

JEFFREY S. TILLEY, PH.D.

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Director of Weather Modification
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Professional Preparation

The Pennsylvania State University	Meteorology	1990	Ph.D
The Pennsylvania State University	Meteorology	1984	B.S.

Dissertation: Tilley, J.S. 1990: On the Application of Edge Wave Theory to Terrain-Bounded Cold Surges: A Numerical Study. Ph.D. dissertation, The Pennsylvania State University, UniversityPark, PA. 353 pp.

Appointments

2013-present	Associate Research Professor and Director of Weather Modification, Desert Research Institute
2003-2013	Research Scientist, Regional Weather Information Center, University of North Dakota
1995-2003	Assistant Research Professor, Geophysical Institute, University of Alaska Fairbanks
1992-1995	Research Associate, Program in Atmospheric and Ocean Sciences, University of Colorado-Boulder
1990-1992	Assistant Professor, Department of Geosciences, University of Wisconsin-Milwaukee
1989-1990	Lecturer, Department of Geosciences, University of Wisconsin-Milwaukee

Professional Interests

Dr. Tilley joined the Desert Research Institute in February 2013 as the new Director of Weather Modification, after holding positions at the University of North Dakota, University of Alaska-Fairbanks, the University of Colorado-Boulder and the University of Wisconsin-Milwaukee. He received both his B.S. and Ph.D. degrees from the Pennsylvania State University and was a Graduate Fellow within the National Center for Atmospheric Research's Advanced Study Program.

Dr. Jeff Tilley has over 28 years of professional experience in basic and applied weather and climate research. His wide range of experience and interests include numerical weather prediction (including applications to weather modification, Arctic regional climate, unmanned aircraft systems and road weather), cloud processes, convective storms, near-surface meteorology, data assimilation, mountain meteorology, transportation weather applications, land surface processes, air-sea interactions, roadway friction, and tropical cyclones. His work has been presented in over 120 scholarly journals, conference preprints and presentations, and technical reports. Dr. Tilley is a member of the American Meteorological Society, the American Geophysical Union and the Weather Modification Association (WMA). He currently serves as the Nevada representative to the North American Weather Modification Council as well as the university sector WMA Trustee.

Research Areas

- Mesoscale Modeling
 - Numerical Weather Prediction
 - Cloud Microphysical Processes
 - Boundary Layer and Land Surface Processes
 - Data Assimilation
 - Arctic Meteorology
 - Surface Transportation Weather
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- 2002 Excellence in Aviation Award, Awarded to FAA's In-Flight Icing Product Development Team, 19 November 2002 (involvement as member of Product Development Team).
 - Jerome N. Behrmann Award, Dept. of Meteorology, The Pennsylvania State University
 - Father James. B. Macelwane Award, American Meteorological Society, for paper: "Budyko's Model of the Thermal Regime--Review and Implementation on a Minicomputer"
 - B. S. Degree, with "highest distinction", The Pennsylvania State University
 - Scholarships: Holmes Teas (2 yrs), Martin-Marietta, Class of 1922, Edwin L. Drake, all at the Pennsylvania State University
 - Honor Societies: Phi Kappa Phi, Golden Key, Chi Epsilon Pi (PSU Meteorology), Pi Mu Epsilon, Phi Eta Sigma (mathematics), Alpha Lambda Delta

Administrative and Other Experience

Administrative

- Deputy Group Leader, Geophysical Institute Atmospheric Science Group, University of Alaska-Fairbanks, 10/99-12/01.
- Interim Group Leader, Geophysical Institute Atmospheric Science Group, University of Alaska-Fairbanks, 3/99-10/99.
- Member of Computer Advisory committee, Geophysical Institute, University of Alaska-Fairbanks, 1995-2003; oversees computing issues related to the Geophysical Institute.
- Member of Dept. of Geosciences Course/Curriculum committee, University of Wisconsin-Milwaukee. 1989-1992; Chair, 1990-1992. As chair, developed and implemented substantial reforms to atmospheric science course sequence.
- Member of Dept. of Geosciences Computer committee, University of Wisconsin-Milwaukee, 1989-1991. Helped plan for major upgrade of departmental computing facilities.
- Member of Facilities and Space committee, University of Wisconsin-Milwaukee, 1990-1992; oversaw planning and construction of new geoscience facility on campus.

National Service

- Panelist on National Science Foundation Interdisciplinary Panel for International Polar Year funding: Summer 2007.
- Panelist on National Science Foundation Office of Polar Programs panel, Summer 2010.

Local Service

- Organized local participation in U.S. National Forecasting Contest at University of Wisconsin-Milwaukee, 1991.
- Local Manager, Weather Challenge National Forecasting Contest, Univ. of North Dakota, 2009-present.

Courses Developed (Relevant institution in parentheses)

- Atmospheric Dynamics I/II (UAF, Fall 2000/Spring 2000)
- Dynamic Meteorology II (Penn State, as teaching assistant; responsible for ~ 33% of lectures)
- Earth System Science Seminar I and II (UW-Milwaukee;graduate level)
- Mesoscale Seminar (UW-Milwaukee mixed undergraduate/graduate level course)
- Synoptic Meteorology I and II (UW-Milwaukee mixed graduate/undergraduate level course)
- Introduction to Meteorology (UW-Milwaukee undergraduate survey course)
- Mesoscale Processes (UW-Milwaukee mixed graduate/undergraduate course)
- Two survey-level 5 week mini courses on general meteorology (UW-Milwaukee)
- Weather Discussion Practicum (UAF, Fall 2002-Spring 2003)
- 5-Week Summer Project Course on Mesoscale Ensemble Modeling (AHPCRC Advanced Summer Institute July-August 2007)
- Mesoscale Dynamics (ATM 460, Univ. of North Dakota, Spring 2009 and Spring 2010)
- 3-Day Intensive Course on Mesoscale Modeling (Presidency of Meteorology and Environment, Kingdom of Saudi Arabia, April 2009)
- Synoptic Meteorology (ATM 411, Univ. of North Dakota, Fall 2009)
- Microphysical Analysis and Modeling Training Module for Saudi Arabia (Weather Modification, Inc., July 2010)

Other Educational Experience

1. Substitute lectures for ATM 460 (Mesoscale Dynamics), UND, ATM 528 (Atmospheric Data Analysis), ATM 530 (Numerical Weather Prediction), UND,
2. Co-leader of Student/Faculty Data Assimilation and Modeling Group, met weekly to bi-weekly during Fall 2003 and Spring 2004 semesters

