

CURRICULUM VITAE

Stephen W. Nesbitt

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Research Interests

My research interests include studying clouds and precipitation from satellite, aircraft, and ground-based observational platforms, as well as using models to understand the wide range of dynamical and microphysical processes associated with precipitating cloud systems, including their interactions with topography, the land surface, and the ocean. I am also interested in synoptic and mesoscale meteorology in the Tropics and Mid-latitudes.

My research is also involved developing and using remote sensing retrievals and analysis tools to better our understanding of how modes of precipitating cloud microphysics, dynamics, structure, and life cycle vary. As part of the earth's water cycle, variations in precipitating cloud characteristics have broad impacts on regional meteorology, hydrology, climate, and society.

Understanding the mechanisms by which precipitation characteristics vary is part of a broader goal of verifying and improving the representation and predictability of cloud systems in regional and global models through careful model-observation comparisons. As a necessary, yet challenging step in increasing our confidence in climate predictions, understanding how well the distribution, intensity, organization, and broader impacts of precipitating systems (including extreme events) are represented in global and regional models, as well as how their impacts will change in a warming climate, will be a key research question in the Atmospheric Sciences for this century.

Educational Background

University of Utah	Ph.D. Meteorology, 2003
Texas A&M University	M.S. Meteorology, 1999
State Univ. of New York at Oswego	B.S., <i>summa cum laude</i> , Meteorology, 1997

Professional Experience

2006 – present	Assistant Professor, Department of Atmospheric Sciences, University of Illinois at Urbana-Champaign
2005 – 2006	Research Scientist II, Department of Atmospheric Science, Colorado State University
2003 – 2005	Research Scientist I, Department of Atmospheric Science, Colorado State University
1999 – 2003	Graduate Research Assistant, Department of Meteorology, University of Utah
1998 – 1999	Graduate Research Assistant, Department of Meteorology, Texas A&M University
1997 – 1998	Graduate Teaching Assistant, Department of Meteorology, Texas A&M University
1995 – 1997	Undergraduate Research Assistant, State Univ. of New York at Oswego

Honors

2008	Recipient, NASA New Investigator Program in Earth System Science Award
2007	Travel Fellowship, National Center for Atmospheric Research Junior Faculty Forum on “The Coupling of Terrestrial and Atmospheric Water Dynamics”
2006	Travel Fellowship, University Corporation of Atmospheric Research Annual Board Meeting

- 2006 Editors' Citation for Excellence in Refereeing for *Journal of Geophysical Research – Atmospheres*, American Geophysical Union
- 2001 – 2003 NASA Earth System Science Fellowship
- 2002 Excellence in Graduate Research Award, University of Utah
- 1997 Highly Meritorious Meteorology Senior Award, SUNY Oswego

Invited Lectures

- 2008 Invited Presentation, Second Climate Prediction Program for the Americas Principal Investigator's Meeting, Silver Spring, MD
- 2007 Invited Presentation, World Meteorological Organization Workshop on High Resolution Precipitation Products, Geneva, Switzerland
- 2007 Invited Lecturer, *Science Today* Lecture Series, State University of New York College at Oswego
- 2006 Invited Presentation, Department of Energy Atmospheric Radiation Measurement Cloud Properties Working Group Meeting, Annapolis, MD
- 2006 Invited Presentation, Illinois State Water Survey, Champaign, IL
- 2006 Invited Presentation, Central Illinois Chapter of the American Meteorological Society, Lincoln, IL
- 2006 Invited Speaker, Warm Season Precipitation Workshop, Boulder, Colorado
- 2006 Invited seminar speaker, University of California at Los Angeles
- 2005 Invited speaker and session chair, 5th International Global Precipitation Mission Planning Workshop, Tokyo, Japan
- 2004 Invited seminar speaker, University of Wyoming
- 2003 Invited speaker, GCSS Working Group 4 Meeting, Broomfield, CO
- 2003 Invited speaker, Climate and Radiation Branch, Laboratory for Atmospheres, NASA Goddard Space Flight Center

