

TONI KLEMM, PH.D.

Leibniz-Centre for Agricultural Landscape Research (ZALF)
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Participatory Modeler (postdoc), Leibniz-Centre for Agricultural Landscape Research (ZALF), Müncheberg, Germany Since 01/2022
 Participatory modeler for living labs in agricultural landscapes
 Supervisor: Frank Ewert, Ph.D.

PROFESSIONAL EXPERIENCE

Research Scientist (postdoc), USDA-ARS Rangeland Resources and Systems Research Unit, Ft. Collins, CO 1/2021-12/2021
 Project: "Vulnerability Assessment of Northern Mixed-Grass Prairie to Climate Change"
 Supervisors: Justin D. Derner, Ph.D., Dannele E. Peck, Ph.D.

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" ([website](#))
 Supervisor: David D. Briske, Ph.D.

Graduate Research Assistant, USGS 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: "Assessing User Needs and Model Accuracy of Seasonal Climate Forecasts for Winter Wheat Producers in the Southern Great Plains" ([summary](#))
 Committee chair: Renee A. McPherson, Ph.D.

Diplom-Geograf*, Dresden University of Technology, Germany 2004 - 2011
 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 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
April 2016
 Texas A&M University, The University of Oklahoma Library

- 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 Norman, OK	2017 - 2018
<ul style="list-style-type: none"> • <i>Modular, weekly course in leadership and public speaking</i> 	
Northwest Climate Science Center Boot Camp HJ Andrews Experimental Forest, Oregon	August 2012
<ul style="list-style-type: none"> • <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> 	

PUBLICATIONS

Schulz, Terri, Hailey Wilmer, Heather Yocum, Eric Winford, Dannele Peck, Anna Clare Monlezun, Heidi Schmalz, Toni Klemm , 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> . (link)	2021
Guckian, Meaghan, Ezra M. Markowitz, Clay S. Tucker, Elsitia Kiekebusch, Toni Klemm , 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> . (link)	2021
Hunt, Eric, Cory Walters, Toni Klemm , and Iyore Eronmwon: Seasonal Forecast Based Preharvest Hedging. <i>Cornhusker Economics</i> . (link)	2020
Klemm, Toni and David D. Briske: Retrospective Assessment of Beef Cow Numbers to Climate Variability Throughout the U.S. Great Plains. <i>Rangeland Ecology & Management</i> . (link)	2021
Briske, David D., John P. Ritten, Amber R. Campbell, Toni Klemm , and Audrey E. King: Future Climate Variability Will Challenge Rangeland Beef Cattle Production in the Great Plains. <i>Rangelands</i> . (link)	2021
Klemm, Toni , 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. (link)	2020
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. <i>Global Change Biology</i> , 26, 4841-4853. (link)	2020
Klemm, Toni 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. (link)	2018
Klemm, Toni and Renee A. McPherson: The development of seasonal climate forecasting for agricultural producers. <i>Agricultural and Forest Meteorology</i> 232, 384-399. (link)	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

Science Fair Judge		2020
Texas Science and Engineering Fair (online), May 4-11, 2020		
<ul style="list-style-type: none"> • <i>judge for Earth and Environmental Science projects by middle school students or student teams</i> 		
Undergraduate/graduate student mentor		Since 2019
Society of Range Management annual meetings		
<ul style="list-style-type: none"> • <i>mentoring students and young professionals in range science and range management about academic and non-academic career options</i> 		
Youth group activity (6th - 12th grade) "Why stewardship matters to us,"		2019
Friends Congregational Church (UCC), College Station, TX, October 20, 2019		
<ul style="list-style-type: none"> • <i>discussing solutions to global environmental problems</i> 		
Volunteer online educator with Skype a Scientist (www.skypeascientist.com)		Since 2018
<ul style="list-style-type: none"> • <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> 		
Educator, guided inquiry lecture on impacts of climate change		2017
Irving Middle School, Norman, OK, May 23, 2017 (blog post)		
<ul style="list-style-type: none"> • <i>answered questions of 8th-grade students for science projects about climate change impacts on marine life and ecology, agriculture, and food production</i> 		
Lecturer teaching "Cloud formation and air masses"		2016
University of Oklahoma, September 27, 2016		
<ul style="list-style-type: none"> • <i>75-minute lecture for ca. 150 freshmen students in physical geography</i> • <i>presenting lecture content for students from science and non-science majors</i> 		
High school student mentor		2014, 2015, 2017
University of Oklahoma School of Meteorology meteorology camp		
<ul style="list-style-type: none"> • <i>mentoring high school students about science, science careers, and study abroad</i> 		
Teaching assistant, Regional Climatology (Dr. Renee McPherson)		2014, spring semester
University of Oklahoma		
<ul style="list-style-type: none"> • <i>in-class assistant, homework grading, one-on-one student meetings</i> 		
Panelist on annual undergraduate panels on career and professional development		2014 - 2018
Department of Geography and Environmental Sustainability, University of Oklahoma		
Journal club presenter and discussion moderator		2012 - 2018
South Central Climate Adaptation Science Center journal club		
Lecturer, creative photography workshops		2011 - 2012
Church summer camps, Germany		
<ul style="list-style-type: none"> • <i>teaching image composition, storytelling, and camera techniques to teenagers</i> 		