Students Advised

1. John R. Mecikalski, M.S.,1991, University of Wisconsin-Milwaukee. Thesis title: Cold surges along the Front Range of the Rocky Mountains: A Classification scheme and synoptic case study.
2. Fenying Hao, Ph.D .candidate, University of Alaska-Fairbanks. Thesis topic: Sea ice model intercomparison in the Bering Sea. (transferred to Univ. of Idaho under GIS program)
3. Dayne Ellanna, M.S. Candidate, University of Alaska-Fairbanks.
4. Crystal Paulsen, M.S., 2007. University of North Dakota. Thesis title: Forecasts of C_n^2 and N using a Mesoscale Multi-Model Ensemble.
5. Randall Johnson, M.S., 2010. University of North Dakota.
6. Edward Townsend, M.S. 2011. University of North Dakota
7. Brandon Austin, M.S., candidate, University of North Dakota (expected graduation date May 2012)
8. Joel Siegel, M.S., candidate, University of North Dakota (expected graduation date May 2012)
9. Brandon Bigelbach, M.S., candidate, University of North Dakota (expected graduation date December 2012).
10. Kajli Agrawal, M.S., candidate, University of North Dakota

Publications

- Mecikalski, J. R. and J. S. Tilley, 1992: Front Range Cold Surges: Development of a Classification Scheme. *Meteorology and Atmospheric Physics* **48**, 249-271.
- Blackadar, A. K. and J. S. Tilley, 1993: Using Your Computer: Modeling Climate on a Home Computer, Part I: Climate of the Present. *Weatherwise*, **46**,4.

- Blackadar, A.K. and J. S. Tilley, 1994: Using Your Computer: Modeling Climate on a Home Computer, Part II: Experiments with Feedback. *Weatherwise*, **46**,5, 37-39.
- H. Lynch, D. L. McGinnis, W. L. Chapman and J. S. Tilley, 1997: A Multivariate Comparison of Land Surface Models Integrated into an Arctic Regional Climate System Model. *Ann. Glaciology*, **25**, 127-131.
- Tilley, J. S., W. L. Chapman and W. Wu, 1997: Sensitivity Tests of the Canadian Land Surface Scheme (CLASS) for Arctic Tundra. *Ann. Glaciology*, **25**, 46-50.
- Tilley, J. S. and A. H. Lynch, 1998: On the applicability of current land surface schemes for Arctic tundra: An intercomparison study. *J. Geophys. Res.* **103**, D22, 29051-29063.
- Fan, X., and J. S. Tilley, 2005: Dynamic Assimilation of MODIS-Retrieved Humidity Profiles within a Regional Model for High Latitude Forecast Applications, *Mon. Wea. Rev.*, **133**(12), 3450-3480.
- Tilley, J. S. and D. H. Bromwich, 2005: Short-to Medium Range Numerical Weather Prediction in the Arctic and Antarctic. *Bull Amer. Met. Soc.*, **86**(7), 983-988.
- Tilley, J. S., S.S. Kroeber, J. Green, D. Clonch and D. Halliday, 2008: Measurements of Pavement Condition and Road Weather Management Within North Dakota Using a Tow-Hitch Mount Road Grip Tester. *Transportation Research Circular E-C126: Surface Transportation Weather and Snow Removal and Ice Control Technology*, Transportation Research Board, The National Academies, Washington, DC 364-380. (paper also presented at TRB Conference on Snow and Ice Control Technology, 15-19 June, Indianapolis, IN).

Technical and Meeting Reports

- Tilley, J.S, A. H. Lynch, W.L. Chapman, W.Wu and G. Weller, 1999: On the Coupling of Land Surface Packages Within a Regional Climate Model of the Arctic. *Proceedings of a Workshop on Arctic Regional Climate Models*, H. Cattle, ed. World Meteorological Organization/Tech. Document No. 981, pp. C12.1-12.5.
- Tilley, J. S. and J. Long, 2002: *The Utility of DTED high resolution terrain data in MM5 Alaska simulations*. Technical report to University Partnering for Operational Support Program, Johns Hopkins University, March 2002. 14 pp.
- Fan, X. and J. S. Tilley, 2002: *User's Manual: Assimilating AVHRR Data into MM5 via Newtonian Nudging*. Technical report to University Partnering for Operational Support Program, Johns Hopkins University, August 2002, 43 pp.
- Fan, X. and J. S. Tilley, 2002: *User's Manual: OBS-NUDG: Observation Nudging with MM5*. Technical Report to University Partnering for Operational Support Program, Johns Hopkins University, August 2002, 96 pp.
- Zhang, J. and J. S. Tilley, 2002: *Arctic MM5 Modeling System: Part 1: Coupling the Land Surface Model NOAH-LSM with the Mesoscale Model MM5*. Technical Report to University Partnering for Operational Support Program, Johns Hopkins University, August 2002, 167 pp.
- Zhang, J. and J. S. Tilley, 2002: *Arctic MM5 Modeling System: Part 2: Implementation of Soil Moisture Assimilation Scheme within the MM5 Model*. Technical Report to University Partnering for Operational Support Program, Johns Hopkins University, August 2002, 110 pp.
- Weatherby, C. and J. S. Tilley, 2002: *Optical Turbulence Initial Analysis Computer Program System*. Technical Report to University Partnering for Operational Support Program, Johns Hopkins University, September 2002, 59 pp.
- Zhang, J. and J. S. Tilley, 2002: *Arctic MM5 Modeling System: Part 3: Coupling of a Thermodynamic Sea Ice Model with the Mesoscale Model MM5*. Technical Report to University Partnering for Operational Support Program, Johns Hopkins University, September 2002, 117 pp.

