

# UNCW

# Coastal & Marine

## April 2017

# Science News

### *A note from the director of CMS, Dr. Martin Posey:*

*It is hard to believe another academic year is drawing to a close. A lot has gone on at CMS this past year. Among the various happenings, we have undergone a transition in several positions (including breaking in a new Director); we adopted a new policies and procedures manual; we worked on a university-wide coastal and marine self-study; we initiated several new outreach and communications efforts such as an open house, participation in several targeted community events, initiation of a monthly communications newsletter, development of a virtual tour and brochure (thanks OUR!), and outreach to a number of regional organizations; we initiated 4 research collaboratives, resulting in at least one interdisciplinary grant submission and discussion for several others; through assistance from the CAS dean's office we were able to support pilot project funding and acquire some needed facilities and equipment; we were able to upgrade some of our facilities; we welcomed several new faculty; and the coastal and marine sciences group had a tremendous year related to publications, grants, presentations, research and teaching support, and student mentoring. And this is only part of what has gone on. Thanks to everyone for your great efforts, support, and enthusiasm! - Martin*

### **Outreach, Recognitions, & Other Notables**

- ◆ Alison Taylor (BMB) received the 2016 CAS Faculty Research Award.
- ◆ Eman Ghoneim (EOS) received the 2017 UNCW Chancellor's Teaching Excellence Award.
- ◆ Laura Bagge, a UNCW alumni ('08, '11M; BMB) was featured on the UNCGA [website](#) for her research on crustacean camouflage.
- ◆ Alexa Sterling, who worked in Alison Taylor's lab (BMB), was featured on the University of Rhode Island [website](#) for her research and leadership accomplishments. At URI she is pursuing an MA in Marine Affairs and PhD in Biological and Environmental Sciences.
- ◆ Bill McLellan (BMB) was featured by [NOAA](#) for his work with the Marine Mammal Stranding Network.
- ◆ Jay Styron (CMS) was featured in a [StarNews](#) article on oyster farming.
- ◆ Mike Mallin (CMS) was interviewed by the Coastal Review on the potential reclassification of the lower Cape Fear River. Mike was also interviewed by Terry Riley, Coastal Federation Magazine, on best management practices for golf courses.

## Outreach, Recognitions, & Other Notables

- ◆ Larry Cahoon (BMB) was interviewed on the Neuse River's listing as an endangered river. Click [here](#) for the article. He was also interviewed on the Cape Fear River's listing as an endangered river. Click [here](#) for the article.
- ◆ UNCW collaborator Tim Holbrook was featured on [National Geographic](#) for his oyster farming work. Tim works with Beth Condon, Troy Alphin, Susanne Brander, Martin Posey and Aswani Volety on a multiyear project examining impacts of oyster farming.
- ◆ Mike Durako (BMB) was invited to join the Editorial Board of the Bulletin of Marine Science as an Associate Editor. It's a 3-year renewable appointment.
- ◆ UNCW biologists Troy Alphin, Jessie Jarvis, Mike Mallin and Fred Scharf were appointed by the Marine Fisheries Commission to serve on the Strategic Habitat Area Advisory Committee for the Southern Region (Region 4).
- ◆ CORMP completed a buoy turnaround April 4th-6th on board the RV Savannah. The CAP2 buoy, 8 miles north of Charleston Harbor entrance, and the SUN2 buoy, 2 miles east of Little River Inlet, were replaced. Both of these buoys had survived Hurricane Mathew last year, but had been damaged by weather or ship strikes within the past few weeks. CORMP was able to bring Ander Etxegoien, a UNCW senior, who has been interning with the CORMP technicians this past semester. Ander was able to be part of the preparation of the buoys and data logging systems as well as in the shipboard deployment and recovery operations.
- ◆ A CISME instrument, developed by Drs. Alina Szmant and Rob Whitehead with NOAA CIOERT funding, has been sold to Dr. Leo Chan of the City University of Hong Kong. In its first deployment for research in Asiatic waters, it is being used to study the metabolic condition and health of corals under the influence of intense red tides in the Hong Kong region.
- ◆ The Fish 2.0 2017 competition's [South Atlantic & Gulf Coast Shellfish & Crustaceans Track](#), co-hosted by the University of North Carolina, Wilmington, and the Marine Bio-Technologies Center of Innovation has been featured by [National Geographic](#) (a hit on their blog) as well as in Dan Baden's Wilmington Business Report Feature [article](#).



