NOAA'S OFFICE OF OCEAN & COASTAL RESOURCE MANAGEMENT

CZMA CLIMATE CHANGE AND COASTAL HAZARDS E-NEWS UPDATE #22

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. For previous issues, see the E-News Update archive at http://coastalmanagement.noaa.gov/news/climatenewsletter.html.

In this Issue:

NOAA UPDATES
- NWS Aims to Build "Weather-Ready" Nation
- NOAA Study Examines Decision-Maker Needs for Sea Level Change
- NHC Updates Report on Deadliest, Costliest, and Most Intense Tropical Cyclones
- NOAA Releases Vertical Datum Transformation Tool
- NOAA Imagery and Lidar Depict Hurricane Irene Damage
- New NOS Web Page Highlights Hurricane Tools
- Recent Issue of NOAA Periodical Focuses on Extreme Events

OTHER FEDERAL UPDATES
- FEMA Releases National Disaster Recovery Framework
- FEMA Releases Updated Coastal Construction Manual
- Corps Reports on Initial Research into Effects of Woody Vegetation on Levees
- USGCRP Seeks Comments on Strategic Plan

ADDITIONAL UPDATES
- Massachusetts Releases Climate Change Adaptation Report
- Paper Explores Climate Change and Regulatory Takings in Hawaii
- Study Examines Economic Effects of Sea Level Rise on California Coast
- Paper Provides Basic Explanation of Sea Level Rise in Southeast
- Western States Seismic Policy Council Releases Tsunami Report
- New Web Tool Calculates Storm Surge in Miami-Dade County
- Community and Regional Resilience Institute Releases Roadmap to Community Resilience
- Study Illustrates Advantages of Low Impact Development
- Report Links Extreme Weather to Climate Change
- National Research Council Releases Report on Climate Change and Extreme Hydrology

CONFERENCES, TRAININGS, EVENTS
- IBHS (Insurance Institute for Business and Home Safety) and FEMA Wind Mitigation Webinar
- Webinar: Mapping and Visualizing Sea level Rise and Coastal Flooding Impacts
- National Floodproofing Conference V
- Coastal Cities Summit II
- Mission Mitigation: Association of State Floodplain Managers Conference

NOAA UPDATES

NWS Aims to Build "Weather-Ready" Nation

http://www.noaanews.noaa.gov/stories2011/20110817_weatherready.html

To better protect America from severe weather events, NOAA's National Weather Service (NWS), in partnership with other government agencies, researchers, and the private sector, is charting a path to a "weather-ready" nation through improved precision of weather and water forecasts and effective communication of risk to local authorities, improved weather decision-support services, innovative science and technological solutions, strengthening joint partnerships to enhance community preparedness, and collaboration with weather enterprise partners and emergency managers to enhance safety and economic output and effectively manage environmental resources.

NOAA Study Examines Decision-Maker Needs for Sea Level Change

To ensure that coastal decision makers have the data, information, tools, and services they require to make the most informed choices about climate change, NOAA conducted a literature review on the management challenges of sea level change. "Coastal Sea-Level Change Societal Challenge Needs Assessment Report" (34 pp.) synthesizes the climate-related needs of coastal decision makers gathered in this review, which included more than 50 resources. The report will inform NOAA and interagency planning efforts to help meet decision-maker needs. For a copy of the report, e-mail nell.codner@noaa.gov.

NHC Updates Report on Deadliest, Costliest, and Most Intense Tropical Cyclones

http://www.nhc.noaa.gov/dcmi.shtml

"The Deadliest, Costliest, and Most Intense United States Tropical Cyclones from 1851 to 2010 (And Other Frequently Requested Hurricane Facts)" (49 pp.) from NOAA's National Hurricane Center (NHC) lists the deadliest tropical cyclones in the United States (1851-2010) and the costliest tropical cyclones in the United States (1900-2010). It also lists the most intense hurricanes to make landfall in the United States during the 160-year period and provides additional statistics on U.S. hurricanes and tropical cyclones in general.

