Meng Xia
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(a) Professional Preparation:
North Carolina State University, Postdoctoral Research Associate, 2007
North Carolina State University, Ph.D. Physical Oceanography, 2007
First Institute of Oceanography, M.S. Physical Oceanography, 2002
Ocean University of China, B.S. Physical Oceanography, 1999

(b) Appointments:
Associate Professor (Tenured) and Assistant Professor (Tenure Track), 2011-now, Department of Natural Sciences University of Maryland Eastern Shore
Research Investigator, University of Michigan/NOAA, Cooperative Institute of Limnology and Ecosystems Research 2008-2011
Water Resource Scientist, Dynamics Solution LLC, Knoxville, TN 2007-2008

(c) Research Interests:
Physical Oceanography, 3D Numerical Modeling, Coupled Atmosphere, Groundwater, Hydrological system into the ocean modeling system

(d) Peer-reviewed publications (Selected from ~50 papers)
1. Su, C. **, Sahoo, B., Mao, M., & **Xia, M.** (2025). "Machine learning techniques to predict typhoon induced storm surge using a hybrid wind system" *Journal of Geophysical Research: Machine Learning and Computation* 2, e2024JH000507, https://doi.org/10.1029/2024JH000507
2. Sun, R. **, Kang, X., **Xia, M.** (2024) "The Roles of Nutrient Loading and River Discharge on the Phytoplankton Dynamics in the Semi-enclosed Sea", *Journal of Geophysical Research: Oceans*, https://doi.org/10.1029/2024JC021466
3. Sahoo, B.*, & **Xia, M.** (2024). "Typhoon conduciveness of a semi-enclosed sea in the North West Pacific" *Climate Dynamics*, https://doi.org/10.1007/s00382-024-07485-8
4. Peng, J.**, Mao, M., & **Xia, M.** (2024). "Wave spectra analysis on the spatiotemporal variability of sea states under distinct typhoon tracks in a semi-enclosed sea" *Journal of Physical Oceanography* https://doi.org/10.1175/JPO-D-23-0066.1
5. Nguyen, Q. T**, Mao M., & **Xia, M.** (2023). "Numerical modeling of nearshore wave transformation and breaking processes in the Yellow River Delta with FUNWAVE-TVD wave model" *Journal of Marine Science and Engineering 11(7) 1380*
6. Mou, L.**, Niu, Q., & **Xia, M.** (2022) "The roles of wind and baroclinic processes in the cross-isobath water exchange within the Bohai Sea", *Estuarine, Coastal and Shelf Sciences*, 274(3): 107944, https://doi.org/10.1016/j.ecss.2022.107944
7. Fitzenreiter, K.*, Mao, M. *, & **Xia, M.** (2022) "Characteristics of surface currents in a shallow lagoonal system revealed by drifter observations", *Estuaries and Coasts*, 45, 2327-2344, https://doi.org/10.1007/s12237-022-01086-6

8. Arora-Williams, K., Holder, C., Secor, M., Ellis, H., **Xia, M.**, Gnanadesikan, A., Preheim, S. (2022) "Sulfide oxidizers are abundant and persistent water column populations responsive to hypoxia in the Chesapeake Bay", *Environmental Microbiology*, 24(5), 2315-2332, https://doi.org/10.1111/1462-2920.15976
9. Kang, X. *, & **Xia, M.** (2022). "Stratification variability in a lagoon system in response to a passing storm" *Limnology and Oceanography*, 67, 511-521, https://doi.org/10.1002/lno.12016
10. Sun, L., Liang, X, **Xia, M.** (2020). "Developing the Coupled CWRF-FVCOM Modeling System to Understand and Predict Atmosphere-Watershed Interactions over the Great Lakes Region," *Journal of Advances in Modeling Earth Systems htt*ps://doi.org/10.1029/2020MS002319
11. **Xia, M.,** Mao, M.*, Niu, Q.* (2020). "Implementation and comparison of the recent three-dimensional radiation stress theory and vortex force formulism in an unstructured-grid coastal model," *Estuarine, Coastal and Shelf Sciences*, 189, 1-16.
12. Mao, M.*, & **Xia, M.** (2018). "Wave-current dynamics and interactions near the two inlets of a shallow lagoon-inlet-coastal ocean system under hurricane conditions," *Ocean Modelling*, 129, 124-144.
13. Niu, Q.*, & **Xia, M.** (2017). "The role of wave-current interaction in Lake Erie's seasonal and episodic dynamics," *Journal of Geophysical Research: Oceans*, 122.
14. Irby, I. D., Friedrichs, M.A.M., Friedrichs, C.T., Bever, A.J., Hood, R.R., Lanerolle, L.W.J., Scully, M.E., Sellner, K., Shen, J., Testa, J., Li, M., Wang, H., Wang, P., L. Lewis, **Xia, M.** (2016). "Challenges associated with modeling low-oxygen waters in Chesapeake Bay: A multiple model comparison," *Biogeosciences*, 13(7), 2011-2028.
15. Jiang, L.*, **Xia, M.**, Ludsin, S.A, Rutherford, E.S., Mason, D.M., Pangle, K.L., Marin Jarrin, J.R. (2015). "Biophysical modeling assessment of the drivers for plankton dynamics at western Lake Erie," *Ecological Modelling*, 308, 18-33. (**Best Paper Award**)
16. **Xia, M.**, Xie, L., Pietrafesa, L.J., Whitney, M.M. (2011). "The ideal response of a Gulf of Mexico estuary plume to wind forcing: Its connection with salt flux and a Lagrangian view," *Journal of Geophysical Research*, 116, C08035.
17. **Xia, M.**, Craig, P.M., Schaeffer, B., Stoddard, A., Liu, Z., Peng, M., Zhang, H., Wallen, C.M., Bailey, N., Mandrup-Poulsen, J. (2010). "Influence of physical forcing on bottom-water dissolved oxygen within Caloosahatchee River Estuary, Florida," *Journal of Environmental Engineering*, 136(10), 1032-1044.
18. Zhang, Q., & **Xia, M.** (1999). "A layer model of the Kuroshio Flow on the east of Taiwan: The solution of steady state," *Journal of Hydrodynamics*, 14(4), 68-75.

(e) Selected Synergistic Activities

1. Service to the scientific community:
Associate Editor of the Journal "Estuarine, Coastal and Shelf Sciences" (2017-present)
Associate Editor of the Journal "Progress in Oceanography" (2018-present)

2. Session chair in American Geophysical Union (AGU) 2018, 2021, 2024; IMBER Ocean Science Conference, Brest, France, 2019; 15th International Conference on Estuarine and Coastal Modeling, 2018; International Conference on Estuarine and Coastal Research Federation (CERF), 2015, 2019, 2021, 2023. Volunteered as and was a student judge for numerous conferences.

3. University of Maryland MEES Program Committee, 2020-now; University of Maryland Eastern Shore Graduate School Council Committee; Information Management and Communication Committee for Department of the Environment, 2021-now; Maryland Coastal Bays Research Advisory Board.

4. Service to Community: General public/community science lectures