

**NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION**  
**INFORMATION EXCHANGE FOR MARINE EDUCATORS**

**FEBRUARY 2012**

This update is funded by the National Marine Sanctuary Foundation in partnership with NOAA's Ocean Exploration and Research Program, with additional support from 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@NAAEE, EEinGEORGIA, the Scout Report, 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 and issues of the newsletter, past and present, are available at <http://mpa.gov/resources/education/#exchange>. 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 References**

### **Green Economy in a Blue World**

The report from the United Nations Environment Programme (UNEP), Green Economy in a Blue World, argues that the ecological health and economic productivity of marine and coastal ecosystems can be boosted by shifting to a more sustainable economic approach that taps their natural potential - from generating renewable energy and promoting eco-tourism, to sustainable fisheries and transport. The report analyzes how key sectors that are interlinked with the marine and coastal environment can make the transition towards a green economy, covering the impacts and opportunities linked with shipping and fisheries to tourism, marine-based renewable energies, and agriculture. [http://www.unep.org/pdf/green\\_economy\\_blue.pdf](http://www.unep.org/pdf/green_economy_blue.pdf)

### **National Fish, Wildlife & Plants Climate Adaptation Strategy**

The draft National Fish, Wildlife and Plants Climate Adaptation Strategy, written to help decision makers and resource managers prepare for and help reduce the impacts of climate change on species, ecosystems, and the people and economies that depend on them, is available for public review and comment. The deadline for submission is March 5, 2012; check the website for workshops and webinars.

<http://www.wildlifeadaptationstrategy.gov/>

### **National Ocean Policy Implementation Plan**

The National Ocean Policy Implementation Plan has been released for public comment. Education actions are on pages 23-25. The deadline for comments is February 27, 2012. Please consider adding your voice.

[http://www.whitehouse.gov/sites/default/files/microsites/ceq/national\\_ocean\\_policy\\_draft\\_implementation\\_plan\\_01-12-12.pdf](http://www.whitehouse.gov/sites/default/files/microsites/ceq/national_ocean_policy_draft_implementation_plan_01-12-12.pdf)

<http://www.whitehouse.gov/webform/submit-comments-draft-implementation-plan>

### **Tourism Facility Design**

UNEP offers the downloadable manual, Environmentally Sound Tourism Facility Design and Development for the Tourism Industry. The manual is meant to assist in the training of environmentalists and development planners and to fill gaps in knowledge related to environmental aspects of tourism activities. The thematic modules include the environmental impacts of tourism facility design; the essential resources of coastal environmental systems; local and regional coastal regulatory systems; sustainable project planning; sustainable infrastructure and development masterplan; building designs; and an outline of operational maintenance and monitoring systems.

<http://cep.unep.org/publications-and-resources/promotional-material/publications/spaw/env-sound-tourism-facility-design-and-development.pdf>

## **REQUESTS**

### **Ask Voyager**

Scripps Institution of Oceanography at UC San Diego invites questions from K-12 students on ocean and earth science topics for the magazine, *explorations now*.

<http://explorations.ucsd.edu/ask-voyager/>

### **Mark My Bird**

To help identify birds online, Cornell Lab's web team is building a new tool called Merlin, which will use artificial intelligence to ask questions and provide suggestions to help identify what bird was seen. First, though, Merlin needs to know how people observe and describe birds. Help populate Merlin's "brain" by trying Mark My Bird, an online activity that asks 18 questions about a species. Play as often as you like to help build Merlin faster.

<http://www.allaboutbirds.org/labs/applications/mmb/ACIntro.aspx?psessionid=9661>

### **Out-of-School-Time Science Learning Study**

The University of Colorado at Boulder is supporting a study to map U.S. science- and technology-focused out-of-school-time programs. The study targets programs for middle- and high-school-aged youth including after-school programs, camps, workshops, internships, and other models. Please contribute information about your programs.

