

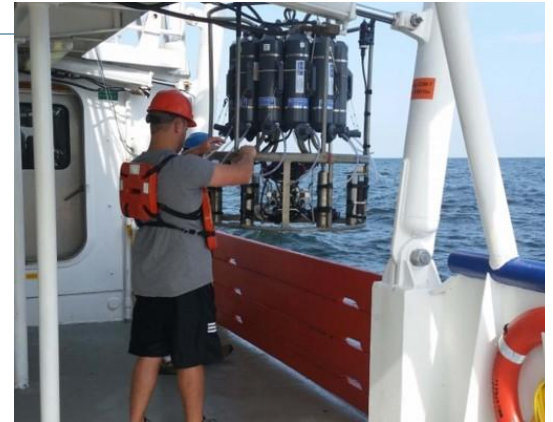
# The 6th Annual NOAA/Northern Gulf Institute Hypoxia Research Coordination Workshop

## September 12-13, 2016

### Stennis Space Center, MS

#### Workshop Objectives

- Identify the potential agency, interagency, private sector, and institutional partners whose missions would be advanced by a robust and sustained Gulf hypoxia monitoring program.
- Determine the monitoring program components most beneficial to potential partners.
- Document partner roles in establishing a cooperative hypoxia monitoring program.
- Determine the steps needed to establish a cooperative monitoring program, including available resources from ongoing, planned, or newly coordinated programs.



#### Inputs

- A pre-workshop monitoring strategy (2 MB) with current and proposed programmatic and financial requirements to inform workshop proceedings.
- An outline of activities of current monitoring programs in the Gulf of Mexico to facilitate partner-building during working sessions.

#### Expected Outputs

- A workshop report identifying monitoring requirements (1.5 MB) linked to key management needs and the mechanisms, resources, and potential collaborations necessary to implement and sustain a monitoring program that encompasses the Hypoxic Zone and other Gulf ecosystem management issues.
- Establishment of small teams of workshop attendees to advance implementation of key elements of Gulf monitoring identified at the workshop.

## Monday, September 12

## Workshop Agenda

**8:00 - 9:00 AM:** Registration

**9:00 - 9:15 AM:** Opening Remarks

- Welcome - Steve Ashby (Northern Gulf Institute)
- Workshop Overview - Alan Lewitus (NOAA) | [928 KB](#)

**9:15 - 9:30 A.M.:** Keynote Presentation

- What do we hope to achieve and why it is important - Mary Erickson (NOAA) and Ellen Gilinsky (Environmental Protection Agency) | [2 MB](#)

**9:30 - 10:15 A.M.:** Monitoring Program Overview - Alan Lewitus (NOAA) | [2 MB](#)

Program objectives will be discussed with respect to the:

- Historical, current and future monitoring activities
- Products (outputs) needed to manage the Gulf hypoxic zone
- System Requirements (programmatic, financial) - take-home points from pre-workshop documents
- Transition to Operations activities (where applicable)

**10:15 - 10:30 AM:** Break

**10:30 - 10:40 AM:** Power of Gulf Partnerships - Ben Scaggs (Environmental Protection Agency)

**10:40 - 11:35 A.M:** Current State of Monitoring System Organizational Support  
Session Chair: Steve Ashby (NGI)

Many valuable components have at least short-term support, including:

- Mid-summer ship survey - Nancy Rabalais (Louisiana Universities Marine Consortium (LUMCON)) | **1 MB**
- Observing systems - Barb Kirkpatrick (Gulf of Mexico Ocean Observing System(GCOOS)) | **2 MB**
- Gliders - Steve DiMarco (Texas A&M; University) and Stephan Howden (University of Southern Mississippi) | **4 MB**
- Modeling (3D time-variable) - Dubravko Justic (Louisiana State University) | **2 MB**
- Discussion

**11:35 A.M. - 12:30 P.M:** Diving Deeper into Related Programs and their Specific Management Driver Needs  
Session Chair: Stephan Howden (USM)

A cooperative monitoring program could meet a wide breadth of management needs, including:

- Linkage with watershed modeling tools to support nutrient reduction efforts - Mike Woodside (US Geological Survey) | **2 MB**
- Diversions - Ehab Mesehle (The Water Institute of the Gulf) | **2 MB**
- Fisheries - Jeff Rester (Gulf States Marine Fisheries Commission) and Lisa DesFosse (NOAA) | **3 MB**
- RESTORE Act - Steve Giordano (NOAA) | **3 MB**
- Discussion

