# BETTE L. OTTO-BLIESNER

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## SUMMARY OF EXPERIENCE AND QUALIFICATIONS

### Leadership

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|---|---|
| 2017-2018 | National Center for Atmospheric Research (NCAR) Interim Associate Director, Climate and Global Dynamics Laboratory |
| 2014-2024 | Deputy Director, Climate and Global Dynamics Laboratory, NSF NCAR |
| 2011-2019 | Co-chair, CESM Paleoclimate Working Group [also 1997-2005] |
| 2011-2012 | NCAR Science Advisor, National Center for Atmospheric Research. |
| 2009-2011 | Co-chair, IGBP Past Global Changes (PAGES) [Member 2006-2011] |
| 2005 | UCAR Leadership Academy |
| 2002-2006 | Chair of AGU Paleoceanography and Paleoclimatology Focus Group |
| 1993-1996 | Director, Center for Earth System History, University of Texas at Arlington |

### Education

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| Ph.D, M.S., B.S. Honors. | University of Wisconsin | Meteorology, Mathematics Minor |

### Professional Experience

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| 2021-2023 | Adjunct Researcher Affiliate, Biodiversity Institute Department, University of Kansas |
| 2018-2019 | Visiting Professor, School of Earth and Environmental Sciences, Leeds University |
| 2007-present | Senior Scientist, National Center for Atmospheric Research |
| 2002-2007 | Scientist III, National Center for Atmospheric Research |
| 1997-2002 | Scientist II, National Center for Atmospheric Research |
| 1993-1996 | Assistant Professor, Department of Geology University of Texas at Arlington |
| 1990-1992 | Adjunct Assistant Professor, Department of Geology, University of Texas at Arlington |
| 1988-1989 | Contract Scientist, ARC Technologies, College Station, Texas |
| 1980-1986 | Associate Scientist, University of Wisconsin-Madison |

### Honors

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| 2023 | EGU Milankovic Medal |
| 2023 | AOS Distinguished Alumni |
| 2018-2019 | Visiting Professorship, The Leverhulme Trust |
| 2016 | Emiliani Lecture, American Geophysical Union |

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| 2016 | Fellow of the American Meteorological Society |
| 2015 | Fellow of the American Geophysical Union |
| 2010-2011 | Sigma Xi Distinguished Lecturer, American Meteorological Society |
| 2007 | Co-recipient of Nobel Peace Prize as IPCC Lead Author |

*Other Awards:*

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| 2016-2023 | Clarivate Highly Cited Researcher |
| 2023-2024 | Earth Science Leader Awarc (research.com) |
| 2008 | Woman of Achievement, Zonta Foothills Club of Boulder County |
| 2008 | Distinguished Alumni, Willian Fremd High School |

***Selected invited talks and keynote presentations (since 2001)***

2024 *2024 US CLIVAR SSC Meeting. Tipping Point Session and Discussion.* "WhatIfMIP" Washington, D.C., Virtual

2024 *Climate Evolution from Early Eocene to mid-Pliocene – Insights from Geological Records and Model Intercomparison Projects.* "A Suite of Unprecedented High-Resolution Paleoclimate Simulations for Weather and Climate Research" Storrs, University of Connecticut.

2024 *Climate Evolution from Early Eocene to mid-Pliocene – Insights from Geological Records and Model Intercomparison Projects.* "High-Resolution CESM Simulations of Tropical Cyclones: From the Geological Past to Future Projections" Storrs, University of Connecticut.

2024 *CESM Workshop 2024 Cross-WG Session on Tipping Points* "What If Model Intercomparison Project (WhatIfMIP)" NCAR, Boulder

2024 *CESM Workshop 2024 Paleoclimate Working Group.* "Paleo Perspectives for Future Tipping Points" NCAR, Boulder

2024 *PMIP WINGS #11. PMIP, CMIP, and Beyond.* "Other Initiatives: WhatIfMIP". Virtual

2024 *First WCRP ESMO Meeting.* "WCRP Safe Landing Climates (SLC) Lighthouse Activity (LHA)" Hamburg, Virtual

2024 *ClimTIP [Uncertainty-Aware Quantification of Climate Tipping Potential and Climatic, Ecological, and Socioeconomic Impacts] Kickoff Meeting*. "WhatIfMIP. Storylines of Extreme Outcome in Future Climate Setting, Cascading Regional Impacts and Global Risks" Garching, Germany, Virtual

2024 *Paleoclimate Working Group Meeting 2024.* "High-Resolution Earth-System Simulations of Tropical Cyclones: Past-Present-Future" NCAR, Boulder

2023 *EGU Milutin Milankovic Medal Lecture,* "Milankovitch cycles and the Arctic: insights from past interglacials," Vienna.

2023 *TIPMIP for All.* "WCRP Safe Landing Climates Lighthouse Activity, Theme 1: Understanding High Risk Events" Virtual

2023 *WE Heraeus Seminar: Addressing Key Uncertainties in Modelling Physical and Ecological Tipping Dynamics in the Earth System (Towards TIPMIP).* "WhatIfMIP, Storylines of Extreme Outcomes in Future Climate Settings, Cascading Impacts, Interacting Risks" Templin, Germany, Poster

2023 *2023 CESM (Ultra-) High Resolution and Regionally-refined Modeling Cross Working Group.* "PaleoWeather: Leveraging High- and Variable-resolution Simulations with Paleoclimate Data to Study Weather and Climate Extremes" NCAR, Boulder

2023 *Centre for Global Change Science Seminar,* "Building Confidence in Future Projections Using Past Climates," University of Toronto.

2023 *High-Resolution Modeling Workshop*, "Extreme Weather Events Under a Wide Range of Climates in High-Resolution CESM," Texas Center for Climate Studies, Texas A&M University, College Station.

2023 *Atmospheric Sciences Department Seminar Series*, "Building Confidence in Future Projections Using Past Climates" Texas A&M University, College Station

2023 *WCRP Safe Landing Climates Lighthouse Activity Meeting*, "Safe Landing Climates Input to CMIP," Royal Society, London.

2023 *Earth, Environmental and Planetary Sciences Seminar*, "Building Confidence in Future Projections Using Past Climates," Rice University, Houston.

2022 *A Celebration of John Kutzbach (1937-2021),* "Celebrating John Kutzbach & His Career: Hindcasting the Past with Climate Models," University of Wisconsin, Madison.

