

**CZMA CLIMATE CHANGE AND COASTAL HAZARDS E-NEWS UPDATE #10**

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/climateneewsletter.html>.

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- American Shore and Beach Preservation Association 2010 Coastal Summit

## **\*NOAA UPDATES\***

### **\*NOAA Investments Better Prepare World for Tsunamis\***

[http://www.noaaneews.noaa.gov/stories2009/20091217\\_tsunami.html](http://www.noaaneews.noaa.gov/stories2009/20091217_tsunami.html)

Following the devastating 2004 tsunami in the Indian Ocean, the U.S., through NOAA, accelerated preparation for a tsunami along the U.S. coastline and creation of an international warning program. Since 2004, NOAA has received more than \$90 million to expand the nation's tsunami detection and warning capabilities and an additional \$135 million for research, integrated observing systems, community education and preparedness, and a global warning and education network and technology transfer program.

### **\*NOAA Assesses Post-Tsunami Marine Debris in American Samoa\***

[http://www.noaaneews.noaa.gov/stories2009/20091214\\_tsunamidebris.html](http://www.noaaneews.noaa.gov/stories2009/20091214_tsunamidebris.html)

In late November, a NOAA team began to survey marine debris generated by the September tsunami in American Samoa. The team is measuring the amount and impact of debris on coral reefs near villages severely affected by the tsunami. NOAA personnel have been working with territorial agency representatives, village mayors, local news outlets, and other federal agencies on all aspects of the operation, including determining survey areas, outreach to communities, and equipment logistics. While some marine debris has been removed, NOAA's priority is measuring and documenting the debris impacts.

### **\*Slow Atlantic Hurricane Season Comes to a Close\***

[http://www.noaaneews.noaa.gov/stories2009/20091130\\_endhurricaneseason.html](http://www.noaaneews.noaa.gov/stories2009/20091130_endhurricaneseason.html)

The 2009 Atlantic hurricane season ended November 30, marking the close of a season with the fewest named storms and hurricanes since 1997 thanks, in part, to El Niño. The season featured nine named storms, including three hurricanes, two of which were major. These numbers fall within the ranges predicted in NOAA's mid-season outlook. An average season has 11 named storms and 6 hurricanes, including 2 major hurricanes. Claudette and Ida brought tropical storm force winds to the U.S. mainland, but for the first time in three years, no hurricanes hit the U.S.

### **\*New Standardized LIDAR Data Sets Added to Digital Coast\***

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

The NOAA Coastal Services Center's (CSC) Digital Coast features new topographic LIDAR data sets that cover 16 counties in South Carolina, the Apostle Islands in Wisconsin, and Elkhorn Slough in California. The topographic data have been standardized by CSC, which supports cost-effectiveness by increasing the number of potential end users. The National Geodetic Survey, U.S. Army Corps of Engineers, and South Carolina Department of Natural Resources contributed the data.

### **\*NOAA Administrator Reports on State of Climate Science\***

[http://globalwarming.house.gov/pubs?id=0014#main\\_content](http://globalwarming.house.gov/pubs?id=0014#main_content)

In early December, prior to the climate change talks in Copenhagen, the House Select Committee on Energy Independence and Global Warming explored the consensus view that global warming is real, and the science indicates that it is getting worse. Written testimonies from NOAA's Dr. Jane Lubchenco and the Office of Science and Technology Policy's Dr. John Holdren and full video from the hearing are available online.

**\*North American 2008 Cooling Masked Human-Induced Warming\***

[http://www.noaanews.noaa.gov/stories2009/20091204\\_cooling.html](http://www.noaanews.noaa.gov/stories2009/20091204_cooling.html)

Research funded by the NOAA Climate Program Office found that cooler North American temperatures in 2008 resulted from a strong natural effect, and the overall warming trend observed since 1970 is likely to resume. In “A Strong Bout of Natural Cooling in 2008” (5 pp.), researchers demonstrate that human-induced warming in the region did occur in 2008, but was masked by a particularly strong bout of natural cooling. The research shows how natural climate variability can temporarily mask or augment human-induced climate change and emphasizes that natural changes should not be misunderstood to mean that climate change is either not happening or is more extreme than expected.

**\*OTHER FEDERAL UPDATES\***

**\*White House Proposes Revised Principles and Guidelines for Water Resources\***

<http://www.whitehouse.gov/administration/eop/ceq/initiatives/PandG>

The Water Resources Development Act of 2007 calls for revision of the “Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies.” In response, the White House Council on Environmental Quality has sent a proposal (32 pp.) to the National Academy of Sciences that would significantly change these principles and guidelines. The proposal calls for water resource projects to help improve the economic well-being of the nation, better protect communities from floods and storms, help communities and individuals make better choices about where to build based on an understanding of risk, and protect and restore the environment. The proposal is available for comment through March 5, 2010.

