



## National Assessment of Shoreline Change

*Adapted from USGS web news*

Beach erosion is a well-known, chronic problem along many open-ocean shores of the United States. As coastal populations continue to grow and community infrastructures are threatened by erosion, there is increased demand for accurate information regarding past and present trends and rates of shoreline movement. There is also a need for a comprehensive analysis of shoreline movement that is consistent from one coastal region to another. To help meet these national needs, the U.S. Geological Survey (USGS) is conducting an analysis of historical shoreline changes along open-ocean sandy shores of the coterminous United States and parts of Hawaii, Alaska, and the Great Lakes. One purpose of this work is to develop standard, repeatable methods for mapping and analyzing shoreline movement so that periodic, systematic, internally consistent updates regarding coastal erosion and land loss can be made nationally. In the case of this study, the shoreline is interpreted as the boundary between the ocean water surface and the sandy beach.

The report on the New England and Mid-Atlantic coasts is the fifth in a series of reports on historical shoreline change. Previous investigations include analyses and descriptive reports of the Gulf of Mexico, the Southeast Atlantic and, for California, the sandy shoreline and the coastal cliffs. This report, like the earlier reports, summarizes the methods of analysis, interprets the results, provides explanations regarding long-term and short-term trends and rates of change, and describes how different coastal commu-

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## High School Students Determined to Make a Difference

*By Ellen Gordon*

Coastal America's 3rd National Student Summit on the Ocean and Coasts kicked off at dinner time on Valentine's Day, with the always entertaining cartoonist and ocean advocate Jim Toomey, creator of the comic strip, "Sherman's Lagoon." Sketching while he spoke—with his efforts projected up on a screen—Toomey both amused and inspired his audience of national student delegates. The National Oceanic and Atmospheric Administration's Director of Policy, Sally Yozell also welcomed the students and described the Administration's efforts to address the nation's coastal and ocean issues.

Designed to develop future ocean scientists and leaders and teach high school students about the interconnectedness between the ocean, Great Lakes, inland seas and climate, the theme of this Student Summit was the Third Principle of Ocean Literacy: *The ocean is a major influence on climate and weather--and its inverse.* It is one of seven essential principles of K-12 ocean sciences established in 2005 by the National Marine Educators Association. Back in January 2004, the Coastal America federal partnership and its network of Coastal Ecosystem Learning Centers (CELCs) organized the 1st National Student Summit on Ocean issues. One highlight of the first summit was the opportunity to provide a student voice in the deliberations of the U.S Commission on Ocean Policy. The summit participants addressed such coastal issues as tidal power, habitat restoration, conservation of wildlife, and ocean literacy programs. In 2006, Coastal America celebrated its 10-year partnership with the

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Dear TCS Members,

As I write this message, spring is close to blooming here in the beautiful Piedmont region of North Carolina, bringing with it fresh energy and the promise of renewal. New years bring new challenges, and I don't believe 2011 will be an exception. If nothing else, spring reminds us of the exciting work we have ahead of us as coastal resources professionals, as we strive to understand and address the issues before us.

I would like to thank immediate Past-President Jeff Benoit for his guidance and leadership to TCS during his tenure as president. Jeff has been such an asset to this organization, and it has been a pleasure to work with him. Also, please join me in welcoming the new members of the TCS Board of Directors: President-Elect Kate Killerlain Morrison, Director Rebekah Padgett, and ex officio members Paul Ticco and Ariana Marshall. They will make fine additions to the Board.

TCS has grown and strengthened as an organization in the years since I became a member, and this trend will continue in 2011. New things will be in store for the organization, including planning our next conference. Preparation for TCS 23, which will be held in Miami, Florida, will begin in the coming months. Stay tuned for more news about this and other TCS happenings. 2011 also will bring us further development on a national ocean policy, work that began in the early days of the Obama administration. Final recommendations of the Interagency Ocean Policy Task Force were presented last summer, and federal agencies are in the process of taking steps to implement them. State and local governments also will be partners in this endeavor. 2010 also saw the release of recommendations to President Obama's Climate Change Adaptation Task Force, which presented recommendations on how to better understand, prepare for, and respond to the impacts of climate change.

Perhaps 2011 can be viewed as a year of implementation, as we continue our commitment to strengthening our coastal environments and coastal communities. We are ready to accept these challenges and will move forward with confidence and resolve.

Regards,

Lisa C. Schiavinato  
TCS President



The views expressed herein are those of the authors and do not necessarily represent TCS nor its Board.

Cayo Timon, Honduras.  
Credit: Andrea Martinez



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nities are responding to coastal erosion. Shoreline change evaluations are based on a comparison of historical shoreline positions digitized from maps or aerial photographic data sources with recent shorelines.

