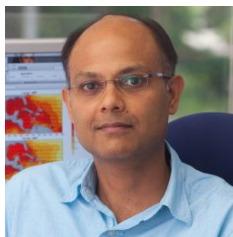


## Urban growth leads to shorter, more intense wet seasons in Florida peninsula

Source: FSU News

New research has found that urban areas throughout the Florida peninsula are experiencing shorter, increasingly intense wet seasons relative to underdeveloped or rural areas. The study, published in the Nature Partner Journal [Climate and Atmospheric Science](#), provides new insight into the question of land development's effect on seasonal climate processes.



Dr. Vasu Misra

"What we found is a trend of decreasing wet-season length in Florida's urban areas compared to its rural areas," said [Dr. Vasu Misra](#), associate professor of meteorology and lead investigator of the study. According to Misra's research, changing land cover over the past 40 to 60 years has resulted in a decrease in wet-season length by 3.5 hours per year in Florida's most urban areas compared to its most rural areas.

Read full article by Zachary Boehm, FSU News at <http://news.fsu.edu/news/science-technology/2018/04/09/fsu-researchers-urban-growth-leads-to-shorter-more-intense-wet-seasons-in-florida-peninsula/#.Wvru5vTuh2W.link>

## News and Activities

### Salinification in the South China Sea since late 2012: a reversal of the freshening since 1990s

A study, co-authored by COAPS director and professor of oceanography [Dr. Eric Chassignet](#) and associate research scientist [Dr. Xiaobiao Xu](#), looks at the salinification that has occurred in the South China Sea from late 2012 to the present, following a 20-year freshening trend that started in 1993. [Read the article.](#)

### 2018 International Ocean Vector

### COAPS featured in latest issue of Spectrum Magazine

COAPS is on the cover of the latest issue of the FSU College of Arts and Sciences' "Across the Spectrum" magazine. In the article, COAPS director [Dr. Eric Chassignet](#) and associate director [Dr. Mark Bourassa](#) share some of the current research being conducted at COAPS including information about the 2011 oil spill in the Gulf of Mexico; climate





### Winds Science Team (IOVWST) Meeting held April 24-26

Each year, ~70 oceanographers, meteorologists, engineers, and others from a wide range of satellite and weather research and operational organizations, including a large representation from the European Union and Japan, meet to discuss applications of scatterometry and to identify the strengths and weaknesses of the global scatterometer observing system. A number of past and present COAPSians attended this year's meeting in Barcelona, including (pictured above, l-r): Drs. David Moroni (now at JPL) and Heather Holbach, graduate student Renee Richardson, and Drs. [Mark Bourassa](#), [Steve Morey](#), and [Dmitry Dukhovskoy](#).

change; and the scientific phenomena associated with extreme weather events. The article also features PhD student Danielle Groenen's work on Central American rainfall. [Read the article.](#)

### 2018 Ocean Sciences Meeting

COAPS was also well-represented at this year's Ocean Sciences Meeting. OSM18 was held in Portland, OR and co-sponsored by the American Geophysical Union, the Association for the Sciences of Limnology and Oceanography, and The Oceanography Society. Dr. Qi Shi was one of many COAPS researchers who presented at the conference this year. See the [COAPS Facebook page](#) for additional highlights.



Dr. Qi Shi presented during a session chaired by COAPS associate director Dr. Mark Bourassa

## Student Activities and Achievements

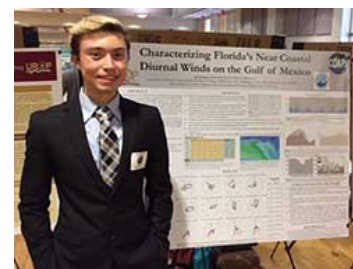
*A critical part of COAPS student experiences are opportunities to share and present research findings with the larger academic research community. Spring 2018 was particularly active as a number of COAPS students participated in local, national, and international symposiums and conferences.*



**Catherine L. Stauffer** (BS student, meteorology) was invited to participate in the 2018 *FSU Undergraduate Research Symposium*, where she presented her work on air-sea coupling dependency on sea surface temperature fronts. Stauffer has been working with [Dr. Mark Bourassa](#), using high temporal resolution observations from Research Vessels to address a problem that has been hotly debated for almost 40 years. She is trying to

determine which of the proposed processes that dominate how sea surface temperature gradients modify surface winds does in fact dominate, or under which conditions each process dominates.

