

References

- Atkinson, L. P., D. W. Menzel, and K. A. Bush, *Oceanography of the Southeastern U.S. Continental Shelf, Coastal Estuarine Sci.*, vol. 2, 156 pp., American Geophysical Union, Washington D.C., 1985.
- Austin, J. A., and S. J. Lentz, The relationship between synoptic weather systems and meteorological forcing on the North Carolina inner shelf, *J. Geophys. Res.*, 104, 18,159–18,185, 1999.
- Beardsley, R. C., D. C. Chapman, K. H. Brink, S. R. Ramp, and R. Schlitz, The Nantucket Shoals Experiment (NSFE79). Part I: A basic description of the current and temperature variability, *J. Phys. Oceanogr.*, 15, 713–748, 1985.
- Berger, T. J., P. Hamilton, R. J. Wayland, J. O. Blanton, W. C. Boicourt, J. H. Churchill, and D. R. Watts, A physical oceanographic field program offshore North Carolina, *Tech. Rep. OCS Study MMS 94-0047*, U.S. Dep. of the Inter., Miner. Manage. Serv., New Orleans, La., 1995.
- Biscaye, P. E., C. N. Flagg, and P. G. Falkowski, The Shelf Edge Exchange Processes Experiment, SEEP-II: An introduction to hypotheses, results and conclusions, *Deep Sea Res., Part II*, 41, 231–252, 1994.
- Chapman, D. C., A note on isolated convection in a rotating, two-layer fluid, *J. Fluid Mech.*, 348, 319–325, 1997.
- Chapman, D. C., Setting the scales of the ocean response to isolated convection, *J. Phys. Oceanogr.*, 28, 606–620, 1998.
- Chapman, D. C., Dense water formation beneath a time-dependent coastal polynya, *J. Phys. Oceanogr.*, 29, 807–820, 1999.
- Chapman, D. C., and G. Gawarkiewicz, Shallow convection and buoyancy equilibration in an idealized coastal polynya, *J. Phys. Oceanogr.*, 27, 555–566, 1997.
- Chapman, D. C., and S. J. Lentz, Adjustment of stratified flow over a sloping bottom, *J. Phys. Oceanogr.*, 27, 340–356, 1997.
- Checkley, D. M., S. Raman, G. L. Maillet, and K. M. Mason, Winter storm effects on the spawning and larval drift of a pelagic fish, *Nature*, 335, 346–348, 1988.
- Churchill, J. H., and T. J. Berger, Transport of Middle Atlantic Bight shelf water to the Gulf Stream near Cape Hatteras, *J. Geophys. Res.*, 103, 30,605–30,622, 1998.
- Churchill, J. H., and P. C. Cornillon, Gulf Stream water on the shelf and upper slope north of Cape Hatteras, *Cont. Shelf Res.*, 11, 409–431, 1991.
- Churchill, J. H., W. C. Kerfoot, and M. T. Auer, Exchange of water between the Keweenaw Waterway and Lake Superior: characteristics and forcing mechanisms., *J. of Great Lakes Res.*, 0, submitted, 2002a.
- Churchill, J. H., E. A. Ralph, A. M. Cates, J. W. Budd, and N. R. Urban, Observations of a negatively buoyant river plume in a large lake, *Limn. and Oceanogr.*, 0, in press, 2002b.
- Csanady, G. T., and P. Hamilton, Circulation of Slope Water, *Cont. Shelf Res.*, 8, 565–624, 1988.
- DeYoung, B., and C. L. Tang, Storm-forced baroclinic near-inertial currents on the Grand Bank, *J. Phys. Oceanogr.*, 20, 1725–1741, 1990.
- Ebbesmeyer, C. C., others, and E.-H. Inc., Frontal Eddy Dynamics FRED Experiment off North Carolina, *Tech. Rep. OCS Study MMS 86-0082*, U.S. Dep. of the Inter., Miner. Manage. Serv., Hearndon, Va., 1989.
