

Montana Etten-Bohm

CONTACT	Department of Atmospheric Sciences, University of North Dakota 4149 University Avenue, Stop 9006 Grand Forks, ND 58202-9006 montana.ettenbohm@und.edu
EDUCATION	Ph.D. Atmospheric Sciences , 2022 Texas A&M University, College Station, TX Advisor: Dr. Courtney Schumacher <i>Dissertation: Lightning and its Relationship with the Large-Scale Environment</i> <ul style="list-style-type: none">• Committee: Dr. Don Conlee, Dr. Mikyoung Jun, Dr. Yangyang Xu M.S. Atmospheric Sciences , 2018 Texas A&M University, College Station, TX Advisor: Dr. Courtney Schumacher <i>Thesis: Evaluating the Relationship of Lightning and Large-Scale Environmental Variables</i> <ul style="list-style-type: none">• Committee: Dr. Mikyoung Jun, Dr. Yangyang Xu B.S. Earth System Science , summa cum laude, 2016 University of Alabama in Huntsville, Huntsville, AL Concentration: Atmospheric Science, Minor: Mathematics
PROFESSIONAL EXPERIENCE	Instructional Assistant Professor , 2022-present University of North Dakota Department of Atmospheric Sciences Graduate Research Assistant , 2016-2022 Texas A&M University Department of Atmospheric Sciences Graduate Assistant Lecturer , 2020-2021 Texas A&M University Department of Atmospheric Sciences
FELLOWSHIPS	Teaching-As-Research (TAR) Fellowship , 2019-2020 More details linked here Texas A&M Univ. Center for the Integration of Research, Teaching & Learning Undergraduate Greater Research Opportunity Fellowship , 2014-2016 Environmental Protection Agency
PUBLICATIONS	[4] Etten-Bohm, M. , C. Schumacher, Y. Xu, and A. Funk, 2024: Projection of Global Future Lightning Occurrence using Large-Scale Environmental Variables in CAM5. <i>Geophysical Research Letters</i> . Submitted. [3] Whaley, C., M. Etten-Bohm , C. Schumacher, A. Akingunola, V. Arora, J. Cole, M. Lazare, D. Plummer, K. von Salzen, and B. Winter, 2023: A new lightning scheme in Canada's Atmospheric Model, CanAM5.1: Implementation, evaluation, and projections of lightning and fire in a future climate. <i>Geoscientific Model Development</i> . Submitted. [2] Etten-Bohm, M. , J. Yang, C. Schumacher, and M. Jun, 2021: Evaluating the relationship between lightning and the large-scale environment and its use for lightning prediction in global climate models. <i>Journal of Geophysical Research: Atmospheres</i> , 126(5). https://doi.org/10.1029/2020JD033990

- [1] Bollman, M. A., G. E. DeSantis, R. M. DuChanois, **M. Etten-Bohm**, D. M. Olszyk, J. G. Lambrinos, and P. M. Mayer, 2019: A framework for optimizing hydrologic performance of green roof media. *Ecological Engineering*, 140, 105589. <https://doi.org/10.1016/j.ecoleng.2019.105589>

HONORS, AWARDS & CERTIFICATES

Oral Presentation Competition Winner, 27th Conference on Probability and Statistics, 102nd American Meteorological Society Conference, Houston, TX, 2022
[More details linked here](#)

Best Student Paper Award for “Evaluating the relationship between lightning and the large-scale environment and its use for lightning prediction in global climate models,” Department of Atmospheric Sciences, Texas A&M University, 2021

Bednarz Award, Center for Integration of Teaching, Research, and Learning (CIRTL), Texas A&M University, 2021 [More details linked here](#)

- “The Bednarz Award honors the many contributions of Dr. Sarah Bednarz to CIRTL@TAMU by annually recognizing an outstanding doctoral student in our CIRTL@TAMU local programs. The selection acknowledges the superior quality of the student’s Teaching-As-Research Fellows project and the depth of the student’s involvement in CIRTL@TAMU.”

Outstanding Graduate Teaching Assistant Award, Department of Atmospheric Sciences, Texas A&M University, 2020

Outstanding Graduate Student Seminar Award, Department of Atmospheric Sciences, Texas A&M University, 2020

Center for the Integration of Research, Teaching and Learning Certificates

- **Scholar**, Texas A&M University, 2020
- **Practitioner**, Texas A&M University, 2020
- **Associate**, Texas A&M University, 2018

Best Poster Presentation, “Creating and Evaluating a Lightning Parameterization using a GLM,” Workshop on Point Process Models, Department of Statistics, Texas A&M University, 2018 [More details linked here](#)

Department of Earth System Science Highest Honors, University of Alabama in Huntsville, 2016

College of Science Dean’s List, University of Alabama in Huntsville, 2014-2016

Exceptional Atmospheric Science Undergraduate Scholar Award, University of Alabama in Huntsville, 2015

STUDENT ADVISING

Current Senior Project Advisees

Kassidy Kjos
Shelby Ebertowski
Payton Braun

Committee chair since Fall 2023
Committee chair since Fall 2023
Committee member since Fall 2023

