Yuxin Zhou

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Education

Columbia University, New York, NY 2016 – 2022

Ph.D., Earth and Environmental Sciences
Dissertation: Atlantic Meridional Overturning Circulation instabilities during the last glacial cycle. Advisor: Jerry F. McManus

University of Southern California, Los Angeles, CA 2012 – 2016

B.S., Geological Sciences, *Phi Beta Kappa*
Minor in Computer Science

Experience

Postdoctoral Scholar, Georgia Institute of Technology. Advisor: Jean Lynch-Stieglitz 2025-

Guest Investigator, Woods Hole Oceanographic Institution. Advisor: Geoffrey Gebbie 2025-

Postdoctoral Scholar, UC Santa Barbara. Advisor: Lorraine Lisiecki 2022-2025

Peer-reviewed Publications

Zhou, Y., McManus, J.F., Pallone, C., Kenna, T.C., Weinstein, G.A., and Garcia, H. (2025). Abrupt weakening of deep Atlantic circulation at the last glacial inception. *Nature Communications*. *16*, 7555. https://doi.org/10.1038/s41467-025-62960-y

Hoogakker, B.A.A., Davis, K., Wang, Y., [and 57 others, including **Zhou, Y.**] Review of proxies for low-oxygen paleoceanographic reconstructions. *Biogeosciences*, *22*, 863–957. https://doi.org/10.5194/bg-22-863-2025

Zhou, Y., Lisiecki, L.E., Lee, T., Gebbie, G., and Lawrence, C.E. (2024). Regional benthic δ^{18}O stacks for the "41-kyr world" - an Atlantic-Pacific divergence between 1.8-1.9 Ma. *Geophysical Research Letters*, *51*, e2023GL107858. https://doi.org/10.1029/2023GL107858

Zhou, Y. and McManus, J.F. (2024). Heinrich event ice discharge and the fate of the Atlantic Meridional Overturning Circulation. *Science*, *384* (6699), 983-986. https://doi.org/10.1126/science.adh8369
Media Coverage: Eos, Live Science, National Geographic En Español, La Presse

Zeng, M., Rashid, H., **Zhou, Y.**, McManus, J.F., and Wang, Y. (2023). Dynamics of the subpolar gyre and transition zone of the North Atlantic during the last glacial cycle. *Quaternary Science Reviews*, *314*, 108215. https://doi.org/10.1016/j.quascirev.2023.108215

Zhou, Y. and McManus, J.F. (2023). Authigenic uranium deposition in the glacial North Atlantic - implications for oxygenation, carbon storage, and deep water mass geometry. *Quarternary Science Reviews*, *300*, 107914. https://doi.org/10.1016/j.quascirev.2022.107914

Zhou, Y. and McManus, J.F. (2022). Extensive evidence for a Last Interglacial Laurentide Outburst (LILO) event. *Geology*, *50*(8), 934-938. https://doi.org/10.1130/G49956.1

Zhou, Y., McManus, J.F., Jacobel, A., Costa, K., Wang, S., and Alvarez Caraveo, B. (2021). Enhanced iceberg discharge in the western North Atlantic during all Heinrich events of the last glaciation. *Earth and Planetary Science Letters*, *564*, 116910. https://doi.org/10.1016/j.epsl.2021.116910

Costa, K.M., Hayes, C.T., Anderson, R.F., [and 31 others, including **Zhou, Y.**] (2020). ^{230}Th Normalization: New Insights on an Essential Tool for Quantifying Sedimentary Fluxes in the Modern and Quaternary Ocean. *Paleoceanography and Paleoclimatology*, *35*, e2019PA003820. https://doi.org/10.1029/2019PA003820

Khider, D., Emile-Geay, J., McKay, N.P., [and 89 others, including **Zhou, Y.**] (2019). PaCTS 1.0: A Crowdsourced Reporting Standard for Paleoclimate Data. *Paleoceanography and Paleoclimatology*, *34*, 1570-1596. https://doi.org/10.1029/2019PA003632

Jacobel, A.W., Anderson, R.F., Winckler, G., Costa, K.M., Gottschalk, J., Middleton, J.L., Pavia, F.J., Shoenfelt, E.M., and **Zhou, Y.** (2018). No evidence for equatorial Pacific dust fertilisation. *Nature Geoscience*, *12*, 154-155. https://doi.org/10.1038/s41561-019-0304-z

Emile-Geay, J., Cobb, K.M., Carre, M., Braconnot, P., Leloup, J., **Zhou, Y.**, Harrison, S.P., Correge, T., McGregor, H.V., Collins, M., Driscoll, R., Elliot, M., Schneider, B., and Tudhope, A. (2016). Links between tropical Pacific seasonal, interannual and orbital variability during the Holocene. *Nature Geoscience*, *9*, 168. https://doi.org/10.1038/ngeo2608

Dee, S., Noone, D., Buenning, N., Emile-Geay, J., and **Zhou, Y.** (2015). SPEEDY-IER: A fast atmospheric GCM with water isotope physics. *Journal of Geophysical Research - Atmospheres*, *120*, 73–91. https://doi.org/10.1002/2014JD022194

Caballero-Gill, R.P., Libarkin, J., Meyers, S.R., Hinnov, L., McCallum, C., Lisiecki, L.E., Malinverno, **Zhou, Y.**, Segessenman, D., A., Kochen, I., Hobart, B., Ajibade, R.A., Kinney, S., Olsen, P., and Omar, H.

