

Dr. Kay McMonigal (he/him or they/them)

Assistant Professor

Department of Oceanography

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EDUCATIO !

2020

Ph.D., University of Miami (UM) Rosenstiel School of Marine and Atmospheric Sciences (RSMAS)

Meteorology and Physical Oceanography

[1] Gunn, K.L., **K. McMonigal**, L.M. Beal, S. Elipot, Eddy heat fluxes within the Agulhas Current.

I!

- 2022 *Drivers of Atlantic SST variability in a coupled model hierarchy (poster)*
Atmospheric and Oceanic Fluid Dynamics conference (Breckenridge, CO)
- 2022 *Anthropogenically forced wind driven ocean redistribution of heat leads to increased warming over the historical period (poster)*
CLIVAR pattern effect workshop (Boulder, CO)
- 2022 *What role do wind driven ocean circulation trends play in the rate of global warming?*
NCSU MEAS department symposium (Raleigh, NC)
- 2022 *ENSO explains the link between Indian Ocean Dipole and meridional heat transport*
Ocean Sciences Meeting (virtual): YouTube
- 2022 *ENSO explains the link between Indian Ocean Dipole and meridional heat transport*
Climate Variability and Change Working Group (virtual)
- 2022 *Why is the Indian Ocean warming so rapidly?*
South African Network for Coastal and Oceanic Research seminar (virtual)
- 2022 *Why is the Indian Ocean warming so rapidly?*
Woods Hole Oceanographic Institute seminar series (virtual)
- 2022 *Why is the Indian Ocean warming so rapidly?*
Northwestern University Earth and Planetary Sciences seminar (virtual)
- 2021 *Drivers of Indian and Pacific Ocean heat transport*
International Workshop for Air-sea Interactions (virtual poster)
- 2020 *Estimating a time series of meridional heat transport of the Indian Ocean at 34°S*
Ocean Sciences Meeting, San Diego, CA
- 2020 *Variability in Agulhas Current temperature and freshwater transports, with implications for Agulhas Leakage fluxes*
Gateways to the Ocean Symposium, San Diego, CA
- 2019 *The time varying temperature transport of the Agulhas Current*

2018

2018

International Association for the Physical Sciences of the Ocean, Early Career Scientist working group, committee member, 2019 - present
Geosciences Education & Mentorship Support mentor
Unlearning Racism in Geosciences (URGE) Pod member, 2021
University of Miami RSMAS Student-Led Evaluations and Development, committee member
Ocean Sciences Bowl 2020 volunteer
Ocean Kids program 2019 volunteer

RESEARCH EXPERIENCE

CTD operations and sampling
Mooring deployment and recovery
Set up, calibration, quality control, and analysis of hydrographic data from CTDs, microCATs, CIPES, ADCPs, Nortek current meters
Interpolation of disparate data sources including mooring, Argo, and satellite
HPC usage
Programming with Matlab, python, cdo, NCL, shell, C++
Code modifications and running of climate models (CESM)
Processing of CCSM and CESM ocean, atmosphere, and sea ice output
Running CESM including coupler modifications and large ensembles
Writing workshop with Dallas Murphy, 2018
Mentoring workshop with Merlin Wahlberg, 2018

PROFESSIONAL MEMBERSHIPS

European Geophysical Union, member
American Meteorological Society, member
The Oceanography Society, member
American Geophysical Union, member

REFERENCES

Lisa Beal, Professor
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Sarah Larson, Assistant Professor
slarson@ncsu.edu