

TONI KLEMM, PH.D.

U.S. Department of Agriculture - Agricultural Research Service, Rangeland Resources and Systems Research
toni@toni-klemm.de | www.toni-klemm.de | (+1) 405-371-5273

PROFESSIONAL SUMMARY

Applied geographer with expertise in seasonal forecasting and vulnerability in agro-ecosystems, stakeholder engagement, risk planning, and science policy. Ph.D. scientist with experience in leading interdisciplinary research projects, analyzing heterogeneous, large datasets, and communicating to various audiences.

EMPLOYMENT

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| <p>Research Social Scientist (Postdoc)
 Rangelands Resources and Systems Research Unit, U.S. Department of Agriculture
 Project lead <i>"Vulnerability assessment of Northern Mixed-Grass Prairie to climate change"</i></p> <ul style="list-style-type: none"> • synthesizing the state of the science on the vulnerability of Northern Mixed-Grass Prairie to a climate change and increasing climate extremes • hosting stakeholder workshops to share results, gather feedback, identify knowledge gaps, and build relationships | <p>1/2021 - present</p> |
| <p>Postdoctoral Research Associate
 Department of Ecology and Conservation Biology, Texas A&M University
 USDA-funded project <i>"Vulnerability Assessment of U.S. Great Plains Cattle Production to Climate Variability and Change"</i> (website)</p> <ul style="list-style-type: none"> • Wrote 300+ scripts to analyze and visualize climate and vegetation data (languages: NCL, R, Bash) • integrated climate projections and land cover simulations to study grassland responses to climate change • Developed strategic and operational project goals, built and fostered multidisciplinary research team • First author on three published peer-reviewed publications • Facilitated focus group discussions with researchers and stakeholders • Organized and moderated academic research symposium • Outreach and education in elementary to high school classes | <p>3/2018 - 1/2021</p> |
| <p>Graduate Research Assistant
 South Central Climate Adaptation Science Center, University of Oklahoma
 Award-winning dissertation research <i>"Assessing User Needs and Model Accuracy of Seasonal Climate Forecasts for Winter Wheat Producers in the Southern Great Plains"</i></p> <ul style="list-style-type: none"> • 2020 Dissertation Award by the American Association of State Climatologists • Wrote 400+ scripts (NCL, Bash) to analyze and visualize seasonal climate data • Coordinated online stakeholder survey in four U.S. states, collaborated with cooperative extension service • First author on two publications with 70+ citations • Presented at 22 seminars and conferences in 10 U.S. states • Teaching middle school and college classes on climate change and synoptic weather processes • Chaired conference session on "Agriculture under Climate Change" with speakers from four continents • Drafted and reviewed fact sheets and research summaries | <p>2012 - 2018</p> |

Professional freelance photographer, writer, and editor

2007 - 2012

Produced stories and photography for print media in Germany, sports editor at weekly, independent student newspaper (25,000 circulation)

- developed, pitched, and produced 200+ stories (text and photography)
- staff management, budgeting, page planning, copy editing, article review and author feedback
- four public photography exhibitions

Farm hand

2003 - 2004

Sheep and cattle ranches in Australia

- moving and herding cattle and sheep by motorbike, ATV, and horse
- rotational grazing, fence maintenance, weed control
- animal vaccinating, milking, feeding, sheering, branding

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: <i>Campfire Conversations at the 2020 SRM Annual Meeting: Insights & Lessons Learned from "Cuss-and-Discuss" rather than "Chalk-and-Talk"</i> . Rangelands.	Submitted
Guckian, Meaghan, Ezra M. Markowitz, Clay S. Tucker, Elsitia Kiekebusch, Toni Klemm , Lindsey Middleton, Adrienne Wootten, and Michelle D. Staudinger: <i>Assessing the impact of an online climate science community: The Early Career Climate Forum</i> . Weather, Climate, and Society. (link)	2021
Hunt, Eric, Cory Walters, Toni Klemm , and Iyore Eronmwon: <i>Seasonal Forecast Based Preharvest Hedging</i> . Cornhusker Economics. (link)	2020
Briske, David D., John P. Ritten, Amber R. Campbell, Toni Klemm , and Audrey E. King: <i>Future Climate Variability Will Challenge Rangeland Beef Cattle Production in the Great Plains</i> . Rangelands. (link)	2021
Klemm, Toni , David D. Briske, and Matthew C. Reeves: <i>Potential Natural Vegetation and NPP Responses to Future Climates in the U.S. Great Plains</i> . Ecosphere, 11 (10), e03264. (link)	2020
Klemm, Toni , David D. Briske, and Matthew C. Reeves: <i>Vulnerability of Rangeland Beef Cattle Production to Climate-Induced NPP Fluctuations in the U.S. Great Plains</i> . Global Change Biology, 26, 4841-4853. (link)	2020
Klemm, Toni and David D. Briske: <i>Retrospective Assessment of Beef Cow Numbers to Climate Variability Throughout the U.S. Great Plains</i> . Rangeland Ecology & Management. (link)	2019
Klemm, Toni and Renee A. McPherson: <i>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, 57, 2129-2140. (link)	2018
Klemm, Toni and Renee A. McPherson: <i>The development of seasonal climate forecasting for agricultural producers</i> . Agricultural and Forest Meteorology 232, 384-399. (link)	2017

ADDITIONAL EXPERIENCE AND SKILL

Co-founder, board member, science writer, podcast host Early Career Climate Network (www.earlycareerclimate.org)	2012 - Present
<ul style="list-style-type: none"> • Guided strategic development of organization and outreach work • Built a diverse, committed team and led them through several uncertain periods • Hosted two communication workshops for scientists • Current host, producer, and editor of a monthly science podcast 	

Internships (6 weeks each)

- editorial intern, Geographical Society of Berlin 2009
- research intern, Department of the Environment, Agriculture, and Geology of the State of Saxony, Germany 2009
- research intern, German Weather Service 2007

Data processing

NCL (advanced), QGIS (moderate), R (moderate), Python (beginner), GitHub (beginner)

EDUCATION

Ph.D., Geography, University of Oklahoma	2012 - 2018
Dissertation title: <i>Assessing User Needs and Model Accuracy of Seasonal Climate Forecasts for Winter Wheat Producers in the Southern Great Plains</i>	
Committee chair: Renee A. McPherson, Ph.D.	
Diplom-Geograf*, Dresden University of Technology, Germany	2004 - 2011
Minors: meteorology, cartography	
Thesis title: <i>The effects of the North Atlantic Oscillation on precipitation in Morocco</i>	
* equivalent to M.Sc. Geography	

PROFESSIONAL DEVELOPMENT

Summer Policy Colloquium	Summer/Fall 2020
American Meteorological Society, virtual	
Summer School for Sustainable Climate Risk Management	Jul/Aug 2019
The Pennsylvania State University, University Park, PA	
Software Carpentry	August 2019 April 2016
Texas A&M University The University of Oklahoma Library	
Toastmasters International	2017 - 2018
Norman, OK	

GRANTS AND AWARDS RECEIVED

American Association of State Climatologists Dissertation Award	2020
SCRiM Summer School travel grant	2019
ORAU travel grant	2018
AMS travel grant	2017
U.S. Geological Survey travel grant	2016
Graduate Climate Conference travel grant	2016
Society of Environmental Journalists, 3rd prize poster competition	2015
National Weather Center Biennale, finalist (photography)	2013
Ralph and Margaret Olson Scholarship	2013
Robberson Conference Presentation & Creative Exhibition Travel Grant	2013