

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

**JUNE 2011**

This update is supported by NOAA's Ocean Exploration and Research Program and 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**

### **State of the Birds 2011**

The Cornell Lab of Ornithology and partners launched the 2011 State of the Birds as a report and website, showing distribution of birds on public lands and waters. The data show the importance of public lands for bird conservation and identifies opportunities for public land agencies.

<http://stateofthebirds.org/>

### **Tracking Trash**

The latest report generated from data collected during the International Coastal Cleanup, Tracking Trash: 25 Years of Action for the Ocean, is available for downloading from the Ocean Conservancy.

<http://www.oceanconservancy.org/our-work/marine-debris/>

## PROGRAM OF THE MONTH

### **Starting Point: Teaching Entry Level Geoscience**

Carleton University's Starting Point project hopes to bridge the gap between information about teaching methods and the everyday experiences of geoscience faculty by providing geoscience specific arguments and examples. The website offers examples of Investigative Case Learning, Service Learning, Teaching with Data, and much, much more. Check out Swampeast Missouri, Winter Geohydrology, and more.

<http://serc.carleton.edu/introgeo/index.html>

## WEBSITE OF THE MONTH

### **Beachapedia**

The Beachapedia website from Surfrider Foundation is similar to Wikipedia, but with articles that focus on beach and ocean issues. Beachapedia highlights the experience and knowledge gained by Surfrider Foundation activists, scientists, and staff through hundreds of environmental and educational campaigns along our coasts. The authors hope to provide tools and information to help communities make a positive impact on their local beaches. Check out the Featured Article, State of the Beach Report, Daily Factoids, and more.

Many of the pages currently offer short definitions of a topic. Help build out the pages with in-depth information; like Wikipedia, experts can contribute to the project. Make sure to contribute links to educational materials on specific subjects.

[http://www.beachapedia.org/Main\\_Page](http://www.beachapedia.org/Main_Page)

## REQUESTS

### **National Ocean Sciences Bowl Seeks Questions**

The National Ocean Sciences Bowl, managed by the Consortium for Ocean Leadership, is a competition for high school students on ocean science related topics. Categories include: Physics, Chemistry, Biology, Geology, Geography, Marine Policy, Social Sciences, and Technology. Each round of the competition includes two rapid fire rounds of multiple choice or short answer questions and two critical thinking Team Challenge Questions. Contact Melissa by June 17, 2011 if you wish to be a question writer.

Contact Melissa Brodeur at [mbrodeur@oceanleadership.org](mailto:mbrodeur@oceanleadership.org)

### **Scientists: I Explore Because....**

The COSEE National Office is partnering with the Inner Space Center to develop the hardware, software, and related programming to connect U.S. oceanographic research vessels to informal science education institutions. They seek input from the ocean scientist community in the form of short audio and video segments featuring ocean scientists completing the sentence, "I explore the ocean because..."

Contact Andrea Gingras at [agingras@gso.uri.edu](mailto:agingras@gso.uri.edu)

### **Seeking Articles**

The editors of *Current: The Journal of Marine Education* seek articles for upcoming general issues on topics related to marine education. Original manuscripts are sought that describe research, lessons, resources, or strategies for teaching marine and aquatic

lessons to a variety of audiences. Please submit articles by Sept. 16, 2011 for consideration.

<http://www.marine-ed.org/current/CurrentGuidelines.pdf>

## **GRANTS AND OPPORTUNITIES**

### **Cedar Tree Foundation Grants**

The Cedar Tree Foundation makes grants for environmental education, environmental health, and sustainable agriculture. Particular consideration is given to proposals demonstrating strong elements of environmental justice and/or conservation. The foundation does not accept unsolicited proposals; however, it does welcome letters of inquiry and responds to those it might like to pursue further.

<http://www.cedartreefound.org/apply.html>

### **Coral Reef Task Force Partnership Initiative**

The National Fish and Wildlife Foundation, in partnership with members of the U.S. Coral Reef Task Force, announces the availability of grant funding to build local capacity and support for projects that will help restore natural resources in the Guanica/Rio Local watershed in Puerto Rico. Priority will be given to proposals submitted by NGOs based in Puerto Rico. Other organizations should partner with a local NGO. The deadline for pre-proposals is July 1, 2011; an information workshop will be offered June 7, 2011.

[http://www.nfwf.org/AM/Template.cfm?Section=Charter\\_Programs\\_List&TEMPLATE=/CM/ContentDisplay.cfm&CONTENTID=20025](http://www.nfwf.org/AM/Template.cfm?Section=Charter_Programs_List&TEMPLATE=/CM/ContentDisplay.cfm&CONTENTID=20025)

### **Environmental Funds Tool Kit**

The Environmental Funds Tool Kit is an on-line resource that includes legal documents, manuals, plans, and communication materials in original languages for 30 funds, along with a consultant database. The goal is to help guide the creation and start-up of new funds, promote best practices for existing funds, and increase the efficiency and effectiveness to secure, and expend, reliable funding streams for biodiversity conservation

<http://toolkit.conservationfinance.org/>

### **HAB Funding**

NOAA's Center for Sponsored Coastal Ocean Research has issued this request for proposal for the National Competitive Harmful Algal Blooms Program. Funding is available for proposals for the Ecology and Oceanography of Harmful Algal Blooms Program; the Monitoring and Event Response for Harmful Algal Blooms Program; and the Prevention, Control and Mitigation of Harmful Algal Blooms Program. The deadline for the required Letter of Intent is June 27, 2011.

