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

#### **VITA**

Date of Birth: 13 March 1966 Married - three children

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# **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)

- Nominated to serve on the Board of Natural Resources (BNR) Science Roadmap for Natural Resources – Committee (national).
- Chosen to be part of the US-Russian Presidents Climate Subgroup of the Science and Technology Working Group (Fall 2011).
- MU Professor of the Year Award (May, 18 2010) (Winners go on to national competition sponsored by Carnegie foundation)
- 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)
- Inducted 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 3<sup>rd</sup> 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 2009)
    - Certified Consulting Meteorologist #660
    - Nominated for Fellow (May 2008)
    - University Representative, Weather Coalition
    - Member, Network of Networks, Ad Hoc Committee Metadata
    - Member, Ad Hoc Committee on Uncertainty in Forecasts (ACUF)
    - Member, THORPEX working group 6 (blocking).
- 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
- Phi Kappa Phi Honor Society
- 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
  - President for 2010-2011
  - Past President for 2011-2012
  - Fellow, 2013
- American Geophysical Union
- European 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 2009)
  - Committee member: Education Committee (2006 present)
  - Committee member: Publication Committee (2007 present)
  - Associate Editor (2002 2009)
  - Editor, 2009 present
- Appointed to the University of Missouri Doctoral Faculty January 2000, reappointed 2005, 2010
- 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 (71 total) (only those since 2005 shown)

- Lupo, A.R. (Author Ch 1), 2013: *Heartland Institute, 2013: Climate Change Reconsidered:* 2013 The Interim Report of the Nongovernmental International Panel on Climate Change (NIPCC), edited by Craig Idso, Ph.D., Robert M. Carter, Ph.D, and S. Fred Singer, Ph.D. (released 29 August 2011) 10% (overall) 75% (Chapter).
- Mokhov, I.I., M.G. Akperov, M.A. Prokofyeva, A.V. Timazhev, A.R. Lupo, H. Le Treut, 2012: Blockings in the Northern Hemisphere and Euro-Atlantic region: Estimates of changes from reanalyses data and model simulations. (In Russian: Блокинги в Северном полушарии и Евро-Атлантическом регионе: оценки изменений по данным реанализа и модельным расчетам). *Doklady*, **449**, 430-433. (25%)

- Market, P.S., S. Rochette, and A.R. Lupo, 2013: A Comparison of Modern and Historical Methods for Calculating Montgomery Steamfunction. *Atmospheric Science Letters*, **14**, 41-44.. (30%)
- Schnetzler, A.E., J.M. Glisan, <u>A. Hussain</u>, P.S. Market, and A.R. Lupo, 2012: A comparative study to quantify the Sensitive dependence in numerical models for a developing low in the Southern Plains. *Transactions of the Missouri Academy of Science, in press*.
- Dawson, N.W., P.E. Guinan, and A.R. Lupo, 2012: A Long-Term Study of Tropical Systems Impacting Missouri. *Transactions of the Missouri Academy of Science, in press*.
- Lupo, A.R., I.I. Mokhov, M.G. Akperov, A.V. Chernokulsky, and A. Hussain, 2012: A dynamic analysis of the role of the planetary and synoptic scale in the summer of 2010 blocking episodes over the European part of Russia. *Advances in Meteteorology, Vol. 2012 (2012), Article ID 584257, 11 pages*
- Mokhov, I.I., A.R. Lupo, and M.A. Prokofyeva, 2012: Blockings Activity in the Northern Hemisphere: Tendencies of Change for Last Decades. Research Activity in Atmospheric and Oceanic Modeling World Meteorological Organization / Technical Document No. 1064: 2.20 2.21
- Lupo, A.R., R.S. Hayward, and G.W. Whitledge, 2012: Synchronization of fishes' temporal feeding patterns with weather in mid-Missouri. *Journal of Freshwater Ecology*, **27:3**, 419-428.
- Lupo, A.R., N.B. Smith, P.E. Guinan, and M.D. Chesser, 2012: The Climatology of Missouri Region Dew Points and the Relationship to ENSO. *National Weather Digest, in press.* (70%).
- Chendev, Y.G., A.N. Petin, and A.R. Lupo, 2012: Soils as indicators of climate change. Geography, Environment, Sustainability (A publication of the Russian Academy – Moscow State University) 1, 4-17.
- Lupo, A.R. (Co-Author Ch 1), 2011: *Heartland Institute, 2011: Climate Change Reconsidered:* 2011 The Interim Report of the Nongovernmental International Panel on Climate Change (NIPCC), edited by Craig Idso, Ph.D., Robert M. Carter, Ph.D, and S. Fred Singer, Ph.D. (released 29 August 2011) 10% (overall) 50% (Chapter).
- Ellrod, G., S. Harned, K. Lavin, A.R. Lupo, P. Roohr, 2011: National Weather Digest: More than three decades of service to the meteorological community. *National Weather Digest*, **35:2**, 163-168. (80%)
- Wang, Y., X. Xu, A.R. Lupo, P. Li, and Z. Lin, 2011: The Remote Effect of the Tibetan Plateau on Downstream Flow in Early Summer. *Journal of Geophysical Research Atmospheres*, 116, D19108, doi:10.1029/2011JD015979. (33%)

- Stambaugh, M.C., R. P. Guyette, E. R. McMurry, E.R. Cook, D.M. Meko, and A.R. Lupo, 2011: Drought duration and frequency in the U.S. Corn Belt during the last millennium (AD 992 2004). *Agricultural and Forest Meteorology*, **151**, 154-162. (15%)
- Lupo, A.R., 2011: Interannual and Interdecadal variability in hurricane activity. Hurricane Research, ISBN 978-953-307-238-8, Intech Publishers, Vienna. (Book Chapter) Lupo, A.R. Book editor, Recent Hurricane Research: Climate, Dynamics, and Societal Impacts, 616 pp. (100%)
- Hussain, A., and A.R. Lupo, 2010: Scale and stability analysis of blocking events from 2002-2004: A case study of an unusually persistent blocking event leading to a heat wave in the Gulf of Alaska during August 2004. *Advances in Meteorology*, Volume 2010, Article ID 610263, 15 pages doi:10.1155/2010/610263. (100%)
- Moon, J.T., P.E. Guinan, D. J. Snider, and A.R. Lupo, 2009: CoCoRaHs in Missouri: Four years later, the importance of observations. *Transactions of the Missouri Academy of Science*, **43**, 7-18. (60%)
- Grathwohl, K.T., A.R. Lupo, and P. S. Market, 2009: A Possible Heat Island Effect from a Small Rural Community. *Transactions of the Missouri Academy of Science*, **43**, *33* 38 (70%)
- 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 Atmofera*, *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*, **137**, 3771 3785. (50%)
- Market, P.S., G. Dolif Neto, A.E. Becker, B.P. Pettegrew, C.J. Melick, C.J. Schultz, P. I. Buckley, <u>J.V. Clark</u>, 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., <u>T. Hagen, J. Glisan</u>, 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%)

- <u>Tilly, D.E.</u>, 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., <u>T.K. Latham, T. Magill, J.V. Clark</u>, 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., <u>E. P. Kelsey, D.K. Weitlich, N.A. Davis</u>, 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 энстрофии на распад блокингов (Translated: The impact of the planetary scale on the decay of blocking and the use of phase diagrams and enstrophy as a diagnostic). *Izvestiya, Atms-Oc.*, **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 Hemipshere 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%)

#### 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 (207)

I am the author or co-author on 207 conference preprint papers and only the most recent (since 2005) will be listed here. A complete list can be provided upon request.