The New England and Mid-Atlantic shores were subdivided into a total of 10 analysis regions for the purpose of reporting regional trends in shoreline change rates. Scientists studied more than 650 miles of the New England and Mid-Atlantic coasts. The average rate of long-term shoreline change for the New England and Mid-Atlantic coasts was -0.5 meters per year with an uncertainty in the long-term trend of  $\pm 0.09$  meters per year. The most extreme case exceeded 60 feet per year. The rate is based on shoreline change rates averaged from 21,184 individual transects, of which 68 percent were eroding. In both the long and short term, the average rates of shoreline change for New England and the Mid-Atlantic were erosional. Long-term erosion rates were generally lower in New England than in the Mid-Atlantic. This is a function of the dominant coastal geomorphology; New England has a greater percentage of shore types that tend to erode more slowly (rocky coasts, pocket beaches, and mainland beaches), whereas the Mid-Atlantic is dominated by more vulnerable barrier islands and dynamic spit/inlet environments. However, the percentage of coastline eroding was higher in New England than in the Mid-Atlantic, highlighting that although rates of shoreline erosion may not be extreme, coastal erosion is still widespread along this region of the US coastline.

“This report provides invaluable objective data to help scientists and managers better understand natural changes to and human impacts on the New England and Mid-Atlantic coasts,” said Anne Castle, Assistant Secretary of the Interior for Water and Science. “The information gathered can inform decisions about future land use, transportation corridors, and restoration projects.”

Beaches change in response to a variety of factors, including changes in the amount of available sand, storms, sea-level rise and human activities. How much a beach is eroding or prograding in any given location is due to some combination of these factors, which vary from place to place. “There is increasing need for this kind of comprehensive assessment in all coastal environments to guide managed response to sea-level rise,” said Dr. Cheryl Hapke of the USGS, lead author of the new report. “It is very difficult to predict what may happen in the future without a solid understanding of what has happened in the past.”

The researchers used historical data sources such as maps and aerial photographs, as well as modern data like lidar, or “light detection and ranging,” to measure shoreline change at more than 21,000 locations. This analysis of past and present trends of shoreline movement is designed to allow for future repeatable analyses of shoreline movement, coastal erosion, and land loss. The results of the study provide a baseline for coastal change information that can be used to inform a wide variety of coastal management decisions, Hapke said.

The report, titled “National Assessment of Shoreline Change: Historical Shoreline Change along the New England and Mid-Atlantic Coasts,” <http://pubs.usgs.gov/of/2010/1118/pdf/of2010-1118.pdf> is the fifth report produced as part of the USGS’s National Assessment of Shoreline Change project. An accompanying report that provides the geographic information system (GIS) data used to conduct the coastal change analysis was released simultaneously, [http://pubs.usgs.gov/of/2010/1119/title\\_page.html](http://pubs.usgs.gov/of/2010/1119/title_page.html).

### Attention TCS Members! TCS Online Networking Directory

TCS recently unveiled a new member networking directory as a component of the TCS Members Only web site. Here, members complete their own online profiles, select which information to include in a search, and then start connecting with others in this exclusive group of coastal professionals and students. Connect with other TCS members near you, or find someone with expertise you may need! Registration only takes a few minutes and it’s proving to be a valuable resource for TCS members!



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CELCs by hosting the 2nd National Student Summit on Oceans and Coasts. Bringing formal and informal educators together with students, the gathering was intended to advance an ocean-literate and involved citizenship that went beyond summit participation and school curricula.

"I feel like there's hope for the future; there are so many people doing things to help."

The purpose of the 3rd summit, appropriately, was three-fold: (1) to educate, inspire and engage the next generation of leaders in marine

science, protection and ocean governance; (2) to engage students in collaborative action to address local coastal issues; and (3) to foster stewardship by creating ocean-literate citizens. An exceptional feature of the gathering was that it provided the students with unprecedented access to national ocean leaders, with speakers from senior levels of government and the nongovernmental community.

Each of the student delegations (3-4 individuals, ranging from 9th through 12th grade, supported by a teacher and CELC educator) represented a different learning center. Twenty delegations, drawn from around the US—from Alaska to Florida, and one from Vera Cruz, Mexico—prepared for the summit by researching an issue affecting their community, developing an action plan to address that issue, and then presenting their work through videos and posters. The summit provided them an unparalleled opportunity for expert feedback from Administration officials and nationally known scientists, numerous interactions with acclaimed speakers and members of the ocean and climate community, and an opportunity to build a network with other future ocean and climate leaders.

