

2011 Aquatic Sciences Meeting Showcases CSCOR Sponsored Research

CSCOR-Led Special Sessions

[Regional Ecosystem Research Informing Management Decisions](#). Kimberly Puglise, David Hilmer, Michael Dowgiallo, Larry Pugh and Felix Martinez (*Special Session S39; oral presentations, Wednesday, February 16, 8 a.m. - 3:30 p.m.; poster presentations, Thursday, February 17, 4 p.m. - 6 p.m.*)

[Mesophotic Coral Ecosystems: Structure, Patterns, Processes](#). Tyler Smith, Richard Appeldoorn, David Ballantine and Kimberly Puglise (*Special Session S77; oral presentations, Wednesday, February 16, 8 a.m. - 6 p.m.; poster presentations, Thursday, February 17, 4 p.m. - 6 p.m.*)

CSCOR-Sponsored Special Sessions

[Consequences of Hypoxia for Living Resources and Biogeochemical Cycles](#). Sarah Kolesar, James Pierson and Jeremy Testa (*Special Session S14; poster presentations, Thursday, February 17, 4 p.m. - 6 p.m.; oral presentations, Friday, February 18, 8 a.m. - 6 p.m.*)

[Nutrient Limitation in River-Influenced Coastal Systems](#). Nancy Rabalais and Gene Turner (*Special Session S23; oral presentations, Monday, February 14, 1:30 p.m. - 6 p.m.; poster presentations, Tuesday, 4 p.m. - 6 p.m.*)

[Coral Reefs in a Crystal Ball: What Will Be Their Future?](#) Pamela Hallock, Bernhard Riegl and Edwin Hernández-Delgado (*Special Session S31; poster presentations, Thursday, February 17, 4 p.m. - 6 p.m.; oral presentations, Friday, February 18, 1:30 p.m. - 6 p.m.*)

[Advances in Coastal Hypoxia Modeling: From Physics to Fish](#). Dubravko Justic and Robert Hetland (*Special Session S35; poster presentations, Tuesday, February 15, 4 p.m. - 6 p.m.; oral presentations, Wednesday, February 16, 8 a.m. - 10 a.m.*)

[Ecological Forecasting: Progress, Challenges and Prospects](#). Raleigh Hood, Christopher Brown and David Green (*Special Session S41; oral presentations, Monday, February 14, 8 a.m. - 6 p.m. and Tuesday, February 15, 8 a.m. - 10 a.m.*)

[Genetics of Aquatic Microbial Populations](#). Deana Erdner and Lisa Campbell (*Special Session S78; oral presentations, Monday, February 14, 1:30 p.m. - 6 p.m., poster presentations, Tuesday, February 15, 4 p.m. - 6 p.m.*)

[Oxygen Dynamics in Coastal Hypoxic Zones](#). Brian Roberts, and Nancy Rabalais (*Special Session S91; oral presentations, Wednesday, February 16, 4 p.m. - 6 p.m.; poster presentation, Thursday, February 17, 4 p.m. - 6 p.m.*)

CSCOR-Sponsored Workshop

Mesophotic Coral Reef Ecosystems (*Thursday, February 17, 8 a.m. - 1 p.m.*). The CSCOR-supported Caribbean Coral Reef Institute is sponsoring an informal mesophotic coral reef ecosystems (MCEs) workshop focusing on similarities and differences among MCEs in different ocean basins providing further discussion relating to the MCE Special Session S77. Agenda topics include: 1) what are the bases for primary and secondary productivity in MCEs and how do these communities respond to changes in light; 2) what is the relationship between geomorphology and the distribution of MCEs; and 3) what is the connectivity (or potential for connectivity) between shallow and mesophotic coral ecosystems?