2022 *WCRP Sea Level Conference Singapore 2022*, "World Climate Research Programme: Safe Landing Climate Lighthouse Activity and Sea level Rise," Singapore.

2022 *Willi Dansgaard Centenary Symposium*, "Climate-Ice Sheet Modeling of the Greenland Ice Sheet During the Last Interglacial," Ice and Climate Research Group at the Niels Bohr Institute, University of Copenhagen.

2022 *37th session of the Working Group on Numerical Experimentation (WGNE-37) and 25$^{th}$ session of the Working Group on Coupled Modelling (WGCM-25),* "WCRP Safe Landing Climates Lighthouse Activity," NCAR, Boulder.

2021 *WHOI Seminar*, "Learning from the Warmer Past: Climate and the Greenland Ice Sheet During the Last Interglacial," Remote.

2020 *Lehigh University Seminar,* "Learning from the Warmer Past: Climate and the Greenland Ice Sheet During the Last Interglacial," Remote.

2019 *2019 AGU Fall Meeting*, "A retrospective on Common Era modeling efforts of the past two decades and a look into the future," San Francisco.

2019 *WCRP Grand Challenge on Regional Sea Level Change and Coastal Impacts Steering Committee Meeting*, "CESM2-CISM2 simulations: past, present, future," Orleans, France

2019 *UCLA Seminar*, "Sensitivity of the Greenland Ice Sheet to Warming: A View from the Past – The Last Interglacial," Los Angeles.

2019 *PAGES-QUIGS Workshop: Marine isotope stage 5e and its relevance to the future*, "Overview of status of CMIP6/PMIP4 simulations for Last Interglacial and mid-Holocene," Cambridge, United Kingdom.

2019 *CMIP6 Model Analysis Workshop,* "Using simple indices of global climate change: PMIP and CMIP simulations and paleoclimate data to evaluate how the Earth system responds to strong forcings," Barcelona.

2019 *Aspen Global Change Institute Workshop, The Future of Past Climate*, "How do models inform paleoclimate, and how does paleoclimate inform models?" Aspen

2019 *Priestley International Centre for Climate,* "What's new in the Community Earth System Model at NCAR," Leeds.

2019 *Priestley International Centre for Climate,* "Modeling long-term changes in climate, ice sheets and sea level; Using the paleoclimate record to understand possibilities for the future," Leeds.

2018 *2018 AGU Fall Meeting,* "The CESM Last Millennium Ensemble: Response to explosive volcanic eruptions," Washington, DC.

2018 *IUCN Workshop at the Center for Macroecology, Evolution, and Climate,* "Using climate proxies and models: Past as a key to the future," Copenhagen.

2018 *The 15th Urbino Summer School in Paleoclimatology,* "Pliocene Warm period case study'" Urbino, Italy.

2018 *PalMod International Open Science Conference,* "A new TraCE simulation - Now with water isotopes and other geotracers," Vienna.

2018 *2018 EGU General Assembly,* "The Late Pliocene Atlantic Meridional Circulation and State of the Arctic gateways," Vienna.

2017 *2017 AGU Fall Meeting,* "Amplified North Atlantic warming in the Late Pliocene by changes in Arctic gateways, New Orleans.

2017 *NSF-Supported Workshop on Greenland Ice Sheet Stability,* "Coupled long-term evolution of climate and the Greenland ice Sheet during the Last Interglacial," Buffalo.

2017 *Cioppino 2017 Workshop,* "Towards coupled climate - Greenland Ice Sheet simulations: A comparison of orbital and $CO_2$ forcings," Urbino, Italy.

2017 *The Center for the Study of Origins, University of Colorado: The Coldest Centuries in 8000 Years: The Little Ice Age Causes and Human Consequences,* "Explosive volcanism in a warming world," Boulder.

2017 *PAGES/Oeschger Centre Climate Change Research Workshop, Lessons learnt from paleoscience on a possible 1.5 - 2℃ warmer world in the future,* "Global, Arctic, and Greenland Climates During Past Warm Periods: A Comparison for the Last Interglacial and the Late Pliocene," Bern.

2016 *2016 AGU Emiliani Lecture,* "Resolving Some Puzzles of Climate Evolution Since the Last Glacial Maximum: A Melding of Paleoclimate Modeling and Data," San Francisco.

2016 *Brown International Advanced Research Institutes 2016: Climate Change and Its Impacts: Connecting Local Variability and Knowledge in a Global System,* "Paleoclimate perspective on climate change: An African example," Providence.

2016 *University of Colorado Department of Physics Seminar*, "Lessons of the warm Pliocene – Melding knowledge from geology and physics," Boulder.

2015 *PALSEA2 2015 Meeting,* "The Last Interglacial as a testbed for coupled climate-ice sheet model simulations of past ice sheet and sea level evolution," Tokyo.

2015 *Past Earth Network Opening Conference,* "Regional Climate Variability and Change since 850 C.E.: Considering Internal Variability and Structural Differences When Assessing Differences in CMIP5 past1000 Simulations," Crewe, United Kingdom.

2015 *FATES workshop,* "Fast climate changes: Not just at polar latitudes," Gif-sur-Yvette, France.

2014 *Donald R. Johnson Symposium, 94th AMS Meeting,* "The global circulation: A paleoclimate perspective." Atlanta.

2014 *Sun Climate Workshop,* "Challenges in modeling the Sun-climate connection," Boulder.

2013 *Past4Future General Assembly*, "Perspectives on model-data comparisons," Vienna.

2013 *Aspen Institute CMIP6 Planning Workshop*, "Paleoclimate," Aspen.

2013 *Conference on Isotopes of Carbon, Water, and Geotracers in Paleoclimate Research*, "State of the Community Earth System Model (CESM)," Bern.

2012 *ESF-LFUI Conference: Modes of Variability in the Climate System: Past-Present-Future,* "Deglacial changes of climate modes," Obergurgl.

2012 *Bjerknes Centre 10-Years Anniversary Conference*, "Climate change at high latitudes during the Pliocene," Bergen.

2012 *Workshop on Climate Dynamics of Africa*, "Climate dynamics of tropical Africa: paleoclimate perspectives and challenges," John Hopkins University, Baltimore.

2011 *North Africa – Past, Present and Future Climate Change Workshop,* "Onset of the Wet Phase in North Africa: Orbital, Carbon Dioxide and Meltwater Effects," Hamburg.

