

*CURRICULUM VITAE*  
(updated 24 February 2011)  
**Margaret Anne LeMone**

**PERSONAL**

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**EDUCATION**

1972 Ph.D. Atmospheric Sciences & University of Washington  
1967 A.B. Mathematics & University of Missouri

**PROFESSIONAL RECORD**

Dec. 2009-present Senior Scientist Emerita, National Center for Atmospheric  
Research (NCAR)  
2003-2009 Chief Scientist, GLOBE  
1992-2009 Senior Scientist, NCAR  
2002-2005 Member, Steering Committee for Water Cycle Initiative  
1999-2000 Coordinator, Cloud and Surface Processes Parameterizations  
Mesoscale and Microscale Meteorology Division, NCAR  
1998-1999 Sabbatical, ASP and NOAA Aeronomy Lab  
1994-1998 Group Leader, Mesoscale Analysis Group, Senior Scientist, NCAR  
1982-1992 Scientist III, National Center for Atmospheric Research  
1986-1987 Group Leader, Mesoscale Interactions Section, Mesoscale and Microscale  
Meteorology Division, National Center for Atmospheric Research  
1984-1986 Section Head, Mesoscale Interactions Section, Cloud Systems Division,  
National Center for Atmospheric Research  
1980-1982 Staff Scientist II, GATE Group, Cloud Systems Division,  
National Center for Atmospheric Research  
1978-1980 Staff Scientist II, Mesoscale Research Section,  
National Center for Atmospheric Research  
1973-1978 Ph.D. Scientist, GATE Group, National Center for Atmospheric Research  
1974-1975 Acting Project Leader, GATE Group,  
National Center for Atmospheric Research  
1972-1973 Post-Doctoral Fellow, Advanced Study Program, National Center for  
Atmospheric Research

**HONORS AND AWARDS**

2011 Outstanding Alumnus, Columbia, Missouri Public Schools  
2004 AMS Charles Anderson Award (Education and Outreach)  
1997 Inducted into National Academy of Engineering  
1995 NCAR Education Award

1995	Elected Fellow of the AAAS
1989	Editor's Award, <i>Journal of the Atmospheric Sciences</i> , AMS
1983	Elected Fellow of the AMS
1976	Honorable Mention for the NCAR Outstanding Publication Award
1967	Woodrow Wilson Fellow, NSF Fellow, and NDEA Fellow
1966	Elected to Phi Beta Kappa

## PROFESSIONAL ACTIVITIES – SCIENCE

### *National Organizations*

1969-present	Member, American Geophysical Union (AGU)
1969-present	Member, American Association for the Advancement of Science (AAAS)
1969-present	Member, American Meteorological Society (AMS)

### *American Meteorological Society*

2011	Past President
2010	President
2009	President-Elect
2007-present	Member, Fellows Committee
2003	Guest Editor (with Greg Poulos) of <i>Journal of the Atmospheric Sciences</i> special edition on CASES 1999
2000-2005	Member, Planning Commission
2003-2004	Member, Ad Hoc Ethics Committee
1998	Organizing Committee, Observance 25th Anniversary of GATE
1998	Chair, Awards Committee
1997	Member, Awards Committee
1993-1996	Member, Executive Committee
1993-1996	Councillor
1990-1991	Guest Editor, <i>Monthly Weather Review</i> , TAMEX special edition
1991-1995	Editor, <i>Journal of the Atmospheric Sciences</i>
1988-1991	Associate Editor, <i>Journal of the Atmospheric Sciences</i>
1990	Local arrangements committee for 4th Conference on Mesoscale Processes (Boulder)
1990	Member and Chair, Nominating Committee
1989	Member, Nominating Committee
1987	Co-convenor of 3rd Conference on Mesoscale Processes (Vancouver)
1987-1990	Member, Mesoscale Committee
1983-1985	Member, Committee on Tropical Meteorology and Tropical Cyclones
1977-1980	Councillor
1975-1978	Founding Chair, AMS Board on Women and Minorities
1974-1975	Chair, Ad Hoc Committee of Women in Meteorology

### *American Association for the Advancement of Science*

2009-present	Member, nominating committee for Section W
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1989-1992 Member-at-large, Section W  
 1984-1987 Council Delegate, Section W  
 1979-1981 Member, nominating committee for Section W (Atmospheric and  
 Hydrospheric Sciences, Chair 1981)

*National Academy of Engineering*

1997-present Member  
 2010- Member, Nominating Committee  
 2001-2004 Member, Program Development Committee Review and Advisory Panels  
 2003 Chair, Section 12  
 2002 Vice Chair, Section 12  
 2001 2<sup>nd</sup> Vice Chair, Section 12  
 1998-2001 Member, Peer Review Committee, Section 12

*National Research Council Committees/Boards*

2006-2008 Member, NRC Committee on Developing Mesoscale Observational  
 Capabilities to Meet Multiple National Needs  
 2004-2006 Member, NRC Committee on Strategic Guidance for NSF's Support for  
 Research in the Atmospheric Sciences  
 2002-2004 Member, NRC Committee on Road Weather  
 2001-2002 Member, NRC Committee on Tools for Tracking  
 Chemical/Biological/Nuclear Releases in the Atmosphere: Implications  
 for Homeland Security  
 2001-2004 Member, National Research Council Board on Atmospheric Sciences and  
 Climate  
 1999-2000 Member, NRC Panel on Improving the Effectiveness of U.S. Climate  
 Modeling  
 1992-1997 Member, National Research Council Board on Atmospheric Sciences and  
 Climate

