

RUOYING HE

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RESEARCH INTERESTS

Coastal Circulation Dynamics; Numerical Modeling and Data Assimilation; Coastal Ocean Observing System; Bio-physical Interactions; Air-sea Interaction; Satellite Oceanography

PROFESSIONAL EXPERIENCE

Associate Professor, North Carolina State University, Department of Marine, Earth & Atmospheric Sciences	2006- Present
Adjunct Professor, Ocean University of China, College of Marine Environment	2008- Present
Adjunct Scientist, Woods Hole Oceanographic Institution	2008- Present
Assistant Scientist, Woods Hole Oceanographic Institution	2004-2006
Postdoctoral Scholar, Woods Hole Oceanographic Institution, Dept. of Applied Ocean Physics and Engineering & Dept. of Physical Oceanography	2003-2004
Postdoctoral Associate, University of South Florida, College of Marine Science	2002-2003

EDUCATION

Ph.D., University of South Florida- Physical Oceanography	2002
M.S study, Institute of Oceanography, Chinese Academy of Sciences-Physical Oceanography	1996-1998
B.S., Ocean University of China- Oceanography	1996

HONORS AND AWARDS

National Aeronautics and Space Administration (NASA) Young Investigator Award	2006
Sears Collaboration Award, Woods Hole Oceanographic Institution	2006
Independent Study Award, Woods Hole Oceanographic Institution	2005
Coastal Ocean Research Award, Woods Hole Oceanographic Institution	2005
Green Innovative Technology Award, Woods Hole Oceanographic Institution	2004
Sackett Innovative Research Award, University of South Florida	2004
Postdoctoral Scholarship Award, Woods Hole Oceanographic Institution	2003
Young Scientist Travel Award, National Science Foundation	2002
Knight Research Fellowship Award, University of South Florida	2002
Honor Society of PHI KAPPA PHI	2001
Garrels Research Fellowship Award, University of South Florida	2000
Getting Research Fellowship Award, University of South Florida	1999
Undergraduate Student Fellowship, Ocean University of China	1993-1996

PEER- REVIEWED PUBLICATIONS

Published/Accepted

- [1] He, R., R. H. Weisberg (2002), Tides on the West Florida Shelf. *Journal of Physical Oceanography*, Vol. 32, 12, 3455-3473
- [2] He, R., R. H. Weisberg (2002), West Florida Shelf Circulation and Heat Budget for 1999 Spring Transition. *Continental Shelf Research*, Vol. 22, 5, 719-748
- [3] He, R., R. H. Weisberg (2002), Modeling of the West Florida Shelf Circulation. In: *Estuarine and Coastal Modeling*, M. L. Spaulding and H. L. Butler, eds., ASCE, Reston, VA, 25-40
- [4] He, R., R. H. Weisberg (2003), A Case Study of the Loop Current Intrusion on the West Florida Shelf. *Journal of Physical Oceanography*, Vol. 33, 2, 465-477

- [5] **He, R.**, and R. H. Weisberg (2003), West Florida Shelf Circulation and Temperature Budget for 1998 Fall Transition. *Continental Shelf Research* Vol. 23, 8, 777-800
- [6] **He, R.**, R. H. Weisberg, H. Zhang, F. E. Muller-Karger, and R.W. Helber (2003), A Cloud Free Satellite-derived, Sea Surface Temperature Analysis for the West Florida Shelf. *Geophysical Research Letters*, Vol. 30, 15, 1811, doi:10.1029/2003GL017673
- [7] Weisberg, R. H. and **He, R.** (2003), Local and Deep-ocean Forcing Contributions to Anomalous Water Properties on the West Florida Shelf. *Journal of Geophysical Research*, Vol. 108, 6, 3148, doi: 10.1029/2002JC001407
- [8] Walsh, J.J., R. H., D.A. Dieterle, **He, R.**, and others (2003), The Phytoplankton Response to Intrusions of Slope Water on the West Florida Shelf: Models and Observations. *Journal of Geophysical Research*, Vol. 108, 6, 3190, doi: 10.1029/2002JC001406
- [9] Jolliff, J., J. J. Walsh, **He, R.** and R. H. Weisberg and others (2003), The Dispersal of the Suwannee River Plume over the West Florida Continental Shelf: Simulation and Observation of a “Flushing” Event. *Geophysical Research Letters*, Vol. 30, 13, 1709, doi: 10.1029 /2003GL01
- [10] **He, R.**, Y. Liu and R. H. Weisberg (2004), Coastal Ocean Wind Fields Gauged Against the Performance of an Ocean Circulation Model. *Geophysical Research Letters*, Vol. 31, 14, 14303, doi:10.1029 / 2003GL019261
- [11] Weisberg, R. H., **He, R.**, J. J. Walsh (2004), Coastal Ocean Circulation Influences on Remotely Sensed Optical Properties. *Oceanography*, 17, 68-75
- [12] Weisberg, R. H., **He, R.**, Y. Liu, and J. Virmani (2005), West Florida Shelf Circulation on Synoptic, Seasonal and Inter-annual Time Scales, *Book Chapter: Circulation in the Gulf of Mexico: Observations and Models*, AGU Monographs. W. Sturges and A. Lugo-Fernandez, Eds. 325-350.
- [13] Anderson, D., D. McGillicuddy, B. Keafer, M. Mickelson, S. Libby, J. Manning, **He, R.**, D. Lynch, K. Smith, S. Mayo, D. Whitaker, M. Hickey (2005), Initial Observations of the 2005 *Alexandrium fundyense* Bloom in Southern New England: Consistency with Conceptual Models, *Deep Sea Research*, 52, 2856-2876
- [14] **He, R.**, D. J. McGillicuddy, K. W. Smith, D. R. Lynch, C. A. Stock, and J. P. Manning (2005), Data Assimilative Hindcast of the Gulf of Maine Coastal Circulation. *Journal of Geophysical Research*, Vol. 110, C10, C10011, doi:10.1029/2004JC002807
- [15] Liu Y., R. H. Weisberg, and **He, R.** (2006), Sea Surface Temperature Patterns on the West Florida Shelf using Growing Hierarchical Self-organizing Maps, *Journal of Atmospheric and Oceanic Technology*, Vol. 23, 2, 325-339.
- [16] **He, R.**, J. L. Wilkin (2006), Tides on the Southeast New England Shelf: A View from a Hybrid Data Assimilative Modeling Approach, *Journal of Geophysical Research*, 111, C08002, doi:10.1029/2005JC003254 .
- [17] Milroy, S. P., D. A. Dieterle, **He, R.**, G. J. Kirkpatrick, K. M. Lester, K. Steidinger, G. A. Vargo, J. J. Walsh, R. H. Weisberg (2007), A Three-dimensional Biophysical Model of *Karenia brevis* Dynamics on the West Florida Shelf: A Look at Physical Transport and Potential Zooplankton Grazing Controls. *Continental Shelf Research*, doi:10.1016/j.csr.2007.04.013
- [18] Lanes, J.M., B.A. Darrow, J.J. Walsh, J. M. Prospero, **He, R.**, R. Weisberg, G.A. Vargo, and C. A. Heil (2008), Saharan Dust and Phosphatic Fidelity: A Three-dimensional Biogeochemical Model of

