

2018 Chesapeake Community Research and Modeling Symposium

SCHEDULE

June 12-14, 2018
Crowne Plaza Hotel
Annapolis, MD



June 12th

8:30	8:45	Intro	Introduction and Welcome [15 m] Arundel Ballroom		
8:45	9:40	Plen-1	Rich Batiuk, EPA, "Three Decades of Using Science as the Foundation for Collaborative Bay and Watershed Restoration Decision-making—a Behind the Scenes Look at How the Partnership Works" [55m]		
9:40	10:35	Plen-2	Marjorie Friedrichs, VIMS, "Shallow Water Management Models for Chesapeake Bay" [55m]		
10:35	10:50	Break	Break (15 minutes)		
10:50	11:45	Plen-3	Jason Fleming, Seahorse Coastal, "Real Time ADCIRC Modelling for Coastal Zone Decision Support" [55m]		
11:45	12:40	LUNCH	LUNCH (55 minutes)		
		Room	Arundel A	Arundel B	Arundel C
12:40	2:40	Tuesday Early Afternoon Session	<p>A1. Change in the Chesapeake: Moving Toward Finer Scales In Watershed and Estuarine Modeling (Lewis Linker, Gany Shenk, Lisa Wainger, Rich Batiuk, Zach Easton, Andrew Sommerlot) [Part 1 of 4; Watershed 1: 2h]</p>	<p>B1. Biogeochemical and Ecological Forecasting: Challenges and Successes (Marjy Friedrichs, Raleigh Hood) [Part 1 of 2: 2h]</p>	<p>C. Sediment-Process Studies in the Chesapeake Bay Region, including Recent Studies from Conowingo Reservoir (Jim Fitzpatrick, Blake Clark, Cindy Palinkas, Courtney Harris) [2h]</p>
12:40	1:00	Tu-PM-1	Peter Claggett , <i>Assessing fine-scale land cover and land use conditions in the Bay watershed: 1984 – 2025</i>	Seann Reed , <i>D. Le, B. Sullivan, Assessing Freshwater Flow Impacts on NOS Chesapeake Bay Operational Forecast System (CBOFS) Salinity Simulations</i>	Cindy Palinkas , <i>Sediment dynamics in Conowingo Pond from days to decades</i>
1:00	1:20	Tu-PM-2	Zach Easton , <i>M. Wagena, A. Sommerlot, A. Collick, D. Fuka, Improved prediction of nutrient dynamics in complex landscapes using terrain models</i>	Aijun Zhang , <i>J. Xu, L. Zheng, M. Peng, Performance, Challenges, and Opportunity for the Chesapeake Bay Operational Forecast System</i>	Jeff Cornwell , <i>M. Owens, H. Perez, Z. Vulgaropoulos, Biogeochemistry of Fluvial Particulates in Reservoirs and Chesapeake Bay Sediments</i>
1:20	1:40	Tu-PM-3	Gopal Bhatt , <i>A. Sommerlot, G. Shenk, L. Linker, L. Li, C. Duffly, Towards a fine scale representation of the Chesapeake Bay Watershed</i>	Chih-Hsien Lin , <i>Combining statistical time series models with mechanistic variable stoichiometry models to predict blooms of the harmful dinoflagellate Karlodinium veneficum in Chesapeake Bay under current and future warming conditions</i>	Ken Staver , <i>Q. Zhang, W. Ball, Improving estimates of sub-scar storm flow loads to Chesapeake Bay from the Susquehanna watershed</i>
