

ABBREVIATED VITA

BETTE L. OTTO-BLIESNER

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CAREER HIGHLIGHTS FOR IPCC AR6 SCOPING

Internationally recognized leader in integrating climate models and proxy indicators to dissect the mechanisms and feedbacks that explain past climates - from pre-Quaternary to glacial-interglacial to last millennium - and address their relevance to future change.

Commitment over career to service on numerous international and national committees, including three IPCC assessment reports, IGBP, PMIP, AGU, and the US National Academy.

CURRENT AND FUTURE DIRECTIONS

Integrating models and proxy indicators to investigate climate and the interactions of climate with ice sheets and vegetation during warm past periods, translating this to relevant and actionable science for future decisions.

EDUCATION

B.S. Honors	Meteorology	University of Wisconsin, 1972
M.S.	Meteorology	University of Wisconsin, 1974
	Dissertation title: <i>Isentropically Time-averaged Mass Circulations in the Northern Hemisphere.</i>	
Ph.D.	Meteorology, Minor in Mathematics	University of Wisconsin, 1980
	Dissertation title: <i>The Dynamics of Seasonal Change of the Long Waves as Deduced from a Low-order General Circulation Model.</i>	

PROFESSIONAL EXPERIENCE

1974-1976, Support Scientist, National Center for Atmospheric Research.
1980-1986, Associate Scientist, University of Wisconsin-Madison.
1988-1989, Contract Scientist, ARC Technologies, College Station, Texas.
1990-1992, Adjunct Assistant Professor/Faculty Research Associate; 1993-1996, Assistant Professor, Department of Geology & Director, Center for Earth System History, University of Texas at Arlington.
1995-2007, Visiting Scientist, Scientist II-III, National Center for Atmospheric Research.
2007-present, Senior Scientist, National Center for Atmospheric Research.
2011-2012, NCAR Science Advisor, National Center for Atmospheric Research.
2014-present, Deputy Director, Climate & Global Dynamics Division Laboratory, National Center for Atmospheric Research.

HONORS AND SOCIETIES

American Meteorological Society, Fellow 2016, Member 1972-present.

Sigma Xi Distinguished Lecturer, 2010-2011

American Geophysical Union, Fellow 2015, Member 1992-present.

Emiliani Lecture, Joint between Paleoceanography and Paleoclimatology Focus Group and Ocean Sciences Section, December 2016.

Chair of Paleoceanography and Paleoclimatology Focus Group, 2002-2006.

Session Chair - Co-convenor, AGU Fall Meetings, 1997-2014.

Sigma Xi, University of Wisconsin, 1980.

Nobel Peace Prize awarded to Intergovernmental Panel on Climate Change, shared as Lead Author on Working Group I Report, 2007.

SELECTED PANELS AND COMMITTEES:

Advisory Committee (1992-1993), *Marine Aspects of Earth System History (MESH)*, National Science Foundation Ocean Sciences.

Steering Committee (1999-2004), *PARCS (Paleoenvironmental Arctic Sciences)*, National Science Foundation.

Co-chair (1997-2005, 2011-present), *Paleoclimate Working Group, NCAR Community Earth System Model*.

Steering Committee (2004-present), *Paleoclimate Modeling Intercomparison Project (PMIP)*.

Committee (2006), *Surface Temperature Reconstructions for the Past 1000-2000 Years: Synthesis of Current Understanding and Challenges for the Future*, National Academy of Sciences.

Contributing Author (2005-2007), *IPCC Fourth Assessment Report*, Chapter 9: Understanding and Attributing Climate Change.

Lead Author, *IPCC Fourth Assessment Report*, Chapter 6: Paleoclimate, 2005-2007, and *IPCC Fifth Assessment Report*, Chapter 5: Information from Paleoclimate Archives, 2010-2014.

Chair (2009-2011), Scientific Steering Committee (2006-2011), *International Geosphere-Biosphere Programme (IGBP) Past Global Changes (PAGES)*.

SELECTED PUBLICATIONS (of more than 150 total)