NOAA Releases Vertical Datum Transformation Tool

http://vdatum.noaa.gov/

NOAA has released the first edition of a free vertical datum transformation (VDatum) tool that allows users to produce a set of consistent geospatial data over coastal and interior areas of the contiguous United States, removing the differences between the vertical reference systems of land- and water-based data. VDatum was jointly developed by NOAA's National Geodetic Survey, Center for Operational Oceanographic Products and Services, and Office of Coast Survey. Coverage will be updated regularly and will be expanded to Puerto Rico, the U.S. Virgin Islands, Alaska, and Hawaii in the near future.

NOAA Imagery and Lidar Depict Hurricane Irene Damage

http://ngs.woc.noaa.gov/irene/

After Hurricane Irene, NOAA's National Geodetic Survey and Office of Marine and Aviation Operations collected aerial imagery and lidar data covering the coastal area from Buxton, North Carolina, to Rehoboth Beach, Delaware. The imagery and lidar provided snapshots of physical damage to structures and changes to the natural shoreline and coastal areas. Coastal planners and scientists studying the effects of storm surge and winds on coastal areas use the photos to study both natural habitats and developed areas. Flight plans are based on the requirements of marine navigation, the coastal zone management community, NOAA's National Weather Service, and others.

New NOS Web Page Highlights Hurricane Tools
http://oceanservice.noaa.gov/news/features/sep11/hurricanetools.html

NOAA's National Ocean Service (NOS) maintains a wide range of online tools to monitor hurricanes and deliver relevant data before, during, and after a storm. A new web page describes these tools, which are separated into four categories: Water Levels, Observing, Imagery, and Long-Term Planning.

Recent Issue of NOAA Periodical Focuses on Extreme Events
http://www.nodc.noaa.gov/General/NODCPubs/ESM/

"Earth System Monitor," published by the NOAA Satellite and Information Service, reports on NOAA environmental data and information programs, projects, and activities. The June issue (12 pp.) focuses on extreme events.

OTHER FEDERAL UPDATES

FEMA Releases National Disaster Recovery Framework
http://www.fema.gov/recoveryframework/

In September, FEMA released "The National Disaster Recovery Framework" (116 pp.) to ensure coordination and recovery planning at all levels of government before a disaster and defines how to work together in a unified and collaborative manner following a disaster to best meet the needs of states and communities as they recover. Six recovery support functions (RSFs) facilitate problem solving, improve access to resources, and foster coordination among state and federal agencies, nongovernmental partners, and stakeholders. The RSFs are Community Planning and Capacity Building, Economic, Health and Social Services, Housing, Infrastructure Systems, and Natural and Cultural Resources.

FEMA Releases Updated Coastal Construction Manual
http://www.fema.gov/rebuild/mat/fema55.shtm

In August, FEMA released the fourth edition of its "Coastal Construction Manual: Principles and Practices of Planning, Siting, Designing, Constructing, and Maintaining Residential Buildings in Coastal Areas." The manual provides a comprehensive approach to planning, siting, designing, constructing, and maintaining coastal homes. Volume I (253 pp.) provides information about hazard identification, siting decisions, regulatory requirements, economic implications, and risk management. Volume II (400 pp.) contains in-depth descriptions of design, construction, and maintenance practices that can increase the durability of homes in the harsh coastal environment and reduce economic losses associated with coastal disasters. The Residential Coastal Construction website provides links to additional information to augment the manual.

Corps Reports on Initial Research into Effects of Woody Vegetation on Levees
http://wri.usace.army.mil/woody_vegetation_research.html

The U.S. Army Corps of Engineers (Corps) has released the results of a study on the impacts of trees on levees. In the report, "Initial Research into the Effects of Woody Vegetation on Levees" (57 pp. Volume IV of IV: Summary of Results and Conclusions), researchers note that the presence of trees on a levee increases the uncertainty associated with levee integrity and performance, noting that a tree may either increase or decrease the factor of safety and that because of the many variables, including climate, moisture, soil types, tree species, and levee designs, the full impacts of trees on levees may never be fully quantifiable. The Corps remains confident that a well-constructed levee with well-maintained grass cover represents the optimal goal for reducing the uncertainty of the performance of levee systems, but will consider continued research into the impact of trees on levees as it seeks to improve its levee safety policies and procedures.

