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Professional Positions:

2001-: Assistant/Associate Professor, Department of Marine and Coastal Sciences Rutgers, the State University of New Jersey

2000-2001: Research Scientist, National Institute for Water and Atmosphere, New Zealand

1998-1999: Senior Lecturer, School of Environmental and Marine Sciences, University of Auckland, New Zealand

1990-1997: Senior Research Scientist, CSIRO Division of Marine Research, Hobart, Tasmania, Australia

1988-1990: Scientist, DSIR Division of Water Sciences, New Zealand Oceanographic Institute, Wellington, New Zealand

1982-1988: Graduate Research Assistant, Massachusetts Institute of Technology and Woods Hole Oceanographic Institution

1982: Junior Lecturer in Engineering Mathematics, School of Engineering, University of Auckland, New Zealand

Education:

Ph.D., 1988, Joint Program in Oceanographic Engineering, Massachusetts Institute of Technology and Woods Hole Oceanographic Institution

S.M., 1985, Department of Civil Engineering, Massachusetts Institute of Technology

B.E. (Hons), 1982, Department of Theoretical and Applied Mechanics, School of Engineering, University of Auckland

Research Interests:

The development of ocean prediction and reanalysis systems and their application to operational coastal ocean forecasting. Understanding the role ocean physics plays in weather, climate, ecosystem dynamics and human impacts in continental shelf oceans and the adjacent deep sea.

Refereed Publications:

Cahill, B., O. Schofield, R. Chant, J. Wilkin, E. Hunter, S. Glenn, and P. Bissett (2008), Dynamics of turbid buoyant plumes and the feedbacks on near-shore biogeochemistry and physics, Geophys. Res. Lett., 35, L10605, doi:10.1029/2008GL033595.

Hofmann, E. E., J.-N. Druon, K. Fennel, M. Friedrichs, D. Haidvogel, C. Lee, A. Mannino, C. McClain, R. Najjar, J. Siewert, J. O'Reilly, D. Pollard, M. Previdi, S. Seitzinger, S. Signorini, J. Wilkin, (2008), Eastern U.S. Continental Shelf Carbon Budget: Integrating Models, Data Assimilation, and Analysis, *Oceanography*, **21,** 86-104.

Haidvogel, D. B., H. Arango, W. P. Budgell, B. D. Cornuelle, E. Curchitser, E. Di Lorenzo, K. Fennel, W. R. Geyer, A. J. Hermann, L. Lanerolle, J. Levin, J. C. McWilliams, A. J. Miller, A. M. Moore,T. M. Powell, A. F. Shchepetkin, C. R. Sherwood, R. P. Signell, John C. Warner and J. Wilkin, (2008), Regional ocean forecasting in terrain-following coordinates: Model formulation and skill assessment, Journal of Computational Physics, **227,** 3595-3624.

Castelao, R., S. Glenn, O. Schofield, R. Chant, J. Wilkin and J. Kohut, (2008): Seasonal evolution of hydrographic fields in the central Middle Atlantic Bight from glider observations, Geophys. Res. Lett., **35**, L03617, doi:10.1029/2007GL032335.

Choi, B.-J., and J. L. Wilkin (2007), The effect of wind on the dispersal of the Hudson River plume, *Journal of Physical Oceanography*, **37**, 1878-1897.

Wilkin, J., and W. Zhang, (2006), Modes of mesoscale sea surface height and temperature variability in the East Australian Current, *Journal of Geophysical Research*, **112**, C01013, doi:10.1029/2006JC003590

Edson, J., T. Crawford, J. Crescenti, T. Farrar, N. Frew, G. Gerbi, C. Helmis, T. Hristov, D. Khelif, A. Jessup, H. Jonsson, M. Li, L. Mahrt, W. McGillis, A. Plueddemann, L. Shen, E. Skyllingstad, T. Stanton, P. Sullivan, J. Sun, J. Trowbridge, D. Vickers, S. Wang, Q. Wang, R. Weller, J. Wilkin, D. Yu, and C. Zappa (2006), The Coupled Boundary Layers and Air-Sea Transfer Experiment in Low Winds (CBLAST-LOW), *Bulletin of the American Meteorological Society*, **88**(3), 341-356.

He, R., and J. L. Wilkin (2006). Barotropic tides on the southeast New England shelf: A view from a hybrid data assimilative modeling approach. *Journal of Geophysical Research*, **111,** C08002, doi:10.1029/2005JC003254.