<http://www.colorado.edu/eer/research/outofschool.html>

### **Seeking Summer Opportunities**

The National Marine Educators Association features summer opportunities for teachers in the 2012 spring issue of *NMEA News*. If you would like to submit an opportunity for teachers and/or their students, please send a paragraph describing the workshop or field trip and a contact person. Keep articles concise and refer to websites for more information. The deadline for submission is February 10, 2012.

Contact Johnette Bosarge at [johnette@imms.org](mailto:johnette@imms.org)

## **GRANTS AND OPPORTUNITIES**

### **Beneath the Waves Film Festival**

The 2012 Beneath the Waves Film Festival will take place March 21-24, 2012 in Norfolk, Virginia. The deadline for submission is February 24, 2012.

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

### **Bommies Award**

The Great Barrier Reef Foundation's Bommies Award is given for an innovative concept to preserve the Great Barrier Reef in the face of climate change. Applicants are asked to demonstrate innovative thinking, a willingness to work with different collaborators across a broad spectrum of disciplines and experience, and a commitment to addressing the challenges of climate change on coral reefs. The deadline for submission is April 23, 2012.

<http://www.barrierreef.org/ResearchVision/GeneratingNewIdeasTheBommiesAward.asp>

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### **Braitmayer Foundation Education Grants**

The Braitmayer Foundation offers grants to fund a broad range of K-12 education programs with curricular reform initiatives and professional development opportunities for teachers, particularly those which encourage people of high ability and diverse background to enter and remain in K-12 teaching. The next deadline for application is March 15, 2012.

<http://www.braitmayerfoundation.org/guid.cfm>

### **Disney Friends for Change Grants**

Disney's Friends for Change Grants offer young change-makers, ages 5-18, an opportunity to help make a lasting, positive change in the world. Projects should highlight the creativity and commitment of young people working to meet the needs of others and show how even small actions can add up to big changes. The deadline for application is February 29, 2012.

<http://www.ysa.org/grants/disney-friends-change-grants>

### **Do Something Awards**

The Do Something Awards celebrate young people age 25 and under who are tackling a problem and changing the world. The deadline for application is March 1, 2012.

<http://www.dosomething.org/programs/awards>

### **Environmental Cartoon Competition**

Volvo's Bob the Bunny competition is aimed at youth ages 10-12. Team members identify a local environmental issue and create a cartoon illustrating the issue and actions one might take to solve it. The deadline for entry is February 29, 2012.

<http://www.volvoadventure.org/home.aspx>

### **Global Fellowships in Marine Conservation**

The Duke University Marine Laboratory's Integrated Marine Conservation Program focuses on principles necessary for the conservation and preservation of coastal and ocean environments during an intensive 5-week summer session, July 9-August 10, 2012. The focus is on interdisciplinary problem solving using biophysical and social science to address real world environmental problems. Classes involve field trips, discussion groups, lectures, and visits with Distinguished Conservation Scholars each week. The fellowship covers travel expenses, room and board, and more. The deadline for application is February 15, 2012. Check this out.

<http://www.nicholas.duke.edu/marinelab/programs/global-fellows>

### **Google Science Fair**

Google, in partnership with CERN, National Geographic, LEGO, and Scientific American, offers the second annual Google Science Fair, an international competition which encourages students between the ages of 13 to 18 to ask questions and perform science experiments to answer those questions. The deadline for submission is April 1, 2012.

<http://www.google.com/events/sciencefair/>

### **Great American Teach-Off**

Good Magazine and the University of Phoenix are sponsoring The Great American Teach-Off contest to recognize innovative grade 7-12 teachers. The deadline for nomination is February 20, 2012.

<http://www.good.is/great-american-teach-off>

### **International Young Conservationist Award**

The International Young Conservationist Award is a joint initiative of the International Ranger Federation and the IUCN - World Commission on Protected Areas (IUCN/WCPA). The award recognizes outstanding contributions made by young people under the age of 35, actively working to protect and manage protected areas. The deadline for nomination is April 23, 2012.

