

CHRISTOPHER J. POULSEN

Department of Earth and Environmental Sciences

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EDUCATION

1999 Ph.D., Geosciences, Pennsylvania State University, University Park, PA

1994 B.A., Geology, Carleton College, Northfield, MN

PROFESSIONAL POSITIONS

2020- Henry N. Pollack Collegiate Professor

2013- Professor, Dept. of Earth and Environmental Sciences, University of Michigan

2010- Faculty Associate, Program in the Environment, University of Michigan

2007-2013 Associate Professor, Dept. of Earth and Environmental Sciences, University of Michigan

2005- 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

2018- 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 Paleooceanography 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*
2017 Guest Editor, *Proceedings of the National Academy of Sciences*
2013-2021 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, Nation 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

UNIVERSITY/COLLEGE SERVICE

2020- Member, LSA COVID-19 Core Response Team
2020- Chair, LSA Chemistry Building Facility Planning Committee
2020 Chair, Matthaei Botanical Gardens and Nichols Arboretum Director Search Committee (Univ. service)
2020- Member, Research Suspension Oversight Committee (Univ. service)
2019- 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- Chair, LSA Unit Safety Committee
2018- Member, LSA Diversity, Equity and Inclusion Implementation Team
2018- 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
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 LECTURES/TALKS

- 2019 Aspen Global Change Institute, Aspen, CO
- 2018 Centre for Earth Evolution and Dynamics, University of Oslo, Oslo, Norway
Earth, Environmental and Planetary Sciences Department, Rice University, Houston, Texas
GSA Fall Meeting, Indianapolis, Indiana
- 2017 Dept. of Geosciences, Western Michigan University, Kalamazoo, MI
Midcontinent Paleobotanical Symposium, University of Michigan (Keynote)
- 2016 Dept. of Geology & Geophysics, Yale University
Dept. of Geology, Kent State University
GSA Fall Meeting, Denver, Colorado
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
AGU Fall Meeting, San Francisco
Dept. of Earth and Planetary Sciences, Johns Hopkins
- 2013 Plenary Talk, Pre-Cenozoic Climate International Workshop, Toulouse, France
Michigan Basin Geological Society
- 2012 Program of Environmental Sciences, Wright State University
Dept. of Geology, Baylor University
Dept. of Earth Sciences, Dartmouth College
Dept. of Environmental and Earth System Science, Stanford University
- 2011 Instituto de Hidraulica e Hidrologia, La Paz, Bolivia
Dept. of Earth and Planetary Sciences, Northwestern University, Chicago
IDEAS Seminar, Dept. of Earth and Environmental Sciences, University of Michigan
AGU Fall Meeting, San Francisco
- 2010 Dept. of Earth and Planetary Sciences, University of New Mexico
Institut für Geowissenschaften, Universität Tübingen, Germany
AGU Fall Meeting, San Francisco
GSA Annual Meeting, Denver, CO – 2 invited talks
- 2009 Centre National de la Recherche Scientifique, Toulouse, France
AGU Fall Meeting, San Francisco
Michigan Research Community, University of Michigan
- 2008 Dept. of Geology, University of California, Davis
Dept. of Earth Sciences, Southern Methodist University
- 2007 GSA Annual Meeting, Denver
Dept. of Geology, University of Kansas
Kansas Geological Survey
Dept. of Atmospheric, Oceanic, and Space Sciences, University of Michigan
Michigan Research Community, University of Michigan
EGU Annual Meeting, Vienna, Austria
AAAS Annual Meeting, San Francisco
- 2006 Dept. of Geological Sciences, University of Nebraska
School of Natural Resources and Environment, University of Michigan
- 2005 Dept. of Geology & Geophysics, Yale University
Dept. of Geology, University of Cincinnati
- 2004 AGU Fall Meeting, San Francisco
AOSS, University of Michigan

- 2003 Dept. of Geological Sciences, University of Michigan
Geosciences Dept., Oregon State University
Dept. of Earth Sciences, University of California, Riverside
- 2002 Santa Monica College, Los Angeles
Ocean Science Meeting, Honolulu
Cretaceous Ocean and Atmosphere Dynamics Meeting, Florissant, CO
- 2001 Dept. of Geology, Carleton College, MN
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