Offices Held and Membership in Professional Societies

- 2008 – present Member, Validation Working Group, CGMS/WMO International Precipitation Working Group
- 2008 President, Central Illinois Chapter of the American Meteorological Society
- 2007 – present Member, American Meteorological Society Science and Technology Advisory Committee on Radar Meteorology
- 2007 Vice President, Central Illinois Chapter of the American Meteorological Society
- 2001 – 2002 Vice President, University of Utah Student Chapter of the American Meteorological Society
- 1996 – 1997 President, State Univ. of New York Student Chapter of the American Meteorological Society and Meteorology Club
- 2003 – Member, *Phi Kappa Phi* Honor Society
- 2000 – Member, American Geophysical Union
- 1994 – Member, American Meteorological Society

Grants Received

Principal Investigator: Stephen W. Nesbitt
Granting Agency: National Aeronautics and Space Administration
Dates of Award: 5/15/07 – 5/14/08
Title: Creation and Analysis of C₃VP Synthesis Datasets for Global Precipitation Mission Algorithm Development and Evaluation
Award Amount: \$20 K

Principal Investigator: Stephen W. Nesbitt
Granting Agency: National Oceanic and Atmospheric Administration
Dates of Award: 8/1/07 – 7/31/10
Title: Diurnal variations and forcing of precipitation systems in the North American Monsoon system
Award Amount: \$285 K

Principal Investigator: Stephen W. Nesbitt
Granting Agency: National Aeronautics and Space Administration
Dates of Award: 5/15/08 – 5/14/09
Title: Analysis of C3VP Synthesis Datasets for Global Precipitation Mission Algorithm Development and Evaluation
Award Amount: \$20 K

Principal Investigator: Stephen W. Nesbitt
Granting Agency: National Aeronautics and Space Administration
Dates of Award: 8/1/08 – 5/31/11
Title: Improving the Measurement and Understanding of Orographic Precipitation using NASA Satellite Measurements
Amount: \$319 K

Principal Investigator: Greg M. McFarquhar (Department of Atmospheric Sciences, University of Illinois)
Co-Investigators: Stephen W. Nesbitt, Brian F. Jewett (Department of Atmospheric Sciences, University of Illinois)
Granting Agency: National Aeronautics and Space Administration
Dates of Award: 1/1/09 – 12/31/12
Title: Application of NASA Field Observations, Satellite Retrievals and High Resolution WRF Simulations to Study Physical and Dynamical Processes Governing Tropical Cyclone Rainfall and Intensity Change
Amount: \$614 K

Principal Investigator: Alison M. Anders (Department of Geology, University of Illinois)
Co-Principal Investigator: Stephen W. Nesbitt
Granting Agency: National Science Foundation
Dates of Award: 3/1/09 – 2/28/12
Title: Coupling Between Weather, Climate, and Landscape Evolution in the Western Ghats of India
Award Amount: \$340 K

Journal Publications (# indicates publications resulting from theses, * indicates peer-reviewed publication)

1. *Nesbitt, S. W., R. Zhang, and R. E. Orville, 2000: Seasonal and global NO_x production by lightning estimated from the Optical Transient Detector (OTD). *Tellus*, **52**, 1206-1215.
2. *#Nesbitt, S. W., E. J. Zipser, and D. J. Cecil, 2000: A census of precipitation features in the Tropics using TRMM: Radar, ice scattering, and lightning observations. *J. Climate*, **13**, 4087-4106.
3. *Cecil, D. J., E. J. Zipser, and S. W. Nesbitt, 2002: Reflectivity, ice scattering, and lightning characteristics of hurricane eyewalls and rainbands. Part I: Quantitative description. *Mon. Wea. Rev.*, **130**, 769-784.
4. *Toracinta E. R., D. J. Cecil, E. J. Zipser, and S. W. Nesbitt, 2002: Radar, passive microwave, and lightning characteristics of precipitating systems in the Tropics. *Mon. Wea. Rev.*, **130**, 802-824.