2011 *Royal Netherlands Academy of Arts and Sciences Colloquium on Constraining Estimates of Future Climate Variability from Geological Records,* "Using the Pliocene to Constrain Climate Sensitivity," Amsterdam.

2011 *Royal Society of London: Warm climates of the past – a lesson for the future?* "Understanding warmth during the Last Interglacial: Our current state and the challenges yet," London.

2011 *East African Rift Lakes Workshop,* "The role of $CO_2$ in African paleoprecipitation," Providence.

2010/1 *Sigma Xi Distinguished Lectures,* "Climate Change: What Could Happen and What Can Earth's Past Tell Us?" Iowa State University, Ames; University of Hawaii, Manoa; University of Hawaii, Hilo; Rockford College; Lamar University, Beaumont.

2010 *NSF Workshop on Future Land-Ice Loss,* "Coupled Climate-Ice Sheet Models and Sea level: Towards AR5 and Beyond," Sterling, VA.

2010 *Global Monsoon Symposium,* "Transient Simulation of the African Humid Period: Orbital, Carbon Dioxide and Meltwater Effects," Shanghai.

2009 *Butler University Woods Science Lecture Series*, "What Does the Past Tell Us about the Present and the Future," Butler University, Indianapolis.

2009 *Climate, Statistics, and Satellites. A Symposium in honor of Dr. Gerald North,* "A Dream Almost Realized: Simulating the Transient Climate Evolution over the Last 21,000 years," College Station.

2009 *Milankovitch Symposium,* "The last interglacial: Modeling of the spatial and temporal signatures to the evolving Milankovitch variations," Belgrade.

2008 *PAGES-IMAGES Sea Level Workshop: Empirical Constraints on Sea-Level Rise over the Next Century*, "Modeling of MIS 5e – Polar Warmth, Ice Sheet Stability and Sea-level Rise," Bern.

2008 *EPICA Open Science Meeting: Quaternary Climate: from Pole to Pole*, "Can climate records be used as indirect proxies for changes in the Atlantic meridional overturning circulation? A paleoclimate modeling study," Venice.

2007 *Science Museum of the la Caixa Foundation,* "Arctic Warmth, Greenland Melting, and Sea-level Rise: Lessons from the Past," Barcelona.

2007 *IUGG XXIV General Assembly, Union Lecture in Our Changing Planet*, "Arctic Warmth, Greenland Melting, and Sea-level Rise: A Lesson from the Past," Perugia, Italy

2007 *Warren Washington Symposium: Evolution of Climate Modeling, the Prediction of Climate Change, and Science Policy,* "IPCC and Paleoclimate, Global Change Paleoclimatology," Boulder.

2006 *David Houghton Retirement Symposium,* "A Paleoclimate Perspective on Climate Surprises," Madison, Wisconsin.

2006 *Symposium on Global Warming, Sea Level Changes and Biotic Response: Past and Future,* "Paleoclimatic Evidence for Ice Sheet Instability and Rapid Sea Level Rise," Utrecht, Netherlands.

2006 *SAMSI Kickoff Workshop, 2006-07 Program on Development, Assessment and Utilization of Complex Computer Models,* "Studying Climate Change with Climate Models," Durham, NC.

2006 *Rapid Climate Change International Science Conference,* "Freshwater in the North Atlantic and Rapid Climate Change: Modeling of the 8.2 ka and Heinrich Events," Birmingham, U.K.

2006 *International Symposium on Dynamics of the Ice Age Climate,* "Simulating Past Abrupt Climate Changes and Ocean-Atmosphere Responses to Freshwater Forcing," Nagoya, Japan.
2005 *Public lecture – College de France,* "The Glacial World: Carbon Dioxide and the Ocean Circulation Play Major Role," Paris.
2005 *PAGES Open Science Meeting,* "Climate Sensitivity Derived from PMIP-2 Model-Data Intercomparisons for the Last Glacial Maximum and Mid-Holocene," Beijing.
2004 *John Kutzbach Retirement Symposium*, "Modeling Paleozoic and Mesozoic Climates," Madison.
2004 *XVIth Rencontres de Blois, Challenges in the Climate Sciences*, "Can Solar Forcing Explain the Dramatic Regional Signatures of Past Interglacial Climates?" Blois, France.
2004 *IPCC Climate Sensitivity Workshop*, "Climate Sensitivity from the Last Glacial Maximum from Paleoclimate Simulations and Observations," Paris.
2004 *Geosystems Workshop*, "Climate models, Status, Opportunities, and Barriers for Deep-time Paleoclimate Studies," Arlington, Virginia.
2003 *2003 EGS-AGU-EUG Joint Assembly,* "Evaluation of Cretaceous Atmospheric Carbon Dioxide Estimates Using Climate Model Simulations," Nice, France.
2003 *CLIVAR/PAGES/IPCC Workshop, A Multi-Millennia Perspective on Drought and Implications for the Future,* "Paleomodeling of Decreased Aridity in Northern Africa," Tucson, Arizona.
2003 *Gordon Research Conference, Solar Radiation and Climate,* "Milankovitch Orbital Variations of Insolation and Interglacial Climates," Colby-Sawyer College, New Hampshire.
2002 *Workshop on Cretaceous Climate and Ocean Dynamics,* "Late Cretaceous ocean: Coupled simulations with the NCAR Climate System Model," Florissant, Colorado.
2002 *The Hadley Circulation: The Present, Past and Future,* "The Hadley and Walker Circulation changes during warm periods of the past: Coupled simulations with the NCAR Climate System Model," Honolulu.
2001 *KNMI*, "Climate model evidence for ENSO behavior during the past: Pre-industrial, Holocene, Last Glacial Maximum, and Cretaceous," Utrecht, The Netherlands.
2001 Western Interior Paleontological Society Founders Symposium, Golden, Colorado.