- Chendev, Y.G., A.R. Lupo, A.N. Petin, and M.G. Lebedeva, 2013: The Influence of long- and short-term climatic changes to chernozem soils: Central Chernozem Region of Russia
- Lebedeva, M.G., A.R. Lupo, Y.G. Chendev, O.V. Crymskaya, A.B. Solovyov, 2013: Blocking anticyclones as a factor of dangerous hydrometeorological phenomena in the centre of Eastern Europe (regional manifestations).
- Bell, J.R., and A.R. Lupo, 2013: The Unusual Warmth of March 2012: Some Possible Causes. 25th Conference on Climate and Climate Variability, 93rd Meeting of the AMS, Austin, TX, January 6-10, 2013.
- Jensen, A.D., A.R. Lupo, and I.I. Mokhov, 2013: Using Enstrophy Transport as a Diagnostic to Identify Flow Regime Transformation. 25<sup>th</sup> Conference on Climate and Climate Variability, 93<sup>rd</sup> Meeting of the AMS, Austin, TX, January 6-10, 2013.
- Soelle, C.B., E.M. Blizzard, A.R. Lupo, 2012: The Effect of Topography on Precipitation Amounts in Missouri. *The 37th Annual Meeting of the National Weather Association, Madison, WI, 6-10 October, 2012*
- Bell, J.R., and A.R. Lupo, 2012: The unusual warmth of March 2012: A historical perspective. The 37th Annual Meeting of the National Weather Association, Madison, WI, 6-10 October, 2012
- Lupo, A.R., I.I. Mokhov, Y.G. Chendev, M.G. Lebedova, J.A. Hubbart, 2012: Forecasting summer season drought in Western Russia. Conference on Climate Change in Missouri: Gaining the Advantage. June 6-8, Columbia, MO

- Soelle, C.B., E.M. Blizzard, A.R. Lupo, 2012: The Effect of Topography on Precipitation Amounts in Missouri. *Transactions of the Missouri Academy of Science*, 46
- Lupo, A. R., I.I. Mokhov, Y.G. Chendev, M.G. Lebedova, and J.A. Hubbart, 2012:. Forecasting summer season drought in Western Russia *Transactions of the Missouri Academy of Science*, 46
- Lupo, A.R., I.I. Mokhov, Y.G. Chendev, M.G. Lebedova, J.A. Hubbart, 2012: Forecasting summer season drought in Western Russia. AMS 25th Conference on Weather Analysis and Forecasting (WAF) and the 21st Conference on Numerical Weather Prediction (NW) Jointly with the 46th Canadian Meteorological and Oceanographical Society (CMOS) Congress 2012, 29 May–1 June 2012, Montreal, Quebec, Canada
- Market, PS, R.A. Wolf, J. Haase, A. R. Lupo, J. Gagan, and C. C. Crowe. Studies of dry airstreams in mature extratropical cyclones with and without comma heads.

  AMS 25th Conference on Weather Analysis and Forecasting (WAF) and the 21st

  Conference on Numerical Weather Prediction (NW) Jointly with the 46th Canadian

  Meteorological and Oceanographical Society (CMOS) Congress 2012, 29 May–1 June 2012, Montreal, Quebec, Canada
- Lupo, A.R., and P. Macy, 2011: 150<sup>th</sup> Anniversary of the American Civil War: Weather during the summer of 1861. Bulletin of the Missouri Academy of Science, 40:1, 1-4.
- Mokhov, I.I, M.G. Akperov, A.R. Lupo, A.V. Chernokulsky, and A.V. Timazhev, 2011: Regional climate extremes in Northern Eurasia associated with atmospheric blockings: Interannual variations and tendencies of change. *Annual meeting for the American Geophysical Union 1 4 December*, 2011.
- Kozlowski, D.M., and A.R. Lupo, 2011: Measuring forecast performance during blocking and non-blocking periods in Missouri during the 2010-2011 cold season. *The 36<sup>th</sup> Annual Meeting of the National Weather Association, Birmingham, AL, 15-20 October, 2011.*
- Lupo, A.R., J.J. Abraham, Mokhov, I.I., A.A. Vetrova, and M.G. Akperov, 2011: Summer season drought in Eastern Europe and Western Russia. *The 36<sup>th</sup> Annual Meeting of the National Weather Association, Birmingham, AL, 15-20 October, 2011.*
- Anip, M.H., and A.R. Lupo, 2011: A climatological study of the Borneo Vortex during Northern Hemisphere Winter Monsoon. *The 36<sup>th</sup> Annual Meeting of the National Weather Association, Birmingham, AL, 15-20 October, 2011.*
- Bogowith, M., E. Aldrich, and A.R. Lupo, 2011: The verification of weather forecasts as compared to numerical modeling and climatology: Seasonal and ENSO variations. *The* 36<sup>th</sup> Annual Meeting of the National Weather Association, Birmingham, AL, 15-20 October, 2011.

