

# **CURRICULUM VITAE**

## **WAYNE ROCKWELL GEYER**

Senior Scientist and Chairman  
Department of Applied Ocean Physics and Engineering  
Woods Hole Oceanographic Institution

### **EDUCATION:**

Ph.D. Physical Oceanography, University of Washington, Seattle, WA - 1985  
M.S. Physical Oceanography, University of Washington, Seattle, WA - 1981  
B.A. Geology, Dartmouth College, Hanover, NH - 1977

### **PROFESSIONAL EXPERIENCE:**

2001-present Senior Scientist and Chairman, Applied Ocean Physics and Engineering Dept.,  
Woods Hole Oceanographic Institution (WHOI)  
1996-2001 Director, Rinehart Coastal Research Center (WHOI)  
1991-present Associate Scientist (Tenure in 1995), Applied Ocean Physics & Engineering  
Dept., Woods Hole Oceanographic Institution (WHOI)  
1987-1990 Assistant Scientist, Applied Ocean Physics & Engineering Dept., WHOI  
1986-1987 Postdoctoral Investigator, Ocean Engineering Department, WHOI  
1985-1986 Postdoctoral Scholar, Ocean Engineering Department, WHOI  
(with William D. Grant)  
1981-1985 Research Associate, University of Washington, Seattle, WA  
(with J. Dungan Smith)  
1979-1981 Research Assistant, University of Washington and Pacific Marine Environmental  
Laboratory, Seattle, WA (with Glenn A. Cannon)

### **RESEARCH INTERESTS:**

Estuarine and coastal transport processes; sediment transport; numerical modeling of estuaries  
and river plumes.

### **HONORS AND AWARDS:**

1985 Postdoctoral Scholar, WHOI  
1990 Excellence in Refereeing, American Geophysical Union (J. Geophys. Res., Oceans)

### **PROFESSIONAL AFFILIATIONS:**

Ocean Studies Board  
American Geophysical Union  
Estuarine Research Federation

## **WHOI COMMITTEES:**

Coastal Research Center Advisory Committee (1989-1996)  
Small Boat Committee (1990)  
Dependent Care Committee (1990)  
Coastal Research Center Review Committee (1991)  
Sea Grant Review Committee (1992)  
Admissions Committee (1992-1993)  
Co-convener: 7th International Biennial Conference on Physics of Estuaries and Coastal Seas, WHOI (1994)  
Independent Study Review Panel (1994)  
Coastal Research Center Interim Director (1995)  
Rinehart Coastal Research Center Director (1996-2000)  
WHOI Partners Program (1995- present)  
WHOI Strategic Planning Subcommittee member: "Access to Sea" (1996-1997)  
Chair, Promotion committee for Jesus Pineda (1998)  
Chair, Promotion committee for Neal Driscoll (1999)  
Cooperative Institute for Climate and Ocean Research (CICOR), Fellow (1999-2001)  
Co-convener: Coastal Morphodynamics Symposium (WHOI, 2000)  
Coastal Ocean Institute Advisory Committee (2000-2001)  
"Fast Boat" committee Chair (2001-present)

## **OTHER COMMITTEES:**

Regional Dredging Advisory Group (1987-1988)  
Review Panel - National Science Foundation (NSF), Land Margin Ecosystems Research Panel(1989; 1992)  
Review Panel - Department of Energy, Ocean Margins Program (1991)  
Boston Harbor Outfall Monitoring Task Force (1991-1992)  
National Research Council Committee on Wastewater Management for Urban Coastal Areas (1991-1993)  
Review Panel - Minerals Management Service Review of oil spill trajectory study (1992)  
Review Panel - Hudson River Foundation (1992)  
Review Panel - National Science Foundation, Physical Oceanography (1995)  
Steering Committee - Regional Association for Research in the Gulf of Maine (RARGOM) (1995)  
Member of the AGU Books Board (1999 - 2001)  
Member of Strategic Planning Group for the Hudson River Institute ("WHOI on the Hudson") (2000)  
Member of Falmouth Coastal Resources Committee (2000-present)  
Hudson River Contaminate Assessment and Reduction Program (2000-present)  
Ocean Studies Board 2001-present

## **EDITORSHIP:**

Associate Editor: *Estuaries* (1993-1997)  
Books Editor: American Geophysical Union (1999-2001)  
Guest editor: *Estuaries*, special issue on Turbidity Maximum (2000)

## **EDUCATIONAL ACTIVITIES:**

### Graduate Students:

Richard Signell, WHOI/MIT Joint Program graduate, 1986-1990. Ph.D. Dissertation: "Tidal dynamics and dispersion around coastal headlands."  
Derek Fong, WHOI/MIT Joint Program graduate, 1994-1998. Ph.D. Dissertation: "Dynamics of freshwater plumes."  
Melissa Bowen, WHOI/MIT Joint Program student, 1995-1999. Dissertation: "Mechanisms and variability of salt transport in partially-stratified estuaries."  
Jonathon Woodruff, WHOI/MIT Joint Program student, 1997-1999. MS Thesis: "Sediment Deposition in the Lower Hudson Estuary."  
Daniel MacDonald, WHOI/MIT Joint Program student, 1998-2002 Dissertation: 9/18/02

