

# COASTAL MANAGEMENT NEWS

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Kayakers explore the popular sea caves at the Apostle Islands National Lakeshore. Credit: National Park Service

## Wisconsin Improves Safety at Sea Caves

In August 2011, 10 kayakers had to be rescued from the waters around the Mainland Sea Caves at the Apostle Islands National Lakeshore due to treacherous conditions. A private boater was able to rescue two of the kayakers who had capsized in two to three-foot waves. By the time National Park Service staff arrived to rescue the remaining eight kayakers, the waves measured four to five-feet.

Near shore waters near the sea caves rarely get above 45-50 degrees F in the summer. At those temperatures, people can only withstand 30 to 60 minutes of prolonged exposure before they are in grave danger of hypothermia.

The August incident illustrates the importance of a new website and real-time wave observation system the

Wisconsin Coastal Zone Management Program developed in partnership with the National Park Service, Wisconsin Sea Grant, the University of Wisconsin, kayak outfitters, and others to improve visitor safety at the sea caves.

The sandstone sea caves, located a mile and a half offshore of Bayfield, Wisconsin, are a popular kayaking and boating destination. Wave conditions at the caves, however, are not visible from shore and can be very dangerous, especially when combined with the cold Lake Superior water temperatures.

The new website, which was launched in June, allows the public to obtain real-time wave height, water temperature, and wind-speed data for

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the caves. The website, which was designed so that people could access the data from mobile devices as well, also provides a rating system, developed with local kayak outfitters and others, to indicate which wave heights are appropriate for novice, intermediate, and advanced kayakers.

On the day the kayakers were rescued, the rating system indicated that there were hazardous conditions at the site. After consulting the website, the National Park Service warned the kayakers about the weather conditions and that it would be dangerous to venture out to the sea caves, but the kayakers did not heed the warning.

The National Park Service partners met with the Town of Bayfield and several kayak outfitters in the area to make them aware of the resource when the website was launched. In the wake of the August incident, the National Park Service and Wisconsin Sea Grant continue to meet with outfitters and other groups to increase their awareness of the website and emphasize the importance of heeding its warnings so that the number of future rescues can be reduced.

To see the hazard warning system for the sea caves in action, visit [www.seacaveswatch.org](http://www.seacaveswatch.org). For additional information, contact Mike Friis at [mike.friis@wisconsin.gov](mailto:mike.friis@wisconsin.gov).

## Florida Preserves Prehistoric Coastal Heritage

Florida's coastal areas often have a rich history of human settlement, but many of the state's coastal archaeological sites are seriously threatened by natural and human forces. In the Charlotte Harbor Preserve State Park in southwest Florida, sites are gradually eroding from the effects of heavy winds and rain, storm surges, tidal scouring, uprooted trees, unauthorized digging (e.g., vandalism and looting), animal activity, and loss of native vegetation. To better protect and preserve these resources and to research, evaluate, and document them, the Florida Department of State's Public Lands Archaeology (PLA) program, with funding from the Florida Coastal Management Program, systematically mapped the physical features of significant, at-risk archaeological sites in the park.

Cultural resources provide unique opportunities to learn about the region's prehistory. Humans have used the lands surrounding Charlotte Harbor for thousands of years, and the park itself contains more than 100 recorded sites, including the intact remains of a unique and internationally recognized progression of human cultures in an estuarine environment. The preferred preservation approach in the park is stabilization and restoration. But first, the sites needed to be mapped.

As a result of the PLA mapping project, the state now has an atlas of 43 of the most significant archaeological sites in the park. The atlas will be useful for land managers and law enforcement staff who monitor and protect sites, archaeologists reconstructing the region's cultural history, and scientists assessing shoreline erosion and inventorying natural communities.

Among these 43 sites is the Sword Point Complex, which provides good insight into the culture and practices of early Charlotte Harbor residents. It does so because it has remained undisturbed by human visitors, and while storm and tidal action have worn away its western shoreline, numerous middens (shell and other refuse) remain intact. In addition to varied shell tool assemblages, the complex also includes evidence of a fish weir or impoundment constructed mostly with oyster shell.

Radiocarbon dates from one of the Sword Point sites indicate an occupation from approximately 1300 AD to 1400 AD, which corresponds to an environmental event known as the "Little Ice Age," when sea level was lower than today. The occupation of Sword Point during this time in climatic history makes sense given the area's present wetland nature.



