

Jase Bernhardt, Ph.D.

Assistant Professor, Sustainability and Atmospheric Science
Department of Geology, Environment, and Sustainability, Hofstra University

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EDUCATION

PhD Geography, The Pennsylvania State University, Fall 2016

Dissertation: A Comparison of Daily Temperature Averaging Methodologies: Uncertainties, Related Spatial Variability, and Societal Implications

MS Geography, The Pennsylvania State University, Spring 2013

Thesis: A Synoptic Climatology of Contrail Outbreaks and Associated Surface Temperature Impacts for Two Sub-Regions of the Continental United States

BS Atmospheric Science, Cornell University, Spring 2011

ACADEMIC EMPLOYMENT

Assistant Professor, Hofstra University

Spring 2017 - Present

Tenure-track assistant professor in the Department of Geology, Environment and Sustainability. Teach courses in climatology, meteorology, and sustainability. Oversee undergraduate student research and independent studies. Director of the graduate MA program in Sustainability. Manage the network of three on-campus weather stations.

Instructor (Tenure-Track), Hofstra University

Fall 2016

PROFESSIONAL APPOINTMENTS

Graduate Teaching Assistant, The Pennsylvania State University

2011 - 2016

Served as a teaching assistant or instructor for ten semesters and two summers. Taught courses in climatology, physical geography, and GIS.

Broadcast Meteorologist, *Weather World*

2012 - 2016

Presented four to five minute weather forecasts, and one minute forecast recaps, on the Pennsylvania statewide-televised weather magazine program. Created original forecasts and monologues and selected the graphics to be used for presentation.

Summer Experience in Earth and Mineral Sciences, Research Mentor

2014, 2015

Instructed underrepresented high school students participating in the Upward Bound Math and Science Program, supporting study and summer residence for 8 weeks at Penn State.

Undergraduate Research Assistant, Northeast Regional Climate Center 2007 - 2011
Researched the climatology of East Coast Winter Storms and assisted with quality control of historical United States climate data as part of the National Climatic Data Center's Climate Database Modernization Program.

Climate Change Intern, Cornell Cooperative Extension, Dutchess County 2008
Developed fact sheets, reports, and other materials for the public on climate change, including the air quality and climate chapter of the Dutchess County Natural Resources Inventory.

REFEREED PUBLICATIONS

(*indicates Hofstra student co-author, **indicates high school student)

2021 **Bernhardt, J.**, Hesse, A., *Pazmino, G., *Kaplan, Z., *Selle, J., and **E. Zhao:
Evaluating Motorist Behavior in a Flash Flood Using a Driving Simulation. *Natural Hazards*. **Work-in-progress**.

Adaricheva, K., **Bernhardt, J.**, and *W. Liu: Predicting Long Island Sea Breeze Events Using the D-Basis Algorithm. *Weather and Forecasting*. **Work-in-progress**.

Bernhardt, J. *Communicating Weather Risk in the Twenty-First Century: Approaches Using Video Games and Virtual Reality*.

Book chapter in edited volume (Invited). Geohazards and Disaster Risk Reduction: Multidisciplinary and Integrated Approaches. **Work-in-progress**.

2020 **Bernhardt, J.**, Dusek, G., Hesse, A., *Santos, W., Jennings, T., Smiros, A., and *A. Montes, 2020: Developing a Virtual Reality Video Game to Simulate Rip Currents. *Journal of Visualized Experiments*, 161. <https://www.jove.com/t/61296>. **Published, single-blinded**.

Bernhardt, J. Mining Weather and Climate Data from the Diary of a Forty-Niner. *Historical Geography, GIScience and Text: Mapping Landscapes of Time and Place*. **Book chapter in edited volume (Invited, peer review by editor)**: Travis IV, Charles & Ludlow, Francis & Gyuris, Ferenc. (2020). Historical Geography, GIScience and Textual Analysis Landscapes of Time and Place: Landscapes of Time and Place. *Springer*. ISBN: 978-3-030-37569-0. https://link.springer.com/chapter/10.1007/978-3-030-37569-0_9

2019 **Bernhardt, J.**, Snellings J., Smiros, A., *Bermejo, I., *Rienzo, A., and *C. Swan, 2019: Communicating Hurricane Risk with Virtual Reality: A Pilot Project. *Bulletin of the American Meteorological Society*, 100, 1897–1902. <https://doi.org/10.1175/BAMS-D-17-0326.1>. **Published, single-blinded**.

Bernhardt, J., 2019: Comparing Daily Temperature Averaging Methods: The Role of Synoptic Climatology in Determining Spatial and Seasonal Variability. *Physical Geography*, 41, 272-288. <https://doi.org/10.1080/02723646.2019.1657332>. **Published, single-blinded**.

- 2018 **Bernhardt, J.** and A.M. Carleton, 2018: Comparing Daily Temperature Averaging Methods: The Role of Surface and Atmosphere Variables in Determining Spatial and Seasonal Variability. *Theoretical and Applied Climatology*, 136, 499-512. <https://link.springer.com/article/10.1007/s00704-018-2504-7>. **Published, single-blinded.**
- Bernhardt, J.**, Carleton, A.M., and C. LaMagna, 2018: A Comparison of Daily Temperature Averaging Methods: Spatial Variability and Recent Change for the CONUS. *Journal of Climate*, 31, 979-996. <https://journals.ametsoc.org/view/journals/clim/31/3/jcli-d-17-0089.1.xml>. **Published, single-blinded.**
- 2016 Hedberg, R., Hesse, A., Baldwin, D., **Bernhardt, J.**, Retchless, D., and J. Shinn, 2016: Preparing Geographers for Interdisciplinary Research: Graduate Training at the Interface of the Natural and Social Sciences. *Professional Geographer*, 69, 107-116. <https://www.tandfonline.com/doi/abs/10.1080/00330124.2016.1184985?journalCode=rtpg20>. **Published, double-blinded.**
- 2015 **Bernhardt, J.**, 2015: Determining Regional Weather Patterns from a Historical Diary. *Weather, Climate, and Society*, 7, 295-308. https://journals.ametsoc.org/view/journals/wcas/7/4/wcas-d-15-0016_1.xml. **Published, single-blinded.**
- Bernhardt, J.** and A.M. Carleton: The impacts of long-lived jet contrail 'outbreaks' on surface station diurnal temperature range. *International Journal of Climatology*, 35, 4529-4538. <https://rmets.onlinelibrary.wiley.com/doi/abs/10.1002/joc.4303>. **Published, single-blinded.**
- Carleton, A.M., Silva, A.D., **Bernhardt, J.**, VanderBerg, J., and D.J. Travis: Sub-region scale hindcasting of contrail outbreaks, utilizing their synoptic climatology. *Journal of Applied Meteorology and Climatology*, 54, 1733-1755. <https://journals.ametsoc.org/view/journals/apme/54/8/jamc-d-14-0186.1.xml>. **Published, single-blinded.**
- 2014 Blandford, I., **Bernhardt, J.**, Savelyev, A., Wong- Parodi, G., Carleton, A., Titley, D., and A. MacEachren: Tweeting and Tornadoes. *Proceedings of the 11th International Conference on Information Systems for Crisis Response and Management*. http://idl.iscram.org/files/blanford/2014/328_Blanford_etal2014.pdf. **Published, single-blinded.**
- 2013 Carleton, A.M., Silva, A.D., Aghazarian, M.S., **Bernhardt, J.**, Travis, D.J., and J. Allard: Mid-season climate diagnostics of jet contrail "outbreaks", and implications for eastern U.S. sky cover trends. *Climate Research*, 56, 209-230. <https://www.int-res.com/abstracts/cr/v56/n3/p209-230/>. **Published, single-blinded.**

