

# Brian C. Filipiak

(847) 987-5208 • bfilipiak@albany.edu

<http://www.atmos.albany.edu/student/filipiak/Personal/>

## Education

### State University of New York at Albany

*Master of Science in Atmospheric Science*

Albany, NY

August 2020 – Present

- Thesis research: Probabilistic Winter Mixed Precipitation forecasts utilizing a random forest in New York funded by NOAA CSTAR grant

### University of Rochester

*Bachelor of Science, Magna Cum Laude, Environmental Science: Climate Science track*

Rochester, NY

August 2016 – May 2020

- Certificate in Community Engaged Scholarship

## Research Experience

### State University of New York at Albany

*Research Assistant, Dr. Kristen Corbostero, Dr. Andrea Lang, Ross Lazear, and Dr. Nick Bassill*

Albany, NY

Aug 2020 – Present

- Focus on improving prediction of uncertain winter precipitation types by utilizing machine learning to assimilate multiple common data sources
- Develop and maintain a random forest machine learning algorithm to identify winter precipitation types: rain, snow, freezing rain and sleet
- Utilize citizen science (CoCoRaHS) reports to help identify precipitation type events from 2017-2020
- Partner with NWS stakeholders to maintain relationships, ensure open lines of communication, review cases of uncertain winter precipitation events, strategize on random forest algorithm implementation and operational product design to display research results
- Cultivate and maintain a website that contains the probabilistic nowcasts and forecasts from the random forest algorithm as well as other information about the project
  - Link to operation webpage: <http://www.atmos.albany.edu/student/filipiak/op/>
- Ground observation team member for NSF Sponsored WINTRE-MIX field campaign in February and March 2022

### Texas A&M University – National Science Foundation Research Experience for Undergraduates

*Research Assistant, Dr. Christopher Nowotarski*

College Station, TX

Jun 2019 – Aug 2019

- Researched spatial and diurnal variability of tornadogenesis and forecasting in tropical cyclones
- Created database of tornadoes and tornado warnings produced in tropical cyclones
- Examined the spatial and diurnal variability of near cell environments for tornadic and non-tornadic cells
- Participated in tornado storm chases and launched weather balloons throughout the summer

## Teaching Experience and Campus Leadership

### State University of New York at Albany

*Atmospheric Structure, Thermodynamics, and Circulation*

*The Atmosphere*

*Atmospheric Dynamics*

*Weather, Climate Change and Societal Impacts*

Albany, NY

Aug 2020 – Dec 2020, Aug 2022–Dec 2022

January 2022– May 2022

Aug 2021– Dec 2021

Feb 2021– May 2021

- Held office hours to assist students with learning course material and homework
- Graded assignments, papers, and exams to assess student understanding of coursework

### University of Rochester

*Calculus 2 - Workshop Teaching Assistant*

*Chemical Concepts, Systems, and Practices 2 - Workshop Teaching Assistant*

Rochester, NY

Aug 2019 – May 2020

Jan 2018 – May 2018

- Led workshops and held office hours to assist students with learning course material prior to graded exams

### Department of Atmospheric and Environmental Sciences Graduate Student Organization

*President*

Albany, NY

May 2021– May 2022

- Provide an open line of communication between graduate students and faculty/staff to ensure issues are addressed and important announcements are distributed in a timely fashion
- Inspire and encourage other graduate students to be engaged both inside and outside of the department to encourage retention
- Revamp the graduate student recruitment webpage and expand FAQ section to increase enrollment

## Professional Affiliations and Certifications

- FEMA Independent Study Certificates: Professional Development Series (Completed in July 2020)
- American Meteorological Society Member: 2019-Present
- Phi Beta Kappa Member: 2020- Present
- Sigma Gamma Epsilon Member: 2020-Present

## Technical Skills

- Fluent with Microsoft Office, Google Suite, Linux computing environments, and Python
- Proficient with ArcGIS, MATLAB, and random forests
- Working understanding of HTML, CSS, JavaScript, web product development, and other machine learning techniques