

## **Barrett F. Gutter, Ph.D.**

Associate Teaching Professor – Mississippi State University – Department of Geosciences  
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Curriculum Vitae

### **Education**

*Mississippi State University*

#### **Ph.D., Earth and Atmospheric Sciences (Geospatial Minor)**

May 2017

GPA 4.0

*Mississippi State University, Starkville, MS*

- Classes and Applied Knowledge

- Adv. Mesoscale Meteorology
- Tropical Meteorology
- Remote Sensing
- Principles of GIS
- Advanced GIS
- GIS Programming (Python)

Dissertation: “Assessing tornado watches for accuracy, impacts on daily activities, and potential economic impacts”

Advisor: Dr. Michael E. Brown

#### **M.S., Geosciences (Operational Meteorology)**

May 2013

*Mississippi State University, Starkville, MS*

GPA 4.0

- Classes and Applied Knowledge

- Synoptic Meteorology
- Mesoscale Meteorology
- Adv. Satellite and Radar Meteorology
- Adv. Dynamic Meteorology
- Forecasting I & II
- Physical Meteorology
- Forecasting Severe Storms
- Statistical Climatology (R Programming)

Thesis: “Investigation of vegetation discontinuities related to multiple EF4 and EF5 tornado scars and enhanced convection for April 27, 2011”

Advisor: Dr. Michael E. Brown

#### **B.S., Geography (Environmental & Natural Resources)**

May 2011

*University of Alabama, Tuscaloosa, AL*

GPA 3.6

- Minor: Geology  
- Classes and Applied Knowledge

- Physical Geography
- Climatology
- Hydroclimatology
- Severe Weather
- Geomorphology
- Volcanology
- Hurricanes & Society

## **Teaching**

*Mississippi State University*

### **Teaching Awards**

2023 Mississippi State University College of Arts & Sciences Teaching Award in Natural & Physical Sciences

2023 Mississippi State University Alumni Association Professional Teaching Excellence Award

### **Course Evaluations**

Median Score across 32 courses: 4/4

Fall 2021 - Fall 2023

Average Global Index (GI) across 46 courses: 4.4/5

Fall 2017 - Summer 2021

### **Courses Taught**

#### On-Campus/Campus-1

GR 1123 Introduction to World Geography

GR 1604 Weather and Climate

GR 4423/6423 Weather Forecasting I

GR 4433/6433 Weather Forecasting II

GR 4443/6443 Weather Prediction I

GR 4813/6813 Natural Hazards

#### Distance Learning/Campus-5

GR 4713 Synoptic Meteorology

GR 4923/6923 Severe Weather

GR 4963/6963 Mesoscale Meteorology

GR 8123 Meteorology II: Forecasting and Storms

GR 8133 Foundations of Forecasting

GR 8143 Advanced Forecasting Techniques

GR 8990 Forecasting Unique Regional Weather

GR 8400 Local Field Methods

GR 8423 Virtual Field Methods Seminar

#### Field Courses/Campus-5

GR 4843/6843 - Severe Storms Methods (“Storm Chase”) Field Course

GR 8410 Field Methods Seminar – Western Washington

GR 8410 Field Methods Seminar – Severe Storm Methods

### **Courses Developed**

GR 4443/6443 Weather Prediction I (On-Campus/Campus-1)

GR 4423/6423 Weather Forecasting I On-Campus/Campus-1)

GR 4433/6433 Weather Forecasting II (On-Campus/Campus-1)

GR 8410 Field Methods Seminar - Yosemite National Park (Field Course/Campus-5)

GR 8583 Environmental Geosciences Capstone Experiences (Distance Learning/Campus-5)

GR 8990 Forecasting Unique Regional Weather (Distance Learning/Campus-5)

## **Mentoring - On-Campus/Campus-1**

### Graduate Students (Thesis)

Maggye Brand (Master's)	Spring 2023
Thesis: Relationships between Heat Alerts, Extreme Heat Days, and Heat Related Mortality within the Contiguous United States over the Last Decade	
Caitlin Ford (Master's)	Spring 2021
Thesis: An Investigation of Sea-Breeze Driven Convection Along the Northern Gulf Coast	
Brian DeVeau (Master's)	Spring 2020
Thesis: Developing a New Atmospheric Dispersion Index for the Southeastern United States	