2012 **Bernhardt, J.** and A.T. DeGaetano: Meteorological factors affecting the speed of movement and related impacts of extratropical cyclones along the U.S. east coast. <https://link.springer.com/article/10.1007/s11069-011-0078-0>. *Natural Hazards*, 61, 1463-1472. **Published, single-blinded.**

GRANTS AND FELLOWSHIPS

New York Sea Grant, Enhancing Rip Current Risk Communication in English and Spanish, PI

2022-2024 \$96,757 (*Funded*)

National Science Foundation, Advancing Informal STEM Learning

2021-2024 \$1,431,357 (*Not funded*)

National Science Foundation, Civic Innovation Challenge

2020-2021 \$50,000 (*Not funded*)

University Corporation for Atmospheric Research, National Weather Service Partners Program, PI

2020-2021 \$14,992 (*Funded*)

National Science Foundation, Improving Undergraduate STEM Education: Pathways into Geoscience, Co-PI

2019-2022 \$347,530 (*Funded*)

New York Sea Grant, Out-Of-Cycle Funding, Enhancing Rip Current Awareness with Virtual Reality, PI

2019-2020 \$10,978 (*Funded*)

Hofstra University, Faculty Research Development Grant (FRDG) and Presidential Research Award Program (PRAP)

2020 \$1,325 (*Funded, FRDG*), \$300 (*Funded, PRAP*)

Department of Commerce, Collaborative Science, Technology, and Applied Research Program, PI

2019 \$353,261 (*Not funded*)

Hofstra University, FRDG

2019 \$1,549 (*Funded*)

Hofstra University, FRDG

2018 \$1,800 (*Funded*)

National Science Foundation, CAREER, PI

2018 \$602,656 (*Not funded*)

National Science Foundation, Improving Undergraduate STEM Education: Pathways into Geoscience, Co-PI

2017 \$ 358,463 (*Not funded*)

Hofstra University, Faculty Research Development Grant

2017 \$1,260 (*Funded*)

National Science Foundation, Improving Undergraduate STEM Education: Pathways into Geoscience, Co-PI

2016 \$ 338,985 (*Not funded*)

Graduate Research Fellowship Program, Pennsylvania Space Grant Consortium

2013-15 \$10,000 (*Funded*)

Penn State University Office of Global Programs, Graduate Travel Grant

2015 \$500 (*Funded*)

Penn State University, College of Earth and Mineral Sciences, Centennial Graduate Research Award

2012 \$1,000 (*Funded*)

ACADEMIC HONORS AND AWARDS

Lawrence A. Stessin Prize for Outstanding Scholarly Publication, Hofstra University

2020 \$2,000

American Association of State Climatologists, Dissertation Medal in Applied Climatology

2018 \$1,000

Best Student Paper Award, 13th History Symposium, 95th American Meteorological Society Annual Meeting

2015 \$700

Penn State University, Department of Geography, E. Willard Miller Outstanding Paper Award

2012, 2015 \$400 (*each*)

Penn State Department of Geography, James T. Meyer Outstanding Graduate Teaching Assistant Award

2014 \$1,000

3rd place, Association of American Geographers Climate Specialty Group Student Paper Competition

2013 \$100

Best Student Paper Award, AAG, Middle States Division Annual Meeting,
2013 \$100

World Geography Bowl, Travel Grant, 2013-2016 AAG Annual Meetings
2013-16 \$300 (*each*)

Cornell University, Department of Earth and Atmospheric Sciences, Brian Bosart Award
2010 \$3,000

INVITED LECTURES AND PRESENTATIONS

2021 **Long Island School for the Gifted**. “Hurricanes Presentation,” October 5, 2021.

Greentree Teacher’s Ecology Workshop. Lectures on Long Island Weather and Climate, July 16 and 23, 2021.

Oceanside Public Library. “Rip Currents: The Dangers and Improving Communication,” July 8, 2021.

Jones Beach Energy and Nature Center. “Rip Currents: Know Your Options,” May 23, 2021.

Oceanside Public Library. “Earth Day Lecture: Climate Change Policy Changes,” April 22, 2021.

Hofstra University-Governor’s Office of Storm Recovery Environmental Sustainability Certificate Program. “Storm Hazards and Preparedness,” April 15, 2021.

2020 **Long Island School for the Gifted**. “Hurricanes Presentation,” October 29, 2020.

Jones Beach Energy and Nature Center. “Hurricane Season 2020: Preparation During a Pandemic,” October 24, 2020.

Longwood Public Library. “Long Island Extreme Weather,” August 5, 2020.

New York Sea Grant Research Seminar. “Developing a Virtual Reality Video Game to Simulate Rip Currents,” July 22, 2020. View at: <https://youtu.be/nL9olcDSPS0>.

