

COAST WATCH

Photo of Hatteras Yachts Inc. from The News and Observer



CAROLINA CRAFTS

Ask anybody who likes nice boats—the commercial fisherman from Wanchese, the millionaire yachtsman from Greece, the marlin fisherman from Florida. North Carolina boatbuilders make some of the finest boats to meet the water. Such a reputation has helped build a multimillion dollar industry that's shipping revenues right into the pockets of the state's economy.

Boatbuilding has survived in the crossroads and countryside of the coast and thrived in larger towns. On Harkers Island, craftsmen have been famous for years for constructing quality wooden fishing boats. And in New Bern, workers watch fancy fiberglass yachts sail off the assembly line about 80 times a year.

Today, approximately 112 boatbuilders set up shop in

North Carolina, says the U.S. Coast Guard. According to the National Marine Manufacturers Association, North Carolina is the seventh largest boatbuilding state in the country. In dollar terms, that meant more than \$163 million were added to the state's balance sheet in 1984, estimates Jeff Johnson, an anthropologist and Sea Grant researcher at East Carolina University in Greenville. Since then, the figures have only increased.

"North Carolina has rapidly become one of the major boatbuilding manufacturers in the country," says Eddie Smith, owner of Grady White Boats in Greenville and former chairman of the board for the NMMA. Several factors account for the industry's growth and success.

Continued on next page

"We have a great, great labor force of quality people. Also our coastline and surrounding waters just naturally are a big factor." Another asset for boatbuilders is the state's geographic location. It's almost perfect for receiving supplies or sending large vessels by truck or by water.

"And you can't overlook the background—the history of boatbuilding in North Carolina," adds Smith. A hundred years ago, boatbuilders wrought wood into commercial fishing boats at Harkers Island and Wanchese. Many of their descendants still carry on the tradition.

There are other reasons, too, that boating biggies come to North Carolina to build, says Johnson, who recently surveyed 52 companies that manufacture saltwater recreational products in North Carolina. The survey was part of a Sea Grant study with assistant professor Rick Perdue of North Carolina State University.

Labor is one of the biggest enticements, says Johnson. Some firms came to North Carolina because company officials believed the labor force would not unionize. In addition, managements knew initial investments would be high, but in the long run, the move would pay off.

Another lure for boatbuilders is the value of real estate in North Carolina. Companies can buy more property here than, say, southern Florida or New England, and build larger plants. Besides, "It's a nicer place to live," he adds.

North Carolina has been nice to them, too. One company in the study reported a 250 percent increase in business in two years. Bayliner's business went up 60 percent. "It shows this industry is important to the state," says Johnson.

These larger corporate conglomerates bring in about \$40 million in retail sales, says Johnson. But backyard boatwrights and other small operations also make a contribution. "They may make only \$50,000 in net income each year," says Johnson. However, the commercial wooden-boat builders surveyed clearly make a difference, especially in isolated areas where they have a larger impact on the local economy.

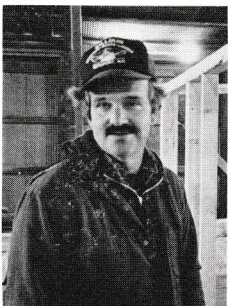
As long as there are fishermen and the national economy stays strong, North Carolina's boatbuilders predict smooth sailing into the future.

— Sarah Friday

Keeping the tradition afloat

Building Wooden Boats

By Sarah Friday



Few things come easier to Jimmy Gillikin of Radio Island than building wooden fishing boats. Like a cook who knows which ingredients to mix for a perfect dish or an artist who uses the right colors to create a masterpiece, Gillikin "just knows" how to build a boat.

Gillikin is one of a few such craftsmen left in North Carolina. Of more than 100 boatbuilders in the state, about 35 make wooden boats, says Stephen L. Phillips, chief of the Boating Standards Branch of the U.S. Coast Guard. Demand for the product has dwindled, but some, like Gillikin, have stayed in the business and carried on a prideful tradition made famous in

North Carolina.

Some of Gillikin's talent may be inherited from his father and grandfather. They ran boatwork operations on Harkers Island for more than 40 years during the heyday of boatbuilding. Gillikin was 10 when he first started helping in the boatyard.

Today, Gillikin is owner of Gillikin Craft Inc. He runs a seafood company and builds custom wooden boats part-time. Right now he's working on a 75-foot trawler.

