

CURRICULUM VITAE**WILLIAM P. MAHONEY III****Director****Research Applications Laboratory**

National Center for Atmospheric Research

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Experienced scientific and technology professional with more than 30 years of increasingly complex responsibilities in scientific leadership, program management, strategic planning, administration, budget planning, product development, research-to-operations management, program development and advocacy, and promoting transdisciplinary science. Proven record of effectively translating complex scientific, technical, and business needs into technology solutions. Demonstrated skill in marketing scientific concepts and ideas at national and international levels in the public, private, and academic sectors. Proven leadership in exploring new opportunities, focusing on big vision issues and emerging trends within the weather, water, and climate enterprise. Specific areas of accomplishment and leadership include:

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| * Scientific research | * Communications | * Technology commercialization |
| * Transdisciplinary science | * Strategic partnerships | * Government relations |
| * Team leadership | * Program development | * Community service |
| * Crisis management | * System design | * Strategic planning |
| * Administration and budgeting | * Cross-discipline research | * Advocacy |

I. Educational Information

1983: M.S.	University of Wyoming, Laramie, Wyoming. Atmospheric Science
1981: B.S.	Miami University, Oxford, Ohio. Aeronautics

II. Work History

2018-present	NCAR Associate Director, Director of Research Applications Laboratory, National Center for Atmospheric Research, Boulder, CO
2017-2018	Interim NCAR Associate Director, Research Applications Laboratory, National Center for Atmospheric Research, Boulder, CO
2011-2017	Deputy Director, Research Applications Laboratory, National Center for Atmospheric Research, Boulder, CO
2004-2011	Director, Weather Systems and Assessment Program, Research Applications Laboratory, National Center for Atmospheric Research, Boulder, CO
1991-2004	Program Manager, Research Applications Laboratory/Program (RAL/RAP), National Center for Atmospheric Research, Boulder, CO
1986-1991	Associate Scientist, Research Applications Program, National Center for Atmospheric Research, Boulder, CO

1985-1986	Meteorologist/Project Manager, North American Weather Consultants, Salt Lake City, UT
1984-1985	Meteorologist/Project Manager, Atmospheric Incorporated, Fresno, CA
1983-1984	Research Associate, University of Wyoming, Laramie, WY
1981-1983	Graduate Research Assistant, University of Wyoming, Laramie, WY

III. Community Service

A. *External Advisory Activities, Working Groups, Committees, Boards, Commissions*

- 2016-2018 Commissioner, AMS Commission on the Weather, Water, and Climate Enterprise
- 2017-present Merit Review Panel, Department of Energy, Wind and Hydropower Program
- 2014-present Merit Review Panel, Department of Energy, Atmosphere-to-Electrons Program
- 2013-2014 Member, International Planning Committee for the World Meteorological Organization, World Weather Research Programme, Open Science Conference
- 2011-2015 Program Organizing Committee, International Conference on Energy and Meteorology
- 2013-2014 Advisory Board, International Conference on Future Technologies for Wind Energy
- 2009-2011 Chair, AMS Committee on Mobile Observations
- 2005-2008 Chair, AMS Board on Enterprise Economic Development (BEED)
- 2005-2008 Member, AMS Surface Transportation and ITS Committee
- 2002-2005 Member, AMS Economic Development Committee

B. *Internal Advisory Activities, Working Groups, Committees*

- 2017-present Member, NCAR Executive Committee
- 2017 Member, UCAR Chief Operating Officer Hiring Committee
- 2017 Member, UCAR Legal Hiring Committee
- 2016-2017 UCP Business Development Committee
- 2014-present Member, UCAR Information Technology Council
- 2014-2015 Member, UCAR Compensation Advisory Board
- 2012-2013 Member, NCAR Strategic Planning Council
- 2012-2013 Chair, UCAR Working Group #4 on Administrative Efficiency and Agility
- 2004-present Member, UCAR Management Committee/Forum
- 2004-2015 Member, NCAR Director's Committee
- 1991-present Member, RAL Executive Committee

C. Selected Invited Talks (2000-2017)

- “Drive Safe, Whatever the Weather”. Advanced Driver Assistance & Autonomous Vehicles, U.S.A. 3 October 2017, Detroit, MI.
- “Decision Support for Wildfire Prediction”. UCAR Congressional Science Briefing, 12 April 2017, Washington, D.C.
- “The Battle Between WiFi and Earth-Observing Satellites”. Café Scientifique, 7 September 2016, Denver, CO.
- “Advancements in Wildfire Behavior Prediction”. Congressional staff briefing. 31 August 2016, Boulder, CO.
- “Innovations in Weather Prediction”. UNAVCO Science Series, 23 June, 2016, Boulder, CO.
- “Environmental Threats to Electrical Utilities”. National Conference of State Legislators, 25 May 2016, Denver, CO.
- “Emerging Weather Prediction Technologies”. NewTech, 18 May 2016, Longmont, CO.
- “Modeling Wildfire Behavior”. Oregon Department of Forestry. 27 April 2016. Sisters, OR.
- “Advancements in Wildfire & Hydromet Prediction”. Testimony, Colorado State Senate, 23 April 2015, Denver, CO.
- “Advancements in Wildfire Prediction”. Rocky Mountain Insurance Association, 25 February 2015, Denver, CO.
- “Advancements in Wildfire & Hydromet Prediction”. Testimony, Colorado State House, 9 February 2015, Denver, CO.
- “Emerging Technologies to Address Monstrous Disasters”. World’s Greatest Problem Solvers Conference, 9-11 November 2014, Boulder, CO.
- “Research Agenda to Support Electrical Utilities”. National Academy of Sciences, 29 October 2014, Washington, D.C.
- “Wildland Fire Prediction Decision Support”. Colorado Wildland Fire Matters Committee, 24 August 2014, Denver, CO.
- “Emerging Technologies in Wildland Fire Prediction”. Western Governors’ Association Annual Meeting, 9 June 2014, Colorado Springs, CO.
- “Renewable Energy Research and Development Challenges.” Denver Chamber of Commerce, Colorado Energy Coalition, 4 December 2013, Denver, Colorado.
- “Wind and Solar Energy Prediction Challenges and Opportunities.” International Computing for the Atmospheric Sciences Symposium (CAS2K13), 8-12 September, 2013, Annecy, France.
- “Renewable Energy Prediction Challenges and Opportunities.” 2nd International Conference on Energy & Meteorology, 25-28 June 2013, Toulouse, France.

