RUOYING (ROY) HE

Goodnight Innovation Distinguished Professor

Department of Marine, Earth and Atmospheric Sciences (MEAS)

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1. EDUCATION

Bachelor of Science	Ocean University of China	1996	Oceanography
Doctorate of Philosophy	University of South Florida	2002	Physical Oceanography
Postdoctoral Associate	University of South Florida		2002-2003
Postdoctoral Scholar	Woods Hole Oceanographic Institution		2003-2004

2. EMPLOYMENT HISTORY

Goodnight Innovation Distinguished Professor, North Carolina State University	2018-present
Senior Faculty Fellow, Climate Leaders Program, Kenan Institute	2021-2023
Distinguished Professor, North Carolina State University	2014-2018
Professor, North Carolina State University	2012-2014
Associate Professor, North Carolina State University	2007-2012
Adjunct Scientist, Woods Hole Oceanographic Institution	2007-present
Assistant Scientist, Woods Hole Oceanographic Institution	2004-2007

3. HONORS AND AWARDS

Goodnight Innovation Distinguished Professor, North Carolina State University	2018
Distinguished Professor, North Carolina State University	2014
Best Paper Award, Global Ocean Data Assimilation Experiment International Symposium	2013
NC State Alumni Association Outstanding Research Award College Nominee	2012
National Aeronautics and Space Administration (NASA) Young Investigator Award	2006
Sears Collaboration Award, Woods Hole Oceanographic Institution	2006
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
Knight Research Fellowship Award, University of South Florida	2002
Phi Kappa Phi Honor Society	2001

Carrels Research Fellowship Award, University of South Florida 2000

Getting Research Fellowship Award, University of South Florida 1999

4. PROFESSIONAL SERVICES

Governance

1) Committee Member, National Science Foundation-Ocean Observatories Initiative Facilities Board (OOIFB), 2017-2024
2) Program Review Panelist for Ocean Sciences Division, Navy Research Lab, Stennis Center, 2019
3) Committee Member, National Academy of Sciences – Loop Current Study Program, 2017
3) Steering Team Member, U.S. Integrated Ocean Observing and Modeling System, 2013- present
4) Member, NASA Ocean Topography Science Team, 2012- 2017
5) Board Member, Southeast Coastal Ocean Observing Regional Association (SECOORA), 2012-2018
6) Member, Consortium for Ocean Leadership
7) Advisory Committee, National Weather Service New Port, 2015-2018
8) Project Scientist - Scientific User Requirement Group for National Science Foundation Ocean Observatories Initiative (NSF OOI), Cyber Infrastructure Implementing Organization, 2009
9) Project Scientist – NOAA National Scientific Research, Development, Demonstration, and Technology Transfer (RDDTT) Plan on Reducing Impacts from Harmful Algal Blooms, 2008

Editorial Boards

1) Associate Editor, *Journal of Geophysical Research- Oceans*, 2007-2013
2) Guest Editor, *Ocean Dynamics*, Special Issue, 2011
4) Editor, Journal of Marine Science and Engineering, 2020 - present
3) Review Editor, *Frontiers in Marine Science*, 2012- present
4) Editor, Journal of Artificial Intelligence for the Earth Systems, 2021-present

International Advisory Boards

1) Member, International GODAE Coastal and Shelf Seas Task Team, 2010-present
2) Review panel member, National Science Foundation China (NSFC)

Professional Leadership

1) Co-chair, International Liege Colloquium on Ocean Dynamics: Machine Learning and Data Analysis in Oceanography, May 2023, University of Liege
2) Chair, 2022 Ocean Sciences Meeting, "Coastal Ocean Modeling and Prediction", 'AI/MI in oceanography"
3) Program Committee, 2020 AGU/ASLO Ocean Sciences Meeting, 2019

4) Chair, International Symposium of on Coupled Ocean-Atmosphere-Wave-Sediment Transport Model System, 2019
5) Chair, Middle Atlantic Bight Physical Oceanography and Meteorology meeting, 2019
6) Elected Chair, Gordon Research Conference on Coastal Circulation Dynamics, 2017
7) Elected Chair, Gordon Research Conference on Coastal Circulation Dynamics, 2017
8) Elected Vice-Chair, Gordon Research Conference on Coastal Ocean Modeling, 2015
9) Panelist, National Science Foundation, Ocean Observatories Initiative (OOI), 2014, 2016
10) Panelist, National Oceanic and Atmospheric Administration, Gulf of Mexico Hypoxia Research Coordination and Advancement Program, 2013
11) Panelist, National Oceanic and Atmospheric Administration, Sea Grant Program, 2011, 2013
12) Panelist, National Science Foundation, Earth System Climate Modeling, 2010
13) Panelist, National Oceanic and Atmospheric Administration, ECOHAB Program, 2010
14) Panelist, National Science Foundation, Physical Oceanography Program, 2008
15) Panelist, National Oceanographic Partnership Program, 2004
16) Chair, 2017 Asia Oceania Geosciences Society Conference "Variability of Physics and Bio-geochemistry in Semi-Enclosed and Shelf Seas", Singapore
17) Chair, 2016 Asia Oceania Geosciences Society Conference "Western Boundary Current, Eddies and Continental Shelf Processes", China
18) Chair, 2015 Asia Oceania Geosciences Society Conference "Variability of Physics and Bio-geochemistry in Semi-Enclosed and Shelf Seas", Singapore
19) Co-organizer, 2015 International conference on "Mesoscale, and Sub-mesoscale Ocean Processes," Qingdao, China
20) Chair, 2014 Asia Oceania Geosciences Society Conference "Western Boundary Currents, Transport, Path Variability, Eddies and Continental Shelf Processes", Sapporo, Japan
21) Chair, 2013 International Symposium on "Boundary Current Dynamics: Its Connection with Open-ocean and Coastal Processes and Responses to Global Climate Change". Lijiang, China
22) Chair, 2013 Asia Oceania Geosciences Society Conference "Ocean Analysis, Modeling, and Prediction in Marginal/shelf Seas", Brisbane, Australia
23) Organizer, 2012 Ocean Sciences Meeting, "Advances in Coastal Ocean Modeling, Analysis, and Prediction". Salt Lake City, Utah
24) Organizer, 2011 US NSF Ocean Observatories Initiative (OOI) Science Workshop for Shelf/Slope Processes and Pioneer Array. Providence, RI
25) Organizer, 2010 AGU Town Hall Meeting on Ocean Observatories Initiative (OOI) Pioneer Array and Shelf/Slope Processes. San Francisco, CA
26) Chair, 2010 International Symposium on "Boundary Current Dynamics: Its Connection with Open-ocean and Coastal Processes and Responses to Global Climate Change". Qingdao, China

27) Chair, 2010 Ocean Sciences Meeting, "Coastal Ocean Circulation and Ecosystem Prediction and Assimilation", Portland, OR
28) Chair, 2009 Joint Mid-Atlantic Bight Physical Oceanography and Meteorology (MABPOM) and Southeast Coastal Oceanography and Meteorology (SECOM) Conference, Raleigh, NC
29) Chair, 2008 Ocean Sciences Meeting, "Coastal Ocean Modeling and Prediction", Hawaii, HI
30) Chair, 2006 AGU Western Pacific Geophysical Meeting, "Modeling and Prediction on Circulation, Ecosystem and Coastal Environment", Beijing, China

University Committee Service and Leadership

1) Member, Advisory Council Committee, College of Physical and Mathematical Sciences, 2010-2011
2) Member, MEAS Faculty (geophysicist) Search Committee, 2009-2010
3) Member, MEAS Departmental Web Committee, 2013-2014
4) Member, MEAS Department Head Search Committee, 2010-2011
5) Member, MEAS Faculty (Marine Biologist) Search Committee, 2015-2016
6) Member, MEAS Department Head Search Committee, 2015-2016
7) Member, MEAS Faculty Affair Committee, 2016- 2019
8) Chair, MEAS Departmental Computer Committee, 2011-present
9) Chair, MEAS Departmental Seminar Committee, 2012-2013
10) Chair, MEAS Departmental F&A Committee, 2012-2015
11) Chair, MEAS Faculty (Physical Oceanographer) Search Committee, 2014-2015
12) Faculty advisor, Marine Technology Society, NCSU Student Chapter, 2014- present
13) Member, MEAS Computer Committee, 2017- present
14) Member, MEAS Space Committee, 2018- present
15) Member, College of Science, Distinguished Professor Review Committee, 2018-present
16) Member, MEAS post-Tenure Review Committee, 2018- 2021
17) Member, MEAS Faculty (Chemical Oceanographer) Search Committee, 2020-2021
18) Senior Faculty Fellow, Kenan Institute for Engineering, Technology & Science, 2021-2023

Reviewer for Professional Journals

1) *Chinese Journal of Oceanology and Limnology*
2) *Continental Shelf Research*
3) *Deep-Sea Research I*
4) *Deep-Sea Research II*
5) *Dynamics of Atmospheres and Oceans*
6) *Geophysical Research Letters*
7) *Harmful Algae*

8) *Journal of Atmospheric and Oceanic Technology*
9) *Journal of Geophysical Research*
10) *Journal of Physical Oceanography*
11) *Journal of Marine Research*
12) *Journal of Marine System*
13) *Limnology and Oceanography*
14) *Nature*
15) *Nature Geoscience*
16) *Ocean Modelling*
17) *Oceanography*
18) *Ocean Science*
19) *Progress in Oceanography*
20) *Science*

Reviewer for Federal and International Funding Agencies

1) National Aeronautics and Space Administration (NASA), USA
2) National Oceanic and Atmospheric Administration (NOAA), USA
3) National Oceanographic Partnership Program (NOPP), USA
4) National Science Foundation (NSF), USA
5) Natural Environment Research Council (NERC), UK
6) European Research Council
7) Israel Science Foundation
8) Innovation and Technology Commission, Hong Kong SAR Government
9) Indonesian Agency for Meteorology, Climatology and Geophysics
10) Natural Sciences and Engineering Research Council of Canada
11) Innovation Research Center, Kuwait University

Professional Organization Memberships

1) Member, American Geophysical Union (AGU)
2) Member, American Meteorological Society (AMS)
3) Member, The Oceanography Society (TOS)
4) Faculty Advisor, Marine Technology Society (MTS)

5. RESEARCH EXPERTISE

Professor He's research expertise spans ocean circulation dynamics, air-sea interactions, and physical-biogeochemical processes in the marine environment. As leader of the Ocean Observing and Modeling Group

(OOMG), he directs a team focused on advancing oceanographic science through integrated ocean observations, remote sensing data analysis, data-assimilative numerical modeling, and the application of artificial intelligence and machine learning. His comprehensive approach combines in situ and satellite observations with advanced modeling and data assimilation techniques, enabling the study of fundamental ocean physics and the complex interactions among physical, biological, geological, and chemical processes across ocean, land, and atmospheric interfaces.

