

Curriculum Vitae – Z. George Xue (Shüeh), PhD

Associate Professor

Dept. of Oceanography and Coastal Sciences, College of Coast and Environment

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Education

08/2005-05/2010	North Carolina State University	Ph.D. Marine Sciences (minor in Statistics)
09/2002-06/2005	First Institute of Oceanography	M.S. Environmental Sciences
09/1998-06/2002	Ocean University of China	B.E. Hydro & Engineering Geology

Professional Experiences

08/2020-present	Associate Professor	Louisiana State Univ., Baton Rouge, LA
08/2014-07/2020	Assistant Professor	Louisiana State Univ., Baton Rouge, LA
08/2012-07/2014	Research Assistant Professor	North Carolina State Univ., Raleigh, NC
05/2010-08/2012	Postdoc Research Associate	North Carolina State Univ., Raleigh, NC

Research Interests

Sediment, Nutrient, and Carbon Dynamics in Coastal Ocean
Climate and Human's Impact on Large River and Delta System
CO₂ Dynamics in the Land-Ocean Interaction Zone
Coupled Regional Earth System Modeling (Ocean-Atmosphere-Hydrology)
High Performance Computing and Operational Modeling

Selected Research Projects

Extramural funds since 2014: \$8.3 million to LSU (\$3.0 million as a lead PI; \$5.4 million as co-PI) from National Science Foundation (NSF), National Oceanic and Atmospheric Administration (NOAA), National Aeronautics and Space Administration (NASA), Office of Naval Research (ONR), US Geological Survey, US Congress Vietnam Education Foundation (VEF), Bureau of Ocean Energy Management (BOEM), Louisiana Board of Regents, Louisiana Center of Excellence, etc.

Duration	Project Name	Amount	Agency	Role
2021-2025	Coupled Ocean Atmosphere Waves Sediment Transport Waves, Sediment, Surge and Structure Response Forecasting System	\$1.8M	NOPP/ ONR	LSU PI
2021-2024	Collaborative Research: Larval Orientation, Dispersal and Connectivity in a Brachyuran Crab under Ocean Acidification and Elevated Temperature	\$992K	NSF	Co-PI
2021-2024	Coupled Ocean Modeling Testbed (COMT) Platform for Physics and Contaminant Exchange through the River - Estuary - Ocean Continuum	\$900K	NOAA	Co-PI
2021-2023	Assess Hydrological and Sediment's Response to Hurricane Florence (2018)	\$300K	USGS	Lead PI
2020-2023	Impact of Nonlinear Sedimentation on Dredge Area Benthic Ecosystem on Louisiana Shelf	\$353K	BOEM	Lead PI
2019-2023	Collaborative: Synergistic Effects of Petroleum Production and Ocean Environmental Changes on Oyster Health	\$292K	NSF	Lead PI
2018-2022	Understanding and Quantifying Carbon Export to Coastal Oceans through Deltaic Systems	\$1.5M	NASA/ LA BoR	Lead PI
2016-2020	NGOMEX 2016-Using Linked Models to Predict the Impacts of Hypoxia on Gulf Coast Fisheries Under Scenarios of Watershed and	\$1.1M	NOAA	Co-PI

River Management

2017-2020	Development of a Monitoring Program for Water Quality and Biogeochemical Processes of Louisiana Sediment Borrow Areas	\$579K	BOEM	Co-PI
2015-2019	A Coastal Resilience Collaboratory: Cyber-enabled Discoveries for Sustainable Deltaic Coasts	\$1.2M	NSF	Co-PI
2016-2019	Collaborative Research: Fate of Coastal Wetland Carbon Under Increasing Sea Level Rise: Using the Subsiding Louisiana Coast as a Proxy for Future World-Wide Sea Level Projections	\$250K	NSF	Co-PI
2017-2019	Enhance Sediment Retention Rates of Receiving Basins of Louisiana Sediment Diversions (funded by the Water Institute of the Gulf	\$292K	LA COE	Co-PI

Publications (peer-reviewed journal papers and book chapter)

Total citation as of Nov 2021: 1168, Google Scholar h10-index: 20 (*denotes paper led by Xue's students)

Submitted (Under Review or Revision)

- [60] Zhang, L.* & **Xue, Z.**, Downscaling CMIP6 Global Carbon Model to a Regional Ocean Modeling System: A Case Study of the Gulf of Mexico. *Biogeosciences*;
- [59] Ou, Y. *, Li, B., **Xue, Z.**, The Hydrodynamic and Biochemical Impacts and Predictions on the Variability of Bottom Dissolved Oxygen Concentration in the Louisiana-Texas Shelf Part II: Statistical Modeling. *JGR-Oceans*.
- [58] Ou, Y.* and **Xue, Z.**, The Hydrodynamic and Biochemical Impacts and Predictions on the Variability of Bottom Dissolved Oxygen Concentration in the Louisiana-Texas Shelf Part I: Mechanisms. *JGR-Oceans*.
- [57] Bao, D.*, Xue, Z., Warner, J., Moulton, M., Yin, D., Hegermiller, C., A Numerical Investigation of Hurricane Florence-induced Compound Flooding in Cape Fear Estuary using a Dynamically Coupled Hydrological-Ocean Model. *Journal of Advances in Modeling Earth Systems*.
- [56] Wang, P*., **Xue, Z.**, Hu, X., Zhang, L. Examine CO₂ over Coastal Ocean in North America using Buoy data and simulations with WRF-VPRM coupled with an Ocean-Carbon model. *Atmospheric Environment*.
- [55] Yin, D.*, **Xue, Z.**, Bao, D., RafieeiNasab., Huang, Y., Morales, M., A Coupled Numerical Investigation of the Cape Fear River Basin during Hurricane Florence (2018). *Hydrological Processes*.

