

BIOGRAPHICAL INFORMATION

March 2009

DENNIS J. MCGILlicUDDY, JR.

Senior Scientist
Department of Applied Ocean Physics and Engineering
Woods Hole Oceanographic Institution
Woods Hole, Massachusetts 02543

phone: 508-289-2683
fax: 508-457-2194
email: dmcgillicuddy@whoi.edu
web: www.whoi.edu/people/mcgillic

Date of Birth: May 3, 1965
Place of Birth: Gainesville, Florida
Citizenship: United States

EDUCATION 1987 B.A., *cum laude*, Engineering Sciences, Harvard College
1989 M.S., Applied Physics, Harvard University
1993 Ph.D., Earth and Planetary Sciences, Harvard University

PROFESSIONAL EXPERIENCE

1987-1990 Graduate Fellowship, Office of Naval Research
1989 Visiting Scientist, Institut Für Meereskunde, Kiel, Germany
1990-1993 Research Assistant, Harvard University
1993-1995 Modeling Fellowship, University Corporation for Atmospheric Research
1993-1995 Postdoctoral Scholarship, Woods Hole Oceanographic Institution
1995-1999 Assistant Scientist, Department of Applied Ocean Physics and Engineering, Woods Hole Oceanographic Institution
1999-2003 Associate Scientist, Department of Applied Ocean Physics and Engineering, Woods Hole Oceanographic Institution
2003-2007 Associate Scientist with tenure, Department of Applied Ocean Physics and Engineering, Woods Hole Oceanographic Institution
2007-present Senior Scientist, Department of Applied Ocean Physics and Engineering, Woods Hole Oceanographic Institution

HONORS AND AWARDS

1987 Office of Naval Research Graduate Fellowship
1993 Woods Hole Oceanographic Institution Postdoctoral Scholarship
1993 UCAR Postdoctoral Fellowship in Ocean Modeling
1998 Office of Naval Research Young Investigator Award
2000 Lindeman Award, American Society of Limnology and Oceanography
2003 AGU Editors' Citation for Excellence in Refereeing
2008 Rosenstiel Award, University of Miami

RESEARCH INTERESTS

Influence of physical forcing on planktonic ecosystems and elemental cycling; mesoscale ocean dynamics; primary production; coastal circulation; zooplankton population dynamics; harmful algal blooms; numerical modeling and data assimilation.

PROFESSIONAL AFFILIATIONS

Member, American Geophysical Union

PROFESSIONAL AFFILIATIONS (continued)

Member, American Meteorological Society
Member, The Oceanography Society
Member, American Society of Limnology and Oceanography

PROFESSIONAL ACTIVITIES

1994-2002 Scientific Steering Committee, U.S. Joint Global Ocean Flux Study
1996-1999 NSCAT Science Team
1997-present SeaWiFS Science Team
1997-1998 *Ad hoc* Committee on the Future for Ocean Biogeochemical Research
1997-present NASA Earth Observing System Interdisciplinary Science Working Group
1998 Participant and white paper author in NSF decadal planning activity for Biological Oceanography (OEUVRE)
1999-2001 Organizing Committee, Ecological Determinants of Ocean Carbon Cycling
1999-2002 National Ocean Partnership Program Committee on Oceanographic Information Technology Infrastructure
1999-2004 Organizing Committee, U.S. Surface Ocean - Lower Atmosphere Study
2000 Organizing Committee, Symposium on Harmful Marine Algae in the U.S.
2000-2005 Ocean Vector Winds Science Team
2000-present Editorial Advisory Board, Encyclopedia of Ocean Sciences
2001 Session Chair, The Oceanography Society Biennial Scientific Meeting
2001-2003 NSF Ocean Carbon Cycle Research Program Committee
2001-2002 Co-Chair, Sargasso Sea Ocean/Atmosphere Observatory (S2O2)
2003-2006 Steering Committee, Biological Oceanography of Harmful Algal Blooms (BOHAB)
2003-2005 Steering Committee, U.S. National Plan for Algal Toxins and Harmful Algal Blooms Workshop
2004-present Editorial Board, Dynamics of Atmospheres and Oceans
2004-present Deputy Director, Woods Hole Center for Oceans and Human Health
2004-present Scientific Steering Committee, U.S. Global Ecosystem Dynamics Program
2004-present Scientific Steering Committee, Global Ecology and Oceanography of Harmful Algal Blooms
2005 Convener of special session, EGS/AGU
2005 CIMAS Visiting Fellow
2006 Acting Chair, U.S. National HAB Committee

EDUCATIONAL ACTIVITIES

- Teaching Assistant, "Introduction to Physical Oceanography," Harvard University, Fall 1988.
- Taught unit on Physical Oceanography in Biology Mega-Course, WHOI/MIT Joint Program, April 1994.
- Co-taught "Topics in Quantitative Marine Science: Ocean Biological/Physical Interaction," WHOI/MIT Joint Program, Spring 2006
- Co-taught "Topics in Quantitative Marine Science: Linking Models and Observations in Marine Planktonic Ecosystems," WHOI/MIT Joint Program, Spring 2008

STUDENT SUPERVISION

Postdoctoral Fellows Supervised

Xingwen Li (2003-2004)
Beatriz Mouriño Carballido (2003-2005)
Alfredo Aretxabaleta (2006)
Phil Wallhead (2008)

Doctoral Students Supervised

Charles Stock, MIT/WHOI Joint Program (Principal advisor, 1998-2005)
Sophie Clayton MIT/WHOI Joint Program (Co-advisor, 2007-present)
Elise Olson MIT/WHOI Joint Program (Principal advisor, 2008)
Chris Follett MIT/WHOI Joint Program (Co-advisor, 2007-2008)

Doctoral Students Thesis Committee Member

Wendy Gentleman, Thayer School of Engineering, Dartmouth College (1997-1999)
Walter Cho, MIT/WHOI Joint Program (2005-present)

Masters Students Supervised

Erin Sweeney, MIT/WHOI Joint Program (Co-advisor, 1998 – 2001)

Masters Students Thesis Committee Member

Caixia Wang, MIT/WHOI Joint Program (1998-1999)
Qingling Du (2004-2005)

Undergraduate Students Thesis Committee Member

Christian Casillas, Harvard College (1997-1998)

Summer Student Fellows

Peter Hlavaty, Lafayette College (1997)
Joanna Siudak, University of Gdansk, Poland (1998)
Andrew Thompson, Dartmouth College (1999)

Guest Students

Aoife Ni Rathaille (2005)
Ilaria Nardello (2005)

INTERNAL SERVICE

1996	AOPE Department Seminar Coordinator
1996 - 1997	WHOI Strategic Planning Committee
1997 - 1999	WHOI Staff Committee
1998 - present	WHOI Partnership Program
2000	AOPE Department Chair Search Committee
2000 - present	WHOI Summer Student Fellow Lecture Series
2001	WHOI Associates Summer Science Supper Lecture
2001 - 2003	Ocean Life Institute Advisory Council
2001 - 2003	WHOI Internet-2 Working Group
2002	Ad Hoc Committee for Assessment of Offering a Master's Degree in Applied Ocean Science and Policy, Andy Solow, chair
2003 - 2005	AOPE Postdoc Coordinator

INTERNAL SERVICE (continued)

- 2004 Bigelow Medal Nominating Committee
2005 – present Coastal Ocean Institute Advisory Committee

FIELD RESEARCH EXPERIENCE

- 2008 EN451, R/V *Endeavor* (Chief Scientist)
Conducted synoptic mapping of *Alexandrium fundyense*, hydrography, and velocity in the Gulf of Maine and Bay of Fundy.
- 2008 EN448, R/V *Endeavor* (Chief Scientist)
Conducted synoptic mapping of *Alexandrium fundyense*, hydrography, and velocity on Georges Bank.
- 2008 OC447, R/V *Oceanus* (Chief Scientist)
Conducted synoptic mapping of *Alexandrium fundyense*, hydrography, and velocity in the Gulf of Maine and Georges Bank.
- 2008 OC445, R/V *Oceanus* (Chief Scientist)
Same as OC447.
- 2007 EN437, R/V *Endeavor* (Chief Scientist)
Conducted synoptic mapping of *Alexandrium fundyense*, hydrography, and velocity in the coastal ocean from Massachusetts Bay to the Bay of Fundy and Georges Bank.
- 2007 EN435, R/V *Endeavor* (Chief Scientist)
Same objectives as EN437
- 2006 OC425, R/V *Oceanus* (Chief Scientist)
Conducted synoptic mapping of *Alexandrium fundyense*, hydrography, and velocity in the coastal ocean from Massachusetts Bay to the Bay of Fundy.
- 2006 KN182-15b, R/V *Knorr*
Participated in underway Video Plankton Recorder survey while in transit from Panama to Woods Hole. Used satellite altimetry to guide survey track through mesoscale features of interest.
- 2005 OC412, R/V *Oceanus* (Chief Scientist)
Conducted synoptic mapping of *Alexandrium fundyense*, hydrography, and velocity in the coastal ocean from Massachusetts Bay to the Bay of Fundy.
- 2005 *Tioga 96*, (Chief Scientist)
Conducted synoptic mapping of *Alexandrium fundyense*, hydrography, and velocity in the coastal ocean from Cape Cod Bay to Cape Ann (NOAA rapid response sampling).

