JINLIANG LIU

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RESEARCH INTERTEST

Interests: Submesoscale dynamics in the upper ocean; Oceanic boundary layer turbulence and its impact on the dispersion and transportation of sediments, nutrients, and pollutants in coastal regions; Large-scale ocean circulation

Methods: Numerical simulations using the large-eddy simulations (LES) model, the Coupled-Ocean-Atmosphere-Wave-Sediment Transport (COAWST) model, and general circulation models (GCMs)

EDUCATION

Ph.D. in Physical Oceanography — 01/2015-12/2019
Minor in Civil Engineering
Louisiana State University

M.S. in Environmental Science — 09/2011-06/2014
Ocean University of China

B.S. in Environmental Science — 09/2007-06/2011
Ocean University of China

APPOINTMENTS

01/2020-present: Research Associate, DAMTP, University of Cambridge

06/2019-12/2019: Graduate Student Research Assistant, Louisiana State University

01/2019-05/2019: Graduate Student Teaching Assistant, Louisiana State University

01/2015-12/2018: Graduate Student Research Assistant, Louisiana State University

PUBLICATIONS

E. Abolfazli, J.-H. Liang, Y. Fan, Q. J. Chen, N. D. Walker, and **J. Liu**, 2020. Surface gravity waves and their role in ocean-atmosphere coupling in the gulf of mexico. *Journal of Geophysical Research: Oceans*, 125(7).

J. Liu, J.-H. Liang, K. Xu, Q. Chen, and C. E. Ozdemir, 2019. Modeling sediment flocculation in Langmuir turbulence. *Journal of Geophysical Research: Oceans*, 124(11), 7883–7907.

J. Liu, J.-H. Liang, J. C. McWilliams, P. P. Sullivan, Y. Fan, and Q. Chen, 2018. Effect of planetary rotation on oceanic surface boundary layer turbulence. *Journal of Physical Oceanography*, 48(9), 2057–2080.

S. Sun and **J. Liu**, 2017. Sensitivity of the Antarctic Circumpolar Current transport to surface buoyancy conditions in the North Atlantic. *Ocean Modelling*, 118, 118–129.

J. Yu, X. Zhang, **J. Liu**, R. Liu, and X. Wang, 2016. Numerical study on the influences of nanliu river runoff and tides on water age in lianzhou bay. *Chinese journal of oceanology and limnology*, 34(5), 1106–1113.

X. Zhang, **J. Liu**, and C. Wang, 2014. Study on pollution probability of ship oil spill at stochastic dynamic condition in Jiaozhou Bay. *Journal of Applied Oceanography*, 33(3), 379–384 (in Chinese with English abstract).

PRESENTATIONS

J. Liu, J.-H. Liang, K. Xu, Q. Chen, and C. E. Ozdemir. Modelling sediment flocculation in Langmuir turbulence. Postdoc Talk in Applied Mathematics, DAMTP, 2020. (Talk)

J. Liu, J.-H. Liang, J. C. McWilliams, P. P. Sullivan, Y. Fan, and Q. Chen. Effect of planetary rotation on oceanic surface boundary layer turbulence. DAMTP lab lunch seminar, 2020. (Talk)

J. Liu, J.-H. Liang, K. Xu, C. E. Ozdemir, and Q. Chen. Effect of flocculation processes on suspended cohesive sediment in Langmuir turbulence. Gulf of Mexico Oil Spill & Ecosystem Science Conference, 2019. (Poster)

J. Liu, J.-H. Liang, K. Xu, Q. Chen, and C. E. Ozdemir. Modeling sediment flocculation in Langmuir turbulence. Gordon Research Conference on Advances in Coastal and Estuarine Physics from Nearshore to Continental-Margin Scales, 2019. (Poster)

J. Liu, J.-H. Liang, K. Xu, and Q. Chen. Sediment flocculation modulated by turbulent water flows. Louisiana Coastal Geology Symposium, 2018. (Poster)

J. Liu, J.-H. Liang, J. C. McWilliams, P. P. Sullivan, Y. Fan, and Q. Chen. Effect of planetary rotation on oceanic surface boundary layer turbulence. Ocean Science Meeting, 2018. (Talk)

J. Liu. The Coriolis force not discussed in OCS4170 and its effect on upper ocean mixing. College of the Coast and Environment CEGO Seminar Series, 2017. (Talk)

J. Liu and J.-H. Liang. Effect of planetary rotation on wind and wave driven turbulence — a numerical study. Gulf of Mexico Graduate Student Symposium, 2017. (Talk)

J. Liu, J.-H. Liang, and Q. Chen. Large eddy simulation of suspended sediments in shallow water. South-Central GSA Section Meeting, 2016. (Talk)

KEY PROJECTS

Effects of Turbulence and Waves on the Dispersion, Transport and Fate of Oil Droplets in the Upper Ocean: A Large Eddy Simulation Study, PI: Jun-Hong Liang, 2019, GoMRI.

CyberSEES: Type 2: A Coastal Resilience Collaboratory: Cyber-enabled Discoveries for Sustainable Deltaic Coasts, PI: Qin Chen, 2015-2019, NSF.

Modeling Bubbly Flows and Bubble-Mediated Gas Transfer in High Wind Conditions, PI: Jun-Hong Liang, 2015-2019, NSF.

SELECTED WORKSHOP ATTENDED

Copernicus Marine Service Training Workshop for the Arctic Ocean, organised by Mercator Ocean international, Noveltis and KEPLER, Dec. 01, 2020.

1st LBRN-LONI Scientific Computing Bootcamp, Louisiana State University, May 28-29 2018.

Air-Sea Interaction and Modeling, hosted by UNESCO/IOC, Qingdao, Aug. 12-23, 2013.

Thermohaline and abyssal circulation in the world ocean, hosted by Dr. Rui Xin Huang from WHOI, Guangzhou, Nov. 10-22, 2013.

TEACHING EXPERIENCE

Teaching assistant, Geological Oceanography (OCS 4210), Louisiana State University, Spring 2019.

Teaching assistant, Numerical Analysis for Partial Differential Equations, Ocean University of China, Fall 2013.

HONOR & AWARDS

Gamma Beta Phi, 2019.

Graduate Student Travel Awards by LSU Graduate School, 2018.

Graduate Student Travel Awards by LSU Costal Studies Institute, 2018.

PROFESSIONAL SOCIETY

The Oceanography Society - Member