<http://www.grants.gov/search/announce.do;jsessionid=nTNTNjmGbPv1Qy1WTzjJqJr9LHJvLCF1tvyLxxKDBGGJRMFnzDGf!1451664760>

### **Invent America Contest**

The Invent America contest helps students learn by inventing, teaching them creative problem solving skills. The deadline for submission is June 15, 2011.

<http://www.inventamerica.org/nationalcontest.html>

### **Make My LabWoRx Challenge**

The 2011 challenge for the Make My LabWoRx competition is a Facebook video contest. Record a two- to five-minute video of yourself performing and explaining a cool science demonstration and post the video by June 24, 2011. See the website for details.

<http://www.facebook.com/ScienceWoRx>

### **National Recreation Trails Photo Contest**

American Trails sponsors this annual contest for photographs of National Recreation Trails across the country. The categories are trail use, management, and features. They seek photos of trail users as well as special facilities, art on the trails, management issues, construction, and volunteers. Keep this contest in mind as you head off for your vacations. The deadline for entry is December 15, 2011.

<http://americantrails.org/nationalrecreationtrails/photocon.html>

### **Native Plant Conservation Initiative**

The National Fish and Wildlife Foundation is soliciting proposals for the 2011 Native Plant Conservation Initiative grants cycle. There is a strong preference for on-the-ground projects that provide plant conservation benefit according to the priorities established by the Plant Conservation Alliance strategies for plant conservation; see the full proposal for complete details. The deadline for application is June 30, 2011.

[http://www.nfwf.org/AM/Template.cfm?Section=charter\\_programs\\_list&TEMPLATE=/CM/HTMLDisplay.cfm&CONTENTID=20146](http://www.nfwf.org/AM/Template.cfm?Section=charter_programs_list&TEMPLATE=/CM/HTMLDisplay.cfm&CONTENTID=20146)

### **Research Coordination Networks**

The goal of the Research Coordination Networks program is to advance a field or create new directions in research or education. Groups of investigators will be supported to communicate and coordinate their research, training, and educational activities across disciplinary, organizational, geographic, and international boundaries. The program provides opportunities to address interdisciplinary topics and foster new collaborations, including international partnerships. The deadline for submission is June 15, 2011.

[http://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=11691&org=EHR&from=home](http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=11691&org=EHR&from=home)

### **Wetland Program Development Grants – Pacific Northwest**

EPA Region 10 – Pacific Northwest – offers these grants for wetland protection and enhancement to state, tribal, and local governments. The grants provide an opportunity to conduct and promote the coordination and acceleration of research, investigations, experiments, training, demonstrations, surveys, and studies relating to the causes, effects, extent, prevention, reduction, and elimination of water pollution. Outreach and education is considered an overarching element. The deadline for submission is June 20, 2011.

<http://yosemite.epa.gov/R10/ECOCOMM.NSF/webpage/wetland+grants>

### **Zero Footprint Challenge**

Schools can compete to reduce their environmental impact. The school that achieves the highest percentage reduction by the end of the school year wins. Be sure to check out the resources links.

<http://usa.zerochallenge.org/challenge>

## **INTERNSHIPS AND TEMPORARY OPPORTUNITIES**

### **Cathay Pacific Green Explorer Program**

Cathay Pacific, in conjunction with Conservation International, is sponsoring 40 students ages 16-18 from around the world to participate in the Cathay Pacific Green Explorer programme. The eight-day program will take place in Sichuan Province in China from August 13-20, 2011. The deadline for application is June 17, 2011.

[http://www.cathaypacific.com/cpa/en\\_US/greenexplorer](http://www.cathaypacific.com/cpa/en_US/greenexplorer)

### **Coastal Studies for Girls**

Coastal Studies for Girls is actively seeking students for Fall 2011 or Spring 2012 semester. The program is a residential marine science and leadership semester school just for 10th grade girls, located on the coast of Freeport, Maine. The program offers hands-on marine and environmental science and outdoor leadership adventures in the classroom, laboratory, and along the coast. Scholarships may be available.

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

### **DEVELOP Program Internships**

DEVELOP is a NASA Science Mission Directorate Applied Sciences training and development program. Students from high school through doctoral levels are chosen in a competitive application process. Students work on Earth science research projects, mentored by science advisors from NASA and partner agencies, and extend their research results to local communities. The projects demonstrate to community leaders how NASA science measurements and predictions can be used to address local policy issues. Partners include NOAA's Marine Debris and Coral Reef Watch Programs. There are three terms each year; the deadline for application to the fall 2011 term, September 12-November 18, 2011, is August 8, 2011.