- “Coupled Fire-Weather Modeling.” Western Governors’ Association Meeting, 1-2 December 2012, Scottsdale, AZ.
- “Big Earth – Big Data.” Keynote address at the Conference on Intelligent Data Understanding. NCAR, Boulder, Colorado, 24 October 2012.
- “Surface Transportation Weather Research at NCAR.” University of Wyoming, Distinguished Lecture Series, 19 April 2012.
- “Atmospheric Science Research Required to Achieve the Nation’s Wind Energy Goals.” NSF Congressional Science Briefing, Capitol Visitor Center - Senate, Washington, D.C., 29 February 2012.
- “Understanding the Complexity of the Atmospheric Boundary Layer.” DOE Energy Efficiency and Renewable Energy (EERE) Complex Flow Workshop, 17-18 January, 2012.
- “Wind Energy Research and Development.” U.S. State Department Foreign Delegation, Boulder, Colorado, 11 July 2011.
- “NCAR’s Renewable Energy Research and Development.” Industrial Technology Research Institute (ITRI), Hinchu, Taiwan, 20 July 2011.
- “Realizing the Potential of Mobile Observations.” AMS Summer Community Meeting, Boulder, Colorado, 9 August 2011.
- “Aviation Weather Research and Development.” China Air Traffic Management Bureau, Beijing, China, 7 December 2011.
- “NCAR’s Renewable Energy Research Program.” AGU Annual Meeting, San Francisco, California, 14 December 2011.
- “Wind Shear Hazards to Aviation Operations.” Air Traffic Management Bureau, Civil Aviation Administration of China, December 2010.
- “Overview of NCAR’s Wind Energy Forecasting Research and Development.” Utility Wind Integration Group (UWIG) Annual Meeting, Portland, Oregon, 15 April 2010.
- “Wind Characteristics and Forecasting Challenges.” Measuring Up Conference, Boulder, CO, April 2010.
- “Wind Characteristics and Forecasting Challenges.” Wind Energy Update™ Conference, Dallas, Texas, 20-21 April 2010.
- “Turbulence, Wind Shear, Toxin Attacks, and Other Things that Go Bump in the Night: Applied Research for Real-Life Problems.” Boulder Public Library, UCAR 50th Anniversary Seminar Series, July 2010.
- “Decision Making Tools and Production – Reading the Signs – Lessons Learned.” American Meteorological Society Summer Community Meeting, State College, Pennsylvania, August 2010.
- “Wind Forecasting and Data Analysis for Better Efficiency.” Keynote. Optimizing Wind Power Conference, Houston, Texas, 28-29 September 2010.

- “Wind Energy Forecasting Challenges and Opportunities.” MDA EarthSat Fall Energy Conference, Houston, Texas, 15 November 2010.
- “Exploring the Use of Wind Forecasting Models for Scheduling and Operation of Wind Power Systems – The Science Behind Wind Forecasts.” Keynote. GreenPower™ Conference, Houston, Texas, 2-3 September 2009.
- “IntelliDrive Road Weather Research and Development.” Intelligent Transportation Society of America, Washington, D.C., 1-4 June 2009.
- “Surface Transportation Weather Technologies: Current Capabilities and Future Trends.” The Lakeside Conference on Safety in Mobility. Klagenfurt, Austria, 10 July 2008.
- “Wind Energy Prediction Challenges.” International Energy Agency, Wind Energy Forecasting Workshop, Madrid, Spain, 11-12 September 2008.
- “Driving Strategies for Engaging End Users to Ensure Project Success.” Keynote. International Quality and Productivity Centre, Complex Project Management Workshop, Sydney, Australia, September 2007.
- “Surface Transportation Weather Activities and Opportunities.” Intelligent Transportation System World Congress, Beijing, China, October 2008.
- “Future Capabilities in Road Weather Detection and Prediction.” Intelligent Transportation Society of Florida Annual Meeting. December 2005.
- “Weather Information Decision Support.” Indiana Local Technical Assistance Program, U.S. Department of Transportation, Indianapolis, IN, September 2004.
- “Coupled Model Systems: Advanced Weather Technologies for Emergency Evacuation.” Transportation Research Board, Special Session, January 2003.
- “The Winter Road Maintenance Decision Support System: Project Overview and Current Status.” Canadian Meteorological and Oceanographic Society Annual Meeting, Special Session on Decision Support, Ottawa, Canada, June 2003.
- “The Winter Road Maintenance Decision Support System.” Arizona Winter Maintenance Conference. Pinetop, Arizona, October 2002.
- “Winter Road Maintenance Decision Support System Prototype Development.” Eastern Road Symposium, Wooster, Massachusetts, September 2001.

D. Selected Conference/Workshop/Symposium Chair/Session Convener/Panelist (2000-2017)

2017	AMS Summer Community Meeting, Madison, WI
2016	NewTech Organization, Longmont, CO
2016	National Conference of State Legislatures, Denver, CO
2014	World’s Greatest Problem Solvers Conference, Boulder, CO
2014	National Academy of Sciences, Meteorology & Utilities, Washington, D.C.
2013	AMS Washington Forum, Washington, D.C.

2011	AMS Energy Town Hall, Seattle, WA
2011	AMS Summer Community Meeting, Boulder, CO
2008	AMS Public, Private Partnership Forum, Washington, D.C.
2008	AMS Users Forum, New Orleans, LA
2007	AMS Corporate Forum, Washington, D.C.
2007	Intelligent Transportation Society of America, Palm Springs, CA
2006	AMS Corporate Forum, Washington, D.C.
2006	AMS Users Forum, Atlanta, GA
2006	Transportation Research Board, Washington, D.C.
2005	AMS Corporate Forum, Washington, D.C.
2004	AMS Users Forum, Seattle, WA
2004	Transportation Research Board, Snow & Ice Control Technology, Spokane, WA
2003	AMS Policy Forum, Weather and Highways, Washington, D.C.
2003	AMS Users Forum, Long Beach, CA
2000	Weather Information for Surface Transportation, Washington, D.C.