6. FUNDED PROJECTS AND RESEARCH GRANTS

As of March, 2025, Dr. R. He has served as the project PI or Co-PI for 59 research projects, with a total grant amount of $19,219,428

1) **WHOI 2004-2006**, Award: $51,000. R. He

"Evaluation of Global Ocean Data Assimilation Experiment (GODAE) Hindcast in Providing Open Boundary Conditions for High Resolution Coastal Circulation Modeling"

2) **WHOI 2005-2007**, Award: $48,000. R. He (PI)

"Data Assimilative Interdisciplinary Modeling of the Adjacent Coastal Water of the Martha's Vineyard Coastal Observatory"

3**) NOPP 2006-2008**, Award: $42,000, R. He (PI)

"Community Sediment Transport Modeling"

4) **NOAA 2006-2012**, NCSU Award: $472,058, R. He (PI)

"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"

5) **ONR 2006-2011**, NCSU Award $750,000, R. He (PI)

"Rapid Environmental Assessment Using an Integrated Coastal Ocean Observation and Modeling System"

6) **NCDENR 2007-2009**, NCSU Award $220,264, R. He (Co-PI with Dr. J. Lin)

"Development of a Combined Hydrodynamic, Sediment Transport and Nutrient Response Model System for Falls of the Neuse Reservoir, Neuse River Basin"

7) **NASA 2007-2010**, NCSU Award $317,119, R. He (PI)

"Investigation of Coastal Phytoplankton Dynamics by Adjoint Data Assimilation of Satellite Ocean Color Data"

8) **USGS 2007-2012**, NCSU Award $175,000, R. He (PI)

"Coastal Ocean Processes and Sediment Transport Dynamics"

9) **NCSU 2008-2009**, Award $4000, R. He (PI)

"Understanding Shelf Hydrography Seasonal Evolution Using Novel Glider Technology"

10) **NOAA 2009-2011**, NCSU Award $10,000, R. He (Co-PI with Dr. D. Eggleston)

"NOAA Cooperative Institute for Ocean Exploration, Research, and Technology: Connectivity Between Deep and Shallow Ecosystems: Ecosystem-based Management of New Shelf Edge MPAs"

11) **NSF 2009-2012**, NCSU Award $233,326, R. He (PI)

"Collaborative Research: Frontal Interaction and Atmospheric Forcing North of Cape Hatteras: An Analysis and Modeling Study"

12) **DOE 2010-2012**, NCSU Award $125,000, R. He (PI)

"Operational Ocean Forecast System Pilot Project"

13) **ONR 2010-2011**, NCSU Award $138,487, R. He (PI)

"Eddy-Wind-Topography Interaction Dynamics"

14) **NASA 2010-2013**, NCSU Award $342,678, R. He (PI)

"Assessing Impacts of Climate and Land Use Change on Terrestrial-Ocean Fluxes of Carbon and Nutrients and Their Cycling in Coastal Ecosystems"

15) **NOAA Sea Grant 2010-2011**, NCSU Award $7000, R. He (PI)

"Modeling the Vertical and Horizontal Distributions of the Oil Plumes Arising From the Deepwater Horizon Spill in the Southeast U.S. Coastal Waters"

16) **NSF 2010-2011**, NCSU Award $81,240, R. He (PI)

"3D Model Forecast of the Vertical and Horizontal Distributions of the Oil Plumes Arising from the Deepwater Horizon Spill"

17) **NOAA 2010-2012**, NCSU Award $160,000, R. He (PI)

"Implementation of Regional Integrated Ocean Observing System Support of RCOOS Development"

18) **NSF 2011-2016**, NCSU Award $473,346, R. He (co-PI with Dr. D. Eggleston)

"Collaborative Research: Connectivity in Western Atlantic Seep Populations: Oceanographic and Life History Processes Underlying Genetic Structure"

19) **NOAA 2011-2016**, NCSU Award $487,462, R. He (PI)
"Implementation of an Operational Model for Prediction of *Alexandrium fundyense* Blooms in the Gulf of Maine"

20) **NOAA 2011-2016**, NCSU Award $620,000, R. He (PI)
"Southeast Coastal Ocean Observing Regional Association: An Environmental monitoring and Assessment Program to Support Decision-Makers' Needs for Coastal and ocean Data and Products"

21) **GOMRI 2011-2015**, NCSU Award $210,000, R. He (PI)
"Gulf Integrated Spill Response Consortium: Circulation Modeling"

22) **NASA 2013-2014**, NCSU Award $84,009, R. He (PI)
"Development of Observational Products and Coupled Models of Land-Ocean-Atmospheric Fluxes in the Mississippi River Watershed and Gulf of Mexico in Support of Carbon Monitoring"

23) **NASA 2013-2017**, NCSU Award $437,873, R. He (PI)
"The Impact of Western Boundary Current and Eddies on the Across-shelf Exchange in the South Atlantic Bight: an Integrated Study Using Satellite Altimeters Time Series, In-situ Observations, and Data Assimilative Numerical Modeling"

24) **SAIC 2013-2014**, NCSU Award $29,846, R. He (PI)
"Analysis of Loop Current Observations"

25) **UNC CSI 2013-2014**, NCSU Award $68,400, R. He (PI)
"Development of High-Resolution Ocean Circulation Prediction and Assessment System in Support of Ocean Energy Studies"

26) **USGS 2014-2016**, NCSU Award $120,000, R. He (PI)
"Hurricane Process Study: Numerical Model Investigation of Coastal Erosion and Accretion as a Result of Major Storm Events"

27) **NASA 2014-2016**, NCSU Award $198,400, R. He (PI)
"Air-Sea CO_2 Flux and Carbon Budget Synthesis and Modeling in the Entire Gulf of Mexico"

28) **NOAA 2014-2016**, NCSU Award $254,122, R. He (co-PI with Dr. J. Buckel)
"Estimating Discard Morality of Shallow and Deep Water Reef Fishes Using Conventional and Telemetry Tags"

29) **NASA 2014-2017**, NCSU Award $298,603, R. He (PI)
"An Integrated Terrestrial-Coastal Ocean Observation and Modeling Framework for Carbon Management Decision Support"

30) **UNC CSI 2014-2015**, NCSU Award $62,377, R. He (PI)
"Developing an Integrated Modeling-Observing Prediction and Assessment System in Support of North Carolina Renewable Ocean Energy Studies"

31) **DOI 2015-2017**, NCSU Award $46,999, R. He (PI)
"Development of a South Atlantic Ecosystem Model: A Coupled Marine Environmental Assessment and Prediction System for the Southeastern U.S. Coastal Ocean in Support of Effective Marine Ecosystem-Based Management"

32) **NOAA 2015-2018**, NCSU Award $138,061, R. He (PI)
"ECOHAB: Interannual Variability of PSP Toxicity in Eastern Maine: Testing the Leaky Gyre Hypothesis and Improving Regional Forecasts and Management"

33) **NOAA 2015-2017**, NCSU Award $53,769, R. He (PI)
"Use of a Biophysical Modeling Framework to Develop a Recruitment Index for Inclusion in Stock Assessments in the Gulf of Mexico and South Atlantic"

34) **NSF 2015-2018**, NCSU Award $377,597, R. He (PI)
"Collaborative Research: Contribution of Prydz Bay Shelf Water to Antarctic Bottom Water Formation"

35) **NSF 2016-2020**, NCSU Award $684,899, R. He (PI)
"Collaborative Research: Processes driving Exchange At Cape Hatteras (PEACH)"

36) **GOMRI 2016-2019**, NCSU Award $563,632, R. He (PI)
"Three-dimensional Gulf Circulation and Biogeochemical Processes Unveiled by State-of-the-Art Profiling Float Technology and Data Assimilative Ocean Models"

37) **NOAA IOOS/SECOORA 2016-2020**, NCSU Award $650,000, R. He (PI)

"A Coupled Marine Environmental Assessment and Prediction System for the Southeastern U.S. Coastal Ocean in Support of Effective Marine Ecosystem-Based Management, Efficient Marine Operations, and Resilient Coastal Communities"

38) **NOAA IOOS/SECOORA 2016-2020**, NCSU Award $125,000, R. He (PI)

"Cooperative Regional Glider Observatory"

39) **UNC CSI 2016-2018**, NCSU Award $109,683, R. He (PI)

"Comprehensive Gulf Stream Ocean Energy Resource Assessment Using an Integrated Observing and Modeling Approach"

40) **DOE 2016-2017**, NCSU Award $164,127, R. He (PI)

"U.S. East Coast Wave Energy Resource Assessment"

41) **NCSU 2017-2018**, Chancellor Innovative Funds Award $75,000, R. He (PI)

"Virtual Marine Ecosystem, The Ocean at Your Fingertip"

42) **Kenan 2017-2018**, NCSU Award $45,000, R. He (PI)

"Climate downscaling of Marine Environment Conditions off North Carolina"

43) **C. Kelly Memorial Funds** for U.S. –Japan Scientific Cooperation, NCSU Award $3,000, R. He (PI)

"Mesoscale and Submesoscale Coastal Ocean Variability Associated with the Western Boundary Currents"

44) **Kenan 2018-2019**, NCSU Award $45,000, R. He (PI)

"Advanced Marine Environment Prediction"

45) **DOE/Sandia 2018-2019,** $149,200, R. He (PI)