## Presentations & Publications

- ◆ Taylor, A.R., Brownlee, C., Wheeler, G. Cell biology of coccolithophores: Chalking up success. *Annual Review of Marine Science*. 9: 283-310 (BMB)
  - ◇ This paper represents a major invited review published in the highest ISI ranked peer review journal in Geosciences and Geophysics, Marine and Freshwater and Oceanography categories.
- ◆ The MACRL marine chemistry group has had a manuscript accepted by the international environmental chemistry journal *Chemosphere*. The manuscript is entitled “Use of experimentally determined Henry’s Law and salting-out constants for ethanol in seawater for determination of the saturation state of ethanol in coastal waters.” The authors are Joan D Willey, Jacqueline P. Powell, G. Brooks Avery, Robert J. Kieber, and Ralph N. Mead. Jaqueline Paige Powell was a master’s student in the MS chemistry program. Results of this work allow assessment of whether seawater will serve as a sink for anthropogenic biofuel ethanol in the atmosphere. (Chemistry and Biochemistry).
- ◆ iMESA lab new publication: Moitinho-Silva L, Steinert G, Nielsen S, Hardoim CC, Wu Y, McCormack GP, López-Legentil S, Marchant R, Webster N, Thomas T and Hentschel Humeida U (2017). Predicting the HMA-LMA status in marine sponges by machine learning. *Front. Microbiol.* 8:752 (BMB).
- ◆ Ayers, Adam L., John N. Kittinger, Mark T. Imperial, and Mehana B. Vaughan. “Making the Transition to Co-Management Governance Arrangements in Hawai’i: A Framework for Understanding Transaction and Transformation Costs.” *International Journal of the Commons* 11 (no. 1, Spring 2017): pp. 388-421 (DOI: 10.18352/ijc.709). (PIA).
- ◆ Danner, J. E., I.T. Moore, R. M. Danner, and R. Fleischer. 2017. Genetic population structure in an equatorial sparrow: roles for culture and geography. *Journal of Evolutionary Biology*. DOI: 10.1111/jeb.13065 (BMB).
- ◆ English, P.A., Mason, T.I., Backstrom, J.T., Tibbles, B.J., Mackay, A.A., Smith, M.J. and Mitchell, T. 2017. Improving Efficiencies of National Environmental Policy Act Documentation for Offshore Wind Facilities Case Studies Report. US Dept. of the Interior, Bureau of Ocean Energy Management, Office of Renewable Energy Programs, Herndon. OCS Study BOEM 2017 - 026. 217pp. (EVS).
- ◆ Freshwater, D.W., J.N. Idol, S.L. Parham, C. Fernández-Garfa, N. León, P.W. Gabrielson & B.L. Wysor. 2017. Molecular assisted identification reveals hidden red algae diversity from the Burica Peninsula, Pacific Panama. *Diversity* 9, 19; DOI: 10.3390/d9020019. (CMS).
  - ◇ This paper was invited for a special issue on Tropical Marine Biodiversity, and the majority of work for this publication was carried out by former UNCW masters student Jennifer Idol and undergraduate student Seth Parham.

