

Earth system observations for weather and climate research: Applied research in weather decision support using big data and machine learning. Use of weather observations to inform climate adaptation. Extensive experience distilling large data sets, designing observing strategies, and combining information from multiple sources including multispectral satellite, radar, lidar, in situ meteorological measurements, and numerical weather model output. Basic research focus areas include winter weather, marine clouds, orographic precipitation, and tropical convection.

Education

- 1996 Ph.D., University of Washington, Atmospheric Sciences
Thesis: Characteristics of Precipitating Tropical Convection
Graduate supervisor: Robert A. Houze, Jr.
- 1985-1986 Additional coursework, University of Southern California,
Artificial Intelligence and Probability Theory.
- 1983 B.S., Brown University, Geology-Physics/Mathematics, magna cum laude

Professional Employment

- 2005- Distinguished Professor (2018-), Professor (2011-2018), Associate Professor (2007-2011) Assistant Professor (2005-2007), Department of Marine, Earth and Atmospheric Sciences, North Carolina State University, Raleigh, NC
- 2022- President and CEO, Atmometrics, Inc.
- 1999-2005 Research Associate Professor (2004-2005), Research Assistant Professor (1999-2004), Department of Atmospheric Sciences, University of Washington, Seattle, WA
- 1996-1999 Research Scientist, Mesoscale Group, Department of Atmospheric Sciences, University of Washington, Seattle, WA
- 1988-1990 Software Engineer III, Research Applications Program, National Center for Atmospheric Research, Boulder, CO
- 1986-1988 Technical Marketing Engineer, Graphics Division, Symbolics Inc., Los Angeles, CA
- 1983-1986 Member of Technical Staff, Data Systems Laboratory, TRW Defense Systems Group, Redondo Beach, CA

Awards, Editorships, Affiliations, Committees, and Fellowships

- 2017 Fellow, American Meteorological Society
- 2012-2021 Editor, American Meteorological Society Journal of Applied Meteorology and Climatology
- 2023 Finalist, NCSU Graduate School Outstanding Graduate Faculty Mentor Award
- 2021 Board of Trustees Member, University Corporation for Atmospheric Research, Boulder, Colorado
- 2020 NOAA Physical Sciences Laboratory 5-year Review Panel Member
- 2017- Faculty Fellow at the Center for Geospatial Analytics, North Carolina State University
- 2016- Adjunct Professor, School of Marine and Atmospheric Sciences, Stony Brook University

2016- Affiliate Faculty, Department of Geography and Planning, Appalachian State University, North Carolina

2016 Thank a Teacher Recognition, North Carolina State University

2015-2021 NCAR Earth Observing Laboratory External Advisory Committee

2013 American Meteorological Society, Committee on Researcher Involvement in the AMS

2012 American Meteorological Society, Membership Subcommittee

2011-2016 DOE Atmospheric System Research Science Team

2011-2014 NASA MODIS Science Team

2010-2014 NCAR Earth Observing Laboratory-Observing Facilities Assessment Panel

2009-2010 DOE ARM Climate Research Facility Science Advisory Board Member

2009 NOAA National Severe Storms Laboratory Review Board Member

2008-2009 Co-chair, American Meteorological Society, 13th Conference on Mesoscale Processes

2006-2008 DOE ARM Climate Research Facility Science Advisory Board Member

2006-2011 American Meteorological Society, Mesoscale Processes Committee

2005-2007 Co-chair, Sierra Hydrometeorology Atmospheric River Experiment (SHARE) Scientific Steering Committee

2005-2007 World Meteorological Organization/IUGG Science Assessment of Aerosol Effects on Precipitation Working Group

2005-2006 NASA Global Precipitation Mission, Advisory Panel on Ground Measurements

2003-2005 NASA Global Precipitation Mission, Ground Validation International Steering Group

2003 NASA Certificate of Appreciation for contributions to the Instrument Incubator Program and to the Earth Science Enterprise

2001- American Geophysical Union, Atmospheric Sciences/Precipitation and Cloud Committee

2001-2003 Co-chair, NASA Global Precipitation Mission, Calibration and Validation of Satellite Precipitation Measurements Working Group

2000-2006 NASA Precipitation Measurement Missions Science Team

1996 Promise of Excellence Award, Seattle Chapter, Women in Communications, Inc.

1992-1995 EOS Global Change Fellowship

1990-1992 NASA Space Grant Fellowship

1983 Sigma Xi Scientific Research Society

1979 Westinghouse Science Talent Search Honors for project on hydroponics for space missions.

Field Project Leadership

2019-2023 NASA Investigation of Microphysics and Precipitation for Atlantic Coast-Threatening Snowstorms: Science Team PI and Mission Scientist

2014 Radar Observations of Storms for Education, Colorado, Chief Scientist

2007-2023 Stony Brook, NY, Meteorological Observatory, Co-chief Scientist

2006-2009 Poga Mountain, NC, Meteorological Observatory, Chief Scientist

2001 EPIC Stratocumulus Study: Southeastern Pacific, NOAA Ship Ronald H. Brown, Senior Scientist

1998-1999 KWAJEX: Kwajalein, Marshall Islands, Project Science Coordinator, Project Scientist-NASA and NOAA project with over 100 scientists and engineers

1997 PACS TEPPS: Tropical eastern Pacific, First research cruise of NOAA Ship Ronald H. Brown, Chief Scientist

Other Field Project Experience

2011-2015 Wasatch Hydrometeor Aggregation and Riming Experiment, Alta, Utah, Radar Scientist

2010 Inhibition of Snowfall by Pollution Aerosols: Colorado, Radar scientist

2008 VAMOS Ocean Cloud Atmosphere Land Study (VOCALS): Southeastern Pacific, Radar scientist

2004 HYDROMET 2004: California, Disdrometer scientist

2003 PACJET 2003: California, Disdrometer scientist

	IMPROVE II: Oregon, Disdrometer scientist
1995	COAST II: Washington, Aircraft flight planning and mission summary preparation
1993	COAST: Washington, Aircraft radar scientist and cloud physics scientist
1992-1993	TOGA-COARE: Honiara, Solomon Islands, Aircraft radar and cloud physics scientist
1991	CaPE: Florida, Doppler and dual polarization radar scientist, aircraft scientist, radar scan coordinator
1988-1990	Several field projects in Denver, CO area related to demonstration of Terminal Doppler Weather Radar (TDWR) and nowcasting for the FAA

Peer-reviewed articles and book chapters (underlined names are students, post-docs and science staff directly supervised)

- (88) Allen, L. R., S. E. Yuter, M. A. Miller, and L. M. Tomkins, 2023: Objective identification of pressure wave events from networks of 1-Hz high-precision sensors. Submitted to *Atmos. Meas. Tech.*, 7/2023.
- (87) Oue, M., B. A. Colle, S. E. Yuter, P. Kollias, P. Yeh and L. M. Tomkins, 2023: Microscale updrafts within the U.S. Northeast coastal snowstorms using high-resolution cloud radar measurements. *Mon. Wea. Rev.* revised 7/2023
- (86) Tomkins, L. M., S. E. Yuter, M. A. Miller, and L. R. Allen, 2022: Image muting of mixed precipitation to improve identification of regions of heavy snow in radar data. *Atmos. Meas. Tech.*, doi.org/10.5194/amt-15-5515-2022
- (85) Hueholt, D. M., S. E. Yuter, and M. A. Miller, 2022: Revisiting diagrams of ice growth environments. *Bull. Amer. Meteor. Soc.*, DOI 10.1175/BAMS-D-21-0271.1
- (84) McMurdie, L. A., G. M. Heymsfield, J. E. Yorks, S. A. Braun, G. Skofronick-Jackson, R. M. Rauber, S. Yuter, B. Colle, G. M. McFarquhar, M. Poellot, D. R. Novak, T. J. Lang, R. Kroodsma, M. McLinden, M. Oue, P. Kollias, M. R. Kumjian, S. J. Greybush, A. J. Heymsfield, J. A. Finlon, V. L. McDonald, S. Nicholls, 2022: Chasing snowstorms: The Investigation of Microphysics and Precipitation for Atlantic Coast-threatening Snowstorms (IMPACTS) campaign. *Bull. Amer. Meteor. Soc.*, doi.org/10.1175/BAMS-D-20-0246.1
- (83) Miller, M.A., S. E. Yuter, N. P. Hoban, L. M. Tomkins and B. A. Colle, 2022: Detecting wave features in Doppler radar velocity observations. *Atmos. Meas. Tech.*, 1689–1702, doi.org/10.5194/amt-15-1689-2022
- (82) Patel, R. N., S. E. Yuter, and M. A. Miller, S. R. Rhodes, L. Bain, and T. Peele, 2021: The diurnal cycle of winter season temperature errors in the operational Global Forecast System (GFS), *Geophys. Res. Lett.*, DOI: 10.1029/2021GL095101.
- (81) Tomkins, L. M., D. B. Mechem, S. E. Yuter, and S. R. Rhodes, 2021: Regional flow conditions associated with stratocumulus cloud-eroding boundaries over the southeast Atlantic. *Mon. Wea. Rev.*, DOI:10.1175/MWR-D-20-0250.1
- (80) Perry, L. B., S. E. Yuter, T. K. Matthews, P. Wagon, A. Khadka, D. Aryal, D. Shrestha, A. Tait, M. A. Miller, A. O'Neill, S. R. Rhodes, I. Koch, T. Sherpa, S. Tuladhur, S. K. Baidya, S. Elvin, A. C. Elmore, A. Gajurel, and P. A. Mayewski, 2020: Observations of an Everest snowstorm from the world's highest surface-based radar observations. *Weather*, DOI:10.1002/wea.3854
- (79) Yuter, S. E., 2019: The Weather Around Us. Chapter 15 Introduction for *The Good Earth: Introduction to Earth Science*, McGraw Hill, 416-417.
- (78) Ganetis, S. A., B. A. Colle, S. E. Yuter, N. P. Hoban, 2018: Environmental conditions associated with observed snowband structures within northeast U.S. winter storms. *Mon. Wea. Rev.*, 146, 3675-3690, DOI:10.1175/MWR-D-18-0054.1.
- (77) Yuter, S. E., J. D. Hader, M. A. Miller, D. B. Mechem, 2018: Abrupt cloud clearing of marine stratocumulus in the subtropical southeast Atlantic, *Science*, DOI: 10.1126/science.aar5836.

