



# Scotch Bonnet

*What we are hearing from the sea.*

North Carolina Sea Grant

[www.ncseagrant.org](http://www.ncseagrant.org)

Autumn 2007

## Welcome Autumn and Those Crisp Nights!

As the days get shorter and the nights get cooler, I've noticed that my cats seem to be friskier, a little more wide-open, with the coming of fall. They love the cool temperatures, and so do I. This change in feline behavior leads me to wonder about various marine animals. How do their activity levels change when Jack Frost is knocking on the door?

In *The Erotic Ocean*, Jack Rudloe mentions that marsh animals stay active longer with the approaching autumn because the water and substrate of the estuary stay warmer than the surrounding air. These animals seem to know that this is the last big push to eat, spawn and move around as much as possible before



the cold weather sets in.

According to William W. Warner's *Beautiful Swimmers*, fall brings large-scale migrations of blue crabs in the Chesapeake Bay. Jimmies (males) start moving into deeper water to overwinter. Sooks (mature females) begin congregating near the mouth of the Bay where they'll spend the winter and then release eggs in the spring.

*The Year of the Crab* by William Sargent follows the behaviors of specific marine animals throughout the seasons. As fall approaches, horseshoe crabs leave the sheltered waters of bays and sounds and move out into the Atlantic to bury in offshore sediments until spring. American eels stop eating and start making their long journey to the Sargasso Sea where millions of adults meet, mate and die.

Particular clues tell these animals that things are changing. It's time to move, time to get ready for the cold. These behavioral triggers might be a decrease in water temperature, the decline in the amount of daylight, or the changing phases of the moon — singularly or in some combination.

With my cats, I'm sure it's the cooler temperatures, or maybe it's atmospheric, the passing of a cold front, or maybe it's something else. Guess I'll just have to ask them. Enjoy this wonderful seasonal change yourselves!

## Ocean Education Survey Results

In Spring 2006, a survey focusing on ocean education was mailed to more than 1,100 classroom teachers (K-5) in North Carolina.

Public, private and charter schools were sampled at the same ratio in which they occur in the state: 75 percent public; 22 percent private and 3 percent charter. Eighty-seven of North Carolina's 100 counties were represented. With approximately 360 responses, the overall results have been analyzed.

Of the 22 marine topics in the survey, three were rated as important or very important for students to know about or be exposed to: water cycle, 84 percent; grade-appropriate marine literature, 82 percent; and the ocean and weather, 82 percent.

In ranking topics they want to know more about,

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respondents chose wetlands and marshes, 35 percent; the ocean and weather, 33 percent; grade-appropriate marine literature, 33 percent; marine life in general, 33 percent; and sea turtles, 28 percent.

Overall results will be further analyzed on a geographical basis in the near future.

Eventually, the information will be used to target elementary teachers in a geographical region with workshops and materials that meet their specific needs. Additional details will be featured in a later issue of *Scotch Bonnet*.

## MAMEA 2007

[www.mamea.org/conf.html](http://www.mamea.org/conf.html).

**Oct. 19-21** is the weekend for the **2007 Mid-Atlantic Marine Educators Association's** fall conference. The National Aquarium in Baltimore and the Columbus Center, both in exciting downtown Baltimore, Md., will host this annual gathering of marine educators from Delaware, Maryland, Virginia, North Carolina, and the District of Columbia.

Ocean literacy — understanding the ocean's influence on you and your influence on the ocean — is the focus of the weekend conference. Guest speakers include Sandy Burke, author of *Let the River Run Silver Again*, and Don Elthon, chemistry professor at the University of Houston.

Concurrent sessions and the always entertaining auction will take place on Saturday. Sunday brings a variety of field trips, including a behind-the-scenes peek at the National Aquarium in Baltimore, a Baltimore Harbor ecology tour with the Chesapeake Bay Foundation, a guided look at a constructed wetland near Ft. McHenry, and tours of the Baltimore Museum of Industry and the Maryland Science Center.