So it was that day two of the four day Student Summit, (at Baird Auditorium in the Smithsonian's National Museum of Natural History (NMNH)) really heated up when the student delegations began presenting their action plans to an engrossed audience and panels of ocean experts. Though some of these high school students might have been nervous, their poise and evident preparation was more characteristic of undergrad or even graduate-level work. The young international team of 9th graders from Mexico described their efforts to improve their peers' awareness of ocean and water quality problems. The delegation from the North Carolina Aquarium at Fort Fisher demonstrated their quick-thinking creativity with brief, humorous skits that they added last-minute

to their presentation. Inspired by Jim Toomey, this trio got to work dreaming up a creative, simple means to illustrate the effect of beach erosion! From the New England Aquarium, the delegation's project looked at the impact that decreasing dissolved oxygen levels are having on the cold water Atlantic herring fishery in the southern Gulf of Maine. Over at the Aquarium of the Pacific, students were addressing Los Angeles' excessive carbon footprint by educating informal audiences through an interactive climate change solutions-based



Student delegation from the NC Aquairum at Fort Fisher depicting impacts of beach erosion. Credit: Susan Baker

game. Leading by example, these students are also in the midst of converting a donated gas-engine car into an electric powered outreach vehicle. All of the delegations received constructive suggestions on improving their projects from the panel experts sent by federal agencies and private organizations.

Illustrating the diverse backgrounds from which some of the participants drew, this second day of the summit actually began with a special Native American welcoming song, performed by Bearano Old Coyote, a Suquamish tribal member, and one of the students comprising the Seattle Aquarium delegation. Asked later about it's meaning, he described it as "a thanks to Creator for providing us with shellfish, such an im-

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Waikiki Aquarium student delegation at poster session. Credit: Susan Baker

portant part of our lives.” These 4 students, all Suquamish tribal members, spoke of how elders have passed on so much knowledge to them, and of their desire to follow that custom, and to pass on understanding that will help preserve their culture. They are concerned because ocean acidification is affecting shellfish, a

vital part of their tribe’s life and livelihood.

“You have to be passionate about your project, so you can convince others to be interested and to care.”

The delegation from Monterey Bay Aquarium, all Latino, targeted their own neighborhoods

with the catchphrase, “Su casa es mi casa;” a reversal of the conventional, “my house is your house.” The students looked at the problem from sea critters’ point of view; i.e., our land-generated pollution is messing up their home. On the frontlines of “peer pressure,” many of the students’ projects focused on how to twist the effect for positive outcomes. Often advocating for personal changes, they argue that single actions taken by enough individuals could begin to turn climate change around; that however small an effort may be at its start, it can produce a “snowball effect.” The students’ passion was a gratifying response to Dr. Nancy Knowlton, Sant Chair for Marine Science at the NMNH, when she addressed their Tuesday morning session, telling them, “Thank you for asking not

only what your ocean can do for you, but what you can do your ocean.”

“My favorite part of the summit was being able to talk to people who have a say in what goes on in the world.”

At the end of this challenging day, participants and other guests were treated to a captivating evening presentation by Jean-Michel Cousteau. Although his concerns about the condition of the ocean brought some somber moments, Cousteau’s gentle humor, entertaining stories of his adventures, and splendid video clips kept the audience entranced—until it was time to head up to the Sant Ocean Hall for the reception and poster session!

Wednesday, day three, brought a completely different format. Students, who had been chaperoned to DC by their teachers, were now split into a separate workshop. In their own seminar, educators had the opportunity to learn new techniques and hear about additional resources for bringing ocean science alive in their classrooms. Meanwhile the students—80 teenagers—explored methods of empowering local communities and



Student delegation from Hatfield Marine Science Center; Student-designed sweatshirt, with “Invertebrates, Kind of a Big Deal” on the front and “Grow a Backbone for Those Who Can’t” on the back. Credit: Susan Baker

worked to draft and reach consensus on a proclamation that declared their own concerns, commitment to action, and hopes for the ocean’s future.

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### Savannah Ocean Exchange Seeks Solutions Addressing 2011 Theme: "Shaping the Future of Our Coasts"

Mission: Finding and Promoting the Best Solutions to Ocean and Coastal Issues

Award: Gulfstream Navigator Award 2011

Award Amount: \$100,000 to Best Overall Solution

Website: [www.savannahoceanexchange.org](http://www.savannahoceanexchange.org)

Submission Deadline: April 15, 2011

The Savannah Ocean Exchange's (SAVOX) 2011 call for action is intended to find and promote the best solutions to drive sustainable change and to improve ecological and economic conditions, while respecting the unique cultures and sense of place of our coastal communities. Selected solution creators will be invited to Savannah, expenses paid, to present their work during the Exchange, September 7-9, 2011. The SAVOX Board of Governors and invited guests--representing a cross-section of professions from industry, government, conservation, research and academia--will select the "best of the best," for the Gulfstream Navigator Award 2011.

