

KYLE J GILLETT

PhD Student, Severe Storm Scientist, Meteorologist

Department of Atmospheric Sciences, University of North Dakota, Grand Forks, ND

External Links

Phone: (517)-392-8248

Email: kyle.gillett@und.edu

Website: kylegillettphoto.com

ORCID: orcid.org/0009-0001-5528-5037

Google Scholar ID: [TJfePdkAAAAJ](https://scholar.google.com/citations?user=TJfePdkAAAAJ)

GitHub: github.com/kylejgillett

ResearchGate: [Kyle-Gillett-2](https://www.researchgate.net/profile/Kyle-Gillett-2)

Twitter/X: [x.com/wxkylegillett](https://twitter.com/wxkylegillett)

Internal Links

1. [Education](#)
2. [Research Experience](#)
3. [Publications](#)
4. [Presentations](#)
5. [Software Development and Data](#)
6. [Teaching Experience](#)
7. [Leadership Experience](#)
8. [Awards and Honors](#)
9. [Service & Memberships](#)
10. [Mentorship](#)
11. [Related Experience](#)
12. [Skills](#)

1 EDUCATION

PhD, Atmospheric Science, University of North Dakota	In Progress
M.S., Atmospheric Science, University of North Dakota	August 2026
B.S., Meteorology, Minor Mathematics, Central Michigan University	May 2024

2 RESEARCH EXPERIENCE

PhD Dissertation Research, University of North Dakota	In Progress
- Title: "TBD" - Committee: Dr. Matthew Brown (Advisor), Dr. Cameron Nixon, Dr. Puja Roy, Dr. Casey Davenport	
M.S. Thesis Research, University of North Dakota	August 2024-July 2026
- Title: "Effects of a Rear Flank Storm Interaction on Storm Behavior and Tornado-Like Vortex Development in Idealized Simulations" - Committee: Dr. Catherine Finley (Advisor), Dr. Bruce Lee, Dr. Cameron Nixon	
Graduate Research Assistant, University of North Dakota	June-December 2025
- Project: "Using Aircraft Observations to Improve Tropical Cyclone Tornado Predictability Before Landfall"	

- **Committee:** Dr. Jacob Carstens (Advisor)

Undergraduate Research Assistant, Central Michigan University April-August 2023

- **Project:** “*Synoptic & Mesoscale Variability of US Large Hail Environments*”
- **Committee:** Dr. John Allen (Advisor), Dr. Cameron Nixon

3 PUBLICATIONS

3.1 PAPERS

- Gillett, K. J., 2025: SounderPy: An atmospheric sounding visualization and analysis tool for Python. J. Open-Source Software, 10 (112), 8087, <https://doi.org/10.21105/joss.08087>

4 PRESENTATIONS (* DENOTES STUDENT CO-AUTHOR, ** DENOTES INVITED PRESENTATION)

4.1 PRESENTATIONS

- ****Gillett, K., J.**, May 2026: **SounderPy: A Sounding Analysis and Visualization Platform for Severe Weather Forecasting.**, Environment Canada Storm Prediction Centre Spring Change of Seasons Workshop, Dartmouth, Nova Scotia, Canada
- ****Gillett, K., J.**, May 2026: **Storm Interactions: Their Relationship with Storm Behavior and Tornadoogenesis.**, Environment Canada Storm Prediction Centre Spring Change of Seasons Workshop, Dartmouth, Nova Scotia, Canada
- ****Gillett, K., J.**, May 2026: **SounderPy: A Sounding Analysis and Visualization Platform for Severe Weather Forecasting.**, Environment Canada Storm Prediction Centre Winnipeg Spring Change of Seasons Workshop, Winnipeg, Manitoba, Canada
- ****Gillett, K., J.**, May 2026: **Storm Interactions: Their Relationship with Storm Behavior and Tornadoogenesis.**, Environment Canada Storm Prediction Centre Winnipeg Spring Change of Seasons Workshop, Winnipeg, Manitoba, Canada
- **Gillett, K., J.**, April 2026: **A Theory on the Relationship Between Rear Flank Storm Interactions, Storm Behavior, and Tornadoogenesis.**, Symposium on Local Atmospheric Research, University of North Dakota, Grand Forks, North Dakota

- ****Gillett, K., J.**, April 2026: **Storm Interactions: Their Relationship with Storm Behavior and Tornadoogenesis.**, Grand Forks National Weather Service Change of Seasons Workshop, Grand Forks, North Dakota
- **Gillett, K., J.**, March 2026: **A Theory on the Relationship Between Rear Flank Storm Interactions, Storm Behavior, and Tornadoogenesis.**, 29th Annual Central Iowa National Weather Association Severe Storms and Doppler Radar Conference, Ames, Iowa
- Nixon, C., **Gillett, K.**, Tang, J., Fowkes, H., February 2025: **Chase Archive: Introducing the biggest collection of storm chases on the web. For chasers, by Chasers.**, National Storm Chaser Summit.
- **Gillett, K.**, May 2025: **A Simple Guide to Forecasting the Northern Lights: Auroral Substorms**, Seminar for Local Atmospheric Research, Grand Forks, ND.

