

A photograph of a white, cylindrical lighthouse with a black lantern room, situated on a rocky island in the middle of a large body of water. A wooden pier extends from the island into the water. The sky is blue with scattered white clouds. The foreground is dominated by a large pile of grey rocks.

2026 Chesapeake Community Research Symposium

Chesapeake Bay Research and Restoration: Next
Generation Tools for a Dynamic Future

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Welcome to the Chesapeake Community Research Symposium 2026

Scope and Aims

Significant progress has been made toward restoring Chesapeake Bay water quality and living resources. However, restoration efforts face significant challenges as we traverse the third decade of the 21st century. Perhaps one of the biggest challenges is how to deal with an emerging generation of new tools for collecting and analyzing water quality data and for simulating physical and biogeochemical processes. These new tools for collecting data include high resolution (vertical, temporal, spatial) in situ monitoring and remotely sensed data, and new tools for analyzing data include a wide variety of machine learning techniques as well as applications of Artificial Intelligence (AI). Machine learning and AI are also now being used to emulate mechanistic models. Moreover, these tools are emerging in the face of a “dynamic future” where we must maintain progress in the face of a changing natural and human environment. The need for transdisciplinary and “team science” is also increasing, but these approaches also present challenges. Managing misinformation and maintaining effective communication are also becoming increasingly important as AI influences and interpretations emerge.

By bringing together managers, scientists, and stakeholders for a series of plenary talks, panel discussions, and special sessions, the 2026 Chesapeake Community Research Symposium will not only highlight the progress that has been made toward restoring the Chesapeake Bay, but will also address future challenges to maintaining this progress in the face of the emergence of new tools and challenges in a dynamic future.

Planning Committee

| | |
|---------------------------------|---|
| Allison Burbach | Green Fin Studio |
| Shuyu Chang | Penn State University |
| Gabriel Duran | Chesapeake Bay Program STAR Staffer |
| Melissa Fagan | Chesapeake Research Consortium |
| Marjorie A.M. Friedrichs | Virginia Institute of Marine Science |
| Raleigh Hood | University of Maryland Center for Environmental Science |
| Dave Jasinski | Green Fin Studio |
| Theo Lim | University Of British Columbia |
| Cecily Steppe | U.S. Naval Academy |
| Abby Taylor | Green Fin Studio |
| Matthew Trommatter | Chesapeake Research Consortium |
| Jimmy Webber | USGS Chesapeake Bay Associate Coordinator |
| Y. Joseph Zhang | Virginia Institute of Marine Science |

Schedule Overview

Monday, June 1st

| | |
|-------------------------|--|
| 9:00 a.m. – 9:15 a.m. | Introduction: Raleigh Hood |
| 9:15 a.m. – 10:00 a.m. | Plenary Speaker: Lauren Bridges, UVA, Assistant Professor |
| 10:00 a.m. – 10:15 a.m. | Break |
| 10:15 a.m. – 11:00 a.m. | Plenary Speaker: Josh Kurtz, MD Secretary of Natural Resources |
| 11:00 a.m. – 11:45 a.m. | Plenary Speaker: Brandon Jones, AGU President |
| 12:00 p.m. – 1:00 p.m. | Lunch |
| 1:00 p.m. – 2:30 p.m. | Special Session Presentations |
| 2:30 p.m. – 2:45 p.m. | Break |
| 2:45 p.m. – 5:00 p.m. | Special Session Presentations |
| 5:00 p.m. – 7:00 p.m. | Poster Session, Reception, and Guardian Award Ceremony |

----- *Dinner on your own* -----

Tuesday, June 2nd

| | |
|-------------------------|--|
| 9:00 a.m. – 10:15 a.m. | Panel: Big Data to Better Decisions: Leveraging AI and Machine Learning for Chesapeake Bay Research and Management |
| 10:15 a.m. – 10:30 a.m. | Break |
| 10:30 a.m. – 11:45 a.m. | Panel: Hail CESR? Weighing the Benefits of Deep and Shallow Restoration |
| 12:00 p.m. – 1:00 p.m. | Lunch |
| 1:00 p.m. – 3:00 p.m. | Special Session Presentations |
| 3:00 p.m. – 3:15 p.m. | Break |
| 3:15 p.m. – 5:00 p.m. | Special Session Presentations |
| 5:00 p.m. – 7:00 p.m. | Poster Session, Reception |

----- *Dinner on your own* -----

Wednesday, June 3rd

| | |
|-------------------------|-------------------------------|
| 9:00 a.m. – 10:30 a.m. | Special Session Presentations |
| 10:30 a.m. – 10:45 a.m. | Break |
| 10:45 a.m. – 12:30 p.m. | Special Session Presentations |

----- *Adjourn* -----

Plenary Speakers

The Environmental Tradeoffs of AI for Environmental Research

Lauren Bridges

Assistant Professor of Media Studies, UVA

Dr. Lauren Bridges is an Assistant Professor of Media Studies at the University of Virginia, faculty co-lead of the Digital Technology for Democracy Lab at the University of Virginia, and faculty affiliate at the Berkman Klein Center for Internet & Society at Harvard University. She researches the sociotechnical, political, economic, and environmental politics of digital infrastructures. Dr. Bridges has published in peer-reviewed journals, public news outlets such as The Guardian, and she is regularly interviewed in media regarding the social and environmental impacts of big data infrastructures. She is currently writing a book on the local land use politics of digital industrial expansion in Southern California and Northern Virginia.



The Future of the Chesapeake Bay Watershed Agreement

Josh Kurtz

Maryland Secretary of Natural Resources

Josh Kurtz is a lifelong outdoor enthusiast and conservationist, passionate about the beauty of Maryland and all the resources it has to offer. Under the Moore/Miller administration, Secretary Kurtz leads teams across the state of Maryland, working to improve water quality and bay resilience, restore and conserve forested land, expand access to our state parks, monitor and slow the spread of invasive species, and ensure the state maintains sustainable fisheries. Kurtz previously served as the Maryland executive director of the Chesapeake Bay Foundation, and has also served as policy and government relations director for The Nature Conservancy in Maryland where he created and led advocacy campaigns leveraging strong relationships with partners and industry leaders to build support for policies regarding conservation and climate change in both the Maryland General Assembly and the DC City Council.



Plenary Speakers

Build Again: Courage, Connection, and Creativity

Brandon Jones

President, American Geophysical Union

Dr. Brandon Jones is the President of the American Geophysical Union (AGU), the world's largest professional society for Earth and space scientists. His responsibilities include chairing the AGU Board and providing leadership for activities and efforts that promote AGU's strategic plan. Brandon is a former Federal scientist who oversaw programs that focused on impacts of ecological services in a changing climate, talent development, and broadening participation efforts to optimize human capacity in the Earth system sciences. Brandon holds a BA in biology from The Lincoln University (PA) and graduate degrees in Marine Biology and Biochemistry from the University of Delaware's College of Earth, Ocean, and Environment (CEOE). He continues to be a mentor and advocate for early-career STEM scholars who are members of historically excluded communities.



