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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

2014 – 2015, 2017 - 2018	Visiting Scholar Belgorod State University, Belgorod RU 308015.
2009 - present:	Professor, Department of Soil, Environmental, and Atmospheric Science, University of Missouri - Columbia, Columbia, Missouri 65211.
2008 – 2014	Chairman, Department of Soil, Environmental, and Atmospheric Sciences.
2003 - 2009:	Associate Professor, Department of Soil, Environmental and Atmospheric Sciences, University of Missouri – Columbia, Columbia, Missouri 65211.
2002 – 2008	Director of Graduate Studies, Atmospheric Science, Soil, Environmental, and Atmospheric Science.
2002 – 2005	Program Leader. Atmospheric Science.

- 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)

- University of Missouri – Southeastern Conference professor of the year candidate, 2020.
- School of Natural Resources Excellence in Teaching Award 2018.
- Innocentive, Inc. Subseasonal Climate Forecast Rodeo (9933764) 2nd and 3rd place 5-6 week temperature and precipitation category (cash prize, \$25,000) 2018.
- Fulbright Specialist Roster 4/2016 – present. Fulbright Specialist Proposal Funded (3/2017) (until 2022).
- Fulbright Teaching / Research Scholar Belgorod University, Belgorod, Russia) 2014 – 2015.
- *Won the College of Science (Dept of Earth, Atmospheric, and Planetary Sci) Outstanding Alumni Award Purdue University 10/11/2013*
- 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 2011-2014 – group disbanded).
- 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 3rd CAFNR Teaching Scholars Program 2003 – 2006.
- Fulbright Research Scholar (2003 – 2004 – to Russian Academy of Sci. / summer 2004)
- American Meteorology Society
 - Associate Editor, Monthly Weather Review (2000 – 2003, 2007 – 2009)
 - Certified Consulting Meteorologist #660
 - Serving on the Board of CCM (February 2014 – 2018)
 - Vice Chair 2016, Chair 2017.
 - Nominated for Fellow (May 2008, May 2014)
 - University Representative, Weather Coalition
 - Member, Network of Networks, Ad Hoc Committee – Metadata (2009-2010)
 - Member, Ad Hoc Committee on Uncertainty in Forecasts (ACUF 2003-2009)
 - Member, THORPEX working group six (blocking 2003-2014).
 - Member, Ad Hoc Committee on Climate Certification (2016-2018)
 - Member, Space Weather Certification Committee (2017-present)

- National Council of Industrial Meteorologists / ACM
 - Board of Directors 3/17 – 1/21
 - ACM Ethics and Professional Standards Committee, chair 2019 - present

- 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
 - Elected as Associate Director of Research and Doctoral Constituency, SX National Dec 2016 – June 2018
 - Appointed AdHoc committee for Early and Mid-career professionals advisement committee. (August 2018 – August 2019).

- Phi Kappa Phi Honor Society

- Fellow, Royal Meteorological Society

- Society of Catholic Scientists

- Missouri Academy of the Sciences
 - Chair, Atmospheric Sciences Section (2000 - 2002).
 - Editor, Transactions of the Missouri Academy (2002 – 2006) Editorial board (2007- 2012, 2020-present)
 - 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)
 - Appointed UCAR Governance Task Group (June 2019 – 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 – 2013
 - Editor Emeritus 2013-2015
 - Wrote the Climate Section for the NWA seal exam (2016).

- Appointed to the University of Missouri Doctoral Faculty January 2000, reappointed 2005, 2010, 2015, 2020

- Member, Gamma Delta, Sigma, Honor Society of Agriculture 2000 - 2015
 - Historian, MU Chapter 2004 - 2005
 - President, MU Chapter 2003 - 2004
 - President Elect, MU Chapter 2002 – 2003
 - Secretary, MU Chapter 2001 - 2002

- Editorial Board – Advances in Meteorology (2015 – 2019)
 - Atmosphere (2015 – present) Associate Editor-in-Chief (3/17 –present), Advisory Board “Sci” (A multidisciplinary journal). Special Issue Co-editor: Water Vapor in the Atmosphere, Large-scale atmospheric circulation variability and its climate impacts. (2018-2019)
 - Pure and Applied Mathematics (2015-2019)
 - Asian Journal of Environment and Ecology, Editorial Board
 - Belgorod State University Scientific Bulletin. Natural Sciences (2018 – present)
 - Atmosphere and Climate Science (2020 – present)

PUBLICATIONS

Peer Refereed Publications and Invited Book Chapters

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

Statistics as of 27 June 2021:

Scopus: 1683 Citations in 1073 articles, h = 21, top cited work: 253. (3 with 100 or more)

Web of Science: 1733 Citations in 1101 articles, h = 21, top cited work: 255 (3 with 100 or more)

ResearchGate Score: 35.72 Citations 2566 Pub Reads: 15048 h = 26 (166.22 Impact) (T: 312) (5 at 100 or more)

Google Scholar: 3496 Citations, h = 30, i10 = 60, top cited work = 402 (9 at 100 or more)

Refereed Publications and Book Chapters / Editor (141 total) (only those since 2014 shown)

Lupo, A.R., Kononova, N.K., Semenova, I.G., Lebedeva, M.G. A Comparison of the characteristics of extreme drought during the late 20th and early 21st centuries over Eurasia and North America. *Submitted to Atmosphere, July, 2021.*

Nejad, M.T., Zadeh, Z.H., Lupo, A.R., 2021: Spatio-temporal distribution of atmospheric blocking events in the Northern and Southern Hemispheres. *Submitted to Theoretical and Applied Climatology June 2021.*

Nejad, M.T., Hejazizadeh, Z., Lupo, A.R., Saligheh, M. 2021: Connection of Eurasia-Northern Atlas Blockings with Pervasive wet and dry months in Iran. *Journal of Geography and Environmental Hazards*, **10(39)**, *in press*. Doi: <http://10.22067/GEOH.2021.70187.1054>.

Efe, B., and A.R. Lupo, 2021: Global Trends in the Occurrence and Characteristics of Blocking Anticyclones using Sen Innovative Trend Analysis. *Submitted to Theoretical and Applied Climatology May 2021.*

Chernokulsky, A., Gimeno, L., Lupo, A.R., Mao, J., Matzarakis, A., Tzanis, C. 2021: Special Issue: 10th Anniversary of Atmosphere: Climatology and Meteorology, Editorial for the Special Issue: 10th Anniversary of Atmosphere: Climatology and Meteorology. *Atmosphere*, **11(5)**, 6 pp.

Singer, S.F., Legates, D.R., Lupo, A.R., 2021: *Hot Talk, Cold Science: Global Warming's Unfinished Debate*, 3rd Edition. Independent Institute, 256 pp, ISBN-13: 978-1-59813-341-7

Lupo, A.R., 2020: Atmospheric Blocking Events: A Review. *Annals of the New York Academic of Sciences*, 2020 <https://doi:10.1111/nyas.14557>.

Rojas-Murillo, K., Lupo, A.R., Garcia, M., Gilles, J., 2021: ENSO and PDO related variability in seasonal range prediction for the Bolivian Altiplano region in South America. *International Journal of Climatology*, *in press*.

Renken, J.S., Brown, C.L., Ruhbeck, G., Mainguy, J., Lupo, A.R., 2020: Using the daily change in the Southern Oscillation Index to develop analogues and the relationship to severe weather outbreaks. *Submitted to International Journal of Climatology, July 2020.*

Balkissoon, S.S., Fox, N.I., Lupo, A.R., Haupt, S.E., Li, Y.C., Market, P.S. 2021: Chaotic characteristics of tall tower wind speeds within Missouri and the forecasting of this variable using Empirical Dynamical Modeling (EDM). *Renewable Energy*, **170**, 1292 - 1307.

Aalijahan, M., Lupo, A.R., Salahi, B., Ghavidel-Rahimi, Y., Farajzadeh, M., 2020: The long-term (142 year) spatiotemporal reconstruction and synoptic analysis of extreme cold temperatures (-15°C or lower) in the Northwest Region of Iran. *Submitted to Theoretical and Applied Climatology, May 2020.*

- Lupo, A.R., Heaven, B., Matzen, J., Rabinowitz, J.L. 2020: The interannual and interdecadal variability in tropical cyclone activity: A decade of changes in the climatological character. Chapter 1, 22 p, reviewed. Book: *Current Topics in Tropical Cyclone Research* (A.R. Lupo editor) Intech Publishers, ISBN: 978-1-83880-361-2, 146 pp.
- Kononova, N.K. and A.R. Lupo, 2020: Investigation of the variability of circulation regimes and dangerous weather phenomena in Russia in the 21st century. *IOP Science Conf Ser., Earth and Environmental Science*, **606**, 012023, doi:10.1088/1755-1315/606/1/012023
- Klaus, E.M., Market, P.S., Lupo, A.R., Bodner, M.J., and Kastman, J.S. 2020: Projecting Northern Hemisphere Flow Regime Transition Using Integrated Enstrophy. *Atmosphere*, **11**, 19p.
- Balkissoon, S.S., Fox, N.I., and Lupo, A.R., 2020: Fractal Characteristics of Tall Tower Speeds in Missouri. *Renewable Energy*, **154**, 1346 - 1356.
- Balkissoon, S.S., Bongard, J.T., Cain, T., Candela, D.M., Clay, C., Efe, B., Ji, Q., Klaus, E.M., Korner, A.P., Mitchell, K., Ritter, S.B., Rojas, K., Niemeyer, J.M., Rabinowitz, J.L., Sumrall, P., Market, P.S., and Lupo, A.R., 2020: Hurricane Florence Makes Landfall in the Southeast USA: Sensitive Dependence on Initial Conditions, Parameterizations, and Integrated Enstrophy. *Atmospheric and Climate Sciences*, **10**, article ID 98159, 24 p..
- Kononova, N.K., and A.R. Lupo, 2020: Changes in the Dynamics of the Northern Hemisphere Atmospheric Circulation and the Relationship to Surface Temperature in the 20th and 21st Centuries. *Atmosphere*, **11**, 14 pp. doi:10.3390/atmos11030255.
- Efe, B., Lupo, A.R., and Deniz, A., 2019: Extreme Temperatures linked to the Atmospheric Blocking Events in Turkey between 1977 – 2016, *Natural Hazards*, **104**, 1879 – 1898.
- Yu, B., and A.R. Lupo, 2019: Large-Scale Atmospheric Circulation Variability and Its Climate Impacts, *Atmosphere*, Special Issue. Editorial paper. *Article ID: atmosphere-10-00329: doi:10:3390/atmos10060329.*
- Efe, B., Lupo, A.R., Deniz, A., 2019: The Relationship Between Atmospheric Blocking and Precipitation Changes in Turkey between 1977 – 2016. *Theoretical and Applied Climatology*, **138**, 1573–1590.
- Lebedeva, M.G., Lupo, A.R., Solovyov, A.B., and Chendev, Y.G., 2020: The formation of sugar beet harvest under modern climatic conditions during the vegetation period. *Climate*, **8**, 46; doi:10.3390/cli8030046.
- Wood, J.D., E.J. Sadler, N.I. Fox, S.T. Greer, L. Gu, P.E. Guinan, A.R. Lupo, P.S. Market, S.M. Rochette, A. Speck, and L.D. White, 2019: Land-atmosphere responses to a total solar eclipse in three ecosystems with contrasting structure and physiology. *JGR Atmospheres* <https://doi.org/10.1029/2018JD029630>.

