XIAOHUI ZHOU

xzhou110@umd.edu

EDUCATION

Graduate School of Oceanography, University of Rhode Island 09/2016 - 08/2022
Ph.D. in Physical Oceanography

Second Institute of Oceanography, China 09/2013 - 05/2016
M.S. in Physical Oceanography

Nanjing University of Information Science and Technology, China 09/2009 - 05/2013
B.S. in Marine Science

EMPLOYMENT /RESEARCH EXPERIENCE

Assistant Research Scientist,
ESSIC/University of Maryland, College Park, GMAO/NASA-Goddard 08/2024 - present

Postdoctoral Research Associate, Princeton University 09/2022 - 07/2024

Research Assistant, University of Rhode Island 09/2016 - 08/2022

TEACHING EXPERIENCE

Graduate Teaching Assistant, Extreme Weather 09/2019 -12/2019
Advisor: Prof. Kathleen Donohue and Prof. Brian Heikes

- Assisted in-class active learning exercises.
- Graded exercises and quizzes.

PUBLICATIONS

In Preparation

1. **X. Zhou**, L. Resplandy, B. G. Reichl, P. Rustogi, M. S. Bushinsky, and L. Deike, **"Sea state dependent air-sea oxygen flux and its impact on global oxygen budget"**.

Under Review

1. L. Deike, **X. Zhou**, R. Stanley, B. G. Reichl, P. Rustogi, M. S. Bushinsky, and L. Resplandy, **"A new formulation for wind-wave-bubble mediated air-sea gas exchange and its impact on oxygen fluxes"**. PNAS.

Published

1. **X. Zhou**, B. G. Reichl, L. Romero, and L. Deike, **"A sea state dependent gas transfer velocity for CO_2 unifying theory, model and field data"**, *Earth and Space Science*, vol. 10, no. 11, p. e2023EA0032372023, 2023, [doi]

2. **X. Zhou**, T. Hara, I. Ginis, E. D'Asaro, and B. G. Reichl, **"Evidence of Langmuir mixing effects in the upper ocean layer during tropical cyclones using observations and a coupled wave-ocean model"**, *Journal of Geophysical Research: Oceans*, vol. 128, no. 10, p. e2023JC020062, 2023, [doi]

3. **X. Zhou**, T. Hara, I. Ginis, E. D'Asaro, J. Y. Hsu, and B. G. Reichl, **"Drag coefficient and its sea state dependence under tropical cyclones"**, *Journal of Physical Oceanography*, vol. 52, no. 7, pp. 1447-1470, 2022, [doi]

4. S. Wang, F. Qiao, D. Dai, and **X. Zhou**, **"Anisotropy of the sea surface height wavenumber spectrum from altimeter observations"**, *Scientific Reports*, vol. 9, no. 1, pp. 1-10, 2019, [doi]

5. **X. Zhou**, D. P. Wang, and D. Chen, **"Global wavenumber spectrum with corrections for altimeter high-frequency noise"**, *Journal of Physical Oceanography*, vol. 45, no. 2, pp. 495-503, 2015, [doi]

6. **X. Zhou**, D. P. Wang, and Chen, D, **"Validating satellite altimeter measurements of internal tides with long-term TAO/TRITON buoy observations at 2° S–156° E"**, *Geophysical Research Letters*, vol. 42, no. 10, pp. 4040-4046, 2015, [doi]

PH.D. THESIS

Xiaohui Zhou, "EFFECTS OF SURFACE WAVES ON WIND STRESS AND UPPER OCEAN RESPONSE UNDER TROPICAL CYCLONES" (2022). Open Access Dissertations. Paper 1466. [link]

