

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
INFORMATION EXCHANGE FOR MARINE EDUCATORS

SEPTEMBER 2008

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

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

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

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Collected archives of the information presented in past newsletters are available at http://mpa.gov/helpful_resources/education_training.html. Contact the editor directly at phyllis.dermer@noaa.gov, or by phone at (865) 932-5074, to discuss further enhancements or to contribute information for future issues.

Notable Reference

Handbook on Public Participation in International Waters Management

This draft publication, available for download from the website, is produced by the International Waters Learning Exchange and Resource Network (IW:LEARN). The handbook provides an overview of the essential considerations related to planning public and stakeholder involvement in international waters management and a set of tools for implementing those plans. Each chapter focuses on a specific topic related to participatory water management, and can be used as a reference for that particular issue or process. The handbook is not a step-by-step toolkit for public participation in international waters management, but is meant to be used in conjunction with the references which are referred to throughout the text. Chapter seven discusses environmental education and outreach. (Beware: large file).

MESSAGE FROM THE BRIDGE

On the Half Shell

With the recent closure of New Jersey's waters in the Delaware Bay to the harvesting of oysters, clams, and mussels, due to the presence of increased levels of the naturally-occurring bacterium *Vibrio parahaemolyticus*, thoughts turn to the safety of our seafood, especially during the summer months. The Bridge can help you incorporate this current event and real scientific data from the Center for Disease Control with the Data Analysis Teaching Activity (DATA), *On the Half Shell*. In this activity, students will learn about *Vibrio vulnificus*, another species of naturally-occurring bacteria, analyze eight years of illness data, and evaluate trends. Students who need graphing practice can use the data table to produce several different types of graphs. On the Half Shell is one of many Bridge DATAs that has been reformatted to more closely match a formal lesson plan, complete with summary, objectives, and list of vocabulary words. All Bridge DATAs are aligned to the National Science Education Standards.

http://www2.vims.edu/bridge/DATA.cfm?Bridge_Location=archive1204.html

<http://www.marine-ed.org/bridge>

REQUESTS

Artists For The Ocean

The nonprofit Art & Science Collaborations, Inc. has posted an open call for an online exhibition and perhaps coffee-table book project and is soliciting documentation from artists around the world. The mission of this project is to demonstrate how the arts can be an effective tool in raising public awareness and inspiring ocean stewardship by creating a visceral reaction to the critical state of our ocean and its many endangered species.

<http://www.asci.org/artikel806.html>

GRANTS AND OPPORTUNITIES

Best Buy Te@ch Awards

The Best Buy Te@ch program rewards schools for successful interactive programs they have launched with available technology. The awards target programs that focus on kids using technology to learn a standards-based curriculum, rather than on teaching students to use technology or educators using technology that children aren't able to use hands-on. The submission deadline is October 12, 2008.

<https://bestbuyteach.scholarshipamerica.org/>

Campus Climate Challenge

The Campus Climate Challenge is a project of the Energy Action Coalition to provide stipends and year-long support to Climate Change Educators to win global warming victories at schools nationwide. The deadline for application is September 26, 2008.

http://ww2.earthday.net/~earthday/files/programs/teachers/CCEApplication08_09.doc

Faraday Science Communicator Award

This award, sponsored by National Science Teachers Association (NSTA), recognizes and honors an individual or organization that has inspired and elevated the public's

interest in an appreciation of science. The individual will not be a classroom teacher, but will work in or have developed a compatible setting for science communication: i.e., museum, nature center, zoo, state park, aquarium, radio, television, internet, or other science-rich institutions or media. The individual may also be connected to a science setting through his or her involvement with civic organizations and child-education facilities: i.e., preK child-development centers, 4-H clubs, or other similar organizations. The organization will desire to instill in the public an appreciation for science through communication efforts at the local, state, and national levels. The deadline for application is November 30, 2008.