*Early fishermen work the waters of southwest Florida. A fish impoundment is shown in the background (note netting and gourd floats). Credit: Dean Quigley*

While time and nature take their toll on coastal archaeological sites, the mapping project in the Charlotte Harbor Preserve State Park exemplifies how cultural resources can be preserved and made accessible to future generations. The maps and atlas provide a blueprint of current site conditions and, for the first time, a systematic means to monitor site changes. They also provide a foundation for preservation, restoration, and protection activities. Notably, based on this work, the PLA has determined that Sword Point is eligible for the

National Register of Historic Places, and the maps will be useful in the nomination process.

For more information, contact Mary Glowacki at [Mary.Glowacki@dos.myflorida.com](mailto:Mary.Glowacki@dos.myflorida.com).

## Pennsylvania Enhances Access to Delaware River Estuary

The eastern portion of Pennsylvania's coastal zone is centered around the Delaware River estuary. Access to the waterfront, however, especially in Philadelphia, is often obstructed by extensive industrial areas and major transportation corridors, such as Interstates 95 and 76 along the Delaware and Schuylkill Rivers and railway rights-of-way, which create substantial pedestrian barriers to the water. Improving public access to the Delaware River estuary waterfront is a primary goal of the Pennsylvania Coastal Resources Management Program (CRM).

Much of the industrial development along the estuary's shoreline is still active and vital to the economic well-being of the city, however, some sites are abandoned and have fallen into disrepair. While many require substantial remediation, these sites present excellent opportunities for acquisition and redevelopment into useable spaces to increase public access to the Delaware River estuary waterfront. Through the National Coastal Zone Management Program, the CRM works closely with its local partners to reclaim these sites so that city residents and visitors are able to enjoy the estuary. Two recent projects highlight the success of the CRM's efforts.

On May 12, 2011, the CRM and its partners celebrated the opening of the Race Street Pier along the



The Race Street Pier provides new public access to the Philadelphia waterfront.  
Credit: PaDEP

Philadelphia waterfront. The once dilapidated pier had been abandoned for many years. The CRM partnered with the Delaware River Waterfront Corporation and others to rehabilitate the pier into an inviting public space. In an area that once provided minimal public access to the water, people can now stroll or sit along the pier surrounded by the river on three sides. The CRM contributed funding toward the pier rehabilitation process and provided input on the project's design through the permit process, including pre-permit meetings, to ensure coastal impacts would be minimized.

The CRM has also supported the development of the coastal portions of the Schuylkill River Trail, a multi-use trail in Southeastern Pennsylvania that, when completed, will extend 130 miles through five counties from Philadelphia to Pottsville, Pennsylvania. Within Philadelphia, the roughly 10-mile trail section runs along the river, providing important recreational space and waterfront access in the center of the city.

Since 2006, the CRM has contributed more than \$240,000 to Schuylkill River Trail planning and development projects through its coastal zone grants program. These planning funds enable the Schuylkill River Trail partners to address complex urban design issues, such as developing trail connection segments in areas with limited rights-of-way, reusing brownfields, and identifying how to use existing bridges and other infrastructure. The trail already is an extremely popular and heavily used recreational asset and commuter route. With the CRM and its partners' efforts to complete the Schuylkill River Trail, the trail will be able to reach its full potential as a connector between many Philadelphia urban and suburban neighborhoods, the region's first green transportation corridor for multiple communities, a strong catalyst for economic development, and a critical access point to open space and commuting paths for underserved neighborhoods. More information is available at [www.schuylkillrivertrail.com/](http://www.schuylkillrivertrail.com/).

For additional information regarding Pennsylvania's public access projects within the Delaware River estuary, contact Gary Obleski at [gobleski@state.pa.us](mailto:gobleski@state.pa.us).

## Washington Releases Online Recreational Planning Tool

The Washington Coastal Management Program, within the Washington Department of Ecology, released a new online recreational planning tool for Washington's public beaches. A new Public Beach Access feature on Ecology's Coastal Atlas website provides detailed information on where people can legally access the state's public beaches—those owned by the state as well as counties and cities. The website includes interactive

maps and photos of trail heads, viewpoints, and signs. The tool and photos are especially helpful for access points that are not well-marked or are located some distance from the beach.