Addressing Barriers in Postdoctoral Recruitment and Application Processes: An Equity-based Framework. *Nature Communications*. In revision.

Zhou, Y., Lisiecki, L.E., Meyers, S.R., Lee, T., and Lawrence, C.E. Global and regional Pleistocene benthic δ^{18}O stacks on age models with and without orbital tuning. *Geochronology*. In review.

Rowland, G.H., Hendry, K.R., Annett, A.L., Ng, H.C., Robinson, L.F., Sherrell, R.M., **Zhou, Y.**, McManus, J.F., Brearley, J.A., and Li, T. High lithogenic fluxes at the West Greenland margin traced by ^{232}Th/^{230}Th in seawater and sediments. *Global Biogeochmical Cycles*. In review.

Non-peer-reviewed Publications

Zhou, Y. and McManus, J.F. (2024). Is collapse of the Atlantic Ocean circulation really imminent? Icebergs' history reveals some clues. *The Conversation*. http://bit.ly/4e9uUA4

Awards & Funding

NSF OCE-2508421 Collaborative Research: Reconstructing Ocean Sedimentation Rate Variability to Improve Age Estimates for Paleoclimate Data. ($308,843) Note: Authored a major section of the proposal. Ineligible to be a PI due to UCSB rules. 2025

Editor's Citation for Excellence in Refereeing, Geophysical Research Letters 2024

NOAA Climate and Global Change Fellowship (alternate) 2022

Cushman Foundation Johanna M. Resig Fellowship ($30,000) 2021

IODP Schlanger Fellowship ($30,000) 2020

Columbia University GSAS Dean's Fellowship 2016

Woods Hole Oceanographic Institution Summer Student Fellowship 2015

Conferences (first author and convenor only)

Zhou, Y. and McManus, J.F. Heinrich event ice discharge and the fate of the Atlantic Meridional Overturning Circulation. *2024 AGU Fall Meeting* (Invited speaker)

Villa, A., Hinnov, L.A., Li, M., Omar, H., Wu, H., **Zhou, Y.**, Wu, Y. Astronomical Forcing of Earth's Paleoclimate System. *2024 AGU Fall Meeting* (Convenor)

Zhou, Y. and McManus, J.F. Last interglacial Laurentide outburst (LILO) event and ice volume distributions during the last interglacial. *2024 PALSEA-Next*

Zhou, Y., Lisiecki, L.E., Meyers, S. A new probabilistic, orbitally tuned Pleistocene stack of benthic δ^{18}O. *2023 AGU Fall Meeting* (Invited speaker)

Zhou, Y., Lisiecki, L.E. Advances in Our Understanding of Climate Change During the Plio-Pleistocene 41-kyr World. *2023 AGU Fall Meeting* (Convenor)

Zhou, Y., Lisiecki, L.E. Rand, D., Hobart, B., Lee, T., Gebbie, G., and Lawrence, C.E. Revisiting the early Pleistocene "41-kyr world" benthic δ^{18}O stack - an Atlantic-Pacific divergence during 1.8-1.9 ma. *2023 AGU Fall Meeting*

Zhou, Y. and McManus, J.F. Heinrich event ice discharge and the fate of the Atlantic Meridional Overturning Circulation. *2023 Comer Climate Conference*

Zhou, Y., Lisiecki, L.E., Rand, D., Hobart, B., Lee, T., Gebbie, G., and Lawrence, C.E. Revisiting Pleistocene benthic δ^{18}O stacks with BIGMACS. *2022 AGU Fall Meeting*

Zhou, Y. and McManus, J.F. Authigenic uranium deposition in the glacial North Atlantic - implications for oxygenation, carbon storage, and deep water mass geometry. *2022 Comer Climate Conference*

Zhou, Y. and McManus, J.F. Extensive evidence for a last interglacial Laurentide outburst (LILO) event. *PAGES OSM 2022*

Zhou, Y. and McManus, J.F. Glacial carbon storage and water mass geometry in the North Atlantic. *2021 AGU Fall Meeting*

