

BRIAN D. McNOLDY

◆ CONTACT

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◆ EMPLOYMENT

- Senior Research Associate III, Rosenstiel School of Marine & Atmospheric Science, January 2012 - present
University of Miami, Miami, Florida
 - Majumdar Research Group (supervisor: Sharan Majumdar)
 - Kamenkovich Research Group (supervisor: Igor Kamenkovich)
 - Nolan Research Group (supervisor: David Nolan)
- Research Associate III, Department of Atmospheric Science, September 2001 – December 2011
Colorado State University, Fort Collins, Colorado
 - Tropical Dynamics Research Group (supervisor: Wayne Schubert)
 - Regional and Mesoscale Meteorology (RAMM) Branch (supervisor: Mark DeMaria)
 - Mesoscale Meteorology Research Group (supervisor: Richard Johnson)
- Graduate Research Assistant, Department of Atmospheric Science, August 1998 - August 2001
Colorado State University, Fort Collins, Colorado
 - Satellite Applications Research Group (supervisor: Thomas Vonder Haar)
- Laboratory Assistant and Tutor, Department of Astronomy and Physics, January 1995 - May 1998
Lycoming College, Williamsport, Pennsylvania
 - Various courses in Astronomy, Physics, and Geology

◆ EDUCATION

- M.S., Atmospheric Science, 2001 (3.773 GPA)
Colorado State University, Fort Collins, Colorado
 - Thesis: "Vertical Distribution of Water Vapor Using Satellite Sounding Methods with New Aircraft Data Validation"
 - Advisor: Thomas H. Vonder Haar
- B.A., Physics and Astronomy Double Major, Mathematics Minor, 1998 (3.497 GPA)
Lycoming College, Williamsport, Pennsylvania
 - Senior Honors Project: "Planetary Atmospheres"
 - Advisor: Richard R. Erickson

◆ COMPUTER EXPERIENCE

- Languages
 - HTML/XHTML, 24 years
 - IDL, 22 years
 - JavaScript, 19 years
 - SH/BASH, 17 years
 - PHP, 17 years
 - Fortran 90, 8 years
- Skills
 - Graphics and visualization
 - Operational real-time products
 - Data analysis
 - Scientific programming
 - Website creation and maintenance
- Platforms
 - UNIX/Linux
 - PC/Windows

◆ PROFESSIONAL ACTIVITIES

- Co-advisor of undergraduate senior project (Nicholas Kedzuf), 2017-2018
 - *"Seasonal Variability and Trends of the Miami Urban Heat Island"*
- Presenter: 33rd American Meteorological Society (AMS) Conference on Hurricanes and Tropical Meteorology, Ponte Vedra Beach, Florida, April 2018
 - *"An Evaluation of Satellite-derived Atmospheric Motion Vector (AMV) Characteristics in Tropical Cyclones Using TCI HDSS Dropsondes"*
- Presenter: NISAR Science Team Meeting, Miami, Florida, February 2018
 - *"Trends and Predictions of Tidal Flooding Hazards in Miami"*
- Presenter: University of Miami Computer Science Colloquium, Miami, Florida, February 2018
 - *"Ensemble Techniques Applied to Ocean Profiling Floats in an Observing System Simulation Experiment"*
- Attendee: CYGNSS Science Team Meeting, Miami, Florida, December 2017
- Attendee: HFIP Annual Meeting, Miami, Florida, November 2017
- Presenter: SOCCOM Annual Meeting, Princeton, New Jersey, May 2017
 - *"Analysis and Visualization of Large Ensembles of Model-simulated SOCCOM Float Trajectories"*
- Attendee: CYGNSS Science Team Meeting, Cocoa Beach, Florida, December 2016
- Presenter: Lycoming College Physics Colloquium, Williamsport, Pennsylvania, August 2016
 - *"Advancing Hurricane Science from Space"*
- Presenter: 32nd American Meteorological Society (AMS) Conference on Hurricanes and Tropical Meteorology, San Juan, Puerto Rico, April 2016
 - *"Evaluation of the Impact of CYGNSS Wind Speed Data on Tropical Cyclone Structure Analyses Forecasts in a Regional OSSE"*
- Attendee: 70th Interdepartmental Hurricane Conference, Miami, Florida, March 2016
- Presenter: 96th American Meteorological Society (AMS) Annual Meeting, 20th Conference on Integrated Observing and Assimilation Systems for the Atmosphere, Oceans, and Land Surface (IOAL-AOLS), New Orleans, Louisiana, January 2016
 - *"Impact of CYGNSS Data on Tropical Cyclone Analyses and Forecasts in a Regional OSSE Framework"*
- Attendee: HFIP Annual Meeting, Miami, Florida, November 2015
- Attendee: CYGNSS Science Team Meeting, Ann Arbor, Michigan, October 2015
- Attendee: CYGNSS Science Team Meeting, Jacksonville, Florida, March 2015
- Presenter: 69th Interdepartmental Hurricane Conference, Jacksonville, Florida, March 2015
 - *"Impact of CYGNSS Data on Hurricane Analyses and Forecasts in a Regional OSSE Framework"*
- Presenter: 31st American Meteorological Society (AMS) Conference on Hurricanes and Tropical Meteorology, San Diego, California, April 2014
 - *"Further Development and Applications of an Efficient and Configurable Vortex Initialization Technique"*
- Attendee: CYGNSS Science Team Meeting, Miami, Florida, December 2013
- Presenter: 67th Interdepartmental Hurricane Conference, College Park, Maryland, March 2013
 - *"A Highly Configurable Vortex Initialization Method for Tropical Cyclones"*
- Attendee: CYGNSS Science Team Meeting, Miami, Florida, February 2013
- Presenter: 30th American Meteorological Society (AMS) Conference on Hurricanes and Tropical Meteorology, Ponte Vedra Beach, Florida, April 2012
 - *"Diagnostics and Verification of the Tropical Cyclone Environment in Regional Models"*
- Presenter: National Oceanographic Partnership Program (NOPP) TC Review, Miami, Florida, March 2012
 - *"Improving Tropical Cyclone Intensity Forecasting with Theoretically-Based Statistical Models"*
- Attendee: HFIP Annual Review Meeting, Miami, Florida, November 2011
- Co-advisor of undergraduate internship (Jessica Taheri), 2011
 - *"Comparing Model Precipitation Forecasts for Hurricane Ida (2009)"*
- Attendee: 65th Interdepartmental Hurricane Conference, Miami, Florida, March 2011