In addition to identifying beach locations, the online tool provides information on what beaches are closed to

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WA Access (Continued from pg. 3)

swimming and includes links to advisories and monitoring reports. It also provides information on the amenities offered at each site, such as public boat launches, docks, marinas, campsites, bathrooms, drinking water, picnic tables, barbeque pits and hiking trails, and notes whether pets are allowed. In addition, the tool provides links to weather and tide information.

The Washington Coastal Management Program developed the online Public Beach Access tool in partnership with the Washington Department of Health, NOAA's National Coastal Zone Management Program, and the NOAA Coastal Services Center's Coastal Management Fellow Program. Washington's Coastal Management Fellow conducted most of the field work and data collection used to develop the online tool.

The Public Beach Access tool is part of Ecology's existing Coastal Atlas, a powerful interactive map and searchable database that allows users to navigate and zoom detailed maps of Washington State and then select and layer different types of information. This fall, Ecology plans to unveil more improvements to the site. The updates will improve how users can view and compare aerial shoreline



The beach access tool helps people find places to access Washington's coast, like here in Grays Harbor. Credit: WACMP

photos of the same location over different years. Digital Flood Insurance Rate Maps (DFIRMs) will also be added to the atlas.

The Public Beach Access tool can be found on the Washington Coastal Atlas at <https://fortress.wa.gov/ecy/coastalatlus/>. For more information, contact Kathy Taylor at [kathy.taylor@ecy.wa.gov](mailto:kathy.taylor@ecy.wa.gov).

## Meeting Aligns State and NOAA Capabilities

NOAA's Office of Ocean and Coastal Resource Management (OCRM) partnered with the Coastal States Organization to host a workshop September 7-8, 2011, in Silver Spring, Maryland, to align state and NOAA capabilities to address priority issues. The workshop focused on two national coastal priority issues: ocean management planning and coastal climate adaptation.

The primary objective for the meeting was to strengthen relationships between NOAA programs and National Coastal Management Program state partners and better understand their capabilities and needs to help align funding and investments at the national, regional, and state levels. The workshop brought together staff from

31 state coastal management and national estuarine research reserve programs and 14 NOAA programs. The immediate results of the two-day meeting included an increased mutual awareness of each other's capabilities and needs for adapting to climate change and undertaking state ocean management planning and several actions that the state and federal parties can take to better align funding and investments.

OCRM will continue to seek opportunities to build upon the outcomes of this meeting and work to align NOAA's capabilities with state coastal management program needs. For more information, contact Joelle Gore at [joelle.gore@noaa.gov](mailto:joelle.gore@noaa.gov).

## OCRM Releases Great Lakes Supplement to Adaptation Planning Guide

In July 2011, NOAA's Office of Ocean and Coastal Resource Management released "Adapting to Climate Change: A Planning Guide for State Coastal Managers—A Great Lakes Supplement." Intended to be used as a companion to the previously released planning guide, the supplement, which was developed with funding from the Great Lakes Restoration Initiative, provides more specificity on climate trends and potential climate change impacts and consequences affecting the Great Lakes region and includes numerous case examples of adaptation actions already being taken at regional, state, and local levels.

The Great Lakes supplement has already been used in a series of "Planning for Climate Change" workshops held recently in several Great Lakes communities. These workshops highlighted case examples and adaptation strategies identified in the supplement.

The planning guide and Great Lakes supplement help coastal managers reduce the risks of climate change impacts that may affect their coasts. Both documents are available at <http://coastalmanagement.noaa.gov/climate/adaptation.html>. For more information, contact Josh Lott at [josh.lott@noaa.gov](mailto:josh.lott@noaa.gov).

## OCRM Adds Ocean Plan to Massachusetts Coastal Program

On September 23, 2011, NOAA's Office of Ocean and Coastal Resource Management approved the incorporation of the Massachusetts Ocean Management Plan (Ocean Plan) into the state's federally approved coastal management program under the Coastal Zone Management Act (CZMA). The Ocean Plan is a comprehensive plan to balance resource protection with existing and emerging ocean uses within the state's ocean waters.

Over the last decade, new proposals for renewable energy, deepwater aquaculture, offshore sand mining, and other activities highlighted the need for the state to more effectively manage the protection and use of its ocean waters. Recognizing this need, Governor Deval Patrick signed the Massachusetts Ocean Act of 2008, which called on the Massachusetts Executive Office of Energy and Environmental Affairs (EEA) to develop a comprehensive ocean plan for the state by December 31, 2009. Over the next year and a half, on behalf of EEA, the Massachusetts Office of Coastal Zone Management managed this effort, working closely with several advisory committees and engaging numerous stakeholders and the public to complete the plan (see also January 2009 story in *Coastal Management News*).

