Ziqi Yin

Curriculum Vitae

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Education

2021–present **PhD, Atmospheric & Oceanic Sciences**, *University of Colorado, Boulder*, Department of Atmospheric and Oceanic Sciences (ATOC), Boulder.
Modeling ice sheet and its interaction with climate

Advisor : **Prof. Aneesh Subramanian and Prof. Jan Lenaerts**, *Assistant Professor, ATOC*

2018–2020 **M.S., Atmospheric Sciences, Oceanography & Climate**, *Stockholm University*, Department of Meteorology (MISU), Stockholm.

2019/08–2019/09 **One month student in Arctic Geophysics**, *The University Center in Svalbard*, Svalbard.

2014–2018 **B.S., Resources & Environmental Sciences**, *Beijing Normal University (BNU)*, Faculty of Geographical Science, Beijing.

Working experience

Spring 2022 –present **Research assistant**, *University of Colorado, Boulder*, ATOC, Boulder.

Fall 2021 **Teaching assistant: ATOC-1060 Our Changing Environment**, *University of Colorado, Boulder*, ATOC, Boulder.

2020–2021 **Research intern**, *Xiamen University*, State Key Laboratory of Marine Environmental Science (MEL), Xiamen.

Research experience

University of Colorado, Boulder

2022/08–present ***High-resolution, fully-coupled simulations of the Greenland Ice Sheet in a future, strong warming scenario***.
Use fully-coupled CESM2 with an interactive Greenland Ice Sheet (CISM2) to study the evolution of the Greenland Ice Sheet (GrIS) and its interactions/feedbacks with the climate at multi-century scale. A variable resolution grid is used to represent the atmosphere and land, which features a quarter degree regional refinement over the Arctic. Compare the results with lower resolution runs to explore the impact of this enhanced resolution

Advisor : **Prof. Aneesh Subramanian, Prof. Jan Lenaerts**

2022/01–2022/08 ***Precipitation biases over the Greenland and Antarctic Ice Sheets in CESM2***.
Evaluated the representation of ice sheet precipitation using CESM2 with two different dynamical cores, finite-volume and spectral-element, and in total four different grids with different horizontal resolutions, by comparing with reanalysis data and regional climate model outputs

Advisor : **Prof. Jan Lenaerts**

Xiamen University

2020/10–2021/07 ***Modeling the optical effect of sea ice algae***.
Modified related scripts in CESM2 and simulated the optical effect of sea ice algae in both the Arctic and Antarctic under different climate scenarios.

Advisor : **Prof. Shanlin Wang**

Stockholm University

2019/12–2020/06 ***Master thesis: Ice-ocean interactions in a Greenland fjord***.
Created an idealized configuration of the Ryder Glacier-Sherard Osborn Fjord system using the ocean model Veros, conducted experiments with varying geometries and compared them in terms of tracer and flow fields as well as heat and freshwater transports, explored the sensitivity of the fjord circulation to the model parameters.

Advisor : **Prof. Inga Koszalka**, **Prof. Johan Nilsson**

2019/05–2019/06 ***Post-processing of measurement data at Lake Tarfala***.
Wrote Matlab scripts for analyzing and plotting water temperature and meteorological data.

Advisor : **Prof. Nina Kirchner**

Beijing Normal University

2016/05–2018/05 ***Bachelor thesis: Evaporation over the lakes on the Tibetan Plateau and its response to climate change***.
Based on reanalysis data and field observations, used an 1-D lake model Flake to simulate the evaporation over Qinghai Lake and several other big lakes on the Tibetan Plateau and their variation trends on different time scales, conducted sensitivity experiment to find the meteorological factors that have the largest impact on evaporation

Advisor : **Prof. Xiaoyan Li**

Presentation

2023/02 **High-resolution, fully-coupled simulations of the Greenland Ice Sheet in a future, strong warming scenario (talk)**, *CESM Land Ice Working Group Meeting*.

2022/12 **High-resolution, fully-coupled simulations of the Greenland Ice Sheet in a future, strong warming scenario (poster)**, *AGU Fall meeting 2022*.

2022/08 **Precipitation biases over the Greenland and Antarctic Ice Sheets in CESM2 (poster)**, *AMS Collective Madison Meeting*.

Teaching experience

2022/05 **ATOC REU Python Bootcamp**, *Graduate student teacher*.
Taught two lectures and coding exercises to teach undergraduate students basic Python coding tools

Fall 2021 **ATOC-1060 Our Changing Environment**, *Teaching assistant*.
Lead reading sections, exam reviews, and grading

Field experience

2019/11/15 **Baltic Sea Student Cruise**, *R/V ELECTRA*, Landsort Deep (Baltic Sea).
CTD, ADCP and related meteorological observations along the profile from Askö to the deepest spot of Baltic Sea

2019/08–2019/09 **Cruise and day trips of Arctic glacier hydrology and landscape**, *Stålbas*, Svalbard.
Carried out ground penetrating radar, proglacial water monitoring and sampling, dye tracing to understand glacier hydrology from a whole-system perspective at selected glaciers

2016/08 **Comprehensive field session of Meteorology, Botany and Pedology**, *Beijing*.
Set up a weather station, identified vegetation, observed soil profiles and meteorological variables of different underlying surface and altitude

2016/07 **Hydroecology field work**, *Qinghai Lake Basin, Qinghai*.
Assisted with meteorological and eddy covariance measurements, and biomass estimation

2015/07 **Hydropedology field work**, *Heihe River Basin, Gansu*.
Assisted with artificial precipitation and stem flow experiments, photosynthesis measurements, and soil and desert vegetation sampling

Workshop & Training

2022/09 **AntClimNow workshop on Connecting Models and Observations of the Antarctic Climate System Across Timescales**, *Cambridge, UK*.

2022/04 **Colorado Glaciology workshop**, *Golden, CO*.

Fellowships & Awards

2017/10 ***Third-class Scholarship*** of BNU

2016/07 ***Volunteer Scholarship*** of BNU

2014/09 ***Second-class Freshman Scholarship*** of BNU

Service

Fall 2022 –present ***ATOC colloquium committee***

Skills

Programming Languages	Python (Good), Fortran, Matlab
Operating System	Linux, Mac OS, Windows
Software	Latex, ArcGIS, Envi, Microsoft Office
Languages	Chinese, English