## Presentations & Publications

- ◆ Hanke, M., T. Alphin and M. Posey. The influence of habitat characteristics on intertidal oyster (*Crassostrea virginica*) populations. Marine Ecology Progress Series. In Press.
- ◆ Mike Mallin (CMS): Mallin, M.A., J.M. Burtchett and B. Song. 2017. "Secrets of constructed wetlands and detention ponds-revelations". Benthic Ecology Meeting/Southeast Estuarine Research Society Meeting, Myrtle Beach, N.C.
- ◆ Wendy Strangman (MARBIONC): Invited oral presentation on their work on cyanobacterial harmful algal bloom chemistry and metabolomic analysis at the American Chemical Society's National Meeting in San Francisco. Title: Expanding targets of UPLC -ToF-MS metabolomics and <sup>15</sup>N labeling in cyanobacterial harmful algal bloom (CHAB ) research: Microcystins and Beyond.
- ◆ Raymond Danner (BMB): Seminar at Cape Fear Audubon Society: "The challenges of cold winters and hot summers on the North Carolina coast: A bird's perspective".
- ◆ Seminar at University of Maine: "The effects of thermal stress on behavioral performance in birds."
- ◆ Joanne Halls (EOS): Halls, Joanne, Maria Frishman<sup>1</sup>, Timothy Moss<sup>2</sup>, and Michael Okely<sup>1</sup>; Barrier Island Geomorphology: An Automated Geospatial Model to Derive Features and Compute Displacement and Movement Through Time; American Association of Geographers annual conference in Boston, April 5-9, 2017: <sup>1</sup>: current student in MS in Geoscience. <sup>2</sup>: graduate of the MS in Marine Science program
- ◆ Hill, Evan and Bohm, Sidney, (2017). Sea level rise hazard assessment for New Hanover County, North Carolina. National Association of Environmental Professionals 2017 Annual Conference. (EVS).
- ◆ Hill, Evan. (2017). Session- From Mountains to Sea: Protecting Coastal Floral and Fauna Communities. National Association of Environmental Professionals 2017 Annual Conference. (Session Moderator) (EVS).
- ◆ Hao, Huili, Hill, Jeffery, Eulie, Devon, and Kierce, Matthew. (2017). Perceptions vs. reality ~ Climate and weather effects on property ownership. American Association of Geographers national conference (EVS).
- ◆ Hao, Huili. (2017). Tenants of sustainable tourism and local market research from home/second-home owners. The US Green Building Council Annual Signature Event (EVS).
- ◆ Joe Pawlik (BMB); Chemical Ecology of Sponges on Caribbean Coral Reefs. College of Arts and Sciences Speaker Series.

## Presentations & Publications

- ◆ A large number of UNCW representatives gave oral or poster presentations at the 2017 Benthic Ecology Meetings. This international meeting has been hosted at UNCW twice (2000; 2010) and is considered one of the premier meetings for dissemination of research results in the field:
- ◆ BEM Oral Presentations:
  - ◇ “Not a fun threesome: the prevalence, impact and interaction of boring sponges and pea crabs on oysters”; John Carroll, Jessica Watts, Christopher Finelli, Daphne Munroe (BMB).
  - ◇ “Modeling the effects of varying disturbance frequency and magnitude on population persistence in predator-prey systems”; Christian J. C. Commander; J. Wilson White (BMB).
  - ◇ “Wasting Syndrome alters microbial symbiont communities of the Caribbean brown tube sponge, *A. tubulata*,” Deignan, Lindsey K; Pawlik, Joseph; Erwin, Patrick M (BMB).
  - ◇ “A comparison of microbial symbiont community structure and host specificity in introduced and native ascidians from artificial versus natural habitats”; Evans, J.; Erwin, P.M.; Shenkar, N.; López-Legentil, S. (BMB).
  - ◇ “Is there a Vision for Change in the Quest for Ocean Literacy?” Christopher Finelli; Sara Lindsay (BMB).
  - ◇ “Hard Rock! Stable Sponge Microbiome in a Heavy Metal Polluted Environment”; Shelby E. Gantt; Susanna López-Legentil; and Patrick M. Erwin (BMB).
  - ◇ “Inherit resilience in seagrass: Quantifying genetic and kin structure variation between life history strategies”; Jarvis, J.C.; Willeboordse, P.L.; Kamel, S.J., Eulie. D.O. (BMB, EVS).
  - ◇ “Temporal shifts in genetic composition and kinship of eastern oyster spat *Crassostrea virginica*,” Claire E. Lack; Stephanie J. Kamel (BMB).
  - ◇ “Seasonal recruitment of epibenthic organisms on the hard bottom at Five Mile Ledge in Onslow Bay, North Carolina”; Melissa LaCroce; Zachary Long; D. Wilson Freshwater (BMB, CMS).
  - ◇ “Seasonal and spatial structure of hardbottom benthic communities”; Zachary Long; Jennifer Idol; Wilson Freshwater (BMB, CMS).
  - ◇ “Gut content of *Fundulus heteroclitus* as a measure of restored marsh maturation”; Madison Lytle; Martin Posey; Troy Alphin (BMB, CMS).
  - ◇ “Palatability of variably defended Caribbean sponge species is unrelated to predator abundance”; Marty, Micah J.; Blum, James; Pawlik, Joseph R. (BMB).
  - ◇ “Cultivating the carbon cycle: population growth alters carbon flux for the Caribbean giant barrel sponge *Xestospongia muta*,” Steven E. McMurray; Joseph R. Pawlik; Christopher M. Finelli (BMB).

