

## I. PERSONAL HISTORY AND PROFESSIONAL EXPERIENCE

### A. Educational Background

<u>Degrees</u>	<u>Field of Study</u>	<u>Institution</u>	<u>Date of Degree</u>
B.S. ( <i>summa cum laude</i> )	Meteorology	State University of New York College at Oswego	1997
M.S.	Meteorology	Texas A&M University	1999
Ph.D.	Meteorology	University of Utah	2003

### B. List of Academic Positions Since Final Degree

Research Scientist I, Department of Atmospheric Sciences, Colorado State University, Fort Collins, CO, 2003 – 2005  
 Research Scientist II, Department of Atmospheric Sciences, Colorado State University, Fort Collins, CO, 2005 – 2006  
 Assistant Professor, Department of Atmospheric Sciences, University of Illinois at Urbana-Champaign, Urbana, IL, 2006 – present

### C. Other Professional Employment

Undergraduate Research Assistant, State University of New York College at Oswego, Oswego, NY, 1995 – 1997  
 Graduate Teaching Assistant, Department of Meteorology, Texas A&M University, College Station, TX, 1997  
 Graduate Research Assistant, Tropical Convection Research Program, Department of Meteorology, Texas A&M University, College Station, TX, 1997 – 1999  
 Graduate Research Assistant, Tropical Meteorology Group, University of Utah, Salt Lake City, UT, 1999 – 2003

### D. Honors, Recognitions, and Prizes

Highly Meritorious Meteorology Senior Award, State University of New York College at Oswego, 1997  
 Excellence in Graduate Research Award, University of Utah, 2003  
 NASA Earth System Science Graduate Fellowship, a highly selective fellowship within all disciplines in the earth sciences, 2001-2003  
 Editors' Citation for Excellence in Refereeing for *Journal of Geophysical Research – Atmospheres*, American Geophysical Union, 2006  
 List of Teachers Ranked as Excellent, Spring 2007, for ATMS 403: Weather Research and Forecasting, core course with 18 students enrolled  
 List of Teachers Ranked as Excellent, Fall 2007, for ATMS 403: Weather Research and Forecasting, core course with 11 students enrolled  
 NASA New Investigator Award, a highly selective funded award that includes all disciplines within the earth sciences, 2008  
 List of Teachers Ranked as Excellent, Fall 2009, for ATMS 406: Tropical Meteorology, elective course with 15 students enrolled  
 University of Illinois, College of Liberal Arts and Sciences, Reflective Teaching Seminar, 2010-11 academic year  
 Editors' Citation for Excellence in Refereeing for *Journal of Geophysical Research – Atmospheres*, American Geophysical Union, 2011  
 Chair, 35<sup>th</sup> American Meteorological Society Conference on Radar Meteorology, Pittsburgh, PA, September 2011

E. Invited Lectures and Invited Conference Presentations Since Last Promotion

Intense thunderstorms in the tropics, Local Chapter Meeting, Central Illinois Chapter of the American Meteorological Society, Lincoln, IL, September 2006

Observations and processes within intense thunderstorms, Seminar Series, Illinois State Water Survey, Champaign, IL, September 2006

Global Precipitation Mission ground validation strategies, Department of Energy Atmospheric Radiation Measurement Cloud Properties Working Group Meeting, Annapolis, MD, October 2006

North American Monsoon, Science Today Lecture Series, State University of New York College at Oswego, October 2007

Precipitation processes within the North American Monsoon, World Meteorological Organization Workshop on High Resolution Precipitation Products, Geneva, Switzerland, December 2007

Satellite studies of monsoon precipitation, Department of Earth Sciences, University of Goa, Goa, India, August 2008

Illinois MGAUS educational outreach deployment, National Science Foundation Facilities Users Workshop, National Center for Atmospheric Research, June 2008

North American Monsoon, Seminar Series, Department of Atmospheric Sciences, University of Illinois at Urbana-Champaign, October 2008