1:40	2:00	Tu-PM-4	Andrew Sommerlot , <i>Addressing the limitations of implementing watershed models at fine scales</i>	Ben Davis , <i>J. Jacobs, A. DePaola, F. Curriero, Developing space-time prediction models for Vibrio parahaemolyticus in the Chesapeake Bay</i>	Jim Fitzpatrick , <i>M. Velleux, N. Kogan, J. Hallden, B. Yadau, Long-term trends in deposition, resuspension and bioavailability of nutrients from Conowingo Pond</i>
2:00	2:20	Tu-PM-5	Amy Collick , <i>D. Fuka, T. Veith, A. Buda, A. Allen, P. Kleinman, R. Bryant, Z. Easton, Employing fine resolution spatial information and extensive field research to evaluate best management practice (BMP) scenario evaluations across the Chesapeake Bay</i>	Robert Daniels , <i>J. Jacobs, Vibrio predictive models and tools for the Chesapeake Bay</i>	Emily Russ , <i>C. Palinkas, Spatial and temporal patterns of sediment geochemistry in upper Chesapeake Bay</i>
2:20	2:40	Tu-PM-6	Moges Wagena , <i>Z. Easton, Agricultural conservation practices can help mitigate the impact of climate change</i>	Marjy Friedrichs , <i>A. Bever, C. Friedrichs, S. Musick, R. Hood, Short-term hypoxia forecasts for the Chesapeake Bay</i>	Danielle Tarpley , <i>C. Friedrichs, C. Harris, Temporal variability in sediment suspension and sediment-induced stratification related to freshwater discharge in the York River estuary, Virginia, USA</i>
2:40	3:00	Break	Break (20 minutes)		
			Prince George		
					<p>E. Evaluating Current and Future Influences on James River Water Quality Condition (Jian Shen, Harry Wang, Richard Isleib) [2h]</p>
					<p>Jian Shen, <i>Q. Qin, M. Sisson, R. Wang, Assessing the impact of uniqueness of water quality model kinetic parameter and model uncertainty on phytoplankton simulations in the tidal James River, Virginia, USA</i></p>
					<p>Qubin Qin, <i>J. Shen, The critical role of physical transport in the initiation of harmful algal blooms in the lower James River, Virginia</i></p>
					<p>Zhuo Liu, <i>Y. Zhang, Harry Wang, F. Ye, H. Huang, Z. Wang, M. Sisson, The 3D SCHISM model application for studying impact of small-scale piling structures on circulation in the Lower James River</i></p>
					<p>Derek Loftis, <i>A. Macias, M. Mulholland, D. Forrest, A Comparison of Tidewatch inundation predictions and citizen-science flood extent observations during the 2017 king tide in Tidewater Virginia</i></p>
					<p>Richard Isleib, <i>J. Fitzpatrick, N. Kim, N. Kogan, Assessing the water quality impacts in a tidal embayment from the closure of proposed storm surge barriers</i></p>
					<p>Andrew Thuman, <i>James Hallden, R. Isleib, R. Rugabandana, W. Hunley, James River overflow model: GUI development for model ease of use</i></p>