Gillikin starts with an 8-foot piece of plywood and a pencil. No blueprints. He sketches his plans on the board and works from those. He cuts the pine and shapes the boat, trusting his "rack of eye" more than a ruler to get the parts straight. The outside mostly complete, he outfits the inside to suit the buyer's needs.

"Today's boatbuilder is a welder, an electrician, a carpenter and a painter,

but mostly he's a fool," says Gillikin, half jokingly.

Some of the state's boatwrights who work with wood have hit rocky shores in recent years. The increased use of fiberglass and high interest rates forced many out of the industry. But the market for wooden boats remains steady, say most.

"I think it's going to be good," says Harold Varnum, a 35-year veteran boatbuilder from Holden Beach. "We've had these ups and downs before, but never this long." Varnum quit the business in 1981 when interest rates soared to 21 percent, making loans for building out of reach. But he hopes to pick up his hammer and nails again soon.

"There's always going to be somebody who's going to want one," says Gillikin.

Wooden boats are for people who "really know what they want," says



North Carolina wooden fishing boat docked for repairs

Nelson Silva of Ogden, a boatbuilder who uses fiberglass and wood. "It's up to the individual—what they really want."

And understandably, some boaters want fiberglass. The sturdy plastic-like material glided into the market about 20 years ago. Before then, "Everybody wanted fancy wooden boats," remembers Gillikin. "Then they wanted something that would hold up."

Fiberglass boats became particularly popular in the South, where wooden boats tended to mold or rot more quickly because of the heat. There's a larger demand for fiberglass down here, says Silva; so he sells most

of his wooden dinghies and knockabouts up North.

"People assume that fiberglass is going to replace wood altogether, but I don't think it will," says Mike Alford, curator of watercraft research at the N.C. Maritime Museum in Beaufort. "There will always be the need for a custom-built boat, and wood lends itself to that very well. A wooden boat has certain qualities and facts about its nature that are different from other materials, and sometimes that's exactly what you want."

The competition doesn't bother Gary Davis of Marshallberg. A full-time boatbuilder, Davis builds recrea-

tional and commercial boats of any size. Two to three times a year, he sends his latest project sailing down the pike.

Turn-around for wooden boats is slow, says Davis. It takes him about five weeks to build a 19-foot skiff and about six or seven months for a 60-foot headboat. Six days a week he's out in his workshop, making perfect on land what he will send into the water.

Building a large wooden boat is similar to building a watertight house, says Davis. On the outside is the frame and supporting structures that must be fitted, nailed and painted. Under the roof, the boat needs flooring, windows, cabinets, drawers, electricity, electronics and plumbing. Then come the finishing touches.

Davis, like most of the other boatbuilders, sells his boats predominantly in the East, for prices ranging from around \$7,000 to \$150,000. The price tag and individual craftsmanship are two of the biggest selling points for wooden boats. Davis says that if one of his boats is properly maintained, it should last a lifetime.