### New York Firm Seeks Tidal Power Plant in East River

Verdant Power, a New York company, filed an application with the Federal Energy Regulatory Commission to install up to 30 new tidal power turbines in the east channel of New York's East River. The company's three-bladed underwater turbines work a lot like a submerged version of a wind power plant to capture the power generated by tides, the cyclical rushing of water toward shore or back toward the ocean. But to deploy such a system, the company had to conduct extensive research to show its system does not harm fish or other aquatic life. "Tidal may not be the biggest, but because it's so close to land it can be a lot cheaper to develop than wind power and wave power that may be a lot farther offshore," says John Miller, executive director of the New England Marine Renewable Energy Center at the University of Massachusetts, Dartmouth. "The other thing about it is that it's incredibly predictable for centuries." Excerpted from the Christian Science Monitor. <http://www.csmonitor.com/Environment/2011/0103/Green-energy-first-New-York-firm-seeks-tidal-power-plant-in-East-River>

### Coral Reefs Threatened

Three-quarters of the world's reefs are now threatened by a combination of local and global factors, says a report released recently by the World Resources Institute and 25 other science and conservation groups. That pressure is expected to rise by mid-century without sharp cuts to greenhouse gas

emissions and new approaches to reef management. By 2050, "nearly all reefs" will be at risk of severe damage or death, the analysis finds, putting at risk people in many developing countries--especially in Asia--who depend on fish as their primary source of protein. The report recommends a variety of strategies to counteract the growing threat to the world's reefs. They include actions designed to improve reefs' resilience to climate change, such as curbing overfishing and destructive fishing practices that use poisons or explosives on fish, reducing water pollution caused by agricultural runoff, limiting coastal development and encouraging sustainable tourism. Excerpted from Climate Wire. Report may be found at <http://www.wri.org/publication/reefs-at-risk-revisited>.

### Gulf Coast Dolphin Death Toll Rises To Nearly 60

The death toll of dolphins found washed ashore along the US Gulf coast since January 15, 2011 climbed to 59 on March 1, as puzzled scientists clamored to determine what was killing the marine mammals. The National Oceanic and Atmospheric Administration declared the alarming cluster of recent dolphin deaths "an unusual mortality event," agency spokeswoman Blair Mase told Reuters. Although none of the carcasses bore outward signs of oil contamination, all were being examined as possible casualties of petrochemicals that fouled the Gulf of Mexico. That tally is about 12 times the number normally found washed up dead along those states during this time of the year, which is calving season for some 2,000 to 5,000 dolphins in the region. "We are on high alert here," said Moby Solangi, director of the private Institute of Marine Mammal Studies in Gulfport, Mississippi. "When we see something strange like this happen to a large group of dolphins, which are at the top of the food chain, it tells us the rest of the food chain is affected." Excerpted from PlanetArk, <http://planetark.org/wen/61340>

### Draft EPA/Corps Guidance to Expand Federal Jurisdiction Over Wetlands as Congress, Courts Question Agency Authority



Coral reef at Kona with Yellow Tang. Credit: Mila Zinkova

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New guidelines governing federal jurisdiction over wetlands and other “isolated waters” were sent by the Environmental Protection Agency (EPA) and the Army Corps of Engineers to OMB last month for review. They would, if adopted, significantly expand federal jurisdiction under the Clean Water Act over millions of acres of property, almost guaranteeing that the role of the agencies will ultimately be decided in the courts and Congress. The new draft comes as Congress considers legislation to cut off funding for EPA rulemaking and as courts question how much deference to give to agency “guidance” documents, which are adopted without the benefit of full notice and comment rulemaking. The new draft December 2010 Guidance is intended to supersede earlier guidance the agencies issued in June 2007 and December 2008. Excerpted from an article written by Jeff Kray for Marten Law News. <http://www.martenlaw.com/newsletter/20110311-federal-jurisdiction-over-wetlands>

#### Tsunami Education

The National Oceanic and Atmospheric Administration (NOAA) maintains tsunami awareness and warning information. The March 11 tsunami created by the Mw 9.0 earthquake that struck Japan comes slightly more than 5 years after the world’s attention was focused on the Indian Ocean tsunami that devastated parts of southeast Asia. To grasp the far reaching extent of the Honshu tsunami, see this model animation of the propagation of the waves, posted on Youtube by NOAA: [http://www.](http://www.youtube.com/user/NOAAPMEL?feature=mhum#p/c/3/PBZGH3yieLc)

[youtube.com/user/NOAAPMEL?feature=mhum#p/c/3/PBZGH3yieLc](http://www.youtube.com/user/NOAAPMEL?feature=mhum#p/c/3/PBZGH3yieLc). You can also find NOAA’s tsunami awareness and response video at <http://www.youtube.com/user/NOAAPMEL?feature=mhum#p/c/3/PBZGH3yieLc>, and additional tsunami awareness information at <http://www.tsunamiready.noaa.gov/>.

