

Anna C. Savage

CONTACT
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RESEARCH
INTERESTS Internal gravity waves, internal tides, near-inertial waves, mesoscale and submesoscale eddies,
ocean mixing, geophysical fluid dynamics, and internal wave in satellite altimetry

EDUCATION

University of Michigan, Ann Arbor, MI
Ph.D., Applied Physics Program, Advisor: Brian Arbic
Thesis: Sea surface height signatures of internal gravity waves 2011-2017

Kalamazoo College, Kalamazoo, MI
B.A., Physics Major with Applied Math and Studio Art Minors
Thesis: Analysis of chaotic network dynamics to determine the physical connectivity within neuronal networks 2007-2011

Université de Strasbourg, Strasbourg, France
Study Abroad 2009-2010

RESEARCH AND FIELD EXPERIENCE

- **Post-doctoral scholar (current)**
Co-advised by Amy Waterhouse, Sam Kelly, and Jennifer MacKinnon
Scripps Institution of Oceanography, San Diego, CA 2017-present
- **Graduate research assistant**
Advised by Brian Arbic
University of Michigan, Ann Arbor, MI 2012-2017
- **NISKINe Pilot Cruise** (R/V Neil Armstrong): part of
Office of Naval Research NISKINe Direct Research Initiative
near-inertial internal waves, interactions with eddies and fronts May 2018
- **Inner Shelf Cruise** (R/V Sally Ride): part of
Office of Naval Research Inner Shelf Direct Research Initiative
internal waves, headland eddies, Californian coastal dynamics September 2017
- **Gulf of Mexico Cruise** (R/V Pelican): associated with
Consortium for Coastal and River-Dominated Ecosystems (CONCORDE),
river plume surveys, wind-driven mixing, tidal-driven mixing April 2016
- **Equatorial Pacific Cruise** (R/V Oceanus): tropical
instability waves, Equatorial undercurrent,
hydrothermic ventilation, Equatorial cold tongue November 2014
- **NSF Research Experience for Undergraduates**
Biophysics Department
University of Michigan, Ann Arbor, MI Summer 2010

TEACHING AND MENTORING

Teaching

- Graduate Student Instructor
University of Michigan Physics Department
University of Michigan, Ann Arbor, MI Winter 2016
- Physics teaching assistant
Physics Department
Kalamazoo College, Kalamazoo, MI 2008-2011
- Calculus teaching assistant
Mathematics Department
Kalamazoo College, Kalamazoo, MI 2010-2011

Mentoring

- Ji Ye (undergraduate at University of Michigan) 2017-2018
- Hari Sharma (high school student) Summer 2014

HONORS AND AWARDS

- NASA Earth and Space Science Fellowship 2017-2018
- Honors on undergraduate Senior Individualized Project 2011

PUBLICATIONS

- Arbic, B. K., M. H. Alford, J. K. Ansong, M. C. Buijsman, R. B. Ciotti, J. T. Farrar, R. W. Hallberg, C. E. Henze, C. N. Hill, C. A. Luecke, D. Menemenlis, E. J. Metzger, M. Müller, A. D. Nelson, B. C. Nelson, H. E. Ngodock, R. M. Ponte, J. G. Richman, **A. C. Savage**, R. B. Scott, J. F. Shriver, H. L. Simmons, I. Souopgui, P. G. Timko, A. J. Wallcraft, L. Zamudio, and Z. Zhao, 2018: A primer on global internal tide and internal gravity wave continuum modeling in HYCOM and MITgcm. In “*New Frontiers in Operational Oceanography*”, E. Chassignet, A. Pascual, J. Tintoré, and J. Verron, Eds., GODAE Ocean View, 307–392, doi:10.17125/gov2018.ch13.
- Warner, S. J., R. M. Holmes, E. H. M. Hawkins, M. Hoecker-Martinez, **A. C. Savage**, J. N. Moum (2018) Buoyant gravity currents released from tropical instability waves, *Journal of Physical Oceanography*, doi:10.1175/JPO-D-17-0144.1.
- **Savage, A. C.**, B. K. Arbic, J. G. Richman, J. F. Shriver, M. H. Alford, M. C. Buijsman, J. T. Farrar, H. Sharma, G. Voet, A. J. Wallcraft, and L. Zamudio (2017), Frequency content of sea surface height variability from internal gravity waves to mesoscale eddies, *J. Geophys. Res. Oceans*, 122, doi:10.1002/2016JC012331.
- **Savage, A. C.**, B. K. Arbic, M. H. Alford, J. K. Ansong, J. T. Farrar, D. Menemenlis, A. K. O’Rourke, J. G. Richman, J. F. Shriver, G. Voet, A. J. Wallcraft, and L. Zamudio (2017), Spectral decomposition of internal gravity wave sea surface height in global models, *J. Geophys. Res. Oceans*, doi:10.1002/2017JC013009.

POSTERS AND PRESENTATIONS

- Noncoherence of low mode internal tides in the Tasman Sea (invited)
AGU Ocean Sciences Meeting, Portland, OR February 2018
- Sea surface height signatures of internal gravity waves and implications for swath altimetry
AGU Ocean Sciences Meeting, Portland, OR February 2018

- Sea surface signatures of internal gravity waves
CASPO Seminar, Scripps Institution of Oceanography, San Diego, CA March 2017
- Sea surface height variability from internal gravity waves
to mesoscale eddies and effects on satellite altimetry.
Physical Oceanography Dissertation Symposium, Honolulu, HI October 2016
- Sea surface height signatures of internal gravity waves
POA Seminar, Oregon State University, Corvallis, OR October 2016
- Internal gravity wave contributions to sea-surface variability.
AGU Ocean Sciences Meeting, New Orleans, LA February 2016
- Wavenumber Spectral Exercises with HYCOM
and the SWOT Ocean Simulator.
SWOT Science Definition Team Meeting, Toulouse, France July 2015
- High Frequency Tests in the Surface Water
and Ocean Topography (SWOT) Ocean Simulator.
SWOT Science Definition Team Meeting, La Jolla, California January 2015
- Analysis of tidal aliasing using tide gauges and an eddying
global ocean model with embedded tides (poster).
AGU Ocean Sciences Meeting, Honolulu, HI February 2014
- Comparison of sea surface height in tide gauges and
high-resolution ocean simulations with embedded tides.
Layered Ocean Model Meeting, Ann Arbor, MI June 2013

OUTREACH

- Gender Equity Panelist
Kids Actually Summit
San Diego, CA May 2018
- Organizing committee member
APS Conference for Undergraduate Women in Physics
University of Michigan, Ann Arbor, MI January 2015
- Lead organizer for Society for Women in Physics Demo Day
Slauson Middle School, Ann Arbor, MI February 2014
- Student community organizer
Vine Neighborhood Association
Kalamazoo, MI Spring 2008