



**NATIONAL MARINE PROTECTED AREAS CENTER  
INFORMATION EXCHANGE FOR MARINE EDUCATORS**

**OCTOBER 2005**

This update is provided with support from NOAA's Office of Education and Sustainable Development, and by the National Marine Protected Areas Center, to share information pertinent to the marine educator community. It is intended to encourage exchange of information and programs. We hope that it will also promote collaboration among the different educators addressing similar issues in their programs.

Please share this email with your colleagues and constituents. If you request materials or respond to a request for information, please mention that you learned about it from NOAA's Information Exchange.

The information included here has been compiled from many different sources, including EE-NEWS@NAEE, EEinGEORGIA, CREEC, SeaSpan, the Scout Report, edinfo at FREE, scuttlebutt, NSTA Express, and others. We have verified web addresses, but make no guarantee that they will remain active. The Department of Commerce/NOAA does not necessarily endorse or promote the views or facts presented on these sites.

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Collected archives of the information presented in past newsletters are available at [http://www.mpa.gov/information\\_tools/education.html#InfoExchange](http://www.mpa.gov/information_tools/education.html#InfoExchange). Contact the editor directly at [phyllis.dermer@noaa.gov](mailto:phyllis.dermer@noaa.gov), or by phone at (865) 932-5074, to discuss further enhancements or to contribute information for future issues.

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**Notable Article**

**Fishery regulations in the Wider Caribbean**

This project summary report from the United Nations Environment Programme World Conservation Monitoring Centre provides information on fisheries regulations throughout the wider Caribbean region. Details of fishery regulations for each country are presented in terms of national restrictions, national zoning, and MPA-level restrictions. In addition, the website (<http://gipping.unep-wcmc.org/wdbpa/caribPa/maps.cfm>) has an interactive map of the fishing regulations.

McManus, Ed and Lacambra, Carmen. Fishery Regulations in the Wider Caribbean Region: Project Summary. 123pp. 2005. Cambridge, United

Kingdom, United Nations Environment Programme-World Conservation Monitoring Centre.

[http://gipping.unep-wcmc.org/wdbpa/caribPa/Fishery\\_Regulations\\_in\\_the\\_Wider\\_Caribbean\\_Region.pdf](http://gipping.unep-wcmc.org/wdbpa/caribPa/Fishery_Regulations_in_the_Wider_Caribbean_Region.pdf)

## **PROGRAM OF THE MONTH**

### **Explore the World with Shorebirds**

*Explore the World with Shorebirds* educators' guide is the curriculum for the Shorebird Sister Schools Program, an internet-based conservation education program designed for educators and their students.

The content of *Explore the World with Shorebirds* includes chapters on:

- Connecting Cultures - Profiles of other cultures and their views of conservation; tips for teaching about cultures and introducing the topic to students.
- Shorebird Primer – What Makes a Bird a Shorebird?; Identifying Species; Adaptations; Nesting and Breeding; Migration Flyways; Research; and Conservation.
- Classroom Activities - Multidisciplinary activities designed to promote the development of academic and life skills.
- Field Trip Planning - resources for planning a field trip and accompanying activities.

The curriculum includes a broad range of concepts in the disciplines of language arts, geography, history, mathematics, social studies, and science. Activities found within the guide are correlated with the National Education Standards in the United States.

The *Explore the World with Shorebirds* CD-ROM is free of charge. In return for the curriculum we request that recipients use and review the guide and complete the "Educator's Guide Evaluation" found in Appl on the CD. To request your copy, email the Shorebird Sister Schools Program at [sssp@fws.gov](mailto:sssp@fws.gov).

<http://sssp.fws.gov>

## **WEBSITES OF THE MONTH**

### **Hurricane Information for Educators**

Following both Hurricanes Katrina and Rita, teachers around the country are helping students understand hurricanes. Many education websites have been set up to provide teachers with the background information and educational materials needed. The following were gathered from a variety of listservs.

- Resources from the National Science Teachers Association (NSTA)
  - Severe Weather SciGuide: <http://sciguides.nsta.org>
  - NSTA's SciLinks
    - Grades K-4, Storms:  
[http://www.scilinks.org/retrieve\\_outside.asp?sl=566356104410551033](http://www.scilinks.org/retrieve_outside.asp?sl=566356104410551033)