## Presentations & Publications

### ◆ BEM Oral Presentations Continued...

- ◇ “The vicious circle hypothesis for the relative lack of resilience of Caribbean coral reefs”; Pawlik, Joseph R. (BMB).
- ◇ “Off the deep end: Patterns of sponge cover with depth through the mesophotic zone on Caribbean reefs”; Scott, Alexander R.; Battista, Timothy; Pawlik, Joseph R. (BMB).
- ◇ “Symbionts as taxonomic tools: Cryptic lineages of the of the colonial ascidian *Distaplia bermudensis* host unique microbial communities”; Hendra F. Sihaloho, Patrick M. Erwin, and Susanna López-Legentil (BMB).
- ◇ “With or without nutrients, sponges are boring: the effects of eutrophication on bioerosion”; Stubler, A.D.1; Carroll, J.M.; Finelli, C.M. (BMB).
- ◇ “Exposure to elevated pCO<sub>2</sub> does not alter reproductive suppression of *Aurelia aurita* jellyfish polyps in low oxygen environments”; Laura M. Treible; Kylie A. Pitt; Shannon G. Klein; Robert H. Condon (BMB).
- ◇ “Water management, not overharvest, contributed to the 2012-2013 Apalachicola Bay oyster fishery collapse”; J. Wilson White; Timothy J. Pusack, Christopher D. Stallings, David L. Kimbro (BMB).

### ◆ BEM Posters

- ◇ “Bay scallops: the high-resolution canary in the highly-fertilized coal mine”; Jessica L. Carlton; Lorie E. Williams; John M. Carroll; Steve Tettelbach; Bradley Peterson; Aswani K. Volety; Elizabeth S. Darrow (BMB, CMS).
- ◇ “Money on the Move: Managing Shifting Species Through Marine Protected Areas due to Climate Change”; Alicia Cheripka; J. Wilson White (BMB).
- ◇ “The lesser known Caribbean ascidians: molecular and morphological identification of Bahamian species; Bailey Counts”; Xavier Turon; Susanna López-Legentil (BMB).
- ◇ “The effect of diet on growth, survival and condition in the bay scallop, *Argopecten irradians*”; Enneking, K.; Wilbur, A.E. (BMB; Shellfish Research Hatchery).
- ◇ “An arduino-based datalogging system adapted as an underwater flow-meter”; Fox, Emily E; Fox, Gary. J.; Pawlik, Joseph R. (BMB).
- ◇ “Balancing production and fisher attraction on artificial reefs: model analysis”; Hann, A.M.; Stallings, C.D.; White, J. W. (BMB).
- ◇ “The Ecology of Fear: Effect of Predators on the Foraging Behavior of Guppies (*Poecilia reticulata*)”; Hoffman, K.; White, J. W. (BMB).

