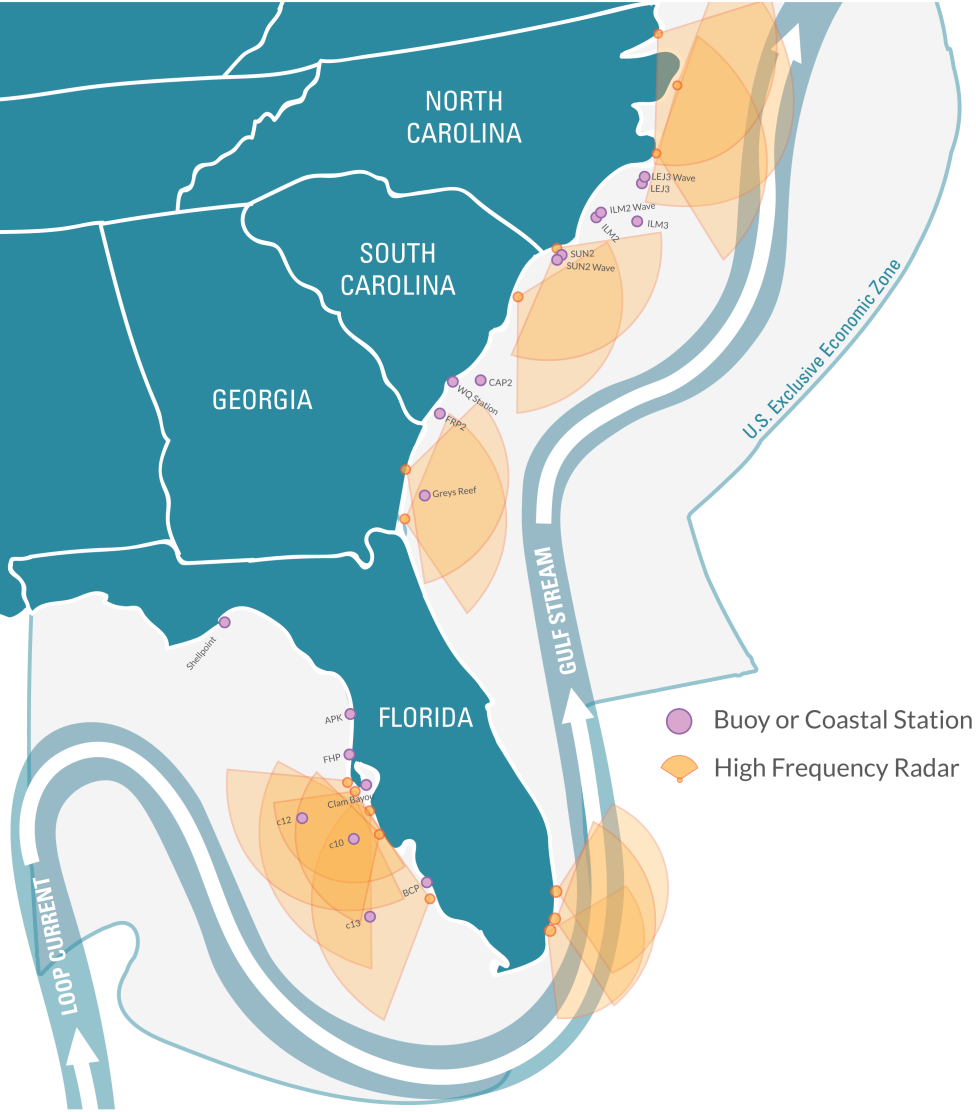


SECOORA
Southeast Coastal Ocean Observing Regional Association

WFS Coordinated Observing and Modeling

Co-P.I.s: Robert H. Weisberg

and

Yonggang Liu

with

J. Law, J. Donovan, J. Chen

College of Marine Science

University of South Florida

IOOS Integrated Ocean Observing System

CODAR OCEAN SENSORS

YSI a xylem brand

Objectives and Approach

Objectives

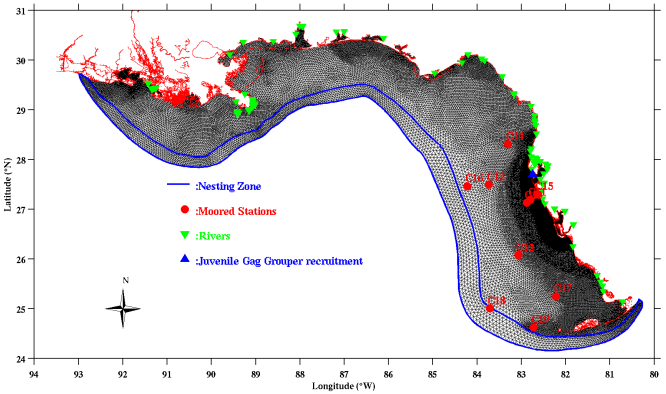
- Observe and model the coastal ocean water properties of the WFS for the purposes of:
  - Understanding and predicting coastal ocean processes and natural or anthropogenic perturbations to these,
  - Providing useful observations and model simulations to a variety of users.

Approach

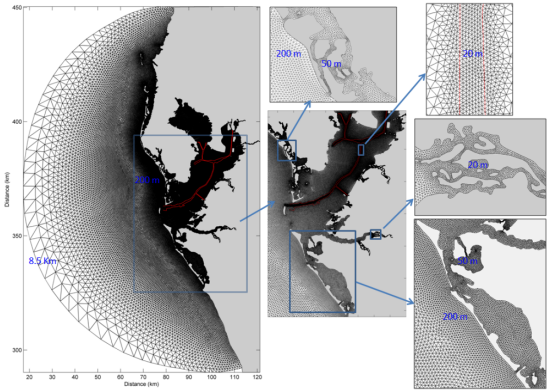
- Observe water column velocity, temperature, salinity and surface meteorology using moored instrumentation across the WFS.
- Apply circulation models (WFCOM and TBCOM) to downscale from the deep ocean, across the continental shelf and into the estuaries.
- Provide real-time access to these observations and simulations.

