

CHRISTOPHER J. POULSEN
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Eugene, OR 97403
email: poulsenc@uoregon.edu

EDUCATION

1999 Ph.D., Geosciences, Pennsylvania State University, University Park, PA
1994 B.A., Geology, Carleton College, Northfield, MN

PROFESSIONAL POSITIONS

2022- Professor, Dept. of Earth Sciences, University of Oregon
2020-2022 Henry N. Pollack Collegiate Professor, University of Michigan
2013-2022 Professor, Dept. of Earth and Environmental Sciences, University of Michigan
2010-2022 Faculty Associate, Program in the Environment, University of Michigan
2007-2013 Associate Professor, Dept. of Earth and Environmental Sciences, University of Michigan
2005-2022 Professor, Dept. of Climate and Space Sciences and Engineering, University of Michigan
2003-2007 Assistant Professor, Dept. of Geological Sciences, University of Michigan
2000-2003 Assistant Professor, Dept. of Earth Sciences, University of Southern California
1999-2000 Research Associate, Dept. of Geophysical Sciences, University of Chicago

ADMINISTRATIVE POSITIONS

2022- Tykeson Dean of Arts & Sciences, College of Arts and Sciences, University of Oregon
2018-2022 Associate Dean for Natural Sciences, College of Literature, Science, and the Arts, University of Michigan
2014-2018 Chair, Dept. of Earth and Environmental Sciences, University of Michigan
2010-2014 Associate Chair for Graduate Studies, Dept. of Earth and Environmental Sciences, University of Michigan

RESEARCH INTERESTS

Climate change, paleoclimatology, earth system modeling, climate dynamics, climate variability, climate-ecosystem interactions, water isotopes, ecohydrology, climate-mountain interactions, paleoaltimetry.

HONORS/AWARDS

2020 LSA Collegiate Professorship, University of Michigan
2017 Fellow of the American Association for the Advancement of Science
2013 John Dewey Teaching Award, University of Michigan
2009 Alexander von Humboldt Research Fellowship, Germany
2007 Fellow of the Geological Society of America
1998 International Paleoceanography Conference VI, Student Poster Award
1998 Muan Fellowship, Pennsylvania State University
1997 Shell Doctoral Fellowship, Pennsylvania State University
1996 NASA Space Grant Fellowship, Pennsylvania State University

- 1994 U.S.G.S., N.A.G.T.-U.S.G.S. Internship
 1993 Keck Fellowship, Carleton College

EDITORIAL POSITIONS

- 2017-2020 Associate Editor, *Paleoceanography and Paleoclimatology*
 2017 Guest Editor, *Proceedings of the National Academy of Sciences*
 2013- Associate Editor, *American Journal of Science*

REVIEW PANELS/ADVISORY COMMITTEES

- 2019 External Reviewer, School of Earth Sciences, Ohio State University, Columbus, OH
 2017 External Reviewer, Dept of Biodiversity, Earth and Environmental Science, Drexel University, Philadelphia, PA
 2014-2017 Member, CISL High Performance Computing Allocation Panel (CHAP)
 2012 International Advisory Board member, Himalaya-Karakorum-Tibet and International Symposium on Tibetan Plateau, Tübingen, Germany
 2011-2014 Panelist (twice), NSF Sedimentary Geology and Paleontology Panel
 2010 Reviewer, NRC Report "Understanding Earth's Deep Past: Lessons for Our Climate Future"
 2007-2012 Member, AGU Paleoclimatology/Paleoceanography Focus Group
 2007 Panelist, AGU Ocean Science Section Nominations Committee
 2003 Reviewer, Leg 207 USSSP Post-Cruise Science Proposal Panel
 2003 Member, USC Sea Grant Program Review Board (USC)

SYMPOSIA CONVENED/WORKSHOP PARTICIPATION

- 2019 Co-chair, AGCI Workshop on Future of Past Climates, Aspen, Colorado
 2018 Invited participant, Earth Temperature History Symposium, Smithsonian Institution, Washington D.C.
 2017-2018 Member, Organizing Committee for Paleoclimate Theme, Goldschmidt 2018
 2016 Member, USCS Paleo Climate Workshop, Santa Cruz, CA
 2016 Member, DeepMIP Organizational Meeting, National Center for Atmospheric Research, Boulder, CO
 2014-2017 Member, Organizing Committee for NSF-sponsored US-Taiwan workshop on "Feedbacks and Coupling among Mountain Building, Surface Processes, and Climate"
 2014 Co-chair, "Climate change in the geologic record", GSA, Vancouver, BC
 2013 Invited participant, Workshop on Exploring the Cretaceous Greenhouse through Scientific Drilling, London, UK
 2010 Invited participant, Grand Challenges in Sedimentary Geology and Paleobiology Workshop, Tahoe Center for Environmental Research, Lake Tahoe NV/CA
 2008 Panelist, National Research Council meeting on Deep-Time Paleoclimate, Irvine, California
 2006 Co-chair, "Plio-Pleistocene evolution of the tropical ocean: causes and consequences", AGU, San Francisco, CA
 2005 Coordinator of NCAR Paleo-Working Group project to develop community-organized Cretaceous climate simulations
 2004 Invited participant, NSF Workshop on Deep-Time GeoSystems, Washington D.C.
 2004 Co-chair, "Extreme environments of the Precambrian Earth", AGU, Montreal,

Canada
2002 Co-chair, "Cretaceous Atmosphere and Ocean Dynamics", Cretaceous Climate and Ocean Dynamics, Florissant, CO

UO UNIVERSITY SERVICE

2022- Member, Dean's Council
2022- Member, Academic Leadership Team
2022- Member, Ballmer Institute Executive Committee
2022- Member, Environment Initiative Executive Committee