Published

- [54] Yin, D.*, **Xue, Z.**, Warner, J., Bao, D. Hydrometeorology and Hydrology of flooding in Cape Fear River Basin during Hurricane Florence in 2018. *Journal of Hydrology*. 2021. 127-139. Doi: 10.1016/j.jhydrol.2021.127139
- [53] Haddadian, S., Ozdemir, C.E., Goodlow, B.L., **Xue, Z.**, Bentley, S., Direct Numerical Simulations of Miniature Along-Shelf Current-Supported Turbidity Currents: Conceptual Investigation of Velocity Structure and Drag Coefficient. *JGR Oceans*. doi: 10.1029/2020JC016736
- [52] Yin, D.*, Munoz, D., Bakhtyar, R. **Xue, Z.**, Moftakhari, H., Ferreira, C., Mandli, K., Extreme water level simulation and component analysis in Delaware Estuary during Hurricane Isabel. 2021. *JAWRA*. DOI: 10.1111/1752-1688.12947
- [51] Munoz, D., Yin, D., Bakhtyar, R., Moftakhari, H., **Xue, Z.**, Mandli, K., Ferreira, C., Inter-model comparison of Delft3D-FM and 2D HEC-RAS for Total Water Level Prediction in Coastal to Inland Transition Zones. 2021, *JAWRA*. DOI: 10.1111/1752-1688.12952
- [50] Robichaux, P., Xu, K., Bentley, S., Miner, M., **Xue, Z.** Morphological evolution of a mud-capped dredge pit on the Louisiana shelf: Nonlinear infilling and continuing consolidation, *Geomorphology*, 2020, 107030
- [49] Zhao, X., Rivera-Monroy, V., Wang, H., **Xue, Z.**, Tsai, C-F, Willson, C., Castaneda-Moya, E., Twilley, R. Modeling soil porewater salinity in mangrove forests (Everglades, Florida, USA) impacted by hydrological restoration and a warming climate. *Ecological Modelling*. 435 (15). <https://doi.org/10.1016/j.ecolmodel.2020.10929>
- [48] Ge, Q., **Xue, Z.**, Chu, F. (2020) Rare Earth Element Distributions in Continental Shelf Sediment, Northern South China Sea. *Water*. 12(12), 3540; <https://doi.org/10.3390/w12123540>
- [47] Li, G., Xu, K., **Xue, Z.**, Liu, H., Bentley, S., (2020). Hydrodynamics and Sediment Dynamics in Barataria Bay,

- Louisiana, USA. *Estuarine, Coastal and Shelf Science*. <https://doi.org/10.1016/j.ecss.2020.107090>
- [46] Liu, B., D'Sa, E., Maiti, K., Rivera-Monroy, V., **Xue, Z.** (2020) Biogeographical trends in phytoplankton community size structure using adaptive sentinel 3-OLCI chlorophyll a and spectral empirical orthogonal functions in the estuarine-shelf waters of the northern Gulf of Mexico. *Remote Sensing of Environment*. 252, <https://doi.org/10.1016/j.rse.2020.112154>
- [45] Anderson, M., Maiti, K., **Xue, Z.**, Ou, Y. (2020). Dissolved Inorganic Carbon Transport in the Surface Mixed Layer of the Louisiana shelf in northern Gulf of Mexico. *JGR Ocean*, 125.11. <https://doi.org/10.1029/2020JC016605>
- [44] Liu, H., Xu, K., Ou, Y., Bales, R., Zang, Z., **Xue, Z.** Sediment transport near Ship Shoal for coastal restoration in the Louisiana Shelf: A Model Estimate of the year 2017-2018. *Water*. 2020. 12
- [43] Yin, D. *, **Xue, Z.**, Gochis, D. J., Yu, W., Morales, M., & Rafieeiniasab, A. (2020). A process-based soil erosion and sediment transport model for WRF-Hydro. *Water*. 2020, 12(6), 1840; <https://doi.org/10.3390/w12061840>
- [42] Ou, Y. *, **Xue, Z.**, Li, C., Xu, K., White, J., Bentley, S. J., & Zang, Z. (2020). A 3-dimensional numerical study of salinity variations in the Barataria Estuary, Louisiana. *Estuarine, Coastal and Shelf Science*. 10.1016/j.ecss.2020.107021
- [41] Zang, Z. *, **Xue, Z.**, Xu, K., Bentley, S. J., Chen, Q., D'Sa, E. J., et al. (2020). The role of sediment-induced light attenuation on primary production during Hurricane Gustav (2008). *Biogeoscience*. 17, <https://doi.org/10.5194/bg-17-5043-2020>
- [40] Zang, Z. *, **Xue, Z.**, Xu, K., Ozdemir, C., Chen, Q., Bentley, S. J., & Sahin, C. (2020). A Numerical Investigation of Wave-Supported Gravity Flow during Cold Fronts over the Atchafalaya Shelf. *Journal of Geophysical Research: Oceans*, <https://doi.org/10.1029/2019JC015269>
- [39] Steinmuller, H. E., Hayes, M. P., Hurst, N. R., Sapkota, Y., Cook, R., White, J. R., **Xue, Z.**, & Chambers, L. (2020). Does edge erosion alter coastal wetland soil properties? A multi-method biogeochemical study. *CATENA*, 187: 104373.
- [38] Rivera-Monroy VH, Elliton C, Narra S, Meselhe E, Zhao X, White E, Sasser CE, Visser JM, Meng X, Wang H, **Xue Z.** Wetland Biomass and Productivity in Coastal Louisiana: Base Line Data (1976–2015) and Knowledge Gaps for the Development of Spatially Explicit Models for Ecosystem Restoration and Rehabilitation Initiatives. *Water*. 2019 Oct;11(10):2054.
- [37] Zang, Z.*, **Xue, Z.**, Xu, K., Bentley, S. J., Chen, Q., D'Sa, E. J., & Ge, Q. (2019). A two decadal (1993-2012) numerical assessment of sediment dynamics in the northern Gulf of Mexico. *Water*, 11(5), 938. <https://doi.org/10.3390/w11050938>
- [36] Ge, Q., **Xue, Z.**, Ye, L., Xu, D., Yao, Z., & Chu, F. (2019). Distribution Patterns of Major and Trace Elements and Provenance of Surface Sediments on the Continental Shelf off Western Guangdong Province and Northeastern Hainan Island. *Journal of Ocean University of China*, 18(4), 849–858. <https://doi.org/10.1007/s11802-019-3738-4>
- [35] Ge, Q., **Xue, Z.**, Ye, L., Xu, D., Zhao, J., & Chu, F. (2019). The spatial distribution of major and trace elements of surface sediments in the northeastern Beibu Gulf of the South China Sea. *Acta Oceanologica Sinica*, 38(3), 93–102. <https://doi.org/10.1007/s13131-019-1402-x>
- [34] **Xue, Z.**, Gochis, D. J., Yu, W., Keim, B. D., Rohli, R. V., Zang, Z., et al. (2018). Modeling hydroclimatic change in Southwest Louisiana rivers. *Water*, 10(5), 596. <https://doi.org/10.3390/w10050596>
- [33] Zang, Z.*, **Xue, Z.**, Bao, S., Chen, Q., Walker, N. D., Haag, A. S., et al. (2018). Numerical study of sediment dynamics during hurricane Gustav. *Ocean Modelling*, 126, 29–42. <https://doi.org/10.1016/j.ocemod.2018.04.002>
- [32] Mariotti, G., Huang, H., **Xue, Z.**, Li, B., Justic, D., & Zang, Z. (2018). Biased wind measurements in estuarine waters. *Journal of Geophysical Research: Oceans*, 123(5), 3577–3587. <https://doi.org/10.1029/2017JC013748>
- [31] Lohrenz, S. E., Cai, W.-J., Chakraborty, S., Huang, W.-J., Guo, X., He, R., **Xue, Z.**, (2018). Satellite estimation of coastal pCO₂ and air-sea flux of carbon dioxide in the northern Gulf of Mexico. *Remote Sensing Environment*, 207, 71–83. <https://doi.org/10.1016/j.rse.2017.12.039>
- [30] Ge, Q., **Xue, Z.**, Chu, F., & Health, P. (2018). Spatial Distribution and Contamination Assessment of Surface Heavy Metals off the Western Guangdong Province and Northeastern Hainan Island. *International Journal of Environmental Research and Public Health*, 15(9), 1897. <https://doi.org/10.3390/ijerph15091897>
- [29] Yao, Z., **Xue, Z.**, He, R., Bao, X., Xie, J., & Ge, Q. (2017). Climate projections of spatial variations in coastal storm surges along the Gulf of Mexico and U.S. east coast. *Journal of Ocean University of China*, 16(1), 1–7. <https://doi.org/10.1007/s11802-017-3012-6>
- [28] Ge, Q., **Xue, Z.**, Yao, Z., Zang, Z., & Chu, F. (2017). Anti-phase relationship between the East Asian winter

