

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

**JANUARY 2013**

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.

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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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### **Fishmas Greetings**

Belatedly, but in the spirit of Christmas, check out the following for merry Fishmas wishes:

- Holidays Under the Sea PowerPoint to Dropbox. Check out this clever photoshopped Christmas greeting.  
<https://www.dropbox.com/s/0zs5307porzdao/Holidays%20Under%20the%20Sea.zip>
- 12 Days of Fishmas at Flower Garden Banks National Marine Sanctuary,  
[http://flowergarden.noaa.gov/document\\_library/eddocs/12daysoffishmas.pdf](http://flowergarden.noaa.gov/document_library/eddocs/12daysoffishmas.pdf)

## **PROGRAM OF THE MONTH**

### **Ocean for Life Field Study**

As a reminder, Channel Islands National Marine Sanctuary will host the next Ocean for Life field study in Santa Barbara, California and on Santa Cruz Island in June 2013. The deadline for pre-applications for Western students is January 18, 2013. Students from Middle Eastern countries will be selected through a similar process administered by The GLOBE Program available to countries in the Near East North Africa region.

<http://sanctuaries.noaa.gov/education/ofl/app.html>

## **OPPORTUNITY OF THE MONTH**

### **High School Student Research Experience in Greenland**

High school students are invited to apply for the chance to spend three weeks this summer doing field science in and around Kangerlussuaq, Greenland and visit a research station on the Greenland ice sheet. Students will work with Arctic scientists and peers from Denmark and Greenland on research projects in a wide variety of fields including biology, geology, climatology, chemistry and engineering. The deadline for application is February 1, 2013.

<http://www.arcus.org/jsep>

## **MESSAGE FROM THE BRIDGE**

### **Current – Call for Submissions**

The editors of *Current: The Journal of Marine Education* are seeking articles for upcoming general issues on topics related to marine education. Original manuscripts that describe research, lessons, resources, or strategies for teaching marine and aquatic lessons to a variety of audiences are welcomed. The deadline for submission is July 1, 2013.

Contact Lisa Tooker at [ltookers@sbcbglobal.net](mailto:ltookers@sbcbglobal.net)

## **REQUESTS**

### **Aquatic Science Education Guides – Reviewers Needed**

Texas Parks and Wildlife and partners have teamed up to develop guides to aquatic science for Texas' middle and high school students. They invite teachers and others interested in aquatic science education to review and comment on the draft guides, as well as submit their favorite aquatic science-related activities to include in the guides.

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

## **GRANTS AND OPPORTUNITIES**

### **5 Star Restoration Grant**

The 5 Star Restoration Program brings together students, conservation corps, youth groups, citizen groups, corporations, landowners, and government agencies to provide environmental education and training through projects that restore wetlands and streams. The program provides challenge grants, technical support, and opportunities for information exchange to enable community-based restoration projects. The deadline for application is February 7, 2013.

<http://www.epa.gov/owow/wetlands/restore/5star/>

### **America's Great Outdoors: Developing the Next Generation of Conservationists**

The National Fish and Wildlife Foundation and partners offer this initiative to connect youth to the outdoors by providing financial support for conservation job training programs. The initiative brings together public and private partners to support those organizations that are developing innovative conservation job opportunities for youth on public lands which expose young people, particularly urban and minority youth, to the natural world and career opportunities available in conservation. The deadline for submission is January 21, 2013.

<http://www.nfwf.org/AM/Template.cfm?Section=Home&TEMPLATE=/CM/ContentDisplay.cfm&CONTENTID=26378>

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

The flagship event for the 2013 Beneath the Waves Film Festival will take place March 20-23, 2013 in Savannah, Georgia. The deadline for submission is February 1, 2013.

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

### **Coral Reef Conservation Funds**

The National Fish and Wildlife Foundation and NOAA are soliciting conservation grant proposals for coral reef conservation. Check the website for grant priorities. The deadline for pre-proposals is February 5, 2013.

<http://www.nfwf.org/coralreefs>

### **C-SPAN StudentCam Competition**

C-SPAN's StudentCam is an annual national video documentary competition that encourages students to think about issues that affect our communities and our nation. Students are asked to create a short (5-8 minute) video documentary on a topic related to the theme *Message to the President: What's the most important issue the president should consider in 2013?* The deadline for submission is January 18, 2013.