High resolution precipitation data and analysis of the North American Monsoon, Second Climate Prediction Program for the Americas Principal Investigator's Meeting, Silver Spring, MD, October 2008

Orographic precipitation, Department of Earth Sciences, University of Goa, Goa, India, August 2009

Imaging global precipitation, *Imaging Illinois* Workshop, Beckman Institute, University of Illinois at Urbana-Champaign, October 2009

North American Monsoon, Under threat? Department of Physics and Engineering, Fort Lewis College, April 2010

Impact of soil moisture initialization on convection in the North American Monsoon, Department of Civil and Environmental Engineering, University of Illinois at Urbana-Champaign, April 2010

Impact of soil moisture initialization on convection in the North American Monsoon, Department of Atmospheric Science, University of Utah, June 2010

Sources of precipitation variability in the Western Ghats, India, Department of Earth Sciences, University of Goa, Goa, India, August 2010

Soil moisture feedbacks on deep convection in the North American Monsoon, Max Planck Institute for Meteorology, Hamburg, Germany, October 2010

Orographic precipitation in conditionally unstable flow, Department of Earth and Atmospheric Science, Purdue University, October 2010

Orographic precipitation in conditionally unstable flow, Department of Atmospheric Science, Colorado State University, November 2010

Warm season orographic precipitation, Complex Terrain Workshop, Biosphere 2/University of Arizona, February 2011

F. Offices Held in Professional Societies

President-elect, Central Illinois Chapter of the American Meteorological Society, 2007

President, Central Illinois Chapter of the American Meteorological Society, 2007 – present

Member, American Meteorological Society Science and Technology Advisory Committee on Radar Meteorology, 2007 – 2014

Member of Validation Working Group, International Precipitation Working Group, Coordination Group for Meteorological Satellites, World Meteorological Organization, October 2008 – present

Rapporteur and member of Applications Working Group, International Precipitation Working Group, Coordination Group for Meteorological Satellites, World Meteorological Organization, October 2010 – 2012

### G. Editorships of Journals and Other Learned Publications

Editor, *Journal of Applied Meteorology and Climatology*, American Meteorological Society, 2011 – present

### H. Grants Received

<i>Principal Investigator:</i>	Stephen W. Nesbitt
<i>Granting Agency:</i>	National Aeronautics and Space Administration
<i>Dates of Award:</i>	5/15/07 – 5/14/08
<i>Title:</i>	Creation and Analysis of C3VP Synthesis Datasets for Global Precipitation Mission Algorithm Development and Evaluation
<i>Award Amount:</i>	\$20 K
<i>Principal Investigator:</i>	Stephen W. Nesbitt
<i>Granting Agency:</i>	National Oceanic and Atmospheric Administration
<i>Dates of Award:</i>	8/1/07 – 8/31/11
<i>Title:</i>	Diurnal variations and forcing of precipitation systems in the North American Monsoon system
<i>Award Amount:</i>	\$285 K
<i>Principal Investigator:</i>	Stephen W. Nesbitt
<i>Granting Agency:</i>	National Aeronautics and Space Administration
<i>Dates of Award:</i>	5/15/08 – 5/14/09
<i>Title:</i>	Analysis of C3VP Synthesis Datasets for Global Precipitation Mission Algorithm Development and Evaluation
<i>Award Amount:</i>	\$20 K
<i>Principal Investigator:</i>	Stephen W. Nesbitt
<i>Granting Agency:</i>	National Aeronautics and Space Administration
<i>Dates of Award:</i>	8/1/08 – 8/31/12
<i>Title:</i>	Improving the Measurement and Understanding of Orographic Precipitation using NASA Satellite Measurements
<i>Amount:</i>	\$319 K
<i>Principal Investigator:</i>	Greg M. McFarquhar (Department of Atmospheric Sciences, University of Illinois)
<i>Co-Investigators:</i>	Stephen W. Nesbitt, Brian F. Jewett (Department of Atmospheric Sciences, University of Illinois)
<i>Granting Agency:</i>	National Aeronautics and Space Administration
<i>Dates of Award:</i>	1/1/09 12/31/12
<i>Title:</i>	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
<i>Amount:</i>	\$614 K (\$270 K to SN)
<i>Principal Investigator:</i>	Alison M. Anders (Department of Geology, University of Illinois)
<i>Co-Principal Investigator:</i>	Stephen W. Nesbitt
<i>Granting Agency:</i>	National Science Foundation
<i>Dates of Award:</i>	4/1/08 – 3/30/11
<i>Title:</i>	Coupling Between Weather, Climate, and Landscape Evolution in the Western Ghats of India
<i>Award Amount:</i>	\$665 K (\$334 K to SN)

