

Elizabeth Yankovsky

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- EDUCATION**
- Princeton University**, Princeton, NJ
Ph.D., Atmospheric and Oceanic Sciences, 2015 – 2020.
Thesis: Modeling & parameterizing submesoscale turbulence in dense Arctic flows
Advisor: Dr. Sonya Legg
- University of South Carolina Honors College**, Columbia, SC
Thesis: Methane hydrates and cellular convection in the Central Aleutian Basin
B.S., Physics and Geophysics, 2011-2015
Advisors: Drs. Camelia Knapp and Darrell Terry
- RESEARCH EXPERIENCE**
- Courant Institute, New York University**, New York, NY
Postdoctoral Associate, Center for Atmosphere Ocean Science, 2020-present
Mentors: Drs. Laure Zanna and Shafer Smith
- NOAA Geophysical Fluid Dynamics Laboratory, Princeton University**
Graduate Research Assistant, Ocean & Ice Processes Group, 2015-2020
Mentors: Drs. Sonya Legg, Robert Hallberg, Rong Zhang
- Geophysical Exploration Laboratory, University of South Carolina**
Undergraduate Research Assistant, 2012-2015
“Methane Hydrates and Cellular Convection in the Central Aleutian Basin”
Mentors: Drs. Camelia Knapp, Darrell Terry
- Oregon State University, College of Earth, Ocean, & Atmospheric Sciences**, NSF-REU program intern, June-August 2014
“Response of the Length and Stratification of the North River Estuary to Changes in Forcing”, Mentor: Dr. James Lerczak
- Rutgers University, Department of Marine and Coastal Sciences**, NSF-REU program intern, June-August 2013
“Quantifying Turbulent Dissipation in a Shallow Estuarine Environment”
Mentor: Dr. Robert Chant
- PUBLICATIONS**
- [submitted] **Yankovsky, E.**, L. Zanna, K. S. Smith, 2022: Influences of mesoscale ocean eddies on flow vertical structure in a resolution-based model hierarchy. *Journal of Advances in Modeling Earth Systems*.
- Marques, G., N. Loose, **E. Yankovsky**, J. Steinberg, C. Chang, N. Bhamidipati, A. Adcroft, B. Fox-Kemper, S. Griffies, R. Hallberg, M. Jansen, H. Khatri, L. Zanna, 2022: NeverWorld2: An idealized model hierarchy to investigate ocean mesoscale eddies across resolutions. *Geoscientific Model Development*.
- N. Loose, R. Abernathey, I. Grooms, J. Busecke, A. Guillaumin, **E. Yankovsky**, G. Marques, J. Steinberg, A. S. Ross, H. Khatri, S. Bachman, L. Zanna, P. Martin, 2022: GCM-Filters: A Python package for diffusion-based spatial filtering of gridded data. *Journal of Open Source Software*.

I. Grooms, N. Loose, R. Abernathey, J. Steinberg, S. Bachman, G. Marques, A. Guillaumin, **E. Yankovsky**, 2021: Diffusion-based smoothers for spatial filtering of gridded geophysical data. *Journal of Advances in Modeling Earth Systems*.

Yankovsky, E., S. Legg, R. Hallberg, 2021: Parameterizing submesoscale symmetric instability and frontal mixing in dense flows along topography. *Journal of Advances in Modeling Earth Systems*.

Yankovsky, E., S. Legg, 2019: Symmetric and baroclinic instability in dense shelf overflows. *Journal of Physical Oceanography*.

Yankovsky, E. A., D. A. Terry, C. C. Knapp, 2015: Seismic and gravity evidence for methane-hydrate systems in the central Aleutian Basin. *International Journal of Earth Science and Geophysics*.

SELECTED
SEMINARS
AND TALKS

INVITED SEMINARS

Parameterizing mesoscale eddy energetics and vertical structure at eddy-permitting resolutions. *NCAR Oceanography Seminar*, Boulder, CO, 2022.

Influences of mesoscale ocean eddies on flow vertical structure. *Oceans Research Group Seminar*, University of Oxford, 2022.

Modeling and parameterizing submesoscale turbulence in dense Arctic overflows. *Atmosphere, Ocean and Climate Sack Lunch Seminar Series*, MIT EAPS, 2021.

