Xinyuan Zhou

69 Wenhai East Road, Jimo District, Qingdao, Shandong, China
+86-15082031408 | ens0ape@outlook.com | Academic Page

Education

Harbin Engineering University|National Deep Sea Center Qingdao, Shandong
Master of Sciences in Marine Sciences *Sep. 2021 – Jun. 2024(expected)*

- Area of study: Plume numerical modeling and machine learning
- Thesis title: Numerical model research on the deep sea polymetallic nodule mining plume in the contract area of the western Pacific

Chengdu University of Information Technology Chengdu, Sichuan
Bachelor of Sciences in Atmospheric Sciences(GPA:3.56/5) *Sep. 2017 – Jun. 2021*

- Area of study: Land surface model
- Senior thesis title: Simulation performance evaluation of CMIP6 BCC land model and other models for soil freeze-thaw process over the Qinghai-Tibet plateau

Research and Experience

Research Assistant Jun. 2022 – Present
Investigate Department of National Deep Sea Center *Qingdao, Shandong*

- Numerical model establishment by FORTRAN and Python
- Undertaking manned submersible-based experiment on deep sea mining plume in western Pacific

Member in land surface processes and atmospheric boundary layer group Sep. 2019 – 2021
School of Atmospheric Sciences, Chengdu University of Information and Technology *Chengdu, Sichuan*

- Handling modeled and observed data including reanalysis/reforecast products, CMIP outputs with NCL or Python.
- Studying land surface model like RegCM4.

Awards and Honors

National Scholarship for Postgraduates(top 1%), 2022
China Postgraduate Mathematical Contest in Modeling(2nd Prize), 2021
The Chinese Mathematics Competitions(3rd Prize in Sichuan Contest District), 2020
China Undergraduate Mathematical Contest in Modelling(1st Prize in Sichuan Contest District), 2019

Publications

- Simulation Performance Evaluation of CMIP6 BCC Land Model and Other Models for Soil Freeze-thaw Process Over the Qinghai-Tibet Plateau(In Chinese), 2022, **X. Zhou**, S. LÜ, J. Luo, Plateau and Mountain Meteorology Research, 42(2), 82-89, http://dx.doi.org/10.3969/j.issn.1674-2184.2022.02.012
- A Deep Learning-Based Model for Secondary Prediction on Deep-Sea Collector Plumes, 2023, **X. Zhou**, Y. Yang, Y. Ren, X. Gao, H. Wang, W. Gao, IEEE International Conference on Mechatronics and Automations, doi:10.1109/ICMA57826.2023.10216033.
- Numerical Model on Dispersion of Plume Caused by Deep Sea Mining of Polymetallic Nodules, X. Zhou, Y. Yang, in preparation

Skills

General Skills
Languages: English(Fluent), Mandarin(Native)
Software: CFD software Fluent(Competent), WRF(Competent), TELEMAC 3D(Proficient), ArcGIS(Competent)
Programming: Python(Proficient), FORTRAN(Competent), NCL(Proficient), GrADS(Competent)
Professional Skills
Numerical Simulation: Construct numerical model using CFD software
Machine Learning: Build LSTM based deep learning network SEDSEQ to improve numerical results
Data processing: Handle with multi-source meteorological data