5. *Petersen, W. A., S. W. Nesbitt, R. J. Blakeslee, R. Cifelli, P. Hein and S. A. Rutledge, 2002: TRMM observations of convective regimes in the Amazon. *J. Climate*, **15**, 1278-1294.
6. *#Nesbitt, S. W., and E. J. Zipser, 2003: The diurnal cycle of rainfall and convective intensity according to three years of TRMM measurements. *J. Climate*, **16**, 1456-1475.
7. *Barros, A. P., G. Kim, E. Williams, and S. W. Nesbitt, 2004: Probing orographic controls in the Himalayas during the monsoon using satellite imagery. *Nat. Haz. and Earth Sys. Sci.*, **4**, 1-23.
8. *#Nesbitt, S. W., E. J. Zipser, and C. D. Kummerow, 2004: An examination of version 5 rainfall estimates from the TRMM microwave imager, precipitation radar, and rain gauges on global, regional and storm scales. *J. Appl. Meteor.*, **43**, 1016-1036.
9. *Cecil, D. J., S. J. Goodman, D. J. Boccippio, E. J. Zipser, and S. W. Nesbitt, 2005: Three years of TRMM precipitation features. Part I: Radar, radiometric, and lightning characteristics. *Mon. Wea. Rev.*, **133**, 543-566.
10. *Higgins, W., D. Ahijevych, J. Amador, A. Barros, E. H. Berbery, E. Caetano, P. Ciesielski, R. Cifelli, M. Cortez-Vazquez, A. Douglas, M. Douglas, G. Emmanuel, C. Fairall, D. Gochis, D. Gutzler, R. Johnson, C. King, T. Lang, M.-I. Lee, D. Lettenmaier, R. Lobato, V. Magaña, J. Meitin, K. Mo, S. Nesbitt, E. Pytlak, P. Rogers, S. Rutledge, J. Schemm, S. Schubert, F. Torres, A. White, C. Williams, A. Wood, R. Zamora, C. Zhang, 2006: The North American Monsoon Experiment (NAME) field campaign and modeling strategy. *Bull. Amer. Meteor. Soc.*, **87**, 79-94.
11. *Matrosov, S., R. Cifelli, P. C. Kennedy, S. W. Nesbitt, V. N. Bringi, B. E. Martner, 2006: A comparative study of rainfall retrievals based on specific differential phase shifts at X- and S-band radar frequencies. *J. Atmos. Ocean. Tech.*, **23**, 952-963.
12. *Zipser, E. J., D. J. Cecil, C. Liu, S. W. Nesbitt, and D. P. Yorty, 2006, Where are the most intense thunderstorms on earth? *Bull. Amer. Meteor. Soc.*, **87**, 1057-1071.
13. *Nesbitt, S. W., R. Cifelli, and S. A. Rutledge, 2006: Storm morphology and rainfall characteristics of TRMM precipitation features. *Mon. Wea. Rev.*, **134**, 2702-2721.
14. *Liu, C., E. J. Zipser, and S. W. Nesbitt, 2007: Global distribution of tropical deep convection: Different perspectives using infrared and radar as the primary data source. *J. Climate*, **20**, 489-503.
15. *Lang, T. J., D. Ahijevych, S. W. Nesbitt, R. Carbone, and S. A. Rutledge: 2007: Radar-observed characteristics of precipitating systems during NAME 2004. *J. Climate*, **20**, 1713-1733.
16. *Cifelli, R., S. W. Nesbitt, and S. A. Rutledge, W. A. Petersen, and S. E. Yuter, 2007: Radar characteristics of precipitation features in the EPIC and TEPPS regions of the East Pacific. *Mon. Wea. Rev.*, **135**, 1576-1595.
17. *Lieberman, R. S., D. M. Riggan, D. A. Ortland, S. W. Nesbitt, and R. A. Vincent, 2007: Variability of mesospheric diurnal tides and tropospheric diurnal heating during 1997-1998. *J. Geophys. Res.*, **112**, D20110, doi:10.1029/2007JD008578.
18. *Liu, C., E. J. Zipser, D. J. Cecil, S. W. Nesbitt, and S. Sherwood, 2008: A cloud and precipitation feature database from nine years of TRMM observations. *J. Appl. Meteor. Clim.*, **47**, 2712-2728.
19. *Cifelli, R., S. W. Nesbitt, and S. A. Rutledge, W. A. Petersen, and S. E. Yuter, 2008: Diurnal characteristics of precipitation features over the East Pacific: A comparison of the EPIC and TEPPS regions. *Mon. Wea. Rev.*, **21**, 4068-4086.
20. *Lyon, S. W., F. Domingues, D. J. Gochis, N. A. Brunsell, C. L. Castro, F. K. Chow, D. Fuka, Y. Hong, P. Kucera, S. W. Nesbitt, Y. Fan, N. Salzmann, J. Schmidli, P. K. Snyder, A. J. Teuling, T. E. Twine, S. Levis, J. D. Lundquist, G. D. Salvucci, A. M. Sealy, M. T. Walter, 2007: Coupling terrestrial and atmospheric water dynamics to improve prediction in a changing environment. *Bull. Amer. Meteor. Soc.*, **89**, 1275-1279.
21. *Nesbitt, S. W., D. J. Gochis, and T. J. Lang, 2008: The diurnal cycle of clouds and precipitation along the Sierra Madre Occidental during the North American Monsoon Experiment: Implications for precipitation estimation in complex terrain. *J. Hydromet.*, **9**, 728-743.
22. *Gochis, D. J., S. W. Nesbitt, W. Yu, and S. Williams, 2009: Comparison of gauge-corrected versus non-gauge corrected satellite-based quantitative precipitation estimates during the 2004 NAME Enhanced Observing period. *Atmosfera*, **22**, 69-98.
23. *Peters, O., J. D. Neelin, and S. W. Nesbitt, 2009: Mesoscale convective clusters as critical phenomena. *J. Atmos. Sci.*, in press.
24. *Lang, T. J., S. W. Nesbitt, and L. D. Carey, 2009: On the correction of partial beam blockage in polarimetric radar data. *J. Atmos. Ocean Tech.*, in press.