- monsoon and summer monsoon during the Holocene? *Journal of Ocean University of China*, 16(2), 175–183. <https://doi.org/10.1007/s11802-017-3098-x>
- [27] Zang, Z.*, **Xue, Z.**, Bi, N., Yao, Z., Wu, X., & Wang, H. (2017). Seasonal Variation of Suspended-Sediment Distribution in the Yellow Sea. *Continental Shelf Research*, 148(15), 116–129. <https://doi.org/10.1016/j.csr.2017.08.016>
- [26] Justic, D., Duke-Sylvester, S. M., Visser, J. M., **Xue, Z.**, & Liang, J. (2016). Chapter 11 - Coastal Ecosystem Modeling in the Context of Climate Change: An Overview With Case Studies. In J. Sven Erik (Ed.), *Developments in Environmental Modelling* (Vol. 28, pp. 227–260). Elsevier. <https://doi.org/10.1016/B978-0-444-63623-2.00011-6>
- [25] **Xue, Z.**, He, R., Fennel, K., Cai, W. J., Lohrenz, S., Huang, W. J., et al. (2016). Modeling pCO₂ variability in the Gulf of Mexico. *Biogeosciences*, 13, 4359–4377. <https://doi.org/10.5194/bg-13-4359-2016>
- [24] Yao, Z., **Xue, Z.**, He, R., Bao, X., & Song, J. (2016). Statistical downscaling of IPCC sea surface wind and wind energy predictions for U.S. east coastal ocean, Gulf of Mexico and Caribbean Sea. *Journal of Ocean University of China*, 15(4), 577–582. <https://doi.org/10.1007/s11802-016-2869-0>
- [23] Ledwell, J. R., He, R., **Xue, Z.**, DiMarco, S. F., Spencer, L. J., & Chapman, P. (2016). Dispersion of a tracer in the deep Gulf of Mexico. *Journal of Geophysical Research: Oceans*, (121), 1110–1132. <https://doi.org/10.1002/2015JC011405>
- [22] **Xue, Z.**, Zambon, J., Yao, Z., Liu, Y., & He, R. (2015). An integrated ocean circulation, wave, atmosphere, and marine ecosystem prediction system for the South Atlantic Bight and Gulf of Mexico. *Journal of Operational Oceanography*, 8(2), 80–91. <https://doi.org/10.1080/1755876x.2015.1014667>
- [21] Zeng, X., He, R., **Xue, Z.**, Wang, H., Wang, Y., Yao, Z., et al. (2015). River-derived sediment suspension and transport in the Bohai, Yellow, and East China Seas: A preliminary modeling study. *Continental Shelf Research*, 111, 112–125. <https://doi.org/10.1016/j.csr.2015.08.015>
- [20] Tian, H., Ren, W., Yang, J., Tao, B., Cai, W.-J., Lohrenz, S., et al. (2015). Climate extremes dominate seasonal and interannual variations in carbon export from the Mississippi River Basin. *Global Biogeochemical Cycles*, 29(9), 1333–1347. <https://doi.org/10.1002/2014GB005068>
- [19] **Xue, Z.**, Paul Liu, J., DeMaster, D., Leithold, E. L., Wan, S., Ge, Q., et al. (2014). Sedimentary processes on the Mekong subaqueous delta: Clay mineral and geochemical analysis. *Journal of Asian Earth Sciences*, 79, 520–528. <https://doi.org/10.1016/j.jseaes.2012.07.012>
- [18] Liu, S., Feng, A., Du, J., Xia, D., Li, P., **Xue, Z.**, et al. (2014). Evolution of the buried channel systems under the modern Yellow River Delta since the Last Glacial Maximum. *Quaternary International*, 349(0), 327–338. <https://doi.org/10.1016/j.quaint.2014.06.061>
- [17] Ge, Q., Liu, J. P., **Xue, Z.**, & Chu, F. (2014). Dispersal of the Zhujiang River (Pearl River) derived sediment in the Holocene. *Acta Oceanologica Sinica*, 33(8), 1–9. <https://doi.org/10.1007/s13131-014-0407-8>
- [16] **Xue, Z.**, He, R., Fennel, K., Cai, W., Lohrenz, S., & Hopkinson, C. (2013). Modeling Seasonal and Interannual Variability of Circulation and Biogeochemical Processes in the Gulf of Mexico. *Biogeosciences*, 10, 7219–7234. <https://doi.org/10.1029/2010JC006631>
- [15] **Xue, Z.**, He, R., Liu, J. P., & Warner, J. C. (2012). Modeling transport and deposition of the Mekong River sediment. *Continental Shelf Research*, 37, 66–78. <https://doi.org/10.1016/j.csr.2012.02.010>
- [14] Ge, Q., Meng, X., Chu, F., **Xue, Z.**, & Lei, J. (2012). Paleoceanographic Record of Core ZHS-176 From the Northern South China Sea: Oxygen Isotope and Organic Carbon. *Marine Geology and Quaternary Geology*, 32(5), (in Chinese with English Abstract). <https://doi.org/10.3724/SP.J.1140.2012.05073>
- [13] Bian, S., Hu, Z., **Xue, Z.**, & Lv, J. (2012). An observational study of the carrying capacity of suspended sediment during a storm event. *Environmental Monitoring & Assessment*, 184(10), 6037–6044. <https://doi.org/10.1007/s10661-011-2401-3>
- [12] **Xue, Z.**, Liu, J. P., & Ge, Q. (2011). Changes in hydrology and sediment delivery of the Mekong River in the last 50 years: Connection to damming, monsoon, and ENSO. *Earth Surface Processes and Landforms*, 36(3), 296–308. <https://doi.org/10.1002/esp.2036>
- [11] Ge, Q., Liu, J. P., Chu, F., **Xue, Z.**, & Liu, C. (2011). The records of the East Asian monsoon from mud area on the East China Sea shelf since the Holocene sea-level highstand. *Marine Sciences*, 35(7), (in Chinese).
- [10] **Xue, Z.**, Liu, J. P., DeMaster, D., Van Nguyen, L., & Ta, T. K. O. (2010). Late Holocene Evolution of the Mekong Subaqueous Delta, Southern Vietnam. *Marine Geology*, 269(1–2), 46–60. <https://doi.org/10.1016/j.margeo.2009.12.005>
- [9] Ge, Q., Liu, J., Chu, F., Du, Y., & **Xue, Z.** (2010). Holocene Event 3 and Ancient Cultural Transition. *Geological*

