

Dr. Elinor R. Martin
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Degrees Earned

PhD, Texas A&M University, 2011. Atmospheric Science
MS, Colorado State University, 2007. Atmospheric Science
BSc (Hons), University of Reading, 2005. Meteorology with a year in Oklahoma

Professional Employment

2022 – Present	<u>Edith Kinney Gaylord Presidential Professor</u> , University of Oklahoma, Norman, OK.
2021 – Present	<u>Associate Professor</u> , School of Meteorology, University of Oklahoma, Norman, OK.
2018 – Present	<u>Associate Director for Undergraduate Studies</u> , School of Meteorology, University of Oklahoma, Norman, OK.
2015 – Present	<u>Affiliate</u> , South Central Climate Adaptation Science Center, Norman, OK.
2018 – 2021	<u>Affiliate</u> , Center for Autonomous Sensing and Sampling, Norman, OK.
2015 – 2020	<u>Fellow</u> , Cooperative Institute for Mesoscale Meteorological Studies, Norman, OK.
2014 – 2021	<u>Assistant Professor</u> , School of Meteorology, University of Oklahoma, Norman, OK.
2011 – 2014	<u>Postdoctoral Research Associate</u> , University at Albany, State University of New York, Albany, NY.

Honors and Awards

2021 Award for Excellence in Research in the Natural Sciences, Norman Campus-Wide Research and Creative Activity Awards

2018 University of Oklahoma Top 10 Research Stories of 2018
(http://www.ou.edu/web/news_events/articles/news_2018/top-10-research-stories-of-2018).

2016 College of Atmospheric and Geographic Sciences Dean's Award for Excellence in Teaching

2010 Unocal Graduate Fellowship in Geosciences, D Port Smythe Scholarship, International Education Fee Scholarship. Texas A&M University

2008 Regents Fellowship. Texas A&M University

2005 Collegiate Recruitment Supplemental Fellowship, Colorado State University.

2005 Academic Achievement Award, Department of Meteorology, University of Reading.

Refereed Publications (* student, ^ postdoc)

- *Schroers, M.A., and **Martin, E.R.** (2021). "Potential Predictability and Impacts of Subseasonal Extreme Precipitation Events in the United States", *Journal of Applied Meteorology and Climatology*, In Review.
- *VanBuskirk, O., *Ćwik, P., McPherson, R. A., Lazrus, H., **Martin, E.**, Kuster, C., & Mullens, E. (2021). Listening to Stakeholders: Initiating Research on Subseasonal-to-Seasonal Heavy Precipitation Events in the Contiguous United States by First Understanding What Stakeholders Need, *Bulletin of the American Meteorological Society*, 102(10), E1972-E1986. <https://journals.ametsoc.org/view/journals/bams/102/10/BAMS-D-20-0313.1.xml>
- *Tripp, D., **Martin, E.R.**, Reeves, H. "An Assessment of Oklahoma Winter Weather Through the High-Resolution Lens of Uncrewed Aerial Vehicles (UAVs)." *Journal of Applied Meteorology and Climatology*. <https://doi.org/10.1175/JAMC-D-20-0047.1>.
- Martin, E. R.**, Mc Pherson, R. A., Kuster, E., Bamzai-Dodson, A. (2020). "Managing for a Changing Climate: A Blended Interdisciplinary Climate Course." *Bulletin of the AMS*. <https://doi.org/10.1175/BAMS-D-19-0242.1>.
- *Jennrich, G. C., Furtado, J. C., Basara, J. B., **Martin, E. R.** "Synoptic characteristics of 14-day extreme precipitation events across the United States." *Journal of Climate*. 33, 6423-6440, <https://doi.org/10.1175/JCLI-D-19-0563.1>.
- Martin, E. R.**, Homeyer, C. R., *McKinzie, R. A., *McCarthy, K. M., Xian, T. "Regionally Varying Assessments of Tropical Width in Reanalyses and CMIP5 Models Using a Tropopause Break Metric." *Journal Climate*. 33, 5885-5903, <https://doi.org/10.1175/JCLI-D-19-0629.1>.
- *Flanagan, P. X., Basara, J. B., Furtado, J. C., **Martin, E. R.**, Xiao, X. (2019). "Role of Sea Surface Temperatures in Forcing Circulation Anomalies Driving U.S. Great Plains Pluvial Years." *Journal of Climate*, Vol. 32, 7081-7100, DOI: <https://doi.org/10.1175/JCLI-D-18-0726.1>.
- *Brannan, A. L., **Martin, E. R.** (2019). "Future Characteristics of African Easterly Wave Tracks." *Climate Dynamics*, Vol. 52, 5567-5584, DOI: <https://doi.org/10.1007/s00382-018-4465-z>.
- Martin, E. R.** (2018). Future Projections of Global Pluvial and Drought Event Characteristics. *Geophys. Res. Lett.*. <https://doi.org/10.1029/2018GL079807>.
- Hu, X., Xue, M., Mc Pherson, R. A., **Martin, E. R.**, ^Rosendahl, D. H., Qiao, L. (2018). "Precipitation Dynamical Downscaling over the Great Plains." *Journal of Advances in Modeling Earth Systems*, DOI: 10.1002/2017MS001154.
- *Danco, J., and **Martin, E. R.** (2017) "Understanding the influence of ENSO on the Great Plains low-level jet in CMIP5 models." *Climate Dynamics*, doi: <https://doi.org/10.1007/s00382-017-3970-9>.
- Frazier, A. E., Matthews, A., *Hemingway, B., Crick, C., **Martin, E. R.**, Smith, S. (2017). "Integrating small unmanned aircraft systems (sUAS) into meteorology and atmospheric science: challenges and opportunities for GIScience." *GI Forum*, No. 2, 189-199, DOI: 10.1553/giscience2017_02_s189.
- Martin, E. R.**, Thorncroft, C. (2015). "Representation of African Easterly Waves in CMIP5 Models." *Journal of Climate*, Vol. 28, No. 19, 7702–7715.

