

# James Russell | Curriculum Vitae

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## EDUCATION

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### Ph.D. in Atmospheric Science

*North Carolina State University, Raleigh, NC*

2019

Advisor: Dr. Anantha Aiyyer | Dissertation: The Interaction Between African Easterly Waves and Moist Convection

### M.S. in Meteorology

*University of Oklahoma, Norman, OK*

2014

Advisors: Dr. David Parsons and Dr. Steven Cavallo | Thesis: Characterization of Errors within the Antarctic Mesoscale Prediction System through Utilization of Concordiasi Dropsondes

### MMet in Meteorology With a Year in Oklahoma

*University of Reading, Reading, UK*

2012

Advisors: Dr. Robert Plant and Dr. Pete Inness | Thesis: The Steady State Response of a Simple Tropical Circulation Model to Seasonal Thermal Forcing

## RESEARCH EXPERIENCE

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### Postdoctoral Research Associate

*Department of Atmospheric Sciences, University of Utah*

2019–present

Data analysis of moist convection, evaluation of satellite-borne precipitation products, advising of graduate students.

### Graduate Research Assistant

*Department of Marine, Earth, and Atmospheric Science, NCSU*

2015–2018

Data analysis and numerical (computer) modeling of tropical atmospheric phenomenon.

### Graduate Research Assistant

*School of Meteorology, University of Oklahoma*

2013–2014

Statistical analysis to evaluate numerical weather prediction model (WRF) using dropsondes, gaining expertise in Antarctic atmospheric dynamics.

### Research Intern

*British Antarctic Survey, Cambridge, UK*

2011

Statistical analysis of stochastic models and Central England Temperature series.

## TEACHING EXPERIENCE

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### Graduate Teaching Assistant

*Department of Marine, Earth, and Atmospheric Science, NCSU*

2015–2018

- Guest Lecturer - MEA 422: Tropical Meteorology - 20 Students
- Teaching Assistant - MEA 422: Dynamical Meteorology II - 20 students.
- Guest Lecturer - MEA 315: Mathematical Methods in Atmospheric Science - 20 Students
- Instructor of record - MEA 315: Mathematical Methods in Atmospheric Science Lab - 20 students.
- Instructor of record - MEA 315: Mathematical Methods in Atmospheric Science Lab - 20 students.
- Instructor of record - MEA 135: Introduction to Weather and Climate Lab - 30 students.

### Graduate Teaching Assistant

*School of Meteorology, University of Oklahoma*

2012

- Instructor of record - METR 1014 - Introduction to Weather and Climate Lab - 2 sections of 30 students.

## PEER-REVIEWED PUBLICATIONS

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1. **Russell, J. O.**, A. Aiyyer, J. D. White, and W. Hannah, 2017: Revisiting the Connection Between African Easterly Waves and Atlantic Tropical Cyclogenesis, *Geophys. Res. Lett.*, 44, 587–595, doi:10.1002/2016GL071236.
2. **Russell, J. O.**, A. Aiyyer, and J. D. White, 2019: African Easterly Wave Dynamics in Convection-Permitting Simulations: The Role of Moist Convection, *J. Adv. Mod. Earth Sys.*. Accepted.
3. **Russell, J. O.** and A. Aiyyer, 2019: The Potential Vorticity Structure and Dynamics of African Easterly Waves, *J. Atmos. Sci.*. Under review.

## GRANTS AWARDED

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1. E. Zipser (PI), **J. Russell** and P. Veals (Co-Is). *Interactions Between Aerosols, Meteorology, and Early Convective Cloud Lifecycle as Measured During CACTI*. Awarded August 2019 by U.S. Department of Energy for amount: \$291,998.

