

Yun Li

University of South Florida – College of Marine Science
140 7th Ave S, KRC 3124E, St. Petersburg, FL 33701

(727) 553-3366 | yunli@usf.edu

Education

Ph.D.	University of Maryland, College Park, 2012	Biological and Physical Oceanography
B.S.	Ocean University of China, 2004	Marine Science

Research Interests

Phytoplankton and sea ice phenology, Coastal ecosystem, Stratification dynamics, Dissolved oxygen dynamics, Estuarine circulation and secondary circulation, Biophysical interactions, Biogeochemical-physical models

Professional Experience

2016-present Assistant Research Professor, University of South Florida
2014-2016 Postdoctoral Investigator, Woods Hole Oceanographic Institution
2012-2014 Research Biologist, Integrated Statistics under contract with NOAA NMFS Northeast Fisheries Science Center
2012-2014 Guest Investigator, Woods Hole Oceanographic Institution
2006-2012 Research Assistant, University of Maryland Center for Environmental Science

Field Experience

03/2012 R/V Sharp, 1-day cruise, meteorological buoy deployment, along and cross-channel CTD surveys in Chesapeake Bay, USA
05/2010 R/V Caleta and R/V Neritic, three 1-day cruises, dye injection and patch measurement, along and cross-channel ADCP and CTD surveys in James River, VA
08/2009 R/V Centennial and R/V Auklet, two 1-day survey in Saratoga Passage and Skagit Bay, program HOBO meteorological device, deploy/recover ADCP, mooring, and meteorological buoys, conduct CTD casts, record sonar images.

Research Funding Experience

Polynyas in Coastal Antarctica (PICA): Linking Physical Dynamics to Biological Variability, co-PI, collaborators: Weifeng Zhang, Rubao Ji, Ted Maksym and Stephanie Jenouvrier, submitted to National Science Foundation PLR (pending)

Manuscripts in preparation

1. **Li, Y.,** R. Ji, P. S. Fratantoni, C. Chen, Y. Sun, and J. A. Hare, Changing rhythm of stratification on the Northwest Atlantic shelf: interannual variability and its biological implications, in preparation.
2. **Li, Y.,** R. Ji, S. Jenouvrier, M. Jin, and J. Stroeve, Timing of ice retreat and phytoplankton bloom in Antarctic Marginal Ice Zone, in preparation.

