

# COASTAL CONNECTIONS



VOLUME 6, ISSUE 4

A BIMONTHLY PUBLICATION FOCUSED ON TOOLS FOR COASTAL RESOURCE MANAGERS

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C O A S T A L  
M A N A G E M E N T  
P R O F I L E



**David Carter**  
Environmental Program  
Manager, Delaware  
Coastal Programs

**Where you live:** Southern New Castle County, Delaware, on 40 acres along Blackbird Creek that are part of the Delaware National Estuarine Research Reserve.

**Job description:** I supervise 17 staff members, help with the start-up phase of projects, manage the budget, and coordinate strategic planning.

**Family:** Wife, Marjorie.

**Education:** B.S. in biology from University of Delaware; will soon complete an M.S. in urban affairs and public policy from University of Delaware.

**Most fulfilling aspect of your work:** We make a difference. Recently, our agency was able to complete a special area management plan with an environmental justice

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## FOCUS

### GRAND CHALLENGES FOR DISASTER REDUCTION

*This cross-agency initiative identifies specific actions communities can take to minimize the harmful impacts of disasters.*

We're only halfway through 2008, but what a wild weather year it's already been. In January, a raging Pacific Ocean storm brought floods to California neighborhoods and hurricane-force winds to three states. In late February, a powerful snowstorm in the Northeast and Mid-Atlantic regions caused school closings, car accidents, and airport delays. In March, Floridians reported 15 tornados in one day. And in June, federal emergency officials and the American Red Cross were dispatched to seven midwestern states to assist towns large and small devastated by flooding.

"Disasters are becoming more frequent and severe, which is causing mounting financial and societal costs," says Margaret Davidson, the director of the National Oceanic and Atmospheric Administration (NOAA) Coastal Services Center. Davidson is also co-chair of the Subcommittee on Disaster Reduction, part of the National Science and Technology Council's Committee on Environment and Natural Resources.

According to the president's Office of Science and Technology Policy, an estimated \$52 billion per year is spent in the U.S. because of hazard events that cause loss of life and destruction of public and private property. "If we are not able to get a handle on these costs, we will not be able to fund other critical domestic concerns," says Davidson. "Federal officials need to synchronize their capabilities with local and state government officials so that we can better understand and anticipate disasters."

That's the message of "Grand Challenges for Disaster Reduction," a report written by the subcommittee and sponsored by the National Science and Technology Council. Nearly two dozen federal agencies with leading roles in disaster reduction worked together to develop this initiative, which details the collaborative and technological challenges that U.S. communities must confront in order to create places that rebound from natural and man-made disasters.

"Federal agencies must be innovative in developing partnerships at each scale of government and more 'ecumenical' in engaging with nongovernmental organizations, academic institutions, and private industry, so that we all work much more thoughtfully at every level of disaster reduction and climate adaptation," notes Davidson.

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component. We wanted to increase community resilience in an underserved, urban neighborhood located within the Christiana River floodplain in Wilmington. We helped the residents complete a neighborhood plan that will lead to reduced flooding, restored brownfields, development of a passive park, community access to the waterfront, and potential job opportunities for residents using innovative tools like negotiated community benefit agreements with developers.

**Personal accomplishment that makes you proud:** My wife and I have worked to reduce our carbon footprint. We have installed solar panels on our house, grown our own vegetables, built a greenhouse, and planted 5,000 trees. We are also protecting our land with conservation easements.

As a co-chair of the climate change work group for the Coastal States Organization, David Carter backs the “Grand Challenges for Disaster Reduction” report. “For the first time, we have reached a national consensus that sea-level rise and climate change are happening,” says Carter. “The Grand Challenges initiative can motivate agencies and organizations at all levels to leverage our resources and capabilities, so that we can stay true to the holistic, integrated approach that is the foundation of coastal resource management.”

Focus continued from Page 1

## Disaster-Reduction Guides for Fourteen Different Hazards

Now the Grand Challenges initiative has been taken to a higher level, producing detailed implementation plans that communities can use to reduce the impacts of 14 natural and man-made hazards ranging from coastal inundation and hurricanes to tsunamis and technological disasters.

