COASTALSERVICES

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LINKING PEOPLE, INFORMATION, AND TECHNOLOGY

CLIMATE CHANGE:
HOW COASTAL
COMMUNITIES CAN PLAN
AND ADAPT

HELPING HOMEOWNERS
PREPARE FOR
HURRICANES IN FLORIDA

LINKING THE SEA
WITH HABITAT
RESTORATION IN THE
NORTHERN MARIANAS



From the Director

As one of the sources for the cover story of this edition of Coastal Services succinctly puts it, community and state planning for climate change is not necessarily about being green; it's about understanding and managing risk. It's also about saving money.

Taking your region's potential impacts from natural disasters or climate change into consideration when planning future projects or upgrading infrastructure, and spending a little extra money today, could save significant amounts of money later.

This process doesn't have to be overwhelming. The cover story on "Preparing for Climate Change: A Guidebook for Local, Regional, and State Governments" shows that planning for climate change now can be done using familiar tools and processes.

And just because the tools are familiar doesn't mean there isn't room for creativity when implementing hazard mitigation, as the article on the My Safe Florida Home program illustrates.

While the terms are different, there is "connectivity" between safe homes and businesses, hazard mitigation, and coastal climate impact adaptation, which is the ability of communities and citizens to "bounce back" after hazardous events. Stronger, better-informed, and better-prepared coastal communities increase their

physical, social, economic, and environmental ability to rebound from weather and climate impacts.

Providing coastal communities with the necessary tools to recover quickly from hazards is the focus of all the resilience efforts of the National Oceanic and Atmospheric Administration's Coastal Services Center.

The Coastal Services Center is developing tools and information to help communities understand their particular vulnerabilities and minimize hazard-caused destruction and disruption.

Working in partnerships with other federal agencies, natural- and socialscience research communities, and a wide range of coastal managers, the Center's Coastal Resilience Initiative is striving to define key resilience factors, identify critical linkages, and enable community-based adaptive management techniques.

You can read about tools that can help with community and hazard mitigation planning, disaster preparedness and response initiatives, and long-term recovery and restoration efforts at www.csc.noaa.gov/bins/ resilience.html.

Margaret A. Davidson

The mission of the NOAA Coastal Services Center is to support the environmental, social, and economic well being of the coast by linking people, information, and technology.



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News and Notes

Accessing Center Products and Services

At coastal conferences, one of the most frequent questions heard by those staffing the company exhibit is, "How can my organization work with the Center?"

The National Oceanic and Atmospheric Administration (NOAA) Coastal Services Center is a leader in efforts to protect the nation's coastal resources and communities. This work is accomplished with local, state, and nonprofit organizations committed to the same goals. Since 1994, the Center has worked with these constituent groups and provided them with the data, tools, and services that might otherwise be unavailable.

Because the range of products and services is so broad, confusion about how to best access the Center is understandable. The following outlines the most common ways constituents and the Center find themselves working together.

Use the Tools and Services Available on the Website

Here are a handful—land cover data for the developed coastline; a visualization tool used to "see" potential waterfront permitting scenarios; community risk and vulnerability assessments; benthic data; elevation data; training; historical hurricane data; easy access to applicable ocean laws and policies; and survey and needs assessment assistance.

Hundreds of products and services are available at www.csc.noaa.gov. Each was developed in response to a specific need by the client community, but all were developed so that the broader audience of users could take advantage of the results. These products are available on the website free of charge.

Apply for a Grant

Most years, the Center is able to offer grants to organizations undertaking work that furthers NOAA and Center goals. The total amount varies year to year, from \$2 million to \$38 million depending on congressional appropriations. Announcements are published in the Federal Register primarily during July and sometimes in January, posted on Grants.gov, and archived on the Center's website.

Awards have ranged from \$50,000 to \$10 million and can be for multiple years. The number of awards has ranged from nine to forty, and the scope of each project can vary greatly. Successful applications have involved environmental education, ocean observing systems, oceans and human health initiatives, and spatial technology, to name a few.

Work through Your Membership Organization

While the Center continues to work with individual organizations to assess needs and develop projects, for the past few years a greater

emphasis has been placed on working with national and regional membership associations. These membership groups are those that the Center's primary constituents belong to, such as the Coastal States Organization, Association of State Floodplain Managers, and National Association of Counties. These associations provide an effective way to prioritize constituent needs and develop products that a greater number of people can use.