Panel Discussions

Big Data to Better Decisions: Leveraging AI and Machine Learning for Chesapeake Bay Research and Management

Moderator

Qian Zhang

Dr. Qian Zhang is an Associate Research Scientist with the University of Maryland Center for Environmental Science at the Environmental Protection Agency Chesapeake Bay Program. He works with scientists and managers to analyze monitoring data and understand long-term patterns and trends in water quality across the Chesapeake Bay and its watershed. His work combines environmental science with statistics and machine learning to better understand nutrient and sediment pollution and to translate data into practical insights for clean water and healthy ecosystems. Dr. Zhang earned his Ph.D. in Environmental Engineering from Johns Hopkins University. He also holds two master's degrees from Johns Hopkins University: one in Environmental Engineering and one in Statistics.



Panelists

Victoria Coles

Dr. Victoria Coles is a professor at UMCES whose research focuses on understanding the interactions between physical and biogeochemical ocean processes in both coastal and open ocean regimes. She uses both observations and models of coupled systems using strategies that bridge widely varying spatial and temporal scales to better understand how event scale, or individual scale processes influence the dynamics of the whole system. The common theme is how nonlinear interactions between physics, biogeochemistry and ecology are influenced by climate variability. Her most recent research efforts includes: understanding the physical and ecological impacts of changes in extreme events in the Chesapeake Bay using data and IPCC class model projections; combining Eulerian with Lagrangian and stochastic modeling techniques to allow coupled circulation, biogeochemistry, and ecology models to span large ranges in spatial and temporal scale processes in the Amazon River Plume; and coupling models of ocean currents and biogeochemistry to genes and macroalgae.



Panel Discussions

Kim Van Meter

Dr. Kimberly Van Meter is a water system scientist who studies the many ways in which human activity is affecting water quality and water availability across a range of different landscapes. She uses remote sensing, large-scale data analysis, and process-based modeling approaches to explore the influences of climate, land use, and management practices on water quality, especially in large agroecosystems. Her work on the build-up of legacy nutrients in agricultural landscapes has been foundational to developing a new understanding of the long time trajectories needed to improve water quality. Dr. Van Meter is also deeply interested in the effects of a changing climate on the North American Great Lakes, especially with regard to changing water levels and the effects of these changes on Great Lakes coastal wetlands. In all of her work, Dr. Van Meter is interested in bettering our understanding of the effects of land-use change on water availability and water quality, and in exploring the sometimes unexpected social and environmental tradeoffs associated with attempts to improve environmental outcomes.



Alison Appling

Dr. Alison Appling is a water data scientist with the U.S. Geological Survey. She uses a combination of statistical, theoretical, and knowledge-informed machine learning methods to model water quality in rivers and lakes. She is especially passionate about investigating patterns and drivers of water quality through the development of new, improved, and integrated modeling methods. She also manages water prediction projects, encompassing diverse modeling methods and spanning the water cycle, in support of national and regional water availability assessments. She earned a PhD in Ecology from Duke University and currently lives in State College, Pennsylvania, in the Susquehanna portion of the Chesapeake Watershed.



Panel Discussions

Admin Husic

Dr. Admin Husic is an associate professor of Civil and Environmental Engineering at Virginia Tech. His team works to advance our understanding of the connectivity and transport of sediment and nutrients in human-disturbed landscapes. His approach to science is that if something exists in a river, he ought to know about it! His team uses tools such as aquatic sensors, geochemical tracers, and deep learning models to solve vexing problems in water resources. The team's overall goal is to ensure the equitable access and security of water for all people. He received his PhD from the University of Kentucky (2018) and is the recipient of an NSF CAREER Award and NSF Track-4 Fellowship.



Dante Horemans

Dante Horemans is based at William & Mary's Virginia Institute of Marine Science, where he advances environmental forecasting in the Chesapeake Bay by integrating the mechanistic understanding and interpretability of process-based models with the predictive power of AI and machine learning approaches. He has published on topics including harmful algal blooms and habitat suitability modeling for a range of Chesapeake Bay species relevant to fisheries, aquaculture, and recreational anglers. Several of these models are now featured in the Chesapeake Bay Environmental Forecasting System (vims.edu/cbefs), where they contribute to daily environmental forecasts of biogeochemical conditions and ecosystem health in the Bay. Dante also provides advisory support to Chesapeake Bay Program managers on using AI and machine learning to help prioritize areas for water quality improvement, conservation, habitat restoration, and fisheries management.



Panel Discussions

Hail CESR? Weighing the Benefits of Deep and Shallow Restoration

Moderator

Bill Dennison

Dr. Bill Dennison is a Professor of Marine Science and Vice President for Science Application for the University of Maryland Center for Environmental Science. Since 2003, has served as Vice President for Science Application and led the Integration and Application Network (IAN), charged to inspire, manage and produce timely syntheses and assessments on key environmental issues with a special emphasis on Chesapeake Bay and its waters. He holds a Ph.D. in biology from the University of Chicago, a post-doc in coastal marine science from the State University of New York at Stony Brook, an M.S. in biological oceanography from the University of Alaska, and a B.A. in environmental science from Western Michigan University.



Panelists

Don Boesch

Dr. Friedrich Boesch is President Emeritus and Professor Emeritus at the University of Maryland Center for Environmental Science (UMCES). He spent 47 years of his career studying, researching, teaching, advising and communicating about the Chesapeake Bay, the early part at the Virginia Institute of Marine Science. Don is a co-author of several of the most highly-cited articles on abating eutrophication in the Chesapeake Bay and in coastal ecosystems around the world.



Walt Boynton

Dr. Walt Boynton is emeritus Professor at the University of Maryland Center for Environmental Science (UMCES), Chesapeake Biological Laboratory in Solomons, Maryland. He has been a member of the faculty at the Chesapeake Biological Laboratory since 1975. Boynton is an estuarine ecologist and has conducted research in the Chesapeake Bay as well the Baltic Sea and Mexican coastal waters. His research interests range from nutrient enrichment of estuarine and coastal waters and the effects this has on water quality, sea grasses and estuarine food webs to issues related to estuarine fish communities.



Panel Discussions

Kurt Stephenson

Dr. Kurt Stephenson is a professor in the Department of Agricultural and Applied Economics at Virginia Tech, specializing in environmental and natural resource economics. His current research focuses on environmental trading programs, the evaluation of agricultural nonpoint source policies, and the design of payment-for-environmental-services programs. Stephenson co-edited (with Denice Wardrop) the STAC report *Achieving Water Quality Goals in the Chesapeake Bay: A Comprehensive Evaluation of System Response (CESR)* and co-authored the STAC report *Tiered Implementation of the Chesapeake Bay TMDL*.



Denice Wardrop

Dr. Denice Heller Wardrop was one of the first Systems Engineers to graduate from the University of Virginia, which she followed with an MS in Environmental Sciences from the same institution. She practiced as a consulting environmental engineer for over a decade before moving to State College PA, embracing football as well as basketball, and finishing a PhD in Ecology at Penn State. In addition to her role as former Executive Director of the Chesapeake Research Consortium, she also worked as a Research Professor of Geography and Ecology at Penn State. Her discovery areas are wetlands of all kinds and landscape ecology, and she worked a great deal on how human activities impact the ability of natural systems to provide ecosystem services. She served on science committees that advise both the Chesapeake Bay and Everglades restoration efforts, and passionately supports humans and aquatic systems finding ways to bring out the best in each other.