LEADERSHIP AND PROFESSIONAL EXPERIENCE

Co-organizer, workshop "Improving Communication and Collaboration Among Diverse Experts"		2020
Society for Range Management annual meeting, Denver, CO, February 19, 2020		
<ul style="list-style-type: none"> • <i>workshop applying the Compass Message Box concept to reframe results of scientific studies for more effective interdisciplinary collaboration</i> • <i>Idea and content development, facilitation</i> 		

Co-organizer, symposium “Vulnerability of Beef Cattle Production to Ecological and Socio-Economic Challenges of Future Climates”	2020
Society for Range Management annual meeting, Denver, CO, February 19, 2020	
<ul style="list-style-type: none"> • <i>content development, speaker selection, facilitation, moderation of presentations</i> • <i>author on proceedings paper (draft stage)</i> 	
Round-table discussion facilitator on “Rangelands and Climate Change”	2020
Society for Range Management annual meeting, Denver, CO, February 18, 2020	
<ul style="list-style-type: none"> • <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> 	
Session moderator	2018
Symposium on Agricultural and Ecological Vulnerability to a Changing Climate, College Station, TX, October 26, 2018	
<ul style="list-style-type: none"> • <i>introducing speakers, moderating Q&A</i> 	
Session assistant	2017
Climate Diagnostics and Prediction Workshop, Norman, OK, October 23-26, 2017	
<ul style="list-style-type: none"> • <i>introducing speakers, taking time, moderating Q&A</i> 	
Session organizer and chair, “Agriculture under Climate Change”	2017
American Association of Geographers annual meeting, Boston, MA, April 8, 2017	
<ul style="list-style-type: none"> • <i>developing concept and scope, recruiting diverse, international speakers, coordinating individual presentations, individual introductions, moderating Q&A</i> 	
Sergeant-at-arms	2017-2018
Toastmasters International club “Boomer Nooners”, Norman, OK	
<ul style="list-style-type: none"> • <i>calling to order and adjourning weekly Toastmasters meetings</i> 	
Co-organizer and -host, workshop “Communicating with the media”	2016
National Climate Science Center Early Career Training, Amherst, MA, November 3, 2016	
<ul style="list-style-type: none"> • <i>content development, facilitation</i> 	
Photographer and videographer	Since 2013
TEDx conferences, Norman, OK (www.tedxou.com) and College Station, TX (www.tedxtamu.com)	
<ul style="list-style-type: none"> • <i>providing professional coverage of TEDx talks, break activities, behind the scenes</i> 	
Co-founder, editorial board member, contributor, Early Career Climate Network	Since 2012
www.earlycareerclimate.org	
<ul style="list-style-type: none"> • <i>concept and content development, strategic planning and leadership, funding</i> • <i>content creator (blog posts, videos, podcasts), social media management</i> 	
Editorial Intern, “Die Erde” (English language peer-reviewed journal)	2009
Geographical Society of Berlin, Berlin, Germany, October - December 2009	
<ul style="list-style-type: none"> • <i>management of all editorial stages of producing a peer-reviewed journal</i> • <i>communication with authors and reviewers, proof reading, copy editing, page building</i> 	
Research intern	2009
Department of the Environment, Agriculture and Geology of the State of Saxony Dresden, Germany, January - February 2009	
<ul style="list-style-type: none"> • <i>comparing and reporting statewide, station-based precipitation data</i> 	
Research intern	2007
German Weather Service, Lindenberg Meteorological Observatory Lindenberg, Germany, July - September 2007	
<ul style="list-style-type: none"> • <i>homogenizing historic high altitude weather balloon data with recent records</i> 	

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*

SEMINARS AND WEBINARS

North Central Climate Adaptation Science Center Climate Adaptation Training Series for Grassland Conservation Practitioners (webinar) 2022

“Climate Change Impacts on Large-Bodied Grazing Ruminants and Forage Grazing”, June 13, 2022

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 Geophysical Union annual meeting (virtual)	2021
Poster: "Grazing in a Warmer World - Assessing the Vulnerability of Northern Mixed-Grass Prairie and Rangeland Livestock Production to Climate Change", December 16, 2021.	
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	
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	
Conference of the Southwest Division of the American Association of Geographers, San Antonio, TX	2015
Poster: "Improving Seasonal Climate Forecasts for Oklahoma Winter Wheat Farmers", November 6, 2015	

Annual meeting of the Society of Environmental Journalists, Norman, OK	2015
Poster: "Improving Seasonal Climate Forecasts for Winter Wheat Farmers in the South-Central U.S.", October 7, 2015 (3 rd prize poster competition)	
Annual Climate Predictions Applications Science Workshop, Las Cruces, NM	2015
Poster: "Tailoring Long-Term Climate Forecasts for Agricultural Producers in Oklahoma — Proposed Dissertation Research", March 24, 2015	
South Central Climate Science Center Early Career Workshop, Norman, OK	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	
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

Society for Range Management (SRM)	Since 2019
American Meteorological Society (AMS)	Since 2013