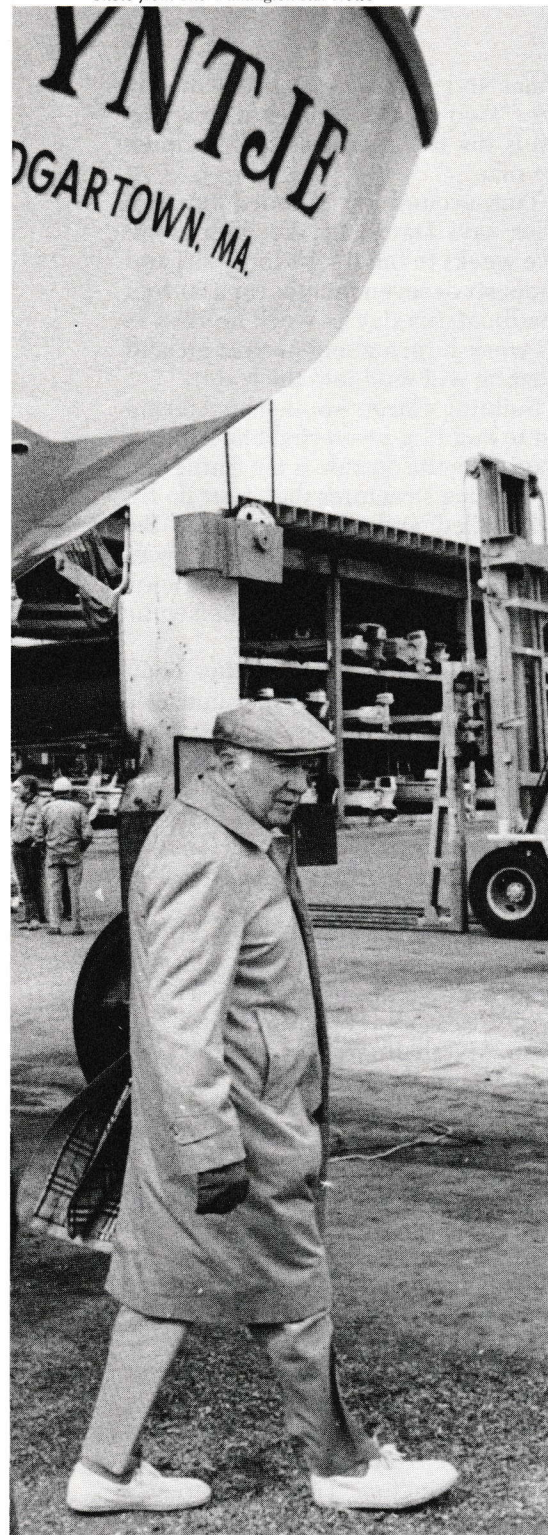
He learned the craft like most other North Carolina boatbuilders, as a skill handed down through the years like a family treasure. His grandfather Ray from Marshallberg provided Davis with his unique heirloom.

In his grandfather's time, the Core Sound region was one of the most well-known for boatbuilding. "At one time, there were 42 places on Harker's Island that were building boats," says Gillikin. Most were small operations crafting fishing boats and vessels for people to get on and off the island.

Further south, boatwrights were also hard at work. As far as Harold Varnum knows, boatbuilding in his family goes all the way back to his forefathers from Ireland who settled near Wilmington. That was three or four generations ago, and today the Varnum name remains synonymous with wooden boatbuilding in southeast North Carolina.

The tradition is part of the reason Varnum builds boats. For him, the real pleasure comes in the creating. "I love to create," he says. "I'm always creating something. It's hard work, but I like it."

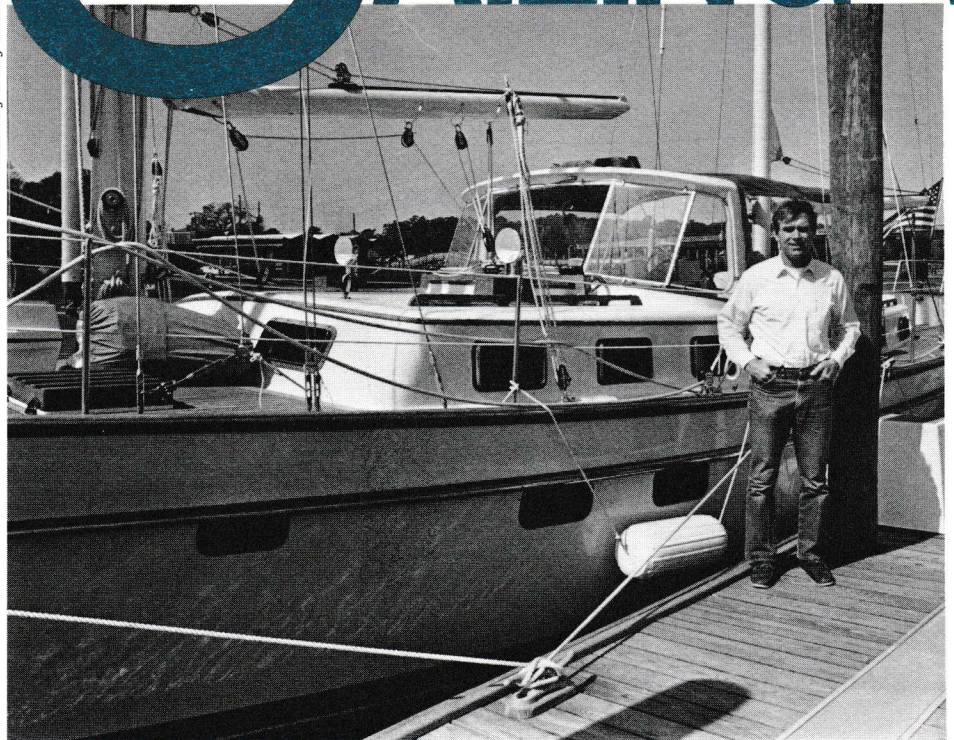
Jimmy Gillikin feels the same way. "I just love to do it," he says. "You get a pile of lumber and you fix it into something that floats."