- Reynolds, D.D., A.R. Lupo, A.D. Jensen, and P.S. Market, 2019: The Predictability of Northern Hemispheric Blocking Using an Ensemble Mean Forecast System. *The Open Atmospheric Science Journal*, **13**, 3-18.
- Lupo, A.R., A.D. Jensen, I.I. Mokhov, A.V. Timazhev, T. Eichler, and B. Efe, 2019: Changes in Global Blocking Character During the Most Recent Decades, *Atmosphere*, **10**, 19pp Article ID 00092.
- Lupo, A.R., A.D. Jensen, I.I. Mokhov, and Y. Wang, 2019: Large-scale dynamics, anomalous flows, and teleconnections: 2018. *Advances in Meteorology, Special Issue: Large Scale Atmospheric Science, 2018 Volume 2018 (2019)*, Article ID 3934195 <https://doi.org/10.1155/2019/3934195>. Chief Guest Editor.
- Phung, Q., Thompson, A., Baffaut, C. Costello, C., Sadler, E.J., Lupo, A.R, Svoma, B.M., Gautam, S., 2018 Evaluation of the effect of climate and land use changes on hydrologic processes in a primarily rainfed, agriculturally-dominated watershed. *JAWRA*, **55**, 1196 - 1215.
- Kutta, E, J.A. Hubbart, T. Eichler, and A.R. Lupo, 2018: Symmetry of Energy Divergence Anomalies Associated with the El Niño-Southern Oscillation. *Atmosphere* 2018, 9(9), 342; doi:10.3390/atmos9090342
- Lebedeva, M.G., Lupo, A.R., Chendev, Y.G., Krymskaya, O.V., Solovyev A.B., 2019: Changes in the Atmospheric Circulation Conditions and Regional Climatic Characteristics in Two Remote Regions since the mid-20th Century. *Atmosphere*, **10, 11**, 23 p.
- Efe, B., Sezen, I., Lupo, A.R., Deniz, A., 2019: The Relationship Between Atmospheric Blocking and Temperature Observations in Turkey between 1977 – 2016. *International Journal of Climatology*. <https://doi.org/10.1002/joc.6253>
- Woollings, T. , Barriopedro Cepero, D., Methven, J., Son, S-W., Harvey, B., Martius, O., Sillmann, J., Lupo, A.R., Seneviratne, S., 2018: Blocking and it's response to climate change. *Current Climate Change Reports*, <https://doi.org/10.1007/s40641-018-0108-z>.
- Rabinowitz, J.L., A.R. Lupo, P.E. Guinan, 2018: Evaluating linkages between Atmospheric blocking patterns and Heavy Rainfall Events across the North-Central Mississippi River Valley. *Advances in Meteorology*, **2018**, Article ID 1217830, 7 p.
- Simpson, M.J., A.T. Hirsch, K.R. Grempler, 2017, Lupo, A.R.: Comparing a decade of results from the Community Collaborative Rain, Hail, and Snow Network to the Missouri Rain Gauge Mesonet. *Hydrological Process*, DOI: 10.1002/hyp.11381
- Jensen, A., A.R. Lupo, I. I. Mokhov, M.G. Akperov and F. Sun, 2018: The dynamic character of Northern Hemisphere flow regimes in a near term climate change projection. *Atmosphere*, **9(1)**, 27.

- Jensen, A.D., A.R. Lupo, I.I. Mokhov, and MG Akperov, 2017: Integrated Regional Entropy And Block Intensity as a Measure of Kolmogorov Entropy, *Atmosphere*, **8(12)**, 237, doi:10.3390 / atmos8120237
- Rabinowitz, J.L., A.R. Lupo, P.S. Market, P.E. Guinan, 2019: An Investigation of Atmospheric Rivers Impacting Heavy Rainfall Events in the North-Central Mississippi River Valley. *International Journal of Climatology*, DOI: 10.1002/joc.6061
- Kutta, E, J.A. Hubbart, B.M. Svoma, T. Eichler, and A.R. Lupo, 2017: Symmetric and asymmetric components of anomalous tropospheric-Mean horizontal fluxes of latent and sensible heat associated with ENSO events of variable magnitude. *Atmospheric Research*, **198**, 173-184.
- Kastman, J.S., P.S. Market, N.I. Fox, A.L Foscatto, and A.R. Lupo, 2017: Lightning and Rainfall Characteristics in Elevated versus Surface Based Convection in the Midwest that Produce Heavy Rainfall. *Atmosphere*, Vol. 8 (2).
- Lupo, A.R., 2016: Chief Editor: *Recent Developments in Tropical Cyclone Dynamics, Prediction, and Detection*. ISBN 978-953-51-2702-4, Intech Publishers, Vienna. 248 pp. (not counted in the total above)
- Sitnov, S., I.I. Mokhov, and A.R. Lupo, 2017: Ozone and water vapor anomalies during atmospheric blocking events over European Russia in Spring and Summer 2010. *Atmospheric Environment*, **164**, 180-194.
- Lupo, A.R., Y.C. Li, Z.C. Feng, N.I. Fox, J.L. Rabinowitz, and M.A. Simpson, 2016: Sensitive Versus Rough Dependence in Initial Conditions in Atmospheric Flow Regimes. *Atmosphere*, **7**, 157; doi:10.3390/atmos7120157.
- Kastman, J.S., P.S. Market, S.M. Rochette, A.R. Lupo, 2017: Assessing upper tropospheric jet streak proximity using the Rossby Radius of Deformation. *Atmosphere*, *8(1)*, 2; doi:[10.3390/atmos8010002](https://doi.org/10.3390/atmos8010002)
- Nunes, M.J., A.R. Lupo, M.G. Lebedeva, Y.G. Chendev, and A.B. Solovyov, 2017: The occurrence of extreme monthly temperatures and precipitation in two global regions. *Papers in Applied Geography*, DOI: 10.1080/23754931.2017.1286253.
- Lebedeva, M.G., Lupo, A.R., Henson, C.B., Solovyov, A.B., Chendev, Y.G., and P.S. Market, 2018: A Comparison of Bioclimatic potential of Two Global Regions during the Late 20th Century and Early 21st Century. *International Journal of Biometeorology*, **62**, 609 - 620.
- Renken, J.D., J. J. Herman, T.R. Bradshaw, P.S. Market, and A.R. Lupo, 2017: The Utility of the Bering Sea and Typhoon Rules in Long Range Forecasting. *Advances in Meteorology*, 2017, 14 pp. doi.org/10.1155/2017/1765428.
- Chendev, Y.G., E.A. Terekhin, A.R. Lupo, J.A. Hubbart, T.J. Sauer, C.L. Burras, 2016: Recent

- afforestation in the Iowa River and Vorskla River basins: A comparative analysis of trends. *Forests*, 7, doi:10.3390/f7110278.
- Henson, C.B., A.R. Lupo, P.S. Market, and P.E. Guinan, 2017: The Impact of ENSO and PDO-Related Climate Variability on Regional Missouri Crop Yields. *International Journal of Biometeorology*. DOI 10.1007/s00484-016-1263-3
- Wang, Y, and A.R. Lupo, 2016: What does the APO mean? *Tellus A: Dynamic Meteorology and Oceanography*, 68:1, 31779. <http://dx.doi.org/10.3402/tellusa.v68.31779>
- Newberry, R.G., A.R. Lupo, A.D. Jensen, and R.A. Rodrigues-Zalipynis 2016: An Analysis of the Spring-to-Summer Transition in the West Central Plains for Application to Long Range Forecasting. *Atmospheric and Climate Science*, 6, 375-393.
- Matveyev, S.M., Chendev Yu.G., Lupo A.R., Hubbart J.A., Timashuk D.A., 2016: Climatic changes in the East-European forest-steppe and their effects on Scotch pine annual rings increment. *Pure and Applied Geophysics*, DOI 10.1007/s00024-016-1420-y
- Chendev, Y.G., Lupo, A.R. Lebedeva, M.G., Borbukova, D.A, 2015; Regional Specificity of the Climate Evolution of Soils in the Southern Part of Eastern Europe in the Second Half of the Holocene. *Genesis and Geography of Soils, Eurasian Soil Science*, 48, 1279-1291.
- Lebedeva, M.G., O.V. Krymckaya, A.R. Lupo, Y.G. Chendev, A.N. Petin, A. Solovyov, 2015: Trends in Summer Season Climate for Eastern Europe and Southern Russia in the Early 21st Century. *Advances in Meteorology, Special Issue: Large Scale Atmospheric Science, 2015 Volume 2015 (2015)*.
- Crandall, K.L, P.S. Market, A.R. Lupo, L.P. McCoy, R.J. Tillot, and J.J. Abraham, 2016: The application of diabatic heating in Q-vectors for the study of a midwest cyclone event. *Advances in Meteorology, Special Issue: LDAT15*.
- Akperov, MG, Semenov, VA, Mokhov II, Lupo AR, 2015: The impact of the Arctic sea ice retreat on the extratropical cyclones and anticyclones: Atmospheric model simulations // Research Activities in Atmospheric and Oceanic Modeling. E. Astakhova (ed.).WCRP Rep. No.12 / 2015. S. 7. P. 3-4.
- Lupo, A.R., S.J. Colucci, I.I. Mokhov, and Y. Wang, 2015: Large-scale dynamics, anomalous flows, and teleconnections: 2015 Edition (Editorial / Review). *Advances in Meteorology, Special Issue: Large Scale Atmospheric Science, 2015 Volume 2015 (2015), Article ID 3. Chief Guest Editor, the others were my associates*.
- Chendev, Y.G., Lupo, A.R. Lebedeva, M.G., Borbukova, D.A., 2015: Региональные Особенности Климатической Эволюции Почв Южной Части Восточной Европы Во Второй Половине Голоцена, представлен на рассмотрение журнал почвоведение, (in English) Regional features in soil due to climate in the southern part of Eastern Europe during the second part of the Holocene, *Journal of Soil Pedology*, 2015.

- Mokhov, I.I., A. V. Timazhev, and A.R.Lupo, 2014: Changes in atmospheric blocking characteristics within Euro-Atlantic region and Northern Hemisphere as a whole in the 21st century from model simulations using RCP anthropogenic scenarios. *Global and Planetary Change*, **122**,265-270.
- Petin, A.N., Lebedeva, M.G., Krymskaya, O.V., Chendev, Y.G., Kornilov, A.G., and A.R. Lupo, 2014: Regional Manifestations of Changes in Atmospheric Circulation in the Central Black Earth Region (By the Example of Belgorod Region). *Advances in Environmental Biology*, 8(10), **2014**, 544-547.
- Jensen, A.D., and A.R. Lupo, 2014: The Role of Deformation and Other Quantities in an Equation for Enstrophy as Applied to Atmospheric Blocking. *Dynamics of Atmospheres and Ocean*, **2014**, <http://dx.doi.org/10.1016/j.dynatmoce.2014.03.004>
- Hubbart, J.A., E. Kellner, L. Hooper, E. Aldrich, N. I. Fox, P.E. Guinan, A.R. Lupo, P. S. Market, K. Stephan, and B. M. Svoma, 2014: Localized climate and surface energy flux alterations across an urban gradient in the Central U.S. *Energies*, *March, 2014*.
- Lupo, A.R., I.I. Mokhov, Y.G. Chendev, M.G. Lebedeva, M. Akperov, and J.A. Hubbard, 2014: Studying summer season drought in western Russia. *Advances in Meteorology, Special Issue: Large Scale Atmospheric Science*, 9 pp. Article ID 942027.
- Lupo, A.R., S.J. Colucci, I.I. Mokhov, and Y. Wang, 2014: Large-scale dynamics, anomalous flows, and teleconnections (Editorial / Review). *Advances in Meteorology, Special Issue: Large Scale Atmospheric Science, 2014 Volume 2014 (2014)*, Article ID 207413. *Chief Guest Editor, the others were my associates.*
- Sitnov, S.A., I.I. Mokhov, and A.R. Lupo, 2014: Evolution of the water vapor plume over Eastern Europe during Summer 2010 Atmospheric Blocking. *Advances in Meteorology, Special Issue: Large scale dynamics, anomalous flows, and teleconnections*, 11pp Article ID 253953.

Non-Refereed Publications (2)

- Lupo, A.R., 2021: Climate, Climate Change, and the General Circulation. *Climate Change Information Brief, Office of Science and Technology Policy, Executive Office of the President of the United States.*
- Lupo, A.R., 2014: Theory of the General Circulation: The El Nino. *Selected Lectures from the Faculty at Belgorod State University, Belgorod Russia 2014. (English and in Russian).*

Refereed Abstracts, conference papers, comments, letters to the editor (6)

- Renken, J.S., Brown, C.L., Ruhbeck, G., Mainguy, J., Weregla, N., Lupo, A.R. 2021: Using the

daily change in the Southern Oscillation Index to develop analogues and the relationship to severe weather outbreaks. *Climate Prediction, Science and Technology Conference Digest*, **45**, in press.

Lupo, A.R., 2019 Recent changes in the Character of Blocking Over the Atlantic – Eurasian Sector including Turkey and the Impact on Climate. *9th International Symposium on Atmospheric Sciences (9th Atmos)*, Istanbul Turkey, 23 – 26 October 2019. (keynote talk)

Renken, J.S., J. Herman, D. Parker, T. Bradshaw, and A.R. Lupo, 2016: Using the Bering Sea and Typhoon Rules to Generate Long Range Forecasts II. Case Studies. *Climate Prediction, Science and Technology Conference Digest*, **40**, 51-55.
<http://weather.missouri.edu/gcc/40cdpwwdigest.pdf>

Renken, J.S., J. Herman, D. Parker, T. Bradshaw, and A.R. Lupo, 2015: Using the Bering Sea and Typhoon Rules to Generate Long Range Forecasts. *Climate Prediction, Science and Technology Conference Digest*, **39**, 46-50.
<http://weather.missouri.edu/gcc/39cdpwwdigest.pdf>

Hagen, J.C., and A.R. Lupo, 2008: Rebuttal Global Warming Landers. *American Medical News*, <http://www.ama-assn.org/amednews/2008/06/16/edlt0616.htm>. American Medical News June 16, 2008 p 25-26. (50%)

Lupo, A.R., and J.C. Hagan, 2008: How should physicians view the environment? *JAMA* 2008;299(24):2856. (50%)

Non-refereed publications: Conference Preprints and Presentations (285)

I am the author or co-author on 285 conference preprint papers, abstracts, or conference presentations and only the most recent (since 2014) will be listed here. A complete list can be provided upon request.