*Principal Investigator:* Stephen W. Nesbitt  
*Granting Agency:* Department of Energy – Global Change Environmental Program fellowship for Nicole Schiffer  
*Dates of Award:* 4/16/10 – 3/15/13  
*Title:* Dynamically downscaling the North American Monsoon using the Weather Research and Forecasting Model with the climate extension (CWRF)  
*Amount:* \$48 K

*Principal Investigator:* Stephen W. Nesbitt  
*Granting Agency:* National Aeronautics and Space Administration – Earth System Science fellowship for Daniel Harnos  
*Dates of Award:* 9/1/10 – 8/31/13  
*Title:* Remote sensing and modeling studies of dynamical and microphysical processes in tropical cyclone intensification  
*Amount:* \$75 K

*Principal Investigator:* Stephen W. Nesbitt  
*Granting Agency:* National Aeronautics and Space Administration, Global Precipitation Mission Ground Validation Program  
*Dates of Award:* 10/1/10 – 9/30/12  
*Title:* Synthesis of aircraft and ground based measurements for NASA GPM algorithm validation  
*Amount:* \$180 K

*Principal Investigator:* Stephen W. Nesbitt  
*Granting Agency:* National Aeronautics and Space Administration – Earth System Science fellowship for Kimberly Reed  
*Dates of Award:* 9/1/11 – 8/31/14  
*Title:* An orographic optimization technique for improved satellite quantitative precipitation estimation in complex terrain  
*Amount:* \$75 K

I. Review Panels (e.g. for Governmental Agencies, Educational Institutions)

Review Panel for the Precipitation Measurement Missions, National Aeronautics and Space Administration, Washington, DC, August 2006

Review Panel for CubeSat Missions, National Science Foundation, Arlington, VA, July 2008

Review Panel for CloudSat/CALIPSO Science Team, National Aeronautics and Space Administration, Washington, DC, February 2010

Review Panel for The Science of Terra/Aqua, National Aeronautics and Space Administration, Washington, DC, August 2010

Review Panel for Lawrence Berkeley National Labs Climate and Atmospheric Systems Research Focus Areas, Department of Energy, Berkeley, CA, September 2010

## II. PUBLICATIONS AND CREATIVE WORKS

- # Denotes any publication derived from a candidate's thesis  
 \* Denotes any publication that has undergone stringent editorial review by peers  
 + Denotes any publication that was invited and carries special prestige and recognition

### A. Doctoral Thesis

- \*Nesbitt, S. W., 2003: Precipitation features according to the Tropical Rainfall Measuring Mission. Ph.D. Dissertation, Dept. of Meteorology, University of Utah, Salt Lake City, UT 84112-0110, 182 pp.