Peer-Reviewed Publications

1. **Li, Y.**, R. Ji, S. Jenouvrier, M. Jin, and J. Stroeve, Synchronicity between ice retreat and phytoplankton bloom in circum-Antarctic polynyas, submitted to *Geophys. Res. Lett.*, in revision.
2. Li, M., Y. J. Lee, J. M. Testa, **Y. Li**, W. M. Kemp, and D. M. Di Toro, What Drives Interannual Variability of Estuarine Hypoxia: Climate Forcing Versus Nutrient Loading? submitted to *Geophys. Res. Lett.*, in revision.
3. Testa, J. M., **Y. Li**, Y. J. Lee, M. Li, D. C. Brady, D. M. Di Toro, and W. M. Kemp, Chapter 6: Modeling physical and biogeochemical controls on dissolved oxygen in Chesapeake Bay: Lessons learned from simple and complex approaches, in *Modeling Coastal Hypoxia - Numerical Simulations of Patterns, Controls and Effects of Dissolved Oxygen Dynamics*, edited by D. Justic, K. Rose, R. Hetland, and K. Fennel. Springer International Publishing AG, Switzerland, in review.
4. **Li, Y.**, P. S. Fratantoni, C. Chen, J. A. Hare, Y. Sun, and R. C. Beardsley, R. Ji, (2015), Spatio-temporal patterns of stratification on the Northwest Atlantic shelf, *Prog. Oceanogr.*, 134, 127-137, doi:10.1016/j.pocean.2015.01.003.
5. **Li, Y.**, M. Li, and M. W. Kemp (2015), A budget analysis bottom-water dissolved oxygen in Chesapeake Bay, *Estuar. Coast.*, doi: 10.1007/s12237-014-9928-9.
6. **Li, Y.**, R. Ji, P. S. Fratantoni, C. Chen, J. A. Hare, C. S. Davis, and R. C. Beardsley (2014), Wind-induced interannual variability of sea level slope, along-shelf flow, and surface salinity on the Northwest Atlantic shelf, *J. Geophys. Res. Oceans*, 119, 2462–2479, doi:10.1002/2013JC009385.
7. Testa, J. M., **Y. Li**, Y. J. Lee, M. Li, D. C. Brady, D. M. Di Toro, W. M. Kemp, J. J. Fitzpatrick (2014), Quantifying the Effects of Nutrient Loading on Dissolved O₂ Cycling and Hypoxia in Chesapeake Bay using a Coupled Hydrodynamic-Biogeochemical Model, *J. Marine Syst.*, 139, 139-158, doi:10.1016/j.jmarsys.2014.05.018.
8. Cheng, P., M. Li, and **Y. Li** (2013), Generation of an estuarine sediment plume by a tropical storm, *J. Geophys. Res.*, doi: 10.1002/jgrc.20070.
9. Schlenger, A. J., E. North, Z. Schlag, **Y. Li**, David H. Secor, Katharine A. Smith, Edwin J. Niklitschek (2013), Modeling the influence of hypoxia on the potential habitat of Atlantic sturgeon (*Acipenser oxyrinchus*): a comparison of two methods, *Mar. Ecol. Prog. Ser.*, doi: 10.3354/meps10248.
10. Lee, Y. J., B. R. Walter, M. Li and **Y. Li** (2013), The role of winter-spring wind and other factors controlling summer hypoxia in Chesapeake Bay, *Estuar. Coast.*, doi: 10.1007/s12237-013-9592-5.
11. **Li, Y.** (2012) Impacts of winds and river flow on estuarine dynamics and hypoxia in Chesapeake Bay. *Ph.D. Thesis*, University of Maryland, College Park.
12. **Li, Y.** and M. Li (2012), Wind-driven lateral circulation in a stratified estuary and its effects on the along-channel flow, *J. Geophys. Res.*, 117, C09005, doi: 10.1029/2011JC007829.
13. **Li, Y.** and M. Li (2011), Effects of winds on stratification and circulation in a partially mixed estuary, *J. Geophys. Res.*, 116, C12012, doi:10.1029/2010JC006893.