[http://www.iucn.org/about/union/commissions/wcpa/wcpa\\_what/wcpa\\_awards/wcpa\\_youthaward/](http://www.iucn.org/about/union/commissions/wcpa/wcpa_what/wcpa_awards/wcpa_youthaward/)

### **Junior Duck Stamp Art Contest**

The U.S. Fish and Wildlife Service oversees the Federal Junior Duck Stamp Program. Students are invited to create duck stamp drawings to show what they have learned about wetlands habitat and waterfowl conservation. Check the website for details. Most state deadlines for submission are March 15, 2012.

<http://www.fws.gov/juniorduck/>

### **InvenTeam High School Invention Grants**

Lemelson-MIT InvenTeams is a national grants initiative of the Lemelson-MIT Program to foster inventiveness among high school students. Teams composed of high school students, teachers, and mentors are asked to collaboratively identify a problem that they

want to solve, research the problem, and then develop a prototype invention as an in-class or extracurricular project. The deadline for early feedback is March 1, 2012..

<http://web.mit.edu/inventteams/>

### **Miller Levine Tropical Biology Scholarship**

High school biology teachers can enter to win a tropical biology scholarship at the Organization for Tropical Studies in Costa Rica. The deadline for entry is March 1, 2012.

<http://www.phschool.com/tropicalbiology/>

### **Nancy Foster Scholarship Program**

NOAA's Office of National Marine Sanctuaries hosts the Nancy Foster Scholarship Program, recognizing outstanding achievement and encouraging independent graduate level research. Preference is given to female and minority students in oceanography, marine biology, and maritime archeology. The deadline for application is February 22, 2012.

<http://fosterscholars.noaa.gov/>

### **National Association of Biology Teachers Awards**

The National Association of Biology Teachers recognizes excellence in teaching with a variety of awards, including the Ecology/Environmental Science Teaching Award. Check the website for information about the different awards. The deadline for nomination is March 15, 2012.

<http://www.nabt.org/websites/institution/index.php?p=20>

### **National Youth Science Camp**

Two students are selected to represent each state in the free National Youth Science Camp. The deadline for application for most states is February 17, 2012. See the website for complete details.

<http://2012.nysc.org/delegates/apply/>

### **Norm Strung Youth Writing Award**

The Outdoor Writers Association of America offers the annual Norm Strung Youth Writing Contest to students in grades 6-12 for published poetry and prose with an outdoor focus. The deadline for submission is March 16, 2012.

<http://owaa.org/programs/contests/norm-strung-youth-writing-awards/>

### **Siemens STEM Academy Summer of Learning**

Siemens STEM Academy Summer of Learning programs include the Siemens Teachers as Researchers (STARS) and Siemens STEM Institute. Hurry - the deadline for application is February 9, 2012.

<http://siemensstemacademy.com/index.cfm?event=showHome&c=29>

### **Stellwagen Bank Art Contest**

The Stellwagen Bank National Marine Sanctuary offers the 2012 Marine Art Contest for grades K-12. The theme for the contest is Amazing Ocean Creatures of Stellwagen Bank National Marine Sanctuary. Computer graphics students may use the alternative theme of 2012: 20th anniversary of Stellwagen Bank National Marine Sanctuary. The deadline for submission is April 26, 2012.

[http://www.massmarineeducators.org/pdf/2012\\_ArtContest.pdf](http://www.massmarineeducators.org/pdf/2012_ArtContest.pdf)

### **TogetherGreen Conservation Leadership Fellowship Program**

The National Audubon Society sponsors the TogetherGreen Conservation Leadership Fellowship Program, focusing on nurturing environmental leaders across the U.S. The program will offer forty fellowships in 2012. One of the goals of the program is to support projects that engage audiences traditionally underrepresented in the conservation movement. The deadline for application is March 5, 2012.

