

**CZMA CLIMATE CHANGE AND COASTAL HAZARDS E-NEWS UPDATE, Vol. 2**

The Coastal Programs Division of NOAA's Office of Ocean and Coastal Resource Management distributes the CZMA Climate Change and Coastal Hazards E-News Update to keep state and territory coastal program managers and climate change/coastal hazards staff informed about climate change (as it pertains to coastal hazards) and coastal hazards activities. If you would like to receive the Climate Change and Coastal Hazards E-News Update, please e-mail [christa.rabenold@noaa.gov](mailto:christa.rabenold@noaa.gov). For previous issues, see the E-News archives at <http://coastalmanagement.noaa.gov/news/climatenewsletter.html>.

***In this Issue:*** (Scroll down for links)

**NOAA UPDATES**

- The NOAA Coastal Services Center Tracks Historical Hurricanes
- New North Carolina Coastal Hazards Web Site to Improve Public Access to Coastal Hazards Information
- New Publication Helps Wisconsin Communities Address Coastal Erosion
- Wetlands Report Examines Frameworks for Adaptation to Sea-Level Rise

**OTHER FEDERAL AGENCY UPDATES**

- Climate Change Science Program Examines Sea-Level Rise in Mid-Atlantic States
- New Flood Maps Aim to Better Communicate Risk and Guide Safer Development along Coasts
- National Research Council Report Looks at Flood Mapping
- Mitigation: Learn from the Success of Others
- FEMA Revises Technical Bulletins for National Flood Insurance Program
- GAO Identifies Lessons Learned from Disaster Recovery Efforts

**ADDITIONAL UPDATES**

- Texas Releases Software and Maps to Guide Recovery
- Report Offers Florida Framework for Climate Change Adaptation
- California Governor Issues Executive Order to Plan for Sea-Level Rise and Climate Impacts
- Report Examines the Impacts of a Repeat of the 1938 New England Hurricane
- New Online Course Introduces Living Shoreline Design
- Insurance Study Promotes Climate Change Adaptation for Coastal Communities
- Prince Edward Island Plans for Reducing the Impacts of Climate Change

**CONFERENCES AND MEETINGS**

- 22nd Annual National Conference on Beach Preservation Technology
- Coastal GeoTools
- 2009 National Hurricane Conference

**NOAA UPDATES****The NOAA Coastal Services Center Tracks Historical Hurricanes**

<http://maps.csc.noaa.gov/hurricanes/>

The Historical Hurricane Tracks tool is an interactive mapping application that allows users to search and display Atlantic Basin and Eastern North Pacific Basin tropical cyclone data. Data can be queried by entering a ZIP code, latitude and longitude coordinates, city or state, or geographic region. The application also includes a Coastal Population Tool that shows population change by decade for the period 1900-2000 along with hurricane strikes (1900-2007) for coastal counties from Texas to Maine.

New North Carolina Coastal Hazards Web Site to Improve Public Access to Coastal Hazards Information  
<http://www.coastal.geology.ecu.edu/NCCOHAZ/>

NOAA's National Centers for Coastal Ocean Science provided funding to researchers at East Carolina University's Institute for Coastal Science and Policy and the departments of Geological Sciences and Geography to develop the North Carolina Coastal Hazards Decision Portal, a web-based information system that communicates coastal hazards information to North Carolina's coastal communities. Providing an avenue to access the latest research, the portal aims to be a one-stop site for useful data, observations, and insights on coastal hazards to aid managers and the public in coastal hazard preparation, management, and mitigation.

### **New Publication Helps Wisconsin Communities Address Coastal Erosion**

<http://nsgl.gso.uri.edu/wiscu/wiscuh08001.pdf>

Funded in part by NOAA's National Sea Grant College Program and the National Sea Grant Law Center, "Protecting Coastal Investments: Examples of Regulations for Wisconsin's Coastal Communities" (72 pp.) provides best practices for addressing coastal hazards in Wisconsin. Many of these best practices are based on ordinances currently in place in Wisconsin coastal communities, while some build off approaches followed in other coastal states. It is intended to serve as a resource guide for coastal communities that are evaluating different approaches to dealing with coastal erosion.

