

Anthony Kirincich

Assistant Scientist

Woods Hole Oceanographic Institution

266 Woods Hole Rd. Woods Hole, MA 02543

Phone: (508) 289-2629 email: akirincich@whoi.edu

Academic and research interests

Coastal oceanography, nearshore processes, biophysical interactions.

Education

- Ph.D. Oregon State University, Physical Oceanography, 2002-2007
Thesis: Inner-shelf Circulation off the Central Oregon Coast
Advisor: John A. Barth
- M.S. University of Rhode Island, Physical Oceanography, 2003
Thesis: The Structure and Variability of a Coastal Density Front
Advisor: Dave Hebert
- B.E. Vanderbilt University, Environmental Engineering, 1997

Research Experience

Assistant Scientist, Woods Hole Oceanographic Institution, 7/2009-present

Postdoctoral Investigator, Woods Hole Oceanographic Institution, 3/2009-6/2009.

Processed and prepared Cruise report for OC449-09:

Postdoctoral Scholar, Woods Hole Oceanographic Institution, 8/2007-2/2009.

Coastal Oceans Institute Fellowship investigating wave-driven, across-shelf transport on the inner-shelf and estimation of turbulent stresses using acoustic Doppler current profilers.

Ph.D. Program Research, Oregon State University (OSU), 2002-2007.

Dr. John A. Barth, College of Atmospheric and Oceanic Sciences.

Investigated the dynamics of the inner-shelf along the central Oregon coast using moored timeseries and ship-based surveys. Examined, with collaborators, biophysical interactions and local effects of climate variability.

M.S. Program Research, University of Rhode Island (URI), 2001-2002.

Dr. David Hebert, Department of Physical Oceanography.

Investigated the hydrographic structure, mean flow conditions, and seasonal changes of a coastal density front using ship-based velocity and hydrographic surveys.

Research Technician, URI, Geophysical Fluid Dynamics Laboratory, 2000-2001.

Dr. Peter Cornillon, Department of Physical Oceanography.

Managed laboratory research on oceanic response to climatic changes and front formation. Mentored undergraduate research interns.

Publications

Peer reviewed:

Kirincich, A.R., S.J. Lentz, and G. Gerbi. 2009. Calculating Reynolds stresses from ADCP measurements in the presence of surface gravity waves using the modeled cospectra

- method, (*submitted to the Journal of Atmospheric and Oceanic Technology*).
- Woodson, C.B., L. Washburn, J.A. Barth, D.J. Hoover, **A.R. Kirincich**, M.A. McManus, J.P. Ryan, and J. Tyburczy. 2009. The northern Monterey Bay upwelling shadow front: Observations of a coastally- and surface-trapped buoyant plume. *Journal of Geophysical Research*. (accepted).
- Kirincich, A.R.**, S.J. Lentz, and J. A. Barth. 2009. Observations of undertow on the inner-shelf: application to the central Oregon coast, *Journal of Physical Oceanography*, 39, (in press).
- Dudas, S.E., B.A. Grantham, **A.R. Kirincich**, B.A. Menge, and J. Lubchenco. 2009. Current reversals as determinants of intertidal recruitment on the central Oregon coast: differential effects on barnacles and mussels, *Journal of Marine Science*, 66, 396-407.
- Kirincich, A.R.**, and J. A. Barth. 2009. Along-shelf variability of inner-shelf circulation along the central Oregon coast during summer. *Journal of Physical Oceanography*, 39, 1380-1398.
- Kirincich, A.R.**, and J. A. Barth. 2009. Time-varying across-shelf Ekman transport and vertical eddy viscosity on the inner-shelf, *Journal of Physical Oceanography*, 39, 602-620.
- Chan, F., J.A. Barth, J. Lubchenco, **A. Kirincich**, H.A. Weeks, W.H. Peterson and B.A. Menge. 2008. Novel emergence of anoxia in the California Current System. *Science*, 319, 920.
- Barth, J.A., B.A. Menge, J. Lubchenco, F. Chan, J.M. Bane, **A.R. Kirincich**, M.A. McManus, K.J. Nielsen, S.D. Pierce and L. Washburn. 2007. Delayed upwelling alters nearshore coastal ocean ecosystems in the northern California Current, *Proceedings of the National Academy of Sciences*, 104(10), p3710-3724.
- Kirincich, A.R.**, J. A. Barth, B. A. Grantham, B. A. Menge, and J. Lubchenco. 2005 Wind-driven inner-shelf circulation off central Oregon during summer, *Journal of Geophysical Research*, 110, C10S03, doi.1029/2004JC002611.
- Kirincich, A.R.** and D. Hebert. 2005. The structure of the coastal density front at the outflow of Long Island Sound during spring 2002, *Continental Shelf Research*, 25, p1097-1114.
- Non-peer reviewed:*
- Kirincich, A.**, B. Hodges, D. Fratantoni, and F. Bahr. 2009. OC-449 Data Report: St. Thomas, USVI to Bermuda, December 1-10, 2008. *WHOI Technical Report, June 17, 2009*.
- Kirincich, A.R.**, Inner-shelf circulation along the central Oregon coast. *Ph.D. thesis*, Oregon State University, 2007.
- Kirincich, A.R.**, The structure and variability of a coastal density front, *Masters thesis*, University of Rhode Island, 2003.
- Kirincich, A.R.** and D. Hebert, NOPP Front Resolving Observational Network with Telemetry (FRONT) Project Frontal Scale Hydrographic Surveys, *GSO Technical Report*, Reference No. 2002-01, July 2002.