25. *Nesbitt, S. W., and A. M. Anders, 2009: Very high resolution precipitation climatologies from the Tropical Rainfall Measuring Mission precipitation radar. *Geophys. Res. Lett.*, submitted.

Abstracts and Conference Proceedings

1. #Cecil, D. J., D. B. Wolff, E. R. Toracinta, and S. W. Nesbitt, 1998: Multi-sensor comparison of TRMM satellite and ground validation products from Texas and Florida squall line events. Preprints, 19th Conf. Severe Local Storms, Minneapolis, MN, Amer. Meteor. Soc., 587-590.
2. #Nesbitt, S. W., 1999: A comparison of 85 GHz ice scattering, reflectivity structure and lightning observations of tropical precipitation by TRMM. Preprints, 23rd Conference on Hurricanes and Tropical Meteorology., Dallas, TX, Amer. Meteor. Soc., 939-942.
3. #Nesbitt, S. W., D. J. Cecil, and E. J. Zipser, 1999: TRMM Precipitation Features. Poster, TRMM Science Meeting, Pasadena, CA.
4. Nesbitt, S.W., Zipser, E. J., B. Xi, G. Heymsfield and R. Hood, 2000: Using radar profiles and passive microwave radiances as constraints for deriving microphysical profiles within cloud systems. Preprints, 13th International Conference on Clouds and Precipitation, Reno, NV, International Commission on Clouds and Precipitation, 250-253.
5. Zipser, E. J., G. V. Mota, and S. W. Nesbitt, 2000: Mesoscale convective systems observed during TRMM-LBA. Poster, First LBA Scientific Conference, Belem, Para, Brazil.
6. #Nesbitt, S. W. and E. J. Zipser, 2000: The diurnal cycle of convection according to 36 months of TRMM data. Poster, AGU Fall Meeting, San Francisco, CA.
7. Nesbitt, S. W., Preliminary findings from MOHRPREX, Annapurna Region, Nepal. Invited department seminar, Department of Meteorology, University of Utah, Salt Lake City, UT.
8. #Nesbitt, S. W. and E. J. Zipser, 2001: The diurnal cycle of rainfall from three years of Tropical Rainfall Measuring Mission (TRMM) data. IAMAS Joint Symposium, Innsbruck, Austria.
9. Yorty, D. P., E. J. Zipser, and S. W. Nesbitt, 2001: Global distribution of extremely intense storms between 36°S and 36°N using evidence from the TRMM radar. Preprints, 30th International Conf. on Radar Meteor., Munich, Germany, Amer. Meteor. Soc., 334-336.
10. #Nesbitt, S. W. and E. J. Zipser, 2002: Comparisons of TRMM rainfall products on regional, seasonal, and storm scales. Presentation, 1st TRMM International Science Conference, Honolulu, HI.
11. Nesbitt, S. W. and G. V. Mota, 2002: A comparison of precipitation estimates in the Himalayas and Andes. Preprints, 10th Conference on Mountain Meteorology and MAP Meeting, Park City, UT, Amer. Meteor. Soc., 237-238.
12. #Nesbitt, S. W., 2003: Precipitation features according to TRMM and implications for the Global Precipitation Mission (GPM), Invited Presentation, Climate and Radiation Branch Seminar Series, NASA Goddard Space Flight Center, Greenbelt, MD.
13. Nesbitt, S. W., R. Cifelli, and S. A. Rutledge: 2003: A comparison of rainfall characteristics in the EPIC and TEPPS field campaigns. Poster, EPIC-2001 Workshop, US CLIVAR Pan-American Workshop, Boulder, CO.
14. #Nesbitt, S. W., 2003: The diurnal cycle over land. Invited presentation, GCSS Working Group 4 Meeting, Broomfield, CO.
15. Nesbitt, S. W., R. Cifelli, S. A. Rutledge, and E. J. Zipser, 2003: Field campaign radar data collected in the context of the TRMM climatology: Comparisons of observed storm morphology and validation opportunities. Preprints, 31st Conference on Radar Meteorology, Seattle, WA, Amer. Meteor. Soc.
16. #Nesbitt, S. W., 2003: Rainfall, convective intensity, and lightning characteristics of Tropical precipitation features according to TRMM. Invited department seminar, Department of Atmospheric Science, Colorado State University, Fort Collins, CO.
17. #Nesbitt, S. W., 2003: Rainfall, convective intensity, and lightning characteristics of Tropical precipitation features according to TRMM. Invited department seminar, Department of Atmospheric Science, University of Wyoming, Laramie, WY.