### Postdoctoral Investigators and Scholars

Heidi Nepf, Postdoctoral Scholar, 1992-1993. Advisor.  
Jia Wang, Postdoctoral Investigator, 1993. Supervisor.  
Gail Kineke, Postdoctoral Investigator, 1993-1995. Supervisor.  
Christopher Sommerfield, Postdoctoral Scholar, 1998-2000. Advisor.  
James Lerczak, Postdoctoral Scholar, 2001-2002 Advisor  
Beth Mullenbach, Postdoctoral Investigator, 2002, Supervisor  
Daniel MacDonald, Postdoctoral Investigator, 2002, Supervisor

### Summer Students

Joan Kelly, WHOI Summer Student Fellow, 1988.  
Sam Sankar, WHOI Summer Student Fellow, 1991.  
Karen Green, UROP Summer Student, 1992.  
Elaine Gregory, UROP Summer Student, 1993.  
Jeff Freund, WHOI Summer Student Fellow, 1995.  
Jonathan Woodruff, WHOI Summer Student Fellow, 1996.  
Katie Gagnon, WHOI Summer Student Fellow, 2000.

### Courses Taught

"Introduction to Ocean Science and Technology", Course No. 13.010, MIT, (1990, 1991).  
"Biological Oceanography", Course No. 7.47, WHOI/MIT Joint Program, Occasional Lecturer, (1990-1994).  
"Dynamics of Shelf Circulation", Course No. 12.862, WHOI/MIT Joint Program, Occasional Lecturer, (1992-1993).  
"Physics of Shallow Coastal Flows", Course No. 1.693J, WHOI/MIT Joint Program (1992, 1994).

"Shelf Oceanography", Course No. 12.862, WHOI/MIT Joint Program, Occasional Lecturer (1994).

Lecturer for "Course on Shallow Water and Shelf Sea Dynamics", 6 lectures covering estuarine dynamics, river plumes and fronts, International Center for Theoretical Physics, Trieste, Italy (1997).

Lecturer for "Coastal and Estuarine Fluid Dynamics", summer course at Friday Harbor Labs, Washington (1999).

### **REFEREED JOURNAL ARTICLES:**

1. Fong, D.A. and W. R. Geyer, 2002. The alongshore transport of fresh water in a surface-trapped river plume. *JPO*, **32(3)**, 957-972.
2. Geyer, W. R. and G. A. Cannon, 1982. Sill processes related to deep water renewal in a fjord. *J. Geophys. Res.*, **87**: 7985-7996.
3. Geyer, W. R. and J. D. Smith, 1987. Shear instability in a highly stratified estuary. *J. Phys. Oceanogr.*, **17**: 1668-1679.
4. Geyer, W. R., 1989. Field calibration of mixed-layer drifters. *J. Atmos. and Oceanic Tech.*, **6**: 333-342.
5. Frechette, M., C. A. Butman and W. R. Geyer, 1989. The importance of boundary layer flows in supplying phytoplankton to the benthic suspension feeder. *Mytilus edulis* L., *Limnol. and Oceanogr.*, **34**: 19-36.
6. Geyer, W. R. and D. M. Farmer, 1989. Tide induced variation of the dynamics of a salt wedge estuary. *J. Phys. Oceanogr.*, **28**: 1060-1072.
7. Geyer, W. R. and R. P. Signell, 1990. Measurements of tidal flow around a headland with a shipboard acoustic Doppler current profiler. *J. Geophys. Res.*, **95**: 3189-3197.
8. Signell, R. P. and W. R. Geyer, 1991. Transient eddy formation around headlands. *J. Geophys. Res.*, **96**: 2561-2576.
9. Geyer, W. R. and R. P. Signell, 1992. A reassessment of the role of tidal dispersion in estuaries and bays. *Estuaries*, **15**: 97-108.
10. Geyer, W. R., 1993. Three-dimensional tidal flow around headlands. *J. Geophys. Res.*, **98**: 955-966.
11. Geyer, W. R., 1993. The importance of suppression of turbulence by stratification on the estuarine turbidity maximum. *Estuaries*, **16**: 113-125.
12. Rankin, K. L., L. S. Mullineaux and W. R. Geyer, 1994. Transport of juvenile gem clams (*Gemma gemma*) in a headland wake. *Estuaries*, **17**: 655-667.

