

# Yuxin Zhou

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CONTACT Noble 1011 323-633-2456  
INFORMATION Santa Barbara, CA 93106 [yuxin\\_zhou@ucsb.edu](mailto:yuxin_zhou@ucsb.edu)  
<https://yz3062.github.io/>

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, UC Santa Barbara. Advisor: Lorraine Lisiecki 2022-

AWARDS 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  
USC Dornsife Harry Miller Scholarship 2015  
USC Dornsife Syllas and Rose Marx Meyer Scholarship 2015  
USC Earth Sciences Richard O. Stone Scholarship 2012, 2014, 2015

PUBLICATIONS **Zhou, Y.**, Lisiecki, L.E., Lee, T., Gebbie, G., and Lawrence, C.E. (2024), Regional benthic  $\delta^{18}\text{O}$  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., 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. *Quaternary 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),  $^{230}\text{Th}$  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., Buening, 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., Omar, H., Addressing Barriers in Postdoctoral Recruitment and Application Processes: An Equity-based Framework. In revision at *Nature Communications*.

Hoogakker, B.A.A., Davis, K., Wang, Y., [and 57 others, including **Zhou, Y.**]. Review of proxies for low-oxygen paleoceanographic reconstructions. In revision at *Biogeosciences*.

**Zhou, Y.**, McManus, J.F., Pallone, C., Weinstein, G. A., Garcia, H. Abrupt weakening of Atlantic circulation at the last glacial inception. In revision at *Nature Communications*.

- CONFERENCES **Zhou, Y.**, Lisiecki, L.E., Meyers, S. A new probabilistic, orbitally tuned Pleistocene stack of benthic  $\delta^{18}\text{O}$ . *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  $\delta^{18}\text{O}$  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*
- Newall, S., Lisiecki, L.E., Rand, D., **Zhou, Y.**, Lee, T., Gebbie, G., and Lawrence, C.E. Ocean Sedimentation Rate Variability Measured in 100 Sediment Cores: Defining Useful Priors for Bayesian Age-Depth Modelling. *2023 AGU Fall Meeting*
- Lisiecki, L.E., Lee, T., Rand, D., Hobart, B., **Zhou, Y.**, Newall, S., Gebbie, G., and Lawrence, C.E. Advantages and Applications of Multiproxy Age Models Produced by BIGMACS. *2023 AGU Fall Meeting*
- Pandey, K., Mahesh, P., Grassia, F., Perrone, A., Khan, R., Farmer, E.C., **Zhou, Y.**, and McManus, J.F. An Analysis of the Central North Atlantic Ocean’s Climate during the Last Interglacial Interval from Microfossil Planktonic Foraminifera. *2023 AGU Fall Meeting*
- Grassia, F., Perrone, A., Walsh, E., Mahesh, P., Pandey, K., Lewis, S., Johnson, A., Farmer, E.C., **Zhou, Y.**, and McManus, J.F. Changes in Holocene Sea Surface Temperature in the Central North Atlantic Based on Abundance of Planktonic Foraminifera Species. *2023 AGU Fall Meeting*
- Lisiecki, L.E., Raymo, M.E., **Zhou, Y.**, Rand, D., Hobart, B., Lee, T., Gebbie, G., and Lawrence, C.E. Revisiting the LR04 Pliocene-Pleistocene Benthic  $\delta^{18}\text{O}$  Stack. *2023 AGU Fall Meeting*