IV. Honors and Awards

2014	Governor's Award for High-Impact Research in Sustainability, NCAR Wind and Solar Power Forecasting System
2011	Outstanding Scientific and Technology Advancement Award, Wind Energy Prediction System – UCAR
2010	Fellow, American Meteorological Society
2009	Kenneth C. Spengler Award – American Meteorological Society. Citation: <i>For exemplary leadership in fostering economic growth of the weather and climate enterprise</i>
2002	Outstanding Scientific and Technology Advancement Award, Taiwan Civil Aeronautics Administration, Advanced Operational Aviation Weather System – UCAR
1996	Outstanding Achievement in Aviation Safety, Hong Kong Wind Shear and Turbulence Warning System – Air Traffic Control Magazine

V. Selected Awarded Projects (non-NSF)

Project/Proposal Title: Colorado Fire Prediction System
Source of Support: State of Colorado
Total NCAR Award Amount: \$3M
Total Award Period Covered: 2015-2020

Project/Proposal Title: Advanced Operational Aviation Weather System
Source of Support: Taiwan Civil Aeronautics Administration
Total NCAR Award Amount: \$16M
Total Award Period Covered: 1997-2014

Project/Proposal Title: Study of Rainfall, Storms and Wind Shear Phenomena
Source of Support: L'Agence pour la Sécurité de la Navigation Aérienne en Afrique
Total NCAR Award Amount: \$196,000
Total Award Period Covered: 2013-2014

Project/Proposal Title: Doppler Weather Radar Wind Shear Detection Capability
Source of Support: Advanced Radar Corporation
Total NCAR Award Amount: \$250,000
Total Award Period Covered: 2013-2014

Project/Proposal Title: Wind Energy Prediction System
Source of Support: Xcel Energy
Total NCAR Award Amount: \$4.3M
Total Award Period Covered: 2008-2012

Project/Proposal Title: Road Weather Research and Development
Source of Support: US Department of Transportation
Total NCAR Award Amount: \$6.7M
Total Award Period Covered: 2008-2014

Project/Proposal Title: Evaluation of Wind Shear Detection Options for Sydney Airport
Source of Support: Bureau of Meteorology
Total NCAR Award Amount: \$170,000
Total Award Period Covered: 2008-2009

Project/Proposal Title: Advancing Weather Analysis and Forecasting Technologies
Source of Support: Telvent/DTN/Meteorlogix
Total NCAR Award Amount: \$624,000
Total Award Period Covered: 2008-2011

Project/Proposal Title: Implementation of a Low-Level Wind Shear Alert System
Source of Support: Brunei Civil Aviation Department
Total NCAR Award Amount: \$190,000
Total Award Period Covered: 2011-2013

Project/Proposal Title: Refinement of the Maintenance Decision Support System
Source of Support: City and County of Denver
Total NCAR Award Amount: \$488,000
Total Award Period Covered: 2000-2007

Project/Proposal Title: Refinement of the Maintenance Decision Support System
Source of Support: E-470 Public Road Authority
Total NCAR Award Amount: \$402,000

Total Award Period Covered: 2004-2009

Project/Proposal Title: Road Weather Condition Prediction & Technology Transfer

Source of Support: Mixon-Hill

Total NCAR Award Amount: \$800,000

Total Award Period Covered: 2004-2006

Project/Proposal Title: Development of the Maintenance Decision Support System

Source of Support: USDOT

Total NCAR Award Amount: \$2.7M

Total Award Period Covered: 2000-2007

Project/Proposal Title: Collaborative Program on the Societal/Economic Benefits of Weather Information

Source of Support: NCAR NSF Base and NOAA (OAR and NWS)

Total NCAR Award Amount: \$1.7M (NOAA contribution)

Total Award Period Covered: 2004-2012

Project/Proposal Title: Operational Wind Shear Warning System

Source of Support: Hong Kong Royal Observatory

Total NCAR Award Amount: \$14M (\$7.5M in the Provisional Phase)

Total Award Period Covered: 1993-1997

VI. Publication List

A. *Peer Reviewed Publications*

1. A.R. Siems-Anderson, C.L. Walker, G. Wiener, W.P. **Mahoney**, S.E. Haupt, 2019: An adaptive big data weather system for surface transportation, *Transportation Research Interdisciplinary Perspectives*, <http://dx.doi.org/10.1016/j.trip.2019.100071>
2. Cheng, W.W., Y. Liu, Y. Liu, Y. Zhang, W.P. **Mahoney**, and T.T. Warner, 2013: The impact of model physics on numerical wind forecasts. *Renewable Energy*, 55, 347-356, DOI: 10.1016/j.renene.2012.12.041
3. **Mahoney**, W.P., and J.M. O'Sullivan, 2013: Realizing the potential of vehicle-based observations. *Bull. Amer. Meteor. Soc.*, 94, 1007-1018, DOI: 10.1175/BAMS-D-12-00044.1.
4. **Mahoney**, W.P., K. Parks, G. Wiener, Y. Liu, B. Myers, J. Sun, L. Delle Monache, D. Johnson, and S.E. Haupt, 2012: A Wind Power Forecasting System to Optimize Grid Integration, Special Issue on Applications of Wind Energy to Power Systems, *IEEE Transactions on Sustainable Energy*, 3 (4), 670-682.
5. Haupt, S.E., G. Wiener, Y. Liu, B. Myers, J. Sun, D. Johnson, and W.P. **Mahoney**, 2011: A Wind Power Forecasting System to Optimize Power Integration, *ASME 5th International Conference on Energy Sustainability*, Washington, DC, Aug. 7-10. (fully reviewed paper)
6. Liu, Y., T. Warner, Y. Liu, C. Vincent, W. Wu, B. **Mahoney**, S. Swerdlin, K. Parks, J. Boehnert, 2011. Simultaneous nested modeling from the synoptic scale to LES scale for wind energy applications. *Journal of Wind Engineering and Industrial Aerodynamics*, 99, pp. 308-319.

