# KYLE J GILLETT

Master's Student, Severe Storm Scientist, Meteorologist

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## 1 EDUCATION

**M.S.,** Atmospheric Science, University of North Dakota — In progress

**B.S.,** Meteorology, Minor Mathematics, Central Michigan University — May 2024

## 2 RESEARCH EXPERIENCE

**Master's Thesis Research,** University of North Dakota — In progress

- **Title:** "*A Numerical Investigation into the Impacts of a Rear Flank Storm Interaction on Storm Behavior and Tornadogenesis*"
- **Advisor:** Dr. Catherine Finley

**Graduate Research Assistant,** University of North Dakota — June-August 2025

- **Project:** "*Using Aircraft Observations to Improve Tropical Cyclone Tornado Predictability Before Landfall*"
- **Advisor:** Dr. Jacob Carstens

**Undergraduate Research Assistant,** Central Michigan University — April-August 2023

- **Project:** "*Synoptic & Mesoscale Variability of US Large Hail Environments*"
- **Advisor:** Dr. John Allen

## 3 PERSONAL PROJECT EXPERIENCE

**SounderPy,** Sole Developer — July 2023-present

- SounderPy is PyPi python package that retrieves and plots vertical profile data for meteorological analysis.

- SounderPy can retrieve data from the ECMWF ERA5, RAP, RUC, & NCEP-FNL reanalysis datasets, IGRAv2, RAOB, & ACARS observations, and BUFKIT model forecasts.
- This package quickly and effectively retrieves, parses, and plots sounding data in easy-to-use formats.
- SounderPy is being used by a number of NWS WFOs, Universities, and other institutions and has been used in peer-reviewed literature.
- This library is available on GitHub & PyPi. It can be installed via pip and an operational SounderPy web-application can be found at sounderpysoundings.anvil.app.

**Storm Chase Archive,** Co-Developer — August 2024-present

**Storm Chaser Coaching,** Coach, Tour Guide — January 2024-present

**Michigan Tornado Sounding Archive,** Sole Developer — June 2022-May 2024

**US Tornadoes Case Archive,** Co-Author — Spring 2023

**MetPy,** Contributor — August 2023

# 4 PUBLICATIONS

## 4.1 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

# 5 CONFERENCE PRESENTATIONS

## 5.1 POSTERS

- Gillett, K. J., March 2024: **SounderPy: A Sounding Visualization Tool for Severe-Weather Analysis and Forecasting**, Central Iowa National Weather Association Severe Storms and Doppler Radar Conference.

### 5.2 PRESENTATIONS

- 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.

### 5.3 OTHER INVITED TALKS

- **Space Weather Forecasting,** University of North Dakota, April 2025
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## 6 TEACHING EXPERIENCE

### 6.1 COURSES TAUGHT

- **Instructor of Record,** University of North Dakota, ATSC-270 Computer Concepts in Meteorology, Spring 2026

### 6.2 COURSES TA'ED

- **Teaching Assistant,** University of North Dakota, ATSC-411 Advanced Synoptic Meteorology, Fall 2025
- **Teaching Assistant,** University of North Dakota, ATSC-405 Numerical Methods in Meteorology, Fall 2025
- **Teaching Assistant,** University of North Dakota, ATSC-110 Introduction to Meteorology Lab, Fall 2025
- **Teaching Assistant,** University of North Dakota, ATSC-110 Introduction to Meteorology Lab, Spring 2025
- **Teaching Assistant,** University of North Dakota, ATSC-270 Computer Concepts in Meteorology, Spring 2025
- **Teaching Assistant,** University of North Dakota, ATSC-411 Advanced Synoptic Meteorology, Fall 2024
- **Teaching Assistant,** University of North Dakota, ATSC-405 Numerical Methods in Meteorology, Fall 2024

## 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 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,** KSNB Local4, GRAY -TV, Hastings-NE, June 2022-August 2022

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

## 9 AWARDS & HONORS

**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

**Department Service Award** – Central Michigan University Department of Earth & Atmospheric Science

## 10 SERVICE

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

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

**UND Department of Atmospheric Science Osborne Weather Center Remodel,** January 2025-present

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

## 11 SKILLS

### 11.1 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

### 11.2 OTHER COMPUTER

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

## 12 FEATURED IN

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