

Heather M Holbach

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Department of Earth, Ocean & Atmospheric Science
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EDUCATION

Doctor of Philosophy, Meteorology, December 2016

Florida State University, Tallahassee, FL

Dissertation: "Wave and Wind Direction Effects on Ocean Surface Emissivity Measurements in High Wind Conditions"

Major Professor: Mark Bourassa

Master of Science, Meteorology, August 2012

Florida State University, Tallahassee, FL

Thesis: "The Effects of Gap-Wind-Induced Vorticity, the Monsoon Trough, and the ITCZ on Tropical Cyclogenesis"

Major Professor: Mark Bourassa

Bachelor of Science, Meteorology, Magna Cum Laude, With Honors, May 2010

Florida State University, Tallahassee, FL

Minors: Physics/Mathematics

RESEARCH INTERESTS

Tropical Meteorology

Remote Sensing

Air-Sea Interaction

Data Assimilation

RELATED EXPERIENCE

Atlantic Oceanographic and Meteorological Laboratory Hurricane Research Division

Advisor: Dr. Eric Uhlhorn

Collected and analyzed Stepped-Frequency Microwave Radiometer (SFMR) data for my dissertation research

Naval Research Enterprise Intern Program (NREIP)

Advisor: Dr. Patricia Pauley

Naval Research Lab – Monterey, CA

"Assimilating HDOB Data in COAMPS® NAVDAS for Hurricane Earl"

Honors in the Major

Advisor: Dr. Mark Bourassa

"Vorticity-based detection of tropical cyclogenesis in the Eastern Pacific Basin"

Local and National Forecasting Contests

Spring 2009 Local Forecast Contest Winner

Programming Languages

IDL, GrADS, Fortran, Matlab, Python

RELATED WORK EXPERIENCE

Center for Ocean Atmospheric Prediction Studies (COAPS), Northern Gulf Institute, & NOAA/AOML/HRD

Position: Postdoctoral Scholar

Date: August 2016 – Present

Center for Ocean Atmospheric Prediction Studies (COAPS)

Position: Graduate Research Assistant

Date: August 2010 – August 2016

Center for Ocean Atmospheric Prediction Studies (COAPS)

Position: Researcher

Date: May 2010 – August 2010

ACTIVITIES/HONORS

AMS Committee on Air-Sea Interaction (2017–present)

Air-Sea Interaction Student Poster Competition 2nd place award

2015 AMS Annual Meeting Phoenix, AZ

Meteorology Graduate Student Representative

FSU Department of Earth, Ocean & Atmospheric Science

2014-2015 academic year

Chi Epsilon Pi Meteorology Honor Society

Vice President for 2012-2013 Chapter Year

Pi Mu Epsilon Mathematics Honor Society

Secretary/Treasurer for 2011-2012 Chapter Year

North Florida American Meteorological Society

Member of the Year for 2008-2009 Chapter Year

Treasurer for 2009-2010 Chapter Year

PROFESSIONAL MEMBERSHIP

American Meteorological Society

Institute of Electrical and Electronics Engineers

European Geosciences Union

PEER-REVIEWED JOURNAL ARTICLES PUBLISHED, IN PRESS, AND SUBMITTED

Holbach, H. M., and M. A. Bourassa, 2017: Platform and Across-Swath Comparison of Vorticity Spectra from QuikSCAT, ASCAT-A, OSCAT, and ASCAT-B Scatterometers. *IEEE J. Sel. Topics in Appl. Earth Observ. and Remote Sens.*, **10**, 2205–2213. doi: 10.1109/JSTARS.2016.2642583 [1 citation]

Holbach, H. M., and M. A. Bourassa, 2014: The Effects of Gap-Wind-Induced Vorticity, the Monsoon Trough, and the ITCZ on East Pacific Tropical Cyclogenesis. *Mon. Wea. Rev.* **142**, 1312–1325. doi: <http://dx.doi.org/10.1175/MWR-D-13-00218.1> [11 citations]

INVITED TALKS

- Klotz, B. **H. Holbach**, and A. Garcia, 2017: Reprocessing the Tropical Cyclone SFMR database: Procedures and Evaluation. *2017 International Ocean Vector Winds Science Team Meeting*, May, La Jolla, California.
- Bourassa, M. A., and **H. Holbach**. 2015: The effects of gap–wind–induced vorticity, the monsoon trough, and the ITCZ on tropical cyclogenesis. *Purdue University*, February, West Lafayette, Indiana.
- Bourassa, M. A., and **H. Holbach**, 2013: OSCAT vorticity consistency for use in gridded wind products. *Oceansat-2 International Announcement of Opportunity Science Meeting*, March, Ahmedabad, India.
- Bourassa, M. A., and **H. Holbach**, 2011: Differences between ASCAT, OSCAT and QuikSCAT derived vorticity. *IEEE Geophysical and Remote Sensing Society 2011*, July, Vancouver, Canada.
- Bourassa, M. A., and **H. Holbach**, 2011: OSCAT and IR-based early detection of tropical disturbances. *Oceansat-2 International Announcement of Opportunity Science Meeting*, March, Ahmedabad, India.

