

Sarah Weidman
Department of Earth and Planetary Science
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EDUCATION

Harvard Department of Earth and Planetary Science *2021 - Present*
Graduate student in Atmospheric Dynamics

Massachusetts Institute of Technology *2017 - 2021*
B.S. in Atmospheric Science and Physics

RESEARCH

MJO Teleconnections in GCMs *2021 - Present*
Advisor: Zhiming Kuang, Harvard
Examining MJO and MJO teleconnections in GCMs using a bias correction method.

Energetic Constraints on Precipitation over Land *2019 - 2021*
Advisor: Paul O’Gorman, MIT
Researched a simple physical theory for how precipitation will change over wet and dry land due to warming using the energy budget equation. Project developed into an undergraduate senior thesis.

Temperature Extremes over Alaska *2020 - 2021*
Mentors: Tom Delworth, Sarah Kapnick, NOAA GFDL
Quantified likelihoods of extreme temperature events based on a notable extreme temperature event over Alaska in July 2019.

TEACHING

Solving Complex Problems, MIT *Fall 2018, 2019, 2020*
Teaching assistant

Physics II, MIT *Spring 2020*
Teaching assistant

Women’s Technology Program *Summer 2018*
Residential tutor

SERVICE AND EXTRACURRICULARS

MIT EAPS Undergraduate Council *2020 - 2021*
President

MIT EAPS Diversity, Equity, and Inclusion Committee *2020 - 2021*
Undergraduate representative

MIT Subcommittee on the Communication Requirement *2019 - 2021*
Undergraduate representative

Staff Meteorologist for MIT Tech *2017 - 2021*

PAPERS AND PRESENTATIONS

Weidman, S., Kleiner, N., Kuang, Z. (2022). A rotation procedure to improve seasonally varying Empirical Orthogonal Function bases for MJO indices. *Geophysical Research Letters*, 49, e2022GL099998. <https://doi.org/10.1029/2022GL099998>

Kerry Emanuel Symposium (Poster)

Jun 2022

Title: Modification of the OMI for MJO characterization

http://web.mit.edu/~twcronin/www/emanuel_symposium/poster_abstracts.html

Weidman, S., Delworth, T. L., Kapnick, S. B., Cooke, W. F. (2021). The Alaskan summer 2019 extreme heat event: The role of anthropogenic forcing, and projections of the increasing risk of occurrence. *Earth's Future*, 9. <https://doi.org/10.1029/2021EF002163>

Alaska Center for Climate Assessment and Policy Webinar

Jul 2020

Title: Detecting, Projecting, and Attributing Changes in Extreme Events in Alaska

<https://uaf-accap.org/event/detecting-projecting-attributing-extreme-events-alaska/>

AGU Oral Presentation

Dec 2020

Title: Detecting and Projecting Changes in Extreme Temperature Events over Alaska

Session: Climate Extremes: Patterns, Mechanisms, and Attribution

AWARDS AND FELLOWSHIPS

NSF GRFP

2022

EAPS Undergraduate Teaching Award

2021

Ernest F. Hollings Undergraduate Scholarship

2019 - 2021

EAPS Student Achievement Award

2020