"Puerto Rico, US Virgin Islands, and Gulf Coast Regional Wave Modeling Project"

46) **National Academies 2019-2020,** $2,100,946, R. He (PI)

"Understanding Gulf Ocean System Program: Modeling and Prediction"

47) **National Science Foundation 2019-2022**, $667,901, R. He (Co-PI with D. Eggleston)

"Dispersal Depth and the Transport of Deep-sea Methane-seep Larvae Around a Biogeographic Barrier"

48) **UNC CSI 2020-2021**, NCSU Award $36,090, R. He (PI)

"Comprehensive Gulf Stream Ocean Energy Resource Assessment Using an Integrated Observing and Modeling Approach"

49) **Kenan 2020-2021**, NCSU Award $50,000, R. He (PI)

"Developing an Integrated Marine Environment Observation and Prediction System in Support of NC Energy Initiatives"

50) **NOAA, 2019-2022**, $689,755, R. He (PI)

"Developing an Integrated Coastal Water Predictive Capability to Promote Resilience to Water Risks"

51) **NSF 2020-2025**, NCSU Award $2,499,965, R. He (NCSU PI, AI Institute Co-PI)

"NSF AI Institute for Research on Trustworthy AI in Weather, Climate, and Coastal Oceanography (AI2ES)"

52) **USGS 2020-2021**, NCSU Award $221,574, R. He (Co-PI with J. Zambon)

"Using a Coupled Numerical Modeling System to Investigate Flooding Impacts during Hurricane Florence "

53) **National Academy, 2021-2022**, $996,267, R. He (PI)

"Understanding Gulf Ocean System Program: Modeling and Prediction (Extension) "

54) **NOAA, 2021-2025**, $686,267, R. He (PI)

"Partnering to Meet the Needs of Coastal Communities for Actionable Information to Protect Lives and Property "

55) **NSF, 2021-2022**, $146,399, R. He (PI)

"RAPID: A Modeling-Based Investigation in Support of Pioneer Array Relocation Design in the Southern Mid-Atlantic Bight"

56) **NSF, 2022-2025**, $849,178, R. He (Co-PI with C. Vermillion)

"Collaborative Research: CPS: Medium: Enabling Autonomous, Persistent, and Adaptive Mobile Observational Networks Through Energy-Aware Dynamic Coverage"

57) **NSF, 2023-2027**, $320,000, R. He (PI)

"PARTNER: An AI/ML Collaborative for Southeast Florida Coastal Environmental Data and Modeling Center"

58) **DOE, 2023-2024**, $60,187, R. He (PI)
"A Novel Artificial Intelligence / Machine Learning Approach for High-efficiency, High-fidelity Marine Wave Energy Characterization and Assessment for Powering the Blue Economy"

59) **NSF, 2025-2028**, $411,914, R. He (PI)
"Collaborative Research: Caribbean through-flow water mass transformation processes"

7. REFEREED PUBLICATIONS (*Student/postdocs advised by R. He). H-index: 47, i10-index: 104 as of March 2025.

1) **He, R**., and R. H. Weisberg (2002), Tides on the West Florida Shelf. *Journal of Physical Oceanography*, Vol. 32, 12, 3455-3473 [PDF]

2) **He, R**., and R. H. Weisberg (2002), West Florida Shelf circulation and heat budget for the 1999 spring transition. *Continental Shelf Research*, Vol. 22, 5, 719-748 [PDF]

3) **He, R**., and 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 [PDF]

4) **He, R**., and R. H. Weisberg (2003), A Loop Current intrusion case study on the West Florida Shelf. *Journal of Physical Oceanography*, Vol. 33, 2, 465-477 [PDF]

5) **He, R**., and R. H. Weisberg (2003), West Florida Shelf circulation and temperature budget for the 1998 fall transition. *Continental Shelf Research*, Vol. 23, 8, 777-800 [PDF]

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 [PDF]

7) Jolliff, J., J. J. Walsh, **R. He**, R. H. Weisberg, A. Stovall-Leonard, P. G. Coble, R. Conmy, C. Heil., B. Nababan, H. Zhang, C. Hu, and F. E. Muller-Karger (2003), The Dispersal of the Suwannee River plume over the West Florida shelf: Simulation and observation of the optical and biochemical consequences of a flushing event. *Geophysical Research Letters*, Vol. 30, No. 13, 1709, doi: 10.1029 /2003GL01 [PDF]

8) Walsh, J. J., R. H. Weisberg, D.A. Dieterle, **R. He**, B. P. Darrow, J. K. Jolliff, K. M. Lester, G. A. Vargo, G. J. Kirkpatrick, K. A. Fanning, T. T. Sutton, A. E. Jochens, D. C. Biggs, S. Nababan, C. Hu., and F. E. Muller Karger (2003), 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 [PDF]

9) Weisberg, R. H. and **R. He** (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 [PDF]

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 [PDF]

11) Weisberg, R. H., **R. He**, and J. J. Walsh (2004), Coastal ocean circulation influences on remotely sensed optical properties. *Oceanography*, 17, 68-75 [PDF]

12) Anderson, D., D. McGillicuddy, B. Keafer, M. Mickelson, S. Libby, J. Manning, **R. He**, D. Lynch, K. Smith, S. Mayo, D. Whitaker, and 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 [PDF]

13) **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 [PDF]

14) Weisberg, R. H., **R. He**, 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.

15) **He, R**. and J. L. Wilkin (2006), Barotropic 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 .[PDF]

16) Liu Y., R. H. Weisberg, and **R. He**. (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.[PDF]

17) Milroy, S. P., D. A. Dieterle, **R. He**, G. J. Kirkpatrick, K. M. Lester, K. Steidinger, G. A. Vargo, J. J. Walsh, and 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 [PDF]

18) **He, R**. and D. J. McGillicuddy (2008), Historic 2005 toxic bloom of *Alexandrium fundyense* in the west Gulf of Maine: 1. In situ observations of coastal hydrography and circulation. *Journal of Geophysical Research*, 113,C07039, doi:10.1029/2007JC004691 [PDF]

19) **He, R**., D. J. McGillicuddy, D. Anderson and B. Keafer (2008), Historic 2005 toxic bloom of *Alexandrium fundyense* in the western Gulf of Maine: 2. Coupled biophysical numerical modeling. *Journal of Geophysical Research*, 113, C07040,doi:10.1029/2007JC004602 [PDF]

20) Lenes, J. M., B. A. Darrow, J. J. Walsh, J. M. Prospero, **R. He**, 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.[PDF]

21) 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, **R. He**, F. Werner, and J. Wilkin (2009), U.S. GODAE: Global Ocean Prediction with the HYbrid Coordinate Ocean Model (HYCOM), *Oceanography*, v22, 3, 48-59. [PDF]

22) Lehmann, M., K. Fennel, and **R. He** (2009), Statistical validation of a 3-D bio-physical model of the western North Atlantic, *Biogeosciences*. 6, 1-14 [PDF]

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72) Li, Y. and R. He, Quantifying the Coastal Connectivity in the Gulf of Maine, AGU Ocean Sciences Meeting, Portland, OR, 2010

73) Hyun, K. and R. He, Impacts of Two Major Hurricanes Gustav and Ike on the Gulf of Mexico Circulation in 2008: Numerical Investigation Using a Nested Regional Ocean Model, AGU Ocean Sciences Meeting, Portland, OR, 2010

74) Zambon, J. B, R. He, J. C. Warner, and B. N. Armstrong, Investigation of Hurricane Ivan Using the 3- Way Coupled Ocean-Atmosphere-Wave-Sediment Transport (COAWST) Model, AGU Ocean Sciences Meeting, Portland, OR, 2010

75) Chen, K., and R. He, Numerical Investigation of the Middle Atlantic Bight Shelfbreak Circulation and Ecosystem Dynamics, AGU Ocean Sciences Meeting, Portland, OR, 2010

76) Xue, Z., J. Liu, D. J. DeMaster, R. He, and E. L. Leithold, A Source-to-Sink Study of the Mekong Subaqueous Delta. AGU Ocean Sciences Meeting, Portland, OR, 2010

77) Warner, J. C., B. N. Armstrong, M. Olabarrieta, R. He, J. B. Zambon, G. Voulgaris, N. Kumar, and K. A. Haas, Development and Application of a Coupled-Ocean-Atmosphere-Wave Sediment Transport (COAWST) Modeling System for Nearshore Environments (Invited). AGU Ocean
Sciences Meeting, Portland, OR, 2010

78) He, R., D. McGillicuddy, D. Anderson, B. Keafer, and Y. Li, Predicting Harmful Algal Blooms in the Gulf of Maine: From Event Hindcasting to Seasonal Forecasting (Invited). AGU Ocean Sciences Meeting, Portland, OR, 2010

79) He, R., Modeling Coastal Circulation, Connectivity, and Harmful Algal Blooms in the Gulf of Maine. ROMS User Conference, Honolulu, HI, 2010

80) Anderson, D., R. He, D. McGillicuddy, B. Keafer, and Y. Li. Predicting Harmful Algal Blooms in the Gulf of Maine: From Event Hindcasting to Seasonal Forecasting, 14th International Conference on Harmful Algae, Crete, Greece, 2010

81) Xue, Z., Z. Yao, and R. He, Multi-level Model Downscaling of Coastal Ocean Responses in Face of a Warming Climate: Carolina Perspective, 35th Climate Diagnostics and Prediction Conference, Raleigh, NC, 2010

82) Yao, Z., Z. Xue, and R. He, The Impact of Climate Change on Storm Surges over the U.S. East Coastal Waters. 35th Climate Diagnostics and Prediction Conference, Raleigh, NC, 2010

83) He, R., Z. Xue, and Z. Yao, Regional Downscaling of IPCC Sea Surface Wind Predictions Based on Long-term Satellite Data Statistics, 35th Climate Diagnostics and Prediction Conference, Raleigh, NC, 2010