June 12th con.

3:00	5:00 +	Tuesday Late Afternoon Session	A2. Change in the Chesapeake: Moving Toward Finer Scales In Estuarine and Watershed Modeling [Part 2 of 4; Watershed 2, Estuary 1: 1h 40m]	B2. Biogeochemical and Ecological Forecasting: Challenges and Successes [Part 2 of 2: 1h 40m]	D. Current State of Stormwater, Modeling, and Research (Scott Taylor, Seth Brown) [2h 40m]	F. Understanding Oyster Trajectories: Wild Population Dynamics, Restoration and the Role of Aquaculture (Ryan Carnegie, Jeff Cornwell) [2h 40m]	
3:00	3:20	Tu-PM-7	<i>Kathleen Boomer, Predicted and observed water quality benefits in reconnected floodplains of an outer coastal plain watershed, Maryland, USA</i>	<i>Meng Xia, The development of a wave-current based ecological modeling system to Chesapeake Bay, Maryland coastal bays, and adjacent coastal ocean</i>	<i>Scott Taylor, National Municipal Stormwater Alliance</i>	<i>M. Lisa Kellogg, J. Cornwell, P. Ross, K. Paynter, M. Luckenbach, Quantifying the benefits of tributary-scale oyster reef restoration</i>	
3:20	3:40	Tu-PM-8	<i>Lisa Wainger, Using environmental economic models to support decision makers</i>	<i>Kyle Hinson, M. Friedrichs, I. Irby, Evaluating responses of Chesapeake Bay hypoxia to 21st century temperature scenarios</i>	<i>Seth Brown, To Green or not to Green: Modeling Incentive-Based Programs for Green Infrastructure Investment on Private Properties</i>	<i>Kevin Kahover, L. Harris, J. Testa, L. Sanford, M. Forsyth, E. North, A high-resolution model of filtration, biodeposition, and nutrient dynamics on restored oyster reefs</i>	
3:40	4:00	Tu-PM-9	<i>Gary Shenk, Moving beyond total nitrogen and total phosphorus for the Chesapeake Bay TMDL</i>	<i>Wenfei Ni, M. Li, A. Ross, R. Najjar, M. Wagena, Z. Easton, Climate downscaling projections for Chesapeake Bay hypoxia in the 21st century</i>	<i>Claire Welby, M. Barnes, T. Lim, Assessing green infrastructure performance using a three-dimensional hydrologic modeling approach</i>	<i>Rasika Gawade, E. North, R. Hood, Integrating and applying three-dimensional models to simulate oyster ecosystem services</i>	
4:00	4:20	Tu-PM-10	<i>Lewis Linker, R. Batiuk, L. Currey, D. Montali, Towards the next-generation multiple-scale models of the Chesapeake – what do the managers want?</i>	<i>Tal Ezer, Sea level rise and variability in the Chesapeake Bay: Numerical modeling of the impact of climate change, hurricanes and the Gulf Stream</i>	<i>Michael Barrett, Use of Permeable Friction Course for Stormwater Quality</i>	<i>Cecily Stepepe, A. Keppel, L. Wallendorf, L. Rodriguez, G. Pruden, Relating Severn River oyster reproduction to high-frequency water quality data</i>	
4:20	4:40	Tu-PM-11	<i>Jesse O. Bash, P. Campbell, T. Spero, D. Schwede, Future directions and the importance of scale in estimating atmospheric nitrogen loading to the Chesapeake Bay</i>	<i>Faye Duchin, N. Springer, E. Hester, J. Little, An economic model of the Chesapeake Bay watershed for analysis of alternative scenarios about the future</i>	<i>Robert Traver, B. Wadzuk, Advances in understanding the role of infiltration and evapotranspiration in Green Infrastructure</i>	<i>Ryan Carnegie, L. Huey, R. Mann, Resistance and Tolerance to Diseases in the Eastern Oyster</i>	
4:40	5:00	Tu-PM-12			<i>J. Michael Trapp, Current topics in Quantitative Microbial Risk Assessment (QMRA)</i>	<i>Roger Mann, M. Southworth, J. Wesson, R. Carnegie, K. Reece, C. Robison, Oyster populations in the Virginia Bay: Small steps to stability</i>	
5:00	5:20	Tu-PM-13			<i>Nasrin Alamdari, Comparing Tools for Integrating Cost Optimization with Simulation Modeling in Urban Watersheds</i>	<i>Carl Cerco, Influence of oyster aquaculture on water quality attainment Chesapeake Bay: I. Model formulation and assessment of aquaculture activity</i>	
5:20	5:40	Tu-PM-14			<i>P. Kanako Maeda, Linking Stormwater Best Management Practices to Social Factors in Two Suburban Watersheds</i>	<i>Richard Tian, C. Cerco, L. Linker, Influence of oyster aquaculture on water quality attainment in Chesapeake Bay: II. Model implementation and application</i>	
5:00	7:00	Reception, Poster Session, Guardian Award					