Kaylyn Gootman

Dr. Kaylyn Gootman earned her B.S. in Environmental Studies from UNC Chapel Hill in 2010, where she subsequently researched tidal freshwater rivers and estuarine environments at the Institute of Marine Sciences. In 2011, she joined the EPA National Center for Environmental Assessment as an Oak Ridge Institute Postgraduate Researcher. She completed her Ph.D. in Ecology from UNC in 2019, followed by a post-doctoral fellowship at West Virginia University's Institute of Water Security and Science. In 2022, Kaylyn rejoined the EPA's Chesapeake Bay Program Office as an Integrated Analysis Coordinator, where she leads multidisciplinary teams in watershed data management, restoration analysis, model development, and scientific communication.



Schedule Day 1

| 2026 Chesapeake Community Research Symposium DAY 1 (June 1) | | | | |
|--|---|--|--|---|
| | Arundel A | Arundel B | Arundel C | Queen Anne Ballroom |
| 9:00 AM | Introduction Raleigh Hood, UMCES Horn Point Laboratory and CCMP Program Coordinator | | | |
| 9:15 AM | Plenary Speaker (9:15-10:00) Lauren Bridges, University of Virginia, Assistant Professor of Media Studies | | | |
| 10:00 AM | Break (10:00-10:15) | | | |
| 10:15 AM | Plenary Speaker (10:15-11:00) Josh Kurtz, Maryland Secretary of Natural Resources | | | |
| 11:00 AM | Plenary Speaker (11:00-11:45) Brandon Jones, AGU President | | | |
| 12:00 PM | Lunch (12:00-1:00) | | | |
| | Session 14: <i>Low-Cost Physical Environmental Monitoring Systems</i> Michael Maddox and Taryn Sudol | Session 2: <i>Advancing Chesapeake Bay Water-quality Science and Management: I. Innovative monitoring techniques and modeling tools</i> Qian Zhang, Kaylyn Gootman, Peter Tango, and Breck Sullivan | Session 19: <i>Advanced Data Analytics for Water Quality and Public Health</i> Jianyong Wu, Dongmei Alvi, and Efeturi Oghenekaro | Session 1: <i>Estuarine Carbon Dynamics and Acidification in the Chesapeake Bay: Monitoring, Impacts, and Emerging Solutions</i> Emma Venarde, Raymond Najjar, Janet Reimer, Cassie Gurbisz, Whitman Miller, and Amanda Knobloch |
| 1:00 PM | Drew Powell, Matthew Baker, Dillon Mahmoudi: Understanding Spatiotemporal Variation in Air Quality Using Purple Air Sensors | Richard Zimmerman, Victoria Hill, David Ruble, et al.: A Low-Cost Spectroradiometer for Aquatic Sciences and Water Quality Monitoring | Emily H. Majcher: Status of PFAS in surface waters of the Chesapeake Bay Watershed and associations with sources and landscape characteristics | Lisa Haber, Paul Bukaveckas, Ed Crawford, et al.: Vertical, Lateral, Tidal: Towards a comprehensive net ecosystem carbon budget for a tidal freshwater marsh in Virginia |
| 1:15 PM | Tiberias Okanga: Advancing Community Air Quality Monitoring Through Low-Cost Sensors in the Baltimore–Washington Corridor | Victoria Hill, Richard Zimmerman, Jacob Gallagher, et al.: Mapping Seasonality in Submerged Aquatic Vegetation growth in the Chesapeake Bay Using Planet Satellite Imagery | Yanni Cao: Environmental Indicators of PFAS in an Urban Watershed Revealed by Explainable Machine Learning | Stephanie J. Wilson: Long-term monitoring to calculate lateral carbon and alkalinity flux from a mesohaline tidal marsh |
| 1:30 PM | Katie Lehman, Ava Puschnigg: Mesoterps: Building a Resilient Campus With High-Resolution Environmental Monitoring | Maria Guardado, Victoria Hill, Richard Zimmerman: Quantifying Seasonal Variability in Seagrass Extent and Density Using Physics-Based Remote Sensing Models | Benjamin Schelling, Margaret Mulholland: The Effects of Tidal Flooding on the Transport of Per- & Polyfluoroalkyl Substances (PFAS) into the Lafayette and Elizabeth Rivers | Andrea Pain, Lorie Staver, Jeff Cornwell, et al.: Rates and magnitudes of blue carbon sequestration in marshes created by dredged material placement in Chesapeake Bay |
| 1:45 PM | Tim Canty, Michael Maddox, Louis Uccellini, et al.: Addressing Adaptation Challenges Facing the Chesapeake Bay Through Low-Cost Monitoring Supporting Impact-Based Decision Support Services | Jacob Gallaher, Victoria Hill, Richard Zimmerman: Using Satellite Imagery to Map Seasonal Variation of Seagrass Meadow Area and Blue Carbon in Chincoteague Bay | Dongmei Alvi: Explainable AI Illuminates Microbial Contributions in a Highly Urbanized Watershed | Amanda Knobloch: Comparing Carbon Concentrations and Composition in Tidal Marshes and Oyster Aquaculture |
| 2:00 PM | Tori Tomiczek, Liliana Velasquez Montoya, Jasmine Wilding, et al.: Monitoring Local Coastal Backflow in Storm Drains Using Low-Cost Accelerometers: Flood Frequency and Duration in Annapolis, MD Using Low-Cost Accelerometers | Max Ruehrmund, Jay Lazar: Leveraging Collaborative Infrastructure for Monitoring Dissolved Oxygen in Chesapeake Bay | Anna Van Dongen: Public Health and Water Quality: Investigating the Relationship between Bacteria and Colored Dissolved Organic Matter | Richard Hale, Richard Zimmerman, Victoria Hill, David Burdige: Blue Carbon Sequestration by Submerged Aquatic Vegetation in Chesapeake Bay: Where's the Peat? |
| 2:15 PM | Megan Curtiss: Cities as climate labs: Measuring tree growth responses across urban stress gradients with dendrometer bands | Weston M. Slaughter: Sensor networks reveal salinity-dependent controls on hypoxia, diel extremes, and productivity–alkalinity coupling in a Chesapeake Bay tidal tributary | Veronica Manka'a Tangiri: Analysis of the Health and Population of Benthic Macroinvertebrates with Increasing development: Quantico Creek Watershed, Prince William County, Virginia | David J Burdige, Richard Zimmerman, Rip Hale, et al.: Alkalinity production and pyrite burial in seagrass sediments as a mechanism of Blue Carbon sequestration |
| 2:30 PM | Break (2:30-2:45) | | | |

Schedule Day 1 Cont.