*Other Advisory Panels, etc.*

2010 Member, NOAA Physical Science Laboratory Review Panel  
 2006 Member, Academic Review Committee for Atmospheric Science  
 Department, University of Arizona  
 2006-2008 Member NSF-Sponsored Facilities Assessment Committee (co-Chair,  
 "Surface in-situ Sensing" sub-committee)  
 2001-2002 Member, Review Panel for DOE's VTMX (Vertical Transport and  
 Mixing) Experiment  
 2000-2003 Member, NSF Observational Facility Advisory Panel  
 1997-1999 Member, USWRP Scientific Steering Committee  
 1998-2000 Member, Review Panel for Argonne Environmental Research Division  
 1998 Member, Argonne Boundary Layer Experiments Advisory Committee  
 1990-1993 Member, CSMP (Climate System Modeling Program) Science Advisory

Council

- 1989 Reviewer, NOAA Severe Storms Initiative  
1985-1989 Member, NCAR/RAF Advisory Panel  
1984 Committee member, review of the Atmospheric Sciences Department at UCLA  
1977 Member, California/NOAA Review Panel No. VII, Air Resources Laboratory (ARL) and Center for Experiment Design and Data Analysis (CEDDA)

*Field Programs*

- 2000-2002 Participant International H<sub>2</sub>O Project (IHOP) surface flux station siting and design team; King Air boundary-layer flight design and implementation team, PI  
1998-1999 Advisor to organizers of the CASES 99  
1997 Co-PI (with Bob Grossman) of CASES-97  
1991-1993 TOGA-COARE: Principal Investigator, assist in planning aircraft missions; participate in Field Program in Honiara (Jan-Feb 1993)  
1990-1992 STORM-FEST: Member, Scientific Steering Committee Coordinator, Boundary Layer Program Member, Scientific Mission Planning Team  
STORM I: & Winter/Spring Systems Integration Committee  
1984-1992 STORM-Central: Member, Boundary-Layer planning group (Chair, 1987-1992)  
1987 TAMEX: Aircraft Coordinator and participant  
1985 PRE-STORM: Member, Scientific Steering Committee and participant (part of ground-based Mission Scientist pool for aircraft flights)  
1973-1974 GATE: Helped plan the GATE boundary layer sub-program, GATE aircraft patterns, Airborne Mission Scientist (on-site coordinator for the GATE aircraft), Mission Scientist (coordinating mission from Dakar), Airborne Scientist. On occasion, still assist scientists in finding and accessing GATE data.

*Cooperative Atmosphere-Surface Exchange Study (CASES). The CASES objective was to find one spot, which corresponded to a watershed, at which continuous measurements over years were supplemented by intensive field campaigns as well as modeling efforts to understand surface exchanges from a holistic point of view that linked atmospheric science, hydrology, ecology, and chemistry.*

- 1995-2005 Organizer and promoter of the Cooperative Atmosphere Surface Exchange study (CASES), with Bob Grossman and Bill Blumen).

This involved engaging a number of leaders in the fields of boundary-layer meteorology, hydrology, atmosphere-surface exchange, and atmospheric chemistry; setting up an advisory committee, contacting federal agencies about funding, and organizing a series of national meetings, which culminated in a symposium in Wichita, Kansas in 1995, at which time the site was officially chosen and plans firmed up. John Pflaum did much of the legwork for us. CASES became a reality in the form of the Argonne Boundary Layer Experiments Facility, run by Marv

Wesely's group at the Argonne National Laboratory, operating from March, 1997 through September, 2004 (data are still available online). In addition to CASES-97 and CASES-99, IHOP\_2002 observations were taken in the same region, allowing a look at how surface-atmosphere interactions evolved with seasons as well as year to year. DOE had a hydrological pilot project there as well.

*Women/Minority Activities not covered above*

2008-present	Coordinating committee to survey staff to assess situation for UCAR female scientists, as well as response to CSWP survey
1999-2000	Coordinating Committee to facilitate American Physical Society Committee on the Status of Women Physicists site visit to UCAR
2000-2004	Science Mentor, SOARS (Significant Opportunities in Scientific Research and Science)
1997	Speaker on Women in Science at Texas A&M Graduate School Event (March)
1995-2004	Member, SOARS Advisory Committee
1991-1992	AMS Ad Hoc Committee to design survey on women, minorities, and handicapped
1972-1974	Surveys of Women in Atmospheric Sciences, with J. Simpson 1980-1982 & (1972-74), with P. Waukau (1980-82)
1977	One of 60 Women Participants in AAAS meeting on Participation of Women in Scientific Research
1975-1976	Supervised minority students as part of NCAR work-study program
1975-present	Periodically talks on women in atmospheric science at different locations (including Univ. of Oklahoma, Purdue, Texas A&M, Univ. of Colorado, AMS Annual meeting, etc.)

*Service to NCAR*

2005	Member, committee to select proposals from Directors' Opportunity Fund Competition
2003-2005	Co-Chair, NCAR Scientists' Assembly
2000-present	Member, NCAR Scientists' Assembly Steering Committee
2003	Co-Chair, Committee to select proposals from Directors' Opportunity Fund Competition
2002-2005	Member, Water Cycle Initiative Steering Committee
2003-2004	Member, steering committee to select head of GLOBE
2004	Member, steering committee to select head of MMM
1995	Member, UCAR Office of Projects Director search committee
1995	Co-organizer, CASES Symposium, Wichita, Kan. 22-24 February; Gave presentation on the meteorological uses of CASES.
1991	Member, Research Aviation Facility Director search committee

**PROFESSIONAL ACTIVITIES – EDUCATION AND OUTREACH**

*Representation of Science in Film*

2005 Juror, Sundance Film Festival, for the Sloan Prize for best film depicting science or scientists in a feature film.

#### *University Interaction*

1994-present Adjoint Professor, University of Colorado  
1996-present Affiliate Professor, Colorado State University  
1984-1990 Affiliate Professor, Colorado State University