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June 13th

		Research to Address Contaminants of Emerging and Increasing Concern for the Chesapeake Region				
8:30	10:00	Panel-1	<p>Moderator: Scott Phillips (USGS CBPO)</p> <p>Panelists: Greg Allen (US EPA CBPO), Vicki Blazer (USGS), Lee Blaney (UMBC), Heather Gail (Penn State)</p> <p>[1h 30m] Arundel Ballroom</p>			
10:00	10:15	Break (15 minutes)				
10:15	11:45	Panel-2	<p>Seagrass Recovery in Chesapeake Bay: A Success Story for Chesapeake Bay Research and Restoration</p> <p>Moderator: Larry Sanford (UMCES)</p> <p>Panelists: Bill Dennison (UMCES), JJ Orth (VIMS), Cassie Gurbisz (St. Mary's College of MD), Jonathan Lefcheck (Center for Ocean Health)</p> <p>[1h 30m] Arundel Ballroom</p>			
11:45	12:40	Lunch (55 minutes)				
		Room	Arundel A	Arundel B	Arundel C	Prince George
12:40	2:40	Wednesday Early Afternoon Session	<p>A3. Change in the Chesapeake: Moving Toward Finer Scales in Watershed and Estuarine Modeling</p> <p>(Lewis Linker, Gary Shenk, Lisa Wainger, Rich Batiuk, Zach Easton, Andrew Sommerlot)</p> <p>[Part 3 of 4; Estuary 2: 2h]</p>	<p>H1. Other Current and Emerging Issues in Chesapeake Bay Science and Modeling</p> <p>(Bill Ball, Raleigh Hood, Dave Jasinski)</p> <p>[Part 1 of 2: 2h]</p>	<p>I1. Building useful decision support tools with monitoring and modeling data (Emily Trentacoste and John Wolf)</p> <p>[2h]</p>	<p>J1. Explaining conditions and trends: Integrated monitoring and modeling approaches to describe water-quality change in the watershed and estuary (Joel Blomquist, Qian Zhang, Jeremy Testa, Gary Shenk)</p> <p>[Part 1 of 2: 2h]</p>
12:40	1:00	Wed-PM-1	<p>Zhengui Wang, Harry Wang. High resolution water quality modeling in the Chester River of the Upper Chesapeake Bay using unstructured grid SCHISM model</p>	<p>Moges Wagena, A. Sommerlot, E. Buell, G. Bhatt, Z. Easton. Quantifying structural model uncertainty using a Bayesian multi-model ensemble</p>	<p>Allen Gellis, Application of the Sediment Source Assessment Tool (Sed_SAT) to inform managers of sediment sources</p>	<p>Joel Blomquist, R. Fanelli, J. Keisman, Q. Zhang, D. Moyer, M. Langland, A history of nutrient and sediment inputs to Chesapeake Bay: 1985-2016</p>
1:00	1:20	Wed-PM-2	<p>Richard Tian, L. Linker, Impact of geomorphology and meanderings on saltwater intrusion, lateral advection, and hypoxia in the Chester River Estuary</p>	<p>Derek Loftis, H. Wang, Z. Liu, L. Rogers, T. Allen, D. Forrest, D. Beakaert, Exploring communities at intensive risk in the lower Chesapeake Bay via reanalysis of 2011 Hurricane Irene with future sea level rise</p>	<p>Danny Kaufman, O. Devereux, J. Rigelman, H. Ellis, A. Sommerlot, L. Linker, Development of a cost optimization scheme for Chesapeake Bay restoration</p>	<p>Scott Ator, A. Garcia, G. Schwarz, J. Blomquist, A. Sekelick, Adapting SPARROW to disentangle the multiple drivers of nutrient trends in Chesapeake tributaries, 1992 - 2012</p>
