

# National Coastal Management Program News

- July 2007 -

FLORIDA SUPPORTS SHIPWRECK INTERPRETATION AND NATIONAL REGISTER NOMINATION.....	1
RHODE ISLAND CRMC ADOPTS NEW SAV REGULATIONS .....	2
COORDINATED STORMWATER EDUCATION AND TRAINING ALONG LAKE SUPERIOR.....	2
EXPLORING MICHIGAN’S ANCIENT SHORELINES .....	3
AMERICAN SAMOA TO HOST CORAL REEF TASK FORCE AND ALL ISLANDS CZM MEETINGS .....	3
NEW DESIGN HANDBOOKS MAKE SAN FRANCISCO BAY BETTER.....	4
ALABAMA CZM LEADS GOMA ENVIRONMENTAL EDUCATION PRIORITIES.....	4
SPECIAL SECTION: COASTAL MANAGERS ADAPTING TO CLIMATE CHANGE.....	5
MARYLAND’S COMMISSION ON CLIMATE CHANGE.....	5
BCDC PLANNING FOR CLIMATE CHANGE .....	6
NOAA’S ECOLOGICAL EFFECTS OF SEA LEVEL RISE RESEARCH PROGRAM .....	7
NOAA’S RISA PROGRAM - CLIMATE IMPACTS GROUP .....	7
A NOAA CLIMATE PROGRAM FUNDING AND PARTNERSHIP OPPORTUNITY .....	8

## ***Florida Supports Shipwreck Interpretation and National Register Nomination***

In 1733, thirteen ships of the [Spanish Plate Fleet](#) were sunk along 80 miles of the Florida Keys during a hurricane. These shipwreck sites represent some of the oldest artificial reefs in North America, supporting a complex assemblage of marine life. To preserve this significant historical coastal resource, the Florida Department of State, Bureau of Archaeological Research received a subgrant from the Florida Coastal Management Program (FCMP) to explore, document and assess the sunken vessels in order to establish the foundation for a multiple property nomination to the National Register of Historic Places. The FCMP funds also supported the design and printing of an interpretive guide booklet and website development. The nomination was successful, and the National Park Service listed the 1733 Spanish Plate Fleet in the National Register in June 2006. Other programs benefiting from this subgrant include Florida Keys National Marine Sanctuary, Biscayne National Park, Florida Park Service and the National Register of Historic Places.



*Divers measure a section of the 'Infante', one of the 13 ships of the Spanish Plate Fleet.*

For additional information visit [dhr.dos.state.fl.us/services/magazine/index.cfm?action=article&season=05Fall&article=59](http://dhr.dos.state.fl.us/services/magazine/index.cfm?action=article&season=05Fall&article=59) or contact Dr. Roger Smith at [RSmith@dos.state.fl.us](mailto:RSmith@dos.state.fl.us).

## **Rhode Island CRMC Adopts New SAV Regulations**

The Rhode Island Coastal Resources Management Council (CRMC) has comprehensively revised its Submerged Aquatic Vegetation (SAV) regulations to better protect eelgrass beds from shading and disturbances. The new regulations establish specific standards for conducting SAV surveys and now require an SAV survey for all activities proposed in areas of current or historic SAV habitat. The surveys must be completed during peak biomass periods, between July 1 and September 15 in Narragansett Bay and between July 1 and August 15 in south shore coastal ponds and shallow water embayments.

In addition to the new survey requirements, the regulations also prohibit certain activities over SAV beds that would increase seagrass shading: floats and float platform lifts (including grate-type structures) associated with residential docks; boat lifts having the capacity to service vessels larger than a tender; the long-term docking of vessels at a recreational boating facility; and residential docks that span eelgrass beds to avoid and/or minimize impacts to the eelgrass and which are proposed to be 200 feet or more in length seaward of the mean low water.