### Professional Societies

American Meteorological Society (since 1972)
American Geophysical Union (since 1992)

## RESEARCH

### Book Chapters

1. Briner, J.P., Alley, R.B., Bender, M.L., Csatho, B., Poinar, K. and Schaefer, J.M., with input by Axford, Y., Born, A., Hatfield, R., Jennings, A.J., Keisling, B., Kelly, M., Langebroek, P., Miller, G.H., Morlighem, M., Osterberg, E.C., Otto-Bliesner, B., Robel, A. and Young, N.E., 2017: How stable is the Greenland ice sheet. *White Paper from Workshop supported by National Science Foundation grant "The Stability of the Greenland Ice Sheet,"* award No. OPP-1741833.
2. Masson-Delmotte, V., M. Schulz, A. Abe-Ouchi, J. Beer, A. Ganopolski, J.F. Gonzalez Rouco, E. Jansen, K. Lambeck, J. Luterbacher, T. Naish, T. Osborn, B. Otto-Bliesner, T. Quinn, R. Ramesh, M. Rojas, X. Shao, and A. Timmermann, 2013: Information from Paleoclimate Archives. In*: Climate Change 2013: The*

*Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* [Stocker, T.F., D. Qin, G.-K. Plattner, M. Tignor, S.K. Allen, J. Boschung, A. Nauels, Y. Xia, V. Bex, and P.M. Midgley (eds)]. Cambridge University Press, Cambridge, United Kingdom and New York, NT, USA.

3. Alley, R.B., Andrews, J.T., Clarke, G.K.C., Cuffey, K.M., Funder, S., Marshall, S.J., Mitrovica, J.X., Muhs, D.R., Otto-Bliesner, B., 2009: *Past Extent and Status of the Greenland Ice Sheet. In Past Climate Variability and Change in the Arctic and at High Latitudes.* A report by the U.S. Climate Change Program and Subcommittee on Global Change Research. U.S. Geological Survey, Reston, VA, pp. 303 – 357.
4. Jansen, E., J. Overpeck, K.R. Briffa, J.-C. Duplessy, F. Joos, V. Masson-Delmotte, D.O. Olago, B. Otto-Bliesner, W.R. Peltier, S. Rahmstorf, R. Ramesh, D. Raynaud, D.H. Rind, O. Solomina, R. Villalba, D. Zhang, 2007: *Palaeoclimate. In: Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental panel on Climate Change* [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor, and H.L. Miller (eds.)]. Cambridge University press, Cambridge, United Kingdom and New York, NY, USA, 433-497.
5. National Research Council, 2006: Surface temperature reconstructions for the last 2,000 years. The National Academies Press, Washington, D.C., 141 pp.
6. Braconnot, P., S. Joussaume, S. Harrison, C. Hewitt, P. Valdes, G. Ramstein, R.J. Stouffer, B. Otto-Bliesner, and K. Taylor, 2004: The second phase of the Paleoclimate Modeling Intercomparison Project (PMIPII). CLIVAR Exchanges, 28, 19-20.
7. Pereira, J., I. Wainer, E. Brady, and B. Otto-Bliesner, 2004: A study of Antarctic circumpolar wave in the Community Coupled Climate Model. *CLIVAR Exchanges*, 28, 3-5.
8. Braconnot, P., S.P. Harrison, S. Joussaume, C.D. Hewitt, A. Kitoh, J.E. Kutzbach, Z. Liu, B. Otto-Bliesner, J. Syktus, and S.L. Weber, 2004: Evaluation of PMIP coupled ocean-atmosphere simulations of the Mid-Holocene. *Past Climate Variability through Europe and Africa, Volume 6*, R.W. Battarbee, F. Gasse, and C.E. Stickley (eds), Springer, Dordrecht, The Netherlands, 515-534.
9. Otto-Bliesner, B.L., and A.C. Clement, 2004: The sensitivity of the Hadley circulation to past and future forcings in two climate models. *The Hadley Circulation: Present, Past and Future*, H.F. Diaz and R.S. Bradley (eds), Kluwer Academic Publishers, Dordrecht, The Netherlands, 437-464.
10. Otto-Bliesner, B. L., 2003: The role of mountains, polar ice, and vegetation in determining the tropical climate during the Middle Pennsylvanian: Climate model simulations, in C.B. Cecil (Ed.), *Climate Controls on Stratigraphy*, SEPM (Society for Sedimentary Geology) Special Publication No. 77, 227-237.
11. Upchurch, G. R., Jr., B. L. Otto-Bliesner, and C.R. Scotese, 1999: Terrestrial vegetation and its effects on climate during the latest Cretaceous, in *Geological Society of America Special Paper 332*, E. Barrera & C.C. Johnson (Eds.), 407-426.
12. Otto-Bliesner, B. L., 1998: Effects of tropical mountain elevations on the climate during the past: Climate model experiments, in *Tectonic Boundary Conditions for Climate Reconstructions,* T. J. Crowley & K.C. Burke (Eds.), Oxford Monographs on Geology and Geophysics, Chapter 5, 100-115.

**Peer Reviewed Publications**

1. Lunt, D.J., B.L. Otto-Bliesner, C. Brerley, A. Haywood, G.N. Inglis, K. Izumi, M. Kageyama, D. Kaufman, T. Mauritsen, E.L. McClymont, U. Salzmann, S. Steining, J. Tierney, A. Zhao, and J. Zhu, 2024: Paleoclimate data provide constraints on climate models' large-scale response to past $CO_2$ changes, *Communications Earth & Environment.* 5(1), 419. doi:10.1038/s43247-024-01531-3.