<http://www.nsta.org/about/awards.aspx#faraday>

Fellowship Program for Emerging Leaders - Southeast

The Environmental Leadership Program invites applications for its Southeast Regional Network Training Series for Emerging Leaders. Through hands on training, community building activities and participatory group discussions, fellows hone the practical skills of public leadership, develop a strong peer network, and explore ways to achieve lifelong personal and professional goals. The program is open to individuals living or working in the Southeast - Alabama, Georgia, the Carolinas, northern Florida, and central and eastern Tennessee. The deadline for application is November 6, 2008.

<http://www.elnet.org/southeastnetwork/training.php>

Increase Your Green School Competition

DoSomething.org is calling on students to green their schools. Students who make the biggest effort to reduce their school's carbon footprint this fall could win money and prizes to further their efforts. The deadline for application is December 15, 2008.

http://www.dosomething.org/increase_your_green

Kids in Need Teacher Grants

The purpose of these grants is to provide funds for classroom teachers who have innovative, meritorious ideas. A project may qualify for funding if it makes creative use of common teaching aids, approaches the curriculum from an imaginative angle, or ties nontraditional concepts together for the purpose of illustrating commonalities. The applicant must be a K-12 certified teacher working at a public, private, or parochial school in the subject of the project. The deadline for application is September 30, 2008.

<http://www.kidsinneed.net/grants/guidelines.php>

Lowe's Toolbox for Education Grants

The Lowe's Toolbox for Education offers grants to schools (K-12) and parent/teacher groups across the United States. School projects should encourage parent involvement and build stronger community ties. Samples of funded projects are ones that engage students with their school's surrounding environment. The next deadline for application is October 17, 2008.

<http://toolboxforeducation.com/>

National Recreation Trails Photo Contest

American Trails is sponsoring the 2008 contest for photographs of National Recreation Trails across the country. This annual contest provides awards in the categories of trail use, management, and features, along with artistic merit. They are looking for photos of trail users as well as special facilities, art on the trails, management issues, construction, and volunteers. They hope entries cover the many types and uses of National Recreation Trails throughout America. The entry deadline is December 15, 2008.

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

Nature Conservancy Photo Contest

The Nature Conservancy invites you to enter your stunning nature images in the annual digital photography competition. They seek beautiful original digital images of our lands, waters, plants, animals and people in nature. They are especially interested in images that showcase the wide range of habitats across the planet, including all types of forests, grasslands, lakes and rivers, deserts and arid lands, rainforests, marine habitats, and coral reefs. The deadline for entry is October 15, 2008.

http://support.nature.org/site/PageServer?pagename=contest_ph6

NEA Learning and Leadership Grants

The NEA Foundation Learning and Leadership Grants support public school teachers, public education support professionals, and/or faculty and staff in public institutions of higher education. Grants to individuals may fund participation in high-quality professional development experiences, such as summer institutes or action research, while grants to groups fund collegial study, including study groups, action research, lesson study, or mentoring experiences for faculty or staff new to an assignment. All professional development must improve practice, curriculum, and student achievement. Grants are awarded three times each year; the next deadline for application is October 15, 2008.

http://www.neafoundation.org/programs/Learning&Leadership_Guidelines.htm

Neotropical Migratory Bird Conservation Grants

The U.S. Neotropical Migratory Bird Conservation Act established a competitive grants program to support public-private partnership projects that promote the conservation of neotropical migratory birds and their habitats in the United States, Canada, Latin America or the Caribbean. Goals include perpetuating healthy populations of these birds, providing financial resources for bird conservation initiatives, and fostering international cooperation for such initiatives. The deadline for proposals is November 13, 2008.