- Anip, M.H., and A.R. Lupo, 2011: A climatological study of the Borneo Vortex during Northern Hemisphere Winter Monsoon. WCRP Open Science Conference, 24-28 October 2011, Denver, CO.
- Lupo, A.R., J.J. Abraham, Mokhov, I.I., A.A. Vetrova, and M.G. Akperov, 2011: Summer season drought in Eastern Europe and Western Russia. *The 19<sup>th</sup> Conference on Applied Climatology / 36<sup>th</sup> Annual meeting of the American Association of State Climatologists, 18 21 July, 2011, Asheville, NC (75%)*
- Mokhov, I.I., A.R. Lupo, A.A. Vetrova, and M.G. Akperov, 2011: Atmospheric blockings and associated climate extremes in the Northern Hemisphere detection of change and attribution of causes. The 19<sup>th</sup> Conference on Applied Climatology / 36<sup>th</sup> Annual meeting of the American Association of State Climatologists, 18 21 July, 2011, Asheville, NC. (33%)
- Bogowith, M., and A.R. Lupo, 2011: The verification of weather forecasts, numerical models, climatology, and variations in ENSO cycles in forecast accuracy. *Transactions of the Missouri Academy of Science*, **45** (100%)
- Aldrich, E., and A.R. Lupo, 2011: The verification of weather forecasts compared to numerical modeling, climatology, human forecasts and seasonal variations. *Transactions of the Missouri Academy of Science*, **45** (100%)
- Mohd. Anip,M. H., and A.R. Lupo, 2011: A climatological study of the Borneo Vortex during the Northern Hemisphere Winter Monsoon. *Transactions of the Missouri Academy of Science*, **45** (100%)
- Lupo, A. R., J.J. Abraham, and I.I. Mokhov, 2011: Summer season drought in Eastern Europe and Western Russia. *Transactions of the Missouri Academy of Science*, **45** (80%)
- Kozlowski, D.M., and A.R. Lupo, 2011: Measuring forecast performance during blocking and non-blocking periods in Missouri during the 2010-2011 cold season. *Transactions of the Missouri Academy of Science*, **45** (100%)
- Ellrod, G.P., A.R. Lupo, S. Harned, P. Roohr, and K. Lavin, 2011: The National Weather Digest: More than three decades of service to the NWA. *The 36<sup>th</sup> Annual Northeast Storms Conference, 11 13 March, 2011, Taunton, MA* (35%)
- Mokhov, I.I., M.G. Akperov, A.R. Lupo, and A.A. Vetrova, 2011: Atmospheric blockings and associated climate extremes in the Northern Hemisphere: Detection of change and attribution of causes. IUGG Assembly, Melbourne, Australia, June 28 7 July, 2011. (30%)
- Ellrod, G.P., A.R. Lupo, S. Harned, P. Roohr, and K. Lavin, 2010: The National Weather Digest: More than three decades of service to the NWA. *The 35<sup>th</sup> Conference of the National Weather Association*, 2 7 October, 2010, Tucson, AZ (20%)

- Lupo, A.R., R.S. Hayward, and G.W. Whitledge, 2010: Sychronization of fishes' temporal feeding patterns with weather in Mid-Missouri. *The 35<sup>th</sup> Conference of the National Weather Association*, 2 7 October, 2010, Tucson, AZ (50%)
- Madden, J.M., J.T. Moon, and A.R. Lupo, 2010: The Early Civil War Battles in Southwest Missouri 1861: How Weather May Have Influenced the Outcome. *The 35*<sup>th</sup> Conference of the National Weather Association, 2 7 October, 2010, Tucson, AZ
- Abraham, J.J., K.L. Crandall, L.P. McCoy, R.J. Tillott, P.S. Market, and A.R. Lupo, 2010: The application of diabatic heating in Q-vectors for the study of a midwest cyclone event. *The* 35<sup>th</sup> Conference of the National Weather Association, 2 7 October, 2010, Tucson, AZ (80%).
- Madden, J.M., J.T. Moon, and A.R. Lupo, 2010: The Early Civil War Battles in Southwest Missouri 1861: How Weather May Have Influenced the Outcome. *Transactions of the Missouri Academy of Science*, **44** (100%)
- Weber, E.E., and A.R. Lupo, 2010: The climatological character of air pollution events in the central plains states. *Transactions of the Missouri Academy of Science*, **44** (100%)
- Lupo, A.R., R.S. Hayward, and G.W. Whitledge, 2010: Sychronization of fishes' temporal feeding patterns with weather in Mid-Missouri. *Transactions of the Missouri Academy of Science*, **44** (50%)
- Weber, E.E., and A.R. Lupo, 2010: The climatological character of air pollution events in the central plains states. *The 18<sup>th</sup> Conference on Applied Climatology*, 90<sup>th</sup> Annual meeting of the American Meteorological Society, 17 21 January, 2010, Atlanta, GA
- Smith, N.B., Guinan, P.E., and A.R. Lupo, 2010: A study of the impact of the ENSO cycle on Missouri dew points. *The 22<sup>nd</sup> Conference on Climate Variability, 90<sup>th</sup> Annual meeting of the American Meteorological Society, 17 21 January, 2010, Atlanta, GA*.
- Smith, N.B., Guinan, P.E., and A.R. Lupo, 2010: A study of the impact of the ENSO cycle on Missouri dew points. *The 1<sup>st</sup> Symposium for Agroforestry, 6 January, 2010, Columbia, MO*.
- 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 34<sup>th</sup> 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 34<sup>th</sup> 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 34<sup>th</sup> 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 34<sup>th</sup> 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 23<sup>rd</sup> 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 23<sup>rd</sup> 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 45<sup>th</sup> 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 45<sup>th</sup> 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 45<sup>th</sup> 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 45<sup>th</sup> 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 45<sup>th</sup> 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 45<sup>th</sup> 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 45<sup>th</sup> 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 45<sup>th</sup> 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 45<sup>th</sup> 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 45<sup>th</sup> 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 21<sup>st</sup> Conference on Global Climate Change.* 89<sup>th</sup> 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 21<sup>st</sup> Conference on Global Climate Change. 89<sup>th</sup> 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 21<sup>st</sup> Conference on Global Climate Change.* 89<sup>th</sup> 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 21*<sup>st</sup> *Conference on Global Climate Change.* 89<sup>th</sup> *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 21*<sup>st</sup> *Conference on Global Climate Change.* 89<sup>th</sup> *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%)
- <u>Puricelli, K.M.</u>, 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, <u>B.L. Perrin</u>, and K.M. Puricelli, 2008: The global increases in blocking occurrences. The 44<sup>th</sup> Annual Meeting of the Missouri Academy of Science, 18 19 April, 2008, Joplin, MO *Transactions of the Missouri Academy of Science*, **42.**
- <u>Hughes, K.B.</u>, and A.R. Lupo, 2008: Interannual variability of tornado production in the central plains. The 44<sup>th</sup> 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. 28<sup>th</sup> 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. 28<sup>th</sup> 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. 88<sup>th</sup> 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. 88<sup>th</sup> 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 20<sup>th</sup> Conference on Global Climate Change. 88<sup>th</sup> 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 20<sup>th</sup> Conference on Global Climate Change. 88<sup>th</sup> 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.  $22^{nd}$  Weather Analysis and Forecasting Conference/ $18^{th}$  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 32<sup>nd</sup> 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 32<sup>nd</sup> 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 32*<sup>nd</sup>

