

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

**SEPTEMBER 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**

#### **Ocean Science: Roles of Traditional Knowledge in Environmental Stewardship**

The online version of the April-June issue of *Ocean Science*, the science and technology journal of the Bureau of Ocean Energy Management, is available on the bureau's library website. The issue explores the use of traditional knowledge in fulfilling their environmental stewardship role.

<http://www.boem.gov/BOEM-Newsroom/Library/Ocean-Science/Ocean-Science.aspx>

#### **Young Scientists Journal**

The Young Scientists Journal is an international, peer-reviewed science journal written by and for young scientists ages 12-20. The journal publishes scientific research

conducted by high school students and reviewed by scientists on an International Advisory Board. The editors are soliciting material from students in addition to scientific research, such as news items, reviews, cartoons, and more.

<http://www.butrousfoundation.com/ysjournal/>

## **PORTAL OF THE MONTH**

### **Environmental Internship Clearinghouse Portal**

As an extension of the National Council for Science and the Environment's (NCSE's) Campus to Careers program, NCSE has created an environmental internship clearinghouse. The clearinghouse enables university students to search for internships in the environmental field and provides a forum for internship providers to tap into a solid community of quality applicants. Check this out.

<http://environmentalinterns.ncseonline.org/>

## **WEBSITES OF THE MONTH**

### **Weather Wiz Kids**

Elementary and middle school educators can access kid-friendly information to explain different types of weather on the Weather Wiz Kids website. The website covers more than 25 weather topics, including rains and floods, climate, weather forecasting, and much more. In addition to background information and lesson plans, the website offers games, suggested activities, and more.

<http://weatherwizkids.com/>

### **Winged Ambassadors**

NOAA's Cordell Bank National Marine Sanctuary and partners offer Winged Ambassadors – Ocean Literacy through the Eyes of Albatross, a free, online, five-unit activity package. These lessons use inquiry-based science instruction aligned to standards for grades 6–8, with extensions for grades 9-12. Each unit includes a lesson plan, worksheets and handouts, presentations, and more.

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

## **REQUESTS**

### **Remote Sensing – Top Ten Questions**

NASA is interested in addressing issues in biodiversity, sustainability, and conservation biology using remote sensing technologies. A group of researchers has been asked to work with their different science communities to help define the top ten questions for which solutions would require remote sensing methods. The deadline for response is September 15, 2012.

Contact Frank Muller-Karger at [carib@marine.usf.edu](mailto:carib@marine.usf.edu)

### **Teaching Geoscience in the Context of Culture and Place - Call for Papers**

The Journal of Geoscience Education is soliciting manuscripts for a themed issue on Teaching Geoscience in the Context of Culture and Place. The deadline for submission is December 15, 2012.

<http://nagt-jge.org/doi/full/10.5408/1089-9995-60.2.94>

## **GRANTS AND OPPORTUNITIES**

### **Big Help Grants**

The NEA Foundation and Nickelodeon are sponsoring Student Achievement Grants to K-8 educators through Big Help Grants, rewarding the development of strategies relating to environmental awareness, health and wellness, students' right to a quality public education, and active community involvement. The deadline for application is October 15, 2012.

<http://www.neafoundation.org/pages/educators/grant-programs/nea-foundation-green-grants/>

### **B-WET Funding – New England**

The National Marine Fisheries Service is seeking proposals under the New England NOAA Bay-Watershed Education and Training Program. This environmental education program promotes locally relevant, experiential learning in the K-12 environment for students and related professional development for teachers, and support regional education and environmental priorities in the New England. The deadline for application is October 22, 2012.

<http://www.oesd.noaa.gov/grants/funding.html>

### **Connecting Youth to the Outdoors Grants**

These grants are aimed at increasing the number of youth recreating, learning, and volunteering on public lands. The deadline for application is September 19, 2012.