Organizations that see a need the NOAA Coastal Services Center might fill can contact their member associations. Together, the Center and these associations can work to address common needs of the coastal resource management community. *

For additional information, contact Donna.McCaskill@noaa.gov or visit the Center's website, www.csc.noaa.gov.

Check Out The Center's Updated Website www.csc.noaa.gov/



State Money Helping Homeowners Prepare for Hurricanes in Florida

After eight hurricanes and \$38 billion in insured losses in Florida during the 2004 and 2005 hurricane seasons, insurance companies in the state began dropping policyholders, and those lucky enough to maintain insurance were faced with skyrocketing premiums. To address the looming insurance crisis, the state set aside \$250 million to help property owners prepare their homes to better withstand future storms.

"I definitely don't think this is Florida-specific."

Tami Torres, Florida Department of Financial Services

The My Safe Florida Home program provides free wind inspections and will reimburse homeowners up to \$5,000 for "hardening" their homes by protecting or replacing windows, doors, or garage doors, and bracing gable ends.

"More than 74 percent of homeowners who get a wind inspection are eligible for \$190 to \$195 in savings on their hurricane insurance without the first nail being hammered," says Tami Torres, special programs administrator for the Florida Department of Financial Services, and coordinator of the My Safe Florida Home program.

Under the program, homeowner Todd Hopkins got \$5,000 back after spending \$13,000 on upgrades. "Then I got my home insurance reduced by \$1,300 a year," he says. "This is a wonderful thing the government is doing."

Under Inspection

In the two-part program, homeowners receive free home inspections by state-trained and -certified inspectors. The resulting report includes information on work that could be done to strengthen the home, and details what would be eligible for matching grants. The report also estimates insurance premium discounts, if the homeowner is eligible.

Homeowners who make the suggested retrofits are eligible for up to \$5,000 in a matching grant. The grants, Torres says, reimburse homeowners for the money they spend.

Homeowners do not have to do all the improvements recommended in their inspection reports to qualify for a grant, but they do have to protect all windows or protect all doors to get reimbursed. "You can't just protect one or two windows," Hopkins notes.

To be eligible for the program, homeowners must make Florida their primary residence and live in a single-family home built on-site before March 1, 2002. The home must have an insured value of \$300,000 or less, and be in the wind-borne debris



region, typically within one mile of the coast. Low-income homeowners are eligible for a grant up to \$5,000 with no match required.

Group Effort

When the state legislature set aside the money in 2006, it assigned the program's creation to the Florida Department of Financial Services, which traditionally assists consumers after hurricanes but is not the agency charged with mitigation and recovery, Torres says.

"From the legislature's perspective, we are the fiscal watchdog for the public," she explains.

One of the first things agency staff members did was turn to the Federal Alliance for Safe Homes, a nonprofit organization that promotes disaster safety and property loss mitigation, and the Florida Department of Community Affairs, which has mitigation and recovery experience.

"We could not embark on this by ourselves because to some degree, a lot of what we were doing is new in state government," Torres says.

Pilot Phase

Part of the challenge, says Torres, was the enormity of the program—not only the amount of funding, but also the fact that there are 4.4 million single-family homes in Florida. A secondary goal was to educate people who were not participating in the program on the benefits of hardening their homes and how to do it.

The agency began with a pilot phase that focused on assisting 12,000 homeowners statewide over six months.

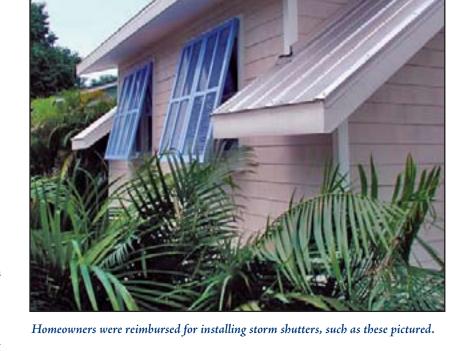
In four months, a survey tool and supporting technology were created for inspectors to use to collect data on homes, two inspection firms were hired, and a training manual and classes were developed to certify inspectors and contractors who would be doing the work. The inspectors also had to undergo background checks.

Too Many, Too Soon

Although the goal for the pilot phase was to cap the number of eligible homeowners, the "reality is that when this made the newspapers and TV, more than 60,000 people applied in the first two weeks," Torres says.