<http://develop.larc.nasa.gov/>

### **Marine Science Fellowships**

Mote Marine Laboratory in Sarasota, Florida is recruiting two new 2-year Postdoctoral Fellows to begin between September 1-December 31, 2011. Each Postdoctoral Fellow will have a dedicated mentor, funds, and more. The deadline for application is June 29, 2011.

<http://www.mote.org/2011postdocs>

### **Partnering for Excellence: Innovations in STEM Competition**

Ashoka Changemakers offers this competition for creative approaches to solving the country's STEM challenge by bringing the passion and real-life skills of experts to advance STEM learning in public schools. The deadline for submission is August 3, 2011.

<http://www.changemakers.com/stemeducation>

### **Rivers, Trails, and Conservation Assistance Program**

The National Park Service provides up to two years of staff assistance to locally-led natural resource conservation and outdoor recreation projects through the Rivers, Trails, and Conservation Assistance (RTCA) Program. RTCA staff work in communities to help applicants conserve rivers; preserve natural areas; and develop trails, greenways, and blueways. Staff help with partnership-building to achieve community-set goals, organizational development, and more. Applicants are strongly encouraged to discuss

their project with RTCA staff before sending in an application; check the website for local contact information. The next deadline for application is August 1, 2011.

[http://www.nps.gov/ncrc/programs/rtca/contactus/cu\\_apply.html](http://www.nps.gov/ncrc/programs/rtca/contactus/cu_apply.html)

### **Teachers for Global Classrooms Program**

The Teachers for Global Classrooms Program provides a professional development opportunity for middle and high school teachers to participate in a program aimed at globalizing US classrooms. The program includes an online course, two symposiums, and an international fellowship. Teaching disciplines include Social Studies, Mathematics, Science, and others. The deadline for application is June 15, 2011.

<http://www.irex.org/project/teachers-global-classrooms-program-tgc>

### **Everyday Young Hero Award Now International**

The Everyday Young Hero program is awarded weekly to a young person, age 5-25, from around the world who exemplifies an extraordinary commitment to service. Nominations must come from a parent, teacher, or other adult mentor.

<http://www.yrsa.org/awards/hero>

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

### **Aquaponics Workshop - Maine**

Herring Gut Learning Center offers two aquaponics teacher workshops, July 6–8 and July 12–14, 2011 in Port Clyde, Maine. Participants receive teacher training in aquaponics using Herring Gut's small-scale commercial aquaponics greenhouse and hatchery; a complete classroom kit including tank, filter, pumps, planting materials and an operating manual; standards-based curriculum materials, and more.

<http://www.herringgut.org/about.html>

### **Blue Vision Summit**

The Blue Vision Summit, May 20-23, 2011 in Washington, D.C., will focus on restoring the Gulf of Mexico and other endangered waters; and seeing the new Ocean Policy enacted in areas where people are already working for change and making the links between a healthy ocean and healthy economy.

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

### **Coastal and Estuarine Research Federation Biennial Conference**

The theme of the Coastal and Estuarine Research Federation Biennial Conference, November 6-10, 2011 in Daytona Beach, Florida, *Societies, Estuaries and Coasts: Adapting to Change*, reflects a growing realization that human societies are an integral component of ecosystems and the dynamics of these societies and ecosystems are interactive - their futures are interdependent. The conference will address socioeconomic drivers and responses.

<http://www.sgmeet.com/cerf2011/>

### **Dive GIS Summer Course - Italy**

Learn Geographic Information Systems and remote sensing methodologies while becoming a certified SCUBA diver through the Dive GIS summer course, July 31-August 10 in Crotona, Italy. The deadline for registration is June 8, 2011.

<http://www.mappamondogis.it/divegis.htm>

### **Environmental Education Methods – Minnesota**

The National Conservation Training Center offers the course, OUT8160: Environmental Education Methods, every two years; this year it will be held October 18-21, 2011 in Fergus Falls, Minnesota. The course helps participants incorporate evaluation strategies into program planning and implementation, and learn about working with students, teachers, youth groups, and their leaders on and off public lands. Participants will begin developing a project for their site during the course, then complete and implement it as a required post-course assignment.

<http://training.fws.gov/nctcweb/catalog/CourseDetail.aspx?CourseCodeLong=FWS-OUT8160>

Contact Michelle Donlan at [Michelle\\_Donlan@fws.gov](mailto:Michelle_Donlan@fws.gov)

### **Exploring the Ocean through Science and Children's Literature - Maine**

This three-day course for educators, June 27-29, 2011 from South Portland, Maine, features hands-on activities geared to grades 4-6, relevant children's literature, and current scientific data.

<http://friendsofcascobay.org/default.aspx>

### **Islands of the World XII Conference**

Prospective participants are invited to submit abstracts or posters for the Islands of the World XII Conference 2012, May 29-June 1, 2012 in the British Virgin Islands. The conference theme is Globalisation: Islands Adapting To Change. The deadline for submission is September 30, 2011.