Mount, S. and Lupo, A.R., 2021: A Two-Dimensional Study of Block Onset Locations Using a One-Dimensional Index and GIS. *The 4th International Electronic Conference on Atmospheric Science 16 – 31 July 2021*

Lupo, A.R., Efe, B. 2021: Global Trends in the Occurrence and Characteristics of Blocking Anticyclones using Sen Innovative Trend Analysis. *The 4th International Electronic Conference on Atmospheric Science 16 – 31 July 2021*

Lupo, A.R., Kononova, N.N., Semenova, I, Lebedeva, M.G. 2021: A Comparison of the Characteristics of Extreme Drought During the Late 20th and Early 21st Centuries Over Eurasia and North America. *Problems of nature management and the ecological situation in European Russia and adjacent countries 20 – 23 October 2021, Belgorod Russia.*

Mount, S. and Lupo, A.R., 2021: A Two-Dimensional Study of Block Onset Locations Using a

One-Dimensional Index and GIS. *Problems of nature management and the ecological situation in European Russia and adjacent countries 20 – 23 October 2021, Belgorod Russia.*

Est, M.A., Mount, S., Steward, C., Lupo, A.R., 2021: The Impact of NH Flow Regime Transitions and Blocking on Central USA Weather: Winter 2019 and 2021. *The 46th Annual Meeting of the National Weather Association, August 21- 25, Tulsa, OK*

McGuire, L., Nixon, A, Clay, C.E., Lupo, A.R., 2021: The Long Term Variability of Soil Moisture and Recent Severe Weather Activity in the Central USA. *The 46th Annual Meeting of the National Weather Association, August 21- 25, Tulsa, OK*

Lupo, A.R. 2020: Projecting Northern Hemisphere Flow Regime Transitions: The Use of Integrated Enstrophy *The 3rd International Electronic Conference on Atmospheric Science 16 – 30 November 2020.*

Mount, S., Est, M.A., Lupo, A.R., 2020: The Impact of Northern Hemisphere Flow Regime Transitions and Blocking on Central USA Weather During the Late Winter in 2019. *34th Conference on Climate Variability and Change, 101st Meeting of the American Meteorological Society, 10-14 January, 2021, New Orleans, LA.*

Est, M.A., Mount, S., Lupo, A.R., 2020: Northern Hemisphere Flow Regime Transitions, Blocking, and the Onset of Spring in the Central USA. *The 3rd International Electronic Conference on Atmospheric Science 16 – 30 November 2020.*

Clay, C.E., McGuire, L.J., Lupo, A.R., 2020: Using Soil Moisture as a Predictor for Spring Convection Within the State of Missouri. *34th Conference on Climate Variability and Change, 101st Meeting of the American Meteorological Society, 10-14 January, 2021, New Orleans, LA.*

McGuire, L.J., Clay, C.E., Lupo, A.R. 2020: The Interannual and Interdecadal Variability of Soil Moisture and Recent Tornado Activity (F2 or greater) in the Central USA. *The 3rd International Electronic Conference on Atmospheric Science 16 – 30 November 2020.*

Klaus, E.M., A.R. Lupo, M.J. Bodner, J.S. Kastman, and P.S. Market, 2020: The Projection of Northern Hemisphere Flow Regime Transitions Using Integrated Enstrophy in the Northern Hemisphere. *45th Annual Climate Diagnostics and Prediction Workshop 20 – 22 October, 2020. (Cancelled but presented virtually).*

Renken, J.S., J. Mainguy, A.R. Lupo, and N. Wergeles, 2020: Using the daily changes in the Southern Oscillation Index to develop analogues and the relationship to severe weather outbreaks. *45th Annual Climate Diagnostics and Prediction Workshop 20 – 22 October, 2020. (Cancelled but presented virtually).*

Kononova, N.K. Lupo, A.R., 2019: A study of the changes in circulations regimes and extreme

- weather. *Climate Change, Causes, Risks Consequences, and Problems of Adaptation and Regulation*. Presidium of the Russian Academy of Science, Moscow, Russia, 26 – 28 November, 2019. (Original language: Кононова Н.К., Лупо А.Р. 2019 Исследование изменчивости циркуляционных режимов и опасных погодных явлений в России в 21 веке. *Изменения климата: причины, риски, последствия, проблемы адаптации и регулирования* Президиум РАН, Москва РФ, 26 -28 ноябрь 2019.
- Niemeyer, J. M., Market, P.S., Lupo, A.R. 2020: Historical Rainfall and Runoff Analysis and Climate Implications for Agriculture in the Midwest United States. *54th Annual Meeting of the Canadian Meteorological and Oceanographic Society*, Ottawa, Canada, 24 – 28 May 2020 (online in June due to COVID).
- Efe, B., Lupo, A.R., Deniz, A., 2019: The relationship between atmospheric blocking and extreme winter temperatures in Turkey, *9th International Symposium on Atmospheric Sciences (9th Atmos)*, Istanbul Turkey, 23 – 26 October 2019.
- Lupo, A.R., Efe, B., Sezen, I, Deniz, A, 2019: Recent changes in the Character of Blocking Over the Atlantic – Eurasian Sector including Turkey and the Impact on Climate – Part II. *9th International Symposium on Atmospheric Sciences (9th Atmos)*, Istanbul Turkey, 23 – 26 October 2019.
- Rojas, K., A.P. Korner, M. Garcia, A.R. Lupo, J. Gilles, 2019. ENSO and PDO related Variability in South Pacific Circulation Patterns and Seasonal Range Prediction for the Altiplano Region of Bolivia. *27th meeting of the International Union of Geodesy and Geophysics, International Association of Meteorology and Atmospheric Science, Montreal Canada, 8 – 18 July 2019*
- Balkissoon, S.S., N.I. Fox, and A.R. Lupo, 2019: The Fractal Characteristics of Wind Speeds within Missouri, USA. *27th meeting of the International Union of Geodesy and Geophysics, International Association of Meteorology and Atmospheric Science, Montreal Canada, 8 – 18 July 2019*
- Sitnov, S.A., Mokhov, I.I., and Lupo A.R., 2019: Vertical Coupling of Temperature Variations During Atmospheric Blocking Events over European Russia in 2010. *27th meeting of the International Union of Geodesy and Geophysics, International Association of Meteorology and Atmospheric Science, Montreal Canada, 8 – 18 July 2019*
- Lupo, A.R., A.D. Jensen, I.I. Mokhov, A.V. Timazhev, T. Eichler, and B. Efe, 2019: Changes in Global Blocking Character During the Most Recent Decades, *27th meeting of the International Union of Geodesy and Geophysics, International Association of Meteorology and Atmospheric Science, Montreal Canada, 8 – 18 July 2019*.
- Lupo, A.R. Lebedeva, M.G., Krymskaya, O.V., Chendev, Y.G., Solovyev A.B., 2019 The Climatological and Dynamic Character of Northern Hemisphere Circulation Regimes. *27th meeting of the International Union of Geodesy and Geophysics, International*

Association of Meteorology and Atmospheric Science, Montreal Canada, 8 – 18 July 2019.

Klaus, E.M., Market, P.S., Lupo, A.R., Bodner, M.J., and Kastman, J.S., 2019: Does Integrated Enstrophy Project Flow Regime Transition in the Northern Hemisphere? *27th meeting of the International Union of Geodesy and Geophysics, International Association of Meteorology and Atmospheric Science, Montreal Canada, 8 – 18 July 2019.*

Sitnov, S.A., Mokhov, I.I., and Lupo A.R., 2019: Vertical structure of intra-annual temperature variations over European Russia in 2010: A joint analysis of aerological and satellite data. *International Symposium “Radiation and Dynamics” (ISARD), 25 – 27 June 2019 St. Petersburg, Russia.*

Rabinowitz, J.L. and A.R. Lupo, 2019: Revitalizing the relationship for tropical cyclone interactions with Saharan Dust Plumes across the tropical Atlantic Basin. *32nd Conference on Climate Variability and Change. The 99th Annual Meeting of the American Meteorological Society, 6 – 10 January, 2018, Phoenix AZ.*

Wood, J.D., E.J. Sadler, N.I. Fox, S.T. Greer, L. Gu, P. Guinan, A.R. Lupo, P.S. Market, S. Rochette, A. Speck, and L.D. White, 2019: The Mid-Missouri Eclipse Meteorology Experiment (MEME): Community engagement in observing boundary layer and ecosystem response to a total eclipse. *23rd Conference on Integrated Observing and Assimilation Systems for the Atmosphere, Oceans, and Land Surface. The 99th Annual Meeting of the American Meteorological Society, 6 – 10 January, 2018, Phoenix AZ.*

Efe, B., A.R. Lupo, and A. Deniz, 2019: The relationship between atmospheric blocking and precipitation anomalies in Turkey from 1977 – 2016. *32nd Conference on Climate Variability and Change. The 99th Annual Meeting of the American Meteorological Society, 6 – 10 January, 2018, Phoenix AZ.*

Kutta, E.J., J.A. Hubbart, T. P. Eichler, and A.R. Lupo, 2019: Magnitude and symmetry of divergent heat flux anomalies associated with the El Niño-Southern Oscillation. *32nd Conference on Climate Variability and Change. The 99th Annual Meeting of the American Meteorological Society, 6 – 10 January, 2019, Phoenix AZ.*

Lupo, A.R. and P.S. Market, 2018: Climate Change and the Butterfly. *The Annual Meeting of the Missouri Academy of Science, 28 April, 2018, Rolla, MO.*

Korner, A.P., Rojas, K.M., Garcia, M., Lupo, A.R., and Gilles, J., 2018: ENSO and PDO related Variability in South Pacific Circulation Patterns and Seasonal Range Prediction for Bolivia in South America. *The Annual Meeting of the Missouri Academy of Science, 28 April, 2018, Rolla, MO.*

Brown, C.L., Ruhbeck, G.K., Renken, J.S., and Lupo, A.R., 2018: Interannual Variability of Severe Weather over the USA Since 1991. *The Annual Meeting of the Missouri Academy of Science, 28 April, 2018, Rolla, MO.*

- Ruhbeck, G.K., Brown, C.L., Renken, J.S., and Lupo, A.R., 2018: Utilizing the Daily Southern Oscillation Index Changes to Determine Severe Weather Potential on a Sub-seasonal Scale. *The Annual Meeting of the Missouri Academy of Science, 28 April, 2018, Rolla, MO.*
- Kastman, J.S., Ganetis, S., Lamberson, W., Bodner, M., Market, P.S., and Lupo, A.R. 2018: The Use of Integrated Enstrophy in Blocking and Flow Regime Transition for Operational Forecasting. *The 43rd Annual Meeting of the National Weather Association, 25-30 August, 2018, St. Louis, MO.*
- Kastman, J.S., Ganetis, S., Lamberson, W., Bodner, M., Market, P.S., and Lupo, A.R. 2018: The Use of Integrated Enstrophy in Blocking and Flow Regime Transition for Operational Forecasting. *The 29th Weather Analysis and Forecasting Meeting of the American Meteorological Society, 4-8 June, 2018, Denver, CO.*
- Rojas, K.M., Korner, A., Garcia, M., Lupo, A.R., and Gilles, J., 2018: ENSO and PDO related Variability in South Pacific Circulation Patterns and Seasonal Range Prediction for the Altiplano Region of Bolivia in South America. *The 43rd Annual Meeting of the National Weather Association, 25-30 August, 2018, St. Louis, MO.*
- Ruhbeck, G.K., Brown, C.L., Renken, J.S., and Lupo, A.R., 2018: Interannual Variability of Severe Weather over the USA Since 1991. *The 43rd Annual Meeting of the National Weather Association, 25-30 August, 2018, St. Louis, MO.*
- Brown, C.L., Ruhbeck, G.K., Renken, J.S., and Lupo, A.R., 2018: Utilizing the Daily Southern Oscillation Index Changes to Determine Severe Weather Potential on a Sub-seasonal Scale. *The 43rd Annual Meeting of the National Weather Association, 25-30 August, 2018, St. Louis, MO.*
- Efe, B., A.R Lupo, I Sezen, and A. Deniz, 2018: Engelleme Olayı ve Özelliklerindeki Değişimin İncelenmesi. Investigation of change in atmospheric blocking characteristics. The 4th Turkish Congress of Climate Change 5-7 July 2018. Istanbul, Turkey.
- Wood, J.D., E.J. Sadler, N.I. Fox, S.T. Greer, P.E. Guinan, A.R. Lupo, P.S. Market, S.M. Rochette, A. Speck, and L.D. White, 2018: Biosphere-atmosphere responses to a total solar eclipse in three ecosystems with contrasting structure and physiology. AMS Agricultural and Forest Meteorology Meeting.
- Lupo, A.R., A.D. Jensen, I.I Mokhov, and A.V. Timazhev, 2017: Tendencies in blocking characteristics across the globe during the first part of the 21st Century. 7th International Scientific Conference “Problems in Nature Management and the Ecological Situation in European Russia and Adjacent Countries. Belgorod State National Research University, Belgorod Russia 24-28 October, 2017.
- Bahtiyar, EFE, A.R Lupo, I Sezen, and A. Deniz, 2017: Investigation of the Effects of Blocking