<http://www.fws.gov/birdhabitat/grants/nmbca/>

Ocean Guardian Kid's Club and Contest - Deadline Extended

The Hawai'i Ocean Guardians Kid's Club and Contest is part of the 2008 International Year of the Reef. The contest is open to all students in grades K-8 in the United States, and encourages youngsters to express their insights and observations about the ocean and sensitive coral reef ecosystems through the creation of original stories, poetry, or works of art. The extended deadline for entries is October 24, 2008.

http://www.nmsfocean.org/og_contest.asp

Preserve America Grants

The Fish and Wildlife Service and the National Fish and Wildlife Foundation recognize the importance of protecting and interpreting the National Wildlife Refuge System's rich history and historic sites. As such, they offer Preserve America Grants to foster interpretive, education, and visitor initiatives that incorporate history and historic sites into the refuge system's mission. This program seeks to protect historic sites, integrate history into refuge interpretive and education programs, and build partnerships with communities and organizations interested in supporting refuge programs. The deadline for application is November 1, 2008

http://www.nfwf.org/AM/Template.cfm?Section=Browse_All_Programs&CONTENTID=6417&TEMPLATE=/CM/ContentDisplay.cfm

Sylvia Shugrue Award for Elementary School Teachers

This award honors one elementary school teacher with a minimum of five years experience who has established (or is establishing) an interdisciplinary, inquiry-based lesson plan. The lesson plan will fully reference sources of information and any relevant National Science Education Standards and benchmarks found in the Atlas of Science Literacy. The deadline for application is November 30, 2008.

<http://www.nsta.org/about/awards.aspx#shugrue>

SeaWorld/Busch Gardens Environmental Excellence Awards

The SeaWorld/Busch Gardens, in cooperation with other environmental and conservation organizations, offer the SeaWorld/Busch Gardens Environmental Excellence Awards to recognize and reward K-12 student groups working at the grass-roots level to protect and preserve their local environment. The program has been expanded to include non-profit community groups with similar motives. The deadline for submission is November 28, 2008.

<http://seaworld.org/conservation-matters/eea/index.htm>

Shell Science Teaching Award

This award recognizes one outstanding K–12 classroom science teacher who has had a positive impact on his or her students, school, and community through exemplary classroom science teaching. The deadline for application is October 15, 2008.

<http://www.nsta.org/about/awards.aspx#shell>

St. Andrews Prize for the Environment

The St. Andrews Prize for the Environment, an initiative by the University of St. Andrews in Scotland and ConocoPhillips, provides seed funding to help promote the implementation of innovative solutions to environmental problems. Solutions should be practical, combine good science, economic reality, political acceptability, and have the potential for wider application elsewhere. The deadline for submission is October 31, 2008.

<http://www.thestandrewsprize.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 K-6 grant applications, is October 1, 2008.

<http://www.toshiba.com/tafpub/jsp/home/default.jsp>

Toyota Tapestry Grants for Science Teachers Program

Toyota Tapestry Grants are administered by NSTA and are available to middle and high school science teachers who teach at least two science classes a day and to elementary classroom teachers who teach at least some science in the classroom. The grants recognize outstanding educators who are making a difference by demonstrating excellence and creativity in science teaching. Categories include environmental science, integrating literacy and science, and physical science. The deadline for entry is January 21, 2009.

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

Travel Reimbursement for International Marine Conservation Congress

The Marine Section of the Society for Conservation Biology is accepting applications for travel reimbursements to cover the cost of attending the International Marine Conservation Congress. To encourage international and student participation, priority will be given to participants from developing countries and students. Please note that poster/paper/symposia/workshop acceptance is also a criterion for being awarded travel reimbursement. The deadline for application is October 15, 2008.

http://www2.cedarcrest.edu/imcc/travel_award.html

Vernier Technology Awards

Vernier Software and Technology, in conjunction with NSTA, offers awards to teachers for the innovative use of data-collection technology in the science classroom (elementary, high school, and college). The deadline for application is November 30, 2008.

<http://vernier.com/grants/nsta.html>

Volvo Adventure Awards

In collaboration with the United Nations Environmental Programme, the Volvo Adventure Award rewards environmental activities among the decision makers of the future. Environmental projects are undertaken by teams of young people, ages 13-16, to improve their local environment. The deadline for entry is January 31, 2009.