<http://www.hlsc.edu.vg/islandxii/>

### **JASON Project Professional Development - Various**

The JASON Project and its partners connect students with explorers and events to inspire and motivate them to learn science. Check the website for upcoming professional development, including workshops, summer academies, and more.

<http://inov8ed.com/welcome/the-new-jason-project-3/>

### **National Coastal Conference**

The theme of the American Shore and Beach Preservation Association's national coastal conference, October 19-21, 2011 in New Orleans, Louisiana, is *Expanding Coastal Horizons*. The conference will bring together scientists, policy makers, and others to discuss the latest developments with respect to the coast.

[http://www.asbpa.org/conferences/conf\\_fall\\_11.htm](http://www.asbpa.org/conferences/conf_fall_11.htm)

### **NAAEE Annual Conference**

Registration is open for NAAEE's Annual Conference 2011, *Branching to the Future, Rooted in Time*, to be held October 12-15, 2011 in Raleigh-Durham, North Carolina. Join more than 1,000 environmental educators from North America and abroad, take advantage of the field experiences offered, and check out the Research Symposium.

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

### **New England Aquarium's Summer Institutes - Massachusetts**

New England Aquarium's professional development programs are designed to provide firsthand experience in inquiry based science to participants at the aquarium through behind-the-scenes tours, field trips, and classroom activities. The following programs

are based in Boston, Massachusetts; see the website for complete details, including follow-up dates.

- Watershed Education Course, July 27–29, 2011
- On the Waterfront: Integrating Science Standards through Classroom and Field Investigations, August 8–13, 2011
- Museum Institute for Teaching Science, July 11-22, 2011

[http://www.neaq.org/education\\_and\\_activities/teacher\\_resources/professional\\_development/workshops/index.php](http://www.neaq.org/education_and_activities/teacher_resources/professional_development/workshops/index.php)

### **NMEA Conference**

This year's theme for the National Marine Educators Association annual conference, June 29-July 3, 2011 in Boston, Massachusetts, is *Cape to Cape: In the Hub of Marine Education*. Check out the concurrent sessions, Independence Day Guide, sign up for field trips, and more.

<http://www.massmarineeducators.org/NMEA2011/>

### **Ocean Acidification Teacher Workshop - Florida**

Three free Ocean Acidification Teacher Workshops will be held June 14, 15, and 16, 2011 in south Florida. Participants will learn to use real data from NOAA to teach ocean acidification and how it affects coral reefs and other marine calcifiers through the five integrated, scalable lesson plans associated with the ocean acidification module. The workshops will include hands-on demonstrations and experiments, a background science presentation on ocean acidification, and a walk-through of the five lesson plans and data exercises that are part of this Data-in-the-Classroom project.

[http://coralreef.noaa.gov/education/educators/resources/2011\\_fl\\_wkshps.pdf](http://coralreef.noaa.gov/education/educators/resources/2011_fl_wkshps.pdf)

### **SACNAS National Conference**

SACNAS is a society of scientists dedicated to advancing Hispanics/Chicanos and Native Americans in science. The theme for the 2011 SACNAS National Conference, October 27-20, 2011 in San Jose, California, is *Empowering Innovation & Synergy Through Diversity*.

<https://sacnas.org/civcrm/event/info?reset=1&id=11>

### **Stone Laboratory Summer Courses – Ohio**

Stone Laboratory, Ohio State University's island campus on Lake Erie, offers science courses each summer for educators, advanced high school students, undergraduate, and graduate students. Teachers can learn innovative ways to incorporate Great Lakes science into their classrooms. Educator courses include Climate Change Education, Principles of Oceanography for Educators, Field Ecology, and much more. Scholarship funds are available.

<http://stonelab.osu.edu/>

### **Summer of Learning - Virginia**

Longwood University is sponsoring the pilot institute, SOLstice: Summer of Learning - Science Teachers Investigating the Chesapeake Environment, July 11-August 5, 2011 in Farmville, Virginia. This Chesapeake Bay Academy will bring together university faculty, practicing middle-school teachers, and pre-service middle-school science teachers to work collaboratively as teacher-researchers.

<http://www.longwood.edu/liberalstudies/33955.htm>

### **Wildlife Conservation Society Courses and Webinars - Online**

Wildlife Conservation Society webinars are an opportunity to learn more about animals and the science of studying wildlife. The six-week courses provide opportunities to examine zoology, ecology, and conservation, through topics including predators, marine biology, habitat ecology, and climate. Summer courses include Marine Biology for Elementary Educators, Conservation Biology for Educators, and more.

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

## **EDUCATIONAL RESOURCES**

### **Aquarius Mission**

Follow along with the upcoming launch of the Aquarius/SAC-D satellite, being developed by NASA and the Space Agency of Argentina. Aquarius will measure sea surface salinity to provide the global view of salinity variability needed for climate studies. Check out the educational resources and more.

