CV of Zhaohui CHEN

Updated in 2025/2/22

Dr. Zhaohui CHEN
Professor, Deputy Director of Physical Oceanography Laboratory, Ocean University of China
Executive Dean of Graduate School, Ocean University of China

Education and Work Experience

2003-2007, B.Sc. (Marine Science), Ocean University of China
2007-2012, Ph.D. (Physical Oceanography), Ocean University of China
2012-2014, Lecturer, Physical Oceanography Laboratory, Ocean University of China
2014-2016, Associated Professor, Physical Oceanography Laboratory, Ocean University of China
2017-Present, Professor, Physical Oceanography Laboratory, Ocean University of China

Research Interest

Ocean observing technologies and scientific applications in the Northwestern Pacific
Multi-scale oceanic processes and their roles in climate, ecosystem and fisheries
Dynamics of global western boundary currents and their roles in climate

Adjunct Research Positions

Member of the Deep Argo Mission Team
Member of the CLIVAR-NPOCE Scientific Steering Committee
Member of the Chinese Scientific Committee on Oceanic Research

Selected Publications

a. Multi-scale oceanic processes: from waves to eddies, from diurnal cycle to long-term trend, from ecosystem to fisheries

1. Cai, J., M. Li, H. Yang* and **Z. Chen***, 2024: Role of Air-Sea Interaction in the Energy Balance of Anticyclonic and Cyclonic Eddies in the Kuroshio Extension, *Journal of Geophysical Research: Oceans*, 129, e2023JC020682. https://doi.org/10.1029/2023JC020682.

2. Zhu, R., H. Yang, M. Li, **Z. Chen***, X. Ma*, J. Cai and L. Wu, 2024: Observations reveal vertical transport induced by submesoscale front. *Scientific Reports*, 14, 4407. https://doi.org/10.1038/s41598-024-54940-x.

3. Gao, Z., **Z. Chen***, X. Huang, H. Yang, Y. Wang, W. Ma and C. Luo, 2024: Estimating the Energy Flux of Internal Tides in the Northern South China Sea Using Underwater Gliders, *Journal of Geophysical Research: Oceans*, 129, e2023JC020385. https://doi.org/10.1029/2023JC020385.

4. Yang, H., Z. Gao, K. Ma, **Z. Chen***, Y. Wang, Z. Jing, X. Ma and W. Niu, 2024: Submesoscale Variability on the Edge of Kuroshio-shed Eddy in the Northern South China Sea Observed by Underwater Gliders, Ocean Dynamics, 74, 223–235. https://doi.org/10.1007/s10236-024-01599-7.

5. Yang, H., **Z. Chen***, S. Sun*, M. Li, W. Cai, L. Wu, J. Cai, B. Sun, K. Ma, X. Ma, Z. Jing and B. Gan, 2024: Observations reveal intense air-sea exchanges over submesoscale ocean front, Geophysical Research Letters, 51, e2023GL106840. https://doi.org/10.1029/2023GL106840.

6. Zhu, R., H. Yang, **Z. Chen***, Z. Jing, Z. Zhang, B. Sun and L. Wu, 2024: Topography-Generated Submesoscale Coherent Vortices in the Kuroshio-Oyashio Extension Region from High-Resolution Simulations, Journal of Physical Oceanography, 54(1), 237–252.

7. Zhu, R., Y. Li, **Z. Chen***, T. Du, Y. Zhang, Z. Li, Z. Jing, H. Yang, Z. Jing and L. Wu, 2023: Deep Learning Improves Reconstruction of Ocean Vertical Velocity, Geophysical Research Letters, 50, e2023GL104889. https://doi.org/10.1029/202.

8. Cheng, T., **Z. Chen***, J. Li, Q. Xu and H. Yang, 2023: Characterizing the Effect of Ocean Surface Currents on ASCAT Winds Using Open-Ocean moored Buoy Data, Remote Sensing, 15, 4630. https://doi.org/10.3390/rs15184630.

9. Zhang, Y. and **Z. Chen***, 2023: Cool skin effect as seen from a new generation geostationary satellite Himawari-8, Remote Sensing, 15, 4408. https://doi.org/10.3390/rs15184408.

10. Sun, X., **Z. Chen***, C. Zhang, and S. Meng, 2023: Latitudinal-dependent emergence of phytoplankton seasonal blooms in the Kuroshio Extension, *Frontiers in Marine Science*,10:1027710. doi: 10.3389/fmars.2023.1027710.

11. Yang, H., R. Zhu, **Z. Chen***, J. Li and L. Wu, 2022: Temperature variability and eddy-flow interaction in the south of Oyashio Extension, *Journal of Geophysical Research: Oceans*, 127, e2022JC019051. https://doi.org/10.1029/2022JC019051.

12. Li, Q., **Z. Chen***, S. Guan, H. Yang, Z. Jing, Y. Liu, B. Sun and L. Wu, 2022: Enhanced Near-Inertial Waves and Turbulent Diapycnal Mixing Observed in a Cold- and Warm-Core Eddy in the Kuroshio Extension Region, *Journal of Physical Oceanography*, 52(8), 1849-1866.

13. Guo, H., **Z. Chen***, J. Wang and H. Yang, 2022: Opposite responses of sea level variations to ENSO in the Northwestern Pacific: A transition latitude at 20°N. Dynamics of Atmospheres and Oceans, **98**, 101288, https://doi.org/10.1016/j.dynatmoce.2022.101288.