#### Fishing Capacity v. Fish Supply

Predatory fish such as cod, tuna and grouper have declined by two-thirds during the past 100 years, while small forage fish such as sardine, anchovy and capelin have more than doubled during the same period, according to University of British Columbia (UBC) researchers. Their study’s goal was to assess the likelihood of a scenario first posited in the journal *Science* in 2006, that by 2050 the impact of overfishing would be so great that commercial fisheries would collapse completely. Villy Christensen and colleagues at UBC’s Fisheries Centre concluded that the future would not be quite that bleak. Marine ecosystems will, however, look decidedly different, they found. “By removing the large, predatory species from the ocean, small forage fish have been left to thrive.” Christensen and his colleagues also found that approximately 55 percent of the declines in predatory fish occurred during the past 40 years, with the sharpest decline between 1970 and 1990. However, even as these fish populations have plummeted, fishing capacity has continued to increase, by 54 percent in total between 1950 and 2010, “with no indication of a decrease in recent years.”

## Coastal Management Journal

Be Sure to Use Your Members’ Link to Read the Latest Articles:

*Examining Local Coastal Zone Management Capacity in U.S. Pacific Coastal Counties*  
By Zhenghong Tang, Michael K. Lindell, Carla Prater, Ting Wei, Christopher M. Hussey

*Drawing Lines in Law Books and on Sandy Beaches: Marking Ordinary High Water on Michigan’s Great Lakes Shorelines under the Public Trust Doctrine*  
By Richard K. Norton, Lorelle A. Meadows, Guy A. Meadows

*An Assessment of Coastal Development and Land Use Change Using the DPSIR Framework: Case Studies from the Eastern Cape, South Africa*  
By Bronwyn J. Palmer, Trevor R. Hill, Gillian K. McGregor, Angus W. Paterson

*A Deliberate Inclusive Policy (DIP) Approach for Coastal Resources Governance: A Fijian Perspective*  
By Alvin Chandra

*The Role of Spatial Data Management Strategies in ICZM in Ireland*  
By Helen Murray-O’Connor, Andrew Cooper



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Meanwhile, the JASON Project—a nonprofit founded in 1989 by Dr. Bob Ballard to connect students with scientists in real and near-real time—was onsite and very involved. Student reporters from the organization circulated, informally questioning student delegates about their projects and the impacts of climate change on their communities. A JASON staffer also conducted in-depth studio interviews at the museum with a number of delegations, describing their projects and videos during a live broadcast for an international audience; see these at: [http://www.jason.org/science/Live/coastal\\_america/jason/event.aspx](http://www.jason.org/science/Live/coastal_america/jason/event.aspx). In an innovative use of social media, the February 15 events at the Summit were also streamed live to a nationwide audience, via the Smithsonian’s Ocean Portal, with a continuous interactive discussion on the student presentations via Twitter. Entire classes and even schools tied in to watch; the Summit broadcast website received more than 85,000 hits. The Smithsonian is currently archiving the student presentations as well as Jean Michel Cousteau’s presentation and they will be available soon for viewing at <http://ocean.si.edu/>.



Students present their summit proclamation to Representative Sam Farr, DOC Deputy Secretary Rebecca Blank and Jean -Michel Cousteau. Credit: Gina Cabrillo

“It’s been terrific meeting other delegates and learning from them, as well as learning from keynote speakers.”

The final day, Thursday, “Capitol Hill Day,” paired student delegations with a legislative liaison from one of the sponsoring federal agencies, to escort the stu-

dents through the halls of the House and Senate on visits to their Congressional representatives. At the closing luncheon in the Rayburn House Building, many students excitedly shared stories about those meetings and the lessons they hoped to take back to their communities. They presented a copy of the signed Proclamation that they had developed at their Wednesday workshop to Congressman Sam Farr, California Democrat and co-chair of the bipartisan House Ocean Caucus. Copies were also presented to Rebecca Blank, Deputy Secretary of the Department of Commerce, as a representative of the Administration, and to Jean-Michel Cousteau, as a representative of nongovernmental organizations. The proclamation—which spoke to the students’ passionate concern for the ocean, coasts, their planet—asked Congress to take action to invest in their future and in the health of the ocean. They stated their belief, “...that it’s time that US citizens learn what Native Americans have

always known; in order to show respect for the seven generations before and seven generations to follow, we must protect our Earth and its resources.”

“Shaking the hand of Jean-Michel Cousteau; how awesome is that?!”