| DAY 1 Continued | | | | |
|-----------------|---|---|---|---|
| | Session 24 <i>Phytoplankton Dynamics in Chesapeake Bay: Analysis, Methods and Models</i> Emily Brownlee, Greg Silsbe, and Catherine Wazniak | Session 2 Continued | Session 4: <i>Data Centers and Water, Air, and Environmental Impacts and Solution Options in the Chesapeake Watershed</i> Kevin Sellner and Charles Bott | Session 1 Continued |
| 2:45 PM | Michelle C. Tomlinson, Kirstin Wakefield: From lab to space: Co-developing a regional prototype for a National HAB Observation Network (NHABON) in Chesapeake Bay | Claire Welty, Mary McWilliams, Andy Miller, et al.: Evaluation of pollutant removal effectiveness of stormwater facilities using high-frequency water quality sensors | Kevin Sellner: Data Centers and Water, Air, and Environmental Impacts and Solutions | Cassie Gurbisz, Theresa Murphy, Hunter Walker, et al.: Submersed aquatic vegetation modifies estuarine inorganic carbon and alkalinity dynamics |
| 3:00 PM | Khari Crommarty: Mapping the Risk of High Chlorophyll & HAB events in the Chesapeake Bay | Alexander Soroka: Large sediment yield after mitigation projects, then development: The story of Foster Branch | Lauren Barbir: Data Centers: the water-energy nexus | Anamika Das Kona, Victoria Hill, Richard Zimmerman: Impact of Climate Change on Seagrass Dynamics in the Chesapeake Bay: Comparative Metabolic Responses of Widgeon Grass (<i>Ruppia Maritima</i>) and Eelgrass (<i>Zostera Marina</i>) |
| 3:15 PM | Xin Yu, Michelle C. Tomlinson: A short-term harmful algal bloom (HAB) forecasting system for the lower Chesapeake Bay | Shuyu Y. Chang, Robert C. Walter, Mia Aaronson, et al.: Cooler Waters, Reconnected Valleys: Restoration Gains from Milldam Legacy Sediment Removal | Michael College, P.E.: From Megawatts to Megabytes: Advancing Dry Cooling Success in the Susquehanna River Basin | Madison Griffin: Saturated with Data: Modeling Carbonate Chemistry Saturation State Thresholds in Mid-Atlantic Shellfish |
| 3:30 PM | Dante M. L. Horemans, Pierre St-Laurent, Marjorie A. M. Friedrichs, et al.: Environmental controls on interannual Margalefidinium polykrikoides blooms in the Lafayette River | Greg Noe: Watershed controls and Chesapeake-wide predictions of streambank erosion rates | Charles Bott, Alexandria Gagnon, Kevin Sellner: Understanding the Impact of Discharges from Data Centers on Wastewater Treatment Plants: Fundamentals and Potential Impacts | Amin Boukari, Tahera Attarwala, Gulnihal Ozbay: Aragonite Saturation State as an Indicator for Oyster Habitat Health in the Delaware Inland Bays |
| 3:45 PM | Allen R. Place: Karlodinium veneficum - The little dinoflagellate with a big bite is missing? | Andrew Sekellick, Alexander Soroka: Modeling Nutrient Sources, Fate, and Transport in the Chesapeake Bay Watershed Using an Updated SPARROW Framework to Support Stakeholder Decision-Making | Kendra Sveum: Data Center Effluent Case Study: Operations Impacts on a Wastewater Treatment Plant | Gabriel Duran, Paul A. del Giorgio, Candice Aulard, et al.: Quantifying the aquatic carbon budget of two Canadian boreal watersheds: a tale of two lakes |
| 4:00 PM | Danyang Zhai, Jian Shen: Primary production in Chesapeake Bay: Spatial and Temporal Patterns Using Open Water Method | Qian Zhang, Gopal Bhatt, Kaylyn Gootman: Are we on track? Integrating monitoring and models to track load reduction progress in the Chesapeake Bay watershed | Larry Band, Rouyu Zhang, Tejendra Kandel, et al.: Watersheds and Data Center Development Impacts | Raymond G. Najjar, Riley Westman, Devon Kerins, et al.: The carbonate chemistry of rivers draining to the Chesapeake Bay viewed through a new simplifying metric: Excess dissolved inorganic carbon |
| 4:15 PM | Margaret R. Mulholland, Eileen Hofmann, Peter Bernhardt, et al.: Enhanced surveillance to improve HAB monitoring and detection: toward an early warning system for HABs in the lower Chesapeake Bay | Thomas Fisher, Judith O'Neil, Anne B. Gustafson, et al.: Assessment of phytoplankton nutrient and light limitation in Chesapeake Bay in response to nutrient management strategies over the last 25 years | Allison Welch, Daniel Koval: Global Data, Local Impacts: How data center development is changing your local landscape | Whitman Miller, Amanda Reynolds: Continuous but contrasting multi-year comparisons of measured carbonate parameters in the mesohaline Rhode River, MD |
| 4:30 PM | Kami Lentzsch, Amy Hamilton, Catherine Wazniak, et al.: Evaluating FlowCam Precision for Reliable Phytoplankton Assessment in the Chesapeake Bay | Kelly Kosarski: Evaluating Riparian Buffer Zone Effectiveness at Mitigating PFAS from Surface Runoff of Biosolids Amended Fields | Julia Davis, Landon Marston, Majid Shafiee-Jood: A Review of Data Center Water Use, Methodological Gaps, and Policy Implications | Novia Mann, Hunter Walker, Quinn Roberts, et al.: A Comparative Analysis of Carbonate System Dynamics of the York River and Potomac River Estuaries |
| 4:45 PM | Catherine Wazniak, Jeremy Testa: Benthic Microalgae in the Chesapeake Bay | Kathryn Dixon, Claire Barlow: Rapid Water Quality Evaluation of the Potomac River Sewage Overflow | Lauren Barbir: Data Centers: Trends and innovation for water use for a circular economy | Zhendong Ji, Wei-jun Cai, Jeremy Testa, et al.: Quantifying the Efficacy of Wastewater Alkalinity Enhancement on Carbon Emission and Uptake in Chesapeake Bay |
| 5:00 PM | | | | Alexa Labossiere, Pierre St-Laurent, Kyle Hinson, et al.: Efficiency of ocean alkalinity enhancement in the Chesapeake Bay |
| 5:15 PM | | | | Kyle Hinson: A Data-Driven Ocean Alkalinity Enhancement Module for the Chesapeake Bay |
| 5:00 PM | Poster Session, Reception, Guardian Award Light refreshments provided and cash bar available | | | |
| 7:00 PM | | | | |