Greentree Teacher’s Ecology Workshop. Lectures on Long Island Weather and climate, July 6 and 13, 2020.

West Islip Public Library. “Global Warming and Climate Change,” June 8, 2020.

North Babylon Public Library. “Extreme Weather and Climate Change: What it all means for Long Island,” May 19, 2020.

Coastal Carolinas Beach Hazards Virtual Workshop. “Rip Current Risk Communication,” May 1, 2020.

Oceanside Public Library. “Extreme Weather on Long Island,” May 27, 2020.

Oceanside Public Library. “Global Warming and Climate Change: What They Mean to Long Island,” April 22, 2020.

2019 **North Shore High School.** “Hurricanes Presentation,” October 22, 2019.

Long Island School for the Gifted. “Hurricanes Presentation,” October 3, 2019.

Greentree Foundation Teachers’ Ecology Workshop. Lectures on Long Island Weather and climate, July 9 and 16, 2019.

North Shore High School. Keynote Speaker, High School Science Research Symposium, June 3, 2019.

National Hurricane Center, Hurricane Awareness Tour. Hurricane Virtual Reality Simulation Presentation, May 8-10, 2019.

New York Sea Grant, Resiliency Forum, Babylon Town Hall. “East Coast Winter Storms and Their Many Coastal Impacts,” March 13, 2019.

Waverly Park Elementary School. Scientist Mentoring Night, March 11, 2019.

New York Sea Grant, Resiliency Forum, Long Island Maritime Museum. “East Coast Winter Storms and Their Many Coastal Impacts,” February 21, 2019.

2018 **Central Nassau County Rotary Club.** “Climate Change,” December 20, 2018.

Baruch College, The Department of Natural Sciences. “Communicating Hurricane Risk with Virtual Reality,” October 16, 2018.

Long Beach High School Summer Enrichment Program. “Long Island Hurricanes,” July 24, 2018.

Greentree Foundation Teachers’ Ecology Workshop. Lectures on Long Island Weather and climate, July 10 and 17, 2018.

Annual Meeting of the American Association of State Climatologists (AASC). “AASC Dissertation Award & Research Presentation,” June 20, 2018.

New York National Weather Service Office Spring Weather Workshop. “Communicating Hurricane Risk with Virtual Reality, A Pilot Study,” May 10, 2018.

- National Hurricane Center.** “Communicating Hurricane Risk with Virtual Reality, A Pilot Study,” March 23, 2018.
- Waverly Park Elementary School.** Scientist Mentoring Night, March 5, 2018.
- Great Neck Public Library.** “Hot Topics in Weather and Climate,” February 26, 2018.
- 2017 **WABC-TV Accuweather Town Hall Meeting, Hofstra University.** “Long Island Winter Weather Forecast,” October 30, 2017.
- Stony Brook University, School of Marine and Atmospheric Sciences (SoMAS), Topics in Atmospheric and Oceanic Science (TAOS) Seminar.** “A Comparison of Daily Temperature Averaging Methods: Spatial Variability and Recent Change for the CONUS,” August 30, 2017.
- Greentree Foundation Teachers’ Ecology Workshop.** Lectures on Long Island Weather and climate, July 18, 2018.
- Waverly Park Elementary School.** Ecology Week Guest Lecture, May 10, 2017.
- 2016 **Citizens Climate Lobby of Long Island.** “*Facing the Surge* Film Screening and Panel Discussion,” October 9, 2016.
- Coffee Hour, Department of Geography, Penn State University.** “*Weather World: Bridging the gap between geography and meteorology,*” March 4, 2016.
- 2014 **Coffee Hour, Department of Geography, Penn State University.** “Jet Contrails and Society- Not Just a ‘Cloudy’ Outlook,” October 17, 2014.
- Backbone Ridge History Group, Trumansburg, New York.** “Determining Local Weather and Climate Patterns in Southern Seneca County from Herman Smith's 1884 Diary,” April 26, 2014.
- 2010 **Conference on the Natural Resource Inventory of Dutchess County, NY.** “Climate and Air Quality of Dutchess County,” November 6, 2010.

CONFERENCE PARTICIPATION

- 2021 **Annual Meeting of the American Association of Geographers (AAG)**
Oral presentation in virtual annual meeting, “Mining Weather and Climate Data from the Diary of a Forty- Niner.”
- American Meteorological Society (AMS) Annual Meeting**
Oral presentation in virtual annual meeting, “Communicating Weather Risk in the 21st Century: Approaches Using Video Games and Virtual Reality.”

2020 **AMS Annual Meeting**
January 12-16, Boston, MA. Oral presentation, “Communicating Rip Current Risk with a Virtual Reality Video Game.”

2019 **20th Northeast Regional Operational Workshop (NROW), National Weather Service**
November 6-7, Albany, NY. Oral presentation, “Communicating Rip Current Risk with a Virtual Reality Video Game.”

Annual Meeting of the AAG

April 3-7, Washington, DC. Oral presentation, “Communicating Hurricane Risk with Virtual Reality: Strategies for Improving Warnings.”

Session Chair and Organizer: Climate Specialty Group Student Paper Competition: I, II, and III

AMS Annual Meeting

January 6-10, Phoenix, AZ. Oral presentation, “Communicating Hurricane Risk with Virtual Reality: Strategies for Improving Warnings.”

Poster, “Striking Gold: Mining for Weather and Climate Data from the Diary of a Forty-Niner”

2018 **19th NROW, National Weather Service**

November 7-8, Albany, NY. Oral presentation, “Communicating Hurricane Risk with Virtual Reality: Strategies for Improving Warnings.”

AAG, Middle States Division Annual Meeting

October 26-27, Montclair, NJ. Oral presentation, “Mining Weather and Climate Data from the Diary of a Forty-Niner.”

Annual Meeting of the AAG

April 10-14, New Orleans, LA. Oral presentation, “Communicating Hurricane Risk with Virtual Reality: A Pilot Study.”

Panelist, “Teaching the Modern Physical Geography Laboratory.”

Panelist, “3D and Immersive Technologies for Geospatial Sciences III.”

43rd Annual Northeast Storm Conference

March 9-11, Saratoga Springs, NY. Oral presentation, “Communicating Hurricane Risk with Virtual Reality: A Pilot Study.”