- Science and Technology Information, 29(3), (in Chinese with English Abstract).
- [8] Ge, Q., Chu, F., **Xue, Z.**, Liu, J., & Fang, Y. (2010). Paleoenvironmental records from the northern South China Sea since the Last Glacial Maximum. *Acta Oceanologica Sinica*, 29(3), 46–62. <https://doi.org/10.1007/s13131-010-0036-9>
- [7] Ge, Q., Chu, F., Liu, J., Du, Y., **Xue, Z.**, & Fang, Y. (2010). Distribution of the Clay Minerals in Surface Sediments of the South China Sea and their provenance. *Marine Geology & Quaternary Geology*, 30(4), (in Chinese with English Abstract). <https://doi.org/10.3724/SP.J.1140.2010.04057>
- [6] **Xue, Z.**, Feng, A., Yin, P., & Xia, D. (2009). Coastal Erosion induced by Human Activities: A Northwest Bohai Sea case study. *Journal of Coastal Research*, 25(3), 723–733. <https://doi.org/10.2112/07-0959.1>
- [5] Liu, J., **Xue, Z.**, Ross, K., Wang, H., Yang, Z., Li, A., & Gao, S. (2009). Fate of sediments delivered to the sea by Asian large rivers: Long-distance transport and formation of remote alongshore clinothems. *The Sedimentary Record*, 7(4), 4–9. <https://doi.org/10.2110/sedred.2009.4.4>
- [4] Feng, S., **Xue, Z.**, & Chi, W. (2008). Topographic Features around Zhongshan Station, Southwest of the Prydz Bay. *Oceanologia et Limnologia Sinica*, 26(4), 469–474. <https://doi.org/10.1007/s00343-008-0469-6>
- [3] Feng, S., Chi, W., & **Xue, Z.** (2007). A Detailed Bathymetric Study of Zhongshan Anchorage and Top of the Prydz Bay. *Chinese Polar Research*, 19(2), (in Chinese with English Abstract).
- [2] Yang, M., Xia, D., Gu, D., & **Xue, Z.** (2005). Geographic Environmental Evolution in the Qingdao Coastal Area Under the Influence of Global Change. *Advances in Marine Science*, 3, (in Chinese with English Abstract).
- [1] **Xue, Z.**, Yin, P., & Wang, W. (2005). Research on the Transportation and Movement of the Sediment in the Southwest of Yangma Island. *Chinese Coastal Engineering*, 24(1), (in Chinese with English Abstract).