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

Zula International–NSTA Early Science Educator Award

The Zula International–NSTA Early Science Educator Awards recognizes two full-time preK–2 teachers who successfully use innovative inquiry-based science to enhance science teaching and learning in their classroom. The deadline for entry is November 30, 2008. Check the website for eligibility requirements. (Beware: application file takes a long time to download).

<http://www.nsta.org/about/awards.aspx#zula>

INTERNSHIPS AND TEMPORARY OPPORTUNITIES

Cabrillo National Monument Volunteers-In-Parks Program

Cabrillo National Monument in San Diego, California, seeks volunteers for their Volunteers-In-Parks Tidepool Protection, Education and Restoration Program. Educate visitors and help them to create their own personal intellectual and emotional connections with this fragile ecosystem. An introductory orientation and training conference for new and returning volunteers will be held September 13, 2008; register by September 10, 2008.

Contact Marcy Marquez at Marcy_Marquez@nps.gov

PolarTREC Teachers

Teachers are invited to submit an application to participate in field research learning experiences through the PolarTREC (Teachers and Researchers Exploring and Collaborating) program. PolarTREC pairs K-12 teachers with researchers to improve science education through authentic polar research experiences. The program integrates research and education to produce a legacy of long-term teacher-researcher collaborations, improved teacher content knowledge, and broad public interest and engagement in polar science. The deadline for application is September 29, 2008.

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

CONFERENCES, WORKSHOPS, AND PROFESSIONAL DEVELOPMENT

American Museum of Natural History's Graduate Science Courses – Online

Deepen your knowledge with Seminars on Science courses from the American Museum of Natural History. Fall Session 2 courses (including The Ocean System, Evolution, Earth: Inside and Out, and more) run October 20-November 30, 2008; the deadline for discounted early registration is September 22, 2008.

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

Atlas of Science Literacy Workshops - Various

The American Association for the Advancement of Science offers three-day workshops on the Atlas of Science Literacy throughout fall 2008, with future workshops planned for 2009. Participants will use Atlas 1 and 2 and other Project 2061 resources to enhance their understanding of science literacy and to improve curricula, instruction, and assessment. Registration is limited and earlybird rates are available.

<http://www.project2061.org/events/workshops/default.htm?txtRef=&txtURIId=%2F070619%2Fworkshops>

Coastal Restoration Workshop – California

The California Coastal Commission is hosting a series of free workshops on how to develop a volunteer-based habitat restoration program; the next seminar will be held September 18, 2008 in Carlsbad, California. The workshops will introduce the guide, Digging In: A Guide to Community Based Habitat Restoration. The guide covers each step of a volunteer restoration project, from getting permissions, to collecting seeds, to conducting outreach for your restoration event. The deadline for registration is September 6, 2008.

<http://www.coastal.ca.gov/publiced/UNBweb/diggingin.html>

Contact Kristina Finstad at kfinstad@hotmail.com

Communication Workshops - Online

The Goodman Center was founded to help nonprofits recruit, propose, persuade, and present more effectively. This new online education venture will offer interactive online workshops from nationally recognized experts, designed to teach nonprofit professionals how to effectively communicate the significance of their causes. The courses will offer guidance on how organizations can convincingly reach out to stakeholders through storytelling, strategic communications, market research, and compelling presentations.

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

Earth Then, Earth Now: Our Changing Climate - Online

NOAA and Sally Ride Science offered this educator conference, July 23-24, 2008, to teach K-12 educators how to integrate the science of earth's changing climate into their classroom lesson plans. The webcasts, available as streaming video, are now available online for those who were unable to attend.

http://www.sallyridescience.com/for_educators/conferences/climate/live

Exploring the Coastal Wetlands of Texas

This workshop, sponsored by Texas Marine Education Association from September 26-28, 2008 in Port Aransas, Texas, will explore wetlands along coastal Texas as participants cruise Aransas Bay. Hurry – registration is limited.

