



Recent West Florida Shelf Accomplishments

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Overview of the Project

We coordinate the use of coastal ocean observations (Moorings, HF-Radars, Gliders), with numerical circulation modeling (WFCOM, TBCOM) to describe and understand the circulation on the West Florida Continental Shelf and its estuaries and how the circulation bears upon matters of societal concern, e.g., HABs, Fisheries, Storm Surge, SAROPS, etc.







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Accomplishments

- Nickerson, A., R.H. Weisberg and Y. Liu (2022). On the Evolution of the Gulf of Mexico Loop Current Through its Penetrative, Ring Shedding and Retracted States, Adv. Space Res., 69, 4058-4077, <u>https://doi.org/10.1016/j.asr.2022.03.039</u>
- 2. Weisberg, R.H. and Y. Liu (2022). Local and Deep-Ocean Forcing Effects on the West Florida Continental Shelf Circulation and Ecology, Frontiers Mar. Sci. (in press).
- 3. Liu, Y., R.H. Weisberg, L. Zheng, C. Heil and K. Hubbard (2022). Termination of the 2018 Florida Red Tide Event: A Tracer Model Perspective, Estuar., Coastal and Shelf Sci., 272, https://doi.org/10.1016/j.ecss.2022.107901









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Challenges and Looking Ahead

Challenges

- Human capital: required are highly skilled, dedicated scientists who are in short supply and difficult to recruit, given funding levels and uncertainty.
- Sustaining long-term observations, as required for assessing inter-annually varying natural processes.

Plans for next year

- Add biology to a newly composed version of WFCOM
- Expand upon inundation studies with regard to SL rise and unaccounted for natural variability

New version of WFCOM with updated software includes the ICWW and extends to the Port of Miami and now has provision for adding coupled waves, biology and data assimilation.

In-Situ



New version of TBCOM with land-based grid cells for coastal inundation studies under sea level rise scenarios.





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