

Andrew John Buggee

Ph.D. Candidate

National Science Foundation Graduate Research Fellow

Laboratory for Atmospheric and Space Physics | University of Colorado Boulder

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Education

- University of Colorado Boulder** | Ph.D. & M.S. in Atmospheric and Oceanic Sciences *08/2020 – Present*
- Northeastern University** | B.S. in Physics, minors in Mathematics and Mechanical Engineering *09/2011 – 05/2016*

Professional Experience

- Laboratory for Atmospheric and Space Physics** | Boulder, CO *08/2020 – Present*
Working with Dr. Peter Pilewskie to better understand the physics of clouds and their role in Earth's climate. Developing methods to measure the vertical variation of cloud properties with the upcoming hyperspectral CLARREO Pathfinder instrument.
- MIT Lincoln Laboratory** | Lexington, MA *09/2016 - 07/2020*
Worked in the Advanced Technologies and Capabilities group within the Space Systems Division as an Assistant Staff member. Worked on many projects such as interferometric adaptive optics, chemical remote sensing, and small spacecraft mission analysis.

Conferences and Workshops

- American Geophysical Union Fall Meeting** | Chicago, IL *12/2022*
Presented in The Spectral Dimension of Shortwave and Longwave Radiation in the Earth System session. *“Retrieving Vertical Profiles of Cloud Droplet Effective Radius using Passive Hyperspectral Remote Sensing”*
- NASA JPL Center for Climate Sciences Summer School** | Pasadena, CA *08/2022*
“Using Satellite Observations to Advance Climate Models”
- International Radiation Symposium** | Thessaloniki, Greece *07/2022*
Presented in the General Remote Sensing session. *“Vertical Retrieval of Cloud Optical Properties using Hyperspectral Measurements from AVIRIS: A stepping stone for CLARREO Pathfinder”*

Awards

National Science Foundation Graduate Research Fellowship	09/2022 - 08/2025
University of Colorado Boulder Graduate School Domestic Travel Grant	12/2022
Atmospheric and Oceanic Sciences University Fellowship	12/2022

Technical Skills

Programming Languages: Matlab, Python

Software: LibRadTran, MODTRAN, SolidWorks, ANSYS Fluent, NASA's GMAT, Microsoft Office

Mentoring and Outreach

Research Experience for Undergraduates | Boulder, CO 2021-2023

For three summers, I served as a graduate student mentor for an REU student in the department of Atmospheric and Oceanic sciences. I met with my students every work guiding them on a research project for the summer.

Atmospheric and Oceanic Sciences Outreach Program | Boulder, CO 2022-present

Since spring of 2022 I have helped with live geoscience science demonstrations at local elementary and middle schools. Topics included greenhouse gasses, cloud formation, sea ice melting, and erosion.