<http://statweb.org/TMEA/wetlandsworkshop.html>

International Marine Conservation Congress Call For Proposals

The call for proposals for oral presentations, speed presentations, and posters for the International Marine Conservation Congress, May 20-24, 2009 in Washington, D.C., will be opened from September 1-October 15, 2008.

<http://www2.cedarcrest.edu/imcc/index.html?CFID=10116410&CFTOKEN=25425053>

Learning Ocean Science through Ocean Exploration - Various

NOAA's Ocean Exploration Program and partners will offer introductory and follow-up Learning Ocean Science through Ocean Exploration professional development workshops for grade 5-12 science teachers. Participants will receive the curriculum with CD-ROM's, certificates of participation, and more. Contact the noted educator for registration and more information.

- California – with SeaWorld Adventures, October 4, 2008, with a follow-up workshop January 31, 2009, San Diego, California. The deadline for registration is September 26, 2008. Contact Adrienne Marriott at Creec9a@hotmail.com or register at <http://www.creec.org/region9a>.
- Georgia – with Georgia Aquarium, November 1, 2008, Atlanta, Georgia. The deadline for registration is October 10, 2008. Contact Kim Morris-Zarneke at kzarneke@georgiaaquarium.org
- Oregon – with Oregon Museum of Science & Industry, November 8, 2008, Portland, Oregon. The deadline for registration is October 24, 2008. Contact Nancee Hunter at nancee.hunter@oregonstate.edu
- Florida – with University of South Florida College of Marine Science, November 22, 2008, St. Petersburg, Florida. The deadline for registration is November 7, 2008. Contact Teresa Greely at greely@marine.usf.edu
- California – with Aquarium of the Pacific, December 6, 2008, Los Angeles, California. The deadline for registration is November 14, 2008. Contact Alie Lebeau at ALebeau@lbaop.org

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. For more information, contact the individual identified below.

- OUT8127: *Public Participation and Informed Consent – Part I*, January 21-23, 2009, the deadline for registration is November 12, 2008. Contact Ora W. Dixon at Ora_Dixon@fws.gov
- OUT8115: *Balancing Nature and Commerce in Communities that Neighbor Public Lands*, January 26-29, 2009; the deadline for registration is December 5, 2008. Contact Laura Jones at Laura_Jones@fws.gov
- OUT 8128: *Public Participation & Informed Consent – Part II*, February 18-20, 2009; the deadline for registration is December 10, 2008. Contact Sandy Spakoff at sandy_spakoff@fws.gov

- OUT8144: *Developing Festivals and Special Events*, February 23-27, 2009; the deadline for registration is December 15, 2008. Contact Laura Jones at Laura_Jones@fws.gov
http://training.fws.gov/documents/Section1_NCTC_Sponsored_Courses.pdf

EDUCATIONAL RESOURCES

Benthic Assemblages in the Twilight Zone Expedition

Join scientists aboard the NOAA Ship *Nancy Foster* for the Benthic Assemblages in the Twilight Zone Expedition in August and September, 2008 as they embark on the expedition to characterize mesophotic benthic assemblages 50-200 meters deep in the Gulf of Mexico. They will be using the Phantom II remotely operated vehicle to collect samples on a few banks along the continental shelf break. Scheduled to start August 25 but delayed due to generator problems, they will be posting daily logs, background information, and more.

<http://flowergarden.noaa.gov/science/nancyfoster08.html>

Blick on Flicks

We love watching movies, but we also love science. And sometimes the two don't mix. To help sort the good science from the bad in movies and other visual media, the NSTA website hosts audio and written reviews by Jacob Clark Blickenstaff, providing expert commentary, pointing out where the physics is twisted, the chemistry fudged, or the biology stretched on behalf of the story, without losing sight of the fact that movies are meant to entertain. Professor Blickenstaff helps make "bad science" into teachable science for middle level and high school students.