- (76) Endries, J. L., L. B. Perry, S. E. Yuter, A. Seimon, M. Andrade-Flores, R. Winkelmann, N. Quispe, M. Rado, N. Montoya, F. Velarde, and S. Arias, 2018: Radar-observed characteristics of precipitation in the tropical high Andes of southern Peru and Boliva. *J. Appl. Meteor. Clim.*, **57**, 1441-1458, DOI:10.1175/JAMC-D-17-0248.
- (75) Mechem, D. B., C. S. Wittman, M. A. Miller, S. E. Yuter, and S. P. deSzoek, 2018: Joint synoptic and cloud variability over the northeast Atlantic near the Azores. *J. Appl. Meteor. Clim.*, **57**, 1273-1290, DOI: 10.1175/JAMC-D-17-0211.1.
- (74) Perry, L. B., A. Seimon, M. Andrade, J. L. Endries, S. E. Yuter, F. Velarde, S. Arias, M. Bonshoms, E. J. Burton, R. Winkelmann, C. M. Cooper, G. Mamani, M. Rado, M. Montoya, M. Quispe, 2017: Modes of precipitation delivery in the Cordillera Vilcanoto of Peru and Cordillera Real of Bolivia. *Annals of the Assoc. of American Geographers*, **107**, 309-322. DOI: 10.1080/24694452.2016.1260439
- (73) deSzoek, S. P., K. L. Verlinder, S. E. Yuter and D. B. Mechem, 2016: The timescales of variability of marine low clouds. *J. Climate*, doi: 10.1175/JCLI-D-15-0460.1
- (72) Molthan, A. L., B. A. Colle, D. Stark and S. E. Yuter, 2016: Comparisons among modeled and observed reflectivity and fall speeds for snowfall of varied riming degree during winter storms on Long Island, NY. *Mon. Wea. Rev.*, <http://dx.doi.org/10.1175/MWR-D-15-0397.1>.
- (71) Wood, R., M. P. Jensen, J. Wang, C. S. Bretherton, S. M. Burrows, A. D. Del Genio, A. M. Fridlind, S. J. Ghan, V. P. Ghate, P. Kollias, S. K. Krueger, R. L. McGraw, M. A. Miller, D. Painemal, L. M. Russell, S. E. Yuter, P. Zuidema: 2016: Planning the next decade of coordinated research to better understand and simulate marine low clouds. *Bull. Amer. Meteor. Soc.*, **97**, 1699-1702, DOI:10.1175/BAMS-D-16-0160.1
- (70) Yu, C.-K., P.-R. Hsieh, S. E. Yuter, L.-W. Cheng, C.-L. Tsai, and Y. Chen, 2016: Measuring droplet fall speed with a high-speed camera: Accuracy and outdoor applications. *Atmos. Meas. Tech.*, doi:10.5194/amt-9-1755-2016.
- (69) Burleyson, C. D. and S. E. Yuter, 2015: Sub-diurnal stratocumulus cloud fraction variability and sensitivity to precipitation. *J. Climate*. doi: 10.1175/JCLI-D-14-00648.1, **28**, 2968-2985.
- (68) Burleyson, C. D. and S. E. Yuter, 2015: Patterns of marine stratocumulus cloud fraction variability. *J. Appl. Meteor. Clim.* doi: 10.1175/JAMC-D-14-0178.1, **54**, 847-866.
- (67) Garrett, T. J, S. E. Yuter, C. Fallgatter, K. Shkurko, S. R. Rhodes, and J. L. Endries, 2015: Orientations and aspect ratios of falling snow. *Geophys. Res. Lett.*, doi:10.1002/2015GL064040.
- (66) Wilbanks, M., S. E. Yuter, S. P. deSzoek, W. A. Brewer, M. A. Miller, A. M. Hall and C. D. Burleyson, 2015: Near-surface density currents observed in the southeast Pacific stratocumulus-topped marine boundary layer, *Mon. Wea. Rev.*, **143**, 3532-3555. 10.1175/MWR-D-14-00359.1
- (65) Wood, R., M. Wyant, C. S. Bretherton, J. Rémillard, P. Kollias, J. Fletcher, J. Stemmler, S. deSzoek, S. Yuter, M. Miller, D. Mechem, G. Tselioudis, C. Chiu, J. Mann, E. O'Connor, R. Hogan, X. Dong, M. Miller, V. Ghate, A. Jefferson, Q. Min, P. Minnis, R. Palinkonda, B. Albrecht, E. Luke, C. Hannay, Y. Lin, 2015: Clouds, aerosol, and precipitation in the marine boundary layer: An ARM Mobile Facility deployment, *Bull. Amer. Met. Soc.*, **96**, 419-440.
- (64) Bluestein, H. B., R. M. Rauber, D. W. Burgess, B. Albrecht, S. M. Ellis, Y. P. Richardson, D. P. Jorgensen, S. J. Frasier, P. Chilson, R. D. Palmer, S. E. Yuter, W.-C. Lee, D. C. Dowell, P. L. Smith, P. M. Markowski, K. Friedrich and T. M. Weckwerth, 2015: Radar in atmospheric sciences and related research: Current systems, emerging technologies and future needs. *Bull. Amer. Met. Soc.*, **95**, 1850-1861.
- (63) Colle, B. A., D. Stark, and S. E. Yuter, 2014: Surface microphysical observations within East Coast winter storms on Long Island, NY. *Mon. Wea. Rev.*, **142**, 3126-3146. 10.1175/MWR-D-14-00407.1
- (62) Cunningham, J. G. and S. E. Yuter, 2014: Atmospheric characteristics of cool-season intermittent precipitation near Portland, Oregon. *Mon. Wea. Rev.*, **142**, 1738-1757. 10.1175/MWR-D-13-00133.1

- (61) Garrett, T. J. and S. E. Yuter, 2014: Observed influence of riming, temperature, and turbulence on the fall speed of solid precipitation. *Geophys. Res. Lett.*, doi:10.1002/2014GL061016.
- (60) Mechoso, C. R., R. Wood, R. Weller, C. S. Bretherton, A. D. Clarke, H. Coe, C. Fairall, J. T. Farrar, G. Feingold, R. Garreaud, C. Grados, J. C. McWilliams, S. P. deSzoek, S. E. Yuter, and P. Zuidema. 2014: Ocean-cloud-atmosphere-land interactions in the southeastern Pacific: The VOCALS Program. *Bull. Amer. Met. Soc.*, **95**, 357-375.
- (59) Yuter, S. E., 2014: "Precipitation Radar" in the *Encyclopedia of Atmospheric Sciences*, 2nd edition, edited by G. R. North, J. Pyle and F. Zhang. Academic Press, London.
- (58) Biasutti, M. and S. E. Yuter, 2013: Observed frequency and intensity of tropical precipitation from instantaneous estimates. *J. Geophys. Res.*, **118**, 9534-9551, doi:10.1002/jgrd.50694.
- (57) Burleyson, C. D., S. P. deSzoek, S. E. Yuter, M. Wilbanks and W. A. Brewer, 2013: Ship-based observations of the diurnal cycle of southeast Pacific marine stratocumulus clouds and precipitation. *J. Atmos. Sci.*, **70**, 3876-3894, doi:10.1175/JAS-D-13-01.1.
- (56) Kingsmill, D. E., P. J. Neiman, B. J. Moore, M. Hughes, S. E. Yuter, and F. M. Ralph, 2013: Kinematic and thermodynamic structures of Sierra barrier jets and overrunning atmospheric rivers during a land-falling winter storm in northern California. *Mon. Wea. Rev.*, **141**, 2015-2036.
- (55) Lin, Y., B. A. Colle, and S. E. Yuter 2013: Impact of moisture flux and freezing level on simulated orographic precipitation errors over the Pacific Northwest, *J. Hydromet.*, **14**, 140-152.
- (54) Miller, M. A, and S. E. Yuter, 2013: Detection and characterization of drizzle cells within marine stratocumulus using AMSR-E 89 GHz passive microwave measurements. *Atmos. Meas. Tech.*, **6**, 1-13, doi:10.5194/amt-6-1-2013.
- (53) Stark, D., B. A. Colle and S. E. Yuter, 2013: Observed microphysical evolution for two East Coast winter storms and the associated snow bands. *Mon. Wea. Rev.*, **141**, 2037-2057.
- (52) Yuter, S. E., M. A. Miller, M. D. Parker, P. M. Markowski, Y. Richardson, H. Brooks, and J. M. Straka, 2013: Comment on "Why do tornadoes rest on weekends?" by D. Rosenfeld and T. Bell. *J. Geophys. Res.*, doi:10.1029/2012JD018622.
- (51) Allen, G., G. Vaughan, T. Toniazzo, H. Coe, P. Connolly, S. E. Yuter, C. D. Burleyson, P. Minnis, and J. K. Ayers, 2013: Gravity wave--induced perturbations in marine stratocumulus, *Q. J. Roy. Met. Soc.*, doi:10.1002/qj.1952.
- (50) deSzoek, S. P., S. E. Yuter, D. B. Mechem, C. W. Fairall, C. D. Burleyson, P. Zuidema 2012: Observations of stratocumulus clouds and their effect on the eastern Pacific surface heat budget along 20 °S, *J. Climate*, **25**, 8542-8567, 10.1175/jcli-d-11-00618.1.
- (49) Mechem, D. B., S. E. Yuter, and S. P. deSzoek, 2012: Thermodynamic and aerosol controls in Southeast Pacific stratocumulus. *J. Atmos. Sci.*, **69**, 1250-1266.
- (48) Waliser, D. E., M. Moncrieff, D. Burridge, A. Fink, D. Gochis, B. N. Goswami, B. Guan, P. Harr, J. Heming, H.-H. Hsu, C. Jakob, M. Janiga, R. Johnson, S. Jones, P. Knippertz, J. Marengo, H. Nguyen, M. Pope, Y. Serra, C. Thorncroft, M. Wheeler, R. Wood, and S. Yuter, 2012: The "Year" of Tropical Convection (May 2008 to April 2010): Climate Variability and Weather Highlights, *Bulletin of the American Meteorological Society*, **93**, 1189-1218.
- (46) Biasutti, M., S. E. Yuter, C. D. Burleyson, and A. H. Sobel, 2011: Very high resolution rainfall patterns measured by TRMM Precipitation Radar. *Climate Dynamics*. 1-20, doi: 10.1007/s00382-011-1146-6
- (45) Sobel, A. H., C. D. Burleyson, and S. E. Yuter, 2011: Rainfall on small tropical islands. *J. Geophysical Research*, **116**, D08102, doi:10.1029/2010JD014695.
- (44) Wood, R., C. S. Bretherton, C. R. Mechoso, R. A. Weller, B. Huebert, B. Albrecht, H. Coe, G. Allen, G. Vaughan, P. Daum, C. Fairall, D. Chand, L. Gallardo Klenner, C. Grado Quispe, D. S. Covert, T. S. Bates, R. Krejci, F. Straneo, L. M. Russell, S. de Szoek, A. Brewer, S. E. Yuter, A. Chaigneau, T. Toniazzo, P. Minnis, S. Abel, W. Brown, and S. Williams, 2011: The VAMOS Ocean-

Cloud-Atmosphere-Land Study Regional Experiment (VOCALS-REx): Goals, platforms, and field operations. *Atmos. Chem. Phys.*, 11, 627-654. doi:10.5194/acp-11-627-2011.

- (43) Yuter, S. E., D. A. Stark, J. A. Crouch, M. J. Payne and B. A. Colle, 2011: The impact of varying environmental conditions on the spatial and temporal patterns of orographic precipitation over the Pacific Northwest near Portland, Oregon., *J. Hydrometeorology*, **12**, 329-351.
- (42) Smith, B. L., S. E. Yuter, P. J. Neiman, and D. E. Kingsmill, 2010: Water vapor fluxes and orographic precipitation over Northern California associated with a land-falling atmospheric river. *Mon. Wea. Rev.*, **138**, 74-100.
- (41) Keighton, S., L. Lee, B. Holloway, D. Hotz, S. Zubrick, J. Hovis, G. Votaw, B. Perry, G. Lackmann, S. Yuter, C. Konrad, D. Miller, and B. Etherton, 2009: A collaborative approach to study northwest flow snow in the southern Appalachians. *Bull. Amer. Meteor. Soc.*, **90**, 979-991.
- (40) Sukovich, E. M., D. E. Kingsmill, and S. E. Yuter, 2009: Variability of graupel and ice crystal aggregates observed in tropical oceanic convection by aircraft during TRMM KWAJEX. *J. Appl. Meteor. Clim.*, **48**, 185-198.
- (39) Barrie, L., U. Lohmann, S. Yuter, 2008: Ch 1—Introduction in *Aerosol pollution impacts on precipitation: A scientific review*. WMO/IUGG International Aerosol Precipitation Science Assessment Group, Springer, 1-12.
- (38) Cifelli, R., S. W. Nesbitt, S. A. Rutledge, W. A. Petersen, and S. E. Yuter, 2008: Diurnal characteristics of precipitation features in the east Pacific: A comparison of the EPIC and TEPPS regions. *J. Climate*, **21**, 4068-4086.
- (37) Cotton, W. and S. Yuter, 2008: Ch 2—Principles of Cloud and Precipitation Formation in *Aerosol pollution impacts on precipitation: A scientific review*. WMO/IUGG International Aerosol Precipitation Science Assessment Group, Springer, 13-43.
- (36) Holder, C. T., S. E. Yuter, A. H. Sobel, and A. Aiyyer, 2008: The mesoscale characteristics of tropical oceanic precipitation during Kelvin waves and mixed-Rossby gravity waves. *Mon. Wea. Rev.*, **9**, 3446-3464.
- (35) Martner, B. E., S. E. Yuter, A. B. White, S. Y. Matrosov, D. E. Kingsmill, and F. M. Ralph: 2008: Raindrop size distributions and rain characteristics in California coastal rainfall for periods with and without a radar brightband. *J. Hydrometeorology*, **9**, 408-425.
- (34) Miller, M. A., and S. E. Yuter, 2008: Lack of correlation between chlorophyll a and cloud droplet effective radius in shallow marine clouds. *Geophys. Res. Lett.*, **35**, L13807, doi:10.1029/2008GL034354.
- (33) Novak, D. R., B. A. Colle, S. E. Yuter, 2008: A high resolution observational and modeling study of an intense mesoscale snowband over the northeast U.S. *Mon. Wea. Rev.*, **136**, 1433-1456.
- (32) Tanré, D., P. Artuxo, S. Yuter, and Y. Kaufman, 2008: Ch 5—In Situ and Remote Sensing Techniques for Measuring Aerosols, Clouds, and Precipitation in *Aerosol pollution impacts on precipitation: A scientific review*. WMO/IUGG International Aerosol Precipitation Science Assessment Group, Springer, 143-203.
- (31) Cifelli, R., S. Nesbitt, S. A. Rutledge, W. A. Petersen, and S. Yuter, 2007: Radar characteristics of precipitation features in the EPIC and TEPPS regions of the East Pacific. *Mon. Wea. Rev.*, **135**, 1576-1595.
- (30) Colle, B. A., and S. E. Yuter, 2007: The impact of coastal boundaries and small hills on the precipitation distribution across southern Connecticut and Long Island, NY. *Mon. Wea. Rev.*, **135**, 933-954.
- (29) Comstock, K., S. E. Yuter, R. Wood, and C. S. Bretherton, 2007: The three-dimensional structure and kinematics of drizzling stratocumulus. *Mon. Wea. Rev.*, **135**, 3767-3784.