1:20	1:40	Wed-PM-3	<p>Cuiyin Wu, J. Keisman, L. Linker, G. Shenk, R. Tian, Diagnostic of nonattainment of water quality standard of Dissolved Oxygen of the Chesapeake Bay segments</p>	<p>Mac Sisson, J. Shen, R. Wang, B. Joyner, Assessing the impact of floodgates to mitigate coastal flooding risks for the Lafayette River in Norfolk, Virginia, USA</p>	<p>Anton Kvit, B. Davis, J. Bowers, A. DePaola, F. Curriero, Interactive spatiotemporal risk tool for vibrio parahaemolyticus in the Chesapeake Bay</p>	<p>Richard Smith, A. Sekelick, W. Sanford, J. Blomquist, G. Schwarz, J. Brakebill, Delayed watershed response to management of Chesapeake Bay nitrogen sources caused by long-term storage of nitrogen in groundwater</p>
1:40	2:00	Wed-PM-4	<p>Yinglong Zhang, H. Wang, F. Ye, K. Nunez, Z. Liu, Cross-scale modeling from sub-tributary to ocean: Implications for Chesapeake Bay</p>	<p>Guido Yactayo, G. Busch, Stream Temperature Modeling for TMDL Development and Implementation in Nontidal Cold Water Streams in Maryland</p>	<p>Jonathan Czubak, River network-based framework for understanding large-scale watershed functioning to guide sustainable landscape management</p>	<p>Wei Zhi, A physically-based nutrient model for understanding controls on nitrate export in Chesapeake Bay</p>
2:00	2:20	Wed-PM-5	<p>Fei Ye, The SCHISM Chesapeake Bay Model: 3D baroclinic simulations based on unstructured grid</p>	<p>Shreeram Inamdar, G. Jiang, A. Lutgen, M. Sienkiewicz, D. Merritts, R. Walter, Freeze-thaw processes and intense rainfall-runoff events: Significant contributors of suspended sediment and nutrient loads from Chesapeake Bay watersheds</p>	<p>Lindsay Perez, Scott Haag, R. John Dawes, Crossing watershed boundaries: Developing scalable tools for the Delaware and Chesapeake watersheds</p>	<p>Qian Zhang, R. Murphy, R. Tian, M. Forsyth, E. Trentacoste, J. Keisman, P. Tango, Status and trends of the Chesapeake Bay water quality standards criteria attainment in 1985-2016: insights from assessments of thirty years of tidal water quality monitoring data</p>
2:20	2:40	Wed-PM-6	<p>Fei Da, M. Friedrichs, P. St-Laurent, Impacts of direct atmospheric nitrogen deposition and coastal nitrogen fluxes on Chesapeake Bay hypoxia</p>	<p>Alexey Voinov, Modeling for action: In search of new interfaces</p>	<p>David Soaveadra, Adrienne Gemberling, Using high-resolution data and web tools to enable precision conservation</p>	<p>Aaron Bever, M. Friedrichs, M. Scully, C. Friedrichs, Estimating real-time hypoxic volume in the Chesapeake Bay using two vertical profilers</p>
2:40	3:00	Break (20 minutes)				