- Grades 5-8, Hurricanes:  
[http://www.scilinks.org/retrieve\\_outside.asp?sl=4735895674333355\\$741922112222\\$55557766](http://www.scilinks.org/retrieve_outside.asp?sl=4735895674333355$741922112222$55557766)
- Grades 9-12  
Hurricane Fundamentals:  
[http://www.scilinks.org/retrieve\\_outside.asp?sl=818144108888](http://www.scilinks.org/retrieve_outside.asp?sl=818144108888)  
Hurricane Preparation:  
[http://www.scilinks.org/retrieve\\_outside.asp?sl=818144109910](http://www.scilinks.org/retrieve_outside.asp?sl=818144109910)
- NSTA's Katrina Job Bank to help teachers forced to leave their communities. <http://careers.nsta.org/katrina.asp>
  - NSTA's relief efforts and new programs: <http://www.nsta.org/katrina>
- EE in Georgia – Hurricane Teaching Resources and Service Learning Opportunities:  
<http://eeingeorgia.org/net/content/item.aspx?s=33997.5356.68.4863>
- ED.gov Hurricane Help for Schools, for schools serving displaced students  
<http://www.hurricanehelpforschools.gov/>
- Association of State Floodplain Managers white paper on rebuilding the Gulf Coast after Hurricane Katrina:  
[http://www.Floods.org/PDF/ASFPM\\_HurricaneKatrina\\_WhitePaper\\_090905.pdf](http://www.Floods.org/PDF/ASFPM_HurricaneKatrina_WhitePaper_090905.pdf)
- Incident News, with information about spill response actions:  
<http://www.incidentnews.gov/>
- Environmental Literacy Council <http://www.enviroliteracy.org/article.php/258.html>
- Forming Hurricanes poster (see educational resources, below)

## MESSAGE FROM THE BRIDGE

### Upcoming BRIDGE Changes

Throughout the fall, the Bridge's website technology will be improved to make the site more useful for ocean science teachers. The Bridge will:

- Be database-driven
- Use a more productive search engine
- Have enhanced navigation featuring a rollover menu
- Include an updated color scheme, and
- Highlight sections spotlighting a Bridge Data Lesson Plan, Teacher Top Pick of the Month, and breaking ocean science education news.

Returning users will recognize that the basic content, layout, and structure will remain the same. Educators can still rely on the Bridge's reviewed collection of the best ocean science materials available online. Visit <http://www.marine-ed.org/bridge> to see the changes over the coming months.

## REQUESTS

### Coastal Management Education Actions – Request for Information

The Australian Research Institute in Education for Sustainability is seeking information on coastal management education actions that are happening across Australia and internationally, for a new project which seeks to improve coastal management education and capacity-building initiatives.

Contact K. Hebert at [khebert@gse.mq.edu.au](mailto:khebert@gse.mq.edu.au)

### **Green Teacher Seeks Book Contributors**

Green Teacher's editors are seeking contributors to write or re-write articles for its upcoming book, *Teaching Green - The High School Years*. Topics include exploring wetlands; designing a green city; native peoples and green teaching; media and consumerism; human rights and the environment; and learning about invasive species. The deadline for contacting Green Teacher is October 3, 2005.

<http://www.greenteacher.com/hsbook.html>

### **Writers Wanted**

The Environmental Education and Training Partnership (EETAP) is seeking freelance writers with environmental education experience to write magazine style articles for publication on its website. Each article will highlight an important area of EETAP's work and extend the storyline to work being done by others in similar and related areas.

Contact Gus Medina at [gmedina@niagaradsl.com](mailto:gmedina@niagaradsl.com)

## **GRANTS AND OPPORTUNITIES**

### **Action for Nature Young Eco-Hero Awards**

Action for Nature seeks applications from students 8-16 for its Young Eco-Hero Awards program. The awards program recognizes the individual accomplishments of young people whose personal actions have significantly improved the environment. Projects must concern advocacy, environmental health, research, or protection of the natural world. The deadline for application is February 28, 2006.

<http://www.actionfornature.org/eco-hero/>

### **Community-Based Restoration Program River Grants**

In partnership with the NOAA Restoration Center, American Rivers is seeking proposals for community-based river restoration grants. These grants are designed to provide support for local communities that are utilizing dam removal or fish passage improvements to restore and protect the ecological integrity of their rivers and improve freshwater habitats important to anadromous fish. Grants will be limited to projects in the northeast, mid-Atlantic, northwest, and California. Funding for projects in the northwest is new for this round and will emphasize projects located in the interior regions of Oregon, Washington and Idaho. The deadline for application is November 1, 2005.

[http://www.americanrivers.org/site/PageServer?pagename=AMR\\_content\\_63c9](http://www.americanrivers.org/site/PageServer?pagename=AMR_content_63c9)

### **Environmental Design Contest**

WERC, a consortium for environmental education and technology development based in New Mexico State University, offers its Environmental Design Contest. The contest brings together industry, government, and academia in the search for improved environmental solutions. The student teams (university or high school track) design solutions for real-world problems while developing fully operational bench-scale solutions that are presented to panels of judges comprised of environmental professionals. The teams prepare four different presentations: written, oral, poster and bench-scale model. The registration deadline is December 9, 2005.