**Justin Stow** (BS student) also presented his research at the *Undergraduate Research Symposium*. Stow is double majoring in meteorology and physical science and has been analyzing the allocation of offshore wind turbines with respect to cyclonic activity in the Gulf of Mexico as part of the FSU Undergraduate Research Opportunity Program through the FSU [Center for Undergraduate Research and Academic Engagement](#).



**Renee Richardson** (MS student, meteorology) was the only student from COAPS to attend the April 2018 *International Ocean Vector Winds Science Team (IOVWST) Meeting* in Barcelona, Spain (see above article for more information). Richardson presented her poster entitled "Investigating the Effects of Sea Spray on Surface Wind Stress and Waves under Hurricane Conditions."

COAPS meteorology students were well-represented at the *33rd Conference on Hurricanes and Tropical Meteorology*, held April 16 - 20 in Ponte Vedra, FL. Presenters included **John Steffen** (MS student; top left) whose oral presentation was entitled "Barrier Layer Development within Tropical Cyclones Based on Argo Float Network Observations."

**Heather Roman-Stork** (MS student; bottom left) presented a poster entitled "Analysis of the Intra-Seasonal Oscillation in the Indian Ocean Using Surface Winds from Composite Satellite Data." **Russ Glazer's** poster (Ph.D. student; not pictured) was entitled "An Analysis of the Ocean Coupling Potential Intensity in North Indian Ocean Tropical Cyclones."

**Renee Richardson's** poster (MS student; upper right) was entitled "Investing the Effects of Sea Spray on Surface Wind Stress and Waves under Hurricane Conditions." And **Kyle Ahern's** oral presentation (MS student; bottom right) was titled "Observed Features of the Hurricane Inner-core Boundary Layer During Intensity Change."



**Xu Chen** (PhD student, oceanography) presented his poster on the "Effects of Wind on Oceanic Submesoscale Processes" at the Southeastern Biogeochemistry Symposium held in Tallahassee, FL. Chen (pictured bottom right) also presented his work on "Applications of Machine Learning Techniques in Air-sea Momentum" at the *2018 Ocean Sciences Meeting*. Other COAPS students attending the bi-annual Ocean Sciences Meeting included **Erick Olvera** (PhD student, meteorology; top right), **Renee Richardson** (MS student, meteorology), and **John Steffan** (MS student, meteorology; pictured on the left).



## Look Who Moved their Tassels!

**Dr. Russ Glazer** successfully defended his thesis and graduated with a Ph.D. in meteorology from the [College of Earth, Ocean & Atmospheric Science \(EOAS\)](#). Glazer will be starting a postdoc at the Abdus Salam International Centre for Theoretical Physics in Trieste, Italy in mid-July. There he will be involved regional climate modeling of several areas in an effort to contribute to the next IPCC (Intergovernmental Panel on Climate Change) report. Pictured: Glazer (right) with [Dr. Vasu Misra](#).



**Tom Kelly** successfully defended his master's thesis in April in the biogeochemical oceanography track in EOAS. Kelly will be continuing towards his Ph.D., working with [Dr. Mike Stukel](#) to understand biogeochemical cycles in the California Current and Gulf of Mexico.

**Catherine Stauffer** (pictured at right) graduated with a bachelor's degree in meteorology



and minors in mathematics and physics. Stauffer graduated cum laude and with honors. She will continue on in graduate school at FSU where she will be a research assistant to Dr. Allison Win, assistant professor in [EOAS](#).



**Bethany Sanders** (pictured at left) and **Miguel Mejia** also graduated. Sanders and Mejia were undergraduate computer programmers in COAPS' Marine Data Center and both earned a bachelor's degree in computer science. Sanders is moving to Salt Lake City, UT where she is now a software engineer at Exact Sciences.