FIELD RESEARCH EXPERIENCE (continued)

- 2005 OC415-1, R/V *Oceanus* (Chief Scientist)
OC415-3, R/V *Oceanus* (Chief Scientist)
Led a multidisciplinary study to assess the impacts of eddies and mixing on plankton community structure and biogeochemical cycling in the Sargasso Sea.
- 2004 OC404-1, R/V *Oceanus* (Chief Scientist)
OC404-4, R/V *Oceanus* (Chief Scientist)
Same objectives as OC415
- 2004 OC402, R/V *Oceanus* (Chief Scientist)
Conducted synoptic mapping of *Alexandrium fundyense*, hydrography, and velocity in the coastal current offshore of Casco and Penobscot Bays; velocity measurements were assimilated into a circulation model to provide real-time nowcasts and forecasts of the flow field.
- 2003 OC391, R/V *Oceanus* (Chief Scientist)
Same objectives as OC402.
- 2001 EN361, R/V *Endeavor*
Used hydrography, satellite altimetry, and AVHRR imagery to guide mesoscale sampling of phytoplankton populations in the Sargasso Sea.
- 1999 EN323 and EN324, R/V *Endeavor*
Conducted real time nowcasting and forecasting of the currents on Georges Bank; assimilated species-level biological data from the Video Plankton Recorder into the circulation fields.
- 1996 BVAL16, R/V *Weatherbird II*
Conducted mesoscale hydrographic survey of physical and biogeochemical properties near Bermuda.
- 1988 CI8809, R/V *Columbus Iselin*
Conducted a synoptic mapping of the mesoscale eddy field near Bermuda; provided real time dynamical forecasts of the flow field while at sea in support of a suite of biological experiments.
- 1988 R/V *Jere Chase*
Conducted a hydrographic section across the mouth of the Boston Harbor.
- 1986 KN122, R/V *Knorr*
Assisted in nitrogen isotope analysis of selected zooplankton and particulate matter collected in and around warm core ring 86-A.

FIELD RESEARCH EXPERIENCE (continued)

1985 OPTOMA XVI-AI, R/V *Acania*

Participated in a hydrographic survey of the shelf and slope waters inshore of the NOCAL region of the California Current System from Pt. Reyes to Cape Mendocino; responsibilities included data acquisition and analysis.

REFEREED JOURNAL PUBLICATIONS

1. Robinson, A.R., **McGillicuddy, D.J.**, Calman, J., Ducklow, H.W., Fasham, M.J.R., Hoge, F.E., Leslie, W.G., McCarthy, J.J., Podewski, S., Porter, D.L., Saure, G., and J.A. Yoder, 1993. Mesoscale and upper ocean variabilities during the 1989 JGOFS bloom study. *Deep-Sea Research*, **40**(1), 9-35.
2. **McGillicuddy, D.J.**, 1995. One dimensional numerical simulation of new primary production: Lagrangian and Eulerian formulations. *Journal of Plankton Research*, **17**(2), 405-412.
3. **McGillicuddy, D.J.**, McCarthy, J.J., and A.R. Robinson, 1995a. Coupled physical and biological modeling of the spring bloom in the North Atlantic: I. Model formulation and one dimensional bloom processes. *Deep-Sea Research*, **42**(8), 1313-1357.
4. **McGillicuddy, D.J.**, Robinson, A.R., and J.J. McCarthy, 1995b. Coupled physical and biological modeling of the spring bloom in the North Atlantic: II. Three dimensional bloom and post-bloom processes. *Deep-Sea Research*, **42**(8), 1359-1398.
5. Muller-Karger, F., Richardson, P.L., and **D.J. McGillicuddy**, 1995. On the offshore dispersal of the Amazon's Plume in the North Atlantic. *Deep-Sea Research*, **42**(11/12), 2127-2137.
6. **McGillicuddy, D.J.** and A.R. Robinson, 1997a. Eddy induced nutrient supply and new production in the Sargasso Sea. *Deep-Sea Research*, **44**(8), 1427-1450.
7. **McGillicuddy, D.J.** and A.R. Robinson, 1997b. Interaction between the oceanic mesoscale and the surface mixed layer. *Dynamics of Atmospheres and Oceans*, **27**, 549-574.
8. Lynch, D.R., Gentleman, W.C., **McGillicuddy, D.J.**, and C.S. Davis, 1998. Biophysical simulations of *Calanus finmarchicus* population dynamics in the Gulf of Maine. *Marine Ecology Progress Series*, **169**, 189-210.
9. **McGillicuddy, D.J.**, Robinson, A.R., Siegel, D.A., Jannasch, H.W., Johnson, R., Dickey, T.D., McNeil, J., Michaels, A.F., and A.H. Knap, 1998a. Influence of mesoscale eddies on new production in the Sargasso Sea. *Nature*, **394**, 263-265.
10. **McGillicuddy, D.J.**, Lynch, D.R., Moore, A.M., Gentleman, W.C., Davis, C.S., and C.J. Meise, 1998b. An adjoint data assimilation approach to diagnosis of physical and biological controls on *Pseudocalanus* spp. in the Gulf of Maine - Georges Bank region. *Fisheries Oceanography*, **7**(3/4), 205-218.

REFEREED JOURNAL PUBLICATIONS (continued)

11. **McGillicuddy, D.J.**, Johnson, R.J., Siegel, D.A., Michaels, A.F., Bates, N.R., and A.H. Knap, 1999. Mesoscale variations of biogeochemical properties in the Sargasso Sea. *Journal of Geophysical Research*, **104**(C6), 13,381-13,394.
12. McNeil, J.D., Jannasch, H.W., Dickey, T.D., **McGillicuddy, D.J.**, Brzezinski, M. and C.M. Sakamoto, 1999. New chemical, bio-optical and physical observations of upper ocean response to the passage of a mesoscale eddy off Bermuda. *Journal of Geophysical Research*, **104**(C7), 15,537-15,548.
13. Siegel, D.A., **McGillicuddy, D.J.** and E.A. Fields, 1999. Mesoscale eddies, satellite altimetry and new production in the Sargasso Sea. *Journal of Geophysical Research*, **104**(C6), 13,359-13,379.
14. Bucklin, A., Guarneri, M., **McGillicuddy, D.J.** and R.S. Hill, 2001. Spring-summer evolution of *Pseudocalanus* spp. abundance on Georges Bank based on molecular discrimination of *P. moultoni* and *P. newmani*. *Deep-Sea Research II*, **48**, 589-608.
15. Garcon, V.C., Oshlies, A., Doney, S.C., **McGillicuddy, D.J.** and J. Waniek, 2001. The role of mesoscale variability on plankton dynamics in the North Atlantic. *Deep-Sea Research II*, **48**, 2199-2226.
16. Lynch, D.R. and **D.J. McGillicuddy**, 2001. Objective analysis for coastal regimes. *Continental Shelf Research*, **21**, 1299-1315.
17. Marine Zooplankton Colloquium 2 (G.A. Paffenhöfer and 41 others), 2001. Future marine zooplankton research — a perspective. *Marine Ecology Progress Series*, **222**, 297-308.
18. **McGillicuddy, D.J.** and V.K. Kosnyrev, 2001. Dynamical Interpolation of Mesoscale Flows in the Topex/Poseidon Diamond Surrounding the U.S. JGOFS Bermuda Atlantic Time-series Site. *Journal of Geophysical Research*, **106**(C8), 16,641-16,656.
19. **McGillicuddy, D.J.**, Kosnyrev, V.K., Ryan, J.P. and J.A. Yoder, 2001a. Covariation of mesoscale ocean color and sea surface temperature patterns in the Sargasso Sea. *Deep-Sea Research II*, **48**, 1823-1836.
20. **McGillicuddy, D.J.**, Lynch, D.R., Wiebe, P., Runge, J., Durbin, E.G., Gentleman, W.C., and C.S. Davis, 2001b. Evaluating the synopticity of the U.S. Globec Georges Bank Broad-scale sampling pattern with Observational System Simulation Experiments. *Deep-Sea Research II*, **48**, 483-499.
21. Flierl, G.R. and **D.J. McGillicuddy**, 2002. Mesoscale and submesoscale physical-biological interactions. In: Biological-Physical Interactions in the Sea, A.R. Robinson, J.J. McCarthy and B.J. Rothschild, eds. *The Sea*, Volume 12. John Wiley and Sons, Inc., New York, 113-185.
22. Hetland, R.D., **McGillicuddy, D.J.** and R.P. Signell, 2002. Cross-frontal entrainment of plankton into a buoyant plume: the frog tongue mechanism. *Journal of Marine Research*, **60**, 763-777.
23. **McGillicuddy, D.J.** and A. Bucklin, 2002. Intermingling of two *Pseudocalanus* species on Georges Bank. *Journal of Marine Research*, **60**, 583-604.