Once the hurricane season ended on November 30, 2006, the state stopped inspections to regroup.

"What I might say to my colleagues in other states is spend more time on the front end thinking



about how you would implement a program like this rather than creating a pilot," Torres says.

Learning to Fly

After post-election staff turnovers—including the agency director—in January 2007, Torres was put in charge of the My Safe Florida Home program. She was tasked with heading the evaluation of the pilot phase and having the second phase up and running by March.

"It was a good experience," Torres says, "but it was a lot like learning how to fly a jumbo jet plane in 30 days."

Changes to the program included the legislature reducing the number of improvements for which homeowners could be reimbursed, which had allowed such things as roof replacement, and lifting an administrative cap on the program, permitting the agency to hire ten staff members to manage the program.

Eleven inspection firms were hired to address an inspection backlog, and from April to October 2007, the program performed over 111,200

free wind inspections. More than 13,500 homeowners were approved for matching grants and are working with the state to harden their homes. Statewide, the program has issued 1,876 grants to homeowners for more than \$6 million.

The legislative goal, Torres says, is to have 400,000 inspections completed by June 30, 2009.

"We're still learning as the program evolves," Torres says, "but I'm really pleased with the progress we've made."

She adds, "I definitely don't think this is Florida-specific. Insurance companies are not just cutting back in Florida, but are cutting policies in other states, as well. A lot of what we're doing we're definitely eager to share with other states."

For more information on My Safe Florida Home, point your browser to www.mysafefloridahome.com. For information on the Federal Alliance for Safe Homes, go to www.flash.org. You may also contact Tami Torres at Tami.Torres@fldfs.com.

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Photos courtesy of Florida Department of Financial Services



HOW COASTAL COMMUNITIES CAN PLAN AND ADAPT

Sea level rise, drought and flooding, invasive species that are harmful to humans and the environment—the list of potential impacts from climate change is long and can be overwhelming for local, regional, and state decision makers trying to plan for the future. A new guidebook that uses familiar planning resources and tools is designed to help states and communities across the country adapt to the changing climate.

"Planning for climate change is not necessarily about being green. It really is about managing risk," says Lara Whitely Binder, outreach specialist for the Climate Impacts Group, one of eight regional climate impact assessment groups in the nation funded by the National Oceanic and Atmospheric Administration (NOAA).

Preparing for Climate Change: A Guidebook for Local, Regional, and State Governments was developed by the Climate Impacts Group and King County, Washington, which is located on Puget Sound. ICLEI— "This really provides a step-by-step approach, answering many of the most important questions about what a community needs to do."

Jim Lopez, King County, Washington

Local Governments for Sustainability was a contributing partner and is distributing the guidebook nationally to its more than 350 U.S. member cities, towns, and counties. The Climate Impacts Group and King County are also distributing the guidebook.

The guidebook is "a roadmap of action for local, regional, and state governments," says Jim Lopez, deputy chief of staff to elected King County Executive Ron Sims. "It enables them to ask the climate question with respect to priority

planning areas and initiating a climate resiliency effort."

While many of the examples in the guidebook are from King County, ICLEI brought a national perspective to the project, which included piloting the guidebook in communities in New Hampshire and Alaska.

"This is a great tool for people in municipalities trying to figure out how to do this," says Mikaela Engert, planner for the City of Keene, New Hampshire. "It helps you think through the process and understand what you need to look at in your community."

The Coming Change

Within a few decades, climate in many parts of the country is expected to be significantly warmer. Reports released in 2000 by the U.S. Global Change Research Program and in 2007 by the Intergovernmental Panel on Climate Change indicate that many areas in the U.S. are vulnerable to flooding, coastal erosion, drought,

heat waves, health impacts, and intense hurricanes and wildfires caused by climate change.

King County is one of these areas. Covering an area of 2,134 square miles, King County is nearly twice as large as the average county in the U.S. With almost 1.8 million people—including the city of Seattle—it ranks as the 14th most populous county in the nation.

King County is vulnerable to many projected climate change impacts, including declining mountain snowpack (which is directly linked to water supplies) and increased risk of drought, sea level rise, and flooding in coastal and freshwater river systems.

Learning and Acting

The idea for the guidebook came out of a 2005 conference that King County sponsored on the regional effects of climate change.