## Presentations & Publications

### ◆ BEM Posters Continued...

- ◇ “Fish Nursery Function of Ocean Surf-Zone Habitat: Response to Human Disturbance Gradients”; Lankford, T. (BMB).
- ◇ “The Role of Habitat Connectivity in a Restored Marsh System: Influences on Nekton Populations”; Conor Murphy; Martin Posey; Troy Alphin; and Dave Meyer (BMB, CMS).
- ◇ “Similar trends in cover of sponges and macroalgae with depth on deep Caribbean reefs; Noren, L; Scott, A; Pawlik, J (BMB).
- ◇ Low salinity exposure affects reproduction of the Eastern oyster (*Crassostrea virginica*)”; Madison Robison; Myrina Boulais; Kyle John Chenevert; John Park Roberts; Aswani Volety (BMB).
- ◇ “Distinct personality types in *Littoraria irrorata* and the implications for predator escape behavior”; Christina Salerno
- ◇ “Blue Carbon Storage Across Habitat Types in Extensive Eelgrass Meadows (Padilla Bay, WA); Siegert, D.M.; Apple, J. K. (EOS)
- ◇ “Is there differential mortality in caged vs. uncaged spat of the Eastern oyster, *Crassostrea virginica*?” Jenifer Sugarman; Jordan Gossett; Stephanie J. Kamel (BMB).
- ◇ “In Situ Measurements of Reef Coral Respiration, Photosynthesis and Calcification Using A Diver Deployed Respirometer: CISME (Coral In Situ MEtabolism)”; Szmant, A.M.; Whitehead, R.F. (CMS).
- ◇ “The Effect of Positioning on the Growth Rates of *Crassostrea virginica* Among Floating Bag Culture”; Torok, J.S.; Posey, M.H.; Alphin, T.D. (BMB, CMS).
- ◇ “Comparison of genetic variation among wild and hatchery-reared broodstock *Crassostrea virginica*”; Varney, R. L.; Wilbur, A. E. (BMB; Shellfish Research Hatchery).
- ◇ “The effect of stocking density and net shape on the growth and survival of juvenile bay scallops, *Argopecten irradians*”; Watts, J.C.\*; Wilbur, A.E. (BMB; Shellfish Research Hatchery).
- ◇ “Assessing Health of the Eastern Oyster *Crassostrea virginica* in Tidal Creek Systems”; Wileman, A.N.; Thurlow, H.R.; Alphin, T.D.; Cahoon, L.B.; Posey, M.H. (BMB, CMS).

## **Presentations & Publications**

- ◆ Several faculty and students presented at the North Carolina's Coastal Conference 4-5 April in Raleigh;
  - ◇ Panel presentation: Spencer Rogers; Jay Styron; and Chris Dumas
  - ◇ Poster presentations:
    - “North Carolina Coastal Area Management Act (CAMA) Goal Analysis: Estuarine Shoreline Stabilization Permitting”; Betsy Baldwin, Faculty Adviser: Jessica Weinkle (PIA, MCOP).
    - “The Flower Garden Banks National Marine Sanctuary and the Red Snapper”; Kathy Cyr, Faculty Adviser: Jessica Weinkle (PIA, MCOP).
    - “OBX Stakeholder Values and the CZMA: What is ‘Wise Use’ and How Can We Achieve It?” Hayley Grabner, Faculty Adviser: Jessica Weinkle (PIA, MCOP).
    - “Goal of the Beach Act: Implications for Myrtle Beach, South Carolina”; Genevieve Guerry, Faculty Adviser: Jessica Weinkle. (PIA, MCOP).
    - “Examining Fine-Scale Movement of Estuarine Southern Flounder (*Paralichthys lethostigma*) Using a Combination of Active and Passive Acoustic Techniques”; Lisa Hollensead, Faculty Adviser: Frederick Scharf (BMB).
    - “American Aquaculture: Pitfalls, Values, and Alternatives”; Caitlin Lashbrook, Faculty Adviser: Jessica Weinkle; (PIA, MCOP).
    - “Affects of Noise Pollution on Marine Mammals”; Jackie Meyle, Faculty Adviser: Jessica Weinkle; (PIA, MCOP).
    - “Shellfish in the Human Dimension: An Examination of CAMA Protection of Coastal Resources”; Jennifer Ryan, Faculty Adviser: Jessica Weinkle; (PIA, MCOP).
    - “Estimating Mortality for Southern Flounder Using a Combined Telemetry and Conventional Tagging Approach”; Trevor Scheffel, Faculty Adviser: Frederick Scharf; (BMB).
    - “Estimating Southern Flounder Population Connectivity Using Otolith Geochemistry”; Verena Wang, Faculty Adviser: Frederick Scharf; (BMB).
    - “New Jersey Public Beach Access”; Christopher Yoda, Faculty Adviser: Jennifer Biddle (PIA, MCOP).

## **Grants & Contracts**

- ◆ The monthly summaries for March and April are not yet available, so a complete listing of grants for this time period will be provided in the next coastal and marine news update.