Walter Cronkite the sailor; boatbuilder Bob Yunaska shows off his pride and joy—Cronkite's Wyntje (right)

SAILING W

Photo by Nancy Davis



BY NANCY DAVIS

She's a 48-foot dream. A sailing yacht that took over a year to design and construct. A vessel that's got all the latest in rigs and electronic gadgetry. She's christened the *Wyntje*, and on this day, she's plying the waters around Wrightsville Beach. At the helm, her owner, Walter Cronkite.

That's right. After years of smooth sailing as the top-rated TV anchorman, Walter Cronkite has pulled up anchor and set course for a life of leisure on the water. He was making news in the Wilmington area recently when he stopped by to pick up his newly commissioned North Carolina-built sailboat.

With that, Cronkite joined the ranks of the famous and some not-so-famous folks who have chosen North Carolina boatbuilders to construct their boats . . . or yachts, that is.

For a look at what captivates a boater's interest in a luxury yacht built in this state, come aboard Cronkite's *Wyntje*. (The boat was named after the first woman to marry a Cronkite in the New World back in 1642.) Today, Cronkite and his wife have invited several friends, the boat's builder and one awed writer to join them. Most of the passengers were along for a short excursion; the writer was there for the trip of a lifetime.

On deck, the newsman is propped against the helmsman seat, the huge teak wheel in his hands. He's pushing buttons and checking monitors overhead. Clad in khaki pants, bright blue sweater, suede deck shoes and captain's hat, he's talking

WITH AN ANCHOR

about the thing he loves to do most—sail. He hates the cabin cover overhead, he says; he'd prefer to have it open. But, in this chilly weather, it is convenient, he concedes.

Cronkite was taking the *Wyntje* on sea trials, getting the feel of the wheel, learning the operation of the equipment—said to be all the latest in electronics—and testing her performance. “We’re just getting to know each other,” he says. So far, Cronkite has logged in 52 miles.

Boatbuilder Bob Yunaska of Sunward Yachts in Wilmington stands by for his famous customer’s comments. The Loran system isn’t working properly, but the twin headstay rig Yunaska designed especially for Cronkite is performing well. Forever the broadcaster, Cronkite pulls out a small tape recorder to add to his “boat notes.” He records Yunaska’s comments about special features of his sailboat for later study.

Cronkite’s trust in his North Carolina boatbuilder shows through. “I like nothing better than to talk about this boat,” he says. “Bob has done some things with her that might turn out to be revolutionary,” says Cronkite, referring to the twin headstay rig that operates on a swivel, allowing for easy selection of a large sail for light wind or a small sail for heavier winds. The sails are operated with hydraulic winches.

Next, Cronkite invites you below deck where you enter the galley (that’s boat talk for kitchen) and living area. Two staterooms (bedrooms) are located toward the bow of the boat, and the owner’s stateroom and a small captain’s berth are in the stern of the boat. The yacht is also equipped with two heads (bathrooms). The inside of the boat is finished in Honduras mahogany, and the closets are lined with cedar. This sailboat is nicer than most homes.

And what is the cost of all this luxury? Yunaska says prices for his 48-foot yachts start at \$340,000. And, that’s with no extras.

Cronkite’s boat was loaded with extras. For example, he wanted a centerboard, or retractable keel, added to his yacht—a feature not previously offered on Yunaska’s boats. The centerboard would allow Cronkite better windward performance. Yunaska responded with a

design that incorporated the request.

Other features Yunaska built into Cronkite’s design include a special windshield that will collapse outward in calm winds. In place, the windshield offers protection in the cockpit from stronger winds. A unique cockpit design includes a table and special links to all the navigational equipment.

Another Cronkite request was a removable dinghy, or lifeboat. It seems he’s always bumping high dock pilings with his dinghy. The answer? Yunaska devised a setup that allows for a removable dinghy.