13. Butman, C. A., M. Frechette, W. R. Geyer and V. R. Starczak, 1994. Flume experiments on food supply to the blue mussel *Mytilus edulis* L. as a function of the boundary-layer flow. *Limnol. Oceanogr.*, **39**: 1755-1768.
14. Geyer, W. R. and R. C. Beardsley, 1995. Introduction to special section on physical oceanography of the Amazon Shelf. *J. Geophys. Res.*, **100**: 2281-2282.
15. Beardsley, R. C., J. Candela, R. Limeburner, W. R. Geyer and S. J. Lentz, B. M. Castro, D. Cacchione and N. Carneiro, 1995. The M<sub>2</sub> tide on the Amazon Shelf. *J. Geophys. Res.* **100**: 2283-2319.
16. Geyer, W. R. and G. C. Kineke, 1995. Observations of currents and water properties in the Amazon frontal zone. *J. Geophys. Res.*, **100**: 2321-2339.
17. Geyer, W. R., 1995. Tide-induced mixing in the Amazon Frontal Zone. *J. Geophys. Res.*, **100**: 2341-2353.
18. Geyer, W. R., R. C. Beardsley, J. Candela, S. J. Lentz, R. Limeburner, W. E. Johns, B. M. Castro and I. D. Soares, 1996. Physical oceanography of the Amazon Shelf. *Cont. Shelf Res.*, **16**: 575-616.
19. Nepf, H. M. and W. R. Geyer, 1996. Intratidal variations in stratification and mixing in the Hudson estuary. *J. Geophys. Res.*, **101**: 12,079-12,086.
20. Kineke, G. C., R. W. Sternberg, J. H. Trowbridge and W. R. Geyer, 1996. Fluid mud processes on the Amazon Continental Shelf. *Cont. Shelf Res.*, **16**: 667-696.
21. Geyer, W. R. and H. M. Nepf, 1996. Tidal pumping of salt in a moderately stratified estuary. *Coastal and Estuarine Studies*. **53**: 213-226.
22. Valiela, I., P. Peckol, C. D'Avanzo, K. Lajtha, J. Kremer, W. R. Geyer, K. Foreman, D. Hersh, B. Seely, T. Isaji and R. Crawford, 1996. Hurricane Bob on Cape Cod. *Amer. Scientist*, **84**: 154-165.
23. Fong, D. A., W. R. Geyer and R. P. Signell, 1997. The wind-forced response of a buoyant coastal current: Observations of the western Gulf of Maine plume. *Journal of Marine Systems*, **12**: 69-81.
24. Geyer, W. R., 1997. Influence of wind on dynamics and flushing of shallow estuaries. *Estuarine, Coastal and Shelf Science*, **44**: 713-722.
25. Jay, D. A., W. R. Geyer, R.J. Uncles, J. Vallino, J. Largier and W.R. Boynton, 1997. A Review of recent developments in estuarine scalar flux estimation. *Estuaries*, **20**: 262-280.
26. Gustafsson, O., K. O. Buesseler, W. R. Geyer, S. B. Moran and P. M. Gschwend, 1998. An assessment of the relative importance of horizontal and vertical transport of particle-reactive chemicals in the coastal ocean. *Cont. Shelf Res.*, **18**: 805-829.

27. Geyer, W.R., J.H. Trowbridge and M. Bowen, 2000. The Dynamics of a Partially Mixed Estuary. *J. Phys. Oceanogr.*, **30**(8): 2035-2048.
28. Trowbridge, J.H., W.R. Geyer, M.M. Bowen and A.J. Williams 3<sup>rd</sup>, 1999. Near-bottom turbulence measurements in a partially mixed estuary: Turbulent energy balance, velocity structure, and along-channel momentum balance. *J. Phys. Oceanogr.*, **29**: 3056-3072.
29. Geyer, W.R., P.S. Hill, T.G. Milligan and P. Traykovski, 2000. The structure of the Eel River plume during floods. *Cont. Shelf Res.*, **20**:16, 2067-2093.
30. Traykovski, P., W. R. Geyer, J. D. Irish and J. F. Lynch, 2000. The role of density-driven fluid mud flows for cross-shelf transport on the Eel River continental shelf. *Cont. Shelf Res.*, **20**, 2113-2140.
31. Hill, P.S., T.G. Milligan and W.R. Geyer. Controls on effective settling velocity of suspended sediment in the Eel River flood plume. *Cont. Shelf Res.*, (in press, 2000).
32. MacCready, P. and W.R. Geyer, 2001. Estuarine salt flux through an isohaline surface, *J. Geophys. Res.*, 106:C6, 11,629-11,637.
33. Fong, D. A., and W. R. Geyer, 2001. Response of a river plume during an upwelling favorable wind event. *J. Geophys. Res.*, **106**:C1, 1067-1084.
34. Geyer, W.R., J.D. Woodruff and P. Traykovski, 2001. Sediment transport and trapping in the Hudson River estuary. *Estuaries*, **24**(5): 670-679.
35. Woodruff, J.D., W.R. Geyer, C.K. Sommerfield and N.W. Driscoll, 2001. Seasonal variation of sediment deposition in the Hudson River estuary. *Marine Geology*, 179, pp. 105-119.
36. MacCready, P., R. D. Hetland and W. R. Geyer, 2002. Long-Term Isohaline Salt Balance in an Estuary. *Continental Shelf Research*, **22**(11-13), 1591-1601.
37. Bowen, Melissa M.; Geyer, W. Rockwell, 2003. Salt transport and the time-dependent salt balance of a partially stratified estuary. *J. Geophys. Res.* Vol. 108, No. C5  
10.1029/2001JC001231

#### **OTHER REFEREED PUBLICATIONS:**

1. Geyer, W. R., 1988. The advance of a salt wedge front: Observations and dynamical model. In Dronkers and van Leussen (Eds.), *Physical Processes in Estuaries*, Springer-Verlag: New York, pp. 181-195.
2. Signell, R. P. and W. R. Geyer, 1990. Numerical simulation of tidal dispersion around a coastal headland. In R. T. Cheng (Ed.). *Residual Currents and Long-Term Transport*, Coastal and Estuarine Series, Springer-Verlag: New York, **38**, pp. 210-222.

