

## 2015 Coastal & Estuarine Research Federation Conference

### Presentations Supported by NCCOS Funding 8-12 November 2015, Portland, OR

#### Harmful Algal Blooms and Hypoxia

*SCI-143A. The Harmful Algal Bloom and Hypoxia Research and Control Act: Accomplishments and Remaining Challenges/Robert Magnien*

1. Advances in Hypoxia Research and Management Under HABHRCA. Alan Lewitus, Donald Boesch, David Kidwell, Robert Magnien, Donald Scavia, David Scheurer ([Harmful Algal Bloom and Hypoxia Research and Control Act](#))
2. Evaluating Nutrient Management Strategies for Reducing Coastal Hypoxia: Lessons from Simple and Complex Models. Dubravko Justic, David Fertitta, Lixia Wang ([Gulf of Mexico Ecosystems & Hypoxia Assessment project](#))
3. Modeling the Effects of Hypoxia on Fish Movement in the Gulf of Mexico Hypoxic Zone. Elizabeth LaBone, Dubravko Justic, Kenneth Rose, Lixia Wang, Haosheng Huang ([Gulf of Mexico Ecosystems & Hypoxia Assessment Program project](#))
4. Physiological and Epigenetic Impacts of Hypoxia on Atlantic Croaker in the Northern Gulf of Mexico. Peter Thomas, Saydur Rahman ([Gulf of Mexico Ecosystems & Hypoxia Assessment Program project](#))
5. Hypoxia Effects on Fisheries in the Northwestern Gulf of Mexico. Kevin Craig, Kevin Purcell, Brian Langseth, James Nance, Joseph Smith ([Gulf of Mexico Ecosystems & Hypoxia Assessment Program project](#))
6. Hypoxia in Green Bay, Lake Michigan. Val Klump, Hector Bravo, Kevin Fermanich, Sajad Hamidi, Shelby LaBuhn ([Coastal Hypoxia Research Program project](#))

*SCI-143B. The Harmful Algal Bloom and Hypoxia Research and Control Act: Accomplishments and Remaining Challenges, Robert Magnien*

1. HABHRCA: 17 Years of Effective HAB Research and Response. Quay Dortch, Marc Suddleson, Alan Lewitus, Rob Magnien, David Kidwell, John Wickham ([Harmful Algal Bloom Programs](#))
2. Reviewing the Advancements of the ORHAB Monitoring Program: Using Applied Science to Explore Ecosystem Interconnections. Zachary Forster, Dan Ayres ([Olympic Region Harmful Algal Bloom \[ORHAB\] Partnership](#))

3. Emergency Response Mapping of *Alexandrium* Cysts in the Surface Sediments of Puget Sound WA. Cheryl Greengrove, Julie Masura, Stephanie Moore ([Event Response Program project](#))
4. Harmful Algal Blooms and Climate Change: Approaches and Challenges for Forecasting and Communicating Risk. Stephanie Moore ([Ecology & Oceanography of Harmful Algal Blooms Program project](#))

*SCI- 122. Salted or Unsalted? Linking Great Lakes and Coastal Ocean Studies/Mary Evans*

1. Mapping and Modeling Hypoxia in Freshwater and Marine Systems. Daniel Obenour, Yuntao Zhou, Donald Scavia, Anna Michalak ([Ecological Forecasting Program project](#))

*SCI-151. From Data to Information: Harnessing Observing Data for Ecological Assessment and forecasting in Coastal Bays and Estuaries/Jan Newton*

1. Blachman, Sara; Brush, Mark. A Multi-Group Phytoplankton Model to Predict Shifts in Community Composition in a Changing Environment. (Poster) ([Coastal Hypoxia Research Program project](#))
2. Holderied, Kristine; Hondolero, Dominic; Kibler, Steve; Litaker, Wayne; Doroff, Angela. A Web-Based Paralytic Shellfish Poisoning Risk Assessment Tool for Kachemak Bay Alaska. (Poster) ([NCCOS Center for Coastal Fisheries and Habitat Research Ecology of Harmful Algal Blooms project](#))

*SCI-184A. Hypoxia and Temperature as Interactive Multi-Stressors in Coastal Ecosystems/Stephen Brandt*

1. Winners and Losers in Hypoxic Coastal Habitats: Is Temperature the Key? Stephen Brandt, Cynthia Sellinger, Michael Roman, Edward Houde ([Gulf of Mexico Ecosystems & Hypoxia Assessment Program project](#))
2. Hypoxia and Temperature Impacts on Fish Growth in Shallow Estuarine Nurseries: Laboratory and Field Assessment. Timothy Targett ([Coastal Hypoxia Research Program project](#))