- Tilley, J. S., and X. Meng, 2002: *Integrated Icing Diagnostic Algorithm for Alaska*. Technical Report to University Partnering for Operational Support Program, Johns Hopkins University, September 2002, 157 pp.
- Fan, X. and J. S. Tilley, 2002: *User's Manual: Intermittent Data Assimilation with Bratseth Analysis Scheme (IDA/B)*. Technical Report to University Partnering for Operational Support Program, Johns Hopkins University, September 2002, 69 pp.
- Tilley, J. S. and C. Weatherby, 2002: On the Potential to Elucidate Lower Tropospheric Optical Turbulence Characteristics in Interior Alaska from Existing Radiosonde Observations and Numerical Weather Prediction Models. Technical Report to University Partnering for Operational Support Program, Johns Hopkins University, October 2002, 23 pp.
- Tilley, J. S. , J. E. Walsh, U.S. Bhatt, N. Molders and S. A. Vavrus, 2003: Arctic atmospheric and system modeling: A survey of IARC-related activities. *Tohoku Geophysical Journal*, **36** (4), 397- 410.
- Tilley, J. S., L. F. Osborne, D. Lazur and P. A. Cammack, 2005: *Surface Transportation Weather Workshop August 11-12, 2004: Final Report*. Available from Univ. of North Dakota Surface Transportation Weather Research Center on CD-ROM, or online at <http://www.stwrc.rwic.edu>, 80 pp. + attachments.
- Tilley, J.S., C.M. Paulsen and M.A. Askelson, 2005: Intercomparison of Forecasts from Very-High Resolution MM5 and WRF Physics-Based Ensembles: The Dryline/Pacific Frontal Merger During STORM-FEST IOP 17. *Army High Performance Computing Research Center Technical Report 2005-029*, AHPCRC, U.S. Army Research Laboratory, 14 pp.
- Tilley, J.S., C.M. Paulsen and M.A. Askelson, 2005: Application of Very High Resolution Multi-Model Ensemble Simulations Towards Improved Understanding and Prediction of Local Scale Refractive Index Variability. *Army High Performance Computing Research Center Technical Report 2005-060*, AHPCRC, U.S. Army Research Laboratory, 12 pp.
- Tilley, J.S., Leon F. Osborne Jr., J. Kuntz, R. Legatt, J. Ahsebmacher and J.J. Mewes, 2006: Early Experiments On The Utility Of The University Of North Dakota's Mesogamma/Micro-Alpha Analysis And Assimilation Package In A Cycling Mode: Tropical Storm Alberto (2006). *Army High Performance Computing Research Center Technical Report 2006-067*, AHPCRC, U.S. Army Research Laboratory, 22 pp.
- Tilley, J.S., Crystal M. Paulsen and Mark A. Askelson, 2006: On The Utility Of Multi-Model Ensemble Simulations Towards Improved Understanding And Prediction Of Local Sc refractive Index Variability: Two Case Studies. *Army High Performance Computing Research Center Technical Report 2006-068*, AHPCRC, U.S. Army Research Laboratory, 45 pp.
- Tilley, J. S. and L. Johanneck, 2007: Preliminary Report: Evaluation of Vaisala Spectro Pavement Sensor---University of North Dakota Testing. Available from Aurora Program, Center for Transportation Research and Education, Iowa State University. 21 pp.
- Tilley, J. S., S.S. Kroeber, J. Green, D. Clonch and D. Halliday, 2007: Measurements of Pavement Condition and Road Weather Management Within North Dakota Using a Tow-Hitch Mount Road Grip Tester. Available from Aurora Program, Center for Transportation Research and Education, Iowa State University, 17 pp.
- Trapnell, B. and others, 2007: Unmanned Aerial System Remote Sense and Avoid System and Airborne Payload Analysis and Investigation: Final Report, FY 2007. (contributed to sections on data structures and test cases for GPARS) . U.S. Air Force UAV Battle Laboratory, Creech AFB, NV. 236+ pp.
- Shekhar, S. and others, 2007: Final contract report, Army High Performance Computing Research Center (contributed to UND portion related to Signature Modeling and Chemical/Biological

Contaminant Dispersion and Transport Portfolios). Available from Army Research Laboratory, Adelphi, MD.

- Askelson, M.A, B. Trapnell and others, 2009: Unmanned Aerial System Remote Sense and Avoid System and Airborne Payload Analysis and Investigation: Phase I Final Report. Joint Unmanned Aircraft Systems Center of Excellence, Creech Air Force Base, NV, 241 pp. (Available by request from the UAS COE, Creech AFB, NV).
- Huggins, A. W. and J. Tilley, 2013: Ultra-trace chemical monitoring for the Wyoming Weather Modification Pilot Project: 2011-2014 winter field seasons, March 2013 progress report. Wyoming Water Development Commission, Cheyenne, WY, 7 pp.
- Tilley, J.S. and A.W. Huggins, 2013: Ultra-trace chemical monitoring for the Wyoming Weather Modification Pilot Project: 2011-2014 winter field seasons, April 2013 progress report. Wyoming Water Development Commission, Cheyenne, WY, 4 pp.
- Tilley, J.S. and A. W. Huggins, 2013: Cloud seeding operations and research in the Walker Basin to increase water delivery to Walker Lake. Semi-annual progress report, 1 Oct 2012-31 March 2013. U.S. Bureau of Reclamation, Carson City, NV, 16 pp.
- Tilley, J.S., and A. W. Huggins, 2013: Quarterly Report #2: Cloud seeding project for Tahoe and Truckee Basins for WY2013: Status update for Jan-March 2013. Truckee Meadows Water Authority, Reno, NV. 13 pp.
- Tilley, J. S., A. W. Huggins and R. David, 2013: Quarterly Report #2: Award WRWC-12-01: Cloud seeding project for Tahoe and Truckee Basins for WY2012. Western Regional Water Commission, Reno , NV, 11 pp.

Conference Preprints, Published Abstracts and Presentations

2013

- Tilley, J.S., D.J. Delene, P.A. Kucera, J. Weber and J. Mejia, 2013: Recent work related to cloud microphysics and cloud seeding operations. Southern California Atmospheric Modeling Workshop, Sempra Utilities, Monrovia, CA, 3 June 2013.
- Tilley, J.S., A. W. Huggins, R. David and J. Mejia, 2013: The Desert Research Institute's cloud seeding program: Brief history, methodologies and overview of current projects in the American West. Cloud Seeding Workshop, Durango, CO, 30 May 2013. (Invited)
- Tilley, J.S., A.W. Huggins, A. Heyvaert, and R. Edwards, 2013: Silver toxicity summary presentation. Valley County public forum, Cascade, ID, 9 May 2013. (Invited)
- Tilley, J.S., A.W. Huggins and A. Heyvaert, 2013: The state of the science regarding silver toxicity and cloud seeding operations. Valley County public forum, Cascade, ID, 9 May 2013. (Invited)
- Green, M., J. Mejia, D. Mitchell and J. Tilley, 2013: Current and potential cloud seeding in the Humboldt River Basin. Cloud Seeding Mini-forum, Humboldt River Basin Water Authority, Reno, NV, 1 March 2013.
- Tilley, J.S., D.J. Delene and P.A. Kucera, 2013: Potential Influences of Aerosol Concentrations on Mode and Degree of Development in Mid-continental convective clouds during POLCAST4. 19th Conference on Planned and Inadvertent Wea. Mod., Amer Met. Soc., Austin, TX, 6-10 January 2013.
- Tilley, J.S., and D. J. Delene, 2013: Relationships Between Cloud Liquid Water Content, Cloud Droplet Number Concentration and Cloud Droplet Distribution for Summertime Convective Clouds in the Northern Plains. 5th Symposium on Aerosol-Cloud-Climate Interactions, Amer. Met. Soc., Austin, TX, 6-10 January 2013.