### Graduate Student Committee Member (Thesis/Dissertation)

Craig Croskery (Ph.D.)	Spring 2023
Mackenzie O'Rourke (M.S.)	Spring 2023
Cole Vaughn (Ph.D.)	Fall 2022
Caroline McDonald (M.S.)	Spring 2020
Chris Nunley (Ph.D.)	Fall 2018
Andrew Collins (M.S.)	Spring 2017
Craig Croskery (M.S.)	Spring 2017

### Graduate Student Committee Member (Non-Thesis)

Jackson Chastain	Spring 2023
Melissa Meeder (M.S.)	Spring 2022
Chelsea Aaron (M.S.)	Spring 2021
Miller Hyatt (M.S.)	Spring 2021
Alyssa Miller (M.S.)	Spring 2021
Danielle Davis (M.S.)	Spring 2020

## **Research**

### Publications

- Gutter, B.F., Sherman-Morris, K., and Brown, M.E., 2018:** Severe Weather Watches and Risk Perception in a Hypothetical Decision Experiment. *Weather, Climate, and Society*, 10:4, 613-623.
- Gutter, B.F. and M.E. Brown, 2016:** Assessing the accuracy of tornado watches across the contiguous United States from 2007-2015. *Journal of Geography and Natural Disasters*.
- Gutter, B.F., Brown, M.E., and Cox, D.A., 2014:** Investigation of Vegetation Discontinuities Related to the Yazoo City Tornado Scar and Enhanced Convection. *Journal of Geology and Geosciences*, 4:1.
- Gutter, Barrett, 2011:** Assessing the Microclimate of Bryant-Denny Stadium. *The Journal of Science and Health at the University of Alabama*, 8, May 14-18.

### Presentations

- Gutter, Barrett, 2017:** Impacts of Severe Weather Watches on Daily Activities. *Southeastern Division of the Association of American Geographers*, Mississippi State University, Starkville, Mississippi.

**Gutter, Barrett, 2014:** The El Reno Tornado: What Happened? *12<sup>th</sup> Annual Southeast Severe Storms Symposium*, Mississippi State University, Starkville, Mississippi.

**Gutter, Barrett, 2013:** Investigation of Vegetation Discontinuities Related to Multiple EF4 and EF5 Tornado Scars and Enhanced Convection for April 27, 2011 (Poster). *National Weather Association 38<sup>th</sup> Annual Meeting*, Charleston, South Carolina.

**Gutter, Barrett, 2012:** Investigation of Vegetation Discontinuities Related to the Yazoo City Tornado Scar and Enhanced Convection. *10<sup>th</sup> Annual Southeast Severe Storms Symposium*, Mississippi State University, Starkville, Mississippi.

**Gutter, Barrett, 2011:** Assessing the Microclimate of Bryant-Denny Stadium. *Undergraduate Research Creative Activity Conference*, University of Alabama, Tuscaloosa, Alabama.

### Assistant

Verification of the Origins of Rotations in Tornadoes Experiment (Vortex-SE) 2016 - 2017, 2018 - 2019  
Field Director– Launch weather balloons

Assessing the Microclimate of Davis-Wade Stadium Fall 2016  
Assisted in data collection and generating Inverse Distance Weighting maps in GIS

Temperature Reconnaissance aboard Multiple Platforms 2014 - 2017  
Field Operator – Launched weather balloons for Mississippi State University and Memphis, TN  
National Weather Service on potential severe weather days

### **Invitational Presentations**

Guest Presenter for the East Mississippi Chapter of the National Weather Association/American Meteorological Society February 2024  
- Storm Chasing: Is the Risk Worth the Reward?

Solar Decathlon Environmental Team November 2021  
Safe room construction

Partnership Middle School June 2021  
Weather station construction and activities

Guest Lecturer for Mrs. Lindsey Poe’s Broadcasting Course September 14th, 2020  
Forecasting Basics

Guest Lecturer for Mrs. Lindsey Poe’s Broadcasting Course September 10th, 2019  
Forecasting Basics

Broadcast Meteorology Program Workshop August 2019  
Synoptic Review  
Severe Weather Case Study

Science Night at the Museum February 20, 2020  
Meteorology Demonstrations

Guest Lecturer for Dr. Athena Nagel’s Natural Hazards Course February 2020  
Tornadogenesis