7. Chapman, M.C., S. Drobot, T. Jensen, C. Johansen, W.P. **Mahoney** III, P.A. Pisano, and B. McKeever, 2010: Using vehicle probe data to diagnose road weather conditions – results from the Detroit IntelliDrive (SM) field study. *Transportation Research Record*, No. 2169, Maintenance Services and Surface Weather, pp. 116-127.
8. Drobot, S.D., M. Chapman, E. Schuler, G. Wiener, W.P. **Mahoney** III, P.A. Pisano, and B. McKeever, 2010: Improving road weather hazard products with vehicle probe data – the Vehicle Data Translator quality-checking procedures. *Transportation Research Record*, No. 2169, Maintenance Services and Surface Weather, pp. 128-140.
9. **Mahoney**, W.P., B. S. Drobot, P. Pisano, B. McKeever, and J. O’Sullivan, 2010: Vehicles as Mobile Weather Observation Systems. *Bull. Amer. Meteor. Soc.*, 91, 1179-1182.
10. Petty, K.R., and W.P. **Mahoney**, 2008: Enhancing weather information through vehicle infrastructure integration. *Transportation Research Record*, No. 2015. Transportation Research Board of the National Academies, January 2007, Washington, D.C., pp. 132-140.
11. **Mahoney**, W.P., B. Bernstein, J. Wolff, S. Linden, W.L. Myers, R.G. Hallowell, J. Cowie, A.D. Stern, G. Koenig, G. Phetteplace, P. Schultz, P.A. Pisano, and D. Burkheimer. The Federal Highway Administration’s Maintenance Decision Support System Project: Summary Results and Recommendations. *Transportation Research Record*, No. 1911, TRB, National Research Council, Washington, D.C., 2005, pp. 133-142.
12. **Mahoney**, W.P., and W. L. Myers, 2003: Predicting Weather and Road Conditions: An Integrated Decision Support Tool for Winter Road Maintenance Operations. *Transportation Research Record*, No 1824, Journal of the Transportation Research Board, 2003, pages 98-105.
13. **Mahoney**, W.P. and B. Donaldson, 1997: Automatic Wind Shear Warning System Designed to Enhance Flight Safety and Operational Efficiency. *ICAO Journal*, January/February 1997.
14. **Mahoney**, W.P. and B. Donaldson, 1996: The Operational Wind Shear Warning System for Hong Kong’s New Airport, *Journal of Air Traffic Control*, Oct-Dec 1996.
15. **Mahoney**, W.P. III and K. L. Elmore, 1991: The evolution and fine-scale structure of a microburst-producing cell. *Monthly Weather Review*, January, 119, 176-192.
16. **Mahoney**, W.P., 1988: Gust front characteristics and the kinematics associated with interacting thunderstorm outflows. *Monthly Weather Review*, 116, 1474-1491.
17. **Mahoney**, W.P., III, and A. Rodi 1987: Aircraft measurements on microburst development from hydrometeor evaporation. *Journal of Atmospheric Science*, 44, 3037-3051.

B. Published Book Chapters

18. Haupt, S.E., W.P. **Mahoney**, K. Parks: 2014. *Weather Matters for Energy*. Springer Science+Business Media, New York, pp. 295-318, DOI 10.1007/978-1-4614-9221-4.

C. Non-Peer Reviewed Publications & Selected Reports

19. Haupt, S.E., and W.P. **Mahoney**, 2015: Taming Wind Power with Better Forecasts. *IEEE Spectrum*, 22 October 2015. <http://spectrum.ieee.org/green-tech/wind/taming-wind-power-with-better-forecasts>.

20. Aguilar, T.A., Y. Liu, and B. **Mahoney**, 2011: An Investigation into the Spatiotemporal Scale of Two Wind Ramp Events in Northeastern Colorado. *2nd Conference on Weather, Climate, and the New Energy Economy*. 23-27 January 2011, Seattle, WA, AMS, Boston, MA.
21. Cheng, W., Y. Liu, B. **Mahoney**, M. Politovich, T. T. Warner, K. Parks, and J. Himelic, 2011: Improving the 0-3 hour wind forecast through wind farm data assimilation in the NCAR/ATEC WRF RTFDDA. *2nd Conference on Weather, Climate, and the New Energy Economy*. 23-27 January 2011, Seattle, WA, AMS, Boston, MA.
22. Delle-Monache, L., A. Fournier, T. M. Hopson, Y. Liu, B. **Mahoney**, G. Roux, and T. Warner, 2011: Kalman filter, analog and wavelet post processing in the NCAR-Xcel operational wind-energy forecasting system. *2nd Conference on Weather, Climate, and the New Energy Economy*. 23-27 January 2011, Seattle, WA, AMS, Boston, MA.
23. Johnson, D. B., B. **Mahoney**, Y. Liu, G. Wiener, W. Myers, and K. Parks, 2011: An overview of NCAR's advanced wind forecasting system for integrating wind resources into the new energy economy. *2nd Conference on Weather, Climate, and the New Energy Economy*. 23-27 January 2011, Seattle, WA, AMS, Boston, MA.
24. Liu, Y., W. Cheng, G. Roux, Y. Liu, L. Delle-Monache, M. Pocerlich, B. Kosovic, T. M. Hopson, A. Bourgeois, G. Wiener, T. Warner, B. **Mahoney**, and D. B. Johnson, 2011: Wind energy forecasting with the NCAR RTFDDA and ensemble RTFDDA systems. *2nd Conference on Weather, Climate, and the New Energy Economy*. 23-27 January 2011, Seattle, WA, AMS, Boston, MA.
25. Liu, Y., W. Cheng, G. Wiener, B. Lambi, and B. **Mahoney**, 2011: Statistical Analysis of intra-farm microscale wind characteristics at selected Xcel wind farms. *2nd Conference on Weather, Climate, and the New Energy Economy*. 23-27 January 2011, Seattle, WA, AMS, Boston, MA.
26. **Mahoney**, W.P, and J. O'Sullivan, 2011: *Realizing the Potential of Vehicle Based Observations*. Report of the AMS Annual Partnership Committee on Mobile Observations, Board on Enterprise Planning, Commission on the Weather and Climate Enterprise.
http://www.rap.ucar.edu/wsap/themes/surf_trans.php
27. Sun, Juanzhen, Y. Zhang, Z. Ying, G. Wiener, N. Oien, and W.P. **Mahoney**, 2011: A rapid-updated wind analysis system based on mesoscale model, radar, and surface data for ramp-event wind energy forecasting. *2nd Conference on Weather, Climate, and the New Energy Economy*. 23-27 January 2011, Seattle, WA, AMS, Boston, MA.
28. Drobot, S.D., **Mahoney**, W.P., Pisano, P.A., and McKeever, B.B., 2009: Tomorrow's forecast: informed drivers. *ITS International*, 15, NA1-NA2.
29. **Mahoney**, W.P., S. Drobot, E. Shuler, G. Wiener, M. Chapman, P. Pisano, B. McKeever, A. Stern: IntelliDrive Road Weather Research & Development – The Weather Data Translator. *Intelligent Transportation Society of America*, June 1-4 2009, Washington, D.C.
30. Stern, A.D., P. Pisano, K. Petty, and W.P. **Mahoney**, 2008: A Next Generation of Observations Based on Passenger Vehicles. *Preprints, 24th Conference on Interactive Information and Processing Systems*, 21-24 January 2008, New Orleans, LA., AMS, Boston, MA.
31. Petty, K., W.P. **Mahoney**, 2008: The U.S. Federal Highway Administration winter road Maintenance Decision Support System (MDSS): Recent enhancements and refinements. *Standing International Road Weather Commission (SIRWEC)*, 14-16 May, 2008, Prague, Czech Republic.