#### *Graduate Committees (Atmospheric Science)*

- Co-Advisor for Ph. D. student (Joseph Alfieri) at Purdue University (2007-2009)
- Member, Ph.D. Committee for Jennifer Davison, University of Illinois (2007-present)
- 5 Ph.D. committees (University of Wyoming, Colorado, Chicago, and Colorado State)
- External Reviewer for two Ph. D. theses (Monash University, University of British Columbia)
- 2 M. S. Committees (Texas Tech University, Colorado State University)

#### *Undergraduate Education*

- Supervised one atmospheric-science undergraduate thesis at the University of Colorado
- Instructor of record for Workshop in Instruction and Curriculum in the content area of atmospheric sciences, Course 5575, Education Dept., University of Colorado as part of UCAR/University of Colorado's Project LEARN (1997-2000).

#### *K-12 Education*

2003-2009 Chief Scientist, GLOBE  
2002,2004 Lecturer at UCAR summer program for high school teachers  
1996-2000 Co-PI, Project LEARN (help organize 3 week summer workshop1988, school workshops, speaker for both)  
1994-1997 Member, CONNECT Committee, a school-community collaborative effort to find ways to meet education standards.  
1992-2000 Speaker for AMS Project ATMOSPHERE (once per year)  
1992-1996 Speaker for UCAR's Project LEARN (once per year)  
1988-present Volunteer speaker in Boulder-Denver area schools on weather, dinosaurs, and related topics.  
1989 Teacher of weather class as part of Whittier School's Talented and Gifted Program  
1988 Odyssey of the Mind Coach, Whittier Elementary School

#### **Consulting**

##### *Technical Content Reviewer*

2007-2009 Jack Williams' *The Ultimate Guide to American Weather*  
1990-present Revised or wrote articles for *World Book Encyclopedia*  
1989 *Storm*, Time-Life  
1983-1993 Revise *Earth Science*, (high school science text) for D.C. Heath (weather portions)  
1978-1979 *Elementary School Science Series*, Holt, Rinehart and Winston, (weather

1974

portion of texts)  
*Weather in the West*, American West Publishing Company

## PUBLICATIONS-Refereed

1. Buettner, K. J. K., and M. A. **LeMone**, 1970: Lunar glass: origin and effects. *Naturwissenschaften*, **57**, 87-88. (Also published in German in *Glastechnische Berichte*, **43**, 211-212).
2. **LeMone**, M. A., 1973: The structure and dynamics of horizontal roll vortices in the planetary boundary layer. *J. Atmos. Sci.*, **30**, 1077-1091.
3. Pennell, W. T., and M. A. **LeMone**, 1974: An experimental study of turbulence structure in the fair-weather trade wind boundary layer. *J. Atmos. Sci.*, **31**, 1308-1323.
4. **LeMone**, M. A., 1976: Modulation of turbulence energy by longitudinal rolls in an unstable planetary boundary layer. *J. Atmos. Sci.*, **33**, 1308-1320.
5. **LeMone**, M. A. and W. T. Pennell, 1976: The relationship of trade-wind cumulus distribution to subcloud-layer fluxes and structure. *Mon. Wea. Rev.*, **104**, 524-539.
6. Sommeria, G., and M. A. **LeMone**, 1978: Direct testing of a three-dimensional model of the planetary boundary layer against experimental data. *J. Atmos. Sci.*, **35**, 25-39.
7. Wyngaard, J. C., W. T. Pennell, D. H. Lenschow, and M. A. **LeMone**, 1978: The temperature-humidity covariance budget in the convective boundary layer. *J. Atmos. Sci.*, **35**, 47-58.
8. Pennell, W. T., D. H. Lenschow, and M. A. **LeMone**, 1979: Some aspects of turbulence in the atmospheric boundary layer. In *Heat Transfer Studies: A Festschrift for E. R. G. Eckert*. T. S. Irvine et al, eds. Hemisphere Publishing Corp., Washington, D. C., 165-185.
9. Barnes, G. M., G. D. Emmitt, B. Brummer, M. A. **LeMone** and S. Nicholls, 1980: The structure of a fair weather boundary layer based on the results of several measurement strategies. *Mon. Wea. Rev.*, **108**, 349-364.
10. **LeMone**, M. A., 1980: The marine boundary layer. Chapter in *Workshop on the Planetary Boundary Layer*. J.C. Wyngaard, ed. American Meteorological Society, 322 pp.
11. **LeMone**, M. A., 1980: On the difficulty of measuring temperature and humidity in cloud: Comments on Shallow Convection on Day 261 of GATE; Mesoscale Arcs. *Mon. Wea. Rev.*, **108**, 1702-1705.
12. **LeMone**, M. A., and W. T. Pennell, 1980: Comparison of turbulence measurements from aircraft. *J. Appl. Meteor.*, **19**, 1420-1437.