UM UNIVERSITY/COLLEGE SERVICE

2021-2022 Member, Saving the Planet Campaign Theme Group (Univ. service)
2021-2022 Member, Carbon Neutrality University Units Leadership Council (Univ. service)
2021-2022 Chair, LSA Carbon Neutrality Implementation Team
2021 Chair, Reboot and Reimagine Working Group on Departmental and Faculty Affairs
2020-2021 Member, COVID-19 Compliance Subcommittee (Univ. service)
2020-2021 Member, LSA Preventing Sexual Harassment Working Group
2020-2022 Member, LSA COVID-19 Core Response Team
2020-2022 Chair, LSA Chemistry Building Facility Planning Committee
2020 Chair, Matthaei Botanical Gardens and Nichols Arboretum Director Search Committee (Univ. service)
2020-2022 Member, Research Suspension Oversight Committee (Univ. service)
2019-2022 Member, Graham Institute Board of Deans
2019-2022 Member, Cultural Education Advisory Group (Univ. service)
2019-2020 Member, UM Advisory Committee for G.E.O. Negotiations (Univ. service)
2019 Chair, UM Biological Station Director Search Committee
2018-2022 Chair, LSA Unit Safety Committee
2018-2022 Member, LSA Diversity, Equity and Inclusion Implementation Team
2018-2021 Member, Research Administration Advisory Council (RAAC)
2018 Member, Launch Committee to mentor new faculty member (Johnson)
2017 Panelist, "Negotiating the Faculty Offer", NextProf Science Workshop
2016-2017 Member, Themes Working Group, SEAS
2016-2017 Member, Launch Committee to mentor new faculty member (Huang)
2014-2015 Member, Launch Committee to mentor new faculty member (Smith)
2013-2014 Member, Launch Committee to mentor new faculty member (Cory)
2011-2014 University Senate Assembly (elected position)

DEPARTMENTAL SERVICE (IN DEPT OF EES UNLESS NOTED)

2014-2018 Chair, Department of Earth and Environmental Sciences
2010-2014 Associate Chair, Graduate Studies
2013 Chair, Promotions Committee (Assoc Res Prof)
2012-2014 Member, Executive Committee
2012 Chair, Promotions and Tenure Committee (Assoc Prof)
2012 Member, Promotions and Tenure Committee (Assoc Prof)
2011-2013 Member, Scholarship Committee, Program of the Environment
2011-2012 Chair, Climate Change Faculty Search Committee
2010-2014 Chair, Graduate Admissions Committee

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| 2009-2010 | Member, Promotions and Tenure Committee (Assoc Prof) |
| 2008-2009 | Member, Executive Committee |
| 2008-2009 | Chair, Global Change Faculty Search Committee (5 positions) |
| 2008-2009 | Member, Curriculum Committee, Dept. of AOSS |
| 2007-2009 | Director, Upper Level Writing Requirement |
| 2007-2012 | Member, Camp Davis Redevelopment Committee |
| 2007-2014 | Member, Curriculum Committee |
| 2006-2008 | Faculty coordinator, Michigan Geophysical Union |
| 2006-2007 | Member, Earth System Science Faculty Search Committee |
| 2004-2007 | Chair, Turner Award Committee |
| 2004-2006 | Member, Graduate Admissions Committee |
| 2003-2014 | Member, Computer Committee |
| 2004 | Member, Promotions Committee (Assoc Res Sci), Dept. of AOSS |
| 2003 | Member, Earth System Science and Engineering Programmatic Committee |

INVITED TALKS/SEMINARS/WEBINARS

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| 2021 | “COVID-19 impact on air quality and climate”, OLLI, University of Michigan |
| 2021 | “The Liberal Arts in 2021: Addressing Global Challenges”, LSA, University of Michigan |
| 2019 | Aspen Global Change Institute, Aspen, CO |
| 2018 | Centre for Earth Evolution and Dynamics, University of Oslo, Oslo, Norway |
| 2018 | Earth, Environmental and Planetary Sciences Department, Rice University, Houston, Texas |
| 2018 | GSA Fall Meeting, Indianapolis, Indiana |
| 2017 | Dept. of Geosciences, Western Michigan University, Kalamazoo, MI |
| 2017 | Midcontinent Paleobotanical Symposium, University of Michigan (Keynote) |
| 2016 | Dept. of Geology & Geophysics, Yale University |
| 2016 | Dept. of Geology, Kent State University |
| 2016 | GSA Fall Meeting, Denver, Colorado |
| 2016 | Laboratoire des Sciences du Climat et de l’Environnement, Gif-sur-Yvette, France |
| 2015 | Dept. of Geosciences, Pennsylvania State University |
| 2014 | Dept. of Geological Sciences, University of Missouri |
| 2014 | AGU Fall Meeting, San Francisco |
| 2014 | Dept. of Earth and Planetary Sciences, Johns Hopkins |
| 2013 | Plenary Talk, Pre-Cenozoic Climate International Workshop, Toulouse, France |
| 2013 | Michigan Basin Geological Society |
| 2012 | Program of Environmental Sciences, Wright State University |
| 2012 | Dept. of Geology, Baylor University |
| 2012 | Dept. of Earth Sciences, Dartmouth College |
| 2012 | Dept. of Environmental and Earth System Science, Stanford University |
| 2011 | Instituto de Hidraulica e Hidrologia, La Paz, Bolivia |
| 2011 | Dept. of Earth and Planetary Sciences, Northwestern University, Chicago |
| 2011 | IDEAS Seminar, Dept. of Earth and Environmental Sciences, University of Michigan |
| 2011 | AGU Fall Meeting, San Francisco |
| 2010 | Dept. of Earth and Planetary Sciences, University of New Mexico |
| 2010 | Institut für Geowissenschaften, Universität Tübingen, Germany |
| 2010 | AGU Fall Meeting, San Francisco |
| 2010 | GSA Annual Meeting, Denver, CO – 2 invited talks |
| 2009 | Centre National de la Recherche Scientifique, Toulouse, France |