OTHER PRESENTATIONS

- Holbach, H.**, M. A. Bourassa, and B. Klotz, 2016: Sea State Influence on SFMR Wind Speed Retrievals in Tropical Cyclones. *International Workshop on Measuring High Wind Speeds Over the Ocean*, November, Exeter, United Kingdom.
- Holbach, H.**, E. Uhlhorn, M. A. Bourassa, and B. Klotz, 2016: Wave and Wind Direction Effects on Ocean Surface Emissivity in High Wind Conditions. *AMS 20th Conference on Air-Sea Interaction*, August, Madison, Wisconsin.
- Holbach, H.**, E. Uhlhorn, and M. A. Bourassa, 2016: Wave and Wind Direction Effects on Ocean Surface Emissivity Measurements. *AMS 32nd Conference on Hurricanes and Tropical Meteorology*, April, San Juan, Puerto Rico.
- Holbach, H.**, E. Uhlhorn, and M. A. Bourassa, 2015: Wave and Wind Direction Effects on Ocean Surface Emissivity Measurements. *2015 International Ocean Vector Winds Science Team Meeting*, May, Portland, Oregon.
- Holbach, H.**, E. Uhlhorn, and M. A. Bourassa, 2015: Wave and Wind Direction Effects on SFMR Brightness Temperatures. *European Geosciences Union General Assembly 2015*, April, Vienna, Austria.
- Holbach, H.**, E. Uhlhorn, and M. A. Bourassa, 2015: Wave and Wind Direction Effects on SFMR Brightness Temperatures. *95th American Meteorological Society Annual Meeting*, January, Phoenix, Arizona.
- Holbach, H.**, E. Uhlhorn, and M. A. Bourassa, 2014: Wave and Wind Direction Effects on SFMR Brightness Temperatures. *2014 International Ocean Vector Winds Science Team Meeting*, June, Brest, France.
- Holbach, H.**, E. Uhlhorn, and M. A. Bourassa, 2014: Wave and Wind Direction Effects on SFMR Brightness Temperatures. *AMS 31st Conference on Hurricanes and Tropical Meteorology*, March, San Diego, California.

- Holbach, H.**, and M. A. Bourassa, 2013: Platform and Across Swath Comparison of Vorticity Spectra from QuikSCAT, ASCAT, and OSCAT Scatterometers. *IGARSS2013*, July, Melbourne, Australia.
- Holbach, H.**, and M. A. Bourassa, 2013: The Effects of Gap Wind Induced Vorticity, Monsoon Trough, the ITCZ, and ENSO on Tropical Cyclogenesis. *4th International Summit on Hurricanes and Climate Change*, June, Kos, Greece.
- Holbach, H.**, and M. A. Bourassa, 2013: Platform and Across Swath Comparison of Vorticity Spectra from QuikSCAT, ASCAT, and OSCAT Scatterometers. *2013 International Ocean Vector Winds Science Team Meeting*. May, Kailua-Kona, Hawaii.
- Holbach, H.**, and M. A. Bourassa, 2013: Platform and Across Swath Comparison of Vorticity Spectra from QuikSCAT, ASCAT, and OSCAT Scatterometers. *2013 EUMETSAT Meteorological Satellite Conference & 19th American Meteorological Society Satellite Meteorology, Oceanography, and Climatology Conference*. September, Vienna, Austria.
- Holbach, H.**, and M. A. Bourassa, 2012: The Effects of Gap Wind Induced Vorticity, Monsoon Trough, and the ITCZ on Tropical Cyclogenesis. *2012 IEEE International Geoscience and Remote Sensing Symposium*, July, Munich, Germany.
- Holbach, H.**, and M. A. Bourassa, 2012: The Effects of Gap Wind Induced Vorticity, the ITCZ, and Monsoon Trough on Tropical Cyclogenesis. *2012 International Ocean Vector Winds Science Team Meeting*, June, Utrecht, Netherlands.
- Bourassa, M. A., and **H. Holbach**, 2012: Resolving Vorticity in New Wind Products: Advantages of Finer Resolution and Improved Retrievals through Rain. *2012 International Ocean Vector Winds Science Team Meeting*, June, Utrecht, Netherlands.
- Holbach, H.**, and M. A. Bourassa, 2012: The effects of gap wind induced vorticity on tropical cyclogenesis. *AMS 30th Conferences on Hurricanes and Tropical Meteorology*, April, Ponte Vedra, Florida.
- Holbach, H.**, and M. A. Bourassa, 2011: The Effects of Gap Wind Induced Vorticity on Tropical Cyclogenesis. *AGU Fall Meeting 2011*, December, San Francisco, California
- Bourassa, M. A., and **H. Holbach**, 2011: Differences between ASCAT, OSCAT and QuikSCAT derived vorticity: implications on spatial resolution. *MTS/IEEE OCEANS'2011*, Sept., Kona, Hawaii.
- Holbach, H.**, and M. A. Bourassa, 2011: Comparison of scatterometer derived vorticity. *2011 International Ocean Vector Winds Science Team Meeting*, May, Annapolis, Maryland.
- Holbach, H.**, and M. A. Bourassa, 2011: Differences between ASCAT, OSCAT and QuikSCAT derived vorticity. *EUMETSAT/ESA Scatterometer Science Conference*, April, Darmstadt, Germany.