US IOOS®
Coastal and Ocean Modeling Testbed: Roundup and Progress

Becky Baltes

COMT Project Manager

April 10, 2018

IOOS | EYES ON THE OCEAN™

COMT Annual Updates and Highlights

- Transitioning to new framework for COMT
- New FFO cycle in progress. Merit Review complete. Final decisions expected in next 2 months.
- Communications training for project teams
- Finishing submissions for a special issue of JGR, expecting ~12-15 articles.
- Project teams finishing work for September project completion

IOOS | EYES ON THE OCEAN

Chesapeake Bay Hypoxia

Objective: Assess suite of estuarine dissolved oxygen models to make recommendations for producing predictions of hypoxia within Chesapeake Bay
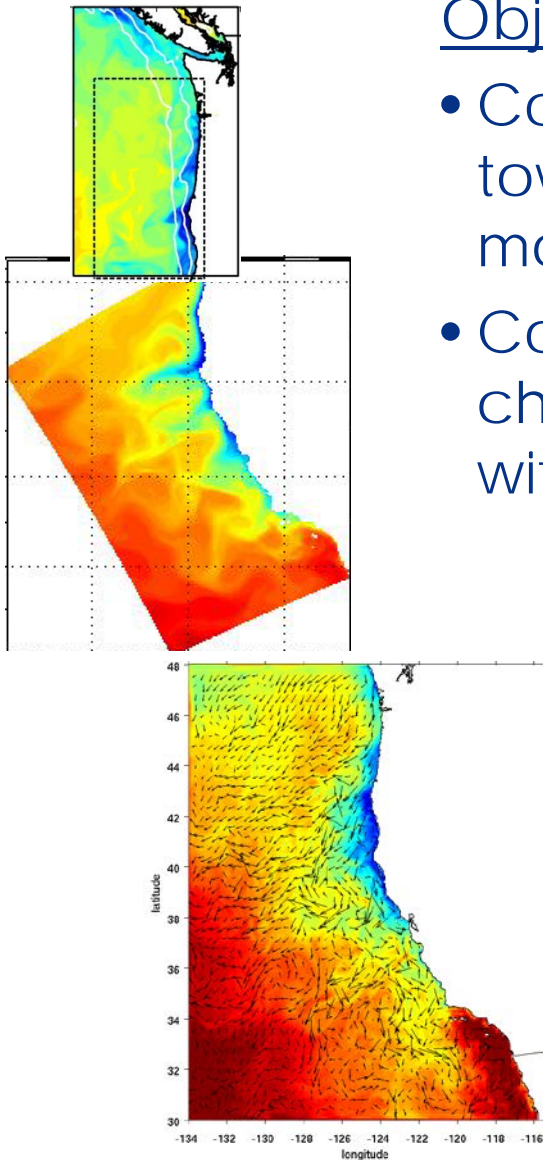

FY17:

- DO Code in CBOFS

- Product delivered to MARACOOS

- Manuscript development

FY18:

- Add CBOFS output at MARACOOS

- 5 manuscripts for JGR

https://ioos.us/comt | becky.baltes@noaa.gov

IOOS | EYES ON THE OCEAN
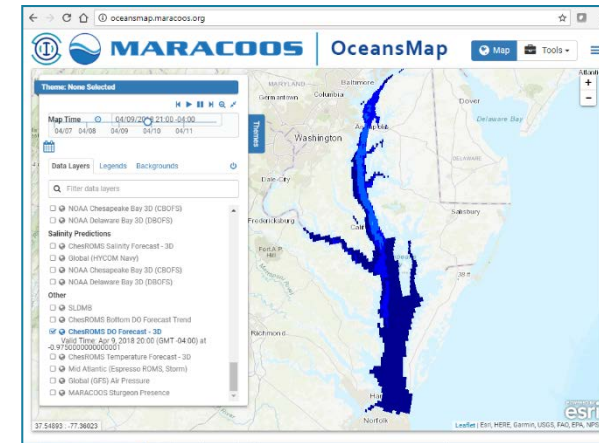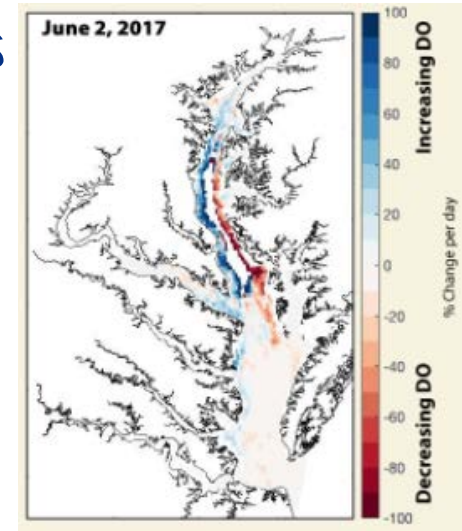
<u>Objectives</u>:

- Compare 3 ROMS based models as a step toward a coordinated super-regional modeling capability for the U.S. West Coast.

- Compare performance of 3 different bio-chemical models (NPZDO, NEMURO, COSINE) within a single ROMS domain.

  <u>FY17</u>:
  - Evaluated impact of glider DA
  - Evaluated BGC in WCOFS 4km setup
  - Work on new methods to assess impact of obs systems
  - Non-DA WCOFS transitioned to CO-OPS for real time ops

  <u>FY18</u>:
  - Finalize results; 3 manuscripts for JGR

https://ioos.us/comt | becky.baltes@noaa.gov

IOOS | EYES ON THE OCEAN

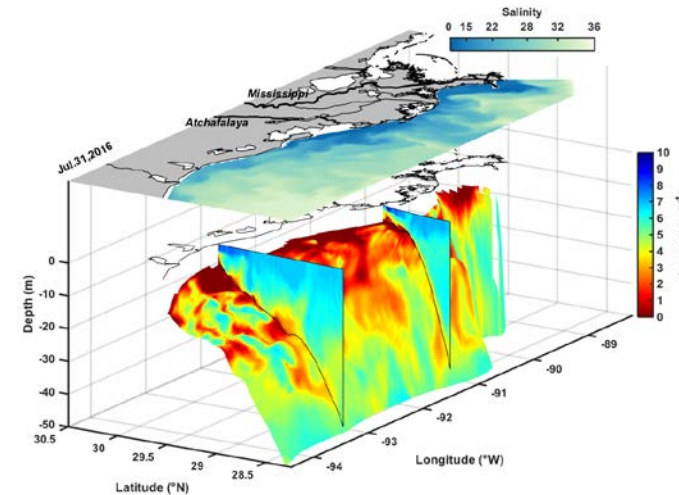# Hypoxia Prediction in the Northern Gulf of Mexico

<u>Objective</u>: Implement and demonstrate a real-time hypoxia forecasting system applicable to the hypoxia-prone Northern Gulf of Mexico.

<u>FY17</u>:

- Multi-model retrospective analysis of the 2017 hypoxia season

<u>FY18</u>:

- Report summarizing recommendations for operational use of hypoxia models

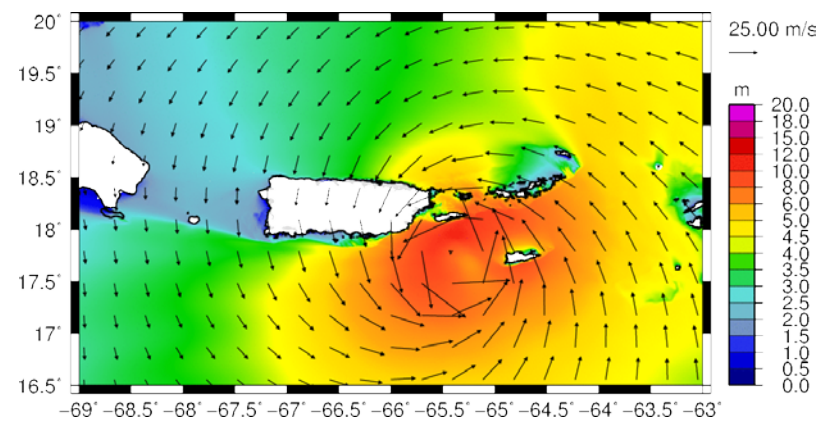- 1 manuscript for JGR

Fennel et al. report to NCCOS (2016)

https://ioos.us/comt | becky.baltes@noaa.gov

<u>Objectives</u>: Extend wave/surge operational forecasting capability from mild-sloped coastal areas to steep-sloped areas such as around Caribbean and Pacific islands

<u>FY 17</u>:

- SLOSH surge coupled with efficient parametric wave model

- 3D Model evaluated during Hurricane Maria

<u>FY18</u>:

- Finalize recommendations
- 2 manuscripts for JGR

https://ioos.us/comt | becky.baltes@noaa.gov
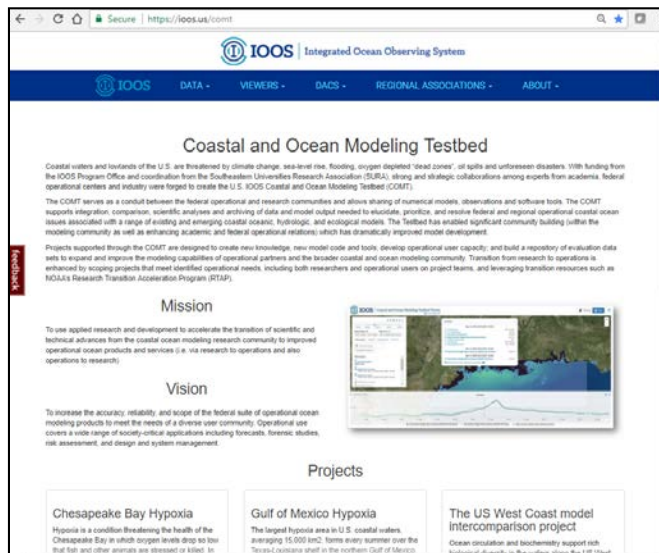
IOOS | EYES ON THE OCEAN

Cyberinfrastructure for COMT

Objective:

- Improve function and performance of SciWMS so it can be used to visualize all compliant model results and observational data stored on the COMT archive server

- Develop a SciWMS based web client to perform the visualization

FY17:

- Completion of ioos.us/COMT

FY18:

- Development of universal data upload tool (support to PARR)

- Support to project teams to archive seminal data sets

https://ioos.us/comt | becky.baltes@noaa.gov

COMT FY17 Transition Metrics

Major Tests Conducted	Transitioned to Operations (RL9)	Recommended for Transition to Operations (RL9)	Advanced To Experimental Testing (RL8)	Further Demonstration/ Development (RL 5-7)	Notes
Chesapeake Bay Hypoxia Forecast Product	X	X			- DO code in CBOFS - Product hosted at MARACOOS
West Coast Operational Forecast System (WCOFS)			X	X	- RL 8 for non-DA WCOFS - RL6 for DA WCOFS - RL5 for Ecosystem components
Hypoxia Prediction in the Northern Gulf of Mexico				X	
Puerto Rico/U.S. Virgin Islands Surge and Wave Inundation			X		- Experimental testing during Hurricane Maria
Cyber Infrastructure			X	X	-Visualization at ioos.us/comt - Data upload tool in development

https://ioos.us/comt | becky.baltes@noaa.gov

IOOS | EYES ON THE OCEAN

Thank You

Becky Baltes
Becky.baltes(at)noaa.gov
https://ioos.noaa.gov/project/comt/
https://ioos.us/comt