- Presenter: National Oceanographic Partnership Program (NOPP) TC Review, Miami, Florida, February 2011
- *"Impact of Vortex Structure on Tropical Cyclone Response to Diabatic Heating"*
- Co-advisor of undergraduate internship (Christopher Alston), 2010
- *"The Influence of the North Atlantic Oscillation on Hurricane Landfalls from Virginia to Maine"*
- Co-advisor of undergraduate internship (Stormy Stevens), 2010
- *"The Impact of Tropical Cyclone Rainfall on Drought in Alabama"*
- Presenter: 29th American Meteorological Society (AMS) Conference on Hurricanes and Tropical Meteorology, Tucson, Arizona, May 2010
- *"HWRF Performance Diagnostics from the 2009 Atlantic Hurricane Season."*
- Attendee: 3rd IDL User Group Meeting, Boulder, Colorado, February 2010.
- Presenter: Interactions of Society and the Environment Seminar Series, Fort Collins, Colorado, February 2010
- *"Human Dynamics of Hurricane Risk"*
- Attendee: Developmental Testbed Center (DTC) Diagnostics Meeting, Boulder, Colorado, September 2009.
- Attendee: 2nd IDL User Group Meeting, Boulder, Colorado, October 2008.
- Presenter: Town Hall Meeting and Public Forum on Hail Cannon Use, Center, Colorado, November 2006
- *"Precipitation Characteristics of the San Luis Valley During Summer 2006"*
- Presenter: 27th American Meteorological Society (AMS) Conference on Hurricanes and Tropical Meteorology, Monterey, California, April 2006
- *"Diurnal cycle of oceanic surface winds and sea surface temperatures during the 2004 North American Monsoon Experiment"*
- Attendee: National Science Board (NSB) Task Force on Hurricane Science and Engineering Workshop, Boulder, Colorado, February 2006.
- Presenter: 26th American Meteorological Society (AMS) Conference on Hurricanes and Tropical Meteorology, Miami Beach, Florida, May 2004
- *"Multiple Eyewall Structure of Hurricane Juliette 2001"*
- Presenter: U.S. CLIVAR Pan-American Workshop, Boulder, Colorado, September 2003
- *"QuikSCAT Analysis of Surface Wind Fields in Stratocumulus Regions"*
- Presenter: 25th American Meteorological Society (AMS) Conference on Hurricanes and Tropical Meteorology, San Diego, California, April/May 2002
- *"A Multi-Platform View of Hurricane Erin"*
- Attendee: Battlespace Atmospheric and Cloud Impacts on Military Operations (BACIMO) Conference, Fort Collins, Colorado, July 2001
- Presenter: American Geophysical Union (AGU) Meeting, San Francisco, California, December 2000
- *"A Preliminary Observational Study of Hurricane Eyewall Mesovortices"*
- Presenter: 2nd Annual Department of Defense Center for Geosciences / Atmospheric Research (DoD CG/AR) Review, Bellvue, Colorado, October 2000
- *"Distribution of Water Vapor Using Satellite Sounding Methods With New Aircraft Data Validation"*
- Attendee: Four Corners Section of the American Physical Society (4CS-APS) Meeting, Fort Collins, Colorado, September 2000
- Attendee: CloudSat Science Team Meeting, Boulder, Colorado, April 2000
- Attendee: Battlespace Atmospheric and Cloud Impacts on Military Operations (BACIMO) Conference, Fort Collins, Colorado, April 2000
- Attendee: 80th American Meteorological Society (AMS) Annual Meeting, Long Beach, California, January 2000
- Attendee: Earth Observing System Investigator's Working Group (EOS-IWG) Meeting, Vail, Colorado, June 1999
- Presenter: Central Pennsylvania Section of the American Association of Physics Teachers (CPS-AAPT) Meeting, Williamsport, Pennsylvania, April 1998
- *"Tropical Convection and Vertical Structure in the Atmosphere"*
- Presenter: Lycoming College Physics Colloquium, Williamsport, Pennsylvania, March 1998
- *"Planetary Atmospheric Dynamics"*

