

Professor Paul S. Hill

Department of Oceanography, Dalhousie University, Halifax, Nova Scotia, Canada B3H 4J1

Tel: 902-494-2266
Email: paul.hill@dal.ca
Webpage: <http://www.phys.ocean.dal.ca/~phill>

Education:

AB	Earth Sciences	Dartmouth College	1984
MSc	Oceanography	University of Washington	1987
PhD	Oceanography	University of Washington	1992

Appointments held:

1992:	Postdoctoral Fellow	University of Washington
1993-1998:	Assistant Professor	Dalhousie University
1998-2003:	Associate Professor	Dalhousie University
2003-present:	Professor	Dalhousie University

Research Background and Expertise:

I investigate a variety of processes that are affected by particle size in the sea, most importantly sediment vertical flux, erosional and depositional behaviour of mud, inherent optical properties in the coastal ocean and oil-mineral aggregation. My specific areas of expertise are the processes of aggregation and disaggregation, which lead to the formation and destruction, respectively, of loose agglomerations of many small particles called flocs. I use a combination of field studies, laboratory investigations and modeling to study particle size distributions and the processes and properties affected by them in the ocean.

Research Grants:

<i>Award Dates</i>	<i>Amount</i>	<i>Funding Body</i>	<i>Brief Title</i>
2013-2015	\$116,626	U. S. ONR	Estimating Density of Suspended Particles
2013-2014	\$120,611	U. S. ONR	Optical Constituents in the Columbia River
2012-2017	\$224,420	NSERC Discovery	Erosional Sorting of Fine Sediments
2012-2014	\$148,500	OEER	Seasonal Erodibility of sediments
2011-2013	\$72,200	U. S. ONR	Optical Constituents Along a River Mouth
2011	\$22,000	NSERC Discovery	Erosional Sorting of Fine Sediment
2010-2012	\$345,240	NSERC Strategic	Sediment-Laden Ice in the Bay of Fundy

2010-2012	\$109,329	U. S. ONR	Tidal Flats DRI II
2010-2012	\$182,300	OEER/OETR	Nearfield effects of tidal power
2009-2012	\$208,344	U. S. ONR	OASIS II
2010-2011	\$142,000	OEER/OETR	Farfield effects of tidal power generation
2006-2011:	\$134,500	NSERC Discovery	Oil-mineral aggregation in coastal waters
2008-2009	\$123,344	U. S. ONR	Tidal Flats DRI I
2007-2008	\$11,500	U. S. ONR	Tidal Flats Planning
2004-2009	\$285,004	U. S. ONR	OASIS I
2006	\$39,894	NSERC Equipment	LISST Particle Sizer
2003-2006	\$211,250	U. S. ONR	EuroSTRATAForm
2001-2005	\$113,120	NSERC Discovery	Floc fraction in the coastal ocean
2002-2004	\$275,784	NSERC CRD/PRAC	Sediment transport on the upper slope
2002-2004	\$180,000	NSERC CRD/PRAC	Oil-mineral aggregation
2003	\$70,000	NSERC Ship Time	Upper slope sediment transport
1997-2003	\$304,496	U. S. ONR	STRATAForm and EuroSTRATAForm
2001	\$12,633	NSERC Equipment	Multi-wavelength beam attenuation
1997-2001	\$86,000	NSERC Discovery	Sorting silts in the marine environment
1997-1999	\$215,553	NSERC Strategic	Multispectral Optical Backscatter
1995-1999	\$424,916	U. S. ONR	Coastal Mixing and Optics
1993-1997	\$76,400	NSERC Discovery	Monte Carlo model of aggregation

Professional Memberships:

American Geophysical Union

Editorial Responsibilities:

Editorial Board, *Continental Shelf Research*

Scientific committee memberships and other research-related activities:

Session Chair, Optics and Light in the Particle-Laden Coastal Ocean, Ocean Sciences Meeting, Honolulu, Hawaii, 2014

Session Chair, Optics and Acoustics in Turbulent Sediment Suspensions, Ocean Sciences Meeting, Salt Lake City, Utah, 2012

