



Advancing Coastal Science

NCCOS delivers ecosystem science solutions for stewardship of the Nation's ocean and coastal resources to sustain thriving coastal communities and economies.

National Centers for Coastal Ocean Science Presence at the 2021 Coastal & Estuarine Research Federation 26th Biennial Meeting

Co-Sponsorship

[Rising TIDES \(Toward an Inclusive, Diverse, and Enriched Society\)](#)

Special Sessions

Impacts of Coastal Hypoxia on Fishes, Food Webs and Ecosystems. Convened by *Kim de Mutsert*, University of Southern Mississippi (Tuesday, 2 November 2021: 10:00 a.m. - 2:30 p.m.)

Special Panel: Pursuit of Accurate and Effective Application of Coastal Marsh Models. Convened by *Trevor Meckley*, NCCOS (Wednesday, 3 November 2021, 2:30 p.m. – 6:00 p.m.)

Interactions of Harmful Algal Blooms, Eutrophication and Carbonate Chemistry. Convened by *Maggie Broadwater, Quay Dortch* and *Halle Berger*, NCCOS, and *Erica Ombres*, OAP (Thursday, 4 November 2021, 1:00 p.m. – 2:30 p.m.)

Science-based Management and Engagement in the Gulf of Mexico. Convened by *Mary Kate Rogener* and *David Scheurer*, NCCOS (Thursday, 4 November 2021, 10:00 a.m. - 11:30 a.m. and 1:00 p.m. – 2:30 p.m.)

Quantification and Valuation of Ecosystem Services Associated with Shellfish. Convened by *Suzanne Bricker*, NCCOS (Thursday, 4 November 2021, 1:00 p.m - 2:30 p.m.)

Advancements in Natural Infrastructure to Mitigate Impacts of Coastal Hazards. Convened by *Matthew Bilskie*, LSU, co- convener *David Kidwell* et al, NCCOS (Tuesday, 9 November 2021, 1:00 p.m. – 2:30 p.m.)

Oral Presentations

Historical Effects of Mouth Closure and Hypoxia on Low Inflow Estuary Benthos in Southern California. *Lisa Levin*. University of California/Scripps Institution of Oceanography. *In Ecology, stressors, and management of low inflow estuaries*, Tuesday, 2 November 2021, 1:00 p.m. ([CHRP project](#))

Using coupled modeling to evaluate effects of nutrient and hypoxia reductions on living marine resources. *Kim De Mutsert*. University of Southern Mississippi. *In Impacts of coastal hypoxia on fishes, food webs and ecosystems*, Tuesday, 2 November 2021, 1:00 p.m. ([NGOMEX project](#))

Intercomparison of three HAB transport models in short-term forecasting of Lake Erie CHABs event. *Xing Zhou*. Michigan Technological University. *In Estuarine & Coastal Modeling (ECM)*, Tuesday, 2 November 2021, 1:00 p.m. ([ECOHAB project](#))

Extending the Reach of Operational Harmful Algal Bloom Forecasts to Estuarine Shellfish Harvesting. *Clarissa Anderson*. SCCOOS. *In Detecting the Coastal Climate Signal: Sustained observations for decision making*, Wednesday, 3 November 2021, 10:00 a.m. ([PCM HAB project](#))

Can potable-use wastewater recycling and nitrogen management reduce acidification and oxygen loss in Southern California? *Minna Ho*. SCCWRP. *In Ocean models at the service of sustainable solutions*, Wednesday, 3 November 2021, 10:00 a.m. ([ECOHAB, CHRP and OAP](#))

Comparing influence of physical dynamics and nutrient additions of Southern California waste water outflows. *Paige Hoel*. UCLA. *In Ocean models at the service of sustainable solutions*, Wednesday, 3 November 2021, 10:00 a.m. ([ECOHAB, CHRP and OAP](#))

Planning a Retrospective Analysis for Advancing Coastal Marsh Models to Ensure Accurate and Effective Application. *Trevor Meckley*, NCCOS. *In Special Panel: Pursuit of Accurate and Effective Application of Coastal Marsh Models*, Wednesday, 3 November 2021, 2:30 p.m. ([ESLR Program](#))

Ocean climate variability and algal blooms in Florida. *Patricia Glibert*. UMCES. *In Impact of climate change on HABs*, Thursday, 4 November 2021, 10:00 AM ([ECOHAB project](#))

Florida's HAB Problem: Escalating Risks to Human, Environmental and Economic Health with Climate Change. *Cynthia Heil*, Florida Fish & Wildlife Conservation Commission. *In Impact of climate change on HABs*, Thursday, 4 November 2021, 10:00 AM ([ECOHAB project](#))

An Overview of the Economic and Social Turbulences surrounding the 2017-2019 Florida Red Tide. *Sergio Alvarez*, University of Central Florida. *In Impact of climate change on HABs*, Thursday, 4 November 2021, 10:00 AM ([NCCOS GCOOS project](#))

Development of a Three-Dimensional Mixotrophic Model of *Karlodinium Veneticum* in Chesapeake Bay. *Ming Li*, University of Maryland, *In Impact of climate change on HABs*, Thursday, Thursday, 4 November 2021, 10:00 a.m. ([ECOHAB project](#))

Can Satellite Products or State Monitoring Data Substitute for On-Farm Data for Oyster Aquaculture. *Suzanne Bricker*, NCCOS. *In* Quantification and valuation of ecosystem services associated with shellfish, Thursday, 4 November, 2021, 10:00 a.m. ([Oyster Ecosystem Services](#)).