- Presenter: Lycoming College Physics Colloquium, Williamsport, Pennsylvania, September 1997
- “Characteristics of Tropical Convective Systems”
- Presenter: Lycoming College Physics Colloquium, Williamsport, Pennsylvania, October 1996
- “The Formation of Severe Weather”

◆ PROFESSIONAL MEMBERSHIPS

- American Geophysical Union (AGU), 2000-present
- American Institute of Physics (AIP), 1995-present
- American Meteorological Society (AMS), 1998-present
- American Physical Society, (APS), 1995-present
- Sigma Pi Sigma ($\Sigma\Pi\Sigma$), 1998-present

◆ REFEREED PUBLICATIONS

- Annane, B., **B. D. McNoldy**, S. M. Leidner, R. Hoffman, R. Atlas, and S. J. Majumdar, 2018: A study of the HWRP analysis and forecast impact of realistically simulated CYGNSS observations assimilated at scalar wind speeds and as VAM wind vectors. *Mon. Weather Rev.*, **146**, 2221-2236, doi:10.1175/MWR-D-17-0240.1.
- Leidner, S. M., B. Annane, **B. D. McNoldy**, R. Hoffman, and R. Atlas, 2018: Variational analysis of simulated ocean surface winds from the Cyclone Global Navigation Satellite System (CYGNSS) and evaluation using a regional OSSE. *J. Atmos. Ocean. Tech.*, **35**, 1571-1584, doi:10.1175/JTECH-D-17-0136.1.
- McNoldy, B. D.**, B. Annane, S. Majumdar, J. Delgado, L. Bucci, and R. Atlas, 2017: Impact of assimilating CYGNSS data on tropical cyclone analyses and forecasts in a regional OSSE framework. *Marine Tech. Soc. J.*, **51**, 7-15, doi:10.4031/MTSJ.51.1.1.
- Otkin, J. A., W. E. Lewis, A. Lenzen, **B. D. McNoldy**, and S. J. Majumdar, 2017: Assessing the accuracy of the cloud and water vapor fields in the Hurricane WRF (HWRP) model using satellite infrared brightness temperatures. *Mon. Weather Rev.*, **145**, 2027-2046, doi:10.1175/MWR-D-16-0354.1.
- Trumbo, C., L. Peek, M. Meyer, H. Marlatt, E. Grunfest, **B. D. McNoldy**, and W. H. Schubert, 2016: A cognitive-affective scale for hurricane risk perception. *Risk Analysis*, **36**, 14pp., doi: 10.1111/risa.12575.
- Williams, G. J., R. K. Taft, **B. D. McNoldy**, and W. H. Schubert, 2012: Shock-like structures in the tropical cyclone boundary layer. *J. Adv. Model. Earth Syst.*, **5**, 16pp., doi:10.1002/jame.20028.
- Hendricks, E. A., **B. D. McNoldy**, and W. H. Schubert, 2012: Observed inner-core structural variability in Hurricane Dolly (2008). *Mon. Weather Rev.*, **140**, 4066-4077, doi:10.1175/MWR-D-12-00018.1.
- Musgrave, K. D., R. K. Taft, J. L. Vigh, **B. D. McNoldy**, and W. H. Schubert, 2012: Time evolution of the intensity and size of tropical cyclones. *J. Adv. Model. Earth Syst.*, **4**, 15pp., doi:10.1029/2011MS000104.
- Lindsey, D. T., **B. D. McNoldy**, Z. O. Finch, D. S. Henderson, D. G. Lerach, R. B. Seigel, J. M. Steinweg-Woods, E. A. Stuckmeyer, G. J. Williams, D. T. Van Cleave, and M. E. Woloszyn, 2011: A high wind statistical prediction model for the Northern Front Range of Colorado. *Electron. J. Oper. Meteorol.*, **2011-EJ3**, 24pp.
- Schubert, W. H., and **B. D. McNoldy**, 2010: Application of the concepts of Rossby length and Rossby depth to tropical cyclone dynamics. *J. Adv. Model. Earth Syst.*, **2**, 13pp, doi:10.3894/JAMES.2010.2.7.
- Hendricks, E. A., W. H. Schubert, S. R. Fulton, and **B. D. McNoldy**, 2010: Spontaneous-adjustment emission of inertia-gravity waves by unsteady vortical motion in the hurricane core. *Q. J. Roy. Meteor. Soc.*, **136**, 537-548.
- Pielke Sr., R. A., K. E. Wolter, O. A. Bliss, N. J. Doesken, and **B. D. McNoldy**, 2007: July 2005 Denver heat wave: How unusual was it? *Natl. Wea. Dig.*, **31**, 24-35.
- Johnson, R. H., P. E. Ciesielski, **B. D. McNoldy**, P. J. Rogers, and R. K. Taft, 2007: Multiscale variability of the flow during the North American Monsoon Experiment. *J. Climate*, **20**, 1628-1648.
- Schubert, W. H., C. M. Rozoff, J. L. Vigh, **B. D. McNoldy**, and J. P. Kossin, 2007: On the distribution of subsidence in the hurricane eye. *Q. J. Roy. Meteor. Soc.*, **133**, 595-605.

Rozoff, C. M., W. H. Schubert, **B. D. McNoldy**, and J. P. Kossin, 2006: Rapid filamentation zones in intense tropical cyclones. *J. Atmos. Sci.*, **63**, 325-340.