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

2021-2024 Collaborative Research: Parsing 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., 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., and An, Z. (in revision). Global warming-induced continental-scale Asian hydroclimate transition across the Miocene-Pliocene boundary, *Nature Geoscience*.
- *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. (in revision) Global variations of triple oxygen isotopes in meteoric waters, *Chemical Geology*.
- *Aron, P., Poulsen, C.J., Fiorella, R., Levin, N.E., †Acosta, R.P., Yanites, B., Cassel, E. (in review) Spatiotemporal variability of stable water isotopes in central Andean precipitation, *Journal of Geophysical Research Atmospheres*.
- Du, X., Hendy, I., Hinnov, L., Brown, E., †Zhu, J., and Poulsen, C.J. (in revision). High-resolution interannual precipitation reconstruction of Southern California: Implications for Holocene ENSO evolution, *Earth and Planetary Science Letters*.
- Liu, Z., Risi, C., Codron, F., He, X., Poulsen, C.J., Chen, D., Li, S., Bowen, G.J. (in review). Acceleration of western Arctic sea ice loss linked to the Pacific North American Pattern, *Nature Communications*.
- *Macarewicz, S.I., Poulsen, C.J., and Montanez, I.P. (in revision). Constraints on seawater characteristics and circulation in ancient epicontinental seas from an isotope-enabled Earth system model, *Earth and Planetary Science Letters*.
- *Thompson, A., Tabor, C.R., Poulsen, C.J., and Skinner, C.B. (in revision) Water isotopic constraints on the enhancement of the mid-Holocene West African monsoon, *Earth and Planetary Science Letters*.
- Windler, G., Tierney, J.E., †Zhu, J., and Poulsen, C.J. (in press) Unravelling glacial hydroclimate in the Indo-Pacific Warm Pool: perspectives from water isotopes, *Paleoceanography and Paleoclimatology*, doi://10.1029/2020PA003985.
- Zhu, J., Otto-Bliesner, B., Brady, E., Poulsen, C.J., Tierney, J.E., Lofverstrom, M., DiNezio, P., (in revision). Assessing equilibrium climate sensitivity of the Community Earth System Model version 2 through simulation of the Last Glacial Maximum, *Geophysical Research Letters*.
- †Zhu, J. and Poulsen, C.J. (in revision). LGM climate forcing and ocean dynamical feedback and their implications for estimating climate sensitivity, *Climate of the Past*.

