Sophia DiPietro

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Education

University of Miami Rosenstiel School of Marine and Atmospheric Science, Miami, FL
August 2024-Present
P.h.D Student in Atmospheric Science GPA: 3.95/4.00

Barnard College of Columbia University, New York, NY Degree Awarded May 2024
B.A. Environment and Sustainability GPA: 3.63/4.00

Research Experience

University of Miami Rosenstiel School of Marine and Atmospheric Science, Miami, FL
Graduate Research Assistant *August 2024-Present*

- Conduct research on heat hazards under the guidance of Professor Amy Clement, utilizing ERA5 reanalysis data, HadISD historical station data, CMIP6, and HighResMIP model simulations.
- Analyze data to assess temperature, humidity, and heat hazard trends globally.
- Pursue graduate coursework in Atmospheric Science.

Lamont Doherty Earth Observatory, Palisades, NY
Research Intern *June 2023-August 2023*

- Worked with Professor Camargo and Professor García-Franco on the ability of HighResMIP models to simulate the ENSO-TC relationship.
- Utilized Python to analyze HighResMIP climate models and investigate the ability of these models to simulate the El Niño Southern Oscillation and Tropical Cyclone relationship; interpreted data to produce unique results.
- Presented research at Undergraduate Summer Research Symposium; summarized research in a 20-page paper and final poster.

Independent Research Project in Environmental Science, New York, NY
Student Researcher *September 2022-May 2023*

- Collaborated with Professor Camargo of Lamont Doherty Earth Observatory on her NSF funded project to investigate the relationship between tropical cyclones, El Niño Southern Oscillation, and climate change.
- Used Python to analyze thousands of data points relating to tropical cyclones and El Niño Southern Oscillation; produced figures and maps for data visualization.
- Wrote research papers at the conclusion of each semester detailing the methods and results of the research conducted throughout the semester, including discussion of model differences in simulating ENSO events in the historical period 1950-2014.

Relevant Coursework

- Geophysical Fluid Dynamics I, Introduction to Atmospheric Dynamics, Climate Change, General Circulation of the Atmosphere, Introduction to Atmospheric Chemistry, Climate and Society.

Technical Skills

Technical: Python, Global Climate Model analysis, ArcGIS, Excel, R.
Lab Skills: XRF analysis, UV-Spectroscopy, Ion chromatography, water sample analysis, soil sample analysis.

Conference Presentations

American Meteorological Society Student Conference, Baltimore MD *January 28, 2024*
Analysis of the Ability of HighResMIP Models to Simulate ENSO-TC Relationship
Undergraduate Summer Research Symposium, Lamont Doherty Earth Observatory *July 28, 2023*

Presented a research slide and poster for my summer research project "Analysis of the Ability of HighResMIP Models to Simulate ENSO-TC Relationship" as part of my summer research internship at Lamont Doherty.

Workshop Attendance

NASA Summer School on Satellite Observations and Climate Models, Pasadena, CA *August 25-29, 2025*
Participated in a week-long summer school on Satellite Observations and climate models, hosted by the Keck Institute for Space Studies and JPL Center for Climate Sciences. Engaged in lectures on a variety of topics and completed a group project on Global Warming using GRACE Satellite Data and ARGO floats data.

American Meteorological Society Science Policy Colloquium, Washington, DC *June 1-6, 2025*
Participated in a five day workshop on science policy, which focused on federal approaches to science policy within the legislative and executive branches of government. Included meetings with various members of government and science agencies, an extensive introduction to the federal budget process, and a mock legislative exercise.

JPL Climate Risk Science Workshop, Pasadena, CA *October 28-30, 2024*
Participated in a three-day workshop focused on actionable climate science, consisting of expert presentations and collaborative brainstorming sessions on climate risk solutions.

Awards, Honors, and Scholarships

American Meteorological Society Science Policy Colloquium, Full Financial Support ($4,000) *April 2025*
NSF GRFP Honorable Mention *2024*
Lamont Earth Internship ($6,000) *2023*
Dean's List Barnard College of Columbia University *2020-2023*