- (28) Swann, A., A. H. Sobel, S. E. Yuter, and G. N. Kiladas, 2006: Observed radar reflectivity in convectively coupled Kelvin and Mixed Rossby-gravity waves. *GRL*, **33**, L10804, doi:10.1029/2006GL025979.
- (27) Yuter, S. E., D. Kingsmill, L. B. Nance, and M. Löffler-Mang, 2006: Observations of precipitation size and fall speed characteristics within coexisting rain and wet snow. *J. Appl. Meteor. Climo.*, **45**, 1450–1464. [Paper of Note highlighted in the Bulletin of American Meteorological Society, Sept 2006]
- (26) Comstock, K. K., C. S. Bretherton, and S. E. Yuter, 2005: Mesoscale variability and drizzle in southeast Pacific stratocumulus. *J. Atmos. Sci.* **62**, 3792-3807.
- (25) Yuter, S. E., R. A. Houze, Jr., E. A. Smith, T. T. Wilhelm, and E. Zipser, 2005: Physical characterization of tropical oceanic convection observed in KWAJEX. *J. Appl. Meteor.*, **44**, 385-415.
- (24) Bretherton, C. S., T. Uttal, C. W. Fairall, S. Yuter, R. Weller, D. Baumgardner, K. Comstock, and R. Wood, 2004: The EPIC 2001 stratocumulus study. *Bull. Amer. Meteor. Soc.*, **85**, 967-977.
- (23) Comstock, K. K., R. Wood, S. E. Yuter, and C. S. Bretherton, 2004: Reflectivity and rain rate in and below drizzling stratocumulus. *Quart. J. Roy. Meteor. Soc.*, **130**, 2891-2918.
- (22) Houze, R. A., Jr., S. Brodzik, C. Schumacher, S. E. Yuter, and C. R. Williams, 2004: Uncertainties in oceanic radar rain maps at Kwajalein and implications for satellite validation. *J. Appl. Meteor.*, **43**, 1114-1132.
- (21) Kingsmill, D. E., S. E. Yuter, A. J. Heymsfield, P. V. Hobbs, A. V. Korolev, J. L. Stith, A. Bansemer, J. A. Haggerty, and A. L. Rangno, 2004: TRMM common microphysics products: A tool for evaluating spaceborne precipitation retrieval algorithms. *J. Appl. Meteor.*, **43**, 1598-1611.
- (20) Sobel, A. H., S. E. Yuter, C. S. Bretherton, and G. N. Kiladis, 2004: Large-scale meteorology and deep convection during TRMM KWAJEX. *Mon. Wea. Rev.*, **132**, 422-444.
- (19) Hagen, M. and S. E. Yuter, 2003: Relation between radar reflectivity and rainfall rate during the MAP-SOP. *Quart. J. Roy. Meteor. Soc.*, **129**, 477-493.
- (18) Yuter, S. E., and R. A. Houze, Jr., 2003: Microphysical modes of precipitation growth determined by vertically pointing radar in orographic precipitation during MAP. *Quart. J. Roy. Meteor. Soc.*, **129**, 455-476.
- (17) Yuter, S. E., 2002: "Precipitation Radar" in the *Encyclopedia of Atmospheric Sciences*, edited by J. Holton, J. Pyle and J. Curry. Academic Press, London, 1833-1852.
- (16) Yuter, S. E., and R. A. Houze, Jr., 2002: Comment on "Partitioning tropical oceanic convective and stratiform rains by draft strength". *J. Geophys. Res.*, **107**, ACL-4.
- (15) Yuter, S. E., and W. S. Parker, 2001: Rain measurement on ship revisited: the 1997 PACS TEPPS cruise. *J. Appl. Meteor.*, **40**, 1003-1018.
- (14) Zeng, Z., S. E. Yuter, R. A. Houze, Jr. and D. E. Kingsmill, 2001: Microphysics of the rapid development of heavy convective precipitation. *Mon. Wea. Rev.*, **129**, 1882-1904.
- (13) James, C. N., S. R. Brodzik, H. Edmon, R. A. Houze, Jr., and S. E. Yuter, 2000: MountainZebra: Visualization of radar data over complex terrain. *Weather and Forecasting*, **15**, 327-338.
- (12) Houze, R. A., Jr., S. S. Chen, D. E. Kingsmill, Y. Serra, and S. E. Yuter, 2000: Convection over the Pacific warm pool in relation to the atmospheric Kelvin-Rossby wave. *J. Atmos. Sci.* **57**, 3058-3089.
- (11) Yuter, S. E., and R. A. Houze, Jr., 2000: The Pan American Climate Studies Tropical Eastern Pacific Process Study. Part I: ITCZ region. *Bull. Amer. Meteor. Soc.*, **81**, 451-481.
- (10) Yuter, S. E., Y. L. Serra, and R. A. Houze, Jr., 2000: The Pan American Climate Studies Tropical Eastern Pacific Process Study. Part II: Stratocumulus region. *Bull. Amer. Meteor. Soc.*, **81**, 483-490.
- (9) Yuter, S. E., and R. A. Houze, Jr., 1998: The natural variability of precipitating clouds over the western Pacific warm pool. *Quart. J. Roy. Meteor. Soc.*, **124**, 53-99.

- (8) Yuter, S. E., and R. A. Houze, Jr., 1997: Measurements of raindrop size distributions over the Pacific warm pool and implications for Z-R relations. *J. Appl. Meteor.*, **36**, 847-867.
- (7) Chen, S. S., R. A. Houze, Jr., B. E. Mapes, S. R. Brodzik, and S. E. Yuter, 1995: TOGA COARE satellite data summaries available on the World Wide Web. *Bull. Amer. Meteor. Soc.*, **76**, 329-333.
- (6) Steiner, M., R. A. Houze, Jr., and S. E. Yuter, 1995: Climatological characterization of three-dimensional storm structure from operational radar and rain gauge data. *J. Appl. Meteor.*, **34**, 1978-2007.
- (5) Yuter S. E., and R. A. Houze, Jr., 1995a: Three-dimensional kinematic and microphysical evolution of Florida cumulonimbus, Part I: Spatial distribution of updrafts, downdrafts, and precipitation. *Mon. Wea. Rev.*, **123**, 1921-1940.
- (4) Yuter, S. E., and R. A. Houze, Jr., 1995b: Three-dimensional kinematic and microphysical evolution of Florida cumulonimbus, Part II: Frequency distributions of vertical velocity, reflectivity, and differential reflectivity. *Mon. Wea. Rev.*, **123**, 1941-1963.
- (3) Yuter, S. E., and R. A. Houze, Jr., 1995c: Three-dimensional kinematic and microphysical evolution of Florida cumulonimbus, Part III: Vertical mass transport, mass divergence, and synthesis. *Mon. Wea. Rev.*, **123**, 1964-1983.
- (2) Yuter, S. E., R. A. Houze, Jr., B.F. Smull, F. D. Marks, Jr., J. R. Daugherty, and S. R. Brodzik, 1995: TOGA COARE aircraft mission summary images: An electronic atlas. *Bull. Amer. Meteor. Soc.*, **76**, 319-328.
- (1) Head, J. W., S. E. Yuter, S. C. Solomon, 1981: Topography of Venus and Earth: A test for the presence of plate tectonics. *American Scientist*, **69**, pp. 614-623.
<http://www.jstor.org/stable/27850712>.

Reports (not peer-reviewed)

- Burleyson, C. D., S. E. Yuter, and L. Rose, 2011: Atmospheric Observations Feasibility Study for the Lake Victoria Basin Commission. 16 pp.
- Yuter, S. E., J. Koistinen, S. Di Michele, M. Hagen, A. Illingworth, S. Shimizu, and D. Wolff, 2004: GPM Ground Validation Basic Radar Products and Implications for Observation Strategies. Accessible at: www.arxiv.org, arXiv:physics/0401101, 11 pp.
- Adkins, W., and S. E. Yuter, 2002: Report on Potential Tropical Open Ocean Precipitation Validation Sites, NASA Global Precipitation Mission Reports, *NASA/TM-2002-210010*, 77 pages.
- Yuter, S., R. Houze, V. Chandrasekar, E. Foufoula-Georgiou, M. Hagen, R. Johnson, D. Kingsmill, R. Lawrence, F. Marks, S. Rutledge, and J. Weinman, 2002: GPM Draft Science Implementation Plan Ground Validation Chapter. Accessible at www.arxiv.org, arXiv:physics/0211095, 22 pp.
- Yuter, S. E., 1984: Preliminary results of albedo correlation between Europa and Ganymede. *Advances in Planetary Geology*, NASA TM-86247, 212-216.

Funded Research Grants: total of over \$6.5M since July 2000

start date	end date	agency	title	role	collaborators	amount (\$)
May-21	Sept-23	Robinson Brown - donation	Ground Climate Study – support for undergraduate research	PI		\$10,000

Jan-21	Dec-23	Office of Naval Research	Marine Boundary Layer Characteristics, Clouds, and Air-Sea Interactions Matching Observations and Model Forecasts to Diagnose COAMPS and NEPTUNE Weaknesses	PI		\$461,021
Aug-19	Jul-23	NSF	Collaborative Research: Extensive Field Observations and Modeling to Understand Multi-band Precipitation Processes within Winter Storms	PI	Colle-Stony Brook University	404,434
Jun-19	Jun-21	Delta Air Lines	Delta Air Lines Task Order (Meteorology: Weather Prediction Model Verification)	PI		256,147
Jan-19	Dec-24	NASA	The Investigation of Microphysics and Precipitation for Atlantic Coastal Threatening Snowstorms (IMPACTS)	PI	McMurdie-University of Washington	519,510
Nov-18	Jun-19	NCSU-STEM Education Initiative	Campus-scale weather data to compare to conceptual models of daily and storm passage air temperature and humidity changes	PI		2700
Nov-17	Jun-18	NCSU-STEM Education Initiative	Visualization of the movements of air that underlie weather	PI		2700
July-17	Jun-22	NSF	Collaborative Research: Mechanisms governing synoptic-scale, rapid cloud dissipation in subtropical marine low clouds	PI	Mechem-U. Kansas	460,187
Sep-15	Aug-18	subcontract from Stony Brook U (NASA prime)	Nowcasting severe storm evolution and tracking storm life cycles in the northeast United States using GOES-R	PI	French- Stony Brook University	90,000
Feb-14	Jan-19	NSF	Collaborative Research: Observations and modeling of mesoscale precipitation banding in cool-season storms	PI	Colle-Stony Brook University	462,319
Mar-14	Feb-17	NSF	Real examples of classic storm structures for classroom use based on data from FRONT-PORCH	PI		92,479
Sep-13	Aug-17	NSF	Flipping the Script: Using short videos to promote learning in introductory geoscience courses	co-PI	PI-McConnell NCSU	10,000 (Yuter portion)
Sep-11	Jul-14	NOAA	Cooperative Institute for Climate and Satellites (CICS) - Yuter subcontract	PI		125,180