## Grants & Contracts

- ◆ The City of Wilmington is one of nine cities nationwide to receive a \$20,000 grant toward urban reforestation targeting low-income neighborhoods and communities. The Alliance for Cape Fear Trees is the lead organization. The project is also supported by the Wilmington Tree Commission, the Cape Fear Garden Club's Conservation and Community Improvement committees, UNCW's Department of Environmental Studies, the North Carolina Urban Forest Council, the North Carolina Forestry Service and the Wilmington Housing Authority.
- ◆ Jennifer McCall received a \$1.47 Million Small Business Technology Transfer (STTR) grant. A description is posted on the UNCW homepage and can be viewed [here](#).

## CMS & Partners

- ◆ Thanks to OUR for producing the new Coastal and Marine brochure which broadly covers the coastal and marine programs at UNCW (on CMS lobby literature stand).
- ◆ The new graduate student office area (1356) has furniture and looks great! Thanks to the CAS Dean's Office for making this happen! The other two shouldn't be far behind (1323 & 2323).
- ◆ MarineQuest is looking to collaborate with interested marine science faculty and staff to host an inaugural youth summit event next year for high school students from around the state. This youth summit will have students explore and discuss a relevant marine science topic (TBD) and engage in hands-on and data driven applications. Please contact [Harris Muhlstein](#) if you are interested in working with us and/or you would like to provide any suggestions/feedback for how to make this a successful event. Based on the faculty and staff that are interested in participating will help us to determine what the topic/theme will be.
- ◆ Please welcome the newest member of the SPARC team, Cate Cunningham! Cate comes to us after relocating to Wilmington from Chapel Hill where she worked in the School of Nursing as a Program Manager. Prior to that she worked at the University of Washington as a fiscal specialist/research coordinator in the department of Radiology. Since arriving in Wilmington, Cate has been an English Instructor for Cape Fear Community College. Cate has a Master's degree in English & American Literature and Women's/Gender Studies. Cate will be working in Pre Award with M.J. West and Nathan Jones to facilitate and coordinate proposal development and submission. Welcome to UNCW, Cate!

## CMS & Partners

- ◆ The April Planet Oceans seminar, presented by Dr. Darren Rumbold, Professor of Marine Science at Florida Gulf Coast University (Marine Pollution: Is it all Gloom and Doom?) generated some great discussion. Thanks to everyone who attended his talk or otherwise participated in his visit.
- ◆ We would like to welcome Mackenzie Todd as our new CMS Graduate Student Office Assistant! Stop by the front desk and say hello and introduce yourselves. Mackenzie graduated from UNCW with a BS in Environmental Science, concentration in Conservation, & has a minor in Biology. Now, she is currently working toward her Masters in Coastal and Ocean Policy.
- ◆ Steve Fontana has now been assigned to report to UNCW's Office of Innovation and Commercialization and will take a more active role in technology development and commercialization campus wide. Please let him know if he can be of assistance relative to IP, product concepts/development, commercialization, business spinouts and licensing. His office will continue to be located in the MARBIONC Building and he can be reached via email at: fontanas@uncw.edu or phone at 2-2014.
- ◆ MBCOI:
  - ◇ BioMarine Business Convention, Oct 1-3, 2017, Rimouski, Quebec, Canada
    - Program, venue, and registration costs can be found online [here](#).
    - MBCOI's membership in BICA offers our stakeholders a significant discount: 750 Euros (~\$815) vs 900 Euros (~\$977) for non-BICA members, before May 31. After that, the BICA rate increases to 900 Euros and non-BICA to 1200 Euros.
    - If you are interested in attending BioMarine, MBCOI would require your payment for registration in full to enable us to register your organization under MBCOI's BICA discount.
    - Please let Deb Mosca (dmosca@mbcoi.net) know by May 15, 2017 if you wish to register using MBCOI's BICA discount.
    - The Economic Development Partnership of North Carolina has a STEP Program for assistance with travel and hotel costs for companies wishing to attend international meetings in order to expand their businesses. If you are interested in applying for travel funds, please contact John Loyack directly (john.loyack@edpnc.com) for requirements and amounts available.