Finally, the revised regulations allow the CRMC to deny applications where SAV impacts are substantial or cannot be avoided or minimized, or if the proposed activity is adjacent to or includes a restoration site and/or the site includes the sole source of SAV habitat in that area. To review the new SAV regulations visit [www.crmc.ri.gov/regulations/index.html#propregs](http://www.crmc.ri.gov/regulations/index.html#propregs) (RICRMP Section 300.18). For additional information, contact Laura Ricketson at [lricketson@crmc.ri.gov](mailto:lricketson@crmc.ri.gov).

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## **Coordinated Stormwater Education and Training along Lake Superior**

Although Lake Superior waters are still relatively pristine, continued development in the region is placing more pressure on the Lake's watersheds. To minimize additional impacts from polluted runoff and help meet NPDES Phase II Stormwater requirements, many communities along the Lake's shores banded together to form the Lake Superior Regional Stormwater Protection Team (RSPT). This regional effort has proved to be cost-effective, and helps provide strong and consistent stormwater messages. Over 20 local governments and public agencies from northern Minnesota and Wisconsin participate in the RSPT, which has received funding from the Minnesota Lake Superior Coastal Program (MLSCP) and Wisconsin Coastal Management Program to support RSPT activities and individual member projects.

In its four year history, the RSPT has been a leader in stormwater education and training along the Lake Superior coast. The Team has held training workshops for developers, contractors, and inspectors on erosion and sediment control, construction stormwater control, and other topics.

In addition, the RSPT launched a robust public outreach campaign to increase the public's awareness of stormwater and the steps they can take reduce polluted runoff. The campaign has consisted of radio and television public service announcements (PSAs), print materials, community



*RSPT's mascot Rex the Dog hands out waste bags to remind kids to clean up after their pets.*

workshops and events, and an educational website which provides information about the region's streams, pollution prevention tips, and other useful information. RSPT's digital PSAs can be seen by searching the EPA's Nonpoint Source Toolbox for Minnesota products at [www.epa.gov/owow/nps/toolbox/](http://www.epa.gov/owow/nps/toolbox/).

To reinforce their stormwater messages, on June 2nd, the RSPT held its second Lake Superior Watershed Festival in Duluth, MN. Despite soaking rains, nearly 500 people attended the successful event. The rainy weather provided the organizers with a unique "teachable moment"—a real-life demonstration of how rainwater can pick up pollutants as it runs off rooftops, driveways, lawns, and parking lots.

Additional information on the RSPT can be found at [www.lakesuperiorstreams.org/stormwater/rspt.html](http://www.lakesuperiorstreams.org/stormwater/rspt.html) or by contacting Mindy Granley at [mindy.granley@dnr.state.mn.gov](mailto:mindy.granley@dnr.state.mn.gov).

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## ***Exploring Michigan's Ancient Shorelines***

The Great Lakes have undergone substantial changes since their creation from melting glaciers nearly 14,000 years ago. At one point, the Lakes' water levels were nearly 400 feet lower than they are at present, and a limestone land bridge joined the area around Alpena, Michigan to the base of Ontario's Bruce Peninsula, effectively dividing Lake Huron's predecessor into at least two separate basins. Conifer forests grew on lands now far beneath the surface of the lake, and the submerged forest remains provide organic carbon useful for dating prehistoric lake levels.



*A diver explores ancient shoreline in Thunder Bay, Michigan.*

The Michigan Coastal Management Program is supporting the Noble Odyssey Foundation's (NOF) underwater research to gain a greater understanding of this prehistoric picture. The NOF, in collaboration with several area universities and the Thunder Bay Marine Sanctuary, is currently focusing on exploring the waters in and around the Sanctuary in Lake Huron.

This summer, the NOF and project partners will be conducting bathymetric surveys of ancient shorelines along the submerged Trans-Huron Land Bridge and a drowned river canyon in the Straits of Mackinac. Both areas will be examined for submarine spring benthic communities, forest remains, and for evidence of Paleo-Indian culture along the ancient shores. U.S. Naval Sea Cadets are also assisting with on-board operations and underwater research, receiving invaluable training and experience in return.

