

PUBLICATIONS

Malloy, K.M. and Kirtman, B.P. (2021). The summer Asia-North America teleconnection and ENSO modulation in Community Atmosphere Model, version 5 (CAM5). *J. Climate*, in prep.

Malloy, K.M. and Kirtman, B.P. (2021). East Asian monsoon forcing and North Atlantic subtropical high modulation of summer Great Plains low-level jet. *J. Climate*, in prep.

Malloy, K.M. and Kirtman, B.P. (2020). Predictability of Midsummer Great Plains Low-Level Jet and Associated Precipitation. *Wea. Forecasting*, 35, 215–235, <https://doi.org/10.1175/WAF-D-19-0103.1>.

Mahoney, K., Swales, D., Mueller, M.J., Alexander, M., Hughes, M., and Malloy, K. (2018). An Examination of an Inland-Penetrating Atmospheric River Flood Event under Potential Future Thermodynamic Conditions. *J. Climate*, 31, 6281–6297, <https://doi.org/10.1175/JCLI-D-18-0118.1>.

EDUCATION

University of Miami Rosenstiel School of Marine & Atmospheric Science	Expected: Spring 2022
Ph.D. Program	
Thesis: Predictability of Great Plains Summer Hydroclimate via Extratropical Teleconnections	
Advisor: Ben Kirtman	
Bachelor of Science: University of Maryland - College Park, Honors College	2017
Atmospheric & Oceanic Science, Departmental Honors	
Minor: Geography-Remote Sensing of Environmental Change	

RELEVANT GRADUATE-LEVEL COURSES

Univ. Miami. (30 credits)

Intro to ATM, Climate Change, Geophysical Fluid Dynamics I & II, General Circulation of Atmosphere, Data Analysis Methods, Advanced Weather Forecasting, Predictability, ENSO Dynamics, Computational Fluid Dynamics

Univ. Maryland (6 credits)

Physical Oceanography
Analysis Methods in Atmospheric & Oceanic Sciences

RESEARCH EXPERIENCE

Graduate Research Assistant, Univ. Miami Rosenstiel School	Fall 2017-Present
Ph.D. Committee: Ben Kirtman, Amy Clement, Emily Becker, Brian Mapes, Hosmay Lopez	
<ul style="list-style-type: none">• Predictability of summer Great Plains / North American low-level jet and associated precipitation on S2S and interannual timescales through understanding of large-scale dynamics and climate variability• Using Python for reading and visualizing data• High-level data analysis on:<ul style="list-style-type: none">○ Reanalysis and observational datasets (ERA5, MERRA-2, ERSST, NCEP/NCAR, etc.)○ Community Climate System Model, v4 (CCSM4) forecast output○ Dry nonlinear baroclinic atmospheric model output○ Community Atmospheric Model, v5 (CAM5) output• Community Earth System Model (CESM1.2) and CAM5 setup, build, & conducted four different prescribed SST experiments, and mentored other graduate students on CESM process• Setup, write code for monsoon forcing, developed, and conducted idealized forcing experiments with a dry nonlinear baroclinic AGCM; created documentation, and mentored other graduate students on process	

- Oral presentation at 2021 AMS annual meeting
- Oral presentation at Rosenstiel School Student Seminar series in 2019, 2020, 2021
- Invited presentation at North American Multi-Model Ensemble (NMME) monthly meeting (Feb 2020)
- Poster presentation at 2020 AMS annual meeting

Collaborator, PyWR, Weather Typing and S2S Sources of Predictability Summer 2021-Present
 Projects Leads: Ángel Muñoz and Andrew Robertson

- Project in collaboration with participants of NCAR Advanced Summer Program *The Science of S2S Predictions* PyWR and Weather Typing group and International Research Institute/Lamont-Doherty Earth Observatory (IRI/LDEO) scientists
- Applying weather typing via *k*-means clustering to explore summertime predictability of North Atlantic circulation and associated precipitation
 - Primary contribution – boreal summer intraseasonal oscillation and East Asian monsoon as a source of predictability for summer weather types