<http://www.togethergreen.org/fellows/>

### **Treasures of the Texas Coast Children's Art Contest**

The Treasures of the Texas Coast Children's Art Contest is designed to draw attention to the negative effects of trashing Texas beaches. The deadline for entry is March 5, 2012.

<http://www.glo.texas.gov/adopt-a-beach/artcontest/>

### **We Can Change the World Challenge**

The Siemens We Can Change the World Challenge encourages student teams to identify an environmental issue that has local, national, and global implications and to provide a viable, replicable solution. As a reminder, the deadline for application is March 15, 2012.

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

### **World Heritage Fellowships**

The World Heritage Fellowship program is an initiative to strengthen the conservation of World Heritage sites around the globe. The U.S. National Park Service invites staff from World Heritage sites in developing countries to participate in training or residency of 6 weeks to 4 months, covering all expenses.

[http://www.nps.gov/oia/new/New\\_Page/WH\\_Fellowship.htm](http://www.nps.gov/oia/new/New_Page/WH_Fellowship.htm)

## **INTERNSHIPS AND TEMPORARY OPPORTUNITIES**

### **Georgia Sea Grant Marine Education Internships**

The University of Georgia's Marine Education Center and Aquarium in Savannah, Georgia offers four one-year intern positions starting September 4, 2012. Interns will learn how to convey marine-related content through lectures, labs, coastal field studies, and distance learning. The deadline for application is April 5, 2012.

<http://marex.uga.edu/aquarium/internPrograms.html>

### **Great Lakes Summer Student Fellowships - Michigan**

The Cooperative Institute for Limnology and Ecosystems Research at the University of Michigan and partners offer twelve Great Lakes Summer Student Fellowships. Students will conduct research in Ann Arbor or Alpena, Michigan. The deadline for application is February 29, 2012.

<http://ciler.snre.umich.edu/education/great-lakes-summer-student-fellowships>

### **Research Experience for Undergraduates - Maine**

Bigelow Laboratory for Ocean Sciences invites undergraduates to apply for the 2012 Research Experience for Undergraduates summer research program, Gulf of Maine and the World Ocean. Areas of research include the marine microbial food web, ocean biogeochemistry, optical oceanography, remote sensing, sensory biology, climate

change, fisheries oceanography, and more. Undergraduates in their sophomore year or later may apply; the deadline for application is March 15, 2012.

<http://www.bigelow.org/education/reu/>

### **Summer Undergraduate Research**

The Center for Coastal and Ocean Mapping Summer Undergraduate Research Fellowships program offers research experiences for undergraduate students completing their junior year who are interested in pursuing graduate work in science, engineering, or math. The deadline for application is March 1, 2012.

<http://www.ccom-jhc.unh.edu/outreach/surf.pdf>

### **Sunia Summer Internship**

The United States Coral Reef Task Force and partners offer the 7th Annual Governor Tauese P.F. Sunia Memorial Coral Reef Conservation Summer Internship for the Caribbean Area. This paid summer internship offers a college or university student an opportunity to gain experience in coral reef conservation policy and management through an 8-10 week summer internship. The student will work in the Caribbean Islands National Wildlife Refuge Complex located in Cabo Rojo, Puerto Rico. The deadline for application is February 28, 2012.

[ftp://ftp-fc.sc.egov.usda.gov/HI/pub/index/SuniaPacificSummerStudent\\_1\\_17\\_2012.pdf](ftp://ftp-fc.sc.egov.usda.gov/HI/pub/index/SuniaPacificSummerStudent_1_17_2012.pdf)

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

### **AAAS Annual Meeting**

The American Association for the Advancement of Science annual meeting, February 16–20, 2012 in Vancouver, Canada, will feature scientists, engineers, educators, policymakers, and others from some 50 nations and a full spectrum of disciplines. The meeting theme is Flattening the World: Building a Global Knowledge Society.