- on Temperature in Turkey between 1987 – 2016. *2nd Electronic Conference on Atmospheric Science, MDPI, 16-31 July 2017.*
- Lupo, A.R., M. Garcia, K.M. Rojas, and J.L. Gilles, 2017: ENSO-related Seasonal Range Prediction over South America. *2nd Electronic Conference on Atmospheric Science, MDPI, 16-31 July 2017.*
- Lupo, A.R., A.D. Jensen, I.I. Mokhov, and A.V. Timazhev, 2017: Changes in blocking characteristics during the first part of the 21st Century. *2nd Electronic Conference on Atmospheric Science, MDPI, 16-31 July 2017.*
- Reynolds, D.D., A.R. Lupo, A.D. Jensen, and P.S. Market, 2017: The predictability of Northern Hemisphere blocking using an ensemble mean forecast system. *2nd Electronic Conference on Atmospheric Science, MDPI, 16-31 July 2017.*
- Rabinowitz, J.L., and A.R. Lupo, 2017: An Investigation of Intensity Change Mechanisms Associated with Intense Atlantic and Eastern Pacific Hurricanes. *Conference on Weather Analysis and Forecasting. Seattle, WA, 21-27 January, 2017.*
- White, L.D., B.M. Svoma, P.E. Guinan, A.R. Lupo, and J.D. Wood, 2017: Small-scale Variations of Heat Index and dewpoint from Mobile Transects. *Conference on Weather Analysis and Forecasting. Seattle, WA, 21-27 January, 2017.*
- Reynolds, D.D., and A.R. Lupo, 2017: The predictability of Northern Hemispheric Blocking using an Ensemble forecast System. *28th Conference on Weather Analysis and Forecasting. Seattle, WA, 21-27 January, 2017*
- Renken, J., J. Herman, T. Bradshaw, and A.R. Lupo, 2017: The Recurrence of Heavy Rainfalls in December 2015 and March 2016: Long Range Forecasting Implications. *28th Conference on Weather Analysis and Forecasting. Seattle, WA, 21-27 January, 2017.*
- Deichman, C.L., R.J. Kremer, and A.R. Lupo, 2016: Over 1000 Gal of Liquid Biofuels per Acre from 4 Different Corn Hybrids on a Gilford Fine Sandy Loam. Resilience Emerging from Scarcity and Abundance, *Meeting of the American Society of Agronomy, 6-9 November, 2016, Phoenix, AZ.*
- Lebedeva, M., Y.G. Chendev, A.B. Solovyov and A.R. Lupo, 2016: Bioclimatic Potential of the Belgorod Region Under Modern Conditions. *39th Applied Geography Conference. 26-28 October, 2016, Louisville, KY*
- Rabinowitz, J.L., and A.R. Lupo, 2016: Assessing the Influences of Atmospheric Dynamics on Heavy Rainfall Potential Across the North-Central Mississippi River Valley. *39th Applied Geography Conference. 26-28 October, 2016, Louisville, KY*

- Nunes, M.A., A.R. Lupo, Y.G. Chendev, and M. Lebedeva, 2016: The Occurrence of Extreme Monthly Temperatures and Precipitation in Two Global Regions. *39th Applied Geography Conference. 26-28 October, 2016*, Louisville, KY
- Lupo, A.R., Y.C. Li, J.L. Rabinowitz, M.J. Simpson, N.I. Fox, 2016: Sensitive Versus Rough Dependence on Initial Conditions in Atmospheric Flows: A Case Study Using RADAR Images. *39th Applied Geography Conference. 26-28 October, 2016*, Louisville, KY
- Rabinowitz, J.L., and A.R. Lupo, 2016: A dynamical investigation of intensification change mechanisms associated with intense Atlantic and Eastern Pacific hurricanes. *Transactions of the Missouri Academy of Science*, **50**
- Hensen, C.B., P.S. Market, A.R. Lupo, and P.G. Guinan, 2016: Using ENSO and PDO to predict regional Missouri crop yields. *Transactions of the Missouri Academy of Science*, **50**
- Lupo, A.R., and Y. Li, 2016: Sensitive versus rough dependence on initial conditions in atmospheric flows. *Transactions of the Missouri Academy of Science*, **50**
- Lupo, A.R., and A.D. Jensen, 2016: Integrated Regional Enstrophy as a measure of Kolmogorov Entropy. *Transactions of the Missouri Academy of Science*, **50**
- Timazhev, A.V., I.I. Mokhov, and A.R. Lupo, 2016: Characteristics of atmospheric blockings in the Northern Hemisphere: Estimates of changes from CMIP5 ensemble simulations with different RCP scenarios for the 21st century. Workshop on Atmospheric Blocking, Reading England, 6-8 April, 2016
- Lupo, A.R., Mokhov, I.I. Jensen, A.D., and Timazhev, A., 2016: Changes in the global character of blocking anticyclones in the first part of the 21st century. Workshop on Atmospheric Blocking, Reading England, 6-8 April, 2016
- Henson, C.B., Lupo, A.R., Market, P.S., and P.E. Guinan, 2015: Climate Variability Impacts on Regional Missouri Crop Yields. The Missouri State EPSCoR meeting June XX...
- Henson, C.B., Lupo, A.R., Market, P.S., and P.E. Guinan, 2015: Climate Variability Impacts on Regional Missouri Crop Yields. The 39th Annual Meeting of the National Weather Association, 16-22 October, 2015, Oklahoma City, OK
- Rabinowitz, J.L., A.R. Lupo, and J.E. Sadler, 2015: An investigation of IDF curves for rainfall across the Central Mississippi River Valley. 40th Annual Meeting of the National Weather Association. Oklahoma City, Oklahoma, 18-22 October, 2015.
- Nunes, M.J., A.R. Lupo, M.G. Lebedeva, and Y.G. Chendev, 2016: The occurrence of extreme monthly temperatures in two global regions. 96th Annual Meeting of the American Meteorological Society, 28th Conference of Climate Change and Variation, New Orleans, LA, 12- 16 January

- Nunes, M.J., A.R. Lupo, M.G. Lebedeva, and Y.G. Chendev, 2015: The occurrence of extreme monthly temperatures in two global regions. Problems in Nature management and the Ecological Situation of European Russia and Adjacent Countries. Belgorod, Russia 12 – 16 October.
- Quang, P., A. Thompson, C. Costello, C. Baffaut, J. Sadler, and A.R. Lupo, 2015: Evaluation of climate and land use changes on hydrologic processes in the Salt River Basin, Missouri, United States. International SWAT Conference & Workshops Purdue University, USA, 12-16 October, 2015.
- Akperov, M.G., V.V. Semenov, I.I. Mokhov, and A.R. Lupo, 2015: The impact of the Arctic Sea Ice retreat on Extratropical cyclones and anticyclones over Northern Eurasia: atmospheric model simulations. Annual Meeting of the European Geophysical Union, Vienna, Austria, 12- 17 April, 2015.
- Rabinowitz, J., Sadler, J, and A.R. Lupo, 2015: Rainfall return periods from a set of rain gauges in North-Central Missouri. Geo-ecology and Rational Use of Subsoil: From Science to Practice, International Conference for Young Scientists, April 6 – 10, Belgorod, RU
- Jensen, A.D., A.R. Lupo, I.I. Mokhov, M.G. Akperov, 2015: The utility of enstrophy based diagnostic tools in examining atmospheric blocking. *Meeting of the International Union of Geodesy and Geophysics, International Association of Meteorology and Atmospheric Science. Prague, Czech Republic, 22 June – 2 July.*
- Sitnov, S.A., Mokhov, I.I., Lupo, A.R., and A. V Timazhev, 2014: Blocking anticyclone over European Russia in the summer of 2010: interplay between atmospheric dynamics and composition. 2nd Gregory Leptoukh Giovanni Online Workshop 10 – 14 November, 2014 NASA Goddard Earth Sciences Data and Information Services Center.
- Renken, J.D., J. Herman, D. Parker, T. Bradshaw, and A.R. Lupo, 2014: Using the Bering Sea and Typhoon Rules to Generate Long-Range Forecasts. *The 39th Annual Meeting of the Climate Diagnostics Prediction Workshop (CDPW)*, 18-20 October, 2014, St. Louis, MO.
- Jensen, A.D., A.R. Lupo, 2014: The use of enstrophy-based diagnostics in an ensemble during two blocking events. *The 39th Annual Meeting of the National Weather Association, 18-23 October, 2014, Salt Lake City, UT.*
- Renken, J.D., J. Herman, D. Parker, T. Bradshaw, and A.R. Lupo, 2014: Using the Bering Sea and Typhoon Rules to Generate Long-Range Forecasts. *The 39th Annual Meeting of the National Weather Association, 18-23 October, 2014, Salt Lake City, UT.*
- Nunes, M.J., J.R. Bell, and A.R. Lupo, 2014: The occurrence of anomalously cold and warm months in the central USA. *The 39th Annual Meeting of the National Weather Association, 18-23 October, 2014, Salt Lake City, UT.*
- Newberry, R.G. and A.R. Lupo, 2014: An analysis of the spring-to-summer transition in the West Central Missouri Plains. *The 39th Annual Meeting of the National Weather*

Association, 18-23 October, 2014, Salt Lake City, UT.

Nunes, M., J. Bell, and A.R. Lupo, 2014: The occurrence of extreme weather in the Midwest USA. *Transactions of the Missouri Academy of Science*, 48.

Donovan, J., P.E. Guinan, R.E. Massey, and A.R. Lupo, 2014: The interannual variability of Missouri climate and the impact on crop yields. *Transactions of the Missouri Academy of Science*, 48.

Bradshaw, T., and A.R. Lupo, 2014: The Civil War in Missouri: The cold October of 1863. *Transactions of the Missouri Academy of Science*, 48.

Lupo, A.R., and A.D. Jensen, 2013: Using enstrophy transport as a diagnostic to identify flow regime transformation. The 16th Cyclone Workshop, Montreal, Canada, 22 – 26 September, 2013.

Lupo, A.R., and A.D. Jensen, 2013: Using enstrophy transport as a diagnostic to identify flow regime transformation. The 13th Davos Atmosphere and Cryosphere Assembly, International Union of Geodesy and Geophysics, 8-12 July, 2013, Davos Switzerland

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. The 36th Conference on Applied Geology and Geography, Annapolis MD 30 October – 1 November, 2013.

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).

Ebner, N.W., and A.R. Lupo, 2014: A survey of Emergency Management practices during severe weather. *The 41st AMS Conference on Broadcast Meteorology, 2nd Conference on Weather Warnings and Communications, 26-28 June, Nashville, TN*

Ebner, D.M., and A.R. Lupo, 2014: A study of the connection between TV meteorologists and their viewers during severe weather broadcasts. *The 41st AMS Conference on Broadcast Meteorology, 2nd Conference on Weather Warnings and Communications, 26-28 June, Nashville, TN*

- Additionally, I have 70 Non-refereed Extension Publications, Amici Curiae (Supreme Court and others), or other publications. These can be provided upon request.

Research grants and awards received

Research grants and awards and fellowships received (30)

***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 \$309,567.00 sole author grants. Another \$4,800,229 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, among others. 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.).

Only grants awarded since 2007 shown here.

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
Agency: NSF/ UCAR/UNIDATA
Period Covering: 1 Jan 2008 – 31 Dec 2008
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 2012 – 31 December 2014
Amount: \$3,000,000 R (about \$233,000 US)

Title: Adaptation to climate change: Gaining the Advantage
Collaborators: Dr. Verne Kaupp, Vlad Likholetov, Robert Reed, and Thomas Johnson.
Agency: MU Advantage
Period covering: 1 July – 30 June 2012
Amount: \$25,000.00

Title: TEAM Science (Technology and Educators Advancing Missouri Science)
Collaborators: Dr. Mary Haskins (PI) and Dr. Tiger Gordon (co-I)
Agency: Missouri Dept of Education
Amount: \$1.5M
Role: Co-I
Period Covering: 1 January 2014 to 31 December 2016.