2. Sherwood, S.C., G. Hegerl, P. Braconnot, P. Friedlingstein, H. Goelzer, N.R.P. Harris, E. Holland, H. Kim, M. Mitchell, T. Naish, P. Nobre, B.L. Otto-Bliesner, K.A. Reed, J. Renwick and N.P.M. van der Wel, 2024: Uncertain Pathways to a Future Safe Climate. *Earth's Future,* 12, e2023EF004297. https://doi.org/10.1029/2023EF004297
3. Berdahl, M. G.R. Leguy, W.H. Lipscomb, B.L. Otto-Bliesner, E.C. Brady, R.A. Tomas, N.M. Urban, I. Miller, H. Morgan, and E.J. Steig, 2024: Antarctic climate response in Last-Interglacial simulations using the Community Earth System Model (CESM2). *Climate of the Past Discussions*, https://doi.org/10.5194/cp-2024-19
4. Obase, T., et al., 2023: Multi-model assessment of the deglacial climatic evolution at high south latitudes, 2023: *Climate of the Past Discussions,* https://doi.org/10.5194/cp-2023-86
5. Sun, Y. et al., 2024: Decomposition of physical processes controlling EASM precipitation changes during the mid-Piacenzian: new insights into data-model intergration, *npj Climate and Atmospheric Science*, 7,1-10. https://doi.org/10.1038/s41612-024-00668-4
6. Zhu, J., C.J. Poulsen, and B.L. Otto-Bliesner, 2024: Modeling Past Hothouse Climates as a Means for Assessing Earth System Models and Improving the Understanding of Warm Climates. Annual Review of Earth and Planetary Sciences, 52.
7. Haywood, A.M., JC Tindall, LE Burton, MA Chandler, AM Dolan, HJ Dowsett, 2024: Pliocene Model Intercomparison Project Phase 3 (PlioMIP3) – Science plan and experimental design. *Global and Planetary Change* 232, 104316
8. Weiffenbach, J. E., Dijkstra, H. A., von der Heydt, A. S., Abe-Ouchi, A., Chan, W.-L., Chandan, D., Feng, R., Haywood, A. M., Hunter, S. J., Li, X., Otto-Bliesner, B. L., Peltier, W. R., Stepanek, C., Tan, N., Tindall, J. C., and Zhang, Z.: Highly stratified mid-Pliocene Southern Ocean in PlioMIP2, Clim. Past, 20, 1067–1086, https://doi.org/10.5194/cp-20-1067-2024, 2024.
9. Cadd, H., Williams, A.N., Saktura, W.M. *et al.* Last Glacial Maximum cooling induced positive moisture balance and maintained stable human populations in Australia. *Commun Earth Environ* **5**, 52 (2024). https://doi.org/10.1038/s43247-024-01204-1
10. Bradley, S. L., Sellevold, R., Petrini, M., Vizcaino, M., Georgiou, S., Zhu, J., Otto-Bliesner, B. L., and Lofverstrom, M. (2024). Surface mass balance and climate of the Last Glacial Maximum Northern Hemisphere ice sheets: simulations with CESM2.1, Clim. Past, 20, 211–235, https://doi.org/10.5194/cp-20-211-2024.
11. Gao, Q. et la., (2024). Assessment of the southern polar and subpolar warming in the PMIP4 Last Interglacial simulations using paleoclimate data syntheses, *Climate of the Past.*
12. Jiang, Z., Brierley, C. M., Bader, J., Braconnot, P., Erb, M., Hopcroft, P. O., et al. (2023). No consistent simulated trends in the Atlantic Meridional Overturning Circulation for the past 6,000 years. Geophysical Research Letters, 50, e2023GL103078. https://doi.org/10.1029/2023GL103078
13. Du, X., Russell, M., Otto-Bliesner, B.L., et al., 2023. North Atlantic cooling triggered a zonal mode over the Indian Ocean during Heinrich Stadial 1. *Science Advances*, 9. DOI:10.1126/sciadv.add4909
14. Weiffenbach, J. E., Baatsen, M. L. J., Dijkstra, H. A., von der Heydt, A. S., Abe-Ouchi, A., Brady, E. C., Chan, W.-L., Chandan, D., Chandler, M. A., Contoux, C., Feng, R., Guo, C., Han, Z., Haywood, A. M., Li, Q., Li, X., Lohmann, G., Lunt, D. J., Nisancioglu, K. H., Otto-Bliesner, B. L., Peltier, W. R., Ramstein, G., Sohl, L. E., Stepanek, C., Tan, N., Tindall, J. C., Williams, C. J. R., Zhang, Q., and Zhang, Z.: Unraveling the mechanisms and implications of a stronger mid-Pliocene Atlantic Meridional Overturning Circulation (AMOC) in PlioMIP2, Clim. Past, 19, 61–85, https://doi.org/10.5194/cp-19-61-2023, 2023.

15. Hu, A., Meehl, G.A., Abe-Ouchi, A., Han, W., Otto-Bliesner, B., et al. 2023: Dichotomy between freshwater and heat flux effects on oceanic conveyor belt stability and global climate. *Communications Earth & Environment, 4:246. https://doi.org/10.1038/s43247-023-00916-0.*
16. Guo, D. et al., 2023: Highly restricted near-surface permafrost extent during the mid-Pliocene warm period. *PNAS, 120 (36) e2301954120. https://doi.org/10.1073/pnas.2301954120.*
17. Ren, X., D.J. Lunt, E. Hendy, A. von der Heydt, A. Abe-Ouchi, B. Otto-Bliesner, et al., 2023: The hydrological cycle and ocean circulation of the Maritime Continent in the Pliocene: results from PlioMIP2, *Climate of the Past*, 19 (10), 2053-2077
18. Liu, Z., He, C., Yan, M., Buizert, C., Otto-Bliesner, B.L. et al., 2023. Reconstruction of Past Antarctic Temperature Using Present Seasonal $\delta^{18}O$–Inversion Layer Temperature: Unified Slope Equations and Applications. *Journal of Climate, 36,* 2933-2957. https://doi.org/10.1175/JCLI-D-22-0012.1
19. Zhang, K., Y Sun, Z Zhang, C Stepanek, R Feng, D Hill, G Lohmann, et al., 2024: Revisiting the physical processes controlling the tropical atmospheric circulation changes during the Mid-Piacenzian Warm Period. *Quaternary International* 682, 46-59
20. Zhu, C., J. Zhang, Z. Liu, B.L Otto-Bliesner, C. He. E.C. Brady et al., 2022: Antarctic Warming during Heinrich Stadial 1 in a Transient Isotope-Enabled Deglacial Simulation. *Journal of Climate, 35, DOI: 10.1175/JCLI-D-22-0094.1*
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**Selected Unrefereed Publications**

1. Washington, W. M., B. Otto-Bliesner, and G. Williamson, 1977: January and July simulation experiments with the 2.5° latitude-longitude version of the NCAR general circulation model. Volume 1 – Text (39 pp.), Volume 2 – Figures (61 pp.). NCAR Technical Note 123+STR.
2. Otto-Bliesner, B. L., E. Becker, and N. Becker, 1994: Atlas of Phanerozoic paleoclimate simulated by a global climate model. CESH Technical Report #1. Center for Earth System History, University of Texas at Arlington, 149 pp.
3. Otto-Bliesner, B.L., S. Joussaume, P. Braconnot, S.P Harrison, and A. Abe-Ouchi, 2009: Modeling and data synthesis of past climates, EOS, 11, 93.
4. Otto-Bliesner, B.L., and M. Schulz, 2009: New methods to integrate paleodata into climate models, Data-assimilation techniques for paleoclimate data, Meeting Report, Vienna, Austria, 25 April 2009, *EOS*, 90, 300-301.
5. Otto-Bliesner, B.L., M. Lofverstrom, P. Bakker, and R. Feng, 2019: Arctic warming and the Greenland ice sheet during the Last Interglacial. Science Highlights: Paleo Constraints on Sea-Level Rise, PAGES Magazine, 27.

