

**CZMA CLIMATE CHANGE AND COASTAL HAZARDS E-NEWS UPDATE #29**

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 Update archive at <http://coastalmanagement.noaa.gov/news/climatenewsletter.html>.

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- 9th Marine Law Symposium: Shifting Seas—The Law’s Response to Changing Ocean Conditions
- Disasters and Environment: Science, Preparedness, and Resilience
- National Adaptation Forum
- Association of State Floodplain Managers Conference: Remembering the Past—Insuring the Future

## **NOAA UPDATES**

### **NOAA and EPA Release Report from Roundtable on Smart Growth and Hazard Mitigation**

<http://coastalsmartgrowth.noaa.gov/resilience.html>

NOAA and EPA have released “Achieving Hazard-Resilient Coastal & Waterfront Smart Growth: Coastal and Waterfront Smart Growth and Hazard Mitigation Roundtable Report” (26 pp.). The report presents an overview of a 2011 meeting where experts on smart growth, hazard mitigation, climate change adaptation, and coastal management shared ideas on how coastal and waterfront communities could improve quality of life, use land and other resources efficiently, and create environmentally and economically sustainable neighborhoods while minimizing flood risks. The report provides ideas for further research, development of tools and services, and approaches that federal agencies, state partners, academics, organizations, and practitioners working on these issues could consider to improve integration of smart growth and hazard mitigation strategies along the coast.

### **CSC Expands Coverage of Sea Level Rise Viewer to West Coast**

<http://www.csc.noaa.gov/digitalcoast/tools/slrviewer>

The NOAA Coastal Services Center has expanded the coverage of the Digital Coast Sea Level Rise and Coastal Flooding Impacts Viewer to include coastal counties in California, Oregon, and Washington. The viewer now covers nine states, with new coastal states being added quarterly. The tool features coastal flooding scenarios with visualizations of local landmarks, uncertainty maps, flood frequency information, and social and economic vulnerability information. It now also provides access to maps from the U.S. Army Corps of Engineers’ National Levee Database that show areas protected by levees.

### **CSC Hosts United States Interagency Elevation Inventory**

<http://www.csc.noaa.gov/digitalcoast/tools/inventory>

The NOAA Coastal Services Center has released the United States Interagency Elevation Inventory, a map viewer and server that displays high-accuracy topographic and bathymetric data for the United States and its territories. The project is a collaborative effort of NOAA and the U.S. Geological Survey, with contributions from the Federal Emergency Management Agency. This resource provides a comprehensive, nationwide listing of known high-accuracy topographic data and provides points of contact for the data and direct links to access the data, if available.

### **NGS Provides Easy Access to Geodetic Control Network Information**

<http://beta.ngs.noaa.gov/googletest/NGSMap/NGSMap.shtml>

NOAA’s National Geodetic Survey (NGS) has released a new web application that allows users to view NGS geodetic control across the United States and its territories using Google Maps. The NGS map application is an interactive tool allowing users to explore NOAA’s extensive geodetic control network as well as the NOAA datasheet documentation for the specified control marks. Control mark information includes latitude, longitude, elevation, position source, and other available data.

## **CPO Website Highlights Ten Signs of a Warming World**

<http://climate.noaa.gov/warmingworld/>

NOAA's Climate Program Office has prepared an interactive website describing the evidence that the world is warming. It features information about 10 key climate indicators (signs): air temperature over land, air temperature over ocean, global sea level, humidity, ocean heat content, sea surface temperature, and temperature of the lower atmosphere, all of which are expected to increase, and arctic sea ice, glaciers, and snow, which are expected to decline. "Ten Signs of a Warming World" provides links to related articles, videos, and published data that show the trend for each indicator.

## **New Facility Centralizes Disaster Planning and Response Expertise in Gulf**

<http://oceanservice.noaa.gov/hazards/drc/>

October 15 marked the grand opening of NOAA's new Gulf of Mexico Disaster Response Center in Mobile, Alabama. The facility will serve as a central coordination point for federal, state, and local emergency managers and partners who rely on NOAA's scientific support to make decisions to protect and restore the Gulf Coast's communities, economies, and valuable natural resources. It was built to withstand a Category 5 hurricane and includes an interior F5 tornado shelter. It was also designed using sustainable principles and is built to the Silver Certification standards of Leadership in Energy and Environmental Design (LEED) from the U.S. Green Building Council.