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3:00	5:00 + Late Afternoon Session	Wednesday	A4. Change in the Chesapeake: Moving Toward Finer Scales in Watershed and Estuarine Modeling [Part 4 of 4; Estuary 3: 20m]	H2. Other Current and Emerging Issues in Chesapeake Bay Science and Modeling [Part 2 of 2: 1h 20m]	I2. Building Useful Decision Support Tools with Monitoring and Modeling Data [Part 2 of 2: 1h 20m]	J2. Explaining conditions and trends: Integrated monitoring and modeling approaches to describe water-quality change in the watershed and estuary [Part 2 of 2: 2h]	
3:00	3:20	Wed-PM-7	Aaron Bever , M. Macwilliams, M. Fabrizio, T. Tuckey, Quantifying habitat suitability for forage fishes in Chesapeake Bay: A coupled modeling approach using fishery surveys and a hydrodynamic model	Kelley Uhlig , B. Song, Comparing Estuarine Microbial Community Composition of Conventional and Bio-Based Polymers	Zach Easton , D. Fulka, A. Sommerlat, A. Collick, A Customizable Dashboarding System for Watershed Model Interpretation	Jaclyn Friedman , E. Shadwick, M. Friedrichs, R. Najjar, Seasonal Variability of Carbonate Chemistry in the Chesapeake Bay	
			G. Practical Advances in Regional Land Change Modeling: What's Achievable Now? (Peter Claggett, Claire Jantz, David Donato) [1h 40m]				
3:20	3:40	Wed-PM-8	Peter Claggett , Can we ever get to version 2.0? Stepping off the dime	Eric Sakowski , S. Preheim, Phage-host Interactions and Predation Strategies in the Chesapeake Bay	Dave Arscott , A. Aufdenkampe, D. Tarboton, B. Evans, S. Haag, S. Kerlin, M. Daniels, A. Robbins, WikiWatershed: A public web app to model water quality and quantity, visualize monitoring data, and support conservation decisions	Elizabeth Shadwick , M. Friedrichs, R. Najjar, M. Herrmann, New CO2 system observations in the Chesapeake Bay: high-frequency variability and long-term trends	
3:40	4:00	Wed-PM-9	Labeeb Ahmed , P. Claggett, F. Irani, R. Thompson, Faster, more flexible and stable models: Lessons learned on our way to the cloud	John Regan , N. Locke, S. Saia, H. Carrick, A. Buda, M. T. Walter, Identification of Polyphosphate-Accumulating Organisms Contributing to Phosphorus Cycling in Stream Biofilms	Emily Trentacoste , J. Wolf, A. Hoffman, Integrating 30 years of Chesapeake Bay data into a new decision support framework for Watershed Implementation Plan development	Wei-Jun Cai , J. Su, Insights from spatial distributions of inorganic carbon parameters in the Chesapeake Bay: a bay-wide buffering mechanism via carbonate mineral precipitation and dissolution	
4:00	4:20	Wed-PM-10	Scott Haag , Geoinformatics methods and impacts on Regional Land Change Models	Sarah Preheim , K. Arora-Williams, C. Holder, A. Gnanadesikan, Application of DNA- and RNA-sequence based techniques to inform biogeochemical models of the Chesapeake Bay dead-zone	John Wolf , Katherine Wares, R. Thompson, S. Phillips, Mapping Geographic Areas that benefit Multiple Goals and Priorities for Conservation and Restoration Opportunities across the Chesapeake Bay Watershed	Chunqi Shen , J. Testa, Modeling carbonate system dynamics and responses to nutrient loading changes in Chesapeake Bay	
4:20	4:40	Wed-PM-11	David Donato , F. Irani, D. Strong, Current computational options and challenges in land-change modeling			Ming Li , X. Xie, C. Shen, B. Chen, W. Ni, W. Cai, J. Testa, Physically driven temporal and spatial variabilities in carbonate chemistry dynamics	
4:40	5:00	Wed-PM-12	Claire Jantz , S. Drzyzga, A. Yañez, Improving the thematic resolution of urban land change modeling			Pierre St-Laurent , M. Friedrichs, R. Najjar, E. Shadwick, Changes in Chesapeake Bay air-sea CO2 fluxes over the past century	
5:30	7:00		Reception, Poster Session				