The Ocean Plan adds strong protections for critical marine life and habitats, initiates a five-year program for high priority research, and identifies sustainable areas for renewable energy development. The Ocean Plan also advances the objectives of President Obama's National Ocean Policy, which calls for the development of regional coastal and marine spatial plans.

Massachusetts is the second state to have a comprehensive management regime for its ocean waters incorporated into its federal coastal management program under the CZMA. Because the Ocean Plan is now part of the Massachusetts Coastal Management Program, under the CZMA's federal consistency provision, any federal action that will have reasonably foreseeable effects on the uses or resources of Massachusetts' coastal zone must be consistent with the plan's enforceable policies. The CZMA federal consistency provision is an important element of the National Coastal Zone Management Program federal-state partnership as it enables coastal states to influence federal activities that could affect the state's coastal resources and uses.

To review the Massachusetts Ocean Management Plan, visit [www.mass.gov/eea/mop](http://www.mass.gov/eea/mop). For additional information, contact [czm@state.ma.us](mailto:czm@state.ma.us).

## Proposed Illinois Coastal Program Out for Public Comment

On September 16, 2011, NOAA's Office of Ocean and Coastal Resource Management (OCRM) published a Draft Environmental Impact Statement (DEIS) for the proposed Illinois Coastal Management Program (ICMP) in the *Federal Register* for a 45-day public comment period. The DEIS, which is required under the National Environmental Policy Act as part of OCRM's review and potential approval of the ICMP, describes the state's coastal management program and how it meets the requirements of the Coastal Zone Management Act (CZMA).

Since 2004, the Illinois Department of Natural Resources, supported by the Governor's Office and the Illinois Environmental Protection Agency, has been spearheading the state's efforts to join the National Coastal Zone Management Program. During this time, the state has worked closely with local governments, interest groups, and interested citizens to establish a coastal boundary, identify areas of particular concern for its coastal zone, and develop a framework and process for administering the coastal management program to satisfy CZMA requirements.

Although its Lake Michigan shorefront is only 63 miles, the Illinois coastal zone is home to six million people

and hosts an additional 20 million visitors each year. Important land use decisions are being made every day along Illinois' coastline. These decisions affect lakeshore access, waterfront-dependent industries, the commercial and recreational boating communities, critical habitat, and more. With the creation of the ICMP, Illinois recognizes the need to balance these, at times, competing interests as well as the importance of taking a comprehensive approach to coastal resource use, economic development, and conservation—core tenants of the National Coastal Zone Management Program.

OCRM held a public hearing in Chicago, Illinois, on October 14, 2011, as part of the public comment period. Pending comments received, OCRM could publish a Final Environmental Impact Statement and Record of Decision to approve the ICMP as early as January 2012. Following approval, Illinois will be eligible to receive approximately \$2 million annually in federal assistance to implement its coastal management program.

For additional information on the ICMP, visit <http://coastalmanagement.noaa.gov/mystate/il.html> or contact Diana Olinger at [diana.olinger@noaa.gov](mailto:diana.olinger@noaa.gov).

## Experts Discuss Creating Lovable and Durable Coastal Communities

NOAA's Office of Ocean and Coastal Resource Management partnered with the National Sea Grant College Program, NOAA Coastal Services Center, the Environmental Protection Agency's (EPA) Office of Sustainable Communities, and the Sea Grant College Programs of Hawaii, Rhode Island, and Texas to hold a Coastal and Waterfront Smart Growth and Hazards Mitigation roundtable on August 24-25, 2011, in Silver Spring, Maryland. The roundtable brought together over 20 experts in hazard mitigation, climate



Experts discuss ideas for creating lovable and durable coastal communities. Credit: NOAA

adaptation, smart growth, and coastal management from government, academia, nongovernmental organizations, and the private sector to exchange viewpoints and ideas on where and how coastal and waterfront communities can develop or redevelop to achieve smart growth goals while minimizing risks from natural hazards, including climate change impacts. Participants also identified research gaps and potential tools that could be developed to help coastal and waterfront communities become more resilient.