[http://www.neefusa.org/grants/connecting\\_youth](http://www.neefusa.org/grants/connecting_youth)

### **Domestic Coral Reef Conservation Grants**

The NOAA Coral Reef Conservation Grant Program offers matching grants to support coral reef conservation projects in shallow water coral reef ecosystems in American Samoa, the Commonwealth of the Northern Mariana Islands, Florida, Guam, Hawaii, Puerto Rico, the U.S. Virgin Islands, and coral-dominated banks in U.S. portions of the Gulf of Mexico. Program priorities are Fishing Impacts, Land-Based Sources of Pollution, Climate Change, and Local and Emerging Management Issues. The deadline for application is November 1, 2012.

<http://www07.grants.gov/search/search.do;jsessionid=LBNQQ70JDhyhJWpKpMTGKc2bnPRZ3vGr78qFnn1HTI5nLr13pnxh!-9084050?oppld=183673&mode=VIEW>

### **Ecybermission Competition**

Ecybermission is a web-based math, science, and technology competition for students in grades 6-9. Students compete for regional and national awards while working to solve problems in their community. The challenges this year include the environment, alternative sources of energy, robotics, and more. The deadline for team registration is December 14, 2012.

<https://www.ecybermission.com/public/Login.aspx>

### **International Youth Photography Contest**

The Children's Eyes On Earth International Youth Photography Contest is an opportunity for youth 17 and under to raise awareness about important environmental issues, as seen through their eyes. The themes are *I Love Nature* and *I Fear Pollution*. The deadline for entry is September 15, 2012.

<http://childreneyesonearth.org/contest/about-contest>

### **Keystone Initiatives**

The National Fish and Wildlife Foundation awards matching grants under the Keystone Initiatives to achieve measurable outcomes in the conservation of fish, wildlife, plants, and the habitats on which they depend. The Foundation has established funding priorities under each of the following initiatives: Bird Conservation, Fish Conservation, Marine and Coastal Conservation, and Wildlife and Habitat Conservation. See the website for complete details. The deadline for pre-proposals is November 1, 2012.

<http://www.nfwf.org/Content/NavigationMenu/GrantPrograms/ProgramsOverview/Keystones/default.htm>

### **Kids in Need Teacher Grants**

Kids In Need Teacher Grants provide K-12 educators with funding to provide learning opportunities for their students through innovative projects. Projects qualify for funding if they make creative use of common teaching aids, approach the curriculum from an imaginative angle, or tie nontraditional concepts together for the purpose of illustrating commonalities. The deadline for application is September 30, 2012.

<http://www.kinf.org/grants/>

### **Marine Mammal Rescue Assistance Grant Program**

The John H. Prescott Marine Mammal Rescue Assistance Grant Program provides grants for rehabilitation of stranded marine mammals; data collection from stranded marine mammals; and facility upgrades, operation costs, and staffing needs directly related to the recovery and treatment of stranded marine mammals and collection of data from living or dead stranded marine mammals. The deadline for application is October 3, 2012. Please note that funds may not be available because of budget allocations – see the website for details.

<http://www.nmfs.noaa.gov/pr/health/prescott/>

### **North American Wetlands Conservation Act Small Grants**

The North American Wetlands Conservation Act provides matching grants to organizations and individuals who have developed partnerships to carry out wetlands conservation projects in the United States. These projects must involve long-term protection, restoration, and/or enhancement of wetlands and associated uplands habitats for the benefit of all wetlands-associated migratory birds. The deadline for application is October 25, 2012.

<http://www.fws.gov/birdhabitat/Grants/NAWCA/Small/index.shtm>

### **Oceanic Research Group Scholarship Program**

The Oceanic Research Group, Inc. is offering a scholarship for students pursuing marine-related undergraduate or graduate studies. The organization's mission is to promote the conservation of the marine environment through education. The deadline for application is October 1, 2012. See the website for details.

<http://www.oceanicresearch.org/scholarship/scholarship.htm>

### **Prudential Spirit of Community Awards**

The Prudential Spirit of Community Awards honor young people in grades 5-12 for outstanding volunteer service to their communities. The deadline for application is November 6, 2012.

<http://spirit.prudential.com/view/page/soc>

### **Shell Science Lab Challenge**

NSTA and Shell support NSTA's Shell Science Lab Challenge, a competition for middle and high school teachers that awards laboratory resources and other prizes to school districts nationwide. Entries will be judged on the basis of several criteria, including uniqueness, creativity, and a replicable approach. The deadline for submission is November 12, 2012.