Teaching experience

Instructor, Massachusetts Maritime Academy, Spring 2009.

Undergraduate course: Introduction to Oceanography

Teaching Assistant, University of California at Santa Cruz, Summer 2006. Graduate level

course: Coastal Physical Oceanography and Marine Ecosystems.

Teaching Assistant, Oregon State University, Fall 2004. Graduate level course: Introduction to Physical Oceanography.

Teaching Fellow, Office of Marine Programs, University of Rhode Island. 2001-2002. Co-taught high school physics and biology as part of a NSF fellowship. Collaborated with science teachers to improve marine science curriculum.

Community Environmental Education, Peace Corps Macedonia, 1998-1999. Taught high school environmental science. Created and implemented a national program for environmental science curriculum and educator professional development.

Presentations

Skidway Institute of Oceanography Seminar: *Coastal ocean dynamics using ADCP-based Reynolds stresses*. April 12th, 2009.

WHOI PO Department Seminar: *Coastal ocean dynamics using ADCP-based Reynolds stresses*. March 24th, 2009.

AGU Fall Meeting: *Calculating Reynolds stresses from ADCP measurements in the presence of waves using the modeled cospectra method*. December 10th, 2009.

MIT EAPS Brown bag: *Calculating Reynolds stresses from ADCP measurements in the presence of waves using the modeled cospectra method*. October 22th, 2008.

WHOI PO Department Seminar: *Calculating Reynolds stresses from ADCP measurements in the presence of waves using the modeled cospectra method*. October 14th, 2008.

URI PO Department Seminar: *Calculating Reynolds stresses from ADCP measurements in the presence of waves using the modeled cospectra method*. October 10th, 2008.

WHOI Coastal Ocean Fluid Dynamics Laboratory (COFDL) Talk: *Calculating Reynolds stresses from ADCP measurements in the presence of waves at MVCO*. March 28th, 2008.

Ocean Science 2008 Meeting: *Time-varying across-shelf Ekman transport and vertical eddy viscosity on the inner-shelf (POSTER)*, March 5th, 2008.

San Francisco State University Geosciences Department seminar: *Inner-shelf circulation along the central Oregon coast*. February 12th, 2008.

Partnership for Interdisciplinary Studies of Coastal Oceans (PISCO) Scientific Symposium: *The control of variable inner-shelf circulation on along-shelf biological distributions, on the central Oregon coast*. December 13th, 2007.

WHOI Postdoc Symposium: *Using ADCP velocity profiles to estimate Reynolds stress in the coastal ocean*. October 31st, 2007.

WHOI PO Department Seminar: *Inner-shelf circulation along the central Oregon coast*. October 9th, 2007.

Eastern Pacific Ocean Conference: *Time-varying across-shelf Ekman transport and vertical eddy viscosity on the inner-shelf (POSTER)*, September 18th, 2007.