AMS Annual Meeting

January 7-11, Austin, TX. Oral presentation, “Communicating Hurricane Risk with Virtual Reality: A Pilot Study.”

2017 **Annual Meeting of the AAG**

April 5-9, Boston, MA. Oral presentation, “A Comparison of Daily Temperature Averaging Methodologies: Spatial Variability, Seasonal Patterns, and Related Climate Variables in the CONUS.”

AMS Annual Meeting

January 22-26, Seattle, WA. Poster, “A Comparison of Daily Temperature Averaging Methodologies: Spatial Variability, Seasonal Patterns, and Related Climate Variables in the CONUS.”

2016 **AAG, Middle States Division Annual Meeting**

November 4-5, Altoona, PA. Oral presentation, “A Comparison of Daily Temperature Averaging Methodologies: Spatial Variability, Seasonal Patterns, and Related Climate Variables in the CONUS.”

Annual Meeting of the AAG

March 29 - April 2, San Francisco, CA. Oral presentation, “A Comparison of Daily Temperature Averaging Methodologies: Uncertainties, Related Spatial Variability, and Societal Implications.”

AMS Annual Meeting

January 10-14, New Orleans, LA. Poster, “A Comparison of Daily Temperature Averaging Methodologies: Uncertainties, Related Spatial Variability, and Societal Implications.”

2015 **AAG, Middle States Division Annual Meeting,**

October 2-3, Binghamton, NY. Oral presentation, “A Comparison of Two Daily Temperature Averaging Methodologies: Uncertainties and Spatial Variability.”

International Conference of Historical Geographers

July 5-9, London, UK. Oral presentation, “Determining Regional Weather and Climate Patterns and Anomalies from a Historical Diary.”

Annual Meeting of the AAG

April 21-25, Chicago, IL. Oral presentation, “Using Hourly Data for Daily Temperature Averaging.”

AMS Annual Meeting

January 4-8, Phoenix, AZ. Oral presentation, “Determining Regional Weather and Climate Patterns and Anomalies from a Historical Diary.”

2014 **AAG, Middle States Division Annual Meeting,**

October 24-25, York, PA. Oral presentation, “Determining Regional Weather and Climate Patterns from a Historical Diary.”

Annual Meeting of the AAG

April 8-12, Tampa, FL. Oral presentation, “Determining Regional Weather and Climate Patterns and Anomalies from a Historical Diary.”

AMS Annual Meeting

February 2-6, Atlanta, GA. Poster presentation, "Surface temperature impacts of jet contrail outbreaks and their forecasting applications for two sub-regions of the Continental United States."

2013 **AAG, Middle States Division Annual Meeting**

October 18-19, Buffalo, NY. Oral presentation, "Jet Contrails and Society- Not Just a 'Cloudy' Outlook."

Annual Meeting of the AAG

April 9-13, Los Angeles, CA. Oral presentation, "A synoptic climatology of contrail outbreak events and associated surface temperature effects for the Southern United States."

AMS Annual Meeting

January 6-10, 2013, Austin, TX. Oral presentation, "A synoptic climatology of contrail outbreak events and associated surface temperature effects for the Southern United States."

2012 **AAG, Middle States Division Annual Meeting**

November 2-3, Shippensburg, PA. Oral presentation, "Determining Weather and Climate Patterns from a Historical Diary."

Annual Meeting of the AAG

February 24-28, New York, NY. Poster presentation, "An investigation of Coast Winter Storm Speed and impacts during the past 55 years."

AMS Annual Meeting

January 22-26, New Orleans, LA. Poster presentation, "An investigation of East Coast Winter Storm Speed and impacts during the past 55 years."

2011 **AMS Annual Meeting**

January 22-27, Seattle, WA. Oral presentation, "An investigation of slow-moving East Coast Winter Storms during the past 55 years."

2010 **AMS Annual Meeting, 9th Annual Student Conference**

January 16-21, Atlanta, GA. Poster presentation, "A Method for determining the historical climatology of East Coast Winter Storms."

TEACHING EXPERIENCE

Hofstra University

Department of Geology, Environment and Sustainability

**New course developed*

GEOL 001: Planet Earth (Lab)

Spring 2017

***GEOL 014F: Communicating Weather and Climate (First-Year Seminar)**

Fall 2017

GEOL 015: Global Climate Change

Spring 2018, Summer 2018, Fall 2018, Spring 2019, Spring 2020, Summer 2020, Fall 2020, Spring 2021, Summer 2021, Fall 2021

***GEOL 2015: Global Climate Change (Graduate)**

Spring 2018, Summer 2018, Fall 2018, Summer 2019, Fall 2020, Spring 2021, Fall 2021

GEOL 251 (Graduate): Readings

Fall 2020, Fall 2021

***METR 016: Fundamentals of Weather and Climate**

Spring 2019, Spring 2020

***METR 125: Weather Forecasting**

Fall 2019

SBLY 002: Sustainability Planning and Policy

Fall 2016 (part of *First Year Connections* cluster), Spring 2017, Fall 2017, Fall 2018, Fall 2019, Fall 2020

***SBLY 2002: Sustainability Planning and Policy (Graduate)**

Fall 2016

SBLY 104D/SBLY 206 (Graduate): Sustainability Theory and Practice

Spring 2019

***SBLY 104E: Introduction to Weather and Climate**

Spring 2017, Spring 2018

***SBLY 2104E: Introduction to Weather and Climate (Graduate)**

Spring 2018

SBLY 105: Seminar on Sustainability

Fall 2017, Fall 2018, Fall 2019, Fall 2020, Fall 2020

SBLY 110: Sustainability Studio

Spring 2018, Spring 2019, Spring 2020, Spring 2021

Honors College

***HUHC 020I/20D: Hot Topics in Environmental Science**

Fall 2017, Fall 2018, Fall 2021

Penn State

Department of Geography

Instructor, GEOG 10: Physical Geography: An Introduction

Summer 2013, 2016

Graduate Teaching Assistant, GEOG 10: Physical Geography: An Introduction

Spring 2013, Spring 2014

Instructor, GEOG 110: Climates of the World

Fall 2014

Graduate Teaching Assistant, GEOG 110: Climates of the World

Fall 2011, Fall 2012, Fall 2013, Fall 2014

Graduate Teaching Assistant, GEOG 160: Mapping our Changing World

Fall 2015, Spring 2016

Instructor, GEOG 310W: Introduction to Global Climatic Systems

Spring 2015

Graduate Teaching Assistant, GEOG 363: Geographic Information Systems

Fall 2012

Instructor, GEOSC 496: Independent Studies

Spring 2015

Cornell University

Department of Earth and Atmospheric Science

Undergraduate Teaching Assistant, EAS 1330: Basic Meteorology Lab

Fall 2010

Undergraduate Teaching Assistant, EAS 1340: Weather Analysis & Forecasting

Spring 2011

STUDENT MENTORSHIP, *Hofstra University*

Undergraduate Research Supervision

Guided undergraduate research projects relating to climatology and sustainability; majors in the Department of Geology, Environment and Sustainability unless otherwise noted.