Trichodesmium as a Nutrient Source for Red Tides on the West Florida Shelf, *Continental Shelf Research*, DOI: 10.1016/j.csr.2007.11.025.

- [19] **He, R.**, D. J. McGillicuddy (2008), Gulf of Maine Circulation and Harmful Algal Bloom in Summer 2005- Part 1: In-situ Observation, *Journal of Geophysical Research*, 113,C07039,doi:10.1029/2007JC004691
- [20] **He, R.**, D. J. McGillicuddy, D. Anderson and B. Keafer (2008), Gulf of Maine Circulation and Harmful Algal Bloom in Summer 2005- Part 2: Coupled Biophysical Modeling, *Journal of Geophysical Research*, 113, C07040,doi:10.1029/2007JC004602
- [21] Walsh, J., R. Weisberg, J. Lenes, F. Chen, D. Dieterle, L. Zheng, K. Carder, G. Vargo, J. Havens, E. Peebles, D. Hollander, **He, R.**, C. Heil. B. Mahmoudi, and J. Landsberg (2009), Centenarian and Decadal Exports of Florida Red Tides to Alabama and North Carolina Waters: Contrasting Fates of Physical Dispersive Loss and Dead Fish Maintenance of *Karenia* Blooms, With Implications for Coastal Fisheries Over Source Regions of the West Florida Shelf, *Progress in Oceanography*, V80, Issue 1-2, p 51-73.
- [22] Miles, T.N¹, **He, R.**, M. Li (2009). Characterizing the South Atlantic Bight Seasonal Variability and Cold Water Event in 2003 Using a Daily Cloud-free SST and Chlorophyll Analysis. *Geophysical Research Letters*, 36, L02604, doi: 10.1029/2008GL036393
- [23] Chassignet, E.P., H. Hurlburt, E Metzger, O. Smedstad, J Cummings, G. Halliwell, R. Blek, R. Baraille, A. Wallcraft, C. Lozano, H. Tolman, A. Srinivasan, S. Hankin, P. Cornillon, R. Weisberg, A. Barth, **He, R.**, F. Werner, and J. Wilkin (2009), U.S. GODAE, Global Ocean Prediction with Hybrid Coordinate Ocean Model (HYCOM), *Oceanography*, v22, 3, 48-59.
- [24] Li, Y, **He, R.**, D. McGillicuddy, D. Anderson, B. Keafer (2009), Investigation of 2006 *Alexandrium fundyense* Bloom in the Gulf of Maine: In-situ Observations and Numerical Modeling, *Continental Shelf Research*, 10.1016/j.csr.2009.07.012
- [25] Chen, K, **He, R.** (2009), Numerical Investigation of the Middle Atlantic Bight Frontal Circulation using a High Resolution Ocean Hindcast Model, in revision, *Journal of Physical Oceanography*