REFEREED JOURNAL PUBLICATIONS (continued)

24. Goldman, J.C. and **D.J. McGillicuddy**, 2003. Impact of large marine diatoms growing at low light on episodic new production. *Limnology and Oceanography*, **48**, 1176-1182.
25. **McGillicuddy, D.J.**, Anderson, L.A., Doney, S.C., and M.E. Maltrud, 2003. Eddy-driven sources and sinks of nutrients in the upper ocean: results from a 0.1 degree resolution model of the North Atlantic. *Global Biogeochemical Cycles*, **17**(2), 1035, doi:10.1029/2002GB001987.
26. **McGillicuddy, D.J.**, Signell, R.P., Stock, C.A., Keafer, B.A., Keller, M.D., Hetland, R.D. and D.M. Anderson, 2003. A mechanism for offshore initiation of harmful algal blooms in the coastal Gulf of Maine. *Journal of Plankton Research*, **25**(9), 1131-1138.
27. Shulman, I., Haddock, S., **McGillicuddy, D.J.**, Paduan, J. and P. Bissett, 2003. Numerical modeling of bioluminescence on the coastal ocean. *Journal of Atmospheric and Oceanic Technology*, **20**, 1060-1068.
28. Sweeney, E.N., **McGillicuddy, D.J.** and K.O. Buesseler, 2003. Biogeochemical impacts due to mesoscale eddy activity in the Sargasso Sea as measured at the Bermuda Atlantic Time Series (BATS) site. *Deep-Sea Research II*, **50**, 3017-3039.
29. Proehl, J.A., Lynch, D. R., **McGillicuddy, D.J.** and J.R. Ledwell, 2005. Modeling turbulent dispersion on the North Flank of Georges Bank using Lagrangian Particle Methods. *Continental Shelf Research*, **25**, 875-900.
30. **McGillicuddy, D.J.**, Anderson, D.M., Lynch, D.R. and D.W. Townsend, 2005. Mechanisms regulating the large-scale seasonal fluctuations in *Alexandrium fundyense* populations in the Gulf of Maine. *Deep-Sea Research II*, **52**, 2698-2714.
31. **McGillicuddy, D.J.**, Anderson, D.M., Solow, A.R., and D.W. Townsend, 2005. Interannual variability of *Alexandrium fundyense* abundance and shellfish toxicity in the Gulf of Maine. *Deep-Sea Research II*, **52**, 2843-2855.
32. He, R., **McGillicuddy, D.J.**, Lynch, D.R., Smith, K.W., Stock, C.A. and J.P. Manning, 2005. Data assimilative hindcast of the Gulf of Maine coastal circulation. *Journal of Geophysical Research*, **110**, C10011, doi:10.1029/2004JC002807.
33. Anderson, D.A., McGillicuddy, D.J., Townsend, D., and J. Turner, 2005. The Ecology and Oceanography of Toxic *Alexandrium fundyense* Blooms in the Gulf of Maine: Preface. *Deep-Sea Research II*, **52**, 2365-2368
34. Stock, C.A., **McGillicuddy, D.J.**, Solow, A.R. and D.M. Anderson, 2005. Evaluating hypotheses for initiation and development of *Alexandrium fundyense* blooms in the western Gulf of Maine using coupled physical-biological model. *Deep-Sea Research II*, **52**, 2715-2744.
35. Anderson, D.M., Stock, C.A., Keafer, B.A., Bronzino, A., **McGillicuddy, D.J.**, Keller, M.D., Thompson, B., Matrai, P.A. and J. Martin, 2005. *Alexandrium fundyense* cyst dynamics in the Gulf of Maine. *Deep-Sea Research II*, **52**, 2522-2542.
36. Keafer, B.A., Churchill, J.H., **McGillicuddy, D.J.**, and D.M. Anderson, 2005. Bloom development and transport of toxic *Alexandrium fundyense* populations within a nearshore coastal plume in the Gulf of Maine. *Deep-Sea Research II*, **52**, 2674-2697.

REFEREED JOURNAL PUBLICATIONS (continued)

37. Shulman, I., **McGillicuddy, D.J.**, Moline, M.A., Haddock, S.H.D., Kindle, J.C., Nechaev, D., and M.W. Phelps, 2005. Bioluminescence intensity modeling and sampling strategy optimization. *Journal of Atmospheric and Oceanic Technology*, **22**, 1267-1281.
38. Anderson, D.M., Keafer, B.A., **McGillicuddy, D.J.**, Mickelson, M.J., Keay, K.E., Libby, P.S., Manning, J.P., Mayo, C.A., Whittaker, D.K., Hickey, J.M., He, R., Lynch, D.R. and K.W. Smith, 2005. Initial observations on the 2005 *Alexandrium fundyense* bloom in southern New England: general patterns and mechanisms. *Deep-Sea Research II*, **52**, 2856-2876.
39. Sedwick, P.N., Church, T.M., Bowie, A.R., Marsay, C.M., Ussher, S.J., Achilles, K.M., Lethaby, P.J., Johnson, R.J., Sarin, M.M., and **D.J. McGillicuddy** 2005. Iron in the Sargasso Sea (Bermuda Atlantic Time-series Study region) during summer: Eolian imprint, spatiotemporal variability, and ecological implications. *Global Biogeochemical Cycles*, **19**, GB4006, doi:10.1029/2004GB002445.
40. Davis, C.S. and **D. J. McGillicuddy**, 2006. Transatlantic Abundance of the N₂-Fixing Colonial Cyanobacterium *Trichodesmium*. *Science*, **312**, 1517-1520.
41. Mouriño Carballido, B. and **D.J. McGillicuddy**, 2006. Mesoscale variability in the metabolic balance of the Sargasso Sea. *Limnology and Oceanography*, **51**(6), 2675-2689.
42. Li, X., **McGillicuddy, D.J.**, Durbin, E.G., and P.H. Wiebe, 2006. Biological control of the vernal population increase of *Calanus finmarchicus* on Georges Bank. *Deep-Sea Research II*, **53**(23-24), 2632-2655, doi:10.1016/j.dsr2.2006.08.011.
43. **McGillicuddy, D.J.**, Anderson, L.A., Bates, N.R., Bibby, T., Buesseler, K.O., Carlson, C.A., Davis, C.S., Ewart, C., Falkowski, P.G., Goldthwait, S.A., Hansell, D.A., Jenkins, W.J., Johnson, R., Kosnyrev, V.K., Ledwell, J.R., Li, Q.P., Siegel, D.A. and D.K. Steinberg, 2007. Eddy/Wind Interactions Stimulate Extraordinary Mid-Ocean Plankton Blooms. *Science*, **316**, 1021-1026.
44. Friedrichs, M.A.M., Anderson, L.A., Armstrong, R., Chai, F., Christian, J., Doney, S., Dunne, J., Fujji, M., Hood, R., **McGillicuddy, D.J.**, Schartau, M., Spitz, Y. and J. Wiggert. Assessment of skill and portability in regional marine biogeochemical models: the role of multiple planktonic groups. *Journal of Geophysical Research*, **112**, C08001, doi:10.1029/2006JC003852.
45. Ralston, D.K., **McGillicuddy, D.J.** and D.W. Townsend, 2007. Asynchronous vertical migration and bimodal distribution of motile phytoplankton. *Journal of Plankton Research*, **29**(9), 803-821.
46. Stock, C.A., **McGillicuddy, D.J.**, Anderson, D.M., Solow, A.M. and R.P. Signell, 2007. Blooms of the toxic dinoflagellate *Alexandrium fundyense* in the western Gulf of Maine in 1993 and 1994: A comparative modeling study. *Continental Shelf Research*, **27**, 2486-2512.
47. Buesseler, K.O., Lamborg, C., Cai, P., Escoube, R., Johnson, R., Pike, S., Masque, P., **McGillicuddy, D.J.** and E. Verdeny, 2008. Particle fluxes associated with mesoscale eddies in the Sargasso Sea. *Deep-Sea Research II*, **55**(10-13), 1426-1444.