## CMS & Partners

- ◆ The following student participated in the CMS Graduate Student Poster session:
  - ◇ Sam Athey; “The Effect of a Microplastic-Associated Legacy Pollutant on the Feeding Preferences of Microzooplankton and Their Predators”
  - ◇ Betsy Baldwin; “Estuarine Shoreline Stabilization Under NC CAMA”
  - ◇ Marie Bartlett; “Quantitative Paleoenvironmental Reconstructions of Past Coastal Subsidence Along the Northern Margin of the Cascadia”
  - ◇ Jessica Carlton & Lorie Williams; “Bay Scallops: The High-Resolution Canary in the Highly-Fertilized Coal Mine”
  - ◇ Adam Chaffin; “Organic Nitrogen Load Sourcing in North Carolina Waters by Stable  $^{15}\text{N}$  Isotope Analysis”
  - ◇ Megan Cheney; “Biological and Chemical Investigations of *Planktothrix agardhii*”
  - ◇ Joshua Church; “Structure Elucidation of Photoproducts Formed from the “Red Tide” Toxin PbTx-3 in the Absence of Sediments”
  - ◇ Avonelle Combs; “Short Term Changes in Seagrass Seed Viability”
  - ◇ Bailey Counts; “The Lesser Known Caribbean Ascidiaceans: Morphological and Molecular Identification of Main Bahamian Species”
  - ◇ Kathy Cyr; “Flower Garden Banks National Marine Sanctuary and the Red Snapper”
  - ◇ Derek Detweiler; “Phytosterols as Tracers of Terrestrial and Wetland Carbon to Ten Thousand Islands, Florida, USA: Implications for Trophic Resource Usage in the Eastern Oyster, *Crassostrea virginica*”
  - ◇ James Evans; “Aiding and Abetting: Characterizing the Diversity, Host-Specificity, and Function of Microbial Symbionts in Introduced North Carolina Ascidiaceans”
  - ◇ Shelby Gantt; “Indifferent to Pollution: Stable Microbial Communities in the Sponge *Crambe crambe* from Inside and Outside a Mediterranean Harbor”
  - ◇ Hayley Grabner; “Tourism and Power in the OBX: An Assessment of the Political Ecology of Tourism-Rich Coastal Areas”
  - ◇ Genevieve Guerry; “Swimming Advisories: The Problem for Myrtle Beach, South Carolina”
  - ◇ John Holloway; “Attractor Reconstruction for Spatiotemporal Forecasting of Coral Reef and Dune Systems”
  - ◇ Caitlin Lashbrook; “American Aquaculture: Pitfalls, Values, and Alternatives”
  - ◇ Madison Lytle; “Impacts of Oyster Structures (Reefs and Culture Operations) on Adjacent Benthic Community Assemblages”

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- ◆ The following student participated in the CMS Graduate Student Poster session:
  - ◇ Erin McCarthy & Willow Patten; “The Pre-Restoration Isotope Compositions of Florida Everglades Fishes”
  - ◇ Philip Meyer; “Qualifying the Seasonal Correlation Between Sea Surface Salinity and the Hydrologic Cycle in the Global Ocean”
  - ◇ Jackie Meyle; “Marine Mammal Protection Against Noise Pollution Under the Marine Mammal Protection Act”
  - ◇ Michael Recchia; “Chemical Investigations of Novel Metabolites Isolated From a 2016 Freshwater Cyanobacteria Bloom in King’s Highway Pond, Wilmington, NC”
  - ◇ Lauren Rosul; “Modeling Vulnerability to Inundation in Coastal North Carolina using High-Resolution Finished Floor Elevations”
  - ◇ Jennifer Ryan; “Increased Shellfish Closures and Impacted Water Quality Under Wilmington’s MS4”
  - ◇ Brittany Saleeby; “Quantification of Bifenthrin and Photo-Products”
  - ◇ Brooks Surgan; “Where Have All the Wetlands Gone?...To Mitigation Banks! An Analysis of Army Corps Compensatory Mitigation Policy and Its Effect on Ecological and Social Functions”
  - ◇ Alex Taylor; “Effect of Ethanol on the Production of Chromophoric Dissolved Organic Matter (CDOM) in Rainwater”
  - ◇ Jacob Torok; “The Effect of Positioning on the Growth Rates of *Crassostrea virginica* Among Floating Bag Culture”
  - ◇ Christopher Yoda; “New Jersey Public Beach Access”
- ◆ During the summer we will go to an every-other-month schedule for the coastal and marine news updates (June and August). Thanks to everyone for your contributions!!!