Meeting/Conference Abstracts *denotes an abstract by my student or postdoc

- [61] **Xue, Z.** Quantify Carbon Export through Sinking Deltaic Systems. Fall 2021 LaSPACE Council Meeting. 2021, Oral Presentation
- [60] **Xue, Z.** Assessing hydro- and sediment dynamics of hurricane-induced compound flooding using a dynamically coupled ocean-river modeling suite. NOAA Ocean and Coastal Community Modeling Workshop. 2021, Oral Presentation
- [59] **Xue, Z.** Untangling atmosphere, ocean and river's role in a hurricane-induced compound flooding event using a dynamically coupled modeling suite. NOAA The Coastal Coupling Community of Practice webinar, 2021, Oral Presentation
- [58] **Xue, Z.** Cross the boundaries: Inter-disciplinary Studies of Coastal Hazards using Coupled Numerical Modeling. 2021 Louisiana Space + Sea Grant Meeting. Invited Talk.
- [57] Ou, Y.*, **Xue, Z.**, Li, C., Xu, K., White, J., Bentley, S., Zang, Z., A Numerical Investigation of Salinity Variations in Barataria Estuary, Louisiana in Connection with the Mississippi River and Restoration Activities. State of the Coast Meeting. 2021. Poster
- [56] Zhang, L. *, **Xue, Z.** Marsh Growth Dynamics Modeling On An Expanding Delta Using The Coupled Wave-Flow-Sediment Transport Model (COAWST). State of the Coast Meeting. 2021. Poster
- [55] Justic, D., Wang, L., **Xue, Z.**, Rabalais, N. Development of Extended-Range Hypoxia Forecasts for the Northern Gulf of Mexico. Oral Presentation, 2021 CERF meeting
- [54] Yu, W., **Xue, Z.**, Yin, D., Bao, D., The WRF-Hydro Based Water Model Development for Coastal Flood Simulation, Coastal Flood Modeling, Prediction and Observations for the U.S. Gulf Coast, An Ocean Visions Coastal Solutions Workshop, (oral, Virtual workshop), 2021
- [53] Yu, W., **Xue, Z.**, Han, W., The study of WRF-Hydro with different atmosphere models for flooding forecasts (2020). NOAA Unified Forecast System (UFS) User's Workshop (Virtual meeting). Oral Presentation
- [52] He, R., Zambon, J., Warner, J., **Xue, Z.**, Moulton, M., Yin, D., Bao, D., Zafer, D. Investigating Compound Flooding and Contaminant Dispersal during Hurricane Florence using Coupled Hydrology and Ocean Models (2020). NOAA Unified Forecast System (UFS) User's Workshop (Virtual meeting). Oral Presentation
- [51] **Xue, Z.**, Zang, Z., Yin, D., Xu, K., Chen, J., Bentley, S., Gochis, D. (2020). Using Coupled Modeling Suites to Understand Sediment Dynamics in the Land Ocean Interaction Zone. 2020 AGU Ocean Sciences. San Diego, CA. Oral Presentation.
- [50] Bales, R., Xu, K., Li, G., Bargu, S., Bentley, S., Maiti, K., White, J., Wilson, C., **Xue, Z.** (2019). An assessment of sediment transport and water quality between contrasting dredge pits of Louisiana shelf. CERF2019 25th Biennial Conference. Mobile, AL. Poster Presentation.

- [49] Vargas-Lopez, I., Rivera-Monroy, V., Maiti, K., **Xue, Z.**, D'Sa, E., Madden, C. Carbon and nutrient concentrations spatiotemporal assessment in prograding and degraded deltas in coastal Louisiana. CERF2019 25th Biennial Conference. Mobile, AL. Poster Presentation.
- [48] Anderson, M., Maiti, K., **Xue, Z.** (2019). Quantifying cross-shelf transport of carbon across the Louisiana shelf using radium isotopes. CERF2019 25th Biennial Conference. Mobile, AL. Poster Presentation.
- [47] **Xue, Z.**, Zang, Z., Yin, D., Xu, K., Chen, J., Bentley, S., Gochis, D. (2019). Using Coupled Modeling Suites to Understand Sediment Dynamics in the Land Ocean Interaction Zone. CERF2019 25th Biennial Conference. Mobile, AL. Oral Presentation.
- [46] Li, G., Xu, K., Bentley, S., Ma, Y., **Xue, Z.**, Bales, R. (2019). Sediment transport processes in Barataria Bay of Louisiana and its implication to sediment diversion. CERF2019 25th Biennial Conference. Mobile, AL. Oral Presentation.
- [45] Rose, K., Justic, D., Huang, H., Craig, K., Huebert, K., LaBone E., Meselhe, E., Yang, J., Jun, H., **Xue, Z.**, Tian, H. (2019). Predicting fish population responses to hypoxia using 3-D coupled biophysical models. CERF2019 25th Biennial Conference. Mobile, AL. Oral Presentation.
- [44] Yin, D.*, & **Xue, Z.** (2019). Introduce Sediment Module to WRF-Hydro. 13th Annual Louisiana Water Conference 2019. Baton Rouge, LA. Poster Presentation.
- [43] **Xue, Z.**, Yin, D., & Gochis, D. (2019). Introducing a sediment module to the National Water Model (WRF-Hydro). Community Surface Dynamics Modeling System 2019 Annual Meeting. Boulder, CO. Poster Presentation.
- [42] Zang, Z.*, **Xue, Z.**, Ozdemir, C., Xu, K., & Bentley, S. (2019). Introducing a wave-supported gravity flow module to Community Sediment Transport Model System. Community Surface Dynamics Modeling System 2019 Annual Meeting. Boulder, CO. Poster Presentation.
- [41] **Xue, Z.**, Rivera-Monroy, V., D'Sa, E., & Maiti, K. (2019). Understanding Carbon Export from Global Deltas. Ocean Carbon and Biogeochemistry Workshop. Woods Hole, MA. Oral Presentation.
- [40] Liu, H., Xu, K., Bentley, S., Wilson, C., **Xue, Z.**, & Miner, M. (2018). Sediment Transport and Geomorphologic response in Multiple Dedge Pits near Ship Shal of Coastal Louisiana. AGU Fall Meeting 2018. Washington D.C. Poster Presentation.
- [39] **Xue, Z.** (2018). Understanding and Quantifying Carbon Export to Global Oceans through Deltaic Systems (CEDs). In LaSPACE Fall Council Meeting 2018 (p. Oral Presentation). Shreveport, LA. Oral Presentation.
- [38] **Xue, Z.** (2018). Understanding Carbon Export from Global Deltas. In NASA EPSCoR Director's National Meeting 2018 (p. Oral Presentation). Baltimore, MD. Oral Presentation.
- [37] Zang, Z.*, **Xue, Z.**, Bao, S., Chen, J., Walker, N., Haag, A., et al. (2017). A Numerical Study of Sediment Dynamics during Hurricane Gustav. AGU Fall Meeting 2017. New Orleans, LA. Poster Presentation.
- [36] **Xue, Z.**, Gochis, D., Yu, W., Keim, B., & Zang, Z. (2017). Assessing Hydroclimatic Change in Southwest Louisiana Rivers using WRF-Hydro. AGU Fall Meeting 2017. New Orleans, LA. Poster Presentation.
- [35] He, R., Zong, H., **Xue, Z.**, Fennel, K., Tian, H., Cai, W.-J., & Lohrenz, S. (2017). Predicting marine physical-biochemical variabilities in the Gulf of Mexico and southeastern U.S. shelf sea. AGU Fall Meeting 2017. New Orleans, LA. Poster Presentation.
- [34] Ge, Q., & **Xue, Z.** (2017). The spatial distribution of major and trace elements in the surface sediments from the northeastern. AGU Fall Meeting 2017. New Orleans, LA. Poster Presentation.
- [33] **Xue, Z.** (2016). Assess Impacts of Climate Change on Louisiana Rivers using a Coupled Climate-Hydrological Model, Louisiana Groundwater. Surface Water & Water Resources Symposium. Baton Rouge, LA. Oral Presentation.
- [32] **Xue, Z.**, Gochis, D., Yu, W., Zang, Z., Sampson, K., & Keim, B. (2016). Assessing Climate Change's Impact on Coastal Rivers using a Coupled Climate-Hydrology Model. AGU Fall Meeting 2016. San Francisco, CA. Poster Presentation.
- [31] **Xue, Z.**, He, R., Fennel, K., Cai, W., Lohrenz, S., Huang, WJ., Tian, H., and Ren, W. (2016). Connecting the Mississippi River with Carbon Variability in the Gulf of Mexico. AGU Ocean Science 2016. New Orleans, LA. Oral Presentation.
- [30] Zang, Z.*, **Xue, Z.**, Wang, H., Bi, N., Wu, X., & Zhang, Y. (2016). Dynamics of Large River-Derived Sediments in the Yellow Sea. AGU Fall Meeting 2016. New Orleans, LA. Poster Presentation.
- [29] Ge, Q., **Xue, Z.**, Liu, P., & Chu, F. (2016). Linking Monsoon Activity with River-Derived Sediment Deposition in the Northern South China Sea. AGU Fall Meeting 2016. New Orleans, LA. Poster Presentation.
- [28] **Xue, Z.**, Zang, Z., Tao, J., Jin, D., & Chen, J. (2016). SIMULOCEAN Science Gateway for COAWST. COAWST Modeling Workshop 2016. Woods Hole, MA. Oral Presentation.