REFEREED JOURNAL PUBLICATIONS (continued)

48. Ewart, C.S., Meyers, M.K., Wallner, E., **McGillicuddy, D.J.** and C.A. Carlson, 2008. Microbial dynamics in cyclonic and anticyclonic mode-water eddies in the northwestern Sargasso Sea. *Deep-Sea Research II*, **55**(10-13), 1334-1347.
49. Jenkins, W.J., **McGillicuddy, D.J.**, and D.E. Lott III, 2008. The distributions of, and relationship between, ^3He and nitrate in eddies. *Deep-Sea Research II*, **55**(10-13), 1389-1397.
50. Ledwell, J.R., **McGillicuddy, D.J.**, and L.A. Anderson, 2008. Nutrient flux into an intense deep chlorophyll layer in a mode-water eddy. *Deep-Sea Research II*, **55**(10-13), 1139-1160.
51. He, R. and **D.J. McGillicuddy**, 2008. Historic 2005 toxic bloom of *Alexandrium fundyense* in the west Gulf of Maine: 1. In situ Observations of Coastal Hydrography and Circulation. *Journal of Geophysical Research-Oceans*, 113, C07039, doi:10.1029/2007JC004601.
52. He, R., **McGillicuddy, D.J.**, Keafer, B.A. and D.M. Anderson, 2008. Historic 2005 toxic bloom of *Alexandrium fundyense* in the western Gulf of Maine: 2. Coupled Biophysical Numerical Modeling. *Journal of Geophysical Research-Oceans*, 113, C07040, doi:10.1029/2007JC004602.
53. Li, Q.P., Hansell, D.A., **McGillicuddy, D.J.**, Bates, N.R., and R.J. Johnson. Tracer-based assessment of the origin and biogeochemical transformation of a cyclonic eddy in the Sargasso Sea. *Journal of Geophysical Research*, 113, C10006, doi:10.1029/2008JC004840.
54. **McGillicuddy, D.J.**, Anderson, D.M., Stock, C.A., Lynch, D.R. and D.W. Townsend. Modeling blooms of *Alexandrium fundyense* in the Gulf of Maine. In: Real-time Coastal Observing Systems for Marine Ecosystems Dynamics and Harmful Algal Blooms: Theory, Instrumentation and Modelling. United Nations Educational, Scientific and Cultural Organization. M. Babin, C.S. Roesler, J.J. Cullen, eds.
55. Stow, C.A., Jolliff, J., **McGillicuddy, D.J.**, Doney, S.C., Allen, J.I., Friedrichs, M.A.M., Rose, K.A., and P. Wallhead. Skill Assessment for Coupled Biological/Physical Models of Marine Systems. *Journal of Marine Systems*, 76(1-2), 4-15.
56. Smith, K.W., **McGillicuddy, D.J.**, and D.R. Lynch. Parameter estimation using an ensemble smoother: the effect of the circulation in biological estimation. *Journal of Marine Systems*, 76(1-2), 162-170.
57. Aretxabaleta, A.L., **McGillicuddy, D.J.**, Smith, K.W., and D.R. Lynch. Model simulations of the Bay of Fundy Gyre: 1. Climatological Results. *Journal of Geophysical Research*, 113, C10027, doi:10.1029/2007JC004480.
58. Dyble, J., Bienfang, P., Dusek, E., Griffiths, W., Hitchcock, G., Holland, F., Laws, E., Lerczak, J., **McGillicuddy, D.J.**, Minnett, P., Moore, S., O'Kelly, C., Solo-Gabriel, H., and J. Wang. Environmental controls, oceanography and population dynamics of pathogens and harmful algal blooms: Connecting sources to human exposure. *Environmental Health*, 7(2):55, doi:10.1186/1476-069X-7-S2-S5.

SUBMITTED JOURNAL PUBLICATIONS

1. Aretxabaleta, A.L., **McGillicuddy, D.J.**, Smith, K.W., Manning, L.J.P. and D.R. Lynch. Model Simulations of the Bay of Fundy Gyre: 2. Hindcasts for 2005-2007 Reveal Interannual Variability in Retentiveness. Submitted, *Journal of Geophysical Research*.
2. Manning, J.P., **McGillicuddy, D.J.**, Pettigrew, N.R., Churchill, J.H., and L.S. Incze. Drifter Observations of the Gulf of Maine Coastal Current. Submitted, *Continental Shelf Research*.
3. Eden, B.R., Steinberg, D.K., Goldthwait, S.A. and **D.J. McGillicuddy**. Zooplankton Community Structure in a Cyclonic and Mode-water Eddy in the Sargasso Sea. Submitted, *Deep-Sea Research I*.
4. Li, Y., He, R., **McGillicuddy, D.J.**, Anderson, D.M. and B.A. Keafer. Investigation of the 2008 *Alexandrium fundyense* Bloom in the Gulf of Maine: In Situ Observations and Numerical Modeling. Submitted, *Continental Shelf Research*.

OTHER REFEREED PUBLICATIONS

1. Walstad, L.J. and **D.J. McGillicuddy**, 2000. Data assimilation for coastal observing systems. *Oceanography*, **13**(1), 47-53.
2. Lynch, D.R., Naimie, C.E., Ip, J.T., Lewis, C.V., Werner, F.E., Luetlich, R., Blanton, B.O., Quinlan, J., **McGillicuddy, D.J.**, Ledwell, J.R., Churchill, J., Kosnyrev, V.K., Davis, C.S., Gallagher, S.M., Ashjian, C.J., Lough, R.G., Manning, J., Flagg, C.N., Hannah, C.G. and R.C. Groman, 2001. Real-time data assimilative modeling on Georges Bank. *Oceanography*, **14**(1), 65-77.
3. **McGillicuddy, D.J.**, 2001a. Models of small-scale patchiness. In: *Encyclopedia of Ocean Science*, J.H. Steele, K.K. Turekian, and S.A. Thorpe, eds. Academic Press, London, 2820-2833.
4. **McGillicuddy, D.J.**, 2001b. The internal weather of the sea and its influences on ocean biogeochemistry. *Oceanography*, **14**(4), 78-92.
5. Rothstein, L.M., Cullen, J.J., Abbott, M., Chassignet, E.P., Denman, K., Doney, S.C., Ducklow, H., Fennel, K., Follows, M., Haidvogel, D., Hoffman, E., Karl, D.M., Kindle, J., Lima, I., Maltrud, M., McClain, C., **McGillicuddy, D.J.**, Ollascoaga, M.J., Spitz, Y., Wiggert, J. and J. Yoder, 2006. Modeling Ocean Ecosystems: The Paradigm Program. *Oceanography*, **19** (1), 22-51.
6. Backer, L.C. and **D.J. McGillicuddy**, 2006. Harmful Algal Blooms: At the interface between coastal oceanography and human health. *Oceanography*, **19**(2), 94-106.

EDITED VOLUMES

1. Haidvogel, D.B., Malanotte-Rizzoli, P. and **D.J. McGillicuddy**, eds. Theory and Modeling of Ocean Circulation, Data Assimilation and Interdisciplinary Applications: A Tribute to Professor Allan R. Robinson. *Dynamics of Atmospheres and Oceans* **29**(2-4), 1999.

EDITED VOLUMES (continued)

2. Anderson, D.M., Townsend, D.W., **McGillicuddy, D.J.** and J.T. Turner, eds. The Ecology and Oceanography of Toxic *Alexandrium* Blooms in the Gulf of Maine. *Deep-Sea Research II*, **52** (19-21), 2005.
3. Benitez-Nelson, C.R. and **D.J. McGillicuddy**, eds. Mesoscale Physical-Biological-Biogeochemical Linkages in the Open Ocean: Results from the E-Flux and EDDIES programs. *Deep-Sea Research II*, **55**(10-13), 2008.
4. Lynch, D.R., **McGillicuddy, D.J.**, and F.E. Werner, eds. Skill assessment for coupled biological/physical models of marine systems. In press, *Journal of Marine Systems*.

TECHNICAL REPORTS AND NON-REFEREED PUBLICATIONS

1. Carton, J.A. and **D.J. McGillicuddy**, 1985. Comprehensive maps of POLYMODE streamfunction. *Reports in Meteorology and Oceanography*, Number 21, Harvard University.
2. DeMey, P., Carton, J.A., Menard, Y., and **D.J. McGillicuddy**, 1986. Comparison of satellite altimetry with POLYMODE observations. *Ocean Modeling*, Number 67.
3. **McGillicuddy, D.J.**, 1987. Quasigeostrophic modeling of isolated vortices. *Reports in Meteorology and Oceanography*, Number 27, Harvard University.
4. Robinson, A.R., Spall, M.A., Leslie, W.G., Walstad, L.J., and **D.J. McGillicuddy**, 1987. Gulfcasting: dynamical forecasting experiments for Gulf Stream rings and meanders November 1985 - June 1986. *Reports in Meteorology and Oceanography*, Number 22, Harvard University.
5. **McGillicuddy, D.J.**, 1989. One Dimensional Numerical Simulation of New Primary Production: Lagrangian Eulerian Formulations. *Reports in Meteorology and Oceanography*, Number 36, Harvard University.
6. **McGillicuddy, D.J.**, 1989. Real time nowcasting and forecasting of the mesoscale eddy field in the vicinity of the OFP site on the cruise CI8809. *Reports in Meteorology and Oceanography*, Number 37, Harvard University.
7. **McGillicuddy, D.J.**, 1997. Mesoscale ocean dynamics and biological productivity. U.S. JGOFS North Atlantic Ocean Process Study Planning Workshop Report, H. Ducklow, J. Marra, and C. Goyet, eds. U.S. JGOFS Report Number 20, U.S. JGOFS Planning Office, Woods Hole, MA, pp. 31-34.
8. **McGillicuddy, D.J.**, A.R. Robinson and J.J. McCarthy, 1997. Coupled physical and biological modeling of the spring bloom in the North Atlantic. Report of the Second Meeting of the International GLOBEC Numerical Modeling Working Group on Interdisciplinary Model Formulation and Parameterization, Nantes, France, 17-20 July 1995, Volume 2, GLOBEC.INT.
9. **McGillicuddy, D.J.**, 1998. New evidence for the impact of mesoscale eddies on biogeochemical cycling in the Sargasso Sea. U.S. JGOFS Synthesis and Modeling Project Planning Workshop Report, S.C. Doney and J.L. Sarmiento, eds. U.S. JGOFS Planning Report Number 21, U.S. JGOFS Planning Office, Woods Hole, MA, pp. 66-70.