13. **LeMone**, M. A., and E. J. Zipser, 1980: Cumulonimbus vertical velocity events in GATE. Part I: Diameter, intensity and mass flux. *J. Atmos. Sci.*, **37**, 2444-2457.
14. Nicholls, S., and M. A. **LeMone**, 1980: The fair weather boundary layer in GATE: The relationship of subcloud fluxes and structure to the distribution and enhancement of cumulus clouds. *J. Atmos. Sci.*, **37**, 2051-2067.
15. Wyngaard, J. C., and M. A. **LeMone**, 1980: Behavior of the refractive index structure parameter in the entraining convective boundary layer. *J. Atmos. Sci.*, **37**, 1573-1585.
16. Zipser, E. J., and M. A. **LeMone**, 1980: Cumulus Vertical velocity events in GATE, Part II: synthesis and model core structure. *J. Atmos. Sci.*, **37**, 2458-2469.
17. Zipser, E. J., R. J. Meitin, and M. A. **LeMone**, 1981: Mesoscale motion fields associated with a slowly moving GATE convective band. *J. Atmos. Sci.*, **38**, 1725-1750.
18. Nicholls, S., M. A. **LeMone**, and G. Sommeria, 1982: The simulation of a fair weather marine boundary layer in GATE using a three dimensional model. *Quart. J. Roy. Meteor. Soc.*, **108**, 167-190.
19. **LeMone**, M. A., 1983: Momentum Flux by a line of cumulonimbus. *J. Atmos. Sci.*, **40**, 1815-1834.
20. **LeMone**, M. A., G. M. Barnes, E. J. Szoke, and E. J. Zipser, 1984: The tilt of the leading edge of mesoscale tropical convective lines. *Mon. Wea. Rev.*, **112**, 512-519.
21. **LeMone**, M. A., G. M. Barnes, and E. J. Zipser 1984: Momentum fluxes by lines of cumulonimbus over the tropical oceans. *J. Atmos. Sci.*, **41**, 1914-1932.
22. **LeMone**, M. A., and R. J. Meitin, 1984: Three examples of fair-weather mesoscale boundary layer convection in the tropics. *Mon. Wea. Rev.*, **112**, 1985-1997.
23. Jorgensen, D. P., E. J. Zipser, and M. A. **LeMone**, 1985: Vertical Motions in intense hurricanes. *J. Atmos. Sci.*, **42**, 839-856.
24. **LeMone**, M. A., and L. F. Tarleton, 1986: The use of inertial altitude in the determination of the pressure field over land. *J. Atmos. and Oceanic Technology*, **3**, 650-661.
25. **LeMone**, M. A., G. M. Barnes, J. C. Fankhauser, and L. F. Tarleton, 1988: Pressure fields measured by aircraft around the cloud-base updraft of deep convective clouds. *Mon. Wea. Rev.*, **116**, 313-327.
26. **LeMone**, M. A., L. F. Tarleton, and G. M. Barnes, 1988: Perturbation pressure at the cloud base of cumulus clouds in low shear. *Mon. Wea. Rev.*, **116**, 2062-2068.

27. Jorgensen, D. P. and M. A. **LeMone**, 1989: Vertical velocity characteristics of oceanic convection, *J. Atmos. Sci.*, **46**, 621-640.
28. **LeMone**, M. A., 1989: The influence of vertical wind shear on the diameter of cumulus clouds in CCOPE. *Mon. Wea. Rev.*, **117**, 1480-1491.
29. **LeMone**, M. A., 1990: Some observations of vertical velocity skewness in the convective planetary boundary layer. *J. Atmos. Sci.*, **47**, 1163-1169.
30. Barnes, G. M., M. A. **LeMone**, and G. J. Stossmeister, 1991: A convective cell in a hurricane rainband. *Mon. Wea. Rev.*, **119**, 776-794.
31. Jorgensen, D. P., M. A. **LeMone**, and B. J.-D. Jou, 1991: Precipitation and kinematic structure of an oceanic mesoscale convective system. Part I: Convective line structure. *Mon. Wea. Rev.*, **119**, 2608-2637.
32. **LeMone**, M. A., and D. P. Jorgensen, 1991: Precipitation and Kinematic Structure of an Oceanic Mesoscale Convective System. Part II: Momentum transport and generation. *Mon. Wea. Rev.*, **119**, 2638-2653.
33. Fankhauser, J. C., G. M. Barnes, and M. A. **LeMone**, 1992: Structure of a middle-latitude squall line formed in unidirectional shear. *Mon. Wea. Rev.*, **120**, 237-260.
34. **LeMone**, M. A., and M. W. Moncrieff, 1993: Momentum transport by convective bands: Comparisons of highly idealized dynamical models to observations. Chapter 6, in *The Representation of Cumulus Convection in Numerical Models of the Atmosphere*, *Meteorological Monographs*, **24**, K.A. Emanuel and D.J. Raymond, editors. American Meteorological Society, 246 pp.
35. Emanuel, K., D. Raymond, A. Betts, L. Bosart, C. Bretherton, K. Droegemeier, B. Farrell, J. M. Fritsch, R. Houze, M. **LeMone**, D. Lilly, R. Rotunno, M. Shapiro, R. Smith, and A. Thorpe, 1994: Report of the first prospectus development team of the USWRP to The National Oceanographic and Atmospheric Administration and the National Science Foundation. *Bull. Amer. Meteor. Soc.*, **76**, 1194-1208.
36. **LeMone**, M. A., T. Y. Chang, and C. Lucas, 1994: A note on the effects of filtering on convective-core statistics. *J. Atmos. Sci.*, **51**, 3344-3350.
37. **LeMone**, M. A., and M. W. Moncrieff, 1994: Momentum and mass transport by convective bands: Comparisons of highly idealized dynamical models to observations. *J. Atmos. Sci.*, **51**, 281-305.
38. Lucas, C., E. J. Zipser, and M. A. **LeMone**, 1994: Vertical velocity in oceanic convection off tropical Australia. *J. Atmos. Sci.*, **51**, 3183-3103.

