

# Anthony L. Williams

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## Education

**Auburn University, Auburn, AL**

Aug 2024 – Present

Earth System Science Ph.D. (Expected: May 2027)

Research Concentration: Geocognition and Space Weather Science

**Millersville University, Millersville, PA**

May 2024

Integrated Scientific Applications M.S.

Concentration: Weather Intelligence and Risk Management

Graduate Certificate: Space Weather and

Environment: Science, Policy, and Communication

**St. Cloud State University, Saint Cloud, MN**

May 2021

Meteorology B.S.

Concentration: Numerical Weather Prediction and Science Communication

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## Professional Experience

**Graduate Teaching Assistant**

Aug. 2024 – Present

Department of Geosciences

Auburn University, Auburn AL

- Lead and facilitate undergraduate lab sessions, discussions and hands-on activities.
- Assist in developing and refining lab activities and instructional materials
- Deliver portions of course lectures as part of teaching duties.
- Assess student performance through grading and constructive feedback.
- Support course instructors through collaborative planning, lab scheduling and inventory management.

**Grant Proposal Writer (Contract)**

June 2024 – Sep. 2024;

University of Minnesota – Extension

Aug 2025 – Nov 2025

Regional Sustainable Development Partnerships

- Applied space weather expertise and technical writing to develop targeted grant proposals.
- Conducted detailed research on space weather impacts relevant to proposal goals.

- Translated complex scientific concepts into clear language aligned with funding criteria.
- Collaborated with partners to gather information and ensure the proposal's accuracy and relevance.

**Teaching and Learning Assistant**

Aug. 2018 – May 2021

Saint Cloud State University, Saint Cloud, MN

- Engaged in teaching diverse meteorology topics including radar meteorology, numerical weather prediction, and earth science communication.
- Collaborated with faculty to create course materials and activities.
- Participated in course planning and execution.
- Participated in extensive science and climate educational outreach, driven by a interest in science communication and community engagement.

**Co - Owner / Operator**

Jan. 2008 – Aug 2018

ABC Auto Body

Saint Paul, MN

- Coordinated logistics for business operations and related projects, including materials, finances, and scheduling.
- Managed insurance claims, facilitating communication between agencies and clients.
- Supported clients in understanding insurance policies, procedures, and automotive repair processes.
- Performed automotive repairs, including body work, painting, finishing, and related tasks.
- Developed and improved business relationships.

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**Research Experience**

**Research Assistant – AUSSI Workshop**

Summer 2025

Auburn University, Auburn, AL

- Participated in a qualitative research project by systematically memoing daily workshop sessions.
- Documented group discussions, activities, and interactions to support analysis of educational practices.
- Collaborated with a research team to ensure accurate, detailed records of workshop proceedings.

**Graduate Assistant**

Aug. 2022 – May 2024

Center for Disaster Research and Education (CDRE)

M.S. Emergency Management / M.S. Integrated Scientific Applications programs

Millersville University, Millersville, PA

- Conducted interdisciplinary quantitative research on space weather science, effectively communicating findings at research colloquiums and professional conferences.
- Led diverse projects including recruitment for a space weather program, coordination of social media campaigns, crafting of scientific writing for professional engagements, and conducting research data analysis.
- Collaborated with faculty and professionals across disciplines to develop emergency operation plans, emphasizing concise technical writing and effective dissemination of complex information.
- Partnered with emergency management and public health professionals on outreach initiatives to advocate for community-focused weather hazard safety.

**Grant Research Assistant**

Sep. 2022 – May 2023

Millersville University, Millersville, PA

- Collaborated with STEM professors on NSF's NOYCE grant projects, emphasizing professional growth in interdisciplinary teamwork.
- Designed, administered, and analyzed research surveys for science education undergraduates. Disseminated results to team of interdisciplinary scientists.
- Led focus group interviews with STEM undergraduates, analyzed results, and presented findings to the research team.
- Contributed to planning discussions and activities during meetings with the Principal Investigator (PI) and Co-PIs.
- Contributed to technical writing and editing of research white papers.

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**Teaching Experience**

**Head Laboratory Graduate Teaching Assistant**

Spring 2025 - Present

Department of Geosciences

Auburn University, Auburn, AL

Course:

– Global Systems I – Weather and Climate (GEOG -1020)

**Laboratory Graduate Teaching Assistant**

Fall 2024

Department of Geosciences

Auburn University, Auburn, AL

Courses:

- Global Systems I – Weather and Climate (GEOG -1020)
- Concepts of Science (SCMH-1010)

**Teaching Assistant**

Spring 2024

Department of Earth Sciences  
Millersville University, Millersville, PA

Course:

- Radar Meteorology: w/lab (ESCI 449)

**Teaching Assistant**

Summer / Winter 2023

Department of Earth Sciences  
Millersville University, Millersville, PA

Course:

- The Atmosphere: w/lab (ESCI 109)

**Learning Assistant**

Aug. – Dec. 2020

Department of Atmospheric and Hydrologic Sciences  
St Cloud State University, St. Cloud, MN

Course:

- Introductory Meteorology (AHS 260)