2009 AGU Fall Meeting, San Francisco
 2009 Michigan Research Community, University of Michigan
 2008 Dept. of Geology, University of California, Davis
 2008 Dept. of Earth Sciences, Southern Methodist University
 2007 GSA Annual Meeting, Denver
 2007 Dept. of Geology, University of Kansas
 2007 Kansas Geological Survey
 2007 Dept. of Atmospheric, Oceanic, and Space Sciences, University of Michigan
 2007 Michigan Research Community, University of Michigan
 2007 EGU Annual Meeting, Vienna, Austria
 2007 AAAS Annual Meeting, San Francisco
 2006 Dept. of Geological Sciences, University of Nebraska
 2006 School of Natural Resources and Environment, University of Michigan
 2005 Dept. of Geology & Geophysics, Yale University
 2005 Dept. of Geology, University of Cincinnati
 2004 AGU Fall Meeting, San Francisco
 2004 AOSS, University of Michigan
 2003 Dept. of Geological Sciences, University of Michigan
 2003 Geosciences Dept., Oregon State University
 2003 Dept. of Earth Sciences, University of California, Riverside
 2002 Santa Monica College, Los Angeles
 2002 Ocean Science Meeting, Honolulu
 2002 Cretaceous Ocean and Atmosphere Dynamics Meeting, Florissant, CO
 2001 Dept. of Geology, Carleton College, MN
 2001 Dept. of Earth Sciences, University of California, Los Angeles
 2000 Dept. of Geology, California Institute of Technology
 1999 Dept. of Earth Sciences, University of Southern California
 1998 Dept. of Geosciences, University of Massachusetts Amherst

UNIVERSITY TEACHING/RESEARCH AWARDS

2012 Gilbert Whitaker Fund for the Improvement of Teaching (\$10,000), University of Michigan
 2011 LSA Associate Professor Support Fund (\$100,000), University of Michigan
 2009 Faculty Fellowship Enhancement Award (\$3000), University of Michigan
 2001 Innovative Teaching Award (\$3000), University of Southern California

RESEARCH COMPUTING AWARDS

2021-2024 Simulation of Late Cenozoic climate change over the East Africa Rift Valley with the Community Earth System Model, NCAR CISL Computer Allocation UMIC0084 (13,000,000 core-hours) on Cheyenne.
 2020-2023 Constraining the physics that regulate equilibrium climate sensitivity through simulation of LGM and Eocene paleoclimates, NCAR CISL Computer Allocation UMIC0072 (23,000,000 core hrs) on Cheyenne.
 2018-2019 Renewal: Sources and circulation of intermediate and deep waters in the Late Cretaceous, NCAR CISL Computer Allocation UMIC0018 (400,000 core hrs) on Cheyenne.
 2018-2020 Simulating Cenozoic paleoclimate using iCESM1.2 to constrain Andean paleotopography, NCAR CISL Computer Allocation UMIC0054 (7,560,000 core

- hrs) on Cheyenne.
- 2017-2018 Renewal: Simulation of CO₂-climate-vegetation feedbacks in a dynamic Late Paleozoic ice house, NCAR CISL Computer Allocation UMI0031 (8,000,000 core hours) on Cheyenne.
- 2016-2019 Investigation of Extratropical Mechanisms, Land-Surface Properties, and Seasonal Precipitation Processes on Saharan Rainfall and Simulation of the African Humid Period, NCAR CISL Computer Allocation UMIC0047 (5,820,000 core hrs) on Cheyenne.
- 2015-2016 Renewal: Sources and circulation of intermediate and deep waters in the Late Cretaceous, NCAR CISL Computer Allocation UMIC0018 (4,400,000 core hrs) on Yellowstone.
- 2014-2015 Simulation of CO₂-climate-vegetation feedbacks in a dynamic Late Paleozoic ice house (5,000,000 core hrs) on Yellowstone.
- 2014-2015 Sources and circulation of intermediate and deep waters in the Late Cretaceous, NCAR CISL Computer Allocation (3,670,000 core hrs) on Yellowstone.
- 2013-2014 Sources and circulation of intermediate and deep waters in the Late Cretaceous, NCAR CISL Computer Allocation (200,000 core hrs) on Yellowstone.
- 2012-2013 Evolution of moisture transport and meteoric $\delta^{18}\text{O}$ during mountain building: An investigation through paleoclimate simulation, NCAR CISL Computer Allocation (800,000 core hrs) on Yellowstone.
- 2010-2012 Slow and steady or fast and furious? Understanding Andean uplift and South American climate change through paleoclimate simulation, NCAR CISL Computer Allocation (200,000 GAUs) on Bluefire.

RESEARCH GRANTS, PENDING

- 2022-2027 Collaborative Research: Reconstructing the Climate Context for the Evolution of Angiosperm-dominated Ecosystems, NSF FRES, \$549,708 to Poulsen (co-PI).

RESEARCH GRANTS (20, \$4,706,595), CURRENT AND PAST

- 2021-2024 Collaborative Research: The influence of climate and tectonics on Miocene ecosystems and faunal evolution in the East African Rift, Kenya, NSF FRES, \$419,022 to Poulsen (co-PI).
- 2020-2023 Constraining the physics that regulate equilibrium climate sensitivity through simulation of LGM and Eocene paleoclimate, NSF P2C2 Award #2002397, \$384,686 (PI).
- 2016-2019 Investigation of extratropical mechanisms, land-surface properties, and seasonal precipitation processes on Saharan rainfall and simulation of the African Humid Period, NSF P2C2, \$330,950 (PI).
- 2016-2019 Collaborative Research—Quantifying paleotopography and paleoclimate to test geodynamic models in the Peruvian Andes, NSF Tectonics, \$208,241 to Poulsen (co-PI).
- 2016-2021 Paleoclimate data assimilation for deep time, Heising-Simons Foundation, \$500,164 to Poulsen (PI).
- 2016-2019 Paleoclimate simulation of warm climate—Looking back to see the future, Heising-Simons Foundation, \$382,520 to Poulsen (PI).
- 2015-2016 Hydrological cycling and variability in terrestrial environments, UM Water Center, \$19,700 (PI).