TECHNICAL REPORTS AND NON-REFEREED PUBLICATIONS (continued)

10. Steele, J.H. and **D.J. McGillicuddy**, 1998. Community structure and scales of variability. U.S. JGOFS Synthesis and Modeling Project Planning Workshop Report, S.C. Doney and J.L. Sarmiento, eds. U.S. JGOFS Planning Report Number 21, U.S. JGOFS Planning Office, Woods Hole, MA, pp. 78-80.
11. Lynch, D.R. and **D.J. McGillicuddy**, 1998. Globec researchers model physical/biological interactions on Georges Bank. *RCRC Newsletter*, Volume 2, Number 2. Rhinehart Coastal Research Center, Woods Hole Oceanographic Institution, Woods Hole, MA, pp. 7, 11.
12. **McGillicuddy, D.J.**, Johnson, R., Siegel, D.A., and N. Bates, 1998. Validation cruises document links between mesoscale physical and biogeochemical variations around BATS site. *U.S. JGOFS News*, Volume 9, Number 1. U.S. JGOFS Planning Office, Woods Hole Oceanographic Institution, Woods Hole, MA, pp. 7-8.
13. Yoder, J.A., Bakun, A., and **D.J. McGillicuddy**, 1998. Structure over large distances and long times. White Paper for *Ocean Ecology: Understanding and Vision for Research (OEUVRE)*, National Science Foundation Planning Workshop for Biological Oceanography. Available at: http://www.ofps.ucar.edu/joss_psg/project/oce_workshop/oeuvre/.
14. Signell, R.P. and **D.J. McGillicuddy**, 1999. Scientists model harmful algal blooms for ECOHAB-GOM. *RCRC Newsletter*, Volume 3, Number 1. Rhinehart Coastal Research Center, Woods Hole Oceanographic Institution, Woods Hole, MA, p. 6.
15. **McGillicuddy, D.J.** and V.K. Kosnyrev, 2000. U.S. Globec Georges Bank: Real-time modeling on cruises EN323 and EN324. U.S. GLOBEC Georges Bank Program Office, Woods Hole, MA. Available at: http://globec.who.edu/globec-dir/reports/en323_en324/real-time_modeling_report.html.
16. Anderson, D.M., Signell, R.P. and **D.J. McGillicuddy**, 2001. Modeling toxic *Alexandrium* dynamics in the Gulf of Maine: progress to date. In: Prevention and Management of Harmful Algal Blooms in the South China Sea. School of Science and Technology, The Open University of Hong Kong. K.C. Ho and Z.D. Wang, eds.
17. Hansell, D.A. and **D.J. McGillicuddy**, 2001. S2O2: Coordinating long-term time-series studies in the Southwest North Atlantic. *U.S. JGOFS News*, Volume 11, Number 2. U.S. JGOFS Planning Office, Woods Hole Oceanographic Institution, Woods Hole, MA 02543.
18. **McGillicuddy, D.J.**, 2001. Biological data assimilation. In: Ocean sciences at the new millennium. Report of the Ocean Sciences Decadal Committee, National Science Foundation. Available at: http://www.ofps.ucar.edu/joss_psg/publications/decadal/.
19. Hansell, D.A. and **D.J. McGillicuddy**, 2001. The Sargasso Sea Ocean/Atmosphere Observatory. Proceedings of a Workshop, March 6-8, 2001. Bermuda Biological Station for Research, Inc., St. Georges, Bermuda.
20. Anderson, D.M. and **D.J. McGillicuddy**, 2002. The ecology and oceanography of toxic *Alexandrium* blooms in the Gulf of Maine: Insights from model simulations. *Proceedings of the 2nd Irish Marine Biotxin Science Workshop*, October 2001. Marine Institute Headquarters, Galway Technology Park, Parkmore, Galway, Ireland.

TECHNICAL REPORTS AND NON-REFEREED PUBLICATIONS (continued)

21. OITI, 2002. An information technology infrastructure plan to advance ocean sciences. Report of the Ocean Information Technology Infrastructure Committee, Office of Naval Research and National Science Foundation. Available at: <http://www.geo-prose.com/oiti/>.
22. Liu, W.T., Atlas, R., Chelton, D.B., Chen, D., Chen, S., Dunbar, R.S., Freilich, M.H., Fu, R., Fukumori, I., Gille, S., Hawkins, J., Lee, T., Long, D.G., **McGillicuddy, D.J.**, McDonald, K.C., Milliff, R.F. and L. Yu, 2003. Scientific Opportunities Provided by SeaWinds in Tandem. JPL Publication 03-12. National Aeronautics and Space Administration, Jet Propulsion Laboratory, California Institute of Technology, Pasadena, California, 39 pp.
23. Bucklin, A., **McGillicuddy, D.J.**, and C.A. Manning, 2003. Biological-physical processes determining *Pseudocalanus* spp. (Crustacea; Copepoda) distribution and abundance on Georges Bank in the Northwest Atlantic, ICES CM 2003 / P:36
24. **McGillicuddy, D.J.**, Stock, C.A., Anderson, D.M. and R.P. Signell, 2003. Hindcasting blooms of the toxic dinoflagellate *Alexandrium* spp. in the western Gulf of Maine. In: Ecological Forecasting: New Tools for Coastal and Ecosystem Management, N.J. Valette-Silver and D. Scavia, Eds. NOAA Technical Memorandum NOS NCCOS 1, 116pp.
25. Anderson, D. M., R. P. Signell, and **D.J. McGillicuddy**. 2003. Modeling toxic *Alexandrium* dynamics in the Gulf of Maine: Progress to date. pp. 277-282, in: Recent Advances in the Prevention and Management of Harmful Algal Blooms in the South China Sea, Ho, K.C., Lu, S., Yu, T.-S., and Wong, K.-F. (eds.), The Association on Harmful Algal Blooms in the South China Sea, The Open University of Hong Kong, Kowloon, Hong Kong.
26. Anderson, D.M., Libby, P.S., Mickelson, M.J., Borkman, D.G., He, R., **McGillicuddy, D.J.**, 2007. The 2005 New England red tide of *Alexandrium fundyense*: observations, causes, and potential outfall linkages. Boston: MWRA Report 2007-10. 85 pp + appendices.

PUBLISHED ABSTRACTS

McGillicuddy, D.J. and A.R. Robinson, 1988. Quasigeostrophic Modeling of Gulf Stream Ring Evolution and Propagation: Sensitivity to Computational Resolution and Subgridscale Parameterization. *EOS Transactions, American Geophysical Union*, 1988 Fall Meeting, **69**(44), 1236.

Robinson, A.R., **McGillicuddy, D.J.**, Calman, J., Hoge, F.E., and J.A. Yoder, 1990. Mesoscale Eddies in the 1989 JGOFS Bloom Study Region as Observed Using Geosat Altimetric and *in situ* Data. *EOS Transactions, American Geophysical Union*, **71**(2), 80-81.

McGillicuddy, D.J., Robinson, A.R., and J.J. McCarthy, 1994. Coupled Physical and Biological Modeling of the Spring Bloom in the North Atlantic. *EOS Transactions, American Geophysical Union*, 1994 Ocean Sciences Meeting, **75**(3), 94.

McGillicuddy, D.J., 1995. Coupled Physical-Biological Modeling of the Spring Bloom in the North Atlantic. First JGOFS International Scientific Symposium, Villefranche-sur-Mer, France, Book of Abstracts published by SCOR / ICSU.

PUBLISHED ABSTRACTS (continued)

Siegel, D.A., E. Fields, **D.J. McGillicuddy** and A.F. Michaels, 1997: Mesoscale Motions, Satellite Altimetry and Biogeochemical Processes in the Sargasso Sea. Presented at the 1997 ASLO Aquatic Sciences Meeting. Sante Fe, NM, February 1997.

McGillicuddy, D.J., 1997. Mesoscale Ocean Dynamics and Biological Productivity. North Atlantic Planning Report Number 20, U.S. JGOFS Planning Office, Woods Hole Oceanographic Institution, Woods Hole, MA.

McGillicuddy, D.J., 1997. Nutrient Supply to the Upper Ocean Induced by the Interaction of Wind Driven Surface Currents and Mesoscale Eddies. *EOS Transactions, American Geophysical Union*, 1997 Spring Meeting, **78**(17), S71.

Gentleman, W.C., Lynch, D.R., **McGillicuddy, D.J.**, and C.S. Davis, 1997. *In-Situ* Population Dynamics of *Calanus finmarchicus*. Proceedings of the Gulf of Maine Ecosystem Dynamics, A Scientific Symposium and Workshop, St. Andrews, New Brunswick, 16-19 September 1996, G.T. Wallace and E.F. Braasch eds., RARGOM Report 97-1.