1. Otto-Bliesner, B. L., G. W. Branstator, and D. D. Houghton, 1982: A global low-order spectral general circulation model. Part I: Formulation and seasonal climatology. *J. Atmos. Sci.*, 39, 929-948.
2. Kutzbach, J. E. and B. L. Otto-Bliesner, 1982: The sensitivity of the African-Asian monsoonal climate to orbital parameter changes for 9000 yr B.P. in a low-resolution general circulation model. *J. Atmos. Sci.*, 39, 1177-1188.
3. Otto-Bliesner, B. L. and D. D. Houghton, 1986: The sensitivity of the seasonal climate of a general circulation model to ocean surface conditions and solar forcing. *J. Geophys. Res.*, 91, 6682-6694.
4. Otto-Bliesner, B. L., 1995: Continental drift, runoff and weathering feedbacks: Implications from climate model experiments. *J. Geophys. Res.*, 100, 11537-11548.
5. Otto-Bliesner, B. L., 1996: Initiation of a continental ice sheet in a global climate model (GENESIS). *J. Geophys. Res.*, 101, 16909-16920.
6. Otto-Bliesner, B. L., and G. R. Upchurch, Jr., 1997: Vegetation-induced warming of high latitudes during the latest Cretaceous. *Nature*, 385, 804-807.
7. Otto-Bliesner, B. L., 1999: El Niño/La Niña and Sahel precipitation during the middle Holocene. *Geophys. Res. Lett.*, 26, 87-90.

8. Otto-Bliesner, B.L., and E.C. Brady, 2001: Tropical Pacific variability in the NCAR Climate System Model. *J. Climate*, 14, 3587-3601.
9. Otto-Bliesner, B.L., E.C. Brady, and C. Shields, 2002: Late Cretaceous ocean: Coupled simulations with the National Center for Atmospheric Research Climate System Model. *J. Geophys. Res.*, 107, 10.1029/2001JD000821.
10. Shin, S.I., Z. Liu, B.L. Otto-Bliesner, E.C. Brady, J.E. Kutzbach, and S.P. Harrison, 2003: A simulation of the Last Glacial Maximum climate using NCAR-CCSM. *Clim. Dyn.*, 20, 127-151.
11. Otto-Bliesner, B.L., E.C. Brady, S. Shin, Z. Liu, and C. Shields, 2003: Modeling El Niño and its teleconnections during the last glacial-interglacial cycle. *Geophys. Res. Lett.*, 30, 2198, DOI: 10.1029/2003GL018553.
12. Trenberth, K.E., and B.L. Otto-Bliesner, 2003: Toward integrated reconstruction of past climates. *Science*, 300, 589-591.
13. 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.
14. Otto-Bliesner, B.L., E.C. Brady, G. Clauzet, R. Tomas, S. Levis, and Z. Kothavala, 2006: Last Glacial Maximum and Holocene climate in CCSM3. *J. Climate*, 19, 2526-2544.
15. Otto-Bliesner, B.L., S.J. Marshall, J.T. Overpeck, G.H. Miller, A. Hu, and CAPE Last Interglacial Project Members, 2006: Simulating Arctic climate warmth and icefield retreat in the last interglaciation. *Science*, 311, 1751-1753.
16. Overpeck, J.T., B.L. Otto-Bliesner, G.H. Miller, D.R. Muhs, R. Alley, J.T. Kiehl, 2006: Paleoclimatic evidence for future ice sheet instability and rapid sea level rise. *Science*, 311, 1747-1750.
17. Otto-Bliesner, B.L., C.D. Hewitt, T.M. Marchitto, E. Brady, A. Abe-Ouchi, M. Crucifix, S. Murakami, and S.L. Weber, 2007: Last Glacial Maximum ocean thermohaline circulation: PMIP2 model intercomparisons and data constraints. *Geophysical Research Letters*, 34, L12706, doi:10.1029/2007GL029475.
18. Hu, A., B.L. Otto-Bliesner, G.A. Meehl, W. Han, C. Morrill, E.C. Brady, and B. Briegleb, 2008: Response of thermohaline circulation to freshwater forcing under present day and LGM conditions. *Journal of Climate*, 21, 2239-2258.
19. Braconnot, P., B. Otto-Bliesner, S. Harrison, et al., 2007: Results of the PMIP2 coupled simulations of the mid-Holocene and Last Glacial Maximum. Part 1: experiments and large scale features. *Climate of the Past*, 3, 261-277.
20. Otto-Bliesner, B.L., R. Schneider, E. Brady, M. Kucero, et al., 2009: A comparison of PMIP-2 model simulations and the MARGO proxy reconstruction for tropical sea surface temperatures at Last Glacial Maximum. *Climate Dynamics*, 32, 799-815.
21. Liu, Z., B.L. Otto-Bliesner, F. He, E.C. Brady, R. Tomas, P.U. Clark, A.E. Carlson, J. Lynch-Stieglitz, W. Curry, E. Brook, D. Erickson, R. Jacob, J. Kutzbach, and J. Cheng, 2009: Transient simulation of last deglaciation with a new mechanism for Bolling-Allerod warming, *Science*, 325, 310-314.
22. Hu, A, G. A. Meehl, B. L. Otto-Bliesner, C. Waelbroeck, W. Han, M-F. Loutre, K. Lambeck, J. X. Mitrovica and N. Rosenbloom, 2010: Influence of Bering Strait flow and North Atlantic circulation on glacial sea level changes. *Nature Geosciences*, 3, 118-121.
23. Otto-Bliesner, B.L., and E.C. Brady, 2010: The sensitivity of the climate response to the magnitude and location of freshwater forcing: last glacial maximum experiments. *Quaternary Science Reviews*, 29, 56-73.

