

Anthony R. Lupo
2312 Sunflower Street
Columbia, Missouri 65202 - 3214

VITA

Date of Birth: 13 March 1966

Married - three children

Office Phone: (573)884 - 1638

Fax: (573)884 - 5070

Email: LupoA@missouri.edu

Home Phone: (573)447 - 3087

Home Page: <http://www.missouri.edu/~lupoa/author.html>

EDUCATION

Ph.D. - Atmospheric Science, Purdue University - West Lafayette, IN, 1995

M.S. - Atmospheric Science, Purdue University - West Lafayette, IN, 1991

B.S. - Meteorology, State University of New York at Oswego - Oswego, NY, 1988

A.S. - Mathematics/Science, Cayuga County Community College - Auburn, NY, 1986

PROFESSIONAL EXPERIENCE

2009 - present: Professor, Department of Soil, Environmental, and Atmospheric Science, University of Missouri - Columbia, Columbia, Missouri 65211. Department Chair: 2008 – present.

2003 - 2009: Associate Professor, Department of Soil, Environmental and Atmospheric Sciences, University of Missouri – Columbia, Columbia, Missouri 65211.

1997 - 2003: Assistant Professor, Department of Soil and Atmospheric Sciences, University of Missouri - Columbia, Columbia, Missouri 65211.

- 1995 - 1997 : Postdoctoral Research Associate, Department of Earth and Atmospheric Sciences, The University at Albany / State University of New York, Albany, New York 12222.
- 1989 - 1995 : Research Assistant, Department of Earth and Atmospheric Sciences, Purdue University, West Lafayette, Indiana 47907.
- 1990 - 1991 : Teaching Assistant, Atmospheric Dynamics II, Atmospheric Dynamics II Lab, and Forecasting Laboratory, Purdue University, West Lafayette, Indiana 47907.
- 1992 - 1993 : Teaching Assistant, Survey of Meteorology, Survey of Meteorology Laboratory, Purdue University, West Lafayette, Indiana 47907.

HONORS AND MEMBERSHIPS (In academic, professional, and scholarly societies)

- Won the Missouri Academy of Science Most Distinguished Scientist Award, April 2009
- Won a Kemper Teaching Award, April 2008. This is the highest award a college-level teacher can win in Missouri (Honorarium \$10,000.00)
- Induced into the CAFNR teaching academy, April 2008 (duties: mentor two younger faculty on teaching).
- Won the College of Agriculture food and Natural Resources (CAFNR) Outstanding undergraduate Advisor award, (\$1,000.00 honorarium) April 2008
- Selected for the LEAD21 program (class of 2008 – 2009). This is a program with national reach for leadership training for future leaders and administrators in academics.
- Acknowledged as part of the IPCC which shared the Nobel Peace Prize with Mr. Albert Gore, Jr., October 2007
- Won the CAFNR Senior level teaching award, (\$1,000.00 honorarium) April 2006
- Won the MU Chapter of Gamma Sigma Delta - Teaching Award of Merit; April 2005
- Selected for the 3rd CAFNR Teaching Scholars Program 2003 – 2006.

- Fulbright Research Scholar (2003 – 2004 – to Russian Academy of Sci. / summer 2004)
- American Meteorology Society
 - Associate Editor, Monthly Weather Review (2000 – 2003, 2007 – present)
 - Nominated for Fellow May 2008
 - CCM January 2010, (Passed written exam – Oral January 2010)
- Sigma Xi Honor Society
 - President, MU Chapter 2002 – 2004, 2008-2009
 - Vice President, MU Chapter 2001 – 2002, 2004-2005, 2007-2008
 - Secretary 2005-2007, 2009
 - Treasurer, 2009-present
- Fellow, Royal Meteorological Society
- Missouri Academy of the Sciences
 - Chair, Atmospheric Sciences Section (2000 - 2002).
 - Editor, Transactions of the Missouri Academy (2002 – 2006)
 - Elected Vice President for 2008 – 2009.
 - President Elect for 2009 - 2010
- American Geophysical Union
- MU Administrative Representative to UCAR – NCAR (2003 – present)
- MU representative on the Board on Oceans and Atmospheres of the National Association of State Universities and Land-Grant Colleges.
- UCAR/UNIDATA Contract Contact point for the University of Missouri (1998 – 2003)
- Member, National Weather Association
 - Committee member: Weather Analysis and Forecasting Committee (2002 – present)
 - Committee member: Education Committee (2006 – present)
 - Committee member: Publication Committee (2007 – present)
 - Associate Editor (2002 – 2009)
 - Co-Editor, 2009 – present
- Appointed to the University of Missouri Doctoral Faculty January 2000, reappointed 2005

- Served as Associate Editor of Monthly Weather Review CY 2000-2003, CY 2007 - present
- Member, Gamma Delta, Sigma, Honor Society of Agriculture
 - Historian, MU Chapter 2004 - 2005
 - President, MU Chapter 2003 - 2004
 - President Elect, MU Chapter 2002 – 2003
 - Secretary, MU Chapter 2001 - 2002

PUBLICATIONS

Peer Refereed Publications and Invited Book Chapters

Co-authors that are underlined were graduate students under my advisement.

Refereed Publications (54 total)

In publication since 2003 – promotion to associate professor - at MU (29)

Birk, K., A.R. Lupo, P.E. Guinan, and C.E. Barbieri, 2009: The interannual variability of Midwestern temperatures and precipitation as related to the ENSO and PDO. *Accepted pending revision Atmosfera, August, 2009.*

Lupo, A.R. (Contributing Author Ch 6 only), 2009: *Heartland Institute, 2009: Climate Change Reconsidered: The Report of the Nongovernmental International Panel on Climate Change (NIPCC)*, edited by Craig Idso, Ph.D., and S. Fred Singer, Ph.D. (released 2 June 2009)

Wang, Y., and A.R. Lupo, 2009: An extra-tropical Air-Sea Interaction over the North Pacific in Association with a preceding El Nino Episode in Early Summer. *Monthly Weather Review, in press. (50%)*

Market, P.S., G. Dolif Neto, A.E. Becker, B.P. Pettegrew, C.J. Melick, C.J. Schultz, P. I. Buckley, J.V. Clark, A.R. Lupo, R. Holle, N. Demetriades, and C. Barbieri 2008: A Comparison of Two Cases of Low-Latitude Thundersnow. *Atmosfera*, **22**, 331- 356. (10%).

Buckley, P. I., P.S. Market, A.R. Lupo, and N.I. Fox, 2008: COHIX: Further studies of the heat island associated with a small Midwestern city. *Atms. Sci. Lett.*, **194**, 226 - 230. DOI: 10.1002/asl.194 (30%)

Lupo, A.R., T. Hagen, J. Glisan, E. Aldrich, P.E. Guinan, and P.S. Market, 2008: The presentation of precipitation information in television broadcasts: What is normal? *Nat. Wea. Dig.*, **32:2** (70%)

Tilly, D.E., A.R. Lupo, and C.J. Melick, P.S. Market 2008: Calculated height tendencies in a Southern Hemisphere blocking and cyclone event: The contribution of diabatic heating to block intensification. *Monthly Weather Review*, **136**, 3568–3578 (80%).

Lupo, A.R., 2008: Reply to: “In Defense of a Theory of Anthropogenic Global warming”. *Journal of Missouri Medicine*, **105:3**, 186. (100%)

Lupo, A.R., 2008: Anthropogenic Global Warming: A Skeptical point of view. (An invited review article for): *Journal of Missouri Medicine*, **105:2**, 22-26. (100%)

Lupo, A.R., T.K. Latham, T. Magill, J.V. Clark, C.J. Melick, and P.S. Market, 2007: The Interannual Variability of Hurricane Activity in the Atlantic and East Pacific Regions. *National Weather Digest*, *in press*. (80%)

Melick, C.J., L.L. Smith, B.P. Pettegrew, A.E. Becker, P.S. Market, and A.R. Lupo, 2007: Investigation of Stability Characteristics of cold-season convective precipitation events by utilizing the growth rate parameter. *JGR Atmospheres*, **113**, D08108, doi:10.1029/2007JD009063, 2008. (15%)

Zuki, Md. Z., and A.R. Lupo, 2008: The interannual variability of tropical cyclone activity in the southern South China Sea. *J. Geophys. Res.*, **113**, D06106, doi:10.1029/2007JD009218 – 14 pp. (100%)

Lupo, A.R., E. P. Kelsey, D.K. Weitlich, N.A. Davis, and P.S. Market, 2008: Using the monthly classification of global SSTs and 500 hPa height anomalies to predict temperature and precipitation regimes one to two seasons in advance for the mid-Mississippi region. *National Weather Digest*, *in press*. (80%)

Foltz, C.S., Lack, S.A., Fox, N.I., Lupo, A.R., Hasheider, R.J., 2007: The First Conference on Advancing Renewables in the Midwest. *Bull. Amer. Meteor. Soc.*, **88**, 1097 - 1099. (60%)

Market, P.S., N.I. Fox, B.P. Pettegrew, and Anthony R. Lupo, 2007: Second Conference on Weather Analysis and Forecasting Issues in the Central United States. *Bull. Amer. Meteor. Soc.*, **88**, 1795 – 1798. (40%)

Lupo, A.R., I.I. Mokhov, S. Dostoglou, A.R. Kunz, and J. P. Burkhardt, 2007: Оценка влияния процессов планетарного масштаба с анализом фазовых траекторий и энтропии на распад блокировок (Translated: The impact of the planetary scale on the decay of blocking and the use of phase diagrams and enstrophy as a diagnostic). *Izvestiya, Atmos-Osc.*, **43**, 1 - 8. (In English version: pages 45 – 51) (80%)

Lupo, A.R., Kelsey, E.P., D.K. Weitlich, I.I. Mokhov, F.A. Akyuz, Guinan, P.E., J.E. Woolard, 2007: Interannual and interdecadal variability in the predominant Pacific Region SST anomaly patterns and their impact on a local climate. *Atmosfera*, **20**, 171- 196. (80%)

Grathwohl, K., S. Scheiner, L. Brandt, and A.R. Lupo, 2006: Analysis of Weather Data

Collected From Two Locations in a Small Urban Community. *Transactions of the Missouri Academy of Science*, **40**, 50 - 55.

