

Amala Mahadevan

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Research Interests Physical oceanography, ocean biogeochemistry, the carbon cycle, ocean's role in climate, environmental fluid mechanics and numerical modeling.

Appointments

Woods Hole Oceanographic Institution, Department of Physical Oceanography	
Senior Scientist	2013 - present
Associate Scientist with Tenure	2011 - 2013
Harvard University, Mather House	
Faculty Dean	2017- present
MIT, Department of Earth, Atmospheric and Planetary Sciences	
Affiliate - Joint Program w. Woods Hole	2011 - present
University of Massachusetts Dartmouth	
Adjunct, School of Marine Science and Technology	2011 - present
Adjunct, Department of Physics	2007 - 2011
Boston University, Department of Earth Sciences	
Research Professor	2011
Associate Research Professor	2003 - 2011
Harvard University, Division of Engineering and Applied Sciences	
Visiting Associate Professor	2003 - 2006
University of New Hampshire, Institute for the Study of Earth Oceans and Space	
Assistant Research Professor	2001 - 2003
University of Cambridge, Department of Applied Mathematics and Theoretical Physics	
Senior Research Associate	2001 - 2003
Atmospheric and Environmental Research, Inc., Cambridge, MA	
Staff Scientist / Senior Research Associate	1999 - 2001
Harvard University, Department of Earth & Planetary Sciences	
Research Associate	1997 - 1998
University of Chicago, Department of Geophysical Sciences	
Postdoctoral Research Associate	1994 - 1997
Stanford University, Environmental Fluid Mechanics Lab. and Scientific Computing & Computational Mathematics Program	
Research Assistant	1987 - 1994

Professional Preparation

Stanford University	
Environmental Fluid Mechanics, Scientific Computing and Computational Mathematics	
	Ph.D. 1995
	Engineer's Degree 1990
	M.S. 1988
VJTI, University of Bombay, India	Batchelor's Civil Eng. 1987

Honors

WHOI	Arnold B. Arons Award for excellence in teaching, advising, and mentoring	2020
MIT	Frank E. Perkins Award for Excellence in Graduate Advising in the School of Science	2019
Woods Hole Oceanographic Institution	Doherty Chair,	2016 - 2017
Radcliffe Inst. for Advanced Study, Harvard University	Fellow	2014 - 2015
Université Pierre et Marie Curie, Paris	Visiting Professor	2010 - 2011
Downing College, University of Cambridge	Darley Fellow	2002 - 2003

Service / Committees

Faculty dean leadership council, Harvard Univ	2020 - present
Chair, International Scientific Council ISblue, France	2019 - present
Scientific Advisory Board, Jupiter Foundation	2019 - present
Scientific Board, Science for the Public	2019 - present
Member, Joint Committee for Physical Oceanography, WHOI/MIT	2017 - 2019
Postdoctoral Coordinator, Physical Oceanography, Woods Hole	2012 - 2016
ONR, Steering committee Research Initiative on Coherent Lagrangian Pathways from Surface Ocean to Interior	2017 - present
ONR, Steering committee Research Initiative on Monsoon Intra-seasonal Oscillations	2016 - present
ONR, Steering committee Research Initiative on Air-Sea Interactions in the Northern Indian Ocean	2011 - 2016
Future of Climate Process Teams, Steering Committee	2015 - 2017

Editing / Reviewing

Guest editor, Oceanography Magazine: Special Issue From Monsoons to Mixing	June 2016
Guest editor, Ocean Dynamics, Special Issue on Submesoscale processes	2017
Reviewing for JGR, GRL, JPO, DAO, JMR, DSR, RSE, Ocean Model. MEPS, Oc. Dyn, Biogeosciences, Prog. Oceanogr, Nature, Nature Communications, Science, etc.	