For further details on this project or NOF research, visit [www.nobleodyssey.org](http://www.nobleodyssey.org) or contact Matt Smar at [smarm@michigan.gov](mailto:smarm@michigan.gov).

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## ***American Samoa to host Coral Reef Task Force and All Islands CZM Meetings***

American Samoa is host to two major meetings the week of August 20-24th starting with the 18th U.S. Coral Reef Task Force Meeting and ending with the All Island's Regional Coastal Zone Management

meeting. The week's events will include meetings for the All-Islands Committee and Steering Committee for the U.S. Coral Reef Task Force (USCRTF), workshops, working group meetings, the official USCRTF business meeting, and various receptions, events, and field trips to support the meeting. The workshops include *Translating Traditional Knowledge into Management* and *Practical Implication and Uses of Economic Valuation Studies of Coral Reefs*. The USCRTF business meeting will host special sessions on Regional Approaches to Coral Reef Ecosystem Management and Global Climate Change.

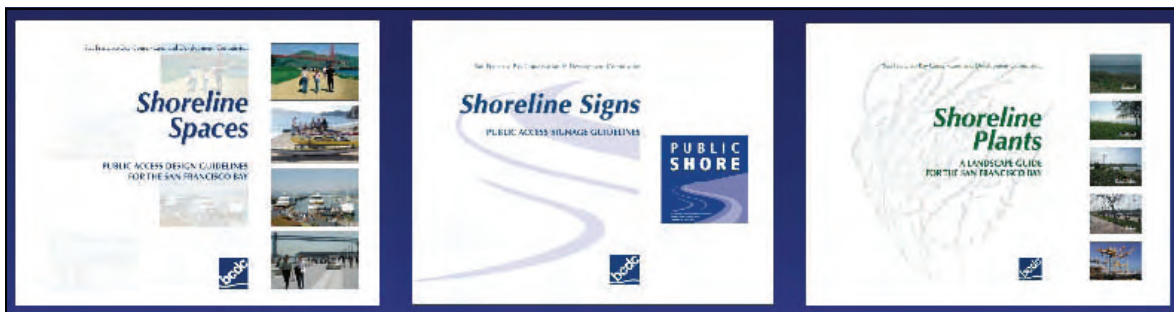
The meetings and events will engage off-island resource managers and enable them to share info and offer new and enhanced information and opportunities for American Samoa's local environmental protection efforts. The meetings are expected to gather more than 200 participants, with 150 coming from off- island. For more information, contact Gene Brighthouse at [Gene.Brighthouse@noaa.gov](mailto:Gene.Brighthouse@noaa.gov).

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## ***New Design Handbooks Make San Francisco Bay Better***

The San Francisco Bay Conservation and Development Commission (BCDC) now offers a set of three handbooks that are helping permit applicants design shoreline access areas. [Shoreline Spaces: Public Access Design Guidelines](#) was featured in the January 2007 edition of this newsletter. That document is now joined by two other publications – [Shoreline Signs: Public Access Signage Guidelines](#) and [Shoreline Plants: A Landscape Guide for the San Francisco Bay](#). The signage guidelines provide a comprehensive approach to shoreline signs so that the public may easily locate and enjoy public access areas and understand the rules governing the use of the shoreline. *Shoreline Plants* was recently adopted by BCDC. The landscape guide describes planting objectives, provides a comprehensive plant list and plant palettes for specific situations and addresses a number of relevant landscape issues, such as plant installation and maintenance.

To download these publications, visit BCDC's website at [www.bcdc.ca.gov](http://www.bcdc.ca.gov). For more information, contact Brad McCrea at [bradm@bcdc.ca.gov](mailto:bradm@bcdc.ca.gov).



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## ***Alabama CZM Leads GOMA Environmental Education Priorities***

In 2006, the Gulf of Mexico Alliance (GOMA), a regional collaborative among federal, state, and other interests, released the *Governors' Action Plan* to improve the Gulf of Mexico ecosystem in five priority areas, including environmental education. The Alabama Coastal Zone Management (CZM) Program was identified by the Alabama Governor's office as the lead for the Alliance environmental education actions.