## **NGS Responds to Hurricane Isaac**

[http://ngs.woc.noaa.gov/eri\\_page/](http://ngs.woc.noaa.gov/eri_page/)

After Hurricane Isaac, NOAA's National Geodetic Survey (NGS) collected aerial imagery along the Gulf Coast. Images from the surveys, which identify areas significantly impacted by the hurricane, are available on the NGS website. Pre- and post-storm photo comparisons of the Chandeleur Islands, Louisiana, and Dauphin Island, Alabama, are also available from the U.S. Geological Survey at <http://coastal.er.usgs.gov/hurricanes/isaac/photo-comparisons/>.

## **OTHER FEDERAL UPDATES**

### **FEMA Updates Benefit Cost Analysis Software**

<http://www.fema.gov/benefit-cost-analysis>

FEMA has released version 4.8 of its Benefit Cost Analysis software, which is used to evaluate hazard mitigation projects to assist in federal funding decisions. The program is composed of methodologies and software for major natural hazards, including floods and hurricane winds. Among the features of the new version are revised Expert Panel Depth Damage Functions for Coastal A and V Zones that provide a more accurate reflection of structural damage that occurs due to wave action.

### **FEMA Guide Promotes Consideration of Environmental and Historic Preservation Compliance in Project Development**

<http://www.fema.gov/library/viewRecord.do?id=5904>

In "HMA EHP at-a-Glance Guide: Project Planning with Considerations for EHP Compliance" (18 pp.), FEMA provides information on how to incorporate environmental and historic preservation (EHP) considerations into Hazard Mitigation Assistance (HMA) applications and projects. It discusses the resource conditions typically encountered in project development and the associated complexity of FEMA's EHP compliance responsibilities. While not a comprehensive compliance tool, the guide provides general awareness of the factors that may contribute to a more complicated EHP compliance review process and encourages applicants to account for these factors early in the project planning process.

## **NRC Studies Corps' Water Resources Infrastructure**

[http://www.nap.edu/catalog.php?record\\_id=13508](http://www.nap.edu/catalog.php?record_id=13508)

“Corps of Engineers Water Resources Infrastructure: Deterioration, Investment, or Divestment?” (108 pp.) from the National Research Council (NRC) is the second in a series of five reports providing independent advice to the U.S. Army Corps of Engineers on strategic and planning issues. The report explores the status of operations, maintenance, and rehabilitation (OMR) of the Corps' aging water resource infrastructure, including its navigation, flood management, and hydropower generation infrastructure, and identifies options for addressing OMR issues. Options include business as usual; increase federal funding for OMR; divest or decommission infrastructure; increase revenue from project beneficiaries; expand partnerships; or adopt a combination of these options.

## **Corps Releases Great Lakes Oblique Photo Viewer**

<http://greatlakes.usace.army.mil/>

The U.S. Army Corps of Engineers has created an oblique photo viewer to assist with shoreline analysis for FEMA's comprehensive storm and wind study of the Great Lakes basin. The purpose of the study is to update the coastal flood hazard information and flood insurance rate maps for Great Lakes coastal communities.

## **Congressional Research Service Examines Federal Water-Related Activities**

<http://www.nationalaglawcenter.org/assets/crs/R42653.pdf>

“Selected Federal Water Activities: Agencies, Authorities, and Congressional Committees” (60 pp.) from the Congressional Research Service is a guide to major federal water-related activities and programs in the United States. For each agency activity or program, it identifies the administering agency(ies), primary authorities, and congressional committees of jurisdiction. It covers four general areas: Water Resources Development, Management, and Use (includes drought and flood management); Water Quality, Protection, and Restoration; Water Rights and Allocation; and Research and Planning.

## **ADDITIONAL UPDATES**

### **California Releases Adaptation Policy Guide**

[http://resources.ca.gov/climate\\_adaptation/local\\_government/adaptation\\_policy\\_guide.html](http://resources.ca.gov/climate_adaptation/local_government/adaptation_policy_guide.html)

The “California Adaptation Planning Guide” was developed cooperatively by the California Natural Resources Agency and the California Emergency Management Agency. It provides a step-by-step process for local and regional climate vulnerability assessment and adaptation strategy development. It consists of the overview document “Planning for Adaptive Communities” (56 pp.) and three companion documents: “Defining Local and Regional Impacts (91 pp.)”, “Understanding Regional Characteristics” (111 pp.), and “Identifying Adaptation Strategies” (66 pp.).

