENCE PRESENTATIONS AND POSTERS

American Geophysical Union annual meeting (virtual) Poster: "Grazing in a Warmer World - Assessing the Vulnerability of Northern Mixed-Grass Prairie and Rangeland Livestock Production to Climate Change", December 16, 2021.		2021
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<b>American Association of State Climatologists annual meeting (invited, virtual)</b>	2020
Oral presentation: "What Farmers Want: Developing Seasonal Climate Forecasts for Winter Wheat Producers in the Southern Great Plains", June 12, 2020 ( <a href="#">Video</a> )	
<b>Society for Range Management annual meeting, Denver, CO</b>	2020
Oral 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>	2019
Oral 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>	2018
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>	2018
Oral presentation: "Assessing User Needs and Model Accuracy of Seasonal Climate Forecasts for Winter Wheat Producers in the Southern Great Plains", January 8, 2018	
<b>American Association of Geographers annual meeting, Boston, MA</b>	2017
Oral 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>	2016
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>	2016
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>	2016
Oral 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>	2016
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>	2015
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>	2015
Poster: "Improving Seasonal Climate Forecasts for Winter Wheat Farmers in the South-Central U.S.", November 17, 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	

**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