Organizing Role

Liege Colloquium on Submesoscale processes	2016
ONR, DRI Workshops, CALYPSO. ASIRI and MISO	2011- present
Radcliffe workshop: Life in a turbulent environment	2015
Radcliffe public symposium on the Changing Oceans	2016
Ocean Sciences Meeting, Session coordinator	2010, 2012, 2020

Courses Taught

Introduction to Physical Oceanography	MIT/WHOI 12.808 Fall	2020
Fluid Dynamics of the Ocean and Atmosphere	MIT/WHOI, 12.800, Fall	2017, '18, '19
Seminar on Submesoscale Processes	MIT/WHOI, 12.S992, Spring	2017
Computational Ocean Modeling	MIT/WHOI, 12.850	2013, '15, '18, '20
Climate Change, Past, present, future	Harvard University, FS25y	2005
Environmental Hydrodynamics & Hydrology	Harvard University, ES162	2004
Applied Mathematics A	Harvard University, AM 21A	2003, '04
Applied Mathematics B	Harvard University, AM 21B	2004, '05

Summer and Other Teaching

Workshop, Woods Hole, Writing a Better Scientific Proposal	Annually 2012 - present
Geophysical Fluid Dynamics Summer Program, Woods Hole, Staff	2003,'04,'07,'08, '10,'15
Chinese Academy of Sciences, South China Institute of Oceanology	2018
Danish Technical University, Lecturer, Summer school Complex Motion in Fluids	2011
Grand Combin Italy, Summer Program, Transport in Geophysical Flows: Ten Years After	2004

Visiting / Summer Positions

Dept. of Integrative Biology, U.C. Berkeley, Visiting Scientist	2007
Laboratoire d'Océanographie Dynamique et de Climatologie, U. Pierre et Marie, Paris	1998,'01
MIT, Department of Earth, Atmospheric and Planetary Sciences, Visiting Scientist	1997 - 1999
Woods Hole Oceanographic Institution, Visiting Investigator	1998
National Center for Supercomputing Applications, Atmospheric Sciences, Visitor	1994 - 1995

Fieldwork

CALYPSO, ONR-cruise, <i>Pourquoi Pas?</i> , W. Mediterranean, co-Chief Scientist	2019
CALYPSO, ONR-cruise, <i>NRV Alliance</i> , W. Mediterranean, co-Chief Scientist	2018
IRENE - Cruise with IMEDEA/SOCIB in the Mediterranean, July	2017
Baltic SubEx fieldwork with Helmholtz Institute, Germany, participated.	2016
ONR Cruise, Bay of Bengal, <i>R/V Revelle</i> , 'ASIRI' program, Aug-Sep Upper ocean process studies, autonomous platforms and ship-based sampling	2015
ONR Cruise, Bay of Bengal, <i>R/V Revelle</i> , 'ASIRI' program, Nov-Dec Co-chief scientist, Survey of upper ocean structure and biogeochemical sampling	2013
DOE project, Tidal wetlands in Georgia, w. Hughes, FitzGerald, Pennings	2009

Postdocs

Yue (Cynthia) Wu, Postdoc Investigator, Woods Hole Oceanographic Institution	2019 - present
Jim Thomas, Postdoc Scholar, OFI-Dal & Woods Hole Oceanographic Institution	2019 - 2019
Mathieu Dever, Postdoc Investigator, Woods Hole Oceanographic Institution	2017 - 2019
Kate Lowry, Postdoc Scholar, Woods Hole Oceanographic Institution	2016 - 2018
Melissa Omand, Postdoc Investigator, Woods Hole Oceanographic Institution	2011 - 2014
Mariona Claret, Postdoc Investigator, Woods Hole Oceanographic Institution	2013 - 2014
Jean-Baptiste Gilet, Postdoc Investigator, Woods Hole Oceanographic Institution	2012 - 2013
Jinbo Wang, Postdoc Investigator, Woods Hole Oceanographic Institution	2011 - 2012
Gualtiero Badin, Postdoctoral Research Associate, Boston University	2010 - 2011
Jacqueline Tweddle, Postdoctoral Research Associate, Boston University	2009 - 2010
Bror Jonsson, Postdoctoral Research Associate, Boston University	2006 - 2008