<http://aquarius.gsfc.nasa.gov/>

### **Atlantis Expedition AT18-07**

Join researchers on the R/V *Atlantis*, June 26-July 14, 2011 off the west coast of the United States as they explore how water flows in the earth's crust beneath the seafloor, and examine geochemistry, rock alteration, and microbes living in the seafloor. The education program will focus on the nature and process of science - how we ask questions, test ideas, gather data, problem-solve, circle back to new questions and collaborate with scientists around the world in the service of transformative research. Sign up to schedule a Skype call with scientists on board focusing on robotics, careers, geology, and more.

<https://spreadsheets.google.com/spreadsheet/viewform?formkey=dHoxdF9CUFJOSDRJRE1zNkIOV3FkLVE6MA>

### **Bering Sea Learning Resource Collection**

This collection of resources includes lesson plans developed through the collaboration of teachers and scientists involved in research during the Bering Sea Ecosystem Study, along with links to videos, visualizations, and other K-12 educational resources.

<http://www.polartrec.com/collections/bering-sea-ecosystem>

### **Bermuda Deep Water Caves 2011**

NOAA's Office of Ocean Exploration and Research will launch The Bermuda Deep Water Caves 2011: Dive of Discovery Expedition website June 3, 2011. Postings will include daily logs, videos and images; an Ocean Explorer Expedition Education Module; lesson plans; and more. The expedition will run June 7-24, 2011.

<http://oceanexplorer.noaa.gov/explorations/11bermuda/welcome.html>

### **Beyond Weather and the Water Cycle**

Beyond Weather and the Water Cycle, from Ohio State University, is an online professional development magazine which focuses on preparing elementary teachers to teach climate science concepts while integrating inquiry-based science and literacy instruction. The project aims to increase elementary teachers' understanding of climate and climate change, increase the amount and quality of science taught in elementary classrooms, and build a virtual professional learning community of practice around the

teaching of climate and climate change. Current materials include The Sun and Earth's Climate and Understanding Earth's Climate. Additional materials will be added.

<http://beyondweather.ehe.osu.edu/>

### **Biocultural Heritage Website**

The International Institute for Environment and Development and partners have launched this website with its focus on biocultural heritage. Biocultural heritage includes a wealth of biological resources, from genetic to landscape level, and long standing traditions and practices for their sustainable use and adaptive management. It also describes the bundle of rights that support indigenous peoples and local communities. Resources include background information, tools and materials, policy and practice, and more.

<http://biocultural.iied.org/>

### **Coral Reef and Climate Change**

Through Coral Reefs and Climate Change, COSEE Coastal Trends' newest module offers students the chance to explore the coral reefs of Pacific islands by clicking on symbols in the interactive or by using the menu to the left to investigate a question.

[http://www1.coseecoastaltrends.net/modules/coral\\_reefs\\_and\\_climate\\_change/get\\_start\\_ed/](http://www1.coseecoastaltrends.net/modules/coral_reefs_and_climate_change/get_start_ed/)

### **Coral Reefs in Hot Water Visualization**

The American Museum of Natural History in New York, in collaboration with NOAA has just released a new visualization, Coral Reefs in Hot Water. The visualization uses NOAA satellite data along with bleaching observations from ReefBase and elsewhere to show that coral reefs took the heat in 2010. The website offers links to background information and more.

[http://sciencebulletins.amnh.org/?sid=b.v.coral\\_reefs.20110511](http://sciencebulletins.amnh.org/?sid=b.v.coral_reefs.20110511)

### **Edutopia Summer Blog**

Learn more about project-based learning, classroom management techniques, how to use new media tools in the classroom, and more through this summer blog from Edutopia. Each week, new tools and tips will be added to help you improve your teaching practice.

<http://www.edutopia.org/blog/professional-development-series>

### **Energy Works Michigan**

Energy Works Michigan offers free, downloadable lesson plans on energy efficiency, solar energy, and wind energy. The hands-on, inquiry-based lessons, written for students in grades 3-12, challenge students to conduct classroom energy audits, interpret wind maps to assess potential wind turbine sites, and more.

<http://energyworksmichigan.org/educational-resources>

### **Exploring Oceanography Using Data from MBARI**

This guide introduces educators to the classroom use of oceanographic data from the Monterey Bay Aquarium Research Institute with near real-time, quality controlled data on surface and subsurface temperature and salinity; CO<sub>2</sub> and O<sub>2</sub> concentrations; and relative fluorescence. Teaching topics include topography; plate tectonics of the ecology of the Monterey Bay region; and more.

<http://serc.carleton.edu/usingdata/datasheets/MBARI.html>

### **Fresh and Salt Curriculum**

Explore the world of water and spice up your classroom with a little *Fresh and Salt*, a collection of activities connecting Great Lakes and ocean science topics to enhance teacher capabilities for accessing science information in Great Lakes and ocean sciences. This collection provides an interdisciplinary approach to ensure students achieve optimum science understanding of both Great Lakes and Ocean Literacy Principles. A varied range of instructional modes is offered, including data interpretation; experimentation; simulation; interactive mapping; and investigation.