USGCRP Seeks Comments on Strategic Plan
http://strategicplancomments.globalchange.gov/

On September 30, the U.S. Global Change Research Program (USGCRP) released its draft 2012-2021 strategic plan (101 pp.) for public comment. The USGCRP coordinates federal research aimed at understanding, assessing, and responding to global change. Comments are due by November 29, 2011.

ADDITIONAL UPDATES

Massachusetts Releases Climate Change Adaptation Report
http://www.mass.gov/?pageID=eoeeaterminal&L=3&L0=Home&L1=Air,+Water+%26+Climate+Change&L2=Climate+Change&sid=Eoeea&b=terminalcontent&f=eea_energy_cca-report&csid=Eoeea

In September, the Massachusetts Climate Change Adaptation Advisory Committee released the "Massachusetts Climate Change Adaptation Report" (129 pp.). The report is organized into two parts. Part I includes an overview of observed and predicted climate changes in the state and anticipated impacts, key findings, a set of guiding principles, and key adaptation strategies that cut across sectors. Part II is organized into five broad areas, including Coastal Zone and Ocean, that describe the areas' vulnerabilities to climate change and outline adaptation strategies.

Paper Explores Climate Change and Regulatory Takings in Hawaii
http://seagrant.soest.hawaii.edu/sites/seagrant.soest.hawaii.edu/files/publications/web_climatechangeregulatorytakingshi.pdf

"Climate Change and Regulatory Takings in Coastal Hawaii" (24 pp.), by the University of Hawaii Sea Grant College Program's Center for Island Climate Adaptation and Policy, examines the interactions among climate change, the regulation of shoreline development in Hawaii, and constitutional law regarding the taking of private property for public benefit. It describes major climate change impacts; provides an overview of takings law, with a focus on regulatory takings in coastal areas; and explores the application of takings law to critical areas of coastal development regulation in Hawaii, including shoreline setbacks, shoreline hardening, and flood control and mitigation.

Study Examines Economic Effects of Sea Level Rise on California Coast
http://www.dbw.ca.gov/PressRoom/2011/110913CalifSeaLevelRise.aspx

California beach towns could face hefty economic losses caused by sea level rise in the next century, according to a new state-commissioned study conducted by economists at San Francisco State University. "The Economic Costs of Sea-Level Rise to California Beach Communities" (97 pp.) forecasts the economic impact of sea level rise on five communities. Funded by the California Department of Boating and Waterways, the study examines the cost of coastal storm damage and erosion, which are expected to increase as sea levels rise. It also forecasts the economic impact of sea level rise on tourism and natural habitats. The findings suggest that damage will vary depending on a community's economy, geography, and local land use decisions.

Paper Provides Basic Explanation of Sea Level Rise in Southeast
http://coaps.fsu.edu/~mhannion/201108mitchum_sealevel.pdf

"Sea Level Changes in the Southeastern United States Past, Present, and Future" (20 pp.) from the Florida Climate Institute and the Southeast Climate Consortium is aimed at nonscientists and scientists who are not specialists in sea level change. It provides an introduction to the issue and suggests that the region should plan for an increase of about 80 centimeters of global sea level rise by 2100.

Western States Seismic Policy Council Releases Tsunami Report
http://www.wsspc.org/Reports/WSSPC_Report_2011-01.pdf

The Western States Seismic Policy Council (WSSPC) has released "Tsunami Hazard Mitigation and Preparedness: A Perspective from State and Territory Tsunami Programs in the High Tsunami Risk Pacific Region" (30 pp.). The report, prepared by WSSPC members from Alaska, California, Hawaii, Oregon, and Washington and the Pacific territories of Guam, American Samoa, and the Commonwealth of the Northern Mariana Islands, documents the importance and effectiveness of state/territorial tsunami programs to prepare local communities at high risk for future tsunamis.

New Web Tool Calculates Storm Surge in Miami-Dade County
http://www.miamidade.gov/OEM/storm-surge-simulator.asp

Miami-Dade County, in partnership with Florida International University, has created a Storm Surge Simulator to calculate and illustrate storm surge levels in Miami-Dade's three evacuation zones based on location, type of asset (person, house, or villa), and hurricane severity as selected by users. Data comes from the National Hurricane Center's Sea, Lake, and Overland Surges from Hurricanes model. The purpose of the simulator is to demonstrate the impact of storm surge and is not meant to be used as a decision-making tool for evacuation.