- 2014-2020 Collaborative Research—Earth Life Transitions: Integrated Data-Model Analysis of CO₂-Climate-Vegetation Feedbacks in a Dynamic Paleo-Icehouse, NSF Sedimentary Geology and Paleobiology, \$1,498,127, (\$330,030 to Poulsen) (co-PI).
- 2013-2016 Collaborative Research: Constraining sources and circulation patterns of intermediate and deep waters during the Late Cretaceous, NSF Marine Geology and Geophysics, \$559,228 (\$193,620 to Poulsen) (co-PI).
- 2013-2016 Collaborative Research: Linking erosional and climatic processes in regions of active mountain building, NSF Geomorphology, \$366,939 (\$204,048 to Poulsen) (co-PI).
- 2011-2013 EXP: Collaborative Research: Using smartphone-based participatory simulations to engage children in scientific thinking, NSF Cyberlearning, \$549,987 (\$86,720 to Poulsen) (co-PI).
- 2010-2013 Collaborative Research: Recovering surface uplift histories and climate dynamics of the Cenozoic North American Cordillera through integrated climate modeling and isotopic studies, NSF Tectonics, \$294,272 (\$191,974 to Poulsen) (co-PI).
- 2009-2012 Collaborative Research: Investigating climate system sensitivity to ice age orbital forcing, NSF P2C2, \$465,132 (\$245,660 to Poulsen) (PI).
- 2009-2013 CAUGHT: Central Andean uplift and the geodynamics of high topography, NSF Continental Dynamics, \$2,545,967 (\$243,776 to Poulsen) (co-PI).
- 2008-2010 Integration of physical and social sciences for development of a sustainable water resource policy in Bolivia, South America, UM Graham Environmental Sustainability Institute, \$191,475 (PI).
- 2008-2011 Quantifying the Cenozoic oxygen isotopic variability of precipitation on the Andes: A test of stable isotope paleoaltimetry and plateau uplift, NSF Tectonics, \$402,183 (PI).
- 2006-2009 Understanding climate change during the final stages of Late Paleozoic Gondwanan Glaciation—An integrated data-model study, NSF Sedimentary Geology and Paleobiology, \$1,092,934 (\$246,000 to Poulsen) (co-PI).
- 2003-2007 Modeling the role of solar variability in Late Pleistocene millennial-scale climate oscillations, NSF Paleoclimate Program, \$206,346 (PI).
- 2003-2007 Evaluation of the mid-Cretaceous cool tropics paradox using isotopic GCMs and foraminiferal and paleosol siderite $\delta^{18}\text{O}$ datasets, NSF Paleoclimate Program, \$279,004 (\$107,542 to Poulsen) (co-PI).
- 2001-2002 Tropical climate variability as a mechanism for abrupt Pleistocene climate change, USC Zumberge Research Grant, \$20,179 (PI).

PUBLICATIONS IN REVIEW/REVISION

*Student author

†Postdoctoral Scholar Author

Ao, H., Dekkers, M.J., Rohling, E.J., Song, Y., Roberts, A.P., Jonell, T.N., Poulsen, C.J., Li, X., Li, X., Qiang, X., An, Z. (in review). Tibetan Plateau glaciation during the mid-Pleistocene transition, *Science Advances*.

Ao, H., Rohling, E.J., Li, X., Song, Y., Roberts, A.P., Han, Y., Poulsen, C.J., Jonell, T.N., Sun, Q., Li, Q., Qiang, X., Zhang, P., Dekkers, M.J. (in review) Northern Hemisphere ice sheet expansion intensified glacial climate in Asia across the mid-Pleistocene transition, *Nature Communications*.

Lynch, B., Yanites, B., *Shen, H., and Poulsen, C.J. (in revision) On the relationship between

climate, topography, and discharge-driven fluvial incision using a coupled climate-landscape evolution model, *Journal of Geophysical Research Earth Surface*.

Matthaeus, W.J., Macarewich, S.I., Richey, J., Montanez, I.P., McElwain, J.C., Wilson, J.P., Poulsen, C.J. (in press) Reconstructing deep time earth systems—the ‘Who’ and the ‘How’ of plants matter, *Annual Review of Earth and Planetary Sciences*.