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

### **Spirit of Innovation Challenge**

The Conrad Foundation challenges youth ages 13-18 from around the globe to Get Their Genius On and conceptualize a solution in the areas of Aerospace and Aviation, Energy and Environment, Cyber Security and Technology, and Health and Nutrition. The deadline for entry is October 24, 2012.

<http://conradawards.org/pages/soic-challenge>

### **Student Film Competition**

The San Francisco International Ocean Film Festival's student film competition, sponsored by NOAA's Cordell Bank National Marine Sanctuary, is designed to give middle and high school students the opportunity to showcase their creativity and knowledge of the ocean through their filmmaking skills to an elite jury of professional filmmakers, ocean conservationists, and educators. Creativity and ingenuity are encouraged. The film length is 5 minutes or less. The deadline for entry is February 1, 2013.

<http://www.oceanfilmfest.org/education/>

### **Target Field Trip Grants**

The Target Field Trip Grants Program allows teachers to offer valuable experiential learning gained from field trips to enhance students' classroom studies. Funds may be used to cover cost of transportation, entry fees, supplies and equipment, and resource materials. The deadline for application is September 30, 2012.

<https://targetfieldtripgrants.target.com/register.php>

### **Temper of the Times Foundation Advertising Funds**

Temper of the Times Foundation provides grants to nonprofit organizations for wildland ecosystem advertising campaigns. Projects should lead to measurable outcomes for wildland ecosystem conservation and restoration in the United States. Grants may be used to fund the production of print, radio, or television ads; pay for advertising space or airtime; or produce or distribute pamphlets, books, videos, or press packets. The deadline for application is December 14, 2012.

<http://www.temperfund.org/guidelines.html>

### **Toolbox for Education Grants**

The Lowe's Toolbox for Education offers grants to schools and parent/teacher groups. School projects should encourage parent involvement and build stronger community ties. The next deadline for application is October 12, 2012.

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

### **Very Best in Youth Program**

The Nestlé USA Very Best in Youth Program honors young people ages of 14-18 who have excelled in school and are making their community and the world a better place. The deadline for entry is November 8, 2012.

<http://verybestinyouth.nestleusa.com/About/Default.aspx>

## **INTERNSHIPS AND TEMPORARY OPPORTUNITIES**

### **Legislative Intern**

The National Wildlife Federation's National Advocacy Center seeks a Legislative Intern. A motivated individual with strong organizational skills is sought to be hired for an 11-month, full-time, paid internship in Washington, D.C. A BA/BS in political science or a policy-related field is required; a background in both is preferred. Note that the applicant should be available to begin work in early September, 2012.

<http://sj.tbe.taleo.net/SJ12/ats/careers/requisition.jsp?org=NWF&cws=1&rid=467>

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

### **AZA Annual Conference**

The annual conference of the Association of Zoos and Aquariums (AZA) will be held September 8-13, 2013 in Phoenix, Arizona. The website offers the schedule of events and more. Check out the educator resources while on the website, including bat education activities and more.

<http://aza.org/annualconference/>

### **MPA Conference**

The 2012 MPA Conference will take place November 25-29, 2012 in San Francisco, California. Speakers from around the world will explore common obstacles to MPA management, as well as potential solutions to the following challenges: weak legal frameworks, insufficient budgets and financing mechanisms, poor surveillance capacity, inadequate training programs, lack of community buy-in, and limited political will. The conference will include presentations, breakout sessions, panel discussions, and more.

<http://www.wildaid.org/event/2012-mpa-conference>

### **National Conference on Coastal and Estuarine Habitat Restoration**

Restore America's Estuaries National Conference on Coastal and Estuarine Habitat Restoration, *Restoring Ecosystems, Strengthening Communities*, will take place October 20-24, 2012 in Tampa, Florida.

<http://www.estuaries.org/conference/>

### **National Weather Association Annual Meeting**

The National Weather Association Annual Meeting, October 6-11, 2012 in Madison, Wisconsin, will look at technologies that improve weather forecasting and communication with the general public. Topics include numerical weather prediction, remote sensing with current and future environmental satellites, wildland fire forecasting, and more.