Graduate Students

Katy Abbott, MIT/WHOI Joint Program	2020- present
Weiguang (Roger) Wu, MIT/WHOI Joint Program	2020- present
Jing He, Ph.D. student, MIT/WHOI Joint Program	2017- present
Mara Freilich, Ph.D. student, MIT/WHOI Joint Program	2015 - present
Gualtiero Spiro Jaeger, Ph.D. student, MIT/WHOI Joint Program	2013 - 2019
Sebastian Essink, Ph.D. student, MIT/WHOI Joint Program	2013 - 2019
B. Cael Barry, Ph.D. student, MIT/WHOI Joint Program, co-advised	2014 - 2016
Samantha Siedlecki, PhD, University of Chicago, Co-advised	2004 - 2010

Summer/ Guest Students supervised

Yoana Guzman (Summer student fellow 2020), Guilherme Salvador (Guest student, summer 2019), Margaret Conley (Guest investigator, spring 2019), Daniel Tarry (Guest student, Fall 2018), Eugenio Cutolo (Guest student, Fall 2018) Yenchia Feng (Guest student, summer 2017), Kendra Lynn (Summer student fellow 2016), Qi Li (GFD Fellow, 2016), Sarah Brody (Guest 2014), Sebastian Essink (Guest 2012-13), Lauren Dana (Guest 2013, 2014 summer), Lenna Quackenbush (Guest, Fall 2013), Marcel du Plessis (Guest, Fall 2013, Spring 2015, Spring 2017), Mara Freilich (Summer student fellow 2014)

Student Committees

Guilherme Salvador, PhD, Northeastern University	2020 - 2021
Margaux Fillipi, PhD, MIT	2017 - 2019
Chair, General Exam Committee, Physical Oceanography, MIT/WHOI	2016
Chair, PhD Defense, Kelly Anne Ogden, Jay Brett, Deepa Rao MIT/WHOI	2016, '18, '20
David Fronk, PhD student, Harvard University	2016 - 2017
Emily Zakem, PhD student, MIT	2013 - 2016
Deepak Cherian, PhD, MIT/WHOI	2012 - 2016
Sonaljit Mukherjee, PhD, Univ. Mass Dartmouth	2010 - 2016
Sudip Majumder, PhD, Univ. Mass Dartmouth	2010 - 2015
Sophie Clayton, PhD, MIT/WHOI	2008 - 2012
Xianqin Yao, M.S., Univ. Mass Dartmouth	2010 - 2011
Eric Holmes, M.S., Univ. Mass Dartmouth	2009 - 2010
Deborah Schwartz, M.S., Univ. Mass Dartmouth	2009 - 2011
Danielle Tinkham, M.S., Univ. Mass Dartmouth	2006 - 2007

Research Support

NASA, EVS-3 Submesoscale ocean dynamics and vertical transport (co-I)	2019 - 2023
NSF, Internal Lee-Wave Dissipation in Oceanic Flows with Mean Shear (co-I)	2018 - 2022
ONR, Process Studies for Monsoon Intra-seasonal Oscillations (PI)	2017 - 2021
ONR, Frontogenesis and subduction at the Alboran front (PI)	2016 - 2020
NASA, Modeling studies for EXPORTS in a dynamic environment (PI)	2016 - 2018
ONR, Early student support: Freshwater effects on air-sea fluxes (PI)	2016 - 2019
NASA, Participation of US scientists in the 48 th Liege colloquium on Ocean Dynamics: Submesoscale processes (PI)	2016
ONR, Physical-Biogeochemical Synthesis of the Northern Indian Ocean from Synthetic Aperture Radar and Satellite Remote Sensing Data (PI)	2015 - 2018
NSF, Role of mixed layer eddies in seasonally variable regimes (PI)	2014 - 2017
NSF, Eddy-driven subduction of particulate carbon during the North Atlantic Spring bloom (PI)	2013 - 2014
ONR, Submesoscale studies for the Air-sea interaction regional initiative (PI)	2013 - 2016
ONR, Early student support for process studies of freshwater dispersal (PI)	2012 - 2015
ONR, Role of Bay of Bengal for Prediction of the Indian Monsoon (PI)	2011 - 2012
NSF, Biophysical alteration of wetland geomorphology in response to rising sea level (co-I)	2011 - 2014
NASA, Interpreting the ocean's interior from surface data (PI)	2010 - 2014
DOE, Response of coastal wetlands to sea-level rise (co-I)	2010 - 2012
NSF, On the importance of submeso-scale processes to ocean productivity (PI)	2009 - 2012