Lynch, D.R., **McGillicuddy, D.J.**, Gentleman, W.C., and C.S. Davis, 1997. Modeling Copepod Abundance and Distribution on Georges Bank. ICES Theme Session - GLOBEC: Results From Interdisciplinary Programmes in the North Atlantic, Baltimore, MD, 24 September 1997. Paper #CM 1997/T: 18.

McGillicuddy, D.J., Lynch, D.R., Wiebe, P., Runge, J., Gentleman, W.C., and C.S. Davis, 1997. Evaluating the Synopticity of the U.S. Globec Georges Bank Broad-scale Sampling Pattern With Observational System Simulation Experiments. ICES Theme Session - GLOBEC: Results From Interdisciplinary Programmes in the North Atlantic, Baltimore, MD, 24 September 1997. Paper #CM 1997/T: 20.

Fields, E.A., Siegel, D.A., and **D.J. McGillicuddy**, 1998. Mesoscale Motions, Satellite Altimetry and Biogeochemical Processes in the Sargasso Sea. *EOS Transactions, American Geophysical Union*, 1998 Ocean Sciences Meeting, **79**(1), 70.

Lynch, D.R., Gentleman, W.C., **McGillicuddy, D.J.**, and C.S. Davis, 1998. Biophysical Simulations of *Calanus finmarchicus* Population Dynamics in the Gulf of Maine. *EOS Transactions, American Geophysical Union*, 1998 Ocean Sciences Meeting, **79**(1), 155.

McGillicuddy, D.J., Lynch, D.R., Moore, A.M., Gentleman, W.C., and C.S. Davis, 1998. An Adjoint Data Assimilation Approach to the Estimation of *Pseudocalanus* Population Dynamics. *EOS Transactions, American Geophysical Union*, 1998 Ocean Sciences Meeting, **79**(1), 179.

McGillicuddy, D.J., 1998. Impacts of Mesoscale Ocean Dynamics and Wind-Driven Surface Currents on Upper Ocean Plankton Ecosystems. *EOS Transactions, American Geophysical Union*, 1998 Spring Meeting, **79**(17), 175.

Lima, I., Doney, S., Bryan, F., **McGillicuddy, D.J.**, Anderson, L., and M. Maltrud, 2000. Preliminary Results From an Eddy-resolving Ecosystem Model for the North Atlantic. *EOS Transactions, American Geophysical Union*, 2000 Ocean Sciences Meeting, **80**(49), 28.

McGillicuddy, D.J., Kosnyrev, V.K., Sweeney, E.N., and K.O. Buesseler, 2000. Modeling Mesoscale Biogeochemical Processes in a Topex/Poseidon Diamond Surrounding the U.S. JGOFS Bermuda Atlantic Time-Series Study. *EOS Transactions, American Geophysical Union*, 2000 Ocean Sciences Meeting, **80**(49), 28.

PUBLISHED ABSTRACTS (continued)

- Bucklin, A., and **D.J. McGillicuddy**, 2000. Biological-Physical Analysis of the Maintenance of the Cryptic Copepods *Pseudocalanus* spp. On Georges Bank. *EOS Transactions, American Geophysical Union*, 2000 Ocean Sciences Meeting, **80**(49), 89.
- McGillicuddy, D.J.**, 2000. Real-Time Forecasting and Biological Data Assimilation on Georges Bank. *EOS Transactions, American Geophysical Union*, 2000 Ocean Sciences Meeting, **80**(49), 297.
- McGillicuddy, D.J.**, Signell, R.P., Stock, C., Lynch, D.R. and A. Thompson, 2000. Modeling *Alexandrium* spp. Blooms in the Gulf of Maine. Symposium on Harmful Marine Algae in the U.S., Marine Biological Laboratory, Woods Hole, MA, p. 217.
- Hansell, D.A. and **D.J. McGillicuddy**, 2001. S2O2: The Sargasso Sea Ocean/Atmosphere Observatory. Challenges of a Changing Earth. IGBP Global Change Open Science Conference, Amsterdam, NL.
- Conte, M.H., Weber, J.C., Dickey, T.D. and **D.J. McGillicuddy**, 2001. Linkage Between Transient Upper Ocean Physical and Biological Forcing and Deep Ocean Flux at the Bermuda Time-Series Site. *EOS Transactions, American Geophysical Union*, **82**(47), Fall Meeting Supplement, Abstract OS52C-12.
- McGillicuddy, D.J.**, 2001. Impacts of High-wavenumber Wind Stress Variability on Planktonic Ecosystems of the North Atlantic. *EOS Transactions, American Geophysical Union*, **82**(47), Fall Meeting Supplement, Abstract OS31A-0395.
- Kosnyrev, V.K. and **D.J. McGillicuddy**, 2001. Modeling Mesoscale Biogeochemical Processes in a Topex/Poseidon Diamond Surrounding the U.S. JGOFS Bermuda Atlantic Time-series Study. *EOS Transactions, American Geophysical Union*, **82**(47), Fall Meeting Supplement, Abstract OS51D-0504.
- Luetlich, R., Blanton, B., Arechavaleta, A., Werner, C., Seim, H., Naimie, C., Lynch, D., Sills, E., **McGillicuddy, D.J.** and P. Welsh, 2002. A Limited Area, Operational, Coastal Ocean Model of the South Atlantic Bight with Far Field Ocean Model Forcing and Data Assimilation. *EOS Transactions, American Geophysical Union*, **83**(4), Ocean Sciences Meeting Supplement, Abstract OS41M-08.
- Shulman, I., Haddock, S., **McGillicuddy, D.J.**, Paduan, J., Rosenfeld, L., Ramp, S., Kindle, J. and P. Bisset, 2002. Numerical Modeling of Bioluminescence in the Coastal Ocean. *EOS Transactions, American Geophysical Union*, **83**(4), Ocean Sciences Meeting Supplement, Abstract OS32S-03.
- Wanninkhof, R., Dickerson, R., Barber, R., Capone, D G., Duce, R., Erickson, D., Keene, W C., Lenschow, D., Matrai, P A., McGillis, W., **McGillicuddy, D.J.**, Penner, J., and A. Pszenny, 2002. Surface Ocean-Lower Atmosphere Studies: SOLAS. *EOS Transactions, American Geophysical Union*, **83**(4), Spring Meeting Supplement, Abstract A51F-07.
- McGillicuddy, D.J.**, Anderson, L.A., Doney, S.C. and M.E. Maltrud, 2003. Eddy-driven sources and sinks of nutrients in the upper ocean: results from a 0.1 degree resolution model of the N. Atlantic. Special Session "Eddy and frontal scale processes in ocean biogeochemistry: observations and models" convened by L. Memery, R. Williams, and D.J. McGillicuddy, EGS-AGU-EUG Joint Assembly, Nice, France. Abstract number EAE03-A-02957.

PUBLISHED ABSTRACTS (continued)

- O'Brien, S., Armbrust, E.V., Olson, R.J., and **D.J. McGillicuddy**, 2003. Eukaryotic Nanoplankton Diversity in Sargasso Sea Eddies. ASLO 2003 Aquatic Sciences Meeting, Salt Lake City, UT.
- McGillicuddy, D.J.**, Anderson, D.M., Lynch, D.R., and D.W. Townsend, 2003. Mechanisms regulating the large-scale seasonal development of *Alexandrium fundyense* blooms in the Gulf of Maine (U.S.A.). Second Symposium of Harmful Marine Algae in the U.S., Marine Biological Laboratories, Woods Hole, MA.
- Stock, C.A., **McGillicuddy, D.J.**, Solow, A.R. and D.M. Anderson, 2003. Evaluating hypotheses for the initiation and development of *Alexandrium fundyense* blooms in the western Gulf of Maine using a coupled physical-biological model. Second Symposium of Harmful Marine Algae in the U.S., Marine Biological Laboratories, Woods Hole, MA.
- Bucklin, A., **McGillicuddy, D.J.** and C.A. Manning, 2003. Population Dynamics of Cryptic Species of *Pseudocalanus* in the Northwest Atlantic: Biological and Physical Coupling at Small- to Mesoscales. EOS Trans. AGU, 84(52), Ocean Sci. Meet. Suppl., Abstract OS22K-01.
- Li, X., and **D.J. McGillicuddy**, 2003. Physical and Biological controls on *Calanus finmarchicus* in the Georges Bank Region: an adjoint data assimilation approach. EOS Trans. AGU, 84(52), Ocean Sci. Meet. Suppl., Abstract OS22K-02.
- McGillicuddy, D.J.**, Anderson, L.A., Doney, S.C. and M.E. Maltrud, 2004. Eddy-driven sources and sinks of nutrients in the upper ocean: Results from a 0.1 degree resolution model of the North Atlantic. ASLO/TOS Ocean Research Conference Abstract Book, p.104.
- Wieneke, S.G., Armbrust, E.V., Olson, R.J. and **D.J. McGillicuddy**, 2004. Diversity of eukaryotic nanoplankton in Sargasso Sea eddies. ASLO/TOS Ocean Research Conference Abstract Book, p.173.
- Shulman, I., Kindle, J.C., Paduan, J.D., Ramp, S.R., Rosenfeld, L.K., Haddock, S., **McGillicuddy, D.J.**, Moline, M.A., Nechaev, D., DeRada, S., Anderson, S.C. and M.W. Phelps, 2004. Modeled circulation patterns and bioluminescence distribution predictions during upwelling and relaxation events in the Monterey Bay area. ASLO/TOS Ocean Research Conference Abstract Book, p.146.
- Anderson, D.M., Keafer, B.A., **McGillicuddy, D.J.**, Mickelson, M., Keay, K.E., Libby, P.S., Manning, J.P., Mayo, C.A., Whittaker, D.K., Hickey, J.M., He., R., Lynch, D.R., and K. W. Smith. Initial Observations of the 2005 *Alexandrium fundyense* Bloom in Southern New England: general patterns and mechanisms. October 8, 2005, 3rd Symposium on Harmful Algae in the U.S. <http://www.whoi.edu/redtide/3rdsymposium/AbstractBook.pdf>.
- Li, Q. P., Hansell, D. A. and **D. J. McGillicuddy**, 2005. Study of Nutrients in a cyclonic eddy in the Sargasso Sea. ASLO 2005 Aquatic Sciences Meeting, Salt Lake City, Utah.
- Sedwick, P. N., Church, T. M., Bowie, A. R., Marsay, C. M., Achilles, K. M., Ussher, S. J., Lethaby, P. J., Johnson, R. J. and **D.J. McGillicuddy**, Iron in the Sargasso Sea during summer: aeolian imprint, spatiotemporal variability, and ecological implications. ASLO 2005 Aquatic Sciences Meeting, Salt Lake City, Utah.