### **Wetlands Report Examines Frameworks for Adaptation to Sea-Level Rise**

<http://www.urban-nature.org/publications/documents/ResilientCoastWetlands-sm.pdf>

The purpose of this new publication from Texas Sea Grant and the National Sea Grant Law Center is to review legal and policy frameworks that might hinder or enable adaptation to the next 100 or so years of climate change (sea-level rise) and population growth in terms of impacts on coastal estuarine, nondeltaic wetlands in the Gulf Coast area. State and federal laws, including common law, are reviewed in this context. "The Resilient Coast: Policy Frameworks for Adapting the Wetlands to Climate Change and Growth in Coastal Areas of the U.S. Gulf of Mexico" (40 pp) argues that new policy is needed to insure that new wetlands can form on inundatable lands as sea level rises.

## **OTHER FEDERAL AGENCY UPDATES**

### **Climate Change Science Program Examines Sea-Level Rise in Mid-Atlantic States**

<http://www.climate-science.gov/Library/sap/default.htm>

Among the final reports recently released from the Climate Change Science Program is one that may be of particular interest to coastal managers. "Coastal Sensitivity to Sea-Level Rise: A Focus on the Mid-Atlantic Region" (784 pp.) examines the effects of sea-level rise, impacts on society, and opportunities to prepare for those consequences, focusing on the eight coastal states from New York to North Carolina. Chapter 9, in particular, examines the effects of sea-level rise on coastal floodplains and on coastal flooding management issues confronting the coastal zone management community and other related stakeholders. All 21 synthesis and assessment products identified in the 2003 Strategic Plan for the U.S. Climate Change Science are now complete. A unified synthesis is underway.

### **New Flood Maps Aim to Better Communicate Risk and Guide Safer Development along Coasts**

<http://www.fema.gov/library/viewRecord.do?id=3481>

Released in December, a new policy memorandum from the Federal Emergency Management Agency

changes the mapping requirements for coastal studies. “Policy and Procedures for Identifying and Mapping Areas Subject to Wave Heights Greater than 1.5 feet as an Informational Layer on Flood Insurance Rate Maps” (7 pp.) explains that damage to structures from wave heights between 1.5 and 3 feet are similar to, but less severe than, those in areas where wave heights are greater than 3 feet (Zone VE). Thus, for all new detailed coastal study starts in Fiscal Year 2009, the landward limit of waves 1.5 feet in height will be delineated on flood insurance rate maps for informational purposes. There are no associated National Flood Insurance Program (NFIP) floodplain management requirements or special insurance ratings. However, communities are encouraged to adopt higher standards (e.g., those requirements established for Zone VE) than the minimum NFIP requirements in these areas.

### **National Research Council Report Looks at Flood Mapping**

[http://books.nap.edu/catalog.php?record\\_id=12573](http://books.nap.edu/catalog.php?record_id=12573)

“Mapping the Zone: Improving Flood Map Accuracy” (200 pp.) examines the Federal Emergency Management Agency’s flood mapping methods, assesses the benefits and costs of more accurate flood maps, and recommends ways to improve flood map accuracy and to communicate and manage flood-related information. Specifically, the report found that new flood maps that contain high-accuracy and high-resolution land surface elevation data could help reduce significant loss of life and damage and destruction of property and infrastructure, and that the benefits of such maps outweigh the costs. The prepublication version of the report is currently available for purchase, final copies can be preordered. Read the report for free online.

### **Mitigation: Learn from the Success of Others**

<http://www.fema.gov/plan/prevent/bestpractices/index.shtm>

The Federal Emergency Management Agency’s Mitigation Best Practices Portfolio consists of mitigation stories submitted by individuals and communities that describe measures they have taken to reduce the loss of life and property from disasters. The intent of the portfolio is to collect and disseminate ideas about reducing losses to encourage others to evaluate their own risk and consider mitigation as a long-term solution to reducing that risk. Visit the site to see what others are doing or to submit your own success story.