NSF, Impacts of changing seasonality of wind-driven mixing on the Arctic (co-I)	2009 - 2012
ONR, Scalable lateral mixing and coherent turbulence (PI)	2008 - 2013
NSF, A modeling study of mixed layer processes underlying the North Atlantic bloom (co-I)	2009 - 2009
ONR, From stirring to mixing: submesoscale routes to lateral dispersal of tracers in the ocean (PI)	2008 - 2009
NASA, Lagrangian tracking of satellite products with a numerical model for biological production (PI)	2008 - 2011
DOE, Dissection of platform marshes by ecophysical processes in response to sea-level rise (co-I)	2007 - 2008
NSF, Effect of submesoscale processes on property fluxes and distributions in the upper ocean (PI)	2006 - 2009
NOAA, A biogeochemical synthesis of coastal waters based on modeling, satellite & field observations (co-I)	2005 - 2008
NSF, A parameterization of shallow waters in global ocean carbon cycle models (co-I)	2003 - 2006
NASA, Air-sea flux of CO ₂ : Effects of small-scale variability on large-scale estimates (PI)	2001 - 05
ONR, Modeling studies of the shelfbreak front (PI)	1999 - 2001

Publications

Convention: For papers co-authored with students or postdocs, I am listed as last author.

Submitted

- Essink, Sebastian, Verena Horman, Luca R. Centurioni and Amala Mahadevan, 2020, Characterizing ocean kinematics from surface drifters, Submitted to JGR-Oceans
- Tarry, Daniel R., S. Essink, A. Pascual, S. Ruiz, P-M Poulain, T. Ozgokmen, L.R. Centurioni, J.T. Farrar, A. Shcherbina, A. Mahadevan and E.A. D'Asaro, Frontal convergence and vertical velocity measured from drifters in the Alboran Sea, Submitted to JGR-Oceans
- Freilich, Mara and Amala Mahadevan, Coherent pathways for vertical transport from the surface mixed layer to ocean interior, Submitted to *Fluids* (Special issue on Submesoscale Processes)
- Dever, Mathieu, D. Nicholson, M. M. Omand, and A. Mahadevan, Size-differentiated export in a different dynamical regimes in the ocean, submitted to *Global Biogeochem. Cycles*.