PEER-REVIEWED PUBLICATIONS

h-index: 50

Citations: 7966

Source: Google Scholar

*Student author

†Postdoctoral scholar author

135. *Macarewich, S.I. and Poulsen, C.J. (2022) Glacial-interglacial controls on ocean circulation and temperature during the Permo-Carboniferous, *Paleoceanography and Paleoclimatology*, 37 (11), e2022PA004417.
134. Tierney, J.E., Zhu, J., Li, M., Ridgwell, A., Hakim, G.J., Poulsen, C.J., Whiteford, R.D.M., Rae, J.W.B., Kump, L.R. (2022) Spatial patterns of climate change across the Paleocene-Eocene Thermal Maximum, *Proceedings of the National Academy of Sciences*, 119 (42), e2205326119.
133. Liu, Z., Risi, C., Codron, F., Jian, Z., Wei, Z., He, X., Poulsen, C.J., Wang, Y., Chen, D., Ma, W., and Bowen, G.J. (2022) Atmospheric forcing dominates Arctic winter sea ice variability, *Proceedings of the National Academy of Sciences*, 119, 10.1073/pnas.2120770119.
132. †Acosta, R.P., Ladant, J.-B., Zhu, J., and Poulsen, C.J. (2022) Evolution of the Atlantic Intertropical Convergence Zone and the South American and African monsoons over the past 95 Ma and their impact on the tropical rainforests, *Paleoceanography and Paleoclimatology*, 37 (7), 10.1029/2021PA004383.
131. Green D.R., Avila, J., Cote, S., Dirks, W., *Lee, D., Poulsen, C.J., Williams, I.S., Smith, T.M. (2022) Fine-scaled climate variation in equatorial Africa revealed by modern and fossil primate teeth, *Proceedings of the National Academy of Sciences*, 119 (35), e2123366119.
130. Niezgodzki, I., Knorr, G., Lohmann, G., Lunt, D.J., Poulsen, C.J., Steinig, S., Zhu, J., de Boer, A., Chan, W.-L., Donnadieu, Y., Hutchinson, D.K., Ladant, J.-B., Morozova, P. (2022) Simulation of Arctic sea ice within the DeepMIP Eocene ensemble: thresholds, seasonality and factors controlling sea ice development, *Global and Planetary Change*, 214, 10.1016/j.gloplacha.2022.103848.
129. Chen, J., Montañez, I.P., Zhang, S., Isson, T.T., *Macarewich, S.I., Planavsky, N.J., Zhang, F., Rauzi, S., Davia, K., Yao, L., Qi, Y., Wang, Y., Fan, J., Poulsen, C.J., Anbar, A., Shen, S. Wang, X. (2022) Marine anoxia linked to abrupt global warming during Earth’s penultimate icehouse, *Proceedings of the National Academy of Sciences*, 119 (19), 10.1073/pnas.2115231119.
128. Zhang, Y., DeBoer, A., Lunt, D., Hutchinson, D., Ross, P., van de Flierdt, T., Sexton, P., Coxall, H., Steinig, S., Ladant, J.-B., Zhu, J., Donnadieu, Y., Zhang, Z.-S., Chan, W.-L., Abe-Ouchi, A., Niezgodzki, I., Ohmann, G., Knorr, G., Poulsen, C.J., Huber, M. (2022) Early Eocene ocean meridional overturning circulation: the roles of atmospheric forcing and straight geometry, *Paleoceanography and Paleoclimatology*, 37, 3, 10.1029/2021PA004329.
127. *Thompson, A.J., Zhu, J., Poulsen, C.J., Tierney, J.E., and Skinner, C.B. (2022) Northern Hemisphere vegetation change drives a Holocene thermal maximum, *Science Advances*, 8 (15), 10.1126/sciadv.abj6535.
126. Zhu, J., Otto-Bliesner, B.L., Brady, E.C., Gettelman, A., Bacmeister, J.T., Neale, R.B., Poulsen, C.J., Shaw, J.K., McGraw, Z.S., Kay, J.E. (2022) LGM paleoclimate constraints inform cloud parameterizations and equilibrium climate sensitivity in CESM2, *Journal of Advances in Modeling Earth Systems*, 14 (4), e2021MS002776, 10.1029/2021MS002776.

125. Gaskell, D.E., Huber, M., O'Brien, C.L., Inglis, G.N., [†]Acosta, R.P., Poulsen, C.J., Hull, P.M. (2022) The latitudinal temperature gradient and its state-dependence as inferred from foraminiferal $\delta^{18}\text{O}$ over the past 95 Ma, *Proceedings of the National Academy of Sciences*, 119, 11, 10.1073/pnas.2111332119.
124. Inglis, G.N., Toney, J., Zhu, J., Poulsen, C.J., Rohl, U., Jamieson, S., Pross, J., Cramwinckel, M., Krishnan, S., Pagani, M., Bijl, P., Bendle, J. (2022) Enhanced carbon export from East Antarctica during the early Eocene, *Paleoceanography and Paleoclimatology*, 37, e2021PA004348, 10.1029/2021PA004348.
123. ^{*}Aron, P., Poulsen, C.J., Fiorella, R., Levin, N.E., [†]Acosta, R.P., Yanites, B., Cassel, E. (2021) Variability and controls on $\delta^{18}\text{O}$, d-excess, and $\Delta^{17}\text{O}$ in southern Peruvian precipitation, *Journal of Geophysical Research Atmospheres*, 126 (23), 10.1029/2020JD034009.
122. Ao, H., Rohling, E.J., Zhang, R., Holbourn, A.E., Roberts, A.P., [†]Ladant, J.-B., Dupont-Nivet, G., Kuhnt, W., Xu, Y., Liu, Q., Liu, Z., Dekkers, M.J., Poulsen, C.J., Licht, A., Chiang, J.C.H., Liu, X., Wu, G., Ma, C., Weijian, Z., Wu, F., Jin, Z., Li, X., Peng, X., Sun, Q., Sun, Q., Zhang, P., Qiang, X., An, Z. (2021) Global warming-induced Asian hydrological climate transition across the Miocene-Pliocene boundary, *Nature Communications*, 12, 6935, 10.1038/s41467-021-27054-5.
121. Osman, M.B., Tierney, J.E., Zhu, Z., Tardif, R., Hakim, G.J., King, J., and Poulsen, C.J. (2021) Globally resolved surface temperatures since the Last Glacial Maximum, *Nature*, 599, 239-244, 10.1038/s41586-021-03884-4.
120. Matthaeus, W.J., ^{*}Macarewicz, S.I., Richey, J.D., Wilson, J.P., McElwain, J.C., Montañez, I.P., DiMichele, W.A., Hren, M.T., Poulsen, C.J., White, J.D. (2021) Freeze tolerance influenced forest cover and hydrology during the Pennsylvanian, *Proceedings of the National Academy of Sciences*, 118(42), doi:/10.1073/pnas.2025227118.
119. Liu, Z., Risi, C., Codron, F., He, X., Poulsen, C.J., Chen, D., Li, S., Bowen, G.J. (2021). Acceleration of western Arctic sea ice loss linked to the Pacific North American Pattern, *Nature Communications*, NCOMMS-20-10870B, 12, 1519, doi:/10.1038/s41467-021-21830-z.
118. Kageyama, M., Harrison, S.P., Kapsch, M.-L., Lofverstrom, M., Lora, J.M., Mikolajewicz, U., Sherriff-Tadano, S., Vadsaria, T., Abe-Ouchi, A., Bouttes, N., Chandan, D., Gregoire, L.J., Ivanovic, R.F., LeGrande, A.N., Lhardy, F., Lohmann, G., Morozova, P.A., Ohgaito, R., Paul, A., Peltier, W.R., Poulsen, C.J., Quiquet, A., Roche, D.M., Shi, X., Schmittner, A., Tierney, J.E., Valdes, P.J., Volodin, E., Zhu, J. (2021) The PMIP4-CMIP6 Last Glacial Maximum experiments: preliminary results and comparison with the PMIP3-CMIP5 simulations, *Climate of the Past*, 17, 1065-1089, doi:/10.5194/cp-2019-169.
117. ^{*}Macarewicz, S.I., Poulsen, C.J., and Montañez, I.P. (2021). Simulation of oxygen isotopes and circulation in a late Carboniferous epicontinental sea with implications for proxy records, *Earth and Planetary Science Letters*, 559, 116770.
116. Zhu, J., Otto-Bliesner, B., Brady, E., Poulsen, C.J., Tierney, J.E., Lofverstrom, M., DiNezio, P., (2021). Assessment of equilibrium climate sensitivity of the Community Earth System Model version 2 through simulation of the Last Glacial Maximum, *Geophysical Research Letters*, GRL61831, 10.1029/2020GL091220. – Highlighted article, AGU Research Spotlight, *Eos.*, March 2, 2021.
115. [†]Zhu, J. and Poulsen, C.J. (2021) Last Glacial Maximum (LGM) climate forcing and ocean dynamical feedback and their implications for estimating climate sensitivity, *Climate of the Past*, 17, 253-267, 10.5194/cp-17-253-2021.
114. ^{*}Aron, P., Levin, N.E., Beverly, E.J., Huth, T.E., Passey, B.H., Pelletier, E.M., Poulsen, C.J., Winkelstern, I.Z., Yarian, D.A. (2021) Triple oxygen isotopes in the water cycle, *Chemical*