Fennel, K., J. Wilkin, J. Levin, J. Moisan, J. O'Reilly and D. Haidvogel (2006), Nitrogen cycling in the Middle Atlantic Bight: Results from a three-dimensional model and implications for the North Atlantic nitrogen budget, *Global Biogeochemical Cycles*, **20,** GB3007, doi:10.1029/2005GB002456

Wilkin, J., and L. Lanerolle, (2005), Ocean Forecast and Analysis Models for Coastal Observatories, In *Ocean Weather Forecasting: An Integrated View of Oceanography*, E. Chassignet and J. Verron, Eds., 549-572, Springer.

Wilkin, J.L., H. G. Arango, D. B. Haidvogel, C. S. Lichtenwalner , S. M. Glenn and K. S. Hedström (2005), A Regional Ocean Modeling System for the Long-term Ecosystem Observatory, *J. Geophys. Research*, **110,** C06S91, doi:10.1029/2003JC002218.

Bowen, M. M., J. L. Wilkin and W. J. Emery (2005), Variability and forcing of the East Australian Current, *J. Geophysical. Research.*, 110, C03019, doi:10.1029/2004JC002533.

Moisan, J. R., A. J. Miller, E. Di Lorenzo and J. Wilkin (2004), Modeling and Data Assimilation, In: *Remote Sensing in Coastal Aquatic Environments*, p. 229-257, Miller, R. L., C. E. Del Castillo, B. A. McKee (Eds.), Springer, New York.

Chiswell, S., J. Wilkin, J. D. Booth and B. Stanton (2003), Trans-Tasman Sea larval transport: Is Australia a source for New Zealand lobsters? *Marine Ecology Progress Series*, **247,** 173-182.

Bowen, M. M., W. J. Emery, J. L. Wilkin, P. C. Tildesley, I. J. Barton and R. Knewtson (2002), Extracting multi-year surface currents from sequential thermal imagery using the Maximum Cross Correlation technique, *Journal of Atmospheric and Oceanic Technology*, **19**, 1665-1676.

Ridgway, K.R., J. R. Dunn and J. L. Wilkin (2002), Ocean interpolation by 4-dimensional weighted least squares: Application to the waters around Australasia, *Journal of Atmospheric and Oceanic Technology*, **19**, 1357-1375.

Wilkin, J. L., M. M. Bowen and W. J. Emery (2002), Mapping mesoscale currents by optimal interpolation of satellite radiometer and altimeter data, *Ocean Dynamics*, **52**, 95-103.

Griffin, D., J. Wilkin, C. Chubb, A. Pearce and N. Caputi (2001), Ocean currents and the larval phase of Australian western rock lobster, Panulirus cygnus, *Marine and Freshwater Research*, **52**, 1187-1200.

Carter, L. and J.L. Wilkin (1999), Abyssal circulation around New Zealand: A comparison between observations and a global circulation model, *Marine Geology*, **159**, 221-239.

Ridgway, K.R., J.R. Dunn, J.L. Wilkin and A.E. Walker (1999), A Satellite Based Ocean Analysis System for Australian Waters, *Bulletin of the Australian Meteorological Society*, **11**, 125-128.

Moore, M.I. and J.L. Wilkin (1998), Variability in the South Pacific Deep Western Boundary Current from Current-meter Observations and a High Resolution Global Model, *Journal of Geophysical Research*, **103**, 5439-5457.

Walker, A.E. and J.L. Wilkin (1998), Optimal averaging of NOAA/NASA Pathfinder satellite sea surface temperature data, *Journal of Geophysical Research*, **103**, 12,869-12,883.

Wilkin, J.L., J.V. Mansbridge and K. Hedstrom (1995), An Application of the Capacitance Matrix Method to Accommodate Masked Land Areas and Island Circulations in a Primitive Equation Ocean Model, *International Journal of Numerical Methods in Fluids*, **20**, 675-688.

Wilkin, J.L. and J.V. Mansbridge and J.S. Godfrey (1995), Pacific Ocean Heat Transport at 24^0N in a High-resolution Global Model, *Journal of Physical Oceanography*, **25**, 2204-2214.

Godfrey, J.S. and J.L. Wilkin (1995), Reply to "When is 'appearance' reality? Indonesian throughflow is primarily derived from North Pacific water masses," by A.L. Gordon, *Journal of Physical Oceanography*, **25**, 1568-1570.

Wilkin, J.L. and R. Morrow (1994), Eddy kinetic energy and momentum flux in the Southern Ocean: Comparison of a global eddy-resolving model with altimeter, drifter, and current-meter data, *Journal Geophysical Research*, **99**, 7903-7916.