<http://coseegreatlakes.net/curriculum/>

### **Lessons from the Deep**

NOAA's Office of Ocean Exploration and Research has sponsored 11 expeditions to explore deep-sea organisms and ecosystems in the Gulf of Mexico. Each of these expeditions is documented on NOAA's Ocean Explorer website, and includes lesson plans for educators at grade levels 5-12. The *Lessons from the Deep: Exploring the Gulf of Mexico's Deep-Sea Ecosystem Education Materials Collection* includes an Educators' Guide providing background information, along with 16 associated lesson plans.

Additional lessons and activity guides will be added to the collection as more information is produced from ongoing exploration and research activities. Lessons in the collection touch on a wide variety of topics related to physical science, life science, Earth science, and technology applications; and offer many opportunities for cross-curricular activities involving social studies, language arts, mathematics, and fine arts.

<http://oceanexplorer.noaa.gov/edu/guide/welcome.html>

### **MPA Videos**

The National Marine Protected Areas Center has posted four new videos on their website. Topics include protecting cultural resources, natural resources, and more.

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

### **Ocean Acidification Data-in-the-Classroom Module**

NOAA's Coral Reef Conservation Program and partners have developed a new Ocean Acidification Data-in-the-Classroom Module, as part of the NOAA Ocean Data Education (NODE) Project. The module incorporates real and near-real time ocean acidification data collected in the Caribbean region and maintained by the National Oceanographic Data Center. These data sets support a collection of five scalable lesson plans designed for grades 10-12, simulations, and more. The lesson plans are organized as a pathway with five levels of increasing sophistication and student engagement, starting from simple science parameters and culminating in student-driven research. A beta version of the module is available online.

<http://www.dataintheclassroom.org/content/oa/>

### **Online Instructional Resources**

Michigan State University offers links to instructional resources from across the Internet. The three broad categories are Teaching and Learning Resources, Resources for Teaching in the Disciplines, and Resources for Teaching to the Competencies. The website offers quick and logical access to the resources, including multiculturalism, assessment, instructional design, and more.

<http://fod.msu.edu/OIR/index.asp>

### **Outreach and Interpretation for Archeologists**

The National Park Service offers online resources useful for archeologists for outreach and education. Offerings include Interpretation for Archeologists: A Guide to Increasing Knowledge, Skills, and Abilities; Archeology for Interpreters; the NPA Archeology Guide module on Archeology Outreach; and much more. Check these out.

<http://www.nps.gov/archeology/sitemap.htm>

### **Pathways for Play**

The guidebook, Pathways for Play: Best Practices for Children, Families, and Communities, is available upon request at no cost. In addition, interactive tools on the supporting website allow visitors to share stories, photographs, and ideas, and discover books and downloadable seasonal activities to help maximize pathway enjoyment.

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

### **PowerUp**

The 3D action strategy game PowerUp challenges players to save an imaginary planet while learning engineering and science principles by carrying out missions to supply solar, wind, and water power. In addition to the downloadable game, the website offers lesson plans, a teacher's guide, and more.

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

### **Primer on Hypoxia in the Gulf of Mexico**

This product of last year's Hypoxia Coordination Workshop addresses action items and supports the goals and actions of the Mississippi River/Gulf of Mexico Watershed Nutrient Task Force. The primer offers background information about hypoxia, along with its causes and its impacts.

[http://www.gulfofmexicoalliance.org/pdfs/Primer\\_on\\_Hypoxia\\_in\\_the\\_Gulf\\_of\\_Mexico.pdf](http://www.gulfofmexicoalliance.org/pdfs/Primer_on_Hypoxia_in_the_Gulf_of_Mexico.pdf)

### **Safe Trails Forum**

American Trails hosts the online Safe Trails Forum to share information on ways to improve trail experiences for users while making management more effective. The goal of the forum is to continue to improve trail safety and to assure that the risks associated with trail recreation are kept in balanced perspective. The Forum collects resources on liability, insurance, and legal issues; trail maintenance concerns; crime and accident reporting; and provides a forum for discussion.

<http://www.americantrails.org/resources/safety/index.html>

### **SCEC Education Module**

The Southern California Integrated GPS Network completed an array of 250 continuously-operating GPS stations. The online education module offers information and activities on plate tectonics, earthquakes, and more using space technology to observe and measure tectonic motion of the Earth's surface.

<http://scign.jpl.nasa.gov/learn/index.htm>

### **Science for Citizens**

ScienceForCitizens.net aims to bring together citizen scientists, projects, and the resources, products, and services that enable citizens to pursue citizen science activities. Check out projects, blogs, and more.

<http://scienceforcitizens.net/>

### **Science of Marine Reserves Booklet Series**

The Partnership for Interdisciplinary Studies of Coastal Oceans has released the latest booklet in its series on the science of no-take marine reserves. The new booklet summarizes current peer-reviewed knowledge and focuses on Europe, with several case studies from European MPAs. PISCO first published its *Science of Marine Reserves* booklet in 2002, and updated it in 2007 with U.S. and international versions. It also offers a Latin and Caribbean version. The series is available for downloading from the website.