- Tilley, J.S., and G. L. Mullendore, 2013: Novel Approaches to Forecasting Internships for Credit: The Summer 2012 University of North Dakota Deep Convective Clouds and Chemistry (DC3) Forecasting Internship Class. 22nd Symposium on Education, Amer. Met. Soc., Austin, TX, 6-10 January 2013.
- Askelson, M.A., C.A. Theisen and J.S. Tilley, 2013: Further Development of the UND Pavement Precipitation Accumulation Estimation System: Complex Terrain Applications and Full Utilization of Clarus Data. 29th Conf. on Environ. Info. Processing Tech., Amer. Met. Soc., Austin, TX 6-10 January 2013.
- Mullendore, G.L., and J.S. Tilley and L.D. Carey, 2013: Leveraging Field Campaign Resources to Provide Additional Undergraduate Forecasting and Research Experiences: a Case Study from Deep Convective Clouds and Chemistry (DC3). 22nd Symposium on Education, Amer. Met. Soc., Austin, TX, 6-10 January 2013.
- Pinkney, K. and J.S. Tilley, 2013: On the Validation of Project-related Forecasts Associated with the Deep Convective Clouds and Chemistry (DC3) Field Campaign. 12th Annual Student Conf., Amer. Met. Soc., Austin, TX, 6-10 January 2013.
- Bart, N., M.E. Becker, K. Pinkney, S. Rowe, M. Starzec, J.K. Weber, G.L. Mullendore, B. Bigelbach, J.S. Tilley and L. Carey, 2013: From Classroom to Field Work: Bolstering Undergraduate Educational Experience during the Deep Convective Clouds and Chemistry Experiment. 12th Annual Student Conf., Amer. Met. Soc., Austin, TX, 6-10 January 2013.

2012

- Tilley, J. S., J. Nordlie, D. Delene, P. Kirilov, C. Theisen, C. Taylor, T. Woods, J. Sorum, N. Baer and W. Semke, 2012: Applications of Unmanned Aircraft Systems to Atmospheric Research. 2012 N. Dakota Space Grant Consortium Meeting. ND Space Grant, Grand Forks, ND, 7 May.
- Delene, D. J., J. Tilley, M. Starzec, N. Bart, G. Mullendore and C. Grainger, 2012: Case Study of the 13 and 15 July 2010 Convective Systems using POLCAST3 Field Project Observations. 2012 Northern Plains Convective Storms Symposium. Lake Agassiz Chapter Amer. Met. Soc., Grand Forks, ND, 4 May.
- Delene, D. J., J. Tilley, C. Grainger, M. Starzec, G. Mullendore and D. Langerud, 2012: Airborne Measurements during the POLCAST field projects in North Dakota. 2012 Ann. Meeting Wea. Mod. Assoc., Las Vegas, NV, 25-27 April.
- Johnson, P.E., J. Tilley, H. Salefar, M. Cavalli, F. Ames and M. Mann, 2012: Wind Energy Research in North Dakota. Symposium on Wind Farm Underperformance and Partnerships. Texas Tech U./Nat'l. Wind Resource Center, Lubbock, TX, 28-30 March.
- Townsend, E., M. A. Askelson and J. Tilley, 2012: Further developments in the Pavement Precipitation Accumulation Estimation Algorithm (PPAES). 28th Internat'l. Conf. on Interactive Information and Processing Systems, Amer. Met. Soc., New Orleans, LA, 23-27 January.
- Tilley, J. S., J. Nordlie, C. Theisen, R. Johnson, D. Delene, M. Askelson, J. Slrum, N. Baer, W. Semke, C. Taylor and T. Woods., 2012: Atmospheric Sciences Application Research. UAS Research Program Review, Grand Forks, ND, 18 January.

2011

- Weber, J., K. J. S. Tilley, D. J. Delene and M. S. Gilmore, 2011: Relationships between cloud liquid water, cloud droplet number concentration and cloud droplet distribution for summertime convective clouds in the Northern Plains. *First UND Undergraduate Research Conference*, 18 November, Grand Forks, ND.

- Weber, J., J. S. Tilley, D. J. Delene, M. S. Gilmore and K. Ndumbe Ngale, 2011: Relationships between cloud liquid water content, number concentration and cloud drop distribution for mid-latitude summertime convective clouds. ND/SD Joint EPSCoR Conference, 4 October, Fargo, ND.
- Tilley, J. S., R. Johnson and others, 2011: Atmospheric Science Applications. *In Progress Review*, UND Center for UAS Research Education and Training, Grand Forks, ND /Creech AFB, NV. 21 September.
- Tilley, J.S., M. S. Gilmore, J. Weber, D. J. Delene, K. Ndumbe Ngale and J. Delhommelle, 2011: Improving Understanding of the role of anthropogenically-generated sulfate in convective cloud and precipitation forecasts using observations and multiscale modeling. *14th Conference on Mesoscale Processes*. Amer. Met. Soc., 1-4 August, Los Angeles, CA. Paper P4
- Austin, B., and J. S. Tilley, 2011: Assessing the impact of increased GPS-RO satellite coverage on forecast skill over North America with a WRF-Based observation system simulation experiment (OSSE). *12th WRF Users' Workshop*, Boulder, CO, 21-25 June. 7 p., Paper available at www.mmm.ucar.edu/wrf/users/workshops/WS2011/WorkshopPapers.php
- Tilley, J.S., D. J. Delene, J. Nordlie, P. Tselios, D. Boura, K. Strang, R. Johnson, C. Taylor, B. Gunvalson, G. Sever and M. A. Askelson, 2011: On the use of low-cost unmanned aircraft platforms as part of a system to determine short-term electromagnetic propagation characteristics in the surface and boundary layers. *Second Aviation, Range and Aerospace Meteorology Special Symposium on Weather-Air Traffic Management Integration*. Amer. Met. Soc., Seattle, WA, 23-27 January.
- Tilley, J.S., and M. A. Askelson, 2011: Two high resolution radar data assimilation case studies as a prelude to phased array radar (PAR) data assimilation in support of UAS operations. *15th Symposium on Integrated Observing and Assimilation Systems for the Atmosphere, Oceans and Land Surface (IOAS-AOLS)*, Amer. Met. Soc., Seattle, WA, 23-27 January.
- Tilley, J.S., D. J. Delene and T. W. Krauss, 2011: Observations and modeling of the 9 April 2009 convective 'brown' cloud near Riyadh, Saudi Arabia. *Third Symposium on Aerosol-Cloud-Climate Interactions*, Amer. Met. Soc., Seattle, WA, 23-27 January. (also presented in a longer form as an Invited Seminar at Iowa State University, 21 February 2011).
- Johnson, R., M. A. Askelson, J. S. Tilley and C. Theisen, 2011: Methods for Tracing the Propagation of Electromagnetic Radiation through the Atmosphere. *14th Conference on Aviation, Range and Aerospace Meteorology*, Amer. Met. Soc., Seattle, WA, 23-27 January.
- Austin, B. L., and J. S. Tilley, 2011: Preliminary Results of Assessing the Impact of Increased GPS Radio Occultation Satellites in Numerical Weather Prediction over North America. *UND Scholarly Forum 2011*, University of North Dakota, Grand Forks, ND, 9-10 March.

