

Ethan Murray

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Technical and Interpersonal Skills

- Python, Matlab, GIS, Github, and Linux
- Data visualization
- Data analysis
- Effective communication
- Weather models and observations
- Collaboration

Professional Experience

Understanding Tropical Cyclone Internal Structure

August 2021 – July 2025

Department of Atmospheric and Oceanic Sciences, Boulder, CO

- Led multiple projects studying tropical cyclone thermodynamics, aerosols and clouds, resulting in new knowledge about these impactful storms.
- Demonstrated proficiency in statistical analysis, software management, and collaboration by consolidating observational datasets, investigating physical processes, and leading a research team.

Comparing Tropical Cyclone Models and Observations

June - August 2024

Naval Research Laboratory, Monterey, CA

- Collaborated with Navy scientists as an NREIP summer intern to improve COAMPS-TC (their tropical cyclone forecasting model) through comparisons with observations, resulting in a journal article.

Simulation of Ocean Wave Breaking

June – August 2021

Scripps Institution of Oceanography, La Jolla, CA

- Simulated idealized ocean waves using Matlab and Fortran, connecting wave packet bandwidth to wave breaking. This project culminated in the publication of a second author journal article.

Field Campaign Experience

MAGPIE Field Campaign Research Scientist, Bridgetown, Barbados

August – September 2023

- Collaborated with NOAA, Navy, and University scientists to observe the tropical atmospheric boundary layer and its aerosol gradients. Demonstrated problem solving skills while collecting radiosonde, atmospheric lidar, and ship-based measurements in challenging environments.

TORUS Field Campaign Research Scientist, Topeka, KS

May – June 2022

- Flew on NOAA's P-3 aircraft sampling the atmosphere around thunderstorms, supercells, and tornadoes. Participated in 12 research flights, logging 70 flight hours. Gained operational experience as a flight scientist by supervising the atmospheric lidar and directing P-3 flight legs.

Outreach and Leadership

Elementary School Outreach 2024–2025

Undergraduate Application Mentor 2024 – 2025

Snow School 2025

Varsity Men's Rowing 2018 - 2021

Education

University of Colorado, Boulder

PhD, Department of Atmospheric and Oceanic Sciences

July 2025

MS, Department of Atmospheric and Oceanic Sciences

December 2023

Vassar College

BA, Physics Major, Computer Science Minor

June 2021