39. Lucas, C., E. J. Zipser, and M. A. **LeMone**, 1994: Convective available potential energy in the environment of oceanic and continental clouds: correction and comments. *J. Atmos. Sci.*, **51**, 3829-3830.
40. **LeMone**, M. A., 1995: The cumulus-topped boundary layer over the ocean. *The Boundary Layer and its Parameterization*, C.-H. Moeng., Ed., NCAR, 109-136.
41. Moeng, C.-H., and M. A. **LeMone**, 1995: Atmospheric planetary boundary layer research in the U.S.: 1991-1994. *U.S. National Report to the IUGG 1991-1994, Reviews of Geophysics, Supplement*, 923-931.
42. Blumen, W., N. Gamage, R.G. Grossman, M. A. **LeMone**, and L.J. Miller, 1996: The structure and evolution of a dry cold front over the central United States. Part II: Comparison with theory, *Mon. Wea. Rev.*, **124**, 1676-1692.
43. Lucas, C., E. J. Zipser, and M. A. **LeMone**, 1996: Reply to 'Comment on Convective available potential energy in the environment of oceanic and continental clouds.' *J. Atmos. Sci.*, **53**, 1212-1214.
44. Miller, L. J., M. A. **LeMone**, W. Blumen, R. L. Grossman, N. Gamage, and R. J. Zamora, 1996: The low-level structure and evolution of a dry cold front over the central United States. Part I: Mesoscale Observations, *Mon. Wea. Rev.*, **124**, 1648-1675.
45. Sun, J., L. Mahrt, S. K. Esbensen, J. Howell, C. M. Greb, R. L. Grossman, and M. A. **LeMone**, 1996: Scale dependence of air-sea fluxes over the western Equatorial Pacific. *J. Atmos. Sci.*, **53**, 2997-3012.
46. Trier, S. B., W. C. Skamarock, M. A. **LeMone**, D. B. Parsons, and D. P. Jorgensen, 1996 Structure and evolution of the 22 February 1993 TOGA-COARE squall line: numerical simulations. *J. Atmos. Sci.*, **53**, 2861-2886.
47. Jorgensen, D. P., M. A. **LeMone**, and S. B. Trier, 1997: Structure and evolution of the 22 February 1993 TOGA-COARE squall line: aircraft observations of structure, circulation, and surface energy fluxes. *J. Atmos. Sci.*, **54**, 1961-1985.
48. Trier, S. B., W. C. Skamarock, and M. A. **LeMone**, 1997: Structure and evolution of the 22 February squall line: organization mechanisms inferred from numerical simulation. *J. Atmos. Sci.*, **54**, 386-407.
49. **LeMone**, M. A., E. J. Zipser, and S. B. Trier, 1998: The role of environmental shear and thermodynamic conditions in determining the structure and evolution of mesoscale convective systems during TOGA COARE. *J. Atmos. Sci.*, **55**, 3493-3518.
50. Lewis, S. A., M. A. **LeMone**, and D. P. Jorgensen, 1998: Evolution and dynamics of a squall line that occurred on 20 February 1993, during TOGA COARE. *Mon. Wea. Rev.*, **126**, 3189-3212.

51. Trier, S. B., M. A. **LeMone**, and W. C. Skamarock, 1998: Effect of three-dimensional structure on the stormwide horizontal accelerations and momentum budget of a simulated squall line. *Mon. Wea. Rev.*, **126**, 2580-598.
52. Igau, R. C., M. A. **LeMone**, and D. Wei, 1999: Updraft and downdraft cores in TOGA COARE: Why so many buoyant downdraft cores. *J. Atmos. Sci.*, **56**, 2232-2245.
53. **LeMone**, M. A., M. Zhou, C.-H. Moeng, D. H. Lenschow, L. J. Miller, and R.L. Grossman, 1999: An observational study of wind profiles in the baroclinic convective planetary boundary layer. *Bound.-Layer Meteor.*, **90**, 47-82.
54. Wu, Xiaoqing and M.A. **LeMone**, 1999: Fine structure of cloud clusters within the intraseasonal oscillation during TOGA COARE. *Mon. Weath. Rev.*, **127**, 2503-2513.
55. Droegemeier, K.K., J.D. Smith, S. Businger, C. Doswell III, J. Doyle, C. Duffy, E. Foufoula-Georgiou, T. Graziano, L.D. James, V. Krajewski, M. **LeMone**, D. Lettenmaier, C. Mass, R. Pielke, Sr., P. Ray, S. Rutledge, J. Schaake, and E. Zipser, 2000: Hydrological aspects of weather prediction and flood warnings: report of the ninth prospectus development team of the U.S. Weather Research Program. *Bull. Amer. Meteor. Soc.*, **81**, 2665-2680.
56. **LeMone**, M.A., 2000: Organization of atmospheric convection over the tropical oceans. Chapter in *Geophysical and Astrophysical Convection, Volume 8*, P.A. Fox and R.M. Kerr, Eds. Gordon and Breach Science Publishers, The Netherlands, 390 pp.
57. **LeMone**, M. A., R. Grossman, R. Coulter, M. Wesely, G. Klazura, G. Poulos, W. Blumen, J. Lundquist, R. Cuenca, S. Kelly, E. Brandes, S. Oncley, R. McMillen, B. Hicks, 2000: Land-atmosphere interaction research, early results, and opportunities in the Walnut River Watershed in Southeast Kansas: CASES and ABLE. *Bull. Amer. Meteor. Soc.*, **81**, 757-780
58. Song, J, M. L. Wesely, M.A. **LeMone**, and R.L. Grossman, 2000: Estimating watershed evapotranspiration with PASS. Part II: Moisture budgets during drydown periods. *J. Hydrometeor.*, **1**, 462-473.
59. Yates, D.N., Chen, F., **LeMone**, M.A., Qualls, R., Oncley, S.P., Grossman, R.L., and Brandes, E.L.: 2001, A Cooperative Atmosphere-Surface Exchange Study (CASES) dataset for analyzing and parameterizing the effects of land-surface heterogeneity on area-averaged surface heat fluxes', *J. Appl. Meteor.*, **40**, 921-937.
60. **LeMone**, M., R. Grossman, R.T. McMillen, K.N. Liou, S. Oh, S. McKeen, W. Angevine, K. Ikeda, and F. Chen, 2002: CASES-97: Late-morning warming and moistening of the boundary layer over the Walnut River watershed. *Bound.-Layer Meteor.*, **104**, 1-52.