Cronkite’s favorite contraption, though, is a gimballled ballasted helmsman seat that will adjust to the motion of the boat. Cronkite pats the seat and says, “This is the *pièce de résistance* of Mr. Yunaska’s engineering efforts. It’ll be comfortable on a long tack.”

Yunaska says, “Some of these designs are a result of (Cronkite’s) saying, ‘I’d like to have this, but the problems are this.’” Others are Yunaska’s.

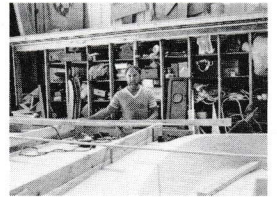
Of all the boats he’s produced in his 10 years as a builder, Yunaska is most proud of the *Wyntje*. He pauses a moment, then repeats himself. “Yes I am. I am very proud of this.”

To demonstrate the workmanship in the boat, Yunaska points to the helmsman’s wheel. “There are 78 pieces of wood in just this wheel,” he says.

Cronkite’s *Wyntje* is one of two boats Sunward Yachts’ 16 employees will turn out this year. So far, they’ve always had a backlog of work, and they’ve never had to advertise, says Yunaska. But then, who needs advertising when you’ve got Walter Cronkite steering one of your boats?

And even though it’s a Sunward yacht, Cronkite’s purchase is good news for other North Carolina boatbuilders. His well-publicized boat buy helps to put the state’s craftsmen in the minds of other prospective buyers.

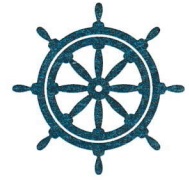
As the sun lowered in the sky, Cronkite carefully guided his new possession into dock. “It looks like it would be a good night for a moonlight cruise,” he says, gazing at the clear sky. A visitor resisted the temptation to say, “And that’s the way it was, March 24, 1986.”



Craftsman in the Sunward Yachts workshop



DREAM BOATS



BY NANCY DAVIS

Photo from Hatteras Yachts Inc.



For sale: luxury home complete with living room/dining area, kitchen, three bedrooms, two baths and a deck. Amenities include air conditioning, heat, stereo in each room, video cassette recorder, washer and dryer, and a kitchen complete with dishwasher, trash compactor and ice maker.

Sound like the home of your dreams? Well, if you like the water and you've got a little extra cash, you could be in luck. This luxury home is actually a 53-foot cruising vessel built by Hatteras Yachts Inc. in New Bern. And, if you have to ask how much, well, it's probably out of your league.

Each year North Carolina boatbuilders turn out hundreds of pleasure custom- and semicustom-built boats. Some are cruising yachts or sailing yachts. Others are top-of-the-line sportfishing boats. Whatever their mission, these vessels have a reputation in the boating world for their quality and craftsmanship. What's more, their construction in this state contributes millions of dollars to the economy.

In a sharp contrast to the state's traditional wooden boatbuilding industry, these luxury vessels, usually made of fiberglass, attract customers looking for a little something extra in the boating experience. They also have plenty of money to sink into a boat.

At Hatteras Yachts, 750 employees turn out 80 to 100 cruising yachts each year. "When somebody orders a boat from Hatteras, it's like ordering a Mercedes Benz," says Baird Paschal Jr., manager of production control at Hatteras. "You have all of the options, and then we take it one step further and customize it."

The smallest boats built at the New Bern plant are 53-footers. Their base price, before the extras, is about half a million dollars, says Paschal. (If you choose to make a purchase, you'll need to travel to New Bern to cruise away on your boat; the highways just aren't big enough for such a delivery.)

For those recreational fishermen who like to fantasize about that special boat, stop in at Davis Yachts Inc. in Wanchese. There, workers complete one 47-foot sportfishing boat every four weeks and a 61-foot boat every eight weeks. The base price for the 47-footer is \$400,000. With extras, it retails at about \$465,000, a price that includes electronics and fishing equipment, says Buddy Davis, owner of the company. His 61-foot boat completely outfitted, costs an average of \$1 million.

Davis, once a charter captain, has combined a knowledge of sport fishing with his boatbuilding know-how to create vessels tailor-made for his target market, which he describes as "affluent sport fishermen." He adds, "They're simply avid fishermen. It doesn't matter if they're from Texas or New York. Their demands are the same."