REU Mentees

Lily Houston
Taylor Aydell

Summer 2019
Summer 2017

PROFESSIONAL MEMBERSHIPS	<p>National Association of Geoscience Teachers, 2021-present</p> <p>American Geophysical Union, 2015-present</p> <p>American Meteorological Society, 2015-present</p>
TEACHING EXPERIENCE	<p>Instructional Assistant Professor, University of North Dakota Atmospheric Sciences Department, 2022-present</p> <ul style="list-style-type: none"> • ATSC 110 <i>Meteorology 1</i> • ATSC 110 <i>Meteorology 1 Laboratory</i> • ATSC 492/493 <i>Senior Project</i> [guest lecturer] • ATSC 494 <i>Research Methods</i> • ATSC 550 <i>Tropical Meteorology</i> <p>Graduate Assistant Lecturer, Texas A&M University Atmospheric Sciences Department, 2020-2021</p> <ul style="list-style-type: none"> • ATMO 201 <i>Weather & Climate</i> <p>Teaching-As-Research Project, Texas A&M University, 2019-2020</p> <ul style="list-style-type: none"> • Solely developed materials for an educational research project. • Offered and taught 24 review sessions over two semesters with varying teaching methods for topics that students had most difficulty grasping. <p>Teaching Assistant/Instructor, Texas A&M University Atmospheric Sciences Department, 2017</p> <ul style="list-style-type: none"> • ATMO 202 <i>Weather & Climate Laboratory</i> • ATMO 203 <i>Weather Forecasting Lab</i>
FIELD PROGRAM EXPERIENCE	<p>TRacking Aerosol Convection interactions ExpeRiment (TRACER), 2022</p> <ul style="list-style-type: none"> • Team lead and coordinator for TAMU-TRACER: organized and assisted in deployments, launched radiosondes and developed and led forecast briefs <p>Verification of the Origins of Rotation in Tornadoes EXperiment-Southeast (VORTEX-SE) Meso18-19, 2018-2019</p> <ul style="list-style-type: none"> • Graduate Coordinator: team lead for radiosonde launches <p>VORTEX-SE, 2015-2016</p> <ul style="list-style-type: none"> • Assisted in forecasting, nowcasting, launching radiosondes and operations of instruments
ACADEMIC ACTIVITIES	<p>Texas A&M Univ. (TAMU) Atmospheric Sciences Graduate Council, 2016-2022</p> <ul style="list-style-type: none"> • President, 2018-2021 • Vice President, 2017-2018 • First-year Representative, 2016-2017 <p>Texas A&M Student Chapter of the American Meteorological Society (TAMSCAMS), 2018-2021</p> <p>TAMU Dept. of Atmospheric Sciences Recruitment Committee, 2016-2020</p> <ul style="list-style-type: none"> • Chair, 2017-2019 <p>Univ. of Alabama in Huntsville (UAH) Undergraduate Profiling & Sounding Team for Operational & Research Meteorology (UPSTORM), 2015-2016</p> <ul style="list-style-type: none"> • Founding President, 2015-2016

UAH College of Science Ambassador, 2015-2016

UAH American Meteorological Society / National Weather Association Student Chapter, 2014-2016

- Undergraduate Student Representative, 2015-2016

UAH Earth Science Student Association, 2014-2016

**EXTERNAL
SERVICE**

American Meteorological Society

- Board on Student Affairs, 2023-present
 - Faculty Advisor
- Board of Higher Education, 2023-present

**TECHNICAL
SKILLS**

Operating Systems

- Mac, Linux, Windows

Programming Languages

- IDL (advanced), R (intermediate), NCL (intermediate), Python (beginner), MatLab (beginner), Shell scripting (beginner)

Other

- LaTeX, Microsoft Word/Excel/Powerpoint, GR2Analyst

**SCIENTIFIC
PRESENTATIONS**

Invited Oral Presentations

- *"Challenges with current GCM lightning parameterizations and potential paths forward"* American Geophysical Union Fall Meeting, New Orleans, LA, Dec 2021
- *"Assessing Methods for Teaching in an Introductory Weather & Climate Course"* Department of Atmospheric Sciences, Texas A&M University, College Station, TX, Jan 2021
- *"Evaluating the Relationship between Lightning and the Large-Scale Environment"* Atmospheric Science Department, University of Alabama in Huntsville, Huntsville, AL, Feb 2020
- *"Tropical Cyclone Tornadoes"* Department of Atmospheric Sciences, Texas A&M University, College Station, TX, Jan 2017

Oral Presentations (*indicates student that I have mentored)