*SCI-184B Hypoxia and Temperature as Interactive Multi-Stressors in Coastal Ecosystems/Stephen Brandt*

1. Overheated and Out of Breath: Temperature Regulation of Respiration and Oxygen Supply in Coastal Zooplankton. Michael Roman, David Elliott, James Pierson ([Coastal Hypoxia Research Program project](#))
2. Building Towards Ecologically-Based Goals for Gulf of Mexico Hypoxia. David Kidwell, Alan Lewitus, Robert Magnien, David Scheurer ([Gulf of Mexico Ecosystems & Hypoxia Assessment Program](#))

*SCI-186A. Triaging the Coastal Ocean/Robinson Fulweiler*

1. Diel-Cycling Hypoxia and Acidification: Adaptation and Natural Rhythms. Denise Breitburg, Seth Miller, Andrew Keppel, Rebecca Burrell ([Coastal Hypoxia Research Program project](#))

*SCI-186B. Triaging the Coastal Ocean/ Robinson Fulweiler*

1. Stakeholder Engagement and Interagency Recommendations on HABs and Hypoxia: An Update on HABHRCA. Caitlin Gould ([Harmful Algal Bloom and Hypoxia Research and Control Act mandates](#))
2. Addressing the Land-Loss Fish Production Paradox. Kristy Lewis, Kim de Mutsert, James Cowan Jr. ([Gulf of Mexico Ecosystems & Hypoxia Assessment Program project](#))

**Nutrients and Eutrophication**

*SCI-171A. Controlling Eutrophication along the Human and Climatically-Impacted Freshwater-Marine Continuum: Shifting Problems and Paradigms/Hans Paerl*

1. The Root Tensile Strength of Common Emergent Acrophytes in Louisiana Coastal Wetlands. Hollis, Lauris; Turner, Eugene (Poster) ([Multiple Stressors Program project](#))
2. Fine Scale Phytoplankton Diversity of Galveston Bay: Imaging FlowCytobot Grants Insight into Microbial Community Dynamics. Preischel, Hannah; Sosik, Heidi; Steichen, Jamie; Genzer, Jennifer; Quigg, Antonietta (Poster) ([Prevention, Control & Mitigation of Harmful Algal Blooms Program project](#))
3. Phytoplankton Community Composition Response to Groundwater-Borne Nutrients in the Delaware Inland Bays. Torre, Dan; York, Joanna; Coyne, Kathy; Kroeger, Kevin (Poster) ([Ecology & Oceanography of Harmful Algal Blooms Program project](#))

*SCI-171B Controlling Eutrophication along the Human and Climatically-Impacted Freshwater-Marine Continuum: Shifting Problems and Paradigms Hans Paerl*

1. Impact of Discharge, Loading, and Climate on Eutrophication and Carbon Budgets in a Shallow Estuary. Mark Brush ([Coastal Hypoxia Research Program project](#))

**Ocean Acidification and Hypoxia Interactions**

*SCI-104A. Estuarine Acidification: Embracing and Synthesizing Complexity/George Waldbusser*

1. How do Estuarine Waters Acidify due to Biogeochemical Reactions and Uptake of Anthropogenic CO<sub>2</sub>? Wei-Jun Cai ([Ocean Acidification Program project](#))

2. Factors Influencing the Formation of Corrosive Conditions in Puget Sound. Simone Alin, Beth Curry, Jan Newton, Richard Feely, Adrienne Sutton, Christopher Krembs ([Ocean Acidification Program project](#))
3. Frequency of Occurrence of Favorable Carbonate Conditions for Larval Oyster Recruitment in Willapa Bay, Washington. Burke Hales, Andy Suhrbier, George Waldbusser, Richard Feely, Jan Newton ([Ocean Acidification Program project](#))
4. Vulnerability and Resistance of Early Life Stage Bivalves to Concurrent Ocean Acidification and Hypoxia. Christopher Gobler, Hannah Clark, Andrew Griffith ([Ocean Acidification Program project](#))

*SCI-104B. Estuarine Acidification: Embracing and Synthesizing Complexity/George Waldbusser*

1. Acidification of a Shallow Subtropical Estuary – Reduced Freshwater Inflow, Hypoxia, and Ocean Acidification. Xinping Hu, Hongming Yao ([Ocean Acidification Program project](#))
2. Seagrass Contributions to Estuarine Carbon Dioxide Variability: a Shellfish’s Perspective. Stephanie Smith, George Waldbusser, Burke Hales ([Ocean Acidification Program project](#))