Zhou, Y. and McManus, J.F. Extensive evidence for the Last Interglacial analog of the 8.2 ka event. *2021 Comer Climate Conference*

Zhou, Y. and McManus, J.F. A new method of estimating freshwater fluxes during millennial events of the last glaciation. *2020 Comer Climate Conference*

Zhou, Y. and McManus, J.F. Heinrich Events 3 and 6 as Events of Increased Ice-Rafted Deposition. *2019 Goldschmidt*

Zhou, Y., Oppo, D., Gebbie, G., and Thornalley, D. Magnitude of the Suess Effect in North Atlantic - a Study of Foraminifera and Transient Tracer Simulations. *2016 AGU Ocean Sciences Meeting*

Zhou, Y., Paterson, S., Pablo, A.H., Cao, W. and Ratschbacher, B. An Isostatic Mass Balance Model of Continental Arcs and Its Application to Paleozoic-Mesozoic Argentinean Cordilleran Orogenic Systems. *2016 GSA Cordilleran Section meeting*

Invited Seminars

Climate+Paleo Seminar, Woods Hole Oceanographic Institution 2024

Paleo/Environmental Seminar, University of Southern California 2023

Earth Research Institute Climate Seminar, University of California, Santa Barbara 2023

Whole Earth Seminar, University of California, Santa Cruz 2023

Paleoclimate working group meeting, National Center for Atmospheric Research 2022

International Quaternary Webinar, University of Massachusetts 2022

Climate-geochemistry departmental seminar, Max Planck Institute for Chemistry 2021

Seagoing Experience

R/V Roger Revelle, UNOLS Coring PI training Aug. 22–Sept. 1, 2022

R/V Tioga, plankton towing and grab coring training Jul. 17, 2015

Professional Services

Steward, UCSB postdoc union (UAW 5810) 2022 – 23

Chair, LDEO graduate student committee 2019 – 20

Volunteer, LDEO Wally Broecker Symposium 2019

Orientation co-chair, LDEO graduate student committee 2018 – 19

Member, LDEO committee on professional conduct 2018 – 2022

Co-organizer, LDEO geochemistry seminar committee 2017 – 19

Co-organizer, LDEO first year colloquium 2017

President, USC Sigma Gamma Epsilon 2015 – 2016

Secretary, — 2014

Member: Phi Beta Kappa 2016 –

Member: American Geophysical Union 2015 –

Reviewer for *NSF (ad hoc & panel)*, *Nature Geoscience*, *Science Advances*, *Nature Communications*, *Environmental Research Letters*, *Earth and Planetary Science Letters*, *Geophysical Research Letters*, *Climate of the Past*, *Quaternary Science Reviews*, *Geo-Marine Letters*, *Marine Geology*, *Scientific Reports*, and *Quaternary Research*

Teaching and Outreach

Author, "Climate Bracelet", UCSB Family Ultimate Science Exploration 2025

Facilitator, — 2022 –

Domain Expert, ClimateMatch Academy 2023

Guest lecturer, UCSB Earth 4 Introduction to Oceanography 2023

Teacher, Columbia University Girls Who Code 2018 – 2022

Guest lecturer, Columbia University EESCW4920 Paleoceanography 2022

Teacher, Columbia University COVID Volunteer Tutor Corps 2020

Foundational Track completion, Teaching Development Program, the Center for Teaching and Learning at Columbia University 2020

Guest lecturer, Columbia University EESCW2100 Earth's Environmental Systems: Climate System 2018

Teaching Assistant, Columbia University EESCW2100 Earth's Environmental Systems: Climate System 2017-2018

Volunteer, Columbia University Girls Science Day 2018 – 2019

Volunteer, Lamont Open House 2016 – 2019

Oceanography Teacher, Lenicia B. Weemes Elementary School, Joint Education Program 2012

Mentor of Alyson Churchill (Colby College, 2018; now PhD student at Oregon State University), Annemarie Pillsbury (Dutchess Community College, 2018; now graduate student at University at Buffalo), Miah Cohall (Manhattan College, 2019; now Assistant Engineer at Hazen and Sawyer), Cassandra Bartels (Barnard College, 2019; now Fulbright scholar at Christian-Albrechts-Universität Kiel), Ellen May Jorgensen (Syracuse University, 2021; now PhD student at Brown University), Herman Garcia (The City College of New York, 2021; now Bridge-to-PhD program participant at WHOI), Ariana Paul (Barnard College, 2021), Chandler Morris (Columbia University, 2021; now PhD student at Brown University), Diego Sevilla (UCSB, 2023-2024; senior thesis primary advisor), Andrew Toteda (UCSB, 2024-2025; senior thesis primary advisor)

Programming Languages Python (expert), Matlab (expert), Git (expert), C++ (proficient), Java (proficient), Javascript (proficient), Fortran (competent), R (competent)