JINLIANG LIU

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RESEARCH INTERESTS

Oceanic physical and biogeochemical processes, especially the turbulent mixing in oceanic surface boundary layer and its role in marine particle dynamics; wave dynamics; theory and numerical simulation of ocean circulation; transport and mixing of sediments, nutrients, and pollutants in estuarine, coastal, and continental shelf environments.

EDUCATION

Ph.D. in Physical Oceanography — 2015-2019
Minor in Civil Engineering — (expected)
Louisiana State University

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

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

PUBLICATIONS

J. Liu, J.-H. Liang, K. Xu, Q. Chen, and C. E. Ozdemir, 2019. Modeling Sediment Flocculation in Langmuir Turbulence. *Submitted to Journal of Geophysical Research: Oceans.*

E. Abolfazli, J.-H. Liang, Y. Fan, Q. Chen, N. D. Walker, and **J. Liu**, 2018. Surface Gravity Waves and Their Role in Ocean-Atmosphere Coupling in the Gulf of Mexico. *Submitted to Journal of Geophysical Research: Oceans.*

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.

PRESENTATIONS

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, 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)

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.

PROFESSIONAL SOCIETIES:

The Oceanography Society - Member

SKILLS

Ocean Modeling

Proficient in the large-eddy simulation (LES) model; skilled in ROMS, COAWST, MITgcm, ECOMSED, and FVCOM; experience with Delft3D.

Programming Languages

Proficient in Fortran and MATLAB; Skilled in Python.

High Performance Computing

Extensive experience with Linux system, MPI, and shell scripting.

Field Observation

Skilled in marine instruments including ADCP and RBR; experience with ADV and RTK GPS.

Other Skills

Proficient in LaTeX and graphing softwares including Surfer and Origin.