3. Geyer, W. R., R. C. Beardsley, J. Candela, B. Castro, R. Legeckis, S. J. Lentz, R. Limeburner, L. Miranda and J. H. Trowbridge, 1991. The physical oceanography of the Amazon outflow. *Oceanography*, **4**: 8-14.
4. Geyer, W. R. and R. P. Signell, 1991. Measurements and modeling of the spatial structure of nonlinear tidal flow around a headland. In Bruce B. Parker (Ed.). *Tidal Hydrodynamics*, John Wiley & Sons, Inc.: New York, pp. 403-418.
5. Geyer, W. R., G. B. Gardner, W. S. Brown, J. Irish, B. Butman, T. Loder and R. Signell, 1992. Physical oceanographic investigation of Massachusetts and Cape Cod Bays. Massachusetts Bay Program Final Report, 497 pp.
6. Geyer, W. R., R. P. Signell, and G. C. Kineke, 1998. Lateral trapping of sediment in a partially mixed estuary. In *8th International Biennial Conference on Physics of Estuaries and Coastal Seas, 1996*. A. A. Balkema: Rotterdam, The Netherlands, pp. 115-126.
7. Geyer, W. R., J. T. Morris, F. G. Prahl and D.A. Jay, 2000. Interaction between physical processes and ecosystem structure: A comparative approach. *Estuarine Science*, Hobbie, J.E. (Ed.), Island Press: Washington DC, pp. 177-206.

#### **MANUSCRIPTS IN REVIEW:**

1. Geyer, W.R., R.P. Signell, D. A. Fong, J. Wang, D.M. Anderson and B.P. Keafer. The Freshwater Transport and Dynamics of the Western Maine Coastal Current, (in review, *Continental Shelf Research*, 2000.
2. Geyer, W.R., Hill, P.S., Kineke, G.C. The Transport and Dispersal of Sediment by Buoyant Coastal Flows. *Continental Shelf Research*. In press.

#### **OTHER PUBLICATIONS AND REPORTS:**

1. Sillcox, R.L., W.R. Geyer and G.A. Cannon, 1981. Physical transport processes and circulation in Elliott Bay. NOAA Technology Memo, Boulder, CO, 49 pp.
2. Geyer, W. R., 1985. The time dependent dynamics of a salt wedge. Ph.D. Thesis, University of Washington, 200 pp.
3. Geyer, W. R. and W.D. Grant, 1986. A field study of the circulation and dispersion in New Bedford Harbor, unpublished report, submitted to Battelle, 20 pp.
4. Geyer, W. R. and C.A. Butman, 1988. Fluid and suspended sediment transport in New Bedford Outer Harbor, unpublished report, submitted to the Environmental Protection Agency, 35 pp.
5. Trowbridge, J. H., W.R. Geyer, C.A. Butman and R.J. Chapman, 1989. The 17-Meter Flume at the Coastal Research Laboratory. Part II: Flow characteristics, (WHOI Tech. Report CRC-89-3), Woods Hole, MA: Woods Hole Oceanographic Institution, 37 pp.

6. Geyer, W. R. and P. Dragos, 1990. Hydrodynamic baseline measurements in New Bedford Harbor, (WHOI Tech. Rept. WHOI-90-54), Woods Hole, MA: Woods Hole Oceanographic Institution, 121 pp.
7. Geyer, W. R., 1990. Time-dependent, two-layer flow over a sill. *The Physical Oceanography of Sea Straits*, Pratt, L. J. (Ed.), Kluwer Academic Publishers: Dordrecht, pp. 421-432.
8. AMASSedS Research Group, 1990. A multidisciplinary Amazon shelf sediment study. *Eos*, **45**(6): 1771, 1776-1777.
9. Alessi, C. A., S.J. Lentz, R.C. Beardsley, B.M. Castro and W.R. Geyer, 1992. A multidisciplinary Amazon Shelf Sediment Study (AMASSedS): Physical oceanography moored array component (WHOI Tech. Rept. WHOI-92-36). Woods Hole, MA: Woods Hole Oceanographic Institution, 87 pp.
10. Sankar, S., C. R. Newell and W.R. Geyer, 1992. A finite difference model for determining concentration contours above seeded mussel beds in Maine. *Aquaculture '92*, pp. 200-201.
11. National Research Council, 1993. *Managing Wastewater in Coastal Urban Areas*, National Academy Press: Washington, DC, 477 pp. (panelist).
12. Geyer, W.R. and J.R. Ledwell, 1994. Final Report: Massachusetts Bay Dye Study. Boston: Massachusetts Water Resources Authority. Report ENQUAD 1994-17. 13pp + tables and figures.
13. Geyer, W.R. and J.R. Ledwell, 1997. Summary Report: Boundary Mixing in Massachusetts Bay. Massachusetts Water Resources Authority. ENQUAD Technical Report 97-9. 20 pp.
14. Fredericks, J. J., J. H. Trowbridge, W. R. Geyer, A. J. Williams 3<sup>rd</sup>, M. Bowen and J. Woodruff, 1998. Stress, salt flux and dynamics of a partially mixed estuary. WHOI Tech Rep., WHOI-98-17, 133 pp., Woods Hole Oceanographic Institution, Woods Hole, MA.
15. MacDonald, D.G. and W.R. Geyer, 2000. Observations of shear-induced mixing in a salt wedge estuary. *Stratified Flows: Proceedings of the Fifth International Symposium on Stratified Flows (I.A.H.R.)*, Vancouver, British Columbia, 895-900.