PRESENTATIONS

- **X. Zhou** "Surface wave impacts on the air-sea momentum and gas flux in climate system",*Ocean and Climate Physics Seminars*, lamont-doherty earth observatory of columbia university, September 20^{th},2024. [**Invited Talk**]
- **X. Zhou**, T. Hara, I. Ginis, E. D'Asaro, and B. G. Reichl, "Evidence of Langmuir mixing effects in the upper ocean layer during tropical cyclonesusing observations and a coupled wave-ocean model, *2024 GRS/GRC Mixing conference*, Jun. $9^{th} - 14^{th}$, 2024. [**TALK**]
- **X. Zhou**, T. Hara, I. Ginis, E. D'Asaro, and B. G. Reichl, "Evidence of Langmuir mixing effects in the upper ocean layer during tropical cyclones using observations and a coupled wave-ocean model", *NOAA coastal ocean modeling seminar*, Nov. 28^{th}, 2023. [**Invited TALK**]
- **X. Zhou**, T. Hara, I. Ginis, E. D'Asaro, J. Y. Hsu, and B. G. Reichl, "Effects of Surface Waves on Wind Stress and Upper Ocean Response under Tropical Cyclones", *Combined OCE MPO ATM Seminar Series (COMPASS seminar)*, University of Miami, Nov. 3^{rd}, 2023. [**Invited TALK**]
- **X. Zhou**, B. G. Reichl, L. Romero, and L. Deike, "Revisited Sea state dependent gas transfer velocity", *Waves in Sea Environment (WISE)*, Princeton University, Princeton, NJ, 2023. [**TALK**]
- **X. Zhou**, T. Hara, I. Ginis, E. D'Asaro, J. Y. Hsu, and B. G. Reichl, "Effects of Surface Waves on Wind Stress and Upper Ocean Response under Tropical Cyclones", *Physical Oceanography Dissertation Symposium (PODS)*, Kona, HI, 2022. [**TALK**]
- **X. Zhou**, T. Hara, I. Ginis, E. D'Asaro, J. Y. Hsu, and B. G. Reichl, "Effects of Surface Waves on Wind Stress and Upper Ocean Response under Tropical Cyclones", *GFDL lunch time seminar*, Princeton University, NJ, Sept. 21^{st}, 2022. [**TALK**]
- **X. Zhou**, T. Hara, I. Ginis, E. D'Asaro, J. Y. Hsu, and B. G. Reichl, "Drag coefficient and its sea state dependence under tropical cyclones", *Ocean Science*, 2022. [**Talk**]
- T. Hara, **X. Zhou**, I. Ginis, E. D'Asaro, and B. G. Reichl, "Impacts of surface waves on upper ocean responses under tropical cyclones", *Ocean Science*, 2022. [Poster]
- **X. Zhou**, T. Hara, I. Ginis, E. D'Asaro, R. R. Harcourt, and Z. Zheng, "Impacts of Langmuir Turbulence on upper ocean under Tropical Cyclones", Abstract [AI44A-2414], *Ocean Sciences*, San Diego, CA, Dec. $11^{th} - 16^{th}$, 2020. [POSTER]

PROPOSAL EXPERIENCE

NASA Goddard Space Flight Center, Earth Science Division Strategic Science Call for Proposals, FY25,"A Comprehensive Ocean Wave Product for NASA" (PI: **Xiaohui Zhou**, co-PI: Anton Darmenov (NASA, 610.1), submitted)

AWARDS

- Physical Oceanography Dissertation Symposium (PODS) XII 2022
- William E. Simmons Memorial Scholarship in Oceanography 2021
- Marine Science Award, Thomas & Kathy J. McNiff Graduate Student 2019 Endowment 2019
- National Scholarship for Postgraduates (China) 2016
- National Scholarship for Postgraduates (China) 2015

SERVICE AND OUTREACH

- **Journal Reviewer**: for Journal of Geophysical Research: Oceans, Ocean Modelling, Frontiers in Marine Science, Weather, Climate, and Society, and NPJ climate and atmospheric science. 2022–present
- **NSF proposal reviewer** 2023
- Student Coordinator for GSO/URI Physical Oceanography Seminar Series 01/2022 - 05/2022
- GSO Open House: exhibit volunteer for the hurricane modeling group 2018