CSCOR-Supported Research Presentations and Posters

Coastal Hypoxia Research Program (CHRP)

[Breathless Nights: Diel-Cycling Hypoxia and the Prevalence of *Perkinsus marinus* \(Dermo\) Infections in Chesapeake Bay Oysters](#) (Breitburg, D., D. Hondrop, C. Audemard, R. Carnegie, R. Burrell and V. Clark)

[Forecasting Hypoxia in the Chesapeake Bay and the Gulf of Mexico: Model Accuracy, Precision, and Sensitivity to Ecosystem Change](#) (Evans, M. A. and D. Scavia)

[The Influence of Water Column Metabolism on Hypoxia in Narragansett Bay, RI, USA](#) (Smith, L. M. and C. A. Oviatt)

[Patterns and Controls on Spring Oxygen Depletion in Chesapeake Bay](#) (Testa, J. M. and W. M. Kemp)

Deep Coral Reef Ecosystem Studies Program (Deep-CRES)

[Gross Patterns of Mesophotic Coral Ecosystems Development Along Insular Slope Environments in the US Caribbean](#) (Appeldoorn, R. S., I. Bejarano, M. Nemeth, F. E. Pagan, H. Ruiz and C. Sherman)

[Algal Composition and Community Dynamics at Two Puerto Rican Mesophotic Reef Sites](#) (Ballantine, D. L., H. Ruiz, H. and N. E. Aponte)

[Vertical Distribution of Fishes From Mesophotic Coral Ecosystems May Impact Ecosystem Function](#) (Bejarano, I., M. L. Nemeth, R. A. Appeldoorn, H. Ruiz and C. Sherman)

[Fish Communities of the Mesophotic Ecosystems in the Hawaiian Archipelago](#) (Boland, R. C., F. A. Parrish and J. J. Rooney)

[Does Water Depth Change the Acquisition and Allocation of Carbon and Nitrogen in Mesophotic Coral Symbioses?](#) (Bradley, C. J. and B. N. Popp)

[Sea Surface Warming, Massive Bleaching and the Demise of Caribbean Coral Reefs: Case Studies From Puerto Rico](#) (Hernandez-Delgado, E. A., R. Hernandez-Pacheco, J., Cabrera, T. M. Ruiz and A. M. Sabat)

[Rapid Degradation of Federal Designated Critical Habitats of the Threatened Elkhorn Coral in Vega Baja and Manatí, P.R.](#) (Hutchinson-Delgado, Y. M. and E. Hernandez-Delgado)

[Demographic Effects of Bleaching in the Principal Caribbean Reef-Building Coral *Montastrea annularis*](#) (Hernandez-Pacheco, R., E. A. Hernandez-Delgado and A. M. Sabat)

[Exploring the Fishery-Enhancement Potential of Hawaii's Mesophotic Coral Ecosystems](#) (Longenecker, K. and R. Langston)

[Genetic Variation of *Symbiodinium* spp. and the Coral Host *Agaricia lamarcki* From Mesophotic and Shallow Water Populations](#) (Lucas, M. Q., E. Weil, E. M. Smith and N. Schizas)

[Spatial Patterns of Reef Fishes From Mesophotic Coral Ecosystems and the Role of Habitat Characteristics](#) (Nemeth, M. I., I. Bejarano, R. S. Appeldoorn, H. J. Ruiz and C. Sherman)

[Mesophotic Ecosystems Under a Heavy River Outflow Regime and Anthropogenic Influence in the US Caribbean: Ponce Puerto Rico](#) (Pagan, F. E. and R. S. Appeldoorn)

[Comparison of the Trophic Structure of Reef Fishes in Shallow and Mesophotic Coral Ecosystems in Hawaii](#) (Popp, B. N., C. L. Bradley, K. R. Longenecker, R. Langston and R. Pyle)

[Mesophotic Coral Ecosystems \(MCES\) in the Hawaiian Archipelago](#) (Rooney, J. J., E. M. Donham, A. Montgomery, H. Spalding, F. A. Parrish and R. Boland)

[Genetic Diversity and Connectivity of Shallow and Mesophotic Reefs](#) (Schizas, N. V. and M. Lucas)

[Evidence of Internal Waves and Mesoscale Eddies From Mesophotic ADCP and Temperature Measurements, La Parguera, Puerto Rico](#) (Schmidt, W. E.)

