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**EDUCATION**

2017 Ph.D. Department of Earth Sciences, National Taiwan Normal University (NTNU), Taiwan

2013 M.S. Institute of Marine Environmental Science and Technology, NTNU

2008 B.S. Department of Life Science, Chinese Culture University, Taiwan

**EMPLOYMENT**

2023 - present Postdoctoral Researcher RCEC, Academia Sinica, Taiwan

2017 - 2023 Postdoctoral Researcher Department of Earth Sciences, NTNU

**HONORS & AWARDS**

2021 Award for Paper and Book Publication, NTNU

2020 Award for Paper and Book Publication, NTNU

2019 Postdoctoral Researcher Academic Research Award, Ministry of Science and Technology,  
Taiwan

2014 Graduate Students Scholarship, NTNU

2013 Graduate Students Scholarship, NTNU

2012 Graduate Students Scholarship, NTNU

The Phi Tau Phi Scholastic Honor Society of Republic of China

**PROFESSIONAL SERVICE**

➤ Journal editors:

2023 Guest editor of *Water*

Special Issue "Multi-Scale Variability of Ocean System under Climate Change"

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## **RESEARCH INTEREST**

Physical Oceanography, Climate Change, Data analysis and Numerical modelling

## **RESEARCH HIGHLIGHTS**

### **Rapid surface warming of the Pacific Asian marginal seas since the late 1990s**

The sea surface temperature rise of the East Asian marginal seas, especially in areas where the Kuroshio intrudes, has far exceeded the rate of global ocean warming. We attribute this to warming of the Pacific Warm Pool since the 1990s. Intensified trade winds warmed the Pacific Warm Pool and caused the surface Kuroshio and the regions where it intrudes into marginal seas to warm rapidly in the late 1990s.

### **Nonstationary El Niño teleconnection on the post-summer upwelling off Vietnam**

Summer upwelling has often been observed off Vietnam in the South China Sea (SCS). Fluctuations of the East Asian monsoon associated with El Niño are considered responsible for the weakened or abolished upwelling. However, analyses of observations performed in the present study were equivocal in terms of the dominant influence of El Niño. Weak upwelling off Vietnam occurs more frequently during periods of accelerated global warming compared to warming hiatus periods. Warming signals in the Indian Ocean vanished relatively quickly during the hiatus period. The accompanying easterly anomalies south of the anomalous anticyclone (AAC) in the northwestern Pacific were also weakened, reducing the impact of the El Niño teleconnection on the SCS summer monsoon and thus preserving the regular post-summer upwelling off Vietnam during warming hiatus periods.

### **Discordant multi-decadal trend in the intensity of the Kuroshio along its path during 1993-2013**

The Kuroshio transports warm water in the Pacific poleward from the tropics and plays a crucial role in modulating surrounding climate. Based on independent data sets, we demonstrated that the Kuroshio weakened downstream east of Taiwan, but intensified upstream east of Luzon Island during 1993–2013. The surface velocity (volume transport) of the Kuroshio has decreased 12.5% (4~5%)

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off east Taiwan but increased 18% (8~18%) off east Luzon. The discordant upstream–downstream trend was attributable to changes in oceanic eddies and basin surface winds: greater (lesser) cyclonic eddies, lesser (greater) anticyclonic eddies, and positive (negative) tendency in the Pacific Basin wind curl contributed to a weakened (intensified) downstream (upstream) Kuroshio.