Community and Regional Resilience Institute Releases Roadmap to Community Resilience
http://www.resilientus.org/publications/crsi_final_report.html

The Community and Regional Resilience Institute has released a "roadmap" to help communities prepare for disasters and improve their resilience. "Community Resilience System Initiative (CRSI) Steering Committee Final Report—a Roadmap to Increased Community Resilience," (156 pp.) describes the web-based system that can help communities assess their capacity to withstand significant disturbances and help them plan for recovery. The roadmap will be piloted in Anaheim, California; Anne Arundel County and Annapolis, Maryland; Charleston and the Tri-County Area, South Carolina; Gadsden, Alabama; Greenwich, Connecticut; the Mississippi Gulf Coast; and Mount Juliet, Tennessee.

Study Illustrates Advantages of Low Impact Development
http://www.unh.edu/unhsc/sites/unh.edu.unhsc/files/docs/FTL_Resource%20Manual_LR.pdf

"Forging the Link: Linking the Economic Benefits of Low Impact Development and Community Decisions" (172 pp.) is a resource manual and compilation of fact sheets that summarizes the results of a study conducted by the University of New Hampshire (UNH) Stormwater Center, the Virginia Commonwealth University, and Antioch University New England with funding from the NOAA/UNH Cooperative Institute for Coastal and Estuarine Environmental Technology. Key findings suggest that low impact development protects water quality, aquatic habitat, and watershed health; has demonstrated cost savings for developers and municipalities; and helps protect communities from threats of increased flooding.

Report Links Extreme Weather to Climate Change
http://climatecommunication.org/new/articles/extreme-weather/overview/

"Current Extreme Weather and Climate Change" (28 pp.), produced by Climate Communication, a nonprofit project dedicated to improving public understanding of climate change science, and reviewed by leading climatologists, suggests that many types of extreme events are occurring more frequently and the ties to human-induced climate change are clear. The report summarizes recent peer-reviewed scientific literature detailing the connections between climate change and extreme weather events. According to the report, climate change is fundamentally affecting weather patterns, creating an environment in which extreme weather events such as heat waves, heavy downpours, and droughts are likely to be more frequent and severe.

National Research Council Releases Report on Climate Change and Extreme Hydrology
http://www.nap.edu/catalog.php?record_id=13211
http://dels.nas.edu/Materials/Report-In-Brief/4316-Extreme-Hydrology

The National Research Council Committee on Hydrologic Science held a workshop in January 2010 that brought together atmospheric scientists, hydrologists, water managers, and decision makers to examine how climate warming translates into hydrologic extremes like floods and droughts. "Global Change and Extreme Hydrology: Testing Conventional Wisdom" (60 pp.) summarizes the proceedings of the workshop. It presents an overview of the state of the science in terms of climate change and extreme hydrologic events and examines the conventional wisdom that, because a warmer atmosphere can hold more water vapor, climate change will accelerate the hydrologic cycle, fuel more evaporation, and generate more precipitation.

CONFERENCES, TRAININGS, EVENTS

IBHS (Insurance Institute for Business and Home Safety) and FEMA Wind Mitigation Webinar
http://www.disastersafety.org/events/detail?eventId=64
October 12, 2011

Webinar: Mapping and Visualizing Sea level Rise and Coastal Flooding Impacts
http://www.csc.noaa.gov/digitalcoast/webinar/
November 2, 2011

National Floodproofing Conference V
http://www.floods.org/index.asp?menuID=739&firstlevelmenuID=181&siteID=1
November 28–December 1, 2011
Sacramento, California

Coastal Cities Summit II
http://www.coastalcities-ioi.org/
April 30–May 3, 2012
St. Petersburg, Florida
Abstracts are due October 30, 2011

Mission Mitigation: Association of State Floodplain Managers Conference
http://www.floods.org/index.asp?menuid=740&firstlevelmenuid=181&siteid=1
May 20-25, 2012
San Antonio, Texas
Abstracts are due October 31, 2011

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.

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