Sep-11	Sep-16	DOE	Collaborative Research: Cloudiness transitions within marine clouds near the Azores	PI	Mechem - U Kansas and deSzoeki Oregon State	510,182
Sep-11	Aug-15	NSF	Collaborative Research: The Wasatch Hydrometeor Aggregation and Riming Experiment	PI	Garrett - U. Utah	129,546
Apr-11	Sep-11	Lake Victoria Basin Commission	Strengthening Meteorological Services on Lake Victoria to enhance safety of navigation and exploitation of natural resources	co-PI	PI-Semazzi-NCSU	130,000 (Yuter portion)
Sep-10	Aug-13	NASA	NASA Space and Earth Science Fellowship Casey Burleyson	PI		90,000
Sep-10	Feb-15	NASA	Global characteristics of marine stratocumulus clouds and drizzle	PI		337,985
Sep-09	Aug-12	NSF	Collaborative Research: Intermittent and steady state processes in orographic precipitation	PI	Colle-Stony Brook University	345,879
Aug-09	Aug-10	ASTREC	Optimal reconfiguration of multiple small satellites for environmental monitoring	PI	Rao-University of Florida	12,800
Dec-08	Nov-11	NSF	Collaborative Research: Inhibition of snowfall by pollution aerosols	PI	Cotton-Colorado State	69,467
Jun-08	Jun-12	NOAA	Collaborative Research: Ship-based observations of air-sea interactions and stratocumulus cloud-aerosol-drizzle processes in VOCALS	PI	Fairall-NOAA, deSzoeki Oregon State	298,764
Jan-08	Dec-08	UNC-GA	Improving snowfall forecasts in western North Carolina	PI	Perry-Appalachian State	18,614
Sep-07	Sep-10	NASA	NASA Space and Earth Science Fellowship Matthew Miller	PI		83,960
Feb-06	Jan-10	NSF	Average and variability characteristics of orographic precipitation at multiple scales	PI		330,000
Nov-03	Nov-04	NASA	Global and local site oceanic precipitation validation	PI		158,000
Nov-03	Nov-04	NASA	GPM oceanic validation leading to PDR	PI		130,000
May-02	Jun-06	NSF	Scale and characteristics of convective processes in orographic rainfall	PI		404,444
Mar-01	Feb-04	NSF	Soundings, C-band radar, data synthesis and model intercomparisons for the EPIC 2001 stratocumulus study	co-PI	Bretherton, Wood-University of Washington	178,149

Jul-00	Jun-04	NASA	Joint probability analysis of the natural variability of oceanic precipitation	PI		512,000
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Courses taught at North Carolina State University:

Dr. Yuter uses research-validated teaching methods, including extensive use of active learning, in all of her classes:

Introduction to Atmospheric Sciences (MEA 215, 4-credit course with laboratory). Weather and climate introductory course for freshman meteorology majors and STEM majors. Taught this course and predecessor course since 2006.

Introduction to Meteorological Remote Sensing (MEA 511, 3-credit course for upper-level undergraduates and graduate students), Features a semester long project to design and justify a radar observing system for an assigned season and location in the U.S. Taught since 2006.

Atmospheric Convection (MEA 714) and *Dynamics of Mesoscale Convective Systems* (715) (3-credit graduate courses), co-taught with Dr. Matthew Parker. Offered alternating fall semesters since 2006.

First Year Graduate Seminar (MEA 611/612/613), Guest lecture on Time Management, every fall since 2013.

Junior Seminar (MEA 495 Spring 2023, 1-credit course focused on junior-level student professional development, career goals, and plans. Discussions of professional opportunities, resources, and ethics. Co-taught with Dr. Catherine Davis (marine) and Dr. Adam Curry (geology).

Courses taught at University of Washington:

Meteorological Instruments and Observations (upper-level undergraduate course, co-taught with Dr. Dean Hegg)

Boundary Layer Meteorology (upper-level undergraduate course).

Professional Development Workshops:

NCSU NSF I-CORPS Entrepreneurial Training, participant (Oct-Nov 2021)

ADVANCE-GEO Workshop on Strategies for Responding to Harassment and Improving our Workplace Climate (23 March 2019), arranged for funding from Department and College and hosted workshop.

NCSU Building Future Faculty Program (20 March 2015), Presenter and Panelist.

On the Cutting Edge: *Preparing for an Academic Career in the Geosciences Workshop* (June 27-30, 2012, Chapel Hill NC), Workshop Leader.

Supervision of Graduate Students (chair or co-chair of committee)

21 graduate students: 5 Ph.D. students and 13 M.S. students completed degrees. Current students: 2 Ph.D. and 1 M.S.

University of Washington, Department of Atmospheric Sciences

Ph. D. Kimberly Comstock, 2006: Mesoscale variability and drizzle in southeast Pacific stratocumulus. Co-advised with Christopher Bretherton.

North Carolina State University, Department of Marine, Earth, and Atmospheric Sciences

Ph. D. Matthew A. Miller, 2010: Satellite observations of low marine clouds. Funded in part by a NASA Earth and Space Science Fellowship.

Ph.D. Jeffrey G. Cunningham, 2012: Atmospheric characteristics of cool season intermittent precipitation near Portland, Oregon. Funded by the U.S. Air Force.

Ph.D. Casey D. Burleyson, 2013: Environmental controls on stratocumulus cloud fraction. Funded in part by a NASA Earth and Space Science Fellowship.

- Ph.D. Kevin D. Burris, 2023: Examining winter storm structures with high-resolution observed profiles. Funded by the U.S. Air Force.
- M.S. Christopher T. Holder, 2007: The mesoscale characteristics of tropical oceanic convection within Kelvin and mixed Rossby-gravity wave events.
- M.S. Matthew A. Miller, 2007: Evaluation of TRMM satellite precipitation retrievals and satellite-observed characteristics of marine shallow clouds.
- M.S. M. Jordan Payne, 2007: Three-dimensional microphysical and dynamical structures of winter storms in the U.S. Pacific Northwest.
- M.S. Barrett L. Smith II, 2007: The interaction of moisture fluxes and orographic precipitation over the mountains of northern California associated with a landfalling atmospheric river.
- M.S. Justin A. Crouch, 2009: Multi-season observational study of the thermodynamic, kinematic and precipitation structures within flooding and typical storms in the Oregon Cascades.
- M.S. Margaret L. Frey, 2013: Regional and interannual comparisons of marine stratocumulus precipitation.
- M.S. Matt C. Wilbanks, 2013: Near surface density currents observed in the southeast Pacific stratocumulus-topped marine boundary layer.
- M. S. Andrew M. Hall, 2014: Lifecycle characteristics of marine stratocumulus precipitation in the southeast Pacific.
- M.S. Nicole A. Corbin, 2016: Northern California's Central Valley spatial precipitation patterns associated with atmospheric rivers under different environmental conditions.
- M. S. John D. Hader, 2016: Propagating, cloud-eroding boundaries in southeast Atlantic marine stratocumulus.
- M.S. Nicole P. Hoban, 2016: Observed characteristics of mesoscale banding in coastal northeast U.S. snow storms.
- M.S. Spencer R. Rhodes, 2019: Large-scale environments associated with southeast Atlantic marine stratocumulus cloud-clearing boundaries.
- M.S. Laura M. Kent, 2021: Multi-year analysis of ice streamers within coastal northeast US winter storms

Current graduate students: Laura Tomkins (Ph.D), Luke Allen (Ph.D), Rachel Kennedy (M.S.), Happiness Mpunza (M.S.)

Advisor for non-thesis M.S. (dates are year when degree was completed): Katherine Rojowsky, 2010; John L'Heureux, 2012; Nan Zhang, 2012; Victoria Olivia, 2013, Christopher Harmon 2017.

Graduate committee member for students outside of NCSU: Kristin Goris (Ph. D., Duke U., 2009), David Stark (M.S., Stony Brook U., 2012), Sara Ganetis (Ph.D., Stony Brook U., 2017), Jason Endries (M.S., Appalachian State U., 2017), Laura Tomkins (M.S., U. Kansas, 2019), Sandra Vazquez Martin (Ph.D., Luleå University of Technology, Sweden, 2021), Phillip

Yeh (Ph.D., Stony Brook U., in progress), Erin Leghart ((Ph.D., Stony Brook U., in progress).

Undergraduate research supervision and mentoring: *36 undergraduates* including 13 women, 1 disabled student, and 5 under-represented minority students (* denotes presented poster at University Research Symposium and/or other conference):

Casey Burleyson* (2006-07), David Stark* (2007-09), M. Tai Bryant* (2007-15), Lara Pagano (2007-08), John Boyer* (2007), Kevin Smith (2007), Jay Bozeman (2007), Clay McGee* (2008-10), Angel Adames* (2009), Christina Aldereguia* (2009-10), Andrew Hall* (2009-11) Jeremy Freeman (2009-10), Matt Woelfle (2010-12), Cameron White* (2011), Jennifer Dean (2012-13), Nicole Corbin* (2013-2015), Megan Amanatides* (2014-15), Sara Berry* (2014-15), Jason Endries* (2014-15), Spencer Rhodes* (2014-2016), Siu Kei (Edward) Chan* (2015-16), Emma Scott* (2015-17), Laura Tomkins* (2015-17), Levi Lovell* (2015-18), Luke Allen* (2017-18), Daniel Hueholt* (2017-2020), Lindsay Hochstatter* (2017-2019), Ronak Patel* (2018-2021), Toby Peele* (2019-2022), Lily Bain (2019-2021), McKenzie Peters* (2019-2022), Robert Harley (2019-2021), Anya Aponte-Torres* (2020-2023), Jordan Fritz* (2021-), Declan Crowe* (2021-), Logan McLaurin* (2021-), Cameron Gilbert* (2023-), McKenzie Sevier* (2023-).

Invited talks (since 2017):

Richard H. Johnson Symposium at the 102th American Meteorological Society Annual Meeting:

Constraints on the interpretation of cause and effect between kinematic and microphysical structures within storms and potential remedies. 26 Jan 2022, Virtual Conference.

Asheville Museum of Science, “Ask a Scientist” talk on Snowflake Variations and How They Form, moderated live on Facebook, 6 August 2021.

University of Illinois Champaign-Urbana, Department of Atmospheric Sciences: Snow characteristics, storm structures, and velocity waves in coastal northeast U.S. winter storms, 10 September 2019, Urbana, IL.

Naval Research Laboratory: Abrupt cloud clearing of marine stratocumulus in the subtropical southeast Atlantic, 6 August 2019, Monterey, CA

Central North Carolina Chapter of the AMS: Snow characteristics, storm structures, and velocity waves in coastal Northeast U.S. winter storms, 17 Jan 2019, Raleigh, NC

National Weather Service Eastern Region, Winter 2018-2019 Professional Development Day: Snow characteristics, storm structures, and velocity waves in coastal Northeast U.S. winter storms, 14 Nov 2018, 45 min presentation via GoToMeeting.

Columbia University SEAS Colloquium in Climate Science: Abrupt cloud clearing of marine stratocumulus in the subtropical southeast Atlantic. 8 Nov 2018, New York City, NY

Stony Brook University School of Marine and Atmospheric Sciences: Snow characteristics, storm structures, and velocity waves in coastal Northeast U.S. winter storms. 6 Sept 2018, Stony Brook, NY.

University of Utah Department of Atmospheric Sciences: Snow characteristics, storm structures, and velocity waves in coastal Northeast U.S. winter storms. 21 Feb 2018, Salt Lake City, UT.

University of North Carolina at Charlotte Department of Geography and Earth Sciences: Spatial frameworks for analysis of clouds and storms, 15 Feb 2018, Charlotte, NC.

Gordon Research Conference on Radiation and Climate: Rapid Rollbacks of Marine Stratocumulus Clouds off the West Coast of Subtropical Africa, 19 July 2017, Lewiston, ME.

Center for Geospatial Analytics Forum, NCSU: Spatial frameworks for analysis of clouds and storms, 6 April 2017, Raleigh, NC.

Robert A. Houze, Jr. Symposium at 97th American Meteorological Society Annual Meeting: Reflections on radar observations of mesoscale precipitation. 24 Jan 2017, Seattle, WA

Public Media and Outreach

Center for Geospatial Analytics Research News Spotlight (posted 15 November 2022) New Visualization Tool Helps Weather Forecasters and Researchers More Easily Identify and Study Bands of Heavy Snow
<https://cnr.ncsu.edu/geospatial/news/2022/11/15/new-visualization-tool-heavy-snow/>

Ladies Who Lunch Conversations with Leann Lavin (released 4 November 2022)
<https://www.facebook.com/LadiesWhoLunchConversations/videos/it-doesnt-get-more-exciting-topical-or-interesting-im-sure-youll-agree-it-was-su/431300802506609>

Deep Convection Podcast (released 5 July 2022), <https://deep-convection.org/2022/07/05/episode-7-sandra-yuter/>

NPR Marketplace, With helium in short supply, scientists are worried
<https://www.marketplace.org/2022/05/26/with-helium-in-short-supply-scientists-are-worried/>
aired 26 May 2022

NCSU Partnerships Blog: NC State Helps Delta Air Lines Fly Safer
<https://partnerships.ncsu.edu/blog/2022/04/12/nc-state-helps-delta-air-lines-fly-safer/>, published 12 April 2022

New York Times, Forecasters Face Loss of Data as Weather Balloon Flights Are Cut,
<https://nyti.ms/3uVqeIv>, published 5 April 2022.