For registration questions, contact: David Christopher, MAMEA president-elect, 410-576-8799, [dchristopher@aqua.org](mailto:dchristopher@aqua.org); or Kathy Siegfried, MAMEA Secretary, 410-576-3888, [ksiegfried@aqua.org](mailto:ksiegfried@aqua.org). Keep an eye on the Web site for updates.

## Other Meetings

**Oct. 12-13 – South Carolina Marine Education Association (SCMEA)** is holding its annual fall conference at the Penn Center near Beaufort, S.C. Dennis Allen, co-author of *Zooplankton of the Atlantic and Gulf Coasts*,

is a keynote speaker. Also, a panel discussion will focus on climate change. For details, go to: [oceanica.cofc.edu/scmea/index.html](http://oceanica.cofc.edu/scmea/index.html).

**Oct. 26-28 – Environmental Educators of North Carolina (EENC)** is hosting its 17th annual conference at the Lutheridge Conference Center in Arden. For more information, visit: [www.eenc.org/Conf2007/Index.html](http://www.eenc.org/Conf2007/Index.html).

**Nov. 14-16 – North Carolina Science Teachers Association (NCSTA)** is hosting its annual professional development institute at the Khoury Convention Center in Greensboro. The conference's theme "Earth: A Good Planet Is Hard to Find" will focus on the coexistence of the earth and its inhabitants. For details, go to: [www.ncsta.org/](http://www.ncsta.org/).

**Nov. 14-17 – North American Association for Environmental Education (NAAEE)** is having its annual conference at the Virginia Beach Conference Center in Virginia Beach, Va. This year's theme is "Explore New Horizons of Environmental Education." To find out more, go online to: [www.naaee.org/conference](http://www.naaee.org/conference).

## Tidbits

- Found in a recent e-mail newsletter: "Right Whale site: A new Canadian Bilingual Web site for right whales has been launched.".... So, what two languages is the Web site using? French and Whale?
- The Tasman Outflow is a recently discovered ocean current that sweeps past Tasmania and heads into the South Atlantic. This current flows at a depth of 800 to 1,000 meters (2,600 to 3,300 feet) and links the Indian, South Pacific and South Atlantic ocean basins. Source: Reuters International.
- The average American ate 16.5 pounds of seafood in 2006, a total of 4.9 billion pounds for the nation. That's up from 16.2 pounds in 2005. The U.S. currently ranks third in the world in seafood consumption, behind Japan and China. And did you know that we import roughly 83 percent of our seafood? Source: NOAA's National Marine Fisheries Service.
- Looking for a new challenge? A change in venue? A new job? Check out NOAA's careers Web site at [www.careers.noaa.gov](http://www.careers.noaa.gov). The site lists current vacancies around the country, job benefits, and opportunities for students at undergraduate and graduate levels.

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- The world's first underwater restaurant can be found at the Hilton Maldives Resort & Spa. The Althaa Restaurant that opened in April is 16 feet below the surface of the Indian Ocean and can seat 14 people. With its curved acrylic walls and roof, it offers diners an unparalleled view of the surrounding coral reefs and the colorful fishes — before they become dinner! Yes, tropical reef fishes and lobster are on the menu. But this unique experience doesn't come cheap. The six-course dinner runs between \$220 and \$250 in U.S. dollars!

- The N.C. Maritime Museum is sponsoring a cruise around the Galapagos Islands, departing April 18, 2008. A pre-trip extension to Machu Picchu in Peru and a post-trip extension to Otavalo in Ecuador are available for participants. Contact JoAnne Powell, [jo.powell@ncmail.net](mailto:jo.powell@ncmail.net).

- The N.C. National Estuarine Research Reserve has a new maritime forest publication for upper elementary and middle school students. This booklet focuses on these unique forest habitats along the state's coast and their importance. To get a copy, contact Amy Sauls, [amy.sauls@ncmail.net](mailto:amy.sauls@ncmail.net).

- NOAA is offering an online curriculum and teaching materials on hurricanes through its Climate Program Office. Booklets, posters, lesson plans, fact sheets and more can be found online at: [www.climate.noaa.gov/education](http://www.climate.noaa.gov/education).