2010

- Johnson, R., M. A. Askelson, J. S. Tilley and C. Theisen, 2010: Methods for Tracing the Propagation of Electromagnetic Radiation through the Atmosphere. Abstract, *14th Conference on Aviation, Range and Aerospace Meteorology*, American Met. Society, January 2010, Atlanta, GA.
- Askelson, M. A., C. Theisen, J. S. Tilley and collaborators, 2010: The Ganged Phased Array Radar Risk Mitigation System: Integrating Weather Effects. , *14th Conference on Aviation, Range and Aerospace Meteorology*, American Meteo. Soc., January 2010, Atlanta, GA.
- Tilley, J.S., B. L. Austin,, G. L. Mullendore, S. Jorgenson and A. Homann, 2010: Intercomparison of Global Positioning System-Radio Occultation and Radiosonde Vertical Profiles of Temperature and Moisture over Three Mesoscale Regions. Abstract, *14th Conference on Integrated Observing and Assimilation Systems for Atmosphere, Oceans, and Land Surface*, Amer. Meteo. Soc., January 2010, Atlanta, GA.

Delene, J. S., J. S. Tilley and T. Krauss, 2010: Case Study of the 9 April 2009 'Brown cloud': Observations and Modeling of Convective Clouds in Saudi Arabia. *2009 Annual Meeting of the Weather Modification Association*. Santa Fe, NM, 20-22 April.

Tilley, J.S., D. J. Delene and T. Krauss, 2010: Case Study of the 9 April 2009 'Brown cloud': Observations and Preliminary Modeling of Convective Clouds in Saudi Arabia. Atmospheric Science Seminar, University of Alaska, Fairbanks AK, 28 July. **(invited presentation)**.

2009

Mullendore, G. and J. S. Tilley, 2009: On the development of a high resolution daily forecast system for Eastern North Dakota. *Northern Plains Weather Workshop*, Rapid City, SD, 7-8 April.

Tilley, J.S., M. A. Askelson, C. Theisen, A. Theisen, J. Mewes, R. Johnson, S. Kroeber, J. Nordlie, L. Tatarak, E. Townsend, and M. Poellot, 2009: Current Research at the University of North Dakota on Applications of Unmanned Aircraft Systems Technologies to Atmospheric Science, *UVSInternational*, Paris France, 9-12 June.

Tilley, J. S., D. J. Koller and D. Delene, 2009: Early Experiments in Evaluating the Potential Climatic Impacts of Agriculturally Produced Aerosols in the Northern Great Plains using WRF/Chem. Extended Abstract, *10th Annual WRF Users' Workshop*, 23-26 June, Boulder, CO. Available from the National Center for Atmospheric Research.

Homann, A.J., G. Mullendore, J. S. Tilley and S. T. Jorgenson, 2009: Comparison of the Level of Neutral Buoyancy Observed from Soundings and Radar. *13th Conference on Mesoscale Processes*, Amer. Met. Soc., Salt Lake City, UT, 17-20 August.

2008

Askelson, M. A., J.S. Tilley, C. J. Theisen and A. K. Theisen, 2008: The Ganged Phased Array Radar Risk Mitigation System: Atmospheric Sciences Applications, *EOS Trans., AGU*, 89 (23), Jt. Assem. Suppl., Abstract A51-04. (Presented at American Geophysical Union Joint Assembly, Ft. Lauderdale FL, 26-30 May 2008.)

Tilley, J. S., 2008: Towards Data Assimilation With a Ganged Phased-Array Radar System: Simulations of the 26 August 2007 Northwood Tornado. **Invited Presentation**, NOAA/ESRL/GSD, Boulder CO, 11 September.

Tilley, J.S., 2008: Current Research Applications of Unmanned Aircraft and Phased Array Radar Technologies in Atmospheric Science. *National Weather Service Northern Plains Sub-Regional MIC Meeting*, Grand Forks, ND, 24 October.

Tilley, J. S., C. J. Theisen and M. A. Askelson, 2008: Multi-Scale Simulations of the 26 August 2007 Northwood, ND EF4 Tornado. 24th Conference on Severe Local Storms, American Meteorological Society, Savannah, GA, 27-30 October.

Tilley, J. S., 2008: UAS GPARS-RMS Technical Review: Overview of Atmospheric Science Research. Grand Forks, ND, 9 December.

2007

Tilley, J. S., S. S. Kroeber, J. L. Hanson, J. Green and D. Grabow, 2007: Measurements of Pavement Condition and the Road Weather Environment within North Dakota Maintenance Decision Support System Testbed Segments. *University of North Dakota Scholarly Forum*, UND Graduate School, Grand Forks, 1 March. Abstract available from UND Graduate School.

Tilley, J.S., S. S. Kroeber, J. Green and D. Halliday, 2007: Application of the Halliday RT3 Road Grip Tester to Winter Pavement Friction Monitoring in North Dakota. *2007 Eastern Snow Expo*, Federal Highway Administration, Columbus, OH, 30 August 2007. **(invited presentation)**

Tilley, J.S. , S.S. Kroeber, J. Green, J. Hanson and D. Grabow, 2007: Measurements of Pavement Condition and the Road Weather Environment Utilizing a Road Grip Test Unit and a GPS-Video System. *National Rural Intelligent Transportation System Conference*, ITS America, Traverse City, MI, 8-10 October 2007.

2006

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Tilley, J. S. and J. C. Nordlie, 2004: On the Use of a Linux Beowulf computing cluster for Meteorological Ensemble Modeling. UND Scholarly Forum, Grand Forks, ND, 4 March. Abstract published by UND Graduate School in *2004 Scholarly Forum*.

Fan, X. , J. S. Tilley and J. E. Walsh, 2004: Application of MM5/3DVAR at High Latitude: Resolution Sensitivity. *Preprints, 5th WRF/14th MM5 Users' Workshop*, NCAR, 22-25 June, Boulder, CO, 150-154.

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Tilley, J. S., J. Krieger, J. Dragomir, X. Meng, M. R. Lilly, K. Engle and V. L. Sharpton, 2003: An Integrated Forecast and Observing System at the University of Alaska Fairbanks. *Preprints, 19th Conference on Interactive Information and Processing Systems*, AMS, 10-13 February, Long Beach, CA., 12 pp. Available on CD-ROM.

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Tilley, J. S. and J. Krieger, 2003: The real-time Arctic MM5 modeling system: Characteristics and performance for short-range Alaska regional and local forecast applications. *Preprints, 7th Conference on Polar Meteorology and Oceanography*, AMS, 12-16 May, Hyannis, MA. 9 pp. Available on CD-ROM from Amer. Met. Soc..