24. Zhong, Y., G. Miller, B. Otto-Bliesner, M. Holland, D. Bailey, D. Schneider and A. Geirsdottir, 2011: Explosive volcanism as a trigger for abrupt multi-centennial climate change: a coupled sea-ice/ocean mechanism. *Climate Dynamics*, 37, 2373-2387.
25. McKay, N.P., J.T. Overpeck, and B.L. Otto-Bliesner, 2011: The role of ocean thermal expansion in Last Interglacial sea level rise. *Geophysical Research Letters* 38, doi:10.1029/2011GL048280.
26. Landrum, L., B.L. Otto-Bliesner, E.R. Wahl, A. Conley, P.J. Lawrence, N. Rosenbloom, and H. Teng, 2013: Last Millennium climate and its variability in CCSM4. *Journal of Climate*, 26, 1085-1111.
27. Brady, E.C., B.L. Otto-Bliesner, J.E. Kay, and N. Rosenbloom, 2013: Sensitivity to glacial forcing in the CCSM4. *Journal of Climate*, 26, 1901-1924.
28. Haywood, A.M., D. J. Hill, A. M. Dolan, B. L. Otto-Bliesner, et al., 2013: Large-scale features of Pliocene climate: results from the Pliocene Model Intercomparison Project. *Clim. Past*, 9, 191-209.
29. Ballantyne, A.P., Y. Axford, G.H. Miller, B.L. Otto-Bliesner, N. Rosenbloom, and J.W.C. White, 2013: The amplification of Arctic terrestrial surface temperatures by reduced sea-ice extent during the Pliocene. *Palaeogeography, Palaeoclimatology, Palaeoecology*, 386, 59-67.
30. Otto-Bliesner, B. L., N. Rosenbloom, E. J. Stone, N. McKay, D. Lunt, E. C. Brady, and J. T. Overpeck, 2013: How well do models reproduce Last Interglacial warmth? New model-data comparisons, *Philosophical Transactions of the Royal Society*, 371, 20130097, 10.1098.
31. Wagner, A.J., C. Morrill, B.L. Otto-Bliesner, N. Rosenbloom, and K.R. Watkins, 2013: Model support for forcing of the 8.2 ka event by meltwater from the Hudson bay ice dome. *Climate Dynamics*, 41, 2855-2873, doi: 10.1007/s00382-013-1706-z.
32. Otto-Bliesner, B.L., J.M. Russell, P.U. Clark, Z. Liu, J.T. Overpeck, B. Konecky, P. deMenocal, S.E. Nicholson, F. He, and Z. Lu, 2014: Coherent changes of southeastern equatorial and northern African rainfall during the last deglaciation. *Science*, 346, 1223-1227.
33. Howell, F.W., A.M. Haywood, B.L. Otto-Bliesner et al., 2016: Arctic sea ice simulation in the PlioMIP ensemble. *Clim. Past*, 12, 749-767.
34. Past Interglacials Working Group PAGES, 2016: Interglacials of the last 800,000 years. *Reviews of Geophysics*, 54, 162-219.
35. Otto-Bliesner, B.L., E.C. Brady, J. Fasullo, A. Jahn, L. Landrum, S. Stevenson, N. Rosenbloom, A. Mai, G. Strand, 2016: Climate variability and change since 850 C.E.: An ensemble approach with the Community Earth System Model (CESM). *Bulletin of the American Meteorological Society*, 5, 735-754.
36. Stevenson, S. B. Otto-Bliesner, J. Fasullo, and E. Brady, 2016: El Nino like hydroclimate responses to Last Millennium volcanic eruptions. *Journal of Climate*, 29, 2907-2921.
37. Kageyama, M., P. Braconnot, S.P. Harrison, A.M. Haywood, J. Jungclaus, B.L. Otto-Bliesner, J.Y. Peterschmitt et al., 2016: PMIP4-CMIP6: the contribution of the Paleoclimate Modeling Intercomparison Project to CMIP6. *Geoscientific Model Development CMIP6 Special Issue*, in review.
38. Otto-Bliesner, B.L. et al., 2016: The PMIP4 contribution to CMIP6 – Part 2: Two interglacials, scientific objectives and experimental design for Holocene and Last Interglacial simulations. *Geoscientific Model Development CMIP6 Special Issue*, submitted.
39. Otto-Bliesner, B.L. et al., 2016: Changes in Arctic gateways amplify North Atlantic warming in the late Pliocene. *Geophysical Research Letters*, submitted.