- [27] **Xue, Z.**, & Zang, Z. (2015). Connecting Regional Climate, River, and Ocean using High Resolution Numerical Models. South Central Climate Center Workshop. Fort Worth, TX. Oral Presentation.
- [26] **Xue, Z.**, Liu, J., He, R., DeMaster, D., Leithold, E. L., Nguyen, L., & Ta, T. (2014). A Source-to-Sink Study of the Mekong River Delta: Hydrology, Delta Evolution, and Sediment Transport Modeling. IAHS/ICCE International Symposium. New Orleans, LA. Oral Presentation.
- [25] He, R., **Xue, Z.**, Zambon, J., & Liu, Y. (2014). An Integrated Ocean Circulation, Wave, Atmosphere and Marine Ecosystem Prediction system for the Gulf of Mexico. SECOORA 2014 Annual Conference. Savannah, GA. Oral Presentation.
- [24] **Xue, Z.**, He, R., Fennel, K., Cai, W., Lohrenz, S., Huang, W. J., & Tian, H. (2014). Modeling pCO₂ variability in the Gulf of Mexico. Coastal CARbon Synthesis (CCARS) Community Workshop. Woods Hole, MA. Poster Presentation.
- [23] **Xue, Z.**, He, R., Fennel, K., Cai, W., Lohrenz, S., Huang, W. J., & Tian, H. (2014). Modeling pCO₂ Variability in the Gulf of Mexico. AGU Fall Meeting. San Francisco, CA. Poster Presentation.
- [22] **Xue, Z.**, He, R., Fennel, K., Cai, W., & Lohrenz, S. (2014). Modeling Seasonal and International Variability of Ocean Circulation and Biogeochemical Variables in the Gulf of Mexico. AGU Ocean Sciences Meeting. Honolulu, HI. Oral Presentation.
- [21] He, R., **Xue, Z.**, Fennel, K., Cai, W., & Lohrenz, S. (2014). 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. Oral Presentation.
- [20] **Xue, Z.**, He, R., Liu, J., & Warner, J. (2014). Modeling transport and deposition of the Mekong River sediment. COAWST Modeling Workshop. Woods Hole, MA. Oral Presentation.
- [19] Ledwell, J. R., He, R., Montuoro, R., Olascoaga, J., & **Xue, Z.** (2014). Tracer Dispersion in the Mid-Depth Gulf of Mexico. AGU Ocean Sciences Meeting. Honolulu, HI. Oral Presentation.
- [18] He, R., **Xue, Z.**, Zambon, J., & Liu, Y. (2013). 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. Oral Presentation.
- [17] Tian, H., He, R., Ren, W., **Xue, Z.**, & Lohrenz, S. (2013). 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. Poster Presentation.
- [16] He, R., Tian, H., Ren, W., **Xue, Z.**, Cai, W., & Lohrenz, S. (2013). 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 American Carbon Program Science Meeting. Albuquerque, NM. Poster Presentation.
- [15] He, R., **Xue, Z.**, & Zambon, J. (2012). An Integrated Ocean Circulation, Wave, Atmosphere and Marine Ecosystem Prediction System for the South Atlantic Bight and Gulf of Mexico. SECOORA Meeting. Miami, FL. Poster Presentation.
- [14] Lohrenz, S., Cai, W., Tian, H., He, R., Hopkinson, C., **Xue, Z.**, et al. (2012). Coupled Terrestrial-Ocean Modeling of Climate and Land Use Change Impacts on Biogeochemical and Ecosystem Processes in the Mississippi Basin and Gulf of Mexico. AGU Ocean Science Meeting. Salt Lake City, UT. Oral Presentation.
- [13] Ge, Q., Liu, J., & **Xue, Z.** (2012). Distribution of the Holocene-Age Pearl River-Derived Sediment on the Delta and Continental Shelf. AGU Ocean Science Meeting. Salt Lake City, UT. Poster Presentation.
- [12] He, R., Woods, W., **Xue, Z.**, Zambon, J., Chen, K., Li, Y., et al. (2012). Glider Surveys in the South Atlantic Bight: a Component of an Integrated Coastal Ocean Observing and Data Assimilative Prediction System. SECOORA Meeting. Miami, FL. Oral Presentation.
- [11] **Xue, Z.**, He, R., Fennel, K., Cai, W., & Lohrenz, S. (2012). Modeling Seasonal and Interannual Variability of Circulation and Biogeochemical Processes in the Gulf of Mexico. AGU Ocean Sciences Meeting. Salt Lake City, UT. Oral Presentation.
- [10] Lohrenz, S., Cai, W., Tian, H., He, R., **Xue, Z.**, Fennel, K., et al. (2012). Sustainable management of coastal environments through coupled terrestrial-coastal ocean models. AGU Fall Meeting. San Francisco, CA. Oral Presentation.
- [9] Yao, Z., **Xue, Z.**, & He, R. (2011). Climate Projections of Coastal Wind and Sea Levels off the U. S. Atlantic and Gulf of Mexico Coasts. Gordon Research Conference. South Hadley, MA. Poster Presentation.