Submitted

- [1] **He, R.** and K. Chen, Investigation of the Northeastern North America Coastal Circulation with a Regional Circulation Hindcast Experiment, submitted to *Journal of Marine Research*
- [3] Hyun, K. H. and **He, R.**, The Summer Cold Water Event in the South Atlantic Bight: Triggering Mechanisms from Data and a Hindcast Model, submitted to *Journal of Marine Research*
- [4] Lehmann, M. K. Fennel, **He, R.**, Statistical Validation of a 3-D Bio-physical Model of the Western North Atlantic, submitted to *Biogeosciences*.
- [5] Miles, T and **He, R.** Seasonal Surface Ocean Temporal and Spatial Variability of the South Atlantic Bight: Revisiting with MODIS SST and Chl-a imagery, submitted to *Continental Shelf Research*

To Be Submitted

- [1] **He, R.**, R. Castelao, K. Chen, Coastal Ocean Model Prediction Gauged Against Long-term Glider Observations. to be submitted to *Geophysical Research Letters*
- [2] Li, Y and **He, R.** Seasonal and Interannual Variability of the Gulf of Maine Coastal Circulation and Hydrography, to be submitted to *Progress in Oceanography*

¹ Students/postdoc advised by He, R are underlined in the publications list

- [3] **He, R.** et al., Coupled Coastal Ocean Response to the Landfalling Hurricane: Idealized Modeling Experiment, to be submitted to *Geophysical Research Letters*
- [4] **Zambon, J, He, R.** and others. Coupled Coastal Ocean Response to the Landfalling Hurricane: Realistic Modeling Experiment, to be submitted to *Journal of Geophysical Research*
- [5] **He, R.** et al., Salty intrusions over the Mid-Atlantic Bight shelf, to be submitted to *Geophysical Research Letters*

TECHNICAL REPORTS

- [1] Anderson, D. M., Libby, P.S. Mickelson, M. J, Borkman, D. G., **He, R.** McGillicuddy, D. J. (2007), The 2005 New England Redtide of *Alexandrium fundyense*: Observations, Causes, and Potential Outfall Linkages. Boston: MWRA Report 2007-10.
- [2] **He, R.**, I. Bang, K. P. Edwards, C. N. K. Mooers, R. H. Weisberg, and F. Werner (2005), Coastal Ocean Response to Extratropical Storms in March 2001: A Retrospective Analysis Using Sub-regional Coastal Ocean Models of the Southeast Atlantic Coastal Ocean Observing System (SEACOOS), SECOOS Tech. rep.

RECENT RESEARCH PROJECTS AND GRANTS

Current

- [1] “Rapid Environmental Assessment Using an Integrated Coastal Ocean Observation and Modeling System”, **ONR, 2006-2011. Co-PI** with O. Schofield et al.
- [2] “Dynamics of *Alexandrium fundyense* Distributions in the Gulf of Maine - an Observational and Modeling Study of Nearshore and Offshore Shellfish Toxicity, Vertical Toxin Flux, and Bloom Dynamics in a Complex Shelf Sea”, **NOAA, 2006-2011. Co-PI** with D. Anderson et al.
- [3] “Investigation of Coastal Phytoplankton Dynamics by Adjoint Data Assimilation of Satellite Ocean Color Data”. **NASA, 2007-2010. PI.**
- [4] “Coastal Ocean Processes and Sediment Transport Dynamics” **USGS, 2007-2012. PI.**
- [5] “Development of a Combined Hydrodynamic, Sediment Transport and Nutrient Response Model System for Falls of the Neuse Reservoir, Neuse River Basin”, **NC DENR, 2007-2009, Co-PI** with J. Lin, JP Liu.
- [6] “Collaborative Research: Frontal Interaction and Atmospheric Forcing North of Cape Hatteras: an Analysis and Modeling Study”, **NSF, 2009-2012, Co-PI** with G. Gawarkiewicz and J. Churchill.
- [7] “NOAA Cooperative Institute for Ocean Exploration, Research, and Technology: Connectivity between Deep and Shallow Ecosystems: Ecosystem-based Management of New Shelf Edge MPAs”, **NOAA, 2009-2014, Co-PI** with D. Egelston, et al.

Pending

- [1] “GOMEX 3-D Operational Ocean Forecast System Pilot Project”, **RPSEA, 2009-2011, Co-PI** with C. Mooers et al.
- [2] “Hurricane-Ocean Interaction: the Coastal Zone and Oceanic, Mesoscale Variability”, **NOPP, 2009-2012, Co-PI** with J. Price et al.
- [3] “Improved Prediction of Tropical Cyclone Intensity: Mesoscale Processes, Air-sea-wave Interaction and Data Assimilation”, **NOPP, 2009-2012, Co-PI** with G. Lackmann et al.
- [4] “PIRE: A Comparative Study of Natural and Anthropogenic Factors Influencing Two River-dominated

Ecosystem (Mississippi and Yangtze), **NSF, 2010-2014, Co-I** with S. Lohrenz, et al.

- [5] “Toward a Predictive Understanding of Continental Shelf Carbon Cycling: Case Study of the U.S. South Atlantic Bight”, **NSF, 2010-2014, Co-PI** with W. Cai, et al.

Completed

- [1] “Community Sediment Transport Modeling”. **NOPP**, 2006-2008.
- [2] “Data Assimilative Interdisciplinary Modeling of the Adjacent Coastal Water of the Martha’s Vineyard Coastal Observatory”. **Coastal Ocean Institute Award/WHOI**, 2005-2007.
- [3] “Evaluation of Global Ocean Data Assimilation Experiment (GODAE) Hindcast in Providing Open Boundary Conditions for High Resolution Coastal Circulation Modeling”, **Independent Study Award/WHOI**, 2005-2007.
- [4] “Understanding Shelf Hydrography Seasonal Evolution Using Novel Glider Technique”, **NCSU FRPD**, 2008-2009.