[Geomorphology and Sediment Dynamics in Mesophotic Coral Ecosystems of the Upper Insular Slope of Southwest Puerto Rico](#) (Sherman, C., M. Nemeth, H. Ruiz, I. Bejarano, R. Appeldoorn, E. Weil, Y. Hutchinson and M. Rojas)

[Ecophysiology of Mesophotic Coral and Macroalgae in Hawaii: High Primary Production in Low Light Conditions](#) (Spalding, H. L., J. L. Padilla-Gamiño and C. M. Smith)

[Perspectives on Coral Diseases in Deep Coral Communities Off the Southwest Coast of Puerto Rico](#) (Weil, E., H. Ruiz and D. Anderson)

Ecological Forecasting Program (ECOFORE)

[Development of a Chesapeake Bay Ecological Prediction System](#) (Brown, C. W., R. R. Hood, W. Long, D. L. Ramers, C. Waziak, J. Wiggert, R. Murtugudde, M. B. Decker and D. Wilson)

[Population-Level Consequences of Hypolimnetic Hypoxia in Lake Erie: Implications From a Spatially Explicit Individual-Based Model](#) (Goto, D., D. Rucinski, J. V. DePinto, S. A. Ludsin, D. Scavia and T. O. Höök)

[CBEPS: The Chesapeake Bay Ecological Prediction System](#) (Hood, R. R., C. W. Brown, J. D. Wiggert, W. Long, J. Xu, R. Wood, J. Jacobs, M. B. Prasad and L. W. Lanerolle)

[The Chesapeake Bay *Vibrio* spp. Forecast System](#) (Jacobs, J. M. C. Brown, R. Colwell, D. Green, R. Hood, W. Long, G. Constantin de Magny, B. Krishna Prasad Mathukumalli, R. Murtugudde and M. Rhodes)

[Extreme Events as Tests of Ecological Forecasts: The Winter of 2009 in Europe](#) (Wetthey, D. S., S. A. Woodin, T. J. Hilbish, F. P. Lima and S. J. Jones)

Ecology and Oceanography of Harmful Algal Blooms Program (ECOHAB)

[Bloom Dynamics of the Red Tide Dinoflagellate *Alexandrium fundyense* in the Gulf of Maine: A Synthesis and Progress Towards a Forecasting Capability](#) (Anderson, D. M., D. J. McGillicuddy, Jr., B. A. Keafer, R. He and D. W. Townsend)

[Individual Variation in the Response of the Copepod *Eurytemora herdmani* to the Toxic Dinoflagellate *Alexandrium* sp.](#) (Avery, D. E. and H. G. Dam)

[Genetic Diversity and Population Structure of *Karenia brevis* Blooms in the Gulf of Mexico Suggest a Common Source Population](#) (Campbell, L., D. W. Henrichs, M. A. Renshaw and J. R. Gold)

[Determination of *Karenia brevis* Bloom Source Area Along the Texas Coast](#) (Chen, F., R. Hetland, L. Campbell and M. Tomlinson)

[Diversity and Dynamics of a Bloom of the Toxic Dinoflagellate *Alexandrium fundyense*](#) (Erdner, D. L., M. L. Richlen, D. Kulis, L. A. McCauley and D. M. Anderson)

[Reactive Oxygen Species are Linked to Toxicity of *Alexandrium* spp. to Protists](#) (Flores, H., G. H. Wikfors and H. G. Dam)

[Multi Factor Limitation of the 2005 *Karenia brevis* Bloom in Central West Florida](#) (Heil, C. A., P. M. Glibert, R. W. Richardson, S. Murasko, J. Alexander and M. Garrett)

[Extensive Genetic Diversity and Rapid Population Succession During Blooms of *Alexandrium fundyense* \(Dinophyceae\) in an Isolated Salt Pond on Cape Cod, MA, USA](#) (Richlen, M. L., D. L. Erdner, L. A. McCauley, K. Libera and D. M. Anderson)

Gulf of Mexico Ecosystems & Hypoxia Assessment Program (NGOMEX)

[Effects of Hypoxia on Fish Diets in the Northern Gulf of Mexico](#) (Adamack, A. T., M. A. Clouse, S. A. Ludsin, D. M. Mason, S. B. Brandt and H. Zhang)

[How Does Hypoxia Affect Habitat Quality of Fishes?](#) (Brandt, S. B., M. Roman, J. Pierson, S. Kolesar, B. Boicourt and C. Sellinger)

[Effects of Hypoxia on Foraging and Energetics of Atlantic Croaker in the Northwestern Gulf of Mexico](#) (Craig, J. K., M. A. Magelnicki, L. B. Crowder, K. A. Rose, S. Creekmore and S. A. Diamond)

[Gauss-Markov Optimal Interpolation and Spatial Scales of Dissolved Oxygen in the Northern Gulf of Mexico Hypoxic Zone](#) (DiMarco, S. F.)

