

Jennifer Gahtan

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Research Interests

Large-scale tropical dynamics, troposphere-stratosphere interactions, and tropical-extratropical interactions

Education

- May 2019 Ph.D. Atmospheric Science
University at Albany-SUNY, Albany, NY
Dissertation: Extratropical Precursors to the Onset of Madden-Julian Oscillation Deep Convection over the Western Indian Ocean
- May 2012 Bachelor of Science in Marine and Atmospheric Science
University of Miami, Coral Gables, FL
Majors in Meteorology and Mathematics
Cum laude, with Honors

Research Experience

- August 2019-Present NASA Postdoctoral Program Fellow,
Jet Propulsion Lab, Pasadena, CA
Examining the relationship between stratospheric equatorial waves, the Madden-Julian Oscillation, and the Quasi-biennial Oscillation
- June 2017-July 2019 University at Albany-SUNY, Albany, NY
Summers 2013-2016 Research Assistant
Determined a mechanism whereby the extratropics may influence the onset of Madden-Julian Oscillation deep convection over the western Indian Ocean
- June-August 2011 Center for Multiscale Modeling of Atmospheric Processes,
Colorado State University, Fort Collins, CO
Summer Intern
Observed that the moistening of the Madden-Julian Oscillation in the Super-parameterized Community Atmosphere Model was more abrupt as compared to observations

Peer-Reviewed Publications

Gahtan, J, and P.E. Roundy, 2021: Meridional movement of geopotential height anomalies in the subtropics and the relationship to the base-state flow. *Q. J. Royal Meteorol. Soc.*, 147, 627– 646. <https://doi.org/10.1002/qj.3937>

Gahtan, J. and P.E. Roundy, 2020: Wavelet isolation of meridionally moving geopotential height perturbations near the subtropics of eastern Africa and their relationship with the Madden-Julian Oscillation. *Q. J. Royal Meteorol. Soc.*, 146, 380-400. <https://doi.org/10.1002/qj.3681>

Gahtan, J. and P. Roundy, 2019: Extratropical Influence on 200-hPa Easterly Acceleration over the Western Indian Ocean Preceding Madden–Julian Oscillation Convective Onset. *J. Atmos. Sci.*, 76, 265–284, <https://doi.org/10.1175/JAS-D-18-0069.1>

Conference Presentations

Gahtan, J. A., and P. E. Roundy, April 2018: Evolution of Upper Tropospheric Zonal Momentum over the Western Indian Ocean Preceding Madden-Julian Oscillation Deep Convective Onset. *33rd Conference on Hurricanes and Tropical Meteorology*. Ponte Vedra, FL.

Gahtan, J. A., and P. E. Roundy, January 2018: Extratropical and Circumnavigating Circulation Precursors to the Onset of Madden-Julian Oscillation Deep Convection over the Western Indian Ocean. *Sixth Symposium on the Madden-Julian Oscillation and Sub-Seasonal Monsoon Variability, 98th American Meteorological Society Annual Meeting*. Austin, TX.

Gahtan, J. A., and P. E. Roundy, June 2017: Subtropical Precursors to the Onset of Madden-Julian Oscillation Convection over the Western Indian Ocean. *8th Northeast Tropical Workshop*. Rensselaerville, NY.

Gahtan, J. A., and P. E. Roundy, April 2016: Extratropical Convective Precursors to Initiation of MJO Convection Over the Indian Ocean. *32nd Conference on Hurricanes and Tropical Meteorology*. San Juan, Puerto Rico.

Posters

Gahtan, J., and B. Tian, January 2021: Influence of the MJO on Stratospheric Equatorial Waves During Different QBO regimes. *Ninth Symposium on the Madden-Julian Oscillation and Sub-Seasonal Monsoon Variability, 101st American Meteorological Society Annual Meeting*. Virtual.

Gahtan, J., and B. Tian, December 2020: Influence of the MJO on Stratospheric Equatorial Waves During Different QBO regimes. *The Madden–Julian Oscillation and Convectively Coupled Equatorial Waves: Observations, Theory, Modeling, and Prediction, American Geophysical Union Fall Meeting 2020*. Virtual.

Gahtan, J. A., and P. E. Roundy, January 2017: Subtropical and Extratropical Precursors to Western Indian Ocean MJO Convective Onset. *Fifth Symposium on Prediction of the Madden-Julian Oscillation: Processes, Prediction and Impact, 97th American Meteorological Society Annual Meeting*. Seattle, WA.

Gahtan, J. A., and P. E. Roundy, January 2017: Influence of the MJO and Extratropical Wavetrains on Intraseasonal Subtropical Gyres over Northeast Africa and Southwest Asia. *Lance Bosart Symposium, 97th American Meteorological Society Annual Meeting*. Seattle, WA.

Gahtan, J. A., and P. E. Roundy, April 2014: Moisture Cycle of the Madden-Julian Oscillation, Convectively Coupled Kelvin waves, and a Subset of Waves in Between. *31st Conference on Hurricanes and Tropical Meteorology*. San Diego, CA.

Gahtan, J. A., and P. E. Roundy, May 2013: Moisture Cycle of the Madden-Julian Oscillation, Convectively Coupled Kelvin Waves, and a Subset of Waves in Between. *6th Northeast Tropical Workshop*. Rensselaerville, NY.

Gahtan, J. A., K. H. Straub, and D. A. Randall, January 2012: Moisture Cycle of the Madden-Julian Oscillation: An Analysis of TRMM and SP-CAM Data. *92nd American Meteorological Society Annual Meeting*, New Orleans, LA.

Teaching Experience

October 2018, 2017 NCAR Command Language (NCL) Informal Seminar Instructor
November 2016 University at Albany, Albany, NY
Introduced incoming atmospheric science graduate students to the benefits and basics of programming with NCL

September 2018 Guest Lecturer- Climate Variability and Change
University at Albany, Albany, NY
Prepared and presented a lecture introducing the Madden-Julian Oscillation to atmospheric science undergraduates

Fall 2013-
Spring 2017 Teaching Assistant
University at Albany, Albany, NY
Dynamic Meteorology II
Environmental Statistics and Computation (4 sections)
Atmospheric Structure, Thermodynamics, and Circulation
Meteorological and Environmental Measurement
Weather and Climate Issues for the 21st Century

Honors and Awards

- January 2018 Second Place Oral Presentation Award
Sixth Symposium on the Madden-Julian Oscillation and Sub-Seasonal Monsoon Variability, 98th American Meteorological Society Annual Meeting
Austin, TX
- July 2016 National Science Foundation Travel Grant
RossbyPalooza, Workshop on Climate Meets Statistics
University of Chicago, Chicago, IL
- Fall 2012-
Spring 2013 American Meteorological Society Department of Energy
Atmospheric System Research Graduate Fellowship

Outreach

- April 2017-2019,
2015, 2013 University at Albany Earth Day, Albany, NY
Led hands on environmental science activities for children of elementary school and younger age groups, portrayed weather friend superhero (2017-2019)
- November 2017 MiSci Science Festival, Schenectady, NY
Led atmospheric science activities for children of elementary school and younger age groups
- February 2017,
2016
November 2016 Flying Cloud Institute – Girl's Science Club, Pittsfield, MA
Led weather and climate science demonstrations and activities for elementary and middle school students
- February 2016,
2015, 2014 Clayton A. Bouton High School, Voorheesville, NY
Presented in-class atmospheric science demonstrations and led hands on activities to small groups of students

Professional Associations

American Meteorological Society

Technical Skills

Scientific Tools: IDL, NCL, Python, Fortran, MATLAB

Operating Systems: Mac, UNIX, Windows