

MARY R. BROWN

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EDUCATION

East Carolina University, Greenville, NC (In Progress)

Master of Science, Geography

Embry-Riddle Aeronautical University, Daytona Beach, FL (2016)

Bachelor of Science, Meteorology, Cum Laude

Bachelor of Science, Computational Mathematics, Cum Laude

WORK EXPERIENCE

- **Technical Professional in Meteorological Modeling** July 2019 – Present
Oak Ridge National Laboratory, Nuclear Security Modeling Group
Description: Use python and NCAR software packages to visualize radar data.
- **Research Assistant** August 2017 – May 2019
East Carolina University, Department of Geography, Planning and Environment
Description: Assisted professors in completion of research. Run WRF models to study southeast precipitation.
- **Analytic Methodologist Intern** June 2018 – August 2018
National Geospatial-Intelligence Agency, Office of Sciences and Methodologies
Description: Worked on a team to apply advanced analytic methods to build tools for customers. Utilized Python to automate analysis techniques.
- **Research Intern** June 2017 - August 2017
National Aeronautics and Space Administration, Climate and Radiation Laboratory
Description: Created and analyzed satellite retrievals of confirmed dust storms. Presented research results during poster presentation.
- **Software Engineering Intern** January 2017 – May 2017
National Aeronautics and Space Administration, Atmospheric Science Data Center
Description: Assisted with transfer of data to cloud computing environment. Tested the system for operability and apply it to meteorological example for usage

RESEARCH AND PROJECTS

- Visualizing the Seasonal Shift of IPF in the SE United States Current
- Run Weather Research and Forecasting model (WRF) simulations to capture IPF shift in SE United States on NCAR supercomputer
 - NSF grant AGS-1660049
- Mobility Analysis of ICBMs in South Africa December 2017
- Performed a mobility assessment for ideal locations to search for ICBMs in South Africa using ArcGIS
- Identifying U.S. Dust Storms from Space August 2017
- Created a database of satellite retrievals for dust storm activity
 - Performed analysis to look for minimum thresholds for dust storm activity from satellite readings
- Wave Motion Induced By Turbulent Shear Flows Over Growing Stokes Waves May 2016
- Used numerical methods to model Kelvin cats-eye generation by waves
 - Resulted in publication (arXiv:1704.01963v1)
- Doppler on Wheels: Error in Forecasting Analysis November 2015
- Analyzed reasons for thunderstorm development north of projected forecast region
 - Gained field experience with Doppler on Wheels
- Comparison of Rain and River Water Acidity in Manaus to Washington D.C. June 2014
- Performed a water quality test for pH levels of the Rio Negro in Brazil while studying abroad
 - Compared levels to those of the Potomac River outside Washington D.C.
- The 1991 Mount Pinatubo Eruption: A Causal Analysis of the Eruptions Effect on the Atmosphere May 2014
- Collected analysis on the effect of the eruption on the atmosphere for the following two years
 - Performed experiment to see the reaction of water and volcanic ash to simulate interaction of Typhoon Yunya with ash cloud

AWARDS AND HONORS

- Outstanding Leadership, Academics, and Service Award Embry-Riddle Aeronautical University Class of 2016
- Outstanding Student Award: Meteorology Class of 2016
- Sorority Woman of the Year 2015-16
- Outstanding Academic Achievement Award 2015-16
- Outstanding Service Award 2015-16