Title: Increasing Access to AWIPS-II in the Unidata Community at the University of Missouri.
Collaborators: P.S. Market, B. M. Svoma, N.I. Fox, and A.R. Lupo (25%)
Agency: NSF/ UCAR/UNIDATA
Period Covering: 1 January – 31 December 2015
Amount Fund: \$12,421.00

Title: Rainfall rates in North Central Missouri's LTAR operated by the USDA
Collaborators: Dr. John Sadler
Submitted: August 6. 2014
Agency: USDA
Amount: \$31,472.00
Period Covering: Sept 1, 2014 – Aug 31, 2015

Title: Rainfall rates in North Central Missouri's LTAR operated by the USDA
Collaborators: Dr. John Sadler
Submitted: August 2015
Agency: USDA

Amount: \$35,000.00
Period Covering: Sept 1, 2015 – Dec 31, 2016

Title: The Missouri Transect: Climate, Plants, and Community
Collaborators: Many (I am one of many Co-PI)
Agency: NSF/EPA/EPSCoR
Amount Fund: \$20,000,000.00 / \$4,000,000.00 to our unit
Period Covering: Jan 1, 2014 – 31 December, 2019

Title: MU International Travel Grant – First Blocking Workshop – Reading, UK
Collaborators: none
Agency: MU Research Board
Amount Fund: \$1,500.00
Period Covering: 1 January, 2016 – 31 December, 2016

Title: Sensitive versus Rough Dependence on Initial Conditions in Atmospheric Phenomena
Collaborators: Prof. Y.C. Li (Mathematics)
Agency: MU Research Board
Amount Fund: \$18,000.00
Period Covering: 1 February, 2017 – 31 January 2018

Title: Field studies during the Total Eclipse
Collaborators: Many
Agency: NASA / Goddard
Amount Funded: \$47,155.00
Period Covering: 1 July 2017 – 31 December 2017

Title: Travel Grant
Collaborators: None
Agency: MPDI / Atmosphere
Amount Funded: \$1,000.00
Period Covering: 1 April – 1 August 2019

Title: Research Travel Grant
Collaborators: None
Agency: UCAR / NCAR
Amount Funded: \$2,624.00
Period Covering: 1 May – 1 September 2019

Invited Papers, Seminars, and Workshops - 132 (Only those since 2014 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., Предсказуемость в краткосрочном и долгосрочном прогнозировании погоды: Полезность интегрированной энтропии в обнаружении переходных режимов течения в струйном потоке северного полушария (Russian) Predictability in Short and Long Range Forecasting: The Utility of Integrated Enstrophy in Detecting Regime Transitions Across the Northern Hemisphere. A Zoom presentation to Belgorod State National Research University, 9 April 2021.

Lupo, A.R., Projecting Northern Hemisphere Flow Regime Transitions: The Use of Integrated Enstrophy. Keynote talk for 3rd International Electronic Conference on Atmospheric Sciences: 16-30 November, 2020. Sponsored by SciForum International (16 November 2020).

Lupo, A.R., Predictability in short and long range forecasting: The utility of integrated enstrophy in detecting flow regime transitions across the Northern Hemisphere. (Invited talk) Climate Variability and Predictability, 54th Meeting of the Canadian Meteorology and Oceanography Society (CMOS) Ottawa, Canada, 24 – 28 May, 2020. Cancelled due to COVID, delivered electronically 28 May 2020.

Lupo, A.R., Changes in atmospheric blocking in the Atlantic – European Sector including Turkey and the impact on climate. 23 October 2019: 9th International Symposium on Atmospheric Sciences 23 – 26 October, 2019, Istanbul, Turkey (Key Note Talk)

Lupo, A.R. Atmospheric Science at the University of Missouri: Changes in Recent Decades. A presentation to the Faculty of Istanbul Technical University, 28 June 2019.

Lupo, A.R. and P.S. Market, Short Range Versus Long Range Forecasting in EPSCoR Research. EPSCoR research presentation, A presentation to the Faculty of Istanbul Technical University, 25 June 2019.

Lupo, A.R. Blocking Anticyclones and Their Characteristics: Changes in Recent Decades. A presentation to the Faculty of Istanbul Technical University, 18 June 2019.

Guinan, P.E. and Lupo, A.R., The weather and climate of the last year and a Very Preliminary Summer Outlook. A presentation to MU Extension, 4 February 2019, Mexico, MO.

Lupo, A.R., Climate Variability, El Nino and Southern Oscillation and a Very Preliminary Summer Outlook. A presentation to MU Extension, 16 January 2019, Missouri Western State University, St. Joseph, MO

Lupo, A.R., Climate Variability, El Nino and Southern Oscillation and a Very Preliminary Summer Outlook. A presentation to Maryville MO Chamber of Commerce, 3 December, 2018, Maryville, MO

- Lupo, A.R. How Climate Change May Impact Food and Nutrition. Presentation to the MU Extension Livestock Symposium, Kirksville MO 30 November, 2018
- Lupo, A.R., Short Range Versus Long Range Forecasting in EPSCoR Research. EPSCoR research presentation, webinar 13 September 2018.
- Lupo, A.R., and P.S. Market, The Use of Integrated Enstrophy in Blocking and Flow Regime Transition for Operational Forecasting, A presentation to the Weather Prediction Center and NOAA, Washington, D.C., webinar 14 March 2018.
- Lupo, A.R., Climate Variability, El Nino and Southern Oscillation and a Very Preliminary Summer Outlook. A presentation to MU Extension, 29 January, 2018, Mexico, MO.
- Lupo, A.R., Climate Variability, El Nino and Southern Oscillation and a Very Preliminary Summer Outlook. A presentation to MU Extension, 16 January, 2018, Missouri Western State University, St. Joseph, MO
- Lupo, A.R., Overview of NCDC, NCAR, and Other Sources of Weather Products. AMS Short Course: The Art and Science of Forensic Meteorology. 7 January, 2018, Austin, TX
- Lupo, A.R., Climate, Climate change and Climate Modelling. Missouri Association of Soil and Water Conservation Districts. Tan-Tar-A, MO 27 November, 2017
- Lupo, A.R., Climate, Climate change and Climate Modelling. America First Energy Meeting, Heartland Institute, Houston, TX 9 November 2017.
- Lupo, A.R., The Student Experience at the University of Missouri (USA). A presentation to the Administration of Belgorod State University. 20 October, 2017.
- Lupo, A.R., Climate Variability to Large Scale Dynamics. National Weather Service Southeast Regional Science and Operations Officer Workshop, Saint Louis, MO 19 July, 2017
- Lupo, A.R., Interannual and Interdecadal variability in the Tropical South American Region of the Pacific, Teleconnections and their Impact on the Local Climate. Faculty of Chemistry and Faculty of Agronomy, Universidad Mayor San Andres, La Paz, Bolivia, 22 June, 2017
- Lupo, A.R., The General Circulation and the Jet Stream. Faculty of Physics and Mathematics, Universidad Mayor San Andres, La Paz, Bolivia, 22 June, 2017.
- Lupo, A.R., Climate, Climate Change and Climate Variability in Missouri, and What it means for you? Missouri Farm Bureau Annual Meeting. Columbia, MO 8 August, 2016.
- Lupo, A.R., Climate, Climate Change and Climate Variability in Missouri, and What it means for you? Midwest Cooperative LAMPAC, Kansas City, MO 2 June, 2016.

- Lupo, A.R., Seasonal Forecasting in the Central Part of the USA. Presentation to the faculty and students of the College of Natural Resources and Mining, Belgorod State University, 29 March, 2016.
- Lupo, A.R., Blocking Anticyclones and their Characteristics. Presentation to the faculty and students of the College of Natural Resources and Mining, Belgorod State University, 25 March, 2016.
- Lupo, A.R., Climate Change and Climate Variability, Trends in the change of phase of ENSO. Crop Management Conference 2015. 16 December, 2015
- Lupo, A.R., Climate Change and Climate Variability in Missouri, and What it means for you? Annual meeting of Sigma Xi, 10 December, 2015
- Lupo, A.R., Climate Change and Climate Variability in Missouri, and What it means for you? Annual meeting of the Missouri Pork Producers, 10 November, 2015
- Lupo, A.R., Climate Change and Climate Variability in Missouri, and What it means for you? Biannual meeting of the City of Columbia Chamber of Commerce. 8 October, 2015
- Lupo A.R., Blocking Anticyclones and Their Characteristics. Meeting for SATEP, Young Science meeting Tuapse, Russia 25 – 29 May, 2015.
- Lupo, A.R., The Experience of the University of Missouri (USA) in Facing the Challenges of the Modern University and the Implementation of Innovations. A presentation to the Administration of Belgorod State University. May 20th, 2015
- Lupo, A.R., The climatological and dynamic characteristics of blocking. 12 March, 2015. A presentation given at the State University of New York at Oswego, Synoptic Meteorology.
- Lupo, A.R.,: Soils and Climate in the Belgorod Region. A presentation given to the Russian Academy of Science, Institute of Soil and Geography. 5 March, 2015, Moscow Russia
- Lupo, A.R., Large-scale flow regime change and Blocking, A presentation given to a workshop held at the Russian Academy of Science, Institute of Atmospheric Physics, 3 March, 2015 Moscow Russia.
- Lupo, A.R.: Soils and Climate in the Belgorod Region. Now and Then. Fulbright Russia Meeting 27 January, 2015. Moscow, Russia
- Lupo, A.R., and P.G. Guinan: Climate, Climate Variability and Change: The Science and the Climate of Missouri. 31 May, 2014, Kansas City, MO Missouri Department of Conservation, Master Naturalist.

Lupo, A.R., Global Warming: Attribution, who is to blame? 15 April, 2014, Kansas City, MO
Associated Electric Power Cooperatives NW MO.

Lupo, A.R., Global Warming: Attribution, who is to blame? 30 January, 2014, Moberly, MO
Workshops Presented

Jensen, A.D. and A.R. Lupo, 2013: Integrated Regional Enstrophy Diagnostics in Blocking
Events. The 13th Cyclone Workshop, 22-27 September, 2013 Sainte Adele Canada.

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 I, IPCC Fifth Assessment Report 2013

Working Group I, II IPCC Sixth Assessment Report 2020 - 2021

Working Group on Predictability and Dynamics: THORPEX, 2006-2010: 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)

Member, Climate Certification Group (C6) (2016- present)

Workshops and Workshops Chaired (only those since 2007 shown – 27 total)

- Advisor (with Dr. Neil I. Fox and Mr. Jay Hasheider): “The 3rd Conference on
Renewable Energy in the Mid-West”, 25 March 2008, Ames, IA
- **(By invitation only) Forum on Climate Change sponsored by George C. Marshall
Institute, September 14- 16, 2008 Washington, DC.**
- **Session Moderator. 8-10 March, 2009, New York, NY, Second International
Conference on Climate Change.**

- **Invited to the National Weather Service: “Decade-long Drought and Wet Periods in the Missouri River Basin”, April 27-28, 2009.**
- Attended the Regional Mesonet workshop representing MU and sponsored by Saint Louis University Earth and Atmospheric Sciences. Saint Louis, MO, 15 - 16 April, 2009.
- Co-Chair (with Dr. Neil I. Fox, P.J. Wilson, and Mr. Jay Hasheider): “The 4th Conference on Renewable Energy in the Mid-West”, 3 June 2009, Columbia, MO
- Chair of the [Session on Data Assimilation: Profiling and satellite data assimilation](#) at the *The 21st Conference on Weather Analysis and Forecasting (AMS-NWA)*, 1-4 June, 2009, Omaha, NE.
- Co-Chair (with Dr. Neil I. Fox, P.J. Wilson, and Mr. Jay Hasheider): “The 5th Conference on Renewable Energy in the Mid-West”, 19 May 2010, Columbia, MO
- Co-Chair (with P.J. Wilson, Mr. Frank Cunningham, and Mr. Jay Hasheider): “The 6th 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 48th Annual Meeting of the Missouri Academy of Science”, 13-14 April, 2012, Columbia, MO
- Co-Chair (with P.J. Wilson, Mr. Frank Cunningham, Tim May, and Mr. Jay Hasheider): “The 8th Conference on Renewable Energy in the Mid-West”, 28 March 2013, Columbia, MO
- Co-Chair (with P.J. Wilson, Mr. Frank Cunningham, Tim May, and Mr. Jay Hasheider): “The 9th Conference on Renewable Energy in the Mid-West”, 8 April 2014, Columbia, MO.
- Co-Chair (with P.J. Wilson, Tim May, and Mr. Jay Hasheider): “The 11th Conference on Renewable Energy in the Mid-West”, 11-12 April 2016, Columbia, MO.
- Co-Chair (with P.J. Wilson, Jane Hinds, and Mr. Tim May): “The 12th Conference on Renewable Energy in the Mid-West”, 24-25 April 2017, Columbia, MO.

- Co-Chair (with P.J. Wilson, Jane Hinds, and Mr. Tim May): “The 13th Conference on Renewable Energy in the Mid-West”, 18-19 April 2018, Columbia, MO.
- Session Chair, 19th SATEP meeting (Sponsored by the Russian Academy of Science, A.M. Obukhov Institute for Atmospheric Physics) (chaired 26 May afternoon) in Shepsi near Sochi, Russia 25-29 May 2015. (1st non-Russian citizen to do so they said!).
- Workshop on Atmospheric Blocking, 6-8 April 2016, University of Reading, UK. Science Committee, and session chair.
- Conference Chairman: 1st International Electronic Conference on Atmospheric Sciences: 16-31 July, 2016. Sponsored by SciForum International
- Scientific Committee member 2017 Weather Analysis and Forecasting Meeting AMS Annual Meeting Seattle, WA 2017.
- Conference Chairman: 2nd International Electronic Conference on Atmospheric Sciences: 16-31 July, 2017. Sponsored by SciForum International.
- Co-Chair (with Jane Hinds) “The 14th Conference on Renewable Energy in the Mid-West”, 2-3 April 2019, Columbia, MO.
- Scientific Steering Committee: 9th International Symposium on Atmospheric Science 23-26 October, Istanbul Turkey.
- Conference Chairman: 3rd International Electronic Conference on Atmospheric Sciences: 16-30 November, 2020. Sponsored by SciForum International.