- Martin, E. R.,** Thorncroft, C. (2014). "Sahel rainfall in multimodel CMIP5 decadal hindcasts." *Geophysical Research Letters*, Vol. 41, No. 6, 2169–2175.
- Martin, E. R.,** Thorncroft, C. D. (2014). "The impact of the AMO on the West African monsoon annual cycle." *Quarterly Journal of the Royal Meteorological Society*, Vol. 140, No. 678, 31–46.
- Martin, E. R.,** Thorncroft, C., Booth, B. B. (2014). "The multidecadal Atlantic SST—Sahel rainfall teleconnection in CMIP5 simulations." *Journal of Climate*, Vol. 27, No. 2, 784–806.
- Martin, E. R.,** Schumacher, C. (2012). "The relationship between tropical warm pool precipitation, sea surface temperature, and large-scale vertical motion in IPCC AR4 models." *Journal of the Atmospheric Sciences*, Vol. 69, No. 1, 185–194.
- Martin, E. R.,** Schumacher, C. (2011). "Modulation of Caribbean precipitation by the Madden-Julian oscillation." *Journal of Climate*, Vol. 24, No. 3, 813–824.
- Martin, E. R.,** Schumacher, C. (2011). "The Caribbean low-level jet and its relationship with precipitation in IPCC AR4 models." *Journal of Climate*, Vol. 24, No. 22, 5935–5950.
- Martin, E. R.,** Johnson, R. H. (2008). "An observational and modeling study of an atmospheric internal bore during NAME 2004." *Monthly Weather Review*, Vol. 136, No. 11, 4150–4167.

Book Chapters (* student, ^ postdoc)

- Martin, E. R.,** Pillar-Little, E., *Hupsel de Azevedo, G. B. "Assessing the Greenhouse Gas Carbon Dioxide in the Atmospheric Boundary Layer." *Fundamentals of Capturing and Processing Drone Imagery and Data*, A.E. Frazier and K.K. Singh, Chapter 12, 343-354.

Other Publications

- Martin, E. R.** (2018). *Future Projections of Global Drought and Pluvial Event Characteristics* Bulletin of the American Meteorological Society, 9th ed., Vol. 99, 1746. Bulletin of the American Meteorological Society.
- Martin, E. R.** (2018). Future projections of U.S. drought and pluvial event characteristics. *Climate Prediction S&T Digest* (vol. April 2018).

Invited Presentations (since August 2014)

- Martin, E. R. et al., "Precipitation and Latent Heating Characteristics in Tropical Easterly Waves" NASA PMM Science Team. (October 2021)
- Martin, E. R., and Wootten, A., "Precipitation, Streamflow, and Mussel Ecology in Central Texas", SC-CASC Stakeholder Advisory Committee. (November 2021).
- Martin, E. R., "Precipitation Extremes, Whiplashes, and Stakeholder Engagement," Department of Geography and Atmospheric Science, University of Kansas. (February 2021).
- Shivers-Williams, C. A., Martin, E. R., LaDue, D. S., Marmo, A. N., Greene, J. S., Klein, P. M., "Identifying Inequities and Cultural Biases within A&GS to Facilitate Inclusivity and Improving Student Experiences," Understanding Inequity Advancing Equity, University of Oklahoma VPRR. (December 8, 2020).
- Martin, E. R., "Precipitation Extremes, Whiplashes, and Stakeholder Engagement," Department

- of Atmospheric and Oceanic Science, McGill University. (November 2020).
- Martin, E. R. et al., "Building a Global Tropical Easterly Wave and Latent Heating Climatology in NASA Data," NASA PMM Science Team. (October 2020)
- Martin, E. R., "Precipitation Extremes & Stakeholder Engagement," Annual Research Meeting, SC CASC. (October 9, 2020).
- Martin, E. R., "Around the World in 130k (ish) Years: Climate Variability from the Last Interglacial to the Next Century," School of Geosciences, University of Oklahoma. (November 2019).
- Martin, E. R., PMM Science Team Meeting, "Precipitation and Latent Heating in Tropical Easterly Waves," NASA, Indianapolis, IN. (November 2019).
- Martin, E. R., CLOUD-MAP Workshop, "Vertical Profiles of CO2 in the Atmospheric Boundary Layer Measured with UAS," Norman, OK. (July 2019).
- Martin, E., PREEVENTS PI Meeting, "Developing a Framework for Seamless Prediction of Sub-Seasonal to Seasonal Extreme Precipitation Events in the United States," NSF, Washington D.C. (September 20, 2018). Oral Presentation, Workshop.
- Martin, E. R., 2nd Region 6 Transportation-Climat Summit, "Taking Climate Science on the Road: Using Climate Models for Transportation Decisions in the Southern Plains," Southern Plains Transportation Center and South Central Climate Science Center, Norman, OK. (November 14, 2016). Invited Keynote Talk.
- Martin, E. R., NWC Colloquium, "Representation of African Easterly Waves in Historical and Future CMIP5 Simulations," School of Meteorology, Norman, OK. (January 26, 2016). Invited.
- Martin, E. R., Caribbean and Atlantic Studies at Texas A&M Conference, "Caribbean Climate: Past, Present, and Future," Texas A&M University, Bryan, TX. (October 22, 2015). Invited.
- Martin, E. R., Thorncroft, C., NOAA Climate Variability and Predictability Webinar Series, "Decadal Variability and Predictability of the West African Monsoon and Downstream Atlantic Hurricane Activity," NOAA CVP, Webinar. (September 16, 2015). Invited.
- Martin, E. R., "Understanding Rainfall Variability in West Africa: Insights from CMIP5 Simulations," Texas A&M University, College Station, TX. (March 3, 2015). Invited.
- Martin, E. R., "Understanding Rainfall Variability in West Africa: Insights from CMIP5 Simulations," University of Texas, Austin, TX. (March 2, 2015). Invited.
- Martin, E. R., Climate Land Use and Conflict in North Africa, "Sahel Rainfall Decadal Variability in CMIP5 Models," Luebeck, Germany. (September 24, 2014).