<http://www.nwas.org/meetings/nwa2012/>

### **NSTA Conferences – Call for Session Proposals**

Submit a session proposal for NSTA's 2013-2014 conferences. The area conferences are:

- Portland, Oregon: October 24–26, 2013
- Charlotte, North Carolina: November 7–9, 2013

- Denver, Colorado: December 12–14, 2013

The next national conferences will be April 11-14, 2013 in San Antonio, Texas, followed by April 3-6, 2014 in Boston, Massachusetts. The call for session proposals will open this month (September); check the website for details.

<http://www.nsta.org/conferences/sessions.aspx>

### **Ocean Exploration Workshops – Various**

NOAA's Ocean Exploration Program and partners offer the Okeanos Explorer Education Materials Collection, How 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.

- September 29, 2012 with National Aquarium in Baltimore, Maryland. The deadline for registration is September 7, 2012. Contact David Christopher at [dchristopher@aquaria.org](mailto:dchristopher@aquaria.org)
- October 13, 2012 with Birch Aquarium at Scripps in San Diego, California. The deadline for registration is September 21, 2012. Contact Adrienne Marriott at [Creec9a@hotmail.com](mailto:Creec9a@hotmail.com)
- October 20, 2012 with New England Aquarium in Boston, Massachusetts. The deadline for registration is September 28, 2012. Contact Tania Slywinskyj at [tslywinskyj@neaq.org](mailto:tslywinskyj@neaq.org)
- October 20, 2012 with University of South Florida College of Marine Science in St. Petersburg, Florida. The deadline for registration is September 28, 2012. Contact Teresa Greely at [greely@marine.usf.edu](mailto:greely@marine.usf.edu)
- October 27, 2012 with John G. Shedd Aquarium in Chicago, Illinois. The deadline for registration is October 5, 2012. Contact Jackie Formoso at [jformoso@shedd-aquarium.org](mailto:jformoso@shedd-aquarium.org)

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

### **Seminars on Science - Online**

Registration is open for the Fall sessions of Seminars on Science from the American Museum of Natural History. Courses are co-taught by an experienced classroom teacher and a research scientist. Upcoming courses include The Ocean System, Water, Climate Change, and more. See the website for course dates and registration deadlines.

<http://www.amnh.org/learn/>

### **Supervising Young Adults in Conservation - Online**

The National Fish & Wildlife Service offers the free webinar, OUT8045: Supervising Young Adults in Conservation. Supervising young adults in seasonal and internship positions can be a challenging experience for even the most seasoned of supervisors. This webinar, led by Student Conservation Association (SCA) staff that has practical hands-on experience working with and supervising young adults in both field-based and office environments, will relate critical thinking to common issues and situations often faced by supervisors working with young adults aged 16-25 years.

<http://nctc.fws.gov/NCTCWeb/catalog/CourseDetail.aspx?CourseCodeLong=FWS-OUT8045>

### **TIGed e-courses - Online**

TakingITGlobal (TIGed) is offering three graduate-level, accredited e-courses for teachers this Fall designed to support teachers in bringing the world into their classrooms through the use of e-technologies and international partnerships. The courses aim to help students understand global perspectives, environmental issues, and student voice. The courses are offered twice each this Fall, starting September 17, 2012.

<http://www.tigweb.org/tiged/professional-development/ecourses.html>

### **Workshops on Estuaries and Watersheds - Mississippi**

The Mississippi Department of Marine Resources and partners will sponsor two Teacher Professional Development Workshops. The partners offer open registration for Mississippi science teachers along with free room and board if required, field based experiential learning activities, classroom resources, and much more. The workshop space is limited to 18 participants.

- Estuaries 101, September 27-28, 2012 with Grand Bay National Estuarine Research Reserve in Moss Point, Mississippi
- Watersheds, October 11-12, 2012 with University of Southern Mississippi Johnson Science Tower in Hattiesburg, Mississippi

<http://cimage.rc.usf.edu/node/3393>

## **EDUCATIONAL RESOURCES**

### **Alaska Seabirds Curriculum**

The Alaska Islands and Ocean Visitor Center, an educational and research facility, is a partnership of the Alaska Maritime National Wildlife Refuge (the world's largest seabird refuge) and Kachemak Bay Research Reserve (a dynamic estuary). The website features a virtual tour, Alaska Seabirds Curriculum, and more.