<http://aaas.confex.com/aaas/2012/webprogram/start.html>

### **Benthic Ecology Meeting**

The annual Benthic Ecology Meeting, March 21-24, 2012 in Norfolk, Virginia, attracts a mix of marine ecologists and students. The meeting will again host the Beneath the Waves Film Festival. The deadline for abstract and film festival submissions is February 24, 2012.

<http://sci.odu.edu/bem/>

### **Boston Sea Rovers Show - Massachusetts**

The Boston Sea Rovers 2012 Show, March 10-11 in Danvers, Massachusetts, will offer seminars featuring underwater photography and video presentations along with a film festival. There will also be a Discover Scuba offered at the on-site pool, a free Exhibit Hall showcasing travel and dive industry booths, kids programs, and more.

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

### **Connecting People with Nature through Birds - Florida**

There is still room in this course: Environment for the Americas and staff from U.S. Fish and Wildlife Service will offer the workshop, OUT8163: Connecting People with Nature through Birds, March 12–16, 2012 in the St. Marks National Wildlife Refuge, Florida. Participants will learn to teach others basic bird identification; explore a variety of

programs that connect people to nature including citizen science and mist netting birds; discuss current bird conservation issues; and discover the possibilities of inspiring interest in birds through Flying WILD.

<http://www.birdday.org/education/training>

### **Down Under, Out Yonder Teacher Training Expedition - Texas**

The Down Under, Out Yonder coral reef workshop and scuba trip, sponsored annually by the Gulf of Mexico Foundation and the Flower Garden Banks National Marine Sanctuary for K-12 and college entry educators nationwide, will take place July 6-12, 2012, starting in Galveston, Texas. The five-day workshop includes a two-day land-based workshop featuring instruction from sanctuary staff and guest speakers, as well as educational materials to bring back to the classroom. Afterwards, participants travel to Freeport, Texas, for three days of scuba diving aboard the *M/V Fling*, a 100-foot live-aboard dive boat. Educators must be SCUBA certified to participate in the diving field experience. Workshop space is limited and spaces are filled quickly via a competitive application process; the deadline for application is February 27, 2012.

<http://www.gulfmex.org/education-training/down-under-out-yonder/>

### **Intracoastal Waterway Wetlands Expedition - Texas**

The Gulf of Mexico Foundation's Intracoastal Waterway Wetlands Expedition, sponsored by ConocoPhillips, is a teacher training workshop for K-12 and college entry educators which takes place aboard a 100-foot vessel, the *M/V Fling*. The workshop educates participants on the importance of coastal habitats and issues facing the Gulf Coast and its communities. Check out the website for expedition dates and deadlines for application.

<http://www.gulfmex.org/education-training/intercoastal-waterways-wetland-expedition/>

### **Ocean Exploration Workshops - Various**

NOAA's Ocean Exploration Program and partners offer the Okeanos Explorer Education Materials Collection, Volume 1: Why Do We Explore? Professional Development Workshop for Educators. Participants will receive curriculum with CD-ROM's, certificates of participation, and more. Contact the noted educator or check out the website for registration and more information.

- April 21, 2012 with John G. Shedd Aquarium in Chicago, Illinois. The deadline for registration is April 6, 2012. Contact Jackie Formoso at [jformoso@sheddaquarium.org](mailto:jformoso@sheddaquarium.org)
- April 21, 2012 with Hatfield Marine Science Center in Newport, Oregon. The deadline for registration is April 6, 2012. Contact Tracy Crews at [tracy.crews@oregonstate.edu](mailto:tracy.crews@oregonstate.edu)
- April 21, 2012 with Audubon Aquarium of the Americas in New Orleans, Louisiana. The deadline for registration is April 6, 2012. Contact Tricia LeBlanc at [tbleblanc@AudubonInstitute.org](mailto:tbleblanc@AudubonInstitute.org)
- April 28, 2012 with New England Aquarium in Boston, Massachusetts. The deadline for registration is April 13, 2012. Contact Gina Cerrito at [gcerrito@neaq.org](mailto:gcerrito@neaq.org)
- May 5, 2012 with Birch Aquarium at Scripps in San Diego, California. The deadline for registration is April 20, 2012. Contact Adrienne Marriott at [Creec9a@hotmail.com](mailto:Creec9a@hotmail.com)
- May 5, 2012 with the National Aquarium in Baltimore, Maryland. The deadline for registration is April 20, 2012. Contact Joe Harber at [Jharber@aquaria.org](mailto:Jharber@aquaria.org)