4.2 POSTERS

- **Gillett, K., J.**, March 2026: **A Numerical Investigation into the Impacts of a Rear Flank Storm Interaction on Storm Behavior and Tornadoogenesis**, 2026 Graduate Research Achievement Day (GRAD), University of North Dakota, Grand Forks, North Dakota
- Belzer, B. W*, **Gillett, K. J.**, Carstens, J., D., January 2026: **Convective Environments Preceding Landfall in Tornadic Tropical Cyclones: An Analysis of Airborne Observations**, 106th AMS Annual Meeting, Houston, TX, <https://doi.org/10.13140/RG.2.2.29219.11047>
- **Gillett, K. J.**, March 2024: **SounderPy: A Sounding Visualization Tool for Severe-Weather Analysis and Forecasting**, 27th Annual Central Iowa National Weather Association Severe Storms and Doppler Radar Conference, Ames Iowa, <https://doi.org/10.13140/RG.2.2.15823.29600>

4.3 OTHER INVITED TALKS

- **Space Weather Forecasting**, University of North Dakota, April 2025
- **Space Weather Forecasting**, University of North Dakota, May 2026

5 SOFTWARE DEVELOPMENT AND DATA

SounderPy, Sole Developer

July 2023-present

- Open-Source Python software package for retrieving, analyzing, and visualizing observed, modeled, and reanalyzed atmospheric sounding data.

MetPy, Contributor

August 2023

6 TEACHING EXPERIENCE

6.1 INSTRUCTOR OF RECORD

- ATSC-270 **Computer Concepts in Meteorology**, Spring 2026, UND

6.2 TEACHING ASSISTANT

- ATSC-411 **Advanced Synoptic Meteorology**, Fall 2025, UND
- ATSC-405 **Numerical Methods in Meteorology**, Fall 2025, UND
- ATSC-110 **Introduction to Meteorology Lab**, Fall 2025, UND
- ATSC-110 **Introduction to Meteorology Lab**, Spring 2025, UND
- ATSC-270 **Computer Concepts in Meteorology**, Spring 2025, UND
- ATSC-411 **Advanced Synoptic Meteorology**, Fall 2024, UND
- ATSC-405 **Numerical Methods in Meteorology**, Fall 2024, UND

7 LEADERSHIP EXPERIENCE

National Weather Service Liaison – University of North Dakota Atmospheric Science Graduate Student Association, May 2025-present

President – Central Michigan University Student Chapter of the American Meteorological Society, April 2023-May 2024

Webmaster – Central Michigan University Student Chapter of the American Meteorological Society. April 2020-April 2023

8 AWARDS & HONORS

Outstanding Master's Student – University of North Dakota, College of Aerospace, Department of Atmospheric Science (2026)

Outstanding Graduate Teaching Assistant – University of North Dakota, College of Aerospace, Department of Atmospheric Science (2025)

Best Graduate Student Teaching Assistant – University of North Dakota Student Chapter of the American Meteorological Society (2025)

Department Service Award – Central Michigan University Department of Earth & Atmospheric Science (2024)

9 SERVICE & MEMBERSHIPS

Student Member – American Meteorological Society, January 2024-present

Member & Officer – UND Atmospheric Science Graduate Student Association, August 2024-present

SCALAR Conference Organizer – UND Atmospheric Science Graduate Student Association, May 2024-present

Committee Head – Map-wall Development, Osborne Weather Center Remodel, UND Department of Atmospheric Science, January 2025-present

Member & Officer – CMU Student Chapter of the American Meteorological Society, August 2018-May 2024

10 MENTORSHIP

Committee Member – Payton Belzer, Senior Undergraduate Project: *Entraining CAPE in Tropical Cyclones from Aircraft Reconnaissance Dropsondes* (with Jacob Carstens and Catherine Finley), University of North Dakota, 2025-2026

11 RELATED EXPERIENCE

Full Time On-Air Broadcast Meteorologist – WNEM TV5, GRAY-TV, Saginaw-MI, August 2022-August 2024

Freelance On-Air Broadcast Meteorologist – WLNS TV6, Nexstar Broadcasting, Lansing-MI, October 2020-August 2021

Intern, Storm Chaser – KSNB Local4, GRAY -TV, Hastings-NE, June 2022-August 2022

Intern – WLNS TV6, Nexstar Broadcasting, Lansing-MI, June 2019-August 2019

12 SKILLS

12.1 PROGRAMMING & DATA ANALYSIS

- Python (advanced)
- Linux/Unix/WSL (proficient)
- HTML/CSS (proficient)
- Cloud Model 1 (CM1), Weather Research & Forecast Model (WRF), (proficient)

- LaTeX (proficient)
- Shell Scripting (intermediate)
- VBA, MatLab, & FORTRAN (beginner)
- JSON, CSV, netCDF, GRIB, TXT

12.2 OTHER COMPUTER

- Microsoft Office
- Google Sheets/Drive etc.
- Windows, Linux
- Gibson Ridge
- IDV
- Zoom & WebEx
- Adobe Lightroom, Photoshop, Premiere

13 FEATURED IN

Synoptic Analysis and Forecasting: An Introductory Toolkit, 2nd Edition, Shawn Milrad, 2025.