

Dr. Gary M. Lackmann

Associate Professor
North Carolina State University
Department of Marine, Earth, and Atmospheric Sciences
Raleigh, North Carolina, 27695-8208
Telephone: (919) 515-1439

Professional Preparation:

University at Albany, State University of New York	Atmospheric Science	Ph.D.	1995
University of Washington	Atmospheric Science	M.S.	1989
University of Washington	Atmospheric Science	B.S.	1986

Professional Appointments:

North Carolina State University, Raleigh, NC	<i>Associate Professor</i>	2004 – present
North Carolina State University, Raleigh, NC	<i>Assistant Professor</i>	1999 – 2004
State University of New York, College at Brockport, NY	<i>Assistant Professor</i>	1996 – 1999
McGill University, Montreal, Quebec, Canada.	<i>Postdoctoral Scientist</i>	1995 – 1996
Naval Postgraduate School, Monterey, CA	<i>Physical Scientist</i>	1988 – 1989
NOAA/Pacific Marine Environmental Lab., Seattle, WA	<i>Physical Scientist</i>	1985 – 1988.

Refereed Publications:

Gentry M. S., and G. M. Lackmann, 2009: Sensitivity of simulated tropical cyclone structure and intensity to horizontal resolution. *Mon. Wea. Rev.* **137**, *in review*.

Mahoney, K. M., G. M. Lackmann, and M. D. Parker, 2009: The role of convective momentum transport in the motion of a quasi-idealized mesoscale convective system. *Mon. Wea. Rev.* **137**, *in press*.

Hill, K. A., and G. M. Lackmann, 2009a: Influence of environmental humidity on tropical cyclone size. *Mon. Wea. Rev.* **137**, *in press*.

Keighton, S., L. Lee, B. Holloway, D. Hotz, S. Zubrick, J. Hovis, G. Votaw, L. B. Perry, G. Lackmann, S. Yuter, C. Konrad, D. Miller, B. Etherton, 2009: A Collaborative Approach to Study Northwest Flow Snow in the Southern Appalachians *Bull. Amer. Meteor. Soc.* 2009 early online release, posted March 2009.

Hill, K. A., and G. M. Lackmann, 2009b: Analysis of idealized tropical cyclone simulations using the Weather Research and Forecasting Model: Sensitivity to turbulence parameterization and grid spacing. *Mon. Wea. Rev.* **137**, 745–765.

Jacobs, N. A., S. Raman, G. M. Lackmann, and P. P. Childs Jr., 2008: The influence of Gulf Stream induced SST gradients on the US East Coast winter storm of 24-25 January 2000. *Inter. J. Remote Sensing*, **29**:21, 6145–6174.

Brennan, M. J., G. M. Lackmann, and K. M. Mahoney, 2008: Potential vorticity (PV) thinking in operations: The utility of non-conservation. *Wea. Forecasting*, **23**, 168–182.

Mahoney, K. M., and G. M. Lackmann, 2007: The Effect of Upstream Convection on Downstream Precipitation. *Wea. Forecasting*, **22**, 255–277.