<http://www.nsta.org/publications/blickonflicks.aspx>

Coral Activity Book

Staff from NOAA's National Centers for Coastal Ocean Science and Coral Reef Conservation Program Headquarters developed a new activity book for children about the importance of coral reefs. It is available for downloading from the website.

<http://www.coastalscience.noaa.gov/education/crbook.pdf>

Digging In: A Guide to Community Based Habitat Restoration

This 164-page guide describes how individuals and organizations can become involved in helping to improve and restore coastal wetlands and other coastal habitat in their communities. The guide explains the basic steps of information gathering, site selection, project implementation, monitoring, maintenance, and working with volunteers. It includes tips on battling non-natives, as well as propagating and installing native plants. The guide is available as a downloadable pdf from the website or as a hard copy by request. The California Coastal Commission will be holding workshops to introduce the guide; see the website for details.

<http://www.coastal.ca.gov/publiced/UNBweb/diggingin.html>

Estuaries.Gov

Estuaries.gov, the educational website of the National Estuarine Research Reserve System (NERRS), has a brand new look and a host of new functions to help students and teachers understand the complexities of coastal and estuarine science. The newly designed site includes a searchable video database, animated interpretations of live

water quality and weather data from the System-Wide Monitoring Program, and a complete high-school level estuarine science curriculum.

<http://estuaries.gov/>

Fish Kids

EPA's National Fish Advisory Program has released this new Fish Kids website, using interactive stories and games to teach students ages 8-12 about contaminants in fish and fish advisories. Whether they catch their own fish or buy it at a store, kids and their families can use this site to learn how to choose fish wisely.

<http://www.epa.gov/fishadvisories/kids/>

Goliath Grouper Video

A new video has been posted on You Tube titled Guasas bajo proteccion [goliath grouper under protection]. The video is a rough cut of what will be aired eventually on Telemundo. The audio is in Spanish, and they are working on subtitles or dubbing in English.

<http://www.youtube.com/watch?v=FHRa26y-Ypk>

Habitable Planet

Annenberg Media offers this website as an online textbook, in addition to the video series in environmental science, The Habitable Planet: A Systems Approach to Environmental Science. The Habitable Planet website offers a multimedia course for high school teachers and adult learners interested in studying environmental science, with access to course content and activities developed by leading scientists and researchers in the field. The content is divided into thirteen areas, which include oceans, water resources, human population dynamics, ecosystems, and more. Within each section, visitors can make their way through separate sections within the online textbook, and also view content that includes interactive labs, graphics, video clips, and specialized glossaries.

<http://www.learner.org/channel/courses/envsci/index.html>

HotChalk's Lesson Plans

HotChalk's LessonPlansPage.com links to over 3,500 free lesson plans. They can be searched by subject, specific topic, and more. Lesson topics include wetlands, 3D models of ocean animals, and more.

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

In-School Field Trips - Florida

Vone Research, a Florida non-profit with a goal to preserve the past, present, and future through marine archaeology, coral ecology, and education, offers three programs that engage students while teaching science, language arts, social studies, and math to Sunshine State Standards. The in-school field trips are the Marine Archaeology Exploration Program, the Marine Ecology Exploration Program, and the Adaptation Ecology Exploration Program. During these programs, students become marine archaeologists or ecologists and discover the excitement of Florida, cultural and natural sciences, and archaeology or ecology while researching real artifacts or specimens found in Florida.

Contact Kristen Hoss at vonereseach@bellsouth.net

Keep Oceans Clean Campaign

This multi-media public service ad campaign is designed to encourage everyone to protect the oceans from the harm caused by marine debris. The website includes links to educational materials and background information. Check the website out for new materials, including games, PSAs, and more.

<http://www.keepoceansclean.org>

No Student Left Indoors

The purpose of this website is to help K-12 teachers, homeschoolers, and other educators to conduct a Field Guide Project, creating a field guide to your schoolyard with a species account, a catalog of the animals and/or plants found in your schoolyard. The website offers lesson plans, resources, and more to help you plan and manage your project.