**\*NASA Releases Climate Change Multimedia Resource Reel\***

<http://climate.nasa.gov/ClimateReel/>

The National Aeronautics and Space Administration (NASA) has released a new multimedia climate change “resource reel” showcasing free downloadable videos, data visualizations, animations, and still images that illustrate key climate change concepts and discoveries. Additional climate-related videos and animations are available at <http://svs.gsfc.nasa.gov/ClimateEssentials/>.

**\*USGS Studies Erosion along South Carolina Coast\***

<http://pubs.usgs.gov/circ/circ1339/>

“Coastal Change along the Shore of Northeastern South Carolina—The South Carolina Coastal Erosion Study” (87 pp.) summarizes the results of a study of the northeastern coast of South Carolina by the U.S. Geological Survey (USGS) in cooperation with the South Carolina Sea Grant Consortium. The study’s main objective was to determine the geologic and oceanographic processes that control sediment movement along the region’s shoreline. The results of the study allow resource managers to quantify patterns of shoreline change and determine the location and quality of sand resources for beach nourishment.

**\*EPA Proposes Rulemaking to Strengthen Stormwater Program\***

<http://cfpub.epa.gov/npdes/stormwater/rulemaking.cfm>

The U.S. Environmental Protection Agency (EPA) is initiating rulemaking to establish a program to reduce stormwater discharges from new development and redevelopment and make other regulatory improvements to strengthen its stormwater program. Proposed regulatory considerations include expanding the area subject to federal stormwater regulations, establishing specific requirements to control stormwater discharges from new

development and redevelopment, developing a single set of stormwater requirements for all municipal separate storm sewer systems (MS4), requiring MS4s to address stormwater discharges in areas of existing development through retrofitting sewer systems or drainage areas with improved stormwater control measures, and exploring specific provisions to protect sensitive areas. Written comments are due by February 26, 2010.

**\*EPA Releases Guidance to Improve Stormwater Management for Federal Projects\***

<http://www.epa.gov/owow/nps/lid/section438/>

The Energy Independence and Security Act of 2007 established strict stormwater runoff requirements for federal development and redevelopment projects. In response to the law and Executive Order 13514 (October 5, 2009), the U.S. Environmental Protection Agency (EPA), in coordination with other federal agencies, has written technical guidance (63 pp.) to help minimize stormwater runoff from federal development projects with an emphasis on maintaining/restoring predevelopment site hydrology. The guidance addresses how compliance can be achieved, measured, and evaluated and promotes the use of green infrastructure and low impact development practices.

**\*ADDITIONAL UPDATES\***

**\*Louisiana Enacts New Beneficial Use of Dredged Material Regulations\***

<http://dnr.louisiana.gov/crm/coastmgt/rules/2009-10.pdf>

In October, the Louisiana Department of Natural Resources Office of Coastal Management enacted new rules on the beneficial use of material dredged in projects requiring a coastal use permit. The new rules include four options: implementing a project that makes beneficial use of the dredged material, providing for the use of the material on an approved coastal restoration project, using the material at another location that creates the same amount of beneficial use, or making a voluntary contribution to the Coastal Resources Trust fund.

**\*California Releases Climate Change Adaptation Strategy and Prototype Visualization Tool\***

<http://www.climatechange.ca.gov/adaptation/index.html>

<http://www.climatechange.ca.gov/visualization/index.html>

In December, California released the “2009 California Climate Adaptation Strategy” (200 pp.). Led by the California Natural Resources Agency in cooperation with multiple state agencies, the strategy summarizes climate change impacts in seven sectors (public health, ocean and coastal resources, water supply and flood protection, agriculture, forestry, biodiversity and habitat, and transportation and energy infrastructure) and provides recommendations on how to manage them. Key recommendations include convening a Climate Adaptation Advisory Panel; altering water management and uses; avoiding significant new development in areas that cannot be adequately protected from flooding, wildfire, and erosion due to climate change; considering the potential impacts of locating significant state projects in hazard-prone areas; and providing tools to help communities amend general and local coastal plans to include climate change.

Coinciding with the release of the strategy, the state also unveiled a prototype Google Earth-based application. Cal-Adapt allows users to visualize the risks of climate change in California and helps them make better-informed localized adaptation decisions.

**\*Fact Sheet Examines Coastal Erosion in Ohio\***

<http://www.dnr.state.oh.us/LinkClick.aspx?fileticket=h5mfwGJ%2bmDM%3d&tabid=20501>

The Ohio Department of Natural Resources has published a fact sheet in support of Ohio’s Lake Erie Shore Erosion Management Plan. “Causes of Erosion: Surface and Ground Water” (4 pp.) describes how surface and

ground water cause erosion and the important factors that influence shore erosion, defines related terms, and suggests actions that property owners can take to help reduce erosion.

