

# Haocheng Yang

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## EDUCATION

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**Ocean University of China (OUC)**

B. Sc. in Marine Science

Shandong, China

09/2020 – Present

GPA: 3.77/4.0

Core Coursework: Oceanography | Introduction to Weather and Climate | Southern Ocean Marine Geoscience | Satellite Oceanography | Biological Oceanography | Chemical and Biological Oceanography | Fortran | Computational Methods | An Introduction to Linux | Linear Algebra | Complex Analysis | Probability Statistics | Method of Mathematical Physics | College Physics | Fluid Mechanics | Physical Oceanography | Dynamic Meteorology | Calculating Oceanic Elements

## RESEARCH EXPERIENCE

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**Student Research and Development Program at Ocean University of China**

Research Advisor: Prof. Jian Shi

Shandong, China

*Study of the Seasonality and Mechanism of Marine Heatwaves in the Northeast Pacific Ocean*

05/2022 – Present

- Selected the marine heatwave events in the Northeast Pacific region by El Niño/La Niña/Neutral years to investigate the mechanism behind the seasonality.
- Used monthly ratio to show the preference for seasonality of MHWs in the Northeast Pacific; used EOF and SOM to decompose the spatial pattern to explain the mechanism.
- Found that there is a preference for the summertime of the La Niña years in the Northeast Pacific; also in the coastal region, there is a preference for summer in neutral years. However, the mechanism behind them is still unclear.

*Mechanistic Investigation of Marine Heatwaves in the Northeast Pacific Ocean*

10/2022 – 01/2023

- Focused on one extreme event in the Northeast Pacific in 2021 summer and investigated its mechanism using the heat budget equation. We found the heat flux term and the OVMIX term offset each other in this event and can be mainly explained by the atmospheric circulation during this period.

- Presented the work on the 2023 Asia Oceania Geosciences Society (AOGS) as an academic poster.

### *Warm Blobs near New Zealand and Its Association with Mixed Layer Depth in Austral Summer*

01/2023 – Present

- Warm blobs during austral summertime in regions around New Zealand appear with shallower water.
- In most cases, temperature anomalies are restricted to the mixed layer, while in some cases, the warm core penetrates the mixed layer in summer.
- Role of Flux Anomaly Term and MLD Anomaly Term changes during the austral summertime.

### **Research Presentation and Publication**

- Shi, J., Tang, C., Liu, Q., Zhang, Y., **Yang, H.**, & Li, C. (2022). Role of mixed layer depth in the location and development of the Northeast Pacific warm blobs. ***Geophysical Research Letters***, 49(16).
- **Yang, H.**, Yu, H., (2023) Marine Heatwaves in Northeast Pacific Ocean During 2021 Summer and Its Mechanism. **AOGS, 2023** (Poster)
- **Yang, H.**, Shi, J., Chen, J., Yu, H., Geng, R., Xin, S. (2023). Warm Blobs near New Zealand and Its Association with Mixed Layer Depth in Austral Summer. (In preparation)

### **HONORS**

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- 2020-2021 OUC second-level scholarship.
- 2021-2022 Student National scholarship.
- 2021-2022 OUC first-level scholarship.

### **SKILLS**

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**Research:** Fortan | Linux | Python

**Languages:** Mandarin (native) | English (proficient)