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

### **Davidson Fellows Scholarship**

The Davidson Fellows Scholarship awards scholarships to youth, 18 and under, who have completed a significant piece of work in categories including science, technology, and "outside the box." The work must be recognized as an outstanding accomplishment by experts in the field and have the potential to benefit society. The deadline for submission is February 20, 2013.

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

### **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 10, 2013.

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

### **Explore the Blue Water Challenge**

The Explore the Blue Water Challenge from Discovery Education challenges students, grades 6-8, to identify and research a local water-related issue, develop and implement

an action plan that creates positive change, and showcase their project by creating and submitting a short video. The deadline for submission is March 14, 2013.

<http://exploretheblue.com/challenge.cfm>

#### **Gerald C. Corcoran Education Grant**

The Gerald C. Corcoran Education Grant funds projects to educate the general public about native North American fishes and their environment. The deadline for submission is March 31, 2013.

<http://www.nanfa.org/corcoran.shtml>

#### **LEGO Children's Fund Grants**

The LEGO Children's Fund offers quarterly grants for nonprofit organization programs that inspire young people, up to 14 years old, to explore their creativity and innovative thinking through constructive play.

<http://www.legochildrensfund.org/Guidelines.html>

#### **Let's Make Ships Greener International Art Contest**

Kids in grades K-12 are invited to participate in the *Let's Make Ships Greener* international art contest sponsored by The JASON Project, the North American Marine Environmental Protection Association, and the U.S. Coast Guard. Participants create an original poster with an idea to answer the question, *How would you make shipping cleaner and/or more energy efficient?* The deadline for submission is March 22, 2013.

<http://www.jason.org/contest/lets-make-ships-greener-international-art-contest>

#### **Living on the Ocean Planet Video Competition**

The National Ocean Sciences Bowl, in partnership with NMEA and the Ocean Today Kiosk, is sponsoring the Living on the Ocean Planet video contest. High school students can submit a one-to-three minutes on the theme, *A Window into Freshwater Science*. This theme invokes the interconnectedness of freshwater and marine systems and includes, but is not limited to, our understanding of freshwater processes and the connection to the ocean, human impacts on freshwater ecosystems, and the effects of invasive species. The deadline for submission is March 11, 2013.

<http://www.nosb.org/competitions-2/nosb-video-contest/>

#### **Lowe's 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 February 15, 2013.

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

#### **Marisla Environmental Program**

The Marisla Foundation offers Environmental Program grants for activities that promote the conservation of biological diversity and advance sustainable ecosystem management. Primary emphasis is on marine resources conservation with a geographic focus on western North America, Chile, and the western Pacific. The program also supports the search for solutions to health threats caused by toxic chemicals. The next deadlines for application are January 15, 2013 and April 15, 2013.

<https://online.foundationsource.com/public/home/marisla>

### **Microsoft Imagine Cup**

The Microsoft Imagine Cup is a student technology competition that invites students to use their imagination and passion to create a technology solution in one of three competitions: World Citizenship, Innovation, and Games. The deadline for registration is March 15, 2013.

<http://www.imaginecup.com/#?fbid=TLBRyUStqht>

### **National Leadership Grants for Museums**

National Leadership Grants for Museums support projects that address current and future needs of the museum field and that have the potential to advance practice in the profession so that museums can improve services for the American public, including promoting the use of technology to facilitate discovery of knowledge and cultural heritage. Note that the grant definition of museum includes aquariums, nature centers, and much more. Hurry - the deadline for application is January 15, 2013.

[http://www.ims.gov/applicants/2013\\_nlg\\_museums\\_guidelines.aspx](http://www.ims.gov/applicants/2013_nlg_museums_guidelines.aspx)

### **Office Depot Foundation Grants**

The Office Depot Foundation's funding focus includes: Making a Difference in Children's Lives, Building Communities, and Disaster Relief. Funding is offered on a rolling basis, beginning in January.

<http://www.officedepotfoundation.com/funding.asp>

### **Outdoor Nation Paddle Project Grants**

Outdoor Nation is accepting applications from individuals between the ages of 18 and 28 or non-profit organizations who are interested in connecting young Americans with their waterways through recreational paddling. The deadline for application is February 1, 2013.