- Geology*, 565, 120026, 10.1016/j.chemgeo.2020.120026.
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 15. Poulsen, C.J. and Jacob, R.L. (2004). Factors that inhibit Snowball Earth simulation, *Paleoceanography*, 19, PA4021, doi:10.1029/2004PA001056.
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 10. Poulsen, C.J., Barron, E.J., Arthur, M.A., and Peterson, W.H. (2001). Response of the mid-Cretaceous global oceanic circulation to tectonic and CO₂ forcings, *Paleoceanography*, 16, 576-592.
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 8. White, T.S., Gonzalez, L., Ludvigson, G.A., and Poulsen, C.J. (2001). The mid-Cretaceous greenhouse hydrologic cycle, *Geology*, 29, 363-366.
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6. Poulsen, C.J., Barron, E.J., Johnson, C.C., and Fawcett, P.J. (1999). Links between the major climatic factors and regional oceanography in the mid-Cretaceous, in *Evolution of the Cretaceous Ocean-Climate System*, E. Barrera & C.C. Johnson (Eds.), GSA Special Paper 332, 73-90.
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 4. PSUCLIM (1999). Sensitivity of severe storms to climate forcing factors on geologic time scales, *Journal of Geophysical Research*, 104, 27277-27294.
 3. PSUCLIM (1999). Storm activity in ancient climates, 2, An analysis using climate simulations and sedimentary structures, *Journal of Geophysical Research*, 104, 27295-27320.
 2. Poulsen, C.J., D. Seidov, E.J. Barron, and Peterson, W.H. (1998). The impact of paleogeographic evolution on the surface oceanic circulation and the marine environment within the mid-Cretaceous Tethys, *Paleoceanography*, 13, 546-559, 1998.
 1. Poulsen, C.J., P.B. Flemings, P.B., R.A.J. Robinson, and Metzger, J.M. (1998). Three-dimensional stratigraphic evolution of the Miocene Baltimore Canyon region: implications for eustasy and the systems tract model, *GSA Bulletin*, 110, 1105-1122.

POPULAR PRESS/BOOK CHAPTERS/OTHER

- Bornhorst, T., Poulsen, C.J., and Ewing, R.C. (2017). A rescue package for imperiled collection, *Nature*, 546, 210.
- Bornhorst, T. and Poulsen, C.J. (2015). Michigan Mineral Alliance, *Rocks & Minerals*, 90, 450-453, 10.1080/00357529.2015.1059093.
- Poulsen, C.J., Cold Snap, *Michigan Today*, March 2009, <<http://michigantoday.umich.edu>>.
- Poulsen, C.J. (2008). Modelling of Paleo-Climates, In *Encyclopedia of Global Warming and Climate Change*, Philander, S.G., and Golson, G.J. (Eds.), Sage Publications, 1552 p.
- Poulsen, C.J. (2008) Paleoclimate modeling, Pre-Quaternary, In *Encyclopedia of Paleoclimatology and Ancient Environments*, Gornitz, V. (Ed.), Kluwer Academic Publishers, 1049 p.

INVITED BOOK REVIEWS

- Poulsen, C.J. (2003). Snowball Fight, *American Scientist*, 91.
- Poulsen, C.J. (2003) Interpreting Pre-Quaternary Climate from the Geological Record by J.T. Parrish, *Palaeogeography, Palaeoclimatology, Palaeoecology*, 198, 423-424.