Luo, D., and A.R. Lupo, 2007: Dynamics of eddy-driven low-frequency dipole modes. Part II: Free mode characteristics of NAO and diagnostic study. *Journal of the Atmospheric Sciences*, **64**, 3 - 28. (50%)

Luo, D., A.R. Lupo, and H. Wan 2007: Dynamics of eddy-driven low-frequency dipole modes. Part I: A simple model of North Atlantic Oscillations. *Journal of the Atmospheric Sciences*, **64**, 29 - 51. (40%)

Market, P.S., A. M. Oravetz, D. Gaede, E. Bookbinder, A.R. Lupo, C. J. Melick, L. L. Smith, R. Thomas, R. Redburn, B. P. Pettegrew, and A. E. Becker, 2006: Proximity Soundings of Thundersnow in the Central United States. *Journal Geophysical Research – Atmospheres*, **111**, D19208 – 19217. (5%)

Barriopedro, D., R. Garcia-Herrera, A.R. Lupo, and E. Hernandez, 2006: A climatology of Northern Hemisphere Blocking. *Journal of Climate*, **19**, 1042-1063. (70%)

Lupo, A.R., D. Albert, R. Hearst, P.S. Market, F. Adnan Akyuz, and C.L. Allmeyer, 2005: Interannual Variability of Snowfall Events and Snowfall-to-Liquid Water Equivalents in Southwest Missouri. *National Weather Digest*, **29**, 13 – 24. (50%)

Market, P.S., Fox, N.I., B.P. Pettegrew, and A.R. Lupo, 2004: Second Conference on Weather Analysis and Forecasting Issues in the Central United States. *Accepted pending editorial review by the Bulletin of the American Meteorological Society*, **86**, April 2005. (40%)

Barriopedro, D., R. Garcia-Herrera, A.R. Lupo, and E. Hernandez, 2006: A climatology of Northern Hemisphere Blocking. *Journal of Climate*, **19**, 1042-1063. (70%)

Lupo, A.R., D. Albert, R. Hearst, P.S. Market, F. Adnan Akyuz, and C.L. Allmeyer, 2003: Interannual Variability of Snowfall Events and Snowfall-to-Liquid Water Equivalents in Southwest Missouri. *National Weather Digest*, **28**, in press. (50%)

Parcell, J., E. Berg, S. Cole, S. Freyermuth, M. Grigsby, A.R. Lupo, P.S. Market, J. Millspaugh, and D. Vaught, 2004: The University of Missouri College of Agriculture, Food, and Natural Resources Teaching Scholars Program: Improving College Teachers. *Accepted pending minor revision, NACTA Journal*, November 2004. (5%)

Barriopedro, D., R. Garcia-Herrera, and A.R. Lupo, 2004: Metodo de Deteccion y Climatologia de Bloqueos en el Hemisferio Norte. *I Escuela de Estudios Climaticos Avanzados*, 1 – 12. (40%)

Akyuz, F.A., Chambers, M.D., and A.R. Lupo, 2004: The Short and Long-Term Variability of F2 or Stronger (Significant) Tornadoes in the Central Plains. *Transactions of the Missouri Academy of Science*, **38**, 26 - 45. (80%)

Burkhardt, J.P., and A.R. Lupo, 2005: The planetary and synoptic-scale interactions in a Southeast Pacific blocking episode using PV diagnostics. *Journal of Atmospheric Sciences*, **62**, 1901 - 1916. (100%)

Akyuz, F.A., P.S. Market, P.E. Guinan, J.E. Lam, A. M. Oehl, and W.C. Maune, 2004: The Columbia, Missouri, Heat Island Experiment (COHIX) and the Influence of a Small City on the Local Climatology. *Transactions of the Missouri Academy of Science*, **38**, 56 - 71. (60%; P. Market, F. Akyuz, and P. Guinan – 40%)

Lupo, A.R., P.S. Market, F.A. Akyuz, P.E. Guinan, J.E. Lam, A. M. Oehl, and W.C. Maune, 2003: The Columbia, Missouri, Heat Island Experiment (COHIX): The Influence of a Small City on Local Surface Temperatures and the Implications for Local Forecasts. *Electronic Journal of Operational Meteorology* (www.nwas.org) (60%; P. Market, F. Akyuz, and P. Guinan – 40%)

Lupo, A.R., E.P. Kelsey, E.A. McCoy, C.E. Halcomb, E. Aldrich, S.N. Allen, A. Akyuz, S. Skellenger, D.G. Bieger, E. Wise, D. Schmidt, and M. Edwards, 2003: The Presentation of Temperature Information in Television Broadcasts: What is Normal? *National Weather Digest*, **27:4**, 53 -58. 90%; M. Edwards and D. Schmidt - 10%)

Lupo, A.R. (Contributing author only), 2003: *Report on Wind Chill Temperature and Extreme Heat Indices: Evaluation and Improvement Projects*. An NOAA OFCM Tech. Report FCM-R-19-2003 Edited by: Mary Cairns, Cynthia Nelson. 50 pp. (2%)

Berger, C.L., A.R. Lupo, P. Browning, M. Bodner, C.C. Rayburn, M.D. Chambers, 2003: A Climatology of Northwest Missouri Snowfall Events: Long Term Trends and Interannual Variability. *Physical Geography*, **14**, 427 - 448. (70%; P. Browning and M. Bodner – 30%)

Lupo, A.R., and P.S. Market, 2003: First Conference on Weather Analysis and Forecasting Issues in the Central United States. *Bulletin of the American Meteorological Society*, **84**, 1245-1247. (50%)

Refereed Abstracts, comments, letters to the editor (2)

J.C. Hagen, and A.R. Lupo, 2008: Rebuttal Global Warming Landers. *American Medical News*, *in press*.

Lupo, A.R., and J.C. Hagan, 2008: How should physicians view the environment? *Journal of the American Medical Association*, *in press*.

Non-refereed publications: Conference Preprints (167)

I am the author or co-author on 167 conference preprint papers and only the most recent (since 2004) will be listed here. A complete list can be provided upon request.

Weber, E.E., and A.R. Lupo, 2009: The climatological character of air pollution events in the central plains states. *The 18th Conference on Applied Climatology, 90th Annual meeting of the American Meteorological Society, 17 – 21 January, 2010, Atlanta, GA*

Smith, N.B., Guinan, P.E., and A.R. Lupo, 2009: A study of the impact of the ENSO cycle on Missouri dew points. *The 22nd Conference on Climate Variability, 90th Annual meeting of the American Meteorological Society, 17 – 21 January, 2010, Atlanta, GA.*

Guyette, R., Stambaugh, M, and A.R. Lupo, 2009: A 14,000-year record of tree growth and 13C in a mid-continental agricultural landscape coupled with oceanic climate proxies. Past Global Changes (PAGES) Open Science Meeting, Corvallis, OR. July 8-11, 2009.

Hendin, A., A.R. Lupo, and P.S. Market, 2009: The verification of short to long-range forecasts using simple methods. *The 34th Conference of the National Weather Association, 17 – 22 October, 2009, Norfolk, VA*

Moon, III, J.T., P.E. Guinan, D. Snider, and A.R. Lupo, 2009: CoCoRaHS in Missouri: Three years later, the importance of observations. *The 34th Conference of the National Weather Association, 17 – 22 October, 2009, Norfolk, VA.*

Smith, N.B., Guinan, P.E., and A.R. Lupo, 2009: A study of the impact of the ENSO cycle on Missouri dew points. *The 34th Conference of the National Weather Association, 17 – 22 October, 2009, Norfolk, VA.*

Fritz, C.L., Market, P.S., Fox, N.I., Skibinski, S., and A.R. Lupo, 2009: A Radiosonde System for the University of Missouri: An Informal Study of a Decaying Thunderstorm near Columbia, Missouri. *The 34th Conference of the National Weather Association, 17 – 22 October, 2009, Norfolk, VA.*

Market, P.S., K.L. Crandall, M.H.M. Anip, S.P. Riley Z. Paul, and A.R. Lupo, 2009: Analysis of a Cold Occluded Cyclone. The 23rd Conference Weather Analysis and Forecasting, AMS, 1 – 5 June, 2009, Omaha, NE.

Fritz, C.L., Market, P.S., Fox, N.I., Skibinski, S., and A.R. Lupo, 2009: A Radiosonde System for the University of Missouri: An Informal Study of a Decaying Thunderstorm near Columbia, Missouri. The 23rd Conference Weather Analysis and Forecasting, AMS, 1 – 5 June, 2009, Omaha, NE.

Market, P.S., K.L. Crandall, M.H.M. Anip, S.P. Riley Z. Paul, and A.R. Lupo, 2009: Analysis of a Cold Occluded Cyclone. The 45th Annual Meeting of the Missouri Academy of Science, 24 – 25 April, 2009, Maryville, MO *Transactions of the Missouri Academy of Science, 43.*

Fritz, C.L., N.I. Fox, A.R. Lupo, 2009: Formulating a correction factor for the effect of

- sheltering on wind speed observations. The 45th Annual Meeting of the Missouri Academy of Science, 24 – 25 April, 2009, Maryville, MO *Transactions of the Missouri Academy of Science*, **43**.
- Madden, J.M., Moon, J.T., and A.R. Lupo, 2009: The battle of Wilson's Creek 1861: How weather may have influenced the outcome. The 45th Annual Meeting of the Missouri Academy of Science, 24 – 25 April, 2009, Maryville, MO *Transactions of the Missouri Academy of Science*, **43**.
- Smith, N.B., Guinan, P.E., and A.R. Lupo, 2009: A study of the effects of ENSO cycles on Missouri dew points. The 45th Annual Meeting of the Missouri Academy of Science, 24 – 25 April, 2009, Maryville, MO *Transactions of the Missouri Academy of Science*, **43**.
- Schaumann, J.S., J. Kastman, and A.R. Lupo, 2009: Quantitative approach to forecasting severe hail supporting the one inch severe hail initiative. The 45th Annual Meeting of the Missouri Academy of Science, 24 – 25 April, 2009, Maryville, MO *Transactions of the Missouri Academy of Science*, **43**.
- Hawkins, C.L., and A.R. Lupo, 2009: A Potential Vorticity diagnosis of a Southern Hemisphere blocking event. The 45th Annual Meeting of the Missouri Academy of Science, 24 – 25 April, 2009, Maryville, MO *Transactions of the Missouri Academy of Science*, **43**.
- Dawson, N.W., Guinan, P.E., and A.R. Lupo, 2009: A long-term study of tropical systems impacting Missouri. The 45th Annual Meeting of the Missouri Academy of Science, 24 – 25 April, 2009, Maryville, MO *Transactions of the Missouri Academy of Science*, **43**.
- Fritz, C.L., Market, P.S., Fox, N.I., Skibinski, S., and A.R. Lupo, 2009: A Radiosonde System for the University of Missouri: An Informal Study of a Decaying Thunderstorm near Columbia, Missouri. The 45th Annual Meeting of the Missouri Academy of Science, 24 – 25 April, 2009, Maryville, MO *Transactions of the Missouri Academy of Science*, **43**.
- Moon, III, J.T., P.E. Guinan, and A.R. Lupo, 2009: CoCoRaHS in Missouri: Three years later, the importance of observations. The 45th Annual Meeting of the Missouri Academy of Science, 24 – 25 April, 2009, Maryville, MO *Transactions of the Missouri Academy of Science*, **43**.
- Calvert, K. T., C. Gravelle, J. Gagan, D. Gaede, A. Foster, D. Albert, and A.R. Lupo, 2009: Interannual variability of snowfall events in southwest Missouri and snowfall to liquid water equivalents at the Springfield WFO: A follow-up study. The 45th Annual Meeting of the Missouri Academy of Science, 24 – 25 April, 2009, Maryville, MO *Transactions of the Missouri Academy of Science*, **43**.
- Hussain, A., and A.R. Lupo, 2009: Scale and Stability Analysis of Selected Atmospheric Blocking Events. *The 21st Conference on Global Climate Change. 89th Annual Meeting of the American Meteorological Society. 14 – 19 January, 2009, Phoenix, AZ (75%)*