“The Grand Challenges implementation plans provide a window on the federal government’s needed investments in science and technology,” says Davidson. “As we transition to a new administration in 2009, agencies and organizations can use the implementation plans to keep the issues of disaster mitigation and climate adaptation front-and-center with public officials,” she adds. The plans also spell out methods for building disaster-reduction partnerships among agencies, nongovernmental organizations, academia, and private industry. (To learn more about the implementation plans, see “Meeting Hazard Challenges, One by One” on page 3.)

Each plan lays out hazard-specific applications of the six Grand Challenges listed below:

**Grand Challenge 1** – Provide hazard and disaster information where and when it is needed. This includes real-time data collection and interpretation, as well as other observational tools that can be used by scientists, first responders, policy makers, emergency managers, and members of the community.

**Grand Challenge 2** – Understand the natural processes that produce hazards. Improved forecasting and prediction requires that

scientists and engineers continue to research natural processes and develop new data and advanced, validated models.

**Grand Challenge 3** – Develop hazard mitigation strategies and technologies. Scientists must develop—and communities must implement—hazard mitigation strategies that are both effective and affordable. Technologists should develop disaster-resilient designs and materials as well as “smart” structures that can adapt to changing conditions.

**Grand Challenge 4** – Recognize and reduce vulnerability of interdependent critical infrastructure. Critical infrastructure systems—such as electricity, water, and communications—are veritable lifelines necessary for the disaster-resilience of communities. Scientists and communities must identify infrastructure interdependencies and vulnerabilities and then develop integrated models that address these factors.

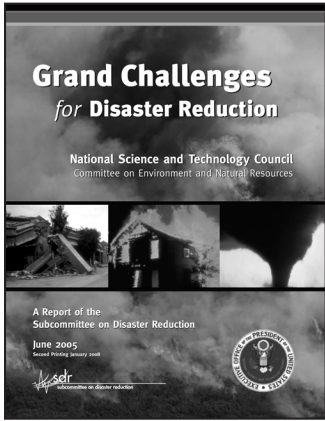
**Grand Challenge 5** – Assess disaster resilience using standard methods. Federal agencies must address effective, up-to-date standards and metrics for assessing disaster resilience by partnering with universities, local governments, and the private sector.

**Grand Challenge 6** – Promote risk-wise behavior. Hazard information must be communicated to populations that understand and trust the messages, and at-risk populations must respond appropriately to the information.

# Meeting Hazard Challenges, One by One

The National Science and Technology Council's Subcommittee on Disaster Reduction has released a series of hazard-specific implementation plans that explain ways to reduce the impacts of disasters through greater cooperation, scientific understanding, and application of technology.

These implementation plans, which were coordinated among 22 federal departments and agencies, list actions that agencies, in collaboration with individuals, organizations, and all levels of government, should take to reduce the harmful impacts of 14 distinct hazards:



- Coastal inundation
- Drought
- Earthquakes
- Floods
- Heat waves
- Human and ecosystem health hazards
- Hurricanes
- Landslides
- Technological hazards
- Tornados
- Tsunamis
- Volcanos
- Wildfires
- Winter storms

To obtain implementation plans, click the document icons at [www.sdr.gov](http://www.sdr.gov).

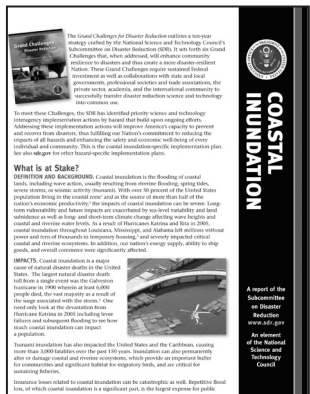
# Maine Partnership Tackles Grand Challenges

An innovative conservation partnership is reducing hazard risks by working to preserve Maine's "green infrastructure" of coastal habitat and scenic watersheds, which function as natural flood-control devices.

"It's so important to preserve green infrastructure," says Margaret Davidson, director of the NOAA Coastal Services Center and co-chair of the Subcommittee on Disaster Reduction. "By saving coastal habitat, you reduce erosion, storm surge, and flooding, and you also provide buffers against storms and wave energy."