14. Cheng, T., **Z. Chen***, J. Li, X. Ma, Q. Wen and L. Wu, 2022: Surface Wave Height Regulated by Ocean Currents: An Observational Perspective, *Deep Sea Research: PartI, 179,* 103666.

15. Gao, Z., **Z. Chen***, X. Huang, Z. Xu, H. Yang, Z. Zhao, C. Ren and L. Wu, 2021: Internal Wave Imprints on Deep Ocean Temperature Change as Revealed by Rapid-Sampling Profiling Floats, *Journal of Geophysical Research: Oceans*, 126, e2021JC017878. https://doi.org/10.1029/2021JC017878.

16. Zhu, R., **Chen, Z.***, Zhang, Z., Yang, H. & Wu, L. (2021). Subthermocline eddies in the Kuroshio Extension region observed by mooring arrays. *Journal of Physical Oceanography*, 51(2), 439–455.

b. Ocean Circulation (Western boundary currents)

1. Zhang, R., S. Sun*, Z. Chen* and L. Wu, 2025: Limited influence of the Agulhas leakage on the Atlantic Meridional Overturning Circulation under present-day climate conditions. Commun Earth Environ 6, 133, https://doi.org/10.1038/s43247-025-02097-4.
2. Guo, H., Z. Chen*, R. Zhu and J. Cai, 2024: Increasing model resolution improves but overestimates global mid-depth circulation simulation. Scientific Reports, 14, 29356, https://doi.org/10.1038/s41598-024-80152-4.
3. Guo, H., **Z. Chen***, H. Yang, Y. Long, R. Zhu, Y. Zhang, Z. Jing and C. Yang, 2023: Estimating the Volume Transport of Kuroshio Extension based on Satellite Altimetry and Hydrographic Data, *Journal ofAtmospheric and Oceanic Technology*, 40(9), 1105-1118.
4. Zhang, R., S. Sun, **Z. Chen***, H. Yang and L. Wu, 2023: On the decadal and multi-decadal variability of the Agulhas Current, *Journal ofPhysical Oceanography*, 53(4), 1011-1024.
5. Zhang, R., S. Sun*, **Z. Chen***, H. Yang and L. Wu, 2023: Rapid 21st century weakening of the Agulhas Current in a warming climate, Geophysical Research Letters, 50, e2022GL102070. https://doi.org/10.1029/2022GL102070.
6. Sun, B., **Chen, Z.***, Wang, B., & Wu, L. (2020). Seasonal variation of the North Equatorial Current bifurcation in regional model: Role of open boundary conditions. *Ocean Modelling*, *145*, 101528.
7. Guo, H., **Chen, Z. ***, & Yang, H. (2019). Poleward Shift of the Pacific North Equatorial Current Bifurcation. *Journal ofGeophysical Research: Oceans*, 2019JC015019.
8. Duan, J., **Chen, Z. ***, & Wu, L. (2017). Projected changes of the low-latitude north-western Pacific wind-driven circulation under global warming. *Geophysical Research Letters*, *44*(10), 4976–4984.
9. **Chen, Z. ***, Wu, L., Qiu, B., Li, L., Hu, D., Liu, C., et al. (2015). Strengthening Kuroshio observed at its origin during November 2010 to October 2012. *Journal of Geophysical Research: Oceans*, *120*(4), 2460–2470.
10. **Chen, Z. ***, & Wu, L. (2015). Seasonal Variation of the Pacific South Equatorial Current Bifurcation. *Journal ofPhysical Oceanography*, *45*(6), 1757–1770.
11. **Chen, Z. ***, Wu, L., Qiu, B., Sun, S., & Jia, F. (2014). Seasonal Variation of the SouthEquatorial Current Bifurcation off Madagascar. *Journal ofPhysical Oceanography*, *44*(2), 618–631.
12. **Chen, Z. ***, & Wu, L. (2012). Long-term change of the Pacific North Equatorial Current bifurcation in SODA. *Journal of Geophysical Research: Oceans*, *117*(C6), n/a-n/a.
13. **Chen, Z. ***, & Wu, L. (2011). Dynamics of the seasonal variation of the North Equatorial Current bifurcation. *Journal of Geophysical Research*, *116*(C2), C02018.

c. Ocean observing technologies and observations

1. Zilberman, N., V. Thierry, B. King, M. Alford, X. André, K., Balem, N. Briggs, **Z. Chen** et al., 2023: Observing the full ocean volume using Deep Argo floats, *Frontiers in Marine Science*, 10:1287867. doi: 10.3389/fmars.2023.1287867.
2. Li, Y., X. Ma, T. Tang, F. Zha, **Z. Chen***, H. Liu* and L. Sun, 2022: High-efficient built-in wave energy harvesting technology: From laboratory to open ocean test, *Applied Energy*, **322**, 119498, https://doi.org/10.1016/j.apenergy.2022.119498.
3. Cronin, M. F., S. Swart, C. A. Marandino, C. Anderson, P. Browne, S. Chen, W. R. Joubert, U. Schuster, R. Venkatesan, C. I. Addey, O. Alves, F. Ardhuin, S. Battle, M. Bourassa, **Z. Chen** et al., 2022: Developing an Observing Air-Sea Interactions Strategy (OASIS) for the global ocean. *ICES J. Mar. Sci.*, fsac149, https://doi.org/10.1093/icesjms/fsac149.
4. Centurioni, L. R., Turton, J., Lumpkin, R., Braasch, L., Brassington, G., Chao,Y.,

Charpentier, E., **Chen, Z.**, et al. (2019). Global in situ Observations of Essential Climate and Ocean Variables at the Air–Sea Interface. *Frontiers in Marine Science, 6*, 419.