McNoldy, B. D., 2004: Triple eyewall in Hurricane Juliette. *B. Am. Meteorol. Soc.*, **85**, 1663-1666.

Bordoni, S., P. E. Ciesielski, R. H. Johnson, **B. D. McNoldy**, and B. Stevens, 2004: The low-level circulation of the North American Monsoon as revealed by QuikSCAT. *Geophys. Res. Lett.*, **31**, L10109, doi:10.1029/2004GL020009.

McNoldy, B. D., P. E. Ciesielski, W. H. Schubert, and R. H. Johnson, 2004: Surface winds, divergence, and vorticity in stratocumulus regions using QuikSCAT and reanalysis winds. *Geophys. Res. Lett.*, **31**, L08304, doi:10.1029/2004GL019768.

McNoldy, B. D., A. Cheng, Z. A. Eitzen, R. W. Moore, J. J. Persing, K. Schaefer, and W. H. Schubert: Design and construction of an affordable rotating table for classroom demonstrations of geophysical fluid dynamics principles. *B. Am. Meteorol. Soc.*, **84**, 1827-1834.

Prieto, R., **B. D. McNoldy**, S. R. Fulton, and W. H. Schubert, 2003: A classification of binary tropical-cyclone-like vortex interactions. *Mon. Weather Rev.*, **131**, 2656-2666.

Kossin, J. P., **B. D. McNoldy**, and W. H. Schubert, 2002: Vortical swirls in hurricane eye clouds. *Mon. Weather Rev.*, **130**, 3144-3149.

◆ CONFERENCE PREPRINTS

Ge, J. Y., D. S. Nolan, and **B. D. McNoldy**, 2019: A detailed dataset of surface winds over Puerto Rico from a WRF simulation of Hurricane Maria (2017). Preprints, *Amer. Met. Soc. 99th Ann. Meeting*, Phoenix, AZ.

Knievel, J. C., D. S. Nolan, G. H. Bryan, **B. D. McNoldy**, J. A. Hlywiak, J. Y. Ge, E. A. Hendricks, R. Rotunno, and C. M. Rozoff, 2018: Toward better simulations of hurricane winds in urban canopies. Preprints, *AGU 51st Fall Meeting*, Washington, DC.

McNoldy, B. D., C. S. Velden, and S. J. Majumdar, 2018: An evaluation of satellite-derived atmospheric motion vector (AMV) characteristics in tropical cyclones using TCI HDSS dropsondes. Preprints, *Amer. Met. Soc. 33rd Conf. on Hurricanes and Tropical Meteorology*, Ponte Vedra Beach, FL.

Dunion, J. P., C. D. Thorncroft, C. S. Velden, and **B. D. McNoldy**, 2018: The TC diurnal cycle: The landfall before the landfall. Preprints, *Amer. Met. Soc. 33rd Conf. on Hurricanes and Tropical Meteorology*, Ponte Vedra Beach, FL.

Annane, B., S. M. Leidner, **B. D. McNoldy**, R. Atlas, S. J. Majumdar, and R. N. Hoffman, 2018: Impact of CYGNSS data on tropical cyclone analyses and forecasts using the operational HWRF. Preprints, *Amer. Met. Soc. 33rd Conf. on Hurricanes and Tropical Meteorology*, Ponte Vedra Beach, FL.

Kedzif, N. J., P. Zuidema, and **B. D. McNoldy**, 2018: An analysis of the Miami urban heat island and its potential influence on precipitation distribution in South Florida. Preprints, *Amer. Met. Soc. 98th Ann. Meeting*, Austin, TX.

Annane, B., S. M. Leidner, S. J. Majumdar, **B. D. McNoldy**, R. N. Hoffman, R. Atlas, J. A. Sippel, and Z. Zhang, 2018: Impact of CYGNSS wind speeds and variational analysis wind vectors on HWRF analyses and forecasts. Preprints, *Amer. Met. Soc. 22nd Conf. on Satellite Meteorology and Oceanography*, Austin, TX.

Leidner, S. M., S. J. Majumdar, **B. D. McNoldy**, R. N. Hoffman, and R. Atlas, 2018: CYGNSS gridded global wind vectors: Variational analysis with GFS backgrounds. Preprints, *Amer. Met. Soc. 22nd Conf. on Satellite Meteorology and Oceanography*, Austin, TX.

Majumdar, S. J., **B. D. McNoldy**, B. Annane, S. M. Leidner, R. Atlas, and R. N. Hoffman, 2017: Evaluation of the impact of synthetic CYGNSS wind speed data on tropical cyclone analyses and forecasts in a regional OSSE. Preprints, *OFCM 71st Interdepartmental Hurricane Conf.*, Miami, FL.

Annane, B., S. M. Leidner, **B. D. McNoldy**, R. N. Hoffman, and R. Atlas, 2017: Assimilation of CYGNSS ocean surface winds in HWRF: Preparing for post-launch assessment of impact on hurricane analyses and forecasts. Preprints, *Amer. Met. Soc. 97th Ann. Meeting*, Seattle, WA.