Intern, NOAA Climate and Weather Prediction Center, Ocean Prediction Center Fall 2016-Spring 2017

- Building case study analysis of stratospheric air intrusion events and improving hurricane-force wind forecasts of extratropical cyclones in Atlantic Ocean using satellite imagery
- Give presentations or instructional kits to Alaskan Weather Forecast Offices and Ocean and Weather Prediction Centers
- Research defended for senior thesis:
 - oral prospectus defense in Fall 2016
 - poster presentation in Spring 2017
- Poster presentation at 2017 AMS Annual Meeting
- Invited presentation at Ocean Prediction Center in July 2017

Intern, NOAA Earth System Research Lab Physical Sciences Division (ESRL/PSD) Summer 2016

- Diagnosed case study of atmospheric river event by comparing “present-day” precipitation and moisture transport over western US with simulated “future” case using pseudo-global warming approach
 - Work with Weather and Research Forecasting (WRF) output to compare control (present-day) run with pseudo-global warming (future) run
- Oral presentation at NOAA Hollings Research Symposium
- Poster presentation at 2017 AMS Annual Meeting

Intern, UC San Diego Scripps Undergraduate Research Fellowship (SURF) Summer 2015

- Compared vertical profiles of Feb. 6th 2015 atmospheric river event using NCEP/NCAR Final Reanalysis model and dropsonde data
- Poster presentation at SIO SURF Student Symposium
- Poster presentation at 2016 AMS Annual Meeting

RELEVANT GRADUATE EXTRACURRICULARS

Founder, <i>Seasoned Chaos</i> blog about subseasonal-to-seasonal forecasting	Present
• https://seasonedchaos.github.io	
Lead Coordinator, Students for Students Outreach	Present
Rosenstiel School Graduate-Undergraduate Mentoring program	Present
Rosenstiel School Climate Group	Present
Rosenstiel School Marine Science Graduate Student Organization’s Sustainability Initiative	2020-2021
Rosenstiel School Marine Science Graduate Student Organization’s Earth Week Committee	2020-2021
Rosenstiel School Seas by Degrees Video Seminar Series	March 2021
Rosenstiel School Student Seminar Committee	2019-2020

Presenter/Collaborator, Rosenstiel School *Lunch Bytes* Seminar
Rosenstiel School Atmospheric Science Dept. Student Ambassador

Spring 2019
2018-2019

TEACHING EXPERIENCE

Tutor for high school students, mostly math and science	Present
Teaching Assistant for Data Analysis Methods (graduate course)	Spring 2020
Teaching Assistant for Weather Forecasting	Spring 2019
Teaching Assistant for Large-scale Atmospheric & Oceanic Dynamics	Spring 2017
Teaching Assistant for Atmospheric Thermodynamics	Fall 2016

SKILLS & AWARDS

- Excellent writing skills and overall science communication skills (by medium of oral presentations, writing, video-making, interviews)
- Involvement in many extracurricular and community organizations, including taking on leadership positions
- Tutoring and teaching experience from middle school to graduate level
- Participated and attended the 2021 NCAR Advanced Summer Program “The Science of Subseasonal-to-Seasonal Predictions” Colloquium and Workshop
- Runner-up for 2020-2021 Rosenstiel School Student Seminar *Best Presentation Skills* award
- Programming Languages: Python, Matlab, Shell, Git Bash, Fortran, Markdown/HTML, NCAR Command Language (NCL), C
- Software/Operating Systems: Linux/Unix, Git Bash, Microsoft Office (Word, Excel, Powerpoint, etc.)
- Involved in Machine Learning/Artificial Intelligence literature reading group with some experience in applying to climate data
- Accepted into 2020 Swiss Climate Summer School (canceled because of COVID-19)
- Participated in Summer 2018 Weather and Climate Extremes NCAR Tutorial/Workshop
- 2017 University of Maryland Undergraduate Researcher of the Year
- 2017 University of Maryland Philip Merrill Presidential Scholar
- 2017 Richard Jordan Scholar (for atmospheric & oceanic science senior thesis presentations)
- 2015-2016 NOAA Ernest F. Hollings Scholar