Godfrey, J.S., A.C. Hirst and J.L. Wilkin (1993), Why does the Indonesian throughflow appear to originate from the North Pacific? *Journal of Physical Oceanography*, **23**, 1087-1098.

Haidvogel, D. B., J. L. Wilkin and R. Young (1991), A semi-spectral primitive equation ocean circulation model using vertical sigma and orthogonal curvilinear horizontal coordinates, *Journal of Computational Physics*, **94**, 151-184.

Wilkin, J.L. and D.C. Chapman (1990), Scattering of coastal-trapped waves by irregularities in coastline and topography, *Journal of Physical Oceanography*, **20**, 396-421.

Wilkin, J.L. and D.C. Chapman (1988), Comment on `Scattering of a Continental Shelf Wave by a Long Thin Barrier Lying Parallel to the Coast' by W.W. Hsieh and V.T. Buchwald, *Journal of Physical Oceanography*, **18**, 389-393.

Wilkin, J.L. and D.C. Chapman (1987), Scattering of continental shelf waves at a discontinuity in shelf width, *Journal of Physical Oceanography*, **17**, 713-724.

Non-referred Articles:

Wilkin, J., Ocean current variability: Toward Predictions, *Seafood New Zealand*, 8(8), 44-45, Sept. 2000.

Pearce, A., D. Griffin, J. Wilkin, N. Caputi and C. Chubb, 'Lumps' in the Leeuwin Current and rock lobster settlement: Getting rid of rock lobster guesswork, Western Fisheries Magazine, 47-49, Winter 2000.

Pearce, A., D. Griffin, J. Wilkin and N. Caputi, Modelling the movement of rock lobster larvae, ProWest West Australian Fishing Industry Council Magazine, 21-22, July 2000.

Wilkin, J. L., Potential impacts of climate change on coastal fisheries, Australian Fisheries, 53(9), 28-29, Sept. 1994.

Technical Reports:

Wilkin, J. L., A computer program for calculating the frequencies and modal structures of free coastal-trapped waves, Woods Hole Oceanographic Institution Tech. Rep. WHOI-87-53, Woods Hole, Mass., 1987.

Membership of Professional Societies:

American Geophysical Union (1983-)
New Zealand Marine Sciences Society (1989-)

Professional activities:

Associate Editor, *Ocean Dynamics*, Springer Journals Publishing, 2000-

Scientific Committee, Coastal Dynamics Modeling CNRS Summer School, France, 2006

U.S. Integrated Ocean Observing System (IOOS):
Data Management and Communications (DMAC) Modelers Caucus, 2005-2008
Modeling and Analysis Steering Team member, 2006-2008
Chair, Modeling Subcommittee, National Federation of Regional Associations, 2008-

Advisory Board to the NOAA Geophysical Fluid Dynamics Laboratory Data Portal, 2005-

International Committee member, and Editorial Board member, for the Ocean Biogeographic Information System (OBIS), 2003-

Ocean Surface Topography Science Team, NASA/CNES, 2008-

Scientific Working Group for NASA/CNES TOPEX/Jason-1 Mission, 1997-2004

Scientific Working Group for TerraSAR-X, Germany, 2005-

WOCE (World Ocean Circulation Experiment) Numerical Experimentation Group Member, 1993-1995.

Awards:

Fulbright Travel Award for graduate study, 1982.

Collaborators and other affiliations

Present collaborators**:** Hernan Arango (Rutgers University), William Emery (University of Colorado), Charles Flagg (Stonybrook University), Scott Glenn (Rutgers), David Griffin

(CSIRO Marine Research), Dale Haidvogel (Rutgers), Ruoying He (WHOI), Eileen Hofmann (ODU), Andrew Jeffs (NIWA), Josh Kohut (Rutgers), Julia Levin (Rutgers), John Moisan (NASA), Heidi Sosik (WHOI), John Trowbridge (WHOI), Doug Vandemark (UNH), John Warner (USGS), Javier Zavala-Garay (Rutgers).

Ph.D. graduate advisor: David C. Chapman (WHOI)

Thesis advising and Post-doctoral sponsorship: Post-doctoral advisor to Melissa M. Bowen (University of Colorado/NIWA), Paul Goodman (Rutgers) , Byoung-Ju Choi (Rutgers)., Greg Gerbi (Rutgers). Ph.D. advisor to Rutgers students Naomi Fleming and Weifeng Zhang. M.S, advisor to Rutgers student Gregg Foti.