Bold names are the first author. Underlined names are presenters, if different than the first author.

June 14th

Room		Arundel A	Arundel B	Arundel C	Prince George
8:40	10:40 Thurs Early Morning Session	<p>K. Observations and Modeling of Chesapeake Bay Wetlands and Coupled Sub-estuaries: Advancing Understanding through Comparative Analyses (Patrick Neale, Maria Tzortziou, Raleigh Hood, Blake Clark) [2h]</p>	<p>M1. Water Clarity in Chesapeake Bay: trends, drivers, and research priorities (Jeni Keisman, Carl Friedrichs) [Part 1 of 2: 2h]</p>	<p>N1. Understanding Nutrient Transport in the Chesapeake Watershed: Legacies, Lag Times, Mechanisms, Drivers and Solutions (Daniel Wilusz, Bill Ball, Ciaran Harman, Karen Rice and Rosemary Fanelli) [Part 1 of 2: 2h]</p>	<p>O1. Using Environmental Biomarkers to Study Chesapeake Bay's Ecosystems (Christina Bradley) [2h]</p>
8:40	9:00	<p>Alana Menendez, M. Tzortziou, P. Neale, <i>Temporal variability of fluorescent dissolved organic matter at a brackish, tidal marsh-estuary interface</i></p>	<p>Stephanie Barletta, <i>Suspended sediment variability in the surface layer of upper Chesapeake Bay</i></p>	<p>Kimberly Van Meter, P. Van Cappellen, Q. Zhang, N. Basu, <i>Landscape Legacies: Long-Term Nitrogen Trajectories in the Chesapeake Bay Watershed and Beyond</i></p>	<p>Matthew Ogburn, R. Aguilar, K. Lohan, L. Plough, <i>Applying Biomarkers to the Study of Trophic Dynamics and Connectivity</i></p>
9:00	9:20	<p>Amanda Knobloch, M. Brush, W. Reay, J. Zhang, E. Canuel, <i>Sources and Fluxes of Dissolved and Particulate Carbon at the Marsh-Estuarine Interface</i></p>	<p>Carl Friedrichs, J. Keisman, <i>Describing and explaining Chesapeake Bay water clarity: A literature review</i></p>	<p>Shuyu Chang, D. Wilusz, C. Harman, <i>Effects of Climate Variability on Nitrate Export: SWAT Modeling in the Chesterville Catchment of the Eastern Shore, MD</i></p>	<p>Joseph Craine, <i>Environmental DNA reveals multi-assemblage eutrophication responses in the Potomac</i></p>
9:20	9:40	<p>Patrick Neale, K. Rose, M. Tzortziou, C. Gallegos, T. Jordan, <i>Spectral model of light attenuation in the Rhode-River subestuary: Identifying drivers of spatial variability and long-term trends</i></p>	<p>Julia Moriarty, M. Friedrichs, <i>Courtney Harris</i>, <i>Effects of Seabed Resuspension on Primary Productivity and Remineralization in Chesapeake Bay</i></p>	<p>Daniel Wilusz, D. Fuka, S. Chang, W. Ball, C. Harman, <i>Using travel time data and a modified SWAT model to understand groundwater nitrate lag times in the Eastern Shore, MD</i></p>	<p>Nicole Hammond, A. Nalesnik, C. J. Bradley, <i>An analysis of nutrient concentration and marine signaling in a freshwater ecosystem pre- and post-removal of dams</i></p>
9:40	10:00	<p>M. Karinna Nunez, J. Zhang, W. Reay, C. Hershner, <i>Cross-scale simulations: An innovative approach to evaluate the impacts of climate change on tidal marsh habitats</i></p>	<p>Elka Porter, B. Johnson, L. Sanford, <i>Effect of hard clam, Mercenaria mercenaria, density and bottom shear on sediment erodibility</i></p>	<p>John Schubert, J. Czuba, <i>Quantifying Sediment and Legacy Pollutant Residence-Time Distributions in Floodplains</i></p>	<p>Vicki Blazer, H. Walsh, M. Schall, B. Keplinger, G. Smith, J. Mullican, K. Smalling, <i>Importance of long term monitoring to understand impaired fish health</i></p>
10:00	10:20	<p>Blake Clark, R. Hood, <i>Modeling of complex flow patterns across a large estuarine and tidal wetland complex in southern Dorchester County, MD</i></p>	<p>Qian Zhang, <i>Joel Blomquist</i>, <i>Watershed Export of Fine Sediment, Organic Carbon, and Chlorophyll-a to Chesapeake Bay: Spatial and Temporal Patterns in 1984-2016</i></p>	<p>James Pizzuto, D. Karwan, K. Skalak, <i>Sediment Storage Retards Benefits of Upland Sediment BMPs in Large Watersheds Drained By Alluvial Rivers</i></p>	<p>Heather Walsh, V. Blazer, L. Iwanowicz, <i>Testes Transcriptome Development and Molecular Identification of Intersex in Smallmouth Bass from Tributaries in the Chesapeake Bay</i></p>
10:20	10:40	<p>Pamela Braff, C. Hershner, K. Havens, <i>Modeling the Distribution of Headwater and Isolated Wetlands in a Coastal Plain Watershed</i></p>	<p>Jeremy Testa, V. Lyubchich, Qian Zhang, <i>Patterns and Trends in Secchi Disk Depth over Three Decades in the Chesapeake Bay Estuarine Complex</i></p>	<p>Karen Rice, A. Mills, R. Fanelli, A. Soroka, <i>Thirty Years of Dissolved Phosphorus Dynamics in Nine Freshwater Tributaries to the Chesapeake Bay</i></p>	<p>Megan Schall, V. Blazer, H. Walsh, G. Smith, R. Loranatas, T. Wertz, T. Wagner, <i>Investigating occurrence of disease characteristics and trends in smallmouth bass abundance in rivers within the Chesapeake Bay Watershed</i></p>
10:40	11:00	Break (20 minutes)			