**\*Report Looks at Coastal Erosion in Southern Clatsop County, Oregon\***

<http://www.oregongeology.org/sub/news&events/archives/press-release-2009-12-14.pdf>

The Oregon Department of Geology and Mineral Industries' "Coastal Erosion Hazard Zones in Southern Clatsop County, Oregon: Seaside to Cape Falcon" describes the development of a GIS map database that delineates the coastal geology of southern Clatsop County and defines coastal erosion hazard zones for local planners. The report, which includes the database and maps, is available for purchase.

**\*Sea Level Rise Study Estimates Potential Losses in Florida Keys\***

<http://frp.org/SLR%20documents/FINAL%20-%20Aug%2021%20-WITH%20COVER.pdf>

"Initial Estimates of the Ecological and Economic Consequences of Sea Level Rise on the Florida Keys through the Year 2100" (36 pp.) was published by the Nature Conservancy to catalyze interest in examining sea level rise impacts and developing adaptation strategies for the Keys and similar islands in the region. Using scenarios from the Intergovernmental Panel on Climate Change and Rahmstorf, researchers modeled sea level rises for 2100 ranging from 7 to 55.1 inches. At 7 inches, \$11 billion in property value and 58,800 acres are at risk, and at 55.1 inches, approximately \$35 billion in property value and 142,000 acres are at risk.

**\*ASCE Guide Helps Communities Tackle Flood Protection, Risk Issues\***

<http://content.asce.org/ASCELeveeGuide.html>

A new public education booklet from the American Society of Civil Engineers (ASCE) was created to answer questions about what it means to live behind levees and the level of protection they provide and to help individuals and communities better protect themselves against future flooding. "So, You Live Behind a Levee!" (17 pp.) covers issues such as flood size and risk, signs of trouble, ways to reduce risk, and how to prepare for and respond to emergencies.

**\*Woods Hole Interactive Guide Provides Tsunami Education\***

<http://www.whoi.edu/home/interactive/tsunami/>

A new education web site from the Woods Hole Oceanographic Institute uses interactive graphics and animations to show how to prepare for a tsunami, how to respond as one approaches, and what to do in the aftermath. It also features tsunami-related research and survivor videos and interviews. The site is intended to be a resource for residents and visitors to coastal zones around the world and as an educational tool for students from middle school and up.

**\*New Report Provides Update on Climate Science\***

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

The purpose of "The Copenhagen Diagnosis" (64 pp.) is to synthesize the most policy-relevant climate science published since the last Intergovernmental Panel on Climate Change (IPCC) report. The science in the report is based on the most credible and significant peer-reviewed literature available at the time of publication, and the authors consist primarily of IPCC lead authors. The report found that several aspects of climate change are already occurring at the high end, or even beyond, the expectations of just a few years ago. Significantly, global ice sheets are melting at an increased rate, Arctic sea ice is thinning and melting much faster than recently projected, and future sea level rise is now expected to be much higher than previously forecast and may exceed one meter by 2100.

**\*UN Report Links Disaster Reduction and Climate Change Adaptation to Ecosystem Management\***

<http://www.unep.org/climatechange/LinkClick.aspx?fileticket=rPyahT90aL4%3d&tabid=836&language=en-US>

“The Role of Ecosystem Management in Climate Change Adaptation and Disaster Risk Reduction” (8 pp.) from the United Nations (UN) Environment Programme analyzes the relationship between climate change impacts, ecosystem degradation, and increased risk of climate-related disasters; defines the central role of ecosystem management in climate change adaptation and disaster risk reduction; and assesses the challenges for enhanced ecosystem management for climate change adaptation and disaster risk reduction.

**\*Study Shows Where Development May Require Protection along Atlantic Coastline\***

<http://risingsea.net/ERL/>

“State and Local Governments Plan for Development of Most Land Vulnerable to Rising Sea Level along the US Atlantic Coast” (7 pp.) in “Environmental Research Letters” examines where shore protection is likely to be constructed to protect development from rising seas while at the same time limiting the inland migration of wetlands. The results suggest that if “business as usual” development continues, almost 60 percent of the lowest dry land is likely to be developed and eventually protected as sea level rises, making the land unavailable for wetland migration. Supplementary material, including state-specific discussions and maps are available online.

**\*CONFERENCES, MEETINGS, TRAININGS\***

**\*Southeast Adaptation Planning Workshop\***

[http://epa.gov/region4/clean\\_energy/conferences.html](http://epa.gov/region4/clean_energy/conferences.html)

Atlanta, Georgia

February 2-3, 2010

**\*International Conference on Sea Level Rise in the Gulf of Mexico\***

<http://www.sealevelrise2010.org/>

Corpus Christi, Texas

March 1-3, 2010

**\*American Shore and Beach Preservation Association 2010 Coastal Summit\***

[http://www.asbpa.org/conferences/sum\\_10.htm](http://www.asbpa.org/conferences/sum_10.htm)

Washington, DC

March 9-11, 2010

January 5, 2010