84) He, R., W. Zhang, K. Hyun, K. Chen, and H. Qian, Hindcasting of the Gulf of Mexico Circulation and Age and Distribution of the Oil Plume Arising from the Deepwater Horizon Spill. Joint subcommittee on Ocean Science & Technology Conference on Deepwater Horizon Oil Spill, St. Petersburg, FL, 2010

85) Gawarkiewicz, G., J. H. Churchill, R. He, and Y. Gong, Shelfbreak Frontal Structure and Gulf Stream Interaction North of Cape Hatteras: High Resolution Observations and Regional Modeling, AGU fall meeting, San Francisco, CA, 2010

86) Ma, Y., K. Xu, R. He, P. A. Wren, Y. Gong, B. Quigley, and D. Tarpley, Hydrodynamic and Sediment Transport Processes in Long Bay of the Carolinas. AGU fall meeting, San Francisco, CA, 2010

87) North, E. W., Z. Schlag, E. Adams, R. He, K. Hyun, C. R. Sherwood, R. P. Signell, and S. D. Peckham, Simulating the Three Dimensional Dispersal of Aging Oil with a Lagrangian Approach, AGU fall meeting, San Francisco, CA, 2010

88) He, R., W. Zhang, K. Hyun, K. Chen, and H. Qian, Hindcasting of the Gulf of Mexico Circulation and Age and Distribution of the Oil Plume Arising from the Deepwater Horizon Spill. AGU fall meeting, San Francisco, CA, 2010

89) He, R., Modeling Shelfbreak Processes: Physics and Ecosystem Dynamics, NSF OOI Pioneer Array Science Workshop, Providence, RI, 2011

90) He, R., D. McGillicuddy, D. Anderson, B. Keafer, and Y. Li. Predicting the Harmful Algal Bloom in the Gulf of Maine: From Seasonal Ensemble Forecasting to Data Assimilative Hindcasting, EGU General Assembly, Vienna, Austria, 2011

91) Anderson, D., D. M. McGillicuddy, B. Keafer, R. He, D. Couture, and J. L. Martine, *Alexandrium fundyense* Cyst Distributions in the Gulf of Maine: Interannual Variability and Links to Past and Future Bloom Magnitude, 9th International Conference on Modern and Fossil Dinoflagellates, Liverpool, UK, 2011

92) Anderson, D., D. M. McGillicuddy, B. Keafer, R. He, D. Couture, and J. L. Martine, *Alexandrium fundyense* Cyst Distributions in the Gulf of Maine: Interannual Variability and Links to Past and Future Bloom Magnitude, 6th Symposium on Harmful Algal Blooms the U.S., Austin. TX, 2011

93) Li, Y, and R. He, The Coastal Connectivity in the Gulf of Maine, Gordon Research Conference, South Hadley, MA, 2011

94) Yao, Z., Z. Xue, and R. He, Climate Projections of Coastal Wind and Sea Levels off the U. S. Atlantic and Gulf of Mexico Coasts, Gordon Research Conference, South Hadley, MA, 2011

95) Gong, Y. and He, R., Numerical Investigation of Coastal Circulation Dynamics near Cape Hatteras, North Carolina in January 2005, Gordon Research Conference, South Hadley, MA, 2011

96) Chen, K., R. He, B. Powell, and A. Moore, Data Assimilative Modeling Investigation of Gulf Stream Warm-Core Ring Interaction with the Mid-Atlantic Bight Continental Shelf and Slope, Gordon Research Conference, South Hadley, MA, 2011

97) Zambon, J., R. He, and J. Warner, Investigation of Hurricane Ivan Using a 3-Way Coupled Ocean- Atmosphere-Wave-Sediment Transport Model, Gordon Research Conference, 2011, South Hadley, MA.

98) Nelson, J. and R. He,, Effect of the Gulf Stream on Winter Extratropical Cyclones, Gordon Research Conference, South Hadley, MA, 2011

99) Xue, Z., R. He, J. P. Liu, and J. Warner, Modeling Transport and Deposition of Mekong River Sediment, Gordon Research Conference, South Hadley, MA, 2011

100) He, R., K. H. Hyun, W. G. Zhang, H. Qian, and K. Chen, Hindcasting the Gulf of Mexico Circulation and Age and Distribution of the Oil Plume Arising from the Deepwater Horizon Spill, Gordon Research Conference, South Hadley, MA, 2011

101) Lohrenz, S., W. Cai, H. Tian, R. He, C. Hopkinson, and S. Howden, Coupled Terrestrial-Ocean Modeling of Climate and Land Use Change Impacts on Biogeochemical and Ecosystem Processes in the Mississippi Basin and Gulf of Mexico, Ocean Sciences Meeting, Salt Lake City, UT, 2012

102) Xue, Z., R. He, K. Fennel, W. Cai, and S. Lohrenz, Modeling Seasonal and Interannual Variability of Circulation and Biogeochemical Processes in the Gulf of Mexico, Ocean Sciences Meeting, Salt Lake City, UT, 2012

103) Li, Y., R. He, and D. J. McGillicuddy, Interannual Variability of Coastal Hydrography in the Gulf of Maine: 2002-2010, Ocean Sciences Meeting, Salt Lake City, UT, 2012

104) De Mey, P., R. He, V. Kourafalou, and A. Kurapov, Advances in Coastal Ocean Modeling, Analysis, and Prediction, Ocean Sciences Meeting, Salt Lake City, UT, 2012

105) Woods N., D. Fratantoni, R. He, M. Baumgartner, and R. Ji, Physical Controls on Dense Copepod Aggregations in the Great South Channel, Ocean Sciences Meeting, Salt Lake City, UT, 2012

106) Farrara, J., Y. Chao, Z. Li, X. Wang, H. Zhang, P. Li, Q. Vu, R. He, and H. Qian, A ROMS-Based Data Assimilating Ocean Forecast System for the Gulf of Mexico, Ocean Sciences Meeting, Salt Lake City, UT, 2012

107) Chen, K. and R. He, Data-Assimilative Modeling Investigation of Gulf Stream Warm-Core Ring Interaction with Continental Shelf and Slope, Ocean Sciences Meeting, Salt Lake City, UT, 2012

108) Qian, H. and R. He, Modeling the Circulation and Transport Connectivity in the Intra-Americas Sea, Ocean Sciences Meeting, Salt Lake City, UT, 2012

109) Gong, Y., R. He, G. Gawarkiewicz, and D. Savidge, Numerical Investigation of Coastal Circulation Dynamics Near Cape Hatteras, North Carolina, Ocean Sciences Meeting, Salt Lake City, UT, 2012

110) Mooers, C. N., E. D. Zaron, M. Howard, Y. Chao, B. Cornuelle, R. He, D. Ko, L. Oey, A. Mehra, and R. Patchen, The Gulf of Mexico Pilot Prediction Project (GOMEX-PPP), Ocean Sciences Meeting, Salt Lake City, UT, 2012

111) Yin, Y., X. Lin, and R. He, The Dynamics of Yellow Sea Warm Current, Ocean Sciences Meeting, Salt Lake City, UT, 2012

112) He, R. and J. S. Nelson, Effect of the Gulf Stream on Winter Extratropical Cyclone Outbreaks, Ocean Sciences Meeting, Salt Lake City, UT, 2012

113) He, R., Z. Xue, and J. Zambon, An Integrated Ocean Circulation, Wave, Atmosphere and Marine Ecosystem Prediction System for the South Atlantic Bight and Gulf of Mexico, SECOORA Meeting, Miami, FL, 2012

114) He, R., W. Woods, Z. Xue, J. Zambon, K. Chen, Y. Li, Y. Gong, and Y. Yin, Glider Surveys in the South Atlantic Bight: a Component of an Integrated Coastal Ocean Observing and Data Assimilative Prediction System, SECOORA Meeting, Miami, FL, 2012

115) Farrara, J. D., Y. Chao, Z. Li, X. Wang, H. Zhang, R. He, and H. Qian, A Real-time Data Assimilating Nowcast / Forecast System for the Gulf of Mexico, AGU Fall meeting, San Francisco, CA, 2012

116) Chao, Y., Z. Li, J. Farrara, H. Zhang, R. He, and F. Chai, Development and Implementation of a Regional Ocean Nowcast/Forecast System, AMS Fall meeting, San Francisco, CA, 2012

117) He, R., Z. Xue, J. Zambon, and Y. Liu, An Integrated Ocean Circulation, Wave, Atmosphere and Marine Ecosystem Prediction system for the Gulf of Mexico, Gulf of Mexico Oil Spill and Ecosystem Research Conference, New Orleans, LA, 2013

118) Qian, H., R. He, and Y. Li, Circulation Transport and Connectivity in the Gulf of Mexico, Gulf of Mexico Oil Spill and Ecosystem Research Conference, New Orleans, LA, 2013

119) Tian, H., R. He, W. Ren, Z. Xue, W-J. Cai, and S. Lohrenz, Impacts of Population Growth, Urbanization and Agricultural Expansion on Riverine Fluxes and Coastal Ecosystems in the Southeastern U.S. - Application of a Coupled Land-Ocean Modeling System, Part 1: Riverine Flux Variations, North America Carbon Program Science Meeting, Albuquerque, NM, 2013

120) He, R., H. Tian, W. Ren, Z. Xue, W-J. Cai, and S. Lohrenz, Impacts of Population Growth, Urbanization and Agricultural Expansion on Riverine Fluxes and Coastal Ecosystems in the Southeastern U.S. - Application of a Coupled Land-Ocean Modeling System, Part 2: Marine Ecosystem Responses, North America Carbon Program Science Meeting, Albuquerque, NM, 2013

121) Castelao, R. and R. He, Mesoscale Eddies in the South Atlantic Bight, Gordon Research Conference, Portland, ME, 2013

122) He, R., Y. Li, and Y. Gong, Interactions between Shelf Circulation and Western Boundary Currents: Case Studies, Asia Oceania Geosciences Society Conference, Brisbane, Australia, 2013

123) Zambon, J. B., R. He, and J. C. Warner, Investigation of Hurricane Sandy Dynamics Using the 3-Way Coupled Ocean-Atmosphere-Wave-Sediment Transport Model, Ocean Sciences Meeting, Honolulu, HI, 2014