Schedule Day 2

| DAY 2 (June 2) | | | | |
|----------------|--|--|--|---|
| | Arundel A | Arundel B | Arundel C | Queen Anne Ballroom |
| 9:00 AM | Panel Discussion (9:00-10:15) Big Data to Better Decisions: Leveraging AI and Machine Learning for Chesapeake Bay Research and Management | | | |
| 10:15 AM | Break (10:15-10:30) | | | |
| 10:30 AM | Panel Discussion (10:30-11:45) Hail CESR? Weighing the Benefits of Deep and Shallow Restoration | | | |
| 12:00 PM | Lunch (12:00-1:00) | | | |
| | <p>Session 8: <i>Advancing the Development and Management Applications of Next-generation Airshed, Land-use, Watershed, and Estuarine Models</i></p> <p>Zhengui Wang, Gopal Bhatt, Joseph Delesantro, and Wenfan Wu</p> | <p>Session 3: <i>Advancing Chesapeake Bay Water-quality Science and Management: II. Novel analysis and scientific communication approaches to inform management</i></p> <p>Qian Zhang, James Webber, Rebecca Murphy, and Kaylyn Gootman</p> | <p>Session 15: <i>Next Generation Tools and Team Science for Chesapeake Bay Living Resource Assessment and Management</i></p> <p>Bruce Vogt and Christina Garvey</p> | <p>Session 11: <i>Geospatial Targeting of Restoration and Conservation Actions</i></p> <p>Peter Claggett, John Wolf</p> |
| 1:00 PM | <p>Lewis C. Linker, Gopal Bhatt, Joseph Zhang, et al.: Phase 7 Models of the Chesapeake Watershed, Estuary, and Airshed – Exploring Future Challenges of Changing Environmental Conditions and Growth</p> | <p>Ashok Jacob, Raj Cibin: A Deep Learning Framework for Continuous Stream Nitrate Estimation across the Chesapeake Bay Watersheds</p> | <p>Hongsheng Bi, Cailian Liu: High-Frequency Imaging of Phytoplankton and Zooplankton Dynamics in the Chesapeake Bay</p> | <p><i>I. High-Resolution Geospatial Data and Technical Advances</i></p> <p>Labeeb Ahmed: Seamless Elevation Data in the Chesapeake Bay watershed</p> |
| 1:15 PM | <p>Joseph Delesantro, Isabella Bertani, Gopal Bhatt, et al.: Characterizing annual streamflow, nutrient, and sediment loading and drivers in the Chesapeake Bay watershed through data-driven models</p> | <p>Quinn Domanski: Investigating Bidirectional Dynamics in Chesapeake Bay Tributaries Using Long-Term Monitoring Data and Machine Learning</p> | <p>Alexandria Rhodes, Victoria Hill, PhD & Richard Zimmerman, PhD: Mapping Submerged Aquatic Vegetation Around the Tangier-Smith Archipelago Using Satellite Imagery</p> | <p>Michelle Katoski, Peter Claggett, Joseph Delesantro, et al.: Characterizing hydrologic connectivity for water quality modeling and BMP targeting in the Chesapeake Bay Watershed</p> |
| 1:30 PM | <p>Joseph Delesantro, Conor Keitzer, Gopal Bhatt, et al.: Closing the phosphorus modeling gap in the Chesapeake Bay watershed</p> | <p>Xueting Pu: Toward Generalizable and Interpretable Sediment Modeling with AI-Augmented HSPF</p> | <p>Matthew Ogburn, Allison Blanchette: Leveraging Underwater Video, High-Resolution Sonar, eDNA, and Animal Telemetry for Fisheries and Fish Habitat Monitoring</p> | <p>Jackie Pickford: Mapping Sewer Service Areas and Septic Systems to Inform Management Decisions</p> |
| 1:45 PM | <p>Gopal Bhatt, Joseph Delesantro, Lewis Linker, et al.: Progress in the development and linkage of fine-scale Phase 7 Chesapeake Bay Watershed Model</p> | <p>Abigal Percich, Admin Husic, Allen Gellis, et al.: Watershed-scale sediment source prediction using machine learning</p> | <p>Julie Reichert-Nguyen, Julia Fucci, Ron Vogel, et al.: From Buoys, Satellites, and Models: Data Comparisons to Inform Marine Heatwave Forecasting for Fisheries Management Application</p> | <p>Sarah McDonald: Four Decades of Land Use Change in the Chesapeake Bay Watershed: Integrating High Spatial and Temporal Resolution Datasets</p> |
| 2:00 PM | <p>Zhengui Wang, Yinglong J. Zhang, Jian Shen, et al.: Status of The Phase-7 Chesapeake Bay Water Quality Model</p> | <p>Diver Marin Palacio, Chuqiang Chen, Stanley Grant, et al.: Capturing Event-Driven Salinity Pulses and Nonlinear SC Dynamics in Chesapeake Bay Tributaries using a Deep Learning Model</p> | <p>Genny Nesslage, Vyacheslav Lyubchich, Glenn Davis, et al.: Quantifying linked rare events in fish and environmental Chesapeake Bay time series</p> | <p>Peter Claggett: Simulating future development in the Chesapeake Bay Watershed</p> |
| 2:15 PM | <p>Richard Tian, Nicole Cai: Simulation of benthic microalgae impacts on water quality in shallow water systems, Corsica River, Chesapeake Bay</p> | <p>Lindsey Boyle, Kelly Maloney, Rosemary Fanelli: Watershed wide predictions of specific conductance show increasing salinity across half of the Chesapeake Bay watershed</p> | <p>Robert Daniels, Ava Ellett: Chesapeake Bay Vibrio Seasonal Outlook</p> | <p>Amy Freitag, Katherine Auerswald, Seann Regan: A Community Risk Assessment of Flooding and Heat Hazards in the Baltimore Metropolitan Area</p> |
| 2:30 PM | <p>Amir Reza Azarnivand, Jeremy Mark Testa: Modeling climate-driven flow increases on stratification in the Patuxent River Estuary: Implications for oxygen depletion</p> | <p>Marina Metes, Matthew Cashman, Zachary Clifton: Predicting Aquatic Physical Habitat Over a 38-Year Period Using Machine Learning</p> | <p>Allison Dreiss, Ryan E. Langendorf, Ryan Woodland, et al.: Modeling benthic biomass responses to climate change in the Chesapeake Bay</p> | <p><i>II. Audience-Driven Design for Conservation and Restoration Tools, Maps, and Data</i></p> <p>Sophie Waterman: Turning User Insights into Action: Redesigning Geospatial Tools for Conservation and Restoration</p> |
| 2:45 PM | <p>Wenfan Wu, Zhengui Wang, Jian Shen, et al.: Disentangling Drought-induced Algal Blooms in Tidal Freshwater Zones with an Interpretable Bloom Risk Index</p> | <p>Chuqiang Chen, Admin Husic: Increasing event water fraction across the Chesapeake Bay Watershed under climatic and anthropogenic change</p> | <p>Theresa Davenport, Kenny Rose, Limin Sun, et al.: Coupling hydrodynamic, water quality, and habitat suitability models to assess the habitat co-benefits from living shorelines</p> | <p>John Wolf: Modernizing the Chesapeake Targeting Portal: Aligning Data, Maps, Tools, and Outcomes through User-Driven Feedback</p> |
| 3:00 PM | Break (3:00-3:15) | | | |

Schedule Day 2 Cont.

