



## **Modeling Workgroup Quarterly Review**

October 16, 2018

CBPO Conference Room - The Fish Shack  
410 Severn Avenue Annapolis, MD 21403

### **For Remote Access:**

**Adobe Connect:** <https://epawebconferencing.acms.com/modeling> (enter as guest)

**Conference Line: 202-991-0477 Code: 9037008**

### **Event webpage:**

[https://www.chesapeakebay.net/what/event/october\\_2018\\_modeling\\_workgroup\\_quarterly\\_meeting\\_day\\_1](https://www.chesapeakebay.net/what/event/october_2018_modeling_workgroup_quarterly_meeting_day_1)

**10:00 Announcements and Amendments to the Agenda – Dave Montali, Tetra Tech and Mark Bennett, USGS**

**10:05 Model Team Activities – Lew Linker, EPA-CBPO**

Modeling Team tasks for this and the upcoming quarter will be described including different tasks in support of CBP partners WIP3 planning, 2019 Mod WG climate change model development, model documentation, support for James River chlorophyll modeling, optimization, and more.

**10:20 STAC CBP CC Assessment Workshop – Mark Bennett, USGS and Lew Linker, EPA-CBPO**

Outcomes of the STAC Workshop on CBP Climate Change Assessment will be described.

**10:40 Update on 2025, 2035, and 2050 CC Assessment – Gopal Bhatt, Penn State**

Progress on the 2025, 2035, 2045, and 2055 assessments will be presented. In addition, approaches to the examination of the uncertainty contributed by GCM downscaling techniques will be examined using the MACA (RCP 8.5) ensemble of models through single model runs and whole ensemble will be discussed.

**11:20 Progress in WQSTM Climate Change Analyses and Plans for Sensitivity Scenarios – Richard Tian, UMCES and Carl Cerco, Attain**

Progress in the assessment of Chesapeake climate change with the WQSTM will be reviewed. Plans for model sensitivity to future climate winds, humidity, and the assessment of refined algal temperature-growth curves encompassing future temperatures will be discussed.

**12:00 LUNCH**

**1:00 Sea Level Rise and Chesapeake Hypoxia: A Multiple Model Intercomparison Project - Marjy Friedrichs, VIMS**

The impact of sea level rise on Chesapeake hypoxia will be examined through a new multiple model intercomparison project. The proposed work over the next eight months

will be outlined. In addition, an approach that estimates real-time hypoxia in the Chesapeake will be described.

**1:20 Real-Time NO<sub>3</sub> and PO<sub>4</sub> Sensors for Chesapeake Bay – Jeremy Testa, UMCES**

The deployment of two continuous nitrate (NO<sub>3</sub>) and *ortho*-phosphate (PO<sub>4</sub>) sensors in the Chesapeake will be discussed. The systems measure NO<sub>3</sub> and PO<sub>4</sub> via small-scale wet chemistry and deliver concentrations every hour. Ultimately the objective is to use the hourly nitrate and phosphate data to address CBP management questions such as how nutrient limitation changes over fine temporal scales and seasons as well as the investigation of storm impacts.

**1:35 Assessment of Open Water Quality Response to Nutrient Loads from Different Geographic Regions – Richard Tian, UMCES**

Progress with a new analytical approach that relates nutrient loads from different geographical regions to chlorophyll and DO responses in Open Water designated uses throughout the Bay will be reviewed

**2:00 Adjourn**



## **Modeling Workgroup Conference Call**

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**10:00 Announcements and Amendments to the Agenda – Mark Bennett, USGS and Dave Montali, Tetra Tech**

**10:10 Tech Transfer Workshop: The CBP Water Quality and Sediment Transport Model (WQSTM-ICM) – Carl Cerco, Attain**

A Tech Transfer Workshop is planned for Chesapeake PIs and model practitioners for the use and application of the CBP's water quality model of the tidal Bay. The workshop planned for January 9, 10, and 11th at the Fish Shack will be described.

**10:30 Examination of Deep Channel Aeration in the Chesapeake – Dan Sheer, HydroLogics**

Aeration of hypoxic waters is a standard engineering practice that is currently being used in Rock Creek in the Chesapeake and episodically on the Thames River during high flow/DO sag periods using specially designed vessels. A study to examine the utility of aeration in the Deep Channel region of the Bay will be presented.

**11:00 Scenario Optimization Tool for CAST – Daniel Kaufman, CRC**

An overview of the ongoing development of an optimization tool for scenarios run in Phase 6 CAST will be provided. The current status will be described, as well as the major developmental steps anticipated for final development including the first *beta* release of the optimization tool in early 2019.

**11:30 Synthesis of Monitoring, Research and Modeling to Explain Chesapeake Basin Trends – Emily Trentacoste, EPA-CBPO**

Progress in integrating monitoring, modeling, and research to inform management across the Bay watershed will be presented.

**12:00 LUNCH**

**1:00 James Chlorophyll Scoping Scenarios – Jian Shen, VIMS**

Jian will review a range of key scenarios that run on the new simulation period of 2005 to 2013. The scenarios ranged from high loads to low loads and were the 1) No Action

Scenario, 2) 1985 Progress Scenario, 3) 1993 Progress Scenario, 4) 2013 Progress Scenario, 5) 2017 Progress Scenario, 6) scenario of the 2010 TMDL for Dissolved Oxygen (DO) Attainment, 7) the WIP II Level of Effort (LOE) Scenario, and 8) the E3 Scenario.

**1:30 James Chlorophyll Assessment – Tish Robertson, DEQ**

Tish will describe the progress made on the James River chlorophyll assessment.

**2:00 ADJOURN**