

Elizabeth Yankovsky

Courant Institute of Mathematical Sciences
New York University, New York, NY 10012.
Phone: (803) 201-1802

Email: ey8226@nyu.edu, eyankovsky@gmail.com
GitHub: <https://github.com/ElizabethYankovsky>
Website: <https://elizabethyankovsky.github.io/>

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| EDUCATION | <p>Princeton University, Princeton, NJ Ph.D., Atmospheric and Oceanic Sciences, <i>2015 – 2020</i>. Thesis: Modeling & parameterizing submesoscale turbulence in dense Arctic flows Advisor: Dr. Sonya Legg</p> <p>University of South Carolina Honors College, Columbia, SC Thesis: Methane hydrates and cellular convection in the Central Aleutian Basin B.S., Physics and Geophysics, <i>2011-2015</i> Advisors: Drs. Camelia Knapp and Darrell Terry</p> |
| RESEARCH EXPERIENCE | <p>Courant Institute, New York University, New York, NY Postdoctoral Associate, Center for Atmosphere Ocean Science, <i>2020-present</i> Mentors: Drs. Laure Zanna and Shafer Smith</p> <p>NOAA Geophysical Fluid Dynamics Laboratory, Princeton University Graduate Research Assistant, Ocean & Ice Processes Group, <i>2015-2020</i> Mentors: Drs. <u>Sonya Legg</u>, Robert Hallberg, Rong Zhang</p> <p>Geophysical Exploration Laboratory, University of South Carolina Undergraduate Research Assistant, <i>2012-2015</i> Mentors: Drs. Camelia Knapp, Darrell Terry</p> <p>Oregon State University, College of Earth, Ocean, & Atmospheric Sciences, NSF-REU program intern, <i>June-August 2014</i> “Response of the Length and Stratification of the North River Estuary to Changes in Forcing”, Mentor: Dr. James Lerczak</p> <p>Rutgers University, Department of Marine and Coastal Sciences, NSF-REU program intern, <i>June-August 2013</i> “Quantifying Turbulent Dissipation in a Shallow Estuarine Environment” Mentor: Dr. Robert Chant.</p> |
| AWARDS | <p>2017 National Science Foundation Graduate Research Fellowship</p> <p>National Merit Scholarship, 2011</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> |
| PUBLICATIONS | <p>Yankovsky, E., L. Zanna, K. S. Smith, 2022: Influences of mesoscale ocean eddies on flow vertical structure in a resolution-based model hierarchy. <i>Journal of Advances in Modeling Earth Systems</i>.</p> <p>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. <i>Geoscientific Model Development</i>.</p> |

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

Modeling & parameterizing mesoscale eddies in the Arctic Ocean. *US Interagency Arctic Research Policy Committee* modeling team meeting, 2022.

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

Machine Learning and Climate Modeling: Princeton AOS, July 2019.

Convection in Nature: Princeton Center for Theoretical Science, Feb. 2018.

Forum for Arctic Modeling and Observational Synthesis (FAMOS): Woods Hole Oceanographic Institution, Oct. 2017.

Les Houches Summer School on Fundamental Aspects of Turbulent Flows in Climate Dynamics: Les Houches Physics School, Aug. 2017.

COMPUTER EXPERIENCE

MIT General Circulation Model (MITgcm): idealized non-hydrostatic simulations of dense gravity currents, coastal buoyant plume dynamics, LES.

GFDL Modular Ocean Model (MOM6): idealized and regional simulations; analysis of global models including CM2.6 and OM4, model development.

Other: Python, MATLAB, GitHub, Jupyter, LaTeX, Fortran, shell scripting.

SERVICE

Convener and chair for the session “Mesoscale Eddy Energy and Ocean Transport” at Ocean Sciences Meeting, 2022.

Reviewer for: Journal of Physical Oceanography, Ocean Modelling, Journal of Advances in Modeling Earth Systems, Geophysical Research Letters, Environmental Fluid Mechanics, NASA NSPIRES program.

NYU-CAOS Colloquium Organizing Committee (2022), **Planning Committee** for the yearly Princeton AOS Program Orientation and Retreat (2018), AOS Program **Student-Faculty Representative** (2017-18).

OUTREACH

STEM Professionals Day at PS154 in Brooklyn – volunteer, 2022.

NJ Ocean Fun Days, Estuary Day, Environment Day – volunteer, 2017-19.

Young Women's Conference in Science, Technology, Engineering & Mathematics (Princeton Plasma Physics Laboratory) – volunteer, 2018-19.

Plainsboro Library – developed youth program “Motion in the Ocean”, 2017.

Future City – member of local nonprofit organization aimed at educating communities about environmental issues, working with policy-makers, and developing environmental initiatives, 2016-18.