| DAY 2 Continued | | | | |
|-----------------|---|---|--|---|
| | <i>Session 8 Continued</i> | <i>Session 3 Continued</i> | <i>Session 15 Continued</i> | <i>Session 11 Continued</i> |
| 3:15 PM | Anand Gnanadesikan, Rui Jin, Marie-Aude Pradal, et al.: CDOM Absorption by Phytoplankton Modulates the distribution of Hypoxia in Chesapeake Bay | Lorena Pinheiro-Silva, Xiaoxu Guo, Matthew Houser, et al.: Tracking Nutrient Pollution and Best Management Practice Effectiveness in the Choptank River Using Explainable Machine Learning and Satellite Data | Emi McGeady: Evaluating Localized Food Web Response to Oyster Restoration using a 3D Multispecies Individual-Based Model | Zhaoying Wei: Designing Outcome-Centered Interactive Maps for the Chesapeake Targeting Portal 2.0 |
| 3:30 PM | Jiangtao Xu, Lixia Wang, Aijun Zhang, et al.: Update on NOAA's New Operational Forecast System for the Northeast US | Nivedita Priyadarshini Kamaraj, Sundarabalan V. Balasubramanian, Manoochehr Shirzaei, et al.: Multi-Sensor Nutrient Mapping in the Chesapeake Bay | Vaskar Nepal, Mary C Fabrizio, Troy D. Tuckey, et al.: Mechanistic Habitat Modeling for Chesapeake Bay Fish and Shellfish: From Individual Physiology to Management Tool | Andrew Fitch, Catherine Krikstan: Building With, Not For: Developing ChesapeakeData Through Audience Engagement |
| 3:45 PM | Robin Glas: When Is "Typical" Typical? Re-evaluating Hydrologic Base and Critical Periods for Chesapeake Bay Program Models | Breck Sullivan, Jon Harcum, Elgin Perry, et al.: Filling the Gaps: A space-time interpolation tool for Chesapeake Bay dissolved oxygen | Colin A. Hawes, Marjorie A.M. Friedrichs, Pierre St-Laurent, et al.: Modeling Juvenile Atlantic Croaker Habitat Suitability: Impacts of Future Climate and Nutrient Management | Alex Gunnerson: Integrating User Research Principles into Phase 7 Watershed Model Planning Tools |
| 4:00 PM | Gopal Bhatt, Lewis Linker, Richard Tian, et al.: Initial assessment of future energy scenarios in Chesapeake airshed, watershed, and tidal bay nitrogen loads | Jeremy Testa, Amir Azarnivand, Damian Brady, et al.: The diversity of patterns and controls on oxygen depletion in Chesapeake Bay tributetse | Aaron Bever, Colin Hawes, Marjorie A.M. Friedrichs, et al.: Realtime Forecasting and Seasonal Summaries of Habitat for Fishes in Chesapeake Bay | <i>III. Stakeholder-Driven Targeting Applications</i> |
| | | | | Rebecca K. Ransom, John Wolf: Geographic Targeting and Source Water Protection |
| 4:15 PM | Garett Pignotti, Stephanie Nummer, Carlington Wallace: Modeling Water Quality Response of Urban Watersheds to Future Management Scenarios | Gabriel Duran, Jon Harcum, Elgin Perry, et al.: Utilizing Cluster Analysis to Assess Water Quality Trends in the Chesapeake Bay | Matthew Gray, Theresa Daven, William Nardin, et al.: Designing Oyster Restoration for Today's Bay: Leveraging Next-Generation Models to Maximize and Manage Ecosystem Services | Coral Howe: Toward a Capacity-Informed Targeting Framework for Chesapeake Bay Restoration |
| 4:30 PM | Lewis C. Linker, Gopal Bhatt, Richard Tian, et al.: Estimated Impacts of Environmental Change on Water Quality in the Chesapeake Bay Beyond Midcentury | David Parrish, Carl Friedrichs, William Reay, et al.: Recent Shifts in Water Clarity Across Virginia's Lower Chesapeake Tributaries: Evidence from Four Decades of Kd Observations | Kenneth Rose, Mark Monaco, Thomas Ihde, et al.: CESR: moving forward with assessing living resource responses for prioritizing projects and restoration plan formulation | David Strong, John Wolf: Recognizing Organizational Service Areas to Strengthen Geospatial Targeting in Sentinel Landscapes |
| 4:45 PM | | Peichen Huang, Dante M.L. Horemans, Marjorie A.M. Friedrichs: The Importance of Mixotrophy for Phytoplankton Production and Nutrient Management | | Michael Evans, David Saavedra: Automatically identifying wetland conservation and restoration opportunities with AI |
| 5:00 PM | | | | Rosemary Fanelli: Taking the pulse of Chesapeake Bay Watershed stream ecosystems: A synthesis of observational data for six indicators of freshwater stream health, 2018-2023 |
| 5:00 PM | Poster Session, Reception Cash bar | | | |
| 7:00 PM | | | | |

Schedule Day 3

| DAY 3 (June 3) | | | | |
|----------------|--|---|---|--|
| | Arundel A | Arundel B | Arundel C | Queen Anne Ballroom |
| | <p>Session 25 (Panel): <i>Supporting the Next Generation: Career Development for Emerging Chesapeake Bay Scientists</i></p> <p>Gabriel Duran and Melissa Fagan</p> | <p>Session 23: <i>Molecular Approaches for Chesapeake Bay Ecology and Biogeochemical Functions: from Genes to Insights</i></p> <p>Sairah Malkin and Isabel Baker</p> | <p>Session 5: <i>Balancing agricultural and ecological goals of Chesapeake Bay restoration: Insights from interdisciplinary team science</i></p> <p>Lisa Wainger and Caitlin Grady</p> | <p>Session 21: <i>General: Estuarine and Watershed Processes and Coupled Human-Natural Systems in Chesapeake Bay</i></p> <p>Raleigh Hood</p> |
| 9:00 AM | <p>Panelists:</p> <p>1. Curtis Bennett Director of Equity & Community Engagement, National Aquarium</p> <p>2. Kyle Hinson Postdoctoral Research Fellow, Pacific Northwest Laboratory</p> | <p>Feng Chen, Changfei He, Judith M. O'Neil, et al.: Chesapeake Bay metagenomes across broad organisms and spatio-temporal scales</p> | <p>Lisa A. Wainger, Dave Ablor, Caitlin Grady: Co-developing Resilient Futures: Integrating Agricultural and Ecological Goals Through Interdisciplinary Scenario Modeling</p> | <p>Matthew Gray, Jeffrey Cornwell, Cindy Palinkas, et al.: Balancing Interests: improved understanding of shellfish aquaculture production and submerged aquatic vegetation through studies and synthesis</p> |
| 9:15 AM | <p>3. Julie Kiang Deputy Regional Director, Northeast, USGS</p> | <p>Clara A. Fuchsman, Michael E. Kalinowski, Jacob A. Cram, et al.: Examining Metagenomics Across Particle Size and Redox Gradients in Chesapeake Bay</p> | <p>Raj Cibin, Jesna Ismail: Can dietary transition improve water quality in the Susquehanna River Basin?</p> | <p>Gulnihal Ozbay: Assessing Interactions Between Shellfish and Seagrass Beds and Macroalgae to Promote Sustainable Aquaculture in the Delaware Inland Bays</p> |
| 9:30 AM | | <p>Isabel Baker, Kaley Hantsoo, Anna Hildebrand, et al.: Microbial methane sinks are insufficient under continued eutrophication in the Chesapeake Bay</p> | <p>Caitlin Grady: Identifying Leverage Points for Nitrogen Reduction With a Production-Chain Approach</p> | <p>Elka T. Porter, Lawrence P. Sanford, Jeffrey C. Cornwell: Denitrification in the STURM Resuspension Mesocosms, Part 1: Particle Dynamics</p> |
| 9:45 AM | | <p>Michael E. Kalinowski, Clara A. Fuchsman, Carol Kim, et al.: The Bottom Water Oxygen Impacts on Downcore Sulfur Cycling in Chesapeake Bay Sediments Inferred using Metagenomics</p> | <p>Kristin Fisher, Matthew Houser: Leveraging natural and social science to maximize impact of agricultural stakeholder driven conservation in the Chesapeake Bay watershed.</p> | <p>Amy Hamilton, Catherine Wazniak: Hidden Neurotoxins in Cyanobacterial Harmful Algal Mats in Maryland</p> |
| 10:00 AM | | <p>Anand Gnanadesikan, Rui Jin: How does including heterotrophic bacteria in a biogeochemical model change the simulation of biogeochemical cycling?</p> | <p>Lora Harris, Cathlyn Davis, Sarah Garvey, et al.: Emerging Nitrogen Technology And Sustainability Challenges From Farm To Fork : An International, Transdisciplinary Course.</p> | <p>Qubin Qin, Xun Cai, Jian Shen, et al.: Quantifying Inter-Tributary Freshwater Connectivity and Its Implications for Flushing Time in Chesapeake Bay</p> |
| 10:15 AM | | <p>Anne Baldino, Dr. Tsvetan Bachvaroff: Deciphering the Functional Capacity of Chesapeake Bay Microbes through Long-Read Sequencing</p> | | <p>Kehinde Bosikun, Joel Moore, Claire Welty: Quantifying urban versus natural contributions to stream chemistry in a Chesapeake Bay tributary using reactive transport modeling</p> |
| 10:30 AM | Break (10:30-10:45) | | | |