124) Yao, Z., F. Xue, and R. He, Construction of High-resolution Temperature and Salinity Climatology for the U.S. East Coastal Ocean and Intra-America Sea Using Data Interpolating Variational Analysis Technique, Ocean Sciences Meeting, Honolulu, HI, 2014

125) Li, Y. and R. He, Variational Data Assimilative Modeling Investigation of the Gulf of Mexico Coastal Circulation in Spring and Summer, 2010. Ocean Sciences Meeting, Honolulu, HI, 2014

126) Xue, Z., R. He, K. Fennel, W-J. Cai, and S. Lohrenz, Modeling Seasonal and International Variability of Ocean Circulation and Biogeochemical Variables in the Gulf of Mexico, Ocean Sciences Meeting, Honolulu, HI, 2014

127) He, R. and Y. Li, Impact of Mesoscale Eddies on the Gulf Stream and Shelf Ecosystem in the Southeastern United States, Ocean Sciences Meeting, Honolulu, HI, 2014

128) He, R., Z. Xue, K. Fennel, W-J. Cai, and S. Lohrenz, Modeling Seasonal and International Variability of Ocean Circulation and Biogeochemical Variables in the Gulf of Mexico, Gulf of Mexico Oil Spill & Ecosystem Science Conference, Mobile, AL, 2014

129) He, R., Z. Xue, J. Zambon, and Y. Liu, An Integrated Ocean Circulation, Wave, Atmosphere and Marine Ecosystem Prediction system for the Gulf of Mexico, SECOORA 2014 Annual Conference, Savannah, GA.

130) He, R., Mesoscale Eddy Impact on the Gulf Stream and Shelf Ecosystem in the Southeastern U.S. Coastal Ocean. AOGS 2014, Sapporo, Japan

131) He, R., Mesoscale Eddy Impact on the Gulf Stream and Shelf Ecosystem in the Southeastern U.S. Coastal Ocean. Ocean Surface Topography Science Team Meeting, Constance, Germany.

132) Austin C. Todd and He. R., Age and Residence Time of Terrestrial Source Water in the Western Atlantic Ocean and Gulf of Mexico, MABPOM 2014, VIMS, VA

133) Austin C. Todd and He. R., Age and Residence Time of Terrestrial Source Water in the Gulf of Mexico, Gulf of Mexico Oil Spill & Ecosystem Science Conference, Houston, TX, 2015

134) He, R, J. Zambon, A. Todd, Z, Yao. R. He, A Coupled Ocean Circulation, Wave, Atmosphere and Marine Ecosystem Prediction System for the Northwest Atlantic Ocean, Marine Environmental Monitoring, Modelling and Prediction, 47th International Liege Colloquium, Liege, Belgium, 2015

135) Muglia M., He R., Lowcher, C., Bane J., Taylor P., Gong, Y., Gulf Stream marine hydrokinetic energy resource characterization off Cape Hatteras, North Carolina, Poster presented at American Geophysical Union meeting: December 14-18, 2015. San Francisco, CA

136) Todd, A. C. and He. R., Age and Residence Time of Terrestrial Source Water in the Western Atlantic Ocean and Gulf of Mexico, Gordon Research Conference, Portland, ME, 2015

137) Zambon, J. B., R. He, and J. C. Warner, Air-Sea interactions during hurricanes, Gordon Research Conference, Portland, ME, 2015

138) Zhai, P. and R. He, Numerical Investigations of subduction of Eighteen Degree mode water in North Atlantic, , Gordon Research Conference, Portland, ME, 2015

139) He. R and A. C. Todd, Age and Residence Time of Terrestrial Source Water in the Western Atlantic Ocean and Gulf of Mexico, Ocean Sciences Meeting, New Orleans, LA, 2016

140) Zambon, J. B., R. He, A Coupled Ocean Circulation, Wave, Atmosphere and Marine Ecosystem Prediction System for the Northwest Atlantic Ocean, Marine Environmental Monitoring, Modelling and Prediction, Ocean Sciences Meeting, New Orleans, LA, 2016

141) Zhai, P. and R. He, Numerical Investigations of subduction of Eighteen Degree mode water in North Atlantic, Ocean Sciences Meeting, New Orleans, LA, 2016

142) Shay, N. R. He, K. Fennel, P. Furze, Three dimensional circulation and biogeochemical process using state-of-the-art profiling floats and data assimilative ocean models, Gulf Oil Spill and Science Meeting, Tampa, FL, 2015

143) Xue, Z, R. He, K. Fennel, W-J. Cai, S. Lohrenz, W-J. Huang, W. Ren: Connecting the Mississippi River with Carbon Variability in the Gulf of Mexico, Ocean Sciences Meeting, New Orleans, LA, 2016

144) Tian, H., J. Yang, B. Zhang, S. Lohrenz, W-J, Cai, R. He, Z. Xue, C. Lu, W. Ren, W-J Huang, Y. Yao, Anthropogenic and climatic controls on carbon and nitrogen exports from Mississippi river basin to Gulf of Mexico during 1800-2100: Implications for hypoxia and ocean acidification, Ocean Sciences Meeting, New Orleans, LA, 2016

145) Zambon J. and R. He, Development of the Coupled Northwest Atlantic Prediction System (CNAPS), Ocean Sciences Meeting6, New Orleans, LA, 2016

146) Zeng, X. and R. He, Diagnosing large Gulf Stream meanders in the South Atlantic Bight using adjoint sensitivity analysis, Ocean Sciences Meeting, New Orleans, LA, 2016

147) Yin, Y., X. Lin and R. He, Impact of Mesocscale Eddies on Kuroshio Intrusion Variations Northeast of Taiwan, Ocean Sciences Meeting, New Orleans, LA, 2016.

148) Lebrasse, M. C., C. L. Osburn, D. R. Bohnenstiehl, R. He, The influence of tide-induced water circulation on dissolved organic matter dynamics and export from Bald Head creek estuary, NC, AGU Fall meeting, San Francisco, CA, 2016.

149) McGee, L, R. He, Mesoscale and Submesoscale mechanisms behind asymmetric cooling and phytoplankton blooms induced by hurricanes: a comparison between open ocean and continental shelf cases, *Gordon Research Conference,* Biddeford, ME, 2017.

150) Jonson, B. K., J. A. Willison, R. He, Reconciling Walin's transformation framework with classical water mass analysis, *AMS meeting,* Portland, OR, 2017.

151) Tian, H., B. Zhang, R. Najjar, S. Lorentz, M. Friedrichs, C. Hopkinson, W-J Cai, E. Hofmann, R. He, G. Chen, C. Lu, A. Mannino, S. Pan, W. Ren, Z. Wang, R. Xu, Z, Xue, J, Yang, Q. Yang, Y, Yao, Magnitude and spatiotemporal variations of terrestrial carbon expoert from North America to oceans estimated by using a process-based land model, AGU fall meeting, New Orleans, 2017.

152) Mao, S., R. He, Predicting shelf circulation off North Carolina using a multi-scale nested modeling system, MABPOM 2017, Wanchese, NC, October, 2017.

153) McGee, L., R. He, Mesoscale and Submesoscale Mechanisms Behind Asymmetric Cooling and Phytoplankton Blooms Induced by Hurricanes: A Comparison Between an Open Ocean Case and a Continental Shelf Sea Case, , Ocean Sciences Meeting, Portland, OR, Feb 2018.

154) Muglia, M., P. Taylor, L. Dubbs, S. Lockhart, B. Edge, J. Bane, S. Haines, H. Seim, R. He, A. Mazzoleni, S. Bin-Karim and C. Vermillion (2017) Gulf Stream Marine Hydrokinetic Energy Off Cape Hatteras, North Carolina U.S.A. Proc. of Offshore Energy and Storage, Cape Cod, MA, USA July, 2017.

155) Zeng, X., R. He, J. Bane, Modeling processes driving exchanges near Cape Hatteras, NC, E44A0310, Ocean Sciences Meeting, Portland, OR, Feb 2018

156) Zong, H. R. He, Marine biogeochemical reposes to a large Gulf Stream offshore meander, OM31A-07, Ocean Sciences Meeting, Portland, OR, Feb 2018.

157) He, R., S. Mao, J. Zambon. : Impact of Hurricane Florence on the coastal circulation dynamics: preliminary analyses. MABPOM meeting, Woods Hole, MA. Oct 2018

158) Mao, S. and R. He: Investigation of shelf-ocean exchange pathways near Cape Hatteras, NC based on realistic ocean model simulations. MABPOM meeting, Woods Hole, MA. Oct 2018

159) McGee, L. and R. He: Investigation of marine physical-biogeochemical interactions during storm conditions, MABPOM meeting, Woods Hole, MA. Oct 2018

160) Zambon, J. R. He, J. Bane: From top to bottom an investigation of wintertime atmosphere-ocean interaction in the vicinity of the Gulf Stream in January 2018, MABPOM meeting, Woods Hole, MA. Oct 2018

161) Willison, J.* and R. He. Introduction to coupling regional ocean, atmosphere, and sea ice models, COAWST Workshop, Raleigh, NC, Feb 2019

162) Willison, J.* and R. He, In-depth study of coupling regional ocean, atmosphere, and sea ice models, COAWST Workshop, Raleigh, NC, Feb 2019

163) Zambon, J* and R. He, COAWST Applications: NC State Nowcast/Forecast NSF PEACH Use Case, COAWST Workshop, Raleigh, NC, Feb 2019

164) Liu, Y* and R. He. Effects of Solar Penetration on the Prediction of Upper Ocean Circulation in the Northwest Atlantic, Mid-Atlantic Bight Physical Oceanography& Meteorology Meeting, Raleigh, NC, October 2019

165) McGee L*. and R. He. Creating a pCO2 Climatology with a Feed-Forward Neural Network for the NW Atlantic Ocean, Mid-Atlantic Bight Physical Oceanography& Meteorology Meeting, Raleigh, NC, October 2019

166) Zong, H*. and R. He, Modeling Investigation on the Upper Ocean Responses to Passages of 46 Major Hurricanes in the Northwest Atlantic Ocean , Mid-Atlantic Bight Physical Oceanography& Meteorology Meeting, Raleigh, NC, October 2019