### **California Law Authorizes Coastal Agency to Fund Climate Change Projects**

[http://www.leginfo.ca.gov/pub/11-12/bill/sen/sb\\_1051-1100/sb\\_1066\\_bill\\_20120927\\_chaptered.pdf](http://www.leginfo.ca.gov/pub/11-12/bill/sen/sb_1051-1100/sb_1066_bill_20120927_chaptered.pdf)

A new law in California (Senate Bill No. 1066) authorizes the California Coastal Conservancy to address the impacts and potential impacts of climate change on resources within its jurisdiction. Specifically, it gives the conservancy the authority to fund and undertake projects, including, but not limited to, those that reduce greenhouse gas emissions or address extreme weather events, sea level rise, storm surge, beach and bluff erosion, salt water intrusion, flooding, and other coastal hazards that threaten coastal communities, infrastructure, and natural resources.

### **Delaware Releases Report on State’s Vulnerability to Sea Level Rise**

<http://www.dnrec.delaware.gov/coastal/Pages/SLR/DelawareSLRVulnerabilityAssessment.aspx>

“Preparing for Tomorrow’s High Tide: Sea Level Rise Vulnerability Assessment for the State of Delaware” (210 pp.) was produced by the Delaware Coastal Management Program with technical assistance from the Delaware National Estuarine Research Reserve and input, advice, and guidance from Delaware’s Sea Level Rise Advisory Committee. This report and a companion “Mapping Appendix” (114 pp.) provide background information about sea level rise, methods used to determine vulnerability, and a comprehensive accounting of the extent and impacts that sea level rise will have on resources in the state. Findings will be used by the advisory committee and others to guide development of sea level rise adaptation strategies.

### **Brochure Aims to Raise Tsunami Awareness in Maine**

<http://www.maine.gov/tools/whatsnew/attach.php?id=222725&an=1>

As part of a larger effort to understand and prepare for tsunamis in Maine, the Maine Emergency Management Agency produced a tsunami awareness brochure. The brochure provides general information about tsunamis and associated warning signals, alerts, and preparedness information. It also features tsunami safety information for boaters.

### **Four County Compact Releases Regional Climate Change Action Plan**

<http://southeastfloridaclimatecompact.org/>

The Southeast Florida Regional Climate Change Compact, a collaborative effort among Palm Beach, Broward, Miami-Dade, and Monroe Counties and their municipalities and partners, has released “A Region Responds to a Changing Climate Southeast Florida: Regional Climate Change Compact Counties—Regional Climate Action Plan” (84 pp.). The plan calls for concerted action in reducing greenhouse gas emissions and adapting to regional and local impacts of climate change in seven goal areas: Sustainable Communities and Transportation Planning; Water Supply, Management, and Infrastructure; Natural Systems; Agriculture; Energy and Fuel; Risk Reduction and Emergency Management; and Outreach and Public Policy.

### **NRDC and NWF Call for Incorporation of Climate Change into State Hazard Mitigation Plans**

[http://switchboard.nrdc.org/blogs/rhammer/fema\\_must\\_require\\_states\\_to\\_pl.html](http://switchboard.nrdc.org/blogs/rhammer/fema_must_require_states_to_pl.html)

The Natural Resources Defense Council and the National Wildlife Federation have filed a joint petition (71 pp.) with FEMA regarding the incorporation of climate change into state hazard mitigation plans. Specifically, the petition requests that FEMA approve only those state hazard mitigation plans that consider the impact of climate change on natural hazard risk (based on existing authority), amend its regulations to require an assessment of future climate risks in state hazard mitigation plans, and provide guidance to states on how they are to consider climate change risks in their 2013 plan updates.

### **Case Study Examines Community-Based Climate Adaptation Planning**

[http://www.pacinst.org/reports/oakland\\_climate\\_adaptation/](http://www.pacinst.org/reports/oakland_climate_adaptation/)

“Community-Based Climate Adaptation Planning: Case Study of Oakland, California” (86 pp.) identifies more than 50 strategies for building community resilience and adapting to climate change impacts. The study, from the Pacific Institute in partnership with the Oakland Climate Action Coalition, provides a detailed analysis of climate impacts, vulnerabilities, and adaptation options to inform the development of a comprehensive and equitable climate adaptation plan effort that engages local communities in the process.