61. Chen, F., D.N. Yates, H. Nagai, M.A. **LeMone**, K. Ikeda, and R.L. Grossman, 2003: Land-surface heterogeneity in the Cooperative Atmosphere Surface Exchange Study (CASES-97). Part-I: Comparison of modeled surface flux maps with surface-tower and aircraft measurements. *J. Hydrometeor.*, **4**, 196-217.
62. **LeMone**, M.A., R.L. Grossman, F. Chen, K. Ikeda, and D. Yates, 2003: Choosing the averaging interval for comparison of observed and modeled fluxes along aircraft transects over a heterogeneous surface. *J. Hydrometeor.*, **4**, 179-195.
63. **LeMone**, M.A., K. Ikeda, R.L. Grossman, and Mathias Rotach, 2003: Horizontal Variability of 2-m temperature at night. CASES-99 Special Issue, *J. Atmos. Sci.*, **60**, 2431-2449.
64. Tao, W.-K., J. Halverson, M. **LeMone**, R. Adler, M. Garstang, R. Houze, R. Pielke, and W. Woodley, 2003: The research of Dr. Joanne Simpson: Fifty years investigating hurricanes, tropical clouds, and cloud systems. Chapter 1, *AMS Meteorological Monograph 51, Cloud Systems, Hurricanes, and the Tropical Rainfall Measuring Mission (TRMM): A Tribute to Dr. Joanne Simpson*.
65. Grossman, R.L., D. Yates, M. **LeMone**, M.L. Wesely, J. Song, 2004: Observed effects of horizontal surface temperature variations on the atmosphere over a Midwest watershed during CASES-97. *J. Geophys. Res.*, **110**, D06117, doi:10.1029/2004JD004542.
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2. NRC 2001: *Improving the Effectiveness of U.S. Climate Modeling*. 128 pp.
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## POPULAR ARTICLES, ETC.

### Electronic publications

#### Backyard Science Blog (Sept. 2009 – present):

<http://www2.ucar.edu/magazine/currents/backyard-science>:

Dy	Mon	Year	Post
2	Dec	2009	Snow Depth and Density Revisited
5	Nov	2009	Snow Depth and Density: What's in a Foot of Snow?
21	Sept	2009	Are darker-colored cars warmer inside than lighter-colored cars?

#### Chief Scientists's Blog ([www.globe.gov](http://www.globe.gov)), 2006-2009, also listed on [usa.gov](http://usa.gov) web site (reached ~9,000 hits/month)

*I started this blog in March, 2006, and maintained it through 31 March 2009, when it was taken over by four NASA scientists. Deals with environmental topics related to GLOBE's mission of environmental awareness, covering topics related to the atmosphere, soils, plants, climate, hydrology, watersheds, seasons and biomes, carbon, the oceans, and backyard science. Simple datasets are also provided. Each blog entry undergoes a formal review process that involves GLOBE staff, and for scientific topics I'm less familiar with, experts in the field.*

*For special events (surface temperature field campaigns, SCUBAnauts), played host to other bloggers. Among my favorite recent blogs are "Measuring the temperature using crickets," "Looking at the fall colors in a different way," and Carbon Dioxide Part 3: "Walk, drive a car, or ride a bike." The SCUBAnauts blog were bound together as part of a White House briefing.*

#### Table of Chief Scientist's blog posts. Gray = guest blog with my introduction

Dy	Mon	Year	Post
31	Mar	2009	Farewell
10	Mar	2009	A day in the life of a scientist
25	Feb	2009	More about the "Scientific Method."

10	Feb	2009	More about the surface temperature field campaign
5	Feb	2009	More misconceptions about climate change, Part 2.
27	Jan	2009	More misconceptions about climate change, Part 1.
6	Jan	2009	Relating air temperature to surface temperature
30	Dec	2008	Chinook!
23	Dec	2008	Observing birds – Part 2
16	Dec	2008	Dr. C.'s surface temperature blog 12-16-08
15	Dec	2008	Dr. C.'s surface temperature blog 12-15-08
9	Dec	2008	Czajkowski's field campaign 9 Dec 08
4	Dec	2008	Czajkowski's field campaign 4 Dec 08
2	Dec	2008	Observing birds
2	Dec	2008	Czajkowski's 2008 field campaign – introduction
17	Nov	2008	Changes in carbon dioxide in the air
4	Nov	2008	Measuring Rain
22	Ocxt	2008	Comparing Fahrenheit and Celsius Temperatures
8	Ocxt	2008	What causes hurricane damage?
22	Sep	2008	Climate Change Misconceptions, Part II: Partial Misconceptions
16	Sep	2008	Climate change misconceptions
28	Aug	2008	Carbon dioxide, Part 3: A global look
21	Aug	2008	Carbon dioxide, Part 2: Walk, drive a car, or ride a bike?
11	Aug	2008	Release of carbon dioxide by individual humans
28	Jul	2008	500 people DO make a difference!
21	Jul	2008	Post-script to blog on temperature trends in the GLOBE student net work
15	Jul	2008	Are there temperature trends in the GLOBE students records?
2	Jul	2008	Hail and Thunderstorm draft strength
11	Jun	2008	Land use: how important for climate?
2	Jun	2008	Will there be more tropical cyclones in the future?
23	May	2008	“Fropas”
16	May	2008	Wind power
9	May	2008	Watching Clouds
25	Apr	2008	Profiles and the GLOBE Inquiry Model
15	Apr	2008	Part 5: Postscript to Missouri puddles blog
10	Apr	2008	2008 IPY Pole-to-Pole videoconference
7	Apr	2008	Puddles and soil temperature, Part 4
4	Apr	2008	Cool soil in the Summertime
25	Mar	2008	Puddles and soil temperature, Part 3: Why didn't the puddle freeze?
17	Mar	2008	Puddles and soil temperature, Part 2: Why is the water feeding the puddle not frozen?
13	Mar	2008	Puddles and soil temperature, Part I: Liquid puddles on a cold winter day
27	Feb	2008	How the temperature varies during the day and night
8	Feb	2008	Weights and Measures
29	Jan	2008	Watershed, Part 3
14	Jan	2008	Icicles and watersheds, Part 2: How much water flows off the top of two houses?
10	Jan	2008	Surface temperature field campaign: Summary