- Hussain, A., and A.R. Lupo, 2009: Scale and Stability Analysis of an Unusually Prolonged and a Moderately Extreme Blocking Event Leading to Heat Wave in Gulf of Alaska During August 2004. *The 21st Conference on Global Climate Change. 89th Annual Meeting of the American Meteorological Society. 14 – 19 January, 2009, Phoenix, AZ (75%)*
- Perrin, B.L, K.B. Hughes, and A.R. Lupo, 2009: Can large scale climate controls help predict seasonal tornado activity? *The 21st Conference on Global Climate Change. 89th Annual Meeting of the American Meteorological Society. 14 – 19 January, 2009, Phoenix, AZ (70%)*
- Limpert, G.L., B.L. Perrin, and A.R. Lupo, 2009: Simulating the effects of climate change on parameters for tropical cyclone development in the Atlantic basin. *The 21st Conference on Global Climate Change. 89th Annual Meeting of the American Meteorological Society. 14 – 19 January, 2009, Phoenix, AZ (80%)*
- Perrin, B.L, G. L. Limpert, and A.R. Lupo, 2009: Modeling the ability of the atmosphere to regain an equilibrium state following carbon dioxide-induced forcing. *The 21st Conference on Global Climate Change. 89th Annual Meeting of the American Meteorological Society. 14 – 19 January, 2009, Phoenix, AZ (80%)*
- Lupo, A.R., Guinan, P.E., Weitlich, D.K., Kelsey, E.P., Market, P.S., and N.A. Davis, 2008: Using the Monthly Classification of Global SSTs and 500 hPa Height Anomalies to Predict Temperature and Precipitation Regimes One to Two Seasons in Advance for the Mid-Mississippi region. *Preprints of the 15th Conference on Applied Climatology. 11 – 15 August, 2008, Vancouver, BC, Canada. (80%)*
- Puricelli, K.M., A.M. Hendin, B.L. Perrin, A.S. Kelly, A.R. Lupo, and P.E. Guinan, 2008: The Global Increase in Blocking Occurrences. University of Missouri Life Sciences week Poster Session – April 14 – 19, 2008
- Lupo, A.R., Clark, J.V., A.M. Hendin, A.S. Kelly, B.L. Perrin, and K.M. Puricelli, 2008: The global increases in blocking occurrences. The 44th Annual Meeting of the Missouri Academy of Science, 18 – 19 April, 2008, Joplin, MO *Transactions of the Missouri Academy of Science, 42.*
- Hughes, K.B., and A.R. Lupo, 2008: Interannual variability of tornado production in the central plains. The 44th Annual Meeting of the Missouri Academy of Science, 18 – 19 April, 2008, Joplin, MO *Transactions of the Missouri Academy of Science, 42.*
- Zuki, Z.M., G.L. Limpert, and A.R. Lupo, 2008: The interannual variability of tropical cyclone activity in the Southern South China Sea. *28th Conference on Hurricanes and Tropical Meteorology. 24 – 28 May 2008, Orlando, FL (100%)*
- Limpert, G.L., B.L. Perrin, and A.R. Lupo, 2008: An EdGCM modeling study of the effects of

atmospheric trace gas concentration change on Atlantic tropical cyclone development parameters. *28th Conference on Hurricanes and Tropical Meteorology*. 24 – 28 May 2008, Orlando, FL (100%)

Chesser, M. D., A.R. Lupo, D. Albert, and C. Buonanno, 2008: The interannual variability of wildfires and related weather in the Missouri – Arkansas region. *88th Annual Meeting of the American Meteorological Society*. 13 – 18 January, 2008, New Orleans, LA (80%)

Glisan, J., and A.R. Lupo, 2008: Two cases of extreme blocking events over Europe and North America. *88th Annual Meeting of the American Meteorological Society*. 13 – 18 January, 2008, New Orleans, LA (100%)

Hussain, A., A.R. Lupo, and S. Dostoglou, 2008: Lyapunov exponents for barotropic circulation regimes. *The 20th Conference on Global Climate Change. 88th Annual Meeting of the American Meteorological Society*. 13 – 18 January, 2008, New Orleans, LA (90%)

Lupo, A.R., Clark, J.V, Puricelli, K., Kelley, A., 2008: The global increase in blocking occurrences. *The 20th Conference on Global Climate Change. 88th Annual Meeting of the American Meteorological Society*. 13 – 18 January, 2008, New Orleans, LA (100%)

Melick, C.J., B.P. Pettegrew, L.L Smith, A.E. Becker, P.S. Market, and A.R. Lupo, 2007: Comparing snowstorms with and without lightning via the growth rate parameter. *22nd Weather Analysis and Forecasting Conference/18th Numerical Weather Prediction*, Salt Lake City, UT, 25 – 29 June.

Melick, C.J., B.P. Pettegrew, L.L. Smith, A.E. Becker, P.S. Market, and A.R. Lupo, 2007: Stability Characteristics of Thundersnow Events: The Impact of Accounting for Ageostrophic Effects in the Growth Rate Parameter. *The 32nd Annual Meeting of the National Weather Association*, 13 – 18 October, 2007, Reno, NV (10%)

Glisan, J., G. Limpert, A. Koleiny, M. Reagan, J. Moker, A.R. Lupo, 2007: The 28 March, 2007 dry line case and the impact of topography. *The 32nd Annual Meeting of the National Weather Association*, 13 – 18 October, 2007, Reno, NV (90%)

Athar, H. , J. Glisan, A.R Lupo, P. Market, P. Pettegrew, M.Reagan, R. Redburn, A. Schnetzler, 2007: A Comparative Study to Quantify the Chaotic Behavior in Numerical Models. *The 32nd Annual Meeting of the National Weather Association*, 13 – 18 October, 2007, Reno, NV (90%)

Clark, J.V, Mihalka, K., Lupo, A.R., Puricelli, K., Perrin, B., Kelly, A., 2007: The increase in Southern Hemisphere blocking. Is it real? *The 32nd Annual Meeting of the National Weather Association*, 13 – 18 October, 2007, Reno, NV (100%)

Melick, C.J., B.P. Pettegrew, L.L. Smith, A.E. Becker, P.S. Market, and A.R. Lupo, 2007: Stability Characteristics of Snowstorms Utilizing the Growth Rate Parameter: A Comparison of Lightning vs. Non-Lightning Events. The 43rd Annual Meeting of the

Missouri Academy of Science, 20 – 21 April, 2007, St. Joseph, MO. *Transactions of the Missouri Academy of Science*, **41**.

Hussain, A., A.R. Lupo, and S. Dostoglou, 2007: A calculation of Lyapunov exponents for atmospheric blocking. *The 16th Conference on Atmospheric and Oceanic Fluid Dynamics, June 25-29, 2007 Santa Fe, NM*.

Market, P. S., P. E. Guinan, B.P. Pettegrew, C. J. Melick, A. E. Becker, C. C. Crowe, T. Snyder, A. R. Lupo, and N. I. Fox, 2007: Overview of the 01 December 2006 heavy snow event across Missouri. The 43rd Annual Meeting of the Missouri Academy of Science, 20 – 21 April, 2007, St. Joseph, MO. *Transactions of the Missouri Academy of Science*, **41**.

Schnetzler, A.E., C.F. Dierking, A.R. Lupo, 2007: Seasonal temperature and precipitation dependencies in southeast Alaska. The 43rd Annual Meeting of the Missouri Academy of Science, 20 – 21 April, 2007, St. Joseph, MO. *Transactions of the Missouri Academy of Science*, **41**.

Schnetzler, A.E., G. Amenta, H. Athar, J. Glisan, P. Market, B. Pettegrew, R. Redburn, M. Reagan, M. Wood, and A.R. Lupo, 2007: A comparative study to quantify the chaotic behavior in numerical models. The 43rd Annual Meeting of the Missouri Academy of Science, 20 – 21 April, 2007, St. Joseph, MO. *Transactions of the Missouri Academy of Science*, **41**.

Hussain, A., A. R. Lupo, and S. Dostoglou, 2007: A calculation of Lyapunov exponents for Atmospheric blocking. The 43rd Annual Meeting of the Missouri Academy of Science, 20 – 21 April, 2007, St. Joseph, MO. *Transactions of the Missouri Academy of Science*, **41**.

Melick, C.J., B.P. Pettegrew, L.L. Smith, A.E. Becker, P.S. Market, and A.R. Lupo, 2007: Stability Characteristics of Snowstorms Utilizing the Growth Rate Parameter: A Comparison of Lightning vs. Non-Lightning Events. *11th Annual NWA Severe Storms and Doppler Radar Conference, 22-24 March, 2007, DesMoines, IA. (10%)*

Hussain, A., A.R. Lupo, C. Strong, S. Dostoglou, 2007: A diagnostic study of atmospheric blocking using Lyapunov exponents over a 50 – year period. *The 87th Annual Meeting of the American Meteorological Society, 19th Conference on Climate Variability and Change, 14 – 18 January, 2007, San Antonio, TX. (70%)*

Latham, T.K., T.H. Magill, C.J. Melick, A.R. Lupo, J.V. Clark, and P.S. Market, 2007: The interannual and interdecadal Variability in Hurricane Activity in the Atlantic and Eastern Pacific Ocean. *The 87th Annual Meeting of the American Meteorological Society, 19th Conference on Climate Variability and Change, 14 – 18 January, 2007, San Antonio, TX. (80%)*

Clark, J.V., K.M. Mihalka, and A.R. Lupo, 2007: Blocking in the Northern and Southern

Hemisphere: An update to include 2000 - 2006. *The 87th Annual Meeting of the American Meteorological Society, 19th Conference on Climate Variability and Change, 14 – 18 January, 2007, San Antonio, TX.* (100%)

Market, P.S., G. Darkow, N. I. Stuart, S. M. Rochette, and A. R. Lupo: Analysis of several modern thundersnow proximity soundings. *The 23rd Severe and Local Storms conference, American Meteorological Society, 6 – 10 November, 2006, St. Louis, MO* (15%).

Melick, C.J., L.L. Smith, B.P. Pettegrew, A.E. Becker, P.S. Market, and A.R. Lupo, 2006: The Predictability of Cold-Season Convective Precipitation Events within Extratropical Cyclones by Utilizing the Growth Rate Parameter. 13th Cyclone Workshop, 21 – 26 October, Monterrey, CA.

Redburn, R.N., P.E. Guinan, and A.R. Lupo, 2006: The Frequency of Tropical Cyclones moving into Missouri and the Synoptic Environment. *The 31th Annual Meeting of the National Weather Association, 14 – 19 October, 2006, Cleveland, OH.* (70%)

Guinan, P.E., R.N. Redburn, and A.R. Lupo, 2006: The Community Collaborative Rain, Hail, and Snow Network (CoCoRaHs) comes to Missouri. *The 31th Annual Meeting of the National Weather Association, 14 – 19 October, 2006, Cleveland, OH.* (65%)

Latham, T.K., T.H. Magill, A.R. Lupo, J.V. Clark, and P.S. Market, 2006: The interannual and interdecadal Variability in Hurricane Activity in the Atlantic and Eastern Pacific Ocean. *The 31th Annual Meeting of the National Weather Association, 14 – 19 October, 2006, Cleveland, OH.* (80%)

Clark, J.V., K.M. Mihalka, and A.R. Lupo, 2006: Blocking in the Northern and Southern Hemisphere: An update to include 2000 - 2006. *The 31th Annual Meeting of the National Weather Association, 14 – 19 October, 2006, Cleveland, OH.* (100%)

Birk, K.J., R. P. Udawatta, A.R. Lupo, J. Lory, and P.P. Motavalli, 2006: The Impact of Climate and Interannual Variability on Surface Runoff and Agricultural Decision Making. The ASA – CSSA – SSSA International meetings, 12- 16 November 2006.

Zuki, Z., and A.R. Lupo, 2006: The Interannual Variability of Tropical Cyclones in the Southern South China Sea. *Symposium on Asian Winter Monsoon Winter MONEX: A Quarter Century and Beyond (WMONEX 25+)* Kuala Lumpur, Malaysia, 4 – 7 April 2006

Redburn, R.N., A.R. Lupo, and P.E. Guinan, 2006: The frequency of tropical cyclones in Missouri and the synoptic environment. The 42nd Annual Meeting of the Missouri Academy of Science, 21 – 22 April, 2006, Kirksville, MO. *Transactions of the Missouri Academy of Science*, **40**.