WUNC 91.5 North Carolina Public Radio on NASA IMPACTS, piece aired on 10 March 2022 during morning local news.

Popular Science, NASA's storm-chasing planes fly through blizzards to improve snowfall forecasts.
<https://www.popsoci.com/science/nasa-planes-improve-snowstorm-forecasts/>, published 3 Feb 2022

WRAL TV on NASA IMPACTS field project, piece aired 8 Feb 2022 during 7 pm newscast.

Podcast for AAAS Science Magazine, 19 Jul 2018 <https://www.sciencemag-org.prox.lib.ncsu.edu/podcast/why-platypus-gave-suckling-and-how-gravity-waves-clear-clouds>

NCSU Press release: <https://news.ncsu.edu/2018/07/yuter-cloud-clearing/>

Article on snowflake research featured at <https://news.ncsu.edu/2018/12/how-big-can-snowflakes-be/>

Conference Abstracts (underlined names are students, post-docs and scientific staff directly supervised)

Fritz, J., L. M. Tomkins, S. E. Yuter, and M. A. Miller, 2024: Cataloging Snow Band Vertical Structure: Insights from NASA IMPACTS and NEXRAD Data. *Abstracts, AMS 23rd Annual Student Conference*, January 2024, Baltimore, MD.

Sevier, M., K. Burris, S. E. Yuter, and M.A. Miller, 2024: Characteristics of Electromagnetic Wave Ducts in Different Geographic Locations. *Abstracts, AMS 23rd Annual Student Conference*, January 2024, Baltimore, MD.

Gilbert, C. D., S. E. Yuter, R. E. Kennedy, and M. A. Miller, 2024: Numerical Weather Forecast Biases by Region and Climate Zones. *Abstracts, AMS 23rd Annual Student Conference*, January 2024, Baltimore, MD.

Hueholt, D. M., S. E. Yuter, and M. A. Miller, 2024: Diagrams of Ice Growth Diagrams Designed for Educational Use. *Abstracts, AMS First Symposium on Cloud Physics*, January 2024, Baltimore, MD

Warren, B. W., A. C. Michaelis, L. M. Tomkins, S. E. Yuter, A. M. Haberlie, V. A. Gensini, and W. S. Ashley, 2024, A Climatology and Characteristics of Midwest U.S. Heavy Snowfall Events, *Abstracts, AMS 28th Conference on Applied Climatology*, January 2024, Baltimore, MD

- Allen, L., S. E. Yuter, M. A. Miller, and L. M. Tomkins, 2023: Characteristics of Observed Surface Pressure Waves (gravity waves) in the Contexts of Storm Structure and Reflectivity Features. *Abstracts, AMS 20th Conference on Mesoscale Processes*, July 2023, Madison, WI.
- Oue, M., B. A. Colle, S. E. Yuter, P. Kollias, P. Yeh and L. M. Tomkins, 2023: Microscale updrafts within the U.S. Northeast coastal snowstorms using high-resolution cloud radar measurements. *Abstracts, AMS 20th Conference on Mesoscale Processes*, July 2023, Madison, WI.
- Tomkins, L. M., S. E. Yuter and M. A. Miller, 2023: 3D Characteristics of Snow Bands and Implications for Surface Snowfall in Northeast Winter Storms. *Abstracts, AMS 20th Conference on Mesoscale Processes*, July 2023, Madison, WI. [**outstanding student presentation award winner**]
- Miller, M. A., S. E. Yuter, and L. M. Tomkins, 2023: Passive Microwave Observations of Mesoscale Snow Bands from NASA IMPACTS. *Abstracts, AMS 20th Conference on Mesoscale Processes*, July 2023, Madison, WI.
- Kennedy, R., S. E. Yuter and M. A. Miller, 2023: Assessing the Meteorological Skill of the Navy Weather Model (COAMPS). *Abstracts, AMS 28th Conference on Numerical Weather Prediction*, July 2023, Madison, WI.
- Crowe, D., L. Allen, S. Yuter, L. Tomkins, and M. Miller, 2023: Airborne Observations of Environments for Ice Growth and Shrinkage in Winter and Summer Storms. *Abstracts, AMS Annual Meeting Student Conference*, January 2023, Denver, CO.
- Fritz, F., S. Yuter, L. Tomkins, R. Kennedy, and M. Miller, 2023: Evaluating Weather Forecasts of Winter Precipitation Start and End Times. *Abstracts, AMS Annual Meeting Student Conference*, January 2023, Denver, CO.
- McLaurin, L., L. Allen, S. Yuter, T. Peele, M. Miller, and L. Tomkins, 2023: Characteristics of Nearby Ice Particles in Winter Storms Sampled During NASA IMPACTS. *Abstracts, AMS Annual Meeting Student Conference*, January 2023, Denver, CO.
- Yuter, S. E., S. R. Rhodes, M. A. Miller, and D. B. Mechem, 2022: Marine stratocumulus cloud liquid water path diurnal and seasonal variations in the southeast Pacific and southeast Atlantic. *Abstracts, AGU Fall Meeting*, December 2022, Chicago, IL.
- Colle, B. A., M. Oue, S. E. Yuter, P. Yeh, and L. Tomkins, 2022: Characteristics of Microscale Updrafts in Winter Storms Accompanying Snow Bands Along the U.S. Northeast Coast Using High-Resolution Cloud Radar Observations. *Abstracts, AGU Fall Meeting*, December 2022, Chicago, IL.
- Jin, Q., Z. J. Horning, D. B. Mechem, S. E. Yuter, 2022: Exploring dynamic and thermodynamic properties of the environment during periods of rapid cloud-clearing over the southeast Atlantic in a high-resolution mesoscale model. *Abstracts, AGU Fall Meeting*, December 2022, Chicago, IL.
- McLaurin, L., S. E. Yuter, K. Burris, and M. Miller, 2022: Utilizing hourly weather station data to support pragmatic climate adaptation. *Abstracts, KIETS 2022 Climate Leaders Symposium*, 10-11 October 2022, Raleigh, NC.
- Allen, L. R., S. E. Yuter, D. Crowe and M. A. Miller, 2022: IMPACTS in situ observations in the context of previous field studies and model simulations. *NASA IMPACTS Science Team Meeting*, 26-28 July 2022, Boulder, CO.
- Burris, K., D. S. E. Yuter, M. A. Miller, L. M. Tomkins, and L. R. Allen, 2022: Specialized vertical profiles of winter storms to aid physical interpretation. *NASA IMPACTS Science Team Meeting*, 26-28 July 2022, Boulder, CO.
- Tomkins, L. M., S. E. Yuter, A. Aponte-Torres, and M. A. Miller, , 2022: Analysis of ER-2 data to elucidate how the trajectories of ice particles are modified by horizontal air motions and wind shear. *NASA IMPACTS Science Team Meeting*, 26-28 July 2022, Boulder, CO.
- Oue, M, B. Colle, S. E. Yuter, P. Yeh, and L. M. Tomkins, 2022: Characteristics of microscale updrafts in snow storms accompanying snow bands along the U.S. northeast coast using high-resolution cloud radar observations. *NASA IMPACTS Science Team Meeting*, 26-28 July 2022, Boulder, CO.
- Yuter, S. E., M. A. Miller, L. R. Allen, L. M. Tomkins, and K. D. Burris, 2022: Constraints on interpretation of cause and effect between kinematic and microphysical structures within storms and potential remedies. *Abstracts, Richard H. Johnson Symposium, AMS Annual Meeting*, January 2022, Houston, TX.
- Peters, M. S. E. Yuter, A. Aponte, M. A. Miller, and L. R. Tomkins, 2022: The impacts of different building materials on nearby temperatures in the summer season in Raleigh, NC. *Abstracts, AMS Annual Meeting Student Conference*, January 2022, Houston, TX.

- Allen, L. R., M. A. Miller, S. E. Yuter, L. M. Tomkins, 2021: Analysis of 1 Hz, High Precision Pressure Sensor Data to Identify Gravity Waves. *Abstracts, AGU Fall Meeting*, December 2021, New Orleans, LA.
- Tomkins, L. M., S. E. Yuter, M. A. Miller, M. Petters, L. Allen, A. Aponte-Torres, 2021: Image muting of mixed precipitation to improve identification of regions of heavy snow from radar data. *Abstracts, AGU Fall Meeting*, December 2021, New Orleans, LA.
- Allen, L. R., L. M. Tomkins, S. E. Yuter, M. A. Miller, T. Peele, D. Hueholt, and R. Harley, 2021: Ambient environments for ice mass growth and shrinkage in the context of winter storm structure. *NASA IMPACTS Science Team Meeting*, September 2021, Seattle, WA.
- Peele, T., L. R. Allen, S. E. Yuter, R. Harley, D. Hueholt, M. A. Miller, and L. R. Tomkins, 2021: Ice growth environments and snow geometries samples during NASA IMPACTS January-February 2020. *NASA IMPACTS Science Team Meeting*, September 2021, Seattle, WA.
- Patel, R., S. Yuter, M. Miller, S. Rhodes, L. McCarthy, and T. Peele, 2020: Frequent GFS biases in winter season surface forecasts. *Abstracts, Unified Forecast System Users' Workshop*, July 2020, Boulder, CO (virtual).
- Rhodes, S., S. E. Yuter, M. A. Miller, R. N. Patel, D. B. Mechem, and L. M. Tomkins, 2019: Large-scale environments associated with marine stratocumulus cloud-eroding boundaries. *Abstracts, 18th Conference on Mesoscale Processes*, July 2019, Savannah, GA.
- Tomkins, L. M., D. B. Mechem, S. R. Rhodes, S. E. Yuter and M. A. Miller, 2019: Exploring mechanisms of stratocumulus clearing over the southeast Atlantic. *Abstracts, 18th Conference on Mesoscale Processes*, July 2019, Savannah, GA.
- Yuter, S. E., D. M. Hueholt, M. A. Miller, P. C. Kennedy, S. R. Rhodes, M. T. Bryant, and R. N. Patel, 2019: Local environments for ice growth in winter storms. *Abstracts, 18th Conference on Mesoscale Processes*, July 2019, Savannah, GA.
- Miller, M. A., S. E. Yuter, J. Hader, N. P. Hoban, and D. Hueholt, 2019: How are gravity waves influencing clouds and precipitation? *2019 Gordon Research Conference on Radiation and Climate*, July 2019, Lewiston, ME.
- Rhodes, S., L. Hochstatter, M. A. Miller, S. E. Yuter, 2019: Motion characteristics of propagating cloud-eroding boundaries in the subtropical southeast Atlantic. *Abstracts, AMS 18th Annual Student Conference*, January 2019, Phoenix, AZ.
- Hueholt, D., S. E. Yuter, M. A. Miller, L. Lovell and P. Kennedy, 2019: High-resolution spatial and temporal observations of generating cells and waves in Colorado snowstorms. *Abstracts, AMS 18th Annual Student Conference*, January 2019, Phoenix, AZ.
- Patel, R. N., S. E. Yuter, M. A. Miller, 2019: Variability of the urban heat island in Raleigh, NC. *Abstracts, AMS 18th Annual Student Conference*, January 2019, Phoenix, AZ.
- Tomkins, L. M., D. B. Mechem, S. E. Yuter, M. A. Miller and S. Rhodes, 2019: WRF simulations of episodes of stratocumulus clearing over the southeast Atlantic. *Abstracts, AMS Symposium on Aerosol-Cloud-Climate Interactions*, January 2019, Phoenix, AZ.
- Miller, M.A., N. P. Hoban, and S. E. Yuter, 2018: Detecting waves in Doppler radial velocity observations. *Abstracts, AGU Fall 2018 Meeting*, 10 Dec 2018, Washington, D.C.
<https://agu.confex.com/agu/fm18/meetingapp.cgi/Paper/420923>
- Allen, L. S. E. Yuter, L. Tomkins and M. A. Miller, 2018: Snow band movement and rain occurrence in northeast U.S. winter storms. *Abstracts, AMS 17th Annual Student Conference*, January 2018, Austin, TX.
- Hueholt, D., S. E. Yuter, M. A. Miller, L. Lovell and L. Allen, 2018: Characteristics of temperature inversions in wintery mix precipitation events. *Abstracts, AMS 17th Annual Student Conference*, January 2018, Austin, TX.
- Lovell, L., S. E. Yuter, M.A. Miller and E. Scott, 2018: Snowflake mixtures in coastal northeast United States winter storms. *Abstracts, AMS 17th Annual Student Conference*, January 2018, Austin, TX.
- Ganetis, S. A., B. A. Colle, N. P. Hoban, and S. E. Yuter, 2017: Environmental conditions and physical processes for snowbands in Northeast U.S. winter storms. *Abstracts, 18th Cyclone Workshop*, 1-6 October 2017, Sainte-Adèle, Québec, Canada.
- Ganetis, S. A., B. A. Colle, N. P. Hoban, and S. E. Yuter, 2017: Environmental conditions promoting snowbands in Northeast U.S. winter storms. *Abstracts, 17th Conference on Mesoscale Processes*, 24-27 July 2017, San Diego, CA.

