Ziqi Yin

PhD candidate,
University of Colorado, Boulder

1475 Folsom St. APT276
Boulder CO, 80302, USA
☏ (+1) 720-818-5488
✉ ziqi.yin@colorado.edu
🖥 My Webpage

Education

2021–present	**PhD, Atmospheric & Oceanic Sciences**, *University of Colorado, Boulder*, Department of Atmospheric and Oceanic Sciences (ATOC), Boulder. Studying ice sheet and its interaction with climate
Advisor :	**Prof. Aneesh Subramanian, Prof. Jan Lenaerts**, *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**, *University of Colorado, Boulder*, ATOC, Boulder.
2020–2021	**Research intern**, *Xiamen University*, State Key Laboratory of Marine Environmental Science (MEL), Xiamen.

Publications

In preparation

Yin, Z., Subramanian, A., Datta, R.T., Herrington, A., Du, D., Ali, S., Wang, J., Identifying energy balance drivers and feedbacks of Greenland Ice Sheet surface melt using causal inference, *Geophysical Research Letters*.

Schneider, D.P., **Yin, Z.**, Datta, R.T., Lenaerts, J.T.M., Cast, Z.I., O'Connor, G., Increasing Antarctic snowfall mitigates sea level rise less than projected due to meltwater influence on sea surface temperatures, *Science Advances*.

Ali, S., **Yin, Z.**, Faruque, O., Kulkarni, C., Huang, Y., Subramanian, A.C., Schlegel, N-J, Gani, M.O., Janeja, V., Wang, J., Causal Inference for analyzing drivers of Greenland Ice Sheet surface melt, *Artificial Intelligence for the Earth Systems*.

Published

2025	**Yin, Z.,** Herrington, A.R., Datta, R.T., Subramanian, A., Lenaerts, J.T.M., and Gettelman, A., Improved Understanding of Multicentury Greenland Ice Sheet Response to Strong Warming in the Coupled CESM2-CISM2 with Regional Grid Refinement, *Journal of Advances in Modeling Earth Systems*.

Wille, J.D., Favier, V., Gorodetskaya, I.V., Agosta, C., Baiman, R., Barrett, J.E., Barthelemy, L., Boza, B., Bozkurt, D., Casado, M., Chyhareva, A., Clem, K.R., Codron, F., Datta, R.T., Durán-Alarcón, C., Francis, D., Hoffman, A.O., Kolbe, M., Krakovska, S., Linscott, G., Maclennan, M.L., Mattingly, K.S., Mu, Y., Pohl, B., Santos, C.L., Shields, C.A., Toker, E., Winters, A.C., **Yin, Z.**, Zou, X., Zhang, C., Zhang, Z., Atmospheric rivers in Antarctica, *Nature Reviews Earth & Environment*.

2023   Datta, R.T., Herrington, A., Lenaerts, J.T.M., Schneider, D.P., Trusel, L., **Yin, Z.**, and Dunmire, D., Evaluating the impact of enhanced horizontal resolution over the Antarctic domain using a variable-resolution Earth system model, *The Cryosphere*.

Theses

2020   **Yin, Z.**, Ice-ocean interactions in a Greenland fjord, Master thesis, Stockholm University.
Advisor: Prof. Inga Koszalka, Prof. Johan Nilsson

2018   **Yin, Z.**, Evaporation over the lakes on the Tibetan Plateau and its response to climate change, Bachelor thesis, Beijing Normal University.
Advisor: Prof. Xiaoyan Li

Other research experience

University of Colorado, Boulder

2022/01–   **Precipitation biases over the Greenland and Antarctic Ice Sheets in CESM2**.
2022/08   Evaluated the ice sheet precipitation using CESM2 with two different dynamical cores, four different grids with different horizontal resolutions, by comparing with reanalysis data and regional climate model outputs
Advisor: Prof. Jan Lenaerts

Stockholm University

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

Presentation

2024/06   Identifying energy balance drivers and feedbacks of Greenland Ice Sheet Surface Melt using Causal Inference (talk), *CESM Annual Workshop*.

2023/12   Identifying energy balance drivers and feedbacks of Greenland Ice Sheet Surface Melt using Causal Inference (poster), *AGU Fall Meeting 2023*.

2023/04   High-resolution, fully-coupled simulations of the Greenland Ice Sheet in a future, strong warming scenario (talk), *ATOC Colloquium*.

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

2024/06,   **ATOC REU Python Bootcamp**, *Graduate student teacher*.
2022/05   Taught 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

2025/01	**CUAHSI-SINTER snow measurement field school**, *Mammoth Lakes, California*.
	Snow safety, basic snow measurements like depth, density, snow water equivalent, grain size and shape, stratigraphy, temperature and hardness, and more advanced measurements such as albedo, specific surface area
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

2024/06	**CESM Annual Workshop**, *Boulder, CO*.
2024/04	**Future of Greenland ice Sheet Science Workshop**, *Moscow, ID*.
2024/04	**3rd Annual Colorado Glaciology Workshop**, *Boulder, CO*.
2024/01	**Polar Amplification of Climate Change: Causes and Constraints Workshop**, *Boulder, CO*.
2023/10	**GeoSMART Hackweek 2023**, *Seattle, WA*.
2023/06	**2nd Antarctic Atmospheric River Workshop**, *Boulder, CO*.
2023/06	**2nd Annual Colorado Glaciology Workshop**, *Fort Collins, CO*.
2022/09	**AntClimNow Workshop on Connecting Models and Observations of the Antarctic Climate System Across Timescales**, *Cambridge, UK*.
2022/04	**1st Colorado Glaciology Workshop**, *Golden, CO*.

Fellowships & Awards

2023/12	**Best poster in the Polar Processes Session** of the 17th Annual ATOC-sponsored Earth System & Space Science (ESSS) Poster Conference
2022/12	**Best poster in the Snow, Ice, and Space Session** of the 16th Annual ATOC-sponsored Earth System & Space Science (ESSS) Poster Conference
2017/10	**Third-class Scholarship** of Beijing Normal University
2016/07	**Volunteer Scholarship** of Beijing Normal University
2014/09	**Second-class Freshman Scholarship** of Beijing Normal University

Service

Service to the field

Reviewer for *Journal of Glaciology*

2023/05- 2023/07	**UCAR Significant Opportunities in Atmospheric Research & Science (SOARS) project**, co-mentor

Service & Outreach

Fall 2024 –present	**ATOC ESSS poster conference committee**, member
Fall 2022 –Spring 2024	**ATOC colloquium committee**, member

Volunteer

2018/07	Yunnan snub-nosed monkey protection at Baima Snow Mountaion National Reserve, China
2014/09- 2016/06	Campus Energy Saving Project of the Volunteering Association of Beijing Normal University

Skills

Programming Languages & Operators	Python (proficient), Fortran, Matlab, CDO, NCO, Bash
Operating System	Mac OS, Linux, Windows
Software	Latex, Jupyter Lab/Notebook, Git/GitHub, Microsoft Office, ArcGIS, Envi, Inkscape
Models worked with	CESM2, Veros, MPI-ESM, ISSM
Languages	Chinese, English