"It was packed," says Lopez.
"There was enormous enthusiasm to
learn and act on what was expected
to be the climate change impacts in
our region."

Lopez says the team wrote the guidebook with the understanding that the potential impacts of climate change and resulting issues would be different for each region of the country. "It's not prescriptive of any specific policy. It creates a framework that each region can use to create a plan based on that region's issues."

Information and Guidance

The guidebook includes information on creating a climate change preparedness team, identifying community vulnerabilities to climate change,

and identifying, selecting, and implementing adaptation options—all the steps necessary in creating a climate change preparedness plan.

Guidance on where to find and how to evaluate climate change information is provided, as is a checklist on "How to Prepare for Climate Change." Information on implementing the resulting climate change plan and measuring its progress are also included in the guidebook.

"This really provides a stepby-step approach," says Lopez, "answering many of the most important questions about what a community needs to do."

Old Tools, New Lens

"The central message of the guidebook," notes Whitely Binder, "is that planning for climate change is no different than planning for the current stresses in the environment and community. It's really about looking at these issues through a slightly different lens. It's not about having to learn a whole new vocabulary, or how to use a whole new suite of tools."

For instance, she says, if managers are updating their coastal management plans, they need to be "updating it with the potential for sea level rise and the resulting change in habitat and flood risk, inundation of coastal aquifers, and erosion processes. These are all issues they are already dealing with. The key is looking at how climate change may affect these stresses."

She adds that there will "not be a silver bullet or one strategy that will fix all the issues. Adapting to climate change requires a diverse array of adaptation responses."

Part of the Plan

The guidebook was adopted by ICLEI as part of its Climate Resilient Communities program, a NOAA-funded initiative that helps local governments develop tools to protect their communities from the impacts and costs associated with climate change. A sister ICLEI program, Cities for Climate Protection, offers a framework for local governments to reduce greenhouse gas emissions and improve livability.

While part of the bigger program, "the guidebook really is something that anyone can pick up and run with," says Annie Strickler, ICLEI's communications director.

"Planning for climate change can be done," adds Lopez. "The information is there to do the work that can be made into meaningful policy." .*

To download Preparing for Climate Change: A Guidebook for Local, Regional, and State Governments, go to www.cses.washington.edu/cig/fpt/ guidebook.shtml, or www.kingcounty. gov/exec/globalwarming/. For more information on ICLEI's Climate Resilient Communities program, go to www.iclei.org/index.php?id=6687. For more information on the guidebook, contact Jim Lopez at (206) 296-4048, or Jim.Lopez@kingcounty.gov, Lara Whitely Binder at (206) 616-5349, or lwb123@u.washington.edu, or Annie Strickler at (510) 844-0699, ext. 328, or annie.strickler@iclei.org. For more information on the City of Keene, New Hampshire's plan, contact Mikaela Engert at (603) 352-5474, ext. 6036, or mengert@ci.keene.nh.us.

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Linking the Land and the Sea **Helps with Habitat Restoration** in the Northern Marianas

Hunters on the Island of Rota in the Commonwealth of the Northern Marianas often burn the Talakhaya area forest to spur the growth of new vegetation that attracts sambar deer. Not only are these hunters unknowingly destroying the deer's habitat, but the resulting soil erosion is also causing algae growth that is smothering nearshore corals and driving away fish.

"By taking the land approach, it's been easier to help people understand why the corals are important."

> Lihla Noori, NOAA Coral Reef Management Fellow

Ten agencies on the island have joined forces to replant the habitat and create a community education and outreach program. The effort has resulted in the largest single planting event in the island's history and a campaign message that "Real Hunters Don't Burn."

"People are now beginning to understand the connection between the land and the sea," says Lihla Noori, a National Oceanic and Atmospheric Administration (NOAA) coral reef management fellow and coordinator

of the Talakhaya Project. "By taking the land approach, it's been easier to help people understand why the corals are important."

Critical Area

For a number of years, the Talakhaya watershed has been listed as a critical area, but efforts to address the problems were fragmented. In 2005, the commonwealth received a threeyear NOAA coral reef grant to focus on the area.

Noori came on island in 2006 with the task of helping to coordinate the many agencies involved.

Badlands

The soil in the area is in such poor condition, Noori says, that the Department of Lands and Natural Resources first conducted studies to see which plant species would best survive. In September 2006, a group of almost 200 students from both the Rota junior and senior high schools helped plant 2,500 seedlings.