COMPS Buoys

WFCOM
FVCOM nested in GOM HYCOM

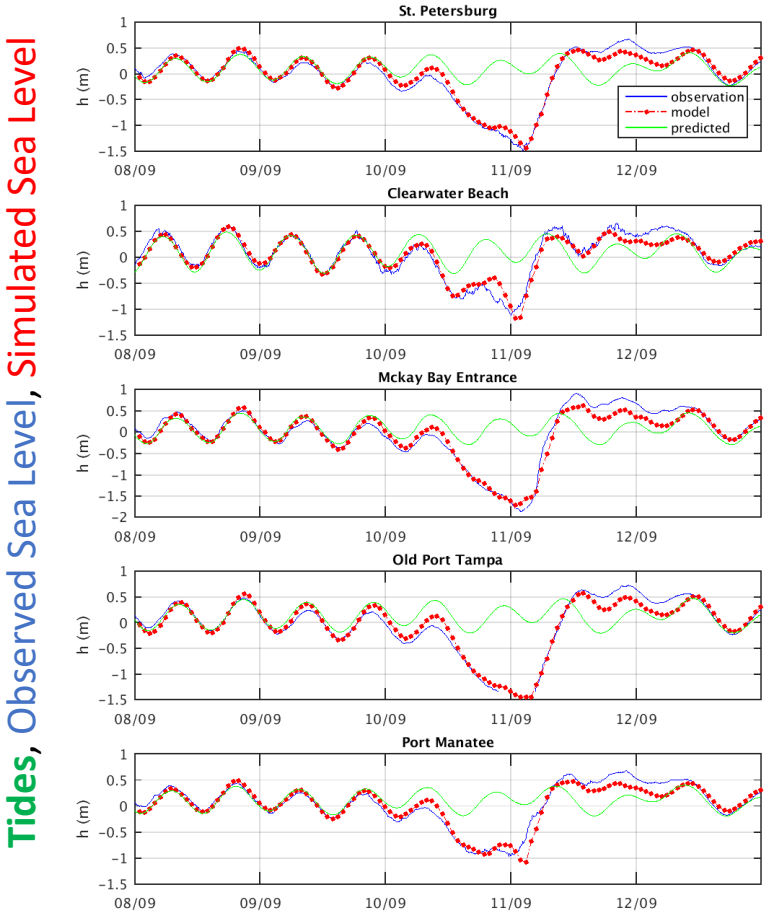


TBCOM
FVCOM nested in WFCOM

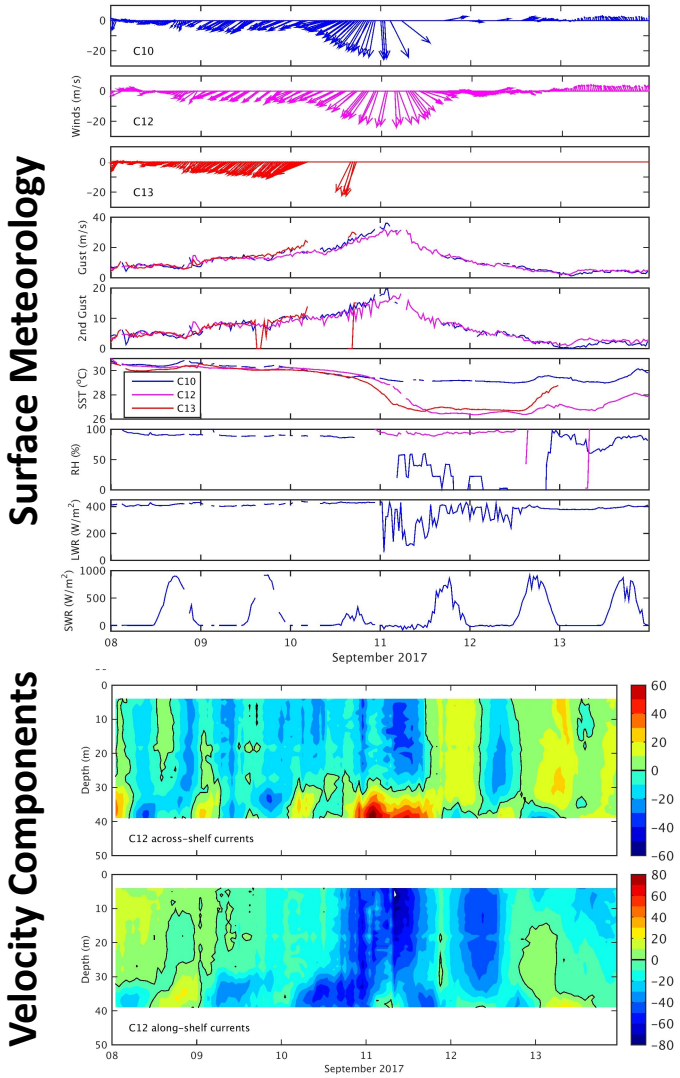


Accomplishments

- **Completed TBCOM nowcast/forecast system with successful application to Hurricane Irma.**

