



## Gray's Reef Education Bytes...

*An educators guide to Gray's Reef National Marine Sanctuary, marine science news, reviews, opportunities and inspiration from the South Atlantic Bight.*

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## Gray's Reef 2013 Ocean Film Festival

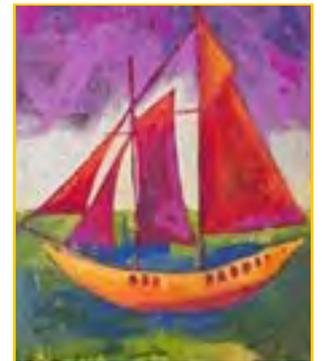
Gray's Reef welcomes you to the [2013 Ocean Film Festival!](#) Join us as we explore great expanses of ice in the Arctic, lost islands in the Pacific, shipwrecks in the Great Lakes, and life in the frozen Antarctic at the FREE **Gray's Reef Ocean Film Festival**, September 12-15 in Savannah, GA!

Thursday, Independent journalist and filmmaker Angela Sun will lead us on a remarkable journey to Midway Atoll in search of a profound landscape that is rumored to exist in the middle of the Pacific Ocean through her inspiring and motivating documentary film, **"Plastic Paradise: The Great Pacific Garbage Patch."**

University of Georgia's Dr. Meryll Alber will offer a book signing to introduce her new children's book **"And the Tide Comes In... Exploring a Georgia Salt Marsh."**

Friday night will feature National Geographic filmmaker Greg Marshall and his documentary film **"A Penguin's Life"** that chronicles the exciting daily lives of a colony of industrious Emperor Penguins as seen through his Crittercam.

On Saturday, an early afternoon family film will feature a stranded baby sea otter, **"Otter 501."** Our Emerging Filmmakers Competition will highlight the afternoon.



We wrap up the evening with National Geographic who will lead us on a journey to Pitcairn Island with the **"Sharks of Lost Island"** and peer through the lens of climate change skeptic, James Balog, in his premier film **"Chasing Ice."** Sunday afternoon will offer a second screening of **"Otter 501," "Sharks of Lost Island"** and **"Chasing Ice"** at the Jewish Education Alliance.

## Georgia Marine Education Fall Conference

The Georgia Association of Marine Education (GAME) envisions a collaborative community of educators, scientists, and concerned citizens.

The 2013 fall Coastal Collaborations conference will take place September 27-29 at the University of

Georgia Jekyll Island 4H Center on Jekyll Island, GA. Scholarships and Professional Learning Units available. Enjoy field trips, workshops, activities and discussions.

The group provides networking opportunities, equips educators to teach

marine science concepts more effectively, and celebrates the wonder of the aquatic systems of Georgia.

Conference registration information can be found [here](#) on the [GAME website](#).



## Underwater Robots in the Ocean and the Classroom



The [Crabster CR200](#) is a huge six-legged underwater robot developed at the Korean Institute of Ocean Science and Technology (KIOST). The Crabster, inspired by crab and lobster, has two front legs that are equipped with manipulators to grasp objects that can be stored

in a frontal compartment. Robotic underwater vehicles play an important role in marine research, environmental operations, deep water exploration, and search-and-rescue missions. Gray's Reef and the Georgia Aquarium provide the opportunity for students and educators to

engage in ocean science, technology, engineering and mathematics through building Remotely Operated Vehicles (ROVs).

Are you an educator interested in attending an introductory ROV building workshop in Atlanta, GA November 1-2? [Click here!](#)

## GIS in Coastal and Marine Zoning

Americans treasure the ocean, coasts, and Great Lakes as sources of food, income, energy, and security, and as places to recreate and connect with their cultural history. However, **people's uses of the ocean** are expanding, and it is becoming increasingly challenging to effectively coordinate sometimes competing uses through most current management

approaches. Today there is a need to consider human uses through a wider lens that broadens the view to include the connectivity and diversity of marine resources. To that end, an ecosystem-based approach to management is required, and an effective way to advance such an approach is through spatial planning utilizing GIS (Geographic Information System).

Challenge your students to consider stakeholders, resources, and concerns in this process and

present your findings in a poster at the 2013 Savannah [GIS Day Poster Competition](#), designed to help support and encourage students in the Coastal Georgia region to further



develop and enhance degree or certificate goals. Read about [NOAA's role](#) in this process and find out what the [South Atlantic](#) priorities and concerns are for coastal and marine spatial planning.

## Loggerheads Set Record High During Summer Low



Summer 2013 has been a blockbuster for loggerheads in Georgia. After recording the second-earliest nesting start on record, these large sea turtles listed as threatened under the Endangered Species Act recently passed the 2,000 nests mark, the

most since comprehensive surveys began in 1989. The [count](#) as of July 30 was 2,045, as reported [here](#).

Georgia Department of Natural Resources Sea Turtle Program Cord. Mark Dodd said that nesting increases suggest that the species is recovering. Dodd **said the summer's cool**, rainy weather delayed hatching, and that most hatchlings were males ([sand temperatures deter-](#)

[mine the sex of hatchlings](#)). How might our [changing climate affect marine life](#)? Can we determine [which marine species will survive](#) a warming ocean? Should we expect a [pole-ward biome shift](#)? Read how NOAA summarizes climate change impacts on marine resources in this [report](#).

# Carolina Hammerhead and Coastal Saltwater Paddling Trail

Scientists have discovered a new species of shark in the ocean off South Carolina and have named it for the region where it was found.

The "[Carolina hammerhead](#)," thought to reach 11 feet long and weigh about 400 pounds, has been identified cruising the waters at Bulls Bay north of Charleston, St. Helena Sound near Beaufort and in the Charleston harbor. But biologists suspect these

hammerheads occur world-wide, since evidence of them has been found in the past from Brazil to the Indian Ocean. The number of Carolina hammerheads is thought to be small. "It is a distinct species," said William "Trey" Driggers, a marine scientist with the NOAA fisheries division.

So keep an eye out for that guy while exploring the marsh and river trail that meanders for hundreds of miles down America's

picturesque southeast coast and the recently launched [Southeast Coast Saltwater Paddling Trail \(SECT\) website](#).

NOAA's [NOS announced](#) this new online resource which provides maps and guidance for a 760-mile trail that extends from Virginia through the Carolinas and down into Georgia, and passes through several [National Estuarine Research Reserves](#) along the way.



## Additional Web Resources and Activities:



[Encyclopedia of Life](#)



[World Water Monitoring Challenge](#)



[Marine Debris Tracker](#)



[Wrack Monitoring Project](#)

## GRAY'S REEF NATIONAL MARINE SANCTUARY

Gray's Reef National Marine Sanctuary is one of the largest near-shore live-bottom reefs of the southeastern United States. It's just one of the 14 national marine protected areas that make up the National Marine Sanctuary System and is governed by the National Marine Sanctuaries Act. It is managed by the National Oceanic and Atmospheric Administration (NOAA).

Gray's Reef was designated as a sanctuary on January 16, 1981, and is the only protected natural reef area on the continental shelf off the Georgia coast. The 22 square miles of Gray's Reef protects an area that is recognized nationally and internationally.

<http://graysreef.noaa.gov/>

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**National Marine Sanctuaries.....America's underwater treasures!**