Davis, N., J.M. Glisan, J.P. Burkhardt, B. Smith, T.E. Hagen, and A.R. Lupo, 2006: An Analysis

of the Impact of Blocking on North American Summers: An update. The 42nd Annual Meeting of the Missouri Academy of Science, 21 – 22 April, 2006, Kirksville, MO. *Transactions of the Missouri Academy of Science*, **40**. (100%)

Birk, K.J., B. Smith, A.R. Lupo, and P. E. Guinan, 2006: The Interannual Variability of Midwestern Temperatures as related to the ENSO and PDO. The 42nd Annual Meeting of the Missouri Academy of Science, 21 – 22 April, 2006, Kirksville, MO. *Transactions of the Missouri Academy of Science*, **40**. (80%)

Lupo, A.R., P.S. Market, and A. R. Kunz, 2006: Weather Forecasting: Getting Order out of Chaos? The 42nd Annual Meeting of the Missouri Academy of Science, 21 – 22 April, 2006, Kirksville, MO. *Transactions of the Missouri Academy of Science*, **40**.(80%)

Pettegrew, B.P., C.J. Melick, L.L. Smith, A.E. Becker, C. Schultz, P.I. Buckley, A.R. Lupo, and P.S. Market, 2005: A Case Study of the Gulf Coast Thundersnow Event of Christmas 2004. *The 30th Annual Meeting of the National Weather Association, 15 – 20 October, 2005, St. Louis, MO*. (10%)

Buckley, P.I., P.S. Market, A.R. Lupo, and N.I. Fox, 2005: COHIX: Further Studies of the Heat Island Associated with a Small Midwestern City Using SuomiNet Data *The 30th Annual Meeting of the National Weather Association, 15 – 20 October, 2005, St. Louis, MO*. (25%)

Mc Kinnon, N.M., D. High, and A.R. Lupo, 2005: The Impact of the Missouri Ozarks on MCS Events. *The 30th Annual Meeting of the National Weather Association, 15 – 20 October, 2005, St. Louis, MO*. (100%)

Reagan, M.R., A.D. Franklin, P.S. Market, and A.R. Lupo, 2005: The South Atlantic Hurricane (“Catarina”) of March 2004. *The 30th Annual Meeting of the National Weather Association, 15 – 20 October, 2005, St. Louis, MO*. (75%)

Roudenis, B.M., P.I. Buckley, N.I. Fox, and A.R. Lupo, 2005: The Severe Weather Outbreak of December 17-18, 2002 over Central and Southern Missouri. *The 30th Annual Meeting of the National Weather Association, 15 – 20 October, 2005, St. Louis, MO*. (75%)

Hagen, T.E., J.M. Glisan, A.R. Lupo, and P.E. Guinan, 2005: The Presentation of Precipitation Information in Television Broadcasts: What is Typical? *The 30th Annual Meeting of the National Weather Association, 15 – 20 October, 2005, St. Louis, MO*. (80%)

Davis, N., J.M. Glisan, J.P. Burkhardt, B. Smith, T.E. Hagen, and A.R. Lupo, 2005: An Analysis of the Impact of Blocking on North American and Eurasian Summers. *The 30th Annual Meeting of the National Weather Association, 15 – 20 October, 2005, St. Louis, MO*. (100%)

Puckett, J.D., and A.R. Lupo, 2005: The Effect of a Gravel Base on the Temperature Profile in the Lowest 2 m of the Atmosphere. *The 30th Annual Meeting of the National Weather*

- Association, 15 – 20 October, 2005, St. Louis, MO. (100%)*
- Birk, K.J., B. Smith, A.R. Lupo, and P. E. Guinan, 2005: The Interannual Variability of Midwestern Temperatures as related to the ENSO and PDO. *The 30th Annual Meeting of the National Weather Association, 15 – 20 October, 2005, St. Louis, MO. (80%)*
- Lupo, A.R., P.S. Market, and A. R. Kunz, 2005: Weather Forecasting: Getting Order out of Chaos? *The 30th Annual Meeting of the National Weather Association, 15 – 20 October, 2005, St. Louis, MO. (80%)*
- Barriopedro, D.; García-Herrera, R.; Lupo, A.R.; Hernández, E., 2005: A 55-year Northern Hemisphere blocking climatology. *Meeting of the European Geosciences Union, Vienna, Austria, 25 – 29 April. GRL Abstracts, Vol. 7, 03485.*
- Lupo, A.R., I.I. Mokhov, S. Dostoglou, A.R. Kunz, and J.P. Burkhardt, 2005: The impact of the planetary-scale on the decay of blocking and the use of phase diagrams and Lyapunov exponents as a diagnostic. *Preprints of the 21st Conference on Weather Analysis and Forecasting/17th Conference on Numerical Weather Prediction, 1 – 4 August, 2005, Washington, DC. (70%)*
- Lupo, A.R., A.R. Kunz, and J.P. Burkhardt, 2005: Planetary and synoptic scale interactions in southeast Pacific blocking using Potential Vorticity diagnostics: More evidence for the paucity of wave-wave interactions in Southern Hemisphere blocking. *Preprints of the 21st Conference on Weather Analysis and Forecasting/17th Conference on Numerical Weather Prediction, 1 – 4 August, 2005, Washington, DC. (100%)*
- Guinan, P.E., W. Decker, and A. R. Lupo, 2005: A seasonally adjusted index for projecting agricultural drought. *Preprints of the 15th Conference on Applied Climatology. 20 – 24 June, 2005, Savannah, GA. (30%)*
- Barriopedro, D., R. Garcia-Herrera, A.R. Lupo, and E. Hernandez, 2005: A climatology of Northern Hemisphere Blocking. *Preprints of the 15th Conference on Applied Climatology. 20 – 24 June, 2005, Savannah, GA. (40%)*
- Reagan, M. R., A.D. Franklin, P.S. Market, and A.R. Lupo, 2005: The south Atlantic hurricane (“Catarina”) of March 2004. The 41st Annual Meeting of the Missouri Academy of Science, 15-16 April, Jefferson City, MO. *Transactions of the Missouri Academy of Science, 39, in press. (80%)*
- McKinnon, N. M., D.M. High, and A.R. Lupo, 2005: The impact of the Missouri Ozarks on MCS events. The 41st Annual Meeting of the Missouri Academy of Science, 15-16 April, Jefferson City, MO. *Transactions of the Missouri Academy of Science, 39, in press. (100%)*
- Hagen, T.E., J.M. Glisan, A.R. Lupo, and P.E. Guinan, 2005: The presentation of precipitation

- information in television broadcasts: What is typical? The 41st Annual Meeting of the Missouri Academy of Science, 15-16 April, Jefferson City, MO. *Transactions of the Missouri Academy of Science*, **39**, in press. (90%)
- Glisan, J. M., T.E. Hagen, and A.R. Lupo, 2005: An analysis of the impact of blocking on North American and Eurasian Summers. The 41st Annual Meeting of the Missouri Academy of Science, 15-16 April, Jefferson City, MO. *Transactions of the Missouri Academy of Science*, **39**, in press. (100%)
- Melick, C.J., H.M. Anip, A.R. Kunz, R. Morales-Juberias, A. R. Lupo, and P.S. Market, 2005: An Examination of Jupiter's Great Red Spot and Other Vorticies Using the EPIC Model. *Proceedings of the 14th Conference on Education, 9 – 13 January, 2005, San Diego, CA* (80%)
- Bardin, M., G.V. Gruza, A. R. Lupo, I.I. Mokhov, and V. Tikhonov 2005: Quasi-Stationary anticyclones in the Northern Hemisphere: An analysis of interannual and interdecadal variability and long-term trends at 1000 hPa and 500 hPa using a geometric definition. *Proceedings of the 16th Conference on Global Change, 9 – 13 January, 2005, San Diego, CA*
- Zuki, Z.M., and A.R. Lupo, 2004: Interannual variability of tropical cyclone activity in the Southern South China Sea. *The 16th Annual Conference on Global Change, 9 –13 January, 2005, San Diego, CA, in press.* (100%)
- Kunz, A.R., and A. R. Lupo, 2004: The role of the planetary-scale flow regime in the May 2003 tornado outbreaks: How unusual was the situation? *The 29th Annual Meeting of the National Weather Association, 16 – 21 October, 2004, Portland, OR, in press.* (100%)
- Guinan, P.E., W.L. Decker, and A.R. Lupo, 2004: Using Seasonal and Weekly Precipitation Patterns to Predict the Probability of Summer Drought and the Effects on Crop Yields Over Northwestern Missouri. *The 29th Annual Meeting of the National Weather Association, 16 – 21 October, 2004, Portland, OR, in press.* (70%)
- Tilly, D.E., A.R. Lupo, C.J. Melick, and S. Montgomery-Smith, 2004: Calculated Vertical Motions in a Southern Hemisphere Blocking and Cyclone Event. *The 29th Annual Meeting of the National Weather Association, 16 – 21 October, 2004, Portland, OR, in press.* (85%)
- Zuki, Z.M., and A.R. Lupo, 2004: Interannual Variability of Tropical Cyclone in the Southern South China Sea. *The 29th Annual Meeting of the National Weather Association, 16 – 21 October, 2004, Portland, OR, in press.* (100%)
- Kunz, A.R., and A. R. Lupo, 2004: The role of the planetary-scale flow regime in the May 2003 tornado outbreaks: How unusual was the situation? *Transactions of the Missouri Academy of Science*, **38**, in press. (100%)

Guinan, P.E., W.L. Decker, and A.R. Lupo, 2004: Using Seasonal and Weekly Precipitation Patterns to Predict the Probability of Summer Drought and the Effects on Crop Yields Over Northwestern Missouri. The 40th Annual Meeting of the Missouri Academy of Science, 16-17 April, Kansas City, MO. *Transactions of the Missouri Academy of Science*, **38**, in press. (70%)

Tilly, D.E., A.R. Lupo, C.J. Melick, and S. Montgomery-Smith 2004: Calculated Vertical Motions in a Southern Hemisphere Blocking and Cyclone Event. The 40th Annual Meeting of the Missouri Academy of Science, 16-17 April, Kansas City, MO. *Transactions of the Missouri Academy of Science*, **38**, in press. (85%)

Zuki, Z.M., and A.R. Lupo, 2004: Interannual Variability of Tropical Cyclone in the Southern South China Sea. The 40th Annual Meeting of the Missouri Academy of Science, 16-17 April, Kansas City, MO. *Transactions of the Missouri Academy of Science*, **38**, in press. (100%)

Grigsby, M, E. P. Berg, S.T. Cole, S.K. Freyeremuth, D.E. Lehman, A.R. Lupo, P.S. Market, J.J. Millsbaugh, J.L. Parcell, and D.R. Vaught, 2004: MU CAFNR Teaching Scholars Program. (Featured Psoter) 14th Program for Excellence in Teaching Teaching Renewal Conference. 26 – 28 February, 2004, Columbia, MO. (10%).

Lupo, A.R., F.A. Akyuz, I.I. Mokhov, E.P. Kelsey, D.W. Weitlich, J. E. Woolard, 2004: Interannual and interdecadal variability in the Pacific region SST anomaly patterns and their impact on local climate. The 15th Symposium on Global Change and Climate Variations, 11- 15 January, 2004, Seattle, WA. (80%)

Burkhardt, J.P., and A.R. Lupo, 2004: The planetary and synoptic scale interactions in a southeast Pacific blocking episode using PV diagnostics: wave - wave interactions. The 20th Conference on Weather Analysis and Forecasting/16th Conference on Numerical Weather Prediction, 11 – 15 January, 2004, Seattle, WA. (100%)

- Additionally, I have 42 Non-refereed Extension Publications or other publications. These can be provided upon request.

Research grants and awards received

Research grants and awards and fellowships received (20)

* **Successful internal proposal is on file with the Office of research as a model proposal.*

Dr. Lupo has received research support from internal and federal agencies (including fellowships) amounting to a total of \$186,595.00. Another \$558,074.00 was successfully funded

as part of collaborative efforts with Dr. Market, Dr. Fox, Dr. Rich Guyette, Dr. Peter Motavalli, Dr. Frieda Eivazi, and Dr. Akyuz. Funded Projects in order of date granted are:

(Note: COMET/CAR grants are collaborative efforts with local National Weather Service Forecast Offices. The review process for COMET/UCAR grants consists of a review at the weather service office regional headquarters. Regional selects their best proposals to be submitted to UCAR in Boulder, CO where the final selection takes place.)

Title: Variability and Climatic Change In Blocking Events
Approved: 25 April 1998
Period funded: 1 July 1998 - 30 June 2000
Agency: University of Missouri Research Board
Amount: \$ 32,568.00
Supported: Jason M. Wiedenmann, MS (December 1999) and, partially, Matt Chambers.