18. #Nesbitt, S. W., R. Cifelli, S. A. Rutledge, D. J. Cecil, and E. J. Zipser, 2003: Rainfall, convective intensity, and lightning characteristics of mesoscale convective systems according to TRMM. Poster, AGU Fall Meeting, San Francisco, CA.
19. Nesbitt, S. W., T. J. Lang, D. Gochis, and S. A. Rutledge, 2004: Rainfall in the North American Monsoon Experiment Tier-I domain. Poster, 1st CLIVAR International Conference, Baltimore, MD.
20. Nesbitt, S. W., 2004: Identifying precipitation regimes using the Tropical Rainfall Measuring Mission. Seminar, Institute for Terrestrial and Planetary Atmospheres, Stony Brook University.
21. Cifelli, R., S. W. Nesbitt, S. A. Rutledge, W. A. Petersen, and S. A. Yuter, 2004: Convective variability across the East Pacific: A comparison of precipitation structure in the TEPPS and EPIC domains. Preprints, 26th Conference on Hurricanes and Tropical Meteorology, Miami, FL, Amer. Meteor. Soc.
22. Nesbitt, S. W., C. Liu, G. V. Mota, D. Gochis, E. Zipser, and C. D. Kummerow, 2004: A physical comparison of Version 5 TRMM PR and TMI rainfall estimates with each other and rain gauge networks on global, regional, and storm scales. Poster, 2nd TRMM International Science Conference, Nara, Japan.
23. Nesbitt, S. W., R. Cifelli, S. A. Rutledge, D. J. Cecil, D. J. Boccippio, and E. J. Zipser, 2004: The horizontal organization of Tropical precipitation features according to TRMM as a function of NCEP-reanalysis environmental parameters. Presentation, 2nd TRMM International Science Conference, Nara, Japan.
24. Nesbitt, S. W., R. Cifelli, S. A. Rutledge, M. Chronin, and C. Fairall, 2005: Comparisons of convective morphology, surface fluxes, and boundary layer recovery in EPIC and TEPPS: Convective wakes and the diurnal cycle. Presentation, EPIC Modeling Workshop, Seattle, WA.
25. Nesbitt, S. W., R. Cifelli, T. Lang, S. A. Rutledge, C. Williams, K. Gage, S. Matrosov, B. Martner, D. Kingsmill, V. Bringi, V. Chandrasekar, and P. Kennedy, 2005: The Global Precipitation Measurement (GPM) Mission Front Range Pilot Project (FRPP). Poster, AGU 2005 Joint Assembly, New Orleans, LA.
26. Nesbitt, S. W., R. Cifelli, and S. A. Rutledge, 2005: Storm morphology and rainfall characteristics of TRMM precipitation features. Poster, Precipitation Measurement Missions Meeting, Monterey, CA.
27. Nesbitt, S. W., R. Cifelli, and S. A. Rutledge, 2005: Storm morphology and rainfall characteristics of TRMM precipitation features. Presentation, Cloud Modeling Workshop, Fort Collins, CO.
28. Nesbitt, S. W., 2005: Precipitation system climatology in TRMM and prospects for GPM. Invited presentation, 5th International Global Precipitation Mission Planning Workshop, Tokyo, Japan.
29. Nesbitt, S. W., R. Cifelli, and S. A. Rutledge, 2005: Storm morphology and rainfall characteristics of TRMM precipitation features. Preprints, 32rd Conference on Radar Meteorology, Albuquerque, NM, Amer. Meteor. Soc.
30. Lang, T. J., D. Ahijevych, R. Carbone, R. Cifelli, S. W. Nesbitt, G. Pereira, S. A. Rutledge, 2005: Radar observations during NAME 2004. Part I: Data products and quality control. Preprints, 32rd Conference on Radar Meteorology, Albuquerque, NM, Amer. Meteor. Soc.
31. Lang, T. J., D. Ahijevych, R. Carbone, R. Cifelli, S. W. Nesbitt, G. Pereira, S. A. Rutledge, 2005: Radar observations during NAME 2004. Part II: Preliminary results. Preprints, 32rd Conference on Radar Meteorology, Albuquerque, NM, Amer. Meteor. Soc.
32. Nesbitt, S. W., 2006: Storm morphology and rainfall characteristics of TRMM precipitation features. Department seminar, Department of Atmospheric Sciences, University of Illinois at Urbana-Champaign, Urbana, IL.
33. Nesbitt, S. W., 2006: Storm morphology and rainfall characteristics of TRMM precipitation features. Department seminar, Department of Atmospheric and Oceanic Sciences, University of California at Los Angeles, Los Angeles, CA.
34. Nesbitt, S. W., R. Cifelli, S. A. Rutledge, 2006: Eight years of TRMM data: Towards a quantitative understanding of processes behind the diurnal cycle of precipitation. Preprints, 27th Conference on Hurricanes and Tropical Meteorology, Monterey, CA., Amer. Meteor. Soc.
35. Lang, T. J., S. W. Nesbitt, R. Cifelli, D. Ahijevych, R. Carbone, S. A. Rutledge, 2006: The diurnal cycle in NAME. Preprints, 27th Conference on Hurricanes and Tropical Meteorology, Monterey, CA., Amer. Meteor. Soc.
36. Nesbitt, S. W., T. J. Lang, and D. J. Gochis, 2006: The initiation and upscale growth of convection within the diurnal cycle along the Sierra Madre Occidental. 1st NOAA CPPA PI's Workshop, Tucson, AZ.
37. Nesbitt, S. W., and D. J. Gochis, 2007: Evaluation of high-resolution precipitation products during the North American Monsoon Experiment. World Meteorological Organization Workshop on High Resolution Precipitation Products, Geneva, Switzerland.