<http://www.piscoweb.org/publications/outreach-materials/science-of-marine-reserves>

### **Science Since the Spill**

COSEE teamed with the Smithsonian Institution's National Museum of Natural History to host a scientific panel focused on the Gulf of Mexico 2010 oil spill, *Science Since the Spill: One Year After the Deepwater Horizon Oil Disaster*. In this archived webcast, watch experts discuss what happened, what we have learned, and the current status of the Gulf of Mexico one year after the Deepwater Horizon oil spill began.

<http://ocean.si.edu/ocean-news/changing-tides-series-ocean-discussions>

### **Science.gov Image Search**

Science.gov Image Search searches the metadata from images provided by three Federal agencies, with more image databases expected to be added in the future. The current search includes The National Biological Information Infrastructure Library of Images from the Environment, the NASA Image eXchange, and the NOAA Photo Library.

<http://www.science.gov/scigovimage/>

### **Sea of Sound**

The Sea of Sound DVD from the Cornell Lab of Ornithology immerses viewers in the world of underwater sound with imagery, sound, and computer graphics. The DVD comes with eight standards-based classroom activities for 7-12th grade physics and biology courses, sound analysis software, and marine sounds. To celebrate the release of this NSF/NOPP funded project, the Cornell Lab is shipping the first 1000 DVDs to educators who work with groups age 10 and up, free on a first-come-first-serve basis. Note that all attendees at the upcoming NMEA annual conference will receive a copy in their conference bag.

Send your postal address to [SeaofSound@cornell.edu](mailto:SeaofSound@cornell.edu).

### **Species Naming Contest Results**

Science can sometimes work slowly. After more than two years, the Bonaire Banded Box Jellyfish Species Naming contest has finally resulted in a new name. Meet the science team, follow the process, learn about taxonomy, learn why it took so long to get published, and read the paper in *Zootaxa*.

[http://yearofscience2009.org/themes\\_ocean\\_water/general/jellyfish.html](http://yearofscience2009.org/themes_ocean_water/general/jellyfish.html)

### **TeacherTube and TeacherVision**

TeacherTube is a professionally vetted site that offers educators an online community for sharing instructional teacher videos with others around the world through an interface which resembles that of YouTube. Visitors can search for videos by keyword, review helpful documents, and more. TeacherVision, under Teaching Resources, offers an online library of lesson plans, printable books, and more.

<http://www1.teachertube.com/>

### **Teaching the Ocean System: Resources for Educators**

This website from Carleton College's On the Cutting Edge program brings together data sets, tools, lesson plans, and interactive visualizations to help teach about oceanography and ocean systems. Links include data sets, Internet resources, visualizations, teaching materials, and more.

<http://serc.carleton.edu/NAGTWorkshops/ocean/>

### **Topographic and Bathymetric Data Inventory**

The first comprehensive inventory of elevation data sets for the nation is now available on NOAA's Coastal Services Center's website. NOAA and FEMA worked together to inventory elevation data, both topographic and bathymetric, for all 50 states and Puerto Rico. Current information focuses primarily on large data sets available for an area.

<http://www.csc.noaa.gov/topobathy/#>

### **Using Real Time Data Resource Guide**

Hatfield Marine Science Center offers this guide containing links to a host of Internet sites that have real-time data. These sites can enhance traditional classroom lessons with students using real-time data to investigate earth systems. Categories include Best Practices and Tips, Understanding Satellite Imagery, Projects, and Real-Time Data Resources.

[http://hmsc.oregonstate.edu/visitor/sites/default/files/education-programs/docs/Using-Real-time\\_Data.pdf](http://hmsc.oregonstate.edu/visitor/sites/default/files/education-programs/docs/Using-Real-time_Data.pdf)

### **Where in the World? Ocean Observations**

The Office of National Marine Sanctuaries offers this website with data about the whereabouts and track of four research vessels, R/V *Auk*, *Fulmar*, *Manta*, and *Shearwater*. The website also includes water quality data collected during operations. Check out the current data from R/V *Manta*, the research vessel for Flower Garden Banks National Marine Sanctuary. Select the ship name from the pull-down in the upper left, and then "Find It". Then, click on the red vessel track to see data from a specific site or select a time-stamped entry from the data chart to the right of the map.

[http://www.ncddc.noaa.gov/website/google\\_maps/PaCOOS/mapsPaCOOS.htm](http://www.ncddc.noaa.gov/website/google_maps/PaCOOS/mapsPaCOOS.htm)

### **Writers' Resources**

Google offers links of resources for writers. Categories include education and training, journaling, style guides, and more.