### **PUBLISHED ABSTRACTS:**

1. Geyer, W. R., 1981. Deep water renewal in Puget Sound. *Eos, Trans. American Geophysical Union*, **62**(45), p. 933.
2. Geyer, W. R., 1982. Gravity currents in the Fraser Estuary. *Eos, Trans. American Geophysical Union*, **63**(45), p. 1013.
3. Geyer, W. R., 1984. Richardson number dependence of turbulent transport in a shear flow. *Eos, Trans. American Geophysical Union*, **65**(16), pp. 221-222.



4. Geyer, W. R. and J. Smith, 1985. Interfacial exchange in a strong estuarine front. Fifth Conference on Atmospheric and Oceanic Waves and Stability, *American Meteorological Society*, p.39.
5. Geyer, W. R., 1986. Modeling the motion of an estuarine front. *Eos, Trans. American Geophysical Union*, **67**(16), p. 295.
6. Geyer, W. R. and C. Sherwood, 1987. Wind-driven circulation in a small estuary. *Eos, Trans. American Geophysical Union*, **68**(16), p. 335.
7. Signell, R. and W. Geyer, 1987. Steady wind forced currents in a shallow narrow channel. *Eos, Trans. American Geophysical Union*, **68**(44), p. 1302.
8. Geyer, W. R., 1987. Assessing the performance of Holey Sock Drogues. *Eos, Trans. American Geophysical Union*, **68**(44), p. 1310.
9. Geyer, W. R., 1987. Dynamics of the Amazon Plume. First Brazil/US Workshop on Physical Oceanography. Institute for the Study of Earth, Oceans and Space, University of New Hampshire, p. 34.
10. Geyer, W. R. and R. Signell, 1988. Vorticity dynamics of tidal flow around a headland. *Eos, Trans. American Geophysical Union*, **69**(44), p. 1257.
11. Geyer, W. R., 1989. Mixing in the Amazon plume: Some early results of AMASSedS. Second Brazil/US Workshop on Physical Oceanography. Instituto Oceanográfico da Universidade de São Paulo, São Paulo, Brazil, p. 14.
12. Geyer, W. R., 1990. Freshwater transport through the Amazon frontal zone. *Eos, Trans. American Geophysical Union*, **71**(43), p. 1376.
13. Lentz, S., R. Beardsley, R. Geyer and R. Limeburner, 1990. Moored current observations on the Amazon inner and mid-shelf. *Eos, Trans. American Geophysical Union*, **71**(43), p. 1366.
14. Beardsley, R., J. Candela, W. Geyer, S. Lentz and R. Limeburner, 1990. Semidiurnal tides on the Amazon shelf. *Eos, Trans. American Geophysical Union*, **71**(43), p. 1376.
15. Miranda, L., B. Castro, R. Beardsley, and W. Geyer, 1990. An intercomparison between the S4 and the SD2000 current meters on a subsurface mooring. *Eos, Trans. American Geophysical Union*, **71**(43), p. 1394.
16. Geyer, W. R., R. Sternberg, and G. Kineke, 1991. The role of estuarine fronts in suspended sediment distributions: A review. *11th International Estuarine Research Conference - Abstracts*, p. 47.
17. Geyer, W. R., 1992. Momentum balance and mixing in the Amazon frontal zone. *Eos, Trans. American Geophysical Union*, **73**(43), p. 268.