38. Nesbitt, S.W., and N. J. Schiffer, 2008: Using lightning and high resolution precipitation products to monitor and understand North American Monsoon processes. 3rd Conference on the Meteorological Applications of Lightning Data, New Orleans, LA, Amer. Meteor. Soc.
39. Nesbitt, S. W., A. M. Anders, and V. Mahadavan, 2008: High-resolution precipitation and climatologies from TRMM: How high can we go? 4th International NASA-JAXA Tropical Rainfall Measuring Mission International Science Conference, Las Vegas, NV.
40. Nesbitt, S. W., N. J. Schiffer, and A. Rosenow, 2008: Improved precipitation data for the study of the North American Monsoon. Second Climate Prediction Program for the Americas Principal Investigator's Meeting, Silver Spring, MD.
41. Schiffer, N. J., and S. W. Nesbitt, 2008: Gulf of California surges and precipitation events in the North American Monsoon: Processes and variability. Second Climate Prediction Program for the Americas Principal Investigator's Meeting, Silver Spring, MD.
42. Nesbitt, S. W., N. J. Schiffer, and A. Rosenow, 2008: Precipitation Bursts in the North American Monsoon. World Meteorological Organization Fourth International Workshop on Monsoons, Beijing, China.
43. Kaufeld, W. J., and S. W. Nesbitt, 2009: Toward assessing the effect of aerosols on deep convection: A numerical study using the WRF-Chem. Preprints, 11th Conference on Atmospheric Chemistry and the Special Symposium on Aerosol-Cloud-Climate Interactions, Phoenix, AZ, Amer. Meteor. Soc.
44. Nesbitt, S. W. and A. Anders, 2008: Very high resolution precipitation frequency and rainfall estimates from TRMM: Applications and uncertainties. Proceedings of the Fourth Meeting of the International Precipitation Working Group, Beijing, China, World Meteorological Organization.