PUBLISHED ABSTRACTS (continued)

Friedrichs, M., Hood, R., Anderson, L., Armstrong, R., Chai, F., Christian, J., Doney, S., Dunne, J., Dusenberry, J., Fujii, M., Klinck, J., **McGillicuddy, D. J.**, Schartau, M., Spitz, Y. and J. Wiggert. The regional ecosystem modeling intercomparison project. EGU General Assembly 2005, Vienna, Austria.

Maltrud, M., Doney, S., Lima, I., **McGillicuddy, D.J.** and K. Moore. A global eddy-permitting physical/biological ocean simulation. EGU General Assembly 2005, Vienna, Austria.

McGillicuddy, D.J., D.M. Anderson, R. He, D.R. Lynch, J.P. Manning, K.W. Smith, C.A. Stock, and D.W. Townsend. Modeling Blooms of *Alexandrium fundyense* in the Gulf of Maine: From Climatology to Forecasting. October 16-21, 2005, ERF meeting, Norfolk, VA.

McGillicuddy, D.J. and P. Wiebe. Dynamics of Plankton and Nekton in the Georges Bank Region. Ocean Sciences 2006, Honolulu, Hawaii, Abstract# OS33H.

Benitez-Nelson, C.R. and **D.J. McGillicuddy**. Eddies and Fronts: Mesoscale Physical-Biological-Biogeochemical Linkages in the Open Ocean I. Ocean Sciences 2006, Honolulu, Hawaii, Abstract# OS11G, 12H, 13H, 14H, and 16D.

Ledwell, J.R., **McGillicuddy, D.J.**, Anderson, L., Girton, J.B. and B. Greenan. Diapycnal Fluxes at the Base of the Euphotic Zone in a Mode-water Eddy. Ocean Sciences 2006, Honolulu, Hawaii, Abstract# OS13H-04.

Nardello, I. and **D.J. McGillicuddy**. Impact of Mesoscale Eddy Activity in the Sargasso Sea on the Summertime Distribution of Phytoplankton. Ocean Sciences 2006, Honolulu, Hawaii, Abstract# OS16D-09.

Jenkins, W.J. and **D.J. McGillicuddy**. Vertical Nutrient Transport in Cyclonic and Anticyclonic Eddies in the Sargasso Sea as Evidenced from ³He Distributions. Ocean Sciences 2006, Honolulu, Hawaii, Abstract# OS14H-01.

Li, X., **McGillicuddy, D.J.**, Durbin, E.G. and P.H. Wiebe. Biological Control of the Vernal Population Increase of *Calanus finmarchicus* on Georges Bank. Ocean Sciences 2006, Honolulu, Hawaii, Abstract# OS33H-03.

Davis, C., Du, Q., Ashjian, C., Gallagher, S., Ji, R., Hu, Q. and **D.J. McGillicuddy**. Retention and Loss of Plankton and Particles on Georges Bank During Spring. Ocean Sciences 2006, Honolulu, Hawaii, Abstract# OS33H-05.

Johnson, R.J., Bates, N.R., **McGillicuddy, D.J.**, Anderson, A., Bell, S., Buck, N., Lethaby, P.J., Lochhead, V.L., Lomas, D., Neely, K., Roadman, M.J., Pequignet, M.J. and S. Pluvinage. Mesoscale Eddy Variability in the Sargasso Sea and its Impact on Upper Ocean Biogeochemistry. Ocean Sciences 2006, Honolulu, Hawaii, Abstract# OS13H-03.

Mouriño Carballido, B. and **D.J. McGillicuddy**. Investigating the Role of Mesoscale Eddies in the Metabolic Balance of Subtropical Regions. Ocean Sciences 2006, Honolulu, Hawaii, Abstract# OS16D-08.

PUBLISHED ABSTRACTS (continued)

Roadman, M.J., Bates, N.R., Johnson, R.J., **McGillicuddy, D.J.**, Anderson, A., Bell, S., Buck, N., Lethaby, P., Lomas, D., Neely, K., Pequignet, C., Pluvinage, S. and V. Lochhead. Overview of EDDIES Transect cruises in the Sargasso Sea. Ocean Sciences, Honolulu, Hawaii, Abstract# OS16D-07.

Li, Q., **McGillicuddy, D.J.**, Hansell, D.A., Bates, N.R., Jenkins, W.J. and R. Johnson. Biogeochemical Impacts of a Cyclonic Eddy in the Sargasso Sea. Ocean Sciences 2006, Honolulu, Hawaii, Abstract# OS14H-02.

Goldthwait, S., Steinberg, D.K. and **D.J. McGillicuddy**. Elevated Biomass of Mesozooplankton and Enhanced Fecal Pellet Flux in Cold-Core and Mode-Water Eddies in the Sargasso Sea. Ocean Sciences 2006, Honolulu, Hawaii, Abstract# OS14H-05.

Pointer, B., Pike, S., Lamborg, C., Andrews, J., Verdeny, E., Cai, P., Henderson, P., **McGillicuddy, D.J.** and K. Buesseler. Particle Export During EDDIES. Ocean Sciences 2006, Honolulu, Hawaii, Abstract# OS14H-06.

Friedrichs, M.A., Anderson, L., Armstrong, R., Chai, F., Christian, J., Doney, S., Dunne, J., Dusenberry, J., Fujii, M., Hood, R., **McGillicuddy, D.J.**, Schartau, M., Spitz, Y. and J. Wiggert. The Regional Ecosystem Model Intercomparison Project. Ocean Sciences 2006, Honolulu, Hawaii, Abstract# OS34A-06.

McGillicuddy, D.J., Bates, N., Bibby, T., Buesseler, K., Carlson, C., Davis, C.S., Falkowski, P., Goldthwait, S., Hansell, D.A., Jenkins, W., Johnson, R., Ledwell, J., Li, Q., Siegel, D., and D. Steinberg. Impacts of Eddies and Mixing on Plankton Community Structure and Biogeochemical Cycling in the Sargasso Sea. Ocean Sciences 2006, Honolulu, Hawaii, Abstract# OS13H-02.

Anderson, D.M., Keafer, B.A., **McGillicuddy, D.J.**, Mickelson, M.J., Keay, K.E., Libby, P.S., Manning, J.P., Mayo, C.A., Whittaker, D.K., Hickey, J.M., He, R., Lynch, D.R. and K.W. Smith. Initial Observations of the 2005 *Alexandrium fundyense* bloom in Southern New England: General Patterns and Mechanisms. Ocean Sciences 2006, Honolulu, Hawaii, Abstract# OS11C-03.

Goldthwait, S.A., **D. McGillicuddy**, C. Davis, 2006. VPR visualization of a mode-water eddy diatom bloom. *EOS Transactions, American Geophysical Union*, Fall Meeting Supplement, **87**(52), Abstract OS43A-0642.

Anderson, D.M., Keafer, B.A., Norton, K., **McGillicuddy, D.J.**, He, R., Pilskaln, C.H., and D. Couture, 2007. *Alexandrium fundyense* cyst dynamics in the Gulf of Maine (abstract). Fourth Symposium on Harmful Algae in the U.S., Marine Biological Laboratory, Woods Hole, MA.

McGillicuddy, D.J., He, R., Smith, K.W., Anderson, D.M., and B.A. Keafer, 2007. Observations and Models of *Alexandrium fundyense* Blooms in the Gulf of Maine and Georges Bank: From Climatology to Forecasting (abstract). Fourth Symposium on Harmful Algae in the U.S., Marine Biological Laboratory. Woods Hole, MA.