### B. Books Authored or Co-Authored

Not applicable

### C. Books Edited or Co-Edited

Not applicable

### D. Chapters in Books

Not applicable

### E. Monographs

Not applicable

### F. Articles in Journals

1. \*Nesbitt, S. W., R. Zhang, and R. E. Orville, 2000: Seasonal and global NO<sub>x</sub> 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. Riggin, 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. Brunzell, 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 systems and critical clusters. *J. Atmos. Sci.*, **66**, 2913-2924.
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.*, **26**, 943-957.
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.*, **36**, L15815, doi:10.1029/2009GL038026.
26. \*Molthan, A., W. A. Petersen, S. W. Nesbitt, and D. Hudak, 2010: Evaluating the snow crystal size distribution and density assumptions within a single-moment microphysics scheme. *Mon. Wea. Rev.*, **138**, 4254-4267.
27. \*Rickenbach, T. M., R. Nieto-Ferreira, R. P. Barnhill, and S. W. Nesbitt, 2011: Regional contrast of mesoscale convective system structure prior to and during monsoon onset across South America. *J. Climate*, **24**, 3753-3763.
28. \*Harnos, D. J., and S. W. Nesbitt, 2011: Convective structure in rapidly intensifying tropical cyclones as depicted by passive microwave measurements. *Geophys. Res. Lett.* **38**, L07805, doi:10.1029/2011GL047010.
29. \*Schiffer, N. J., and S. W. Nesbitt, 2011: Moisture sources and precipitation associated with Gulf of California surges. *J. Climate*, in review.
30. \*McFarquhar, G. M., B. Jewett, M. A. Gilmore, S. W. Nesbitt, and T.-L. Hseih, 2011: Vertical velocity and microphysical distributions related to the rapid intensification of Hurricane Dennis (2005). *J. Atmos. Sci.*, submitted.
31. \*Rickenbach, T. M., R. Nieto-Ferreira, R. P. Barnhill, and S. W. Nesbitt, 2011: Seasonal and regional differences in the rainfall and intensity of isolated convection over South America. *J. Climate*, submitted.

G. Creative Works (Exhibitions, Commissions, Competitions, Performances, Art or Architecture Executed)

Not applicable

H. Bulletins, Reports, or Conference Proceedings (in print or accepted)

1. 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.

I. Abstracts (in print or accepted)

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, 10<sup>th</sup> 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, 26<sup>th</sup> 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, 32<sup>nd</sup> 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, 32<sup>nd</sup> 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, 32<sup>nd</sup> Conference on Radar Meteorology, Albuquerque, NM, Amer. Meteor. Soc.
32. 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.
33. 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.
34. 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.
35. 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, 27<sup>th</sup> Conference on Hurricanes and Tropical Meteorology, Monterey, CA., Amer. Meteor. Soc.
36. Lang, T. J., S. W. Nesbitt, R. Cifelli, D. Ahijevych, R. Carbone, S. A. Rutledge, 2006: The diurnal cycle in NAME. Preprints, 27<sup>th</sup> Conference on Hurricanes and Tropical Meteorology, Monterey, CA., Amer. Meteor. Soc.

37. 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.
38. 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.
39. 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.
40. 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.
41. 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.
42. 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.
43. 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.
44. 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.
45. 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.
46. Nesbitt, S. W., 2009: Using high resolution TRMM observations to understand the role of topography in spatial variations in precipitation and storm structure. Proceedings, 2009 General Assembly, European Geophysical Union, Vienna, Austria.
47. Nesbitt, S. W., 2009: Evaluation of the TRMM precipitation radar algorithms in complex terrain. Proceedings, 34th Conference on Radar Meteorology, American Meteorological Society, Williamsburg, VA.
48. Nesbitt, S. W., K. Reed, and R. Akers, 2009: TRMM precipitation radar retrievals in complex terrain: in a class by itself? Proceedings, Precipitation Measurement Missions science team meeting, National Aeronautics and Space Administration, Salt Lake City, UT.
49. Nesbitt, S. W., 2009: Using lightning and high-resolution precipitation data to monitor and understand North American Monsoon processes. Proceedings, American Geophysical Union Fall Meeting, San Francisco, CA.
50. Kaufeld, W. A., C. Peters-Lidard, and S. W. Nesbitt, 2009: Impact of high-resolution land surface initializations on simulations of North American Monsoon Convection. Proceedings, American Geophysical Union Fall Meeting, San Francisco, CA.
51. Schiffer, W. J. and S. W. Nesbitt, 2009: Moisture surges and precipitation variability associated with Gulf of California surges. Proceedings, American Geophysical Union Fall Meeting, San Francisco, CA
52. Nesbitt, S. W., and R. A. Akers, Jr., 2010: Using high-resolution long range lightning and spaceborne precipitation estimates to understand North American Monsoon processes. Proceedings, 3<sup>rd</sup> International Lightning Meteorology Conference, Orlando, FL.
52. Nesbitt, S. W., A. M. Anders, W. J. Kaufeld, and J. Colberg, 2010: Precipitation processes in southwest India during the summer monsoon: the Orographic Precipitation and Evolution of Landscapes-Western Ghats project (OPEL-WG). Proceedings, American Meteorological Society 29<sup>th</sup> Conference on Hurricanes and Tropical Meteorology, Tucson, AZ.
53. Kaufeld, W. J., and S. W. Nesbitt, 2010: Land surface-precipitation interactions in the North American Monsoon: Sensitivity to land surface model initialization and coupling. Proceedings, American Meteorological Society 29<sup>th</sup> Conference on Hurricanes and Tropical Meteorology, Tucson, AZ.
54. Meyers, E. C., G. M. McFarquhar, B. F. Jewett, and S. W. Nesbitt, 2010: Vertical velocity and microphysical distributions related to the rapid intensification of Hurricane Dennis (2005). Proceedings, American Meteorological Society 29<sup>th</sup> Conference on Hurricanes and Tropical Meteorology, Tucson, AZ.