Other Publications

Rutledge, S., S. Nesbitt, R. Cifelli, T. Lang, B. Martner, S. Matrosov, D. Kingsmill, K. Gage, C. Williams, V. Bringi, V. Chandrasekar, and P. Kennedy, 2005: Report and recommendations of the Global Precipitation Mission (GPM) Ground Validation (GV) Front Range Pilot Project. Report, submitted to NASA GPM Project Office, 67 pp.

Field Program Participation

Texas and Florida Underflights-A (TEFLUN-A): Convection in Southeast Texas and surrounding areas. Radar and radiosonde operator. Spring 1998

Texas and Florida Underflights-B (TEFLUN-B)/Clouds and Moisture Experiment-3 (CAMEX-3): Convection in Central Florida, W. Atlantic/Gulf Coast hurricanes. Aircraft microwave radiometer operator (AMMR) aboard the NASA DC-8 aircraft. August-September 1998

Kwajalein Experiment (KWAJEX): Convection in west-central Pacific Ocean. Kwajalein polarimetric radar operator, aircraft microwave radiometer operator (AMMR) aboard the NASA DC-8 aircraft. July-September 1999

Intermountain Precipitation Experiment (IPEX): Winter storms in the Intermountain West. NSSL mobile radiosonde operator. January-February 2000

Vertical Transport and Mixing Experiment (VTMX): Evolution of the nocturnal boundary layer in the Salt Lake Valley, Utah. Pilot balloon operator. October 2000

Monsoon Himalayan Precipitation Experiment (MOHPREX): Precipitation during the monsoon onset in the Annapurna Region, Nepal. Site Chief Scientist, radiosonde operator. June 2001

Global Precipitation Mission Front Range Pilot Project: Dual-frequency, dualwavelength polarimetric radar and profiler measurements of precipitation in Northern Colorado. Co-Chief Radar Scientist. Spring-Summer 2004

North American Monsoon Experiment (NAME): Dual-frequency, dual-wavelength polarimetric radar measurements of precipitation in Sinaloa, Mexico. Co-Chief Radar Scientist. Summer 2004

Rainfall Variability in the Western Ghats (RVAR-WG): Rain processes in the Western Ghats, India. Co-Chief Scientist. August 2008 – present.

Elevational Variations in Monsoon Orographic Precipitation (EVMOP): Rain gauge installation on the slopes the Valle Caldera, Sante Fe National Forest, New Mexico. March-October 2010 (planned). Chief Scientist.