Presentations (since August 2014 *student)

- *McAfee, D, Martin, E.R., and Furtado, J. F. "Evaluation of S2S Model Performance for Forecasting US Extreme Precipitation Events." NOAA Climate Diagnostics and Prediction Workshop. (October 2021).
- *VanBuskirk, O., McPherson, R. A., Lazrus, H., Martin, E., Kuster, C., Mullens, E., and *Ćwik, P., "Making Decisions About Extreme Precipitation: How Practitioners Use Sub-seasonal to Seasonal Extreme Precipitation Forecasts and Tools," NOAA Climate Diagnostics and Prediction Workshop. (October 2021).

- *Schroers, M., Martin, E. R., " Potential Predictability and Impacts of Subseasonal Extreme Precipitation Events in the United States," NOAA Climate Diagnostics and Prediction Workshop. (October 2021).
- *Hollis, M., and Martin, E.R. "Development of a Global Tropical Easterly Wave Climatology." AMS 34th Conference on Hurricanes and Tropical Meteorology (May 2021).
- Martin, E.R., McCrary, R., Stachnik, J.P., *Hollis, M., *Lewis-Merritt C. "Precipitation and Latent Heating in Tropical Easterly Waves." AMS 34th Conference on Hurricanes and Tropical Meteorology (May 2021).
- *McAfee, D, Martin, E.R., and Furtado, J. F. "Regional and Seasonal Analysis of S2S Reforecast Ensemble Extreme Precipitation Event Performance With a Subseasonal-to-Seasonal Forecast Range Emphasis." AMS Annual Meeting (January 2021).
- *Tripp, D.D., Martin, E.R., and Reeves, H., "Applications of Uncrewed Aerial Vehicles UAVs in Winter Precipitation-Type Forecasts." AMS Annual Meeting (January 2021).
- *Puxley B., Martin, E.R., and Basara, J.B., "A Climatology of Drought and Pluvial Transitions Across the Southern Great Plains," AMS Annual Meeting (January 2021).
- Shivers-Williams, C. A., Martin, E. R., LaDue, D. S., Marmo, A. N., Greene, J. S., Klein, P. M., "Identifying Inequities and Cultural Biases within A&GS to Facilitate Inclusivity and Improving Student Experiences," AMS Annual Meeting (January 2021).
- Flanagan, P.X., J. B. Basara, E. R. Martin, R. Mahmood, and J. Furtado, "Impact of Anthropogenic Climate Change on Future U.S. Great Plains Wet and Dry Years." AMS Annual Meeting (January 2021).
- *Hollis, M., and Martin, E.R., "Comparing Characteristics of Tropical Easterly Waves in Various Regions." AMS Annual Meeting (January 2021).
- *Puxley B., Martin, E.R., and Basara, J.B., "A Climatology of Drought and Pluvial Transitions Across the Southern Great Plains," AGU Annual Meeting. (December 2020).
- *Schroers, M., Martin, E. R., "Predictability of Subseasonal Extreme Precipitation Events in the United States," AGU Annual Meeting. (December 2020).
- *Puxley B., Martin, E.R., and Basara, J.B., "A Climatology of Drought and Pluvial Transitions Across the Southern Great Plains," Graduate Climate Conference, October-November 2020.
- *Schroers, M., Martin, E. R., "Predictability of Subseasonal Extreme Precipitation Events in the United States," Climate Diagnostics & Prediction Workshop, NOAA. (October 22, 2020).
- Flanagan, P. X., Basara, J. B., Martin, E. R., Mahmood, R., Furtado, J. C., AMS Annual Meeting, "Primary Atmospheric Drivers of Dry and Wet Periods over the U.S. Great Plains within CMIP5 Models," Phoenix, AZ. (January 2020).
- Martin, E. R., Homeyer, C. R., *McKinzie, R., *McCarthy, K. M., Xian, T., AMS Annual Meeting, "Regionally Varying Assessments of Upper-Level Tropical Width in Reanalyses and CMIP5 Models Using a Tropopause Break Metric," Boston, MA. (January 2020).
- Martin, E. R., *Battaglioli, F., *Croad, H., *Cumming, R., Brooks, H. E., AMS Annual Meeting, "Understanding High-Shear Low-CAPE (HSLC) Environments across the Contiguous United States and Europe Using Reanalysis Data," Boston, MA. (January 2020).
- Cwik, P., Martin, E. R., Mc Pherson, R. A., Lazrus, H., Furtado, J. C., Mullens, E., Kuster, C. M., Wagner, M. J., AMS Annual Meeting, "User's Perspective and Decision-Making Process Based on S2S Extreme Precipitation Forecast Products—What We Learned during the PRES2iP Workshop," Boston, MA. (January 2020).