Chair, Huntsman Award Selection Committee, 2010

Member, Huntsman Award Selection Committee, 2006-2011

Session Chair, Observation and Modelling of Suspended Particle Dynamics in the Ocean, Ocean Sciences Meeting, Portland, Oregon, 2010

Panellist, Dartmouth College Environmental Symposium, Hanover, New Hampshire, 2009

Session Co-Chair, ASLO Summer Meeting, St. John's, Newfoundland and Labrador, 2008

Invited Participant, U. S. Office of Naval Research Tidal Flats DRI Planning Committee, 2007-2008

Panellist, National Ocean Partnerships Program, Sensors for Measurement of Biological, Bio-Optical or Chemical Properties of the Ocean, 2008

Group Leader, RioMar Planning Meeting, New Orleans, Louisiana, 2004

Invited Participant, U. S. Office of Naval Research EuroSTRATAForm Planning Committee, 2003

Invited Participant, U. S. Office of Naval Research EuroSTRATAForm Planning Committee, 2002

Invited Participant, U. S. Office of Naval Research EuroSTRATAForm Planning Committee, 2000

Group Leader, National Science Foundation Margins Planning Workshop, Lake Tahoe, California, 2000

Group Leader, National Science Foundation Margins Planning Workshop, Lake Quinault, Washington, 1999

Member, Coastal Ocean Processes (CoOP) Scientific Steering Committee, 1998-2001

Panellist, NSF/NOAA Coastal Studies in the Great Lakes, Washington, DC, 1997

Panellist, NSF/NOAA Coastal Studies in the Great Lakes, Washington, DC, 1996

Invited Participant, Second Annual German-American Frontiers of Science, Woods Hole, Massachusetts, 1996

Invited Participant, First Annual German-American Frontiers of Science, Dresden, Germany, 1995

Invited Participant, Seventh Annual American Frontiers of Science, Irvine, California, 1995

Member, Organizing Committee, International Conference on Paleoceanography V, 1995

Invited Participant, Coastal Mixing and Optics Planning Workshop, Office of Naval Research, Boston, Massachusetts, 1993

Invited Participant, Symposium on Coastal Oceanography and Littoral Warfare, National Academy of Sciences and Office of Naval Research, San Diego, California, 1993

Teaching:

OCEA2000, The Blue Planet, 2006-present:

This second-year class provides a general survey of oceanography. It is designed to develop an understanding of the ocean and of the science of oceanography. Students learn about the geological, chemical, physical and biological processes at work in the sea. Consideration is also given to human impacts. This class covers 2 semesters, is worth 6 credits and has an approximate enrollment of 135.

OCEA3004, The Last Billion Years, 2003-present

This upper-level undergraduate class examines major events in Earth history. The geological evidence of major events is described, and the hypothesized causes of the events are examined. The goal of this course is to develop on the part of students an understanding of the functioning of the earth/ocean/atmosphere system. This class is a semester class, is worth 3 credits and has an enrollment of 32.

OCEA5240, Special Topics in Oceanography, Marine Particles Module, 2009, 2011, 2013

This graduate module explores the various roles of particles in the sea and the processes that govern them. Topics include sources and types of marine particles, particle size distributions, settling velocities, and erosion, deposition and transport. This class is a module, which lasts approximately one month, is worth 1 credit, and has an enrollment of ~5.

Lecturer, International Ocean Institute Training Program in Ocean Governance, 2010

The training programme emphasises the importance of viewing the ocean as a system with varied users and multiple, often competing and conflicting, uses. It also aims to increase awareness of the fact that ocean management requires broad interdisciplinary skills, new institutional and legal infrastructures, and new forms of intergovernmental and non-governmental organisation and cooperation at the local, national and international levels. Training consists of over two hundred hours in the classroom. I provided 3 hours of lectures on Ocean Science.