- Ganetis, S. A., B. A. Colle, N. P. Hoban, and S. E. Yuter, 2017: Multi-bands in the Comma Head of the 26-27 December 2010 Northeast U.S. Winter Storm. *Abstracts, 17th Conference on Mesoscale Processes*, 3-6 24-27 July 2017, San Diego, CA.
- Miller, M. A., S. E. Yuter, S. Rhodes, E. Scott, L. Lovell, B. A. Colle, L. Allen, M.T. Bryant, D. M. Hueholt and L. M. Tomkins, Complex aggregates within coastal northeast U.S. snow storms. *Abstracts, 17th Conference on Mesoscale Processes*, 3-6 24-27 July 2017, San Diego, CA.
- Yuter, S. E., N. P. Hoban, S. A. Ganetis, M. A. Miller, B. A. Colle, L. M. Tomkins, L. Lovell, E. M. Scott, L. R. Allen, D. M. Hueholt, and M. T. Bryant, 2017: Snow bands and velocity waves within northeast U.S. snow storms. *Abstracts, 17th Conference on Mesoscale Processes*, 3-6 24-27 July 2017, San Diego, CA.
- Endries, J. L., L. B. Perry, S. Yuter, A. Seimon, M. Andrade, G. Mamani, M. Bonshoms, F. Velarde, R. Winkelmann, M. Chchills, N. Montoya, and S. Arias, 2017: Vertical structure and characters of precipitation in the tropical high Andes of Bolivia and southern Peru., *Abstracts, Robert A. Houze, Jr., Symposium at 97th American Meteorological Society Annual Meeting*, January 2017, Seattle, WA.
- Ganetis, S. A., B. A. Colle, N. P. Hoban, and S. E. Yuter, 2017: Environmental conditions promoting snow bands in Northeast U.S. winter storms. *Abstracts, 28th Conference on Weather Analysis and Forecasting*, January 2017, Seattle, WA.
- Ganetis, S. A., B. A. Colle, N. P. Hoban, and S. E. Yuter, 2017: Investigation of multi-bands in the comma head of the 26-27 December 2010 Northeast U.S. winter storm. *Abstracts, 28th Conference on Weather Analysis and Forecasting*, January 2017, Seattle, WA.
- Hoban, N. P., S. E. Yuter, L. Tomkins, S. A. Ganetis, M. A. Miller, L. Lovell, S. R. Rhodes, E. Scott, and B. A. Colle, 2017: Observed characteristics of mesoscale banding in coastal northeast U.S. snow storms. *Abstracts, 28th Conference on Weather Analysis and Forecasting*, January 2017, Seattle, WA.
- Tomkins, L., N. Hoban, M. Miller and S. Yuter, 2017: Storm-relative movements of mesoscale snow bands within coastal Northeast U.S. storms. *Abstracts, AMS 16th Annual Student Conference*, January 2017, Seattle, WA.
- Yuter, S. E., and D. B. Mechem, 2017: Reflections on radar observations of mesoscale precipitation. *Abstracts, Robert A. Houze, Jr., Symposium at 97th American Meteorological Society Annual Meeting*, January 2017, Seattle, WA.
- Corbin, N. A., S. E. Yuter and D. E. Kingsmill, 2016: Spatial precipitation patterns associated with atmospheric river storms over the complex terrain of Northern California. *Abstracts, AMS 17th conference on Mountain Meteorology*. June 2016, Burlington, VT.
- Amanatides, M., S. Berry, N. A. Corbin, J. Endries, M. A. Miller, and S. E. Yuter, 2015: Radar observations of storms for education. *Abstracts, 14th Annual AMS Student Conference*, 4 Jan 2015, Phoenix, AZ.
- Ganetis, S. A., B. A. Colle, N. P. Hoban, S. E. Yuter and N. A. Corbin, 2015: Simulations of Multi-bands in the Comma Head of Northeast U.S. Winter Storms. *Abstracts, 16th Conference on Mesoscale Processes*, 3-6 August 2015, Boston, MA.
- Hoban, N. P., S. E. Yuter, S. A. Ganetis, B. A. Colle, and N. A. Corbin, 2015: Observed characteristics of mesoscale snow bands in the coastal northeast U.S. *Abstracts, 16th Conference on Mesoscale Processes*, 3-6 August 2015, Boston, MA.
- Miller, M. A., M. L. Frey and S. E. Yuter, 2015: Regional and interannual comparisons of marine stratocumulus precipitation detected using an AMSR-E 89-GHz passive microwave based method. *Abstracts, 20th Conference on Satellite Meteorology and Oceanography*, AMS Annual Meeting, Jan 2015, Phoenix, AZ.
- Rhodes, S., J. Endries and S. Yuter, Atmospheric conditions and processes associated with different degrees of snowflake riming. *Abstracts, 14th Annual AMS Student Conference*, 4 Jan 2015.
- Scott, E., J. Endries, M. T. Bryant and S. Yuter, 2015: Freshly falling snow: Identifying new snowflake geometries from photographs. *AGU Virtual Poster Showcase*, Nov 2015. Third prize winner.
- Yuter, S. E. , N. A. Corbin, M. A. Miller, S. M. Ellis and P. C. Kennedy, 2015: Radar Observations of Storms for Education: A bridge between idealized conceptual diagrams and real weather. *Abstracts, 24th Symposium on Education*, AMS Annual Meeting, 4-8 Jan 2015, Phoenix, AZ.

- Yuter, S. E., N. A. Corbin, M. A. Miller, S. M. Ellis and P. C. Kennedy, 2015: Radar Observations of Storms for Education: Real storm examples for the mesoscale course classroom. *Abstracts, 16th Conference on Mesoscale Processes*, 3-6 August 2015, Boston, MA.
- Yuter, S. E., 2015: Mysterious marine stratocumulus. *Abstracts, AGU Fall Meeting*, Dec 2015.
- Garrett, T. J. and S. E. Yuter, 2014: Multi-Angle Snowflake Camera observations of the effects of turbulence and temperature on hydrometeor fallspeed. *Abstracts, 14th AMS Conference on Cloud Physics*, Boston, MA, July 2014.
- Yuter, S. E. and T. J. Garrett, 2014: Observed influence of riming, temperature, and turbulence on the fallspeed of solid precipitation. *Abstracts, AGU Fall Meeting*, Dec 2014.
- Colle, B. A., Molthan, R. Yu, D. Stark and S. Yuter, 2013: Evaluation of model microphysics within precipitation bands of extratropical cyclones, *Abstracts, AGU Fall Meeting*, Dec 2013.
- deSzoek, S. P., D. B. Mechem, and S. E. Yuter, 2013: The relationship between lower tropospheric stability and marine stratiform cloudiness from seasonal to daily time scales. *Abstracts, AGU Fall Meeting*, Dec 2013.
- Hall, A. M., and Yuter, S.E., 2013: Lifecycle characteristics of drizzle cells in the southeast Pacific. *Abstracts, 15th Conference on Mesoscale Processes.*, 6-9 Aug. 2013, Portland, OR.
- Perry, L.B., S.J. Keighton, L.G. Lee, D.K. Miller, S.E. Yuter, C.E. Konrad, M.T. Bryant. 2013. Synoptic influences on snowfall event characteristics in the southern Appalachian Mountains. *Proceedings of the 70th Eastern Snow Conference*, 4-6 June 2013, Huntsville, ON, 141-157.
- Yuter, S.E., 2013: Atmospheric characteristics of cool-season intermittent precipitation near Portland, Oregon. *Abstracts, 15th Conference on Mesoscale Processes.*, 6-9 Aug. 2013, Portland, OR.
- Burleyson, C. D, S. E. Yuter and M. A. Miller, 2012: Observations of cloud fraction variability within southeast Pacific marine stratocumulus clouds. *Abstracts, AGU Fall Meeting*, Dec 2012.
- Frey, M., S. E. Yuter, and M. A. Miller, 2012: Regional comparisons of marine stratocumulus precipitation patterns. *Abstracts, AGU Fall Meeting*, Dec 2012.
- Hardin, N. R., S. E. Yuter and K. Friedrich and D. E. Kingsmill, 2012: Characteristics of orographic snowfall in a high altitude environment. *Abstracts, 15th Conference on Mountain Meteorology*, Steamboat Springs, CO, 20-24 August 2012.
- Kingsmill, D. E., P. Neiman, B. Moore. M. Hughes, S. Yuter and M. Ralph, 2012: Kinematic and thermodynamic structure of the Sierra Barrier Jet during a land-falling winter storm in northern California *Abstracts, 15th Conference on Mountain Meteorology*, Steamboat Springs, CO, 20-24 August 2012.
- Yuter, S. E., T. J. Garrett, C. Fallgatter, K. Shkurko, D. Howlett, J. Dean and N.R. Hardin, 2012: A new instrument for high resolution stereoscopic photography of falling hydrometeors with simultaneous measurement of fall speed. *Abstracts, AGU Fall Meeting*, Dec 2012.
- Biasutti, M., A. H. Sobel, S. E. Yuter, C. D. Burleyson, 2011: Frequency and intensity of precipitation events as seen by the TRMM Precipitation Radar. *Abstracts, AGU Fall Meeting*, Dec 2011.
- Allen, G., G. Vaughan, T. Toniazzo, H. Coe, P. Connolly, S. E. Yuter, C. D. Burleyson, P. Minnis, and J. K. Ayers, and C. D. Burleyson, 2011: Mesoscale variability of turbulence-generating mechanisms in southeast-Pacific stratocumulus. *Abstracts, 14th Conference on Mesoscale Processes.*, 1-4 Aug. 2011, Los Angeles, CA.
- Colle, B. A., D. A. Stark, and S. E. Yuter, 2011: An observed and simulated cloud microphysical perspective of snowbands within coastal Northeast U.S. winter storms. *Abstracts, 14th Conference on Mesoscale Processes.*, 1-4 Aug. 2011, Los Angeles, CA.
- Cunningham, J. G., S.E. Yuter, and B.A. Colle, 2011: Examining the nature and impact of Pacific Northwest cool season intermittent precipitation using objective radar tracking. *Abstracts, 14th Conference on Mesoscale Processes.*, 1-4 Aug. 2011, Los Angeles, CA.
- deSzoek, S. P., N. Elmer, C. D. Burleyson, P. Zuidema, S. E. Yuter, C. W. Fairall, 2011: The eastern pacific diurnal cycle of clouds, solar forcing, and tropospheric waves. *Abstracts, AGU Fall Meeting*, Dec 2011.
- Hardin, N. R., S. E. Yuter and K. Friedrich, 2011: Observed vertical structure of snow storms in Steamboat Springs, CO: Orographic enhancement in a high altitude environment. *Abstracts, 24th Conference on Weather and Forecasting.*, 23-27 Jan. 2011, Seattle, WA.