[http://www.cybergrants.com/pls/cybergrants/quiz.display\\_question?x\\_qm\\_id=4494&x\\_quiz\\_id=5170&x\\_order\\_by=1](http://www.cybergrants.com/pls/cybergrants/quiz.display_question?x_qm_id=4494&x_quiz_id=5170&x_order_by=1)

### **Presidential Innovation Award for Environmental Educators**

The Presidential Innovation Award for Environmental Educators Program, a partnership between the CEQ and the EPA, recognizes outstanding K-12 teachers who employ innovative approaches to environmental education and use the environment as a context for learning for their students. Teachers from each EPA region will be selected to receive the award. The deadline for application is January 31, 2013.

<http://www.epa.gov/education/teacheraward/>

### **Purchase of Nature Small Grants**

Small grants for the Purchase of Nature enable local partner non-profits to take direct action and save nature through the purchase and protection of threatened wildlife habitats and vulnerable ecosystems. See the website for eligibility and complete details. The deadline for pre-proposal submission is May 1, 2013.

<http://www.iucn.nl/funds/>

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

The Siemens We Can Change the World Challenge is a national environmental sustainability competition for grades K-12. Students learn about science and conservation through project-based learning. The website offers tools to help integrate the challenge into their curriculum. The deadline for entry is March 5, 2013.

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

### **Toshiba America Foundation Grants**

Toshiba America Foundation Grants support innovative projects designed by math and science teachers to make their own classrooms more exciting and successful for students. The next deadline for application Grade 6-12 large grant requests is February 1, 2013; small grants are considered on a rolling basis.

<http://www.toshiba.com/taf/612.jsp>

### **Young Reporters for the Environment Contest**

Youth between the ages of 13 and 18 are invited to participate in the national Young Reporters for the Environment competition, investigating an environmental issue and report on it in writing, photography, or video. The deadline for submission is March 15, 2013.

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

## **INTERNSHIPS AND TEMPORARY OPPORTUNITIES**

### **Earthwatch Educator Fellowships**

Fellowships are available to sponsor participation in International and U.S. Earthwatch Conservation Expeditions. The Earthwatch Institute and its partners offer a number of Educator Fellowships every year to elementary, middle, and high school educators and administrators.

<http://www.earthwatch.org/aboutus/education/edopp>

### **Jefferson Science Fellowship**

The U.S. State Department offers the Jefferson Science Fellows Program for up to fifteen fellows who will assist in formulating foreign policies related to science, technology, and engineering. Fellows spend one year on assignment at the U.S. Department of State or USAID as science advisors on foreign policy issues. See the website for eligibility. The deadline for application is January 14, 2013.

<http://sites.nationalacademies.org/pgajefferson/index.htm>

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

### **Climate Science 101 - Online**

The Cooperative Institute for Research in Environmental Sciences at the University of Colorado presents Climate Science 101: Essential Knowledge and Teaching Strategies, January 21-April 30, 2013. This online course focuses on the essential principals of climate science and provides experience with teaching strategies, such as identifying and addressing misconceptions, minimizing controversy, and teaching so that students can engage positively. The target audience is secondary science teachers, although informal educators and others are welcome. It is free to audit, or may be taken for credit. The deadline for registration is January 11, 2013.

<http://cires.colorado.edu/education/outreach/ICEE/OnlineCourse/>

### **Coastal Concerns Teacher Workshop – Georgia**

Join scientists from Georgia Southern University and the University of Georgia for the 2013 Coastal Concerns Teacher Workshop, February 15, 2013 in Brunswick, Georgia. The workshop will cover a variety of topics including sea level rise and shoreline change,

ocean acidification and the carbon cycle, and more. The deadline for registration is January 31, 2013.

<http://eeingeorgia.org/net/calendar/details.aspx?s=99296.0.0.4863&c=4623361>

### **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, will take place July 12-17, 2013 starting in Galveston, Texas. The five-day workshop includes a two-day land-based workshop featuring instruction from sanctuary staff and guest speakers. 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 through a competitive application process; the deadline for application is March 8, 2013.

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

### **Great Lakes Lectures**

The National Ocean Sciences Bowl (NOSB) offers this professional development opportunity for middle and high school educators nationwide. NOSB coaches are encouraged to participate, as the seminar's guest experts will be writing questions for the 2013 NOSB competitions. The series, The Great Lakes: A Window into Freshwater Science, will provide teachers with the opportunity to enhance their knowledge of topics related to freshwater environments, as well as science and policy issues relevant to the Great Lakes.