The majority of Davis' sales are in New Jersey, southern Florida, Texas and Alabama. Most of his North Carolina customers are residents of the Research Triangle area, he says.

If you prefer the power of the wind, Bob Yunaska of Sunward Yachts in Wilmington may have the boat for you. There, his 16 employees turn out

two 48-foot sailing yachts each year. The hull and deck are standard; after that, only your imagination, and perhaps your pocketbook, will limit your options. His boats start at \$340,000 with no extras. These days, Sunward is best known for constructing Walter Cronkite's boat. (See story, page 4)

Prices of yachts constructed in North Carolina vary according to the amount of custom work in the boat. Some of the boats are completely custom-made; others start with a standard hull and offer variations from there. And although their markets differ, each of the boatbuilders agrees that communication between builder and buyer is central to the success of the luxury yacht business.

Much like building a custom home, the customer must be in touch with the builder at all times to make decisions about the interior design, types of masts and sails, and even styles of steering wheels.

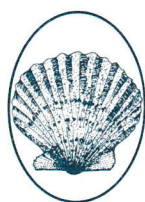
Although there are some dreamers with the cash to back it up, most boaters have more aspiration than income. But take heart. Folks who can afford these yachts are by no means typical boat owners, and it is possible to buy a boat without spending your life's earnings.

According to a National Marine Manufacturers Association survey taken in 1981, boat owners in the United States were most often 35 to 40 years old with a working spouse and children living at home. The boat owner was a blue collar worker, and his median household income was \$30,000 a year.

The average boat owner only dreams of owning a 50-foot yacht. In reality, he most likely buys an outboard motorboat averaging 15.8 feet in length which, complete with motor and trailer, costs under \$5,000. When it comes to a luxury yacht, that's only small change.

THE BACK PAGE

"The Back Page" is an update on Sea Grant activities — on research, marine education and advisory services. It's also a good place to find out about meetings, workshops and new publications. For more information on any of the projects described, contact the Sea Grant offices in Raleigh (919/737-2454). For copies of publications, write UNC Sea Grant, NCSU, Box 8605, Raleigh, N.C. 27695-8605.



When it comes to filtering sewage, some soils just can't get the job done. The sandy soils of the coastal plain and the clay soils of the Piedmont and mountains pose problems for conventional waste treatment systems. Along the coast, loose, shallow soils frequently don't purify wastewater before it reaches the water table. And dense clay soils don't always allow the effluent to be absorbed. Instead, it rises to the surface.

To reduce the problems — polluted groundwater and restrictions on development — caused by the poor soils, a team of Sea Grant researchers developed some alternatives, the low-pressure pipe and mound systems. These systems pump doses of wastewater under pressure into shallow, narrow trenches.

Several years ago, Sea Grant published two manuals, *Design and Installation of Low-Pressure Pipe Waste Treatment Systems* and *Design and Installation of Mound Systems for Waste Treatment*, to familiarize engineers, sanitarians, contractors and architects with the construction of these alternative systems.

Now, Sea Grant is offering a third manual in the series, *Pressure-Dosed Septic Systems: Electrical Components and Maintenance*, written by Claude H. House and Craig G. Cogger of the NCSU Soil Science Department. This manual describes, in detail, the dosing controls and accessories needed for pressure-dosed septic systems and discusses how to select, use and maintain them.

For a copy of this publication, write Sea Grant. Ask for UNC-SG-85-06. The cost is \$3. For a copy of the low-pressure pipe or mound manual, ask for UNC-SG-82-03 and UNC-SG-82-04, respectively. The cost is \$2.50 for each.

North Carolina fishermen may be netting bigger profits this year if a new type of fishing gear proves efficient. Word has spread that floating pound nets may be a better choice than the traditional staked pound nets. With this in mind, Clinton Willis, president of the Carteret County Watermen's Association, asked Sea Grant agent Bob Hines to test the floating nets and bring back the results.

Hines says he plans to borrow the nets from Maine and test them in Carteret County this spring, summer and fall. Floating pound nets use floats and anchors to hold them in place instead of stakes, making them simpler to put out and take up, says Hines. And the absence of stakes will lessen navigational hazards for boaters.

For the full report on Hines' findings, watch the Back Page.



No one knows for sure how much shoreline the ocean will claim in the next 20 years. The extent of erosion depends on many factors, including the powerful winter storms that occur in eastern North and South Carolina.