INVITED SEMINARS

University of Georgia , Department of Marine Sciences	2009
Florida State University , Department of Oceanography	2009
Ocean University of China , College of Marine Environment	2008
Woods Hole Oceanographic Institution	2008
U.S. Geological Survey , St. Petersburg Center	2008
Ocean University of China , College of Marine Environment	2007
University of North Carolina , Chapel Hill, Department of Marine Sciences	2007
University of Maryland Center for Environmental Science , Horn Point Lab	2006
Dalhousie University , Department of Oceanography	2006
Rutgers University , Institute of Marine & Coastal Sciences	2006
Chinese Academy of Sciences , Ocean Science and Technology Forum	2006
Ocean University of China , College of Marine Environment	2006
North Carolina State University , Department of Marine, Earth and Atmospheric Sciences	2006
Massachusetts Institute of Technology , Sea Grant Red Tide Symposium	2006
Oregon State University , College of Oceanic and Atmospheric Sciences	2005
Scripps Institution of Oceanography	2005
University of South Florida , College of Marine Science	2004
Chinese State Oceanic Administration , Second Institute of Oceanography	2004
Chinese Academy of Sciences , Institute of Oceanography	2004
Ocean University of China , College of Marine Environment	2004
University of Connecticut , Department of Marine Sciences	2004
Office of Naval Research , WHOI Onsite Review	2004
University of Miami , Rosenstiel School of Marine and Atmospheric Science	2003
Woods Hole Oceanographic Institution , Department of Physical Oceanography	2003
University of North Carolina , Chapel Hill, Department of Marine Sciences	2003
University of Miami , Rosenstiel School of Marine and Atmospheric Science, SEACOOS Conference	2001

COMMUNITY SERVICE

International & National Level

Associate Editor, *Journal of Geophysical Research- Oceans*

Panelist, National Science Foundation, Physical Oceanography Program

Participating scientist - Scientific User Requirement Group for National Science Foundation Ocean Observatories Initiative (NSF OOI), Cyber Infrastructure Implementing Organization.

Participating scientist – NOAA National Scientific Research, Development, Demonstration, and Technology Transfer (RDDTT) Plan on Reducing Impacts from Harmful Algal Blooms.

Session Chair - 2006 AGU Western Pacific Geophysical Meeting, “Modeling and Prediction on Circulation, Ecosystem and Coastal Environment”

Session Chair - 2008 Ocean Sciences Meeting, “Coastal Ocean Modeling and Prediction”

Session Chair - 2010 Ocean Sciences Meeting, “Coastal Ocean Circulation and Ecosystem Prediction and Assimilation”.

Session Chair - 2010 International Symposium on “Boundary Current Dynamics: Its Connection with Open-ocean and Coastal Processes and Responses to Global Climate Change”.

Regional Level

NCSU Representative of Ocean Leadership Consortium

NCSU Representative of Southeast Coastal Ocean Observing and Regional Association (SECOORA)

Convener and Chair of 2009 Joint Mid-Atlantic Bight Physical Oceanography and Meteorology (MABPOM) and Southeast Coastal Oceanography and Meteorology (SECOM) Conference

University and Departmental Level

Committee member - PAMS Advisory Council Committee

Committee member - MEAS Departmental Computer Committee

Committee member - MEAS Departmental Seminar Committee

Committee member - Faculty Search Committee for Mesoscale Meteorologist

Reviewer for Journals

Continental Shelf Research

Journal of Atmospheric and Oceanic Technology

Journal of Physical Oceanography

Journal of Marine System

Oceanography

Geophysical Research Letters

Journal of Geophysical Research

Journal of Marine Research

Ocean Modeling

Reviewer for National Agencies

National Aeronautics and Space Administration (NASA)

National Oceanic and Atmospheric Administration (NOAA)

National Oceanographic Partnership Program (NOPP)

National Science Foundation (NSF)

PROFESSIONAL AFFILIATIONS

American Geophysical Union

American Metrological Society

The Oceanography Society

RESEARCH CRUISES

North Carolina Shelf Survey	R/V Cape Hatteras	11/2008
Gulf of Maine Harmful Algal Bloom Survey	R/V Tioga	04/2006
Gulf of Maine Harmful Algal Bloom Rapid Response Survey	R/V Tioga	06/2005
Gulf of Maine Harmful Algal Bloom Rapid Response Survey	R/V Tioga	05/2005
Gulf of Maine Harmful Algal Bloom Survey	R/V Oceanus	05/2005
Gulf of Maine Harmful Algal Bloom Survey	R/V Oceanus	05/2003
West Florida Shelf ECOHAB Survey	R/V Suncoaster	01/2002
West Florida Shelf ECOHAB Survey	R/V Suncoaster	07/2001
West Florida Shelf ECOHAB Survey	R/V Suncoaster	01/2001
West Florida Shelf ECOHAB Survey	R/V Suncoaster	09/2000
West Florida Shelf ECOHAB Survey	R/V Suncoaster	04/2000
West Florida Shelf ECOHAB Survey	R/V Suncoaster	11/1999
West Florida Shelf ECOHAB Survey	R/V Suncoaster	07/1999
West Florida Shelf ECOHAB Survey	R/V Bellows	03/1999
West Florida Shelf ECOHAB Survey	R/V Suncoaster	12/1998