<http://www.werc.net/contest/>

### **EPA Graduate Environmental Study Fellowships**

The EPA Greater Research Opportunities Fellowships for Graduate Environmental Study offers fellowships for master's and doctoral level students in the environmental fields of study. Approximately 15 new fellowships will be awarded. The deadline for pre-applications is October 18, 2005.

[http://es.epa.gov/ncer/rfa/2006/2006\\_gro\\_fellow.html](http://es.epa.gov/ncer/rfa/2006/2006_gro_fellow.html)

### **Everyday Explorer Challenge**

This contest from National Geographic Explorer is for students ages 9-14, for a 10-day expedition to the Galapagos Islands led by top National Geographic scientists and photographers. (One parent or guardian joins each winner.) Entries of a photo of a place in your community, along with 100-200 words telling how you actively explore it and the most interesting things you have found there, are due before October 31, 2005.

<http://www.everydayexplorer.com/contest.html>

### **HSBC-North America Community Grants**

The financial services company, HSBC-North America, recognizes its responsibility to be a vital and contributing member of its community. Its philanthropic foundation, HSBC in the Community (USA) Inc., is established to focus primarily on education and the environment. The foundation focuses on K-12 public schools and post secondary institutions as well as adult education. The foundation awards grants to non-profit organizations in towns and cities where the bank does business, for programs targeting conservation, sustainable development, or environmental education.

[http://www.hsbcusa.com/corporateresponsibility/contributions\\_grants/application\\_guidelines.html](http://www.hsbcusa.com/corporateresponsibility/contributions_grants/application_guidelines.html)

### **Lowe's Charitable and Educational Foundation Community Grants**

The Lowe's Charitable and Educational Foundation contributes to grassroots community projects in Lowe's communities. Primary philanthropic focus areas are community improvement projects, K-12 public school initiatives, and vocational trade school scholarships.

<http://www.lowes.com/lowes/lkn?action=frameSet&url=apps.bridgetree.com/funding/default.asp>

### **Marine Debris Program Grants**

The Marine Debris Program Grants provide funds for the implementation of locally driven, community-based marine debris prevention and removal projects. Proposals will be selected based on their technical merit, level of community involvement, ecological benefits to marine and anadromous fish habitat, and cost-effectiveness. Proposals are due by October 12, 2005.

[http://www.nmfs.noaa.gov/habitat/restoration/funding\\_opportunities/funding.html](http://www.nmfs.noaa.gov/habitat/restoration/funding_opportunities/funding.html)

### **National Education Association Foundation Grants**

The National Education Association Foundation awards grants to teaching professionals who have developed interdisciplinary, creative research projects to enhance students' learning, and for high-quality professional development. Deadlines are ongoing.

[www.neafoundation.org/programs/grantguides.htm](http://www.neafoundation.org/programs/grantguides.htm)

### **National Hispanic Environmental Council Conference Travel Scholarship**

The 10th Annual National Hispanic Environmental Council Conference and Career Fair will be held November 5-8, 2005, in Seattle, Washington. A limited number of travel

scholarships are available to college students. The conference offers 30 workshops on key environmental issues; a career fair with on-the-spot hiring taking place; site visits to local environmental facilities; and the opportunity to network with hundreds of fellow minority environmental students and professionals from around the country.

[www.nheec.org](http://www.nheec.org)

### **National Oceanographic Partnership Program Broad Agency Announcement**

The Office of Naval Research has announced funding for research into the current and future nature of the ocean science, technology, and operational workforce. Projects of funding interest include education and outreach and collaboration.

<http://www.onr.navy.mil/02/baa/>

### **National Science Teachers Association Awards**

NSTA and its sponsors recognize and reward exemplary teachers, principals, and students, with cash, trips, workshops, computers, science program materials, and more. These awards offer opportunities to receive professional and personal recognition and to share your school's science education success stories. The deadline for most awards is October 15, 2005.

<http://www.nsta.org/awards>

### **Outdoor Classroom Grants**

Lowe's, International Paper, and National Geographic Explorer have partnered to create an outdoor classroom grant program for K-12 public schools to provide schools with additional resources to improve their science curriculum by engaging students in hands-on experiences outside the traditional classroom. Grants may be used to create new outdoor classrooms and/or enhance existing outdoor learning environments. Grants will be reviewed three times a year, with the current deadline of December 31, 2005.

<http://www.lowes.com/lowes/lkn?action=pg&p>AboutLoves/outdoor/index.html>

### **Playa Lakes Joint Venture**

The Playa Lakes Joint Venture supports and promotes habitat conservation for wintering, migrating, and breeding birds that occur on playa lakes, saline lakes, marshes, riparian areas, and associated uplands in portions of Colorado, Kansas, Nebraska, New Mexico, Oklahoma, and Texas. Funding is available from ConocoPhillips for project proposals in three categories: habitat conservation, research, and education/outreach. The deadline for application is November 15, 2005.