- Egbert, G. D., A. F. Bennett, and M. G. G. Foreman, TOPEX/POSEIDON tides estimated using a global inverse model, *J. Geophys. Res.*, 99, 24,821–24,852, 1994.

- Ferron, B., H. Mercier, K. Speer, A. Gargett, and K. Polzin, Mixing in the Romanche Fracture Zone, *J. Phys. Oceanogr.*, 28, 1929–1945, 1998.
- Firing, E., and J. Ranada, Processing ADCP data with the CODAS software system, *Tech. Rep. Version 3.1*, Joint Institute for Marine and Atmospheric Research, Univ. of Hawaii, 1995.
- Flagg, C. N., R. W. Houghton, , and L. J. Pietrafesa, Summertime thermocline salinity maximum intrusions in the Mid-Atlantic Bight, *Deep-Sea Res. II*, 41, 325–340, 1994.
- Flagg, C. N., D. Wallace, and Z. Kolber, Cold anticyclonic eddies formed from the cold pool water in the southern Middle Atlantic Bight, *Contin. Shelf Res.*, 17, 1839–1867, 1998.
- Flagg, C. N., L. J. Pietrafesa, and G. Weatherly, Springtime hydrography of the southern Middle Atlantic Bight and the onset of seasonal stratification, *Deep-Sea Res. II, Ocean Margins Project Special Issue*, 49, 4297–4329, 2002.
- Ford, W. L., J. R. Longard, and R. E. Banks, On the nature, occurrence and origin of cold low salinity water along the edge of the Gulf Stream, *J. Mar. Res.*, 11, 281–293, 1952.
- Galbraith, P. S., and D. E. Kelley, Identifying overturns in CTD profiles, *J. Atmos. Oceanic Technol.*, 13, 688–702, 1996.
- Gawarkiewicz, G., Effects of ambient stratification and shelfbreak topography on offshore transport of dense water on continental shelves, *J. Geophys. Res.*, 105, 3307–3324, 2000.
- Gawarkiewicz, G., T. G. Ferdelman, T. M. Church, and G. W. Luther, Shelfbreak frontal structure on the continental shelf north of Cape Hatteras, *Cont. Shelf Res.*, 16, 1751–1773, 1996.
- Gawarkiewicz, G., T. Weingartner, and D. C. Chapman, Sea ice processes and water mass modification and transport over Arctic shelves, in *The Sea, The Global Coastal Ocean, Processes and Methods*, Vol. 10, edited by K. H. Brink and A. R. Robinson, pp. 171–190, John Wiley and Sons, New York, 1998.
- Gawarkiewicz, G., F. Bahr, R. C. Beardsley, and K. H. Brink, Interaction of a slope eddy with the shelfbreak front in the Middle Atlantic Bight, *J. Phys. Oceanogr.*, 31, 2783–2796, 2001.
- Gawarkiewicz, G., F. Bahr, K. H. Brink, R. C. Beardsley, M. Caruso, J. F. Jynch, and C.-S. Chiu, A large amplitude meander of the shelfbreak front during summer south of New England: Observations from the Shelfbreak PRIMER Experiment, *J. Geophys. Res.*, 107, 1–40, submitted, 2002.
- Glenn, S. M., and C. C. Ebbesmeyer, The structure and propagation of a Gulf Stream frontal eddy along the North Carolina shelf break, *J. Geophys. Res.*, 99, 5029–5046, 1994a.
- Glenn, S. M., and C. C. Ebbesmeyer, Observations of Gulf Stream frontal eddies in the vicinity of Cape Hatteras, *J. Geophys. Res.*, 99, 5047–5055, 1994b.
- Goldner, D. R., Steady models of Arctic shelf-basin exchange, Ph.D. thesis, MIT/WHOI, 1998.
- Goldner, D. R., Steady models of Arctic shelf-basin exchange, *J. Geophys. Res.*, 104, 29,733–29,755, 1999a.
- Goldner, D. R., On the uncertainty of the mass, heat, and salt budgets of the Arctic Ocean, *J. Geophys. Res.*, 104, 29,757–29,770, 1999b.
