Modeling Workgroup Conference Call

April 10, 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: 1781450

Event webpage:

https://www.chesapeakebay.net/what/event/february_2018_modeling_workgroup_quarterly_meeting_day_2

10:00 Announcements and Amendments to the Agenda – Dave Montali, Tetra Tech and Lee Currey, MDE

10:05 Modeling Workgroup Succession – Lee Currey, MDE and Dave Montali, Tetra Tech

The process of leadership succession of the Modeling Workgroup will be discussed.

10:20 Model Team Activities – Gary Shenk, USGS-CBPO

Gary will describe Modeling Team tasks for this and the upcoming quarter including different tasks in support of WIP planning targets, climate change, model documentation, support for James River chlorophyll modeling, optimization, and more.

10:45 MACA Climate Change Data – Ray Najjar, Penn State

Ray will introduce the downscaled, GCM data from MACA (Multivariate Adaptive Constructed Analogs). The data of MACA is taken from the historical (1950-2005) and future RCP4.5/RCP8.5 (2006-2100) daily outputs of about 20 available CMIP5 models. For daily outputs of the variables minimum/maximum temperature, precipitation, wind, humidity, solar radiation, and others. The possible advantages and tradeoffs for the incorporation of the MACA data set into the CBP 2019 Climate Change Assessment will be discussed

11:15 CHAMP Update – Ray Najjar, Penn State and Marjy Friedrichs, VIMS

Ray will review the progress of NOAA funded work on the Chesapeake Hypoxia Analysis & Modeling Project (CHAMP). The objectives of CHAMP are to 1) estimate the impacts of future changes in climate and anthropogenic nutrient inputs on Chesapeake hypoxia.

11:30 CBP 2019 Climate Change Assessment – Lew Linker, EPA-CBPO

Initial steps in the development of the CBP 2019 Climate Change Assessment will be described.

12:00 LUNCH

1:00   James Chlorophyll Assessment – Tish Robertson, DEQ
Tish will describe the progress made on the James River chlorophyll assessment as well as the motivation for a 2005-2013 assessment period of the chlorophyll water quality standard.

1:30   James Chlorophyll Scoping Scenarios – Jian Shen, VIMS
A range of key scenarios were used to examine James Chlorophyll Model performance over a wide range of loads. 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.

2:00   Oyster Aquaculture Influence on Water Quality – Richard Tian, UMCES and Carl Cerco, Attain LLC
Refinements to estimates of the influence oyster aquaculture has on Chesapeake water quality will be presented including an examination of local scale water quality influence and an assessment using Base conditions with full build-out aquaculture

2:30   Adjourn

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10:00 **Announcements and Amendments to the Agenda – Lee Currey, MDE and Dave Montali, Tetra Tech**

10:05 **Scenario Optimization Tool for CAST – Daniel Kaufman, CRC**
Danny will provide an overview of the ongoing development of an optimization tool for scenarios run in Phase 6 CAST. The current status will be described, as well as the major developmental steps anticipated for final development. In addition, a discussion will look into an exploration of the options available to the CBP partnership in order to best serve decision making at all scales from the state-basin to local levels.

10:30 **Synthesis of Monitoring, Research and Modeling to Explain Chesapeake Basin Trends – Emily Trentacoste, EPA-CBPO**
An approach to integrate monitoring, modeling, and research to inform management across the Bay watershed will be presented. Initial assessments will be presented with ideas for how to expand the assessment to basins throughout the Chesapeake watershed.

11:15 **Rapid Restructuring of the Nitrogen Cycle Across the Contiguous United States – Robert Sabo, EPA-ORD**
An approach to examine the source and magnitude of nitrogen inputs and fluxes across the landscape in the Chesapeake region based on a quantification of the contiguous U.S. will be presented.

12:00 **Update on the Modeling Priorities of the CBP Goal Teams – Scott Phillips, USGS**
Scott will provide and update of the forward-looking modeling and analysis needs identified by the CBP Goal Implementation Teams (GITs) for the Modeling Workgroup.

12:30 **LUNCH**

1:30 **Problem Segments – Cuiyin Wu, CRC and Jeni Keisman, USGS-CBPO**
Cuiyin and Jeni will describe an analysis of estimated DO water quality standard attainment results in Chesapeake Bay segments with the 2017 WQSTM that found that in a limited number of Chesapeake Bay segments, poor dissolved oxygen conditions persisted even under scenarios of dramatically reduced nitrogen and phosphorous loads.

2:30 **ADJOURN**