[http://www.pljv.org/CP\\_RFP.html](http://www.pljv.org/CP_RFP.html)

### **Shell Science Teaching Award**

The Shell Oil Company annually recognizes one K-12 science teacher who has had a positive impact on his or her students, school, and community, through outstanding science teaching. The application deadline is November 15, 2005.

[www.nsta.org/shell](http://www.nsta.org/shell)

### **SouthCentral Girls Collaborative Mini-Grants – TX, LA, AR, OK, NM**

The SouthCentral Girls Collaborative Project will award twenty-five mini-grants to girl-serving Science, Technology, Engineering, and Mathematics focused programs to support collaboration, projects related to addressing gaps and overlaps in service, and sharing best practices. These mini-grants are designed to build collaboration between existing efforts to address gaps and overlaps in service, and help existing organizations

use research-based strategies for program enhancement and assessment. There are three phases to the grant awards; the first deadline is November 1, 2005.

<http://www.tcet.unt.edu/scgcp/grants/>

### **State Farm Good Neighbor Service-Learning Grant**

The State Farm Companies Foundation offers grants, available from Youth Service America, for teachers, youth, and school-based service-learning coordinators to implement service-learning projects for National Youth Service Day, April 21-23, 2006. Service-learning is a teaching method that combines meaningful service with curriculum or program-based learning. Schools and organizations use service-learning as a tool to help youth build stronger academic skills, foster civic responsibility and develop leadership skills. The deadline for application is October 17, 2005.

<http://www.ysa.org/awards/>

### **TOYchallenge**

Sally Ride Science, the Scientific Research Society, and others are giving students in grades five through eight the chance to broaden their engineering, science and design skills by creating their dream toy for the TOYchallenge program. The mission of this toy and game design competition is to motivate kids, especially girls, to pursue science, engineering and education careers. The deadline for entries is December 12, 2005.

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

### **Toyota Tapestry Grants**

Toyota offer grants, administered through the National Science Teachers Association, to K-12 teachers of science who wish to implement innovative, community-based science projects. The categories are environmental science education, physical science applications, and literacy and science education. The deadline for entry is January 19, 2006.

<http://www.nsta.org/programs/tapestry>

### **Whale Tail Grants - California**

The California Coastal Commission's Whale Tail Grants Program offers grants for coastal and marine education projects. This program funds projects that encourage people to value and take action to improve the health of California's coast, marine life, or watersheds that connect with the coast. Educational coastal habitat restoration and beach maintenance projects are also eligible. Emphasis is on reaching underserved students and members of the public. The deadline for application is November 15, 2005.

<http://www.coastal.ca.gov/publiced/plate/plgrant.html>

### **Whitley Fund for Nature**

The Whitley Fund for Nature offers awards to outstanding international nature conservation leaders. These awards recognize dynamic conservation leaders and support projects founded on good science, community involvement, and pragmatism. Above all, they champion passionate individuals who are committed to precipitating long-lasting conservation benefits on the ground. The deadline for application is November 15, 2005.

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

## **INTERNSHIPS AND TEMPORARY OPPORTUNITIES**

### **Bahamas Blue Wild Study**

The Institute for Ecological Field Studies provides adventure education to junior high, high school, and college students and their educators. The Institute promotes the study of endangered environments by immersing participants in natural and cultural settings. During the Bahamas Blue Wild Study trips, students will learn about the marine communities, tropical ecology, history, and culture of the Bahamas. Credit is offered from the University of Wisconsin - Stevens Point. Dates are available in June through August, 2006.

<http://seafish.com/>

## **CONFERENCES, WORKSHOPS, AND PROFESSIONAL DEVELOPMENT**

### **California and Energy Course**

Join the Aquarium of the Pacific each Thursday in October, from October 6-27, 2005 in Long Beach, California, to learn about energy. Each session will feature experts exploring energy sources, uses, and surrounding issues. Participants will get the inside scoop on gas prices and energy costs from industry experts. The course will also explore the future of our energy supply and a discussion of tomorrow's technology, including renewable energy and fuel cells.

[http://www.aquariumofpacific.org/EDUCATION/ADULT/cal\\_energy.htm](http://www.aquariumofpacific.org/EDUCATION/ADULT/cal_energy.htm)

### **Coral Reef Task Force Meeting**

The next U.S. Coral Reef Task Force Meeting will take place November 4-7, 2005 in the Republic of Palau. There are limited spaces available for exhibits. There will be opportunity for public comment at the meeting, and comments are being accepted in advance for those unable to attend the meeting. In addition to the meeting, the Task Force and the Nature Conservancy will be hosting a sustainable financing workshop on November 3, 2005.