OCEA5240, Special Topics in Oceanography, The Benthic Boundary Layer, 2005

Sediment transport, benthic ecology and larval dispersal, coastal circulation, and sediment geochemistry are a few of the disciplines in oceanography that require some understanding of the physics of fluid flow near boundaries. This course begins with a review of vectors and tensors. This review is followed by a derivation of the equations of motion for a fluid flow. Next, instruction is given in scale analysis and Reynolds averaging of turbulent flows. Using an eddy-viscosity closure model, the widely used “law of the wall” for boundary layer flow is derived. Similar arguments are applied to modeling of the vertical distribution of particles in bottom boundary layers. This course is a semester course worth 3 credits. Six students enrolled in 2005.

OCEA5293, Advanced Marine Particles, 1994-2004

This graduate class explores the various roles of particles in the sea and the processes that govern them. Topics include sources and types of marine particles, particle size distributions, settling velocities, mass transfer to and from small particles, mechanics of particle contact, surface chemistry, and erosion, deposition and transport. This class is a semester class, is worth 3 credits, and has an enrollment of 5-10 students.

OCEA4110/5110, Geological Oceanography, 1993-2005

This class gives a broad survey of topics in marine geology and geophysics. The class content covers recent methods and observations with quantitative applications to an understanding of geophysical and geological processes. Some topics covered are: plate tectonics; seismic, heat flow, gravity, and magnetic methods; patterns and processes of sediment transport and deposition. This class is a semester class, is worth 3 credits and has an enrollment of ~10 students. I was responsible for the second half of the class, dealing with marine sediments.

Training of Highly Qualified Personnel:

<i>Name</i>	<i>Dates</i>	<i>Position</i>
Alex Hurley	2012-present	MSc
Brent Law	2010-present	PhD
Jing Tao	2013-present	PhD
Erin Wilson	2013-present	MSc
Rachel Cox	2012-2014	Undergrad. Honours
Laura DeGelleke	2013	Research Assistant
Alysse Mathalon	2012-2013	Undergrad. Honours
CarolAnne Black	2011-2013	MSc
Jessica Carrière-Garwood	2011-2012	MSc, Canada Bell Scholar
Shaun Gelati	2010-2012	MSc
John Newgard	2008-2012	Research Assistant
Alex Hurley	2011-2012	Undergrad. Asst.
Jessica Carrière-Garwood	2009-2011	NSERC USRA
Laura DeGelleke	2008-2011	MSc
Chris Veinot	2010	Undergrad. CoOp
Vanessa Page	2009	Undergrad. Honours
Stephanie Kienast	2006-2009	NSERC PDF
Christine Carriere	2009	Undergrad CoOp
Amy Roy	2008	NSERC USRA
Ainsley Hill	2008	Undergrad. CoOp
Nicole Davis	2007	Undergrad. CoOp
Brent Law	2005-2007	MSc
Kristian Curran	2004-2007	Research Assistant
Paul Auerbach	2005-2006	Undergrad. Honours
Lori Wrye	2005-2006	Undergrad. Honours
Madiha Ali	2004-2006	MASc
Donghui Jiang	2003-2006	MSc (not completed)
Reed Schneider	2004-2005	Undergrad. Honours
Tony Walker	2003-2005	Postdoctoral Fellow
Ole Mikkelsen	2002-2005	Postdoctoral Fellow
Helene Wipf	2003-2004	MSc (not completed)
Lukman Ajijolaiya	2002-2004	MASc
Doug George	2002-2004	MSc

Jason Fox	2000-2003	MSc
Sean Konings	2002	Undergrad. Assistant
Kristian Curran	1999-2002	MSc
Erin Hildebrand (Flory)	1997-2000	MSc
Annemarie Hatcher	1997-2000	Postdoctoral Fellow
Elizabeth Marshall (Nickerson)	1998-1999	Research Assistant
Kristian Curran	1998	Undergrad. CoOp
Kenneth Skene	1993-1998	PhD
Elizabeth Marshall (Nickerson)	1997	CoOp
James Hall	1997	Undergrad. Assistant
Elizabeth Gonzalez	1995-1997	NSERC PGS, MSc
Michael White	1994-1997	MSc
Trecia Schell	1994-1996	MSc
Tim Milligan	1993-1996	MSc

