

## ABSTRACT

Multiplatform large-scale ocean observing systems (OOS) lead to advanced understanding of oceanographic processes and improved prediction of ocean hazards threats. These improvements can lead to sustainable ocean living resources, safer and more resilient coastal communities, and improved human well-being. This talk reports on two large-scale multiplatform OOS studies in the Gulf of Mexico. 1. The Mini Adaptive Sampling Test Run funded by the NAS Gulf Research Program - Understanding Gulf Ocean Systems is currently underway in the Yucatan Channel. It is providing real-time surface and subsurface observations from gliders, high-frequency radar, Argo floats, surface drifters, and airborne surface currents. 2. Hurricane Harvey (August 2017) produced  $>160 \text{ km}^3$  of rain over terrestrial Texas and coastal waters. The OOS system in the northwestern Gulf of Mexico, which is anchored by the Texas Automated Buoy System (TABS), tracked the movement of  $67 \text{ km}^3$  of the hurricane-sourced freshwater into the coastal ocean and along the Texas coast. Both studies highlight the importance of collecting in situ observations, particularly at depth, for numerical modeling boundary and initial conditions and for model assessment and validation.

PRESENTER:

**Dr. Steven F. DiMarco**  
*Texas A&M*

Friday, Oct. 18, 2024

4:00-5:00 PM



## BIOGRAPHY

Dr. Steven F. DiMarco, Holder of the William R Bryant Oceanography Chair for Teaching, Research, and Mentoring Excellence, is a Professor in the Department of Oceanography and the Department of Ocean Engineering and is Director of the Geochemical and Environmental Research Group at Texas A&M University. He was elected Fellow of the Marine Technology Society (MTS) in 2020. Professor DiMarco's research, teaching, and service is focused on the field of Ocean Observing Systems, i.e., collecting, reporting, and publicly disseminating real-time oceanographic observations. His research specializes in the interactions of physical and biogeochemical processes of the coastal and deep ocean or marginal seas at middle and tropical latitudes. He has served as Chief Scientist on 50 oceanographic cruises. He has served as a Plank Owner Member (2010-2017) of the National Science Foundation University-National Oceanographic Laboratory System (UNOLS) Ocean Observing Science Committee (OOSC); he also served on the National Academy of Science, Engineering, and Medicine Committee to Advance the Understanding of the Gulf of Mexico Loop Current (2017). He is currently a member of the Executive Committee for the NASEM Gulf Research Program - Understanding the Gulf Ocean System (UGOS).



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**Two Ocean Observing System Case Studies in the Gulf of Mexico:**

**1. The MASTR Experiment: Yucatan Channel 2024; 2. Freshwater Fate Following Hurricane Harvey (2017)**

## HYBRID EVENT:

BSE 2.102

## LINK TO ACCESS MEETING:

<https://utsa.zoom.us/j/99118625728?pwd=4hvwa80gBiEFFoz2MOaWbawbkoAsgV.1>