The true value of the 2011 Student Summit, however, will follow the students home as they work over the next year to implement the projects in their local communities and prepare for their own future as leaders in ocean sciences and policy.



Student delegate Bearano Old Coyote performs a welcome song. Credit: Susan Baker



**International Conference: 'It's Not Just About the Fish'  
- Social and Cultural Perspectives of Sustainable Marine Fisheries**

April 4-5, 2011, Greenwich, London, UK

To bring together researchers and practitioners from across the globe to explore the social and cultural aspects of sustainable marine fisheries management

[www.gre.ac.uk/science](http://www.gre.ac.uk/science)

**SAMPAA 7-The Evolution of Protected Areas: Renewing our Passion and Purpose**

April 7-11, 2011, Banff National Park, Canada

<http://www.sampaa.org/meetings/conference-2011>

**International Conference - 50 Years of Education and Awareness Raising for Shaping the Future of the Oceans and Coasts**

April 27-30, 2011, St. Petersburg, Russia

<http://www.ioc50.ru>

**7th International Symposium on Coastal Engineering and Science of Coastal Sediment Processes**

May 2-6, 2011, Miami, Florida.

<http://coastalsediments.cas.usf.edu/index.html>

**Aquaculture Canada 2011**

May 8-11, 2011, Québec City, Québec, Canada <http://www.aquacultureassociation.ca/meeting/aquaculture-canada-2011>

**ICS2011 - 11th International Coastal Symposium**

May 9-14, 2011, Szczecin, Poland

<http://www.ics2011.pl/>

**Blue Vision Summit 3**

May 20-23, 2011, Washington, DC

[http://www.bluefront.org/blue\\_vision\\_blog/welcome/](http://www.bluefront.org/blue_vision_blog/welcome/)

**Adapting to Climate Change: Case Studies from the Baltic Sea Region**

May 31, 2011, Hamburg, Germany

<http://www.baltex-research.edu/bssc/>

**Nordic Ocean Conference; Seas the Future**

June 7- 8, 2011, Tórshavn, Faroe Islands

[www.seasthefuture.com/](http://www.seasthefuture.com/)

**Capitol Hill Oceans Week: American Prosperity and Global Security: Ocean Solutions for the 21st Century**

June 7-9, 2011, Washington, DC

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

**World Ocean Day, 2011/2012 Theme: Youth: the Next Wave for Change**

June 8, 2011

[http://worldoceansday.org/wod\\_theme.php](http://worldoceansday.org/wod_theme.php)

**Solutions to Coastal Disasters,**

June 25-29, 2011, Anchorage, AK

<http://content.asce.org/conferences/cd2011>

**2nd International Symposium on Integrated Coastal Zone Management**

July 3-7, 2011, Arendal, Norway

[www.imr.no/iczm](http://www.imr.no/iczm)

**Coastal Zone 11**

**Winds of Change: Great Lakes, Great Oceans, Great Communities!**

July 17-21, 2011, Chicago, IL

<http://www.doi.gov/initiatives/CZ11/index.htm>

**14th International Conference on Shellfish Restoration (ICSR 14)**

August 23-27, Stirling, Scotland

[www.aqua.stir.ac.uk/shellfish2011](http://www.aqua.stir.ac.uk/shellfish2011)

**EMecs 9: Managing for Results in our Coastal Seas**

August 28-31, 2011, Baltimore, MD

[www.conference.ifas.ufl.edu/emecs9](http://www.conference.ifas.ufl.edu/emecs9)

**CoastGIS 2011**

September 5-8, 2011, Ostend, Belgium

<http://www.coastgis.info/>

**Land-Ocean Interactions in the Coastal Zone (LOICZ) Open Science Conference 2011**

September 12-15, 2011, Yantai, China

<http://www.loicz-osc2011.org>

**Adapting to Coastal Change: Local Perspectives**

September 13-15, 2011, The Hague, Netherlands

<http://www.conferencealerts.com/seeconf.mv?q=ca1ih8hi>

**World Conference on Marine Biodiversity**

September 26-30, 2011, Aberdeen, Scotland

[www.marine-biodiversity.org/](http://www.marine-biodiversity.org/)

**10th International Conference on the Mediterranean Coastal Environment - MEDCOAST 11**

October 25-29, Rhodes, Greece- [http://www.medcoast.org.tr/MC11/Call\\_for\\_Papers\\_MEDCOAST%2011.pdf](http://www.medcoast.org.tr/MC11/Call_for_Papers_MEDCOAST%2011.pdf)



## Coastal Governance by Dr. Richard Burroughs

Review by Paul C. Ticco, PhD

Those of us engaged in the field of coastal and ocean management and policy are fortunate to be able to draw upon many fine books, journals and reports that both inform us and enlighten our efforts. Many of these publications are directed towards professionals, while others, serving as textbooks, focus on training students to become the next generation of ocean leaders. Seldom can a single book successfully function as both. Rarer still is the volume that transcends the usual descriptions of coastal and ocean issues by pragmatically illuminating the vital but often elusive connections between coastal science, the human dimension and policy-making, while also moving the reader from the “old” method of sector based management strategies to a more holistic view.