2020

69. Derr, N.J., Fronk, D.C., Weber, C.A., Mahadevan, A., Rycroft, C.H. and L. Mahadevan, Flow-driven branching in a fragile porous medium, 2020, *Phys. Rev. Lett.* 125 (15), 158002
68. Mahadevan, A., A. Pascual, D.L. Rudnick, S. Ruiz, J. Tintoré, E. D'Asaro, Coherent pathways for vertical transport from the surface ocean to interior, *Bulletin of the American Meteorological Society* (2020) doi:10.1175/BAMS-D-19-0305.1.
67. Jaeger, Gualtiero Spiro, A.J. Lucas, J.T. Farrar, E. Shroyer, J. Nash, J. MacKinnon, A. Tandon, A. Mahadevan, 2020, Variance of spice in the Bay of Bengal, *J. Phys. Oceanogr.*
66. Omand, Melissa, Rama Govindarajan, Jing He and Amala Mahadevan, A mechanistic model for the sinking flux of particles in the oceans, *Scientific Reports*, 10.1 (2020): 1-16.
65. Dever, Mathieu, Mara Freilich, J. Thomas Farrar, Benjamin Hodges, Tom Lanagan and Amala Mahadevan, EcoCTD for profiling oceanic physical-biological properties from an underway ship, In Press, *J. Oceanic & Atmos. Technology*
64. Jaeger, Gualtiero S., A.J. Lucas and Amala Mahadevan, 2020, Formation of Interleaving Layers in the Bay of Bengal, *Deep Sea Research Part II: Topical Studies in Oceanography* 172: 104717

2019

63. Zakem, Emily, Amala Mahadevan, Jonathan Lauderdale, Michael Follows, 2019, Stable aerobic and anaerobic coexistence in anoxic marine zones, *The ISME Journal*, 1-14, doi:10.1038/s41396-019-0523-8
62. Shroyer, E.L., A.L. Gordon, G.S. Jaeger, M. Freilich, A.F. Waterhouse, J.T. Farrar, VVSS Sarma, R. Venkatesan, R.A. Weller, J. Moum and A. Mahadevan, 2019, Upper Layer thermohaline structure of the Bay of Bengal during the 2013 northeast monsoon, *Deep Sea Res II*, doi:10.1016/j.dsr2.2019.07.018
61. Ruiz, Simón, Mariona Claret, Ananda Pascual, Antonio Olita, Charles Troupin, Arthur Capet, Antonio Tovar-Sánchez, John T. Allen, Pierre-Marie Poulain, Joaquín

Tintoré, Amala Mahadevan, 2019, Effects of oceanic meso- and submeso-scale frontal processes on the vertical transport of phytoplankton, *J. Geophys. Res.* doi: 10.1029/2019JC015034

60. Essink, Sebastian, Verena Hormann, Luca Centurioni, Amala Mahadevan, Can we detect submesoscale motions in drifter pair dispersion? *J. Phys. Oceanogr.* doi: 10.1175/JPO-D-18-0181.1
59. Freilich, Mara and Amala Mahadevan, 2019, Decomposition of vertical velocity for nutrient transport in the ocean, *J. Phys. Oceanogr.* 49(6), 1561-1575.
58. DuPlessis, Marcel, Sebastiaan Swart, Isabelle Jane Ansorge, Amala Mahadevan, Andrew F Thompson, 2019, Southern Ocean seasonal restratification delayed by submesoscale wind-front interactions, *J. Phy. Oceanogr.*, doi:10.1175/JPO-D-18-0136.1

2018

57. Karimpour, F., A. Tandon and A. Mahadevan, 2018, Sustenance of phytoplankton in the subpolar North Atlantic during winter, *J. Geophys. Res.* doi: 10.1029/2017JC013639
56. Jaeger, Gualtiero S. and Amala Mahadevan, Submesoscale-selective compensation of fronts in a salinity-stratified ocean, *Science Advances*, 4, e1701504 (2018).
55. Ramachandran, S., A. Tandon, J. Mackinnon, A.J. Lucas, R. Pinkel, A.F. Waterhouse, J. Nash, E. Shroyer, A. Mahadevan, R.A. Weller, and J.T. Farrar, 2018:Submesoscale Processes at Shallow Salinity Fronts in the Bay of Bengal: Observations during the Winter Monsoon. *J. Phys. Oceanogr.*, 48, 479-509, doi:10.1175/JPO-D-16-0283.1