*SCI-104C. Estuarine Acidification: Embracing and Synthesizing Complexity/George Waldbusser*

1. Acidification Increases Sensitivity to Hypoxia in Important Forage Fishes. Seth Miller, Denise Breitburg, Rebecca Burrell, Andrew Keppel ([Coastal Hypoxia Research Program project](#))
2. The Severity of Saturation State Variability Determines Juvenile Hard Clam Success: a Matrix Model Assessment. Cale Miller, George Waldbusser, Mark Green ([Ocean Acidification Program project](#))
3. Ocean Acidification Stress Index for Shellfish (OASIS) – A Case Study on Pacific Oyster Larvae. Iria Gimenez, George Waldbusser, Burke Hales ([Ocean Acidification Program project](#))
4. The Effects of Co-Varying Diel Cycling Hypoxia and pH on Gametogenesis in *Crassostrea virginica*. Cecily Steppe, Andrew Keppel, Rebecca Burrell, Denise Breitburg ([Coastal Hypoxia Research Program project](#))
5. Slow Shell Building: A Possible Trait for Resiliency in Developing Oyster Larvae. George Waldbusser, Matthew Gray, Burke Hales, Chris Langdon, Brian Haley, Iria Gimenez, Stephanie Smith, Elizabeth Brunner, Greg Hutchinson ([Ocean Acidification Program project](#))
6. Diel-Cycling Hypoxia and pH Modify Growth in Eastern Oyster Spat. Keppel, Andrew; Burrell, Rebecca; Breitburg, Denise (Poster) ([Coastal Hypoxia Research Program project](#))

7. Effects of Co-Cycling Hypoxia and Acidification on Egg Development of *Menidia menidia* (Atlantic silverside). Burrell, Rebecca; Miller, Seth; Breitbart, Denise; Keppel, Andrew (Poster) ([Coastal Hypoxia Research Program project](#))
8. Carbon Flux and Hypoxia in the Chesapeake Bay. Brodeur, Jean; Huang, Wei-Jen; Cai, Wei-Jun (Poster) ([Ocean Acidification Program project](#))

*SCI-128. Adaptation and Mitigation of Ocean Acidification and Hypoxia: Research and Management. Veronica Berounsky*

1. Responding and Adapting to Ocean Acidification: NOAA's Approach. Libby Jewett, Director, [NOAA Ocean Acidification Program](#)
2. Coastal Ocean Acidification: Contrasting Diurnal, Seasonal, and Spatial Patterns Among Temperate Coastal Habitats. Ryan Wallace, Christopher Gobler ([Ocean Acidification Program project](#))
3. Estimating Daily Metabolism in Narragansett Bay Using an *in situ* Carbon Method. Coupland, Catherine; Oviatt, Candace (Poster) ([Coastal Hypoxia Research Program project](#))

*SCI-136. Coastal Ocean Acidification: Using Models to Integrate Multiple Stresses/Elizabeth Turner*

1. Population Level Effects of Ocean Acidification on North Atlantic Bivalve Species Using Inverse Demographic Methods. Cecilia O'Leary, Janet Nye, Christopher Gobler, Jason Grea ([Ocean Acidification Program project](#))
2. Deciphering Estuarine Carbonate Variability: A Numerical Approach. Cameron Allen, George Waldbusser, Burke Hales ([Ocean Acidification Program project](#))
3. Ecosystem Consequences from Ocean Acidification and Fishing in the California Current: an Atlantis Modeling Approach. Emma Hodgson, Kristin Marshall, Isaac Kaplan, Timothy Essington ([Ocean Acidification Program project](#))
4. Developing Scenarios of Species Response to Ocean Acidification for Ecosystem Projection Modeling. Shallin Busch, Paul McElhany ([Ocean Acidification Program project](#))
5. Developing a Model for the U.S. Sea Scallop Fishery that Incorporates Ocean Acidification and Warming. Rheuban, Jennie; Cooley, Sarah; Hart, Deborah; Luu, Victoria; Glover, David; Hare, Jonathan; Doney, Scott. (Poster) ([Ocean Acidification Program project](#))

*SCI-144. Ocean Acidification and Hypoxia: Mechanisms for Linking Science to Management and Policy/Hayley Carter*

1. Vulnerability and Adaptation of U.S. Shellfisheries to Ocean Acidification. Julia Ekstrom, Lisa Suatoni, Linwood Pendleton, Sarah Cooley, Trina Wellman, George Waldbusser ([Ocean Acidification Program project](#))
2. A “Toolbox” of State Opportunities to Act on Ocean Acidification. Sarah Cooley, Ryan Ono, Sage Melcer, Julia Roberson ([Ocean Acidification Program project](#))
3. Carbonate Chemistry in Experiment Incubations of Restored Chesapeake Bay Oyster Communities. McClain, Anna; Cornwell, Jeffrey; Owens, Michael; Kellogg, Lisa (Poster) ([Ocean Acidification Program project](#))