Schedule Day 3 Cont.

| DAY 3 Continued | | | |
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| <p>Session 18 (Panel): <i>Increasing the Effectiveness and Impact of Technical Assistance Delivery to Low-Capacity Communities</i></p> <p>Elizabeth Van Dolah and Michele Romolini</p> | <p>Session 23 Continued</p> | <p>Session 16: <i>Recent Modeling Advances in Compound Flooding, a 10-year Retrospective of Technological Innovations in Hydrodynamic Modeling and Monitoring Since 2016 Hurricane Matthew</i></p> <p>J. Derek Loftis, Navid Tahvildari, Patrick Taylor</p> | <p>Session 21 Continued</p> |
| <p>Panelists:</p> <p>1. Elizabeth Van Dolah, Ayanna Healy, Joe Galarraga, et al.: Applying the Sustainable Livelihoods Framework to Support Resilience Planning in Pocomoke City, Maryland</p> <p>2. Conor Keitzer, Katie May Laumann, Sidney Anderson, et al.: Assessing and communicating climate resilience at the community-level in Maryland</p> <p>3. Jaline McPherson: Cultivating Canopies: Artistic Approaches to Community-Based Forestry</p> <p>4. Michele Romolini: Network Brokers to Facilitate Knowledge Coproduction in Community Forestry: Implementing Maryland's 5 Million Tree Initiative in Baltimore</p> <p>5. Emily Eisenhauer, Katie See: Technical Assistance to Brownfields Communities</p> | <p>Jenna Lee: Drivers of temporal co-occurrence patterns and microeukaryote community dynamics in a multispecies diatom bloom</p> | <p>Joseph Zhang: A 25-year reanalysis of compound flooding hazard in US east and Gulf coast</p> | <p>Harry Wang, Breanna Maldonado, Derek Loftis, et al.: Three-dimensional, non-tidal three-layered circulation in Baltimore Harbor – Insights into harbor-bay exchange</p> |
| | <p>Alex Flynn, Dr. Isabel Baker, Dr. William Schroer, et al.: Characterizing Microbial Communities of Baltimore Harbor's Pistachio Tide</p> | <p>HaoCheng Yu, Lars Nerger, Fei Ye, et al.: Elevation skill enhancement from an efficient ensemble-based assimilation method in a large application STOfS-3D-Atlantic</p> | <p>Rebecca Hale, Megan Stallard, Katrina Lohan et al.: Combining incubations, sensors, and molecular approaches to understand E. coli sources across the Anacostia Watershed</p> |
| | <p>William F. Schroer, Shaochen Fan, Sarah P. Preheim: Quantitative sequencing coupled with dilution experiments reveals taxa specific growth and mortality rates in aquatic microbial communities</p> | <p>Jon Derek Loftis: Hydrodynamic Modeling of Compound Flooding During 2016 Hurricane Matthew: Then, Now, and Storms Like It In The Future</p> | <p>Patrick Bitterman: Leveraging CHANS Science for Chesapeake Bay Restoration: Findings from a 2026 State of the Science Workshop</p> |
| | <p>Sairah Malkin, Emily Brownlee, Alex Burns, et al.: Weekly eDNA Monitoring Captures Multi-Trophic Seasonal Dynamics and Emerging Interannual Variability: 125 Weeks from the PhytoChop Observatory</p> | <p>Zanko Zandsalimi, Mehdi Taghizadeh, Majid Shafiee-Jood, et al.: Explicit Interdomain Learning of Rainfall-Tide Coupling for Compound Flood Forecasting Using Graph Neural Networks</p> | <p>Amalia Deloney: The Amphibious Council: Experiential Futures and More-Than-Human Governance in the Baltimore Harbor</p> |
| | <p>Katrina M Pagenkopp Lohan, Emma M. Palmer, Calli Wise, et al.: Hidden Connections: Uncovering Complex Trophic Networks Through DNA Metabarcoding</p> | <p>Hyungju Yoo, Y. Joseph Zhang, Zhengui Wang, et al.: Enhancing Thermal Process Representation in Intertidal Areas through Soil-Air-Water Heat Exchange: A Case Study of Charleston Harbor</p> | <p>Patrick Bitterman, Jason Yoo: A Novel Integrated Framework for Simulating BMP Prioritization and Governance Dynamics in the Chesapeake Bay Watershed</p> |
| | | <p>Jon Derek Loftis, Yash Kishor Sanap, Sridhar Katragadda, et al.: High-Precision River Stage Estimation via Passive Video Imagery Using Deep Learning and Image Segmentation</p> | <p>Raj Cibin, Kalra Marali: Impacts of a warming climate and increased land use changes on crop productivity and water quality: a case study in the Susquehanna River Basin</p> |
| | | <p>Jon Derek Loftis: Spatial Evaluation of Flood Resilience Solutions Combining Real Time Water Level Sensors, Hydrodynamic Modeling, and High-Resolution Aerial Inundation Observations</p> | <p>Farshad Hesamfar, Teresa Culver: Assessing the social footprint of coastal groundwater variability under CMIP6 scenarios in Virginia's Eastern Shore</p> |
| | Adjourn | | |

