Chesapeake Bay Program
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Bay Oxygen Research Group Meeting

Monday, November 17, 2025
12:00 PM – 1:30 PM

Join the meeting via Microsoft Teams
Meeting ID: 260 784 916 218 | **Passcode:** ZJ2gL68U
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Visit the meeting webpage for meeting materials and additional information.

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Please read the following information carefully, as our meeting policies have changed:

- All meeting attendees' cameras and microphones will be muted at the start of the meeting.
- To request access to the microphone and camera, all meeting participants will be required to use the raised hand feature on Teams. Once access has been granted by the meeting organizer, you will then be allowed to unmute your mic and turn on your camera. Unless instructed otherwise, once a participant has microphone or camera access, they will have this permission for the remainder of the meeting.
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Purpose: This Bay Oxygen Research Group (BORG) meeting was added in addition to the usual quarterly meetings to further answer questions posed by stakeholders. To introduce the meeting, Breck Sullivan (USGS) will be covering three of these questions that will intersect with the common themes for today's meeting of *Why we use interpolation* and *How we are using all the data*. Then, the group will hear presentations from Rebecca Murphy (UMCES) on *Interpolator Grid: Proposed thinning 5 segments* and *Sub-sampling Continuous Monitoring and Data Flow Data.* Lastly, a focus question will be presented and answered by the development team. Meeting participants will have the opportunity to ask follow-up questions and discuss answers.

Agenda

I. **Welcome, Introductions & Announcements**   **(12:00 PM – 12:10 PM)**
      Lead: **Breck Sullivan** *(U.S. Geological Survey, USGS)*

While looking through the current questions posed by stakeholders, some common themes were found. To introduce today's presentations and discussion, Breck will be posing the following questions. While they may not be answered directly today, they will serve as the theme for today's meeting and be used to guide discussion.

1. We understand the within day cyclic interpolation is a statistical interpretation (the blue lines), but with the real con mon data at this location, on 6-10, the DO falls below 5 and goes down to 3 even and the interpolation doesn't look like it's accounting for that. Why wouldn't we just use the real con-mon data and interpret in between where we don't have data?

2. We'd like to understand how interpolation addresses potential bias when sampling location distribution may not be spatially representative, particularly if data from stations that aren't fully representative are still being used for interpolation. It seems that without extensive sampling within a segment, similar to what we've done in Fishing Bay, achieving full representation can be challenging. For instance, in Fishing Bay, we've observed a small tributary that differs significantly from the rest of the segment, and we're curious if the 4D Interpolator would capture such nuances. Could you clarify the threshold between the necessary amount of monitoring and the capabilities of the Interpolator?

3. Would it be possible to walk through, in more detail, the process of how the 4D will function? For each specific type of DO data that will be inputted, how will it be processed and used (i.e. where is the raw data going, what is being done to it, how is it being merged with the other data types for the final product?)

II. Interpolator Grid: Proposed thinning 5 segments   (12:10 PM – 12:30 PM)
*Lead: **Rebecca Murphy** (University of Maryland Center for Environmental Science, UMCES)*

The spatial interpolator grid currently in use for the 3-D interpolation is being used for the 4-D interpolation as well. However, in testing, the team has identified 5 segments with very high horizontal resolution (50 or 100m) and specific geographies that impact the ability to run the interpolation on a laptop. Because of the desire to create a user-friendly tool, the development team is proposing thinning the resolution of these 5 segments. See meeting materials for further documentation. The segments are CHOTF, MPNTF, NANOH, PMKTF and HNGMH.

Requested Action: Decisional – MD and VA partners agreement needed on amending the interpolation grid resolutions in these 5 segments. Suggestions of additional analyses needed to make the decision are welcome.

III. Sub-sampling Continuous Monitoring (ConMon)   (12:30 PM – 12:45 PM)
and Data Flow Data
*Lead: **Rebecca Murphy** (UMCES)*

A summary of current work being done with the high frequency temporal and spatial data will be presented. The development team is considering sub-sampling the high frequency data sets to match the frequency of the interpolation output (1 hour for ConMon and approximately 500m or 1km for Dataflow). Several maps and graphics will be presented to show the data and analyses being conducted to determine the impact of these pre-processing possibilities.

Requested Action: Non-decisional – Ideas and feedback requested on these options.

IV. Addressing Stakeholders Questions   (12:45 PM – 1:30 PM)
*Lead: **Breck Sullivan** (USGS)*

Focus Question: Would it be possible to walk through, in more detail, the process of how the 4D will function? For each specific type of DO data that will be inputted, how will it be processed

and used (i.e. where is the raw data going, what is being done to it, how is it being merged with the other data types for the final product?)

Requested Action: Non-decisional

V.   Adjourn **(1:30 PM)**

Next Meeting: February 2026