Guest Lecturer for Dr. John Rodgers’ Natural Hazards Course January 7th, 2020  
Tornadogenesis and Economic Impact of Tornadoes

Invited Presentation – STEM Presentation for Starkville Public Library March 2019  
“Storm Chasers’ Tail” and Hands-on Activities for Elementary School Students

Science Night at the Museum Meteorology Demonstrations	February 19, 2019
Guest Lecturer for Dr. John Rodgers' Natural Hazards Course Tornadoogenesis and Economic Impact of Tornadoes	January 15th, 2019
Broadcast Meteorology Program Workshop Synoptic Review Severe Weather Case Study	August 2018
Guest Lecturer for Dr. John Rodgers' Natural Hazards Course - Tornadoogenesis and Economic Impact of Tornadoes	January 16th, 18th, 2018
Broadcast Meteorology Program Workshop - Synoptic Review - Severe Weather Case Study	August 2017

### **Graduate Exams Designed and Implemented**

Comprehensive exam for Environmental Geosciences  
 Comprehensive exam for Applied Meteorology Program  
 Comprehensive exam for Teachers in Geosciences

### **Professional Training for the On-Line Environment**

Quality Matters "Teaching Online Certificate"	April 16, 2018
- Acquired by completing seven Quality Matters courses:	
1. Gauging Your Technology Skills – 1 week course	
2. Evaluating Your Course Design – 2 week course	
3. Exploring Your Institution's Policies – 2 week course	
4. Orienting Your Online Learners – 1 week course	
5. Connecting Learning Theories to Your Teaching Strategies – 2 week course	
6. Creating Presence in Your Online Course – 2 week course	
7. Assessing Your Learners – 1 week course	

### **Additional Professional Projects**

Designed and built a weather station with Dr. Lalk for the Partnership Middle School at Mississippi State University

### **Course Migration to Distance**

Helped several Arts & Sciences campus-1 professors migrate their courses into Canvas at the onset of the COVID pandemic.

### **Service**

*Mississippi State University*

#### University Service

Department of Geosciences Meteorology Faculty Search Committee Head	Fall 2023 – Spring 2024
Department of Geosciences Meteorology Faculty Search Committee Member	Fall 2023 – Spring 2024
Department of Geosciences Meteorology Faculty Search Committee Member	Fall 2022 – Spring 2023

Faculty Advisor for the East Mississippi Chapter of the National Weather Association/American Meteorological Society	Fall 2017 – Current
College of Arts & Sciences Faculty Senate	Spring 2021 – Current
- Chair of ad-hoc committee to update clinical and instructor promotion guidelines	Current
- Chair of ad-hoc committee to develop instructor promotion guidelines	2022 – 2023
Department of Geosciences Distance Learning Oversight Committee	Fall 2022 – Current
UCAR Member Representative	Fall 2020 – Current
Department of Geosciences Co-Chair Building and Infrastructure Committee	Fall 2019 – Current
ACCESS program assistant	Fall 2018 – Current
Spring 2022 Graduate Research Symposium - Judge	February 26, 2022
College of Arts & Sciences Faculty Advisor	Fall 2020 – Spring 2021
Department of Geosciences GIS Faculty Search Committee	Fall 2020 – Spring 2021
College of Arts & Sciences Courses and Curriculum Committee	Fall 2018 – Spring 2021
Department of Geosciences Courses and Curriculum Committee	Fall 2018 – Spring 2021
Department Ad-Hoc Committee to Review Promotion for Clinical Faculty	Fall 2018 – Spring 2019

Professional Service – On-site Meteorologist

Crisis Action Team	Fall 2017 – Current
- Provide weather forecasts and real-time impact statements during inclement weather	
- Respond to emergency weather events after work for the university and for athletic events where players, coaches, staff, and attendees are often caught off-guard by inclement weather and are often vulnerable to strong winds, lightning, hail, and tornadoes	
Mississippi State Baseball vs. University of Mississippi	April 2020
2019 NCAA Super Regional Baseball Tournament	June 2019
2019 NCAA Regional Baseball Tournament	May 2019
Severe Weather Threat	April 2014

**Other**

*Mississippi State University*

Daily Journal Interview – MS State Meteorology Program	April 2022
WCBI Interview – How forecasting has changed over the years	April 2022