

# CV of Zhaohui CHEN

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## 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/10.1029/2023GL104889>.
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: Part I*, 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. Western boundary currents

1. 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 of Atmospheric and Oceanic Technology*, 40(9), 1105-1118.
2. Zhang, R., S. Sun, **Z. Chen\***, H. Yang and L. Wu, 2023: On the decadal and multi-decadal variability of the Agulhas Current, *Journal of Physical Oceanography*, 53(4), 1011-1024.
3. 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>.
4. 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.
5. Guo, H., **Chen, Z.\***, & Yang, H. (2019). Poleward Shift of the Pacific North Equatorial Current Bifurcation. *Journal of Geophysical Research: Oceans*, 2019JC015019.
6. 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.
7. **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.
8. **Chen, Z.\***, & Wu, L. (2015). Seasonal Variation of the Pacific South Equatorial Current Bifurcation. *Journal of Physical Oceanography*, 45(6), 1757–1770.
9. **Chen, Z.\***, Wu, L., Qiu, B., Sun, S., & Jia, F. (2014). Seasonal Variation of the South Equatorial Current Bifurcation off Madagascar. *Journal of Physical Oceanography*, 44(2), 618–631.
10. **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.
11. **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. Arduin, 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.