West Florida Shelf ECOHAB Survey	R/V Bellows	08/1998
West Florida Shelf ECOHAB Survey	R/V Suncoaster	07/1998
East China Sea Hydrographic Survey	R/V Dongfanghong	07/1997

SELECTED PROFESSIONAL MEETING PAPERS AND ABSTRACTS

- [71] **He, R.**, T. N. Miles, Seasonal Surface Ocean Temporal and Spatial Variability of the South Atlantic Bight: Revisiting with MODIS SST and Chl-a Imagery, Mid-Atlantic Bight Physical Oceanography Meteorology & Southeast Coastal Oceanography and Meteorology Conference, Raleigh, NC. 2009
- [70] Li. Y and **He, R.**, Interannual Forcing and Hydrography Variability in the Gulf of Maine and Their Implications on the Harmful Algal Bloom:2002-2008, Mid-Atlantic Bight Physical Oceanography Meteorology & Southeast Coastal Oceanography and Meteorology Conference, Raleigh, NC. 2009
- [69] Chen, K. **He, R.**, Investigation of MAB Shelfbreak Circulation and Biophysical Interactions, Mid-Atlantic Bight Physical Oceanography Meteorology & Southeast Coastal Oceanography and Meteorology Conference, Raleigh, NC. 2009
- [68] Zambon, J., **He, R.**, J. Warner, Investigation of Hurricane Ivan using the Coupled Ocean-Atmosphere-Wave-Sediment Transport (COAWST) Model , Mid-Atlantic Bight Physical Oceanography Meteorology & Southeast Coastal Oceanography and Meteorology Conference, Raleigh, NC. 2009
- [67] Warner, J. C., **He, R.**, Brandi Armstrong, Joe Zambon, Numerical Investigation of Hurricane Isabel Impacts, Mid-Atlantic Bight Physical Oceanography Meteorology & Southeast Coastal Oceanography and Meteorology Conference, Raleigh, NC. 2009
- [66] Hyun, K. H and **He, R.**, Effects of Winds and the Gulf Stream on the Cold Water Event in the South Atlantic Bight, Mid-Atlantic Bight Physical Oceanography Meteorology & Southeast Coastal Oceanography and Meteorology Conference, Raleigh, NC. 2009
- [65] Chen, K. **He, R.**, Investigation of MAB Shelfbreak Circulation and Biophysical Interactions, Mid-Atlantic Bight Physical Oceanography Meteorology & Southeast Coastal Oceanography and Meteorology Conference, Raleigh, NC. 2009
- [64] Anderson, D., Libby, S. Borkman, D., **He, R.**, Mickelson, M., McGillicuddy, D. The Historic 2005 Bloom of *Alexandrium fundyense*: Potential Linkages to the Massachusetts Bay Sewage Outfall, GEOHAB 2nd Open Science Meeting on HABs and Eutrophication. Beijing, China. 2009
- [63] McGillicuddy, D. J., Anderson D., **He, R.**, Keafer, B, Observations and Models of Harmful Algal Blooms in the Gulf of Maine: From Climatology to Forecasting, Global Ecology and Oceanography of Harmful Algal Blooms Modeling workshop, Ireland, 2009.
- [62] **He, R.** and K. Chen, Investigation of Northeast North American Coastal Circulation using a Nested Regional Hindcast model. MABPOM Meeting, Woods Hole, 2008
- [61] Chen, K. and **He, R.** Coastal circulation in the Gulf of Maine and Mid-Atlantic Bight, MABPOM Meeting, Woods Hole, 2008
- [60] **He, R.**, J. C. Warner, B. Armstrong, J. B. Zambon, Investigation of Coastal Ocean Response to Landfalling hurricane using Coupled Ocean Atmosphere Wave Sediment Transport (COAWST) Model: Realistic Hindcast, OS53D-1351, AGU Fall Meeting, San Francisco, 2008
- [59] Warner J, Armstrong, B., **He, R.**, J. B. Zambon, Using a Coupled Ocean -Atmosphere - Wave - Sediment

Transport (COAWST) Modeling System to Investigate Impacts of Storms on Coastal Systems, OS21E-1228, AGU Fall Meeting, San Francisco, 2008