<http://www.nosb.org/professional-development/>

### **International Trails Symposium**

Registration is now open for the 21st American Trails International Trails Symposium, April 14-17, 2013 near Phoenix, Arizona. The symposium includes a Water Trails Caucus. The deadline for early registration is February 15, 2013.

<http://www.americantrails.org/2013/registration.html>

### **Introduction to Microbiology - California**

The University of Southern California's Center for Dark Energy Biosphere Investigations, offers an all-expense paid four-week intensive introductory course funded by the NSF, Global Environmental Microbiology, July 8-August 2, 2013 in California. This course focuses on microbes found in aquatic environments. The deadline for application is February 1, 2013. See the website for details.

<http://www.darkenergybiosphere.org/education/undergrads/undergradcourse.html>

### **National Conservation Training Center Courses – West Virginia**

The U.S. Fish and Wildlife Service offers professional development courses at the National Conservation Training Center campus in West Virginia. After the registration deadline, call for availability.

- OUT8162: Education Programs for Youth: School's Out, April 29-May 1, 2013; the deadline for registration is February 17, 2013.
- OUT8108: Best Practices for Field Days Assessment, May 2-3, 2013; the deadline for registration is February 17, 2013.
- OUT8163: Connecting People with Nature through Birds, June 3-6, 2013; the deadline for registration is March 31, 2013.

For more information about these courses, contact Michelle Donlan at [Michelle\\_Donlan@fws.gov](mailto:Michelle_Donlan@fws.gov)  
[http://training.fws.gov/documents/Section1\\_NCTC\\_Sponsored\\_Courses.pdf](http://training.fws.gov/documents/Section1_NCTC_Sponsored_Courses.pdf)

### **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.

- February 2, 2013 with National Aquarium in Baltimore, Maryland. The deadline for registration is January 11, 2013. Contact David Christopher at [dchristopher@aquaria.org](mailto:dchristopher@aquaria.org).
- March 2, 2013 with University of South Florida College of Marine Science, St. Pete Beach, Florida. The deadline for registration is February 8, 2013. Contact Teresa Greely at [greely@marine.usf.edu](mailto:greely@marine.usf.edu).
- March 2, 2013 with South Carolina Aquarium, Charleston, South Carolina. The deadline for registration is February 8, 2013. Contact Jaime Thom at [jthom@scaquarium.org](mailto:jthom@scaquarium.org).
- March 9, 2013 with Seattle Aquarium, Seattle, Washington. The deadline for registration is February 15, 2013. Contact Dan Newburn at [d.newburn@seattleaquarium.org](mailto:d.newburn@seattleaquarium.org).
- March 9, 2013 with Audubon Aquarium of the Americas, New Orleans, Louisiana. The deadline for registration is February 15, 2013. Contact Tricia LeBlanc at [tleblanc@AudubonInstitute.org](mailto:tleblanc@AudubonInstitute.org).
- March 16, 2013 with Dauphin Island Sea Lab, Dauphin Island, Alabama. The deadline for registration is February 22, 2013. Contact Sara Johnson at [sejohnson@disl.org](mailto:sejohnson@disl.org).

**Please note** that the workshop scheduled for January 12, 2013 in New Orleans has been cancelled.

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

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

Registration is open for the Spring and Summer 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, Diversity of Fishes, Climate Change, and more. See the website for course dates and registration and discount deadlines.

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

## **EDUCATIONAL RESOURCES**

### **Apps for Ocean Management and Conservation**

This blog entry on OpenChannels offers a list of apps which can promote ocean health and sound ocean resource management. In general, the apps do not increase the range of analytical and visualization capabilities available for ocean conservation and management, but make existing analytical and visualization capabilities more readily available to new users and users in the field. In addition, the features of mobile devices open up new opportunities for collecting and sharing data and information, particularly between communities/stakeholders and managers.

<http://openchannels.org/apps-ocean-management-and-conservation>

### **Arctic Report Card**

NOAA offers the extensive website, Arctic Theme Page with a link to the Arctic Report Card: Update for 2012, Tracking recent environmental changes. Explore the site to read about marine ecosystems, sea ice and ocean, and more. Check out the report card, image galleries, and much more.

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

### **Discovering Antarctica**

This interactive activity adapted from the British Antarctic Survey introduces some of the physical features and wildlife of Antarctica. Explore Antarctica's mountains, ice shelves, seals, and more through nine videos with accompanying text.