Title: The Climatology of Heavy Snowfalls in Northwest Missouri
Approved: 28 July 1998
Period funded: 1 July 1998 - 30 June 1999
Agency: COMET/University Corporation for Atmospheric Research/NSF
Collaborators: National Weather Service Office, Pleasant Hill MO
Amount: \$ 7,446.00
Supported: Cynthia L. Berger, MS (May 1999)

Title: The Impact of the City of Columbia and the University of Missouri on the Microclimate of Mid-Missouri
Period Supported: 1 June 2000 - December 31, 2000
Agency: MU Alumni Association Faculty Incentive Grants
Amount: \$1,000.00

Title: **A GPS instrument for the University of Missouri as a participant in the SuomiNet project.
Submitted: November 1999; Re-submitted June 2000 (September, 2000)
Agency: Missouri Research Council
Amount: \$ 4900.00
Agency: University Corporation for Atmospheric Research (Approved April 2000 contingent upon research board funding.)
Amount: \$ 14,601.00 (May, 2000)

Title: The climatology of Snow-to-Liquid Ratios for Moderate and Heavy Snowfalls in Southwest Missouri.
Submitted by: A.R. Lupo
Submitted: 15 July 2000 (funded September)
Period Covering: 1 September 2000 - 31 December 2001
Collaborators: National Weather Service Office, Springfield, MO
Agency: COMET/UCAR

Amount: \$ 8149.00 (Supported: Cynthia Allmeyer, BS; and partially, Matt Chambers, MS.)

Title: Investigation of Convective Snow Events in the Mid-Western United States

Submitted by: P.S. Market and A.R. Lupo (only 50% credit for \$7,830: \$2,000.00 to NWS)

Submitted: 1 August 2001

Agency: COMET/University Corporation for Atmospheric Research/NSF

Collaborators: Collaborators: National Weather Service Office, Springfield, MO

Period Covering: 1 January 2002 - 31 December 2002

Amount: \$ 9,830.00

Title: Blocking Anticyclones: Analysis of Climatological Characteristics and Diagnosis of Changes from Observations and Model Simulations.

Submitted by: A. R. Lupo

Submitted: June 2002

Agency: Council for International Exchange of Scholars / Fulbright Scholar Program

Period Covering: 1 May – 31 July 2004

Amount: \$16,400.00

Title: A proposal to increase both the computer capability in the Atmospheric Sciences program at the University of Missouri - Columbia and the accessibility of UNIX-based UNIDATA products.

Collaborators: P.S. Market and N.I. Fox

Submitted: May 2003

Agency: NSF/ UCAR/UNIDATA

Amount Requested: \$ 17,400.00

Amount Funded: \$ 10,000.00

Title: Interdecadal Variations in Midwestern Climate

Submitted: February 2004

Agency: University of Missouri Research Board

Amount Requested: \$46,750.00

Amount funded: \$15,000.00

Period Covered: 1 September 2004 – 31 August 2006

Supported: Kevin Birk, MS (May 2006)

Title: Tall Tower Investigations of Midwest wind patterns - Missouri

Collaborators: Neil Fox; Anthony Lupo; Patrick S. Market, Pat Guinan

Funding Source: MODNR / USDOE / Ameren UE

Amount Requested: \$37,500

Dates: 1/1/2005 - 12/31/2007

Title: Tall Tower Investigations of Midwest wind patterns - Missouri

Collaborators: Neil Fox; Anthony Lupo; Patrick S. Market, Pat Guinan
Funding Source: MODNR / USDOE / Aquila
Amount Requested: \$75,000
Dates: 1/1/2005 - 12/31/2007

Title: **Tall Tower Investigations of Midwest wind patterns - Missouri**
Collaborators: Neil Fox; Anthony Lupo; Patrick S. Market, Pat Guinan
Funding Source: MODNR / USDOE
Amount Requested: \$29,137
Dates: 1/1/2005 - 12/31/2007

Title: **Tall Tower Investigations of west Missouri**
Collaborators: Neil Fox; Anthony Lupo; Patrick S. Market, Pat Guinan
Funding Source: Kansas City Power & Light
Amount Requested: \$65,324
Dates: 10/1/2005 - 9/30/2007

Title: Supplemental Graduate Fellowships
Agency: The MU Graduate School
Period Covering: 7/1/2005 – 6/30/2007
Amount: \$3,000.00

Title: Multi millennia climate and growth variability from ancient oak wood in the Midwest agricultural ecosystem.
Collaborators: R. Guyette (PI), M. Stambaugh (Forestry) (Co-PI) (my contribution 10%)
Agency: NSF
Period Covering: 1 January 2006 – 31 December 2008
Amount: \$297,000

Title: The climatology of Dew Points and Fire Weather Related Parameters in the Missouri – Arkansas Region
Collaborators: Dr. Patrick Guinan (MCC), David Gaede (NWS - SGF), and Chris Buonanno (NWS – LZK)
Agency: COMET/UNIDATA (NSF)
Period Covering: 9/1/06 – 12/31/07
Amount: \$10,731

Title: Center for Agricultural / Environmental Experiential Learning.
Collaborators: Dr. Frieda Eivazi (Lincoln U.), A.R. Lupo and P. P. Motavalli
Agency: USDA / CREES 1890 Institution Grant
Period Covering: 9/1/06 – 8/31/09
Amount: \$299,639 total (sub-award: \$53,622.00 – Lupo, Motavalli)

Title: Increasing use of the Integrated Data Viewer (IDV) in the Atmospheric Science Curriculum at the University of Missouri –

Collaborators: Columbia.
Submitted: P.S. Market and N.I. Fox
Agency: March 2007
Amount Requested: NSF/ UCAR/UNIDATA
Amount Funded: \$ 11,661.00
\$ 11,661.00

Title: Analysis of blocking characteristics and associated climate anomalies based on observational data and model simulation for the 20th and 21st centuries
Collaborators: Pat Market (Co-PI), Dr. Igor Mokhov (Russian Federation)
Agency: CGP-RFBR
Period Covering: 1 June 2009 – 31 May 2011
Amount: \$72,800

Invited Papers, Seminars, and Workshops - 53 (Only those since 2004 listed)

I have been invited to speak at universities (Kansas, Montreal – Quebec), the Russian Academy of Science, and the National Press Club –Edward Murrow Room in Washington, DC.

Lupo, A.R., Title not given yet. 16-19 (17th) May, 2010, Chicago, IL, Fourth International Conference on Climate Change.

Lupo, A.R., *Hurricanes: The Evil Wind*. Lecture given to teachers at the 2nd NWA Teaching Summit. 21 October, 2009, Norfolk, VA.

Lupo, A.R.,: August 13, 2009, Scientists for Truth, “Debunking Climate Change Myths”.

Lupo, A.R.,: *Global Warming: Attribution, who is to blame?* A presentation Show-Me Institute of Missouri. 1 June, 2009

Lupo, A.R., *Interannual Variability of Temperatures*. 24 April, 2009, Linn, MO, Linn State Technical college auditorium

Lupo, A.R., *Drought in the Midwest*. A SUPB Kemper Lecture Series talk for the University of Missouri, Memorial Union 9 April, 2009.

Lupo, A.R., *Interannual Variability of Temperatures*. 8-10 March, 2009, New York, NY, Second International Conference on Climate Change.

Lupo, A.R.,: *The Climatology of Winter Weather in Mid-Missouri*. November 18, 2008, Winter Weather Workshop sponsored by The University of Missouri Chapter of the American Meteorological Society

Lupo, A.R.,: *Global Warming: Attribution, who is to blame?* A presentation to the business and industry leaders of Missouri. 18 November, 2008

- Lupo, A.R.,: *Global Warming: Attribution, who is to blame?* The Kansas City Area Chapter of the American Meteorological Society. 11 November, 2008
- Lupo, A.R., *Global Warming: Attribution, who is to blame?* A seminar given for the Department of Physics Saturday Morning Science Series. 1 November 2008
- Lupo, A.R., *Global Warming: Attribution, who is to blame?* 3 October 2008, Springfield, MO – MU extension seminar.
- Lupo, A.R., *Global Warming: Attribution, who is to blame?* 2 October 2008, Lamar, MO – MU extension seminar.
- Lupo, A.R., *Anthropogenic Global Warming: A Skeptical point of View*. June 2008 – (A slide presentation based on the paper). I was invited to upload this to www.slideworld.org a digital library managed by the Medical Sciences.
- Lupo, A.R., *Warming: Attribution, who is to blame?* 26 January 2008, Jefferson City, MO - MU Regional meeting of the FFA.
- Lupo, A.R., *An Overview of Quasi-Geostrophic Theory*. A presentation to the National Weather Service, 2007 Winter Weather Workshop, Pleasant Hill, MO, 29 October 2007.
- Lupo, A.R., *Global Warming: Attribution, who is to blame?* 25 October 2007, Cape Girardeau, MO – MU extension seminar.
- Lupo, A.R., *Global Warming: Attribution, who is to blame?* April 2007, Sedalia, MO – MU extension seminar.
- Lupo, A.R., *Global Warming: Attribution, who is to blame?* 18 April, 2007, East Central College Seminar (college wide).
- Lupo, A.R., *Climate Change and Weather*. 17, March, 2007, Hillsboro, MO Regional Soil and Agriculture
- Lupo, A.R., *Interannual and interdecadal variability in the predominant Pacific Region SST anomaly patterns and their impact on a local climate*. 30 January, 2007, Creighton University, Omaha, NE.
- Lupo, A.R., *Hurricanes: The Evil Wind*. Lecture given to teachers at the 1st annual NWA Teaching Summit. 15 October, 2006, Kent State, Kent, OH.
- Lupo, A.R., *Drought in the Midwest*. An invited talk for the George Marshall Institute and delivered to the Washington, DC National Press Club, (Murrow Room) 27 June, 2006.**

Lupo, A.R., *An overview of the fundamental equations of geophysical fluid dynamics III: Quasigeostrophic theory continued*. A seminar given to the Department of Mathematics, UMC, 31 January 2006.

Lupo, A.R., *An overview of the fundamental equations of geophysical fluid dynamics II: Quasigeostrophic theory*. A seminar given to the Department of Mathematics, UMC, 5 December 2005.

Lupo, A.R., *An overview of the fundamental equations of geophysical fluid dynamics*. A seminar given to the Department of Mathematics, UMC, 28 November 2005.

Lupo, A.R., and J. Craven: *Weather Briefing of 18 October, 2005 for the 30th Conference of the National Weather Association*. Saint Louis, MO.

Lupo, A.R., *Current El Nino Activity and Possible Impacts on Crops*. Northwest Missouri Soybean Growers Meeting. 27 January, 2005 Maryville, MO.

Lupo, A.R., *Current El Nino Activity and Possible Impacts on Crops*. MU 2004 Crop Management Conference. 16-17 December, 2004 Columbia, MO. (Keynote speaker).

Lupo, A.R., *The wave-wave interactions in two Southern Hemisphere blocking events using potential vorticity diagnostics*. A seminar presented to the Russian Academy of Sciences, Russian Hydrometeorological Agency (Moscow). Moscow, Russia, 3 June 2004.

Workshops Presented

Burkhardt, J.P., A.R. Lupo, and E.K. Gilliland, 2003: Planetary and Synoptic Scale Interactions in Southeast Pacific Blocking Using Potential Vorticity Diagnostics. The 12th Cyclone Workshop, 21-26 September, Val Morin Canada. (100%)

Working Groups Membership

Working Group I, IPCC Second Assessment Report 1995

Working Group I, IPCC Third Assessment Report 2001

Working Groups I, and III, IPCC Fourth Assessment Report 2007

Working Group on Predictability and Dynamics: THORPEX, 2006: IG6, Atmospheric blocking, low-frequency variability, and their role in predictability.