### **FEMA Revises Technical Bulletins for National Flood Insurance Program**

<http://www.fema.gov/plan/prevent/floodplain/techbul.shtm>

The Federal Emergency Management Agency (FEMA) has revised four technical bulletins that provide guidance on National Flood Insurance Program regulations. These bulletins are “Openings in Foundation Walls and Walls of Enclosures” (31 pp.), “Flood Damage-Resistant Materials Requirements” (20 pp.), “Design and Construction Guidance for Breakaway Walls Below Elevated Coastal Buildings” (34 pp.), and “Free-of-Obstruction Requirements” (32 pp.).

### **GAO Identifies Lessons Learned from Disaster Recovery Efforts**

<http://www.gao.gov/new.items/d081120.pdf>

In “Disaster Recovery: Past Experiences Offer Insights for Recovering from Hurricanes Ike and Gustav and Other Recent Natural Disasters” (41 pp.), the U.S. Government Accountability office (GAO) identifies insights from past disasters to help state and local officials undertaking recovery activities. Key insights include the need to create a clear, implementable, and timely recovery plan; build state and local capacity for recovery; implement strategies for business recovery; and adopt a comprehensive approach toward combating fraud, waste, and abuse.

## **ADDITIONAL UPDATES**

### **Texas Releases Software and Maps to Guide Recovery**

<http://www.glo.state.tx.us/ike/gloearth.html>

[http://www.glo.state.tx.us/res\\_mgmt/coastal/maps/ike/index.html](http://www.glo.state.tx.us/res_mgmt/coastal/maps/ike/index.html)

In November, the Texas General Land Office (GLO) released GLO Earth, a Google-based application, to help inform decisions about building back along the Texas coast. In addition to showing pre- and post-storm conditions, GLO Earth shows the 4.5-foot elevation line. This line demarcates a continuous elevation of 4.5 feet above mean sea level for the purposes of estimating the location of the landward boundary of the public beach (typically the natural line of vegetation, seaward of which is regulated by the state's Open Beaches Act). Local governments can use this temporary line in issuing building permits for coastal construction and dune restoration until the natural line of vegetation reestablishes itself. The GLO will periodically update the 4.5-foot elevation line as the beach recovers and until the natural line of vegetation can be determined. Maps in the more accessible .pdf format are also available for download for west Galveston Island, Bolivar Peninsula, and Brazoria County.

### **Report Offers Florida Framework for Climate Change Adaptation**

[http://www2.nos.noaa.gov/gomex/coastal\\_resil/fl\\_resilcoast.pdf](http://www2.nos.noaa.gov/gomex/coastal_resil/fl_resilcoast.pdf)

"Florida's Resilient Coasts: A State Policy Framework for Adaptation to Climate Change" (74 pp.) is a collaboration between the Center for Urban and Environmental Solutions at Florida Atlantic University and the National Commission on Energy Policy. It presents a comprehensive policy framework to help Florida state government assess the likely impacts of climate change on its coastal regions and communities and develop and adopt policies and programs that will enable the state, its communities, and its residents to adaptively manage those impacts over the near and long term.

### **California Governor Issues Executive Order to Plan for Sea-Level Rise and Climate Impacts**

<http://www.gov.ca.gov/press-release/11035/>

In November, Governor Schwarzenegger issued an executive order (S-13-08) to enhance the state's management of climate impacts from sea-level rise, increased temperatures, shifting precipitation, and extreme weather events. There are four key actions in the order: 1) initiate a statewide climate change adaptation strategy to assess the state's expected climate change impacts, identify where California is most vulnerable and recommend climate adaptation policies by early 2009 (see <http://www.climatechange.ca.gov/adaptation/index.html>); 2) ask the National Academy of Science to establish an expert panel to report on sea-level rise impacts in California to inform state planning and development efforts; 3) issue interim guidance to state agencies for how to plan for sea-level rise in designated coastal and floodplain areas for new projects; and 4) initiate a report on critical existing and planned infrastructure projects vulnerable to sea-level rise.