This effort was "moderately successful," says Noori. The rugged mountain terrain made it clear that relying on students was untenable, and the growth of some seedlings was slower than had been hoped.

New Plan

The collaborative adjusted the project plan and came back



in June 2007 with 35 community volunteers who worked nearly full time for three weeks planting and fertilizing over 19,000 grass and tree seedlings. The planting teams recorded abundance and location of the seedlings using handheld Global Positioning System units.

Noori notes that getting to the work site required a 40-minute drive in a four-wheel-drive vehicle, followed by a 40-minute hike carrying all the gear that was needed.

"Even with teamwork and adequate resources, we were constantly struggling to overcome different trials and tribulations along the journey," notes James Manglona, head forester for the Department of Lands and Natural Resources.



Recycling Shrink-Wrap from Boats in Ohio

One of the cheapest ways to protect a boat stored outside during harsh winter months is to shrink-wrap it in plastic. The problem comes in the spring when the plastic is removed and ends up in a landfill.

Plastic coming off one boat weighs between 35 to 50 pounds, and marinas along Lake Erie may have 12 to 200 boats shedding their plastic skins at once. "We're talking a lot of shrink-wrap," says Gary Comer, Jr., extension educator for the Ohio Sea Grant College Program.

That much plastic would take up the same space as burying nine school buses in a landfill.

To keep the plastic out of Ohio landfills, Comer, who coordinates the Ohio Clean Marinas Program, partnered with Mondo Polymer Technologies to start a boat shrinkwrap recycling program.

In the past two years, the program has recycled 230 tons of shrink-wrap into 37,857 highway guardrail blocks. That much plastic would take up the same space as burying nine school buses in a landfill, or would be enough to

cover the entire 312 miles of Lake Erie's coastline with an 8.6-foot wide strip of plastic.

"It's been a win-win-win for everybody," Comer says. "Marinas don't have to pay for disposal, boat owners don't have to haul it home to dispose of it or pay a fee, and a service provider gets raw product."

Comer piloted the program in 2006 in three counties working with 70 marinas. Marina operators told Comer they would be willing to participate if the plastic were removed regularly and didn't require any additional expense, and if operators didn't have to remove banding, sort by color, or try to keep it excessively clean.

In April 2006, Mondo began collecting shrink-wrap from marinas each week using a company-provided and -manned compactor-style garbage truck with the Clean Marina's logo painted on the side. A brochure was developed to educate the boaters about the program.

By the end of the first season, over 100,000 pounds of shrink-wrap was recycled. The savings for the marinas was \$28,000.

In 2007, the program was expanded along the entire Ohio Lake Erie coast and included 102 marinas. To make collection and communication easier, Comer took Global Positioning System points at all the marinas and mapped them using a geographic information system.

By the end of the season, 300,000 pounds of boat shrink-wrap had been recycled. Additionally, 50 tons of plastic from greenhouses and boat shows was collected.

Comer says the program would easily transfer to other states, noting that a pilot program between Mondo and Michigan Sea Grant was implemented last year, and that the company has been talking to other states.

"It's been a home run as far as I'm concerned," Comer says. "I feel good about it as someone with an environmental conscience, and it's helped me build rapport and trust with marina operators. This has been truly successful." ❖

For more information about the Ohio shrink-wrap recycling program, visit www.ohioseagrant.osu.edu/ cleanmarinas/. You may also contact Gary Comer at (419) 609-4120, or comer.29@osu.edu.



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Thanking the Ocean to Help Protect It in California

Beach visitors spent \$10 billion in California last year. Sea slugs help fight the effects of Alzheimer's disease. The ocean produces more oxygen than all the forests combined.

These are some of the messages featured on billboards and bus shelters as part of California's "Thank You Ocean" public awareness campaign, which also features a television public service announcement directed by awardwinning cinematographer and ocean photographer, Bob Talbot.

"It's such a simple message that speaks to everyone."

Columbine Culberg, NOAA National Marine Sanctuary Program

"Everyone who sees it loves it," says Columbine Culberg, ocean etiquette coordinator for the National Oceanic and Atmospheric Administration's (NOAA) National Marine Sanctuary Program and one of the campaign coordinators.

The campaign was put together by the California Ocean Communicators Alliance, a group of more than 300 communications professionals in ocean-related organizations, agencies, and businesses, and was created by The Hive Advertising of San Francisco.