- The N.C. National Estuarine Research Reserve has moved into brand new office space. The new contact information is: 101 Pivers Island Road, Beaufort, NC 28516. Contact Coastal Education Specialist Amy Sauls, 252/838-0881; and the new Education Coordinator Jill Fegley, 252/838-0885. Welcome aboard, Jill!

- Don't miss "Trick or Treat Under the Sea" at a North Carolina Aquarium near you! All three aquariums will be hosting this fun, family event on Thursday evening, Oct. 25. Local businesses are encouraged to participate in these events. It's a great opportunity for kids to give their costumes a test run, collect candy in a safe environment and have fun! For details, visit: [www.ncaquariums.com](http://www.ncaquariums.com).

### Another Currents Poster

[www.seacoos.org](http://www.seacoos.org)

The fourth in a series of educational posters is now available. Don't miss your opportunity for a free

"Catching the Current: Who Goes with the Flow?" poster to assist your instruction about these important ocean features.

This 36-by-32 inch poster brings another current of excitement to your classroom. The SouthEast Atlantic Coastal Ocean Observation System (SEACOOS), the Center for Ocean Sciences Education Excellence - SouthEast (COSEE SE) and North Carolina Sea Grant are making these materials available to all educators in North Carolina, South Carolina and Georgia.

The posters will be mailed in quantities of three to five to North Carolina schools as long as the supply lasts. No single copy requests.

Please share with your co-workers. E-mail your request for three to five free posters to: Terri Kirby Hathaway, North Carolina Sea Grant Marine Education Specialist, [terrikh@csi.northcarolina.edu](mailto:terrikh@csi.northcarolina.edu). Include the name and shipping address of your school.

### New Books

Several new books featuring a marine or coastal theme have been published during 2007. Here are just a few to tease you.

Any of these books will improve your personal and/or professional library!

Two children's books:

- *Tracking Trash: Flotsam, Jetsam, and the Science of Ocean Motion* by Loree Burns, Houghton Mifflin Company. This new and colorful children's book ties together plastic debris, ocean research and physical oceanography.

- *A Day in the Salt Marsh* by Kevin Kurtz, Sylvan Dell Publishing. An hourly update of what is happening in an Atlantic coast salt marsh as the tide rises and falls, with beautiful illustrations by North Carolina artist Consie Powell.

Three coastal references:

- *Atlantic Coast Beaches: A Guide to Ripples, Dunes, and Other Natural Features of the Seashore* by William J. Neal, Orrin H. Pilkey and Joseph T. Kelley, Mountain Press Publishing. An informative guide for all of us who beachcomb with "a seashell bias," letting us know that there is more to the beach than just beautiful shells. The authors share their collective knowledge of beach movement and shape, ocean circulation and shells and encourage beachcombers to learn how to read beaches, as well as books.

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- *Florida's Living Beaches: A Guide for the Curious Beachcomber*, by Blair and Dawn Witherington, Pineapple Press, Inc. Although the book focuses on Florida's beaches, most of the more than 800 entries, including photos and maps, also apply to North Carolina beaches. Subdivided into sections — Beach Features, Beach Animals, Beach Plants, Beach Minerals, and Hand of Man — this new classic does a fantastic job at explaining all kinds of weird and wonderful things on the seashore.

- *The North Carolina Birding Trail - Coastal Plain Trail Guide*, in partnership with Audubon North Carolina, N.C. Cooperative Extension, North Carolina Sea Grant, N.C. State Parks, U.S. Fish & Wildlife Service, and N.C. Wildlife Resources Commission. This wonderful driving guide connects birders and nature lovers with great birding sites east of Interstate 95. Each entry includes a map, detailed directions, focal species, habitat description, and information about access, parking and site amenities.

## To Contact Me

My mailing address is: North Carolina Sea Grant, PO Box 699, Manteo, NC 27954. To reach me, phone: 252/475-3663; fax: 252/475-3545; or e-mail: [terrikh@csi.northcarolina.edu](mailto:terrikh@csi.northcarolina.edu).

Please check your mailing label — if we need to make changes to your address, or if you're getting more than one copy of *Scotch Bonnet*, let me know! Don't forget to recycle this newsletter after sharing it with friends and colleagues.

Best Fishes!



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