- Brooks, H. E., *Battaglioli, F., *Croad, H., *Cumming, R., Martin, E. R., European Conferences on Severe Storms, " High-Shear/Low-CAPE Environments in Reanalysis Data," Krakow, Poland. (November 2019).
- Cwik, P., Martin, E. R., Climate Prediction Application Science Workshop, "Users Perspectives on S2S Forecast Products for Extreme Precipitation Events," NOAA, Charleston, SC. (June 2019).
- Lenhardt, E.D.*, and E.R. Martin. AMS Annual Meeting, "Analyzing the Evolution of Winter Storm Environments," Phoenix, AZ (January 2019).
- Tripp, D. *, and E.R. Martin. AMS Annual Meeting, "Towards Improving Winter Weather Hydrometeor-Type Forecasts Using High-Resolution UAS Data," Phoenix, AZ (January 2019).
- McPherson, R.A., P. Cwik, H. Lazrus, E. Martin, E. Mullens, C. M. Kuster, and M. J. Wagner. AMS Annual Meeting, "Users Perspectives on S2S Forecast Products for Extreme Precipitation Events," Phoenix, AZ (January 2019).
- Bower, E. *, and E.R. Martin. AMS Annual Meeting, "Global Annual Precipitation Cycles and Variability," Phoenix, AZ (January 2019).
- Flanagan, P.X., J. Basara, J. C. Furtado, E.R. Martin, and X. Xiao. AMS Annual Meeting, "Role of Pacific Sea Surface Temperatures in United States Great Plains Pluvial Years," Phoenix, AZ (January 2019).
- E.R. Martin, E. Pillar-Little, P. B. Chilson, G. Britto Hupsel de Azevedo, and S. Baschky. AMS Annual Meeting, "Measuring Boundary Layer CO₂ with Unmanned Aerial Systems," Phoenix, AZ (January 2019).
- E.A. Pillar-Little, G. Britto Hupsel de Azevedo, S. Baschky, E.R. Martin, and P.B. Chilson. AMS Annual Meeting, "Measurements of the Vertical Structure of Carbon Dioxide in the Atmospheric Boundary Layer and the Atmospheric Surface Layer Using UAS," Phoenix, AZ (January 2019).
- K. DeLong, E. Martin, G. Ouellette Jr., N. Goodkin, F. Taylor, and C. C. Shen. AMS Annual Meeting, "Last Interglacial Sea Surface Temperature Variability in the Tropical Atlantic Warm Pool: A Comparison of Model and Coral-Based Reconstructions," Phoenix, AZ (January 2019).
- Cwik, P., Lazrus, H., Martin, E., Mc Pherson, R., Mullens, E., Kuster, C., Wagner, M., Fall Meeting, "Improving the sub-seasonal to seasonal prediction of extreme precipitation events via co-production of knowledge," AGU, Washington D.C. (December 12, 2018).
- Furtado, J., Basara, J., Rosendahl, D., Cwik, P., Martin, E., Brooks, H., Homeyer, C., Lazrus, H., Mc Pherson, R., Mullens, E., Richman, M., Robinson-Cook, A., Jennrich, G., International Conferences on Subseasonal to Decadal Prediction, "PRES2iP: Prediction of Rainfall Extremes at Subseasonal-to-Seasonal Periods - Year #1," World Climate Research Program, Boulder, CO. (September 17, 2018).
- Martin, E., Pillar-Little, E., Mazuera, S., Neill, M., Baschky, S., Chilson, P., American Meteorological Society's 23rd Symposium on Boundary Layers and Turbulence/21st Conference on Air-Sea Interaction,, "Development of a Robust CO₂ Sensing Platform for Boundary Layer Measurements with UAS," AMS, Oklahoma City, OK. (June 14, 2018).
- Martin, E., Basara, J., Brooks, H., Furtado, J., Homeyer, C., Lazrus, H., Mc Pherson, R., Mullens, E., Richman, M., Robinson-Cook, A., Rosendahl, D., Climate Prediction Applications Science Workshop, "PRES2iP: Prediction of Rainfall Extremes at

- Subseasonal to Seasonal Periods," NOAA, Fargo, ND. (May 22, 2018). Oral Presentation, Workshop.
- Basara, J., Rosendahl, D., Cwik, P., Martin, E., Brooks, H., Furtado, J., Homeyer, C., Lazrus, H., Mc Pherson, R., Mullens, E., Richman, M., Robinson-Cook, A., 8TH GEWEX OPEN SCIENCE CONFERENCE: EXTREMES AND WATER ON THE EDGE, "Developing a Framework for Seamless Prediction of Sub-Seasonal to Seasonal Extreme Precipitation Events in the United States," GEWEX, Alberta, Canada. (May 6, 2018).
- Martin, E. R., AMS Annual Meeting 2018, "Future projections of global drought and pluvial event characteristics," Austin, TX. (January 11, 2018).
- Dziechowski, L. M.*, DiGangi, E., Martin, E. R., AMS Annual Meeting 2018, "An East Coast Winter Storm Climatology and Projected Future Trends," Austin, TX. (January 9, 2018).
- Cwik, P., Rosendahl, D. H., Martin, E. R., Basara, J. B., Brooks, H., Furtado, J. C., Homeyer, C. R., Lazrus, H., Mc Pherson, R. A., Mullens, E. D., Richman, M. B., Robinson-Cook, A., Fall Meeting, "Developing a Framework for Seamless Prediction of Sub-Seasonal to Seasonal Extreme Precipitation Events in the United States," AGU, New Orleans, LA. (December 15, 2017).
- Homeyer, C. R., Martin, E. R., McKinzie, R.*, McCarthy, K.*, Fall Meeting, "Regionally Varying Assessments of Tropical Width in Reanalyses and CMIP5 Models Using a Tropopause Break Metric," AGU, New Orleans, LA. (December 15, 2017).
- Martin, E. R., Climate Diagnostics and Prediction Workshop, "Future projections of U.S. drought and pluvial event characteristics," NOAA, Norman, OK. (October 26, 2017).
- Rosendahl, D. H., Cwik, P., Martin, E. R., Basara, J. B., Brooks, H., Furtado, J. C., Homeyer, C. R., Lazrus, H., Mc Pherson, R. A., Mullens, E. D., Richman, M. B., Robinson-Cook, A., Climate Diagnostics and Prediction Workshop, "Developing a Framework for Seamless Prediction of Sub-Seasonal to Seasonal Extreme Precipitation Events in the United States," NOAA, Norman, OK. (October 24, 2017).
- DeLong, K. L., Ouellette, G., Goodkin, N., Martin, E. R., Rosendahl, D. H., Taylor, F. W., Shen, C.-C., PMIP2017, "A 75-Year Long Absolute SST Reconstruction Reveals Last Interglacial Variability in the Tropical Atlantic Warm Pool: Comparison of Model and Coral-Based Reconstructions," Stockholm, Sweden. (September 25, 2017).
- DeLong, K. L., Ouellette, G., Goodkin, N., Martin, E. R., Rosendahl, D. H., Taylor, F. W., Shen, C.-C., PAGES 5th Open Science Meeting, "Last Interglacial Decadal to Seasonal Temperature Variability in the Tropical Atlantic Warm Pool: Comparison of Model and Coral-Based Reconstructions," Zaragoza, Spain. (May 12, 2017).
- Bamzai, A., McPherson, R. A., Martin, E. R., National Adaptation Forum, "Managing for a Changing Climate: Educating Stakeholders Using a Massive Open Online Course," Saint Paul, MN. (May 11, 2017).
- Stanfield, T.*, and Martin, E.R., "Measuring the Atlantic Multidecadal Oscillation". Curiosity to Creativity Symposium, University of Oklahoma, April 27 2017.
- Martin, E. R., AMS Annual Meeting 2017, "Understanding the Future Characteristics of Caribbean Drought," Seattle, WA. (January 26, 2017).
- Fall, V.*, Martin, E. R., AMS Annual Meeting 2017, "Snowfall Changes During the California Drought," Seattle, WA. (January 24, 2017).
- Brannan, A. L.*, Martin, E. R., AMS Annual Meeting 2017, "African Easterly Wave Tracks as Simulated by CMIP5 Models," Seattle, WA. (January 23, 2017).
- Bamzai, A., Mc Pherson, R. A., Martin, E. R., AMS Annual Meeting 2017, "Massive Open