- Hardin, N.R., S.E. Yuter, A.M. Hall, J.G. Cunningham, and B.A. Colle, 2011: Observed vertical structure of snow storms in Steamboat Springs, CO: Orographic enhancement in a high altitude environment. *Abstracts, 14th Conference on Mesoscale Processes.*, 1-4 Aug. 2011, Los Angeles, CA.
- Kingsmill, D., P. J. Neiman, S. E. Yuter, M. A. Hughes, B. Moore, 2011: Three-dimensional structure and evolution of the Sierra Barrier Jet: A CalWater case study from 14-16 February 2011. *Abstracts, AGU Fall Meeting*, Dec. 2011.
- McConnell, D. A., S. E. Yuter, C. D. Burleyson, N. R. Hardin, K. Ryker and J. A. Stempien, 2011: Building successful self-regulated learners: What 2000+ students have to tell us. *Abstracts, 2011 GSA Annual Meeting*, 9–12 October 2011, Minneapolis, MN.
- Stark, D. A., B. A. Colle and S. E. Yuter, 2011: Microphysical evolution within snow storms over Long Island, NY. *Abstracts, 24th Conference on Weather and Forecasting*, 23–27 Jan. 2011, Seattle, WA.
- Yuter, S.E., A. M. Hall, C. D. Burleyson, D. Leon and A. Brewer, 2011: Long-lived drizzle cells in inversion-topped boundary layers. *Abstracts, 14th Conference on Mesoscale Processes.*, 1-4 Aug. 2011, Los Angeles, CA.
- Yuter, S. E., A. M. Hall, J. G. Cunningham, N. R. Hardin and B. A. Colle , 2011: Cool-season intermittent precipitation cells in the Pacific Northwest. *Abstracts, 24th Conference on Weather and Forecasting.*, 23–27 Jan. 2011, Seattle, WA.
- Yuter, S. E., D. Kingsmill, C. White, M. Wilbanks, N. Hardin, and J. Cunningham, 2011: The spatial distribution of precipitation frequency for atmospheric river storms in Northern California. *Abstracts, AGU Fall Meeting*, Dec 2011.
- Burleyson, C., D. H. Sobel, and S. E. Yuter, 2010: Rain on tropical islands. *Abstracts, 29th Conference on Hurricanes and Tropical Meteorology*, 10-14 May 2010, Tucson, AZ.
- Burleyson, C. D., S. E. Yuter and S. P. deSzoek, 2010: Observations of the diurnal cycle of marine stratocumulus during the VOCALS Regional Experiment. *Abstracts, AGU 2010 Fall Meeting*, December 2010, San Francisco, CA.
- Cunningham, J. G., S. E. Yuter and B. A. Colle, 2010: Quantitative comparisons of 3-D operational radar observations and model output over the Oregon Cascades. *Abstracts, 14th Conference on Mountain Meteorology*, Lake Tahoe, NV, 30 Aug-1 Sep 2010.
- de Szoek, S. P., C. W. Fairall, C. D. Burleyson, P. Zuidema, and S. E. Yuter, 2010: Ship observations of southeastern tropical Pacific clouds along 20°S. *Abstracts, AGU 2010 Fall Meeting*, December 2010, San Francisco, CA.
- de Szoek, S. P., P. Zuidema, C. W. Fairall, and S. E. Yuter, 2010: Ubiquitous drizzle from marine stratocumulus clouds. *Abstracts, AGU 2010 Fall Meeting*, December 2010, San Francisco, CA.
- de Szoek, S. P., S. E. Yuter, P. Zuidema, C. W. Fairall, and W. A. Brewer, 2010: Ship-based observation of drizzling stratocumulus clouds from EPIC to VOCALS, *CLIVAR Exchanges*, **53**, 11-13.
- de Szoek, S. P., and S. E. Yuter, 2010: When do stratocumulus clouds drizzle? *Abstracts, 13th Conference on Cloud Physics*, 28-June – 2 July 2010, Portland, OR.
- Mechem, D. B., S. E. Yuter, S. P. deSzoek, 2010: Thermodynamic and aerosol controls on Eastern Pacific stratocumulus precipitation processes in VOCALS. *Abstracts, 13th Conference on Cloud Physics*, 28-June – 2 July 2010, Portland, OR.
- Smith, B. L. J. Blaes, and S. E. Yuter, 2010: Examination of a winter storm using a Micro-Rain Radar and AMDAR aircraft soundings, *Abstracts, 35th Annual meeting of the National Weather Association*, 2-7 October 2010, Tucson, AZ.
- Yuter, S. E., M. Biasutti, A. H. Sobel, and C. D. Burleyson, 2010: Seasonal and diurnal spatial patterns of precipitation frequency from the TRMM Precipitation Radar. *Abstracts, EGU, General Assembly 2010*, 2-7 May 2010, Vienna, Austria.
- Yuter, S. E., B. A. Colle, J. G. Cunningham, and D. J. Freeman, 2010: The role of low-level blocked flow on orographic precipitation enhancement in the Cascade Mountains, *Abstracts, Sixth European Conference on Radar in Meteorology and Hydrology*. September 2010, Sibiu, Romania.
- Brewer, W. A., S. C. Tucker, G. Feingold, H. Wang, C. Fairall and S. E. Yuter, 2009: Combined shipborne Doppler lidar and radar measurements made during the VAMOS Ocean-Cloud-Atmosphere-Land Study Regional Experiment (VOCALS-REx), *Abstracts, International Symposium on Tropospheric Profiling*, Netherlands, October 2009.

- Crouch, J. A. and S. E. Yuter, S. E., 2009: Multi-season observational study of precipitation structures along the Oregon Cascade windward slope. *Abstracts, 13th Conference on Mesoscale Processes*, August 2009, Salt Lake City, UT.
- de Szoeke, S. P. C. W. Fairall, S. Yuter, S. Tucker, D. E. Wolfe, A. Brewer, L. Bariteau, K. Moran, and S. Pezoa, 2009: Variability and vertical structure of clouds and turbulence in the stratocumulus-capped boundary layer during VOCALS. *Abstracts, AGU 2009 Fall Meeting*, December 2009, San Francisco, CA.
- Fairall, C., D. E. Wolfe, S. Pezoa, S. P. deSzoeke, and S. E. Yuter, 2009: Surface-layer and boundary-layer observations from the VOCALS-REX field program: Preliminary look at observations from the NOAA Ship Ronald H. Brown. *Abstracts, 16th Conference on Air-Sea Interaction*. January 2009, Phoenix, AZ.
- Mechem, D.B., S. E. Yuter, S. P. deSzoeke, and C. W. Fairall, 2009: Near-LES modeling of Eastern Pacific stratocumulus drizzle and cloud variability in VOCALS. *Abstracts, AGU 2009 Fall Meeting*, December 2009, San Francisco, CA.
- Perry, L. B., D. K. Miller, S. E. Yuter and J. L'Heureux, 2009: Snowfall Patterns and Processes in the Southern Appalachians: Preliminary results from an interdisciplinary field campaign, 2006-2009. *Abstracts, 64th Southeastern Division of the Association of American Geographers Meeting*, November 2009, Knoxville, TN.
- Sobel, A., C. Burleyson and S. Yuter, 2009: Rain on tropical islands. *Abstracts, Northeast Tropical Meteorology Conference*, June 2009, Rensselaerville, NY.
- Yuter, S. E., D. B. Mechem, C. W. Fairall and W. A. Brewer, 2009: Unexpectedly strong convection under an inversion-topped marine boundary layer. *Abstracts, 13th Conference on Mesoscale Processes*, August 2009, Salt Lake City, UT.
- Holder, C. T., S. E. Yuter, A. H. Sobel, and A. Aiyer, 2008: The mesoscale characteristics of tropical oceanic precipitation during Kelvin waves and mixed-Rossby gravity waves. *Abstracts, TRMM 3rd NASA/JAXA International Science Conference*, February 2008, Las Vegas, NV.
- Kingsmill, D. E., S. E. Yuter, and E. M. Sukovich, 2008: Variability of graupel and ice crystal aggregates observed by aircraft during TRMM KWAJEX. *Abstracts, TRMM 3rd NASA/JAXA International Science Conference*, February 2008, Las Vegas, NV.
- Miller, M. A., and S. E. Yuter, 2008: Spurious precipitation in TMI retrievals within marine stratus. *Abstracts, TRMM 3rd NASA/JAXA International Science Conference*, February 2008, Las Vegas, NV.
- Miller, M. A., and S. E. Yuter, 2008: Characteristics of shallow non-precipitating clouds as observed by the Tropical Rainfall Measuring Mission satellite. *Abstracts, AGU 2008 Joint Assembly*, May 2008, Ft. Lauderdale, FL.
- Perry, L. B., D. Miller, S. E. Yuter, L. G. Lee, S. Keighton, 2008: Atmospheric controls on snowfall density in the southern Appalachian mountains. USA. *Abstracts, 65th Eastern Snow Conference*, May 2008, Fairlee, VT.
- Yuter, S. E., and D. E. Kingsmill, 2008: Joint Variability of Airborne Passive Microwave and Ground-based Radar Observations Obtained in the TRMM Kwajalein Experiment. *Abstracts, TRMM 3rd NASA/JAXA International Science Conference*, February 2008, Las Vegas, NV.
- Yuter, S. E., J. A. Crouch, B. A. Colle, and Y. Lin, 2008: Storm structure, freezing level height, and precipitation in the US Pacific Northwest. *Proceedings, Fifth European Conference on Radar in Meteorology and Hydrology*. June 2008, Helsinki, Finland.
- Yuter, S. E., K. K. Comstock, R. Wood and C. S. Bretherton, 2008: The three-dimensional structure and kinematics of drizzling stratocumulus in the southeast Pacific. *Abstracts, AGU 2008 Joint Assembly*, May 2008, Ft. Lauderdale, FL.
- Yuter, S. E., M. J. Payne, and B. A. Colle, 2008: Orographic precipitation and kinematic flow structures of winter storms over the U.S. Pacific Northwest. *Abstracts, 13th Conference on Mountain Meteorology*. August 2008, Whistler, Canada.
- Yuter, S. E., D. A. Stark, M. T. Bryant, B. A. Colle, L. B. Perry, J. Blaes, J. Wolfe, and G. Peters, 2008: Forecasting and characterization of mixed precipitation events using the MicroRainRadar. *Abstracts, Fifth European Conference on Radar in Meteorology and Hydrology*. June 2008, Helsinki, Finland.
- Fitz-Coy, N., W. W. Edmonson and S. Yuter, 2007: Microsatellites for studying Earth's energy balance. *NSF Workshop on Small Satellite Missions for Space Weather and Atmospheric Research*, May 2007, Arlington, VA.