- [8] **Xue, Z.**, He, R., Liu, J., & Warner, J. (2011). Modeling Transport and Deposition of Mekong River Sediment. Gordon Research Conference. South Hadley, MA. Poster Presentation.
- [7] **Xue, Z.**, Liu, J., DeMaster, D., He, R., & Leithold, E. L. (2010). A Source-to-Sink Study of the Mekong Subaqueous Delta. AGU Ocean Science. Portland, OR. Oral Presentation.
- [6] Liu, J., **Xue, Z.**, DeMaster, D., Nguyen, L., & Ta, T. (2010). Dispersal and Accumulation of Mekong River-Derived Sediment in the South China Sea. AGU Western Pacific Geophysics Meeting. Taipei, Taiwan. Oral Presentation.
- [5] **Xue, Z.**, Yao, Z., & He, R. (2010). Multi-level Model Downscaling of Coastal Ocean Responses in Face of a Warming Climate: Carolina Perspective. 35th Climate Diagnostics and Prediction Conference. Raleigh, NC. Poster Presentation.
- [4] He, R., **Xue, Z.**, & Yao, Z. (2010). Regional Downscaling of IPCC Sea Surface Wind Predictions Based on Long-term Satellite Data Statistics. 35th Climate Diagnostics and Prediction Conference. Raleigh, NC. Oral Presentation.
- [3] Yao, Z., **Xue, Z.**, & He, R. (2010). The Impact of Climate Change on Storm Surges over the U.S. East Coastal Waters. 35th Climate Diagnostics and Prediction Conference. Raleigh, NC. Poster Presentation.
- [2] **Xue, Z.**, Liu, J., Dave, D., Nguyen, L., & Ta, T. (2008). A Preliminary Study of Sedimentation in the Mekong Subaqueous Delta, Southern Vietnam. AGU Fall Meeting. San Francisco, CA. Poster Presentation.
- [1] **Xue, Z.**, Yin, P., & Wang, W. (2004). Vertical Distribution of the Sediment in the Surf Zone. International Symposium on Coastal Resource- Environmental System and Management Strategies. Qingdao, China. Oral Presentation.

Services

Invited proposal review panelist for NSF & NASA; Invited proposal reviewer for NSF, NOAA, Rhode Island Sea Grant, the Water Institute of the Gulf, NASA EPSCoR (Montana Office), the Natural Environment Research Council (UK), and LSU Office of Research and Economic Development

Invited manuscript reviewer for 25+ Peer-Reviewed Journals and books:

Journal of Geophysical Research; Marine Geology; Journal of Marine System; Deep Sea Research (I); Quaternary Research; Marine Geodesy; Journal of Hydrological Environmental Research; Estuarine, Coastal and Shelf Science; Journal of Hydrology; Applied Geography; Journal of Coastal Research; Biogeosciences; Continental Shelf Research; IAS Special Publications; Journal of Hydrologic Engineering; Journal of Marine Science and Engineering; Quaternary International; Journal of Ocean University of China; Wetland; (Nature) Scientific Report ; Acta Oceanologica Sinica; PLOS ONE; Wetland; Journal of Advances in Modeling Earth System; Global Biogeochemical Cycle

Department Committee: Department Academic Affairs and Admissions Committee (2015 to present); Department Webpage Committee (Chair in 2020-2021); Department Academic Program Review Committee (2020-2021); Department Faculty Search Committee (for four positions and as hosts of four candidates); Mentoring Committee for Assistant Professors.

University Level: LSU Faculty and Staff Sub-committee for Internationalization (co-Chair since 2021); LSU Accelerating Discovery through Artificial Intelligence, Machine Learning, and Computational + Data Science (2021); LSU HPC Allocation Committee (since 2019); Fulbright Scholar Committee (2016);

Invited Talk and Seminars

- [26] AGU Fall Meeting, Virtual, 2020
- [25] LaSPACE 2018 Fall Council meeting, Shreveport, Louisiana, 2018
- [24] NASA EPSCoR Director's National meeting, Baltimore, Maryland, 2018
- [23] NASA Goddard Center, NLDAS team, Baltimore, Maryland, 2018
- [22] NLDAS monthly teleconference (webex), 2018
- [21] Jilin University, Changchun, China, 2017
- [20] Northeast Institute of Geography and Agroecology, Changchun, China, 2017
- [19] East China Normal University, Shanghai, China, 2016
- [18] Yangon University, Yangon, Myanmar, 2015
- [17] HoChiMinh University of Science, HoChiMinh City, Vietnam, 2015
- [16] NSF Lower Mekong Basin Workshop, Can Tho University, Can Tho, Vietnam, 2015