- Online Climate Change Course," Seattle, WA. (January 23, 2017).
- DeLong, K. L., Ouellette, G., Goodkin, N., Martin, E. R., Rosendahl, D. H., Taylor, F. W., Wu, C.-C., Shen, C.-C., AGU Annual Meeting, "A 80-Year Long Coral-Based Temperature Reconstruction for the Last Interglacial from Northern Hispaniola," AGU, San Francisco, CA. (December 13, 2016).
- Danco, J. *, Martin, E. R., 41st Annual Climate Diagnostics and Prediction Workshop, "Understanding the ENSO - Great Plains Low-Level Jet Relationship in the CMIP5 Models," NOAA, Orono, Maine. (October 4, 2016).
- Toms, B. A. *, Martin, E. R., AMS Third conference on Atmospheric Biogeosciences, "Impacts of climate change on wildfire dispersion in the Intermountain West," AMS, Salt Lake City, UT. (June 20, 2016).
- Martin, E. R., Thorncroft, C., SCENARIO NERC DTP Conference with the University of Oklahoma, "Weather – Climate Interactions in West Arica: African Easterly Waves in CMIP5 Simulations.," University of Reading, Reading, UK. (June 13, 2016).
- Martin, E. R., AMS 32nd Conference on Hurricanes and Tropical Meteorology, "The Role of Atlantic Versus Pacific Variability on Caribbean Drought," American Meteorological Society, San Juan, Puerto Rico. (April 21, 2016).
- Martin, E. R., Thorncroft, C., AMS 32nd Conference on Hurricanes and Tropical Meteorology, "Representation of African Easterly Waves in CMIP5 Models," American Meteorological Society, San Juan, Puerto Rico. (April 18, 2016).
- Martin, E. R., Thorncroft, C., AMS Annual Meeting, "Representation of African Easterly Waves in CMIP5 Models," American Meteorological Society, New Orleans, LA. (January 13, 2016).
- McPherson, R. A., Bamzai, A., Martin, E. R., Moore, B., AMS Annual Meeting, "A Mock United Nations Framework Convention on Climate Change (UNFCCC) for Undergraduates at the University of Oklahoma," American Meteorological Society, New Orleans, LA. (January 11, 2016).
- Danco, J. *, Martin, E. R., 2015 South Central Climate Science Center Research Workshop, "Understanding the Features and Mechanisms of the Great Plains Low-Level Jet in CMIP5 Models," South Central Climate Science Center, Fort Worth, TX. (November 19, 2015).
- Danco, J. *, Martin, E. R., Graduate Climate Conference, "Understanding the Features and Mechanisms of the Great Plains Low-Level Jet in CMIP5 Models," Woods Hole Institute & University of Washington, Woods Hole, MA. (November 6, 2015).
- Martin, E. R., Thorncroft, C, OU-NJU Symposium on Weather and Climate Research, "Representation and Future Projections of AEWs in CMIP5 Models," University of Oklahoma & Nanjing University, Norman, OK. (May 11, 2015).
- Martin, E. R., GFDL - South Central Climate Science Center Research Meeting, "Rainfall Variability in West Africa: Insights from CMIP5 Simulation," South Central Climate Science Center, Princeton, NJ. (January 21, 2015).
- Booth, B., Dunstone, N., Halloran, P. R., Andrews, T., Bellouin, N., Martin, E. R., AGU Fall Meeting, "Forced vs unforced drivers of Atlantic SST variability - linking forced role to magnitude of aerosol forcing," San Francisco, CA. (2014).

Current Funding

Martin, E.R. (PI, 100% credit), " Collaborative Proposal: Climate Model, AVHRR, and Coral Proxy Comparison to Understand Climate Variability in the Intra-Americas Sea Region.," Sponsored by National Science Foundation, Federal. \$335,145. (July 1, 2021 - June 30, 2024). 1 month/year.