Administrative duties at Dalhousie:

Chair, Curriculum Committee, 2011-present

Chair, Department of Earth Sciences Internal Review Committee, 2012

Acting Chair, Department of Oceanography, March, 2010

Member, Curriculum Committee, Department of Oceanography, 2008-present

Member, Program Advisory Committee, Marine Affairs Program, 2007-present

Member, Strategic Planning Committee, Department of Oceanography, 2006-present

Member, Graduate Admissions Committee, Department of Oceanography, 1994-present

Member at Large, Dalhousie Faculty Association, 2008

Member, Strategic Planning Committee, Faculty of Science, 2007-2008

Member, Earth Sciences Chair Search Committee, 2007

Graduate Coordinator, Department of Oceanography, 2000-2005

Member, Ad Hoc Committee on Oil and Gas Research at Dalhousie, 2002-2004

Chair, Search Committee for Position in Geochemistry of Ancient and Modern Oceans, Department of Oceanography, 2000-2002

Chair, Earth Sciences Chair Search Committee, Faculty of Science, 1998

Member, Killam Postdoctoral Fellowship Committee, Faculty of Graduate Studies, 1997-1998

Member, Aquatron Advisory Board, 1994-1996

Seminar Coordinator, Department of Oceanography, 1993-1994

Outreach:

May, 2012, Interviewed for Toronto Star article, “Does Japan tsunami debris threaten ocean life?”

March, 2011, CBC Radio One, Information Morning Halifax, Guest Science Commentator, Provided information about turbidity currents

December, 2010, CBC Radio One, Mainstreet Halifax, Discussed project on sediment-laden ice in the Bay of Fundy and its potential threat to instream tidal power generators

May, 2010, CBC Radio One, The World at Six, Interview on Gulf oil spill

May, 2010, CBCNN TV, News Now with Heather Hiscox, Fielded children’s questions on the Gulf oil spill

May, 2010, Halifax News 95.7 Radio, Interview on Gulf Oil Spill

December, 2006, Company of Master Mariners of Canada, Maritimes Division, Symposium on *Canadian Arctic Issues in a Changing Climate*, Presentation of recent trends in coverage of Arctic sea ice

October, 2006, Frontiers of Knowledge, Concord, NH, Presentation “How Big is the Ocean: Big Enough to Sustain Human Activities?”

Publications:

1. Mathalon, A. and P. S. Hill, 2014. Microplastic fibers in the intertidal ecosystem surrounding Halifax Harbor, Nova Scotia, *Marine Pollution Bulletin*, 81: 69-79.
2. Bowers, D. G., P. S. Hill and K. M. Braithwaite, 2014. The effect of particulate organic content on the remote sensing of marine suspended sediments, *Remote Sensing of the Environment*, 144: 172-178.
3. Hill, P. S., D. G. Bowers and K. M. Braithwaite, 2013. The effect of suspended particle composition on particle area-to-mass ratios in coastal waters, *Methods in Oceanography*, 7: 95-109.
4. Barry, M. A., B. D. Johnson, B. A. Law, V. Page, B. P. Boudreau, P. S. Hill and R. A. Wheatcroft, 2013. Sedimentary and geo-mechanical properties of Willapa Bay tidal flats, *Continental Shelf Research*, 60S: S198-S207. doi: 10.1016/j.csr.2012.05.007.
5. deGelleke, L., P. S. Hill, M. Kienast and D. J. W. Piper, 2013. Sediment dynamics during Heinrich event H1 inferred from grain size, *Marine Geology*, 336: 160-169. doi: 10.1016/j.margeo.2012.12.007
6. Garwood, J. C., P. S. Hill and B. A. Law, 2013. Biofilms and size sorting of fine sediment during erosion in intertidal sands, *Estuaries and Coasts*, 36(5): 1024-1036.
7. Grant, J., T. R. Walker, P. S. Hill and D. G. Lintern, 2013. BEAST—A portable device for quantification of erosion in natural intact sediment cores, *Methods in Oceanography*, 5: 39-55.
8. Hill, P.S., J.P. Newgard, B.A. Law and T.G. Milligan, 2013.. Flocculation on a muddy intertidal flat in Willapa Bay, Washington, Part II: Observations of suspended particle size in a secondary channel and adjacent flat, *Continental Shelf Research*, 60S: S145-S156. doi: 10.1016/j.csr.2012.06.006.
9. Kienast, S. S., T. Friedrich, N. DuBois, P. S. Hill, A. Timmermann, A. C. Mix and M. Kienast, 2013. Near collapse of the meridional SST gradient in the eastern equatorial Pacific during Heinrich Stadial 1, *Paleoceanography*, 28(4): 663-674.
10. Law, B.A., T.G.Milligan, P.S.Hill, J.Newgard, R.A.Wheatcroft, and P.L.Wiberg, 2013. Flocculation on a muddy intertidal flat in Willapa Bay, Washington, Part I: A regional survey of the grain size of surficial sediments, *Continental Shelf Research*, 60S: S136-S144. doi: 10.1016/j.csr.2012.06.007.