- Palmieri, R., L. Tredway, D. Niyogi, and G. M. Lackmann, 2006: Development and evaluation of a forecasting system for fungal disease in turfgrass. *Met. Applications*, **13**, 405–416.
- Brennan, M. J., and G. M. Lackmann, 2006: Observational diagnosis and model forecast evaluation of unforecasted incipient precipitation during the 24–25 January 2000 East Coast cyclone. *Mon. Wea. Rev.* **134**, 2033–2054.
- Stuart, N. A., P. S. Market, B. Telfeyan, G. M. Lackmann, K. Carey, H. E. Brooks, D. Nietfeld, B. C. Motta, and K. Reeves, 2006: The future of humans in an increasingly automated forecast process. *Bull. Amer. Meteor. Soc.*, **87**, 1497–1502.
- Mahoney, K. M., and G. M. Lackmann, 2006: The Sensitivity of Numerical Forecasts to Convective Parameterization: A Case Study of the 17 February 2004 East Coast Cyclone. *Wea. Forecasting*, **21**, 465–488.
- Fuentes, M., L. Chen, J. Davis, and G. M. Lackmann, 2005: A new class of nonseparable and nonstationary covariance models for wind fields. *Environmetrics*, **16**, 449–464.
- Jacobs, N. A., G. M. Lackmann, and S. Raman, 2005: The combined effects of Gulf Stream-induced baroclinicity and upper-level vorticity on U.S. East Coast extratropical cyclogenesis. *Mon. Wea. Review.*, **133**, 2494–2501.
- Brennan, M. J., and G. M. Lackmann, 2005: The influence of incipient latent heat release on the precipitation distribution of the 24–25 January 2000 U.S. East Coast cyclone. *Mon. Wea. Rev.*, **133**, 1913–1937.
- Reeves, H. D., and G. M. Lackmann, 2004: An Investigation of the Influence of Latent Heat Release on Cold-Frontal Motion. *Mon. Wea. Rev.* **132**, 2864–2881.
- Lackmann, G. M., and R. M. Yablonsky, 2004: On the role of the precipitation mass sink in tropical cyclogenesis. *J. Atmos. Sci.* **61**, 1674–1692.
- Brennan, M. J., G. M. Lackmann, and S. E. Koch, 2003: An analysis of the impact of a split-front rainband on Appalachian cold-air damming. *Wea. Forecasting*, **18**, 712–731.
- Bailey, C. M., G. Hartfield, G. M. Lackmann, K. Keeter, and S. Sharp, 2003: An objective climatology, classification scheme, and assessment of sensible weather impacts for Appalachian cold-air damming. *Wea. Forecasting*, **18**, 641–661.
- Lackmann, G. M., K. Keeter, L. G. Lee, and M. B. Ek, 2002: Model representation of freezing and melting precipitation: Implications for winter weather forecasting. *Wea. Forecasting*, **17**, 1016–1033.
- Lackmann, G. M. 2002: Potential vorticity redistribution, the low-level jet, and moisture transport in extratropical cyclones. *Mon. Wea. Rev.*, **130**, 59–74.
- Lackmann, G. M., 2001: Analysis of a surprise western New York snowstorm. *Wea. Forecasting*, **16**, 99–116.
- Lackmann, G. M., D. Keyser, and L. F. Bosart 1999: Energetics of an intensifying midtropospheric jet streak during the Experiment on Rapidly Intensifying Cyclones over the Atlantic (ERICA). *Mon. Wea. Rev.*, **127**, 2777–2795.

- Lackmann, G. M., and J. R. Gyakum, 1999: Heavy cold-season precipitation in the Northwestern United States: Synoptic climatology and an analysis of the flood of 17–18 January 1986. Submitted to *Wea. Forecasting*, **14**, 687–700.
- Henderson, J., G. M. Lackmann, and J. R. Gyakum, 1998: Analysis of hurricane Opal's forecast track using quasigeostrophic potential vorticity inversion. *Mon. Wea. Rev.*, **127**, 292–307.
- Lackmann, G. M., J. R. Gyakum, and R. Benoit, 1998: Moisture transport diagnosis of a wintertime precipitation event in the Mackenzie River Basin. *Mon. Wea. Rev.*, **126**, 668–691.
- Lackmann, G. M., D. Keyser, and L. F. Bosart, 1997: A characteristic evolution of upper-tropospheric cyclogenetic precursors during the Experiment on Rapidly Intensifying Cyclones over the Atlantic (ERICA). *Mon. Wea. Rev.*, **125**, 2529–2556.
- Lackmann, G. M., and J. R. Gyakum, 1996: The synoptic- and planetary-scale signatures of precipitating systems over the Mackenzie River Basin. *Atmos.–Ocean*, **34**, 647–674.
- Lackmann, G. M., L. F. Bosart, and D. Keyser, 1996: The synoptic- and planetary-scale environment for explosive wintertime cyclogenesis over the western North Atlantic Ocean. *Mon. Wea. Rev.*, **124**, 2672–2702.
- Bosart, L. F., and G. M. Lackmann, 1995: Postlandfall tropical cyclone reintensification in a weakly baroclinic environment: A case study of hurricane David (September 1979). *Mon. Wea. Rev.*, **123**, 3268–3291.
- Evans, M. S., D. Keyser, L. F. Bosart, and G. M. Lackmann, 1994: A satellite-derived classification scheme for rapid maritime cyclogenesis. *Mon. Wea. Rev.*, **122**, 1381–1416.
- Ferber, G. K., C. F. Mass, G. M. Lackmann, and M. W. Patnoe, 1993: Snowstorms over the Puget Sound Lowlands. *Wea. Forecasting*, **8**, 481–504.
- Lackmann, G. M., and J. Overland, 1989: Atmospheric structure and momentum balance during a gap-wind event in Shelikof Strait, Alaska. *Mon. Wea. Rev.*, **117**, 1817–1833.
- Macklin, S. A., G. M. Lackmann, and J. Gray, 1988: Offshore-directed winds in the vicinity of Prince William Sound, Alaska. *Mon. Wea. Rev.*, **116**, 1289–1301.