For more information, contact Beth Dieveney at [beth.dieveney@noaa.gov](mailto:beth.dieveney@noaa.gov)  
<http://www.coralreef.gov/taskforce/meetings/meet7.html>

### **Educational Value of Coastal Observing Systems – Hawai'i**

The special session, *The Educational Value of Coastal Observing Systems*, will be held during the 2006 Ocean Sciences Meeting, February 20-24, 2006 in Honolulu, Hawai'i. This session is designed for those interested in and involved in translating ocean observing data, research, and content to students of all levels. The goals of this session are to share methods, practices, and lessons learned involved in teaching and translating near- and real-time data to classrooms and outreach programs. Electronic abstracts are due by October 20, 2005. Please use the session code: OS004. Abstracts must be accompanied by submission fees; the abstract submission fee is nonrefundable.

Contact Amy Holt Cline at [amy.cline@unh.edu](mailto:amy.cline@unh.edu), or Tom Shyka, [tom@gomoos.org](mailto:tom@gomoos.org)  
<http://www.aqu.org/meetings/os06/>

### **Insects in the Classroom Course – Online**

The Insects in the Classroom Online Course explores the use of insects as teaching tools in K-12 education. Aligned with No Child Left Behind standards, the course



focuses on teaching science concepts and developing critical thinking skills. The online, self-paced program offers continuing education credits through Texas A&M University. <http://cecoe.tamu.edu/insects.htm>

### **International Symposium on Mangroves as Fish Habitat**

The first International Symposium on Mangroves as Fish Habitat is scheduled for April 19-21, 2006 in Miami, Florida. The deadline for submission of abstracts is October 31, 2005. Suggested themes include historical, economic and regional perspectives; mangrove wetland restoration; and fishing cultures and their dependence on mangrove resources.

<http://www.rsmas.miami.edu/conference/mangrove-fish-habitat/abstract.php>

### **JASON Expedition Teacher Workshop - Florida**

A Florida Aquarium Teacher Workshop for the distance learning program JASON Expeditions will take place on October 8, 2005 in Tampa, Florida. JASON is an annual middle school science program emphasizing technology and real time data through a new curriculum each school year. This year's expedition focuses on comparisons between Earth and Mars.

[http://www.flaquarium.org/html/l3/l3\\_comm\\_schools\\_workshops.html](http://www.flaquarium.org/html/l3/l3_comm_schools_workshops.html)

### **Learning Ocean Science through Ocean Exploration Workshop – Massachusetts**

Teachers of grades 6-12 who are interested in ocean exploration can participate in this professional development workshop on October 29, 2005 (part 1) and April 8, 2006 (part 2) in Boston, Massachusetts. Join educators at the New England Aquarium as you do inquiry- and standards-based activities tied directly to ocean expeditions. A copy of Learning Ocean Science through Ocean Exploration and CD-ROM will be provided. The deadline for registration is October 20, 2005.

Contact Joel Rubin at [jrubin@neaq.org](mailto:jrubin@neaq.org)

### **Ocean and Coastal Program Managers' Meeting**

NOAA's Office of Ocean and Coastal Resource Management will hold the annual Ocean and Coastal Program Managers' Meeting, March 8-10, 2006 in Washington, D.C. The meeting provides a forum for ocean and coastal program managers to meet with one another and to exchange information about important resource management issues. Concurrent session topics include integrating assessment tools into education programs; integrated ocean observing system Regional Associations; social science building blocks for coastal managers; and more.

<http://coastalmanagement.noaa.gov/pmm/>

### **Online Professional Development Courses**

The National Science Teachers Association provides a convenient webpage featuring providers of online courses for science educators. These providers—from universities to informal science institutions—invite you to learn more about their courses to see if they are right for you. Current links include the American Museum of Natural History, Montana State University, University of Maryland, and University of Massachusetts Extension.

<http://institute.nsta.org/tier2.asp>

### **POW! The Planning of Wetlands – Bringing Schoolyards to Life - Georgia**

Environmental Concern, Inc. will help you find the bog behind your cafeteria and the marsh next to the parking lot on October 15, 2005, in Kennesaw, Georgia. Using a

schoolyard as the classroom, this one-day workshop will take you through all the steps of designing a wetland with your students. Learn basic wetland ecology, assess the schoolyard for suitable sites using topography and soils, measure the drainage area, calculate a water budget, design the wetland, and create an appropriate planting plan. Leave with the knowledge, skills, resources and confidence to design a schoolyard wetland at your school with your students.

<http://eeingeorgia.org/net/calendar/details.aspx?c=27391&s=32850.0.68.4863>

### **REVEL Visions 2005 Project**

The REVEL (Research and Education: Volcanoes, Exploration and Life) Project is a professional development program for science teachers, providing an opportunity to engage in science by pursuing cutting-edge research alongside deep-sea scientists. The practice of the research process empowers these teachers to become better facilitators of genuine, inquiry-based science learning in their classrooms, schools, and districts. Join the REVEL Teachers at Sea, September 16 to October 4, 2005, through their website with daily logs, photos, and more.