9 Jan 2008 Icicles and Watersheds, Part I: Why are the icicles so long on our house?

21 Dec 2007 Surface temperature campaign , Day 25

18 Dec 2007 Surface temperature campaign, Day 21

14 Dec 2007 Surface temperature campaign, Day 17

12 Dec 2007 SCUBAnauts, Postscript

12 Dec 2007 SCUBAnauts, Day 12

12 Dec 2007 Surface temperature campaign, Day 15

11 Dec 2007 Surface temperature campaign, Day 10

10 Dec 2007 SCUBAnauts, Day 10

10 Dec 2007 SCUBAnauts, Day 8

7 Dec 2007 SCUBAnauts, Day 7

7 Dec 2007 Surface temperature campaign, Day 9

7 Dec 2007 SCUBAnauts, Day 7

7 Dec 2007 SCUBAnauts, Day 6

4 Dec 2007 Surface temperature campaign, Day 7

3 Dec 2007 Surface temperature campaign, Day 4

2 Dec 2007 Surface temperature campaign – Day 3

30 Nov 2007 Surface temperature campaign, Day 2

28 Nov 2007 Surface temperature campaign, Day 5

28 Nov 2007 Surface temperature campaign, Day 4

27 Nov 2007 SCUBAnauts, ODC, Day 5

20 Nov 2007 SCUBAnauts, OTC, Day 4

20 Nov 2007 SCUBAnauts, SNI, Day 4

20 Nov 2007 SCUBAnauts, Day 4

16 Nov 2007 SCUBAnauts, ODC, Day 3

15 Nov 2007 SCUBAnauts, ODC, Day 2

14 Nov 2007 More about carbon dioxide

8 Nov 2007 SCUBAnauts – ODC

18 Oct 2007 Looking at the fall colors in a different way

5 Oct 2007 Measuring temperatures using crickets

7 Sep 2007 Land use and Carbon Dioxide

29 Aug 2007 The value of zeroes

16 Aug 2007 Climate change, Part 4: Carbon dioxide changes

7 Aug 2007 Climate Change Part 3. The gases in air

16 Jul 2007 What affects Earth's climate?

5 Jul 2007 It is getting warmer

-- Jun 2007 None

29 May 2007 Puddles

11 May 2007 Are there more storms than there used to be?

2 May 2007 Land use and storms

18 Apr 2007 Iowa Dewpoints – take 2

30 Mar 2007 Regional climate change – Iowa dew points and Chicago heat waves

27 Mar 2007 A final word about local climate

9 Mar 2007 Local to Global – the Seasons IPY Pole-to-Pole Video Conference

23 Feb 2007 Local climate, Part 4: Human metabolism. What is that?

16	Feb	2007	More about how people heat up cities
7	Feb	2007	Why cities are warmer than the countryside
2	Feb	2007	Climate: from your back yard to the globe
15	Jan	2007	Snowmelt
8	Jan	2007	Snow day!!
19	Dec	2006	Altostratus clouds
12	Dec	2006	GPS. Conclusions
8	Dec	2006	More about GPS: Test for elevation
5	Dec	2006	More about GPS: Test for Position
29	Nov	2006	Taking GPS readings, Part I
1	Nov	2006	Raindrops Part 3: More about Hail
24	Oct	2006	Falling raindrops, Part 2
28	Sep	2006	Where did the rain come from?
17	Aug	2006	Watching the wind
26	Jul	2006	Fire weather
29	Jun	2006	Global Warming?
8	May	2006	GLOBE@Night. Can you see the stars?
20	Apr	2006	Looking at the seasons from space
3	Apr	2006	What is science? Part IV
20	Mar	2006	How science works
15	Mar	2006	Scientific method: One or many?
9	Mar	2006	What is Science?

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1986	Blizzard
1986	Isobar
1988	Cloud
1988	Wind
1990	Cloudburst
1990	Contrail
1990	Meteorology
1993	Frost
1998	Cloud (revision)
2001	Dew point?

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69. LeMone, M.A. 2006. Boundary Layer structure: how our ideas have changed in the last 40 year. *Doug Lilly Symposium*, AMS 2006 Annual Meeting, Atlanta Georgia, 29 January-2 February. Invited presentation.