### **Report Examines the Impacts of a Repeat of the 1938 New England Hurricane**

[http://www.rms.com/Publications/1938\\_Great\\_New\\_England\\_Hurricane.pdf](http://www.rms.com/Publications/1938_Great_New_England_Hurricane.pdf)

For the 70th anniversary of the Great New England Hurricane, Risk Management Solutions, a catastrophe modeling firm, investigated the impacts of a repeat of the event in 2008. "The 1938 Great New England Hurricane Looking to the Past to Understand Today's Risk" (22 pp.) looks at wind field, storm surge, and rainfall footprints across New England and found that if the 1938 storm occurred today, it would be a major catastrophe for the region, and insured losses would approximate \$40 to \$55 billion.

### **New Online Course Introduces Living Shoreline Design**

[http://ccrm.vims.edu/education/living\\_shoreline\\_design\\_class/index.html](http://ccrm.vims.edu/education/living_shoreline_design_class/index.html)

The Virginia Institute of Marine Science's Center for Coastal Resources Management, with funding from the Chesapeake Bay Restoration Fund, has developed an online course to educate shoreline project designers and contractors about the use of "living shoreline" designs. The course stresses the reasoning behind the recommended design criteria and the interactions between upland riparian zones, wetlands, and the aquatic system.

### **Insurance Study Promotes Climate Change Adaptation for Coastal Communities**

[http://www.lloyds.com/NR/rdonlyres/33811190-E508-4065-BB15-92EF5F3DFD41/0/360\\_Coastalcommunitiesandclimatechange\\_final.pdf](http://www.lloyds.com/NR/rdonlyres/33811190-E508-4065-BB15-92EF5F3DFD41/0/360_Coastalcommunitiesandclimatechange_final.pdf)

"Coastal Communities and Climate Change" (28 pp.) by Lloyd's and Risk Management Solutions examines the impact of climate change on flood risk at a number of coastal locations in Europe, Asia, and the Caribbean, and the benefits of adaptation measures. The authors suggest that the insurance industry can play a significant role in encouraging adaptation through incentives and by relating premiums to risk. They also suggest that if adaptation measures are taken, the risk could be reduced to below current levels.

### **Prince Edward Island Plans for Reducing the Impacts of Climate Change**

[http://www.gov.pe.ca/photos/original/env\\_globalstr.pdf](http://www.gov.pe.ca/photos/original/env_globalstr.pdf)

Prince Edward Island has been identified as one of the areas most vulnerable to sea-level rise in Canada. As such, the province's government has outlined its plans and principles for dealing with climate change in "Prince Edward Island and Climate Change: A Strategy for Reducing the Impacts of Global Warming" (44 pp.). Actions in the plan will help islanders realize the benefits of early adaptation planning, reduce vulnerability and increase resilience in priority sectors, establish the foundation needed for future adaptation actions, and increase knowledge and awareness of personal actions.

## **CONFERENCES AND MEETINGS**

22nd Annual National Conference on Beach Preservation Technology

St. Petersburg Beach, Florida

February 18-20, 2009

<http://www.fsbpa.com/seminar.htm>

Coastal GeoTools

Myrtle Beach, South Carolina

March 2-5, 2009

<http://www.csc.noaa.gov/geotools/>

2009 National Hurricane Conference

Austin, Texas

April 6-10, 2009

<http://www.hurricanemeeting.com/>

### **Share Your Thoughts**

If you have news that you would like to include in future updates or suggestions about the type of information you would like to see here, please e-mail [christa.rabenold@noaa.gov](mailto:christa.rabenold@noaa.gov).