11. Wiberg, P. L., B. A. Law, R. A. Wheatcroft, T. G. Milligan, P. S. Hill, 2013. Seasonal variations in erodibility and sediment transport potential in a mesotidal channel-flat complex, Willapa Bay, WA, *Continental Shelf Research*, 60S: S185-S197. doi: 10.1016/j.csr.2012.07.021.
12. Hill, P. S., E. Boss, J. P. Newgard, B. A. Law, and T. G. Milligan, 2011. Observations of the sensitivity of beam attenuation to particle size in a coastal bottom boundary layer, *J. Geophys. Res.*, 116, C02023, doi:10.1029/2010JC006539
13. Kissel, C., C. Laj, M. Kienast, T. Bolliet, A. Holbourn, P. Hill, W. Kuhnt, and P. Braconnot, 2010. Monsoon variability and deep oceanic circulation in the western equatorial Pacific over the last climatic cycle: insights from sedimentary magnetic properties and sortable silt, *Paleoceanography*, 25, doi:10.1029/2010PA001980
14. Boss, E., W. H. Slade, and P. S. Hill, 2009. Effect of particulate aggregation in aquatic environments on the beam attenuation and its utility as a proxy for particulate mass, *Optics Express*, 17(11).
15. George, D. A. and P. S. Hill, 2008. Wave climate, sediment supply and the depth of the sand-mud transition: A global survey, *Marine Geology*, 254: 121-128.
16. Law, B. A., P. S. Hill, T. G. Milligan, K. J. Curran, P. L. Wiberg, and R. A. Wheatcroft, 2008. Size sorting of fine sediments during erosion: Results from the western Gulf of Lions, *Continental Shelf Research*, 28: 1935-1946.
17. Mikkelsen, O. A., T. G. Milligan, P. S. Hill, R. J. Chant, C. F. Jago, S. E. Jones, V. Krivtsov, and G. Mitchelson-Jacob, 2008. The influence of schlieren on in situ optical measurements used for particle characterization. *Limnology and Oceanography Methods*, 6:133-143.
18. Walker, T. R., J. Grant, P. Cranford, D. G. Lintern, P. Hill, P. Jarvis, J. Barrell, and C. Nozais. 2008. Suspended sediment and erosion dynamics in Kugmallit Bay and Beaufort Sea during ice-free conditions. *Journal of Marine Systems*, 74: 794-809.
19. Curran, K.J., P. S. Hill, T. G. Milligan, O. A. Mikkelsen, B. A. Law, X. Durrieu de Madron, and F. Bourin. 2007. Settling velocity, effective density, and mass composition of suspended sediment in a coastal bottom boundary layer, Gulf of Lions, France. *Continental Shelf Research*, 27: 1408-1421.
20. George, D. A., P. S. Hill, and T. G. Milligan, 2007. Flocculation, heavy metals (Cu, Pb, Zn), and the sand-mud transition on the Apennine Margin, Italy. *Continental Shelf Research*, 27: 475-488.
21. Hill, P. S., J. M. Fox, J. S. Crockett, K. J. Curran, C. T. Friedrichs, W. R. Geyer, T. G. Milligan, A. S. Ogston, P. Puig, M. E. Scully, P. A. Traykovski, and R. A. Wheatcroft, 2007. Sediment delivery to the seabed on continental margins. *Continental Margin Sedimentation: Transport to Sequence*, Special Publication Number 37 of the International Association of Sedimentologists, edited by C. A. Nittrouer, J. A. Austin, M. E. Field, J. H. Kravitz, J. P. M. Syvitski and P. L. Wiberg, Blackwell/IAS. pp. 49-99.
22. Mikkelsen, O. A., P. S. Hill, and T. G. Milligan, 2007. Seasonal and spatial variation of floc size, settling velocity, and density on the Apennine margin (Italy). *Continental Shelf Research*, 27: 417-430.
23. Mikkelsen, O.A., K.J. Curran, P. S. Hill, and T.G. Milligan, 2007. Entropy analysis of in situ particle size. *Estuarine, Coastal and Shelf Science*, 72(4): 615-625.
24. Milligan, T. G., P. S. Hill and B. A. Law, 2007. Flocculation and the loss of sediment from river plumes. *Continental Shelf Research*, 27: 309-321.
25. Ajjolaiya, L.O., P. S. Hill, A. Khelifa, R. M. Islam, and K. Lee. 2006. Laboratory investigation of the effects of mineral size and concentration on the formation of oil-mineral aggregates. *Marine Pollution Bulletin*, 52: 920-927.
26. Khelifa, A., and P. S. Hill, 2006a. Models for effective density and settling velocity of flocs. *Journal of Hydraulic Research*, 44: 390-401.
27. Khelifa, A., and P. S. Hill, 2006b. Kinematic assessment of floc formation using a Monte Carlo model. *Journal of Hydraulic Research*, 44: 548-559.
28. Mikkelsen, O. A., P. S. Hill, and T. G. Milligan, 2006. Single-grain, microfloc and macrofloc volume variations observed with a LISST-100 and a digital floc camera. *Journal of Sea Research*, 55: 87-102.
29. Smyth, C., A. E. Hay, P. S. Hill, and D. Schillinger, 2006. Acoustic observations of vertical and horizontal swimming velocities of a diel migratory. *Journal of Marine Research*, 64(5): 723-743.
30. Waite, A. M. and P. S. Hill, 2006. Flocculation and phytoplankton cell size can alter ²³⁴Th-based estimates of the vertical flux of particulate organic carbon in the sea. *Marine Chemistry*, 100: 366-375.