32. **Mahoney**, W.P., W. Myers, P. Pisano, R. Hallowell, and A. Stern, 2006: The U.S. Federal Highway Administration Winter Road Maintenance Decision Support System (MDSS) Project: Overview and Results. *Preprints, 12th International Winter Road Congress*, 27-30 March 2006, Torino, Italy.
33. Wolff, J.K., S. Linden, and W.P. **Mahoney**, 2006: Ensemble Forecast Spread and its Implication for Road Weather Forecasting. *Preprints, 21th Conference on Interactive Information and Processing Systems*, 30 January – 3 February 2006, Atlanta, GA. AMS, Boston, MA.
34. **Mahoney**, W.P., and R.A. Wagoner, 2005: Surface Transportation Weather Forecasting and Observations: Assessment of Current Capabilities and Future Trends. *Preprints, 12th World Congress on Intelligent Transportation Systems*, 6 - 10 November, 2005, San Francisco, CA.
35. **Mahoney**, W.P., and R.A. Wagoner, 2005: Surface Transportation Weather Forecasting and Observations: Assessment of Current Capabilities and Future Trends. *Mid-Continent Transportation Research Symposium*, Iowa State University, 18-19 August 2005, Ames, Iowa.
36. **Mahoney**, W.P., 2005: Federal Highway Administration's Maintenance Decision Support System Project: Summary Results and Recommendations. *Transportation Research Board, 84th Annual Meeting*, 9-13 January 2005, Washington, D.C.
37. Pisano, P.A., A.D. Stern, and W.P. **Mahoney**: The U.S. Federal Highway Administration Winter Road Maintenance Decision Support System (MDSS) Project. Standing International Road Weather Commission, *12th International Road Weather Conference*, Bingen, Germany, June 2004.
38. Pisano, P.A., A.D. Stern, and W.P. **Mahoney**: Winter Road Maintenance Decision Support System (MDSS): Demonstration Results and Future Plans. *Preprints, 20th Conference on Interactive Information and Processing Systems*, 12-16 January 2004, Seattle, WA. AMS, Boston, MA.
39. Pisano, P.A., A.D. Stern, W.P. **Mahoney**, W.L. Myers, and D. Burkheimer: Winter Road Maintenance Decision Support System Project (MDSS): Overview and Status. *Transportation Research Board, 6th International Symposium of Snow and Ice Control*. June 2004, Spokane, WA.
40. Pisano, P., W.P. **Mahoney**, A. Stern, 2004: Where technology meets winter maintenance. *Government Engineering*, May/June 2004. www.govengr.com/ArticlesMay04/winter.pdf
41. **Mahoney**, W.P. and L. Smithson, 2003: Improving the Safety, Efficiency, and Capacity of the Highway System by Improving the Use of Weather Information. Forum White Paper. *AMS Policy Forum: Weather and Highways*, 4-5 November 2003, Washington, D.C., AMS, Boston, MA.
42. **Mahoney**, W.P., 2003: Decision Support Systems for Winter Road Maintenance: Opportunities for Radar Data. *Preprints, 31st Conference on Radar Meteorology*, 6-12 August 2003, Seattle, WA. Amer. Meteor. Soc, Boston, MA.
43. **Mahoney**, W.P., and W. L. Myers, 2003: An Advanced Weather and Road Condition Decision Support System. *Preprints, 9th World Congress on Intelligent Transportation Systems*, 14-18 October 2003, Chicago, IL.
44. **Mahoney**, W.P., and W. L. Myers, 2003: The Winter Road Maintenance Decision Support System (MDSS): Project Update and Future Plans. *Preprints, 19th International Conference on Interactive Information and Processing Systems*, 9-13 February 2003, Long Beach, CA. AMS, Boston, MA.
45. **Mahoney**, W.P., 2003: The Prototype Winter Road Decision Support System (MDSS): Project Status and Preliminary Results. *Preprints, Intelligent Transportation Society of America (ITSA) Annual Meeting*, 18-23 May 2003, Minneapolis, MN.
46. Bernstein, Ben, J. Wolff, M. Petty, W. Myers and W. **Mahoney**, 2002: Challenges Associated with Making Quality, Automated Highway-Scale Winter Weather Predictions. *18th International*

Conference on Interactive Information and Processing Systems, 12-17 January 2002 Orlando, FL.
AMS, Boston, MA.

47. **Mahoney**, W.P., 2001: An Advanced Weather Information Decision Support System for Winter Road Maintenance. *Preprints, 8th World Congress on Intelligent Transport Systems*, 30 September – 4 October 2001, Sydney, Australia.
48. **Mahoney**, W.P., 2001: An Advanced Winter Road Maintenance Decision Support System. *Preprints, Intelligent Transportation Society of America (ITSA) 2001 Annual Meeting*, 4 – 7 June 2001, Miami Beach, FL.
49. **Mahoney**, W.P., E. Brandes, and R. Barron, 1994: Weather Detection for Airport Terminals: Advanced Radar Design Considerations. *European Commission, COST 75, Weather Radar Systems, International Seminar*, Brussels, Belgium, 20-23 September 1994, 626-637.
50. **Mahoney**, W.P. III and C. Biter, 1993: Wind shear detection: terminal Doppler weather radar and the low-level wind shear alert system operational experiences in Denver 1987-1992, *Preprints, 5th Intl. Conf. On Aviation Weather Systems*, 1-5 August, Vienna, VA. AMS, Boston, MA.
51. **Mahoney**, W.P. III, J. Caron, F. Hage, S. Delp, D. Roach, G. Blackburn, and C. Biter, 1993: The prototype aviation weather products generator: a vehicle to assess user needs. *Preprints, 5th Intl. Conf. On Aviation Weather Systems*, 1-6 August, Vienna, VA. AMS, Boston, MA.
52. Cornman, L.B., and W.P. **Mahoney** III, 1991: Integration of the TDWR and LLWAS windshear detection systems, *Preprints, 4th Intl. Conf. On Aviation Weather Systems*, 24-28 June, 1991, Paris, France. AMS, Boston, MA, J27-J32.
53. **Mahoney**, W.P. III, 1991: The Aviation Weather Development Laboratory (AWDL): *Preprints, 4th Intl. Conf. On Aviation Weather Systems*, 24-28 June, Paris, France. AMS, Boston, MA, 112-117.
54. Brislawn, K., W. Wilson, W. P. **Mahoney**, G. Wiener and K. Goodrich, 1989: Microburst detection and display by TDWR: Shape, extent and alarms. *Preprints, 3rd International Conference on the Aviation Weather System*, Anaheim, CA, 28 January - 3 February. AMS, Boston, MA.
55. Klinge-Wilson, D., S. H. Olson, W. Wilson, W. P. **Mahoney**, S. D. Smith, A. Witt and M.D. Eilts, 1989: Gust front detection algorithm for the terminal Doppler weather radar: Part 2, performance assessment. *Preprints, 3rd International Conference on the Aviation Weather System*, Anaheim, CA, 28 January - 3 February. AMS, Boston, MA.
56. **Mahoney**, W.P. III and K. L. Elmore, 1989: The source region and evolution of a microburst downdraft. *Preprint, 24th Conference on Radar Meteorology*, Tallahassee, FL, 27-31 March. AMS, Boston, MA.
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VII. Professional Memberships