## SERVICE

### Professional Societies, Funding Agencies and Government

2024- International Scientific Advisory Board Member, Max Planck Institute for Geoanthropology
2023- Co-lead, What If Modeling Intercomparison Project (WhatIfMIP), CMIP7 Community MIP
2023- Member, EGU Milutin Milankovic Medal Committee
2022- Working Group Co-lead on Understanding High Risk Events, WCRP Safe Landing Climates Lighthouse Activity

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| 2019- | Steering Group, WCRP Safe Landing Climates Lighthouse Activity |
| 2021-2022 | Scientific Organizing Committee, Sea Level 2022, Singapore |
| 2021-2022 | Scientific Organizing Committee, 10th Galileo Conference: The Warm Pliocene: Bridging the Geological Data and Modelling Communities, Leeds |
| 2021-2022 | Scientific Organizing Committee, PMIP30th Anniversary (online) |
| 2019-2022 | Scientific organizing Committee, International Conference on Paleoceanography #14, Bergen |
| 2019- | Steering Committee Member, Ghub community glaciology gateway funded by NSF EAGER |
| 2018-2020 | Panel Member, European Research Council Starting Grants |
| 2018-2022 | Member, US CLIVAR Paleo AMOC Task Team 5 |
| 2018-2020 | Member, AGU College of Fellows |
| 2017-2019 | International Scientific Advisory Board, Netherlands Earth System Science Centre |
| 2017-2022 | Executive Team, WCRP Grand Challenge on Regional Sea Level Change and Coastal Impacts |
| 2016- | International Scientific Advisory Board, PalMOD, German Climate Modeling Initiative: From the Last Interglacial to the Anthropocene – Modeling a Complete Glacial Cycle |
| 2016-2019 | Chair/Member, AGU Fellows Committee for Paleoceanography and Paleoclimatology Section |
| 2016- | Member, The Deep-Time Model Intercomparison Project (DeepMIP) |
| 2015- | Steering Committee Member, PAGES Working Groups: QUIGS (QUaternary InterGlacialS and PALSEA (PALeo constraints on SEA level rise) |
| 1995- | Science Advisory Board (2024- )Steering Committee Member (1995-2023), Paleoclimate Modelling Intercomparison Project (PMIP) |
| 2017 | The Bjerknes Centre for Climate Research Evaluation Committee |
| 2017 | Member, AGU Emiliani Lecture Committee |
| 2016 | Invited Participant, Scoping Meeting for IPCC Special Report on the Ocean and Cryosphere in a Changing Climate (SROCC), Monaco |
| 2013-14 | Review Panel Chair, German Federal Ministry of Education and Research Funding Initiative on Paleoclimate Research |
| 2012 | Member, AGU Ewing Medal Committee |
| 2011-15 | Scientific Steering Committee Member, NERC Consortium Grant, iGlass - Using Interglacials to Assess Future Sea Level Scenarios |
| 2010-14 | Lead Author, IPCC Fifth Assessment Report, Chapter 5: Information from Paleoclimate Archives |
| 2010 | Invited participant, Scoping Meeting for IPCC Synthesis Report for the Fifth Assessment Report |
| 2010 | Science Steering Committee, NSF Workshop on Projecting Future Sea-Level Rise from Land-Ice Loss |
| 2010 | Panel member, NSF AGS Proposal Review Panel |
| 2010 | Invited participant, DOE BERAC Grand Challenges Workshop |
| 2009 | Session Chair, "Informing the Future by Understanding the Past," IARU Conference on Climate Change, Global Risks, Challenges & Decisions, Copenhagen |
| 2009-10 | PAGES OSM Special Issue Editor, *Climate of the Past* |
| 2009 | Program Committee, PAGES 3rd Open Science Meeting |
| 2009 | Program Committee, PAGES 1st Young Scientists Meeting |
| 2008-12 | AMQUA Council Member |
| 2008-11 | Topical Editor, *Geoscientific Model Development* |
| 2008 | Participant, NRC Workshop on Future Priorities for the U.S. Climate Change Science Program |
| 2007 | Advisory Panel Member, NSF Post ESH Panel |

2007 Committee, AGU Policy Statement “Human Impacts on Climate"
2007 Workshop Participant, NSF Office of Polar Programs (OPP) Antarctic Integrated System Science (AISS) “Setting a Course for Antarctic Integrated System Science"
2007 Review Panel Member, NOAA Climate Change Data and Detection FY 2008 Proposals
2006 Committee Member, Surface Temperature Reconstructions for the Past 1000-2000 Years: Synthesis of Current Understanding and Challenges for the Future, National Academy of Sciences
2005-07 Lead Author, IPCC Fourth Assessment Report, Chapter 6: Paleoclimate
2005 Co-convener, Chapman Conference, Tropical-Extratropical Climatic Teleconnections, A Long-term Perspective
2004 Program Committee, A Workshop on Deep-Time Paleoclimatology
2004-08 Review Panel Member, NOAA Paleoclimatology Program
2004-06 Guest Editor, *Palaeogeography, Palaeoclimatology, Palaeoecology*, “Glacial-Interglacial Climate of the Past 160,000 Years: New Insights from Data and Models
2004-05 Steering Committee Member, Geosystems Initiative, National Science Foundation
2002-03 Program Committee, 2002 and 2003 Fall AGU Meeting
1999-2017 Co-convener/Session chair, Fall AGU Meetings
1999-2004 Steering Committee Member, PARCS (Paleoenvironmental Arctic Sciences), National Science Foundation
1999 Planning Committee Member and Co-Convener, IUGG99, On the Use of Coupled Models for Practical Paleoclimate Studies (MC11)
1998 Invited Participant, NSF Arctic Paleosciences Meeting. Drafted "The Arctic Paleosciences in the Context of Global Change Research, Science Implementation Plan for Paleoenvironmental Arctic Sciences (PARCS), Arctic System Science (ARCSS) and Earth System History (ESH) Programs", National Science Foundation
1996 Invited Participant, Workshop on Terrestrial Aspects of Earth System History (TESH), National Science Foundation
1992-2002 Associate Editor, *Palaeoclimates*
1992-93 Advisory Committee Member, Marine Aspects of Earth System History (MESH), National Science Foundation Ocean Sciences
1993 Program Committee and Session Chair, Fourth Conference on Global Change Studies
1992 Co-convener, Paleoclimate Modeling Session, International Research Workshop for Project PANGEA