## HONORS AND AWARDS

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### Second Place Student Poster Award

*Peter J. Webster Symposium, AMS Annual Meeting*

2018

### Award for Best Student Poster Presentation

*AMS, 21st Conference on Atmosphere and Ocean Fluid Dynamics*

2017

### Award for Best Student Poster Presentation

*Lance Bosart Symposium, AMS Annual Meeting*

2017

### Travel Scholarship for the NAGT Earth Educators Rendezvous

*NC State University Marine, Earth, and Atmospheric Science Program*

2015

**Travel Scholarship for the WMO World Weather Open Science Conference***University of Oklahoma Graduate College*

2014

**Research Experience Placement Award***National Environment Research Council*

2011

**FIRST AUTHORED CONFERENCE PRESENTATIONS**

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<b>Topic</b>	<b>Conference</b>	<b>Year</b>
AEWs & Convection	AMS, 33rd Conf. on Hurricanes & Tropical Meteorology	2018
AEWs & Convection	AMS, 33rd Conf. on Hurricanes & Tropical Meteorology	2018
Variability of AEWs	AMS, 31st Conf. on Climate Variability & Change	2018
AEWs & Convection	AMS, Peter J. Webster Symposium	2018
AEWs & TCs	AGU, Virtual Poster Showcase	2017
AEWs & Convection	AMS, 29th Conf. on Atmosphere and Ocean Fluid Dynamics	2017
AEWs & TCs	NCSU, Graduate Research Symposium	2017
AEW Dynamics	AMS, Robert A. Houze Jr. Symposium	2017
AEWs & TCs	AMS, Lance Bosart Symposium	2017
AEW Dynamics	AMS, 32nd Conf. on Hurricanes & Tropical Meteorology	2016
Evaluation of AMPS	WMO, World Weather Open Science Conference	2014
Evaluation of AMPS	AMS, 13th Student Conference	2014

**DEPARTMENTAL AND INVITED PRESENTATIONS**

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<b>Topic</b>	<b>Department</b>	<b>Year</b>
AEWs & Convection	University of Utah, Atmospheric Science Department Seminar	2019
AEWs & Convection	NCSU, Marine, Earth and Atmospheric Science PhD Defense	2018
AEWs & Convection	UC Berkeley, Department of Earth and Planetary Science	2018
AEW Dynamics	NCSU, Marine, Earth and Atmospheric Science Seminar	2016
Evaluation of AMPS	OU, School of Meteorology Masters Defense	2014
Evaluation of AMPS	OU, School of Meteorology Seminar	2014
Tropical Circulation	UoR, Department of Meteorology Undergraduate Symposium	2012

**Abbreviations for presentations:** PFs = Precipitation Features; AEW = African Easterly Wave; TC = Tropical Cyclone; AMPS = Antarctic Mesoscale Prediction System; NCSU = North Carolina State University; OU = University of Oklahoma; UoR = University of Reading; PMM = Precipitation Measurement Mission

## SERVICE AND OUTREACH

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### Professional

- Reviewer for Journals: MWR, GRL 2017–present
- Poster Judge - 98th AMS Annual Meeting 2018
- Information Harvester - 97th AMS Annual Meeting 2017

### University

- Utah Science Olympiad Event Coordinator 2019
- Mentoring (4 students) - *Tropical Meteorology Group, NCSU* 2017–2018
- Mentoring (1 student) - *Polar Meteorology Group, OU* 2014
- Student Affairs Committee - *School of Meteorology, OU* 2013–2014
- Academic Tutor - *School of Meteorology, OU* 2013–2014
- Oklahoma Weather Lab - *School of Meteorology, OU* 2011
- Student Ambassador - *University of Reading* 2008–2009

### Memberships

- American Meteorological Society 2012–present
- American Geophysical Union 2016–present

## PROFESSIONAL DEVELOPMENT

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### Teaching and Communication Certificate

*NC State University* 2018

### Workshops

*NC State University* 2016–2018

- Structuring Content: Lesson, Course, and Curriculum Design (1 semester)
- Professional Portfolio Design (1 semester)
- Introduction to Teaching (1 day)
- Classroom Management (1 day)
- Teaching Philosophy and Peer Review (1 day)

*University of Oklahoma* 2012–2014

- Professional Ethics Training (2 days)
- International Teaching Assistant Training (4 days)

## TECHNICAL SKILLS

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### Programming Languages:

- Proficient in Python, Fortran, MATLAB, NCL, and L<sup>A</sup>T<sub>E</sub>X.
- Experience with HTML and R.

### Software Skills:

- Proficient in Microsoft Office products.
- Experience with R and Mathematica.

**Numerical Models:**

- Weather Research and Forecasting (WRF) model - expertise in running and modifying.

**Operating Systems:**

- Proficient in Unix, Linux, Windows, Mac OS, and high performance computing (HPC) environments including NCAR's Yellowstone and Cheyenne, and University HPC systems.