<http://www.islandsandoccean.org/education/index.html>

### **BerkeleyEarth Temperature Data**

BerkeleyEarth.org offers this data set on land-surface temperature changes for the last 250 years. The website offers summary graphs of data along with the downloadable data.

<http://berkeleyearth.org/>

### **California Current Ecosystem**

The Scripps Institution of Oceanography researchers, including a high school chemistry teacher, recently completed a cruise studying the California Current Ecosystem to better understand the effects of climate change on the pelagic ecosystem of the California Current System. Following the cruise, teachers will be creating lesson plans for high school classrooms that introduce and explore concepts such as ocean acidification, ocean warming and water column stratification, and changes in dissolved oxygen levels. These will be added to the lesson plans, photos, and blogs from previous CCE cruises under Outreach on the homepage.

<http://cce.lternet.edu/>

### **Canadian Council for Geographic Education Teacher Resources**

The Canadian Council for Geographic Education provides a range of educational materials relating to spatial sciences. Categories include the Canadian Atlas Online,



Lesson Plans, Classroom Activities, and Teaching About Geographical Thinking. More than 100 lesson plans deal with the environment, cultural geography, oceanography, and international development.

<http://www.ccge.org/resources/>

### **Climate Change TV and Responding to Climate Change**

The group, Responding to Climate Change, is a Non-Governmental Organization and an official observer to the United Nations climate change negotiations dedicated to raising awareness about climate change issues. They support the United Nations Framework Convention on Climate Change through Climate Change TV, an online video broadcaster dedicated entirely to climate change issues. Climate Change TV aims to provide a news service covering developments in climate change policy and low-carbon technological development. They offer a series of guides, including The Basics, Oceans FAQs, and more.

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

### **Coastal Conservation Network**

The Coastal Conservation Network promotes awareness of water related issues by building a collaborative organization worldwide through technology, outreach, education, and advocacy. The website hosts a myriad of global environmental videos.

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

### **Columbia University Lesson Plans**

Each summer, Columbia University's Summer Research Program participants develop lesson plans. Most are research-inspired and reference science standards. Categories include Earth Science, Environmental Science, and more.

<http://scienceteacherprogram.org/lesson.htm>

### **Communicating Climate Change**

The Association of Science-Technology Center's Communicating Climate Change (C3) project supports partnerships between science centers and scientific research institutions to talk about climate change at 12 locations across the United States. Science centers facilitate citizen science projects to investigate locally meaningful indicators of climate change. Projects include researching sea turtles, frogs, plant phenology, and more.

<http://www.birds.cornell.edu/citscitoolkit/projects/c3/c3>

### **Deepwater Canyons 2012: Pathways to the Abyss Expedition**

NOAA's Office of Ocean Exploration and Research offers the Deepwater Canyons 2012: Pathways to the Abyss Expedition on its Ocean Explorer website. The postings for the expedition, expected to run from August 15-October 1, 2012, include mission logs, videos and images, lesson plans, and more. A new feature in addition to Ask an Explorer is the opportunity for live Skype sessions from the North Carolina Museum of Natural Sciences.

<http://oceanexplorer.noaa.gov/explorations/12midatlantic/welcome.html>

### **Digital Library of Indigenous Science Resources**

The Digital Library of Indigenous Science Resources is an online library collection of text, video, audio, and image files of indigenous science. The library includes knowledge about the natural world as well as methods of teaching and learning about the natural world.

<http://www.dlir.org/index.html>

### **Drought Planning Toolbox**

The Colorado Water Conservation Board offers the Drought Planning Toolbox, created to assist state and municipal planners. Although some resources are Colorado specific, there's still plenty of information to help others prepare for drought, including national drought monitoring resources, local drought planning guidance, climate change information, and financial assistance available for drought response.