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2001

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- Tilley, J.S. and D. J. Fielding, 1999: Mesoscale Ensemble Forecasting in the Western Arctic. *Preprints, The Ninth PSU/NCAR Mesoscale Model Users' Workshop*, 23-25 June, Boulder, CO, 78-81. (Paper 70a also presented as IARC/Frontier seminar, July 1999, Fairbanks, AK)
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- 1998**
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- Tilley, J. S., K. Gilkey, C. Scott and D.-L. Wilkinson, 1998: Implementation of a High Resolution Mesoscale Model within an Operational NWS Regional Network. *Preprints, 14th Conference on Interactive Information and Processing Systems (IIPS) for Meteorology, Oceanography and Hydrology*, American Meteorological Society, Phoenix, AZ, 11-16 January, J3-J7.
- Tilley, J. S., D.-L. Wilkinson, K. B. Gilkey and H. L. Kelley, 1998: Short Range Simulation of an Alaskan Clear Air Turbulence Event. *Preprints, 16th Conference on Weather Analysis and Forecasting*, American Meteorological Society, Phoenix, AZ 11-16 January, 68-70.
- Tilley, J.S., 1998: Application of Mesoscale Numerical Weather Prediction Models to Aviation Weather at the University of Alaska: Past, Present and Future. National Weather Service/Alaska Region Aviation Weather Workshop, Anchorage, AK, 5-10 April. **[invited presentation]**
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- Tilley, J. S. and K. Gilkey, 1998: Efforts to Implement MM5 within the Alaska Region Operations Network (ARONET) *Second Workshop on Real-Time Mesoscale Numerical Weather Prediction*, National Center for Atmospheric Research, Boulder, CO, 17 June.
- Tilley, J.S, K. G. Gilkey, D.-L. Wilkinson, M.K. Politovich, C. A. Scott, H. L. Kelley, G. Hufford and C. Dierking, 1998: Mesoscale Modeling in Support of Observational Studies in the NWS Alaska Region. NOAA Review of Cooperative Institute for Arctic Research, Fairbanks, AK, 16 September 1998.

1997

- Tilley, J. S. and K. Gilkey, 1997: The Use of High Resolution Mesoscale Models to Support Operational Forecast Problems. *Preprints, 13th Conference of Interactive Information and Processing Systems (IIPS) for Meteorology, Oceanography and Hydrology*, American Meteorological Society, Long Beach, CA, 2-7 February, 383-386.
- Tilley, J. S., 1997: Regional modeling studies of the western Arctic. Paper presented at department seminars at Geoscience Departments, Tohoku University, Sendai, Japan and University of Tsukuba, Japan, February 1997. **[invited presentations]**.
- Tilley, J.S. and A. H. Lynch, 1997: On the applicability of current land surface schemes for Arctic tundra: An intercomparison study. *ARCSS LAII Science Workshop*, National Science Foundation, ARCSS, Seattle, WA, 26-29 March 1997.
- Tilley, J.S. and K. B. Gilkey, 1997: Using High Resolution Mesoscale Models to Support Operational Forecast Problems. *COMET Alaska Region Symposium and Workshop*, UCAR/COMET, Fairbanks AK, 12-15 May **[invited presentation]**
- Tilley, J.S., D.-L. Wilkinson, J. Miller, K. Gilkey, C. Scott, H.L. Kelley, M. K. Politovich, T. T. Warner, W. L. Chapman, A. H. Lynch, D.A. Bailey, W. Wu, J.-W. Bao and A. L. Gravier, 1997: Regional Modeling in the Western Arctic. *ARSC User Forum*, Arctic Region Supercomputing Center, Fairbanks AK, 12-14 Oct. **[invited presentation]**
- Tilley, J. S., K. B. Gilkey, C. A. Scott and D.-L. Wilkinson, 1997: Using High Resolution Mesoscale Models to Support Operational Forecast Problems. *CSTAR Science Workshop*, NOAA/Office of Meteorology, Silver Spring MD, 6-9 Oct. **[invited presentation]**
- Tilley, J. S., D.-L. Wilkinson, C. A. Scott, H. L. Kelley and K. B. Gilkey, 1997: Applications of Mesoscale Atmospheric Models for Improved Forecasting of Aviation Weather. *FAA "Alliance for Safety" Meeting*, FAA and NOAA/NWS, Anchorage, AK, 21-22 Oct. **(Invited presentation;** also presented at Anchorage Chapter of American Meteorological Society October meeting, 23 Oct).

1996

- Tilley, J. S., J.-W. Bao, T. T. Warner, Y. Zhang and D. A. Bailey, 1996: Four Dimensional Data Assimilation Experiments over the Western Arctic using MM5. *ARCSS Modeling Workshop*, Arctic Research Consortium of the United States, Boulder, CO, 15-16 January 1996. **[preprint published]**
- Lynch, A H., J. S. Tilley, W. L. Chapman, D. A. Bailey and J. Walsh, 1996: Regional Modeling for Arctic Tundra Ecosystems: Performance of the Arctic Climate System Model and Data Assimilation using MM5. *ARCSS LAII Science Workshop*, National Science Foundation, ARCSS, Seattle, WA 22-24 February 1996. **[preprint published]**
- Tilley, J.S., D. A. Bailey, K. Gilkey, J. Julian and W. Wu, 1996: Towards Improving Short Term Weather Forecasting Using Numerical Modeling Techniques: An Update. *Alaska COMET Outreach Symposium and Workshop on Operational Mesoscale Prediction*, University Corporation for Atmospheric Research, Fairbanks, AK, 10-13 June 1996.
- Tilley, J.S., 1996: Modeling Meso-beta Scale Processes in Alaska. *Alaska COMET Outreach Symposium and Workshop on Operational Mesoscale Prediction*, University Corporation for Atmospheric Research, Fairbanks, AK, 10-13 June 1996. **[invited presentation]**
- Tilley, J.S., W. L. Chapman and W. Wu, 1996: Sensitivity Tests of the Canadian Land Surface Scheme (CLASS) for Arctic Tundra. *International Symposium on Representation of the Cryosphere in Climate and Hydrological Models.*, International Glaciological Society, Victoria, B. C., Canada, 12-15 August 1996.