American Meteorological Society (AMS)
American Geophysical Union (AGU)
Intelligent Transportation Society of America (ITSA)
American Wind Energy Association (AWEA)
Utility Variable-Generation Integration Group (UVIG)

VIII. Career Narrative

General Career Progression

William (Bill) Mahoney's career spans more than 30 years of scientific research, development, national leadership, and progressively increased responsibilities in scientific and technical program management. Bill's research career began with his M.S. degree related university research; it then expanded to conducting national and international weather modification studies for two private sector companies; and later progressed when Bill was recruited to the National Center for Atmospheric Research (NCAR) to conduct research, develop, manage, and lead a wide range of applied research activities. During his career at what is now NCAR's Research Applications Laboratory (RAL), Bill has gained extensive experience in research, technology development, project management, administration, budget planning, research-to-operations management, business development, government affairs and policy, commercialization, and strategic planning. Bill has also been heavily involved in leadership activities of the American Meteorological Society (AMS) with duties including chairing several committees to being appointed Commissioner of the Commission on the Weather, Water, and Climate Enterprise. Bill has demonstrated leadership in exploring new research opportunities, focusing on big vision issues and emerging trends within the weather enterprise. He has initiated and significantly contributed to the development of several RAL programs including international aviation, surface transportation, renewable energy, advanced statistical forecasting technologies, and coupled atmosphere-wildland fire behavior prediction. The knowledge and diverse experiences gained along his career path have provided the depth, breadth, and perspective required to lead and manage a complex set of atmospheric science programs and to develop new innovative projects and initiatives that draw from various disciplines.

Bill's unofficial career began like many enthusiastic meteorologists when he took a strong interest in weather at the age of twelve. He received a Heathkit electronic weather station and soon thereafter began to take daily observations of temperature, relative humidity, wind speed and direction, and atmospheric pressure. Prior to college, Bill sought opportunities to learn more about weather, but internships and student positions were unavailable near his hometown. Bill lived less than 5 miles away from the Cleveland, Ohio National Weather Service (NWS) Office, so he made regular trips to the office to talk to the forecasters about their careers and the upcoming weather situation. One highlight of these visits was that the chief forecaster would give Bill the used rolls of yellow teletype paper from the Weather Wire. He taught himself how to decode surface observations, upper air, warnings, advisories, and the forecast discussion hoping to get ahead of his eventual college meteorology courses.

Bill attended Miami University (Oxford, Ohio) and received a B.S. degree in Aeronautics in 1981. This major was chosen because of his interest in aviation, but more importantly, it was the closest degree program to meteorology at Miami. Bill's interest in managing people began to blossom when he became trained as a Resident Assistant and performed this duty for two years. At this stage of his life, Bill was

considering a career in either aeronautical engineering or meteorology, but his long-term interest in weather won out and he went on to graduate school.

Bill sought a graduate school that would satisfy his strong interest in aviation and meteorology, so he chose the University of Wyoming because of its strong atmospheric science department and its associated research aviation program. Bill received a graduate research assistantship and began to study cloud microphysics and anthropogenic cloud seeding under the guidance of Drs. Gabor Vali, John Marwitz, and Al (Bill) Cooper. During the winter of 1982, a new research opportunity arose, which changed Bill's career path. The Federal Aviation Administration (FAA), National Center for Atmospheric Research (NCAR), University of Chicago, and University of Wyoming launched a new research project focused on wind shear called the Joint Airport Weather Studies (JAWS) Project. Bill was recruited into the JAWS Project by Dr. Alfred Rodi, the Principal Investigator for the University of Wyoming. Bill's focus quickly changed from anthropogenic cloud seeding to airborne sensing and microbursts. The JAWS Project was conducted during the summer of 1982 and Bill's role became technician, flight data manager, and on occasion scientist onboard the University of Wyoming King Air research aircraft. The project provided Bill his first opportunity to collaborate with project scientist leads from NCAR (Dr. John McCarthy, Jim Wilson, Dr. Peter Hildebrand, Dr. Robert Serafin, Dr. Ed Zipser, and Rit Carbone), University of Chicago (Dr. Theodore Fujita and Dr. Roger Wakimoto), and the National Oceanic and Atmospheric Administration (NOAA) (Dr. Alexander MacDonald, Dr. Dusan Zrnic, and Dr. Al Bedard).

Bill received his M.S. degree in Atmospheric Science from the University of Wyoming in 1983 and his thesis was titled "The development of downdrafts from the evaporation of hydrometeors". Using aircraft data, he studied the kinematic, thermodynamic, and microphysical characteristics of microburst producing precipitation and developed a downdraft model that demonstrated for the first time that the evaporation of the observed hydrometeor spectra provided the energy required to generate the observed microburst events (Mahoney and Rodi, 1987). After graduation, Bill became a graduate research associate for a short period focused on furthering his Master's research and publishing the results.

In the spring of 1984, Bill was hired by Atmospherics, Incorporated, to lead and conduct a weather modification program in Greece focused on evaluating the effectiveness of hail suppression using silver iodide. This provided an opportunity to personally plan, manage, and conduct a scientific field program involving multiple research aircraft, weather radar, and hail pad observations. This experience led to a second weather modification related project management opportunity with Western Weather Consultants. In this position, Bill was responsible for planning, coordinating, and running weather modification and research field projects in San Antonio, Texas, and Wilmington, Delaware. Experience was gained in forecasting, designing and developing scientific flight experiments, coordinating daily radar and flight schedules, and directing research aircraft from the ground. Bill was also responsible for performing statistical verification analyses of the weather modification experiments.