Annane, B., **B. D. McNoldy**, S. M. Leidner, R. N. Hoffman, R. Atlas, and S. J. Majumdar, 2017: Impact of simulated CYGNSS ocean surface winds on tropical cyclone analyses and forecasts in a regional OSSE framework. Preprints, *AMS 21st Conf. on Integrated Observing and Assimilation Systems for the Atmosphere, Oceans, and Land Surface*, Seattle, WA.

- Annane, B., **B. D. McNoldy**, S. M. Leidner, R. Atlas, R. N. Hoffman, and S. J. Majumdar, 2016: Impact of CYGNSS data on tropical cyclone analyses and forecasts in a regional OSSE framework. Preprints, *AGU Fall Meeting*, San Francisco, CA.
- McNoldy, B. D.**, B. Annane, J. Deldago, L. Bucci, R. Atlas, S. J. Majumdar, 2016: Evaluating the impact of CYGNSS wind speed data on tropical cyclone structure analyses and forecasts in a regional OSSE. Preprints, *AMS 32nd Conf. on Hurricanes and Tropical Meteorology*, San Juan, PR.
- B. Annane, **B. D. McNoldy**, J. Deldago, L. Bucci, R. Atlas, and S. J. Majumdar, 2016: Impact of CYGNSS data on hurricane analyses and forecasts in a regional OSSE framework. Preprints, *AMS 32nd Conf. on Hurricanes and Tropical Meteorology*, San Juan, PR.
- Musgrave, K. D., M. DeMaria, and **B. D. McNoldy**, 2016: Global expansion of a statistical-dynamical ensemble for tropical cyclone intensity prediction. Preprints, *AMS 32nd Conf. on Hurricanes and Tropical Meteorology*, San Juan, PR.
- Otkin, J., W. E. Lewis, A. L. Lenzen, **B. D. McNoldy**, and S. J. Majumdar, 2016: Evaluation of microphysics and cumulus parameterization schemes in the HWRF model using satellite observations. Preprints, *AMS 32nd Conf. on Hurricanes and Tropical Meteorology*, San Juan, PR.
- McNoldy, B. D.**, B. Annane, J. Deldago, L. Bucci, R. Atlas, S. J. Majumdar, M. Leidner, and R. Hoffman, 2016: Impact of CYGNSS data on tropical cyclone analyses and forecasts in a regional OSSE framework. Preprints, *AMS 20th Conf. on Integrated Observing and Assimilation Systems for the Atmosphere, Oceans, and Land Surface*, New Orleans, LA.
- McNoldy, B. D.**, B. Annane, J. Deldago, L. Bucci, R. Atlas, and S. J. Majumdar, 2015: Impact of CYGNSS data on hurricane analyses and forecasts in a regional OSSE framework. Preprints, *OFCM 69th Interdepartmental Hurricane Conf.*, Jacksonville, FL.
- Annane, B., **B. D. McNoldy**, J. Delgado, L. Bucci, R. Atlas, and S. J. Majumdar, 2015: Impact of CYGNSS data on hurricane analyses and forecasts in a regional OSSE framework. Preprints, *Amer. Met. Soc. 95th Ann. Meeting*, Phoenix, AZ.
- McNoldy, B. D.**, E. A. Hendricks, E. D. Rappin, S. J. Majumdar, D. S. Nolan, and J. D. Doyle, 2014: Further development and applications of an efficient and configurable vortex initialization technique. Preprints, *Amer. Met. Soc. 31st Conf. on Hurricanes and Tropical Meteorology*, San Diego, CA.
- Abarca, S. F., Y. T. Yang, H.-C. Kuo, **B. D. McNoldy**, and M. T. Montgomery, 2014: Tertiary eyewalls: Observations and boundary layer response. Preprints, *Amer. Met. Soc. 31st Conf. on Hurricanes and Tropical Meteorology*, San Diego, CA.
- Annane, B. and **B. D. McNoldy**, 2014: CYGNSS data and H*Wind surface wind analysis: A data denial experiment. Preprints, *Amer. Met. Soc. 31st Conf. on Hurricanes and Tropical Meteorology*, San Diego, CA.
- McNoldy, B. D.**, E. D. Rappin, D. S. Nolan, and S. J. Majumdar, 2013: A highly configurable vortex initialization method for tropical cyclones. Preprints, *OFCM 67th Interdepartmental Hurricane Conf.*, College Park, MD.
- Musgrave, K. D., M. DeMaria, **B. D. McNoldy**, Y. Jin, and M. Fiorino, 2013: Further development of a statistical ensemble for tropical cyclone intensity prediction. Preprints, *OFCM 67th Interdepartmental Hurricane Conf.*, College Park, MD.
- Trumbo, C. W., L. Peek, M. Lueck, H. Marlatt, **B. D. McNoldy**, E. Grunfest, and W. H. Schubert, 2012: A multi-dimensional examination of hurricane preparedness and evacuation intention. Preprints, *Soc. Risk Anal. 32nd Ann. Meeting*, San Francisco, CA.
- Trumbo, C. W., L. Peek, M. Lueck, H. Marlatt, and **B. D. McNoldy**, 2012: Beyond the cone of uncertainty: Effect of alternate hurricane forecast maps on evacuation intent. Preprints, *Soc. Risk Anal. 32nd Ann. Meeting*, San Francisco, CA.
- McNoldy, B. D.**, K. D. Musgrave, and M. DeMaria, 2012: Diagnostics and verification of the tropical cyclone environment in regional models. Preprints, *Amer. Met. Soc. 30th Conf. on Hurricanes and Tropical Meteorology*, Ponte Vedra Beach, FL.
- Musgrave, K. D., **B. D. McNoldy**, and M. DeMaria, 2012: Creation of a statistical ensemble for tropical cyclone intensity prediction. Preprints, *Amer. Met. Soc. 30th Conf. on Hurricanes and Tropical Meteorology*, Ponte Vedra Beach, FL.