55. Harnos, D. S., S. W. Nesbitt, and K. R. Knapp, 2010: Structural analysis of SSM/I and TMI overpasses of tropical cyclones from 1987-2008. Proceedings, American Meteorological Society 29<sup>th</sup> Conference on Hurricanes and Tropical Meteorology, Tucson, AZ.
56. Reed, K., and S. W. Nesbitt: Tropical orographic rainfall regimes according to the Tropical Rainfall Measuring Mission. Proceedings, American Meteorological Society 29<sup>th</sup> Conference on Hurricanes and Tropical Meteorology, Tucson, AZ.
57. Nesbitt, S. W., and K. Gleicher, 2010: Value-added matched datasets for GPM ground validation. Proceedings, Precipitation Measurement Missions science team meeting, National Aeronautics and Space Administration, Seattle, WA.
58. Harnos, D. S., and S. W. Nesbitt, 2010: The evolution of convective structure in tropical cyclones undergoing rapid intensification as observed by passive microwave sensors. Proceedings, American Geophysical Union Fall Meeting, San Francisco, CA.
59. Reed, K. A., and S. W. Nesbitt, 2010: Tropical orographic rainfall regimes according to the Tropical Rainfall Measuring Mission. Proceedings, American Geophysical Union Fall Meeting, San Francisco, CA.
60. Nesbitt, S. W., and Z. Wang, 2011: The influence of coastal topography on the South Asian Monsoon. Proceedings, Michio Yanai Symposium, American Meteorological Society, Seattle, WA.
61. Kaufeld, W. A., and S. W. Nesbitt, 2011: How sensitive is the North American Monsoon to land surface characteristics? Proceedings, 25<sup>th</sup> Conference on Hydrology, American Meteorological Society, Seattle, WA.
62. Schiffer, N. S., and S. W. Nesbitt, 2011: How realistic is precipitation over the western U.S. and Mexico in IPCC AR4 GCMs? Proceedings, 23rd Conference on Climate Variability and Change and the 25th Conference on Hydrology, American Meteorological Society, Seattle, WA.
63. Nesbitt, S.W., and K. J. Gleicher, 2011: Multiple-wavelength radar perspectives of mixed-phase convective precipitation in MC3E. Proceedings, 35th Conference on Radar Meteorology, American Meteorological Society, Pittsburgh, PA.
64. Reed, K. A., and S. W. Nesbitt, 2011: Tropical orographic rainfall regimes according to the Tropical Rainfall Measuring Mission. Proceedings, 35th Conference on Radar Meteorology, American Meteorological Society, Pittsburgh, PA.
65. Harnos, D. S., and S. W. Nesbitt, 2011: Convective structure of two Atlantic 2010 rapidly intensifying tropical cyclones. Proceedings, 35th Conference on Radar Meteorology, American Meteorological Society, Pittsburgh, PA.
66. S. W. Nesbitt, K. J. Gleicher, W. A. Petersen, and M. A. Schwaller, 2011: Proceedings, American Geophysical Union Fall Meeting, San Francisco, CA.
67. N. J. Schiffer, and S. W. Nesbitt, 2011: Problems with the North American Monsoon in CMIP/IPCC GCM Precipitation. Proceedings, American Geophysical Union Fall Meeting, San Francisco, CA.
68. Reed, K. A., and S. W. Nesbitt, 2011: Tropical orographic rainfall regimes according to the Tropical Rainfall Measuring Mission. Proceedings, American Geophysical Union Fall Meeting, San Francisco, CA.