Margaret Moore. Spring 2021- Present. Evaluating Suburban Opinions on Climate Change.

Wenxin Liu (Computer Science). Fall 2020- Present. Predicting Long Island Sea Breeze Events Using the D-Basis Algorithm.

Amudalat Ajasa (Journalism). Spring 2020- Present. Enhancing Flood Warning Communication with an Immersive Simulation.

Geovanny Vera Pazmino (Computer Science). Spring 2020- Spring 2021. Enhancing Flood Warning Communication with an Immersive Simulation.

Denis Darnaud, Spring 2020: Analyzing Climate Change on Long Island Using Archival Records.

Lauren Mahoney. Fall 2019- Spring 2020. Developing a Climatology of Northeastern Snow Squalls.

Briana Schmidt (Mathematics). Fall 2019- Spring 2020: Defining Long Island's Sea Breeze Event Using Hofstra Data and D-Basis Algorithm.

Antoinette Montes, Sally Roscoe, Angela Rienzo, Lauren Jenkins. Fall 2018- Spring 2020. Communicating Rip Current Risk with Virtual Reality Technology.

Angela Rienzo, Carys Swan (Geography), James Eager, Kaitlyn Shire, John Van Fossen, Sally Roscoe, Antoinette Montes Spring 2018: Communicating Hurricane Risk with Virtual Reality Technology.

Angela Rienzo, Fall 2017: Communicating Hurricane Risk with Virtual Reality Technology. ***(Supported by Hofstra University Honors College Research Assistantship)***

Emma Vaccaro (STEM Education), Spring 2017- Spring 2018: Teaching Sustainability in Elementary Education.

Ivan Bermejo, Spring 2017- Fall 2017: Communicating Hurricane Risk with Virtual Reality Technology.

James Eager and Sara Hicks, Fall 2016- Spring 2017: Analyzing 19th Century Weather Patterns from Historical Diaries.

Student Research Presentations

Conference and seminar presentations given by undergraduate students resulting from supervised research projects described above.

2020 Annual Meeting of the AMS. *Lauren Mahoney.* Poster Presentation, “Developing a Climatology of Northeastern Snow Squalls.”

2019-2020 Hofstra University Mathematics Seminar. *Briana Schmidt.* Oral Presentation, “Defining Long Island's Sea Breeze Event Using Hofstra Data and D-Basis Algorithm.”

2019 Annual Meeting of the AAG. *Antoinette Montes.* Poster Presentation, “Suitability Profile for Offshore Wind on Lake Michigan (Chicago, Illinois).”

2019 Annual Meeting of the AAG. *Sally Roscoe.* Poster Presentation, “The Socioeconomic Demographics of Water Use During Drought: Using Cape Town, South Africa as a Model.”

2019 Annual Meeting of the AAG. *Angela Rienzo.* Poster Presentation, “Communicating Hurricane Risk with Virtual Reality: A Demographic Study.”

2018 Middle States Division of the AAG Annual Meeting. *Angela Rienzo, Jase Bernhardt.* Poster presentation, “Communicating Hurricane Risk with Virtual Reality.”

2018 Annual Meeting of the AAG. *Angela Rienzo, Ivan Bermejo, Jase Bernhardt.* Interactive short paper presentation, “Communicating Hurricane Risk With Virtual Reality: A Student Perspective.”

2018 Annual Meeting of the AAG. *Emma Vaccaro.* Poster presentation, “Sustainability Knowledge in Early Childhood and Childhood Education.”

2018 Annual Meeting of the AAG. *James Eager.* Poster presentation, “Spatial Reproductions of Inequality in New Haven, CT.”

43rd Annual Northeastern Storm Conference, March 2018. *Angela Rienzo, Carys Swan.* Poster presentation, “Communicating Hurricane Risk with Virtual Reality: A Student Perspective.”

2017 Annual Meeting of the AAG. *James Eager, Sara Hicks, Jase Bernhardt.* Poster presentation, “Analyzing 19th Century Weather Patterns from Historical Diaries.”

Undergraduate Peer Teacher Supervision

Lauren Jenkins, Fall 2018, SBLY 002: Sustainability Planning and Policy
Carys Swan, Fall 2017, GEOL 014F: Communicating Weather and Climate
Jacob Roday, Spring 2017, SBLY 002: Sustainability Planning and Policy

Individually Negotiated Honors Option Supervision

Kate Meagher, Spring 2021, GEOL 015: Global Climate Change

Antonia Moffa, Spring 2021, GEOL 015: Global Climate Change
Lauren Jenkins, Fall 2019, METR 125: Weather Forecasting
James Eager, Spring 2018, SBLY 110: Sustainability Studio

Departmental Honors Theses Supervision

Kira Turetzky, Spring 2020
Adriana Galaraza, Spring 2020
James Eager, Spring 2018

Undergraduate Internship Supervision

Aigul Fitzgerald, Spring 2020
Paola Lopez Rodriguez, Fall 2019
Jacob Roday, Fall 2017

Graduate Committee Chair (MA, Sustainability)

Jarrod Simmons, Summer 2022 (Expected)
Zachery Cooks, Summer 2022 (Expected)
Jillian Brown, Spring 2022 (Expected)
Greg Gaxiola, Spring 2022 (Expected)
Jeyabalaji Ravivarman, Spring 2022 (Expected)
Yixi Nie, Fall 2021 (Expected)
Nicholas Marotta, Fall 2021 (Expected)
Ran Lyu, Summer 2021
Melissa Kelley, Summer 2021
Zhixuan (Julia) Zhu, Fall 2019