[Understanding the Relative Role of Wind and Nutrient Forcing of the Northern Gulf of Mexico Hypoxia Using Statistical and a Coupled Numerical Model](#) (Feng, Y., S. F. DiMarco and J. A. George)

[Multivariate Modelling of Seasonal Hypoxia Over the Texas-Louisiana Continental Shelf](#) (Forrest, D. R., R. D. Hetland and S. F. DiMarco)

[Estimating Summertime Planktonic Productivity and Respiration for the Louisiana-Texas Continental Shelf Using Oxygen and Carbon Isotope Techniques](#) (Fry, B., D. Justic and L. Wang)

[Oxygen Profiles and Ammonium Dynamics in May and August 2010 at Two Gulf of Mexico Sites Contaminated by the Deepwater Horizon Oil Spill of April 2010](#) (Gardner, W. S., X. Lin, M. J. McCarthy, A. Souza, J. Liu and Z. Liu)

[Northern Gulf of Mexico Hypoxia as Seen Through the Lens of Continental Shelf Dynamical Processes](#) (Hetland, R. D.)

[Beyond Conventional Modeling of Coastal Hypoxia: Coupling Three Dimensional Hydrodynamic-Biological Hypoxia Models With Individual Based Fish Models](#) (Justic, D., K. Rose, L. Wang, A. Hoda and H. Huang)

[Understanding the Causes of Gulf of Mexico Hypoxia: A Geostatistical Approach](#) (Obenour, D. R., A. M. Michalak, D. Scavia and Y. Zhou)

[How Does Mississippi River Water Affect Phytoplankton Growth in the Adjacent Upper Barataria Basin?](#) (Rabalais, N. N., L. Ren, R. E. Turner and W. M. Morrison)

[Benthic and Pelagic Microbial Ecology in the Northern Gulf of Mexico Hypoxic Zone](#) (Reese, B. K., B. F. Romero, A. Shepard, S. Dowd, S. DiMarco, J. W. Morse and J. H. Mills)

[Spatial and Temporal Patterns in Water Column and Benthic Respiration in the Northern Gulf of Mexico Hypoxic Zone](#) (Roberts, B. J., W. Morrison, R. Del Rio, L. Pride, D. Richardi, C. M. Semmler, B. Young, N. N. Rabalais and R. E. Turner)

[CSCOR NGOMEX: Effects of Hypoxia on Production Potential of Ecologically and Commercially Important Living Resources in the Northern Gulf of Mexico](#) (Roman, M., J. Pierson, S. Brandt, S. Kolesar, C. Sellinger, J. Cowan, D. Mason, C. Stow, S. Sable and A. Adamack)

[Potential Nutrient Limitations on Phytoplankton Growth Within and Near the Louisiana Coastal Current](#) (Turner, R. E. and N. N. Rabalais)

[A Numerical Investigation of the Texas Shelf Hypoxia in 2007](#) (Zhang, X., R. D. Hetland and S. F. DiMarco)

Monitoring and Event Response for Harmful Algal Blooms (MERHAB)

[Assessment of a Coupled Physical-Biogeochemical Model Developed for Water Quality and Ecological Forecast Use in Chesapeake Bay](#) (Wiggert, J. D., W. Long, J. Xu, R. R. Hood, B. K. Mathukumalli, L. W. Lanerolle and C. W. Brown)

[Development of a Chesapeake Bay Ecological Prediction System](#) (Brown, C. W., R. R. Hood, W. Long, D. L. Ramers, C. Waziak, J. Wiggert, R. Murtugudde, M. B. Decker and D. Wilson)

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Regional Ecosystem Prediction Program (REPP)

[A Systematic Process of Consensus Building and Goal Setting: The MARES Project](#) (Ortner, P. B., J. N. Boyer, C. L. Mitchell, W. Nuttle and F. Gayanilo)