167) Zambon J*. and R. He, Investigation of Extreme Weather, Ocean Current, Wave, and Coastal Flooding During Hurricane Florence (2018) Using the Coupled Ocean-Atmosphere-Wave-Sediment Transport Model , Mid-Atlantic Bight Physical Oceanography& Meteorology Meeting, Raleigh, NC, October 2019

168) Mao, S*. and R. He, Data Assimilative Modeling Investigation of Gulf Stream Dynamics Along the U.S. East Coast Seaboard, Mid-Atlantic Bight Physical Oceanography& Meteorology Meeting, Raleigh, NC, October 2019

169) He, R. Developing an Integrated Coastal Water Predictive Capability to Promote Resilience to Water Risks. Coastal Ocean Solution Workshop, June, 2020

170) He, R. Developing an Integrated Coastal Water Predictive Capability to Promote Resilience to Water Risks. NOAA Unified Forecasting System Conference, July, 2020

171) Chaichitehrani, N*, and R. He, INVESTIGATION OF THE EDDY KINETIC ENERGY VARIABILITY ASSOCIATED WITH MAJOR LOOP CURRENT EDDY SHEDDINGS IN THE GULF OF MEXICO, Ocean Sciences Meeting, Feb, 2022

172) Wu, T.* and R. He, Diagnosing Oceanic Controls on the United States East Coast Sea Level Variability using a High-Resolution Regional Ocean Reanalysis, Ocean Sciences Meeting, Feb, 2022

173) Allahdadi, N.*, R. He, V. S. Neary, MODULATION OF OCEAN WAVES BY THE GULF STREAM AND ITS IMPLICATION FOR WAVE ENERGY RESOURCE ASSESSMENT, Ocean Sciences Meeting, Feb, 2022

174) Lowe, A.*, L. McGee, T. Wu, R. He, Ocean reanalysis data-driven machine Learning prediction for the Loop Current eddy evolutions in the Gulf of Mexico, Ocean Sciences Meeting, Feb 2022

175) Mao, S.*, R. He, J. Bane, G. Gawarkiewicz, R. Todd, Data-assimilative modeling investigation of Gulf Stream variability, Ocean Sciences Meeting, Feb 2022

176) He, R. A High-resolution Ocean Reanalysis of the Northwest Atlantic in Support of Climate Change Studies and the Blue Economy, MABPOM, Oct 13-15, 2022

177) Wu T.* and R. He, Marine Extreme Temperature Events and Their Biological Impacts on the United States East Coast, MABPOM, Oct 13-15, 2022

178) Mao S.* and R. He, Processes driving ocean circulation variability near Cape Hatteras: a high-resolution data assimilative modeling investigation, MABPOM, Oct 13-15, 2022

179) Chaichitehrani, Nazanin*, Ruoying He, Mohammad Nabi Allahdadi, Forecasting of Ocean Wave Heights and Periods off the U.S. East Coast Using an Ensemble AI/ML Modeling Approach, International Symposium on Machine Learning and data analysis in Oceanography, University of Liege, June 2023.

180) Chattopadhyay, Ashesh, Michael Gray, Anna Lowe, Tianning Wu, Nazanin Chaichitehr, Ruoying He, A principled framework for developing deep neural operators for the mesoscale ocean, International Symposium on Machine Learning and data analysis in Oceanography, University of Liege, June 2023.

181) Gray, Michael A.*, Ashesh Chattopadhyay, Tianning Wu, Anna Lowe, Nazanin Chaichitehr, Ruoying He, Long-term prediction of Gulf Stream meander variability using a machine learning approach International Symposium on Machine Learning and data analysis in Oceanography, University of Liege, June 2023.
182) Lowe, Anna B.*, Ashesh Chattopadhyay, Tianning Wu, Michael Gray, Nazanin Chaichitehr, Ruoying He, Long-term predictions of Loop Current Eddy evolutions using a machine learning approach, International Symposium on Machine Learning and data analysis in Oceanography, University of Liege, June 2023.
183) Wu, Tianning*, Ruoying He, Regime Shift in Subsurface Temperature Precedes Surface Warming over Mid-Atlantic Bight Continental Slope, Gordon Research Conference on Coastal Ocean Dynamics, June, 2023
184) Mao, Shun*, Ruoying He, Magdelana Andres, Leading Modes of Variability of the Western Boundary Currents off Cape Hatteras, Gordon Research Conference on Coastal Ocean Dynamics, June, 2023
185) Zong, Haibo*, Ruoying He, Modeling the Impact of Hurricanes on Carbon Cycling in the U.S. East Coast and Gulf of Mexico, Gordon Research Conference on Coastal Ocean Dynamics, June, 2023
186) MeGee, Laura*, Ruoying He, Effect of Hurricane Translation Speed and Intensity on Upper Ocean Properties in the U.S. East Coast and Northern Gulf of Mexico, Gordon Research Conference on Coastal Ocean Dynamics, June, 2023
187) Ruoying He, Chattopadhyay, Ashesh, Michael Gray, Anna Lowe, Tianning Wu, Nazanin Chaichitehr, Ruoying He, A principled framework for developing deep neural operators for the mesoscale ocean, University of Delaware, August 2023.
188) Ruoying He, Chattopadhyay, Ashesh, Michael Gray, Anna Lowe, Tianning Wu, Nazanin Chaichitehr, Ruoying He, A principled framework for developing deep neural operators for the mesoscale ocean, UGOS3, National Academy of Sciences, Gulf Research Program, October 2023.
189) Carlson, M. et al , Using hurricane-centric analyses to inform model-observation differences and optimal drifting wave buoy deployments, AGU, Washington D.C., December, 2024.
190) McGree L., and R,. He, Using hurricane-centric analyses to inform model-observation differences and optimal drifting wave buoy deployments, AGU, Washington, D. C., December 2024.
191) Ahn, S. N. Allahdadi, R. He, V. S. Neary, Ocean current effects on wave energy resource, AGU, Washington, D. C., December 2024.
192) Hazarika, S. L. Lupin-Jiminez, A. K. Chattopadhyay, M,. Gray, T. Wu, A. B. Lowe, R. He, A. Wong, Multi-scale, Long-term Stable, and Physically-consistent AI-based Ocean Modeling and Downscaling, AGU, Washington, D. C., December 2024.
193) Cai, W., M. Li, R. He, E. Liao, J. Testa, Evaluate Ideas and Efficacy of Adding Alkalinity to Wastewater Treatment Plants and Estuarine Systems for Marine Carbon Dioxide Removal, AGU, Washington, D. C., December 2024.
194) Wu. T. and R,. He, Understanding Changes in the Interannual Sea Level Coherence Alongthe North American East Coast, AGU, Washington, D. C., December 2024.

195) R. He, N. Allahdadi, V. S. Neary, Effect of currents on the spectral properties of waves and its implication for wave energy characterization, AGU, Washington, D. C., December 2024.

196) He, R., From Data to Decisions: AI/ML-Augmented Metocean Digital Twins for Predictive and Actionable Maritime Intelligence, Singapore Maritime Research Conference, Singapore, March, 2025.

11. INVITED SEMINARS/KEYNOTE PRESENTATIONS

99) Singapore Maritime Institute, speaker	2025
98) Virginia Institute of Marine Sciences, seminar speaker	2024
97) Bureau of Ocean Energy Management (BOEM), seminar speaker	2024
96) Clemson University, speaker	2024
95) Liege Colloquium on AI in Oceanography, speaker	2023
94) International Workshop on Ocean Modeling (IWOM 2023), speaker	2023
93) NASA ecological forecasting program, program speaker	2023
92) NOAA NCEI Science Council, seminar speaker	2023
91) Woods Hole Oceanographic Institution, seminar speaker	2023
90) University of Delaware, seminar speaker	2023
89) Japan Meteorological Agency, seminar speaker	2023
88) National University of Singapore, seminar speaker	2023
87) University of Western Australia, seminar speaker	2022
86) NASA Ecological Forecasting Program Meeting, invited speaker	2022
85) US CLIVAR Phenomena, Observations, and Synthesis Panel, invited speaker	2022
84) University of South Florida Marine Science Seminar speaker	2022
83) US CLIVAR/OCB Ecological Forecasting Panel, invited speaker	2022
82) SECOORA Program Science Seminar	2022
81) NASA Ecological Forecasting Program Meeting, invited presenter	2021
80) NCAR summer school on AI in Environmental Sciences, invited speaker	2021
79) Duke University, Marine Lab Seminar	2021
78) NSF OOI Pioneer Innovation Workshop	2021
77) NOAA Coastal Ocean Modeling Science Seminar	2021
76) UGOS Panel presentation, Gulf Research Program, National Academy	2020
75) GPM Panel Presentation, NASA	2020
74) PSMI Panel Presentation, US CLIVAR program	2020
73) National Taiwan University, Institute of Oceanography	2019
72) University of Tokyo, Atmosphere and Ocean Research Institute	2019
71) Busan National University, South Korea, Department of Oceanography	2018
70) Univ. of New South Wales-Sydney, Australia, School of Mathematics and Statistics	2018