- Holder, C. T., S. E. Yuter, A. H. Sobel, and A. Aiyer, 2007: The mesoscale characteristics of tropical oceanic precipitation during Kelvin waves and mixed-Rossby gravity waves. *Abstracts, 12th Conference on Mesoscale Processes*, August 2007, Waterville Valley, NH.
- Novak, D. R., B. A. Colle, and S. E. Yuter, 2007: A high-resolution observational and modeling comparison of mesoscale band life cycle during three recent northeast U.S. snowstorms. *Preprints, 22nd Conference on Weather Analysis and Forecasting/18th Conference on Numerical Weather Prediction*, June 2007, Park City, Utah, 3A.2.
- Novak, D. R., B. A. Colle, and S. E. Yuter, 2007: A comparison of mesoscale band life cycle during three recent northeast U.S. snowstorms. *Abstracts, 12th Conference on Mesoscale Processes*, August 2007, Waterville Valley, NH.
- Yuter, S. E., B. A. Colle, M. J. Payne, and Y. Lin, 2007: Three-dimensional microphysical and dynamical structures of winter storms in the U.S. Pacific Northwest: 3-year radar climatology and comparisons between operational weather radar observations and regional mesoscale model output. *Abstracts, 12th Conference on Mesoscale Processes*, August 2007, Waterville Valley, NH.
- Yuter, S. E., and D. E. Kingsmill, 2007: Joint variability of airborne passive microwave and ground-based radar observations obtained in the TRMM Kwajalein Experiment. *Abstracts, AGU 2007 Fall Meeting*, San Francisco, CA.
- Yuter, S. E., and L. B. Perry, 2007: Storm structures and precipitation characteristics of snow events in the southern Appalachian mountains. *Abstracts, 12th Conference on Mesoscale Processes*, August 2007, Waterville Valley, NH.
- Cifelli, R., S. Nesbitt, S. A. Rutledge, W. A. Petersen, and S. Yuter, 2006: Diurnal cycle characteristics of precipitation in the East Pacific. *27th Conference on Hurricanes and Tropical Meteorology*, Monterey, CA, 23-28 April, American Meteorological Society, 14D.7.
- Holder, C., S. Yuter, and A. Sobel, 2006: The effects of equatorial Kelvin waves and Mixed-Rossby gravity waves on the mesoscale structure of tropical oceanic convection. *Preprints, 4th European Conference on Radar in Meteorology and Hydrology*. 18-22 September 2006, Barcelona, Spain, P4.1.
- Kingsmill, D., and S. Yuter, 2006: Integrated analyses of microphysical, radar, and radiometric observations from TRMM/KWAJEX. *Abstracts, EGU General Assembly 2006*, Vienna, Austria, 1607-7962/gra/EGU06-A-09508.
- Kingsmill, D., S. E. Yuter, B. A. Colle, R. A. Houze, B. Geerts, D. P. Lettenmaier, P. J. Neiman, G. S. Poulos, R. B. Smith, B. F. Smull, W. J. Steenburgh, and M. Steiner, 2006: Overview of the Sierra Hydrometeorology Atmospheric River Experiment (SHARE). *12th Conference on Mountain Meteorology*, Santa Fe, NM, 28 August – 1 September 2006, American Meteorological Society, P1.1.
- Miller, M. and S. Yuter, 2006: Phantom precipitation and other problems in TRMM products. *Proceedings, Proceedings, 3rd Workshop on Precipitation Measurements*, Melbourne, Australia, 23-27 October 2006, International Precipitation Working Group, 10 pp.
- Swann, A., A. H. Sobel, S. E. Yuter, and G. N. Kiladas, 2006: Precipitation structures and atmospheric waves over the tropical ocean. *27th Conference on Hurricanes and Tropical Meteorology*, Monterey, CA, 23-28 April 2006, American Meteorological Society, P8.3.
- Yuter, S., B. Colle, T. Downing, Y. Lin, C. Spooner, J. Payne, and K. Comstock, 2006: Microphysical and dynamical structures of winter storms in the U. S. Pacific Northwest: Comparisons between regional mesoscale model output and operational weather radar observations. *Preprints, 4th European Conference on Radar in Meteorology and Hydrology*. 18-22 September 2006, Barcelona, Spain, P4.3.
- Yuter, S., M. Miller, J. Stout, R. Wood, J. Kwiatkowski, D. Horn, and C. Spooner, 2006: Remaining challenges in satellite precipitation estimation for the Tropical Rainfall Measuring Mission. *Preprints, 4th European Conference on Radar in Meteorology and Hydrology*. 18-22 September 2006, Barcelona, Spain, 11.6.
- Colle, B. A., and S. E. Yuter, 2005: Understanding Precipitation Enhancement over Long Island, NY Using the WSR-88D and High Resolution Simulations. *11th Conference on Mesoscale Meteorology*, Albuquerque, NM, 24-29 October, American Meteorological Society.
- Comstock, K., S. Yuter, R. Wood, 2005: Microphysical and kinematic structures within drizzling stratocumulus in the southeast Pacific, *Abstracts, AGU 2005 Fall Meeting*, San Francisco, CA, A16A-0008.
- MacLeod, A., J. Roering, S. Yuter: 2005: Comparing spatial and temporal patterns of landslides and rainfall using remote sensing. *Abstracts, AGU 2005 Fall Meeting*, San Francisco, CA, P41B-0932

- Martner, B., S. Yuter, A. White, D. Kingsmill, and F. M. Ralph, 2005: Raindrop size distributions and Z-R relations in coastal rainfall for periods with and without a radar bright band. *Preprints, 11th Conference on Mesoscale Processes*, Albuquerque, NM, 24-29 October, American Meteorological Society.
- Swann, A., A. Sobel, S. Yuter, and G. Kiladis, 2005: Precipitation structures and tropical waves over the tropical ocean. *Abstracts, AGU 2005 Fall Meeting*, San Francisco, CA, A16A-0021.
- Yuter, S. and K. Comstock, 2005: Satellite and radar characteristics of drizzling marine stratocumulus in the southeast Pacific, *Abstracts, AGU 2005 Fall Meeting*, San Francisco, CA, A16A-0009.
- Yuter, S. E., B. A. Colle, C. L. Spooner, and T. K. Downing, 2005: Structural characteristics of winter storms in southern Washington and northern Oregon: Prototypes for routine comparison between regional model output and WSR-88D radar observations. *11th Conference on Mesoscale Meteorology*, Albuquerque, NM, 24-29 October, American Meteorological Society.
- Yuter, S. E., C. L. Spooner, and T. K. Downing, 2005: Structural characteristics of winter storms in southern Washington and northern Oregon. *Abstracts, Pacific Northwest Weather Conf.*, March 2005, Seattle, WA.
- Yuter, S. E., J. Stout, R. Wood, J. Kwiatkowski and D. Horn, 2005: Relative errors in TRMM satellite Version 5 and Version 6 products: Steps forward and backward. *Preprints, 32nd Conference on Radar Meteorology*, Albuquerque, NM, 24-29 October, American Meteorological Society.
- Cifelli, R., S. W. Nesbitt, S. A. Rutledge, W. A. Petersen, and S. E. 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, American Meteorological Society.
- Yuter, S. E., 2004: The structure and variability of tropical oceanic precipitation in the western Pacific warm pool and eastern Pacific ITCZ. *Proceedings, 3rd European Conference on Radar in Meteorology and Hydrology*. 6-10 September 2004, Visby, Sweden.
- Yuter, S. E., C. Spooner, P. Freitag, Y. Serra, and M. McPhaden, 2004: Comparison of four types of rain measurements in a tropical oceanic environment. *Abstracts, Eighth International Conference on Precipitation*. 8-11 August 2004. Vancouver, BC.
- Yuter, S. E., R. Wood, D. Horn, E. Foufoula-Georgiou, V. Vuruputur, and S. Basu, 2004: Error characterization of TRMM and GPM precipitation maps based on a probabilistic evaluation methodology. *Abstracts, Eighth International Conference on Precipitation*. 8-11 August 2004, Vancouver, Canada.
- Bidwell, S. W., W. J. Adams, I. K. Bibyk, D. F. Everett, E. A. Smith, and S. E. Yuter, 2003: Validation and error characterization for the Global Precipitation Measurement. *Preprints, 2003 International Geoscience and Remote Sensing Symposium*, Toulouse, France.
- Yuter, S. E., L. B. Nance, M. Löffler-Mang, 2003: Surface-based measurements of precipitation characteristics at air temperature near 0 deg C. *Abstracts, Pacific Northwest Weather Conf.*, March 2003, Seattle, WA.
- Yuter, S. E., L. B. Nance, M. Löffler-Mang, 2003: Surface-based in situ and vertically-pointing measurements of precipitation characteristics near and within the melting layer obtained at McKenzie Bridge, Oregon during IMPROVE II. *Preprints, 10th Conference on Mesoscale Meteorology*, Portland, OR, June 2003. American Meteorological Society.
- Yuter, S. E., and R. Wood, 2003: Evaluating uncertainties in GPM oceanic precipitation retrievals. *Preprints, 31st Conference on Radar Meteorology*, Seattle, WA, 6-12 August, American Meteorological Society.
- Bidwell, S. W., S. E. Yuter, W. J. Adams, D. F. Everett, G. M. Flaming, and E. A. Smith, 2002: Plans for Global Precipitation Measurement Ground Validation. *Preprints, 2002 International Geoscience and Remote Sensing Symposium and 24th Canadian Symposium on Remote Sensing*, June 2002, Toronto, Canada, **III**, 1370-1373.
- Bretherton, C. S., C. W. Fairall, T. Uttal, R. A. Weller, and S. E. Yuter, 2002: Overview of the EPIC 2001 Stratocumulus cruise, *Abstracts, AGU 2002 Fall Meeting*, San Francisco, CA, A21D-03.
- Comstock, K., S. Yuter, R. Wood, C. Bretherton, 2002: The life cycle and composite structure of mesoscale cellular organization, *Abstracts, AGU 2002 Fall Meeting*, San Francisco, CA, A22A-0054.

- Wood, R., K Comstock, S. Yuter, and C. Bretherton, 2002: Cloud base and surface drizzle during EPIC Stratocumulus, *Abstracts, AGU 2002 Fall Meeting*, San Francisco, CA, A22A-0074
- Yuter, S., R. Wood, and K. Comstock, 2002: Analysis of mesoscale features present in drizzling stratocumulus using satellite data and shipborne radar data, *Abstracts, AGU 2002 Fall Meeting*, San Francisco, CA, A22A-0075.
- Houze, R. A., Jr., S. Medina, and S. E. Yuter, 2001: Orographic precipitation mechanisms: New data from the Mesoscale Alpine Programme. *Preprints, International Conference on Mesoscale Meteorology and Typhoons in East Asia*, 26-28 September 2001, Taipei, Taiwan.
- Yuter, S. E., 2001: Sources of uncertainties in rainfall mapping with precipitation radar. *Abstracts, Pacific Northwest Weather Conf.*, March 2001, Seattle, WA.
- Yuter, S. E., 2001: Characteristics of oceanic-influenced precipitation in midlatitudes and the tropics. *Abstracts, Seventh International Conference on Precipitation*. 30 June–3 July 2001. Rockport, ME.
- Yuter, S. E., and R. A. Houze, Jr., 2001: Microphysical modes of precipitation growth determined by vertically-pointing radar at Locarno-Monti during MAP. *Abstracts, MAP Meeting 2001*, Schliersee, Germany.
- Yuter, S. E., 2000: Rainfall characteristics and Z-R relation for Eureka, CA. *Abstracts, Pacific Northwest Weather Conf.*, Feb 2000, Seattle, WA.
- Yuter, S. E., 1999: Radar reflectivity and rainfall in the western coastal mountains and a proposed extension of radar coverage over the Pacific and Washington/Oregon coast. *Abstracts, Pacific Northwest Weather Conf.*, Feb 1999, Seattle, WA.
- James, C., S. Brodzik, H. Edmon, R. Houze, and S. Yuter, 1998: MountainZebra: Real-time archival and 4D visualization of radar volumes over complex terrain. *Preprints, COST 75 Advanced Weather Radar Systems International Seminar*, Locarno, Switzerland, European Commission, 297-306.
- Yuter, S. E., and R. A. Houze, Jr., 1998: Practical methods of mesoscale and cloud model verification using operational radar data. *Program and Abstracts Volume, GCIP Mississippi River Climate Conference*, St. Louis, MO, 121.
- Zipser, E., S. Yuter, D. Short, S. Rutledge, R. Houze, G. Heymsfield, J. Halverson and B. Ferrier, 1998: The role of field campaigns in TRMM validation. *Preprints, Conf. on Cloud Physics*, Everett, Washington, American Meteorological Society, 300-301.
- Steiner, M., R. A. Houze, Jr., and S. E. Yuter, 1994: Three-dimensional climatological rainfall characteristics from operational radar and raingauge networks. *Abstracts, AGU Spring Meeting*.
- Steiner, M., S. E. Yuter and R. A. Houze, Jr., 1994: Prototype TRMM radar (ARMAR) validation techniques using NASA DC-8 and NOAA WP-3D airborne measurements. *Proceedings, NASA TOGA COARE Science Data Workshop II*, Albuquerque, NM. 30-33.
- Yuter, S. E., and R. A. Houze, Jr., 1993: Three-dimensional kinematic and microphysical evolution of Florida cumulonimbus. *Preprints, 26th Conf. on Radar Meteorology*, Norman, Oklahoma, American Meteorological Society, 176-179.
- Wiener, G., and S. E. Yuter, 1991: A storm cell extraction algorithm for parallel computers. *Preprints, 25th Conference on Radar Meteorology*, Paris, France, AMS, Boston, 193-196.
- Lutz, J. S., S. E. Yuter, J. W. Wilson, 1989: The nowcaster workstation for analyzing four-dimensional radar data. *Preprints, 24th Conference on Radar Meteorology*, Tallahassee, FL, Amer. Meteor. Soc. 216 - 219.

Service within NC State (last 5 years)

Faculty mentor for Assistant Professor Camilo Rey-Sanchez (2021-), MEAS Undergraduate Curriculum Committee (2022-), Faculty advisor to Broadcast Meteorology Club (2011-), Data Science Initiative Advisory Council (2016-2021), Chair of MEAS ETF Committee (2011-2021), College of Sciences ETF Committee (2019-2021), O. Max Gardner Award Committee (2018-2021), MEAS Faculty Search Committee (Boundary Layer position), (2020), MEAS Department Head Search Committee (2018-2019), Faculty mentor for Assistant Professor Erin Hestir (2014-2017).