- Tilley, J. S., J.-W. Bao, Y. Zheng, W. Wu and T. T. Warner, 1996: Challenges for performing fourdimensional data assimilation over the Western Arctic using a mesoscale model. *Preprints, 11th Conference on Numerical Weather Prediction*, American Meteorological Society, Norfolk, VA 19-23 August, 456-457.
- Tilley, J. S., F. Hao, A. H. Lynch and D. A. Bailey, 1996: The Utility of a Regional Climate Model in Improving Understanding of Sea Ice Behavior in the Bering Sea. *47th Arctic Division Science Conference*, American Association for the Advancement of Science, Girdwood, AK 19-21 September 1996.
- Tilley, J. S., A. H. Lynch, D. A. Bailey, W. L. Chapman, W. Wu, D. L. McGinnis, G. Weller and J. E. Walsh, 1996. On the coupling of land surface packages within a regional climate model of the Arctic. WCRP/EMaPS/IASC Workshop on Arctic Regional Climate Models, Bracknell, U.K., 4-6 November 1996 (invited). **[preprint published]**
- Tilley, J. S., W. L. Chapman and W. Wu, 1996: Sensitivity Tests of the Canadian Land Surface scheme for Two Arctic Tundra Sites. *1996 AGU Fall Meeting*, San Francisco, CA, 15-19 December 1996. [abstract published in *EOS, Transactions*, AGU]
- 1995**
- Tilley, J. S., J. A. Curry, M. Lambeth and G. Liu, 1995: Simulation of an East Greenland Sea Ice Edge Polar Low. *Fourth Conference on Polar Meteorology and Oceanography*, American Meteorological Society, Dallas, TX, January 15-20.
- Tilley, J. S., A. H. Lynch, D. A. Bailey and K. Gilkey, 1995: Improving Short-Term Weather Forecasting Using Numerical Modeling Techniques. *Alaska COMET Outreach Symposium*, University Corporation for Atmospheric Research, Fairbanks, AK June 1995.
- Tilley, J. S., D. A. Bailey, A. H. Lynch, W. Chapman and K. Hedstrom, 1995: The Challenge of Regional Climate Modeling in the Arctic. *IUGG XXI General Assembly*, American Geophysical Union, Boulder CO, July 1995 **[abstract published in EOS supplement, AGU]**
- 1994**
- Tilley, J. S., 1994: Towards Development of a Mesoscale Model Appropriate for the Arctic: A Status Report. *Fourth PSU/NCAR Mesoscale Model Users' Workshop*, National Center for Atmospheric Research, Boulder, CO, 29 August-1 September, 68.
- 1993**
- Tilley, J. S., S. Jolly, J. A. Curry and A. Lynch, 1993: An Integrated System to Improve Aviation Weather Forecasts for the Alaska Range. *Preprints, Fifth International Conference on Aviation Weather Systems*, American Meteorological Society, Vienna, VA, August 2-6, 72-76.
- Tilley, J. S. and J. A. Curry, 1993: On Polar Low MM4/5 Simulations in the East Greenland Sea. *Third PSU/NCAR Mesoscale Model Users' Workshop*, National Center for Atmospheric Research, Boulder, CO, October 1993. [abstract published]
- Tilley, J. S., C. A. Clayson and J. A. Curry, 1994: Tests of a New Marine PBL Flux Scheme in Polar Low Simulations Using the PSU/NCAR Mesoscale Model. *Preprints, Tenth Conference on Numerical Weather Prediction*, American Meteorological Society, Portland, OR, July 18-22, J9-J11.
- 1992**
- Elsner, J. B., S. C. Elsner and J. S. Tilley, 1992: A composite study of heavy rain events associated with warm-season cyclonic circulation systems. *1992 AGU Spring Meeting*, American Geophysical Union, Montreal, Canada May 12-16. [abstract published in supplement to *EOS*, **73**, 14.]

Tilley, J. S. and P. J. Webster, 1990: Terrain-bounded cold surges: Review and proposed theory of their existence and propagation. *Fifth Conference on Mountain Meteorology*, American Meteorological Society, Boulder, CO June 25-29

Tilley, J. S. and P. J. Webster 1990: On the application of edge wave theory to East Asian cold surges: A numerical study. *Fifth Conference on Mountain Meteorology*, American Meteorological Society, Boulder, CO June 25-29

Unpublished manuscripts

Kramm, G. and J. S. Tilley, 2002: Comments to the “Review of Twentieth-Century Drought Indices used in the United States”.

Fan, X. , J.S. Tilley and J. E. Walsh, 2004: Application of 3D Variational Assimilation at High Latitudes: Resolution Sensitivity.

Fan, X., J. S. Tilley, J. E. Walsh and J. Krieger, 2006: Application of 3-dimensional variational assimilation at high latitudes: Resolution sensitivity. *Submitted to J. Met. Soc. Japan’s Scientific Online Letters on the Atmosphere*.

MEETINGS CONVENED

2008

Co-Convener (w/ M. Askelson), American Geophysical Union Joint Assembly, on Atmospheric Applications of Unmanned Airborne Vehicles and Associated Technologies, Ft. Lauderdale, FL May.

2004

Army High Performance Computing Center Workshop on Mesoscale and Microscale Meteorological Modeling for Military Applications, Jackson MS, May 25-26.

2003

International Arctic Research Center Workshop on High Latitude Mesoscale Modeling, Fairbanks, AK, October 10-12.

2002

Co-convener (w. G. Kramm, R. Rasmussen) of AGU Special Session on Cloud Microphysical Processes, Fall AGU meeting, San Francisco, CA, December

OTHER MEETINGS ATTENDED

2010

1. Aurora DOT Consortium Board Meeting, SAlt Lake City UT, April
2. 11TH WRF User’s Event, Boulder, CO, June
3. Aurora DOT Consortium Board Meeting, Des Moines, IA, September

2009

1. 3RD Unmanned Aircraft Systems Action Summit, Grand Forks, ND, May
2. UND UAS Center of Excellence In-Progress Review, Grand Forks, ND, June

2008

1. 88TH Annual American Meteorological Society Meeting, New Orleans, LA, January

2. Aurora DOT Consortium Board Meeting, Reno, NV, May
3. 9th WRF Users' Workshop, Boulder, CO, June

2007

1. Research planning/coordination meeting with Ontario MOT, Ottawa, ON, March
2. 2nd Summit on Unmanned Aerial Systems, Grand Forks, ND, March
3. Aurora DOT Consortium Board Meeting, Des Moines, IA, April
4. Aurora DOT Consortium Board Meeting, Des Moines, IA, August
5. 12th Annual AASHTO/FHWA Eastern Snow Expo, Columbus, OH, August
6. 19th Annual Workshop on Runway/Roadway Friction, Wallops Island, VA, May
7. Aurora DOT Consortium Board Meeting, Indianapolis, IN, December

2006

1. Aurora DOT Consortium Board Meeting, Snowbird, UT December
2. Aurora DOT Consortium Board Meeting, Minneapolis, MN, August
3. Aurora DOT Consortium Board Meeting, Des Moines, IA, May
4. 7th Annual WRF User's Group Workshop, Boulder, CO, June
5. Planning/coordination meeting with CG/AR, Colorado State University, Fort Collins, CO, June
6. AHPCRC 2006 Annual Research Review, Minneapolis, MN, October
7. Summit on Unmanned Aerial Systems, Grand Forks, ND, March
8. AHPCRC Research Strategic Meeting, Minneapolis, MN, January
9. AHPCRC 2006 Workshop on Verification and Validation, Adelphi, MD, October
10. STWRC Steering Committee Meeting, Grand Forks, ND, November
11. AHPCRC Advanced Summer Institute Research Presentation Meeting, Minneapolis, MN, August