Eden, B.R., D.K. Steinberg, S.A. Goldthwait, **D.J. McGillicuddy**, 2007. The effect of mesoscale eddies on zooplankton community structure in the Sargasso Sea. ASLO 2007 Aquatic Sciences Meeting, Santa Fe, NM, Abstract Number 196.

PUBLISHED ABSTRACTS (continued)

Anderson, L.A., **McGillicuddy, D.J.**, and J.R. Ledwell. Plankton Bloom in a Mode-water Eddy Caused by Eddy-wind. Ocean Sciences 2008, Orlando, FL, Conference Abstract Book, p. 14.

Aretxabaleta, A.L., **McGillicuddy, D.J.**, Smith, K.W., and D.R. Lynch. Model Simulations of the Bay of Fundy Gyre. Ocean Sciences 2008, Orlando, FL, Conference Abstract Book, p. 16.

Bronk, D.A., Emerson, S., Carlson, C., Johnson, K., **McGillicuddy, D.J.**, and C. Sabine. Exploring the Future of U.S. Ocean Time Series. Ocean Sciences 2008, Orlando, FL, Conference Abstract Book, p. 51.

Manning, J.P., **McGillicuddy, D.J.**, Churchill, J.H., Pettigrew, N.R., and L.S. Incze. Observations of Gulf of Maine's Coastal Current. Ocean Sciences 2008, Orlando, FL, Conference Abstract Book, p. 285.

Marsay, C.M., Sedwick, P.N., Johnson, R.J., Lohan, M.C., **McGillicuddy, D.J.**, and T.M. Church. Pronounced Temporal and Mesoscale Variability of Dissolved Iron in the Sargasso Sea (BATS Region). Ocean Sciences 2008, Orlando, FL, Conference Abstract Book, p. 286.

McGillicuddy, D.J., Anderson, D.M., He, R., and B.A. Keafer. Hindcasting the Historic 2005 New England Red Tide: Forcing Mechanisms and Future Implications. Ocean Sciences 2008, Orlando, FL, Conference Abstract Book, p. 295.

Neely, K., Bates, N.R., Johnson, R.J., and **D.J. McGillicuddy**. The Influence of Mesoscale Eddies on Inorganic Carbon Cycling and Air-Sea CO₂ Gas Exchange in the North Atlantic Ocean. Ocean Sciences 2008, Orlando, FL, Conference Abstract Book, p. 327.

Smith, K.W., **McGillicuddy, D.J.**, and D.R. Lynch. Parameter Estimation Using an Ensemble Smoother: The Effect of the Circulation in Biological Estimation. Ocean Sciences 2008, Orlando, FL, Conference Abstract Book, p. 425.

INVITED LECTURES

- Guest Lecture in Biological Oceanography, Harvard University, Cambridge, MA, April 1996.
- Physical Oceanography Seminar, Massachusetts Institute of Technology, Cambridge, MA, September 1996.
- Departmental Seminar, Horn Point Environmental Labs., Cambridge, MD, February 1997.
- Gordon Research Conference in Chemical Oceanography, Meriden, NH, August 1997.
- Globec International Modeling Workshop, Chapel Hill, NC, January 1998.
- AGU/ASLO Ocean Sciences Meeting Special Session on Theory and Modeling of Ocean Circulation, Data Assimilation and Interdisciplinary Applications: A Tribute to Professor Allan R. Robinson, San Diego, CA, February 1998.
- Monday Night at Mote Lecture Series, Mote Marine Laboratory, Sarasota, FL, March 1998.
- Oceanography Seminar Series, Harvard University, Cambridge, MA, April 1998.
- Physical Oceanography Seminar, University of Rhode Island, Narragansett, RI, April 1998.
- Biological Oceanography Seminar, Scripps Institution of Oceanography, La Jolla, CA, May 1998.

INVITED LECTURES (continued)

- Oceanography Seminar, Bermuda Biological Station for Research, St. Georges, Bermuda, July 1998.
- Departmental Seminar, Center for Coastal Physical Oceanography, Old Dominion University, Norfolk, VA, February 1999.
- CMAST Seminar, University of Massachusetts Dartmouth, Dartmouth, MA, April 1999.
- Guest lecture, Biological Oceanography, University of New Hampshire, Durham, NH, April 1999.
- Gordon Research Conference in Coastal Ocean Modeling, New London, NH, June 1999.
- Middle Atlantic Bight Physical Oceanography and Meteorology (MABPOM) Workshop, Woods Hole, MA, October 1999.
- AGU/ASLO Ocean Sciences Meeting Special Session on Coastal Ocean Dynamics and Prediction, San Antonio, TX, January 2000.
- AGU/ASLO Ocean Sciences Meeting Special Session on Marine Ecosystem Modeling on Regional to Global Scales, San Antonio, TX, January 2000.
- University of Connecticut Department of Marine Sciences Seminar Series, Avery Point, CT, February 2000.
- ONR Bioluminescence Workshop, San Diego, CA, February 2000.
- ONR Workshop on a Pilot Bioluminescence Experiment, Monterey, CA, May 2000.
- Physical Oceanography / Geochemistry Seminar, Lamont-Doherty Earth Observatory, Palisades, NY, May 2000.
- Department of Earth and Planetary Sciences Seminar, Johns Hopkins University, Baltimore, MD, November 2000.
- MIT Sack Lunch seminar, Massachusetts Institute of Technology, Cambridge, MA, November 2000.
- Estuarine Research Federation Conference Special Session on Ecological Forecasting, St. Petersburg, FL, November 2001.
- Guest Lecture, Sea Education Association, Woods Hole, MA, January 2002.
- College of Marine Science Seminar Series, University of South Florida, St. Petersburg, FL, April 2002.
- Virginia Institute of Marine Science Seminar Series, Gloucester Point, VA, September 2002.
- Departmental Seminar, School of Marine Science and Technology, University of Massachusetts Dartmouth, New Bedford, MA, March 2003.
- Earth Science Colloquium, Lamont-Doherty Earth Observatory, Palisades, NY, March 2003.
- Oceanography Seminar, Texas A&M University, College Station, TX, March 2003.
- Guest lecture, Martin Ryan Institute, National University of Ireland, Galway, Ireland, April 2003.
- JGOFS Final Open Science Conference, National Academy of Sciences, Washington, DC, May 2003.
- Workshop on real time coastal observing systems for ecosystem dynamics and harmful algal blooms. Villefranche-sur-mer, France, June 2003.
- Topics in Atmospheric and Oceanic Sciences Seminar Series, Marine Sciences Research Center, State University of New York, Stony Brook, NY, November 2003.

INVITED LECTURES (continued)

- Institute of Marine and Coastal Sciences Seminar Series, Rutgers University, New Brunswick, NJ, November 2003.
- Visiting Scientist Lecture, Cooperative Institute for Marine and Atmospheric Studies, Rosenstiel School of Marine and Atmospheric Science, University of Miami, Miami, FL, January 2004.
- University of Maine School of Marine Sciences Seminar Series, Orono, ME, February 2004.
- Biological Oceanography of Harmful Algal Blooms (BOHAB) Steering Committee Meeting, Martin Ryan Institute, National University of Ireland, Galway, February, 2005.
- Basin workshop. Reykjavik, Iceland, March, 2005.
- Earth System Initiative Seminar Series, MIT, Cambridge, MA, April, 2005.
- Laboratoire d'Océanographie de Villefranche, Villefranche-sur-mer, France, January, 2006.
- BOHAB Seminar, Galway, Ireland, March, 2006.
- National Oceanography Center, Southampton, UK, November, 2006.
- Environmental fluid mechanics seminar, Department of Civil and Environmental Engineering, MIT, Cambridge, MA, April 2007.
- Rosenstiel School of Marine and Atmospheric Science, University of Miami, Miami, FL, April 2008.

PH.D. THESIS

McGillicuddy, D.J., 1993. Mesoscale Ocean Dynamics and Biological Productivity. Reports in Meteorology and Oceanography, Number 48, Harvard University, 315 pp.

PH.D. ADVISORS

Allan R. Robinson, Harvard University
James J. McCarthy, Harvard University

POSTDOCTORAL ADVISOR

Kenneth H. Brink, Woods Hole Oceanographic Institution

REVIEWER FOR JOURNALS AND NATIONAL AGENCIES

Bulletin of Marine Science
Continental Shelf Research
Deep-Sea Research I
Deep-Sea Research II
Dynamics of Atmospheres and Oceans
Encyclopedia of Ocean Sciences
Fisheries Oceanography
Geophysical Research Letters
Global Biogeochemical Cycles
Journal of Climate
Journal of Geophysical Research
Journal of Marine Research
Journal of Marine Systems
Journal of Plankton Research
Limnology and Oceanography

REVIEWER FOR JOURNALS AND NATIONAL AGENCIES (continued)

Marine Ecology Progress Series

Nature

Oceanography

Science

The Sea

Hawaii Sea Grant

Israel Science Foundation

NASA

NOAA

NSF

Sea Grant

National Environmental Research Council (NERC), United Kingdom

Natural Science and Engineering Research Council of Canada

North Pacific Research Board

Fidelity Foundation

External reviewer for the F.G. Walton Smith Prize, Rosenstiel School of Marine and Atmospheric Science