18. Geyer, W. R., 1993. How does variation in vertical mixing affect the estuarine circulation? 12th Biennial International Estuarine Research Federation Conference, *The Science & Management of Coastal Estuarine Systems*, p. 43.
19. Geyer, W. R. and G. Kineke, 1993. Transverse structure of an estuarine turbidity maximum. 12th Biennial International Estuarine Research Federation Conference, *The Science & Management of Coastal Estuarine Systems*, p. 43.
20. Kineke, G. and W. Geyer, 1993. The formation of fluid muds on the Amazon continental shelf. 12th Biennial International Estuarine Research Federation Conference, *The Science & Management of Coastal Estuarine Systems*, p. 62.
21. Nepf, H. and W. Geyer, 1993. Estimates of tidal variation of stress and eddy viscosity in the Hudson River. 12th Biennial International Estuarine Research Federation Conference, *The Science & Management of Coastal Estuarine Systems*, p. 90.
22. Geyer, W.R. and M.M. Bowen, 1996. Testing the Mellor-Yamada turbulence closure model against measurements in a partially mixed estuary. *Eos, Trans. American Geophysical Union*, **77**(46), p. 367.
23. Bowen, M.M., and W.R. Geyer, 1996. Modeling the variability of vertical salt fluxes with depth, tidal forcing, and along-channel density gradient. *Eos, Trans. American Geophysical Union*, **77**(46), p. 367.
24. Geyer, W.R., 1997. Frontogenesis, sediment trapping and gravity currents in estuaries. *Eos, Trans. American Geophysical Union*, **78**(46), pp. 271-272.
25. W.R. Geyer, D.J. Mondeel, P. S. Hill and T.G. Milligan, 1998. The Eel River Plume during the 1997 flood: freshwater and sediment transport. *Eos, American Geophysical Union (Ocean Sciences Meeting)*.
26. D.A. Fong and W.R. Geyer, 1998. Alongshore Transport of a Surface-trapped River Plume. *Eos, American Geophysical Union (Ocean Sciences Meeting)*.
27. T.G. Milligan, D.J. Mondeel, P.S. Hill and W.R. Geyer, Particle Size Characteristics in the Eel River Plume During the 1997 New Year's Flood. *Eos, American Geophysical Union (Ocean Sciences Meeting)*.
28. P.S. Hill, W.R. Geyer and T.G. Milligan, Estimates of Sediment Loss from the Eel River Flood Plume Based on Suspended Sediment Grain Size Distributions. *Eos, American Geophysical Union (Ocean Sciences Meeting)*.
29. Bowen, M.M. and W.R. Geyer, 1998. Salt Transport in the Hudson Estuary, New York. *Eos, Trans. American Geophysical Union*, **79**(45), p. 451.
30. Geyer, W.R. and B. Bang, 1998. The Eel River Plume During Floods: Momentum, Stress and Particle Dynamics. *Eos, Trans. American Geophysical Union*, **79**(45), p. 455.

31. Hill, P.S., T.G. Milligan and W.R. Geyer, 1998. Effect of Turbulence on Flocculation in the Eel River Flood Plume. *Eos, Trans. American Geophysical Union*, 79(45), p. 455-456.
32. Milligan, T.G., P.S. Hill and W.R. Geyer, 1998. The effect of turbulence on bottom sediment size distributions on the Eel River shelf. *Eos, Trans. American Geophysical Union*, 79(45), p. 497.
33. Traykovski, P., J.D. Irish, J.F. Lynch, and W.R. Geyer, 1998. Across Shelf Sediment Transport on the Eel River Continental Shelf: From Plume to Deposition. *Eos, Trans. American Geophysical Union*, 79(45), p. 497.
34. Woodruff, J.D., W.R. Geyer and N. Driscoll, 1998. Sediment deposition within the Hudson River Estuary. *Eos, Trans. American Geophysical Union*, 79(45), p. 451.
35. Geyer, W.R., J. D. Woodruff, C. Sommerfield and P. Traykovski, 1999. Sediment trapping in the Hudson estuary, paleo and present. Estuarine Research Federation biannual meeting, 1999.
36. Geyer, W.R., J. D. Woodruff and P. Traykovski. Seasonal and spring-neap variability of sediment trapping in an estuary. Ocean Sciences Meeting, 2000.
37. Harris, C.K., W.R. Geyer and R.P. Signell. Dispersal of flood sediment by oceanic currents and energetic waves. Ocean Sciences Meeting, 2000.
38. MacDonald, D., A. Horner, S. Inagaki, Y. Kasajima, C. Troy, W.R. Geyer, D. Jay, S. Monismith and P. Rhines. Salt wedge dynamics in the Fraser River Estuary. Ocean Sciences Meeting, 2000.
39. Kineke, G.C., Geyer, W.R., Milligan, T.G., Alexander, C.R., Ramsey, A.L., Blake, A.C. Sediment trapping and localized mud accumulation in two estuaries. The Geological Society of America Annual Meeting 2001.
40. Geyer, W.R., Traykovski, P., Sommerfield, C.K. Frontal convergence causes sediment trapping in the Hudson River Estuary. The Geological Society of America Annual Meeting 2001.
41. Traykovski, P., Geyer, W.R., Sommerfield, C.K. Acoustic measurements of rapid sediment accumulation in the Hudson River Estuary. The Geological Society of America Annual Meeting 2001.
42. Sommerfield, C.K., Traykovski, P., Geyer, W.R. Scales of Intra-Annual Sedimentation in the Hudson River Estuary as revealed by short-lived radioisotopes. The Geological Society of America Annual Meeting 2001.
43. Field, P., Rosenthal, Y., Sherrell, R., Mason, R., Hayes, A., Geyer, W.R., Sommerfield, C.K., The effect of sediment transport on the geochemical dynamics of metal pollutants in Hudson River sediments. The Geological Society of America Annual Meeting 2001.
44. Hetland, R. Geyer, W.R., Idealized numerical simulations of river plumes. Ocean Sciences Meeting 2002.