The roundtable furthered the goals of an April 2011 memorandum of agreement (MOA) between NOAA and EPA. The MOA is designed to strengthen cooperation between the agencies and enhance their efforts to help state and local governments create sustainable and resilient coastal and waterfront communities, protect healthy coastal ecosystems, restore degraded coastal ecosystems, and adapt to climate change. Proceedings from the meeting will be available in late winter.

For additional information, contact Sarah van der Schalie at [sarah.vanderschalie@noaa.gov](mailto:sarah.vanderschalie@noaa.gov).

## National Coastal Zone Management Program Grant News

### FY 2011 Great Lakes Areas of Concern Land Acquisition Grants

On October 1, 2011, NOAA's Office of Ocean and Coastal Resource Management (OCRM) awarded more than \$940,000 to four land acquisition projects that support habitat restoration priorities within Great Lakes Areas of Concern (AOCs). AOCs are severely degraded geographic areas within the Great Lakes Basin, and AOC restoration has been identified as a high priority for the Great Lakes region.

The Great Lakes AOC Land Acquisition program is closely based on OCRM's highly successful Coastal and Estuarine Land Conservation Program but is designed to specifically support high priority restoration projects within the Great Lakes AOCs. The AOC Land Acquisition competition was developed in partnership with the NOAA Fisheries' Restoration Center and the Great Lakes Coastal Zone Management Programs and is supported by Environmental Protection Agency funding via President Obama's Great Lakes Restoration Initiative (GLRI). The competition complements the NOAA Fisheries Great Lakes AOC habitat restoration grant solicitation to create a three-step restoration process of acquisition, engineering and design, and implementation.

The following projects were awarded funding through the FY 2011 Great Lakes AOC Land Acquisition grant competition:

- Bay County, Michigan (Saginaw Bay AOC): Acquisition of a 54-acre high priority coastal wetland parcel
- New York State Department of Environmental Conservation (Niagara River AOC): Protection of ~1 acre along the east side of Grand Isle, including 500 feet of Niagara River shoreline
- City of North Muskegon, Michigan (Muskegon Lake AOC): Acquisition of a 17-acre site prioritized for emergent wetland restoration
- Muskegon Conservation District, Michigan (White Lake AOC): Protection of 3.9 acres adjacent to Mill Pond Park, a current GLRI-supported restoration site

### FY 2012 Projects of Special Merit Competition

The Projects of Special Merit (PSM) funding competition was developed to offer coastal management programs the opportunity to develop innovative projects that further their approved Coastal Zone Management Act

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*CZM Grants (Continued from pg. 6)*

Section 309 enhancement area strategies and focus on the following national enhancement area priorities: Wetlands, Hazards, Cumulative and Secondary Impacts, and Ocean and Great Lakes Resources.

The 2012 PSM competition closed on September 9, 2011. OCRM received 24 individual project applications, including several regional applications, requesting \$4.34 million in federal funds. OCRM anticipates beginning negotiations with selected applicants in early 2012,

subject to the availability of FY2012 appropriations. Projects funded under this announcement will likely have a grant start date of July 1, 2012 or October 1, 2012, corresponding to the scheduled start date for the state's Coastal Zone Management Act cooperative agreements.

For additional information on either the Great Lakes AOC grants or PSM competition, contact Liz Mountz at [elizabeth.mountz@noaa.gov](mailto:elizabeth.mountz@noaa.gov).

## CELCP Updates

### NOAA's Coastal and Estuarine Land Conservation Program

#### FY 2011 Funding and Project Selection

NOAA received \$10 million for CELCP in FY 2011, half of what the program received in FY 2010. CELCP also received an additional \$1 million from the Environmental Protection Agency (EPA) to fund projects in the Great Lakes as part of the Great Lakes Restoration Initiative (GLRI). With these funds, NOAA was able to award nine CELCP projects.

The following projects received FY 2011 funding:

#### *CELCP Funding:*

- Dabob Bay, Washington
- Big Creek, Oregon
- Hudson River National Estuarine Research Reserve Enhancement Project, New York
- Merriland River Corridor Project, Maine
- South Slough National Estuarine Research Reserve, Oregon
- Boot Key, Florida

#### *GLRI Funding (via EPA):*

- Frog Bay Tribal National Park, Wisconsin
- Lost Creek Watershed Protection, Wisconsin
- Lake Erie Bluff Preservation Project II, Ohio

#### FY 2012 Funding and Competition

NOAA anticipates completing a ranked list of projects by the end of October.

