JAMES HLYWIAK, PH.D.

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National Research Council Postdoctoral Fellow
Naval Research Laboratory ⋄ Monterey, CA 93943

EDUCATION

University of Miami, Miami, FL *August 2016 - August 2021*
Ph.D in Meteorology and Physical Oceanography
Thesis Title: Modifications to the Tropical Cyclone Intensity and Wind Structure Resulting from Surface-Boundary Layer Interactions over Coastal and Inland Environments
Advisor: Dr. David S. Nolan

Pennsylvania State University, State College, PA *August 2012 - May 2016*
B.S. in Meteorology - Atmospheric Science Option *3.79 GPA*
Minors in Mathematics and Marine Sciences

University of Southampton, Southampton, UK *Spring 2015*
Study Abroad Program, Marine Science Focus

APPOINTMENTS

Postdoctoral Research Fellow *October 2021 - present*
National Research Council
Host Institution: U.S. Naval Research Laboratory, Monterey, CA, USA
Supervisor: Dr. David D. Flagg

PEER-REVIEWED PUBLICATIONS

Hlywiak, J., Flagg, D.D., Hong, X., Doyle, J.D., Benbow, C., Curcic, M., Darby, B., Drennan, W.M., Graber, H., Haus, B., MacMahan, J., Ortiz-Suslow, D., Ruiz-Plancarte, J., Wang, Q., Williams, N., and Yamaguchi, R. (2023). Evaluating Atmospheric Surface Layer Flux Parameterization within the Coastal Regime. *Monthly Weather Review* (published online ahead of print 2023)

Hlywiak, J. and Nolan, D.S. (2022). Targeted artificial ocean cooling to weaken tropical cyclones would be futile. *Communications Earth & Environment*, 3, 185, https://doi.org/10.1038/s43247-022-00519-1.

Hlywiak, J. and Nolan, D.S. (2022). The Evolution of Asymmetries in the Tropical Cyclone Boundary Layer Wind Field during Landfall. *Monthly Weather Review*, 150(3), 529-549 https://doi.org/10.1175/MWR-D-21-0191.1

Hlywiak, J. and Nolan, D.S. (2021). The Response of the Near-Surface Tropical Cyclone Wind Field to Inland Surface Roughness Length and Soil Moisture Content During and After Landfall. *Journal of the Atmospheric Sciences* 8(3), 983-1000 https://doi.org/10.1175/JAS-D-20-0211.1

Hlywiak, J. and Nolan, D.S. (2019). The Influence of Oceanic Barrier Layers on Tropical Cyclone Intensity as Determined through Idealized, Coupled Numerical Simulations. *J. Phys. Oceanogr.*, 49, 17231745, https://doi.org/10.1175/JPO-D-18-0267.1

Li, R., Palm, B.B., Ortega, A.M., **Hlywiak, J.**, Hu, W., Peng, Z., Day, D.A., Knote, C., Brune, W.H., De Gouw, J.A. and Jimenez, J.L. (2015). Modeling the radical chemistry in an oxidation flow reactor: Radical formation and recycling, sensitivities, and the OH exposure estimation equation. *The Journal of Physical Chemistry A*, 119(19), pp.4418-4432.

CONFERENCE PRESENTATIONS

2023: American Geophysical Union Fall Meeting - *San Francisco, CA*
Oral Presentation: Towards an Advection-Aware Roughness Length Parameterization for use in Numerical Modeling of the Atmospheric Surface Layer
Poster Presentation: Spatio-temporal evolution of the Marine Atmospheric Boundary Layer over Island Wakes

2023: 103rd American Meteorological Society Annual Conference - *Denver, CO*
Oral Presentation: Surface Layer Parameterization Challenges within the Coastal Zone

2022: 35th American Meteorological Society Conference on Hurricanes and Tropical Meteorology - *New Orleans, LA*
Oral Presentation: The Evolution of Asymmetries in the Tropical Cyclone Boundary Layer Wind Field during Landfall
Poster Presentation: Evaluation of the Performance of COAMPS in Predicting Vertical Profiles of Wind and Temperature within the Coastal Regime: Initial Results from the Coastal Land-Air-Sea Interaction (CLASI) Departmental Research Initiative

2021: 34th American Meteorological Society Conference on Hurricanes and Tropical Meteorology - *Virtual Format*
Oral Presentation: Sensitivities of the decay of the near-surface tropical cyclone wind field to inland surface roughness and soil moisture

2019: European Geophysical Union, General Assembly - *Vienna, Austria*
Oral Presentation: The Influence of Oceanic Barrier Layers on Tropical Cyclone Intensity as Determined Through Idealized, Coupled Numerical Simulations

2018: 33rd American Meteorological Society Conference on Hurricanes and Tropical Meteorology - *Ponte Vedra, FL*
Poster Presentation: Coupled 3D Numerical Simulations of the Effects of Ocean Salinity on Tropical Cyclone Intensity

COMPUTING SKILLS

Programming Languages	Python, MATLAB, FORTRAN, Julia (Working knowledge)
Numerical Modelling	Performance of and Module Development: Weather, Research, and Forecasting Model (WRF) Coupled Ocean/Atmosphere Mesoscale Prediction System (COAMPS) Cloud Model 1 (CM1) Lagranto

TEACHING EXPERIENCES

Guest Lecturer, JAPN 410, California State University Monterey Bay	*Spring 2023*
Guest Lecturer, ATM 563: Mesoscale Meteorology, University of Miami	*Spring 2021*
Teaching Assistant, ATM 243: Weather Forecasting, University of Miami	*Spring 2020*
Teaching Assistant, ATM 244: Tropical Meteorology and Forecasting, University of Miami	*Fall 2018*

ARTICLE/PROPOSAL REVIEWS FOR

Geophysical Research Letters

Journal of the Atmospheric Sciences

Journal of Geophysical Research: Atmospheres

Monthly Weather Review
National Science Foundation
Ocean Science
Weather and Forecasting

AWARDS AND RECOGNITION

National Research Council Postdoctoral Fellowship	*2021 - present*
University of Miami Fellowship	*2016 - 2021*
Chi Epsilon Pi Meteorological Honors Society, Penn State Chapter	*2015 - present*
Robert Case Memorial Scholarship	*2015/16 Academic Year*
John G. Miller Scholarship	*2013/14 Academic Year*
Penn State Freshman President's Award	*Spring 2013*