45. Doherty K., Frye, D., Geyer, W.R., Liberatore, S., An underwater winch for estuarine research. Ocean Sciences Meeting 2002.
46. Lerczak, J.A., Geyer W.R. Modeling the lateral circulation in stratified estuaries. Ocean Sciences Meeting 2002.
47. Woodruff, J., Geyer W.R., Traykovski, P.A. Sediment Transport and Trapping in the Hudson River Estuary: a tough test for a 3-dimensional model. Ocean Sciences Meeting 2002.
48. Geyer, W.R., Chant, R., Houghton, R. Direct observations of estuarine dispersion: results from a recent dye study. Ocean Sciences Meeting 2002.
49. Traykovski, P., Geyer, W.R., Sommerfield, C.K. Sediment accumulation via deposition and erosion of fluid mud in the Hudson River Estuary. Ocean Sciences Meeting 2002.
50. Harris, C.K., Geyer, W.R., Traykovski, P. Flood layer formation on the Northern California Shelf by near-bed gravitational sediment flows and oceanographic transport. Ocean Sciences Meeting 2002.
51. MacDonald, D.G., Geyer, W.R. Turbulent energy production and mixing in a highly stratified estuarine front. Ocean Sciences Meeting 2002.
52. Lerczak, J.A., Geyer W.R.. Mechanisms controlling the salt flux in a stratified estuary. Ocean Sciences Meeting 2002.
53. Chant, R.J., Geyer, W.R., Houghton, R., Hunter E. A largrangian view of the estuarine neap/spring transition. Ocean Sciences Meeting 2002.
54. MacDonald, D.G., Horner, A.R., Geyer, W.R. Vertical salt flux in a salt wedge estuary. Ocean Sciences Meeting 2002.

### **INVITED LECTURES:**

- 1985 "The time-dependent dynamics of a salt wedge", MIT Civil Engineering Seminar.
- 1986 "The time-dependent dynamics of a salt wedge", University of Connecticut at Groton, Marine Science Seminar.
- 1986 "Circulation processes in Buzzards Bay", Buzzards Bay Symposium, WHOI.
- 1987 "The circulation of New Bedford Harbor", University of Rhode Island Ocean Engineering Seminar.
- 1987 "Wind-forced motions in a small estuary", University of Massachusetts at Boston, Environmental Sciences Seminar.
- 1987 "Dynamics of the Amazon Plume", First Brazil/US Workshop, University of New Hampshire.
- 1987 "Coupling physical, biological & geochemical processes", Special WHOI workshop.
- 1988 "Tide-induced vorticity at headlands", Institute of Ocean Sciences, Sidney, B.C., Science Seminar.
- 1988 "Tide-induced vorticity at headlands", University of Washington Physical Oceanography Seminar.

- 1988 "Measurements of Tidal Structure with a Shipboard Acoustic Doppler Profiler", State University New York at Stony Brook, Marine Sciences Seminar.
- 1989 "What about tidal dispersion?", Estuarine Research Conference, Baltimore, MD.
- 1989 "Mixing in the Amazon plume: some early results of AMASSedS", Second Brazil/US Workshop, Sao Paulo, Brazil.
- 1991 "Estuarine turbidity maximum", Estuarine Research Federation.
- 1991 "Estuarine sediment trapping", Land-Margin Ecosystem Research Workshop.
- 1991 "Fluid and suspended sediment transport in the Amazon Estuary", San Francisco Bay Estuary Conference.
- 1991 "Coastal physical oceanography", Shallow Water Acoustics Workshop.
- 1991 "An interdisciplinary investigation of the Amazon Outflow", Departmental Seminar, University of Washington.
- 1992 "Estuarine turbidity maximum", Old Dominion University.
- 1992 "Estuarine dynamics of the Amazon", State University of New York at Stony Brook.
- 1992 "Estuarine turbidity maximum", Rutgers University.
- 1992 "Amazon dynamics", University of Connecticut.
- 1993 "Turbidity maximum of the Hudson River", Hudson River Foundation, New York.
- 1993 "Amazon frontal zone dynamics", Horn Point Lab.
- 1993 "Hudson River turbidity", Hudson River Workshop, State University of New York at Stony Brook.
- 1994 "Sediment resuspension and trapping in the Hudson estuary ", AOP&E Seminar, WHOI (with Gail Kineke).
- 1994 "Tidal pumping in the Hudson estuary", University of Delaware.
- 1994 "Vertical and horizontal mixing in Massachusetts Bay", Massachusetts Institute of Technology.
- 1994 "Residence time estimates: Why and How", Land-Margin Ecosystem Research Workshop.
- 1994 "Salt flux in the Hudson River estuary", University of Connecticut.
- 1994 "Vertical and horizontal mixing in Massachusetts Bay", Summer Student Fellow Talk.
- 1995 "Results of the Massachusetts Bay dye study", MIT/WHOI Sea Grant Workshop.
- 1995 "Hudson River Research", Knickerbocker Club (Trustees and Corporation Members).
- 1995 "Tidal pumping in the Hudson River estuary", WHOI Physical Oceanography Seminar.
- 1997 "Coastal model verification", presentation to ONR Program Managers, WHOI.
- 1997 "Trendy topics in estuarine dynamics", Gordon Conference plenary lecture, New London, NH.
- 1997 "Modeling 3-d Sediment Transport in Estuaries", Parsons Lab, MIT.
- 1997 "Dynamics of the Eel River Plume During the Flood of 1997", NOAA PMEL.
- 1997 "Modeling 3-d Sediment Transport in Estuaries", University of Washington.
- 1997 "River Outflow Dynamics," Rio Mar Workshop Plenary Talk, Tulane University.
- 1998 "Estuarine Sediment Transport," Virginia Institute of Marine Science.
- 1998 "Complexity of Coastal Circulation," Coastal Trainee Lecture, WHOI.
- 2000 "Lateral circulation in the James River estuary", University of Victoria (Canada).