2005

1. Aurora DOT Consortium Board Meeting, Des Moines, IA, December
2. Mid-Continent Transportation Research Symposium, Iowa State Univ., Ames, IA, August
3. AHPCRC 2005 Research Review, Minneapolis, MN, August
4. AHPCRC 2005 Interim Review meeting, Adelphi, MD, May
5. STWRC steering committee meeting, Grand Forks, ND, March

2004

1. Arctic System Reanalysis collaborative research meeting, Fairbanks, AK, January 7-9.
2. AMS Annual Meeting, Seattle, WA, , January 10-15.
3. CG/AR 2004 Research Review, Ft. Collins, CO, January 21-22 (gave presentation on UNDAHPCRC research).
4. Arctic System Reanalysis collaborative research meeting, Fairbanks, AK, March 15-19
5. Weather Issues in Surface Transportation, Ames, IA, June 14
6. Arctic System Reanalysis collaborative research meeting, Fairbanks, AK, July 15-19

7. MDSS Stakeholder and Technology Transfer Workshop, Boulder, CO, July 21-23
8. Surface Transportation Weather Workshop, Grand Forks, ND, August 11-12
9. AHPCRC 2004 Research Review, Minneapolis, MN, August 17-18
10. 4th ISSAOS, L'Aquila, Italy, August 30-September 3: Topic: Atmospheric Data Assimilation
11. ARL/CGAR Research Review, 17-18 November, White Sands Missile Range, NM.

2003

1. AHPCRC Annual Research Review, August 27-29, Minneapolis, MN (presented talk authored by Mark Askelson, UND)
2. SuperComputing 2003, Phoenix, AZ, November 18-19
3. Workshop on CFD models, Lawrence Livermore National Laboratory, Livermore, CA, 20
4. November (gave presentation on UND research program)
5. SEARCH Science Meeting, Seattle, WA, October 28-29.
6. Visit to JSU for AHPCRC collaboration, October 29-31.
7. USWRP workshop on Mesoscale Observing Networks, Boulder, CO, December 8-10

2002:

1. Alaskan In-Flight Icing workshop, Anchorage, AK, July 11, AAWU/Pen Air
2. Arctic Weather Initiative workshop, Fairbanks AK July 19, IARC
3. Army-Scale Meteorology Workshop, White Sands, NM, August 14-16, DOD/ARL
4. NEON Workshop, Fairbanks, AK August 26, UA System
5. IARC/INIS workshop, Fairbanks, AK, September 12-13, IARC
6. AAAS Technical Session on Coastal Alaskan Observing Systems, Fairbanks, AK, September 21, Arctic Section of American Association for the Advancement of Science

Synergistic Activities

1. Coordinator/Leader, UND-NIST/EPSCoR Research Group, Univ. of N. Dakota, February 2011-present
2. Coordinator, UPOS Research Program, Univ. of Alaska and U.S. Air Force, 1999-2003.
3. Chair, University-Wide Promotion and Tenure Committee, Univ. of Alaska-Fairbanks (UAF), 2000-2001.
4. Interim/Deputy Group Leader, Geophysical Institute Atm. Science Group, UAF, 3/99-12/01
5. Geosciences Course/Curriculum committee, Univ. of Wisconsin-Milwaukee, 1989-1992; Chair, 1990-1992
6. Panelist, NSF OPP Antarctic Science Panels, late Spring 2004 and early fall 2010
7. Panelist on NSF Interdisciplinary Panel for International Polar Year funding: Fall 2007.
8. Panelist, NSF Panel on Sustainability Research Networks, January 2012 and May 2012.
9. Panelist, NSF OPP Arctic Natural Sciences Panel, February/March 2012
10. Co-Convener, American Geophysical Union Joint Assembly, on Atmospheric Applications of Unmanned Airborne Vehicles and Associated Technologies, Ft. Lauderdale, FL May 2008.
11. Army High Performance Computing Center Workshop on Mesoscale and Microscale Meteorological Modeling for Military Applications, Jackson MS, May 23-25, 2004.
12. International Arctic Research Center Workshop on High Latitude Mesoscale Modeling, Fairbanks, AK, October 10-12, 2003.

13. Co-convenor (w. G. Kramm, R. Rasmussen) of AGU Special Session on Cloud Microphysical Processes, Fall AGU meeting, San Francisco, CA, December 2002

Collaborators & Other Affiliations

- **Collaborators and co-editors in the Past 48 months.** Mark Askelson, UND, Grand Forks, ND; Frank Bowman, UND, Grand Forks, ND; Larry Carey, Univ. of Alabama, Huntsville, AL; Brian Colle, SUNY-Stony Brook, Stony Brook, NY; David Delene, UND, Grand Forks, ND; Jerome Delhommelle, UND, Grand Forks, ND; Crystal Frank, WindLogics, St. Paul, MN; William A. Gallus, Jr., Iowa State University, Ames, IA; Matthew Gilmore, UND, Grand Forks, ND; Cedric (Tony) Grainger, UND, Grand Forks, ND; Amanda Homann, NWS, Indianapolis, IN; Phyllis E. Johnson, UND, Grand Forks, ND; Pavle Kirilov, Indiana State University, Bloomington, IN; Daniel Koller, Meridian Environmental Technologies, Grand Forks, ND; Terry Krauss, Krauss Weather Services, Calgary, AB; Scott Kroeber, UND, Grand Forks, ND; Paul Kucera, NCAR/RAL, Boulder, CO; Douglas Marshall, New Mexico State University, Las Cruces, NM; Gretchen L. Mullendore, UND, Grand Forks, ND; Michael Poellot, UND, Grand Forks, ND; Hossein Salefar, UND, Grand Forks, ND; William Semke, UND, Grand Forks, ND; Brandon Storm, EAPC, Grand Forks, ND; Adam Theisen, NSSL, Norman, OK; Edward Townsend, NWS, Sullivan, WI; Benjamin Trapnell, UND, Grand Forks, ND.
- **Graduate Advisors and Postdoctoral Sponsors.** N/A
- **Thesis Advisor and Postgraduate-Scholar Sponsor.** John R. Mecikalski, M.S., 1991, University of Wisconsin-Milwaukee. Thesis title: Cold surges along the Front Range of the Rocky Mountains: A Classification scheme and synoptic case study; Crystal Paulsen, M.S., 2007. University of North Dakota. Thesis title: Forecasts of C_n^{-2} and N using a Mesoscale Multi-Model Ensemble; Randall Johnson, M.S., 2010. University of North Dakota; Edward Townsend, M.S. 2011, University of North Dakota; Brandon Austin, M.S., candidate, University of North Dakota (expected graduation May 2013); Joel Siegel, M.S. candidate, University of North Dakota (expected graduation May 2013); Brandon Bigelbach, M.S., candidate, University of North Dakota (expected graduation date Dec 2013); Kajli Agrawal, M.S. candidate, University of North Dakota (expected graduation date May 2013).