**12:30 - 1:30 PM:** Lunch

**1:30 - 1:45 PM:** Recap of Morning's Talks and Instructions for Afternoon Working Sessions - Alan Lewitus (NOAA)

**1:45 - 3:00 P.M:** Working Session One: Three Breakout Groups

- **Breakout 1: Researchers** - Attendees with knowledge of monitoring requirements to support analysis tools (primarily models) that lead to management products. (*Facilitator: Kristen Laursen, NOAA*)  
**Key Question:** *What are the technical monitoring requirements to support analysis tools (primarily models) that are needed to develop management products?*  
**Purpose:** To narrow and define the minimum monitoring components and space/time sampling that will be crucial to support a robust application of models (primarily 3D time-variable deterministic). These modeling tools are critical to the development of required products.
  - Part 1 (45 min): Come to agreement on the minimum annual monitoring requirements (e.g. cruises, gliders, moorings) for validation of the statistical and 3D time-variable deterministic models.
  - Part 2 (30 min): Come to agreement on additional monitoring that may be required to periodically calibrate the management models, both the space/time dimensions and the frequency (e.g. every 5 or 10 years?)
- **Breakout 2: Related Programs** - Attendees who represent programs with interests that likely overlap with programs focused primarily on hypoxia management. (*Facilitator: Lael Butler, EPA*)  
**Key Question:** *What is the overlap between related programs and hypoxia management programs with regard to the monitoring efforts that they require?*  
**Purpose:** To identify the specific monitoring types (e.g. cruises, gliders, fixed moorings), parameters (e.g. temp, salinity, DO) and space/time dimensions that related programs, including government and industry, require and that can also be used to augment dedicated hypoxia monitoring resources.
  - Part 1 (30 min): Review existing monitoring efforts of related programs to identify ongoing observations of potential mutual benefit to hypoxia management programs.
  - Part 2 (45 min): Identify gaps in current monitoring programs that could possibly be supported by related programs and, if filled, could benefit both related programs and hypoxia management programs.
- **Breakout 3: Supporters** - Representatives of programs that have a primary interest in hypoxia management (e.g. Hypoxia Task Force) and that can take action, advocate, and provide support for elements of a hypoxia monitoring program. (*Facilitator: Tim Tomastik, NOAA*)  
**Key Question:** *How could partners already committed to management of hypoxia, and helping to support Gulf hypoxia monitoring to some degree, sustain and expand upon those commitments to a hypoxia monitoring program?*  
**Purpose:** To identify what current efforts by partner agencies need to be sustained and which partner agencies may be able to fill anticipated gaps with cruises, new technologies (e.g. gliders) or moorings. Participants will also explore ways in which partnerships built around a monitoring program can be forged in a manner that will enhance the potential to secure and sustain the resources that are needed.
  - Part 1 (45 min): Identify programmatic tools (strategic plans, budget projections, FTE commitments, etc.) for improving upon and sustaining current efforts for hypoxia monitoring within agencies and institutions.
  - Part 2 (30 min): Identify opportunities to forge new, and strengthen existing, partnerships across agencies and institutions in a manner that will lead to stronger long-term commitments to hypoxia monitoring in a visible and collaborative manner (e.g. interagency working groups, administration ocean plans, etc.).

**3:00 - 3:15 PM:** Break

**3:15 - 3:35 PM:** Report from Breakout Sessions

**1:45 - 3:00 P.M:** Working Session Two: Document Potential Partner Roles in Establishing a Cooperative Hypoxia Monitoring Program

**Purpose:** Whole group discussion merging the three breakout groups:

- "Researchers" refinement of monitoring needs
- "Related Programs" identification of synergies between hypoxia and non-hypoxia monitoring programs
- "Supporters" identification of opportunities to achieve hypoxia monitoring program needs

Strawman matrix will be filled out during discussion, capturing existing, planned, and potential new opportunities for a collaborative monitoring program, with short- and longer-term time frames.

This will stimulate potential collaborations that will be carried over to the evening social and be developed into a matrix to inform discussions for the third working session tomorrow.

**4:45 - 5:00 PM:** Preview of Day Two - David Scheuer (NOAA)

**5:30 - 7:30 PM:** Evening Social at Infinity Center

## Tuesday, September 13

## Workshop Agenda

**9:00 - 9:30 A.M:** A cooperative monitoring program is achievable. -- Rob Mangien (NOAA)

- Lessons from the Chesapeake [2 MB](#)
- Discussion - What do you think are the keys to success in the Gulf?

**9:30 - 10:00 A.M:** Review of Day 1 - Review the Implementation Matrix  
Alan Lewitus (NOAA)

**Purpose:** Review a first draft strawman matrix of specific monitoring requirements and potential partners and mechanisms for implementation before working as a group to further refine this matrix.

- The matrix will be developed by the steering committee based on discussion from day one.

**10:00 - 10:15 AM:** Break

**10:15 - 11:30 A.M:** Working Session Three: What are the steps to support and maximize the value of a cooperative hypoxia monitoring program?

**Purpose:** Refine the steps needed to lay the foundation for a cooperative monitoring program.

- As a group, update first draft strawman matrix to include:
  - contributors
  - planned and ongoing monitoring activities
  - potential plans lacking financial support
  - newly conceived initiatives
- What is each partner doing over the next year to maintain or pursue the activity?
- What is each partner doing over the next 2-5 years to maintain or pursue the activity?

**11:30 A.M. - 12:00 P.M:** Closeout of Main Meeting

- Review changes to strawman
- Critical next steps for implementation
- Final discussion

**12:00 PM:** Meeting Adjourned

**12:30 - 3:00 PM:** Steering Committee Discussion of Next Steps (Closed Meeting)

Also see the 2011, 2012, 2013, and the 2014 workshop proceedings.