69) Ocean University of China, College of Marine Environmental Sciences 2018
68) AGU Fall Meeting, Invited Speaker in session “Carbon and Nutrient Cycling” 2017
67) Nagoya University, Japan: Division for Land-Ocean Ecosystem Research 2017
66) NOAA Fishery Science Center, Beaufort Lab 2017
65) Virginia Institute of Marine Sciences 2017
65) University of South Florida, College of Marine Science 2017
64) Institute of Oceanology, Chinese Academy of Sciences 2017
63) Xiamen Symposium on Marine Environmental Sciences, Invited Speaker 2017
62) Seoul National University, School of Earth and Environmental Sciences 2016
61) Rutgers University, Department of Marine and Coastal Sciences 2016
60) Dalhousie University, Department of Oceanography 2016
59) University of South Carolina, School of the Earth, Ocean and Environment 2016
58) National University of Singapore, Tropical Marine Science Institute 2016
57) Xiamen University, State Key Laboratory of Marine Environmental Science 2016
56) Shenyang Institute of Automation, Chinse Academy of Sciences 2016
55) Zhejing University, Department of Marine Sciences 2015
54) South Atlantic Ecosystem- Fish and Wildlife Conservation Commission 2015
53) Duke University, Marine Lab 2015
52) University of Tokyo, Atmosphere and Ocean Research Institute 2014
51) Hong Kong University of Science and Technology, Marine Science Program 2014
50) Ocean Surface Topography Science Team Meeting, Konstanz, Germany, Keynote Speaker 2014
49) University of North Carolina, Chapel Hill, Department of Marine Sciences 2014
48) Columbia University, Lamont-Doherty Earth Observatory 2014
47) Old Dominion University, Center for Coastal Physical Oceanography 2014
46) CLIVAR Conference on Boundary Current Dynamics, Invited Speaker 2013
45) NOAA Southeast Fisheries Science Center, Beaufort Lab 2013
44) University of Delaware, College of Earth, Ocean and Environment 2013
43) Ocean University of China, College of Geosciences 2012
42) Nanjing University of Information Science & Technology, College of Marine Science 2012
41) GODAE OceanView International Science Conference, Miami 2012
40) Rutgers University, Institute of Marine Sciences 2011
39) Woods Hole Oceanographic Institution, Dept. of Applied Ocean Physics and Engineering 2011
38) National Ocean Environmental Forecasting Center, China 2011
37) Ocean University of China, College of Marine Environment 2011
36) Peking University, Dept. of Atmospheric and Marine Sciences 2011
35) Proudman Oceanographic Laboratory, U.K. National Oceanography Center 2011

34) Imperial College London, Dept. of Earth Science and Engineering 2011
33) Duke University, Nicholas School, Earth and Ocean Sciences Division 2010
32) AGU Ocean Sciences Meeting, Invited Speaker in session “Harmful Algal Bloom Prediction” 2010
31) South Atlantic Sea Grant Program: BP Oil Spill Physical Oceanography Summit 2010
30) Jet Propulsion Laboratory, Climate, Oceans and Solid Earth Science Division 2010
29) Woods Hole Oceanographic Institution, Applied Ocean Physics and Engineering 2010
28) Old Dominion University, Center for Coastal Physical Oceanography 2010
27) Ocean University of China, College of Marine Environment 2010
26) University of Georgia, Department of Marine Sciences 2009
25) Florida State University, Department of Oceanography 2009
24) Ocean University of China, College of Marine Environment 2008
23) Woods Hole Oceanographic Institution, Dept. of Applied Ocean Physics and Engineering 2008
22) U.S. Geological Survey, St. Petersburg Center 2008
21) Ocean University of China, College of Marine Environment 2007
20) University of North Carolina, Chapel Hill, Department of Marine Sciences 2007
19) University of Maryland Center for Environmental Science, Horn Point Lab 2006
18) Dalhousie University, Department of Oceanography 2006
17) Rutgers University, Institute of Marine & Coastal Sciences 2006
16) Chinese Academy of Sciences, Ocean Science and Technology Forum 2006
15) Ocean University of China, College of Marine Environment 2006
14) North Carolina State University, Department of Marine, Earth and Atmospheric Sciences 2006
13) Massachusetts Institute of Technology, Sea Grant Red Tide Symposium 2006
12) Oregon State University, College of Oceanic and Atmospheric Sciences 2005
11) Scripps Institution of Oceanography 2005
10) University of South Florida, College of Marine Science 2004
9) Chinese State Oceanic Administration, Second Institute of Oceanography 2004
8) Chinese Academy of Sciences, Institute of Oceanography 2004
7) Ocean University of China, College of Marine Environment 2004
6) University of Connecticut, Department of Marine Sciences 2004
5) Office of Naval Research, WHOI Onsite Review 2004
4) University of Miami, Rosenstiel School of Marine and Atmospheric Science 2003
3) Woods Hole Oceanographic Institution, Department of Physical Oceanography 2003
2) University of North Carolina, Chapel Hill, Department of Marine Sciences 2003
1) University of Miami, Rosenstiel School of Marine and Atmospheric Science 2001

12. RESEARCH CRUISES AS CHIEF SCIENTIST/SCIENTIST

25)	NSF Atlantic Cruise and Deep-sea (2500 m) *Alvin* Dive	R/V Atlantis	10/2022
24)	NSF Gulf of Mexico Cruise and Deep-sea (2500 m) *Alvin* Dive	R/V Atlantis	06/2014
23)	NSF North Carolina Mooring Cruise	R/V Endeavor	08/2013
22)	NSF Barbados Mooring Cruise	R/V Atlantis	06/2012
21)	South Atlantic Bight Glider Cruise	R/V Seahawk	03/2012
20)	North Carolina Shelf Glider Cruise	R/V Seahawk	08/2011
19)	NSF Barbados Mooring Cruise	R/V Oceanus	05/2011
18)	North Carolina Shelf Survey	R/V Cape Hatteras	11/2008
17)	Gulf of Maine Harmful Algal Bloom Survey	R/V Tioga	04/2006
16)	Gulf of Maine Harmful Algal Bloom Survey	R/V Oceanus	05/2005
15)	Gulf of Maine Harmful Algal Bloom Rapid Response Survey	R/V Tioga	06/2005
14)	Gulf of Maine Harmful Algal Bloom Rapid Response Survey	R/V Tioga	05/2005
13)	Gulf of Maine Harmful Algal Bloom Survey	R/V Oceanus	05/2003
12)	West Florida Shelf ECOHAB Survey	R/V Suncoaster	01/2002
11)	West Florida Shelf ECOHAB Survey	R/V Suncoaster	07/2001
10)	West Florida Shelf ECOHAB Survey	R/V Suncoaster	01/2001
9)	West Florida Shelf ECOHAB Survey	R/V Suncoaster	09/2000
8)	West Florida Shelf ECOHAB Survey	R/V Suncoaster	04/2000
7)	West Florida Shelf ECOHAB Survey	R/V Suncoaster	11/1999
6)	West Florida Shelf ECOHAB Survey	R/V Suncoaster	07/1999
135)	West Florida Shelf ECOHAB Survey	R/V Suncoaster	12/1998
4)	West Florida Shelf ECOHAB Survey	R/V Bellows	08/1998
3)	West Florida Shelf ECOHAB Survey	R/V Suncoaster	07/1998
2)	West Florida Shelf ECOHAB Survey	R/V Bellows	03/1999
1)	East China Sea Hydrographic Survey	R/V Dongfanghong	07/1997

13. GRADUATE/ UNDERGRADUATE TEACHING

MEA741: Synoptic Physical Oceanography	Fall 2007
MEA735: Geophysical Data Analysis	Spring 2008
MEA462: Observational Methods and Data Analysis in Marine Physics	Spring 2008
MEA744: Dynamics of Shelf Circulation	Fall 2008
MEA462: Observational Methods and Data Analysis in Marine Physics	Spring 2009
MEA741: Synoptic Physical Oceanography	Fall 2009
MEA462: Observational Methods and Data Analysis in Marine Physics	Spring 2010
MEA611: Special Topic: Ocean Modeling I	Spring 2010
MEA611: Special Topic: Ocean Modeling II	Fall 2010

MEA462: Observational Methods and Data Analysis in Marine Physics	Spring 2011
MEA462: Observational Methods and Data Analysis in Marine Physics	Spring 2012
MEA744: Dynamics of Shelf Circulation	Fall 2012
MEA462: Observational Methods and Data Analysis in Marine Physics	Spring 2013
MEA611: Ocean Modeling	Fall 2013
MEA462: Observational Methods and Data Analysis in Marine Physics	Spring 2014
MEA611: Special Topic: Ocean Circulation	Fall 2014
MEA462: Observational Methods and Data Analysis in Marine Physics	Spring 2015
MEA611: Special Topic: Ocean Modeling	Fall 2016
MEA462: Observational Methods and Data Analysis in Marine Physics	Spring 2017
MEA744: Dynamics of Shelf Circulation	Fall 2017
MEA462: Observational Methods and Data Analysis in Marine Physics	Spring 2018
MEA611: Geophysical Data Analysis	Fall 2008
MEA462: Observational Methods and Data Analysis in Marine Physics	Spring 2019
MEA611: Special Topic: Ocean Modeling	Fall 2019
MEA462: Observational Methods and Data Analysis in Marine Physics	Spring 2020
MEA744: Dynamics of Shelf Circulation	Fall 2020
MEA462: Observational Methods and Data Analysis in Marine Physics	Spring 2021
MEA462: Observational Methods and Data Analysis in Marine Physics	Spring 2022
MEA462: Observational Methods and Data Analysis in Marine Physics	Spring 2024
MEA462: Observational Methods and Data Analysis in Marine Physics	Spring 2025

14. POSTDOC/STUDENT ADVISING

Postdoctoral Researchers (23):

	Name	Period	Current affiliation
1	Dr. M. Li	2007-2008	Professor, Ocean University of China
2	Dr. K. H. Hyun	2008-2012	Lecturer, North Carolina Central University
3	Dr. Z. Xue	2010-2014	Associate Professor, Louisiana State University
4	Dr. K. Chen	2011-2012	Associate Scientist, Wood Hole Oceanographic
5	Dr. Y. Li	2012-2014	Research Scientist, NOAA
6	Dr. Z. Yao	2012-2014	Associate Professor, Ocean University of China
7	Dr. Y. Xu	2013-2014	Associate Professor, East China Normal Univ.
8	Dr. A. Todd	2013-2015	Research Scientist, NCAR
9	Dr. P. Zhai	2014-2015	Researcher, Princeton University
10	Dr. Z. Wang	2015	Researcher, NC State University