Harmful Algal Blooms and Ocean Acidification: Defining a Research Agenda. *Halle Berger*, NCCOS and OAP. *In* Interactions of Harmful Algal Blooms, Eutrophication and Carbonate Chemistry, Thursday, 4 November 2021, 1:00 p.m. ([ECOHAB and OAP](#))

Coastal eutrophication and the triple effects of HABs, ocean acidification, and deoxygenation in southern California. *Faycal Kessouri*, SCCWRP. *In* Interactions of Harmful Algal Blooms, Eutrophication and Carbonate Chemistry, Thursday, 4 November 2021, 1:00 p.m. ([ECOHAB, CHRP, and OAP](#))

Another Twist to the Northern Gulf of Mexico Zone of Oxygen Depletion. *Nancy Rabalais*, Louisiana Universities Marine Consortium. *In* Science-based Management and Engagement in the Gulf of Mexico, Thursday, 4 November 2021, 1:00 p.m. ([NGOMEX project](#))

Development of Extended-Range Hypoxia Forecasts for the Northern Gulf of Mexico. *Dubravko Justic*, Louisiana State University. *In* Science-based Management and Engagement in the Gulf of Mexico, Thursday, 4 November 2021, 1:00 p.m. ([NGOMEX project](#))

Summerlong, climate-driven hypoxia forecasts for the northern Gulf of Mexico via Bayesian mechanistic modeling. *Alexey Katin*, North Carolina State University. *In* Science-based Management and Engagement in the Gulf of Mexico, Thursday, 4 November 2021, 1:00 p.m. ([NGOMEX project](#))

Ingredients to a “Solution”: Increasing Resilience to Acidification and Deoxygenation in the Southern California Current. *Martha Sutula*, Southern California Coastal Water Research Project. *In* Climate Change Resilience: The Intersection of Ecological Shifts and Societal Impacts, Monday, 8 November 2021, 1:00 p.m. ([OA project](#))

Long-Term Changes in Primary Productivity and Phytoplankton Communities in the Lower Chesapeake Bay Tributaries. *Margaret Mulholland*, Old Dominion University. *In* Long-term environmental changes in the Chesapeake Bay, Monday, 8 November 2021, 1:00 p.m. ([ECOHAB project](#))

Understanding controls on *Margalefidinium polykrikoides* blooms in the lower Chesapeake Bay. *Eileen Hofmann*, Old Dominion University. *In* Long-term environmental changes in the Chesapeake Bay, Monday, 8 November 2021, 1:00 p.m. ([ECOHAB project](#))

Exploring Coastal Processes Through Data-Driven Parametric Modeling. *Daniel Obenour*, North Carolina State University. *In* Developing new insights from environmental data through innovative analysis approaches, Tuesday, 9 November 2021, 10:00 a.m. ([NGOMEX project](#))

Characterization of Carbonate Chemistry Variability Enhances Interpretation of Ocean Acidification Thresholds for Eastern Oysters. *Emily Rivest*, Virginia Institute of Marine Science. *In* Progress to better understand coastal acidification and hypoxia in estuaries, Tuesday, 9 November 2021, 10:00 a.m. ([OA project](#))

Keeping it in the System: Beneficial Use of Dredged Sediment to Increase Resiliency. *Susan Cohen*, University of North Carolina. *In* Advancements in natural infrastructure to mitigate impacts of coastal hazards, Tuesday, 9 November 2021, 1:00 p.m. ([ESLR project](#))

Natural Infrastructure for Protecting Communities from Storm-induced Flood Damage in a Changing Climate. *Peter Sheng*, University of Florida. *In* Advancements in natural infrastructure to mitigate impacts of coastal hazards, Tuesday, 9 November 2021, 1:00 p.m. ([ESLR project](#))

Revisiting Our Conceptual Models of Estuarine Ecosystems: What Have We Learned From Nutrient Reduction Efforts? *Jeremy Testa*. University of Maryland. *In* Revisiting eutrophication conceptual models: Honoring the legacy of Michael Kemp, Tuesday, 9 November 2021, 1:00 p.m. ([OA project](#))

How Can Nature-Based Approaches be Used to Restore Resilience along Developed Coastlines? *Rachael Gittman*, East Carolina University. *In* Innovations in Nature-Based Systems for Coastal Protection, Thursday, 11 November 2021, 10:00 a.m. ([ESLR Event Response](#))

Five Years Later: Response of Low-Lying S. Alterniflora Marsh to Thin Layer Sediment Addition. *Jenny Davis*, NCCOS. *In* Innovations in Nature-Based Systems for Coastal Protection, Thursday, 11 November 2021, 1:00 p.m. ([NNBF project](#))

Evaluating the Success of a Thin-Layer Sediment Application Project in a Southern California Salt Marsh. *Karen Thorne*, U.S. Geological Survey. *In* Innovations in Nature-Based Systems for Coastal Protection, Thursday, 11 November 2021, 1:00 p.m. ([ESLR project](#))