Dr. Rick Burroughs, Professor of Marine Affairs at the University of Rhode Island, Adjunct Professor of Coastal Science and Policy at Yale University, and a former member of The Coastal Society’s Board of Directors has written such a book. Published by Island Press as one of their “Foundations of Contemporary Environmental Studies Series,” Coastal Governance first provides a strong basis for understanding coastal and ocean management issues, and then evolves into a discussion of the pros and cons of sector, spatial and ecosystem-based management. As the choice of which of these strategies to employ can often drive the public policy debate and, consequently, public budgetary disbursement, an emphasis on decision-making becomes critical. Accordingly, Dr. Burroughs focuses on policy development while demonstrating the importance of truly understanding how decision-making occurs and, perhaps most importantly, how to achieve better results through a collaborative and broad-reaching policy process.

Following an academic summary of the government policy process, Coastal Governance analyzes several coastal activities and conflicts, adeptly combining an historical treatment of these topics (wastewater, oil, dredging and wetlands) with a discussion of both successes and failures of resource management. Dr. Burroughs then begins his treatise of the “newer” suite of broader spatial and ecosystem-based coastal and ocean management options, i.e., those that combine natural and social systems in an effort to, among other objectives, enhance ecosystem services, increase stakeholder involvement, and address cumulative impacts to fragile and limited resources. Using several illuminating case studies, Dr. Burroughs describes the complicated but transformative nature of these strategies for the management of water-

sheds and bays, and fisheries. He claims that to use these more encompassing management options to solve critical problems, the resulting paradigm shift will also require changes in the policy and decision-making processes with a stronger focus on common interests and sustainability. Although sector-based management through direct government regulation will continue, it simply cannot adequately coordinate

the many ways that natural and social systems intersect. Spatial and ecosystem-based strategies must be employed, consistently evaluated and revised based on results. Of course, given their nature, one may certainly be better than the other in some circumstances (e.g., ecosystem-based management may be more effective for long-term sustainability, while spatial management may be better employed in urbanized coastal areas exhibiting conflicting multiple-uses).

And finally, it is unknown as to what other methodologies may ultimately emerge. In conclusion, Dr. Burroughs rightly argues that: “Sector-based, spatial, and ecosystem-based management frameworks encompass our current repertoire of approaches, but....future relationships between society and nature will inevitably spawn new frameworks for the coast. Whether those new frameworks create healthier coasts will depend on our ability to understand natural and social systems, apply that knowledge in the policy process, and ultimately manage human behavior.”

With Coastal Governance, Dr. Burroughs has improved our understanding of coastal and ocean management, demonstrated how effective policy-making occurs, and presented a compelling case for the use of spatial and ecosystem-based management to better bridge the gap between social and natural systems in policy-making. Well referenced and including several “Questions for Discussion,” Coastal Governance shows its textbook side while confidently sitting among other books on the shelves of coastal and ocean management professionals.

Paul C. Ticco is a Past-President of TCS and is currently an ex-officio board member working with TCS student chapters. He is Regional Coordinator for the Northeast and Great Lakes Region of NOAA’s Office of National Marine Sanctuaries and can be contacted at paul.ticoo@noaa.gov.





### DUKE UNIVERSITY

This January, the Duke University student chapter co-sponsored a speaker event with the Nicholas School of the Environment's Career Services Office. Twenty-five members came to hear Kevin Wheeler, a Nicholas School graduate and the current Vice President and Director of Public Affairs at the Consortium for Ocean Leadership in Washington, D.C. Students were actively engaged in a discussion with Mr. Wheeler about successfully launching an environmental career and the current work he's doing for the Ocean Leadership Consortium.

In addition, TCS members once again participated in a volunteer day with the North Carolina Coastal Federation to assemble recycled oyster shell bags that will be used in an oyster reef restoration project later this year. TCS members, together with other public volunteers, successfully completed more than 600 oyster shell bags to benefit this project.

This February, we held elections for the new 2011-2012 chapter officers, and the current officers will work closely with them over the next couple months, in an attempt to improve the transition process and facilitate the transfer of ideas and information. The Duke chapter is also looking forward to an exciting spring semester of events including beach clean-ups, a Riverwatch® training program, a speaker series and a movie event centered around Earth Day.