**Teaching Assistant**

Jan. 2019 – May 2021

Department of Computer Science and Information Technology  
St. Cloud State University, St. Cloud, MN

Course:

- Introduction to Linux (CNA 267)

**Teaching Assistant**

Aug. 2018 – May 2021

Department of Atmospheric and Hydrologic Sciences  
St Cloud State University, St. Cloud, MN

Courses:

- Numerical Weather Prediction (AHS 467) Spring 2021
- Introductory Meteorology (AHS 260) Spring 2021
- Radar and Satellite Meteorology (AHS 368), Fall 2018 - 2019
- Introduction to Atmospheric Sciences (AHS 104), Fall 2018

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**Presentation/Outreach Experience**

2026      **Poster Presentation**, “Developing and Validating a Space Weather Concept Inventory (SWCI)”

American Meteorological Society Annual Meeting. Houston, TX

2025      **Workshop Leader**, “Storytelling & Public Speaking”  
Science Communication Workshop, Biggio Center for Teaching and Learning,  
Auburn University, Auburn, AL

2024      **Poster Presentation**, “Quantitative analysis of cosmic ray flux and the  
potential impact on human health over multiple solar cycles.”  
NOAA Space Weather Workshop. Boulder, CO

2023      **Poster Presentation**, “Heliobiology: Making Connections Between Space  
Weather and Human Health”.  
NOAA Space Weather Workshop. Boulder, CO

**Poster Presentation**, “Heliobiology: Making Connections Between Space  
Weather and Human Health”  
HamSCI Workshop. University of Scranton, Scranton, PA

2022      **Professional Presenter**, “Emergency Preparedness Day”.  
Educated attendees on the importance of emergency planning and instructed  
the use of emergency materials supplied to audience.  
Millersville University, Millersville, PA

2020      **Professional Presenter**, led discussion of climate change and hosted a once  
yearly Q & A session on meteorology with residents of a local senior center.  
Whitney Senior Center, St. Cloud, MN

2019      **Workshop Presenter**, led American Association of University Women’s Tech  
Savvy workshop for girls in 5-9<sup>th</sup> grade studying STEM fields.  
Presentation utilized the Hydrology Lab’s stream table to demonstrate the  
processes of erosion and dam building.  
Saint Cloud State University, Saint Cloud, MN

**Professional Presenter**, participated in discussion at local senior center about  
severe weather safety and hosted a Q & A on meteorology.  
Whitney Senior Center, St. Cloud, MN

**Workshop Presenter**, chaired booth while presenting severe weather safety  
tips to visitors at annual Child Safety Fair.  
Minnesota University of Health, Maple Grove, MN

**Subcommittee Member**, helped plan the AMS Student Chapter yearly club  
trip to the National American Meteorological Society Conference.

2018      **Job Shadow and Professional Presentation**, worked alongside a Hennepin County Emergency Management meteorologist, then delivered presentation about the Hennepin West Mesonet network to a joint meeting of the Twin Cities Meteorological Society and the AMS Student Chapter  
St. Cloud State University, Plymouth, MN

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## Skills

### Technical Skills

Python, R, GIS (ArcGIS, QGIS), Microsoft Office Suite, D2L Brightspace, Canvas, Cascade

### Research & Academic Skills

Meteorology (Radar & Satellite Analysis, Forecast Interpretation), Atmospheric & Space Weather Science, Data Analysis, Survey & Assessment Design, Curriculum Development, Undergraduate Teaching, Grant and Proposal Writing

### Professional Skills

Scientific Writing, Technical Communication, Public Speaking, Stakeholder and Public Engagement, Program Evaluation, Leadership in Academic/Professional Committees

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## Professional Organization Affiliations

2018 – Present      American Meteorological Society (AMS)

2023 - Present      AMS Committee on Measurements

AMS Space Weather STAC – Student Liaison

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## Conferences Attended

2026      **American Meteorological Society Annual Meeting**  
January – Houston, TX

2025      **American Meteorological Society Annual Meeting**  
January – New Orleans, LA

2024      **American Meteorological Society Annual Meeting**  
January – Baltimore, MD

- 2023      **NOAA Space Weather Workshop**  
April – Boulder, CO
- AMS Washington Forum**  
April, Washington DC
- HamSci Workshop**  
March – Scranton, PA
- American Meteorological Society Annual Meeting**  
January – Denver, CO
- 2021      **American Meteorological Society Annual Meeting**  
January – Boston, MA
- 2020      **Northern Plains Weather Workshop**  
October, Saint Cloud, MN
- American Meteorological Society Annual Meeting**  
January – Phoenix, AZ
- 2019      **Northern Plains Weather Workshop**  
November, Saint Cloud, MN

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## Publications

**Taylor, C. E.,** Marcum-Dietrich, N., Ramos-Sepulveda, L., Washington, T., Yalda, S., & Williams, A. (2023). Building capacity to identify and address the needs and challenges of STEM education majors [White paper].

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## Student Organizations

- 2020 – 2021      **Vice President,** American Meteorological Society (AMS) Student Chapter, St. Cloud State University
- 2019 – 2020      **Secretary,** American Meteorological Society (AMS) Student Chapter, St. Cloud State University