<http://cwcb.state.co.us/technical-resources/drought-planning-toolbox/Pages/main.aspx>

### **Florida Panhandle Shipwreck Trail**

The Florida Panhandle Shipwreck Trail is a series of 12 shipwrecks located offshore of Pensacola, Destin, Panama City, and Port St. Joe, Florida. The trail was developed by the Florida Department of State's Underwater Archaeology Team, in partnership with Panhandle waterfront communities, to stimulate tourism and educate residents and visitors about Florida's history. The trail's interactive website features underwater videos of each shipwreck, a brief introduction, and more.

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

### **Free Underwater Images**

This website promotes increased awareness of the marine environment by allowing users to download free, high quality underwater photos. All images are in the public domain and free for any use without prior written permission and without fee or obligation. Images can be used for any non commercial purpose.

<http://freeunderwaterimages.com/>

### **Hawaii's Marine Wildlife: Whales, Dolphins, Turtles, and Seals--A Course of Study**

This website, based on a curriculum written for Earthtrust and the Hawaii State Department of Education, examines several of Hawaii's endangered and threatened marine species: the Humpback whale, Hawaiian monk seal, green sea turtle, and dolphins. Each section includes biology and natural history, factors affecting populations, protective measures, and suggested activities for teachers using the information provided on the web pages.

<http://earthtrust.org/wlcurric/index.html>

### **Innovation 20/20 Series**

The University of Georgia's School of Education offers the Innovation 20/20 Series to showcase teaching innovations from experts from around the institution. Each talk is about 20 minutes, followed by discussion. Topics include Using Metaphor to Explore Teaching and Learning; Designing and Motivating Students with Google Tools and More; and more.

<http://www.coe.uga.edu/itt/2020-2/>

### **Mystery Class – Exploring Sunlight and the Seasons**

Teachers and students are invited to participate this winter and spring in Journey North's Mystery Class project, January 28-May 10, 2013, in which students try to find ten secret classes hiding around the globe using the changing sunlight at each site as the clue. The monthly countdown begins September 1, 2012.

<http://www.learner.org/jnorth/tm/mclass/About.html>

### **NCSR Curriculum**

Once the website for the Northwest Center for Sustainable Resources has been removed, arrangements have been made for all 58 curriculum items to be made available on the following websites.

ATE Central (Advanced Technological Education), <https://atecentral.net/>

Applied Math and Science Education Repository (AMSER) <https://amser.org/>

National Science Digital Library (NSDL) <http://nsdl.org/>

### **Ocean Health Index**

The Ocean Health Index is a tool for the ongoing assessment of ocean health. The index is a collaborative effort, made possible through contributions from more than 65 scientists/ocean experts and partnerships. The index is organized by ten public goals, including food provision, coastal protection, sense of place, and more.

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

### **One Fish Two Fish: Monitoring Marine Protected Areas**

This online video and accompanying educator guide from KQED's QUEST explores the use of California's marine reserves to help replenish fisheries.

<http://science.kqed.org/quest/video/one-fish-two-fish-monitoring-marine-protected-areas/>

### **OpenChannels**

OpenChannels is designed to be a comprehensive source for news, guidance, and community discussion on sustainable practices in ocean planning and management -- from marine spatial planning to ecosystem-based management to marine protected areas. The website is in its experimental beta version but already offers an array of tools including a searchable library, open discussion forums, instructional videos, and more. Please look through the website and offer feedback for further development.

<http://openchannels.org/>

### **Outdoor Recreation Economy**

The Outdoor Industry Association has released their latest economic study, Outdoor Recreation Economy, detailing the role that outdoor recreation plays as an economic driver in the United States. The website offers a summary with graphics, along with the downloadable report.

<http://www.americantrails.org/resources/economics/outdoor-recreation-economy-report-2012.html>

### **Polyyps in Peril**

Polyyps in Peril is an animated video by cartoonist Jim Toomey, narrated by Celine Cousteau. The video highlights the importance of coral reefs to people, the threats that reefs face, and what individuals can do to help save coral reefs.

<http://www.youtube.com/watch?v=Jn5-ARXmQIQ&feature=youtu.be>

### **Response and Restoration Materials**

NOAA's Office of Response and Restoration has created the Chemical Reactivity Worksheet to help teachers, students, and the general public learn about the chemical reactivity of thousands of common hazardous chemicals. In addition, the website offers experiments and activities for elementary school students and others on the Education pages.