Theses:

- Lackmann, G. M., 1995: Life Cycles of Mobile Upper Troughs and Maritime Cyclones During ERICA. Ph.D. Thesis, Department of Atmospheric Science, University at Albany, State University of New York, 318 pp.
- Lackmann, G. M., 1989: Atmospheric Structure and Momentum Balance During a Gap-Wind Event in Shelikof Strait, Alaska. M.S. Thesis, Department of Atmospheric Science, University of Washington, 65 pp.

Non-Refereed Publications:

Orf, L., G. M. Lackmann, C. Herbster, A. Krueger, E. Cutrim, T. Whitaker, J. Steenburgh, and M. Voss, 2007: Models as educational tools. *Bull. Amer. Meteor. Soc.*, **88**, 1101–1104

Brennan, M. J., K. Keeter, A. J. Riordan, and G. M. Lackmann, 2005: Expanding educational horizons with a National Weather Service-North Carolina State University internship course. *Bull. Amer. Meteor. Soc.*, **85**, 1407-1409.

Lackmann, G. M. 2002: NWP Biases in freezing rain forecasts, *Bull. Amer. Meteor. Soc.* **83**, 1274–1275.

Guth, M. A. S., G. M. Lackmann, S. E. Kennedy, and K. W. Appel, 2002: Weather Research for Trading Profits. *The Risk Desk* **2**, No. 3, May 2002.

Service and Community Participation:

Subject Area Editor: *Bulletin of the AMS* (2006 to present)

Associate Editor: *Monthly Weather Review* (January 1999 to 2004)

Reviewer: *National Science Foundation, Department of Energy, Bulletin of the AMS, Journal of the Atmospheric Sciences, Weather and Forecasting; Journal of Applied Meteorology; Journal of Applied Meteorology and Climatology; Quarterly Journal of the Royal Meteorological Society; Atmosphere–Ocean; Tellus, Monthly Weather Review, Meteorology and Atmospheric Physics, Journal of Hydrometeorology, International Journal of Climatology*

Chair, Unidata Users Committee, Fall 2006 to present

Member, Unidata Users Committee (2004-2006) and Unidata Policy Committee (2006-present)

Member: AMS Committee on Weather Analysis and Forecasting, January 2001 to January 2004.

Member: AMS Committee on Broadcast Meteorologist Certification, 2003 to 2005

Member: AMS Central Carolina Chapter

Faculty Advisor: NCSU AMS Student Chapter, September 2000 to present

Member: Sigma Xi

Thesis Advisor:

Currently advising 2 M.S. students and 4 Ph.D. students

Totals: 14 M.S., 2 Ph.D., 0 Postdoc