The Alabama CZM Program and its partners, including the Dauphin Island Sea Lab, the Mobile Bay National Estuary Program and the Mississippi/Alabama Sea Grant Consortium, have focused on



building a Gulf stewardship ethic, strengthening the region's science literacy, and empowering a new generation of informed leaders. One major accomplishment was hiring an Environmental Education Coordinator. This individual was hired with a grant from NOAA's Office of Education, through the Mississippi/Alabama Sea Grant Consortium, and is housed at the Dauphin Island Sea Lab.

Some of the Alliance Environmental Education team activities have included: establishing a working group for underserved and under-represented populations; initiating a database of educational resources; and forming an Environmental Education Network and listserv to bring together various educational interests around the Gulf. The Alliance has also secured grant funding through NOAA's Northern Gulf Institute and EPA's Gulf of Mexico Program to support the first steps of a public awareness campaign and extensive media relationships.

The Alabama CZM Program recently hosted the Alliance Environmental Education Network and Gulf of Mexico Coastal Ocean Observing System (GCOOS) Education and Outreach Council the at the new Five Rivers Center located in Spanish Fort, AL. As a result of the meeting, the groups will increase key connections for information sharing. Chiefly, GCOOS can make data available for both K-12 and public decision makers. GOMA can help distribute it to targeted groups in need.

If you are interested in joining the GOMA Environmental Education Network listserv visit [www.disl.org/mailman/listinfo/gomaeen](http://www.disl.org/mailman/listinfo/gomaeen). For additional information about GOMA's environmental education activities, contact Lee Yokel at [lyokel@disl.org](mailto:lyokel@disl.org).

### **Special Section: Coastal Managers Adapting to Climate Change**

*Climate change is an emerging coastal management issue. The possible impacts of climate change such as sea level rise, lake level fluctuations, ocean temperature changes, storm intensification, and ocean acidification will greatly impact the safety of communities, the health of natural resources, and the growth of local economies. The following section explores activities undertaken by some state coastal management programs to address the causes and impacts of climate change and NOAA resources for addressing the impacts of climate change.*

### **Maryland's Commission on Climate Change**

On April 20, 2007, Maryland Governor Martin O'Malley signed an Executive Order establishing a Commission on Climate Change to advise the Governor and Maryland's General Assembly on matters related to climate change. The Commission is charged with developing a Plan of Action that will address both the drivers and consequences of climate change, particularly those associated with sea level rise and coastal hazards. Three working groups, comprised of a broad set of stakeholders and representatives of all levels of government, will work together to develop the Plan of Action. The Scientific and Technical Working Group will develop a Comprehensive Climate Change Impact Assessment and the Greenhouse Gas and Carbon Mitigation Working Group will develop a Comprehensive Greenhouse Gas and Carbon Footprint Reduction Strategy. Finally, the Adaptation and Response Working Group will develop a Comprehensive Strategy for Reducing Maryland's Vulnerability to Climate Change. The Plan, including recommendations and draft legislation, will be presented to the Governor and General Assembly in April 2008. Maryland's Coastal Program played a key role in developing the Executive Order and will be chairing and staffing the Adaptation and Response Working Group.

In addition to the Governor's Commission, the Maryland Coastal Program and local partners acquired high resolution topographic LIDAR data for the majority of the State's coastal counties. This data is now being used to develop sea level rise inundation models that demonstrate both the impact of gradual sea level rise inundation over time, as well as impacts associated with increased storm surge from episodic flood events. Sea level rise modeling has been completed for Worcester and Dorchester Counties as well as pilot areas within Anne Arundel and St. Mary's Counties. For additional information, contact Zoë Johnson at [ZJohnson@dnr.state.md.us](mailto:ZJohnson@dnr.state.md.us).