31. Khelifa, A., P. S. Hill and K. Lee, 2005a. Assessment of minimum sediment concentration for OMA formation using a Monte Carlo Model. In: *Oil Pollution and Its Environmental Impact in the Arabian Gulf Region*, edited by M. Al-Azab, W. El-Shorbagy and S. Al-Ghais, Elsevier B. V.
32. Khelifa, A., P. S. Hill and K. Lee, 2005b. The role of oil-mineral aggregation in dispersion and biodegradation of spilled oil. In: *Oil Pollution and Its Environmental Impact in the Arabian Gulf Region*, edited by M. Al-Azab, W. El-Shorbagy and S. Al-Ghais, Elsevier B. V., pp. 131-145.
33. Khelifa, A., P. S. Hill, P. Stoffyn-Egli and K. Lee. 2005. Effects of salinity and clay composition on oil-clay aggregations. *Marine Environmental Research*, 59: 235-254.
34. Mikkelsen, O. A., P. S. Hill, T. G. Milligan, and R. Chant, 2005. In situ particle size distributions and volume concentrations from a LISST-100 laser particle sizer and a digital floc camera. *Continental Shelf Research*, 25: 1959-1978.
35. Curran, K. J., P. S. Hill, T.G. Milligan, E.A. Cowan, J.P.M. , S.M. Konings. 2004. Fine-grained sediment flocculation below the Hubbard Glacier meltwater plume, Disenchantment Bay, Alaska. *Marine Geology*, 203(1-2): 83-94.
36. Curran, K. J., P. S. Hill, T. M. Schell, T. G. Milligan, and D. J. W. Piper, 2004. Inferring the mass fraction of floc-deposited mud: Application to fine-grained turbidites. *Sedimentology*, 51: 927-944.
37. Flory, E. N., P. S. Hill, T. G. Milligan and J. Grant. 2004. The relationship between floc area and backscatter during a spring phytoplankton bloom. *Deep Sea Research I*, 51(2): 213-223.
38. Fox, J. M., P. S. Hill, T. G. Milligan, and A. Boldrin, 2004. Flocculation and sedimentation on the Po River delta. *Marine Geology*, 203: 95-107.
39. Fox, J. M., P. S. Hill, T. G. Milligan, A. S. Ogston, and A. Boldrin, 2004. Floc fraction in the waters of the Po River prodelta. *Continental Shelf Research*, 24: 1699-1715.
40. Geyer, W.R, P. S. Hill, and G.C. Kineke. 2004. The transport and dispersal of sediment by buoyant coastal flows. *Continental Shelf Research*, 24(7/8): 927-949.
41. Mikkelsen, O. A., T. G. Milligan, P. S. Hill, and D. Moffat, 2004. INSSECT---an instrumented platform for investigating floc properties close to the seabed. *Limnology and Oceanography Methods*, 2: 226-236.