2017

54. Centurioni, L.R., V. Hormann, L.D. Talley, I. Arzeno, L. Beal, M. Caruso, P. Conry, R. Echols, H.J.S. Fernando, S.N. Giddings, A. Gordon, H. Graber, R.R. Harcourt, S.R. Jayne, T.G. Jensen, C.M. Lee, P.F.J. Lermusiaux, P. L'Hegaret, A.J. Lucas, A. Mahadevan, J.L. McClean, G. Pawlak, L. Rainville, S.C. Riser, H. Seo, A.Y. Shcherbina, E. Skyllingstad, J. Sprintall, B. Subrahmanyam, E. Terrill, R.E. Todd, C. Trott, H.N. Ulloa, and H. Wang. 2017. Northern Arabian Sea Circulation-Autonomous Research (NASCar): A research initiative based on autonomous sensors. *Oceanography*, 30(2):74-87, doi:10.5670/oceanog.2017.224.
53. Olita, Antonio, Arthur Capet, Mariona Claret, Amala Mahadevan, Pierre Marie Poulain, Alberto Ribotti, Simón Ruiz, Joaquín Tintoré, Antonio Tovar-Sánchez, and Ananda Pascual, 2017, Frontal dynamics boost primary production in the summer stratified Mediterranean Sea, *Ocean Dynamics*, doi:10.1007/s10236-017-1058-z
52. Du Plessis, Marcel, Sebastian Swart, Isabelle Ansorge and Amala Mahadevan, 2017, Submesoscale processes accelerate seasonal restratification in the Subantarctic Ocean, *J. Geophys. Res.*, DOI: 10.1002/2016JC012494
51. Pascual, A., S. Ruiz, A. Olita, C. Troupin, M. Claret, B. Mourre, P.-M. Poulain, A. Tovar-Sánchez, A. Capet, E. Mason, J. T. Allen, A. Mahadevan, J. Tintoré, 2017, A multiplatform experiment to unravel meso- and submesoscale processes in an intense front (ALBOREX), *Frontiers in Marine Sci.*, doi:10.3389/fmars.2017.00039

50. Choi, Chang Jae, Charles Bachy, Gualtiero Spiro Jaeger, Camille Poirier, Lisa Sudek, Amala Mahadevan, Stephen J. Giovannoni, Alexandra Z. Worden, 2017, Newly discovered deep-branching marine plastid lineages are numerically rare but globally distributed, *Current Biology* 27, R1–R18, doi:10.1016/j.cub.2016.11.032