The U.S. House and Senate Appropriations committees have both marked up budgets for FY 2012. Funding marks for CELCP are reduced from previous years. The House provides no funding for CELCP while the Senate allocates \$5 million for the program. The Senate committee mark also directs NOAA to consolidate funding for its restoration and conservation grant programs, including funds for the

Estuarine Restoration Program, Damage Assessment, Restoration and Remediation Program, and CELCP, and work with its partners to "prioritize which funding sources are most important to communities, eliminate duplicative activities and administration, and establish a reasonable path forward for sound environmental restoration within the scope of the agency's authorization and financial potential."

#### CELCP Session at 2011 LTA Conference in Milwaukee, Wisconsin

This year's national Land Trust Alliance conference took place October 13 to 15, 2011, in Milwaukee, Wisconsin. CELCP participated in a panel titled "NOAA in the Great Lakes: Resources for Coastal Acquisition, Restoration, and Management" on Saturday October 15 to showcase the program's achievements in the Great Lakes.



*The second phase of the Lake Erie Bluffs Preservation project received CELCP funding in FY 2011 through the Great Lakes Restoration Initiative. Credit: OH DNR*

## – Spotlight on NOAA Resources –

### The National Ocean Service Responds to Hurricanes

After a hurricane hits the coast, there is much to do to respond and recover. In addition to the Office of Ocean and Coastal Resource Management, which provides direct assistance to state coastal management programs to support activities such as assessing the extent of coastal erosion and property damage, issuing emergency permits to repair damaged structures, and undertaking longer-term recovery planning, NOAA's National Ocean Service (NOS) provides many services to help states and communities respond to a hurricane.

#### Ocean and Coastal Data:

Before, during, and after a storm, NOAA monitors and disseminates real-time observations of water levels, currents, and weather information via the National Water Level Observation Network and the Physical Oceanographic Real-Time System and updates Storm QuickLook, an online compilation of ocean and weather observations within a coastal area. NOAA also coordinates the U.S. Integrated Ocean Observing System. This federal, regional, and private-sector partnership provides ocean and coastal data and information to support preparation and response efforts and to inform forecasts and predictions ahead of hurricanes.

**Navigational Surveys:** Immediately following a hurricane, Navigation Response Teams provide emergency hydrographic services for affected port areas. These mobile response units check for submerged obstructions that pose hazards to vessels, collect data to update nautical charts, and provide mapping support.

**Aerial Photography Surveys:** The National Geodetic Survey flies photo survey missions to assess storm damage after a hurricane. These photos provide

emergency and coastal managers with information needed to develop recovery strategies, facilitate search and rescue efforts, identify hazards to navigation and hazardous material spills, locate errant vessels, and assess the extent of the damage.



NOS offers a variety of tools and services to help respond to hurricanes, like Irene, which breached a section of the Outer Banks of North Carolina, washing out Highway 12. Credit: NOAA

#### Hazardous Spill and Marine Debris Response:

The Office of Response and Restoration provides support to hazardous materials response efforts following a storm. They survey vessels or containers that may be leaking hazardous materials, identify and document spill sources, and use computer models to predict spill movement and determine threats. The office also provides guidance on marine debris and vessel salvage and collects information to assess natural resource impacts from spills and restore injured resources.

#### Contamination

**Assessments:** NOAA's National Status and Trends Program coordinates with partners to develop strategies to assess the environmental impacts of contaminants in coastal waters following hurricanes, including assessing if it is safe to eat fish and shellfish.

**Maps and Data Analysis:** The Coastal Services Center provides satellite and aerial images, digital elevation data, and maps depicting ecological impacts, debris assessment, and wetlands loss to help officials generate maps and understand the long-term effects of the hurricane.

To see how NOS responded to Hurricane Irene, visit <http://oceanservice.noaa.gov/news/weeklynews/aug11/irene.html>. Check out NOS' hurricane tools at <http://oceanservice.noaa.gov/news/features/sep11/hurricanetools.html>. For more information contact Emily Crum at [emily.crum@noaa.gov](mailto:emily.crum@noaa.gov).



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The quarterly *Coastal Management Program Newsletter* was developed in response to state requests for assistance in improved communication/lesson sharing among the state and territory coastal management programs. Please let us know about interesting things going on in your coastal zone you would like to share with others. If you have any projects that you would like to highlight, please send a brief description to [allison.castellan@noaa.gov](mailto:allison.castellan@noaa.gov). The submission deadline for the next newsletter is December 15, 2011.