June 14th con.

11:00 - 12:00	Thursdays Late Morning Session	L. Modeling of Climate Change Consequences for Phase III Watershed Implementation Plans (Don Boesch) [2h]	M2. Water Clarity in Chesapeake Bay: trends, drivers, and research priorities [Part 2 of 2: 1h]	N2. Understanding Nutrient Transport in the Chesapeake Watershed: Legacies, Lag Times, Mechanisms, Drivers and Solutions [Part 2 of 2: 1h]
11:00 - 11:20	Thur-AM-7		<p>Rebecca Murphy, J. Keisman, Comparison of Secchi depth and Kd trends while adjusting for freshwater input variations</p>	<p>Rosemary Fanelli, J. Blomquist, R. Hirsch, Drivers of orthophosphate trends in tributaries to Chesapeake Bay</p>
11:20 - 11:40	Thur-AM-8	<p>The Chesapeake Bay Program is challenged to address the many uncertainties in estimating nutrient load reductions needed to maintain water quality objectives as global and regional climate changes. Lewis Linker will present an overview of this challenge and modeling to date. Panelists Lee Currey, Zach Easton, Maria Herrmann and Ray Najjar will discuss recent reviews of the modeling efforts and offer recommendations on effective paths forward. Ample opportunity for audience participation will be provided.</p>	<p>Nicole M. Deluca, B. Zaitchik, F. Curriero, Can multispectral information improve remotely sensed estimates of total suspended solids? A statistical study in the Chesapeake Bay</p>	<p>Qian Zhang, D. Ha, H. Wei, W. Ball, Retrospective Analysis of Sediment-Associated Phosphorus Concentration in the Major Tributaries to Chesapeake Bay</p>
11:40 - 12:00	Thur-AM-9		<p>Jeni Keisman, C. Friedrichs, C. Buchanan, R. Batiuk, J. Blomquist, J. Cornwell, M. Lane, S. Lyubchich, K. Moore, R. Murphy, G. Noe, R. Orth, E. Porter, L. Sanford, J. Testa, M. Trice, Q. Zhang, R. Zimmerman, Examining trends in water clarity in the Chesapeake Bay: A synthesis of findings from recent STAC workshops</p>	<p>Aaron Cook, J. Shortle, A second-best market design for lagged, persistent pollutants</p>
12:00 - 12:20				
12:20 - 12:40	Thur-AM-10			
12:40 - 1:00				