Selected Presentations

1. **Li, Y.** and R. Ji, How representative is the Gulf of Maine of the Northwest Atlantic in terms of warming, freshening and bloom timing? RARGOM Annual Science Meeting, October 14, 2015, Portsmouth, NH.
2. **Li, Y.**, What Drives the Seasonal and Interannual Variability of Estuarine Hypoxia: Physics or Biology? (Invited talk), May 5, 2015. College of Marine Science, University of South Florida, FL, USA
3. **Li, Y.**, Stratification on the Northwest Atlantic shelf: climatology, interannual variability and biological implications (Invited talk). April 29, 2015. SMAST, University of Massachusetts, Dartmouth, MA, USA
4. **Li, Y.**, R. Ji, P. Fratantoni, C. Chen, Y. Sun and J. Hare. Changing rhythm of stratification on the Northwest Atlantic shelf: interannual variability and its biological implications. The 3rd Symposium on the Effect of Climate Change on the World's Oceans, March 23-27, 2015, Santos City, Brazil.
5. **Li, Y.**, R. Ji, P. Fratantoni, C. Chen, Y. Sun and J. Hare. Changing rhythm of stratification on the Northwest Atlantic shelf: interannual variability and its biological implications. RARGOM Annual Science Meeting, September 30, 2014, Boston, MA.
6. **Li, Y.**, R. Ji, P. Fratantoni, C. Chen, and J. Hare, C. Davis and R. Beardsley, Linking wind and surface salinity fluctuations on the Northwest Atlantic shelf: mechanism and implications, Ocean Sciences Meeting, February 23-28, 2014, Honolulu, HI.
7. **Li, Y.**, R. Ji*, P. Fratantoni, C. Chen, J. Hare, C. Davis and R. Beardsley. Linking wind and sea surface salinity fluctuation on the Northwest Atlantic shelf: Mechanisms and implications. RARGOM Annual Science Meeting, October 8, 2013, Portsmouth, NH.
8. **Li, Y.**, R. Ji, C. Chen, P. Fratantoni and J. Hare*, FATE 2012: Stratification Indices for Stock and Ecosystem Assessments From a Data Assimilative Circulation Model, 37th annual larval and fish conferences, June 2-6, 2013, Miami, FL.
9. **Li, Y.**, M. Li and P. Cheng, Modeling Study of the Mechanisms of Wind-Induced Lateral Circulation in a Straight, Stratified Channel, PECS Meeting, August 12-16, 2012, New York City, NY.
10. **Li, Y.** and M. Li, Dynamics of wind-induced lateral circulation and its effects on estuarine exchange flow and stratification. American Geophysical Union, Ocean Science Meeting, February 20-24, 2012, Salt Lake City, UT.
11. **Li, Y.** and M. Li, Effects of Winds on Stratification and Circulation in a Partially Mixed Estuary. The 38th Annual Mid-Atlantic Bight Physical Oceanography and Meteorology, MABPOM 2011, University of Maryland Center for Environmental Science, Cambridge, MD.
12. **Li, Y.** and M. Li, What Drives Interannual Variability of Hypoxia in Chesapeake Bay? The 37th Annual Mid-Atlantic Bight Physical Oceanography and Meteorology, MABPOM 2010, Stevens Institute of Technology, Hoboken, NJ.
13. **Li, Y.** and M. Li, Modeling Hypoxia Response to River Flow and Wind Forcing in Chesapeake Bay, American Geophysical Union, Ocean Science Meeting, February 22-26, 2010, Portland, OR.
14. **Li, Y.** and M. Li, Impact of Hurricane Isabel on hypoxia in Chesapeake Bay, American Geophysical Union, AGU Fall Meeting, December 12-19, 2008, San Francisco, CA.

15. **Li, Y.**, M. Li and L. Zhong, EOF Analysis of Wind-driven Currents in Chesapeake Bay, American Geophysical Union, Ocean Science Meeting, March 2-7, 2008, Orlando, FL.

Professional Service

Reviewers of Journal of Geophysical Research – Oceans
 Journal of Marine Systems
 Journal of Coastal Research
 Continental Shelf Research
 ICES Journal of Marine Science
 Estuaries and Coasts
 Estuarine, Coastal and Shelf Science

Awards

2008-2011 Horn Point Graduate Research Assistantship
2008 Outstanding Student Paper Award, AGU Fall Meeting, San Francisco
2008, 2009 Horn Point Student Travel Award

Teaching Experience

Spring 2007 Class lecture on “Dispersion of Point-Source Pollution”
 Course: Modeling Dispersion Processes in Natural Waters
Fall 2007 Discussion leader on “Chesapeake Bay topics”
 Ian Morris Chesapeake Discussion
Fall 2011 Class lecture on “Turbulence and Zooplankton Production”
 Course: Fluid Dynamics Ecology
Spring 2013 Discussion leader on “Hypoxia in Coastal Waters”
 WHOI Interdisciplinary postdoc reading group

Computation Skills

Language FORTRAN, C, Shell, MPI
Analysis tools Matlab, R, NCL, NetCDF, GIS
Numerical models ROMS (Regional Ocean Modeling System)
 FVCOM (Finite-Volume, primitive equation Community Ocean Model)
 RCA (three-dimensional water quality model including N, P, C, O₂ cycles and
 sediments, developed by HydroQual for application to marine and freshwater
 systems)