COURSES TAUGHT (WHILE AT THE UNIVERSITY OF MICHIGAN)

| Semester | Course | Title | Credit | Enroll | Q1 [†] | Q2 [†] |
|----------|--------------|--------------------------------|--------|--------|-----------------|-----------------|
| 2019s | EARTH 202* | Environ Science in the Rockies | 5 | 18 | 5.00 | 5.00 |
| 2018s | EARTH 202* | Environ Science in the Rockies | 5 | 12 | 5.00 | 5.00 |
| 2017f | EARTH 114-01 | Global Warming | 1 | 137 | 3.58 | 4.19 |
| 2017f | EARTH 114-01 | Global Warming | 1 | 118 | 3.88 | 4.59 |
| 2017s | EARTH 202* | Environ Science in the Rockies | 5 | 20 | 5.00 | 5.00 |
| 2016s | EARTH 202* | Environ Science in the Rockies | 5 | 19 | 4.01 | 4.79 |
| 2016w | EARTH 331 | Climate and Climate Change | 4 | 61 | 4.31 | 4.52 |
| 2015s | EARTH 202* | Environ Science in the Rockies | 5 | 15 | 4.19 | 4.64 |
| 2015w | EARTH 331 | Climate and Climate Change | 4 | 53 | 4.20 | 4.68 |
| 2014s | EARTH 202* | Environ Science in the Rockies | 4 | 8 | 4.92 | 5.00 |
| 2014w | EARTH 331 | Climate and Climate Change | 4 | 49 | 4.75 | 4.85 |

| | | | | | | |
|-------|--------------|--------------------------------|------|-----|------|------|
| 2013f | EARTH 114 | Global Warming | 1 | 84 | 4.22 | 4.78 |
| 2013s | EARTH 202* | Environ Science in the Rockies | 4 | 9 | 4.88 | 5.00 |
| 2013w | EARTH 331 | Climate and Climate Change | 4 | 34 | 3.73 | 4.36 |
| 2012f | EARTH 114 | Global Warming | 1 | 226 | 3.91 | 4.61 |
| 2012s | EARTH 202* | Environ Science in the Rockies | 4 | 15 | 4.73 | 4.87 |
| 2012w | EARTH 331 | Climate and Climate Change | 4 | 39 | 4.00 | 4.64 |
| 2011f | GS 114-02 | Global Warming | 1 | 193 | 3.94 | 4.61 |
| | ENVIRON 110* | Intro to Global Change | 4(2) | 127 | 4.09 | 4.62 |
| 2011s | GS 202* | Environ Science in the Rockies | 4 | 18 | 4.75 | 4.90 |
| 2011w | GS 114-01 | Global Warming | 1 | 282 | 4.26 | 4.67 |
| 2010f | ENVIRON 110* | Intro to Global Change | 4(2) | 110 | 3.88 | 4.35 |
| | GS 114-02 | Global Warming | 1 | 192 | 4.12 | 4.56 |
| 2009s | GS 116* | Intro Geology in the Rockies | 6(6) | 10 | 5.00 | 5.00 |
| 2009w | GS 114-01 | Global Warming | 1 | 230 | 4.15 | 4.78 |
| | GS 114-02 | Global Warming | 1 | 107 | 3.90 | 4.26 |
| 2008f | ENVIRON 110* | Intro to Global Change | 4(2) | 159 | 4.05 | 4.72 |
| | AOSS 410 | Earth System Modeling | 4 | 13 | 4.00 | 4.00 |
| 2008s | GS 116* | Intro Geology in the Rockies | 6(6) | 18 | 4.86 | 4.75 |
| 2008w | AOSS 321* | Earth System Dynamics | 4(2) | 27 | 3.58 | 3.81 |
| 2007s | GS 116* | Intro Geology in the Rockies | 6(6) | 20 | 4.88 | 4.97 |
| 2007w | GS 114-01 | Global Warming | 1 | 116 | 4.19 | 4.53 |
| | GS 114-01 | Global Warming | 1 | 219 | 4.17 | 4.57 |
| 2006f | AOSS 410* | Earth System Modeling | 4(2) | 25 | 3.79 | 3.85 |
| | GS 114-01 | Global Warming | 1 | 92 | 4.25 | 4.58 |
| | GS 114-02 | Global Warming | 1 | 135 | 3.98 | 4.30 |
| 2006w | GS 151 | Ice Ages | 4 | 18 | 4.27 | 4.97 |
| | GS 111 | Climate and Human History | 1 | 220 | 4.04 | 4.40 |
| 2005f | AOSS 410 | Earth System Modeling | 4 | 19 | 3.50 | 4.36 |
| 2005s | GS 116* | Intro Geology in the Rockies | 6 | 21 | 4.29 | 4.21 |
| 2005w | GS 111 | Climate and Human History | 1 | 260 | 4.00 | 4.35 |
| 2004f | AOSS 410* | Earth System Modeling | 4(2) | 18 | 3.79 | 4.75 |
| 2004s | GS 116* | Intro Geology in the Rockies | 6(2) | 10 | NS | NS |
| 2004w | GS 446 | Principles of Paleoclimatology | 4 | 10 | 3.00 | 3.25 |

†Q1: quality of course, Q2: quality of instructor; on 5-point scale

*Indicates co-taught course; credit responsibility indicated in ().

POSTDOCTORAL FELLOW SUPERVISION

| | |
|-----------|--|
| 2020-2021 | Dr. Phoebe Aron |
| 2018-2021 | Dr. Rene Paul Acosta |
| 2018-2020 | Dr. Jean-Baptiste Ladant |
| 2017-2020 | Dr. Jiang Zhu |
| 2014-2017 | Dr. Christopher Skinner, Turner Postdoctoral Scholar |
| 2014-2016 | Dr. Sierra Petersen, National Science Foundation Postdoctoral Fellow |
| 2007-2009 | Dr. Heather Hill, Turner Postdoctoral Scholar |
| 2002-2003 | Dr. Matthew Kirby |

GRADUATE STUDENT SUPERVISION (* INDICATES CO-ADVISED STUDENT)

CURRENT GRADUATE STUDENTS (2 PHD STUDENTS, 1 MS STUDENT)

| | |
|-------|-------------------------------------|
| 2021- | Julia Campbell, Ph.D. pre-candidate |
| 2020- | Emily Do, M.S. candidate |

2020- Daeun Lee, Ph.D. candidate

PAST GRADUATE STUDENTS (7 MS, 12 PHD STUDENTS GRADUATED)

2016-2021 Sophia Macarewich, Ph.D.
2016-2021 Alexander Thompson, Ph.D.
2015-2020 Phoebe Aron, Ph.D.
2014-2020 Hong Shen, Ph.D.
2016-2018 Andrew Vande Guchte
2013-2017 Chana Tilevitz
2010-2016 Richard Fiorella, Ph.D.
2010-2015 Clay Tabor, Ph.D.
2010-2015 Ran Feng, Ph.D.
2012-2014 Daniel Lowry, M.S.
2008-2012 *Louise Jeffery, Ph.D.
2006-2012 Jing Zhou, Ph.D.
2006-2011 Daniel Horton, Ph.D.
2009-2011 Adam Herrington, M.S.
2005-2010 Nadja Insel, Ph.D.
2010 *Stephanie Olen, M.S.
2005-2006 Cheryl Peyser, M.S.
2003-2008 Shih-Yu Lee, Ph.D.
2003-2005 *Paola Gomez, M.S. (USC)
2002-2004 Thomas M. Foster, M.S.
2001-2004 Tran T. Huynh, M.S.