- Grothues, T. M., and R. K. Cowen, Larval fish assemblages and water mass history in a major faunal transition zone, *Cont. Shelf Res.*, 19, 1171–1198, 1999.
- Grothues, T. M., R. K. Cowen, L. J. Pietrafesa, F. Bignami, G. Weatherly, and C. N. Flagg, Flux of larval fish around Cape Hatteras, *Limnol. Oceanogr.*, 47, 165–175, 2002.
- Houghton, R. W., F. Aikman, and H. W. Ou, Shelf-slope frontal structure and cross-shelf exchange at the New England shelfbreak, *Cont. Shelf Res.*, 8, 687–710, 1988.

- Kim, Y. Y., G. L. Weatherly, and L. J. Pietrafesa, On the mass and salt budgets for a region of the continental shelf in the southern Mid-Atlantic Bight, *J. Geophys. Res.*, **106**, 31,263–31,282, 2001.
- Lee, T. N., J. A. Yoder, and L. P. Atkinson, Gulf Stream frontal eddy influence on productivity of the southeast U.S. continental shelf, *J. Geophys. Res.*, **96**, 22,191–22,205, 1991.
- Lentz, S. J., and K. R. Helfrich, Buoyant gravity currents along a sloping bottom in a rotating fluid, *J. Fluid Mech.*, **464**, 251–278, 2002.
- Lillibridge, J. L., G. Hitchcock, T. Rossby, E. Lessard, M. Mork, and L. Golmen, Entrainment and mixing of shelf/slope waters in the near-surface Gulf Stream, *J. Geophys. Res.*, **95**, 13,065–13,087, 1990.
- Lozier, M. S., and G. Gawarkiewicz, Cross-frontal exchange in the Middle Atlantic Bight as evidenced by surface drifters, *J. Phys. Oceanogr.*, **31**, 2498–2510, 2001.
- Marmorino, G., and C. Trump, A salinity front and current rip near Cape Hatteras, North Carolina, *J. Geophys. Res.*, **99**, 7627–7637, 1994.
- Marmorino, G., R. Jansen, G. Valenzuela, C. Trump, J. Lee, and J. Kaiser, Gulf Stream surface convergence imaged by synthetic aperture radar, *J. Geophys. Res.*, **99**, 18,315–18,328, 1994.
- Marmorino, G., C. Shen, N. Allan, F. Askari, D. Trizna, C. Trump, and L. Shay, An occluded coastal oceanic front, *J. Geophys. Res.*, **103**, 21,587–21,600, 1998.
- Miller, J. L., Fluctuations of Gulf Stream frontal position between Cape Hatteras and the Straits of Florida, *J. Geophys. Res.*, **99**, 5057–5064, 1994.
- Millot, C., and . M. Crepon, Inertial oscillations on the continental shelf of the Gulf of Lions-Observations and theory, *J. Phys. Oceanogr.*, **11**, 639–657, 1981.
- Munchow, A., Detiding three-dimensional velocity survey data in coastal waters, *J. Atmos. Ocean. Tech.*, **17**, 736–748, 2000.
- Munchow, A., R. W. Garvine, and T. F. Pfeiffer, Subtidal currents from a shipboard acoustic dopplar current profiler in tidally dominated waters, *Cont. Shelf Res.*, **12**, 499–515, 1992.
- Osborn, T. R., Estimates of the local rate of vertical diffusion from dissipation measurements, *J. Phys. Oceanogr.*, **10**, 83–89, 1980.
- Ozmidov, R. V., On the turbulent exchange in a stably stratified ocean, *Atmos. Oceano. Phys.*, **8**, 853–860, 1965.
- Pickart, R. S., D. J. Torres, T. K. McKee, M. J. Caruso, and J. E. Przystup, Diagnosing a meander of the shelf-break current in the Middle Atlantic Bight, *J. Geophys. Res.*, **104**, 3121–3132, 1999.