Graduate Committee Member

Jack Jett, Sustainability, Fall 2021 (Expected)
Antoinette Montes, Sustainability, Summer 2021
Shannon Corcoran, Sustainability, Spring 2021
Shinichi Inaba, Sustainability, Spring 2021
Matthew Huxel, M.A., Sustainability, Spring 2019
Lewei (Tony) He, M.A., Sustainability, Spring 2018

High School Student Supervision, Hofstra University Summer Science Research Program

Olivia Teng (Herricks High School), Summer 2020 and Summer 2021
Matthew Friedman (Oceanside High School), Summer 2020
Mia Frattura (MacArthur High School), Summer 2020
Angelina Kramer (Sacred Heart High School), Summer 2020
Eileen Zhao (North Shore High School), Summer 2020
Grace Cutler (Long Island Lutheran High School), Summer 2020
Julia Muratore (Paul D. Schreiber Senior High School), Summer 2019
Kristen Aloysius (Herricks High School), Summer 2018 and Summer 2019
Jethel Bayawa (Oceanside High School), Summer 2018

STUDENT MENTORSHIP, *Penn State*

Undergraduate Research Supervision

Chris LaMagna, Spring 2015: A Comparison of Daily Temperature Averaging Methods: Spatial Variability and Recent Change for the CONUS

Nichole McClain, Spring 2014: Jet Contrail Outbreaks and Precipitation Impacts

SERVICE TO THE PROFESSION

Professional Organization Leadership

2018-20 Director, **Climate Specialty Group, AAG**

2020 President, **Middle States Division of the AAG**

2019 Vice President, **Middle States Division of the AAG**

2018 Secretary, **Middle States Division of the AAG**

Conferences Directed

Annual Meeting of the Middle States Division of the AAG

Two-day virtual meeting with six paper sessions, two keynote speakers, facilitated networking, a geography bowl, and one poster session, October 16-17, 2020.

Long Island Hurricanes Symposium, Conference Organizer

Chaired one-day symposium on October 3, 2018. The symposium consisted of three panels, a community exhibition, and keynote address with US National Weather Service Director Dr. Louis Uccellini.

Manuscript Reviewer

Bulletin of the American Meteorological Society (1)

Natural Hazards (2)

Weather, Climate and Society (1)

Journal of Applied Meteorology and Climatology (1)

Journal of Climate (2)

Science of the Total Environment (1)

Frontiers in Climate (1)

Journal of Environmental Psychology (1)

Journal of Visualized Experiments, JoVE (1)

Conference Organization

2019 **Annual Meeting of the Middle States Division of the AAG**
Moderator, World Geography Bowl

2018 **Annual Meeting of the Middle States Division of the AAG**
Coordinator, Student Paper Contest

- Moderator, World Geography Bowl
2017 **Annual Meeting of the Middle States Division of the AAG**
Moderator, World Geography Bowl
- Annual Meeting of the AAG**
Panelist, “The Academic Job Market for Geographers: Strategies for Improving Employment Preparation”
Field Trip Organizer, Fenway Park Tour
Moderator, World Geography Bowl
- 2016 **Annual Meeting of the Middle States Division of the AAG**
Session chair, “Weather and Climate”
- 2016 **Annual Meeting of the AAG**
Session organizer, “Interdisciplinarity in Graduate Training in New Institutional Landscapes”
- 2015 **Annual Meeting of the AAG**
Session chair and organizer, Changing Climatic and Physical Landscapes
- Science Fair Judging**
2019 Long Island Science and Engineering Fair
2018 Long Island Science and Engineering Fair
2017 Long Island Science and Engineering Fair, Freeport High School Science and Engineering Fair

SERVICE TO THE UNIVERSITY

Rabinowitz Honors College, Faculty Mentor (Fall 2021 – Present)

Organizer and Panelist, Hofstra University Presidential Inauguration Celebration Week Symposium, Session 8: Sustainability Innovation. September 29, 2021.

Hofstra University-Governor's Office of Storm Recovery Environmental Sustainability Certificate Program, Instructor, Spring 2019 – Spring 2021
Instruct a three-hour seminar, “Storm Hazards and Preparedness”

Hofstra Cultural Center Virtual Seminars

Climate Change Policy Under the Biden Administration, December 2020

Hurricane Season 2020: Preparing in a Pandemic, May 2020, recording available at:

<https://www.youtube.com/watch?v=UzjrbeEjTsA>

Extreme Weather on Long Island, April 2020, recording available at:

<https://www.youtube.com/watch?v=gebJY-ByKJ0>

Climate Change on Long Island, April 2020

Welcome Week 2020

Panelist, Common Reading Discussion: Meet the Climate Change Experts

New Student Orientation, Model Course Leader (Summer 2017 – Summer 2019)

First-Year Common Reading Committee, Member (Fall 2018 – Fall 2020)

Standards and Review Committee (HCLAS), Member (Fall 2018 – Spring 2021)

Committee on Environmental Safety, Member (Fall 2017 – Spring 2018)

Center for Civic Engagement, Advisory Board Member (Fall 2016 – Spring 2017)

SERVICE TO THE DEPARTMENT

Department of Sustainability, MA in Sustainability, Director (September 2020 – Present)

Meteorology Minor, Director (Fall 2018 – Present)

Hofstra Weather Station Network, Manager (Fall 2016 – Present)

Sustainability Studies Club, Faculty Advisor (Fall 2016 – Spring 2019)

Hofstra University Admissions Events

2020-2021: Six Virtual Graduate Open Houses (department representative)

March 28, 2019: Major-Minor Meetup (Meteorology minor display)

February 24, 2019: Admitted Students Day (department table)

November 10, 2018: Fall Open House (department presentation and tour)

February 25, 2018: Admitted Students Day (Honors College panel)

February 25, 2018: Admitted Students Day (department table)

November 19, 2017: Graduate Open House (department table)

February 26, 2017: Admitted Students Day (department table)

Field Trip Organization

Organized and led department field trip with another faculty member to **Mount Washington Weather Observatory** and nearby sites in New Hampshire, *September 14-16, 2018* and a hiking trip to the **Hudson Highlands** and **Bear Mountain State Park**, *September 28, 2019*.