**REPRESENTATIVE PUBLICATIONS** (\*: corresponding author)

1. Ren, H., W.-H. Chen, J. Chiang, Y.-L. Wang, R.-Y. Cai-Li, Y.-C. Chen, C.-C. Shen, F. Taylor, T. DeCarlo, C.-R. Wu, H.-S. Mii, and X. Wang (2023): Increased tropical South Pacific western boundary current transport over the past century. *Nature Geoscience*, Accepted.
2. Wang, Y.-L. and C.-R. Wu\* (2022): Rapid surface warming of the Pacific Asian marginal seas since the late 1990s. *Journal of Geophysical Research: Oceans*, 127(12), e2022JC018744.
3. Lin, H.-L., H.-K. Lui\*, T.-C. Lin, and Y.-L. Wang (2022): Response of planktonic foraminifera to seasonal and interannual hydrographic changes: Sediment trap record from the northern South China Sea. *Frontiers in Earth Science*.
4. Wang, Y.-L. and C.-R. Wu\* (2020): Nonstationary El Niño teleconnection on the post-summer upwelling off Vietnam. *Scientific Reports*.
5. Lui, H.-K.\* , C.-T. A. Chen, W.-P. Hou, J.-M. Liao, W.-C. Chou, Y.-L. Wang, C.-R. Wu, J. Lee, Y.-C. Hsin, Y.-Y. Choi (2020): Intrusion of Kuroshio helps to diminish coastal hypoxia in the coast of northern South China Sea. *Frontiers in Marine Science*, 7, 788.
6. Wang, Y.-L., and C.-R. Wu\* (2019): Enhanced warming and intensification of the Kuroshio Extension, 1999-2013. *Remote Sensing*, 11(1), 101.
7. Wang, Y.-L., Y.-C. Hsu, C.-P. Lee\*, and C.-R. Wu\* (2019): Coupling influences of ENSO and PDO on the inter-decadal SST variability of the ACC around the western South Atlantic. *Sustainability*.
8. Wu, C.-R.\* , Y.-L. Wang, and S.-Y. Chao (2019): Disassociation of the Kuroshio Current with the Pacific Decadal Oscillation since 1999. *Remote Sensing*, 11(3), 276.

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9. Wu, C.-R.\*, Y.-F. Lin, **Y.-L. Wang**, N. Keenlyside, and J.-Y. Yu (2019): An Atlantic-driven rapid circulation change in the North Pacific Ocean during the late 1990s. *Scientific Reports*, 9, 14411.
10. Wu, C.-R.\*, L.-C. Wang, **Y.-L. Wang**, Y.-F. Lin, T.-L. Chiang, and Y.-C. Hsin (2019): Coherent response of Vietnam and Sumatra-Java upwellings to cross-equatorial winds. *Scientific Reports*, 9, 3650.
11. Huang, T.-H., C.-T. A. Chen\*, J. Lee, C.-R. Wu, **Y.-L. Wang**, Y. Bai, X. He, S.-L. Wang, S. Kandasamy, J.-Y. Lou, B.-J. Tsuang, H.-W. Chen, R.-S. Tseng, and Y.-J. Yang (2019): East China Sea increasingly gains limiting nutrient P from South China Sea. *Scientific Reports*, 9, 5648.
12. **Wang, Y.-L.**, C.-R. Wu\* (2018): Discordant multi-decadal trend in the intensity of the Kuroshio along its path during 1993-2013. *Scientific Reports*, 8, 14633.
13. Hsu, Y.-C., C.-P. Lee\*, **Y.-L. Wang**, C.-R. Wu\*, and H.-K. Lui (2018): Leading El-Niño SST Oscillations around the southern south American continent. *Sustainability*, 10(6), 1783.
14. Wu, C.-R.\*, **Y.-L. Wang**, Y.-F. Lin, and S.-Y. Chao (2017): Intrusion of the Kuroshio into the South and East China Seas. *Scientific Reports*, 7, 7895.
15. **Wang, Y.-L.**, C.-R. Wu\*, and S.-Y. Chao (2016): Warming and weakening trends of the Kuroshio during 1993-2013. *Geophysical Research Letters*, 43(17), 9200-9207.
16. Wu, C.-R.\*, **Y.-L. Wang**, Y.-F. Lin, T.-L. Chiang, and C.-C. Wu (2016): Weakening of the Kuroshio intrusion into the South China Sea under the global warming hiatus. *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, 9(11), 5064-5070.