



FLORIDA STATE UNIVERSITY
**Center for Ocean-Atmospheric
Prediction Studies**

NASA awards \$1.7M grant to develop tools to help Florida water utilities allocate resources

Researchers from COAPS, in partnership with a network of scientists and stakeholders from throughout the state, have been awarded a \$1.7 million grant from NASA to develop cutting-edge climate prediction tools that could benefit Florida water supply utilities. Professor of Meteorology **Vasu Misra** will lead FSU's efforts on the project: Integrating NASA Earth Systems Data into Decision-Making Tools of Member Utilities of the Florida Water and Climate Alliance. "This project follows years of collaboration with this group that helped us write more than two dozen papers on climate variations over Florida," Misra said. "These studies revealed several nuanced aspects of Florida's terrestrial climate hinged to other remote and local climate variations. We hope to exploit some of this information in a prediction framework." [Read more.](#)



COAPS hosts CLIVAR Workshop "Sources and Sinks of Ocean Mesoscale Eddy Energy"



Ocean mesoscale eddies and their energy sources and sinks are a direct example of process-level understanding that contributes to our comprehension of climate variability and change as it relates to the ocean. In March, COAPS was host to the 2019 CLIVAR (Climate Variability and Predictability Program) meeting, which focused on advancing understanding of this topic by targeting scientists at the forefront of high-resolution modeling and

research, development, and applications. The workshop included a review of recent theoretical and observational advances on the understanding of eddy-mediated energy exchanges; identification of future observations that could better constrain our estimation of these exchanges; and guidance of the representation of these exchanges in ocean circulation models through physical parameterizations.

In Memoriam: Patty Boutelle

We are saddened to share that **Patty Boutelle**, COAPS Accounting Representative, passed away on March 6, 2019. Patty has been a part of our Center since before it was even known as COAPS. Our memory of her remains as someone who was warm and kind. She had seemingly endless patience and dedication. And, of course, there was Patty's talent as a baker extraordinaire, which she generously shared with all. She is loved and missed by her COAPS family.

[Legacy online link.](#)



Recent Activities & Accomplishments

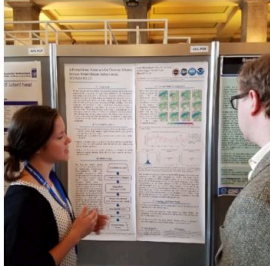
GODAE OceanView Symposium, OceanPredict '19



Ocean scientists, ocean observation specialists, industry representatives, service providers and users of ocean data and products from across the local, national and international operational oceanography community gathered in Halifax earlier this month for the [GODAE OceanView Symposium, OceanPredict '19](#) . Among those in attendance from COAPS were **Eric Chassignet** and **Dmitry Dukhovskoy** .

CLIMAR-5 "Workshop on Advances in Marine Climatology"

Earlier this month, COAPS associate director **Mark Bourassa**, **Shawn Smith**, director of the Marine Data Center, and PhD student **Renee Richardson** attended the Fifth JCOMM "Workshop on Advances in Marine Climatology" (CLIMAR-5). The annual meeting brings together a wide spectrum of marine data users and managers of marine data and products. Invited and contributed presentations explored recent advances in marine climatology and its applications, covering meteorological and oceanographic aspects. Smith gave a presentation on the Marine Data Center's contributions to the climate record of RV underway data. Smith was also honored at this year's session in Hamburg, Germany for his outstanding contributions as vice-chair of the Ship Observations Team (SOT).



Honors and Awards



Heather Holbach (pictured left) has been selected for the American Meteorological Society's (AMS) Early Career Leadership Academy (ECLA), which aims to build and sustain a diverse network of early career leaders in weather, water, and climate science.

Shawn Smith, Director of the Marine Data Center, was honored at the CLIMAR-5 meeting in Hamburg, Germany (see article and photo above) for his outstanding contributions as vice-chair of the Ship Observations Team (SOT).



Mike Stukel has been promoted to associate professor with tenure. In announcing the promotion, FSU President John Thrasher noted the important contributions Stukel has made and continues to make to Florida State University. Congratulations Dr. Stukel.