PEER-REVIEWED PUBLICATIONS

h-index: 41

Citations: 5601

Source: Google Scholar

*Student author

†Postdoctoral scholar author

110. Tierney, J.E., Poulsen, C.J., Montañez, I.P. et al. (2020). Past climates inform our future *Science*, 370, 6517, doi://10.1126/science.aay3701.
109. *Shen, H., Lynch, B., Poulsen, C.J., and Yanites, B.J. (2020). A modeling framework (WRF-Landlab) for simulating orogen-scale climate-erosion coupling, *Computers & Geosciences*, doi://10.1016/j.cageo.2020.104625.
108. Lunt, D.J., Bragg, F., Chan, W.-L., Hutchinson, D., †Ladant, J.-B., Niezgodzki, I., Steinig, S., Zhang, Z., †Zhu, J., Abe-Ouchi, A., de Boer, A., Coxall, H., Donnadieu, Y., Knorr, G., Langebroek, P., Lohmann, G., Poulsen, C.J., Sepulchre, P., Tierney, J., Valdes, P.J., Dunkley Jones, T., Hollis, C., Huber, M., and Otto-Bliesner, B. (2020). DeepMIP: Model intercomparison of early Eocene climatic optimum (EECO) large-scale climate features and comparison with proxy data, *Climate of the Past*, doi://10.5194/cp-2019-149.
107. Ao, H., Dupont-Nivet, G., Rohling, E.J., Zhang, P., †Ladant, J.-B., Roberts, A.P., Licht, A., Liu, Q., Liu, Z., Dekkers, M.J., Coxall, H.K., Jin, Z., Huang, C., Xioa, G., Poulsen, C.J., Barbolini, N., Meijer, N., Sun., Q., Qiang, Z., Yao, J., and An, Z. (2020). Orbital climate variability on the northeastern Tibetan Plateau across the Eocene-Oligocene transition, *Nature Communications*, 11(1), 5249, doi://10.1038/s41467-020-18824-8.
106. Richey, J.D., Montañez, I.P., White, J.D., DiMichele, W.A., Matthaeus, W.J., Poulsen, C.J., *Macarewich, S.I., Looy, C.V. (in press). Modeled physiological mechanisms for observed changes in the late Paleozoic plant fossil record, *Palaeogeography, Palaeoclimatology, Palaeoecology*, doi://10.1016/j.palaeo.2020.110056.
105. †Zhu, J. and Poulsen, C.J. (2020). On the increase of climate sensitivity and cloud feedback with warming in the Community Atmosphere Models, *Geophysical Research Letters*, 47 (18), doi:10.1029/2020GL089143.
104. White, J.D., Montañez, I.P., Wilson, J.P., Poulsen, C.J., McElwain, J.C., DiMichele, W.A., Hren, M.T., *Macarewich, S., Richey, J.D., and Matthaeus, W. (2020). A process-based ecosystem model (Paleo-BGC) to simulate the dynamic response of Late Carboniferous plants to elevated O₂ and aridification, *American Journal of Science*, v. 320, 547-598, doi:10.2475/09.2020.01.
103. Tierney, J.E., †Jiang, Z., King, J., Malevich, S.B., Hakim, G.J., and Poulsen, C.J. (2020). Glacial cooling and climate sensitivity revisited, *Nature*, 584, 569-573, doi:10.1038/s41586-020-2617-x.
102. *Aron, P.G., Poulsen, C.J., Matheny, A.M., Fiorella, R.P., and Veverica, T. (2020). An isotopic approach to quantify transpiration in a mixed deciduous forest, *Ecohydrology*, 13 (6), e2229, doi:10.1002/eco.2229/16788367.
101. †Ladant, J.-B., Poulsen, C.J., Fluteau, F., Tabor, C.R., MacLeod, K.G., Martin, E.E., Haynes, S.J., and Rostami, M.A. (2020). Paleogeographic controls on the evolution of Late Cretaceous ocean circulation, *Climate of the Past*, 16, 973-1006, doi:10.5194/cp-16-973-2020.
100. Skinner, C.B., Lora, J.M., Payne, A.E., and Poulsen, C.J. (2020). Atmospheric river changes shaped mid-latitude hydroclimate since the mid-Holocene, *Earth and Planetary Science Letters*, 541, doi:10.1016/j.epsl.2020.116293.
99. Niu, Y., Castro, C., Hall, C.M., Gingerich, S.B., Poulsen, C.J., Lohmann, K.C., and *Aron, P. (2020). Groundwater Sources in the Island of Maui, Hawaii — A Combined Noble Gas, Stable Isotope, and Tritium Approach, *Applied Geochemistry*, 117, doi: 10.1016/j.apgeochem.2020.104587.