*Reviewer of: manuscripts for Journal of Climate, Nature, Science, Paleoceanography, Journal of Geophysical Research, Geophysical Research Letter, Geology, Global and Planetary Change, Journal of the Meteorological Society of Japan, Quaternary Science Reviews, Climate of the Past, Geoscientific Model Development, IPCC Fourth and Sixth Assessment Reports, and Book Chapters; proposals for National Science Foundation (Earth System History/Paleoclimate, Climate Dynamics, Earth Sciences, Geology and Paleontology, Antarctic Research, Arctic Natural Sciences, Life in Extreme Sciences), NOAA Climate and Global Change, Natural Environment Research Council (United Kingdom)*

**NSF NCAR and University**

2024 2024 Review Committee CO-LABS Governor's Awards for High Impact Research
2022- CESM Tutorial Meet a Scientist

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| 2022- | NSF NCAR Scientific Appointment Initiative Modernization Co-design Tiger Team |
| 2013-2022 | Lead Scientist, CESM Last Millennium Project, CESM CMIP/PMIP simulations |
| 2009-2022 | Lead Scientist, TraCE and ITraCE projects |
| 2006- | Reviews, ASP Fellowship applicants |
| 2016-17 | Chair, Land Ice Ladder Track Scientist Recruitment, and Committee Member, Land Ice Project Scientist Recruitment |
| 2016 | Organizing Committee, NCAR Networking & Discovery Day |
| 2014-16 | NSF Facilities Ad Hoc Committee |
| 2014 | Committee Member, UCAR Strategic Plan Goal Team 2 |
| 2014 | HAO Director Search Committee |
| 2013 | Organizing Team Member for retreat and writing of "CGD Strategic Plan (2013-2018)" |
| 2013 | Panel Member for Asian Circle + WORLS Event. "Where NCAR Was, and Where We Are Going: A Conversation with Female Scientists" |
| 2013 | HAO Advisory Panel |
| 2012-14 | Chair, NCAR Allocations Panel for Yellowstone NSC and ASD requests |
| 2012 | NCAR Distinguished Appointments Subcommittee |
| 2012 | Participant, NCAR-NSF Retreat, Washington D.C. |
| 2011 | UCAR Presidential Search Committee |
| 2009-11 | NCAR Appointments Review Group |
| 2004 | CGD Scientist I Interview Committee |
| 2003 | Member, UCAR Site Visit, Columbia University |
| 2002 | CGD Retreat Organizing Committee |
| 2001 | Scientist I Search Committee, Land Biogeochemistry |
| 2000-10 | CISL High Performance Computing Advisory Panel (CHAP) |
| 1999-2000 | Coordinator, CGD Seminar Series |
| 1992-96 | Member of various university and department faculty committees, University of Texas at Arlington |

## TEACHING

### Summer Schools and Guest Lectures

| | |
|---|---|
| 2018 | The 15th Urbino Summer School in Paleoclimatology |
| 2017 | Boston College, Science and Ethics of Climate Change: "Modeling (Past) Climates" |
| 2017 | The 14th Urbino Summer School in Paleoclimatology |
| 2016 | The 13th Urbino Summer School in Paleoclimatology |
| 2015 | NCAR ASP Summer Colloquium, Climate, Space Climate, and the Couplings Between |
| 2015 | The 12$^{th}$ Urbino Summer School in Paleoclimatology |
| 2014 | CIRES seminar series/ATOC 7500 class, 'Reading the IPCC report' |
| 2009 | 8$^{th}$ International NCCR Climate Summer School, Grindelwald |
| 2009 | ASP Summer School – The Art of Climate Modeling |
| 2009 | Portland Community College, Course on Global Climate Change (videotaped) |
| 2002/3 | Climate and Global Change Geoscience Education Workshop |
| 2002 | Ted Scripps Fellows |

2000/1 University of Colorado, Geology 5420, Quaternary Dating Methods

**Courses/Classes taught**
Physical Geography (UTA GEOL/GEOG 1440 1994-1995)
Meteorology and Climatology with Lab (UTA GEOL/GEOG/3305 1993-1995)
Paleoclimatology (UTA GEOL 5325 1994)
Weather and Climate (UWisconsin AOS 100 1983)

**Advising**

*Ph.D. Committee Member*
Caspar Ammann, University of Massachusetts (1999-2002)
Sang-Ik Shin, University of Wisconsin (2000-2002)
Toby Ault, University of Arizona (2006-2012)
Peter H. Jacobs, George Mason University (2017-2020)
Carolien M.H. van der Weijst, Utrecht University

*M.S. Committee Member*
Melissa Burt, Colorado State University (2006-2008).

*NCAR Mentor for Ph.D. students and Early career scientists*
Mikie Smith, University of Colorado
Linda Smith, University of Texas at Dallas
Bronwen Konecky, Brown University
Feng He, University of Wisconsin-Madison
Lu Zhengao, University of Wisconsin-Madison and Peking University
Zhenggao Shi, Xi'an University
Hannah Kleppin, University of Copenhagen
Corinne Wong, University of California, Davis
Nick McKay, University of Arizona
Jiang Zhu, University of Wisconsin-Madison
Michiel Baatsen, Utrecht University
Xiaojing Du, Brown University
Sloane Garelick, Brown University

*Postdoctoral Fellows*
Benjamin Felzer, Gilles Delaygue, Carrie Morrill, David Schneider, Yafang Zhong, Florence Colleoni, Toby Ault, Ran Feng, Clay Tabor, Marcus Lofverstrom, Sloan Coats, Chijun Sun

Scientific Mentor, *Significant Opportunities in the Atmospheric and Related Sciences (SOARS),* 1997, 2008; Writing Mentor, 2004.