<http://www.teachersdomain.org/resource/ipy07.sci.life.eco.discant/>

### **Discovery of Estuarine Environments**

This website from the University of Rhode Island Office of Marine Programs and partners describes the geology, water circulation, and significance of estuaries, with a focus on Narragansett Bay. The website includes a virtual field trip, lessons and activities, history and culture, a biota gallery, and more.

<http://omp.gso.uri.edu/ompweb/doee/>

### **edudemic**

This website offers a platform dedicated to what's next in learning by connecting technology, emerging trends, social media, and culture. The website focuses on social media applications, flexible learning frameworks, and more. While the website is packed, the article headlines offer a good summary of what you'll find – often a numbered list such as The 18 Best Free Web Tools Chosen By You, or The 5 Biggest Ways Students Actually Want To Use Technology. Check out 10 STEM Apps To Teach About The Environment.

<http://edudemic.com/>

### **Economics: National Ocean Watch**

NOAA's ENOW website (Economics: National Ocean Watch) delivers data from the Census Bureau that is most important to coastal resource managers and the data wizard makes finding and using this data even simpler. Users can download or copy data for individual coastal counties, states, regions, or the coastal U.S. The data are available in a wide variety of formats, from ready-made summaries to full datasets.

<http://www.csc.noaa.gov/ENOWDataWizard/>

### **Eyes on the Bay**

This website includes real-time and archived data measuring parameters in the Maryland portion of Chesapeake Bay, including air and water temperature, salinity, dissolved oxygen, pH, and water clarity. The website offers lesson plans along with links to additional water quality resources.

<http://mddnr.chesapeakebay.net/eyesonthebay/index.cfm>

### **Field of View: Palmer LTER**

Follow along on the 21st field season with the Palmer Long Term Ecological Research program and Teacher at Sea correspondent Johanna Blasi from the New England Aquarium. Track the ship and weather along the peninsula, explore the environment,

and more through graphics, photos, and videos. Educators can download instructional materials that parallel the scientific research and encourage their students to post questions directly to the scientists.

<http://pal.liternet.edu/blogs/2012/>

### **Fish Tagging**

Grays Reefs National Marine Sanctuary has been conducting Acoustic Fish Tagging projects off the coast of Georgia to learn more about the resident fish populations. Related classroom activities are available on the website along with information about the research.

[http://graysreef.noaa.gov/science/research/fish\\_tagging/education.html](http://graysreef.noaa.gov/science/research/fish_tagging/education.html)

### **Fishery Analyst Online Catch Data Maps**

The Multispecies Research Group of The Virginia Marine Institute of Marine Science is now providing online access to fishery catch data via an interactive mapping application, Fishery Analyst Online. This web GIS application allows querying the catch data based on species, date, total biomass, and more. The data can be manipulated to produce charts and other visualization tools.

[http://www.vims.edu/research/departments/fisheries/programs/multispecies\\_fisheries\\_research/interaction/fishery\\_analyst\\_online/index.php](http://www.vims.edu/research/departments/fisheries/programs/multispecies_fisheries_research/interaction/fishery_analyst_online/index.php)

### **Global Education**

Australia's Global Education emphasizes the unity and interdependence of human society, developing a sense of self and appreciation of cultural diversity, affirmation of social justice and human rights, as well as building peace and actions for a sustainable future in different times and places. The teaching resources include People and the environment, Sustainable energy resources, The power of a story, and much more.

<http://www.globaleducation.edu.au/global-education/what-is-global-ed.html>

### **GLOBE Citizen Science Campaigns**

Two GLOBE Citizen Science Campaigns include GLOBE at Night, an international citizen-science campaign to raise public awareness of the impact of light pollution, and GLOBE Student Climate Research Campaign, which aims to engage students in measuring, investigating, and understanding the climate system in their local communities and around the world.

<http://www.smdeponews.org/programs-events/globe-phenology-and-climate-project-through-june-30/>

### **Into the Abyss**

Follow a deep sea mission from 1998 to recover the top of a black smoker and learn about hydrothermal vent communities and the technology that lets us observe them. The website features background information on the vessels, the crew, journal entries, and information on the habitat. Be sure to check out the links to additional resources.