98. †Zhu, J., Poulsen, C.J., Otto-Bliesner, B.L. (2020). High climate sensitivity in CMIP6 models not supported by paleoclimate, *Nature Climate Change*, doi: 10.1038/s41558-020-0764-6.
97. †Zhu, J., Poulsen, C.J., Otto-Bliesner, B.L., Liu, Z., Brady, E.C., and Noone, D.C. (2020) Simulation of early Eocene water isotopes using an Earth system model and its implication for past climate reconstruction, *Earth and Planetary Science Letters*, 537, 116164, doi:10.1016/j.epsl.2020.116164.
96. Haynes, S., MacLeod, K., †Ladant, J.B., *Vande Guchte, A., Ashgarian Rostami, M., Poulsen, C.J., and Martin, E. (2020). Constraining sources and relative flow rates of bottom waters in the Late Cretaceous Pacific Ocean, *Geology*, 48, doi:10.1130.G471971.
95. Wilson, J.P., White, J.D., Montañez, I.P., DiMichele, W.A., McElwain, J.C., Poulsen, C.J., and Hren, M.T. (2020). Carboniferous plant physiology breaks the mold, *New Phytologist*, 227, 667-679, doi: 10.1111/nph.16440.
94. Fan, M., Feng, R., Geissman, J., and Poulsen, C.J. (2020). Late Paleogene emergence of a North American loess plateau, *Geology*, 48, doi:10.1130/G47102.1.
93. †Zhu, J. and Poulsen, C.J. (2019). Quantifying the cloud droplet-size feedback in an Earth system model, *Geophysical Research Letters*, 46, 10,910-10,917, doi: 10.1029/2019GL083829.
92. *Aron, P.G., Poulsen, C.J., Fiorella, R.P., and Matheny, A.M. (2019). Forest canopy water cycling in northern Michigan revealed by stable water isotopes, *Journal of Geophysical Research: Biogeosciences*, 124, 2958-2975, doi:10.1029/2019JG005118. – Highlighted article, AGU Research Spotlight, *Eos*. –Among top 10% of most downloaded papers in 12 months following publication.
91. †Zhu, J., Poulsen, C.J., and Tierney, J. (2019). Simulation of Eocene extreme warmth and high climate sensitivity through low-cloud feedbacks, *Science Advances*, 5: eaax1874, doi:10.1126/sciadv.aax1874.
90. *Thompson, A.J., Skinner, C.B., Poulsen, C.J., and †Zhu, J. (2019). Modulation of mid-Holocene African rainfall by dust aerosol direct and indirect effects, *Geophysical Research Letters*, 46, doi:10.1029/2018GL081225.
89. *Shen, H. and Poulsen, C.J., (2019). Precipitation $\delta^{18}\text{O}$ on the Himalaya-Tibet orogen and its relationship to surface elevation, *Climate of the Past*, 15, 169-187, doi:10.5194/cp-15-169-2019.
88. Liu, Z., Jian, Z., Poulsen, C.J., and Zhao, L., (2019). Isotopic evidence for twentieth-century weakening of the Pacific Walker circulation, *Earth and Planetary Science Letters*, 507, 85-93, doi:10.1016/j.epsl.2018.12.002.
87. *Fiorella, R.P., Poulsen, C.J., and Matheny, A.M. (2018) Seasonal patterns of water vapor cycling in a deep, continental mountain valley from stable water vapor isotopes, *Journal of Geophysical Research—Atmospheres*, 123, 7271-7291, doi:10.1029/2017JD028093.
86. *Aron, P.G. and Poulsen, C.J. (2018). Cenozoic mountain building and climate evolution, *Mountains, Climate, and Biodiversity*, New York, NY: Wiley Press, Hoorn, C., Perrigo, A., and Antonelli, A., (eds.), 111-121.
85. †Skinner, C.B., Poulsen, C.J., and Mankin, J.S. (2018). Amplification of heat extremes by plant CO₂ physiological forcing, *Nature Communications*, 1094, doi:10.1038/s41467-018-03472-w.
84. Garzzone, C.N., McQuarrie, N., Perez, N.D., Ehlers, T.A., Beck, S.L., Karr, N., Eichelberger, N., Chapman, A.D., Ward, K.M., Ducea, M.N., Lease, R.O., Poulsen, C.J., Wagner, L.S., Horton, B.K., Saylor, J.E., and Zandt, G. (2017). The tectonic evolution of the Central Andean Plateau and geodynamic implications for the growth of plateaus, *Annual Reviews of Earth and Planetary Sciences*, 45, 529-559, doi:10.1146/annurev-earth-063016-020612.
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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-	Dr. Phoebe Aron
2018-	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 STUDENTS (3 PHD STUDENTS)

2020-	Emily Do, M.S. candidate
2020-	Jeremy Keeler, Ph.D. pre-candidate
2020-	Daeun Lee, Ph.D. pre-candidate
2016-pres	Sophia Macarewich, Ph.D. candidate
2016-pres	Alexander Thompson, Ph.D. candidate

PAST STUDENTS (7 MS, 10 PHD STUDENTS GRADUATED)

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), Franek Hasiuk (2008), Noralynn Hasshold (2006), Sarah Katz (in progress), Karla Knudson (2009), Conrad Luecke (2018), Brigid Lynch (in progress, 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), 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 ACTIVITY

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*; *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 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.