Brent M. Lofgren, Ph.D.
NOAA/Great Lakes Environmental Research Laboratory, 4840 S. State Rd., Ann Arbor, MI 48108-9719
Phone: +1 (734) 741-2383 E-mail: Brent.Lofgren@noaa.gov

Research Interests: Modeling of atmospheric systems and their coupling to terrestrial and water surfaces, with particular emphasis on interannual to interdecadal timescales in the Laurentian Great Lakes basin, as well as land use-climate interactions in East Africa, and communication of climate change to scientific, stakeholder, and public audiences.

Educational background:

Ph.D., January 1993, Atmospheric and Oceanic Sciences, Princeton University, Princeton, NJ.
Ph.D. dissertation title: "Sensitivity and Feedbacks Associated with Vegetation-Related Surface Parameters in a General Circulation Model" Advisor: Syukuro Manabe

M.A., May 1990, Atmospheric and Oceanic Sciences, Princeton University

B.S., May 1988, Physics and Mathematics, Augsburg College, Minneapolis, MN

Work experience:

Physical Scientist, NOAA Great Lakes Environmental Research Laboratory, Ann Arbor, MI, June 1996-present.

- Regional climate modeling and interaction with hydrology
- Includes ecosystem interactions, lake hydrodynamics and ice dynamics, and nutrient chemistry aspects of lakes
- Supervision and mentoring of post-doctoral researchers and students
- Leader of laboratory-wide data management
- Possess an extensive network of experts on different aspects of the Great Lakes system

Detail assignment: Research Program Analyst/Physical Scientist, NOAA Earth System Research Laboratory, Boulder, CO, on detail January 2006-January 2007.

- Experience in management tasks, particularly planning and web-based dissemination of research
- Exposure to a wider variety of NOAA's atmosphere-focused research, including weather forecasting systems, statistically-based forecasting, and monitoring of atmospheric composition

Cooperative Institute for Limnology and Ecosystems Research, Assistant Research Scientist (February 1995-June 1996) and Post-Doctoral Research Fellow (December 1992-January 1995), University of Michigan, Ann Arbor, MI assigned to the Great Lakes Environmental Research Laboratory.

- Used the RAMS model for regional atmospheric-hydrologic coupled modeling under various climate scenarios.
- Day-to-day supervision of a post-doctoral researcher

Graduate Research Fellow, NOAA Geophysical Fluid Dynamics Laboratory/Princeton University, Princeton, NJ, September 1988-November 1992.

- Intense math-based background in atmospheric and oceanic dynamics
- Running and experimenting with a global climate model
- Interaction of atmospheric dynamics and hydrology

Graduate Teaching Assistant, Princeton University, Princeton, NJ, September 1990-January 1991.

- Gave me experience in educating non-specialists on climate change

Undergraduate Research Assistant, Augsburg College/University of Minnesota, Minneapolis, MN, September 1985-August 1988.

- First hands-on scientific research experience—space physics and plasma dynamics, and practical aspects of experimental physics

Awards:
Quality Step Increase Award, 2001–for superior performance of general duties
U.S. Department of Commerce Bronze Medal Award, 1999–for serving as a facilitator for NOAA's Survey-Feedback-Action program
NASA Global Change Fellowship 1991-92
National Science Foundation Graduate Student Fellowship 1988-91

Skills: Global and regional climate knowledge; interdisciplinary knowledge (particularly hydrology and oceanography, but also aquatic and terrestrial ecosystems and biogeochemical cycles, plus a strong physics and mathematics background); writing; programming in Fortran, C, R, and Unix scripting; RAMS and WRF regional atmospheric models; Microsoft Office packages.

International Activities: Grant selection panel, German Research Foundation, 2009 and 2012; Grant selection panel, Canadian Foundation for Climate and Atmospheric Sciences, 2005; workshop planning project on Land Use and Climate Change in East Africa, Nairobi, Kenya, 2002; participation as member of Upper Great Lakes Plan of Study Team for International Joint Commission, 2001-02; testimony before IJC Levels Reference Study Team, 1999; presentation/participation in Binational Climate Symposium, 1997.

Selected presentations to non-specialist groups:
Lofgren, B. M., 2014 and 2015: The Science of Climate Change (2 sessions each year). Elderwise (educational program for older adults at Cleary University), Ann Arbor, MI.
Lofgren, B. M., 2005, 2012, 2013, and 2014: Presentations on climate change, East African food security, and Great Lakes issues (5 presentations on each trip). Holden Village Lutheran Retreat Center, Chelan, WA.

Selected peer-reviewed papers:
Lofgren, B. M., A. D. Gronewold, A. Acciaioli, J. Cherry, A. Steiner, and D. Watkins, 2013: Methodological approaches to projecting the hydrologic impacts of climate change. *Earth Interactions*, **17** (22), 1-19, doi:10.1175/2013EI000532.1.
Lofgren, B. M., T. S. Hunter, and J. Wilbarger, 2011: Effects of using air temperature as a proxy for evapotranspiration in climate change scenarios of Great Lakes basin hydrology. *J. Great Lakes Res*., **37**, 744-752, doi:10.1016/j.jglr.2011.09.006.
Ge, J., J. Qi, B. M. Lofgren, N. J. Moore, N. Torbick, and J. M. Olson, 2007: Impacts of Land Use/Cover Classification Accuracy on Regional Climate Simulations. *J. Geophys. Res.,* **112**, doi:10.1029/2006JD007404.
Lofgren, B. M., 2004: A model for simulation of the climate and hydrology of the Great Lakes Basin. *J. Geophys. Res*., **109**, D18108, doi:10.1029/2004JD004602.
Lofgren, B. M., F. H. Quinn, A. H. Clites, R. A. Assel, A. J. Eberhardt, and C. L. Luukkonen, 2002: Evaluation of potential impacts on Great Lakes water resources based on climate scenarios of two GCMs. *J. Great Lakes Res*., **28**, 537-554.
Lofgren, B. M., 1995: Surface albedo-climate feedback simulated using two-way coupling. *J. Climate*, **8**, 2543-2562.