

Sarah Weidman  
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## EDUCATION

**Harvard Department of Earth and Planetary Science** *2021 - Present*  
Ph.D. candidate in Atmospheric Science

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

## RESEARCH

**MJO and MJO Teleconnections** *2021 - Present*  
Advisor: Zhiming Kuang, Harvard  
Examining MJO, MJO teleconnections, and their applications to subseasonal weather forecasts in GCMs using novel modeling techniques.

**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

**Mathematical Modeling**, Harvard *Spring 2023*  
Teaching fellow for undergraduate applied math course.

**Undergraduate research mentor**, Harvard *Summer 2022*  
Mentored a rising sophomore on a 3-week project to improve Python tools for MJO analyses.

**Solving Complex Problems**, MIT *Fall 2018, 2019, 2020*  
Undergraduate teaching assistant for first-year seminar.

**Physics II**, MIT *Spring 2020*  
Undergraduate teaching assistant for general institute requirement in physics.

**Women’s Technology Program** *Summer 2018*  
Residential tutor

## SERVICE AND EXTRACURRICULARS

**WXChallenge forecasting competition** *2018 - Present*  
Team member at MIT, then Local Manager at Harvard  
Winner (best forecasts over two weeks): KATL, Spring 2023

**Graduate student seminar**, Harvard *2022 - 2023*  
Organizer

<b>Forecaster for Head of the Charles</b> Volunteer weather forecaster for annual regatta Invited speaker on “Weather 101” for US Rowing Referee College, 2023	<i>2021, 2022</i>
<b>MIT EAPS Undergraduate Council</b> President	<i>2020 - 2021</i>
<b>MIT EAPS Diversity, Equity, and Inclusion Committee</b> Undergraduate representative	<i>2020 - 2021</i>
<b>MIT Subcommittee on the Communication Requirement</b> Undergraduate representative	<i>2019 - 2021</i>
<b>Staff Meteorologist for MIT Tech</b>	<i>2017 - 2021</i>

## PAPERS AND PRESENTATIONS

<b>Northeast Tropical Workshop Oral Presentation</b> Title: Potential predictability of the MJO in SPCAM	<i>Jun 2023</i>
<b>AGU Poster Presentation</b> Title: Rotation Procedure to Improve Seasonally Varying Empirical Orthogonal Function Bases for MJO Indices Session: The Madden-Julian Oscillation and Convectively Coupled Waves in the Tropics: Observations, Theory, Modeling, and Prediction	<i>Dec 2022</i>
<b>Weidman, S.,</b> Kleiner, N., Kuang, Z. (2022). A rotation procedure to improve seasonally varying Empirical Orthogonal Function bases for MJO indices. <i>Geophysical Research Letters</i> , 49, e2022GL099998. <a href="https://doi.org/10.1029/2022GL099998">https://doi.org/10.1029/2022GL099998</a>	
<b>Kerry Emanuel Symposium (Poster)</b> Title: Modification of the OMI for MJO characterization	<i>Jun 2022</i>
<b>Weidman, S.,</b> 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. <i>Earth's Future</i> , 9. <a href="https://doi.org/10.1029/2021EF002163">https://doi.org/10.1029/2021EF002163</a>	
<b>Alaska Center for Climate Assessment and Policy Webinar</b> Title: Detecting, Projecting, and Attributing Changes in Extreme Events in Alaska	<i>Jul 2020</i>
<b>AGU Oral Presentation</b> Title: Detecting and Projecting Changes in Extreme Temperature Events over Alaska Session: Climate Extremes: Patterns, Mechanisms, and Attribution	<i>Dec 2020</i>

## AWARDS AND FELLOWSHIPS

<b>NSF GRFP</b>	<i>2022 - 2025</i>
<b>EAPS Undergraduate Teaching Award</b>	<i>2021</i>
<b>Ernest F. Hollings Undergraduate Scholarship</b>	<i>2019 - 2021</i>
<b>EAPS Student Achievement Award</b>	<i>2020</i>