Public Education & Outreach

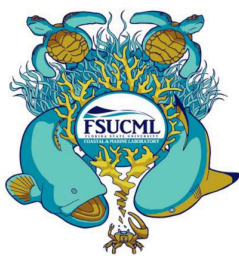
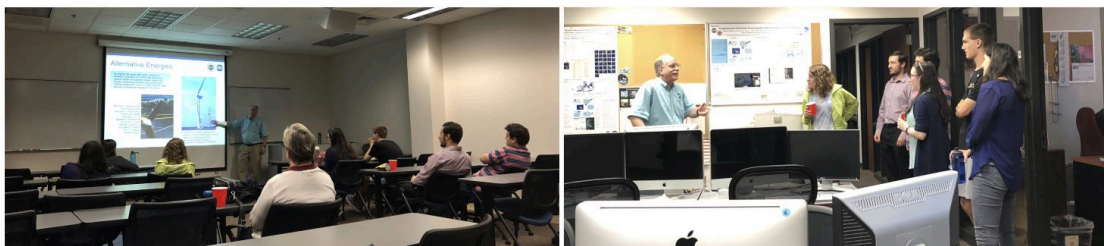
COAPS Open House showcases science and fun!

COAPS' annual open house is designed to stimulate public knowledge about science, particularly the kind of science being conducted at COAPS. This year's open house was attended by nearly 1,000 visitors and featured something for everyone... hands-on science fun, self-guided tours, and the chance to meet and interact with our scientists. Attendees learned how plastics find their way into and degrade in the ocean, marine data, and how COAPS researchers are modelling the ocean and atmosphere. They were able to drive an underwater robot, and to see and touch live sea creatures (thanks to our colleagues in the FSU Biology Department's Sea-to-See program). And members of the FSU Weather team gave folks a chance to be a weather forecaster.



Prospective meteorology students visit COAPS

COAPS offers a strong graduate program with students working on a wide variety of research projects. We recently welcomed a group of prospective meteorology students during their visit to the FSU campus.



FSU Coastal and Marine Lab Event Attracts Hundreds

Saturday, April 23 was a beautiful day for an open house at the [Florida State University Coastal & Marine Laboratory](#)! COAPS volunteers were on hand, talking about the impact of Hurricane Michael on Florida's Panhandle and sharing about plastics in the ocean.



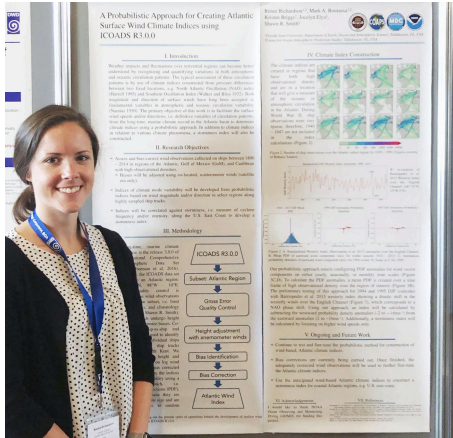
The annual event highlights the importance of improving human awareness of the connection between resilient, healthy coastal ecosystems and healthy societies. FSUCML's Open House celebrates scientific knowledge of the sea by promoting coastal literacy - connecting marine science and society.

Florida recruits new observers for the CoCoRaHS citizen science network

The Florida Climate Center continues to help foster the growth of the CoCoRaHS network (<https://www.cocorahs.org/>) in Florida. CoCoRaHS is an acronym for the Community Collaborative Rain, Hail, and Snow network, which has over 12,000 citizen volunteers from across the United States, Canada, and parts of the Caribbean region measuring precipitation amounts on a daily basis and reporting those measurements via the Internet or smartphone app. CoCoRaHS arrived in 2008 in Florida, where more than 600 observers now report. As part of a continuing effort to recruit new observers, the FCC helped support the annual March Madness contest, which pits the 50 states against each other to be the one that has the greatest number of new observers during the month of March. In this year's March Madness, 82 new observers joined up in Florida, the fourth highest of the 50 states.



Student Achievements



PhD meteorology student **Renee Richardson** presented her probabilistic approach for creating Atlantic surface wind climate indices using ICOADS R3.0.0 at CLIMAR-5 in Germany. Richardson also presented "Constructing Atlantic Surface Wind Climate Indices using ICOADS R3.0.0" for the Marine In-Situ Winds Workshop.



Master's student **Tracy Ippolito** recently participated in the College of Communication and Information's Qualitative Research Poster Symposium. Ippolito's poster presentation, "Communicating Science: Research investigators' attitudes about public information and outreach," is tied closely to her role at COAPS as the Communications and Special Projects Coordinator and focuses on the importance of understanding what perceived barriers exist to communicating the societal benefits of science to those outside of the science community. [Read more about the event.](#)



Look who moved their tassels!