### EAST CAROLINA UNIVERSITY

Our chapter is pleased that we have continued to grow and have a more visible presence on campus. Since our last update, we have welcomed five new members! Our executive board has worked hard to continue re-building, including drafting and overseeing the adoption of a new Chapter constitution. We continue our tradition of monthly meetings with student presentations.

In January, we were pleased to host and jointly sponsor a campus screening of "Sun Come Up," an Academy Award-nominated short documentary on the world's first climate refuges, in Papua New Guinea. We were able to bring the filmmaker, Jennifer Redfearn to campus to introduce her film and to join a faculty panel following the screening. Nearly 100 students and faculty attended and enjoyed a lively post-film discussion.

Chapter members volunteered en masse for the North Carolina regional competition of the National Ocean Sciences Bowl, held at ECU in February. Members supplied questions and volunteered in multiple roles



ECU Chapter VP Michelle Covi notes the film's Academy Award nomination. Credit: Deanna Swain

throughout the two-day event. We were pleased to see the caliber of talent and enthusiasm in our state's high school students.

Finally, we have held elections for our 2011-2012 Executive Board. We are very pleased to announce next year's officers. They will shadow the current Executive Board during the remaining months of their terms. President: Chad Smith, Vice-President: Sarah Young, Treasurer: Coley Hughes, Secretary: Wendy Klein, Historian: Sarah Watkins-Kinney

### UNIVERSITY OF RHODE ISLAND

An addendum to our fall update: The Chapter was present at Diversity Week on URI campus, hosted by the College of Environmental and Life Sciences. We had a booth on October 6th to increase awareness about the presence of the Chapter and it served as one attempt to grow the Chapter, helping us gain both undergraduates and graduate students.

This spring, to strengthen our Adopt-A-Spot beach clean-ups at Bass Rock Beach in Narragansett, RI in terms of number of people attending, we have created a partnership with URI's Graduate Student Association's community service committee, in hopes that coordinated joint beach clean ups will improve attendance levels, when weather permits.

### UNIVERSITY OF WASHINGTON

*TCS Tidal Walk: Remembering Why We Love the Marine Environment*

*continued on page 12*



This winter, the UW TCS chapter hosted a really fun night-time tidal walk at a beach in West Seattle. Since many of us are hitting the books hard lately, we thought it would be nice to organize an activity to actually get us out of the classroom and in the marine realm. TCS members, along with students from departments across campus such as public affairs, took advantage of the winter low tides that occur at night in the Pacific Northwest. We teamed up with a local group from the Seattle Aquarium, the Beach Naturalists, who showed us a great time and a new view of the intertidal at night. We saw lots of sea

stars, clams, anemones, and even nudibranchs! We were treated to a clear moonlight night, a rarity in Seattle in the winter. It was wonderful for students and citizens to get together and rekindle the wonder that our shared love for the marine environment creates. Several students are even considering joining the Beach Naturalist program so they can continue spreading the joy and getting out in the field. All in all, it was a magical evening that served to remind us why we got into this field in the first place.

## The Coastal Society at Coastal Zone 11

### Annual Membership Meeting

Our annual membership meeting will be held at CZ11, from 7-8 am on Wednesday, July 20, 2011. Location information will be included in the CZ11 program.

### TCS to Host Career Session

TCS will be hosting a Café Conversation - Finding that Perfect Coastal Job - at Coastal Zone '11 in Chicago. The session, to be held on Tuesday July 19th 2011 from 2:45 - 4:00 pm, will be part of a series of career discussions at the conference and will give participants the opportunity to have informal, roundtable group discussions about career needs like resume writing, interviewing tips, networking guidance, etc. A diverse mix of employment sectors will be invited to facilitate discussions from government agencies, non-profits, etc. This session is being organized by the TCS Special Projects Committee: TCS President Lisa Schiavinato, President-Elect Kate Killerlain Morrison and Board member Rebekah Padgett. Please contact Kate at [kkmorrison1@gmail.com](mailto:kkmorrison1@gmail.com) if you are interested in participating.





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Home Address (if preferred mailing address): \_\_\_\_\_

Daytime Phone: \_\_\_\_\_ E-Mail: \_\_\_\_\_

Present Occupation: \_\_\_\_\_

Primary Interest: \_\_\_\_\_

TCS Chapter Affiliation (if any): \_\_\_\_\_

Sponsored/Referred by: \_\_\_\_\_

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• Regular, \$60 US	(professionals or interested citizens)
• New Professional, \$40 US	(out of school fewer than two years) Name of academic institution: Date of graduation:
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Make check payable to The Coastal Society, and mail it with your application to: PO Box 3590, Williamsburg, VA 23185. To pay by credit card, please use the online application at: [www.thecoastalsociety.org/membership2.html](http://www.thecoastalsociety.org/membership2.html).