### **INVITED WORKSHOPS:**

- 1987 First Brazil/U.S. Workshop on Physical Oceanography, Institute for the Study of Earth, Oceans and Space, University of New Hampshire, Durham, NH.

- 1987 Coupling of Physical, Biological and Geochemical Processes, Woods Hole Oceanographic Institution, Woods Hole, MA.
- 1988 Limits of Technology on Estuarine Research, Marine Technology Society, Newport, RI.
- 1988 Second Brazil/U.S. Workshop on Physical Oceanography, Instituto Oceanográfico da Universidade de São Paulo, São Paulo, Brazil.
- 1991 Land Margin Ecosystem Research Meeting, Tomales Bay, CA.
- 1991 Shallow Water Acoustics Workshop, Office of Naval Research & Woods Hole Oceanographic Institution, Woods Hole, MA.
- 1991 Gulf of Maine Scientific Workshop, Gulf of Maine Council on the Marine Environment, Woods Hole, MA.
- 1992 AMASSED Workshop, Marine Science Research Center, State University of New York, Stony Brook, NY.
- 1992 Massachusetts Bay Data Synthesis Workshop, Massachusetts Coastal Zone Management, Boston, MA.
- 1992 Nutrient Transport Workshop, United States Environmental Protection Agency, New York, NY.
- 1992 The Future of Oceanography, National Research Council, Washington, D.C.
- 1993 Land Margin Ecosystem Research Meeting, National Science Foundation, Seaside, OR.
- 1993 Tropical Rivers Symposium, Australian Institute of Marine Science, Townsville, AUS.
- 1993 Hudson River Research Workshop, Marine Science Research Center, State University of New York, Stony Brook, NY.
- 1993 UNOLS Small Ships Workshop, National Research Council, Williamsburg, VA.
- 1993 International Conference for the Exploration of the Seas (ICES), Working group on harmful algal blooms. Charlotte, SC.
- 1994 Gulf of Maine Regional Marine Research Board Scientists Meeting, Bangor, ME.
- 1994 Ecology and Oceanography of Harmful Algal Blooms, National Science Foundation, Estes Park, CO.
- 1994 Tropical River Ocean Process in Coastal Settings (TROPICS), University of Hawaii, Honolulu, HI.
- 1994 Biological Diversity in Marine Systems (BioMar), National Research Council, Irvine, CA.
- 1994 New York Bight Modeling Workshop, United States Environmental Protection Agency, New York, NY.
- 1995 Tropical River-Ocean Processes in Coastal Settings (TROPICS), State University of New York, Stony Brook, NY.
- 1995 Sea Grant Workshop on Massachusetts Bay research, Woods Hole Oceanographic Institution, Woods Hole, MA.
- 1995 SCOPE meeting on Estuarine Synthesis, National Research Council, Irvine, CA.
- 1996 New York Harbor/Estuary Sediment Budget Workshop, Co-convener with Dennis Suszkowski, Hudson River Foundation, New York.
- 1996 Contaminated Harbor Sediment Workshop, convened by John Farrington, WHOI.
- 1997 Future of Physical Oceanography, Monterey, CA.
- 1997 STRATAFORM - Flood Sedimentation Workshop, Woods Hole Oceanographic Institution, Co-convener with Robert Wheatcroft, Woods Hole, MA.
- 1997 Gordon Conference, Coastal Physical Oceanography, New London, NH, 1997.
- 1998 NSF Co-Op Buoyancy Workshop.
- 1998 Rio Mar Workshop on Interdisciplinary Studies of River Plumes, Tulane University, New Orleans, LA.

2000 ONR Burial Workshop, Annapolis, MD.