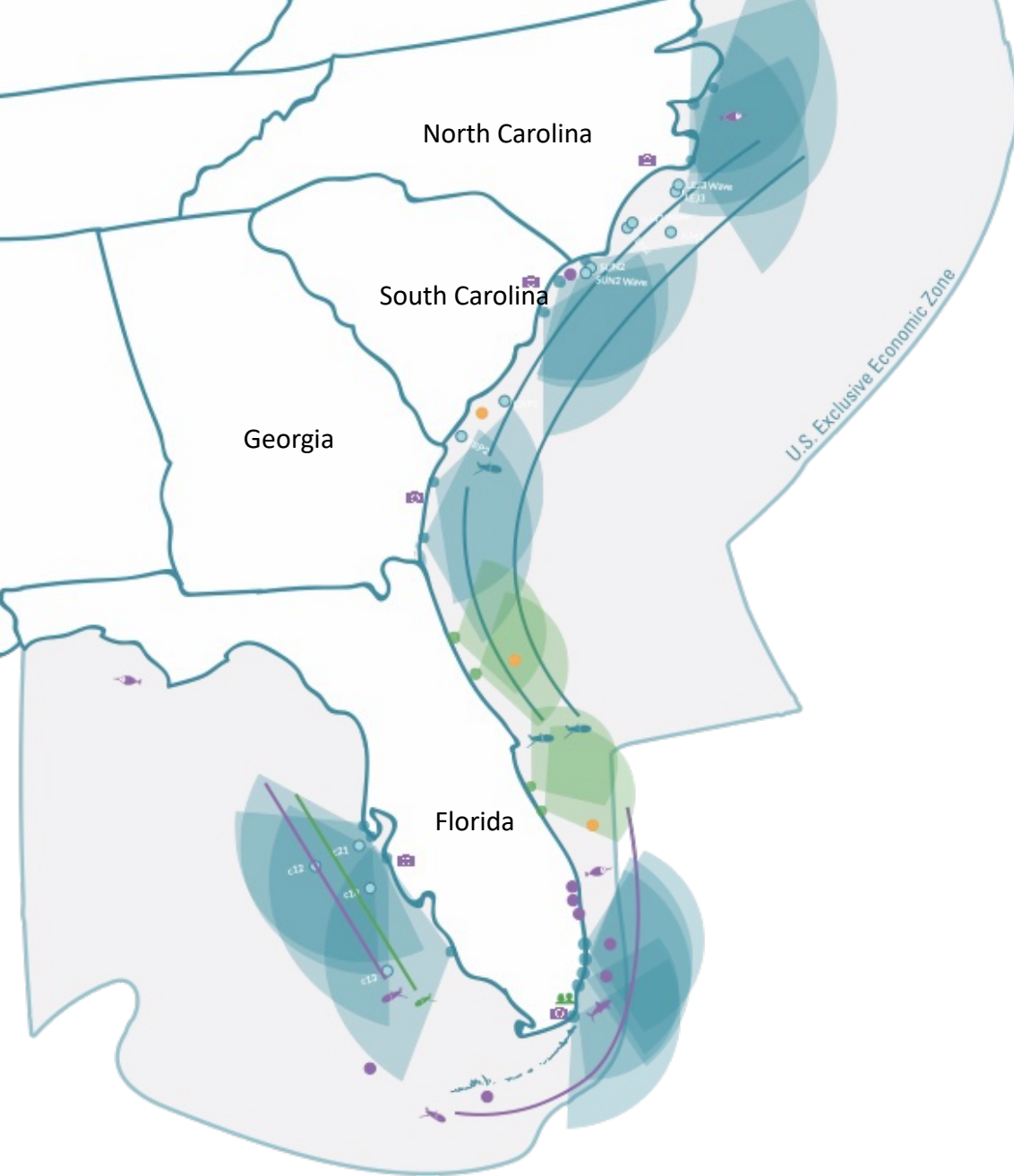


NOAA Model Evaluation: New York Harbor – Cook Inlet

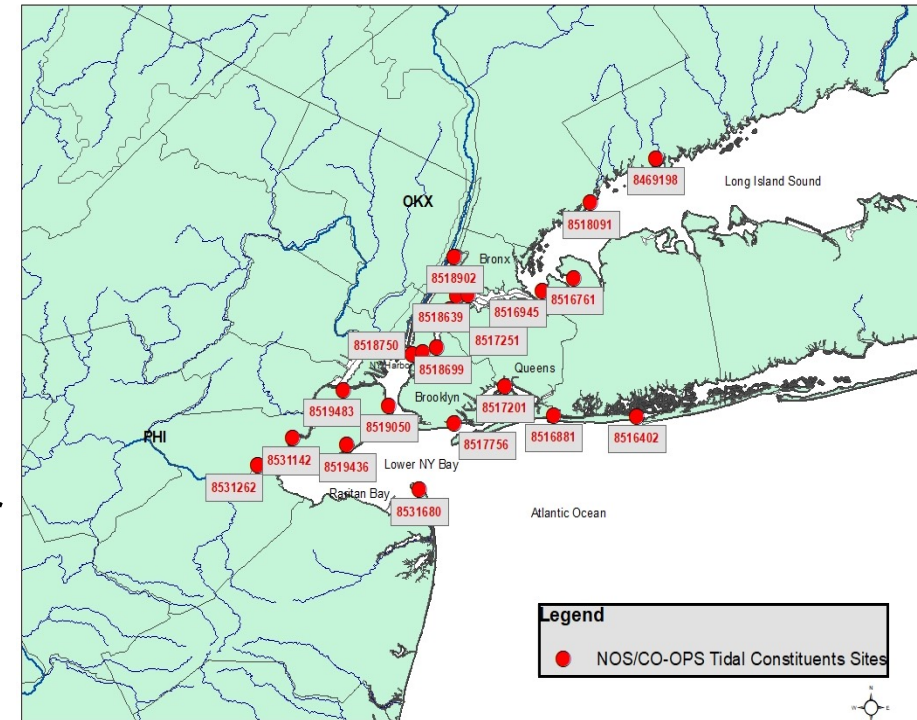
Yonggang Liu,
Sebin John, Robert H. Weisberg