<http://www.ocean.washington.edu/outreach/revel/missionframework.html>

### **Seabird Workshop - California**

This free ocean stewardship workshop, sponsored by Oikonos Ecosystem Knowledge and Cordell Bank National Marine Sanctuary, is funded by the California Coastal Commission. The workshop, October 18, 2005 in Sausalito, California, is designed for middle- and high-school educators. The workshop will focus on using current research on the Black-footed Albatross and Sooty Shearwater to directly link scientists, seabird research, and marine pollution with teachers and students. For more information about the project and Oikonos, check out [www.Oikonos.org](http://www.Oikonos.org). For workshop information, contact Keley Stock at (415) 332-3871.

### **Watershed U. – Santa Clara, California**

Every Wednesday afternoon for six weeks, from October 5 through November 9, 2005, the University of California Cooperative Extension offers Watershed U. for those who live, work, or spend time in the Santa Clara River Watershed and are interested in understanding how to sustainably manage it while balancing many issues.

[http://celosangeles.ucdavis.edu/natural\\_resources/watershed-u/santaclara.html](http://celosangeles.ucdavis.edu/natural_resources/watershed-u/santaclara.html)

## **EDUCATIONAL RESOURCES**

### **All the Way to the Ocean**

*All the Way to the Ocean* is a children's book about two friends' discovery of the harmful effects of ocean pollution. This story deals specifically with storm drain run-off that travels directly into our natural bodies of water. The book's colorful illustrations and simple text should help educate readers and inspire them to fight pollution.

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

### **Barrier Island EcoTours – South Carolina**

Explore South Carolina's Coastal Habitats while meeting national and state science standards. Field trips may be tailored to meet the interests and knowledge levels of students from kindergarten through college. Scientific process and inquiry skills are promoted and reinforced throughout the field trip as students learn about organisms,

habitats, communities, and ecosystems, as well as the physical, chemical, geological and historical factors that influence them.

<http://nature-tours.com>

### **Barrier Islands: To Build or Not to Build?**

This Internet WebQuest Science website offers a task for students along with research resources and a teacher page. Students are tasked with developing an educated opinion as to whether or not people should build permanent structures on barrier islands. They learn about the geological and physical nature of barrier islands, and how barrier islands change over time.

<http://www.glencoe.com/sec/science/webquest/content/barrierisland.shtml>

### **Biomes of the World**

This website from the Missouri Botanical Garden offers an introduction to the biomes of the world, including land, freshwater, and marine ecosystems. It offers insight into wetlands, shorelines, temperate and tropical oceans. One example is the barrier islands website with a simple diagram and basic introductory information. Good links to additional websites allow you to delve deeper into subjects of interest.

<http://mbgnet.mobot.org/>

### **Caribbean Coral Reef Ecosystem Monitoring Program**

This online database from the National Centers for Coastal Ocean Sciences' Biogeography Program presents ecosystem monitoring data gathered over the last five years from field studies in southwestern Puerto Rico and the U.S. Virgin Islands. You can query the database to provide specialized reports on species biomass, richness, abundance, and diversity. In addition to the data products, a second querying function provides a view of both fish and habitat photos that have been collected over time.

[http://biogeo.nos.noaa.gov/projects/reef\\_fish/](http://biogeo.nos.noaa.gov/projects/reef_fish/)

### **Census of Marine Life**

The Census of Marine Life international web portal is constantly growing. This global network of researchers in more than 70 nations is engaged in a ten-year initiative to assess and explain the diversity, distribution, and abundance of marine life in the oceans -- past, present, and future. Active websites include Arctic and Antarctic, abyssal, shore areas, deep-water chemosynthetic ecosystems, and more.

<http://www.coml.org/descrip/nagisa.htm>

### **Earth: A Graphic Look at the State of the World**

The Global Education Project presents "Earth: A Graphic Look at the State of the World." This program includes 15 maps along with 99 charts and graphs. The website offers a graphic look at the contents, along with references. Topics include global ecology, fresh water, food from the oceans, and more.

<http://www.theglobaleducationproject.org/index.shtml>

### **Education in the National Estuarine Research Reserve System**

The education section on National Estuarine Research Reserve System website has been updated. The changes include the addition of a new section for K-12 educators, links to an Estuaries Tutorial and curriculum, downloadable presentations for teachers, and much more. Be sure to check out the list of professional development programs offered around the country.

<http://nerrs.noaa.gov/Education/welcome.html>

### **Effective Practices Collection**

The Corporation for National and Community Service offers the Effective Practices Collection, with over 650 good ideas, replicable strategies, and evidence-based studies to help service programs solve problems they may face. You can search the database by topic area, and submit your own effective program.