- Williams, G. J., R. K. Taft, **B. D. McNoldy**, and W. H. Schubert, 2012: Shock-like structures in the tropical cyclone boundary layer. Preprints, *Amer. Met. Soc. 30th Conf. on Hurricanes and Tropical Meteorology*, Ponte Vedra Beach, FL.
- Musgrave, K. D., M. DeMaria, **B. D. McNoldy**, Y. Jin, and M. Fiorino, 2012: Creation of a statistical ensemble for tropical cyclone intensity prediction. Preprints, *OFCM 66th Interdepartmental Hurricane Conf.*, Charleston, SC.
- Musgrave, K. D., M. DeMaria, **B. D. McNoldy**, and R. T. DeMaria, 2011: On the display of tropical cyclone model ensemble structure information. Preprints, *Amer. Met. Soc. 91st Ann. Meeting*, Seattle, WA.
- Marlatt, H., C. W. Trumbo, L. Peek, M. Lueck, E. Gruntfest, **B. D. McNoldy**, W. H. Schubert, 2011: Dynamics of hurricane risk perception. Preprints, *Amer. Met. Soc. 91st Ann. Meeting*, Seattle, WA.
- Trumbo, C. W., L. Peek, **B. D. McNoldy**, W. H. Schubert, E. Gruntfest, H. Marlatt, and M. Lueck, 2011: Dynamics of hurricane risk perception. Preprints, *NSF Engineering Research and Innovation Conf.*, Atlanta, GA.
- Trumbo, C. W., H. Marlatt, L. Peek, M. Lueck, **B. D. McNoldy**, W. H. Schubert, E. Gruntfest, and J. Demuth, 2010: Changes in risk perception for hurricane evacuation among gulf coast residents, 2006-2008. Preprints, *Soc. For Risk Anal. 30th Ann. Meeting*, Salt Lake City, UT.
- McNoldy, B. D.**, M. DeMaria, V. Tallapragada, and T. Marchok, 2010: HWRF performance diagnostics from the 2009 Atlantic hurricane season. Preprints, *Amer. Met. Soc. 29th Conf. on Hurricanes and Tropical Meteorology*, Tucson, AZ.
- Schubert, W. H., and **B. D. McNoldy**, 2010: The concepts of Rossby length and Rossby depth and their application to hurricane dynamics. Preprints, *Amer. Met. Soc. 29th Conf. on Hurricanes and Tropical Meteorology*, Tucson, AZ.
- Hendricks, E. A., W. H. Schubert, S. R. Fulton, and **B. D. McNoldy**, 2009: Spontaneous inertia-gravity wave radiation from unsteady vortical motion in the hurricane core. Preprints, *Amer. Met. Soc. 17th Conf. on Atmospheric and Oceanic Fluid Dynamics*, Stowe, VT.
- DeMaria, M., and **B. D. McNoldy**, 2009: Statistical evaluation of the response of intensity to large-scale forcing in the 2008 operational HWRF model. Preprints, *Tropical Cyclone Model Diagnostics Workshop*, Miami, FL.
- Masarik, M. T., W. H. Schubert, and **B. D. McNoldy**, 2007: Potential vorticity aspects of the MJO. Preprints, *Amer. Met. Soc. 87th AMS Ann. Meeting*, San Antonio, TX.
- McNoldy, B. D.**, R. H. Johnson, and P. E. Ciesielski, 2006: Diurnal cycle of sea surface winds and temperatures during NAME 2004. Preprints, *Nat'l Atmos. and Ocean Admin. 1st Climate Prediction Program for the Americas Workshop*, Tucson, AZ.
- McNoldy, B. D.**, P. E. Ciesielski, and R. H. Johnson, 2006: Diurnal cycle of sea surface winds and temperatures during the 2004 North American Monsoon Experiment. Preprints, *Amer. Met. Soc. 27th Conf. on Hurricanes and Tropical Meteorology*, Monterey, CA.
- Schubert, W. H., R. K. Taft, C. M. Rozoff, **B. D. McNoldy**, J. P. Kossin, and S. R. Fulton, 2006: Potential vorticity rings and eye subsidence. Preprints, *Amer. Met. Soc. 27th Conf. on Hurricanes and Tropical Meteorology*, Monterey, CA.
- Rogers, P. J., R. H. Johnson, P.E. Ciesielski, and **B. D. McNoldy**, 2005: An observational analysis of two gulf surge events during the 2004 North American Monsoon Experiment. Preprints, *Nat'l Atmos. and Ocean. Admin. 30th Ann. Climate. Diagnostic and Prediction Workshop*, State College, PA.
- Johnson, R. H., P. J. Rogers, P. E. Ciesielski, **B. D. McNoldy**, and R. K. Taft, 2005: Gulf surges, the diurnal cycle, and convective outflows as revealed by the NCAR ISSs in NAME. Preprints, *NAME Data Analysis Meeting*, Mexico City, Mexico.
- McNoldy, B. D.**, M. D. Eastin, C. M. Rozoff, and W. H. Schubert, 2004: Multiple eyewall structure of Hurricane Juliette 2001. Preprints, *Amer. Met. Soc. 26th Conf. on Hurricanes and Tropical Meteorology*, Miami, FL.
- Rozoff, C. M., W. H. Schubert, **B. D. McNoldy**, and J. P. Kossin, 2004: Rapid filamentation zones in intense tropical cyclones. Preprints, *Amer. Met. Soc. 6th Conf. on Hurricanes and Tropical Meteorology*, Miami, FL.
- McNoldy, B. D.**, W. H. Schubert, and J. P. Kossin, 2002: A multi-platform view of Hurricane Erin. Preprints, *Amer. Met. Soc. 25th Conf. on Hurricanes and Tropical Meteorology*, San Diego, CA.