[http://www.google.com/Top/Arts/Writers\\_Resources/](http://www.google.com/Top/Arts/Writers_Resources/)

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

### **Georgia Coast Saltwater Paddle Trail**

The Georgia Coast Saltwater Paddle Trail action plan is provided as a resource for paddlers planning a trip to see the natural beauty of Coastal Georgia. Many portions of the coast have no connection to the mainland and are only accessible by water. In order to experience this expansive coast, one must travel the waters of Coastal Georgia's tidal marshes. This document can serve as a guide to provide trip planning information including marked routes, access points, amenities, safety information, and links to other paddling resources. It is not meant to be a standalone document for planning a Coastal Georgia paddle trip, but one of many resources needed to prepare a proper float plan. It

is highly recommended that potential visitors use the services of guides as there is no substitute for local knowledge in the vast marshes of the Georgia Coast.

<http://www.crc.ga.gov/docs/bluewayplanfinal.pdf>

### **Good Mate Program**

Ocean Conservancy has launched the Good Mate program to encourage green boating in oceans and waterways. The website includes tips and information for boaters and marinas.

<http://www.oceanconservancy.org/good-mate/>

### **International Day for Biological Diversity 2012**

The Secretariat of the United Nations Convention on Biological Diversity has announced that the theme of the 2012 International Day for Biological Diversity, May 22, 2012, will be *Marine and Coastal Biodiversity*. The theme will contribute to the Rio + 20 meeting and the work of the Global Forum on Oceans, Coasts and Islands taking place there in collaboration with the Secretariat; Expo 2012 in Yeosu, Republic of Korea May-July 2012; and the World Ocean Summit in Singapore in February 2012. Materials and information resources will be available in fall 2011.

<http://www.cbd.int/idb/>

### **Last Wild Places in the Ocean – Washington, D.C. and Online**

To celebrate World Ocean Day, National Geographic Ocean Fellow Enric Sala takes participants on a virtual expedition to the biologically-rich waters of Chile, Costa Rica, and Kiribati, June 8, 2011. Join Sala in-person at the Smithsonian's National Museum of Natural History or tune in to the live webcast on the Ocean Portal.

<http://ocean.si.edu/ocean-videos/last-wild-places-ocean-webcast>

<http://www.mnh.si.edu/calendar.asp?trumbaEmbed=view%3Devent%26eventid%3D94172278>

### **Marine Debris App**

The Marine Debris Tracker mobile application, an app for both Android and iPhone, allows users to track trash on coastlines and waterways. The homepage is automatically updated with the five most recent items tracked by various users. The website also offers a map of the data that participants have tracked.

<http://www.marinedebris.engr.uga.edu/>

### **National Coastal and Marine Spatial Planning Workshop**

The National Ocean Council invites the public to a public session on Coastal and Marine Spatial Planning (CMSP) in Washington, D.C. on June 21, 2011. Workshop participants will learn about CMSP and help shape how it can be used to help harmonize the often competing water use, such as national security, energy and economic security, and conservation. This national session will be followed by additional opportunities for public engagement through future regional workshops. Space is limited and registration is required. Those who cannot attend the session in person can participate through a live webcast.

<http://www.whitehouse.gov/administration/eop/oceans/cmsp-workshop>

<http://www.doi.gov/news/video/live.cfm>

### **National Trails Day**

National Trails Day, the first Saturday in June (June 4, 2011), is celebrated annually by the American Hiking Society and partners. Find or register an event near you.

<http://www.americanhiking.org/National-Trails-Day/Info/>

### **Ocean Science Journal**

*Ocean Science* is the science and technology journal of the Department of the Interior's Bureau of Ocean Energy Management, Regulation and Enforcement. The bureau is the federal agency responsible for overseeing the safe and environmentally responsible development of energy and mineral resources on the Outer Continental Shelf. Check out the current and archived issues.

[http://www.gomr.boemre.gov/homepg/regulate/environ/ocean\\_science/](http://www.gomr.boemre.gov/homepg/regulate/environ/ocean_science/)

### **Whistle Like a Bird**

The Whistle Like a Bird Contest is one of a series of activities organized by Dominica's Forestry, Wildlife and Parks Division for the observance of the Caribbean Endemic Birds Festival, an initiative of the Society for the Conservation and Study of Caribbean Birds, and runs from Earth Day (April 22) to World Biodiversity Day (May 22) each year. Check this cool idea out through the YouTube video.

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

### **World Ocean Day – June 8**

World Ocean Day is June 8, 2011, when organizations and individuals from around the world come together to celebrate our world ocean; reflect on the ocean's importance in our lives; and take time to do something good for our blue planet. The theme for 2011 is *Youth: the Next Wave for Change*. The Ocean Project sponsors this website, in English and Spanish, to coordinate World Ocean Day events with resources, tools, and activities.

<http://worldoceansday.org/>

### **World Science Festival – New York**

The World Science Festival, June 1-5, 2011 in New York City, New York, offers a wide array of cutting-edge science programs designed to make the esoteric understandable and the familiar fascinating. Scientists, artists, and others join for a celebration of science through discourse and debate, dance and theater, film, music and the visual arts.

<http://worldsciencefestival.com/>