Constraining water mass transformation and overflow dynamics on the Arctic shelves. *Polar Oceans Seminar Series*, British Antarctic Survey, 2021.

Symmetric instability in Arctic dense gravity currents. *Seminar in Applied and Computational Mathematics*, University of Edinburgh, Scotland, 2019.

Modeling baroclinic and submesoscale instabilities in the Arctic Ocean. *AOCD Fall Seminar Series*, Yale University, CT, 2018.

CONFERENCE PRESENTATIONS

Influences of mesoscale ocean eddies on flow vertical structure. *Ocean Sciences Meeting*, 2022; *Climate Process Team Annual Meeting: Ocean Transport and Eddy Energy*, Boulder, CO, 2022.

Effects of eddy representation on vertical structure and energetics. *CESM Ocean Model Working Group Meeting*, 2021.

Constraining Arctic water mass transformation and ventilation pathways in the GFDL-OM4.0. *AGU Fall Meeting*, 2020.

Modeling vertical transport and submesoscale frontal mixing in dense flows along topography. *Ocean Sciences Meeting*, San Diego, CA, 2020.

Symmetric and baroclinic instability in dense shelf overflows. *EGU General Assembly*, Vienna, Austria, 2019.

Symmetric instability in dense shelf overflows. *Ocean Sciences Meeting*, Portland, OR, 2018.

Dense water formation and transport on the Arctic continental shelves. *Forum for Arctic Ocean Modeling and Observational Synthesis (FAMOS)*, Woods Hole Oceanographic Institution, MA, 2017.

Response of the length and stratification of the North River estuary to changes in forcing. *AGU Fall Meeting*, San Francisco, CA, 2014.

WORKSHOPS	<p>Machine Learning and Climate Modeling: Princeton AOS, July 2019.</p> <p>Convection in Nature: Princeton Center for Theoretical Science, Feb. 2018.</p> <p>Forum for Arctic Modeling and Observational Synthesis (FAMOS): Woods Hole Oceanographic Institution, Oct. 2017.</p> <p>Les Houches Summer School on Fundamental Aspects of Turbulent Flows in Climate Dynamics: Les Houches Physics School, Aug. 2017.</p>
AWARDS	<p>2017 National Science Foundation Graduate Research Fellowship</p> <p>National Merit Scholarship, 2011</p>
COMPUTER EXPERIENCE	<p>MIT General Circulation Model (MITgcm): idealized non-hydrostatic simulations of dense gravity currents, coastal buoyant plume dynamics, LES.</p> <p>GFDL Modular Ocean Model (MOM6): idealized and regional simulations; analysis of global models including CM2.6 and OM4, model development.</p> <p>Other: Python, MATLAB, GitHub, Jupyter, LaTeX, Fortran, shell scripting.</p>
TEACHING EXPERIENCE	<p>Instructor Assistant: Introduction to Ocean Physics for Climate (GEO-MAE 425). Taught by Gabriel Vecchi, Fall 2018.</p> <p>Teaching Transcript Program, Princeton McGraw Center, completed 2020.</p>
SERVICE	<p>Convener and chair for the session “Mesoscale Eddy Energy and Ocean Transport” at Ocean Sciences Meeting, 2022.</p> <p>Reviewer for: Journal of Physical Oceanography, Ocean Modelling, Journal of Advances in Modeling Earth Systems, Geophysical Research Letters, Environmental Fluid Mechanics, NASA NSPIRES program.</p> <p>Planning Committee for the yearly Princeton AOS Program Orientation and Retreat (2018), AOS Program Student-Faculty Representative (2017-18).</p>
OUTREACH	<p>STEM Professionals Day at PS154 in Brooklyn – volunteer, 2022.</p> <p>NJ Ocean Fun Days, Estuary Day, Environment Day – volunteer, 2017-19.</p> <p>Young Women's Conference in Science, Technology, Engineering & Mathematics (Princeton Plasma Physics Laboratory) – volunteer, 2018-19.</p> <p>Plainsboro Library – developed youth program “Motion in the Ocean”, 2017.</p> <p>Future City – member of local nonprofit organization aimed at educating communities about environmental issues, working with policy-makers, and developing environmental initiatives, 2016-18.</p>