Xue, M. (PI), Hong, Y. (co-PI), **Martin, E. R.** (co-PI, 10% credit), Mc Pherson, R. A. (co-PI), Hu, X. (co-PI), "Very-High-Resolution Regional Climate Dynamic Downscaling and Hydrological Simulations for Peru and Arequipa Regions," Sponsored by Universidad Nacional de San Agustin, Industry, \$2,032,052.00. (February 1, 2021 - January 31, 2024).

Elwood Madden, M. (PI), M. Fahs, **E.R. Martin** (co-PI, 15% credit), L. Snyder, L. Soreghan, "EAGER GOLD-EN Rewards: removing barriers and supporting geoscience diversity leaders by revising evaluation and reward systems," Sponsored by National Science Foundation, Federal. (Jan 1, 2021 - Dec 31, 2022). \$299,878.00.

Basara, J. B., Furtado, J. C., **Martin, E.R.** (Co-PI, 25 % credit), "RII Track-1: Socially Sustainable Solutions for Water, Carbon, and Infrastructure Resilience in Oklahoma," Sponsored by Oklahoma State University, State. (August 1, 2020 - July 31, 2025). \$2,353,654. 1 month/year.

Martin, E.R. (PI, 100% credit), "CAREER: Precipitation Variability Across Timescales," Sponsored by National Science Foundation, Federal. \$940,378. (July 1, 2020 - June 30, 2025). 1 month/year.

Sakaeda, N., **Martin, E.R.**, (co-PI, 50% credit), Redemann, J., " Understanding the Coastal-to-Maritime Transition of Propagating Convective Systems over the West African Coastal Region," Sponsored by NASA - Headquarters, Federal. \$587,882. (April 1, 2020 - March 31, 2023). 1 month/year.

Martin, E.R. (PI, 90 % credit), McPherson, R. A., Kuster, E., "Hydrometeorological and Hydroclimatological Whiplashes and Boomerangs in Central Texas: Impacts on Freshwater Mussels," Sponsored by U.S. Department of the Interior, U.S. Geological Survey, Federal. \$170,337. (March 1, 2020 – Feb 28, 2022). 1 month/year.

Martin, E.R., (PI, 100% credit), "Analysis of TRMM-GPM Observations to Improve our Process-Level Understanding and Modeling of Precipitation and Latent Heating in Tropical Easterly Waves," Sponsored by NASA - Headquarters, Federal. \$480,000. (June 1 2019 – May 31 2022). 075 months/year.

Martin, E.R. (PI 20% credit), Furtado, J. C., Homeyer, C. R., McPherson, R. A., Richman, M. B., "PREEVENTS Track 2: Collaborative Research: Developing a Framework for Seamless Prediction of Sub-Seasonal to Seasonal Extreme Precipitation Events in the United States," Sponsored by National Science Foundation, Federal, \$1,842,562.00. (August 1, 2017 - July 31, 2022). 1 month/year.

Mc Pherson, R. A., Kuster, E., **Martin, E.R.** (Co-PI, 10% credit), Moore, B., Shafer, M. A., "Hosting the Department of the Interior's South Central Climate Adaptation Science Center," Sponsored by U.S. Department of the Interior, U.S. Geological Survey, Federal. \$870,640. (August 1, 2019 - July 31, 2024). 0 month/year.

Past Funding

Klein, P., (PI), **Martin, E.R.** (Co-PI, 5% credit), Shivers-Williams, C. (Co-PI), LaDue, D. (Co-PI), and Greene, S. (Co-PI), "Identifying inequities and cultural biases within A&GS to

facilitate inclusivity and improving student experiences” Sponsored by Inequities in the Academic Research and Creative Activity Enterprise Rapid Response Seed Grant Opportunity, OU VPR, \$19,125. (July 2020-Jan 2021). 0 month/year.

Chilson, P. B. (PI), **Martin, E.R.** (Co-PI, 30% credit), Ruyle, J. (Co-PI), "RII Track 2 FEC: Unmanned Aircraft Systems for Atmospheric Physics," Sponsored by Oklahoma State University, State. \$1,181,862. (August 1, 2015 - July 31, 2019). 1 month/year.

Martin, E.R., (PI, 50% credit), Homeyer, C., "Global changes in the width of the tropics in recent and future climates," Sponsored by Research Council Faculty Investment Program, OU VPR, \$10,636. (April 2016 – August 2017). 0 month/year.

McPherson, R. A. (PI), Shafer, M. A. (Co-PI), **Martin, E.R.** (Co-PI, 12% credit), Moore, B. (Co-PI), Kuster, E. (Co-PI), "South-Central Climate Science Center," Sponsored by U.S. Department of the Interior, U.S. Geological Survey, Federal. \$1,928,935. (March 1, 2012 – February 28, 2019). 0 month/year.

Moore, B. (PI), McPherson, R. A. (Co-PI), Kuster, E. (Co-PI), **Martin, E.R.** (Co-PI, 4% credit), "Online Climate Change Impacts Course," Sponsored by U.S. Department of the Interior, U.S. Geological Survey, Federal. \$94,132. (August 15, 2015 - July 31, 2018). 0 month/year.

Teaching (University of Oklahoma)

METR 1003, Introduction to the Atmospheric Sciences, Fall 2019, Fall 2020, Fall 2021

METR 2013, Introduction to Meteorology I. Fall 2015, Fall 2016, Spring 2018, Fall 2018

METR 3440, Mentored Research. Spring 2017

METR 3890, Meteorology Internship. Spring 2017, Summer 2017, Spring 2018, Summer 2018, Summer 2019, Spring 2020, Summer 2021, Fall 2021.