MUSEUM EXHIBITS

Saltwater Stories: The History and Culture of Long Island Maritime Traditions, **Long Island Children's Museum**. Advisor for new long-term exhibition currently in planning stages, funded by the National Endowment for the Humanities, (Fall 2019 – Present).

The Power of Nature, **Jones Beach Energy and Nature Center**. Advisor for permanent exhibition installed Fall 2020.

PROFESSIONAL DEVELOPMENT

2017 **Early Career Geoscience Faculty Workshop**

Participated in workshop organized by the National Association of Geoscience Teachers, July 9-14, which provided guidance for early career tenure-track faculty members on improving teaching, research, service, and funding outcomes.

PROFESSIONAL MEMBERSHIPS

2009 - Present **American Meteorological Society**

2011 - Present **American Association of Geographers**

MEDIA COVERAGE

Higher Ground (podcast series) Episode 2: Lights Out. *WSHU Public Radio (Long Island/Connecticut NPR Affiliate)*. September 2021. <https://www.wshu.org/topic/higher-ground#stream/0>

“UN report on climate change: World leaders called on to act.” *FOX 5 New York*. 9 August 2021. <https://www.fox5ny.com/news/un-climate-report-world-leaders>

“The Full Story: Tracking Climate Change And Extreme Weather,” *WSHU Public Radio*. 18 June 2021. <https://www.wshu.org/post/full-story-tracking-climate-change-and-extreme-weatherupdate-legislative-session#stream/0>

“On YouTube: Virtual Reality Game Teaches Beachgoers Hazards of Rip Currents Coastal Processes & Hazards / Research – News.” *New York Sea Grant*. 1 May 2021. <https://seagrant.sunysb.edu/articles/t/on-youtube-virtual-reality-game-teaches-beachgoers-hazards-of-rip-currents-coastal-processes-hazards-research-news>

“Teaching in the time of COVID,” *Hofstra Magazine*. April 2021. <https://magazine.hofstra.edu/magazine/teaching-in-the-time-of-covid/>

“Tropical Storm Isaias foliage impacts interview,” *FOX 5 New York*. 24 August 2020.

“Hurricane Douglas coverage- expert interview.” *KHON 2 Honolulu*. 27 July 2020.

“What's your climate hope for 2020?” *Newsday*. 28 February 2020. <https://www.newsday.com/long-island/environment/climate-hopes-2020-1.42277448>

“7 years later, how Sandy impacted the health of Long Islanders,” *Newsday*. 28 October 2019. <https://www.newsday.com/long-island/superstorm-sandy-health-costs-1.37922850>

“Professor Hoping To Save Lives With Rip Current Virtual Reality Simulator.” *WCBS New York*. 16 July 2019. <https://newyork.cbslocal.com/2019/07/16/rip-current-virtual-reality-long-island/>

“Using VR to learn how to escape a rip current.” *FOX 5 New York*. 16 July 2019.

<http://www.fox5ny.com/news/virtual-reality-rip-current-education>

“Virtual reality helps scare residents to flee looming storms, research says.” *Reuters*. 21 June 2019. <https://www.reuters.com/article/us-usa-climate-virtualreality/virtual-reality-helps-scare-residents-to-flee-looming-storms-research-says-idUSKCN1TM2QF>

Article also appeared in:

The Japan Times. <https://www.japantimes.co.jp/news/2019/06/22/world/science-health-world/virtual-reality-help-prompt-people-flee-storms-research-says/#.XREW74hKiUk>

Ottawa Citizen. <https://ottawacitizen.com/technology/virtual-reality-helps-scare-residents-to-flee-storms-research-says/wcm/a2bfe8a3-78ba-4ad4-bb76-11779785f957>

Global News (Canada). <https://globalnews.ca/news/5419983/virtual-reality-storm-evacuation/>

“Hurricane Preparedness,” *WSHU Public Radio (Long Island/Connecticut NPR Affiliate)*. 11 June 2019. <https://www.wshu.org/post/hurricane-preparedness>

“The unofficial start of summer on Long Island? Typically not so hot.” *Newsday*. 23 May 2019. <https://www.newsday.com/lifestyle/holidays/memorial-day/memorial-day-weekend-long-island-1.31425010>

“Hurricane Awareness Tour: Day 3,” Facebook Live video from *National Hurricane Center* with approximately 14,000 views. 8 May 2019.

“Hurricane Awareness Tour,” *Hofstra University*. 7 May 2019.

<https://news.hofstra.edu/2019/05/07/hurricane-awareness-tour/>

“Club Spotlight: Planting seeds for change with LEAF,” *Hofstra Chronicle*. 22 April 2019.

<https://www.thehofstrachronicle.com/category/hofstra/2019/4/22/club-spotlight-planting-seeds-for-change-with-leaf>

“LI weather: Winds produce big range of above-normal temps in region.” *Newsday*. 8 April 2019.

<https://www.newsday.com/news/weather/long-island-weather-monday-1.29542404>

“Snow totals fall short of forecasters' Sunday estimates of 6-10 inches on Long island.”

Newsday. 4 March 2019. <https://www.newsday.com/news/weather/long-island-weather-snow-monday-1.28044899>

“Snow much for snow on Long Island this (meteorological) winter.” *Newsday*. 1 March 2019.

<https://www.newsday.com/long-island/snow-long-island-winter-1.27912014>

“Sree Sreenivasan Sunday New York Times Readalong.” Facebook Live video with approximately 1,100 views. 3 February 2019.

<https://www.facebook.com/sreenet/videos/10104292674522642/> (appear as special guest beginning at 20 minute mark).

“Expert Interview on Polar Vortex.” *WRHU Newslines*. 31 January 2019.

“Monday's cold isn't here to stay, forecast says.” *Newsday*. 21 January 2019.
<https://www.newsday.com/news/weather/long-island-weather-monday-1.26221090>

“Long Island saw wet and wild weather in 2018.” *Newsday*. 29 December 2018.
<https://www.newsday.com/news/weather/long-island-weather-2018-1.25109776>

“HU Office Hours: Winter in NY with Jase Bernhardt.” *Hofstra University*. 13 December 2018.
https://www.youtube.com/watch?v=ORjdHJ_EZA4&

“Expert interview on National Climate Assessment.” *WRHU Newslines*. 27 November 2018.