  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 32<sup>nd</sup> 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 43<sup>rd</sup> 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 43<sup>rd</sup> 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 43<sup>rd</sup> 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 43<sup>rd</sup> 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 43<sup>rd</sup> 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%)
- <u>Hussain, A.</u>, A.R. Lupo, C. Strong, S. Dostoglou, 2007: A diagnostic study of atmospheric blocking using Lyapunov exponents over a 50 year period. *The 87<sup>th</sup> Annual Meeting of the American Meteorological Society, 19<sup>th</sup> Conference on Climate Variability and Change, 14 18 January, 2007, San Antonio, TX. (70%)*
- <u>Latham, T.K.,</u> 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 87<sup>th</sup> Annual Meeting of the American Meteorological Society, 19<sup>th</sup> 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 87<sup>th</sup> Annual Meeting of the American Meteorological Society, 19<sup>th</sup> 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 23<sup>rd</sup> 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. 13<sup>th</sup> Cyclone Workshop, 21 26 October, Monterrey, CA.
- <u>Redburn, R.N.,</u> P.E. Guinan, and A.R. Lupo, 2006: The Frequency of Tropical Cyclones moving into Missouri and the Synoptic Environment. *The 31<sup>th</sup> Annual Meeting of the National Weather Association, 14 19 October, 2006, Cleveland, OH.* (70%)
- Guinan, P.E., <u>R.N. Redburn</u>, and A.R. Lupo, 2006: The Community Collaborative Rain, Hail, and Snow Network (CoCoRaHs) comes to Missouri. *The 31<sup>th</sup> 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 31<sup>th</sup> 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 31<sup>th</sup> 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 42<sup>nd</sup> Annual Meeting of the Missouri Academy of Science, 21 22 April, 2006, Kirksville, MO. *Transactions of the Missouri Academy of Science*, **40**.
- <u>Davis, N.,</u> 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 42<sup>nd</sup> Annual Meeting of the Missouri Academy of Science, 21 22 April, 2006, Kirksville, MO. *Transactions of the Missouri Academy of Science*, **40**. (100%)
- <u>Birk, K.J.,</u> B. Smith, A.R. Lupo, and P. E. Guinan, 2006: The Interannual Variability of Midwestern Temperatures as related to the ENSO and PDO. The 42<sup>nd</sup> Annual Meeting of the Missouri Academy of Science, 21 22 April, 2006, Kirksville, MO. *Transactions of the Missouri Academy of Science*, **40**. (80%)
- <u>Lupo, A.R.,</u> P.S. Market, and A. R. Kunz, 2006: Weather Forecasting: Getting Order out of Chaos? The 42<sup>nd</sup> 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* 30<sup>th</sup> 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 30<sup>th</sup> 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 30<sup>th</sup> 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 30<sup>th</sup> 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 30<sup>th</sup> Annual Meeting of the National Weather Association*, 15 20 October, 2005, St. Louis, MO. (75%)
- <u>Hagen, T.E.,</u> J.M. Glisan, A.R. Lupo, and P.E. Guinan, 2005: The Presentation of Precipitation Information in Television Broadcasts: What is Typical? *The 30<sup>th</sup> Annual Meeting of the National Weather Association*, 15 20 October, 2005, St. Louis, MO. (80%)
- <u>Davis, N.,</u> 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 30<sup>th</sup> Annual Meeting of the National Weather Association*, 15 20 October, 2005, St. Louis, MO. (100%)
- <u>Puckett, J.D.</u>, and A.R. Lupo, 2005: The Effect of a Gravel Base on the Temperature Profile in the Lowest 2 m of the Atmosphere. *The 30<sup>th</sup> Annual Meeting of the National Weather Association*, 15 20 October, 2005, St. Louis, MO. (100%)
- <u>Birk, K.J.,</u> B. Smith, A.R. Lupo, and P. E. Guinan, 2005: The Interannual Variability of Midwestern Temperatures as related to the ENSO and PDO. *The 30<sup>th</sup> Annual Meeting of the National Weather Association*, 15 20 October, 2005, St. Louis, MO. (80%)
- <u>Lupo, A.R.,</u> P.S. Market, and A. R. Kunz, 2005: Weather Forecasting: Getting Order out of Chaos? *The 30<sup>th</sup> 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 21<sup>st</sup> 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 21*<sup>st</sup>

- 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 41<sup>st</sup> 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 41<sup>st</sup> 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 41<sup>st</sup> 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 41<sup>st</sup> 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 14<sup>th</sup> Conference on Education, 9 13 January, 2005, San Diego, CA* (80%)
- Bardin, M., G.V. Gruza, <u>A. R. Lupo</u>, 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 16<sup>th</sup> Conference on Global Change*, 9 13 January, 2005, San Diego, CA
  - Additionally, I have 61 Non-refereed Extension Publications or other publications. These can be provided upon request.

# Research grants and awards and fellowships received (21)

\* \*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 \$211,595.00. Another \$688,074.00 was successfully funded as part of collaborative efforts with Dr. Patrick Market, Dr. Neil Fox, Dr. Rich Guyette, Dr. Peter Motavalli, Dr. Frieda Eivazi, and Dr. Adnan Akyuz. Additionally, in August 2011, a grant was funded by the Russian Federation in which I was a partner on the project (\$3 M R, ~\$100 K US) 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.). The percent contribution is given only if my contribution is not 100%.

Only grants awarded since 2005 shown here.

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 –

Columbia.

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

Submitted: March 2007

Agency: NSF/ UCAR/UNIDATA

Amount Requested: \$ 11,661.00 Amount Funded: \$ 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

Title: The analysis of blocking and the tendencies for change in the

21st century

Collaborators: Dr. Igor Mokhov (PI-Russian Federation), Alexander

Chernokulsky, Merseid Akperov

Agency: Russian Federation for Basic Research
Period Covering 1 January 2011 – 31 December 2013
Amount: \$3,000,000 R (about \$233,000 US)

# *Invited Papers, Seminars, and Workshops - 90 (Only those since 2005 listed)*

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

- Lupo, A.R., The Science of Climate Change and Implications for Energy Issues. 23 February, 2013. The 77<sup>th</sup> annual meeting of the Conservation Federation of Missouri. Jefferson City, MO.
- Lupo, A.R., The Science of Drought and Flood Prediction, 2013 outlook. 14 February, 2013, Missouri Pork Producers Meeting, Columbia, MO
- Lupo, A.R., The Science of Drought and Flood Prediction, 2013 outlook. 9 February, 2013, Missouri Young Farmer Organization., Columbia, MO
- Lupo, A.R., The Science of Drought and Flood Prediction, 2013 Outlook 1 February, 2013, A LOT Learning Conference, Columbia MO.
- Lupo, A.R., The Science of Drought and Flood Prediction. The 4<sup>th</sup> Symposium for Agroforestry, 9 January, 2013, Columbia, MO. Presented same talk in Hannibal and Maryville the same week at the invitation of Channel Seeds / Montsanto.
- Lupo, A.R., The Science of Climate and Climate Change. A seminar given for the Department of Physics Saturday Morning Science Series. 3 November 2012. Columbia, MO.
- Lupo, A.R., Blocking and Climate Studies at the University of Missouri. 11-12 September, 2012, Ames Iowa.