In late 1985, Bill was recruited to NCAR by Dr. John McCarthy who continued since the 1982 JAWS project to lead NCAR's wind shear research projects. Bill was hired by NCAR in January 1986 as an associate scientist responsible for scientific research on aviation weather hazards, including microburst and gust front wind shear and leading the NCAR effort to design, develop, and verify wind shear detection algorithms for the Terminal Doppler Weather Radar (TDWR) and Low-Level Wind Shear Alert System (LLWAS). Bill gained invaluable research-to-operations experience in this role as he was a primary interface between the NCAR research effort, MIT Lincoln Laboratory, NOAA, FAA, and participating airlines. Bill co-led an agency and industry user group that set the international standard for wind shear detection and led to the rapid implementation of wind shear detection solutions across the country and eventually the globe. Another highlight of this period was an invitation that Bill received to provide

Congressional (verbal) testimony on the anticipated performance of wind shear detection systems that were being developed by NCAR for the FAA at that time. Bill was mentored on this process by Dr. Walter Orr Roberts, UCAR's first president and NCAR's first director.

The science of convection initiation was gaining ground and he turned his attention to studying the characteristics of thunderstorm gust fronts and the evolution of the colliding wind fields on thunderstorm initiation (Mahoney, 1988). This work demonstrated that strong vertical updrafts can form at the leading edge of colliding gust fronts with the strength related to the relative shear profile and vorticity stretching which could also lead to the formation of strong horizontal rotors. During this period, Bill also conducted research using dual-Doppler analyses to understand the evolution of fine-scale structure of microbursts, and in particular, the source region of the low theta-e downdraft air (Mahoney and Elmore, 1991).

Bill's increasing responsibility and capability in leading and managing complex multi-organization wind shear related research projects led to a key decision by RAP management in 1991 to move him from the science to management career track. This change in direction resulted in less time to perform individually inspired research, so his focus changed to identifying opportunities and leading research efforts across the organization. This also corresponded with a reorganization of RAP where Bill was appointed the manager of the Demonstration Facility. This facility was a focal point of RAP's aviation weather research and development activities where technologies were designed, development, and demonstrated to RAP's sponsors, the aviation community, and media. The Demonstrations Facility was later expanded under Bill's leadership and evolved into the Aviation Weather Development Laboratory (Mahoney, 1991).

Between 1991 and 2004, Bill's leadership and management responsibilities increased and his portfolio expanded. During this period, he led and managed several increasingly complex scientific and technical activities including the NCAR portion of the Terminal Doppler Weather Radar (TDWR) program (Mahoney et al., 1989), the integration of the TDWR and Low-Level Wind Shear Alert System (LLWAS), and the Terminal NEXRAD project (Cornman and Mahoney, 1991). As the TDWR and LLWAS systems moved into a full FAA acquisition phase, Bill was expanding his aviation weather role and developed concepts for an advanced aviation weather system that would serve the FAA's enroute centers and flight service stations with turbulence, thunderstorm, icing, and ceiling and visibility diagnoses and predictions. The Aviation Weather Products Generator (AWPG) development began under Bill's leadership and was the cornerstone for the NCAR's role in the new FAA Aviation Weather Research Program. Bill's responsibilities expanded again in 1995 when he was asked to lead and manage the large (\$16M) and challenging Hong Kong Operational Wind Shear Warning System Project shortly following the end of the scientific field program phase (Mahoney and Donaldson, 1996). The management of this complex international project required advanced skills in science and engineering system design, project management, verification, testing, business negotiations, diplomacy, contracting, licensing, budgeting, and progress tracking. The project, which was primed by Weather Information Technologies, Incorporated, was completed successfully on budget and schedule. The end of the Hong Kong project dovetailed with the beginning of a new international project in Taiwan. After the initial negotiations between NCAR and the Taiwan Civil Aeronautics Administration failed, Bill became involved and took the lead to re-scope the effort. He successfully negotiated an initial 5-year, \$11M project to modernize the Taiwan aviation weather system by developing the Advanced Operational Aviation Weather System, which included advanced numerical weather prediction, wind shear capabilities, and state-of-the-art in-flight icing, turbulence, and thunderstorm prediction algorithms. The success of the initial 5-year phase led to multiple new phases covering an 18-year period totaling more than \$16M.

In the early 2000s, Bill worked with the USDOT to develop and lead projects involving advanced statistical weather prediction and surface transportation. The Federal Highway Administration (FHWA)

chose NCAR/RAP to lead its new Road Weather Research Program. Bill worked with state departments of transportation stakeholders from across the country and defined a new research program to develop decision support technologies for snow and ice control that blended weather and pavement-condition prediction models. The resulting technology was called the Maintenance Decision Support System - MDSS (Mahoney and Myers, 2003) and it is now used by more than fifteen departments of transportation and several private sector companies. Bill became a national representative for road weather across the weather enterprise and helped organize several advocacy events including an AMS Policy Forum on *Weather and Highways*, the Office of Federal Coordinator for Meteorology's *Weather Information for Surface Transportation Symposia*, and contributed to the National Research Council study called *Where the Weather Meets the Road*. Bill also expanded his science policy experience by working with Congress on surface transportation weather issues, which ultimately led to the creation of the Road Weather Research Program in the Transportation Authorization Bill (SAFETY-LU, 2005-2009). The successful rollout of the MDSS system led the FHWA to engage NCAR in a ten year, \$8M contract to develop technologies to collect and process real-time vehicle data for improving the diagnosis of weather and road condition hazards. Bill helped the FHWA develop and promote the vision for this technology and it continues to be an active research and development program (Petty and Mahoney, 2008; Mahoney and et al., 2010; Mahoney and Sullivan, 2013).

In 2004, RAP became the Research Applications Laboratory (RAL), and Bill was asked to lead the newly established Weather Systems and Assessment Program (WSAP). At the time WSAP included surface transportation, international aviation weather, fire weather, statistical prediction, and agriculture (land surface modeling and prediction). In this new position, Bill was responsible for developing new research programs, coordinating human and fiscal resources, preparing project reports, and coordinating projects within and outside NCAR with U.S. government, international governments, and commercial organizations. Bill responded to a U.S. Weather Research Program (USWRP) request to develop a social science research program with RAL and worked with NOAA to create the societal impacts and economic benefits program (a.k.a. Societal Impacts Program).