<http://nationalserviceresources.org/epicenter/submit/index.php>

### **Environmental Literacy Council**

The Environmental Literacy Council has assembled top scientists, scholars, economists, and educators to provide direct support to local teachers. Their programs bring the best minds on environmental issues into individual classrooms across the country. Expert advisors provide practical teaching resources in a wide variety of projects, available both in print and online. The website offers the following sections with background information and educational materials:

- Air and Climate
- Land
- Water
- Ecosystems
- Energy
- Food
- Environment and Society

In addition, the *Email Update* newsletter allows you to keep connected with the council, with articles on environmental topics and teaching ideas, including the latest recommendations on quality education materials.

<http://www.enviroliteracy.org/index.php>

### **Estuaries Discovery Kit and Tutorial**

The Estuaries Discovery Kit, from NOAA's National Ocean Service and National Estuarine Research Reserve System educators, contains a 12-page tutorial on estuarine habitats, the threats facing them, and efforts to monitor and protect estuaries nationwide. The tutorial includes photographs, videos, illustrations and interactive graphics to enhance the text and bring understanding to concepts that may be difficult to visualize. The Estuaries Discovery Kit also contains a roadmap to online data resources and formal lesson plans correlated to National Science Education Standards. The lessons are designed for educators and students at the high school level, but are adaptable for students ranging from middle school to early undergraduate levels.

<http://oceanservice.noaa.gov/education/kits/estuaries/>

### **Firestorm!**

The Environmental Literacy Council has developed new teaching materials to help high-school and middle-school educators teach about forest fire management. The teaching modules, *Firestorm: Thinking Critically about Environmental Issues*, use a fictionalized controversy about the role of prescribed burning in forest management to teach the process of making important decisions about the environment through a role-play exercise. Acting as community stakeholders, students learn to gather and analyze information, judge the reliability of information sources, understand complex perspectives, and make recommendations based on ecosystem science and the deliberate consideration of stakeholder needs.

<http://www.enviroliteracy.org/article.php/1279.html>

### **Folly Beach Educator's Guide**

This website, from COASTeam at the Lowcountry Hall of Science and Math in South Carolina, is designed to offer basic information on South Carolina's barrier islands. It offers background content and images for educators to use in teaching marine science. Most of the information contained in these sections is general and can be applied to any local barrier island. The site contains introductory images, animation of coastal processes, and beach activities.

<http://oceanica.cofc.edu/An%20Educator%27s%20Guide%20to%20Folly%20Beach/guide/default.htm>

### **Forming Hurricanes Poster – FL, GA, NC, SC**

Help your students learn to define and describe the nature of hurricanes, as well as their regional significance in the Atlantic. The poster was designed by the Florida Centers for Ocean Science Education Excellence and funded by the SouthEast Coastal Ocean Observation System (SEACOOS). The poster supports the upcoming SEACOOS Virtual Hurricane Classroom that will soon be found on the SEACOOS website. On this website you will be able to find classroom activities, locate real time hurricane information on the web, learn hurricane vocabulary, and more. Contact information to order the posters for teachers in NC, GA, SC, and FL is the same as for the *Making Waves Poster*; follow the link for *Catch the SEACOOS Wave*. Teachers outside the region can contact the editor ([phyllis.dermer@noaa.gov](mailto:phyllis.dermer@noaa.gov)) for a high definition (which translates to a large file size) PowerPoint® presentation of the poster.

<http://seacoos.org/Community%20and%20Classroom/>

### **Great Lakes Areas of Concern Program**

This website, from the Great Lakes Commission under a grant from the EPA, provides a variety of information on the Great Lakes Areas of Concern program and associated Remedial Action Plans, highlighting actions taken to identify and clean up polluted areas in the Great Lakes.

<http://www.glc.org/rap/resources/>

### **Great Lakes Ice**

For the past 30 years, NOAA has been recording ice data in Great Lakes. Researchers at the NOAA Great Lakes Environmental Research Laboratory in Ann Arbor, Michigan, have tracked ice cover in this region searching for signs of climate change and gathering data to help them better understand ice and its impacts on the Great Lakes and other regions of the world. This is a great website for teachers looking for real-world data to use. Students will enjoy the animations, while teachers will appreciate the background information and data.

<http://www.magazine.noaa.gov/stories/mag172.htm>

### **Last Journey of the Leatherback**

This documentary from the Sea Turtle Restoration Project, about the plight of Leatherback sea turtles, is available to teachers and non-profit educational organizations at discounted teachers' price, along with a free teacher's kit. It is appropriate for ages 12 and up. The DVD version is available in English and Spanish.