<http://response.restoration.noaa.gov/chemaids/react.html>

### **Russian–U.S. Arctic Census 2012 Expedition**

NOAA's Office of Ocean Exploration and Research has launched the Russian–U.S. Arctic Census 2012 Expedition web pages on its Ocean Explorer website. The expedition is expected to run August 28-September 17, 2012. The overall purpose of the project is to provide ways to detect and measure changes in Arctic Ocean ecosystems. The expedition posting includes daily logs, videos and images, lesson plans, and more.

<http://oepreview.nos.noaa.gov/explorations/12arctic/welcome.html>

### **Science Review of Artificial Reefs**

The Marine Sanctuaries Conservation Series provides a forum for publication and discussion of the complex issues the National Marine Sanctuary Program faces. A recent addition is *Office of National Marine Sanctuaries Science Review of Artificial Reefs*.

<http://sanctuaries.noaa.gov/science/conservation/welcome.html>

### **Scientists Cards**

The U.S. Forest Service offers the Scientists Card series, a set of trading cards that can be printed and used in the classroom. These cards show kids what scientists look like, what they do, and give advice for students. The website also offers a lesson plan example, showing how the cards can be used in the classroom.

<http://www.naturalinquirer.org/scientists-v-92.html>

### **Sea Level Rise Viewer**

NOAA's Digital Coast lets you see how sea level rise might impact your coastal community with the visualization tool, the Sea Level Rise Viewer. State and local planners can use this map and photo-based tool to help their communities develop realistic adaptation plans. Completed areas include Mississippi, Alabama, Texas, Florida, and Georgia, with additional coastal counties to be added in the near future. Visuals and the accompanying data and information cover sea level rise inundation, uncertainty, flood frequency, marsh impacts, and socioeconomics.

<http://www.csc.noaa.gov/digitalcoast/tools/slviewer>

### **Silver Jackets Program**

The Silver Jackets program provides communities with an opportunity to work with all appropriate state and Federal agencies to develop a comprehensive flood risk management program. The Tool Box offers program guides, tips for emergency managers, and more. Other website features include best practice examples, links to additional information, and more.

<http://www.nfrmp.us/state/index.cfm>

### **Smithsonian Quests**

In this online program, K-16 students earn digital badges by proving their knowledge of environmental topics and completing various activities in their community. For example, to earn an Oral Historian badge, students identify community members who have water-dependent careers and create artifacts for future historians to understand what life is like today. Quests are reviewed by a panel of Smithsonian experts.

<http://www.smithsonianconference.org/shout/badges/>

### **Speak Up for Blue**

SpeakUpForBlue.com is a website dedicated to communicating ocean science, exploration, and conservation to build awareness of the oceans and their issues. The website highlights news, solutions, and interviews with various people and organizations around the world who are using innovative techniques for ocean conservation.

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

### **Starting Point Investigative Case - Malama Keone'o'oi**

This Starting Point teaching module from Teaching Entry Level Geoscience highlights a case study of Malama Keone'o'oi. Students will learn techniques for conducting a local environmental assessment in an ecologically sensitive area. Identification of native plants and methodologies for sampling will be taught in the classroom and then reinforced in the field. The module also includes a community awareness and conservation aspect.

<http://serc.carleton.edu/introgeo/icbl/examples/Malamakeone.html>

### **Temperature Blast**

Temperature Blast is a Maryland Science Center C3 Citizen Science project designed to introduce participants to methods of studying climate. Participants collect data from select stations in the Baltimore region to compare temperatures and log this data for scientists.

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

### **Top 40 National Marine Sanctuaries Accomplishments**

The National Marine Sanctuary System marks its 40th anniversary with events and festivities. Starting August 27, 2012, they will highlight an array of historic and contemporary achievements since their establishment in 1972. Each posting will include complementary stories along with additional links and information. Check it out each day.

<http://sanctuaries.noaa.gov/news/top40/welcome.html>

### **Tour de Turtles**

Tour de Turtles is an educational journey through the science, research, and geography of sea turtle migration using satellite telemetry. This event follows the migration of 13 sea turtles from their nesting beaches to their foraging grounds. The website hosts links to educational resources, games, and more.