42. Curran, K. J., P. S. Hill and T. G. Milligan. 2003. Time variation of floc properties in a settling column. *Journal of Sea Research*, 49: 1-9.
43. Khelifa, A., P. S. Hill, and Lee, K. 2003. A stochastic model to predict the formation of oil-mineral aggregates. *26th Proceedings of Arctic and Marine Oil Spill Program (AMOP) Technical Seminar*, Victoria, British Columbia, Canada, June 10-12, 2003, Vol. 2, pp. 893-909.
44. Curran, K. J., P. S. Hill and T. G. Milligan. 2002. Fine-grained suspended sediment dynamics in the Eel River flood plume. *Continental Shelf Research*, 22: 2537-2550.
45. Curran, K. J., P. S. Hill and T. G. Milligan. 2002. The role of particle aggregation in size-dependent deposition of drill mud. *Continental Shelf Research*, 22: 405-416.
46. Hill, P. S., A. Khelifa and K. Lee. 2002. Time scale for oil droplet stabilization by mineral particles in turbulent suspensions. *Spill Science & Technology Bulletin*, 8(1): 73-81.
47. Khelifa, A., P. Stoffyn-Egli, P. S. Hill, and K. Lee. 2002. Characteristics of oil droplets stabilized by mineral particles: the effect of oil types and temperature. *Spill Science & Technology Bulletin*, 8(1): 19-30.
48. Khelifa, A., P. Stoffyn-Egli, P. S. Hill, and K. Lee. 2002. Characteristics of oil droplets stabilized by mineral particles: the effect of salinity. *2003 International Oil Spill Conference*, Vancouver, British Columbia, Canada, April 7-10, pp. 1-8.
49. Skene, K. I., D. J. W. Piper and P. S. Hill. 2002. Quantitative analysis of variations in depositional sequence thickness from submarine channel levees. *Sedimentology*, 49: 1411-1430.
50. Hatcher, A., P. Hill, and J. Grant. 2001, Optical backscatter of marine flocs. *Journal of Sea Research*, 46: 1-12.
51. Hill, P. S. and I. N. McCave. 2001. Suspended particle transport in benthic boundary layers. In *The Benthic Boundary Layer: Transport Processes and Biogeochemistry*, edited by B. P. Boudreau and B. B. Jorgensen. Oxford University Press, pp. 78-103.
52. Hill, P. S., G. Voulgaris, and J. H. Trowbridge. 2001. Controls on floc size in a continental shelf bottom boundary layer. *Journal of Geophysical Research*, 106: 9543-9549.
53. Milligan, T. G., G. C. Kineke, A. C. Blake, C. R. Alexander, and P. S. Hill. 2001. Flocculation and sedimentation in ACE Basin, South Carolina. *Estuaries*, 24: 734-744.