- [58] Y Li, **He, R.**, D J McGillicuddy Jr, D M Anderson, B. A. Keafer, Investigation of the Gulf of Maine Circulation and Alexandrium fundyense Bloom in summer 2006: In Situ Observations and Numerical Modeling, OS32B-03, AGU Fall Meeting, San Francisco, 2008
- [57] K Chen, **He, R.**, Investigation of Northeastern North America Coastal Circulation Using a Nested Regional Circulation Hindcast Model, OS41A-1204, AGU Fall Meeting, San Francisco, 2008
- [56] J B Zambon, **He, R.**, J C Warner, Investigation of Coastal Ocean Response to Landfalling Hurricane Using a Coupled Ocean Atmosphere Wave Sediment Transport (COAWST) Model: Idealized Experiments, OS53D-1350, AGU Fall Meeting, San Francisco, 2008
- [55] B N Armstrong, J C Warner, **He, R.**, Using a coupled wave and ocean circulation modeling system to investigate the impacts of Hurricane Isabel, OS53D-1352, AGU Fall Meeting, San Francisco, 2008
- [54] K. Fenel, M. Lehmann, J. Wilkin, **R. He**, Modeling biogeochemical processes on the North American east coast continental shelf, International Council for the Exploration of the Sea Annual Conference, Halifax, 2008
- [53] M. Lehmann, K. Fennel, **R. He**, J. Wilkin, A bio-optical product from a coupled bio-physical ocean circulation model of the western North Atlantic, International Council for the Exploration of the Sea Annual Conference, Halifax, 2008
- [52] **He, R.** and K. Chen, Understanding coastal circulation in the Gulf of Maine and Mid-Atlantic Bight: A regional model hindcast experiment. *Ocean Sciences Meeting*, Orlando, FL, 2008
- [51] Lehmann, M, K. Fennel, **R. He**, and J. Wilkin, A bio-optical product from a coupled bio-physical ocean circulation model of the western North Atlantic, *Ocean Sciences Meeting*, Orlando, FL, 2008
- [50] Lenes, J. M, J.J. Walsh, R. H. Weisberg, D. A. Dieterle, C. A. Heil, R. Chen, J. Jolliff, A. Barth, **R. He**, and J. M. Prospero, A Karenia Odyssey: Model implications for current and future understanding, *Ocean Sciences Meeting*, Orlando, FL, 2008.
- [49] Li, M, and **R. He**, Numerical modeling study on coastal ocean biophysical response to hurricanes. *Ocean Sciences Meeting*, Orlando, FL, 2008
- [48] McGillicuddy, D. J., D. M. Anderson, **R. He**, and B. A. Keafer, Hindcasting the historic 2005 New England red tide: forcing mechanisms and future implications. *Ocean Sciences Meeting*, Orlando, FL, 2008
- [47] Miles, T. and **R. He**, Covariations of satellite sea surface temperature and ocean color in the South Atlantic Bight, *Ocean Sciences Meeting*, Orlando, FL, 2008
- [46] Anderson D., D. McGillicuddy, **R. He**, B. Keafer, C. Pilskaln, D. Couture, Jennifer Martine, Alexandrium Fundyense cyst dynamics in the Gulf of Maine, Global Ecology and Oceanography of Harmful Algal Blooms Conference on Asian HAB , Vietnam. 2008
- [45] **He, R.**, Circulation and biophysical process in the northeastern U.S. coastal ocean: Observations and Numerical Modeling, Internal Conference on Marginal Sea Physical Oceanography and Environmental Variability, Qingdao, China, 2007

- [44] McGillicuddy, D., **He, R.**, K. Smith, D. Anderson, B. Keafer, Observations and models of *Alexandrium fundyense* blooms in the gulf of Maine and Georges Bank: From Climatology to forecasting, 6th U.S. Conference on Harmful Algae, Woods Hole, MA. 2007
- [43] Anderson D., D. McGillicuddy, **R. He**, B. Keafer, C. Pilskaln, D. Couture, A Massive Bloom of *Alexandrium fundyense* in the Gulf of Maine: Mechanisms and Future Implication, 6th U.S. Conference on Harmful Algae, Woods Hole, MA. 2007
- [42] **He, R.**, K. Hill, M. Li, J. Warner, G. Lackmann, Implementing an ocean-wave-atmosphere coupled modeling system for the Gulf of Mexico and south Atlantic Bight, Gordon Research Conference, New Hampshire, 2007
- [41] **He, R.**, D. McGillicuddy, D. Anderson, B. Keafer, Hindcasting the 2005 *Alexandrium fundyense* bloom in the Gulf of Maine, Gordon Research Conference, New London, New Hampshire, 2007
- [40] **He, R.**, Understanding Coastal Circulation in the Gulf of Maine and Mid-Atlantic Bight: A Regional Model Hindcast Experiment, New London, New Hampshire, 2007
- [39] **He, R.**, K. Hill, M. Li, J. Warner, G. Lackmann, Implementing an ocean-wave-atmosphere coupled modeling system for the Gulf of Mexico and South Atlantic Bight, Southeast Coastal Oceanography and Meteorology Conference (SECOM), Miami, FL. 2007
- [38] **He, R.**, Understanding Coastal Circulation in the Gulf of Maine and Mid-Atlantic Bight: A Regional Model Hindcast Experiment, ROMS European workshop, Madrid, Spain, 2006
- [37] **He, R.**, Understanding Coastal Circulation in the Gulf of Maine and Mid-Atlantic Bight: A Regional Model Hindcast Experiment, MABPOM Annual Conference, NC, Chapel Hill, 2006
- [36] Anderson D., B. Keafer, K. Norton, **R. He**, D. McGillicuddy, C. Pilskaln, D. Couture, A Massive Bloom of *Alexandrium fundyense* in the Gulf of Maine: Mechanisms and Future Implication, 12th International Conference on Harmful Algae, Copenhagen, Denmark, 2006
- [35] **He, R.**, Gulf of Maine Circulation and Harmful Algal Bloom in Summer 2005: In-situ Observations and Numerical Modeling. Chinese Academy of Sciences Forum of Ocean Science and Technology, Qingdao, China, 2006
- [34] **He, R.**, D. McGillicuddy, D. Anderson, The Gulf of Maine Circulation Contexts of 2005 Summer *Alexandrium fundyense* Bloom, MIT Sea Grant Red Tide Symposium, 2006
- [33] Anderson D., B. Keafer, K. Norton, **R. He**, D. McGillicuddy, C. Pilskaln, D. Couture, A Massive Bloom of *Alexandrium fundyense* in the Gulf of Maine: General Pattern and Mechanisms and Future Implication, Honolulu, Hawaii. AGU Ocean Sciences 2006
- [32] **He, R.**, Multi-scale Synthesis of Coastal Circulation off the Northeastern United States. Honolulu, Hawaii. AGU Ocean Science Meeting, 2006
- [31] **He, R.**, Applying Basin-Scale HyCOM Hindcasts in Providing Open Boundary Conditions for Nested High-Resolution Coastal Circulation Modeling, Hybrid Coordinate Ocean Modeling (HYCOM) Workshop, 2005
- [30] **He, R.**, Applying Basin-Scale Hindcast in Providing Open Ocean Boundary Conditions for Nested High-resolution ROMS Coastal Circulation Model, Regional Ocean Modeling System/Terrain-following Ocean Model workshop, 2005