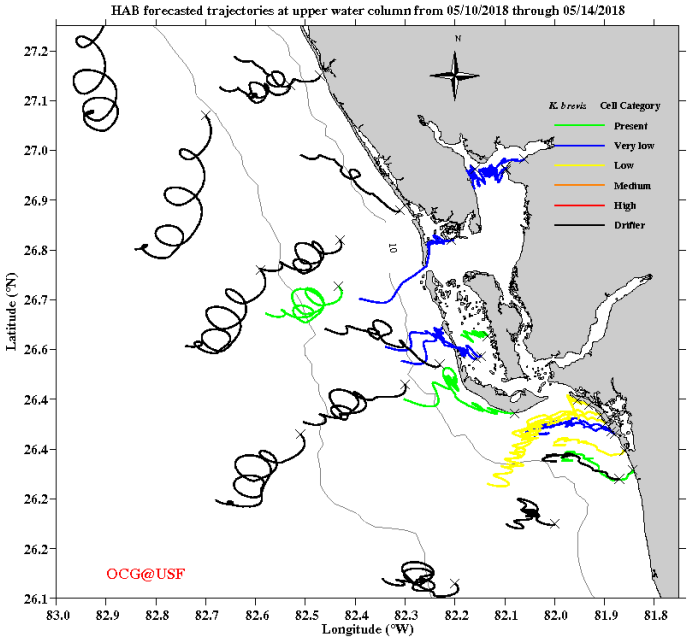


- **Acquired coastal ocean data for Hurricane Irma.**

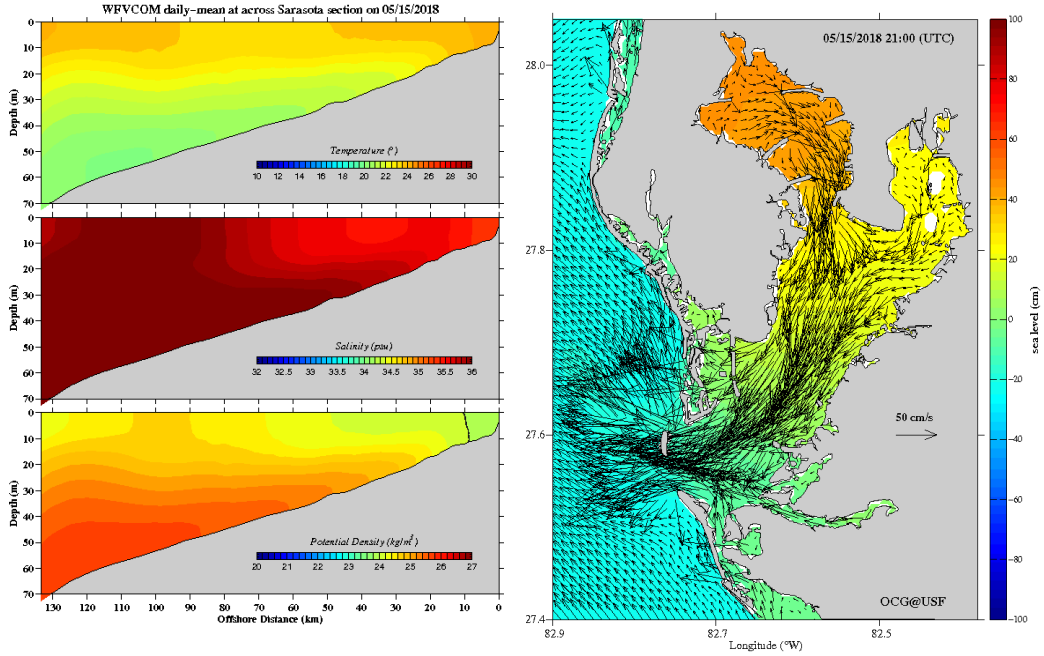


Impacts

Red tide and particle trajectory predictions



Environmental Intelligence



- We provide daily forecasts of expected red tide occurrence (with FWRI) for use by vacationers, beachgoers and FDOH.
- Trajectories are USCG accessible for SAR.
- Fishers rely on our buoy observations.
- We are called upon to inform sailing races.
- Invited by SEFCRI to explain H. Irma transport of sediments over the Keys reef track.

- Information on currents, winds and water properties are regularly used by sailors, boaters and fishers to inform their outings.
- Safety and pleasure would be compromised without these real time data and model simulations.
- WFS science helped to inform NASEM-GRP on Loop Current Dynamics RFA.