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

### **Trainer for a Day Program**

Sea Research Foundation's Mystic Aquarium offers a seven-hour Trainer for a Day program where participants find out firsthand what it's like to be a marine animal trainer. The program includes hands-on animal interactions and side-by-side learning experiences with Mystic Aquarium's beluga whale, California sea lion, and African penguin trainers. Or check out the online game, Beluga University to learn about animal training tools and techniques.

<http://www.mysticaquarium.org/animals-and-exhibits/encounter-programs/931-trainer-for-a-day-375-non-members-350-members>

[http://www.immersionlearning.org/index.php?option=com\\_wrapper&Itemid=239](http://www.immersionlearning.org/index.php?option=com_wrapper&Itemid=239)

### **Trash Travels PSA**

Dripping Springs high school student Bryce Seifert won the Trash Travels PSA contest supported by the Texas General Land Office. Check out this short, effective Public Service Announcement.

<http://www.youtube.com/watch?v=DhdgJYMxcis>

### **Virtual Hurricane Classroom**

This collection of resources on hurricanes from the SouthEast U.S. Atlantic Coastal Ocean Observing System (SEACOOS) includes a selection of activities in which students investigate storm surge, learn hurricane terminology, build and use their own weather instruments, and learn how to locate and plot points on a map using latitude and longitude. There is also a poster that explains the causes of hurricanes, hazards associated with them, and hurricane facts for the southeast Atlantic United States. The poster can be viewed online or ordered as a hardcopy.

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

### **Warning Signs for Dangerous Times**

The New York Times offers this lesson plan, Warning Signs for Dangerous Times: Exploring the Use of Storm-Tracking Technologies, in which students explore the use of storm-tracking technologies, research how natural disasters are predicted, and assess the importance of these technologies. A case study of a New England snow storm and its impacts is presented for discussion, along with suggestions for retrieving information about forecasts.

<http://learning.blogs.nytimes.com/2000/01/27/warning-signs-for-dangerous-times/>

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

### **AdoptaClassroom.org**

Adopt-A-Classroom partners donors with teachers so you can have funds to purchase critical resources and materials for your classroom. The process is relatively simple -- teachers ask for assistance, and donors can choose to support those needs through the website.

<https://www.adoptaclassroom.org/>

### **Climateprediction.net**

Climateprediction.net is a distributed computing project that aims to produce predictions of the Earth's climate up to the year 2300 and to test the accuracy of climate models. The project needs people around the world to volunteer time on their computers when their computers are on but not being used at full capacity.

<http://www.climateprediction.net/>

### **Ocean Film Festival - Georgia**

Gray's Reef National Marine Sanctuary and partners will host the Ocean Film Festival in Savannah, Georgia, September 20-23, 2012. If you're in the area, don't miss this opportunity.

[http://graysreef.noaa.gov/news/features/2012/film\\_festival\\_2012/welcome.html](http://graysreef.noaa.gov/news/features/2012/film_festival_2012/welcome.html)

### **QuickScience Challenge Kick-Off Event – California**

Register for the free QuikSCience Challenge Kick Off Event in San Pedro, California, September 23, 2012. For more information, contact Terri Bidle.

Contact Terri Bidle at [guikscience@usc.edu](mailto:guikscience@usc.edu)  
[https://usc.qualtrics.com/SE/?SID=SV\\_9GEuTLtNnRG5oeF](https://usc.qualtrics.com/SE/?SID=SV_9GEuTLtNnRG5oeF)

### **Recreation.gov**

Recreation.gov is a one-stop shop for trip planning, information sharing, and reservations from 12 participating federal partners, including the National Park Service, Fish and Wildlife Service, and more. Search by map or activity.

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

### **Seaquence**

Seaquence is an experiment in musical composition using a biological metaphor. Visitors can create and combine musical lifeforms resulting in an organic, dynamic composition. The visual "creatures" can be manipulated as users are encouraged to add different elements to the creation "dish".

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

### **Wall of Wind**

The 12-fan Wall of Wind at Florida International University is the largest and most powerful university research facility of its kind and is capable of simulating a Category 5 hurricane.

<http://wow.fiu.edu/>