<http://oceanexplorer.noaa.gov/edu/development/development.html>

### **Ocean Sciences Meeting**

The 2012 Ocean Sciences Meeting is a joint international gathering sponsored by The Oceanography Society, the American Society of Limnology and Oceanography, and the American Geophysical Union, February 20-24, 2012 in Salt Lake City, Utah. COSEE will be hosting an outreach-consulting booth in the exhibit hall for the duration of the conference

<http://www.sgmeet.com/osm2012/>

### **Online Teacher Academy**

The Wildlife Conservation Society offers professional development courses through their Online Teacher Academy, April 6-May 27, 2012. Habitat Ecology for Educators is currently being offered at a special reduced rate of only \$50. Spring also brings Conservation Biology for Educators. Summer courses will include Nature's Thread: Weaving Environmental Education into Your Classroom, Marine Biology for Elementary Educators, and Predators: Biology and Conservation.

<http://www.wcs.org/teachers/teacherpd/online-teacher-academy.aspx>

### **Teacher Development Workshop - Maryland**

The University of Maryland Eastern Shore will offer the annual Teacher Development Workshop for grades 6–12, July 15–July 28, 2012 in Princess Anne, Maryland. Funding for this program comes from a CREST grant and aims to provide marine science research and educational opportunities to under-represented populations.

<http://www.umes.edu/CREST/Default.aspx?id=33372>

### **Water Words That Work! - Mississippi**

Grand Bay National Estuarine Research Reserve partners offer this free communications workshop, April 19 or 20, 2012 in Stennis or Biloxi, Mississippi. The workshop aims to improve your ability to communicate science and resource management messages to the public, discuss controversial topics, and keep your cool under pressure.

<http://grandbaynerr.org/training-sessions>

### **Washington Youth Summit on the Environment – Washington, D.C.**

George Mason University hosts the annual Washington Youth Summit on the Environment, June 24-29, 2012 in Washington, D.C., a leadership opportunity for promising youth in the areas of environmental science, conservation, and sustainability. Teachers nominate current sophomores and juniors who get special access to the Smithsonian National Zoo, National Geographic Society, and George Mason facility and researchers.

<http://wyse.gmu.edu/>

## **EDUCATIONAL RESOURCES**

### **4Teachers: Teach with Technology**

This website from the Advanced Learning Technologies Project at the University of Kansas Center for Research on Learning offers a diverse set of resources to help teachers integrate technology into their classrooms. Check out the archived Teacher

Testimony and Kids Speak, Online Educational Games, Professional Development for Ed and more.

<http://www.4teachers.org/>

### **Audubon Fishes of the Caribbean and Gulf of Mexico**

This app helps users identify tropical fishes found in the waters of the Caribbean and Gulf of Mexico. The data includes photos, range maps, similar species, and more. The app is available for iPhone, iPad and iPod touch.

<http://www.audubonguides.com/field-guides/Tropical-Fish-Identification-App.html>

### **Circumnavigating the Globe**

Follow Erden Eruc as he rows across the Pacific Ocean and circumnavigates the world using only human powered transportation. His current location is in the Atlantic Ocean. Read his dispatches, track his progress, and more.