- [29] **He, R.**, D. McGillicuddy, D. Anderson, Initial observations and Modeling of the 2005 *Alexandrium fundyense* bloom in the Gulf of Maine. Regional Association for Research on the Gulf of Maine (GOM), 2005
- [28] **He, R.**, D. McGillicuddy, D. Lynch, Data Assimilative Model Hindcast of the Gulf of Maine Coastal Circulation. Gordon Research Conference, 2005
- [27] Barth, A., A. Alvera-Azcarate, **R. He**, R. W. Helber, R. H. Weisberg, A Hindcast Experiment Nesting a Baroclinic West Florida Shelf Model in the 1/12 Degree Operational North Atlantic HYCOM Model. AGU Spring meeting, 2005
- [26] **He, R.**, D. J. McGillicuddy, and D. R. Lynch, Data Assimilative Model Hindcast of the Gulf of Maine Coastal Circulation. AGU Fall meeting, 2004
- [25] **He, R.**, Observation and Data Assimilative Model Hindcast of the Coastal Circulation in the Gulf of Maine. Regional Associate for Research on the Gulf of Maine, 2004
- [24] Seim H., E. Kearns, R. Weisberg, J. Nelson, F. Werner, C. Mooers, M. Fletcher, J. Thipgen, **R. He**, An Overview of SEA-COOS and the Development of a Region-wide Wind Field, ASLO/TOS meeting, Honolulu, Hawaii, 2004
- [23] **He, R.**, R. Helber, R. Weisberg, H. Zhang, F. Muller-Karger, Merging Multiple Satellite Sea Surface Temperature: A Near-real time Cloud-free Sea Surface Temperature Analysis for the Southeastern Coastal Atlantic Ocean. AGU Ocean Science Meeting, 2004
- [22] **He, R.**, An Isopycnally Averaged Climatology for the Southeast Coastal Ocean. SEACOOS data and modeling workshop, 2003
- [21] Weisberg, R. H. and **R. He**, West Florida Shelf Modeling. 8th Hybrid Coordinate Ocean Modeling Workshop. 2003
- [20] Virmani. J., **R. He**, and R. H. Weisberg, Momentum and Heat Flux Effects on the West Florida Shelf. 12th Conference on Interaction of the sea and atmosphere. American Meteorological Society, 2003
- [19] **He, R.** and R. H. Weisberg, SEACOOS Model-Product Coordinate Committee Meeting, 2003
- [18] **He, R.** and R. H. Weisberg, A Loop Current Intrusion Case Study on the West Florida Shelf. American Geophysical Union Fall Meeting, 2002
- [17] Weisberg, R. H. and **R. He**, Local and Deep Ocean Contribution to Anomalous Water Properties on the West Florida Shelf. American Geophysical Union Fall Meeting, 2002
- [16] **He, R.** and R. H. Weisberg, West Florida Shelf Circulation and Temperature Budget for All Transition of 1998. *Xth* International Conference on Harmful Algae, 2002
- [15] Walsh, J. J., D. A. Dieterle, R. H. Weisberg, **R. He**, Three Dimensional Biophysical Models of Florida Red Tides. *Xth* International Conference on Harmful Algae, 2002.
- [14] Jolliff, J, J. J. Wash, **R. He** and R. H. Weisberg and others, On the Dispersal of Terrestrial Organic Matter over the West Florida Shelf: A Simulation of River Discharge and Photolysis of Colored Dissolved Organic Matter. *Xth* International Conference on Harmful Algae, 2002
- [13] **He, R.** and R. H. Weisberg. Material Property Distributions on the West Florida Shelf, Ocean Science Meeting, 2002