- Lupo, A.R., Extreme Events: Hurricanes and the Russian drought of 2010. 21-23 May, 2012, Chicago, IL, Seventh International Conference on Climate Change.
- Lupo, A.R., *Global Warming: Attribution, who is to blame?* 19 January, 2012, Omaha, NE Chapter of the AMS
- Lupo, A.R., *Global Warming: Attribution, who is to blame?* 19 January, 2012, Omaha, NE Chapter of the AMS
- Lupo, A.R., "Interannual and Interdecadal Variability and the outlook for Summer 2012. A presentation given to the Callaway County 88<sup>th</sup> Soils and Crop Annual Producers Conference. 17 January, 2012.
- Lupo, A.R., "Interannual and Interdecadal Variability and the outlook for Summer 2012. A presentation given to the MO AG Winter Convention (A regional Business of Agriculture meeting), 11 January, 2012.
- Lupo, A.R., "Climate change, long range forecasting and Agriculture." A presentation given to the University of Missouri Chapter of the Farm Bureau. Ag week. 22 September, 2011.
- Lupo, A.R., "Summer season drought in the European part of Russia: Climate and Dynamics". A presentation given to the Russian Academy (A.M. Obukhov Institute). 25 October 2011.
- Lupo, A.R., "The climatologic and dynamic character of blocking". A presentation given to Belgorod State University. 3 November 2011.
- Lupo, A.R., "Summer season drought in the European part of Russia: Climate and Dynamics". A presentation given to Belgorod State University. 3 November 2011.
- Lupo, A.R., and P.S. Market: *Tornado Talk*. A presentation given to the MU Chapter of Sigma Xi, Science Café. 15 June, 2011
- Lupo, A.R., *Tornado Talk*. A presentation given to the Boone County GOP. 7 June, 2011
- Lupo, A.R., *The climatological and dynamic characteristics of blocking*. 23 February, 2011. A presentation given at the State University of New York at Oswego Chapter of the AMS.
- Lupo, A.R., Global Warming: Attribution, who is to blame? 23 February, 2011, Faculty and students of the State University of New York at Oswego, Oswego, NY.
- Lupo, A.R., *Global Warming: Attribution, who is to blame?* 11 February, 2011, A LOT Learning Conference, Columbia MO.
- Motavalli, P.P. and Lupo, A.R., 2011: *Ethics and Professionalism in Soil, Environmental, and Atmospheric Science*. Feb 7, 2011. (10%)

- Lupo, A.R., *Interannual and Interdecadal Variability in Missouri Region Climate*. 5 November, 2010: College of Engineering Sustainable Energy Graduate Student Seminar Series.
- Lupo, A.R., *Interannual and Interdecadal Variability in Missouri Region Climate*. 20 October, 2010: College of Engineering Sustainable Energy Seminar Series.
- Lupo, A.R., *The climatological and dynamic characteristics of blocking*. 21 September, 2010. A presentation given at the A.M. Obukhov Institute of Atmospheric Physics, Russian Academy of Sciences, Moscow, Russia.
- Lupo, A.R., *Interannual and Interdecadal Variability in Missouri Region climate*. 27 31 July, Annual Crop Injury and Diagnostic Clinic. Columbia, MO 65211 (2 presentations).
- Lupo, A.R., *Global Climate Change: A skeptical point of view.* 16 July, 2010, Annual Meeting of Advancing Renewable Energy in the Midwest. Columbia, MO.
- Lupo, A.R., Chaos Theory and Predictability. 15<sup>th</sup> June, 2010, Boulder CO, COMET / NWS continuing education presentation (COMAP program) (4 hrs).
- Lupo, A.R., *Global Warming: Attribution, who is to blame?* 26 April, 2010, Annual Meeting of the Associated Electric Cooperatives of Missouri, Jefferson City, MO.
- Lupo, A.R., *Global Warming: Attribution, who is to blame?* 19 April, 2010, Jackson Weather Service Forecast Office (JAN WFO), Jackson, MS
- Lupo, A.R., *Global Warming: Attribution, who is to blame?* 19 April, 2010, Jackson State University, Jackson, MS, Department of Physics and Meteorology Seminar.
- Lupo, A.R. *Presentation of Not Evil Just Wrong* 15 February, 2010, Columbia, MO, Omega Chi Epsilon, the Honor Society of Chemical Engineers.
- Lupo, A.R., *Global Warming: Attribution, who is to blame?* 11 February, 2010, Macon, MO, Macon Regional GOP
- Lupo, A.R. *Presentation of Not Evil Just Wrong* 22 January, 2010, Fayette, MO, Howard County Electric Cooperative.
- Lupo, A.R., *Presentation of Not Evil Just Wrong* 15 December, 2009, Columbia, MO, University of Missouri.
- Lupo, A.R., *Global Warming: Attribution, who is to blame?* 14 December, 2009, Linn, MO, Linn State Technical College auditorium
- Lupo, A.R., *Hurricanes: The Evil Wind*. Lecture given to teachers at the 2<sup>nd</sup> 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 Variabilityof 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 <a href="www.slideworld.org">www.slideworld.org</a> 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 1<sup>st</sup> 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 30<sup>th</sup> 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.

#### Workshops Presented

Burkhardt, J.P., <u>A.R. Lupo</u>, and E.K. Gilliland, 2003: Planetary and Synoptic Scale Interactions in Southeast Pacific Blocking Using Potential Vorticity Diagnostics. The 12<sup>th</sup> 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.