<http://whale.wheelock.edu/whalenet-stuff/Erden/>

### **Coastal Ocean Science Blog**

NOAA's National Centers for Coastal Ocean Science (NCCOS) hosts the Coastal Ocean Science Blog, offering a 360-perspective of research and how that science is being used by natural resource managers and partners around the U.S. and its Territories.

<http://noaaoceanscience.wordpress.com/>

### **Coastal Research and Education Society of Long Island**

This organization includes experts in marine mammal and environmental science, education, and conservation who conduct research; provide educational experiences; and promote conservation of coastal ecosystems in Long Island, New York. The website offers introductory material on whales, pinnipeds, seabirds, and more; a local species checklist; and multimedia.

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

### **Conservation Education Materials**

The Association of Fish and Wildlife Agencies has released six new publications in its North American Conservation Education Strategy Tool Kit for Achieving Excellence. The new publications include Fostering Outdoor Observation Skills, Schoolyard Biodiversity Investigations Educator Guide, and more. These and other publications, including an overview of resources, are available for free download.

[http://www.fishwildlife.org/index.php?section=conservation\\_education&activator=25](http://www.fishwildlife.org/index.php?section=conservation_education&activator=25)

### **Endangered and Threatened Species Curriculum**

The Center for Alaskan Coastal Studies has an Endangered Species of Alaska Activity Guide that can be downloaded from their website. These materials focus on selected Alaskan species that are threatened, endangered, or at risk. Learn about wildlife population dynamics, the factors that may place species at risk, and efforts by people to help wildlife species recover. The teaching packet is designed to introduce the concepts of biodiversity and endangered species to your students in a hands-on interactive way.

<http://www.akcoastalstudies.org/education-resources/65-endangered-and-threatened-species-curriculum-.html>

### **Environmental Visualization Website**

The NOAA Environmental Visualization Lab offers this website with video files, high resolution satellite images, and more. The animation gallery includes animations about tsunami debris, hurricanes, La Nina, the ocean bottom, and much more. For best viewing quality, it is recommended to download large video files locally and saving them to a local computer drive, rather than viewing them online.

<http://www.nnvl.noaa.gov/>

### **Identification Guide to Marine Organisms of Texas**

Begun as an aid in identifying organisms caught by Texas Parks & Wildlife Coastal Fisheries field staff, this guide provides detailed photos and descriptions to aid in the correct identification of individual organisms. Each species is represented by one or more photographs and brief descriptions of habitat, distinguishing characteristics, differences from similar species, and much more. The website also includes interactive identification keys, a glossary, and more. With its posting to the Internet and hosting by Texas A&M University at Galveston, new information will be updated as new species and photographs become available.

<http://coldfusion.tamug.edu/>

### **International Student Carbon Footprint Challenge**

Teachers and others who work with high school students can participate in the International Student Carbon Footprint Challenge. The program helps students measure their own carbon footprint using a calculator designed specifically for students. Students can join international climate change discussions on the Einztein social learning network.

<http://footprint.stanford.edu/>

### **Global Climate Change Online Teaching Resources**

Vicki Osis has posted a compilation of teaching websites to teach climate change issues. It includes comprehensive websites as well as teaching activities that address specific issues of climate change such as impacts on coral reef, forests, and more. If the pdf does not open, download it to your computer, then open it.

[http://members.peak.org/~laimons/climate\\_change/%20URLS2011.pdf](http://members.peak.org/~laimons/climate_change/%20URLS2011.pdf)

### **Natural Hazards Observer**

The *Natural Hazards Observer* is a bimonthly periodical of the University of Colorado at Boulder's Natural Hazards Center. It covers disaster issues, recent disaster management and education programs, hazards research, political and policy developments, resources and websites, upcoming conferences, and recent publications. The publication focuses on human adaptation and response to natural hazards. Sign up for email notification or download issues from the website.