“Hurricane Virtual Reality Simulation Interview.” *The Weather Channel, AM HQ and Weekend Recharge*. 14 October 2018. Clips available at:
<https://twitter.com/HofstraU/status/1051470574126546945>
<https://twitter.com/WxJase/status/1051636530798895104>

“Dire Warning from UN Climate Report.” *Richard French Live, RNN/FiOS News 1*. 12 October 2018. <https://www.youtube.com/watch?v=mnZrOlaHps4&>

“Researchers say this technology could be the key to people taking hurricane warnings seriously.” *Washington Post*. 11 October 2018.
<https://www.washingtonpost.com/technology/2018/10/10/researchers-say-this-technology-could-be-key-people-taking-hurricane-warnings-seriously>

“Expert interview on Hurricane Michael.” *WRHU Newslines*. 8 October 2018.

“Hurricane forum at Hofstra centers on how storm forecasting has evolved.” *Newsday*. 4 October 2018. <https://www.newsday.com/news/weather/hurricane-symposium-hofstra-university-1.21435229>

“Commentary: In the crosshairs of looming disaster.” *Newsday*. 1 October 2018.
<https://www.newsday.com/opinion/commentary/in-the-crosshairs-of-looming-disaster-1.21297974>

“National Weather Service boss coming home to talk hurricanes.” *Newsday*. 22 September 2018.
<https://www.newsday.com/news/weather/hurricane-symposium-hofstra-university-1.21191220>

“Long Island Hurricane Symposium.” *Hofstra University*. 24 September 2018.
<https://news.hofstra.edu/2018/09/24/long-island-hurricane-symposium/>

“Expert interview on the 1938 Long Island Express.” *WRHU Newslines*. 21 September 2018.

“Expert interview on Hurricane Florence.” *WRHU Newsline*. 10 September 2018.

“NHC: Florence strengthening into 'major hurricane,' to affect southeast U.S. coast.” *Newsday*. 9 September 2018. <https://www.newsday.com/news/weather/hurricane-florence-long-island-1.20889385>

“Hurricanes with Dr. Jase Bernhardt.” *Hofstra University*. 7 September 2018. <https://www.youtube.com/watch?v=SXpVrLKjvyQ>

“Dr. Bernhardt Receives Dissertation Award.” *Hofstra University*. 24 August 2018. <https://news.hofstra.edu/2018/08/24/dr-bernhardt-receives-dissertation-award/>

“Death Valley World Record Part 2: Comparison Vs. Dehloran, Iran.” *Forbes*. 6 August 2018. <https://www.forbes.com/sites/brianbrettschneider/2018/08/06/death-valley-world-record-part-2-comparison-vs-dehloran-iran/#ec82c2c1ac99>

“Hurricane season looks busy.” *Newsday*. 25 May 2018.

“Hofstra virtual reality project simulates hurricane experience.” *Newsday*. 11 May 2018. <https://www.newsday.com/news/weather/hurricane-virtual-reality-hofstra-1.18471131>

“Hofstra University Uses VR To Put You Face To Face With A Category 3 Hurricane.” *VR Scout*. <https://vrscout.com/news/hofstra-hurricane-vr-simulator/>. 12 May 2018.

“Undergraduate Research Day.” *Hofstra University*. 16 May 2018. <https://news.hofstra.edu/2018/05/16/undergraduate-research-day/>

“HUWorldChangers: Sustainability Studio.” *Hofstra University*. Published April 2018. <https://www.hofstra.edu/worldchangers/sustainability.html>

“Nor’easter dumps over 6 inches of snow on bulk of Long Island,” *Newsday*. 8 March 2018. <https://www.newsday.com/news/weather/weather-nor-easter-snow-rain-1.17178753>

“Forecast: Second nor’easter could bring snow to Long Island,” *Newsday*. 6 March 2018. <https://www.newsday.com/news/weather/long-island-weather-forecast-1.17116179>

“Eye of the Virtual Storm,” *Hofstra University*. 5 December 2017. <https://news.hofstra.edu/2017/12/05/eye-of-the-virtual-storm/>

“Hofstra Hosts WABC’s AccuWeather Forum.” *Hofstra University*. 31 October 2017. <https://news.hofstra.edu/2017/10/31/hofstra-hosts-wabcs-accuweather-forum/> and <http://abc7ny.com/weather/eyewitness-news-holds-accuweather-town-hall-at-hofstra/2585965/>

“Expert interview on Nor’easter.” *WRHU Newsline*. 7 March 2018.

“Expert interview on hurricanes and climate change.” *PIX11 News Closeup, WPIX New York*. 17 September 2017. <http://pix11.com/2017/09/17/news-closeup-climate-change-assemblyman-farrell-on-42-years-in-albany/>

“Expert interview on Hurricanes Harvey and Irma and climate change.” *Richard French Live, RNN/FiOS News I*. 12 September 2017. <https://www.youtube.com/watch?v=SrZpO5JAPW8>

“Expert interview on Hurricanes Harvey and Irma.” *WRHU Newslines*. 5, 6, 7, 12, and 14 September 2017.

“Head in the Clouds: New Weather Stations Build Interest, Curriculum in Meteorology.” *Hofstra Magazine*. 2016-2017 Year in Review Issue. <https://news.hofstra.edu/2017/09/21/head-in-clouds/>

“Stony Brook University, School of Marine and Atmospheric Sciences (SoMAS), Topics in Atmospheric and Oceanic Science (TAOS) Seminar.” 30 August 2017. https://www.youtube.com/watch?v=MI_TJBePQWA

“Focus on research: Meteorology students get a flurry of experience.” *Centre Daily Times*. 28 August 2015. <http://www.centredaily.com/living/article42924807.html>

“Contrails Change Temperatures on the Ground Beneath Them.” *KQED Science*. 3 July 2015. <http://ww2.kqed.org/science/2015/07/03/contrails-change-temperatures-on-the-ground-beneath-them/>

“Jet contrails affect surface temperatures.” *Penn State News*. 18 June 2015. <http://news.psu.edu/story/361041/2015/06/18/research/jet-contrails-affect-surface-temperatures>