MEMBER PH.D. THESIS COMMITTEE (YEAR COMPLETED, DEPARTMENT IF OTHER THAN ESS)

Jason Barnes (2008), Yang Chen (2006, AOSS), Yi-Hsuan Chen (2019, CLaSP), Huiwen Chuang (2012, AOSS), Matthew Domeier (2011), Xiaojing Du (2020), Nick Ellis (in progress), Franek Hasiuk (2008), Noralynn Hasshold (2006), Sarah Katz (in progress), Karla Knudson (2009), Conrad Luecke (2018), Brigid Lynch (2021, Indiana University), Tiffany Napier (2017), Alexandre Pohl (2016, Laboratoire des Sciences du Climat et de l'environnement, Gif-sur-Yvette, France), Kevin Reed (2012, AOSS), Deepak Singh (2016, CLaSP), Rebekah Stein (2020), Ahmed Tawfik (2012, AOSS), Allyson Tessin (2016), Lindsey Waddell (2008), Minghuai Wang (2009, AOSS), David Whipp (2008), Ian Winkelstern (2016), Li Xu (2011, AOSS).

MEMBER QUALIFYING EXAM COMMITTEE (YEAR COMPLETED)

Phoebe Aron (2017), Jason Barnes (2004), Xiaojing Du (2016), Allison Duval (2007), Ran Feng (2011), Richard Fiorella (2012), Franek Hasiuk (2008), Daniel Horton (2008), Nadja Insel (2009), Louise Jeffery (2009), Daeun Lee (2021), Shih-Yu Lee (2004), Brigid Lynch (2018, Indiana University) Daniel Lowry (2014), Sophia Macarewich (2018), Hong Shen (2016), Clay Tabor (2012), Chana Tilevitz (2015), Allyson Tessin (2013), Alexander Thompson (2018), Andrew Vande Guchte (2017), Ian Winkelstern (2013), Jing Zhou (2008).

UNDERGRADUATE SUPERVISION

Supervised 5 undergraduate thesis (Athena Eyster, 2010, UM; Sean DuBois, 2011; Bethan Harris, 2005, University of London; Andrew Gendazsek, 2002, Carleton College; Alex Thompson, 2015, UM), 4 UROP students (Katherine Lerond, 2017; Caroline Crawford, 2006; Colene Hafke, 2005-

2006; William Turner III, 2004-2005), and 10 undergraduate work-study students (Lydia Gilbert, 2018-2019, Laura McQuarter, 2017; Ariana Wilson, 2016-2017; Cristina Shoffner, 2015-2016; Alex Thompson, 2013-2015; Lawrence Garber, 2011-2012; Athena Eyster, 2009; Kan Yang, 2005-2006; David Reed, 2004-2005, Jessica Bleha, 2004).

OTHER ACTIVITIES

Reviewed manuscripts, book chapters, and proposals for: *American Journal of Science*; *Climate Dynamics*; *Climates of the Past*; *Cretaceous Research*; *Earth and Planetary Science Letters*; *Earth-Science Reviews*; *EOS*; *Geochemistry, Geophysics, and Geosystems*; *Geochimica et Cosmochimica Acta*; *Geological Magazine*; *Geology*; *Geological Society of America Bulletin*; *Geomorphology*; *Geophysical Research Letters*; *Geosphere*; *Global Planetary Change*; *Gondwana Research*; *Journal of Climate*; *Journal of Geophysical Research–Atmospheres*; *Journal of Sedimentary Research*; *Meteorologische Zeitschrift*; *Nature*; *Nature Communications*; *Nature Geoscience*; *Nature Scientific Reports*; *Palaeogeography, Palaeoclimatology, Palaeoecology*; *Palaeontologia Electronica*; *Paleoceanography*; *Physics Today*; *Proceedings of the National Academy of Sciences*; *Science*; *Science Advances*; *Scientific Reports*; *Sedimentary Geology*; *Treatise on Geochemistry*; AAS; AGU Special Publications; Austrian Funds of Science (Der Wissenschaftsfonds); Cambridge University Press; Geological Society of London; German Research Foundation (*Deutsche Forschungsgemeinschaft*); InTeGrate Program; National Geographic Society; National Science Foundation; Ocean Drilling Program; Prentice Hall; Quest.

SELECTED OUTREACH/PUBLIC SERVICE

2019, 2020, 2021 Moderator, NSF CAREER Proposal Workshop, UM.
2019 Interview, “Climate Change on Campus”, LSA on Point, UM.
2017 Invited Speaker, Royal Oak Environmental Advisory Board, Royal Oak, MI.
2017 Invited Speaker, Science Café, Museum of Natural History, UM.
2017 Panelist, “This Changes Everything” film screening and discussion, UM.
2014 Invited Speaker, Geologists of Jackson Hole, Jackson, MI.
2014 Invited Speaker, Earth Day: Climate Action!, Brighton, MI.
2013 Panelist, Sierra Club Round-table Discussion on Climate Action, Ann Arbor, MI.
2013 Invited Speaker, Organizing for Action Forum on Climate Change, Dexter, MI.
2012, 2013 Judge, Forsythe Middle School Science Fair, Ann Arbor, MI.