11	Dr. J. Zambon	2014-2017	Research Assistant Professor, NC State University
12	Dr. Xiangming Zeng	2016-2018	Research Scientist, BASF
13	Dr. J. Willison	2016-2019	Research Scientist, EPA
14	Dr. B. Johnson	2016-2019	Research Scientist, NCAR
15	Dr. H. Zong	2016-2024	Research Associate, NC State University
16	Dr. Nabi Allahdadi	2016-2024	Research Associate, NC State University
17	Dr. Naz Chaichitehr	2020- 2024	Postdoctoral researcher, NC State University
18	Dr. Anna Lowe	2021- 2024	Postdoctoral researcher, NC State University
19	Dr. Taylor Shropshire	2022- 2024	Postdoctoral researcher, NC State University
20	Dr. Shun Mao	2024	Postdoctoral researcher, NC State University
21	Dr. T. Wu	2025-present	Postdoctoral researcher, NC State University
22	Dr. Felix Deng	2025-present	Postdoctoral researcher, NC State University
23	Dr. William Zhang	2025-present	Postdoctoral researcher, NC State University

Ph. D. Students (25):

	Name	Period	Advising role of R. He
1	K. Chen (NCSU)	2007-2011	Major advisor
2	Y. Li (NCSU)	2009-2012	Major advisor
3	H. Qian (NCSU)	2010-2013	Major advisor
4	J. Zambon (NCSU)	2009-2014	Major advisor
5	Y. Gong (NCSU)	2011-2016	Major advisor
6	X. Zeng (NCSU)	2012-2016	Major advisor
7	S. Mao (NCSU)	2016- 2023	Major advisor
8	L. McGee (NCSU)	2017- 2023	Major advisor
9	T. Wu (NCSU)	2019 – 2024	Major advisor
10	B. Chen (NCSU)	2025- present	Major advisor
11	Y. Liu (XMU)	2017-2020	Co-advisor
12	Z. Yao (OUC)	2007-2012	Co- advisor
13	Y. Yin (OUC)	2011-2013	Co- advisor
14	J. He (NCSU)	2011-2015	Co- advisor
15	C. Du (XMU)	2014-2016	Committee member
16	Z. Xue (NCSU)	2005-2010	Committee member
17	B. Puckett (NCSU)	2006-2013	Committee member
18	L. Waters (NCSU)	2005-2014	Committee member
19	J. Sha (Univ. Delaware)	2012-2015	Committee member

20	J. Rudzin (Univ. Miami)	2014-2018	Committee member
21	D. McVeigh (NCSU)	2011-2016	Committee member
22	S. Shan (Dalhousie Univ.)	2015-2017	Examine committee member
23	A. K. Sperrevik (Univ. of Bergen)	2017	Examine committee member
24	Z. Chen (Rutgers Univ.)	2016-2018	Committee member
25	Y. Guo (NCSU)	2017- 2022	Committee member

M. S. Students (14):

	Name	Period	Advising role of R. He
1	T. Miles (NCSU)	2007-2009	Major advisor
2	Y. Li (NCSU)	2007-2009	Major advisor
3	J. Zambon (NCSU)	2007-2009	Major advisor
4	Y. Gong (NCSU)	2009-2011	Major advisor
5	J. Nelson (NCSU)	2009-2011	Major advisor
6	X. Feng (NCSU)	2011-2013	Major advisor
7	L. McGee (NCSU)	2015-2017	Major advisor
8	M. Gray (NCSU)	2021-2024	Major advisor
9	Tarik Kaoutar (NCSU)	2025-present	Major advisor
10	Y. Zhao (NCSU)	2010-2011	Co-advisor
11	S. Kim (NCSU)	2007-2009	Committee member
12	A. Hasse (NCSU)	2007-2009	Committee member
13	M. Angus (NCSU)	2010-2012	Committee member
14	Y. Chen (NCSU)	2011-2013	Committee member

Undergraduate Students (79): C. Amos, T. Shropshire, and Kay Foley, and others.

15. Graduate Student Theses and Dissertations (31)

1) Li, Y. (2009) Investigation of the 2006 Alexandrium fundyense Bloom in the Gulf of Maine: In Situ Observations and Numerical Modeling. Master's Thesis, North Carolina State University (R. He as major advisor).
2) Haase, A. (2009) Circulation in Pamlico Sound and Predicted Oyster Larval Dispersal and Connectivity. Master's Thesis, North Carolina State University (R. He as committee member).
3) Kim, S. (2009) Internal Tides and Internal Solitary Waves in the Northern South China Sea. Master's Thesis, North Carolina State University (R. He as committee member).

4) 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. Master's Thesis, North Carolina State University (R. He as major advisor).
5) Wang, Y. (2009) Numerical Investigation of Long-Term Environment Changes in the East China Sea. Ocean University of China, Ph.D. Dissertation (R. He as co-major advisor).
6) Zambon, J. B. (2009) Investigations of Landfalling Tropical Storms Using the Coupled Ocean Atmosphere Wave and Sediment Transport (COAWST) Model. Master's Thesis, North Carolina State University (R. He as major advisor).
7) Qian, H. (2010) Numerical Simulations of Internal Waves Generated by Flow Over a Ridge. Master's Thesis, North Carolina State University (R. He as committee member).
8) Zuo, X. (2010) A Source-to-Sink Study of the Mekong River Delta: Hydrology, Delta Evolution, and Sediment Transport Modeling. Ph.D. Dissertation, North Carolina State University (R. He as committee member).
9) Chen, K. (2011) Middle Atlantic Bight Shelf Break Circulation Dynamics and Biophysical Interaction. Ph.D. Dissertation, North Carolina State University (R. He as major advisor).
10) Gong, Y. (2011) Numerical Investigations of Coastal Circulation Dynamics off Cape Hatteras. Master's Thesis, North Carolina State University (R. He as major advisor).
11) Nelson, J. (2011) Air-Sea Interactions During Strong Winter Extratropical Storms. NCSU Master's Thesis (R. He as the major advisor).
12) Zhao, Y. (2011) Characterizing the Gulf of Mexico SST and Ocean Color Variability Using a Cloud-Free Satellite Data Analysis Method. Master's Thesis, North Carolina State University (R. He as co-major advisor).
13) Angus, M. (2012) The Effect of Asymmetrical Topography on the Generation of Internal Wave Energy. Master's Thesis, North Carolina State University (R. He as committee member).
14) Li, Y. (2012) Seasonal and Interannual Variability of the Gulf of Maine Coastal Circulation and its Coupling with Regional Harmful Algal Blooms. Ph.D. Dissertation, North Carolina State University (R. He as major advisor).
15) Yao, Z. (2012) Investigation of Future Climate Change Impacts on Coastal Circulation and Storm Surges. Ph.D. Dissertation (R. He as co-major advisor).
16) Feng, X. (2013) Construction of Temperature and Salinity Climatology for the U.S. East Coastal Ocean and Intra-America Sea Using Data Interpolating Variational Analysis. Master's Thesis, North Carolina State University (R. He as major advisor).
17) Puckett, B. J. (2013) Metapopulation Dynamics of a Marine Reserve Network: Interacting Effects of Demography and Connectivity. Ph.D. Dissertation, North Carolina State University (R. He as committee member).
18) Qian, H. (2013) Ocean Circulation Dynamics and Transport Connectivity in the Intra-America Sea on Interannual, Seasonal, Synoptic and Inertial Time Scales. Ph.D. Dissertation, North Carolina State University (R. He as major advisor).
19) Waters, L. (2014) Seeding of Red Tides: Using Artificial Plankton and Biophysical Models to Understand the Mechanics of Karenia brevis Bloom Formation. Ph.D. Dissertation, North Carolina State University (R. He as committee member). [link]
20) Yin, Y. (2014) Eddy Induced Kuroshio Onshore Intrusion. Ocean University of China, Ph.D. Dissertation (R. He as the co-advisor).
21) Zambon, J. B. (2014) Air-Sea Interactions During Landfalling Hurricanes. Ph.D. Dissertation, North Carolina State University (R. He as major advisor).

22) Gong, Y. (2015) Impacts of Eddies, Topography, and Topographic Rossby Waves on North Brazil Deep Current Variability: An Observation and Modeling Synthesis Study. Ph.D. Dissertation, North Carolina State University (R. He as major advisor). [link]
23) He, J. (2015) Development and Evaluation of Earth System Models on Global and Regional Scales: Aerosol Chemistry and Dynamics, Air-Sea Interactions, and Retrospective Decadal Applications. Ph.D. Dissertation, North Carolina State University (R. He as co-advisor). [link]
24) Zeng, X. (2016) Classification and Predictability of the Western Boundary Current Instabilities in the Gulf of Mexico and the South Atlantic Bight. Ph.D. Dissertation, North Carolina State University (R. He as major advisor). [link]
25) McGee, L. C. (2017) Mesoscale and Submesoscale Mechanisms Behind Asymmetric Cooling and Phytoplankton Blooms Induced by Hurricanes: A Comparison Between an Open Ocean Case and a Continental Shelf Sea Case. Master's Thesis, North Carolina State University (R. He as major advisor). [link]
26) Sperrevik, A. K. (2017) Modeling coastal circulation in Norway using a high-resolution 4D-Var ocean assimilation system. Ph.D. Dissertation, University of Bergen (Norway) (R. He as committee member).
27) Guo, Y.M (2022), A Global Diagnosis of Eddy Potential Energy Budget in an Eddy-Permitting Ocean Model, Ph.D. Dissertation, North Carolina State University (R. He as committee member).
28) Lebrasse, C. (2022), Assessing carbon cycling in blue carbon habitats: A multidisciplinary approach using satellite remote sensing, a bio-optical model and hydrodynamic modeling, Ph.D. Dissertation, North Carolina State University (R. He as committee member).
29) Mao, S. (2023), Gulf Stream Variability and Coastal Circulation Near Cape Hatteras: Views from Advanced Ocean Reanalyses, Ph.D. Dissertation, North Carolina State University (R. He as major advisor).
30) McGee L. (2023), Effect of Hurricane Translation Speed and Intensity on Upper Ocean Properties in the U.S. East Coast and Gulf of Mexico, Ph. D Dissertation, North Caolina State University (R. He as major advisor).
31) Wu, T. (2024), Impacts of Changing Gulf Stream on Northwest Atlantic Coastal Ocean: Marine Heatwave and Sea Level Change, Ph. D Dissertation, North Caolina State University (R. He as major advisor).