J. Book Reviews (in print or accepted)

Not applicable

K. Other

Not applicable

### III. RESIDENT INSTRUCTION

#### A. Summary of Instruction

##### 1. Descriptive Data

Term	Offer- ing Dept	Course---	Section-	Indiv Instr /Class	IUs	Stu- dents	Class Contact Hours	# of Instr- ctors
SP07	1-253	ATMS 403	LCD A	C	72	18	5	1
SU07	1-253	ATMS 590	IND SWN	I	6	1	1	1
FA07	1-253	ATMS 403	LCD 0	C	44	11	5	1
FA07	1-253	ATMS 591	CNF A	C	172	43	1	1
FA07	1-253	ATMS 590	IND SWN	I	6	1	0	1
SP08	1-253	ATMS 591	CNF A	C	164	41	1	1
SP08	1-253	ATMS 406	LCD A	C	68	17	3	1
SU08	1-253	ATMS 590	IND SWN	I	6	1	0	1
FA08	1-253	ATMS 410	LCD A	C	72	18	3	1
FA08	1-253	ATMS 590	IND SWN	I	8	1	0	1
FA08	1-253	ATMS 599	IND SWN	I	8	1	0	1
SP09	1-253	ATMS 599	CNF SN	C	8	1	3	1
SP09	1-253	ATMS 505	LCD A	C	36	9	3	1
FA09	1-253	ATMS 406	LEC 0	C	48	12	3	1
FA09	1-253	ATMS 599	IND SWN	I	18	3	0	1
SP10	1-253	ATMS 599	CNF SN	C	8	2	3	1
SP10	1-253	ATMS 505	LCD A	C	48	12	3	1
SU10	1-253	ATMS 599	IND SWN	I	26	4	0	1
FA10	1-253	ATMS 597	LCD R	C	84	21	3	1
FA10	1-253	ATMS 599	IND SWN	I	29	4	0	1
SP11	1-253	ATMS 599	CNF SN	C	30	5	4	1
SP11	1-253	ATMS 505	LCD A	C	16	4	3	1
SU11	1-253	ATMS 599	IND SWN	I	38	6	0	1

##### 2. Supervision of Graduate Students

###### *M.S. Students*

Nicole Schiffer	M.S., 2009, "Gulf of California surges: Identification and Climatology", currently a Ph.D. candidate under my supervision
Wendilyn Kaufeld	M.S., 2010, "Toward assessing the effects of aerosols on deep convection: A numerical study using the WRF-chemistry model, currently a Ph.D. candidate under my supervision
Daniel Harnos	M.S., 2010, "Convective structure and its evolution in tropical cyclones as observed by passive microwave sensors in relation to intensity change", currently a Ph.D. candidate under my supervision
Kimberly Reed	M.S. candidate, 2009 – present (received NASA Earth System Science Graduate Fellowship beginning September 2011)
Patrick Brown	M.S. candidate, 2010 – present