<http://www.colorado.edu/hazards/o/archives/pastobservers.html#2011>

### **Ocean Acidification**

NOAA's Coral Program offers this updated website for Ocean Acidification education. While the materials are aimed at high school educators, they include information and activities that will interest a wider audience, including informal educators. The website offers presentations, curricula, interactives, and background materials.

<http://coralreef.noaa.gov/education/oa/>

### **Ocean X Factor: Life Beneath the Deep – Online**

Join COSEE West and the College of Exploration as ocean scientists discuss exploring extreme environments during this free, online workshop, February 27-March 16, 2012. Keynotes include *Some Like it Hot – and Toxic!*, *Meet the Intraterrestrials!*, and *Chemistry, hydrology, and life below the seafloor: How we study the Dark Energy Biosphere and what we are finding*.

[http://www.coexploration.org/cosee\\_west/spring2012/](http://www.coexploration.org/cosee_west/spring2012/)

### **Preparing to Write Your Strategic Plan**

The workbook *Preparing to Write Your Strategic Plan*, part of the suite of social science tools available from the NOAA Coastal Services Center, guides users in gathering the information needed to develop a strong strategic plan. The workbook includes worksheets for organizations to use as they step through this process

[http://www.csc.noaa.gov/publications/strategic\\_planning.html](http://www.csc.noaa.gov/publications/strategic_planning.html)

### **Project Oceanica**

The College of Charleston's Project Oceanica's goal is to integrate education with oceanographic research and exploration, and to develop educational resources and programs available to college and high school students and K-12 educators. The website offers links to research cruise multimedia, hands-on activities for plate tectonics, the downloadable mini-text *Of Sand and Sea*, echinoderm galleries, and more.

<http://oceanica.cofc.edu/>

### **Seabird Breeding Maps**

OBIS-SEAMAP, Ocean Biogeographic Information System Spatial Ecological Analysis of Megavertebrate Populations, is a spatially referenced online database aggregating marine mammal, seabird, and sea turtle observation data from across the globe. Interactive maps are now available for seabird breeding colonies for the Lesser Antilles. Data from field surveys conducted by Environmental Protection in the Caribbean as part of the Seabird Breeding Atlas of the Lesser Antilles is now easily accessible, including records of invasive species where available.

<http://seamap.env.duke.edu/dataset/418>

### **Special Days for EE: 2012 Planner**

This printable calendar identifies special days set aside for environmental education, including Earth Day, American Wetlands Month, and more.

[http://eeingeorgia.org/Files/EE/2012/2012\\_EE\\_Planner.pdf](http://eeingeorgia.org/Files/EE/2012/2012_EE_Planner.pdf)

### **Virtual Pond Dip**

The Virtual Pond Dip introduces some common types of pond life organisms and encourages an exploration of a real pond. Students click on each organism to learn more; the Pond Life Identification Kit offers more detail.

<http://www.microscopy-uk.org.uk/index.html?http://www.microscopy-uk.org.uk/ponddip/>

## **INITIATIVES, JOURNALS, and MORE**

### **California King Tides Initiative**

The California King Tides Initiative encourages members of the public to document the highest seasonal tides (king tides) which occur along the state's coast. The photographs

from the King Tides Initiative help visualize the impact of rising waters on the California coast.

<http://californiakingtides.org/>

**Dune Restoration - Texas**

Artist Boat and partners will lead three upcoming community outreach dune restoration events on Galveston Island, Texas, February 3, February 18, and March 4, 2012. See the website for details.

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

**Ocean Planning and Policy Newsletter**

The Ocean Conservancy offers a monthly e-newsletter on ocean planning and policy.

<http://www.oceanconservancy.org/online-community/newsletter.html>

**Seaside Chats - Texas**

Flower Garden Banks National Marine Sanctuaries will host a series of free Seaside Chats, each Wednesday, February 8-March 7, 2012. The presentations will take place at the Galveston Fishing Pier, followed by an informal chat time and light refreshments.

<http://flowergarden.noaa.gov/newsevents/calendar.html>