Workshops and Workshops Chaired

- Organized the Missouri Mesonet workshop as the co-chair of the Missouri Mesonet Committee. Columbia, MO, 25 - 26 May, 1999.
- Co-chair (with Dr. Patrick Market): "The First Weather Analysis and Forecasting Issues Conference in the Central United States", held 30 November - 2 December 2001 at the University of Missouri. (Sponsored by the National Weather Association).
- Co-Chair (with Dr. Patrick Market): "The Second Weather Analysis and Forecasting Issues Conference in the Central United States", held 5-6 December 2003 at the University of Missouri. (Sponsored by the National Weather Association).
- Chaired the Large-scale and Synoptic Scale Meteorology Session of *The 21st Conference on Weather Analysis and Forecasting*, 1-4 August, 2005, Washington, DC.
- Chair the Climate Section of *30th Annual Meeting of the National Weather Association*, 15 – 20 October, 2005, St. Louis, MO.
- Co-Chair (with Dr. Neil I. Fox and Mr. Jay Hasheider): "The Conference on Renewable Energy in the Mid-West", 29 March 2006, Columbia, MO
- Moderator for the CAFNR Climate Change debate panel, April, 2006
- Co-Chair (with Dr. Neil I. Fox and Mr. Jay Hasheider): "The 2nd Conference on Renewable Energy in the Mid-West", 28 March 2007, Columbia, MO
- Advisor (with Dr. Neil I. Fox and Mr. Jay Hasheider): "The 3rd Conference on Renewable Energy in the Mid-West", 25 March 2008, Ames, IA
- **(By invitation only) Forum on Climate Change sponsored by George C. Marshall Institute, September 14- 16, 2008 Washington, DC.**
- **Session Moderator. 8-10 March, 2009, New York, NY, Second International Conference on Climate Change.**
- **Invited to the National Weather Service: "Decade-long Drought and Wet Periods in the Missouri River Basin", April 27-28, 2009.**
- Attended the Regional Mesonet workshop representing MU and sponsored by Saint Louis University Earth and Atmospheric Sciences. Saint Louis, MO, 15 - 16 April, 2009.
- Co-Chair (with Dr. Neil I. Fox, P.J. Wilson, and Mr. Jay Hasheider): "The 4th Conference on Renewable Energy in the Mid-West", 3 June 2009, Columbia, MO

- Chair of the [Session on Data Assimilation: Profiling and satellite data assimilation](#) at the *The 21st Conference on Weather Analysis and Forecasting (AMS-NWA)*, 1-4 June, 2009, Omaha, NE.
- Co-Chair (with Dr. Neil I. Fox, P.J. Wilson, and Mr. Jay Hasheider): “The 5th Conference on Renewable Energy in the Mid-West”, 19 May 2010, Columbia, MO

Book, Proposal, Product, and Manuscript Reviews

For scholarly journals, the number of reviews is given in parenthesis.

Book, Book Chapter, and Report Reviews

Climate Change 1995: The Science of Climate Change, Contribution of Working Group I to the Second Assessment Report of the Intergovernmental Panel on Climate Change. Edited by: J.T. Houghton, L.G. Miera Filho, B.A. Callander, N. Harris, A. Kattenberg, and K. Maskell, Cambridge University Press, Cambridge, UK. 572 pp.
ISBN: 0 – 521 – 56436 - 0

Climate Change 1995: The Science of Climate Change, Summary for Policymakers and Technical Summary of the Working Group I report.

Climate Change 2001: The Science of Basis, Contributions of Working Group I to the Third Assessment Report of the Intergovernmental Panel on Climate Change. Edited by: J.T. Houghton, Y. Ding, D.J. Griggs, M. Noguer, P.J. van der Linden, X. Dai, M. Maskell, C.A. Johnson. Cambridge University Press, Cambridge, UK. 881 pp.
ISBN: 0-521-01495-6

Climate Change 2001: The Science of Climate Change, Summary for Policymakers and Technical Summary of the Working Group I report.

Climate Change 2001: The Scientific Assessment of Climate Change Synthesis Report.

Greenhouse Gas Emissions Action Options Report – Draft: 2002: A Report synthesized by the Missouri Department of Natural Resources Energy Center (Authored by Mr. John Noller, Energy Planner). (I was asked to review this report on 12 June, 2002 and replace the retired Dr. Ernest Kung on the DNR steering committee for Greenhouse Gasses)

Frasier Institute, 2007: Independent Summary For Policy Makers of the text of the IPCC Fourth Assessment Report (January 2007)

Heartland Institute, 2009: Climate Change Reconsidered: The Report of the Nongovernmental International Panel on Climate Change (NIPCC), edited by Craig Idso, Ph.D., and S. Fred Singer, Ph.D. (released 2 June 2009)

**Note: The IPCC scientists shared the Nobel Peace Prize as announced on October 12, 2007 with Mr. Albert Gore Jr. from the USA.

Book Proposal Review

- John Wiley and Sons, Inc., proposing a new introductory text to be published for 2004. I was asked by a representative of John Wiley and Sons to review the book proposal. I was given an honorarium for this work.
- McGraw-Hill Publishing: September 2003, asked to review a book chapter. I was given an honorarium for this work.
- Moran Publishing: January 2007, asked to review material for a book chapter. I was given an honorarium for this work.

Paper Reviews including those for scholarly journals (number if greater than 1)

- Intergovernmental Panel on Climate Change Working Group I Technical Papers 1,2,3, and 4.
- *Monthly Weather Review* (33)
- *Journal of the Atmospheric Sciences* (11)
- *Tellus* (Swedish Meteorological Society) (2)
- Quarterly Journal of the Royal Meteorological Society
- *Journal of Geophysical Research* (American Geophysical Union) (9)
- *Geophysical Research Letters* (American Geophysical Union) (8)
- *Journal of Arid Environments* (Cambridge Press) (2)
- *Journal of the Meteorological Society of Japan* (1)
- *National Weather Digest* (16)
- *Journal of Climate* (4)
- *International Journal of Climatology* (3)
- *Journal of Applied Meteorology* (3)
- *Weather Analysis and Forecasting* (3)

- *Meteorological Monograph (1)*
- *Doklady, Earth Sciences (Russian Academy of Sciences)*
- *Pure and Applied Geophysics (1)*
- *Transactions of the Missouri Academy of Science (2)*
- *Journal of Global and Planetary Change (1)*
- *Paper for the Fraser Institutes, IPCC AR4 analysis series on Natural Variations.*
- *Geological Society of America (1)*
- *Atmospheric Science Letters (3)*

Proposal Reviews (number if more than 1)

- Proposal review for National Science Foundation: Blocking Anticyclone development, Coastal Fronts, Climatology of Low Level Jets (3)
- Proposal review: Agricultural Experiment Station proposals (2)
- Proposal Review: Southwest Center for Environmental Research and Policy (1)
- Proposal Review: MU Alumni Association Incentive Grants Program (2nd Cycle 2002, 20)
- Proposal Review: Missouri Research Board (1)
- Proposal Review: Research Council (1)
- Proposal review(s): For the Fulbright Scholar Office in Russia, reviewed proposals from Russian Scholars wishing to come to the US, 2007, 2008
- Proposal Review: NOAA – NWS “*Wind Chill: An Accurate and Complete Theoretical Model With Experimental Verification*”

Product Reviews

July - August 2000: Reviewed the Kestral 3000, a hand held temperature, wind, and humidity instrument, and commented on it's suitability for use in hurricane research.

Consulting work

- 2006: Reconstructed the synoptic and mesoscale events surrounding the Blue Mound, MO tornado of 20 June 1883. <http://www.bluemoundhistory.com/tornado.htm>
- 2004, 2006, 2008: Hired to provide expert testimonial: Law Offices of Schreimann, Rackers, Francka & Blunt, L.L.C. (Jefferson City).
- 2006: Hired to provide expert testimonial: Law Offices of Robert J. Hayes (Saint Louis).
- Hired by ORNES, Engineering, LCC, as a consultant for an SBIR proposal.
- September – December 2007: hired to provide expert testimonial: Law offices of Lathrop and Gage. Provided 31 hours of consulting - deposed and testified for the defense which won on all counts.
- November 2007 – present: hired by Mac Guire – Woods (Richmond, VA) to provide expert testimonial.
- June 2008 – present: hired by the Shook, Hardy and Bacon Law Firm (provided 24 hours of consulting thus far.)
- July 2009 – present: Hired by the Benson Law Firm, LLC, Kirksville MO, for expert testimony.
- Invited to join; “Round Table Group, the Expert Witness Search and Referral Firm”, a Washington, DC based group of expert witnesses and consultants.

GRADUATE STUDENTS MENTORED

All graduated students have been at least partially supported by grants I have received (See grants obtained under Research Scholarship) or Teaching Assistantships.

Graduate Committees

I have served as an advisor on additional graduate committees in the atmospheric science program.

I have currently six students (four M.S. / two Ph.D.) and nine have graduated (nine M.S. / two Ph.D)

Graduate Student	Degree	Year	Current Status
Cynthia L. Berger	MS	1999 ¹	Broadcast Meteorologist, Ag Day Television, South Bend, IN
Jason Wiedenmann	MS	1999 ¹	Chemistry Instructor / Los Angeles Area Community College / PhD student at USC (Environmental Engineering)
Matthew Chambers	MS	2002 ^{1,3,5}	Candidate / Broadcast Meteorologist, KMOV-4 Saint Louis, MO
Nassar Albaloushi	MS	2001 ²	Candidate (funded by the Government of the United Arab Emirates)
John Burkhardt	MS	2003 ¹	Not employed in Atms. Sci.
Zabani Zuki	MS	2004 ¹	Malaysian Weather Service / Administrator.
W.Christopher Maune	MS	2006 ^{1,4}	Law Degree from MU – J.D. / Working in STL Law firm
Andrew Kunz	MS	2005 ¹	Science journal technical editor
Patrick Guinan	PhD	2004 ¹	Missouri State Climatologist
Mandi Reagan	M.S.	2007 ^{1,5}	Working for Env. Sci firm in St. Louis, MO
Kevin Birk	M.S.	2006 ¹	NWS BIS – Oct 2006
Ben Roudenis	M.S.	2006 ⁵	M.S. Student – Not in Meteorology
Melissa Chesser	M.S.	2009 ¹	Working for Dept of Defense
Rachel (Fay) Redburn	M.S.	2007 ^{1,6}	Wind Capital Group (Mr. Tom Carnahan).
John Burkhardt	Ph.D.	2008 ⁵	Not in Meteorology
Justin Glisan	M.S.	2007 ¹	Ph.D. Student – Iowa State University
Athar Hussain	Ph.D.	2008 ¹	Assistant Professor – Saudi Arabia

Neville Miller	M.S.	2008 ¹	(current) M.S. student – TV meteorologist, SC
J. Michael Roberts	M.S.	2010 ¹	(current) M.S. Student – KRCG Chief Meteorologist, Jefferson City, MO
Shawn Riley	M.S.	2009 ¹	M.S. student
Eric Weber	M.S.	2009 ¹	(current) Ph.D. student
Chris Halcomb	Ph.D.	2010 ^{1,6}	(current) Ph.D. student
Mohd. Hisham Anip	Ph.D.	2011 ¹	(current) Ph.D. student – Malaysian Weather Service
Eric Aldrich	M.S.	2012 ¹	(current) M.S. student (sp 2009) – KOMU TV 8
Eric Weber	Ph.D.	2012 ^{1,6}	Ph.D. Student

¹ Expected or final graduation date.

² Called for military duty August 2000. He likely will not return.

³ Matt was nominated for and won an Outstanding Graduate Achievement Award (Sponsored by GSA) in March 2001.

⁴ Expelled from the Graduate School due to insufficient grades. Student will likely not return.

⁵ Did not graduate.

⁶ I co-advised Rachel, Chris, and Eric with Dr. Neil I. Fox.

Postdoctoral Research Associates Supervised / Visiting Scientists Hosted

Postdoctoral	Degree and Year	University	Current Status
Dr. Ali Deniz	Ph.D / 1997	Technical Univ. of Istanbul	Assoc. Prof. at ITU
Dr. Courtenay Strong	Ph.D. 2005	University of Virginia	Assistant Prof. Utah Univ
Dr. Andreas Ravelo	Ph.D. 1985	University of Cordoba, Argentina	Professor at home institution.

Graduate Committees

I have served as an advisor on additional graduate committees in the atmospheric science program.