METR 3980, Honors Research, Spring 2018, Spring 2020.

METR 5503, Climate Dynamics. Spring 2015, Spring 2016, Spring 2017, Spring 2019, Spring 2021.

METR 5990, Independent Study.

METR 5980, Research for Master's Thesis.

GEOG 3523/METR 3523, Managing for Changing Climate, Co-Taught. Fall 2016, Fall 2018, Fall 2019, Fall 2020, Fall 2021.

GEOG 3890, Managing for Changing Climate. Co-Taught. Fall 2015

Other Instructional Activities

Guest Lecturer: Louisiana State University Paleoclimate Class "Introduction to Climate Models" (November 10, 2020)

Guest Lecturer: University of Florida "Managing for a Changing Climate" (April 15, 2020)

Mock UN Climate Change Convention METR/GEOG 3523. (November 28, 2017 - December 5, 2017).

Online - Managing for a Changing Climate. Number of registrants: >1000, (Fall 2016, Fall 2017, Fall 2018)

Guest Lecture. Guest lecture in METR 4922 Senior Seminar II (capstone) on research and global climate models. (March 8, 2016)

Guest Speaker, NWC REU. Presentation and panel member. Personal Statements: For Graduate School and Beyond. (2016).

Guest Speaker, NWC REU. How to Successfully Read Scientific Journals. (2019, 2020, 2021).

Guest Speaker, NWC REU. An Introduction to Science Communication. (2016, 2017, 2018).

University at Albany:

Guest Lecturer: ATS306 Climate Variability and Change. Fall 2012, Fall 2013

Texas A&M University:

Guest Lecturer: ATMO201 Introduction to Atmospheric Sciences. Spring 2011

Graduate Mentor: Student Operated ADRAD Project. Spring 2010

Instructor: ATMO202: Introduction to Atmospheric Sciences Lab (3 sections). Fall 2009

Research Mentor: Advancing Hispanic Women in the Geosciences. Summer 2008

Academic Advising

Postdoctoral Advisees

Wootten, Adirenne (0.5 FTE). 2020-present

Bromley, Gabe. 2021 - present

PhD Students

David, Ben. Expected 2023

Schoers, Melanie. Expected 2024

Puxley, Bryony. Expected 2025

M.S. Students

Brandon, Audrey. Expected 2023

Hollis, Margaret. 2021

Puxley, Bryony. 2021

Schroers, Melanie. 2020

Tripp, Daniel. 2019

Brannan, Allison. 2017

Fall, Veronica. 2017

Danco, James. 2016

Undergraduate Research Students

Senior Capstone Projects: 6

Undergraduate Honors Theses: 2

National Weather Center Research Experiences for Undergraduates: 2

Undergraduate Research Assistants: 4

Undergraduate Mentoring and Advising

Undergraduate Reading Exchange Students Advised: >50

Undergraduate OU Exchange Students Advised (study in Reading): >25

SoM Undergraduate Mentoring Ecosystem Leader 2020-2021 (11 students)

Diversity, Equity, and Inclusion Activities/Service/Outreach

DiG: Diversity and Inclusion in Geoscience Participant Fall 2021.

Unlearning Racism in the Geosciences (URGE) POD leader and coordinator for University of Oklahoma (2021)

Climate Projections Training Facilitator, National Tribal and Indigenous Climate Conference (NTICC). Through the SC CASC facilitated a virtual training on using climate projections at the NTICC with ~70 participants. (September 14, 2020).

School of Meteorology Strategic Planning – Cultural Proficiency Team (2020-Present).

Committee Member, AGS Diversity & Inclusion Council (October 2016-Present).

Planning: Hiring practices for DEI in the College of Atmospheric & Geographic Sciences (2020)

Faculty Ally. (2014 - Present)

Diversity Ally. (September 2019 - Present).

Instructor, Norman High School AVID Visit (~60 students). (September 27, 2019).

Workshop, “Civility in the Workplace”, University of Oklahoma (March 2020)

Workshop, “Effective Communication”, University of Oklahoma (March 2020)

Workshop, “Implicit Bias”, University of Oklahoma. (December 2019)

Workshop, “Bystander Training”, University of Oklahoma (May 2019)

Workshop, “Unlearning Classism”, University of Oklahoma. (April 2019).

Workshop, “Unlearning Racism”, University of Oklahoma. (April 2019).

Workshop, "Unlearning Ableism," OU. (September 19, 2019).

Workshop, "Unlearning Sexism," OU. (June 11, 2019).

Workshop, "Unlearning Trans and Homonegativity," OU. (June 5, 2019).

Participant: Diversity, Equity, and Inclusion in the Earth and Environmental Sciences: Ensuring the Success of All Students. NAGT, April 2019.

Instructor, Climate Training for Tribes. Delaware Nation, Delaware Tribe, Shawnee Tribe, (March 15, 2018)

Science Expert, 7th Grade Climate Change Expo @ Irving Middle School (May 2017, January 2018).

Volunteer, Letters to a Pre-Scientist. (September 2016 – May 2017).

Workshop, "Shifting Landscapes: Protocol Training for Building Long-Term Research Relationships in Oklahoma Indian Country," CRPDE, SC CSC. (September 28, 2016).

Volunteer, Wichita and Affiliated Youth Tribes, Norman, OK. (July 21, 2015).

Workshop, "Teaching Scholars Initiative: Diversity, Inclusion, and Equity in Higher Education," Center for Teaching Excellence, University of Oklahoma, Norman, OK. (November 6, 2015).