Bill's strong interest in renewable energy led to him to establish the AMS Energy Committee and subsequently he developed RAL's renewable energy research portfolio. This thrust began when Bill negotiated a multi-million dollar research and development effort with Xcel Energy Services to develop an advanced wind energy prediction system (Mahoney et al., 2012). Bill advocated for research funding to DOE labs and the commercial sector and became a national voice for the need to better understand the atmospheric effects on wind energy systems. Bill was invited to give numerous talks on the subject at industry workshops, conferences, and symposia. This led to UCAR joining the American Wind Energy Association, Utility Variable Generation Industry Group, and the Wind Energy Alliance. Bill also worked closely with the University of Colorado and supported its establishment of the North American Wind Energy Academy. The success of the Xcel Energy project and advocacy efforts led to additional funding opportunities from the Department of Energy, National Renewable Energy Laboratory, and national and international energy companies.

In 2011, Bill was appointed the Deputy Director of RAL, which allowed Bill to apply his experience and skillset across the laboratory, and in 2017 he was appointed RAL Interim Director. As Interim Director, Bill's responsibilities include providing leadership and direct oversight for scientific and technical activities across RAL, UCAR/NCAR and beyond, representing UCAR/NCAR in interactions with the public and private sectors and with the research community, and he represents UCAR/NCAR in responding to requests for scientific and technical information from Federal and State policy makers. Bill also serves as an expert resource on, and advocate for, the use of cutting-edge science and engineering methods and techniques for a variety of applications and he serves as a member of internal management

committees and the NCAR Leadership Team. Bill is also responsible for coordinating project and program activities within and outside NCAR with U.S. Government, international governments, and commercial organizations. Bill enjoys the process of identifying science and engineering challenges that transcend disciplines across the organization and that should be addressed by NCAR. He pulls together teams of scientists and engineers to discuss the ideas, vision, research, development, and candidate implementation and funding strategies. On a day-to-day basis as RAL Interim Director, Bill provides leadership, guidance and oversight on RAL's science and technical programs, is heavily involved in program development and the development of strategic partnerships, technology commercialization and licensing, strategic planning, advocacy, budget and finance, proposal development, and is often called upon to represent RAL's work at the state and federal policy level.

Bill's experience at NCAR also extends beyond the program development activities traditionally associated with an academically oriented national research center. Early in Bill's career, he became involved in the business development activities of the UCAR Foundation (UCARF), and in particular the U.S. West Inc. led Airport of the Future initiative. The vision was to develop and market state-of-the-art aviation weather hazard diagnosis and prediction systems to global airport authorities. This initiative was followed by the UCARF's formation of Weather Information Technology Inc. (WITI), which eventually primed the Hong Kong OWWS Project that Bill successfully managed as an NCAR employee. After WITI was sold, Bill was a participant in the development of UCARF's next concept to create another entity that would focus on commercializing UCAR technology. Peak Weather Resources, Inc. was formed and it focused on the commercialization of advanced weather prediction technologies such as the Dynamic, Integrated, Forecast System (DICast[®]). Bill was heavily involved in the development of several research, development, and commercialization opportunities and contracts related to DICast[®]. He also participated in the formation of Global Weather Corporation by UCARF and he helped GWC identify and develop several product lines that were based on NCAR/RAL technologies. As an NCAR leader in research, product development, implementation, and commercialization, Bill's experience and perspectives are often sought by UCAR, UCARF, and NCAR when key technology licensing and business decisions need to be made.

Community Service and Leadership

Bill has also been heavily involved with the broader weather and climate community during his career. Because of Bill's demonstrated experience developing and managing a diverse suite of scientific research and development projects that led to the successful implementation of new weather capabilities, Bill was asked to become a Member of the AMS Economic Development Committee (2002-2005) and the AMS Surface Transportation and Intelligent Transportation System Committee (2005-2008). In 2005, the AMS created the Commission on the Weather and Climate Enterprise (CWCE) and Bill became the first Chair of the Board on Enterprise Economic Development (BEED) (2005-2008). In his capacity as Chair, Bill began to reach out to the traditional and renewable energy community and started the AMS Energy Committee, an engagement that would eventually lead to new research programs at NCAR. Bill's outstanding leadership of the BEED led to him receiving the Kenneth C. Spengler Award in 2009 for "exemplary leadership in fostering economic growth of the weather and climate enterprise" and in 2010 he was appointed AMS Fellow. Bill's extensive experience leading the FHWA sponsored national surface transportation weather program led him to be appointed Chair of the AMS Committee on Mobile Observations (2009-2011) where he was subsequently recognized by NOAA and the AMS for professionalism, dedication, and teamwork. Another acknowledgement of Bill's leadership was his 2014 AMS Council appointment as the Commissioner of the Commission on the Weather, Water, and Climate Enterprise (CWWCE) (2016-2018). The CWWCE is one of the largest AMS Commissions and includes four boards and seventeen committees representing approximately 250 volunteers. The CWWCE is

responsible for organizing the AMS Washington Forum, Summer Community Forum, and Symposium of the Weather, Water, and Climate Enterprise.

Bill's leadership and community service activities extend beyond the AMS. His work within the renewable energy community led to invitations to give talks across the country and internationally. He sat on the Program Organizing Committee for the International Conference on Energy and Meteorology (2011-2015) and was invited by the DOE to be a member of the Wind and Hydropower Program Review Panel (2017) and Merit Review Board for the DOE Atmosphere-to-Electrons Program (2014-present). Bill was also a member of the Advisory Board for the International Conference on Future Technologies for Wind Energy (2013). Bill's experience initiating and initially managing the Societal Impacts Program led to him being asked to be a member of the International Planning Committee for the World Meteorological Organization, World Weather Research Programme, Open Science Conference (2013-2014).

Within UCAR/NCAR, Bill has contributed his expertise on several fronts including being a member of the NCAR Executive Committee (as Interim Associate Director), UCAR Management Forum (UMF), UCAR Compensation Advisory Board, NCAR Strategic Planning Council, chairing the Working Group on Administrative Efficiency and Agility, and participating on the UCAR Information Technology Council.

Bill is also experienced working with state and federal policy makers. He has been asked on several occasions to provide science briefings on Capitol Hill (topics include wind shear, surface transportation, renewable energy, fire behavior prediction, and aviation weather), and has met with congressional members and staff as well as Office of Management and Budget (OMB) personnel to discuss science results and impacts. More recently, Bill worked with the Colorado legislature to support the passage of a bill that led to a multi-year project to develop an operational coupled atmosphere-wildland fire prediction system. Bill also regularly represents UCAR/NCAR research at the Western Governors' Association.