Graduate Student	Degree	Year	Dept, Institution, advisor
Haldun Karan	MS	1999	SEAS – MU – Mudrick
Chris Halcomb	MS	2001	SEAS – MU – Market
Chris Ratley	PhD	ABD	SEAS – MU - Kung
Stacey Allen	MS	2002	SEAS – MU – Market
Martin Baxter	MS	2003	Atms. Sci – St. Louis U. – Graves
Elizabeth (McCoy) Hatter	MS	2003	SEAS – MU – Fox
Angela Oehl	MS	2003	SEAS – MU – Market
Mustafa Coskun	PhD	2003	SEAS – MU Mudrick
David Barriopedro-Cerpero	PhD	2007	Physics – U. Madrid – Herrera
Christopher Melick	PhD	2008	SEAS – MU – Market
Rebecca Ebert	MS	2004	SEAS – MU – Market
Steven Lack	PhD	2008	SEAS – MU – Fox
Brian Pettegrew	PhD	2008	SEAS – MU – Market
Rahul Gunda	MS	2005	Elec. Eng. – MU – Islam
Bun- Liong Saw	MS	2005	SEAS – MU – Fox
Md. Hisham Anip	MS	2005	SEAS – MU – Market
Larry Smith	MS	2006	SEAS – MU – Market
William T. Gilmore	MS	2007	SEAS – MU – Fox

Stephen Markley	MS	2009	Geography – MU – Cowell
Mike Stambaugh	PhD	2008	Forestry – MU – Guyette
Jamie Moker	MS	2009	SEAS – MU – Market
Amy Schnetzler	MS	2008	SEAS – MU – Market
John Kahl	PhD	2010	Mathematics – MU – Dostoglou
Ali Koleiny	MS	2009	SEAS – MU – Fox
Dannah Schaffer	PhD	2011	Science Education – MU – Barrow
Michael Folmer	PhD	2011	Atms Sci – SLU - Pasken

Undergraduate / Secondary Education Students Mentored (42):

Undergraduate Scholarship/Project Mentoring

I have served (or am currently serving) as an undergraduate scholarship mentor for ten \$1,000.00+ awards given by the College of Agriculture, Food, and Natural Resources. These papers are presented at a CAFNR sponsored poster session and reception in the Memorial Union in May. Also, the undergraduate papers have been (or will be) presented at the Missouri Academy of Sciences. I have also mentored students in secondary education.

Most undergraduate mentors have been co-authors on AMS and NWA conference presentations, and some have co-authored papers.

TEACHING

Summary of Student Teaching Evaluations

Semester	Course Number ¹ (credits)	No. of Students	Number Evaluating	Course GPA	Evaluation Average ²	SNR Average ^{2,6}
F 97	ATM 350 (3)	14	13	3.71	4.8	3.9
Sp 98	ATM 301 (3)	10	9	3.9	4.0	

	ATM 102 (1)	23	20	3.66	4.6	
F 98	ATM 394 (4)	20	17	3.53	4.0	3.9
	ATM 312 (3)	31	25	3.33	4.3	
Sp 99	ATM 395 (4)	20	14	3.48	3.9	
	ATM 50 (3)	185	80	2.89	3.5	
	ATM 102 ³ (1)	22	18	3.60	4.7	
	ATM 301 (3)	13	12	3.9	4.3	
F 99	ATM 50 (3)	138	66	2.68	3.7	4.1
	ATM 416 (3)	6	4	4.0	3.5	
Sp 00	ATM 102 ³ (1)	24	23	3.6	3.6	
	ATM 395 (4)	2	1	3.0	4.5	
	ATM 399 (3)	11	11	3.51	4.4	
	ATM 466 (3)	2	2	4.0	5.0	
	ATM 410 ⁴ (1)	0	0	0	0	
F 00	ATM 50 (3)	156	95	2.95	4.2	4.0
	ATM 385 (3)	12	7	3.33	4.4	
	ATM 394 (4)	21	13	3.06	4.4	
Sp 01	ATM 102 ³ (1)	42	37	3.6	4.5	
	ATM 395 (4)	19	14	3.08	4.8	
	SAS 410 (1)	6	1	4.0	4.0	
	ATM 412 (3)	2	2	3.0	4.5	
F 01	ATM 50 (3)	203	62	3.24	4.6	3.9
	ATM 200 ⁵ (3)	6	0	3.33	0	
	ATM 394 (4)	14	11	3.19	4.5	
	ATM 416 (3)	4	4	3.75	5.0	
Sp 02	ATM 395 (4)	12	9	3.69	4.8	
	ATM 399 (3)	21	16	3.33	4.1	
	SAS 410 (1)	7	3	4.0	4.3	
	ATM 466 (3)	2	2	4.0	5.0	
F 02	ATM 385 (3)	23	19	3.62	4.1	3.9
	ATM 394 (4)	14	11	3.23	4.5	
Sp 03	ATM 50 ⁷ (3)	308	5	2.99	3.4	
	ATM 395 (4)	19	13	3.47	4.4	
	ATM 412 (3)	4	4	3.5	4.5	
F 03	ATM 385 (3)	16	11	3.62	4.3	3.9
	ATM 394 (4)	21	15	3.54	4.7	
	ATM 416 (3)	6	6	3.5	4.5	
Sp 04	ATM 50 ⁷ (3)	300	24	3.0	4.1	
	ATM 395 (4)	20	17	3.49	4.6	
	ATM 399 (3)	27	22	3.69	4.4	
	ATM 466 (3)	3	3	3.66	4.0	
F 04	AT 4310/7310 (4)	13	10	3.36	4.2	4.1
	AT 4800/7800 (3)	18	16	3.59	3.6	
	ATM 9300 (3)	8	6	3.75	4.2	
Sp 05	ATM 1050 ⁷ (1)	292	7	3.16	4.1	

	ATM 3600 (3)	54	N/A	N/A	N/A	
	AT 4320/7320 (4)	16	9	3.50	4.3	
	ATM 9350 (3)	7	7	3.57	4.4	
F 05	AT 4310/7310 (4)	26	20	3.38	4.3	4.1
	AT 4800/7800 (3)	18		3.65	4.0	
	ATM 8400 (3)	6		3.33	4.5	
	Math 8702 ⁹ (3)	8	N/A	N/A	N/A	
Sp 06	AT 3600 (3)	42		3.48	4.3	
	AT 4320/7320 (4)	25		3.28	4.3	
	AT 4650/7650 (3)	18		3.31	4.4	
	AT 8600 (3)	5		3.60	4.5	
	Math 8702 ⁹ (3)	10	N/A	N/A	N/A	
F06	AT 4310/7310 (4)	15	10	3.43	4.4	4.1
	AT 4800/7800 (3)	13	5	3.60	4.6	
	AT 9300 (3)	7	6	3.86	4.7	
Sp 07	AT 3600 (3)	52	38	3.43	4.2	
	AT 4320/7320 (4)	13	10	3.56	4.6	
	AT 9350 (3)	5	5	3.80	4.8	
F 07	AT 4310/7310 (4)	25	20	3.26	4.5	
	AT 8001/8450 (3)	6	2	4.0	4.4	
	AT 8400 (3)	8	5	4.0	4.2	
Sp 08	AT 3600 (3)	72	45	3.71	4.5	
	AT 3000 (3)	2	2	3.84	N/A	
	AT 4320/7320 (4)	22	11	3.49	4.7	
	AT 8600 ⁸ (3)	1	1	4.0	5.0	
F 08	AT 4310/7310 (4)	15	11	3.33	3.9	
	AT 3000 (3)	2	2	4.00	N/A	
	AT 9300 (3)	5	4	3.40	3.5	
Sp 09	AT 3600 (3)	67	37	3.23	3.4	
	AT 4320 (4)	15	9	3.26	3.5	
F 09	AT 4310	12				
	AT 8400	6				

¹This class list does not include ATM 200 described above.

²Is the overall teaching effectiveness under the general evaluation. This number is the total out of a possible total of 5 points, 5 being highest. Starting in Fall 2008, this number was out of a total of 4.0, 4 being the highest.

³In this course, the lecture materials were designed by myself. A teaching assistant delivered the lectures and gave the grades.

⁴For this class I assisted Dr. Diann Jordan. This class was offered for the first time as a joint Soil and Atmospheric Science Seminar class. I was learning how this class is run.

⁵ I offered an independent study section of Atms 385, Numerical Methods in the Atmospheric Sciences for students who wanted to take this course before they missed their chance when we went to a biennial offering.

⁶The SNR average is obtained from the Assessment Resources Center on campus up to Fall 2002 and is the academic year average corresponding to the same number described in footnote 2 above. After Fall 2002, the number comes from the SNR Academic Programs Office. The average is for all SNR classes taught.

⁷Represents three semesters of large lecture classes when I'd asked for evaluations and made them voluntary. I didn't get an "overwhelming" response.

⁸This was offered independent study to the one graduate student.

⁹ I team taught this with Dr. Stamatis Dostoglou, Mathematics. My role was to advise him on meteorological applications.

Invited Teaching, Workshops, and Presentations

Classes in the School of Natural Resources

- *Atmospheric Blocking*, Lecture for ATM 366 Climates of the World (April 98)
- *Ozone Depletion in the Stratosphere*, Lecture Natural Resources (NRES) 160 (Dec. 98, 99).
- *Climate, climate change, and the human component*, Lecture for NRES 160 (Dec. 98, 99, 00, 01,02).
- *Atmospheric Air pollution*, Lecture prepared for NRES 160 (Dec. 2000).
- *On global warming*, Lecture prepared for Dr. Mark Ryan (Mar. 7, 2001)
- *Severe weather and tornadoes*, Lectures prepared for NRES 160 (December 2003, 2004)
- *The Santa Anna winds and their contribution to the fires of 2007* (Lecture prepared for Dr. Keith Goyne, 26 October 2007)
- *Global Warming and Attribution*. (Lecture prepared for Natr 2160 Dr. Bruce Cutter and Dr. H. Garrett, 1 and 8 November 2007, 3 Dec 2008)

Classes outside the School of Natural Resources

- *Climate and Climate change in the Midwest*. Geography 410, 8 September, 1999

- *Climate and Climate Change in the Midwest*. Seminar for Law School, 25 October, 1999.
- *The Physics of the Greenhouse Effect*. Two Lectures for (Chemical Engineering), Apr. 00, Aug. 00.
- *Climate and Climate Change in the Midwest*. Lecture Sept. 00. (Political Science 365 Environmental Theory and Politics)
- *Climate Change and Global Warming: The current perspective*. Seminar for Law School Oct. 00.
- *Climate and Climate Change in the Midwest*. Lecture for May 01. (World Food and You.)
- *Advisors are people too*. A short presentation given as part of an "advisors panel" for freshmen. Aug. 01, Sep. 02, 03, 04, 05, 06, 07, 08, 09 (Learning and Instruction for Freshmen - T42).
- *Climate and Climate Change*: Lecture given to three classes at Linn State Technical College, Soil and Environmental Sciences class. November, 2005, 2006, 2007; April, 2006, 2007, 2008.
- *Global Warming and Attribution*. A lecture for General Honors 1070 (Bill Folk 9 February 2009).
- The Zwack Okossi Equation: a derivation and physics. A lecture for Advanced Synoptic Meteorology 9700 (Market – 9 February 2009)

Teaching Workshops, Lectures, and Presentations

- *Climate and Climate Change, will Missouri be heating up?* A Back-to-classes Lecture prepared for the MU Jefferson Club, 17 September, 1999
- Market, P.S., and A.R. Lupo: *How are the teachers of today preparing the meteorologists of tomorrow?* Presented to: The Kansas City Chapter of the American Meteorological Society 19 September 2001.
- *Clouds in a bottle*: A teaching demonstration prepared for prospective SNR students, 9 November 2001, November 15, 2002, 14 Nov. 2003 (4 - 20 min. demos.)
- *The Chamber*: A teaching demonstration prepared for prospective SNR students, 21 October 2005