- **Etten-Bohm, M.**, D. Kluver, G. Hademenos, and Z. Handlos, Jan 2024: What is ungrading? *104th American Meteorological Conference, Baltimore, MD*
- **Etten-Bohm, M.**, C. Schumacher, L. Zhu, M. Jun, Y. Xu, Feb 2022: *The Current State of Lightning Parameterizations*, Department of Atmospheric Sciences Graduate Student Seminar Series, Texas A&M University, College Station, TX
- **Etten-Bohm, M.**, L. Zhu, C. Schumacher, M. Jun, Y. Xu, Jan 2022: *Using Advanced Statistical Models to Predict Lightning in GCMs*, 102nd Annual American Meteorological Society Conference, Houston, TX (virtual)
- **Etten-Bohm, M.**, L. Zhu, C. Schumacher, M. Jun, Y. Xu, May 2021: *Using Statistical Models to Implement a Lightning Parameterization in a GCM*, 34th Conferences on Hurricanes and Tropical Meteorology, New Orleans, LA (Virtual)

- **Etten-Bohm, M.**, C. Schumacher, L. Zhu, M. Jun, Y. Xu, Jan 2021: *Evaluating an Environment-Only Lightning Parameterization for GCMs*, 101st Annual American Meteorological Society Conference, New Orleans, LA (Virtual)
- **Etten-Bohm, M.**, D. Conlee, Oct 2020: *Assessing Methods for Teaching Introductory Concepts in Atmospheric Sciences*, Department of Atmospheric Sciences Graduate Student Seminar Series, Texas A&M University, College Station, TX
- **Etten-Bohm, M.**, L. Houston*, C. Schumacher, Sep 2019: *How does the QBO influence lightning in the tropics?*, Department of Atmospheric Sciences Graduate Student Seminar Series, Texas A&M University, College Station, TX
- **Etten-Bohm, M.**, C. Schumacher, J. Yang, M. Jun, Y. Xu, Jan 2019: *Evaluating the Relationship between Lightning and Large-Scale Environmental Parameters with Observational Data, Statistical Models, and Lightning Parameterizations in GCMs*, 99th Annual American Meteorological Society Conference, Phoenix, AZ
- **Etten-Bohm, M.**, C. Schumacher, Feb 2018: *Lightning Correlation with Environmental Variables*. Department of Atmospheric Sciences Graduate Student Seminar Series, Texas A&M University, College Station, TX
- **Etten-Bohm, M.**, R. Wade, K. Knupp, R. Griffin, Dec 2016: *Tropical Cyclone Tornadoes*. Department of Atmospheric Sciences Graduate Student Seminar Series, Texas A&M University, College Station, TX

Contributed Poster Presentations (*indicates student that I have mentored)

- **Etten-Bohm, M.**, L. Houston*, C. Schumacher, C. Hernandez, S. Stevenson, , May 2021: *The QBO's Influence on Tropical Lightning Activity*, 34th Conferences on Hurricanes and Tropical Meteorology, New Orleans, LA (Virtual)
- **Etten-Bohm, M.**, D. Conlee, Jan 2020: *What Instruction Method Enhances Understanding of Fundamental Concepts in an Introductory Meteorology Course?* 100th Annual American Meteorological Society Conference, Boston, MA
- Houston, L. *, **M. Etten-Bohm**, C. Schumacher, Jan 2020: *Quasi-Biennial Oscillation Impacts on Lightning in the Tropics*. 19th Annual American Meteorological Society Student Conference, Boston, MA
- **Etten-Bohm, M.**, J. Yang, M. Jun, C. Schumacher, Sep 2018: *Creating and Evaluating a Lightning Parameterization using a GLM*. Workshop on Point Process Models, Statistics Department, Texas A&M University
- Yang, J., **M. Etten-Bohm**, M. Jun, C. Schumacher, Sep 2018: *Lightning Parameterization through Point Process Modeling*. Workshop on Point Process Models, Statistics Department, Texas A&M University
- **Etten-Bohm, M.**, C. Schumacher, Apr 2018: *Lightning Correlation with Environmental Variables using the TRMM LIS*. 33rd Conference on Hurricanes and Tropical Meteorology, Ponte Vedra, FL
- **Etten-Bohm, M.**, C. Schumacher, Jan 2018: *Lightning Correlation with Environmental Variables using the TRMM LIS*. 98th Annual American Meteorological Society Conference, Austin, TX
- Aydell T. *, **M. Etten-Bohm**, C. Schumacher, Jan 2018: *Assessment of Precipitation in CMIP5 Models Using TRMM Data*. 17th Annual American Meteorological Society Student Conference, Austin, TX
- **Etten-Bohm, M.**, R. Wade, Jan 2017: *Dual-Doppler Analysis of Two Tropical Cyclone Tornado Cases*. 16th Annual American Meteorological Society Student Conference, Seattle, WA

- **Etten-Bohm, M., R. Wade**, Jan 2016: *Tropical Cyclone Tornadoes: An Analysis of All Tropical Cyclone Tornadoes between 2008 and 2015*. 15th Annual American Meteorological Society Conference, New Orleans, LA
- **Etten-Bohm, M., R. Wade**, Dec 2015: *An Analysis of All Tropical Cyclone Tornadoes between 2008 and 2015*. American Geophysical Union Fall Meeting, San Francisco, CA, Dec 2015
- **Etten-Bohm, M., R. Wade**, Oct 2015: *Tornadogenesis within Hurricanes: A Study of All Tropical Cyclone Tornadoes between 2008 & 2015*. Von Braun Symposium, Huntsville, AL