54. Geyer, W. R., P. S. Hill, T. G. Milligan, and P. Traykovski. 2000. The structure of the Eel River plume during floods. *Continental Shelf Research*, 20: 2067-2093.
55. Hatcher, A., P. Hill, J. Grant, and P. Macpherson. 2000. Spectral optical backscatter of sand in suspension: effects of particle size, composition and colour, *Marine Geology*, 168(1-4): 115-128.
56. Hill, P. S., T. G. Milligan, and W. R. Geyer. 2000. Controls on effective settling velocity in the Eel River flood plume. *Continental Shelf Research*, 20: 2095-2111.
57. Cranford, P. J. and P. S. Hill. 1999. Seasonal variation in food utilization by the suspension feeding bivalve molluscs *Mytilus edulis* and *Placopecten magellanicus*. *Marine Ecology Progress Series*, 190: 223-239.
58. Gonzalez, E. A. and P. S. Hill. 1999. An investigation of Bremer et al.'s aggregation time. *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, 155: 113-116.
59. Dickey, T. D., G. C. Chang, Y. C. Agrawal, A. J. Williams III, and P. S. Hill. 1998. Sediment resuspension in the wakes of Hurricanes Edouard and Hortense. *Geophysical Research Letters*, 25(18): 3533-3536.
60. Gonzalez, E. A. and P. S. Hill. 1998. A method for estimating the flocculation time of monodispersed sediment suspensions. *Deep-Sea Research I*, 54: 1931-1954.
61. Hill, P. S. 1998. Controls on floc size in the coastal ocean. *Oceanography*, 11(2): 13-18.
62. Hill, P. S., J. P. , E. A. Cowan, and R. D. Powell. 1998. In situ observations of floc settling velocities in Glacier Bay, Alaska. *Marine Geology*, 145: 85-94.
63. Milligan, T. G. and P. S. Hill. 1998. A laboratory assessment of the relative importance of turbulence, particle composition, and concentration in limiting maximal floc size and settling behaviour. *Journal of Sea Research*, 39(3/4): 227-241.
64. Hill, P. S. 1996. Sectional and discrete representations of floc breakage in agitated suspensions, *Deep-Sea Research I*, 43(5): 679-702.
65. Hill, P. S., and A. R. M. Nowell. 1995. Comparison of two models of aggregation in continental-shelf bottom boundary layers. *Journal of Geophysical Research*, 100(C11): 22,749-22,763.
66. Hill, P. S., C. R. Sherwood, R. W. Sternberg, and A. R. M. Nowell. 1994. In situ measurements of particle settling velocity on the northern California continental shelf. *Continental Shelf Research*, 14(10/11): 1123-1138.
67. Jumars, P. A., J. W. Deming, P. S. Hill, L. Karp-Boss, P. L. Yager, and W. B. Dade. 1993. Physical constraints on marine osmotrophy in an optimal foraging context. *Marine Microbial Food Webs*, 7(2): 121-159.
68. Hill, P. S. 1992. Reconciling aggregation theory with observed vertical fluxes following phytoplankton blooms. *Journal of Geophysical Research*, 97(C2): 2295-2308.
69. Hill, P. S., A. R. M. Nowell, and P. A. Jumars. 1992. Encounter rate by turbulent shear of particles similar in diameter to the Kolmogorov scale. *Journal of Marine Research*, 50(4): 643-668.
70. Hill, P. S. and A. R. M. Nowell. 1990. The potential role of large, fast-sinking particles in clearing nepheloid layers. *Philosophical Transactions of the Royal Society of London A*, 331: 103-117.
71. Hill, P. S., A. R. M. Nowell, and P. A. Jumars. 1988. Flume evaluation of the relationship between suspended sediment concentration and excess boundary shear stress. *Journal of Geophysical Research*, 93(C10): 12499-12509.