American Meteorological Society Working Groups:

Member, Network of Networks, Ad Hoc Committee – Metadata (2009-2010)

Member, Ad Hoc Committee on Uncertainty in Forecasts (ACUF) (2009-2010)

# 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 21<sup>st</sup> Conference* on Weather Analysis and Forecasting, 1-4 August, 2005, Washington, DC.
- Chair the Climate Section of 30<sup>th</sup> 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 2<sup>nd</sup> Conference on Renewable Energy in the Mid-West", 28 March 2007, Columbia, MO
- Advisor (with Dr. Neil I. Fox and Mr. Jay Hasheider): "The 3<sup>rd</sup> 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 4<sup>th</sup> Conference on Renewable Energy in the Mid-West", 3 June 2009, Columbia, MO
- Chair of the <u>Session on Data Assimilation</u>: <u>Profiling and satellite data assimilation</u> at the *The 21<sup>st</sup> 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 5<sup>th</sup> Conference on Renewable Energy in the Mid-West", 19 May 2010, Columbia, MO
- Co-Chair (with P.J. Wilson, Mr. Frank Cunningham, and Mr. Jay Hasheider): "The 6<sup>th</sup> Conference on Renewable Energy in the Mid-West", 30 March 2011, Columbia, MO
- Invited to attend the Nutrient Management for Water Protection in Highly Productive Systems of the Heartland, Nebraska City, NE 8 10 June, 2010.
- Co-Chair (with P.J. Wilson, Mr. Frank Cunningham, and Mr. Jay Hasheider): "The 7th Conference on Renewable Energy in the Mid-West", 26 March 2012, Columbia, MO
- Co-Chair (with T. Johnson, D. Day, V. Likholetov, and R. Reed): "Climate Change: Gaining the Advantage", 6-8 June 2012, Columbia, MO
- Chair of the committee: "The 48<sup>th</sup> Annual Meeting of the Missouri Academy of Science", 13-14 April, 2012, 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.

- o McGraw-Hill Publishing: September 2003, asked to review a book chapter. I was given an honorarium for this work.
- o 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)*

Reviewed papers for 31 different journals including journals outside meteorology.

- Intergovernmental Panel on Climate Change Working Group I Technical Papers 1,2,3, and 4.
- *Monthly Weather Review (36)*
- Journal of the Atmospheric Sciences (11)
- *Tellus* (Swedish Meteorological Society) (2)
- Quarterly Journal of the Royal Meteorological Society (3)
- Journal of Geophysical Research (American Geophysical Union) (11)
- Geophysical Research Letters (American Geosphysical Union) (9)
- *Journal of Arid Environments* (Cambridge Press) (2)
- *Journal of the Meteorological Society of Japan (1)*
- *National Weather Digest (17)*
- *Journal of Climate (5)*
- *International Journal of Climatology (9)*
- *Journal of Applied Meteorology(3)*
- Weather Analysis and Forecasting (4)
- 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)
- Electronic Journal of Severe Storms Meteorology
- Heat Transfer Engineering, An International Journal (2)
- International Journal of Tourism
- Evidence-based Climate Science volume
- *Advances in Meteorology.*
- Atmospheric Environment
- International Journal of Hydrological Science and Technology (IJHST)
- *International Journal of Biometeorology*

Philosophical Transactions of the Royal Meteorological Society

#### *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 (2<sup>nd</sup> 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, 2009, 2010
- Proposal Review: NOAA NWS "Wind Chill: An Accurate and Complete Theoretical Model With Experimental Verification
- Proposal Reviews for CRDF (8) November 2010 (\$250.00 honorarium)
- Reviewed proposal: served as an outside reviewer for LSU internal grants. (Jan. 2012)

#### 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.
- 2010: Hired to provide expert testimony by the Troy County, MO public defender. Testified 12 May, 2010.

- 2010 Hired by Ford, Parshall, and Baker, for Expert testimony October
- 2010 Hired by Horn, Aylward, and Bandy, LLC for Expert Testimony, November
- Heartland Institute hired as a consultant (Lead Author) for Modelling Chapter 2011-2013.
- 2012 Hired by Pedroli and Associates (Saint Louis, MO).

# 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 (three M.S. / two Ph.D.) and 17 have graduated (14 M.S. / three Ph.D)

Graduate Student	Degree	Year	Current Status
Cynthia L. Berger	MS	1999 <sup>1</sup>	Broadcast Meteorologist, Ag Day Television, South
			Bend, IN
Jason Wiedenmann	MS	1999¹	Chemistry Instructor / Los Angeles Area
			Community College / PhD student at USC
			(Environmental Engineering)
		1.2	
Matthew Chambers	MS	$\frac{2002^{1,3}}{5}$	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 <sup>1</sup>	Not employed in Atms. Sci.
		,	
Zabani Zuki	MS	20041	Malaysian Weather Service / Administrator.
		1.1	
W.Christopher Maune	MS	$2006^{1,4}$	Law Degree from MU – J.D. / Working in STL
			Law firm

Andrew Kunz	MS	20051	Science journal technical editor	
Patrick Guinan	PhD	2004 <sup>1</sup>	Missouri State Climatologist	
Mandi Reagan	M.S.	2007 <sup>1,5</sup>	Working for Env. Sci firm in St. Louis, MO	
Kevin Birk	M.S.	2006 <sup>1</sup>	NWS BIS – Oct 2006	
Ben Roudenis	M.S.	2006 <sup>5</sup>	M.S. Student – Not in Meteorology	
Melissa Chesser	M.S.	2010 <sup>1</sup>	Working for Dept of Defense	
Rachel (Fay) Redburn	M.S.	2007 <sup>1,6</sup>	Wind Capital Group (Mr. Tom Carnahan).	
John Burkhardt	Ph.D.	2008 <sup>5</sup>	Not in Meteorology	
Justin Glisan	M.S.	20071	Ph.D. Student – Iowa State University	
Athar Hussain	Ph.D.	2008 <sup>1</sup>	Assistant Professor – Saudi Arabia	
Neville Miller	M.S.	2008 <sup>1,5</sup>	(current) M.S. student – TV meteorologist, SC	
J. Michael Roberts	M.S.	20131	(current) M.S. Student – KRCG Chief Meteorologist, Jefferson City, MO	
Shawn Riley	M.S.	2010 <sup>1</sup>	(current) MU-IT. / Barron Meteorology	
Eric Weber	M.S.	2009 <sup>1</sup>	(current) Ph.D.	
Chris Halcomb	Ph.D.	2010 <sup>1,6</sup>	(current) Ph.D. student	
Mohd. Hisham Anip	Ph.D.	2012 <sup>1</sup>	Malaysian Weather Service	
Justin Abraham	M.S.	2012 <sup>1</sup>	(current) – KMIZ TV 17	
Eric Aldrich	M.S.	20111	(current) – KOMU TV 8	
Michelle Bogowith	M.S.	20111	(current) – KOMU TV 8	
Erik Oberhaus	M.S.	2012		
Eric Weber	Ph.D.	2012 <sup>1,6</sup>	Ph.D.	
Isabela Carlos	Ph.D.	2013 <sup>1,6</sup>	Ph.D. Student	

Rose Grace Newberry	M.S.	2012	
Andrew Jensen	Ph.D.	$2012^{1}$	

<sup>&</sup>lt;sup>1</sup> Expected or final graduation date.