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)

US Climate Action Report, 2010: Fifth National Communication of the United States of America Under the United Nations Framework Convention on Climate Change, reviewed for the Heartland Institute.

Heartland Institute, 2013: Climate Change Reconsidered II: The Report of the Nongovernmental International Panel on Climate Change (NIPCC), edited by Craig Idso, Ph.D., and S. Fred Singer, Ph.D. (released 28 August 2013)

Climate Change 2013: The Science of Basis, Contributions of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change.
<http://www.ipcc.ch...>

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

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)

Climate Change Science Program Synthesis and Assessment Product, "North American Carbon Budget and Implications for the Global Carbon Cycle".

- Cornwall Alliance (Jan 2010): *A renewed Call to Truth, Prudence, and Protection of the poor: An Evangelical examination of the Theology, Science, and Economics of Global Warming.* (Chapter 2 primarily) 76pp
- American Meteorological Society Commission on the Weather and Climate Enterprise Board on Enterprise Communication *A Weather and Climate Enterprise Strategic Implementation Plan for Generating and Communicating Forecast Uncertainty Information* (Jan 2010) 112 pp.
 - o McGraw-Hill Publishing: September 2003, asked to review Chapter 10 (Circulations on Many Scales and their Interactions) of *Meteorology*, 2nd Ed. (Danielson, et al.). I was given an honorarium for this work.
 - o Prentice Hall Publishing: September 2002, 2004 asked to Review *Understanding Weather and Climate*, 3rd Ed. and 4th ed. (E. Aguado and J.E. Burt). I was given an honorarium for this work.
 - o Galarneau, T.J, L.F. Bosart, and A.R. Aiyyer, 2005: *A 54-year global closed anticyclone climatology (1950 – 2003).* AMS Meteorological Monograph, 94 pp.

Intergovernmental Panel on Climate Change, 2018: *Special Report on Global Warming of 1.5C (SR15).* Second Order Draft.

Intergovernmental Panel on Climate Change, 2018: *Special Report on the Ocean and Cryosphere in a Changing Climate (SROCC).* First Order Draft, Chapters 3 and 6.

Intergovernmental Panel on Climate Change, 2018: *Special Report on Climate Change and Land (SRCCL).* First Order Draft.

Book Proposal Review

- o 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.
- o W.H. Freeman & Company: October 2013, asked to review Molles 3rd Draft ch 07 *Terrestrial Resources* book chapter. I was given a \$125.00 honorarium for this work.

- Elsevier (March 2019 – June 2020) asked me to review the book proposal “Annotated Atlas of Coastal and Marine Winds, (I was given an honorarium of \$100.00 for this work). Then I reviewed the galley proof of the book itself for which I received a free copy of the book itself.
- Reviewed Chapter 6 and 20 of *Severe and Hazardous Weather: An Introduction to High Impact Meteorology 5th Edition.*, authored by Rauber, Charlevoix, and Walsh, April 2020. (token honorarium: Gift card).

Paper Reviews including those for scholarly journals

Reviewed papers for more than 80 different journals including journals outside meteorology, and over 400 articles..

- *Intergovernmental Panel on Climate Change Working Group I Technical Papers 1,2,3, and 4.*
- *Nongovernmental International Panel on Climate Change*
- *Monthly Weather Review*
- *Journal of the Atmospheric Sciences*
- *Tellus (Swedish Meteorological Society)*
- *Quarterly Journal of the Royal Meteorological Society*
- *Journal of Geophysical Research (American Geophysical Union)*
- *Geophysical Research Letters (American Geophysical Union)*
- *Journal of Arid Environments (Cambridge Press)*
- *Journal of the Meteorological Society of Japan*
- *National Weather Digest*
- *Journal of Operational Meteorology*
- *Journal of Climate*
- *International Journal of Climatology*
- *Journal of Applied Meteorology and Climatology*
- *Weather Analysis and Forecasting*
- *Meteorological Monograph*
- *Doklady, Earth Sciences (Russian Academy of Sciences)*
- *Pure and Applied Geophysics*
- *Transactions of the Missouri Academy of Science*
- *Journal of Global and Planetary Change*
- *Paper for the Fraser Institutes, IPCC AR4 analysis series on Natural Variations.*
- *Geological Society of America*
- *Atmospheric Science Letters*
- *Electronic Journal of Severe Storms Meteorology*
- *Heat Transfer Engineering, An International Journal*
- *International Journal of Tourism*
- *Evidence-based Climate Science volume*
- *Advances in Meteorology.*
- *Advances in Atmospheric Science*

- *Atmospheric Environment*
- *International Journal of Hydrological Science and Technology (IJHST)*
- *International Journal of Biometeorology*
- *Philosophical Transactions of the Royal Meteorological Society.*
- *Dataset papers in Atmospheric Science (Hindawi)*
- *Nature Publication Group Geosciences*
- *Science PGReview*
- *Meteorological applications.*
- *Applied Geography Conference*
- *Atmosfera*
- *Central European Journal of Physics*
- *Papers for the 36th Conference on Applied Geography*
- *Dynamics of Oceans and Atmospheres*
- *Papers in Applied Geography*
- *Journal of Environmental Science and Technology*
- *Meteorology and Atmospheric Physics*
- *Acta Advances in Agricultural Sciences (AAAS) journal*
- *Journal of Geography, Environment and Earth Science International*
- *Theoretical and Applied Climatology*
- *Scientific Reports, Nature group*
- *Atmosphere*
- *Great Plains Research*
- *Journal of Environment and Engineering.*
- *Pure and Applied Mathematics*
- *Open Journal of Atmospheric and Climate Change*
- *Quaternary International*
- *Weather (RMS)*
- *Precision Agriculture*
- *Atmosphere – Ocean*
- *Chemosphere*
- *Atmospheric Research*
- *Climate*
- *Journal of Atmospheric and Oceanic Technology*
- *Aerospace*
- *Energy & Environment*
- *Sustainability*
- *Water*
- *Journal of Climatology and Weather Forecasting.*
- *Applied Science (MDPI)*
- *Climate Research*
- *Environmental Science*
- *Global and Planetary Change*
- *Hydrology (MDPI)*
- *Open Access Journal of Environmental and Soil Science*

- *International Journal of Global Warming*
- *Climatic Change*
- *Mausam*
- *Symmetry*
- *Environmental Research*
- *International Journal of Environmental Science and Technology*
- *Environmental Science and Pollution Research*

Proposal/Award Reviews (number if more than 1)

- Proposal review for National Science Foundation: Blocking Anticyclone development, Coastal Fronts, Climatology of Low Level Jets (5)
- Proposal review: Agricultural Experiment Station proposals (2)
- Proposal Review: Southwest Center for Environmental Research and Policy (1)
- Proposal Review: MU Alumni Association Incentive Grants Program (2nd Cycle 2002, 20)
- Proposal Review: Missouri Research Board (1)
- Proposal Review: Research Council (1)
- Proposal review(s): For the Fulbright Scholar Office in Russia, reviewed proposals from Russian Scholars wishing to come to the US, 2007-2020
- Proposal review(s): For the Fulbright Scholar Office in Hungary, reviewed proposals from Hungarian Scholars wishing to come to the US, 2019-
- 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)
- Reviewed proposal for CRDF (1) September 2013 for \$50.00 honorarium.
- Reviewed (Invited) Conrad Foundation, Spirit of Innovation Awards November 2013 (no proposals in my category).

- Global Innovation Initiative Proposals 2014 (10 January 2014). Energy, Climate Change, and the Environment category. (22 proposals)
- Reviewed Fulbright Proposal Applications (Committee 2015-2017): CIIES – Fulbright – Washington D.C. (about 40 per year – Russia-Georgia-Armenia-Azerbaijan)
- Reviewed Proposals for CRDF (21) Mathematics Shota Rustaveli National Science Foundation (October 2016) \$1575.00 honorarium.
- Reviewed Proposal for USAID / SHERA – CIIES: (Indonesia) (9 proposals) December-January 2017
- Reviewed proposal for MO EPSCoR seed grant – July 2017.
- Reviewed “*Atmosphere*” MDPI travel grants (11) – March 2018 1st round and (12) second round, I was chair of the committee.
- Reviewed IWEG2018 Manuscripts for a conference 15-17June, 2018.
- Reviewed (Invited) Conrad Foundation, Spirit of Innovation Awards November 2018 – January 2019 (3 proposals in my category). (8 in 2019-2020 / 4 in 2020-2021)

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).
- 2013 Hired by the State of Alaska as a climate modeling expert. (2013 – present)
- 2013 Hired by Shurtleff, Froeschner, and Harris for expert testimony (March – Feb. 2014)
- 2013 Hired by Ford, Parshall, and Baker, Columbia, MO as a climate expert
- 2014 Provided expert support to Rep Tim Remole for H.B. 1302.
- 2014 hired by Stone, Leyton & Gershman, 2014
- 2015 Provided expert testimony to Sanders and associates in OH
- 2015 World Bank: part of a team from MU developing a Natural Resources and Food Security Master’s Degree.
- 2019 State Of Missouri – hired as an expert witness on a capital crime.
- 2020 Hired by Liberty Mutual for a Slip and Fall Case
- Brown and James Law Firm (2 Cases in 2020, Hail, and accident)

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 five students (one M.S. / two Ph.D.) and 38 have graduated (30 M.S. / 8 Ph.D) as of June 2020.

Graduate Student	Degree	Year	Current Status
Cynthia L. Berger	MS	1999 ¹	Broadcast Meteorologist, Ag Day Television, South Bend, IN
Jason Wiedenmann	MS	1999 ¹	Chemistry Instructor / Los Angeles Area Community College / PhD student at USC (Environmental Engineering)
Matthew Chambers	MS	2002 ^{1,3,5}	Candidate / Broadcast Meteorologist, KMOV-4 Saint Louis, MO
Nassar Albaloushi	MS	2001 ²	Candidate (funded by the Government of the United Arab Emirates)
John Burkhardt	MS	2003 ¹	Not employed in Atms. Sci.
Zabani Zuki	MS	2004 ¹	Malaysian Weather Service / Administrator.
W.Christopher Maune	MS	2006 ^{1,4}	Law Degree from MU – J.D. / Working in STL Law firm
Andrew Kunz	MS	2005 ¹	Science journal technical editor
Patrick Guinan	PhD	2004 ¹	Missouri State Climatologist
Mandi Reagan	M.S.	2007 ^{1,5}	Working for Env. Sci firm in St. Louis, MO
Kevin Birk	M.S.	2006 ¹	NWS ORD
Ben Roudenis	M.S.	2006 ⁵	M.S. Student – Not in Meteorology
Melissa Chesser	M.S.	2010 ¹	Working for Dept of Defense

Rachel (Fay) Redburn	M.S.	2007 ¹ ,6	Wind Capital Group (Mr. Tom Carnahan).
John Burkhardt	Ph.D.	2008 ⁵	Not in Meteorology
Justin Glisan	M.S.	2007 ¹	Ph.D. – Iowa State University
Athar Hussain	Ph.D.	2008 ¹	Professor – Pakistan
Neville Miller	M.S.	2008 ¹ ,5	(current) TV meteorologist, KC
J. Michael Roberts	M.S.	2015 ¹	(current) Adjutant general MO National Guard
Shawn Riley	M.S.	2010 ¹	(current) MU-IT. OU – IT
Eric Weber	M.S.	2009 ¹	(current) Formation Environmental, Wheatridge, CO
Chris Halcomb	Ph.D.	2010 ¹ ,5, 6	(current)
Mohd. Hisham Anip	Ph.D.	2012 ¹	Admin - Malaysian Weather Service
Justin Abraham	M.S.	2012 ¹	(current) –Weather Channel
Eric Aldrich	M.S.	2011 ¹	(current) – MU – Instructor, IT MO
Michelle Bogowith	M.S.	2011 ¹	(current) – TV Channel 41 in Kansas city (FOX)
Erik Oberhaus	M.S.	2012 ³ ,5	
Eric Weber	Ph.D.	2012 ¹ ,6	Ph.D. working in the private sector
Isabela Carlos	Ph.D.	2014 ¹ ,5	Ph.D. Student
Rose Grace Newberry	M.S.	2014	KXAN chief Meteorologist – Austin TX
Andrew Jensen	Ph.D.	2014 ¹	Assistant Professor, Math and Meteorology, Northland College

Nick Ebner	M.S.	2013 ¹	Done / High School Teaching – St. Louis
Daniel Ebner	M.S.	2013 ¹	KRCG, Jeff City, MO
Ralph Johnson	M.S.	2015 ¹	Student MU
Jordan Rabinowitz	M.S.	2016 ¹	PhD student MU
Chasity Hensen	M.S.	2015 ¹ ,6	PhD – USAF civilian.
DeVondria Reynolds	MS	2017 ¹	Private Sector, CO
Max Nunes	MS	2017 ¹	Weather or Not
Evan Kutta	Ph.D	2017 ¹ ,6	Post Doc at West Virginia University.
Jordan Rabinowitz	PhD	2019 ¹	
Alex Korner	MS	2018 ¹	CIRA – Kansas City
Jane Niemeyer	PhD	2021 ¹	NWSTC / Central Region – Kansas City
Sarah Balkissoon	PhD	2019 ¹ ,6	Laspau Fulbright Student
Corey Clay	MS	2020 ¹	State of North Dakota
Katherine Rojas	MS	2019 ¹	Gov't of Bolivia
Thomas Cain	MS	2020 ¹	
Qiuping Ji	MS	2020 ¹	Gov't of China
Emily M. Klaus	MS	2019 ¹	NWS - EAX
Bahtiyar Efe	Ph.D.	2019	Istanbul Technical University, Co-Advisor Deniz, ITU
Kevin Owens	MS	2021	

¹ Expected or final graduation date.