The ads direct viewers to go to www.thankyouocean.org, where informational links provide five ways to thank the ocean:

- "Learn about the ocean" features links to aquariums and classes.
- "Experience the ocean" provides visitors with access guides to ocean and coastal places.
- "Respect the ocean" describes how to act in and around the ocean, as well as when encountering wildlife.
- "Choose the ocean" provides information on how everyday choices can impact the ocean's health.
- "Make a difference" encourages participation in activities such as beach cleanups, public meetings, and ocean organizations.

The website also features a special page for kids and information on the alliance.

Beginning in April 2005, the alliance held three workshops where the scope and concepts of the campaign were hammered out, providing the basis for the advertising agency's creative efforts, says Brian Baird, assistant secretary for ocean and coastal policy for the California Resources Agency, and campaign co-chair.



The campaign, which was sponsored by the California Resources Agency, NOAA, and grant funds, was launched in September 2006 at the California and the World Ocean Conference.

The price tag for producing the public service announcement and paying for ad space has been about \$500,000, Culberg says. Including donated ad space, the total value of the campaign has been more than \$1 million.

"We got a great deal," she says. Baird notes that they are currently working to evaluate the reach of the effort and are hiring a strategist who will look for ways to increase the campaign's effectiveness and identify new sources of funding to buy media space and time.

"It's such a simple message that speaks to everyone," Culberg says. "It's been as powerful and effective as it's been because of the alliance."

Baird adds, "It's very exciting. It's been a great collaboration." ❖

To view the "Thank You Ocean" ads, go to www.thankyouocean.org. For more information, contact Columbine Culberg at (805) 963-3238, ext. 10, or Columbine. Culberg@noaa.gov. You may also contact Brian Baird at (916) 657-0198, or brian@resources.ca.gov.

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Growing Together

The results of the planting, however, "have been promising" because they are seeing the seedlings spreading and connecting, he says.

The Division of Environmental Quality is conducting baseline streambed and shoreline water quality monitoring to document the potential change in the watershed's nonpoint runoff.

Outreach efforts also were aided by the community volunteers, who helped spread the word about the project and why it was being done, Noori says. "Real Hunters Don't Burn" bumper stickers are now popular, as are educational displays presented at public events.

Noting that there is still more planting and outreach that needs to be done, Noori says she considers this phase of the project a success "because of the partnerships and community support."

"This was not an effort that could be done by one agency," she says. "It had to be done with multiple partners. That is where the success lies." *

For more information on the Talakhaya Project, contact Lihla Noori at (670) 532-3102, or lihla.noori@gmail.com.





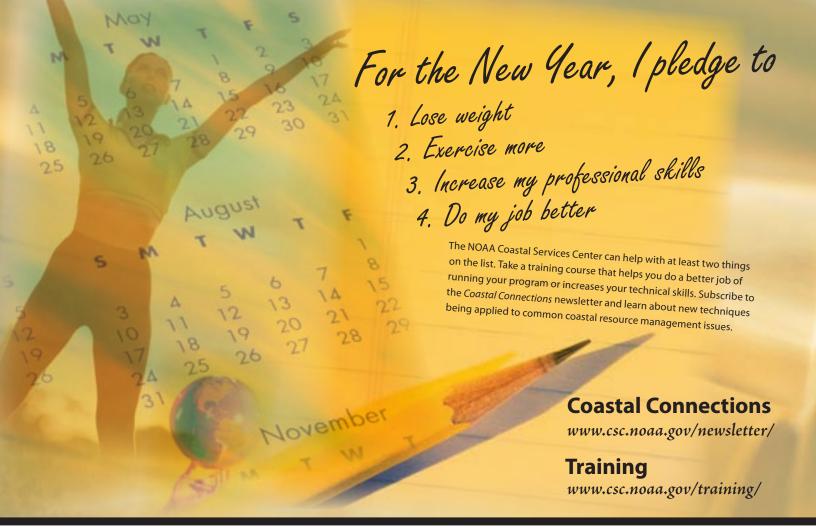
LOOKING FOR A FEW GOOD CANDIDATES...

Application packages from fellowship candidates are due to local Sea Grant offices by January 28.

Sea Grant nomination packages are due February 25.

Coastal Management Fellowship Program

www.csc.noaa.gov/fellows.html



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