SCI-186A. *Triaging the Coastal Ocean/ Robinson Fulweiler*

1. Diel-Cycling Hypoxia and Acidification: Adaptation and Natural Rhythms. Denise Breitburg, Seth Miller, Andrew Keppel, Rebecca Burrell ([Coastal Hypoxia Research Program project](#))

*Town Hall on Monitoring Coastal Acidification, Wednesday 11 November 2015 | 5:00–7:00 pm/Libby Jewett and Elizabeth Turner* ([NOAA Ocean Acidification Program](#))

This town hall will provide an overview of efforts to monitor the progression and impacts of ocean acidification in coastal and estuarine ecosystems and discuss a common way forward. We welcome all who are interested, and hope to build a more integrated community of those working in this field.

***Sea Level Rise, Shorelines, and Marshes***

SCI-125C. *Responses of Salt Marshes to Sea Level Rises/Joanna Carey*

1. Expanding Marsh Habitat Paradigms: Ecosystem Services of North Carolina *Juncus roemerianus*-Dominated Marshes. Christine Voss, Lucielle Zipf, Charles Peterson ([Ecological Effects of Sea Level Rise Program project](#))

SCI-132. *Securing the Future of Seagrass Ecosystems Impacted by Coastal Development*

1. The Effects of Shoreline Type and Watershed Land Use on Submerged Aquatic Vegetation. Landry, J. Brooke; Karrh, Lee; Golden, Rebecca; Lewandowski, Mark. (Poster) ([Regional Ecosystem Prediction Program project](#))

SCI-177A. *Regime Changes of Estuarine and Coastal System/Qing He*

1. SWARM: A System for Predicting Impacts of Development and Climate Change on Stormwater Runoff. Anne Blair, Denise Sanger, Susan Lovelace, Andrew Tweel ([Developing Climate Adaptation and Restoration Tools Program project](#))
2. Why the Mississippi River Delta Will Not be Restored in Your Lifetime. R. Eugene Turner ([Multiple Stressors Program project](#))

*SCI-188B. Coastal Inundation and its Impacts in a Changing Climate/Zhaoqing Yang*

1. Beyond Bathtub Assessments: On the Coastal Dynamics of Global Climate Change. Scott Hagen, Karim Alizad, Matthew Bilskie, Paige Hovenga, Davina Passeri, Denise DeLorme, Wenrui Huang, Stephen Medeiros, James Morris, Dingbao Wang, John Weishampel ([Ecological Effects of Sea Level Rise Program project](#))

**Shellfish, Aquaculture, and Nutrients**

*SCI-145A. Shellfish as a Multiple Use Resource: Activities, Conflicts, and Planning for Resolution/Julie Rose*

1. Eutrophication and Shellfish Aquaculture: Shellfish Can Help Coastal Waters! Suzanne Bricker, Joao Ferreira, Julie Rose, Eve Galimany, Gary Wikfors, Robin Landeck Miller, James Wands, Katharine Wellman, Robert Rheault, Phil Trowbridge, Raymond Grizzle, Suzanne Ayvazian, Mark Tedesco (Aquaculture and Eutrophication Program [Long Island Sound/Great Bay, Patuxent River, Puget Sound](#) projects)
2. Economic Value of Bioextraction: Nitrogen Removal, Fresh Local Seafood, and Employment. Katharine Wellman, Suzanne Bricker, Joao Ferreira ([Aquaculture and Eutrophication Program Puget Sound project](#))

*SCI-145B. Shellfish as a Multiple Use Resource: Activities, Conflicts, and Planning for Resolution/Julie Rose*

1. Merging Modeling and Mapping to Reduce User Conflict and Maximize Shellfish Aquaculture Production. Julie Rose, Suzanne Bricker, Tessa Getchis, Cary Chadwick, Cori Rose (Aquaculture and Eutrophication Program [Long Island Sound/Great Bay, Patuxent River, Puget Sound](#) projects)

*SCI-160B. Resilience of Shellfish to Current and Emerging Threats to Estuarine Condition/Ted DeWitt*

1. Forecasting Mortality from Thermal and Salinity Stress in Commercial Shellfish Beds. David Wethey, Sarah Woodin, Gonzalo Macho, Elsa Vazquez, Celia Olabarria, Phillip Key ([Ecological Forecasting Program project](#))