- [12] **He, R.** and R. H. Weisberg. West Florida Shelf Circulation in Spring Transition, American Geophysical Union Fall Meeting, 2001
- [11] Weisberg, R. H. and **R. He**, Real Time Monitoring and Circulation Modeling on the West Florida Shelf, American Geophysical Union Fall Meeting, 2001
- [10] **He, R.** and R. H. Weisberg. Modeling of West Florida Shelf Circulation, International Conference of Estuarine and Coastal Modeling, 2001
- [9] Weisberg, R. H. and **R. He**, West Florida Shelf Air-Sea Fluxes and SST Variability. Coastal Atmospheric and Oceanic Prediction and Process, American Meteorological Society. 2001
- [8] **He, R.**, R. H. Weisberg, Numerical Study of Tides on the West Florida Continental Shelf. Gordon Research Conference-Coastal Ocean Circulation, 2001
- [7] **He, R.**, R. H. Weisberg, The Circulation and Temperature Budget on the West Florida Continental Shelf during the 1999 Spring Transition. Gordon Research Conference, 2001
- [6] Virmani, J., **R. He**, R. H. Weisberg, Ocean Atmosphere Flux Variability in the Gulf of Mexico, AMS WCRP/SCOR Conference, 2001
- [5] **He, R.**, R. H. Weisberg, Modeling the coastal circulation on the West Florida Continental Shelf, SEACOOS conference, University of Miami, 2001
- [4] Weisberg, R. H., **R. He**, W. Hemme, Z. Li and H. Yang, ECOHAB in Florida, Physical Oceanography. Symposium on Harmful Marine Algae in the U.S. 2000
- [3] Zhang, H., M. Luther, D. Legler, S. Meyers, **R. He**, High Frequency Wind Forcing from NSCAT in a Model of the Indian Ocean Circulation, Ocean Science Meeting, 2000
- [2] **He, R.**, R. H. Weisberg, The Dynamics of Mixed Layers in the Shallow Water. Gordon Research Conference- Coastal Modeling. 1999
- [1] **He, R.**, R. H. Weisberg, Coupling Process of Surface and Bottom Boundary Layers on the Continental Shelf. 1999 Meeting of Minerals Management Service, the Department of the Interior. 1999

GRADUATE/ UNDERGRADUATE TEACHING

MEA811: Special Topic: Coastal Circulation Dynamics	Fall	2009
MEA462: Observational Methods and Data Analysis in Marine Physics	Spring	2009
MEA744: Dynamics of Shelf Circulation	Fall	2008
MEA615: Graduate At-sea Laboratory (co-advising with T. Wolcott)	Fall	2008
MEA462: Observational Methods and Data Analysis in Marine Physics	Spring	2008
MEA735: Geophysical Data Analysis (co-teaching with P-T, Shaw)	Spring	2008
MEA741: Synoptic Physical Oceanography	Fall	2007

POSTDOC/STUDENT ADVISING

Postdocs (2)

Dr. Mingkui Li	2006-2008	*now at TAMU
Dr. Kyung Hoon Hyun	2008-present	

Ph. D. Students (7)

Chen, K. (NCSU)	Major advisor	2007-present	* Qualifying exams passed in 06/2009
Li, Y. (NCSU)	Major advisor	2009-present	
Zambon, J. (NCSU)	Major advisor	2009-present	
Wang, Y. (OUC)	Co-major advisor	2005-2009	* Defended in 06/2009
Yao, Z (OUC)	Co-major advisor	2007-present	
Puckett, B. (NCSU)	Committee	2006-present	
Zuo, X (NCSU)	Committee	2006-present	

M. S. Students (7)

Miles, T. (NCSU)	Major advisor	2007-2009	* Defended in 03/2009
Li, Y. (NCSU)	Major advisor	2007-2009	* Defended in 03/2009
Zambon, J. (NCSU)	Major advisor	2007-2009	* Defended in 07/2009
Gong, Y (NCSU)	Major advisor	2009-present	
Nelson, J. (NCSU)	Major advisor	2009-present	
Kim, S. (NCSU)	Committee	2007- 2009	* Defended in 05/2009
Haase, A. (NCSU)	Committee	2007-present	

NCSU Undergraduate Students (12)

Ann, E., Lee, M., William, M., Jillian, P., Steven, S., Ryan, S. and others

GRADUATE STUDENT THESES ADVISED

- [1] Wang, Y (2009). Numerical investigation of Long-term environment changes in the East China Sea. Ocean University of China, Ph.D. thesis.
- [2] Miles, T. N. (2009), Characterizing the South Atlantic Bight seasonal variability and cold-water event in 2003 using a daily cloud-free SST and chlorophyll analysis, NCSU Master Thesis.
- [3] Li, Y. (2009), Investigation of the 2006 *Alexandrium fundyense* Bloom in the Gulf of Maine: In situ Observations and Numerical Modeling. NCSU Master Thesis.
- [4] Kim, S. (2009), Internal tides and internal solitary waves in the northern South China Sea. NCSU Master Thesis.
- [5] Zambon, J. B. (2009), Investigations of Landfalling Tropical Storms Using the Coupled Ocean Atmosphere Wave and Sediment Transport (COAWST) Model. NCSU Master Thesis.