# 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	Ph.D. 2005	University of Virginia	Assistant Prof. Utah
Strong			Univ
Dr. Andreas	Ph.D. 1985	University of Cordoba,	Professor at home
Ravelo		Argentina	institution.
Dr. Athar Hussain	Ph.D. 2008	University of Missouri	Asst. Professor Saudi
			Arabia

# **Graduate Committees**

I have served as an advisor on additional graduate committees in the atmospheric science program, across MU, and outside MU.

Graduate Student	Degree	Year	Dept, Institution, advisor
Haldun Karan	MS	1999	SEAS – MU – Mudrick
Chris Halcomb	MS	2001	SEAS – MU – Market

<sup>&</sup>lt;sup>2</sup> Called for military duty August 2000. He likely will not return.

<sup>&</sup>lt;sup>3</sup>Matt was nominated for and won an Outstanding Graduate Achievement Award (Sponsored by GSA) in March 2001.

<sup>&</sup>lt;sup>4</sup>Expelled from the Graduate School due to insufficient grades. Student will likely not return.

<sup>&</sup>lt;sup>5</sup>Did not graduate.

<sup>&</sup>lt;sup>6</sup>I co-advised Rachel, Chris, and Eric with Dr. Neil I. Fox.

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	2010	SEAS – MU – Market
Amy Schnetzler	MS	2008	SEAS – MU – Market
John Kahl	PhD	2010	Mathematics – MU – Dostoglou

Ali Voloiny	MS	2009	SEAS – MU – Fox
Ali Koleiny	IVIS	2009	SEAS - MU - FOX
Katie Crandall	MS	2010	SEAS – MU – Market
Dannah Schaffer	PhD	2011	Science Education – MU – Barrow
Michael Folmer	PhD	2011	Atms Sci – SLU – Pasken
Oluseun S. Idowu	PhD	2012	Geosci/Math/Statistics – UMKC – Adegoke
Gregory Varner	PhD	2012	Mathematics – MU – Dostoglou
Robert Gastler	PhD	2012	Mathematics – MU – Dostoglou
David Roache	PhD	2013	Geography – University of South Florida – Collins
Christopher A. Saunders	M.S.	2012	Journalism – MU - Wilkins
Neus Vila Brunet	Ph.D	2012	Agricultural Economics – MU - Johnson
Kelly Scott	M.S.	2012	Atmospheric Science – Saint Louis University - Eichler

Undergraduate / Secondary Education Students Mentored (45):

*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 Evaluatations

Semester	Course Number <sup>1</sup>	No. of	Number	Course GPA	Evaluation	SNR
	(credits)	Students	Evaluating		Average <sup>2</sup>	Average <sup>2,6</sup>
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 <sup>3</sup> (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 <sup>4</sup> (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 <sup>3</sup> (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	
~p \\	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
- V <b>-</b>	ATM 394 (4)	14	11	3.23	4.5	
Sp 03	ATM $50^{7}(3)$	308	5	2.99	3.4	
~r ~	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	
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	
	111117500 (5)	,	,	3.57		
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 <sup>9</sup> (3)	8	N/A	N/A	N/A	
			1,712	2 1/12	1,712	
Sp 06	AT 3600 (3)	42		3.48	4.3	
Sp 00	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 <sup>9</sup> (3)	10	N/A	N/A	N/A	
	1714011 0 7 0 2 (3)	10	1 1/11	1 1/11	11/11	
F06	AT 4310/7310 (4)	15	10	3.43	4.4	4.1
100	AT 4800/7800 (3)	13	5	3.60	4.6	11.1
	AT 9300 (3)	7	6	3.86	4.7	
	111 7500 (5)	,	0	3.00	7.7	
Sp 07	AT 3600 (3)	52	38	3.43	4.2	
5p 07	AT 4320/7320 (4)	13	10	3.56	4.6	
	AT 9350 (3)	5	5	3.80	4.8	
	A1 7550 (5)	3	3	3.00	4.0	
F 07	AT 4310/7310 (4)	25	20	3.26	4.5	
1 07	AT 8001/8450 (3)	6	2	4.0	4.4	
	AT 8400 (3)	8	5	4.0	4.2	
	A1 0400 (3)	0	3	4.0	4.2	
Sp 08	AT 3600 (3)	72	45	3.71	4.5	
Sp 08	AT 3000 (3)	2	2	3.84	N/A	
	AT 4320/7320 (4)	22	11	3.49	4.7	
	AT 8600 <sup>8</sup> (3)	1	1	4.0	5.0	
	A1 0000 (3)	1	1	7.0	3.0	
E U8	AT 4310/7310 (4)	15	11	3.33	3.9	
F 08	• • • • • • • • • • • • • • • • • • • •			4.00	3.9 N/A	
	LAT 2000 (2)					
	AT 3000 (3) 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 4310/7310 (4)	12	8	3.30	3.7	3.4
	AT 8400 (3)	6	5	4.00	3.6	
Sp 10	AT 3600 (3)	77	50	3.26	3.3	3.4
_	AT 4320 (4)	12	9	3.03	3.6	
	AT 8450	11	10	3.81	3.7	
F10	AT 4310/7310 (4)	19	15	3.35	3.8	3.5
	AT 4650/7650 (3)	19	14	3.62 / 4.0	3.1	
	AT 7800 (3)	3	3	3.33	N/A	
S 11	AT 3600 (3)	75	62	3.56	3.4	
	AT 4320 (4)	21	17	3.43	3.6	
	AT 9350 (3)	5(6)	5	3.2	3.6	
F 11	AT 4310	22	15	3.65	3.9	
	AT 4800/7800	24	22	3.72	3.3	
	AT 8600	4	3	3.5	3.7	
S12	AT 4320/7320	25	19	3.50	3.6	
	AT 3600	74	57	3.10	3.5	
	AT 8450	10	10	3.80	4.0	

<sup>&</sup>lt;sup>1</sup>This class list does not include ATM 200 described above.

<sup>&</sup>lt;sup>2</sup>Is 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.

<sup>&</sup>lt;sup>3</sup>In this course, the lecture materials were designed by myself. A teaching assistant delivered the lectures and gave the grades.

<sup>&</sup>lt;sup>4</sup>For 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.

<sup>&</sup>lt;sup>5</sup> 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.

<sup>&</sup>lt;sup>6</sup>The 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.