[http://seaturtles.org/press\\_release2.cfm?pressID=220](http://seaturtles.org/press_release2.cfm?pressID=220)

<http://www.seaturtles.org/pdf/ACF36A.pdf>

### **Marine Protected Areas and Coastal Communities**

This website from the Caribbean Natural Resources Institute offers tools and resources for managers with a focus on marine protected areas and sustainable coastal livelihoods, to help them better understand and respond to the needs of coastal communities. The website includes downloadable reports, case studies, guidelines, and training materials, along with links to other websites.

[www.canari.org/mpa.htm](http://www.canari.org/mpa.htm)

### **Mystery of the Megaflood**

The dusty scablands of eastern Washington are the result of a massive flood that moved across the region. This website, created by the NOVA program on PBS, provides a number of complementary online materials. These include an interview with an expert and interactive features.

<http://www.pbs.org/wgbh/nova/megaflood/>

### **National Aquatic Invasive Species Tool Kit**

The Florida Aquarium has joined a National Sea Grant project. State Sea Grant offices from across the nation have assembled to design and produce an aquatic invasive species tool kit for use in American Zoo and Aquarium Association zoos and aquariums. The Florida Aquarium will be a collaborative author for an interactive public program to be implemented across the country, which will be a part of a tool kit including fact sheets, materials, DVDs, curriculum, and other educational resources.

Contact Debbi Berger at [Dberger@flaquarium.org](mailto:Dberger@flaquarium.org)

### **Nordic Underwater Archaeology**

Learn about maritime archaeology worldwide, from a north European perspective. From basic background information to links to worldwide wreck databases, from tools and techniques to literature archives, this website is a good place to start on your underwater archaeology journey.

<http://www.abc.se/~m10354/uwa/index.html>

### **Virtual Cruise to Fagatele Bay**

These pictures and videos detail a research cruise and Pisces V submersible dives to the coral reefs of Taema Bank and Fagatele Bay and Canyon, Tutuila, American Samoa, on the Hawai'i Undersea Research Lab Cruise in July, 2005.

<http://dusk2.geo.orst.edu/djl/samoa/hurl/>

### **Virtual Museum of Nautical Archaeology**

Texas A&M University's Institute of Nautical Archaeology brings you the Virtual Museum of Nautical Archaeology. It includes images, history, and site reports from three decades of projects around the world, along with links to other sites.

<http://ina.tamu.edu/vm.htm>

### **Water Information Center**

The National Academies announces the launch of its Water Information Center, a portal of more than 100 peer-reviewed reports from the National Academies on water-related issues. These reports represent independent and objective consensus among experts from academia, industry, and other entities.

The website features the following major topics:

- Water Supply and Sanitation

- Water and Soil Remediation
- Hydrologic Hazards
- Water Quality in the Natural Environment
- River Basin Systems Management
- Environmental Assessment, Management, and Restoration
- Water Science and Research

<http://water.nationalacademies.org>

## INITIATIVES and JOURNALS

### Earth Force

Earth Force engages young people as active citizens who improve the environment and their communities now and in the future. Earth Force trains and supports educators in programs that enable young people to lead community action projects focused on creating sustainable solutions to local environment issues in the community. Visit the website for regional staff and basic activities.

<http://www.earthforce.org>

### October Days

National Energy Awareness Month

[http://www.eere.energy.gov/femp/services/energy\\_aware.cfm](http://www.eere.energy.gov/femp/services/energy_aware.cfm)

October 3, World Habitat Day <http://www.unhabitat.org/whd/2005/default.asp>

October 5, World Teachers' Day <http://www.ei-ie.org/worldteachersday/en/>

October 9-15, Earth Science Week <http://www.earthsciweek.org/>

October 18, World Water Monitoring Day <http://www.worldwatermonitoringday.org/>

### Teachers Ask the Secretary

The U.S. Department of Education recently launched *Teachers Ask the Secretary*, a new feature of its website (<http://www.ed.gov>). According to U.S. Education Secretary Margaret Spellings, "This easy-to-use page will help teachers learn answers on a wide range of subjects: teacher quality, professional development, state academic standards, and more. We will share best practices and success stories under the No Child Left Behind Act. And we will listen to your concerns." Recent questions address hurricane volunteer efforts.

<http://www.ed.gov/teachersask>

### The Early Years

Science and Children and the National Science Teachers Association have established a blog devoted to early childhood science. You can find teaching advice, management tips, favorite resources, and activity ideas specifically for teachers of grades pre-K–2.

The blog accompanies Science and Children's column *The Early Years*. To view the first column with teacher's picks about marine and environmental science resources, visit

[http://www.nsta.org/main/news/stories/science\\_and\\_children.php?category\\_ID=86&news\\_story\\_ID=50933](http://www.nsta.org/main/news/stories/science_and_children.php?category_ID=86&news_story_ID=50933).

<http://science.nsta.org/earlyyearsblog>