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

### **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.

<http://www.learner.org/jnorth/mclass/fall2012/update120112.html>

### **National EE Week**

The theme for National Environmental Education Week 2013, April 14-20, 2013, is *Greening STEM: Taking Technology Outdoors*. Register to take advantage of this year's offerings and to learn more about the theme. Check out the suggested Top 10 Apps for Taking Tech Outside.

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

### **Ocean Blogs**

The folks at Upwell offers a list of ocean conservation blogs. Currently, there are 88, listed in alphabetical order. You can add yours to the list and subscribe to the Big Blue Blogs Bundle from the website.

<http://www.upwell.us/big-blue-blogs-88-ocean-conservation-blogs>

### **Ocean Directory**

The World Ocean Observatory is dedicated to providing information, education, and public discourse about the ocean. It offers a myriad of easy-to-find links to resources, including education materials, ocean news, and much more. The World Ocean Directory is a dynamic list of ocean-related organizations located throughout the world, currently with more than 18,000 entries. Add your organization and look through the list to see others that might offer a good partnership to your activities. Navigation is easy throughout the website.

<http://www.worldoceanobservatory.org/sitemenu>

### **Project-Based Learning Research: Evidence-Based Components of Success**

There are critical elements to consider when applying project-based learning in the classroom. Edutopia offers research-proven steps from project design through structured student collaboration to assessment. The web page also offers links to additional resources.

<http://www.edutopia.org/pbl-research-evidence-based-components>

### **REACH Program**

US Sailing offers the REACH Program, an initiative that utilizes sailing as a platform that enables middle school aged youth to embrace education, establish a love of learning, and explore productive Science, Technology, Engineering, and Math (STEM) based careers. The REACH program connects educators, sailing instructors, engineers, and scientists with youth to provide students the opportunity to apply classroom learning in a cooperative work environment. The downloadable curriculum includes lesson plans that range from wind and simple machines to robotics and marine science.

<http://reach.ussailing.org/index.php/curriculum/>

### **Sing About Science & Math Lesson Plans**

The Sing About Science website offers links to lesson plans designed to encourage participation in STEM subjects. The list is easy to scan and identifies whether a click will take you to an article, lesson plan, or other information.

<http://singaboutscience.org/wp/lesson-plans/>

### **Sustainable Seafood: What's Science Got to Do With It?**

This five-part NOAA sponsored series ran in the Seattle Times November 25-29, 2012. It can be downloaded from the website.

<http://services.nwsourc.com/nie/times/index.asp>

### **Topics in Archeology - Online**

The National Park Service's Archeology Program has posted webcasts from an on-going webinar lecture series devoted to dissemination of information about current research in archeology. Currently posted are archeological investigations of World War II Japanese internment camps and the Pleistocene Human Colonization of Interior North America.

<http://www.nps.gov/archeology/tools/webinars.htm>

### **WetlandInfo**

The Australian Department of Environment and Resource Management and partners offer the wetlands website, WetlandInfo Queensland. The website includes information about wetland monitoring, science and research, education and communication, and more. Educational materials include the downloadable Wetlands Reef Beat, Exploring Wetlands web quest, and more. Ecosystems include wetlands, reef, mangroves, and more.

<http://wetlandinfo.derm.qld.gov.au/wetlands/>

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

### **10,000 Islands Dolphin Project**

This on-water environmental studies program follows local bottlenose dolphins in Collier County, Florida. There are 20 study units during the ten week programs. During the program, the survey team visits schools in-person and via Skype. Additionally, classes can join the survey crew on the *Dolphin Explorer* and assist in the work. Units include live-from-the-field instruction, videos, a teacher's content guide, and more.

Contact Kristen Froehlich at [dolphinstudy@yahoo.com](mailto:dolphinstudy@yahoo.com)

### **Boston Sea Rovers Clinic**

The Boston Sea Rovers Clinic, March 9-10, 2013 in Danvers, Massachusetts, is dedicated to education, conservation, and exploration of the underwater world. The show features seminars, a Saturday Evening Film Festival, and more. Check out the Scalli Internship for students entering their freshman or sophomore year of college interested in careers in marine biology. Daytime student volunteer opportunities for the clinic are available, as are discounted student tickets.

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

### **Teachers' Domain and PBS LearningMedia Merge**

Teachers' Domain will be merging with PBS LearningMedia.org, starting in January. Watch the websites for further information about access to the thousands of resources.

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

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