A new research project on the Carolina coasts may answer some of the questions. Researchers from all over the country are studying the storms, hoping to improve the ways forecasters can predict when or where major storms will hit.

GALE — Genesis of Atlantic Lows Experiment — is a \$10 million project involving about 200 scientists, numerous universities, the National Aeronautics and Space Administration, the National Oceanic and Atmospheric Administration and the U.S. Air Force. The researchers want to find out how

the Appalachian Mountains, the coastal landscape and the Atlantic Ocean contribute to the formation of the winter storms that destroy oceanfront property, produce gale-force winds and cause beach erosion.

Len Pietrafesa, a Sea Grant researcher and N.C. State University professor, was part of the project. He studied the interaction of wind with the ocean currents and the heat and energy exchange across the surface of the ocean during the storms.

January through March, the team used weather balloons, research vessels, airplanes, weather stations, computers and radar to measure storm activity at the coast. Their compiled results should make a difference in understanding the force and timing of these large storms.



North Carolina ranks third on the Atlantic Coast in blue crab production. Since 1978, fishermen have reported record landings. But growth in the state's blue crab

fishery affects more than just the fishermen. It impacts dealers, processors, managers and consumers.

In a working paper, *Social and Economic Impacts of Growth in the Blue Crab Fishery in North Carolina*, Sea Grant researchers assess the effects of this growth. John Maiolo, Claudia Williams, Ruth Kearns, Hurbert Bean and Hih Song Kim, with the East Carolina University Department of Sociology, Anthropology and Economics, examine some of the social and economic parameters of the state's blue crab industry. And, the researchers offer a profile of a crab fisherman.

For a copy of the report, write Sea Grant. Ask for UNC-SG-WP-86-1. The cost is \$1.75.

Last year, most North Carolina shrimpers saw gold when they pulled in their nets. Shrimpers netted the second largest total catch in the state's history. In 1985, the fishermen caught

Continued on next page

10.8 million pounds of shrimp with a dockside value of \$19.1 million. The largest harvest was 14.6 million pounds in 1953.

What made last year so profitable? Conditions in the sounds were almost perfect for the young shrimp to grow, says Ed McCoy, assistant director of the N.C. Division of Marine Fisheries. Little rain and freshwater runoff, and a dry spring and summer kept water in the state's primary nursery areas at a high salinity level. The salty estuaries and an excellent survival rate helped increase the numbers of shrimp.

You've readied your boat for a summer on the sea, and you've charted your course. But before you climb aboard, there's more to remember than your deck shoes and cooler.

Don't leave the docks without knowing boating safety rules. The extra knowledge could save your life.

June 1 to 7 is designated as National Safe Boating Week. Bone up on safety

tips with a course offered by organizations such as the U.S. Coast Guard, the U. S. Power Squadron and the American Red Cross. In 10 weeks, boat owners and other sailors can learn about boat equipment and maintenance, first aid and the rules of the open sea. All courses are free.

To find out about the classes, call your local Red Cross, USPS office or Coast Guard station. Or call the BOAT/U.S. Foundation at 1-800-336-BOAT.

BeLinda Hoots is the new fisheries technician at Sea Grant's Aquaculture Research Center in Aurora. Hoots, a graduate of N.C. State University in fisheries and wildlife, obtained aquaculture training as a U.S. Peace Corps volunteer. She recently completed an assignment as supervisor of a fisheries development program in Sierra Leone, West Africa. Hoots will work with aquaculture agent Randy Rouse on Sea Grant's research with striped bass hybrids.

The Gramm-Rudman-Hollings balanced-budget act, formally known as the Balanced Budget and Emergency Deficit Control Act of 1985, affects everyone—including Sea Grant. In 1986, the National Sea Grant Program expects to receive a 4.3 percent cut in funds, says UNC Sea Grant Director B.J. Copeland. The National Sea Grant office is responsible for distributing funds to the various state programs including UNC Sea Grant.

Coastwatch is published monthly except July and December by the University of North Carolina Sea Grant College Program, 105 1911 Building, Box 8605, North Carolina State University, Raleigh, NC 27695-8605. Vol. 13, No. 5, May, 1986. Dr. B.J. Copeland, director. Kathy Hart, editor. Nancy Davis and Sarah Friday, staff writers.

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