## ***BCDC Planning for Climate Change***

Historical records show that sea level in San Francisco Bay has risen 18-20 cm (7 inches) over the past 150 years and it is predicted to rise an additional 24 to 48 cm by the end of the 21st century. Sea level rise models indicate that a 30 cm (11.8 inch) rise in sea level would shift the 100-year storm surge-induced flood event to once every 10 years. With each flood event, the Bay Area stands to lose valuable real estate, critical public infrastructure, and natural resources.

To better prepare for climate change and sea level rise, the San Francisco Bay Conservation and Development Commission (BCDC) is conducting a climate change study. The study's goals are three-fold: (1) identify the impacts of climate change on San Francisco Bay; (2) update the pertinent San Francisco Bay Plan findings and policies pertaining to global climate change effects on San Francisco Bay; and (3) organize and participate in a regional program to address climate change in the Bay Area. As part of the study, BCDC is mapping San Francisco Bay shoreline areas that are vulnerable to sea level rise and increased storm frequency and intensity. The maps are available at [www.bcdc.ca.gov/index.php?cat=56](http://www.bcdc.ca.gov/index.php?cat=56).

Through its work on the Bay-related impacts of climate change, BCDC has also partnered with the Joint Policy Committee (JPC) which includes the Association of Bay Area Governments, the Bay Area Air Quality Management District, and the Metropolitan Transportation Commission. The JPC has developed a climate change strategy to move the region forward in reducing greenhouse gas emissions and adapting to the impacts of climate change, including sea level rise. In addition, BCDC has partnered with the State of California Climate Action Team to assist in developing scenarios for the 2008 Climate Action Team Report to Governor Schwarzenegger and to ensure that the scope includes research on sea level rise in San Francisco Bay. In its role as a California State Coastal Management Agency, BCDC is working with the California Ocean Protection Council and State Coastal Conservancy to ensure that shoreline management projects include climate change analysis, and to help identify additional research needs. For additional information, contact Leslie Lacko at [lesliel@bcdc.ca.gov](mailto:lesliel@bcdc.ca.gov).



*Map depicting area flooded by a one meter sea level rise near San Francisco Airport.*

## ***NOAA's Ecological Effects of Sea Level Rise Research Program***

NOAA's Center for Sponsored Coastal Ocean Research (CSCOR) manages the Ecological Effects of Sea Level Rise Research Program. The goal of the research program is to help coastal managers better prepare for changes in coastal ecosystems due to land subsidence and sea level rise. As part of the program, NOAA has launched a pilot project in North Carolina designed to study the ecological effects of sea level rise in the Pamlico, Albemarle, Core, and Bogue Sound regions and to enhance the abilities of coastal managers to plan for sea level rise within these geographic areas.

The pilot project will result in mapping and modeling tools that allow managers to see projected shoreline changes and to display predictions of ecosystem impacts. More specifically, the project includes the development of a hydrodynamic model that will simulate tidal response, regional wind events, hurricane storm surge, and changing shoreline and inundation patterns due to sea level rise. This model will be paired with submodels that university partners are developing, which will predict shore-zone modifications in response to sea level rise and characterize the ecological impacts of sea level rise on a variety of habitats, including submerged aquatic vegetation, inter-tidal flats, oyster reefs, and marsh habitats. Coastal managers will be able to use these ecological forecasts to proactively mitigate for and adapt to sea level rise impacts at the local level.

Throughout the pilot project, coastal managers, including North Carolina's Division of Coastal Management, have provided invaluable input on planning the project location, designing the research program, and identifying valuable modeling tools. In the most recent workshop held in February 2007, over 50 North Carolina coastal managers and stakeholders discussed and identified potential scientific tools that will assist agencies and businesses in mitigating the regional impacts of sea level rise and extreme events. At the meeting they noted that tools should: (1) be easily applied by state and local government and large land owners when planning future land use and deciding on policy and regulations that affect coastal resources; (2) forecast expected habitat changes; (3) be easy to translate to decision makers; and (4) enable easy understanding of potential risks to people and development due to future flooding and related hazards.

