Austin R. Harris

austinrharris.weebly.com

EDUCATION

Univ. of Wisconsin—Milwaukee	Ph.D., Atmospheric Science	**2022**
Univ. of Wisconsin—Milwaukee	M.S., Mathematical Science	**2016**
Univ. of Oklahoma	B.S., Meteorology (minor: mathematics)	**2013**
Univ. of Reading (UK)	Year Abroad	**2012**

EXPERTISE

Coupled natural-human modeling, agent-based modeling, model development and verification, numerical weather prediction, teaching/training, warning decision-making, societal impacts of forecasts. **Languages and tools:** Fortran, Python, ArcGIS, JMP PRO, AERMOD.

PROFESSIONAL EXPERIENCE

ASP Postdoctoral Fellow, National Center for Atmospheric Research **2023 – 2025**
Advancing work on agent-based modeling of hurricane evacuations. Supervised by: Chris Davis (NCAR), Rebecca Morss (NCAR), Scott Landolt (NCAR).

Postdoctoral Research Associate, University of Wisconsin-Milwaukee **2022 – 2023**
Funded by NSF award No. 5042100801. Supervised by Paul Roebber (UWM).

Research Associate, University of Wisconsin-Milwaukee **2018 – 2022**
"An agent-based exploration of the hurricane forecast-evacuation system dynamics." Funded by NSF award No. 5042100801. Advised by Paul Roebber (UWM) and Rebecca Morss (NCAR).

Instructor, Warning Decision Training Division, National Weather Service **2016 – 2018**
Develop and deliver online and in-residence training for weather service forecasters who issue severe, tornado, and flash-flood warnings.

Associate Director of Operations and Meteorologist, Innovative Weather **2014 – 2016**
Co-led a 10-person team providing 24/7 decision support services for partners in the energy, transportation, and entertainment sectors..

Instructor, Univ. of Wisconsin-Milwaukee and Oklahoma **2012 – 2020**
Served 13 semesters as an Instructor and TA for online and in-person courses e.g.: Quantitative Intro to Meteorology, Synoptic Meteorology I and II, and Intro to Weather and Climate.

PUBLICATIONS

8. Kahl, JD., Zaprzalka, KJ., Lang, VA., Selbig, BR., and ***Harris, AR***. 2023: Investigating the potential of using mixdown altitudes to forecast peak wind gusts. *Wea. and Fcst.*

7. Harris, AR., Morss, RE., and Roebber, PJ. 2023: What improves evacuations? Exploring the hurricane-forecast-evacuation system using an agent-based framework. *Nat. Haz. Rev.*

6. Harris, AR., Roebber, PJ., and Morss, RE. 2023: A new verification approach? Using coupled-natural human models to explore the forecast-evacuation system. *Bull. Am. Meteorol. Soc.*

5. Lang, VA., Turner, TJ., Selbig, BR., ***Harris, AR.***, and Kahl, JD. 2022: Predicting peak wind gusts during specific weather types with the meteorologically stratified gust factor model. *Wea. and Fcst.*

4. Harris, AR., Roebber, PJ., and Morss, RE. 2021: An agent-based modeling framework for examining the dynamics of the hurricane-forecast-evacuation system. *Int. J. Disaster Risk Reduct.*

3. Kahl, JD., Selbig, BR., and ***Harris, AR***. 2021: Meteorologically stratified gust factors for forecasting peak wind gusts across the United States. *Bull. Am. Meteorol. Soc.*

2. Harris, AR. and Roebber, PJ. 2019: NBA team home advantage: identifying key factors using an artificial neural network. *PLOS One.*

1. Harris, AR. and Kahl, J. 2017: Gust factors: meteorologically stratified climatology, data artifacts, and utility in forecasting peak gusts. *J. Appl. Meteor. Climatol.*, 56, 3151–3166.