## RESEARCH GRANTS

1. *NSF NCAR Principal Investigator,* "paleoWeather: A New Paradigm for Examining Extreme Events in Past Climates" Heising-Simons Foundation, 01/2024-01/2028. Collaborative with University PIs: Jessica Tierney, University of Arizona. Chris Poulsen, University of Oregon. Jane Baldwin, University of California, Irvine.
2. *NSF NCAR Co-Principal Investigator,* "Collaborative Research: Under What Climate Conditions Does the West Antarctic Ice Sheet Collapse?" NSF-OPP, NCAR PI: William Lipscomb, University of Washington PI: Eric Steig, 2021-2025.
3. *Principal Investigator,* "Modeling Long-Term Changes in Climate, Ice Sheets and Sea Level: Using the Paleo Record to Understand Possibilities for the Future." DOE SciDAC, 2014-2020, co-PIs: W. Lipscomb, LANL; Shawn Marshall, University of Calgary.
4. *Principal Investigator,* "Collaborative Research: Isotope-enabled Transient Climate Evolution of the last 21,000 years (iTRACE21) Understanding Deglacial Climate/Isotope Changes using iCESM." NSF P2C2, 2014-2019, co-PIs: Z. Liu, University of Wisconsin, P. Clark, Oregon State University.
5. *Principal Investigator,* "Collaborative Research: Arctic Temperature Amplification during the Middle Pliocene (ArcAMP): Assessing the interaction among feedback mechanisms." NSF Polar Programs, 2014-2020, co-PI: A. Ballantyne, University of Montana.
6. *Principal Investigator,* "EaSM2: Collaborative Research on Quantifying and Conveying the Risk of Prolonged Drought in Coming Decades." NSF AGS-CR, 2013-2018, co-PIs: J. Overpeck, J. Cole, and D. Liverman, University of Arizona.
7. *Principal Investigator,* "CESM Paleoclimate Working Group Deep Time Paleoclimate Liaison Position to Support Community Use of the CESM." NSF-EAR, 2012-2013.
8. *Principal Investigator,* "Collaborative Project: Development of an Isotope-Enabled CESM for Testing Abrupt Climate Change." DOE SciDAC, 2011-2014, co-PIs: Z. Liu, University of Wisconsin, A. Gettelman, S. Peacock, M. Vertenstein, NCAR.
9. *Co-Principal Investigator,* "Transient Climate Evolution of the last 21,000 years -- Understanding Climate Sensitivity and Abrupt Climate Change using CCSM3 (TraCE-21,000)," NSF Paleo Perspectives on Climate Change (P2C2), 2010-2013, co-PIs: Z. Liu and Anders Carlson, University of Wisconsin.
10. *Co-Principal Investigator,* "The Past Global Changes (PAGES) Project," NSF EAR, 2010-2014, PI: T. Kiefer, PAGES International Project Office.
11. *Co-Principal Investigator,* "WSC - Category 1: Water Sustainability and Climate in the Great Lakes Region of East Africa," NSF-EAR, 12010-2011, PI: T.C. Johnson, University of Minnesota-Duluth.
12. *Co-Principal Investigator,* "Assessing Global Climate Response of the NCAR CCSM3: $CO_2$ Sensitivity and Abrupt Climate Change," 2009 DOE Innovative and Novel Computational Impact on Theory and Experiment (INCITE) Award, 2009-2012, co-PIs: Z. Liu, University of Wisconsin, D. Erickson, ORNL, and R. Jacobs, ANL).
13. *Co-Principal Investigator,* "A Collaborative Proposal: Simulating and Understanding Abrupt Climate-Ecosystem Changes During Holocene with NCAR-CCSM3," DOE Program Notice DE-PS02-08ER08-05: Abrupt Climate Change Modeling: Climate Change Prediction Program, 2008-2011, co-PI: Z. Liu, University of Wisconsin.
14. *Co-Principal Investigator,* "Assessing Global Climate Response of the NCAR CCSM3: $CO_2$ Sensitivity and Abrupt Climate Change," 2007 DOE Innovative and Novel Computational Impact on Theory and Experiment (INCITE) Award, 2007-2009, co-PIs: Z. Liu, University of Wisconsin, D. Erickson, ORNL, and R. Jacobs, ANL)

15. *Co-Principal Investigator,* "Climate Sensitivity to Arctic Freshwater Forcing: A Model-Data Comparison of the 8.2 ka Event," NSF OPP, 2007-2011, co-PI: C. Morrill, CIRES.
16. *Co-Principal Investigator,* "Volcanism in the Arctic SysTem (VAST): Geochronology and Climate Impacts," NSF OPP, 2007-2011, collaborative with Universities of Colorado, Massachusetts, Iceland, Bergen, Copenhagen, and Edinburgh, and SUNY Buffalo.
17. *Co-Principal Investigator,* "Collaborative Research: A Synthesis of the Last 2000 Years of Climatic Variability from Arctic Lakes," NSF ARC, 2005-2009. (Collaborative with 13 institutions).
18. *Collaborating Scientist*, NSF proposal: "A Collaborative Effort Toward Adding an Interactive Dynamical Vegetation Component to the NCAR CCSM-Land Model," PI - Robert Gallimore and John Kutzbach, University of Wisconsin, 2001-2003.
19. *Academic Partner,* "Acquisition of High-Performance Computing Systems to Support a Partnership in Modeling Earth System History, lead institution - Penn State University, 2001-2003.
20. *Principal Investigator,* "Ocean-Atmosphere Interaction in the South Atlantic in Different Climates," NSF Special Funds, 2001-2004.
21. *Principal Investigator,* "NCAR Paleoclimate Modeling Program", NSF Special Funds, 1997-1999.
22. *Principal Investigator,* "Paleovegetation and Global Climate Change Across the Cretaceous-Tertiary Boundary," Advanced Research program, Texas Coordinating Board, 1994-1995.
23. *Principal Investigator,* "Modeling the Effects of an Ice Sheet on the Climate of a Supercontinent," Atmospheric Sciences Division, NSF ATM, 1993-1996.
24. *Principal Investigator,* "Paleoclimate Reconstructions for the Paleozoic Era (570-245 Million Years Ago)," Center for High Performance Computing, University of Texas, 1992-1995.
25. *Principal Investigator,* "Paleoclimatic Models of Phanerozoic Paleogeography with Predictions of Coastal Upwelling," Consortium of Oil Companies, 1992.