Dr. Matthew A. Janiga

Naval Research Laboratory
Marine Meteorology Division
Global Modeling Section
Meteorologist

Phone: (831) 656-4557
Email: matthew.janiga@nrlmry.navy.mil

EDUCATION:

Ph.D., 2013, University at Albany, SUNY, Atmospheric Science
Dissertation title: *Interactions between African easterly waves and moist convection*

B.S., 2007, Valparaiso University, Meteorology
Magna cum laude
Minors in mathematics and physics

PROFESSIONAL EXPERIENCE:

2018- **Meteorologist at the Naval Research Laboratory Marine Meteorology Division**

2015-18 **UCAR Visiting Scientist at the Naval Research Laboratory Marine Meteorology Division**

2013-15 **Postdoctoral Research Fellow at the University of Miami**
Advisor: Prof. Chidong Zhang

2007-13 **Graduate Research Assistant at the University at Albany, SUNY**
Advisor: Prof. Chris Thorncroft

2012 **Visiting Graduate Researcher at NCAR**
Sponsor: Dr. Paul Kucera

2010 **Forecaster for the NASA Genesis and Rapid Intensification Processes Campaign**

2007-08 **Teaching Assistant at the University at Albany**

2006 **Undergraduate Research Fellowship in Biogeochemistry and Climate Change at the University of California, Irvine**

AWARDS:

2013 **Distinguished Doctoral Dissertation Award**
College of Arts and Sciences, University at Albany, SUNY

2013 **Narayan R. Gokhale Distinguished Research Scholarship Award**
Department of Atmospheric and Environmental Sciences, University at Albany, SUNY

2007 **Eugene M. Rasmusson Award**
Department of Geography and Meteorology, Valparaiso University

FUNDING:

Extended-Range Tropical Cyclone Prediction, Naval Research Laboratory Base Program supported by the Office of Naval Research, 2019-2021, $1440K.

PUBLICATIONS:

Komaromi, W. A., X. Hong, **M. A. Janiga**, C. A. Reynolds, J. A. Ridout, J. D. Doyle, 2019: Examining the predictability of the successive MJO events of November 2011 using 30-day NAVGEM and COAMPS simulations. *Accepted with Minor Revisions in Mon. Wea. Rev.*

Janiga, M. A., C. J. Schreck, J. A. Ridout, M. Flatau, N. P. Barton, E. J. Metzger and C. A. Reynolds, 2018: Subseasonal forecasts of convectively coupled equatorial waves and the MJO: activity and predictive skill. *Mon. Wea. Rev.*, **146**, 2337–2360, doi:10.1175/MWR-D-17-0261.1.

Li, X., **M. A. Janiga**, S. Wang, W.-K. Tao, A. Rowe, W. Xu, C. Liu, T. Matsui, and C. Zhang, 2018: Evolution of precipitation structures during the November DYNAMO MJO event: cloud-resolving model intercomparison and cross-validation using radar observations. *J. Geophys. Res. Atmos.*, **123**, 3530-3555, doi:10.1002/2017JD027775.

Janiga, M. A. and C. Zhang, 2016: MJO moisture budget during DYNAMO in a cloud-resolving model. *J. Atmos. Sci.*, 73, 2257–2278, doi:10.1175/JAS-D-14-0379.1.

Janiga, M. A. and C.D. Thorncroft, 2016: The influence of African easterly waves on convection over Tropical Africa and the East Atlantic. *Mon. Wea. Rev.*, **144**, 171–192, doi:10.1175/MWR-D-14-00419.1.

Janiga, M. A. and C.D. Thorncroft, 2014: Convection over Tropical Africa and the East Atlantic during the West African monsoon: regional and diurnal variability. *J. Climate*, **27**, 4159–4188, doi:10.1175/JCLI-D-13-00449.1.

Bou Karam, D., and **Coauthors**, 2014: Synoptic scale dust emissions over the Sahara desert initiated by a moist convective cold pool in early August 2006. *Quart. J. Roy. Meteor. Soc.*, **140**, 2591–2607, doi:10.1002/qj.2326.

Janiga, M. A., and C. D. Thorncroft, 2013: Regional differences in the kinematic and thermodynamic structure of African easterly waves. *Quart. J. Roy. Meteor. Soc.*, **139**, 1598–1614, doi:10.1002/qj.2047.

Roundy, P. E., and **M. A. Janiga**, 2012: Analysis of vertically propagating convectively coupled equatorial waves using observations and a non-hydrostatic Boussinesq model on the equatorial beta-plane. *Quart. J. Roy. Meteor. Soc.*, **138**, 1004–1017, doi:10.1002/qj.983.

Ventrice, M. J., C. D. Thorncroft, and **M. A. Janiga**, 2012: Atlantic tropical cyclogenesis: A three-way interaction between an African easterly wave, diurnally varying convection, and a convectively-coupled atmospheric Kelvin wave. *Mon. Wea. Rev.*, **140**, 1108–1124, doi:10.1175/MWR-D-11-00122.1.

Waliser, D. E., and **Coauthors**, 2012: The “Year” of Tropical Convection (May 2008 to April 2010): climate variability and weather highlights. *Bull. Amer. Soc.*, **93**, 1189–1218, doi:10.1175/2011BAMS3095.1.

Roundy, P. E., C. J. Schreck, and **M. A. Janiga**, 2009: Contributions of convectively coupled equatorial Rossby waves and Kelvin waves to the real-time multivariate MJO indices. *Mon. Wea. Rev.*, **137**, 469–478, doi:10.1175/2008MWR2595.1.