NOAA's CSCOR is currently planning a new Sea Level Rise Program in the Florida/Alabama Panhandle region starting in 2008 and is interested in exploring partnerships and opportunities with other coastal management programs. For more information on CSCOR's Ecological Effects of Sea Level Rise Research Program and the North Carolina Pilot Project, visit [www.cop.noaa.gov/stressors/climatechange/current/sea\\_level\\_rise.html](http://www.cop.noaa.gov/stressors/climatechange/current/sea_level_rise.html), or contact Carol Auer at [carol.auer@noaa.gov](mailto:carol.auer@noaa.gov) to discuss potential partnership opportunities.

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## ***NOAA's RISA Program - Climate Impacts Group***

NOAA's Climate Program Office supports Regional Integrated Sciences and Assessments Program Team (RISAs) to realign climate research to better serve society and meet decision maker's needs. The RISA program began with university-based efforts in regions of the U.S. where recent advances in integrated climate science held the greatest promise to assist decision making. There are currently eight teams around the country, and each RISA has a different focus based on the interests and needs of the region.

For example, the Climate Impacts Group (CIG) RISA, focuses on understanding the consequences of climate variability and change for the natural resources of the Pacific Northwest. CIG research and

projects relevant to the coastal management community include: assessing the ramifications of changes in storm tracks and North Pacific atmospheric circulation patterns; evaluating climate impacts on harmful algal blooms in Puget Sound; developing local sea level rise projections and evaluating the institutional context of sea level rise and coastal hazards response; and analyzing the connections between western snow pack, temperature and precipitation. In addition, the CIG is partnering with King County and the International Council for Local Environmental Initiatives to develop a Guidebook *Setting the Course: A Guidebook on Planning for Global Warming* for local governments preparing for climate change and is partnering with the City of Seattle to assess sea level rise hazards in the update of their Shoreline Master Program.

For additional information about the CIG visit [www.cses.washington.edu/cig/](http://www.cses.washington.edu/cig/), or for additional information about RISA and the eight regional programs go to [www.climate.noaa.gov/cpo\\_pa/risa/](http://www.climate.noaa.gov/cpo_pa/risa/), or contact [hannah.campbell@noaa.gov](mailto:hannah.campbell@noaa.gov).

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## **A NOAA Climate Program Funding and Partnership Opportunity**

The NOAA Sector Applications Research Program (SARP), housed in NOAA's Climate Program, has just announced a funding opportunity targeting climate change and coastal resource management. SARP focuses on identifying and promoting research and application priorities that foster improved decision support for climate-related issues in key socio-economic sectors. SARP provides competitive funding to multi-disciplinary projects that include research and the development of decision support tools, outreach and community building, and productive partnerships with decision makers and technical entities.

In 2008, SARP funding will be focused on three areas: Coastal Resource Management; Drought, in support of the U.S. National Integrated Drought Information System; and Water Resources Management. Competitive SARP proposals will address one or more of the following topics:

- Assess impacts associated with climate change and variability;
- Analyze and quantify the benefits of enhancing preparedness;
- Develop prototype decision support resources and methodologies; and
- Provide innovative and transferable methodologies.

Please consider if your program could benefit from this opportunity and if there are other groups in the region you could partner with to bring new climate science and tools to decision making. Letters of Intent are due July 23rd, 2007. Full proposals are due September 24, 2007. For more information visit [www.climate.noaa.gov](http://www.climate.noaa.gov) or contact Lisa Vaughan at [Lisa.Vaughan@noaa.gov](mailto:Lisa.Vaughan@noaa.gov) or (301) 734-1266.

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The quarterly *Coastal Management Program Newsletter* was developed in response to state requests for assistance in improved communication/lesson-sharing among the state and territory coastal management programs. Please let us know about interesting things going on in your coastal zone you would like to share with others. If you have any projects that you would like to highlight, please send a brief description to [Allison Castellan](mailto:Allison.Castellan). The submission deadline for the next newsletter is October 1, 2007.