



CBP Modeling April Quarterly Review

Day 1 – April 7, 2026

Event webpage: [Link](#)

For Remote Access – Microsoft Teams Link: [Join the meeting now](#)

Meeting number: 270 812 261 153 68 Password: df78iW7c

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This meeting will be recorded for internal use only to assure the accuracy of meeting notes.

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

10:05 Future Environmental Conditions and CBP BMP Efficiencies – Maya Struzak, Sarah Fakhreddine, and David Rounce, Carnegie Mellon and Michelle Miro and Krista Grocholski, RAND

Progress will be presented on application of the APEX model under different future climate hydrologic conditions to determine the change in relative pollutant removal efficiencies of current CBP-approved NPS BMPs. Sensitivity scenarios with the field scale APEX model will examine the response of nutrient management, cover crop, and other BMPs in four different land uses and physiographic regions to future rainfall and temperature conditions.

10:25 Discussion of CBP BMP Efficiencies Under Changing Environmental Conditions

10:35 Initial Phase 7 Model Land Use – Peter Claggett and Sarah McDonald, USGS-CBPO

Progress with Phase 7 Model land use development will be discussed as well as the next steps and timing of the final Phase 7 Model land use.

10:55 Discussion of Initial Phase 7 Land Use

11:05 Phase 7 Watershed Model Progress – Gopal Bhatt, Penn State-CBPO

Gopal will describe the complete and essentially final hydrology and sediment calibration of the Phase 7 WSM as well as the progress being made on completing the water quality calibration. The calibrations are making use of the Phase 7 land use for the first time in the Phase 7 WSM and will allow for adjustments based on new information that may come from CalCAST.

11:35 Discussion of the Phase 7 Model Progress

11:40 Preparing for Phase 7 Calibration and Parameterization – Joseph Delesantro, Koniag GS, EPA CBPO

Joseph will provide an overview of CalCAST, including the parameters to be calibrated and a review of the methods developed to select their values. The presentation will serve as a comprehensive review of CalCAST products in preparation for their review at the July and October quarterly meetings.

12:00 Discussion of Phase 7 Nutrient Inputs and Sensitivity Progress

12:10 4D Interpolator – Breck Sullivan, USGS

The presentation will provide an update on the development of the 4D interpolator, tool to support the evaluation of Chesapeake Bay dissolved oxygen (DO) water quality criteria. Information will include an overview of the main components of the tool, the tool's connections to the TMDL Planning Targets, and initial ideas of visuals for the results.

12:20 4D Interpolator Discussion

12:30 LUNCH

1:20 Analysis of Proposed New Hydrologic Long Term & Critical Period – Robin Glas, USGS

Robin Glas will review progress in the analysis of a proposed new CBP long term and critical hydrologic period.

1:40 Discussion of Proposed New CBP Hydrologic Long Term & Critical Period Analysis

1:50 Transfer of Efficient Multi-Objective Optimization Procedures to CBPO – Kalyan Deb, Pouyan Nejadhashemi, Ritam Guha, and Auden Garrard, MSU

Progress in optimization documentation and technology transfer training videos to the CBPO from the project *Efficient Multi-Objective Optimization Procedures to CBPO* will be presented.

2:20 Optimization Discussion

2:30 ADJOURN



CBP Modeling April Quarterly Review

Day 2 – April 8, 2026

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

10:05 Update on Main Bay Model (MBM) Progress – Zhengui Wang, Joseph Zhang, and Jian Shen, VIMS

The MBM calibration has been extensively refined since the last Quarter. The improvements will be presented along with the latest version, a new 35-year run (1985 - 2020) that will be useful for MTM boundary conditions and for long-term assessments of Chesapeake water quality and trends.

10:35 Discussion of the Main Bay Model (MBM) Progress

10:45 Testing Spin Up Requirements and Approaches for the MBM – Wenfan Wu, VIMS and Richard Tian, UMCES-CBPO

Testing the spin up requirements to equilibrate Chesapeake sediment nutrient flux in the MBM will be presented and a decision made for how to do spin-up for model operations. In addition, sensitivity experiments of riverine nutrients will be presented.

11:15 Discussion of Spin Up Tests and Approaches

11:25 Progress in an Assessment of Present and Future Habitat of Key Fish Species – Colin Hawes and Marjy Friedrichs, VIMS

Expanding on the assessment of Atlantic croaker habitat under present and future conditions in the Chesapeake presented at the last Quarterly, Colin will describe additional Atlantic Croaker analyses as well as plans for assessing with other key Chesapeake species such as Bay anchovy, striped bass, and menhaden.

11:35 Discussion Assessing Present and Future Habitat of Key Fish Species

11:45 MBM Simulation of Light Attenuation – Richard Tian, UMCES-CBPO

Richard will present an initial assessment of the SAV-water clarity standard with the MBM.

12:00 Discussion of Initial test of MBM Light Attenuation WQ Standard

12:10 LUNCH

1:00 Update on Conowingo Model Development – Earl Hayter, Jodi Ryder, and Danielle Tarpley, CoE-ERDC and Matt Rowe, MDE

Progress in the development of the Conowingo Model as well as initial results of the Conowingo sediment sampling will be reviewed. In addition, Danielle Tarpley will review the Conowingo sediment sampling and analyses.

1:20 Discussion of the Conowingo Model Development and Application

1:30 Progress on Patapsco/Back MTM – Harry Wang, Breanna Maldonado, VIMS and Jeremy Testa, Allison Dreiss, UMCES

Progress on the Patapsco/Back MTM will be reviewed.

1:50 Discussion of Patapsco/Back MTM Progress & P7 linkage

2:00 Progress on the Rappahannock MTM & P7 Linkage – Qubin Qin, East Carolina University and Jian Shen, Zhengui Wang, and Pierre St-Laurent, VIMS

Progress on the Rappahannock MTM will be presented and a recent article on inter-tributary freshwater connectivity in the Chesapeake will be presented.

2:20 Discussion of Rappahannock MTM Progress

2:30 Progress on the Choptank MTM – Jian Zhao, William Nardin, Elizabeth North, Larry Sanford, Jeremy Testa, UMCES and Jiabi Du, Texas A&M

Progress on the Rappahannock MTM will be presented by the Choptank MTM Team and the current water quality calibration using the latest version the Phase 7 Watershed Model will presented.

2:45 Discussion of Choptank MTM Progress

2:55 Introducing the Patuxent MTM! – Amir Reza Azarnivand and Jeremy M. Testa, UMCES

OK, this is the first time ever the Quarterly Review agenda has had an exclamation point in a presentation title but in this case, it is warranted. Amir and Jeremy will present the Patuxent MTM they are developing with an approach entirely in line and consistent with the other three CBP MTMs. With this presentation we welcome the new insights, skill, and knowledge the Patuxent MTM Team brings to the CBP.

3:15 ADJOURN