Schubert, W. H., B. D. McNoldy, R. Prieto, J. Vigh, S. R. Fulton, and R. M. Zehr, 2002: A case study of tropical cyclone merger. Preprints, *Amer. Met. Soc. 25th Conf. on Hurricanes and Tropical Meteorology*, San Diego, CA.

Kossin, J. P., W. H. Schubert, and B. D. McNoldy, 2002: Hurricane near-core mixing processes: A mechanism for intensification? Preprints, *OFCM 56th Interdepartmental Hurricane Conf.*, New Orleans, LA.

McNoldy, B. D., and T. H. Vonder Haar, 2000: A preliminary observational study of hurricane eyewall mesovortices. Preprints, *AGU 33rd Fall Meeting*, San Francisco, CA.

◆ RELATED EXPERIENCE

- Science Advisory Board member for Coastal Risk Consulting, Summer 2016 – present
 - Provide scientifically-sound advice and feedback on the business' products and development
- Tropical Weather Expert for the Washington Post, Summer 2012 – present
 - Contribute frequent posts on tropical Atlantic activity for the Capital Weather Gang blog
- Operational Forecaster for TCI, July 2015 - October 2015
 - Made short-term and long-term operational forecasts for the Tropical Cyclone Intensity field program
- Hurricane Expert for the New York Times, Summer 2007 – Summer 2010
 - One of four invited hurricane experts to contribute to daily blog on tropical Atlantic activity
- Tropical Weather Briefer, Summer 1999 – Summer 2011
 - Colorado State University, Department of Atmospheric Science and CIRA
 - Present briefings on global tropical cyclone activity with an emphasis on satellite imagery interpretation
- Created operational website for DYNAMO, Fall 2011
 - DYNAMO was a field campaign focused on better understanding the MJO in the Indian Ocean
 - Created, designed, and maintained a real-time operational website for forecasters in the Indian Ocean region
 - Developed and archived numerous meteorological operational products for use on the website
- Created operational website for TIMREX, Spring 2008
 - TIMREX was a field campaign focused on better understanding terrain influences and the Asian Monsoon
 - Created, designed, and maintained a real-time operational website for use by forecasters in Taiwan
 - Developed and archived numerous meteorological operational products for use on the website
- Created operational website for NAME, Spring 2004
 - NAME was a field campaign focused on better understanding the North American Monsoon
 - Created, designed, and maintained a real-time operational website for use by forecasters in US, Mexico
 - Developed and archived numerous meteorological operation products for use on the website
- One Sky Many Voices, October 2000
 - Participated in the “Hurricanes 2000” Program hosted by University of Michigan
 - A national online mentoring and teaching program for grade school students
- Operational Forecaster for CLEX-5, November 1999 - December 1999
 - Made short-term and long-term operational forecasts for the Fifth Cloud Layer Experiment over the ARM-CART site in Oklahoma
- Internship, Summer 1997
 - NASA: "Summer Institute on Atmospheric and Hydrospheric Sciences" at Goddard Space Flight Center (TRMM Office).
 - Presented a paper on “*Characteristics of Tropical Convective Systems*”
- ACM International Collegiate Programming Contest (Mid-Atlantic Region), 1996, 1997
 - Competed against twenty teams in rapid and accurate programming (C++)

◆ HONORS AND AWARDS

- Governor's Award for High-Impact Research: Colorado Federal Research Labs, 2012
 - contributions to improved tropical cyclone track and intensity forecasting

- CAMEX-4 Group Achievement Award: NASA/MSFC, Fall 2002
 - outstanding accomplishments and contributions to the CAMEX-4 field experiment
- Q.E.D. Award: Lycoming College Department of Astronomy and Physics, Spring 1998
 - Graduate who has performed outstanding departmental service over four years
- Φυσικα Award: Lycoming College Department of Astronomy and Physics, Spring 1998
 - Graduate with highest departmental grade point average
- J.W. Feree Award: Lycoming College Department of Mathematical Sciences, Spring 1998
 - Student most active in the mathematical sciences over four years
- Departmental Honors: Lycoming College Department of Astronomy and Physics, 1997 - 1998
 - Completed a year-long independent research project on "*Planetary Atmospheric Dynamics*"
 - A comparative study of various planets and their atmospheric characteristics
 - Wrote a computer program to model the temperature and pressure profiles of Earth's atmosphere
- Lycoming College Scholars Program, Fall 1994 - Spring 1998
 - A program "designed to meet the needs and aspirations of highly motivated students of superior intellectual ability", more demanding core course requirements
 - Presented a lecture on "*Planetary Atmospheric Dynamics*" in Spring 1998
 - Created website for organization in Spring 1997