Department & College Service

SoM Undergraduate Assessment Liaison (2020 – present)

College Appeals Board (Spring 2020)

College Academic Program Committee Member (Aug 2018- present)
Undergraduate Studies Committee Chair (Jan 2020 – present)
NWC Colloquium Committee Co-Chair (Jan 2020 – present)
NWC Colloquium Committee Member (August 2018 – Dec 2019)
College Dean’s Evaluation Committee (2018, 2020)
SoM Student Awards and Scholarships Committee (2017 - Present).
Coordinator, Reading Exchange Program. (2014 - Present).
SoM Meteorology Days Faculty Advisor (Summer 2016, Summer 2017, Summer 2018, Summer 2019).
NWC REU selection committee (February 2016 – present)
Graduate Studies Committee. (2014 - 2018).
Undergraduate Curriculum Revision Committee. (February 2016 – December 2017)
Early Career Faculty Search Committee. (November 2014 - May 2015).
AMS Career Fair Recruiting. (2015, 2016, 2017).
SoM Representative: National Weather Festival (October 2018), Sooner Saturday (April 26, 2019)
Faculty Graduation Marshall (2016 – 2017)

University Service

Faculty Senate’s Research Advisory Committee to the Vice President for Research and Partnerships. (August 2021 – present).
Provost’s Advisory Committee for Classrooms and Scheduling (PACCS). (March 2019 – Present)
Committee Member, Environmental Leadership Search Committee. (October 2015 – May 2017).
Faculty Mentor, Adopt-A-Prof. (October 2015 – July 2017).

Professional Service

Associate Editor, Journal of Climate. (September 2019 - present).
AGU Precipitation Technical Committee (2020 – present)
Committee Co-Chair, South Central Climate Adaptation Science Center Science Meeting – Teleconnections Community of Practice Group (co-chair October 2018 – 2020, member 2020-present)).
Journal Article Reviewer: International Journal of Climatology, Journal of Geophysical Research - Atmosphere, Acta Geophysica, Bulletin of the American Meteorological Society State of the Climate, Meteorology and Atmospheric Physics, Revista de Biología Tropical, Geophysical Research Letters, Journal of Climate, Nature Scientific Reports, Climate Dynamics, Climatic Change, Nature Communications, Monthly Weather Review, Journal of Hydrology, Journal of Hydrometeorology, Progress in Physical Geography
Proposal Reviewer: NASA, NSF, Agence Nationale De La Recherche (French National Funding Agency), Southern Plains Transportation Center
Education Materials Reviewer: NASA SMD Education Products

Session proposer, convener, and co-chair “Climate Extremes in the Tropical Americas: Past, Present, and Future” American Meteorological Society Annual Meeting, Phoenix, AZ, January 10 2019.

American Meteorological Society Official Observer, United Nations Framework Convention on Climate Change: 24th Conference of Parties. (December 1, 2018 – December 9, 2018).

Observer, Joint Advisory Committee (South Central Climate Science Center and USDA Southern Plains Climate Hub). (February 2018 – Present).

External Examiner – Mphil, University of the West Indies. (August 2016 – Present).

Expert Elicitation on Central American Climate Change, FuturAgua (Belmont G8 Freshwater Security Theme). (February 5, 2016).

Early Career Guest, UCAR Annual Meeting. (October 2014).

Community Engagement/Outreach

Workshop Organizer and Facilitator, PRES2iP: Research Products Workshop. Workshop co-organizer. 20 stakeholder participants from across the U.S. included emergency managers, water resources managers, and tribal environmental professionals. (Oct 4 – Oct 6 2021).

Speaker, Headwaters Science Institute Lunch with a Scientist Program @ Hillview Middle School. (June 2021).

Speaker, SAC Professional Development Series, Norman, OK. (September 23, 2019).

Skype-a-Scientist, Participant (March – October 2019).

Content Consultant, Red Line Editorial. Content consultant for “It’s Raining Fish and Other Cool Weather Facts” children’s book (Grade 4-6). (May 2018 – July 2018).

Workshop Organizer and Facilitator, PRES2iP: Research Priorities Workshop. Workshop co-organizer. 22 stakeholder participants from across the U.S. included emergency managers, water resources managers, and tribal environmental professionals. (July 11, 2018 – July 13, 2018).

Guest Speaker, OUSC AMS/NWA. Climate Change: From Broadcast Meteorology to Global Climate Models and Beyond. (November 9, 2016).

Professional Development Activities Attended (since 2014)

Workshop, “A Coaching Approach to Mentoring Undergraduate Students, School of Meteorology. (7 September 2021)

Workshop, “Mentoring and Networking,” College Atmospheric & Geographic Sciences. (21 February 2020).

Workshop, “A Continuing Conversation on Interdisciplinary Research Team Science,” Center for Faculty Excellence, University of Oklahoma. (24 January 2020).

Workshop, “Early Career Proposal Development Series,” CRPDE. (January 2018 - May 2018).

Workshop, “Teaching Revision,” OU Writing Center. (March 30, 2017).

Workshop, “Developing Your Project Summary: The Most Important Page of Your Proposal,” CRPDE & OU Writing Center. (October 28, 2016).

Workshop, “NSF CAREER Proposal Development Series,” CRPDE. (January 2016 - May 2016).

Workshop, “2015 South Central Climate Science Center Research Workshop,” South Central

Climate Science Center, Fort Worth, TX. (November 18, 2015 - November 20, 2015).
Workshop, "Observing & Modeling Climate Variability in the Intra-Americas Seas & Impacts on the Continental Americas & the Caribbean: Virtual Workshop," US CLIVAR. (September 9, 2015 - September 11, 2015).
Seminar, "CTE New Faculty Seminar Lunch Series," University of Oklahoma, Norman, OK. (August 2014 - November 2014).
Workshop, "2014 South Central Climate Science Center Research Workshop," South Central Climate Science Center, Grapevine, TX. (November 20, 2014 - November 21, 2014).
Conference Attendance, "Region 6 Transportation-Climate Summit," Southern Plains Transportation Center, Norman, OK. (September 30, 2014).