### **Article Provides Guidance on Sea Level Rise Adaptation Planning**

<http://www.mdpi.com/2071-1050/4/9/2176>

“A Climate Change Adaptation Planning Process for Low-Lying Communities Vulnerable to Sea Level Rise” (33 pp.) in the journal *Sustainability* reports on a community-based research and visioning approach to coastal adaptation planning. With Delta, British Columbia, as a case study, the article describes the local context, explains the methodology, and describes the four visualized scenarios (along with their tradeoffs) that resulted from the planning process: Hold the Line, Reinforce and Reclaim, Managed Retreat, and Build Up. It concludes with recommendations to help advance adaptation in Delta and elsewhere.

### **Report Highlights Role of Mangroves in Reducing Waves**

<http://www.naturalcoastalprotection.org/documents/reduction-of-wind-and-swell-waves-by-mangroves>

“Reduction of Wind and Swell Waves by Mangroves” (27 pp.) from the Nature Conservancy and Wetlands International reviews information about the capacity of mangroves to reduce wind and swell waves to inform decision makers, planners, and coastal engineers about the role mangroves can play in coastal defense against these hazards. The report concludes that mangroves do attenuate wind and swell waves and that appropriate management of mangrove areas could increase wave attenuation. This report is the first in a series of technical reports investigating the role of ecosystems in coastal defense.

### **SHELDUS Update Captures Losses through 2011**

<http://webra.cas.sc.edu/hvri/products/sheldus.aspx>

SHELDUS (Spatial Hazard Events and Losses Database for the United States) is a county-level hazard dataset for the United States (excluding the territories) compiled by the University of South Carolina’s Hazards and Vulnerability Research Institute. The database includes historical data for 18 types of natural hazard events. Data include property and crop losses, injuries, and fatalities. SHELDUS 10.0 includes every loss causing and/or deadly event between 1960 and 1989 and from 1995 to 2011. (Data between 1990 and 1995 are limited. Future releases will contain more detailed information for this time period.)

### **COMET Program Offers New Climate Change Training Modules**

[https://www.meted.ucar.edu/training\\_detail.php](https://www.meted.ucar.edu/training_detail.php)

The University Corporation for Atmospheric Research’s Cooperative Program for Operational Meteorology, Education and Training (COMET) has released three short, web-based training modules related to the impacts of climate change. “Climate Change and Regional Impacts” explores the effects climate change has produced in different regions of the United States and provides information about how regional climate changes are estimated and what the projections are for the future. “Climate Change and Extreme Weather” focuses on the relationship between climate change and extreme weather events. “Climate Change and Sea Level Rise” discusses how increasing temperatures have affected sea level rise, the effects scientists expect in the future, mechanisms of sea level rise, tools and research used to study this topic, and how countries and communities are preparing for increases.

### **National Academies Releases Climate Modeling Website**

<http://nas-sites.org/climate modeling/index.php>

The National Academies’ Board on Atmospheric Sciences and Climate recently released “Climate Modeling 101,” a website designed to help the public learn more about the basics of climate modeling. Short videos and animations explain things such as the difference between climate and weather and how climate models are built and verified.

## CONFERENCES, TRAININGS, EVENTS

### **Digital Coast Webinar Series: Planning for Restoration Using the Habitat Priority Planner and Spatial Analysis**

<http://www.csc.noaa.gov/digitalcoast/webinar/>

November 7, 2012

### **Coastal Services Center Online Training: CanVis**

<http://www.csc.noaa.gov/training/calendar/>

November 13, 2012

### **Coastal Services Center Online Training: Roadmap for Adapting to Coastal Risk**

<http://www.csc.noaa.gov/training/calendar/>

November 14, 2012

### **9th Marine Law Symposium: Shifting Seas—The Law's Response to Changing Ocean Conditions**

<http://law.rwu.edu/marine-affairs-institute/symposiaconferences/9th-marine-law-symposium>

November 14-15, 2012

Bristol, Rhode Island (and online)

### **Disasters and Environment: Science, Preparedness, and Resilience**

<http://ncseonline.org/2013-national-conference-disasters-and-environment-science-preparedness-and-resilience>

January 15-17, 2013

Washington, DC

Early registration ends October 26, 2012

### **National Adaptation Forum**

<http://www.nationaladaptationforum.org/>

April 2-4, 2013

Denver, Colorado

Proposals due November 23, 2012

### **Association of State Floodplain Managers Conference: Remembering the Past—Insuring the Future**

<http://floods.org/index.asp?menuID=223&firstlevelmenuID=181&siteID=1>

June 9-14, 2013

Hartford, Connecticut

Abstracts due October 31, 2012

### **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).

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