◆ MISCELLANEOUS ACTIVITIES

- Research Staff Representative, Summer 2004 – Summer 2010
 - Colorado State University, Department of Atmospheric Science
 - Attend faculty meetings, serve on Search and Hiring Committee
- Mile-High Hurricane Society, Spring 2001 - Fall 2011
 - Colorado State University, Department of Atmospheric Science
 - Founder
 - Seminar series designed to increase collaboration among tropical cyclone research groups in the area
 - Coordinate schedules of speakers, members, and meetings
 - Created website for organization in Spring 2001
- Multi-community Environmental Storm Observatory (MESO), Spring 1998 - present
 - Storm chasing applied to research, education, and safety
 - President, Fall 1999 - Winter 2006
 - Vice-president, Summer 2007 – Winter 2007
 - Science Director, Summer 1998 - Fall 1999, Winter 2006 - Summer 2007
 - Webmaster, Summer 1998 - Winter 2009
 - Created website for organization in Summer 1998
- Student Representative, Summer 1999 - Fall 2000
 - Colorado State University, Department of Atmospheric Science
 - Volunteer time for prospective students, plan departmental activities, attend faculty meetings
- Student Advisory Council, Fall 1996 - Spring 1998
 - Lycoming College, Department of Mathematical Sciences
 - Assist in new faculty hiring, decide future departmental policies, attend faculty meetings
- Academic Computing Committee, Fall 1997 - Spring 1998
 - Lycoming College, Office of Communications Technology
 - Recommended policies and procedures on matters regarding on-campus academic computing
 - Promoted wider use and integration of computers in the academic program
- Society of Physics Students (SPS), Fall 1995 – Fall 2001
 - \$1,000 National SPS Leadership Scholarship (1 of 8 recipients worldwide), 1997
 - President (Lycoming College Student Chapter), Fall 1997 - Spring 1998
 - Vice-president (Lycoming College Student Chapter), Fall 1996 - Spring 1997
 - Member (Lycoming College Student Chapter), Fall 1995 - Spring 1998
 - Member (Colorado State University Student Chapter), Fall 1998 - Fall 2001
 - Conducted tours of Astronomy and Physics Department and campus for prospective students
 - Organized activities for students in grade school, high school, and college related to physics/astronomy
 - Created website for Lycoming College Student Chapter in Spring 1996

- Association of Mathematically Interested Students (AMIS), Spring 1994 - Spring 1998
 - Historian, Fall 1996 - Spring 1997
 - Math Awareness Day Committee, Spring 1996 - Spring 1998
 - Organized math-related activities for grade school children
 - Created website in Spring 1996
- Association for Computing Machinery (ACM), Fall 1996 - Fall 2001
 - Secretary/Treasurer (student chapter), Fall 1996 - Spring 1998
 - Member, Lycoming College Student Chapter, Fall 1996 - Spring 1998
 - Presented programs for Boy Scouts designed to help them earn a Computer Science Badge
 - Organized activities for prospective and current students in the Mathematical Sciences Department
 - Created website for Lycoming College Student Chapter in Fall 1996

◆ RELEVANT COURSEWORK

Online COMET® Courses:

- | | |
|--|--|
| • Conceptual Models of Tropical Waves | • Microwave Remote Sensing |
| • Tropical Met: Tropical Cyclones | • Microwave Analysis of Tropical Cyclones |
| • Tropical Met: Observations, Analysis, Prediction | • Remote Sensing of Ocean Wind Speed and Direction |
| • Tropical Met: Tropical Variability | • Analyzing Ocean Swell |
| • Tropical Met: Tropical Remote Sensing Applications | • Winds in the Marine Boundary Layer |
| • Topics in Tropical Meteorology | • Community Hurricane Preparedness |
| • Tropical Cyclone Forecast Uncertainty | • Climate Change and Sea Level Rise |

Graduate:

- | | |
|--|---------------------------|
| • Thermodynamics and Cloud Physics | • Atmospheric Dynamics I |
| • Remote Sensing of the Lower Atmosphere | • Atmospheric Dynamics II |
| • Atmospheric Radiation | • Climatology |
| • Radiative Transfer | • General Circulation |
| • Tropical Atmosphere | • Satellite Meteorology |
| • Planetary Circulations | • Radar Meteorology |
| • Geophysical Vortices | • GPS Meteorology |

Undergraduate:

- | | |
|---|-----------------------------|
| • Nuclear and Particle Physics | • Stellar Evolution |
| • Quantum Mechanics | • Electricity and Magnetism |
| • Computational Physics | • Optics |
| • Relativity and Cosmology | • Classical Dynamics |
| • Atomic and Molecular Physics | • Differential Equations |
| • Thermodynamics | • Linear Algebra |
| • Planetary Science | • Multivariable Calculus |
| • Stellar Dynamics and Galactic Structure | • Set and Group Theory |

7 JANUARY 2019