*Ph.D. Students*

Nicole Schiffer	Ph.D. student, 2007 – present, Passed Qualification Exam May 2009 (received Department of Energy Graduate Research Education Fellowship beginning April 2010), Passed Qualification Exam July 2011
Wendilyn Kaufeld	Ph.D. student, 2006 – present, Passed Qualification Exam May 2010
Daniel Harnos	Ph.D. student, 2009 – present, Passed Qualification Exam May 2011 (received NASA Earth System Science Graduate Fellowship beginning September 2010)
Kirstin Gleicher	Ph.D. student, 2010 – present, Passed Qualification Exam May 2011

*Graduate Committees Served Upon*

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 as a Project Scientist at the National Center for Atmospheric Research, Boulder, CO
Um, Junshik	Ph.D., 2009: “The microphysical and radiative properties of tropical cirrus from the 2006 Tropical Warm Pool International Cloud Experiment (TWP-ICE), Currently employed as a post doc at the University of Illinois, Urbana, IL
Barman, Rahul	Ph.D. candidate, Passed Preliminary Exam, December 2009
Kaufeld, Wendilyn	Ph.D. candidate, Passed Preliminary Exam, February 2011
Schiffer, Nicole	Ph.D. candidate, Passed Preliminary Exam passed July 2011
Jones, Alexandra	Ph.D. candidate, Preliminary Exam scheduled July 2011
Van Loocke, Andrew	Ph.D. candidate

#### IV. SERVICE

##### A. Summary of Service

##### 1. 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

Speaker at Early Learning preschool on tornadoes, Champaign, IL, May 2009

Interviewed by *Daily Illini* on climate change impacts, October 2009

Interviewed by Medill News Service on weather exhibit at Chicago Museum of Science and Technology, May 2010

Speaker at Bottenfield Elementary School on tornadoes, Champaign, IL, May 2010

Interviewed by Medill News Service on Chicago Blizzard, February 2011

Interviewed by University of Illinois Public Affairs on paper discovering “rings” as precursors to rapidly intensifying hurricanes, April 2011, article appeared as cover story in *Inside Illinois* and syndicated across the web on science news web sites

Interviewed by *Christian Science Monitor* on research on rapidly intensifying hurricanes, August 2011

Interviewed by American Institute of Physics *Discoveries and Breakthroughs Inside Science* on rapidly intensifying hurricanes, August 2011

##### 2. 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 3<sup>rd</sup> 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

Served on National Academy of Sciences Committee on Progress and Priorities of US Weather Research and Research-to-Operations Activities”, Woods Hole, MA, July 2009

Chaired session on “Quantitative Precipitation Estimation” at the 34<sup>th</sup> American Meteorological Society Conference on Radar Meteorology, Williamsburg, VA, October 2009

Chaired session on “Convection” at the 29<sup>th</sup> American Meteorological Society Conference on Hurricanes and Tropical Meteorology, Tucson, AZ, May 2010

Selection committee, Max Eaton Prize (conference graduate student paper award) at the 29<sup>th</sup> American Meteorological Society Conference on Hurricanes and Tropical Meteorology, Tucson, AZ, May 2010

Chair, 35<sup>th</sup> American Meteorological Society Conference on Radar Meteorology, Pittsburgh, PA, September 2011

Chaired session on “Orographic precipitation and landform evolution” at the American Geophysical Union Fall Meeting, San Francisco, CA, December 2011

#### *Editorship of Journals*

Editor, *Journal of Applied Meteorology and Climatology*, American Meteorological Society, 2011 – present.

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

Atmosfera

Atmospheric Chemistry and Physics

Atmospheric Research

Bulletin of the American Meteorological Society

Cambridge Press

Geography Compass

Geophysical Research Letters

International Journal of Climatology

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 Royal Meteorological Society

Weather and Forecasting

3. Service to the University

Member of College of Liberal Arts and Sciences Policy and Development Committee, 2007–present

Organized Department Seminars, 2008 – 2009

Member of Department Graduate Affairs Committee, 2007 – 2009

Member of Department Web Committee, 2007 – present

Member of Department Curriculum Committee, 2007 – 2009

Research Poster Judge, School of Earth, Society, and Environment Research Review, 2009, 2010