Yu, J.-Y., and **M. A. Janiga**, 2007: Changes in the in-phase relationship between the Indian and subsequent Australian summer monsoon during the past five decades. *Ann. Geophys.*, **25**, 1929–1933, doi:10.5194/angeo-25-1929-2007.

INVITED PRESENTATIONS AND SEMINARS:

2017 **University at Albany, Albany, NY**
The MJO and convectively coupled equatorial waves in subseasonal prediction systems

2015 **Naval Research Laboratory, Monterey, CA**
Influence of clouds on the moisture budget of the MJO

2012 **National Center for Atmospheric Research, Boulder, CO**
African easterly waves: structure and relationship with moist convection

2010 **National Hurricane Center, Miami, FL**
Easterly waves over West Africa and the East Atlantic

PROFESSIONAL ORGANIZATIONS:

American Meteorological Society
American Geophysical Union

TECHNICAL SKILLS:

Programming/Data Analysis Languages: NCL, Fortran 90, Python

RECENT FIRST-AUTHOR PRESENTATIONS:

Janiga, M. A., C. Schreck, J. Ridout, M. Flatau, N. Barton, W. Komaromi, and C. Reynolds, 2019: MJO Predictive Skill and Impacts in the Navy Earth System Model. *99th AMS Annual Meeting*, Phoenix, AZ. 6-10 January.

Janiga, M. A., C. Schreck, J. Ridout, M. Flatau, N. Barton, W. Komaromi, and C. Reynolds, 2018: MJO Predictive Skill and Impacts in the Navy Earth System Model. *43rd NOAA Climate Diagnostics and Prediction Workshop*, Santa Barbara, CA. 23-25 October.

Janiga, M. A., C. Schreck, J. Ridout, M. Flatau, N. Barton, W. Komaromi, and C. Reynolds: MJO Predictive Skill and Impacts in the Navy Earth System Model: An Overview of Predictive Skill and Impacts. *33rd Conf. on Hurricanes and Tropical Meteorology*, Ponte Verda, FL. 16-20 April.

Janiga, M. A., C. Schreck, J. Ridout, M. Flatau, N. Barton, W. Komaromi, and C. Reynolds, 2018: Influence of convectively coupled equatorial waves, the MJO, and ENSO on the environment of tropical cyclones in coupled atmosphere-ocean subseasonal prediction systems. *98th AMS Annual Meeting*, Austin, TX. 7-11 January.

Janiga, M. A., C. Schreck, J. Ridout, M. Flatau, N. Barton, W. Komaromi, and C. Reynolds, 2018: Convectively coupled equatorial waves and the MJO in subseasonal forecasts: activity and predictive skill. *98th AMS Annual Meeting*, Austin, TX. 7-11 January.

Janiga, M. A., C. Schreck, J. Ridout, M. Flatau, N. Barton, W. Komaromi, and C. Reynolds, 2017: Convectively coupled equatorial waves and the MJO in subseasonal forecasts: activity and predictive skill. *AGU Annual Meeting*, New Orleans, LA. 11-15 December.

Janiga, M. A., C. Schreck, J. Ridout, M. Flatau, N. Barton, W. Komaromi, and C. Reynolds, 2017: Influence of convectively coupled equatorial waves, the MJO, and ENSO on the environment of tropical cyclones in coupled atmosphere-ocean subseasonal prediction systems. *42nd NOAA Climate Diagnostics and Prediction Workshop*, Norman, OK. 23-26 October.

Janiga, M. A., C. Schreck, J. Ridout, M. Flatau, N. Barton, W. Komaromi, and C. Reynolds, 2017: Influence of convectively coupled equatorial waves, the MJO, and ENSO on the environment of tropical cyclones in coupled atmosphere-ocean subseasonal prediction systems. *NMME/SubX Science Meeting*, College Park, MD. 13-15 September.

Janiga, M. A., J. Ridout, M. Flatau, N. Barton, W. Komaromi, and C. Reynolds, 2017: Prediction of tropical waves and the MJO in global coupled atmosphere-ocean forecasts. *5th WGNE Workshop on Systematic Errors in Weather and Climate Models*, Montréal, Canada. 19-23 June.

Janiga, M. A., J. Ridout, M. Flatau, N. Barton, and C. Reynolds, 2017: Moisture mode processes and MJO predictability in coupled NAVGEM/HYCOM simulations. *97th AMS Annual Meeting*, Seattle, WA. 22-26 January.

Janiga, M. A., J. Ridout, M. Flatau, N. Barton, and C. Reynolds, 2016: Moisture mode processes and MJO predictability in coupled NAVGEM/HYCOM simulations. *AGU Annual Meeting*, San Francisco, CA. 12-16 December.

Janiga, M. A., J. Ridout, M. Flatau, N. Barton, and C. Reynolds, 2016: Moisture mode processes and MJO predictability in coupled NAVGEM/HYCOM simulations. *41st NOAA Climate Diagnostics and Prediction Workshop*, Orono, ME. 3-6 October.

Janiga, M. A., J. Ridout, M. Flatau, N. Barton, and C. Reynolds, 2016: Moisture mode processes and MJO predictability in coupled NAVGEM/HYCOM simulations. *32nd Conf. on Hurricanes and Tropical Meteorology*, San Juan, PR. 17-22 April.

Janiga, M. A., N. Barton, and C. Reynolds, 2016: Coupled atmosphere-ocean simulations of the MJO. *96th AMS Annual Meeting*, New Orleans, LA. 11-14 January.