2016

49. MacKinnon, J.A., J.D. Nash, M.H. Alford, A.J. Lucas, J.B. Mickett, E.L. Shroyer, A.F. Waterhouse, A. Tandon, D. Sengupta, A. Mahadevan, M. Ravichandran, R. Pinkel, D.L. Rudnick, C.B. Whalen, M.S. Alberty, J. Sree Lekha, E.C. Fine, D. Chaudhuri, and G.L. Wagner. 2016. A tale of two spicy seas. *Oceanography* 29(2):50–61, doi:10.5670/oceanog.2016.38.
48. Mahadevan, A., G. Spiro Jaeger, M. Freilich, M. Omand, E.L. Shroyer, and D. Sengupta. 2016. Freshwater in the Bay of Bengal: Its fate and role in air-sea heat exchange. *Oceanography* 29(2):72–81, <http://dx.doi.org/10.5670/oceanog.2016.40>.
47. Gordon, A.L., E.L. Shroyer, A. Mahadevan, D. Sengupta, and M. Freilich. 2016. Bay of Bengal: 2013 northeast monsoon upper-ocean circulation. *Oceanography* 29(2): 82–91, <http://dx.doi.org/10.5670/oceanog.2016.41>.
46. Hormann, V., L.R. Centurioni, A. Mahadevan, S. Essink, E.A. D’Asaro, and B. Praveen Kumar. 2016. Variability of near-surface circulation and sea surface salinity observed from Lagrangian drifters in the northern Bay of Bengal during the waning 2015 southwest monsoon. *Oceanography* 29(2):124–133, <http://dx.doi.org/10.5670/oceanog.2016.45>.
45. Lucas, A.J., J.D. Nash, R. Pinkel, J.A. MacKinnon, A. Tandon, A. Mahadevan, M.M. Omand, M. Freilich, D. Sengupta, M. Ravichandran, and A. Le Boyer. 2016. Adrift upon a salinity-stratified sea: A view of upper-ocean processes in the Bay of Bengal during the southwest monsoon. *Oceanography* 29(2):134-145, doi: 10.5670/oceanog.2016.46.
44. Lotliker, A.A., M.M. Omand, A.J. Lucas, S.R. Laney, A. Mahadevan, and M. Ravichandran. 2016. Penetrative radiative flux in the Bay of Bengal. *Oceanography* 29(2):214–221, <http://dx.doi.org/10.5670/oceanog.2016.53>.
43. Sarma, V.V.S.S., G.D. Rao, R. Viswanadham, C.K. Sherin, J. Salisbury, M.M. Omand, A. Mahadevan, V.S.N. Murty, E.L. Shroyer, M. Baumgartner, and K.M. Stafford. 2016. Effects of freshwater stratification on nutrients, dissolved oxygen, and phytoplankton in the Bay of Bengal. *Oceanography* 29(2):222-231, <http://dx.doi.org/10.5670/oceanog.2016.54>.
42. Mukherjee, Sonaljit, Sanjiv Ramachandran, Amit Tandon and Amala Mahadevan Production and destruction of eddy kinetic energy in forced submesoscale eddy-resolving simulations. , 2016, *Ocean Modelling*, 105, 44-55, doi: 10.1016/j.ocemod.2016.07.002
41. Brody, S.R., M.S. Lozier and A. Mahadevan, Quantifying the impact of submesoscale processes on the spring phytoplankton bloom in a turbulent upper ocean using a Lagrangian approach, 2016, *Geophys. Res. Lett.*, 43 (10), 5160-5169, doi: 10.1002/2016GL068051
40. Wijesekara, H.W. and 20 co-authors, ASIRI An ocean-atmosphere initiative for Bay of Bengal, 2016, *Bull. Amer. Met. Soc.* 2016, doi:10.1175/BAMS-D-14-00197.1

39. Mahadevan, Amala, Impact of submesoscale physics on primary productivity of plankton, 2016, *Annu. Rev. Mar. Sci.* 2016. 8:17.1–17.24, doi: 10.1146/annurev-marine-010814-015912

2015

38. Singh, R. M.M. Bandi, A. Mahadevan and S. Mandre, Monami as an oscillatory hydrodynamic instability in a submerged sea grass bed, 2015, *J. Fluid Mech.* doi: 10.1017/jfm.2015.642
37. Omand M. and A. Mahadevan, Shape of the oceanic nitracline, 2015, *Biogeosciences*, 11, 14729–63, doi:10.5194/bg-11-14729-2014
36. Nagai, T. A. Tandon, E. Kunze and A. Mahadevan, Spontaneous generation of near-inertial waves by the Kuroshio front, 2015, *J. Phys. Oceanogr.* 45, 2381–2406. doi: 10.1175/JPO-D-14-0086.1
35. Omand, M.M., E.A. D’Asaro, C.M. Lee, M-J. Perry, N. Briggs, I. Cetinic, A. Mahadevan, Eddy-driven subduction exports particulate organic carbon from the spring bloom, 2015, *Science*, 348 (222), doi: 10.1126/science.1260062
34. Shcherbina, A. Y., M. A. Sundermeyer, E. Kunze, E. D’Asaro, G. Badin, D. Birch, A.-M. E. G. Brunner-Suzuki, J. Callies, B. T. Kuebel Cervantes, M. Claret, B. Concannon, J. Early, R. Ferrari, L. Goodman, R. R. Harcourt, J. M. Klymak, C. M. Lee, M.-P. Lelong, M. D. Levine, R.-C. Lien, A. Mahadevan, J. C. McWilliams, M. J. Molemaker, S. Mukherjee, J. D. Nash, T. Özgökmen, S. D. Pierce, S. Ramachandran, R. M. Samelson, T. B. Sanford, R. K. Shearman, E. D. Skillingstad, K. S. Smith, A. Tandon, J. R. Taylor, E. A. Terray, L. N. Thomas, and J. R. Ledwell (2015) The LatMix summer campaign: Submesoscale stirring in the upper ocean. *Bull. Amer. Meteor. Soc.*, 96, 1257–1279. doi: <http://dx.doi.org/10.1175/BAMS-D-14-00015.1>