College of Marine Science
University of South Florida



Overview of the Project

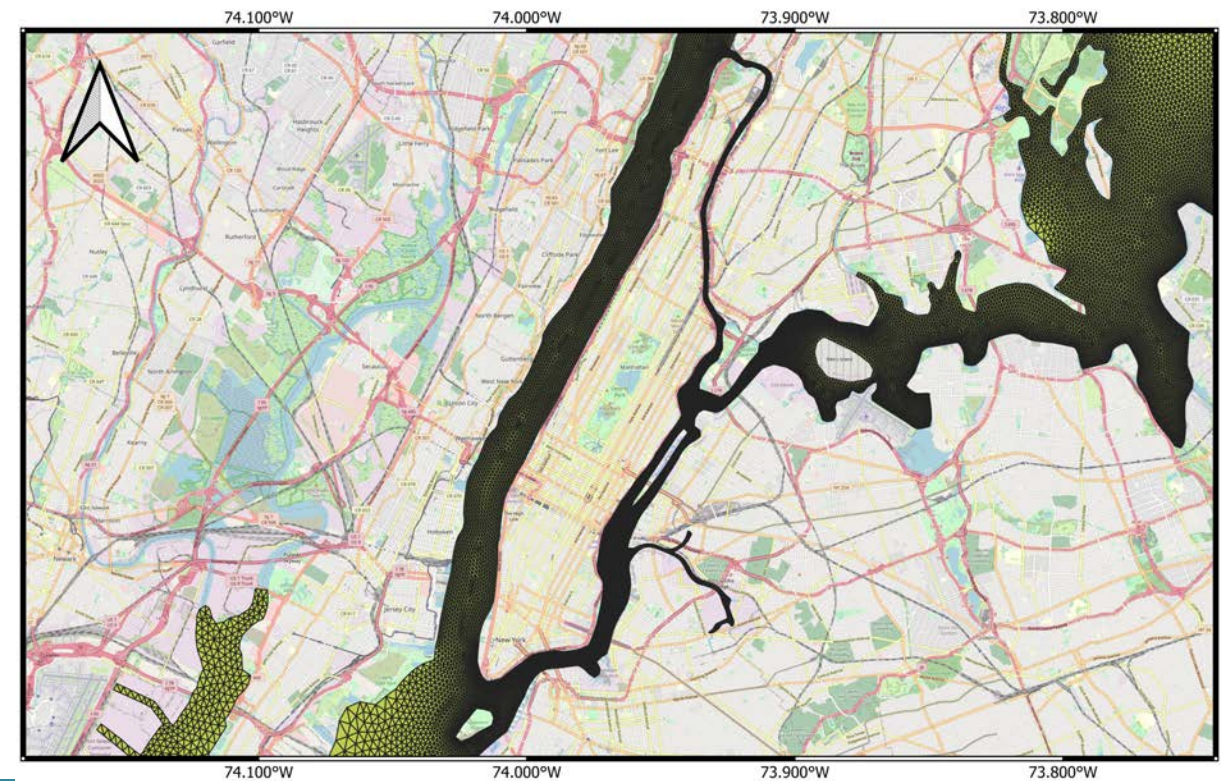
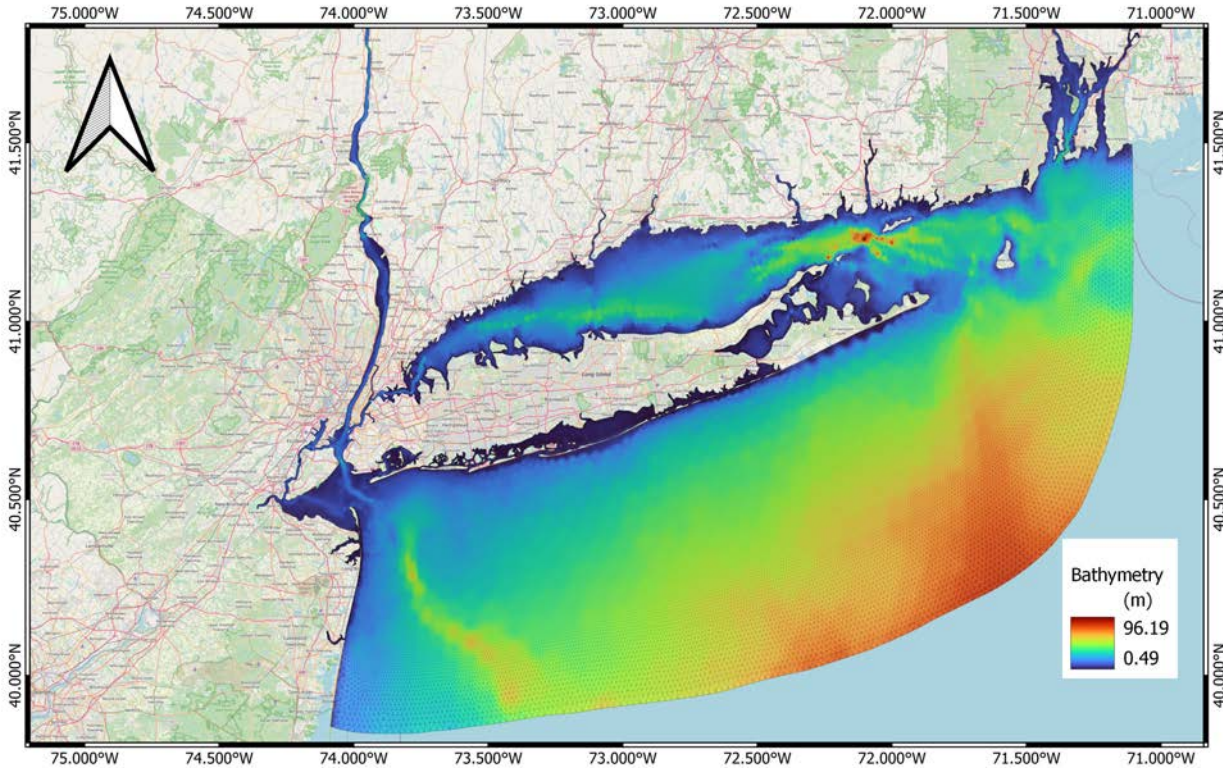
- This is a coastal ocean model evaluation project funded by the National Water Initiative, organized by the NOAA Unified Forecast System (UFS) Coastal Application Team (CAT).
- USF Ocean Circulation Lab is selected as one of the testers for the Finite Volume Community Model (FVCOM).
- Configure FVCOM applications with tides, wind-driven circulation (Year 1), and coupled current-wave modeling (Year 2) for the New York Harbor region, and evaluate the model results with observations.
- Provide skill assessment documentation and evaluating the model in the context of operations (stability, code management, ease of operation, etc.)



UFS WATER QUANTITY MODEL SKILL ASSESSMENT AREA
Locations of NOS/CO-OPS Tidal Constituents Sites

Accomplishments

- This project just started four months ago. Recruited a new postdoc, Dr. Sebin John, in Dec 2022.
- Downloaded high-resolution bathymetry data.
- Generated unstructured model grid using SMS and other software packages.





Challenges Looking Ahead

Challenges

- **Human capital: required are highly skilled, dedicated scientists who are in short supply and difficult to recruit and to retain, given funding levels and uncertainty.**
- **Collaborate with other groups for model evaluation.**

Plans for next year

- **Implement a barotropic model application for tides. Compare the simulated tides with observations using the same metrics provided by NOAA.**
- **Set up wind-driven three-dimensional ocean circulation model, nesting to an outer model, and compare the simulated water level and currents with observations.**
- **Set up coupled current-wave model, and evaluate the model output against observations (Year 2).**