- Latting, H., McManus, J.F., **Zhou, Y.**, and Pallone, C. Deep Ocean Circulation in the West and East North Atlantic During the Last Glacial Period and Holocene. *2023 AGU Fall Meeting*
- Lee, T., Lisiecki, L.E., Rand, D., Newall, S., Gebbie, G., **Zhou, Y.**, Hobart, B., and Lawrence, C.E. A resolution-consistent multi-proxy Bayesian age estimation algorithm. *2023 AGU Fall Meeting*
- Zhou, Y.**, Lisiecki, L.E., Rand, D., Hobart, B., Lee, T., Gebbie, G., and Lawrence, C.E. Revisiting Pleistocene benthic  $\delta^{18}\text{O}$  stacks with BIGMACS. *2022 AGU Fall Meeting*
- Hobart, B., Lisiecki, L.E., **Zhou, Y.**, and MacDonald, F.A. A Review of Mid-Miocene Oxygen Isotope Stratigraphy in Deep-Sea Cores. *2022 AGU Fall Meeting*
- Lisiecki, L.E., Rand, D., Lee, T., Newall, S., **Zhou, Y.**, Gebbie, G., and Lawrence, C.E. Evaluating Probabilistic Age Models and Stacks for Different Proxy Types on the Iberian Margin. *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. Glacial carbon storage and water mass geometry in the North Atlantic. *2021 AGU Fall Meeting*
- Jorgensen, E.M., **Zhou, Y.**, and McManus, J.F. Contextualizing North Atlantic Sediment within Heinrich Events. *2021 AGU Fall Meeting*
- Paul, A., **Zhou, Y.** and McManus, J.F. Climatic and Oceanographic Conditions in the Mid-Atlantic through the Penultimate Interglacial Period. *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*
- Middleton, J.L., Winckler, G., Schaefer, J., Pavia, F., Anderson, R.F., Schwartz, S., **Zhou, Y.**, and Kinsley, C. Global patterns in oceanographic influences on  $^{10}\text{Be}$  deposition rates to the seafloor. *2021 Goldschmidt*
- Zhou, Y.** and McManus, J.F. A new method of estimating freshwater fluxes during millennial events of the last glaciation. *2020 Comer Climate Conference*
- Cohall, M., McManus, J.F., and **Zhou, Y.** Evidence from the subtropical North Atlantic Ocean for the influence of iceberg discharge on ocean circulation and climate during the last ice age. *2020 AGU Ocean Sciences Meeting*
- Zhou, Y.** and McManus, J.F. Heinrich Events 3 and 6 as Events of Increased Ice-Rafted Deposition. *2019 Goldschmidt*

McManus, J.F., Costa, K.M., **Zhou, Y.**, Cohall, M., and Hoffmann, S.S. Reconstructions of changes in deep ocean circulation and climate through the last large glacial-interglacial cycle in the North Atlantic region. *2019 AGU Fall Meeting*

McManus, J.F., Costa, K.M., Ng, H.C., **Zhou, Y.**, Hoffmann, S.S., Major, C.O., Robinson, L.F., and Keigwin, L.D. Time-series Transects of Deglacial Circulation Changes in the Deep North Atlantic Ocean. *2018 AGU Fall Meeting*

**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*

Emile-Geay, J., Cobb, K.M., Carre M., Braconnot, P., Leloup J, **Zhou, Y.**, Harrison, S.P., Corregge, T., McGregor, H.V., Collins, M., Driscoll, R. Holocene constraints on simulated tropical Pacific climate. *2015 AGU Fall Meeting*

INVITED SEMINARS	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	<i>R/V Roger Revelle</i> , UNOLS Coring PI training	Aug. 22–Sept. 1, 2022
	<i>R/V Tioga</i> , 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 –
	Manuscript reviewer for <i>Science Advances</i> , <i>Nature Communications</i> , <i>Environmental Research Letters</i> , <i>Earth and Planetary Science Letters</i> , <i>Geophysical Research Letters</i> , <i>Climate of the Past</i> , <i>Quaternary Science Reviews</i> , <i>Geo-Marine Letters</i> , <i>Marine Geology</i> , <i>Scientific Reports</i> , and <i>Quaternary Research</i>	
TEACHING AND OUTREACH	Domain Expert, ClimateMatch Academy	2023
	Guest lecturer, UCSB Earth 4 Introduction to Oceanography	2023
	Facilitator, UCSB Family Ultimate Science Exploration	2022 –
	Teacher, Columbia University Girls Who Code	2018 – 2022
	Guest lecturer, Columbia University EESCW4920 Paleooceanography	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)

PROGRAMMING Python (expert), Matlab (expert), Git (expert), C++ (proficient), Java  
LANGUAGES (proficient), Javascript (proficient), Fortran (competent), R (competent)