**Reviewed manuscripts for the following journals:* International Journal of Disaster Risk Reduction, AGU's Atmospheres, Natural Hazards Review

AWARDS, HONORS, and SERVICE

19th Societal Applications Symposium for AMS 2024 in Baltimore, Co-Chair **2023-2024**
Community Scientist, AGU's Thriving Earth Exchange (details below) **2023-2024**
Seminar Series – MMM Happy Hour, Co-organizer **2023-2024**
NCAR/ASP Fellows Networking Committee, Chair **2023-2024**
Seminar Series – The Triple Point: Where Weather, Climate, and Society Meet, Co-organizer **2023-2024**
AMS Board on Societal Impacts, Member **2022-2024**
AMS Early Career Leadership Academy, Funded Participant **2023**
Rising Voices, Notetaker **2023**
18th Societal Applications Symposium for AMS 2023 in Denver, Co-Chair **2022-2023**
Letters to a Pre-scientist, Pen-pal **2022-2023**
NSF Humans Disasters and the Built Environment – No. 5042100801, Grant Writer **2021**
Freshwater Science DEI Committee, Founding Member **2021-2022**
Racial Justice and Equity Training, Reviewer **2021-2022**
ASP Graduate Student Visitor at NCAR, Recipient **2021-2022**
Teaching Fellow at Wisconsin-Milwaukee, Recipient **2021-2022**
AMS Summer Policy Colloquium, Funded Participant **2021**
AMS 101st Annual Meeting, 1st place Oral Presentation/Student Paper Award **2021**
Distinguished Dissertation Fellowship at Wisconsin-Milwaukee, Recipient **2020-2021**
Ernst Schwandt Memorial Scholarship and Teaching Assistant Award, Recipient **2020**
NCAR ASP Colloquia, Funded Participant **2019**
NCAR Mind the Gap Workshop, Funded Participant **2019**
Northwestern Mutual Data Science Institute Scholarship, Recipient **2019**
Three Minute Thesis at Wisconsin-Milwaukee, Finalist **2019**
Hazardous Weather Testbed Spring Forecast Experiment, Participant **2018**
Storm Prediction Center, Research Intern **2012**

KEY DEI WORK

Community Scientist, Thriving Earth Exchange **2023 –**
Collaborate with the Travis County Office of Resilience and the Clean Air Force of Central Texas – and use air quality models (AERMOD) – to determine the ideal placement of PM sensors to monitor health impacts of concrete batch plants in Austin, TX.

Atmo Peer Mentoring Program at Wisconsin-Milwaukee, Creator **2021 – 2022**
Involved gathering faculty support, identifying mentors, creating the website, writing the handbook, and advertising the program. By fall 2022, the program matched 6 mentors with 28 mentees and it was integrated into the undergraduate curriculum as a requirement.

Unlearning Racism in the Geosciences, Heartland Pod Study Group Leader **2021**
URGE is a journal-reading and policy-design curriculum to improve DEI in geoscience. I led a "pod" of 14 scientists at a variety of institutions including NASA. We met bi-weekly to discuss curriculum materials and discuss policies to implement at our respective institutions.

INVITED SPEAKER AND PANELIST

1. Modeling hurricane evacuations. RAL Early Warning Systems Meeting (11/8/2023)
2. The Triple Point - Interdisciplinary Graduate School Exploration (10/30/23)
3. An agent-based model for exploring the hurricane evacuation dynamics. MMM Seminar Series (10/12/23).
4. Modeling hurricane evacuations. MMM All Lab Meet with Tony B (9/27/23).
5. Evidence-based strategies for teaching success. *2021 UWM New TA Orientation. (*8/21/21)
6. NBA team home advantage. *Osher Lifelong Learning Institute.* Milwaukee, WI. (7/1/21)

MEDIA and INTERVIEWS

1. Interviewed for NBA research by the University of Pennsylvania Student Radio Show (3/21/23)
2. Interviewed for NBA research by the Milwaukee Journal Sentinel newspaper. (7/11/21)
3. TV interview by FOX6 Milwaukee about NBA home advantage (7/1/21).
4. Gust factor research is featured in an article by UWM's In Focus magazine. (3/2/21)
5. NBA research was a featured story in UWM's research magazine (2/24/20)
6. Interviewed for NBA research in Inside Science magazine. (10/22/19)
7. Featured in a UWM article regarding weather forecasting for Summerfest.(7/26/15)