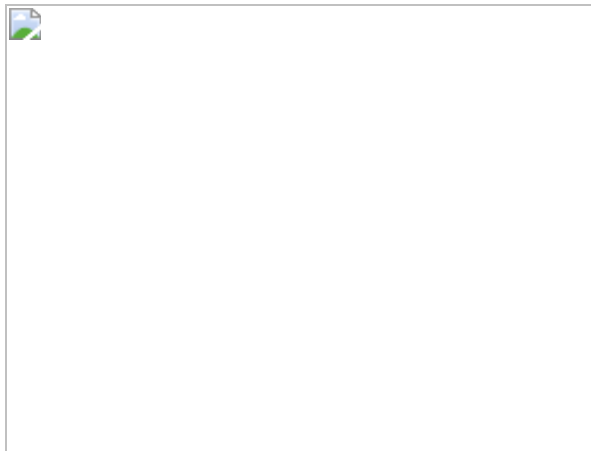
## Education and Outreach

### CoCoRaHS "March Madness" Observer Recruitment Event



The [Community Collaborative Rain, Hail, and Snow \(CoCoRaHS\)](#) is the largest provider of daily precipitation observations in the United States. It is a grassroots effort comprised of citizen scientists who measure precipitation right in their own backyards. CoCoRaHS observations give scientists an ever-clearer picture of where and how much precipitation falls throughout our communities.

This year, CoCoRaHS network once again held its annual March Madness observer-recruitment campaign. The Florida effort (led by Danny Brouillette, service climatologist at COAPS and co-coordinator of the network for Florida), in collaboration with partners in the news media, the National Weather Service, UF Extension, and others, recruited 135 new observers. To learn more about the CoCoRaHS program or to become a volunteer observer, contact Danny Brouillette at 850-644-0719, [dbrouillette@coaps.fsu.edu](mailto:dbrouillette@coaps.fsu.edu).



*Danny Brouillette (the Florida Climate Center's service climatologist, third from left) pictured with the CoCoRaHS Cup and staff of the National Weather Service in Tallahassee.*

### FSU Day at the Capitol



*Kris Suchdeve had the chance to demonstrate the [Distributed Oceanographic Match-Up Service \(DOMS\)](#) to FSU President John Thrasher during this year's FSU Day at the Capitol*

### Open House 2018



*At this year's Open House, members of the general public were able to learn about some of the research and educational activities taking place at our center including [CSOMIO](#), the [FL BRACE](#) program, and the [Marine Data Center](#).*

## Recent Publications

COAPS authors are in **bold**.

**Buchanan, S., V. Misra, and Bhardwaj,** 2018. [Integrated Kinetic Energy of Atlantic Tropical Cyclones in a Global Ocean Surface Wind Analysis](#). *International Journal of Climatology*, 1-11. doi: 10.1002/joc.5450.

**Glazer, R.H., and V. Misra,** 2018. [Ice versus liquid water saturation in simulations of the Indian summer monsoon](#). *Climate Dynamics*, 1-17. doi: 10.1007/s00382-018-4116-4

**Misra, V., A. Mishra, A. Bhardwaj,** K. Viswanthan, and D. Schmutz, 2018. [The potential role of land cover on secular changes of the hydroclimate of Peninsular Florida](#). *npj Climate and Atmospheric Science*. 5, doi:10.1038/s41612-018-0016-x

**Stukel, M. R.,** H. Song, R. Goericke, and A.J. Miller. (2018). [The role of subduction and gravitational sinking in particle export, carbon sequestration, and the remineralization length scale in the California Current Ecosystem](#). *Limnology and Oceanography*, 63(1), 363-383.

Zeng, L., **E.P. Chassignet,** R.W. Schmitt, **X. Xu,** and D. Wang, 2018. [Salinification in the South China Sea Since Late 2012: A Reversal of the Freshening Since the 1990s](#). *Geophysical Research Letters*, 45(6), 2744-2751. doi: 10.1002/2017GL076574

Zhang, M., Y. Zhang, Q. Shu, C. Zhao, G. Wang, **Wu, Z.,** et al. (2018). [Spatiotemporal evolution of the chlorophyll a trend in the North Atlantic Ocean](#). *Sci Total Environ*, 612, 1141-1148.

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<http://coaps.fsu.edu>  
[contact@coaps.fsu.edu](mailto:contact@coaps.fsu.edu)

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