<sup>&</sup>lt;sup>7</sup>Represents three semesters of large lecture classes when I'd asked for evaluations and made them voluntary. I didn't get an "overwhelming" response.

### **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, 3,6 Dec 2010)

#### 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.

<sup>&</sup>lt;sup>8</sup>This was offered independent study to the one graduate student.

<sup>&</sup>lt;sup>9</sup> I team taught this with Dr. Stamatis Dostoglou, Mathematics. My role was to advise him on meteorological applications.

- 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)
- Interannual and Interdecadal Variability in Climate. A lecture given to Climate Theory in the Department of Atmospheric Physics, Moscow State University (22 September, 2010: Dr. Igor I Mokhov, instructor).

### 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) 14<sup>th</sup> 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 1<sup>st</sup> 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 9<sup>th</sup> and 16<sup>th</sup> 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 2<sup>nd</sup> NWA Teaching Summit. 21 October, 2009, Norfolk, VA.
- I presented a Lecture on "Not Evil Just Wrong" this on December 15 2009 at the SNR Natural Resources Building along with a showing of the movie "Not Evil Just Wrong"
- Climate Change and Attribution: Lecture given to Lifelong Learning (Talking about the weather) MU Extension, Columbia, MO, 12 April 2010.
- Hurricanes: The Evil Wind: Lecture given to teachers at the 3<sup>rd</sup> NWA Teaching Summit. 17 October, 2011, Birhmingham, AL

#### 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.
- Attended the CAFNR Teaching Symposium, "Generation Me", 13 January 2010.
- Attended sessions during the "Celebration of Teaching Excellence" workshop 18-19 May 2010.
- Attended sessions during the "Celebration of Teaching Excellence" workshop 17-18 May 2011.
- Attended sessions during the "Celebration of Teaching Excellence" workshop 15-16 May 2012.

# **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
  - o Elected President (11 April, 2002, reelected 17 April 2003, again 2008-2009)
  - Elected Vice President, University of Missouri Chapter (21 March, 2001, May 2004)
  - o Elected Secretary, MU Chapter, May 2005 2007, and May 2009-Aug 2009
  - o 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)
  - o Editor 2003-2006, Transactions
  - o Vice President 2008- 2009
  - o President Elect 2009- 2010
  - o President 2010 2011
  - o Past President 2011-2012
- Member, Gamma Sigma Delta
  - o Historian for FY 2004 2006
  - o President for FY 2003 2004
  - o Vice President (President Elect) for FY 2002 2003
  - o 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

- o Committee member: Weather Analysis and Forecasting Committee 1/02 present)
- o Committee member: Education Committee 1/06 present)
- o Committee member: Publication Committee 1/07 present
- o Associate Editor 2002 2009
- o Co Editor 2009 present
- Listed as a hurricane expert on the American Geological Institute list of hurricane experts for government. (9/05 present)
- Summer 2009, 2010, 2012: Asked to review a promotion and tenure dossier for promotion from Assistant to Associate professor each year.
- Summer 2011: Asked to review a promotion dossier for promotion from Associate to Full professor.
- Reviewed Fulbright scholar applications for the Russia Program 2007 present. Also, in 2010 present reviewed senior scholars for Russia, and in 2011 for the USA.
- Nominated to serve on the Board of Natural Resources (BNR) Science Roadmap for Natural Resources – Committee (national).

### University of Missouri - Columbia

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

- Serving on the Parking and Transportation Committee (2007 2010)
- Fall 2008, served as a reviewer for Carnegie Endowment Fellowship for Peace applications (MU Fellowships Office)
- 2009 present: Mizzou ADVANCE Mentoring Program mentor.
- 2010 present: Commission on Student Success.
- 2010 2011: Campus Faculty Committee on Tenure (not P&T!).
- 2011, 2012: University of Missouri Undergrad Research Expo April 26<sup>th</sup> Head judge physical sciences section.
- Participated in the review and selection of one NSF proposal to leave campus under the PIRE program.
- 2012- present: Elected to serve on Faculty Council (CAFNR)

### 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)
- CAFNR Undergraduate Scholarship selection committee (2011)

- CAFNR Promotion and Tenure Committee (2011-present)
- CAFNR Executive in Residence Advisory Board (2011-present)
- CAFNR Promotion and Tenure Workshop panelist (8 May, 2012)

### **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)
- Served as Chair of the SNR Director's evaluation committee Fall 2009.
- Served on the Tree Ring Laboratory search committee (2011-present)

## 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.

## **Summary of Adminstration Activity**

In 2002, I was recognized by the School of Natural Resources as the Program Leader for Atmospheric Sciences. My position is unique in that in the Atmospheric Sciences, there was 100% turnover in faculty from 1997 – 2000. Thus, I was the senior person in this program before being granted promotion and tenure in 2003. I have also served as the Director of Graduate

Studies for the Atmospheric Science Program and from 2004 onward, the Department of Soil, Environmental, and Atmospheric Sciences. In 2008, I became the Department Chair. I am also the UM system administrative representative to the University Corporation for Atmospheric Research (UCAR), which is the governing body of Atmospheric Science research nationally. I attend the UCAR annual meetings in Boulder, CO, and I have represented Atmospheric Science since 2002 at the biannual Atmospheric Science Heads and Chairs meetings. Finally, I oversaw the successful completion of our 8-year review for reapplication of UCAR membership in Spring 2005.

#### Administrative Positions

• 2008 – present	Chair; Soil, Environmental, and Atmospheric Sciences (9/1/2008)
<ul><li>2002 – 2005</li></ul>	Program Leader for Atmospheric Sciences
• 2002 – 2008	Director of Graduate Studies (Soil, Environmental, and Atmospheric Science)
• 2003 – present	UCAR member representative for the University of Missouri System. (Administrative Representative)
• 2005 – 2008	Soil, Environmental, and Atmospheric Science P&T representative to SNR. (Chair: 2006-2008)

#### Administrative Training:

• 2008 – 2009 Selected for the LEAD21 program (class of 2008 – 2009). This is a program with national reach for leadership training for future leaders in academics.

## **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 /
  - o Guilderland, NY, 1996 1997.
- Member, Knights of Columbus, Council 1529 / Columbia, MO, 1997 present
  - o Elected Recorder (secretary) July 2000 2004, 2007 2009
  - o President of 4<sup>th</sup> Degree Assembly July 2001 2003
  - o Deputy Grand Knight 2009 2011
  - o Trustee 2011- 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 2010)
- Elected to the Columbia Catholic School School Board (May 2004 2008)
  - o President (2006 2008)

- Elected to the Columbia Catholic School Home and School Association (May 2011 present )
  - o President (2011 present)

## **REFERENCES**

Available upon request.