- Pietrafesa, L. J., J. M. Morrison, M. P. McCann, J. Churchill, E. Bohm, and R. W. Houghton, Water mass linkages between the Middle and South Atlantic Bights, *Deep Sea Res. II*, **41**, 365–389, 1994.
- Pietrafesa, L. J., C. N. Flagg, L. Xie, G. L. Weatherly, and J. M. Morrison, The winter/spring 1996 OMP current, meteorological, sea state and coastal sea level fields, *Deep Sea Res. II*, **49**, 4331–4354, 2002.
- Piola, A. R., E. J. D. Campos, O. O. Moller, M. Charo, and C. Martinez, Subtropical shelf front of eastern South America, *J. Geophys. Res.*, **105**, 6565–6578, 2000.
- Price, J. F., R. A. Weller, and R. Pinkel, Diurnal cycling: observations and models of the upper ocean response to diurnal heating, cooling, and wind mixing, *J. Geophys. Res.*, **91**, 8411–8427, 1986.
- Rasmussen, L. L., G. Gawarkiewicz, K. O. Buesseler, M. A. Charette, M. S. Lozier, and W. B. Owens, Influence of boundary currents on cross-shelf transport in the Mid-Atlantic Bight: Radiochemical and hydrographic studies, in *Abstracts for the 2002 Ocean Sciences Meeting*, p. 361, 2002.

- Savidge, D. K., Wintertime shoreward near-surface currents south of Cape Hatteras, *J. Geophys. Res.*, **107** (C11, 3205, doi:10.1029/2001JC001193), 1–18, 2002.
- Savidge, D. K., and J. M. Bane, Wind and Gulf Stream influences on along-shelf transport and off-shelf export at Cape Hatteras, North Carolina, *J. Geophys. Res.*, **106**, 11,505–11,527, 2001.
- Savidge, D. K., and P. Hamilton, Gulf Stream meander propagation past Cape Hatteras, *J. Geophys. Res.*, **00**, 1–20, in prep., 2003.
- Savidge, D. K., T. J. Shay, and J. M. Bane, Synoptic Ocean Prediction Experiment: EN216 CTD section data report, *Tech. Rep. CMS93-1*, Univ. of N. C., Chapel Hill, 1993.
- Spall, M. A., and D. C. Chapman, On the uncertainty of the mass, heat, and salt budgets of the Arctic Ocean, *J. Phys. Oceanogr.*, **28**, 2275–2287, 1998.
- Stefansson, L. P. Atkinson, and D. F. Bumpus, Hydrographic properties and circulation of the North Carolina shelf and slope waters, *Deep Shelf Res.*, **18**, 383–420, 1971.
- Thorpe, S. A., Turbulence and mixing in a Scottish Loch, *Philos. Trans. Roy. Soc. London, Ser. A*, **286**, 125–181, 1977.
- Ullman, D. S., and P. C. Cornillon, Satellite-derived sea surface temperature fronts on the continental shelf off the northeast U.S. coast, *J. Geophys. Res.*, **104**, 23,459–23,478, 1999.
- Ullman, D. S., and P. C. Cornillon, Continental shelf surface thermal fronts in winter off the northeast U.S. coast, *Cont. Shelf Res.*, **21**, 1139–1156, 2001.
- Werner, F., B. Blanton, J. A. Quinlan, and R. Luettich, Physical oceanography of the North Carolina continental shelf during the fall and winter seasons: Implications for the transport of larval menhaden, *Fish. Oceanogr.*, **8**, suppl. 2, 7–21, 1999.
- Wright, W. R., The limits of shelf water south of Cape Cod, 1941 to 1972, *J. Mar. Res.*, **34**, 1–14, 1976.
- Wunsch, C., Progressive internal waves on slopes, *J. Fluid Mech.*, **35**, 131–144, 1969.
- Yankovsky, A. E., and D. C. Chapman, A simple theory for the fate of buoyant coastal discharges, *J. Phys. Oceanogr.*, **27**, 1386–1401, 1997.