- *Introduction to Atmospheric Sciences*: A teaching demonstration prepared for prospective SNR students, 9 November 2001, 15 November, 2002, 14 Nov. 2003 (2 lectures) (50 min. lecture)
- Grigsby, M, E. P. Berg, S.T. Cole, S.K. Freyermuth, D.E. Lehman, A.R. Lupo, P.S. Market, J.J. Millspaugh, J.L. Parcell, and D.R. Vaught, 2004: MU CAFNR Teaching Scholars Program. (Featured Poster) 14th Program for Excellence in Teaching Teaching Renewal Conference. 26 – 28 February, 2004, Columbia, MO. (10%).
- Lupo, A.R.: *Climate and Climate Change*: Lecture given to Weather Camp Workshop run by Dr. Patrick Market, June 2005.
- Climate, Climate Change, and Hurricanes: Lecture given to Saturday Morning Science group (sponsored by Life Sciences and Physics), Columbia, MO, 11 February 2006.
- Climate, Climate Change, and Hurricanes: Lecture given to Lifelong Learning (Talking about the weather – a 6 week course team taught by Dr. Market, myself and graduate students) – MU Extension, Columbia, MO, 27 April 2006.
- Climate Change: Attribution, who is to blame for global warming? Lecture given to the Life Sciences Policy Forum, 4 October 2006
- Hurricanes: The Evil Wind: Lecture given to teachers at the 1st annual NWA Teaching Summit. 15 October, 2006, Kent State, Kent, OH.
- Climate Change: Attribution, who is to blame for global warming? Lecture given to the Life Sciences Policy Forum, 13 September 2007. I also presented this on November 13 2007 at the Memorial Union for a student sponsored panel along with a showing of “*An Inconvenient Truth*”
- Weather and Climate, a training workshop for Columbia Public Schools. April 2,9,16, and 23, 2008. I presented at the April 9th and 16th sessions. The Atmospheric Sciences Program worked with the Public Schools to get speakers and topics.
- Hurricanes: The Evil Wind: Lecture given to teachers at the 2nd NWA Teaching Summit. 21 October, 2009, Norfolk, VA.

Teaching Renewal Activities

- Attended the "Greater Expectations: Teaching and Learning and Learning in the College of Agriculture, Food, and Natural Resources" 14 August 2000
- Attended the "Building better teachers and a stronger community, as we better prepare our students for success during the next century." CAFNR Fall Teaching Round-up 2001.

- Attended the “High Impact Teaching”, CAFNR Fall Teaching Round-up 2003.
- Attended “Teaching in a Classroom with a Diverse Population”, CAFNR Fall Teaching Round-up 2004.
- Attended MU Director of Graduate Studies Leadership Summit, “Conflict Resolution Workshop” 13 Sept. 2004.
- Attended the North Central Region Teaching Symposium at Kansas State University, 23 – 25 May, 2005
- Attended the CAFNR Fall Teaching Academy, “Problem Based Learning”, 8 August, 2005.
- Attended the School of Natural Resources Faculty Advisor workshop, 9 August, 2005
- Attended the “Developing Undergraduate Faculty Teaching Partnerships to Enhance Learner Centered Approaches, 13 January 2006.
- Attended the CAFNR Fall Teaching Academy, 10 August, 2006.
- Attended the CAFNR Fall Teaching Academy, *How People Learn – Bridging Research and Practice*, 7 August 2007.
- Invited to represent MU Atmospheric Science at the Math – Meteorology teaching workshop, 22-23 February, 2008. Sponsored by Valparaiso University.
- Attended the CAFNR Teaching Symposium Program, 15 January 2009.

SERVICE: Department, School, University, Professional

Dr. Lupo is regularly available to local media (television, radio, and newspaper) outlets for weather information and expert commentary. He has also answered inquiries for media in Kansas City, Saint Louis, and Fort Myers (FL). Also, in addition to giving numerous talks to the general public, various civic organizations, and agricultural groups on topics including El Nino and Southern Oscillation, long range forecasting, global warming, and weather safety, Dr. Lupo has served on various committees at different levels within the University.

Service to Profession, University, College, School, and Department

Memberships and Activity in Academic, Scholarly, and Professional Societies

- American Meteorology Society
- Sigma Xi Honor Society

- Elected President (11 April, 2002, reelected 17 April 2003, again 2008-2009)
 - Elected Vice President, University of Missouri Chapter (21 March, 2001, May 2004)
 - Elected Secretary, MU Chapter, May 2005 – 2007, and May 2009-Aug 2009
 - Treasurer Aug. 2009 - present.
- Fellow, Royal Meteorological Society
- Missouri Academy of the Sciences
 - Elected Chair of the Atmospheric Sciences Section (Served 4/2000 – 4/2002)
 - Editor 2003-2006, Transactions
 - Vice President 2008- 2009
 - President Elect 2009- 2010
- Member, Gamma Sigma Delta
 - Historian for FY 2004 – 2006
 - President for FY 2003 - 2004
 - Vice President (President Elect) for FY 2002 - 2003
 - Appointed Secretary for FY 2001 - 2002
- American Geophysical Union
- MU representative on the Board on Oceans and Atmospheres of the National Association of State Universities and Land-Grant Colleges.
- UCAR/UNIDATA Contract Contact point for the University of Missouri (1998 – 2003)
- Member, Fulbright Association (for Fulbright Alumni) (2004 – present)
- Member, National Weather Association
 - Committee member: Weather Analysis and Forecasting Committee 1/02 - present)
 - Committee member: Education Committee 1/06 – present)
 - Committee member: Publication Committee 1/07 – present
 - Associate Editor 2002 – 2009
 - Co Editor 2009 - present
- Listed as a hurricane expert on the American Geological Institute list of hurricane experts for government. (9/05 – present)

University of Missouri - Columbia

- Served on the MU Environmental Affairs Committee, 1998 – 2001, Fall 2002 – 2005.

- Chair, September 1999 - May 2000
- Served on the Campus Committee for Safety, Fall 1999 - Fall 2002
- Serving on the Missouri State Drought Assessment Committee, including the Weather and Climate Committee, July 2005 - present
- Participated in "Project Enter" (2000, 2001, 2002), a University Sponsored program to showcase science and mathematics programs to junior high students across the state.
- Represented MU at the Annual University Corporation for Atmospheric Research meetings 8-9 October, 2002 (MU is member representative in that organization)
- UCAR Administrative Representative for MU (Sept. 2003 – present)
- Campus Faculty Committee on Tenure (Sept. 2004 – May 2005)
- Elected to the Graduate Faculty Senate (Spring 2006 - 2009)
- Serving on the Campus Planning Committee (2007 – 2010)

College of Agriculture, Food, and Natural Resources

- Served in CAFNR Urban Outreach Program (Dean Mitchell) (1998)
- Served in CAFNR Learning Improvement Committee (Assoc. Dean Vaughn) (2000-present, Chair 2008 - 2009)
- Served CAFNR as Atmospheric Science partner on CSREES Multistate Research Project (formerly NC094, NC1018, now NC1179) “*Impact of Climate and Soils on Crop Selection and Management*” (2002- present)
- Serving on the Undergraduate Recruiting Committee (Assoc. Dean Vaughn; Sept 2002 – Aug. 2003)
- Serving as the North Central Region representative for Climate (with State Climatologist Dr. Patrick Guinan, 2000 - present)
- Served CAFNR South Farm Field Days 2006, 2007, 2008
- Serves CAFNR at the Missouri State Fair (1998 – present)
- CAFNR Search for Associate Dean (10/2008 – spring 2009)

School of Natural Resources

- Helped present weather and forecasting information for Ag. days (Sp. 98/Sp.99)
- Participate in SNR Summer Welcome advisement (1998 – present)
- Served on the SNR Internal Communications Committee (9/1998 – 9/1999)
- Served on the SNR Curriculum Committee (8/2000 - 1/2002)
- Serving as SNR representative to the Graduate Faculty Senate (5 / 2006 – 2009)
- Serving on the SNR Promotion and Tenure Committee 2004 – 2008 (Chair 2006 – 2008)
- Serving as Chair of the SNR Director's evaluation committee Fall 2009.

Soil, Environmental, and Atmospheric Science Department

- Department Chair 2008 - present
- Program Leader (1/2002 – 2007)
- Soil, Environmental, and Atmospheric Science P&T representative to SNR (2005 – 2008)
- Soil Chemist Faculty Search Committee (Spring 2004)
- Chair, Mentoring Committee for Neil Fox (9/2002 – present)
- Advisor to the University of Missouri Meteorology Club (9/1997 - 3/2002)
- Departmental liason to the Graduate School for the MU Louis-Stokes Missouri Alliance for Minority Participation (LS-MoAMP) Summer Undergraduate Research Internship Program. (11/02 – present).
- Atmospheric Science Faculty Search Committee, Fall 1998, Fall 2000 - Spring 2001.
- Atmospheric Science FIG Advisor (6/2001 - present)
- Atmospheric Science Undergraduate Scholarship Committee (9/1997 - present)
 - Chair, 9/97 – 1/02
- Coordinated MU participation in the national game (9/1997 – 9/2001).
- Director of Graduate Studies (1/2002 - 2008)

- Formed and supervised the MU storm chase team (3/1998 – 2/2001).
- Guided the formation of the Mid-Missouri Chapter of the American Meteorological Society, Fall 1997, (we became a joint AMS – National Weather Association Chapter 2/2002).
- Oversees the local weather forecast game (9/1997 – present)
- Serving on the (Soil and) Atmospheric Science Curriculum Committee (9/1998 - present)
- Supervised the KU-MU Synoptic Forecasting Workshop (9/1997 – 9/2000)
- Serves on Atmospheric Science Program Committee to Review Doctoral Faculty renewals (10/00 - present)

Service to Elementary and Secondary Education in Missouri

- I have been invited to elementary and secondary schools in mid-Missouri to talk about our meteorology program, severe weather, and climate change. These schools include schools in Columbia as well as in Camdenton, MO. Also, during academic year 2000 - 2001, I served as a statewide judge for the junior high and senior high divisions of the Missouri Science Olympiad. In this role I helped administer the test for competition and score the final results to decide the "winners". Additionally, I have judged science fairs in Columbia and around the State of Missouri.

OTHER AWARDS AND HONORS (Personal)

- Eagle Scout, Boy Scouts of America, 1984
- Successfully Completed Honors Program at Cayuga County Community College, 1986
- David Ross Fellow (Purdue University), 1993 - 1995
- Outstanding Graduate Student (Purdue University), 1995

COMMUNITY SERVICE

Community-at-large

- Community Service in Association with the Boy Scouts of America, 1975 - 1986.
- Youth Baseball League Coach, 1975 - 1986.
- Parish Council Representative (Church), 1982 - 1984.
- Committee for Social Concerns (Church), 1981 - 1984.
- Head Orientation Guide, Riggs Hall, SUNY College at Oswego, 1987 - 1988.
- Habitat for Humanity of Lafayette, IN Volunteer, 1993-1995.
- Director of the community service committee, Knights of Columbus, Council 3357 /
 - Guilderland, NY, 1996 - 1997.
- Member, Knights of Columbus, Council 1529 / Columbia, MO, 1997 - present
 - Elected Recorder (secretary) July 2000 – 2004, 2007 - 2009
 - President of 4th Degree Assembly July 2001 – 2003
 - Deputy Grand Knight 2009 – present
- Member, Greening Earth Society
- Member, Americans for Balanced Energy Choices (Advising scientist)
- Member, Missouri Coalition on Climate Change
- Joined the Scientific Round Table for TechCentralStation (2004 – present)
- Climate and Modeling expert for International Climate and Environmental Change Assessment Project (ICECAP) (2007 – present)
- Parish Council Representative (Education committee) (Church), 1998 - 1999
- Coach, Daniel Boone Little League, 2000 - 2003
- Served as the Missouri state-level judge for the junior high and high school Science Olympiad, AY 2000 - 2001.
- Columbia Soccer Club coach (2005 – present)

- Elected to the Columbia Catholic School - School Board (May 2004 – 2008)
 - President (2006 – 2008)

REFERENCES

Available upon request.