Wendell S. Brown

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Research Interests

Prof. Brown's research interests include: storm-forced and internal wave dynamics in the Gulf of Maine and southern New England Bight; estuarine circulation; and design and construction of coastal ocean observing systems.

Current Research

Prof. Brown's present research focus is on the response of the Gulf of Maine and adjacent coastal ocean to winter storm meteorological and tidal forcing; evolution and dynamics of the winter mixed layer; formation of Maine Intermediate Water in Wilkinson and Jordan Basins; and dynamics of the exchange mechanisms that link the coast with the deeper adjacent ocean. Current funding includes a grant from the MIT Sea Grant Program to investigate the kinematics and dynamics of transient tidal eddy-like structures east of Cape Cod with a variety of observations, including CODAR-derived surface currents, and high-resolution ocean models. We are also NOAA-funded, as part of a multi-institutional team of researchers, to implement the Mid-Atlantic Regional Coastal Ocean Observing System (MARCOOS) between Cape Cod and Cape Hattaras.

Recent Publications

Brown, W.S., A. Gangopadhyay, F.L. Bub, Z. Yu, and G. Strout, and A.R. Robinson, 2007. An Operational Circulation Modeling System for the Gulf of Maine/Georges Bank Region, Part 1: The Basic Elements, *IEEE J. Oceanic Eng*. 32(4), doi: 10.1109/JOE.2007.895277.

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Fan, Y., and W.S. Brown, 2006. On the heat budget for Mount Hope Bay, *Northeastern Naturalist 13*(Spec. Iss. 4):47-70.

Fan, Y., W.S. Brown, and Z. Yu, 2005. Model simulations of the Gulf of Maine response to storm forcing, *J Geophys. Res.110, C04010, doi:10.1029/2004JC002479*.

Erturk, S.N., A. Bilgili, M.R. Swift, W.S. Brown, B. Celikkol, J.T.C. Ip, and D.R. Lynch, 2002. Simulation of the Great Bay Estuarine System: Tides with Tidal Flats Wetting and Drying, *J. Geophys. Res. 107*(C5), doi: 101029/2001JC000883.

Mupparapu, P., and W.S. Brown, 2002. Role of convection in winter mixed layer formation in the Gulf of Maine, February 1987, *J. Geophys. Res. 107*(C12), 3229, doi: 10.1029/1999JC000116.

da Silveira, I., W.S. Brown, and G. R. Flierl, 2000. Dynamics of the North Brazil Current retroflection region from Western Tropical Atlantic Experiment observations, *J. Geophys. Res. 105*(C12), 28559-28,583.

da Silveira, I., G.R. Flierl and W.S. Brown, 1999. Dynamics of separating Western Boundary Currents, *J. Phys. Oceanogr*. *29*(2), 119-144.

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Brown, W.S., 1998. Boundary Flux Measurements in the Coastal Ocean, Chapter 15 in *The Sea*, Vol. 10, edited by K. H. Brink and A. R. Robinson, ISBN 0-471-11544-4, John Wiley & Sons, Inc., NY,NY.