#### **PRESENTATIONS ON EDUCATION OR OTHER TOPICS**

1. LeMone, M.A., 2004: Early History of AMS Board on Women and minorities. Special Session on Women in the atmospheric and related sciences. 84th AMS Annual Meeting. Seattle, 11-15 January. (This talk was expanded and given several times since 2004, at NCAR, CU, University of Wisconsin, the AMS local chapter. The original version is on the AMS web site).
2. LeMone, M.A., D. Krumm, J. Fellows, and E. Geary, 2004: GLOBE: Exciting new directions for the worldwide science education program. *13th Symposium on Education*. 84th AMS annual meeting. Seattle, 11-14 January. (abstract on CD)
3. LeMone, M.A., 2004: How do you mix science and educational outreach? ASP Seminar, NCAR, 6 October.

*During the summers of 2004 and 2005, I have given the plenary talk at the GLOBE training workshops, held for those who train GLOBE teachers, and other venues, in my role as GLOBE Chief Scientist*

4. McLaughlin, J., M.A. LeMone, and S. Sikora, 2005: GLOBE ONE: A Model of a GLOBE Project, GLOBE Annual Conference, Prague Czech Republic, August.
5. LeMone, M., 2005. Opportunities for collaboration with GLOBE. Presented at the CUAHSI meeting, Logan, Utah.
6. McLaughlin, J., M.A. LeMone, M. Seavey, and J. Washburne, 2006: Partnering Students, Scientists, and the Local Community in a Regionally-focused Field Campaign. AGU Spring Meeting, Baltimore, MD, 23-26 May.

7. At GLOBE annual Conference in San Antonio, Summer, 2007, made a presentation and led a discussion on the GLOBE Scientist Network.
8. At GLOBE PI Conference in Durham, New Hampshire, gave talk and led discussion on GLOBE Scientist Network.

During the summer of 2008, I gave multiple talks at the GLOBE Learning Expedition in Cape Town, South Africa, including :

9. A talk on the impact of 500 people in the auditorium on the temperature (500 people DO make a difference). – Plenary Session, opening ceremony
10. A talk on what GLOBE student data show about climate change (Plenary Session)
11. A talk on opportunities for GLOBE from UCAR (GLOBE Annual Conference)
12. 12 talks over two days at Cape Point National Park, on the GAWS site there.
13. During a GLOBE conference in August, 2008, I gave a talk on how GLOBE student research would play out in the future.

## GRANTS AND PROPOSALS

- |              |   |
|--------------|---|
| 1986-1990    | Co-Principal Investigator with G.M. Barnes: Hurricane Rainbands III: Mesoscale and Convective Scale Structure. National Hurricane Research Laboratory/ERL/NOAA  |
| 1992-1995    | Co-Principal Investigator with D. Parsons: Structure and Momentum Fluxes and Warm Pool Oceanic Mesoscale Convective Systems. U.S. TOGA Project Office   |
| 1995-1996    | Principal Investigator, Evolution and Impact of Warm-Pool Mesoscale Convective Systems, U.S. TOGA Project Office.   |
| 1996-present | Chief Scientist for Project LEARN (Carol McLaren, PI)   |
| 1997-present | Co-Principal Investigator with Sharon Lewis and David P. Jorgensen, NOAA: Effects of Tropical Mesoscale Convective Systems on the Boundary Layer and the Larger Scale   |
| 1997-2000    | Co-Principal Investigator with Robert Grossman (PAOS/CU): Observing and Modeling Land Surface Effects on Boundary Layer in the Inaugural Field Program of the Cooperative Atmosphere Surface Exchange Study (CASES-971a)                                    |
| 1998-2001    | Co-Principal Investigator with Fei Chen and David Yates, UCAR: The use of CASES Observations to Assess and Parameterize the Impact of Land-Surface Heterogeneity on Area-Integrated Surface Heat Fluxes for Large-Scale Coupled Atmosphere-Hydrology Models |

- 2000-2002 Co-Principal Investigator with Robert Grossman (PAOS/CU): Observing and Modeling Land Surface Effects on Boundary Layer in the Inaugural Field Program of the Cooperative Atmosphere Surface Exchange Study (CASES-971a)
- 2002 Co-Principal Investigator with Robert Grossman (CoRA): Supplement to Observing and Modelling Land Surface Effects on Boundary Layer ...(for participation in IHOP)
- 2003-2008 Inspiring the next generation of explorers: the GLOBE Program (Jack Fellows, PI). NASA. Chief Scientist, Participation 3 mo./year (2003-30 Nov 2004); 6 mo./year (1 Dec. 2004-31 Dec. 2005), 3 mo. January 2006 --
- 2003-2006 Quantifying the relationship between vegetation cover, soil moisture, and surface temperature: constraints from satellite data, ground observations, and land surface and climate models. (PI, Eric Small, CU). Participation: 1 mo/year.
- 2006 –2009 Atmospheric Responses to Land Surface Forcing and Their Impact on Precipitation Processes in the Southern Great Plains, Fei Chen, PI. NASA. Participation: 2 months/year.

**Seminars at universities (invited):**

Arizona State  
 University of British Columbia  
 UCLA  
 Calgary University  
 University of Chicago  
 University of Colorado  
 Colorado State University  
 Northern Colorado University  
 Florida State University  
 Iowa State University  
 University of Maryland  
 Massachusetts Institute of Technology  
 New Mexico Tech  
 University of Oklahoma  
 University of Missouri (undergraduate research project)  
 Pennsylvania State University  
 Purdue University  
 Rensselaer Institute of Technology  
 Texas A&M  
 University of Toronto  
 University of Utah  
 University of Virginia  
 University of Washington  
 University of Wisconsin  
 University of Wyoming

Universities outside of U.S. and Canada  
University of Hamburg  
National Taiwan University

DOE Labs  
Brookhaven National Laboratory  
Pacific Northwest National Laboratory  
Argonne National Laboratory

National Severe Storms Lab