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

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

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

⁵Did not graduate.

⁶I co-advised Rachel, Chris, and Eric with Dr. Neil I. Fox, Chasity with Pat Market, Evan with Jason Hubbart

Postdoctoral Research Associates Supervised / Visiting Scientists Hosted

Postdoctoral	Degree and Year	University	Current Status
Dr. Ali Deniz	Ph.D / 1997	Technical Univ. of Istanbul	Prof. at ITU
Dr. Courtenay Strong	Ph.D. 2005	University of Virginia	Associate Prof. Utah Univ
Dr. Andreas Ravelo	Ph.D. 1985	University of Cordoba, Argentina	Professor at home institution.
Dr. Athar Hussain	Ph.D. 2008	University of Missouri	Professor Pakistan
Dr. Loren White	PhD 1996	Florida State University	Assoc. Professor / Jackson State

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
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 Koleiny	MS	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	2014	Agricultural Economics – MU - Johnson
Kelly Scott	M.S.	2012	Atmospheric Science – Saint Louis University - Eichler
Nathan Madden	Ph.D.	2013	Political Science - Kaiser
Anh Nguyen	Ph.D	2015	Ag. Engineering (Thompson)
Adam Balbi	MS	2013	SEAS-MU-Fox
Joshua Kastman	MS	2013	SEAS – MU Market Phd. student
Quinn Pallardy	MS	2013	SEAS MU Fox
Michael Simpson	MS	2014	SEAS MU Fox PhD student
Katie Crandall	PhD	2014	NWS – MW Region
Quang Phung	PhD	2017	Ag. MU Thompson
Sara Grana	MS	2014	NWS – Fox MW Region
Peter Speck	MS	2015	NWS – Svoma Davenport, IA
Josh Kastman	PhD.	2017	Market SEAS

Molly Rooney	M.S.	2017	Forestry - Stambaugh
Amanda Cooley	M.S.	2017	Market / SEAS
Kenna Mitchell	M.S.	2020	NWS Anchorage Market / SEAS (co-advised)
Paula Sumrall	M.S.	2020	
Chasity Henson	PhD	2019	Contractor / USAF

Undergraduate / Secondary Education Students Mentored (50+):

Undergraduate Scholarship/Project Mentoring

I have served 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. Also, the undergraduate papers have presented at the Missouri Academy of Sciences. I have also mentored students in secondary education.

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

TEACHING

Summary of Student Teaching Evaluations

Semester	Course Number ¹ (credits)	No. of Students	Number Evaluating	Course GPA	Evaluation Average ²	SNR Average ^{2,6}
F 97	ATM 350 (3)	14	13	3.71	4.8	3.9
Sp 98	ATM 301 (3)	10	9	3.9	4.0	
	ATM 102 (1)	23	20	3.66	4.6	
F 98	ATM 394 (4)	20	17	3.53	4.0	3.9
	ATM 312 (3)	31	25	3.33	4.3	
Sp 99	ATM 395 (4)	20	14	3.48	3.9	
	ATM 50 (3)	185	80	2.89	3.5	
	ATM 102 ³ (1)	22	18	3.60	4.7	

	ATM 301 (3)	13	12	3.9	4.3	
F 99	ATM 50 (3)	138	66	2.68	3.7	4.1
	ATM 416 (3)	6	4	4.0	3.5	
Sp 00	ATM 102 ³ (1)	24	23	3.6	3.6	
	ATM 395 (4)	2	1	3.0	4.5	
	ATM 399 (3)	11	11	3.51	4.4	
	ATM 466 (3)	2	2	4.0	5.0	
	ATM 410 ⁴ (1)	0	0	0	0	
F 00	ATM 50 (3)	156	95	2.95	4.2	4.0
	ATM 385 (3)	12	7	3.33	4.4	
	ATM 394 (4)	21	13	3.06	4.4	
Sp 01	ATM 102 ³ (1)	42	37	3.6	4.5	
	ATM 395 (4)	19	14	3.08	4.8	
	SAS 410 (1)	6	1	4.0	4.0	
	ATM 412 (3)	2	2	3.0	4.5	
F 01	ATM 50 (3)	203	62	3.24	4.6	3.9
	ATM 200 ⁵ (3)	6	0	3.33	0	
	ATM 394 (4)	14	11	3.19	4.5	
	ATM 416 (3)	4	4	3.75	5.0	
Sp 02	ATM 395 (4)	12	9	3.69	4.8	
	ATM 399 (3)	21	16	3.33	4.1	
	SAS 410 (1)	7	3	4.0	4.3	
	ATM 466 (3)	2	2	4.0	5.0	
F 02	ATM 385 (3)	23	19	3.62	4.1	3.9
	ATM 394 (4)	14	11	3.23	4.5	
Sp 03	ATM 50 ⁷ (3)	308	5	2.99	3.4	
	ATM 395 (4)	19	13	3.47	4.4	
	ATM 412 (3)	4	4	3.5	4.5	
F 03	ATM 385 (3)	16	11	3.62	4.3	3.9
	ATM 394 (4)	21	15	3.54	4.7	
	ATM 416 (3)	6	6	3.5	4.5	
Sp 04	ATM 50 ⁷ (3)	300	24	3.0	4.1	
	ATM 395 (4)	20	17	3.49	4.6	
	ATM 399 (3)	27	22	3.69	4.4	
	ATM 466 (3)	3	3	3.66	4.0	
F 04	AT 4310/7310 (4)	13	10	3.36	4.2	4.1
	AT 4800/7800 (3)	18	16	3.59	3.6	
	ATM 9300 (3)	8	6	3.75	4.2	
Sp 05	ATM 1050 ⁷ (1)	292	7	3.16	4.1	
	ATM 3600 (3)	54	N/A	N/A	N/A	
	AT 4320/7320 (4)	16	9	3.50	4.3	
	ATM 9350 (3)	7	7	3.57	4.4	
F 05	AT 4310/7310 (4)	26	20	3.38	4.3	4.1
	AT 4800/7800 (3)	18		3.65	4.0	

	ATM 8400 (3)	6		3.33	4.5	
	Math 8702 ⁹ (3)	8	N/A	N/A	N/A	
Sp 06	AT 3600 (3)	42		3.48	4.3	
	AT 4320/7320 (4)	25		3.28	4.3	
	AT 4650/7650 (3)	18		3.31	4.4	
	AT 8600 (3)	5		3.60	4.5	
	Math 8702 ⁹ (3)	10	N/A	N/A	N/A	
F06	AT 4310/7310 (4)	15	10	3.43	4.4	4.1
	AT 4800/7800 (3)	13	5	3.60	4.6	
	AT 9300 (3)	7	6	3.86	4.7	
Sp 07	AT 3600 (3)	52	38	3.43	4.2	
	AT 4320/7320 (4)	13	10	3.56	4.6	
	AT 9350 (3)	5	5	3.80	4.8	
F 07	AT 4310/7310 (4)	25	20	3.26	4.5	
	AT 8001/8450 (3)	6	2	4.0	4.4	
	AT 8400 (3)	8	5	4.0	4.2	
Sp 08	AT 3600 (3)	72	45	3.71	4.5	
	AT 3000 (3)	2	2	3.84	N/A	
	AT 4320/7320 (4)	22	11	3.49	4.7	
	AT 8600 ⁸ (3)	1	1	4.0	5.0	
F 08	AT 4310/7310 (4)	15	11	3.33	3.9	
	AT 3000 (3)	2	2	4.00	N/A	
	AT 9300 (3)	5	4	3.40	3.5	
Sp 09	AT 3600 (3)	67	37	3.23	3.4	
	AT 4320 (4)	15	9	3.26	3.5	
F 09	AT 4310/7310 (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	
F 12	AT 4310 / 7310	8	5	3.14	3.6	
	AT 9300	8	7	3.86	3.7	
S 13	AT 3600	76	55	3.09	3.7	
	AT 4320	5	4	3.13	3.6	
	AT 9350	7	5	3.29	4.0	
Su -2013	AT 1050	20	20	3.1	3.2	
F 13	AT 4310	16		3.49	3.5	
	AT 4650/7650	31		3.44	3.4	
	AT 8400	5		4.0	3.8	
S14	AT 4320/7320	14		3.52	3.80	
	AT 8450	3		3.33	4.67	
Su 14	AT 7085					
F 14	AT 8400 / Belgorod State University	25 Russian studies and 8 Faculty	25	S/U	Proj: 3.5	
	AT 8600	4	4	4.0	Proj: 4.0	
S15	AT 4600 / BGU	30 / same	30	S/U	Proj: 3.8	
F 15	AT 4310	18		3.41	4.00	
	AT 9300	8		3.67	4.25	
S16	AT 4320	17		3.51	4.0	
	AT 8450	9		3.67	4.22	

F16	AT 4310 / 7310	16		3.51	4.77	
	AT 4650 / 7650	13		3.67/4.0	4.67	
	AT 8400	5		4.0	4.6	
S17	AT 4320/7320	14	14	3.67	4.85	
	AT 9350	2	2	4.00	N/A	
F17	AT 4310/7310	16	12	3.58	4.67	
	AT 4800/7800	16			N/A	
	AT 8600	4	3	4.00	5.00	
	AT 4600/BSNRU	25				
S18	AT3600	36		3.30	4.42	
	AT4320/7320	14		3.48	4.60	
F18	AT4310/7310	14		3.64	4.80	
	AT9300	10		4.0	4.90	
S19	AT3600	46		3.26	4.45	
	AT4320/7320	14		3.40	4.80	
	AT8450	12		3.92	4.70	
F19	AT 4310/7310	13		2.64	4.88	
	AT8400	7		3.71	4.83	
Sp20	AT3600	46	13	3.52	4.85	
	AT4320/7320	11	5	3.33	4.80	
	AT9350	4	3	4.0	5.00	
	NATR9087 (1,2)	13	4,2	4.0	4.00, 5.00	
F20	AT4310/7310	13	5	3.28	4.60	
	AT4650/7650	18	6		4.83	
	AT8600	3	1	3.67	N/A	
S21	AT3600	55	18	3.39	4.11	
	AT4320/7230	13	3	3.08	4.00	
	AT9350	3	0	4.00	N/A	
	AT9087	7	3	4.00	5.00	

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

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

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

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

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

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

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

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

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

Invited Teaching, Workshops, and Presentations

Classes in the School of Natural Resources

- *Atmospheric Blocking*, Lecture for ATM 366 Climates of the World (April 98)
- *Ozone Depletion in the Stratosphere*, Lecture Natural Resources (NRES) 160 (Dec. 98, 99).
- *Climate, climate change, and the human component*, Lecture for NRES 160 (Dec. 98, 99, 00, 01,02).
- *Atmospheric Air pollution*, Lecture prepared for NRES 160 (Dec. 2000).
- *On global warming*, Lecture prepared for Dr. Mark Ryan (Mar. 7, 2001)
- *Severe weather and tornadoes*, Lectures prepared for NRES 160 (December 2003, 2004)
- *The Santa Anna winds and their contribution to the fires of 2007* (Lecture prepared for Dr. Keith Goyne, 26 October 2007)
- *Global Warming and Attribution*. (Lecture prepared for Natr 2160 Dr. Bruce Cutter and Dr. H. Garrett, 1 and 8 November 2007, 3 Dec 2008, 3,6 Dec 2010, 4,6 December 2011, 3,5 December 2012, Oct 14, 16, 2013).
- Preparing For Graduate School. Natural Resources Learning Community April 2011

- Acid Rain. Natural Resources Learning Community October 3, 2011 (With Peter Motavalli)
- The USA drought of 2012 and the Russian Drought of 2010. Natural Resources Learning Community October 26, 2012
- Forest Fire Control and Use (FOR 3207) 2 lectures, 2 hrs each Fall 2012 – For III Colleague)
- International Opportunities for Study (November 13, 2013 With Peter Motavalli) for Natural Resources learning community)
- Advanced Limnology: FW 8450 29 January 2018: Ethics of reviewing papers and editing.
- NAT_R 2002 Topics in Natural Resources Lecture: Fall 2019, Fall 2020: *The jet stream and weather.* (F 19 – two lectures, F20 1 lecture).