University of North Carolina Institute of Marine Sciences: *Inner-shelf circulation along the central Oregon coast*. April 5th, 2007.

AGU Fall Meeting: *Effects of surface-gravity waves on inner-shelf circulation along the central Oregon coast during summer (POSTER)*. December 15th, 2006.

Eastern Pacific Ocean Conference: *The variability of inner-shelf circulation along the central Oregon coast during summer*. September 27th, 2006.

Ocean Science Meeting: *The variability of inner-shelf circulation along the central Oregon coast during summer*. February 16th, 2006.

Eastern Pacific Ocean Conference: *Wind-driven inner-shelf circulation off central Oregon during summer (POSTER)*. September 17th, 2004

Ocean Science Meeting: *Wind-driven inner-shelf circulation off central Oregon during summer*. February 6th, 2004.

Eastern Pacific Ocean Conference: *Wind-driven inner-shelf circulation off central Oregon during summer*. September 25th, 2003.

Cruise participation

R/V Tioga: 2 days of CTD cast surveys and REMUS operations in the Outer Cape Coastal Current. July, 2009. *Chief Scientist*: G. Gawarkiewicz.

F/V Maggie May: 8 days of CTD cast surveys and Glider operations off Southwest Oahu, HI. February, 2009. *Chief Scientist*: G. Gawarkiewicz.

R/V Oceanus: 7 days of Scanfish equipment test, biological sampling, and VPR surveys of the Antilles shelf off St. Thomas, December, 2008. *Chief Scientist*: D. Fratantoni.

R/V Tioga: 2 days of CTD cast surveys of the Maine Coastal Current near Stellwagen Bank, July, 2008. *Chief Scientist*: G. Gawarkiewicz.

R/V Tioga: 4 days of mooring operations off Martha's Vineyard, 2007-2008. *Chief Scientist*: S. Lentz.

R/V Kalipi: 10 days of coastal work during July 2007 off Santa Cruz, CA collecting high-resolution hydrography in a Marine Sanctuary. *Chief Scientist*: A. Kirincich.

R/V Wecoma: 3-day cruise to the Oregon shelf in July 2006, mooring operations and CTD cast surveys. *Chief Scientist*: J. Barth.

R/V Elakha: 30-40 day trips on the Oregon inner-shelf during 2002-2007 collecting hydrographic data (CTD and towed body), deploying/recovering moorings or gliders. *Chief Scientist*: various.

R/V Connecticut: 5 2-day cruises in 2001-2002 to the Mid-Atlantic Bight collecting high resolution hydrographic data using a towed, undulating body. *Chief Scientist*: D. Hebert.

Professional experience

Environmental Engineer, Naval Facilities Engineering Service Center, 1999-2000. Assisted project managers with technical evaluations and field projects demonstrating innovative remediation technologies. Performed environmental assessments and impact statements for Naval activities.

Environmental Engineering Technician, Alt & Witzig Engineering, 1997-1998. Conducted environmental sampling and remediation of hazardous waste sites.

Professional affiliations

American Geophysical Union (AGU), 2003-

American Association for the Advancement of Science (AAAS), 2007-

Service

Peer Reviewer: JGR Oceans, Marine Ecology Progress Series, NSF.

Session Chair: OS16--Coastal Ocean Processes. *AGU 2008 Fall Meeting*; Topic S6--Larval Dispersal and Recruitment: What are the underlying mechanisms? *PISCO Scientific Symposium*; Session 176--The Inner Shelf: Connecting the Shore to the Coastal Ocean.

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Ocean science 2008.

Oregon State University Committees: Student Advisory Council (2003-2004), Instructional Programs (2003-2004), Frontiers in Oceanography Speaker Series (2006-2007).

Outreach teaching: University of Rhode Island, Office of Marine Programs Oceanography for K-5 graders (2001-2002), gK-12 Fellowship (2001-2002).

Science Judge: Tangent Elementary Science Fair (2004-2007), Ocean Science Bowl (2002, 2004).

Awards and honors

2007 Institutional Postdoctoral Scholarship, Coastal Oceans Institute, Woods Hole Oceanographic Institution.

2005 NORTEK Student Equipment Grant: for “Measuring the influence of incoming surface gravity waves on the central Oregon coast using the Nortek AWAC”.