2014

33. Ramachandran, S., A. Tandon and A. Mahadevan, Enhancement in vertical fluxes at a front by mesoscale-submesoscale coupling, 2014, *J. Geophys. Res.* 119 (12), 8495–8511, doi: 10.1002/2014JC010211
32. Lucas, A.J (17 authors), Mixing to Monsoons: Air-Sea Interactions in the Bay of Bengal, *EOS, Transactions, AGU*, 95(30), July 2014, 269–276.
31. Mahadevan, A., Eddy effects on ocean biogeochemistry, 2014 (January), *Nature, News & Views*, doi:10.1038/nature13048

2013

30. Omand, M. and A. Mahadevan, Large-scale alignment of oceanic nitrate and density, 2013, *J. Geophys. Res.* 118(10), 5322–5332, doi:10.1002/jgrc.20379
29. Wang, J., G.R. Flierl, J.H. LaCasce, J. McLean and A. Mahadevan, Reconstructing the ocean’s interior from surface data, 2013, *J. Phys. Oceanogr.*, 43, 1611–26, DOI: 10.1175/JPO-D-12-0204.1
28. Ramachandran, S., A. Tandon and A. Mahadevan, Effect of subgrid scale mixing on the evolution of submesoscale instabilities, 2013, *Ocean Modelling*, 66, 45–63, DOI: 10.1016/j.ocemod.2013.03.001.

2012

27. Mahadevan, A., E. D’Asaro, C. Lee and M-J Perry, Eddy-driven stratification initiates North Atlantic spring phytoplankton blooms, 2012, *Science*, 337 (6090), 54–58, DOI:10.1126/science.1218740

26. Mahadevan, A., A.V. Orpe, A. Kudrolli and L. Mahadevan, Flow-induced channelization in a porous medium, 2012, *Europhysics Letters EPL*, 98 (58003) doi: 10.1209/0295-5075/98/58003
25. Siedlecki, S., A. Mahadevan and D. Archer, Mechanism for export of sediment-derived iron in an upwelling regime, 2012, *Geophys. Res. Lett.* 39, L03601, doi:10.1029/2011GL050366

2011

24. Badin, G., A. Tandon and A. Mahadevan, Lateral mixing in the pycnocline by baroclinic mixed layer eddies, 2011, *J. Phys. Oceanogr.*, 41, 2080-2101.
23. Siedlecki, S. A., D. E. Archer, and A. Mahadevan, 2011, Nutrient exchange and ventilation of benthic gases across the continental shelf break, *J. Geophys. Res.*, 116, C06023, doi:10.1029/2010JC006365.
22. Jönsson, B., J. Salisbury, and A. Mahadevan, Large variability in continental shelf production of phytoplankton carbon revealed by satellite, 2011, *Biogeosciences*, 8, 1213-1223, doi:10.5194/bg-8-1213-2011
21. Mahadevan, A., A. Tagliabue, L. Bopp, A. Lenton, L. Memery and M. Levy, 2011, Impact of episodic vertical fluxes on sea surface pCO₂, *Phil. Trans. R. Soc. A.* **369** 2009-2025 doi: 10.1098/rsta.2010.0340

2010 and before

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