Review Panels Served Upon

August 2006 NASA Precipitation Measurement Missions, Washington, DC
July 2008 NSF CubeSat Panel, Arlington, VA

Graduate Students Supervised

M.S.: Wendilyn Kaufeld (in progress), Nicole Schiffer (in progress), Dan Harnos (in progress)

Ph.D. Committees Served Upon

Liang, Lusheng	Ph.D. candidate, Passed Preliminary Exam, January 2007
Grim, Joseph	Ph.D., 2007: "The development, evolution, and forcing of the rear inflow jet in bow echoes during BAMEX", Currently employed at the National Center for Atmospheric Research, Boulder, CO.
Zhang, Henian	Ph.D., 2008: "Impact of Saharan dust as CCN on the evolution of an idealized tropical cyclone", Currently employed as a post doc at the Georgia Institute of Technology, Atlanta, GA.
Romine, Glen	Ph.D., 2008: "Improving storm-scale analyses of convection via assimilation of polarimetric radar observations", Currently employed at the University of Illinois, Urbana, IL.
Um, Junshik	Ph.D. candidate, Passed Preliminary Exam, July 2008

Courses Taught

ATMS 505: Weather Systems (Spring 2009-new course, planned)
ATMS 410: Radar meteorology (Fall 2008)
ATMS 406: Tropical meteorology (Spring 2008-new course)
ATMS 403: Weather analysis and forecasting (Spring 2007, Fall 2007)

Contributions to Instructional Programs at Illinois

S 2007, F 2007 Rated on university-wide list of *Teachers Ranked as Excellent by their Students*
Fall 2006 Participant in LAS Teaching Academy
Spring 2007 Participant in Center for Teaching Excellence panel discussion on Pew Discussion Group on the report "How Young People View Their Lives, Futures, and Politics: A Portrait of Generation Next"
2007 – present Served on department Curriculum Committee
Spring 2007 Co-developed online graduate handbook
October 2007 Led instructional visit to the University of Illinois by the National Center for Atmospheric Research NCAR Mobile GPS Advanced Upper-Air Sounding System (MGAUS)
2008 – present Developing undergraduate academic and recruiting materials for new DAS major
2008 – present Proposed new graduate course to LAS, ATMS 503, Weather Systems

Public Service

Speaker at the Central Illinois Chapter of the American Meteorological Society, Lincoln, IL, September 2006
Speaker at the Illinois State Water Survey, Champaign, IL, October 2006
Interviewed by *Daily Illini* on the hurricane season, September 2007
Represented Atmospheric Sciences at the National Weather Service Open House, Lincoln, IL, October 2007
Speaker at earth science classes on field experiment in Nepal, Lancaster High School, Lancaster, NY, October 2007
Speaker in campus-wide lecture series on the North American Monsoon, State University of New York at Oswego, Oswego, NY, October 2007
Interviewed by *Daily Illini* on snowy weather, February 2008
Speaker at Early Learning preschool on hurricanes, Champaign, IL, December 2008

Service to Disciplinary and Professional Societies or Associations

Member, American Meteorological Society Science and Technology Advisory Committee on Radar Meteorology, 2007 – present
President-elect, Central Illinois Chapter of the American Meteorological Society, 2007
President, Central Illinois Chapter of the American Meteorological Society, 2007 – present
Faculty advisor, University of Illinois Chapter of the American Meteorological Society, 2007 – present
Chaired session on “Error Metrics” at the World Meteorological Organization Workshop on High Resolution Precipitation Products, Geneva, Switzerland, December 2007
Chaired session on “Use of Lightning Data in the Operational Warning and Decision Making Process” at the 3rd Conference on the Meteorological Application of Lightning Data, American Meteorological Society Annual Meeting, New Orleans, LA, January 2008
Member of Validation Working Group, International Precipitation Working Group, Coordination Group for Meteorological Satellites, World Meteorological Organization, October 2008 – present

Journals, publishers, or federal agencies serving as a reviewer for submitted papers, books, or proposals

Atmosfera
Atmospheric Chemistry and Physics
Bulletin of the American Meteorological Society
Geophysical Research Letters
Journal of Applied Meteorology and Climatology
Journal of Atmospheric Sciences
Journal of Climate
Journal of Geophysical Research – Atmospheres
Journal of Hydrometeorology
Journal of Atmospheric and Oceanic Technology
Journal of the Meteorological Society of Japan
Monthly Weather Review
National Science Foundation
National Oceanic and Atmospheric Administration
National Aeronautics and Space Administration
Quarterly Journal of the American Meteorological Society

Service to the University

Member of College of Liberal Arts and Sciences Policy and Development Committee, 2007–present
Member of Department Graduate Affairs Committee, 2007 – present
Member of Department Web Committee, 2007 – present

Member of Department Curriculum Committee, 2007 – 2008