Classes outside the School of Natural Resources

- *Climate and Climate change in the Midwest.* Geography 410, 8 September, 1999
- *Climate and Climate Change in the Midwest.* Seminar for Law School, 25 October, 1999.
- *The Physics of the Greenhouse Effect.* Two Lectures for (Chemical Engineering), Apr. 00, Aug. 00.
- *Climate and Climate Change in the Midwest.* Lecture Sept. 00. (Political Science 365 Environmental Theory and Politics)
- *Climate Change and Global Warming: The current perspective.* Seminar for Law School Oct. 00.
- *Climate and Climate Change in the Midwest.* Lecture for May 01. (World Food and You.)
- *Advisors are people too.* A short presentation given as part of an "advisors panel" for freshmen. Aug. 01, Sep. 02, 03, 04, 05, 06, 07, 08, 09,10,11,12,13 (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, 2009, (3) 2010.

- *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).
- *Climate Change and Global warming*. Lecture for Ag Econ 4990 14 Feb 2012, and 2013. (Jan Dauve)
- *Climate Change and Global Warming*. Lecture for Chem Eng. 4311 11 March 2013,
- *Climate Change and Global Warming*. Lecture for Chem Eng. 4312 12 March 2013.
- Energy: Climate and Climate Change Lecture for Ag. Sys. Management 7085, 7 August 2013, 2014.
- Teach 4-H classes: the basics of weather climate and Forecasting: May 2008, 2009, 2010, 2011, 2012, 2013, 2014 (South Farm Station)
- The climatological and dynamic characteristics of blocking: A presentation given at the State University of New York at Oswego, Synoptic Meteorology: 12 March 2015, 12 April 2016
- Climate Change and Global Warming, Lecture for General Honors 2230: *Science and Public Policy* 8 March 2017
- Climate, Climate Change, and Climate Modelling: Lecture for AN_SCI 2111W – Sophomore Seminar: Societal Issues Facing Animal Agriculture, 11 March 2020, 3 March, 2021 (Dr. Jim Spain)
- Atmospheric Blocking: Lecture for Climatology at the University of Tennessee – Martin 28 January 2021 (Robert M. Simpson).

Teaching Workshops, Lectures, and Presentations

- *Climate and Climate Change, will Missouri be heating up?* A Back-to-classes Lecture prepared for the MU Jefferson Club, 17 September, 1999
- Market, P.S., and A.R. Lupo: *How are the teachers of today preparing the meteorologists of tomorrow?* Presented to: The Kansas City Chapter of the American Meteorological Society 19 September 2001.

- *Clouds in a bottle*: A teaching demonstration prepared for prospective SNR students, 9 November 2001, November 15, 2002, 14 Nov. 2003 (4 - 20 min. demos.)
- *The Chamber*: A teaching demonstration prepared for prospective SNR students, 21 October 2005
- *Introduction to Atmospheric Sciences*: A teaching demonstration prepared for prospective SNR students, 9 November 2001, 15 November, 2002, 14 Nov. 2003 (2 lectures) (50 min. lecture)
- Grigsby, M, E. P. Berg, S.T. Cole, S.K. Freyermuth, D.E. Lehman, A.R. Lupo, P.S. Market, J.J. Millspaugh, J.L. Parcell, and D.R. Vaught, 2004: MU CAFNR Teaching Scholars Program. (Featured Poster) 14th Program for Excellence in Teaching Teaching Renewal Conference. 26 – 28 February, 2004, Columbia, MO. (10%).
- Lupo, A.R.: *Climate and Climate Change*: Lecture given to Weather Camp Workshop run by Dr. Patrick Market, June 2005.
- Climate, Climate Change, and Hurricanes: Lecture given to Saturday Morning Science group (sponsored by Life Sciences and Physics), Columbia, MO, 11 February 2006.
- Climate, Climate Change, and Hurricanes: Lecture given to Lifelong Learning (Talking about the weather – a 6 week course team taught by Dr. Market, myself and graduate students) – MU Extension, Columbia, MO, 27 April 2006.
- Climate Change: Attribution, who is to blame for global warming? Lecture given to the Life Sciences Policy Forum, 4 October 2006
- Hurricanes: The Evil Wind: Lecture given to teachers at the 1st annual NWA Teaching Summit. 15 October, 2006, Kent State, Kent, OH.
- Climate Change: Attribution, who is to blame for global warming? Lecture given to the Life Sciences Policy Forum, 13 September 2007. I also presented this on November 13 2007 at the Memorial Union for a student sponsored panel along with a showing of “*An Inconvenient Truth*”
- Weather and Climate, a training workshop for Columbia Public Schools. April 2,9,16, and 23, 2008. I presented at the April 9th and 16th sessions. The Atmospheric Sciences Program worked with the Public Schools to get speakers and topics.
- Hurricanes: The Evil Wind: Lecture given to teachers at the 2nd NWA Teaching Summit. 21 October, 2009, Norfolk, VA.
- 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 3rd NWA Teaching Summit. 17 October, 2011, Birmingham, AL
- Climate Change and Attribution: Lecture given to Lifelong Learning (Talking about the weather) – MU Extension, Columbia, MO, 3 October 2013.
- Climate and Climate Change: Lecture given to Animal Science 2111 “Major Issues Facing Animal Agriculture” 4 March 2020.

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.
- Attended sessions during the “*Celebration of Teaching Excellence*” workshop 21-22 May 2013.
- Attended sessions during the “*Celebration of Teaching Excellence*” workshop 20-21 May 2014.
- Attended sessions during the “*Celebration of Teaching Excellence*” workshop 17-18 May 2016.
- NSF: MO EPSCoR how to be a Master Communicator 23-24 May 2016
- Attended sessions during the “*Celebration of Teaching Excellence*” workshop 16-17 May 2017.
- Attended sessions during the “*Celebration of Teaching Excellence*” workshop 15-16 May 2018.
- Attended sessions during the “*Celebration of Teaching Excellence*” workshop 14-15 May 2019.

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, ABC news, and Fort Myers (FL), as well as international venues such as Japan, Britain (Economist), and Russia (NTV, Belgorod TV) . 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
 - Associate Editor of Monthly Weather Review 2000 – 2003, and 2007 - present
 - Nominated for Fellow (May 2008, May 2014)
 - CCM Seal (February 2010)
 - -CCM Board – Feb 2014 – present
 - CBM Broadcast Seals committee
 - Written exams and new questions committee
 - Written Exam committee
 - Vice Chair 2016, Chair 2017
 - 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).
 - Member, Climate science communications network that is a project of the University Corporation for Atmospheric Research (UCAR) and the United Nations Foundation (UNF). (Climate Voices)
- National Council of Industrial Meteorologists (2014 – present)
- Sigma Xi Honor Society
 - Elected President (11 April, 2002, reelected 17 April 2003, again 2008-2009)
 - Elected Vice President, University of Missouri Chapter (21 March, 2001, May 2004)
 - Elected Secretary, MU Chapter, May 2005 – 2007, and May 2009-Aug 2009
 - Treasurer Aug. 2009 - present.
- Fellow, Royal Meteorological Society
- Phi Kappa Phi Honor society
- Fellow, Missouri Academy of the Sciences
 - Elected Chair of the Atmospheric Sciences Section (Served 4/2000 – 4/2002)
 - Editor 2003-2006, Transactions
 - Vice President 2008- 2009
 - President Elect 2009- 2010
 - President 2010 – 2011
 - Past President 2011-2012

- Member, Gamma Sigma Delta
 - Historian for FY 2004 – 2006
 - President for FY 2003 - 2004
 - Vice President (President Elect) for FY 2002 - 2003
 - Appointed Secretary for FY 2001 - 2002
- American Geophysical Union
- European Geophysical Union
- MU representative on the Board on Oceans and Atmospheres of the National Association of State Universities and Land-Grant Colleges.
- UCAR/UNIDATA Contract Contact point for the University of Missouri (1998 – 2003)
- Member, Fulbright Association (for Fulbright Alumni) (2004 – present)
- Member, National Weather Association
 - Committee member: Weather Analysis and Forecasting Committee 1/02 - present)
 - Committee member: Education Committee 1/06 – present)
 - Committee member: Publication Committee 1/07 – present
 - Associate Editor 2002 – 2009
 - Editor 2009 – 2012
- Listed as a hurricane expert on the American Geological Institute list of hurricane experts for government. (9/05 – present)
- Summer 2009, 2010, 2012, 2015: Asked to review a promotion and tenure dossier for promotion from Assistant to Associate professor each year.
- Summer 2011, 2012 (2), 2014, 2015, 2017 (2): 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. Interview Russian Senior Scientists 15-16 Sept. 2014 in Moscow.
- Nominated to serve on the Board of Natural Resources (BNR) Science Roadmap for Natural Resources – Committee (national).
- Joined Editorial Board of Advances in Meteorology: 25 March 2015 – December 2019. Also Chief editor for three special issues.

University of Missouri System

- IFC rep 2013 – 2014
- IFC task force on faculty workloads (Chair)

University of Missouri - Columbia

- Served on the MU Environmental Affairs Committee, 1998 – 2001, Fall 2002 – 2005.
 - Chair, September 1999 - May 2000
- Served on the Campus Committee for Safety, Fall 1999 - Fall 2002
- Serving on the Missouri State Drought Assessment Committee, including the Weather and Climate Committee, July 2005 - 2012
- 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 – 2008)
- 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 – 2012: Mizzou ADVANCE Mentoring Program mentor.
- 2010 – 2012t: Commission on Student Success.
- 2010 – 2011: Campus Faculty Committee on Tenure (not P&T!).
- 2011, 2012, 2013, 2014, 2016: University of Missouri Undergrad Research Expo – April 26th Head judge physical sciences section (2013-2016).

- 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, Vice Chair 2013 - 2014)
- 2013, Served on the Kemper Teaching Award Selection Committee.
- 2013 – 2015 MU Accreditation Task force. – Committee task 2,3
- 2013-2015 MU Grievance Oversight Committee (FC rep and a Chair)
- Graduate Faculty Senate (2015- 2021, President 2016-2017, Award Comm. Chair 2017-2018, Executive Comm. 2020-2021)
- CAFNR Dean Search Committee – 2016 – 2017.
- Reviewed proposals LOI's internally for MU where NSF and NIFA limit the proposals coming from one institution (Summer 2019, 2020).

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 – 2018)
- CAFNR Search for Associate Dean (10/2008 – spring 2009)
- CAFNR Undergraduate Scholarship selection committee (2011)
- CAFNR Promotion and Tenure Committee (2011-2013)

- CAFNR Executive in Residence Advisory Board (2011-present)
- CAFNR Promotion and Tenure Workshop panelist (8 May, 2013)
- CAFNR Dean Search Committee 2016-2017.
- CAFNR Advising, Learning and Teaching Committee (August 2015 – August 2021).
AY2018-2019 Chair
- CAFNR Research Council (April 2019 – present). Chair May 2019 – August .

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 on the SNR Promotion and Tenure Committee 2004 – 2008 (Chair 2006 – 2008),
2019 – present, Chair 2020 – present.
- Served as Chair of the SNR Director’s evaluation committee Fall 2009.
- Served on the Tree Ring Laboratory search committee (2011)
- School representative to Faculty Council (2012 – 2018)
- School representative to Graduate Faculty Senate (2006 – 2009, 2015 – present)
- School Directors Council 2017 – present (Chair 2017 - 2020)

Soil, Environmental, and Atmospheric Science Department

- Soil Health Search Committee – 2020
- Soil Biogeochemical Search Committee – 2019
- Department Chair 2008 – 2014 (Aug 27 –left for Russia)
- 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 liaison 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, Spring 2013.
- Atmospheric Science FIG Advisor (6/2001 - 2014);
- 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 – 9/20)

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 Administration Activity

In 2002, I was recognized by the School of Natural Resources as the Program Leader for Atmospheric Sciences. My position was 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 and 2013.

Administrative Positions

- 2008 – 2014 Chair; Soil, Environmental, and Atmospheric Sciences (9/1/2008)
- 2002 – 2005 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), 2019 – present, Chair 2020 - present
- 2011 – 2013 CAFNR Promotion and Tenure committee (Chair 2012-2013)

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 /
 - Guilderland, NY, 1996 - 1997.
- Member, Knights of Columbus, Council 1529 / Columbia, MO, 1997 - present
 - Elected Recorder (secretary) July 2000 – 2004, 2007 - 2009
 - President of 4th Degree Assembly July 2001 – 2003
 - Deputy Grand Knight 2009 – 2011
 - Trustee 2011- 2013
 - Grand Knight 2013-2014
 - Webmaster 2015 - 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)
 - President (2006 – 2008)
- Elected to the Columbia Catholic School – Home and School Association (May 2011 – 2014)
 - President (2011 – 2013)

REFERENCES

Available upon request.