- [15] Louisiana State University, Dept. of Geology and Geophysics, Baton Rouge, LA, 2015
- [14] University of Southern Mississippi, Stennis Center, MS, 2015;
- [13] Qingdao Institute of Marine Geology, Qingdao, China, 2014
- [12] Ocean University of China, Qingdao, China, 2014
- [11] Second Institute of Oceanography, Hangzhou, China, 2014
- [10] First Institute of Oceanography, Qingdao, China, 2014
- [9] Institute of Marine Environment and Resources (VAST), Hai Phong, Vietnam, 2014
- [8] National University of Vietnam, Hanoi, Vietnam, 2014
- [7] N-H-I Mekong Delta Workshop, HoChiMinh City, Vietnam, 2013
- [6] Louisiana State University, Dept. of Oceanography and Coastal Sciences, Baton Rouge, 2013
- [5] University of Georgia, Athens, GA, 2013
- [4] Virginia Institute of Marine Science, Gloucester Point, VA, 2013
- [3] Woods Hole Oceanographic Institution, MA, 2009
- [2] Coastal Carolina University. Conway, SC, 2008
- [1] Institute of Oceanology, Chinese Academy of Sciences. Qingdao, China, 2008

Teaching and Advising

Courses taught

- | | |
|---|---|
| [1] 2008/2009 summer | Student Oceanographic Cruise (undergraduate-level, teaching assistant, NCSU) |
| [2] 2011 spring | Introduction to Coastal Environments (undergraduate-level, guest lecturer, NCSU) |
| [3] 2013 spring & fall | Geological Oceanography (undergraduate/graduate level, guest lecturer, NCSU) |
| [4] 2013 spring | Observational Methods and Data Analysis in Marine Physics (undergraduate level, guest lecturer, NCSU) |
| [5] 2015 fall, 2016 spring, 2017 fall, 2018 fall, 2019 spring, 2019 fall, 2020 fall, 2021 spring, 2021 fall | Introductory Oceanography (undergraduate level, lead instructor, LSU OCS 1005-1006) |
| [6] 2015, 2017, & 2018 spring | Introduction to Coupled Ocean, Atmosphere, Wave, and Sediment Transport modeling system (graduate level, lead instructor, LSU OCS 7001) |
| [7] 2016, 2017, 2018 & 2019 spring | Case Study in Coastal Ecosystem Modeling (graduate level, guest instructor, LSU OCS7029) |
| [8] 2019 spring and fall | Oceanography Field and Lab Method (undergraduate level, guest instructor, LSU OCS 2020) |

Committee chair of

- [1] Christopher Kunz, M.S. transferred in Spring 2015, graduate in Summer 2015 (DOCS, LSU)
- [2] Zhengchen (Johnny) Zang, Ph.D., started in Spring 2015, graduated in Winter 2019 (DOCS, LSU)
- [3] Dongxiao (Allen) Yin, Ph.D. candidate, Fall 2017 to present (DOCS, LSU)
- [4] Yanda (Dan) Ou, Ph.D. candidate, Spring 2018 to present (DOCS, LSU)
- [5] Le (May) Zhang, Ph.D. candidate, Fall 2018 to present (DOCS, LSU)
- [6] Xiaochen Zhao, Ph.D. gradated in Fall 2021 (co-chair with Rivera-Monroy at DOCS, LSU)
- [7] Pengfei Wang, M.S. candidate, Summer 2020 to present (DOCS, LSU)
- [8] Daoyang Bao, Ph.D. candidate, Spring 2020 to present (DOCS, LSU)
- [9] Yixuan Wang, Ph.D. candidate, Spring 2022 to present (DOCS, LSU)
- [10] Ogooluwa Adeagbo, Ph.D. candidate, Spring 2022 to present (DOCS, LSU)

Committee member of

- [1] Patrick Robichaux, graduated in 2018 spring, M.S., chaired by Kehui Xu (DOCS, LSU)
- [2] Joseph Harris, Ph.D. graduated in 2019 spring, chaired by Robert Rohli (DOCS, LSU)
- [3] Cihad Ayberk Doner, graduated in 2018 summer, M.S. candidate, chaired by Frank Tsai (CEE, LSU)
- [4] Lindsey Green, M.S. graduated in 2015 summer, chaired by John White (DOCS, LSU)
- [5] Linlin Cui, Ph.D. graduated in 2018 fall, chaired by Haosheng Huang (DOCS, LSU)
- [6] Guandong Li, M.S., graduated in 2020 spring. chaired by Kehui Xu (DOCS, LSU)

- [7] Haoran Liu, Ph.D. graduated in 2020 spring, chaired by Kehui Xu (DOCS, LSU)
- [8] Michelle Anderson, M.S. graduated in 2020 spring, chaired by Kanchan Maiti (DOCS, LSU)
- [9] Jocelyn Foresman, M.S. graduated in 2021 spring, chaired by Kanchan Maiti (DOCS, LSU)
- [9] Yadav Sapkota, Ph.D., graduated in 2021 Fall, chaired by John White (DOCS, LSU)
- [10] Ali Heidarizhaleh, Ph.D., graduated in 2021 Fall, chaired by Clint Wilson (CEE, LSU), as Dean's Rep

Postdoc Advisor of

- [1] Kim Cuong Nguyen, 2017; [2] Xiaochen Zhao, 2022-present

Honors, Awards, and Social Activities

- [12] Featured as "Coastal Champion" on lsu.edu frontpage, Oct, 2021
- [11] Vice President, LSU AAPI Caucus, since 2021
- [10] LSU Alumni Association Rising Faculty Research Award, 2019
- [9] Phi Kappa Phi Non-Tenured Achievement Award (LSU Chapter), 2018
- [8] President of the Chinese Friendship Association of Baton Rouge, 2014-2015
- [7] AGU Ocean Science Meeting, travel grant, Portland, Oregon, 2010
- [6] NSF Margins Program, Source to Sink workshop, travel grant, New Zealand, 2009
- [5] NSF Margins Program, Source to Sink workshop, travel grant, California, 2006
- [4] President of Graduate Student Board, First Institute of Oceanography, China, 2004-2005
- [3] President of Undergraduate Student Board, College of Marine Geosciences, OUC, 2001-2002
- [2] Scholarship with honor (3%), Ocean University of China, awarded 4 times in 1999/2000/2001/2002
- [1] State Excellent Undergraduate Student, Shan-Dong Province, China, 2000-2001