The Maine Coast Protection Initiative (MCPI) is leveraging the skills and resources of approximately 70 organizations engaged in protecting Maine's coast for future generations. Major partners in the cooperative agreement are the NOAA Coastal Services Center, Land Trust Alliance, Maine Coast Heritage Trust, and Maine State Planning Office.

The Center has helped MCPI participants identify and safeguard green infrastructure by playing a key role in building the technical capacity of Maine's coastal land trusts. The Center conducted a geographic information system (GIS) needs assessment that led to the establishment of four GIS service centers in the state. The Center also provided initial GIS instruction and data sets, as well as training in conservation data documentation.



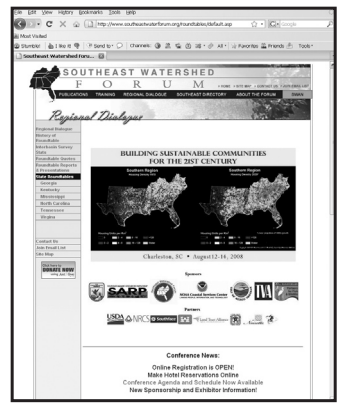
# Events You Won't Want to Miss

## Building Sustainable Communities for the 21st Century

August 12 to 14

Charleston, South Carolina

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

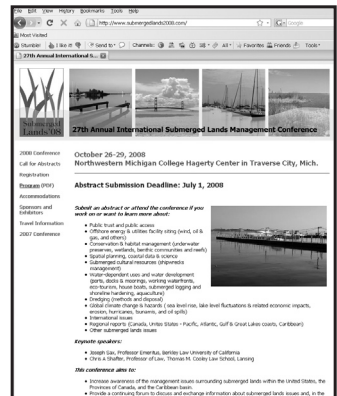


## 27th Annual Submerged Lands Management Conference

October 26 to 29

Traverse City, Michigan

[www.submergedlands2008.com](http://www.submergedlands2008.com)



*Coastal Connections* is a publication of the National Oceanic and Atmospheric Administration Coastal Services Center, produced for the coastal resource management community. Each issue of this free bimonthly newsletter focuses on a tool, information resource, or methodology of interest to the nation's coastal resource managers.

Please send us your questions and suggestions for future editions. To subscribe or contribute to the newsletter, contact our editors at

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## NEWS AND NOTES

### **Toolkit Available on Ocean and Coastal Leasing and Ownership**

The Nature Conservancy, with the input of many conservation partners, has developed a new on-line aid, "Leasing and Ownership within Ocean and Coastal Waters: A Conservation Practitioner's Toolkit." The toolkit helps conservation organizations understand how to implement leasing and ownership projects that can help abate threats to oceans and coastal species, habitats, and ecosystems. It can be found at [www.leaseown.org](http://www.leaseown.org).

### **Accolades**

NOAA awarded **Kathleen Leyden** the first Susan Snow-Cotter Award for Excellence in Coastal and Marine Resource Management. Leyden is a coastal planning manager in the Maine State Planning Office. The award was named for the late Susan Snow-Cotter, who was the director of the Massachusetts Coastal Zone Management program and a tireless advocate for the environment... **The Mississippi Department of Marine Resources Office of Coastal Management and Planning** received the Gulf Guardian Award for Youth Education from the U.S. Environmental Protection Agency's Gulf of Mexico Program for its storm-drain marker initiative, Marker Madness.

### **Transitions**

**Melanie Reding** has been named education coordinator for the Jacques Cousteau National Estuarine Research Reserve. Reding previously worked with a variety of environmental centers, including the Audubon Center of the North Woods... **Jordan Gass** joined the National Marine Protected Areas Center as a geographic information system specialist. He previously served as a NOAA Coastal Management Fellow for the U.S. Virgin Islands Coastal Zone Management Program... **Larissa Graham** is the new Long Island Sound public outreach coordinator at New York Sea Grant. Graham replaces **Kimberly Graff**, who left the position after 15 years to pursue a master's degree in library and information science.

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