Poster Presentations

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| 1 | Cecily N. Steppe, Trevor Chun: A preliminary study of the effects of anthropogenic noise and environmental factors on Oyster Toadfish (<i>Opsanus tau</i>) boat-whistle calls |
| 2 | Jeffrey Cornwell: Nutrient Mitigation Oysters: Advances and Suggestions for the Future |
| 3 | Katherine H. Philipp, Mara F. Walters, Lauren S. Gregg, Meghan E. Capps, Amanda Chesler-Poole, Jessica M. Small, Bongkeun Song: Investigating microbial drivers of oyster larvae production in a research hatchery |
| 4 | Alexandra Bijak, Mark Brush, Emily Rivest, Christopher Patrick: Clam addition impacts on seagrass sediment carbon content are highly variable across a <i>Ruppia-Zostera</i> mixed meadow |
| 5 | William F. Schroer: Microbial community response and phytoplankton bloom dynamics during disruption of aeration in a eutrophic estuary |
| 6 | Jeffery Jiao, Haoyu Chen: Physiological Plasticity and Halotolerance of <i>Auxenochlorella protothecoides</i> AS-1 Under Varying Trophic Modes and Salinity Stress |
| 7 | Cheyenne Smith, Megan K. Schall, Kristina M. Gutchess, Heather L. Walsh, Geoffrey D. Smith, Timothy A. Wertz, Brandon Keplinger, John Mullican, Justin B. Greer, Tyler Wagner, Stephanie Gordon, Patricia M. Mazik, and Vicki S. Blazer: Bayesian Modeling Translates Fish Health, Contaminant, and Hydrologic Data into Chesapeake Bay Smallmouth Bass Management Insights |
| 8 | Yufeng Jia: An alternative to synthetic fertilizer: Biofertilizer established with microalgae and soil bacteria for environmental sustainability and enhanced plant growth |
| 9 | Abigail Sindelar, Alyssa Bucci, Peter Bernhardt, Margaret Mulholland: Examining Tidal Floodwaters as a Public Health Concern and Source of Nutrient Loading |
| 10 | Henry Kibuye, Tamie Veith, Heather Preisendanz: Influence of Concentrated Flow Pathways on Nutrients and Pesticides Transport in Riparian Buffers |
| 11 | Casey L. S. Hodgkins, Jeremy M. Testa, Allison D. Dreiss, Walter R. Boynton: Synthesizing the Patapsco River Estuary: From Nutrient Reductions to Wastewater Treatment Failures. |
| 12 | Matt Robinson, Kelly Somers, Water Division, EPA Mid-Atlantic Region: Updates from the Chesapeake Bay Program Plastic Pollution Action Team |
| 13 | Tejaswini Ronur Praful, Meredith Evans Seeley, Margaret Mulholland: Assessing 'Microplastide' – Microplastics riding the tide, during King Tide flooding event in Norfolk, Virginia |
| 14 | Kaleea Korunka: A Pilot Investigation of Microplastics and Tire Wear Particles in Virginia's Elizabeth River |

Poster Presentations

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| 15 | Damien Taylor: Investigating the 2023 dieback of SAV in the Gunpowder River, Maryland |
| 16 | Ashley B. Dann: Freshwater Salinization Impacts the Quality and Decomposition of Dissolved Organic Matter in Streams of the Chesapeake Bay Watershed |
| 17 | Allison Welch: Growing Chesapeake Bay Tidal Trends with Participatory Science Data |
| 18 | Megan Ladds, Margaret Mulholland: Integration of Imaging FlowCytobot into Chesapeake Bay Program monitoring cruises |
| 19 | Greg Silsbe, Emily Brownlee, Xiaoxu Guo, Catherine Wazniak: Phytoplankton Image Classification: Overview and application to Chesapeake Bay Imaging Flow Cytobot Data |
| 20 | Ollie Gilchrest: Monitoring suspended sediment concentrations in the tidally influenced James River using high-frequency satellite imagery |
| 21 | Marina Metes, Kristina Hopkins, Nathaniel Rosenbloom, Nicholas Santoro: Remote Mapping and Assessment of Stormwater Storage in the Chesapeake Bay Watershed |
| 22 | --- |
| 23 | Jessie Turner, Fei Da, Molly Mitchell: Unintended consequences within the trajectory of recovery: Examples from the Chesapeake Bay |
| 24 | Meredith Lemke: Visualizing and Strengthening Networks with Mapping |
| 25 | Matthew Baker: The geomorphic signature of urbanizing landscapes |
| 26 | Leonardo Pecora, Dr. Matthew Baker: Automated extraction of stream geomorphic metrics using digital data in the Gunpowder-Patapsco |
| 27 | Kachapond Chettanawanit, Qubin Qin: Relative Effects of Freshwater Flushing and Wind Forcing on Freshwater Age in a Large Lagoonal Estuary |
| 28 | Jian Shen, Julia A. Teixeira, and Qubin Qin: Development of A Coupled High-Resolution Dynamic and Particle Tracking Model to Assess Cumulative Impacts of Surface Water Intakes on Ichthyoplankton in Virginia Tributaries |
| 29 | Meng Xia, Long Jiang, Haoran Liu, Seyedeh Fardis Pourreza Ahmadi, Yiyang Xu, Bishnupriya Sahoo, Sakib Bin Rafi, Adnan Khairullah, Sreelakshmi Sreenivasan: The Integrated Atmospheric-Physical-biochemical-Groundwater Modeling System for the Chesapeake Bay |
| 30 | Sakib Bin Rafi, Meng Xia: Linking Lagrangian Transport Pathways to Seasonal Environmental Exposure in Chesapeake Bay |

Poster Presentations

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| 31 | Cassia Pianca, Piero Mazzini, David Parrish, Ryan Walter, Erin Shields, Willy Reay and Carl Friedrichs: Marine heatwaves in the York River Estuary: Spatial coherence and thermal exposure across a Chesapeake Bay tributary |
| 32 | Nathan P. Shunk, Piero L. F. Mazzini; Ryan K. Walter; Pierre St-Laurent; Marjorie A.M. Friedrichs: The Importance of Subsurface Temperature Monitoring: Vertical Structure of Marine Heatwaves in Chesapeake Bay |
| 33 | Pierre St-Laurent, J.L. Wilkin, M.A.M. Friedrichs: A data-assimilative model forecast of biogeochemistry for the Mid-Atlantic Bight: Doppio-BGC |
| 34 | Zhengui Wang, Yinglong J. Zhang, Jian Shen: Development of Machine Learning based inundation model in Chesapeake Bay |
| 35 | Kelly O. Maloney, Benjamin P. Gressler, Lindsey J. Boyle, Alexander H. Kiser: Long-term predictive modeling of stream biological condition indicates widespread changes within the Chesapeake Bay watershed, U.S.A. |
| 36 | Leonardo Bruni, William Nardin, Giulia Franchi, Matthew Houser: Eco-Morphodynamic Response and Sediment Budget Analysis of Coastal Maryland: A 50-Year Numerical Simulation of Marsh Migration and Cropland Inundation |
| 37 | Evelyn Page, Tejaswini Ronur Praful, Peter Bernhardt, Margaret Mulholland: Investigation of Nutrient Release under Turbulent Shear – Driven Sediment Resuspension Processes |
| 38 | Maryam Rishehri: Comparative Analysis of Simulated Subsurface Flow Paths and Residence Time Patterns in Urban Piedmont Watersheds |
| 39 | Mary McWilliams: Assessment of stream chemistry of storms from newly deployed high-frequency sensors at Baltimore Ecosystem Study field sites |
| 40 | Trevor Bateman, Dr. Jeffrey White, Dr. Stuart Brorson, and Dr. François Tur: Low-cost turbidity sensor prototype demonstration |