Undergraduate researcher **Sarah Dodamead** was awarded a bachelor's degree in physics and astrophysics. Dodamead will go on to graduate school to pursue a Master's degree in Energy and Earth Resources from UT Austin.



Undergraduate programmer, **Daniel Kane**, also graduated with a bachelor's in computer science. Kane will continue on at FSU in the fall to pursue a master's degree in computer science.



Graduate student **Taylor Shropshire** earned his master's degree in meteorology. Shropshire, who is a member of Associate Prof. Mike Stukel's lab, will continue on at FSU in pursuit of his PhD.



Recent Publications

The 2018 SAMOS Data Quality Report is now available. This report describes the quantity and quality of observations collected in 2018 by research vessels participating in the Shipboard Automated Meteorological and Oceanographic System (SAMOS) initiative (Smith et al. 2018). The SAMOS initiative focuses on improving the quality of, and access to, surface marine meteorological and oceanographic data collected in-situ by automated instrumentation on research vessels (RVs). [Access the report](#).

Ali, A., Christensen, K. H., Breivik, Ø., Malila, M., Raj, R. P., Bertino, L., et al. (2019). [A comparison of Langmuir turbulence parameterizations and key wave effects in a numerical model of the North Atlantic and Arctic Oceans](#). *Ocean Modelling*, 137, 76–97.

Ali, M., Singh, N., Kumar, M., Zheng, Y., Bourassa, M., Kishtawal, C., et al. (2019). [Dominant Modes of Upper Ocean Heat Content in the North Indian Ocean](#). *Climate*, 6(71), 1–8.

Ardhuin, F., Chapron, B., Maes, C., Romeiser, R., Gommenginger, C., Cravatte, S., et al. (2019). [Satellite Doppler observations for the motions of the oceans](#). *Bull. Amer. Meteor. Soc.*,

Bhardwaj, A., & Misra, V. (2019). [Monitoring the Indian Summer Monsoon Evolution at the Granularity of the Indian Meteorological Sub-divisions using Remotely Sensed Rainfall Products](#). *Remote Sensing*, 11(9), 1080.

Bhardwaj, A., & Misra, V. (2019). [The role of air-sea coupling in the downscaled hydroclimate projection over Peninsular Florida and the West Florida Shelf](#). *Climate Dynamics*, , 1–17.

Briggs, K.; Smith, S.R.; Rolph, J.J. (2018). [2018 SAMOS Data Quality Report](#).

Dukhovskoy, D. S., Yashayaev, I., Proshutinsky, A., Bamber, J. L., Bashmachnikov, I. L., Chassignet, E. P., et al. (2019). [Role of Greenland Freshwater Anomaly in the Recent Freshening of the Subpolar North Atlantic](#). *J. Geophys. Res. Oceans*, .

Fox-Kemper, B., Adcroft, A., Böning, C. W., Chassignet, E. P., Curchitser, E., Danabasoglu, G., et al. (2019). [Challenges and Prospects in Ocean Circulation Models](#). *Front. Mar. Sci.*, 6.

Karmakar, N., & Misra, V. (2019). [The Relation of Intraseasonal Variations With Local Onset and Demise of the Indian Summer Monsoon](#). *J. Geophys. Res. Atmos.*, 124(5), 2483–2506.

Misra, V., & Bhardwaj, A. (2019). [Defining the Northeast Monsoon of India](#). *Mon. Wea. Rev.*, 147(3), 791–807.

Misra, V., Mishra, A., & Bhardwaj, A. (2019). [A coupled ocean-atmosphere downscaled climate projection for the peninsular Florida region](#). *Journal of Marine Systems*, 194, 25–40.

Stukel, M. R., & Kelly, T. B. (2019). [The carbon: 234Thorium ratios of sinking particles in the California current ecosystem 2: Examination of a thorium sorption, desorption, and particle transport model](#). *Marine Chemistry*, In *Marine Chemistry Oct 2018*

Zhao, X., Zhou, C., Xu, X., Ye, R., Tian, J., & Zhao, W. (2019). [Deep Circulation in the South China Sea Simulated in a Regional Model](#). *Ocean Sci. Discuss*, <https://doi.org/10.5194/os-2019-29>, in review, 2019.

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