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

NSTA Learning Center

The NSTA offers an online hub that provides on-demand professional development to help educators boost their knowledge about various science topics. The Learning Center has more than 3,000 electronic professional development resources and opportunities, including books, journal articles, web seminars, and online courses. More than 50 free, on-demand Science Object lessons allow teachers to increase their content knowledge at their own pace. The resource is particularly useful for K–8 teachers. Free materials cover plate tectonics, oceans effects on weather and climate, energy, and more.

<http://learningcenter.nsta.org/>

Project Budburst

Project BudBurst is a campaign of the National Phenology Network for citizen scientists. It is designed to engage the public in the collection of important climate change data based on the timing of leafing and flowering of trees and flowers. BudBurst participants take careful observations of the phenological events such as the first bud burst, first leafing, first flower, and seed or fruit dispersal of a diversity of tree and flower species, including weeds and ornamentals. The observations and records are reported into the BudBurst data base. Scientists can use this data to learn about the responses of individual plant species to climatic variation locally, regionally, and nationally, and to detect longer-term impacts of climate change by comparing with historical data. The website offers an activity guides, teacher guides, data sheets, and more.

http://www.windows.ucar.edu/citizen_science/budburst/

Roundhouse Marine Studies Lab and Aquarium School Programs

The Roundhouse Aquarium is now booking for 2008-2009 field trips. Classes include Marine Science Education Field Trips for grades K-12, Key to the Sea for K-5 teachers, Tidepool Field Studies and Tidal Wave Outreach, and more. Some grants are available.

<http://www.roundhouseaquarium.org/school.html>

Schoolyard Geology

The U.S. Geological Survey's Schoolyard Geology website offers activities and examples of what to look for to turn your schoolyard into a rich geologic experience. It introduces teachers to the possibilities for teaching geology to students in familiar, easily accessible, and personally relevant settings through a series of complete lesson plans.

The website is divided into mapping your schoolyard, rock stories, and GeoSleuth Murder Mystery.

<http://education.usgs.gov/schoolyard/>

Science Approach

Science Approach is dedicated to translating scientists' research and data into inquiry-based lessons for students; empowering individuals to analyze data and come to their own conclusions about what the data mean; and creating educational experiences that engage learners of all ages and teach rigorous academic content. The company develops educational materials, offers professional development workshops for teachers and other professionals, evaluates educational projects and products, conducts research, and develops new technologies. They offer a variety of educational materials including free, downloadable materials; registration is required. Check out the GIS lesson on zebra mussel distribution, sign up to become a reviewer, read about the CoastLines project to facilitate rapid deployment of GIS in schools, and more.

<http://www.science-approach.com/>

Tortugas Ecological Reserve Cruise

Scientists from NOAA's National Centers for Coastal Ocean Science conducted their eighth research cruise at the Tortugas Ecological Reserve to determine the ecological and economic consequences of establishing marine protected areas. Scientists aboard the NOAA Ship *Nancy Foster* conducted diver and remote sonar surveys of benthic habitat and fishes from July 25-August 5, 2008. Online mission logs, crewmember information, and background information are posted on this website.

<http://www.ccfhr.noaa.gov/ecosystems/sanctuaries/tortugas2008/welcome.html>

Wetland 101 CD

The educators of Environmental Concern, Inc. have created an educational resource CD for primary school teachers to use as a supplement for their water related curriculum, helping teach students about the wonderful world of wetlands. The Wetland 101 PowerPoint presents the basics of wetland ecology, functions, and values in a kid-friendly format. The accompanying notes pages provide recommended extensions on each topic.

https://sslserver.com/wetland.org/shop/main_publications.shtml?id=pub88

Wild Classroom and Explore Biodiversity

This non-profit organization from Washington offers Explore Biodiversity, founded as an educator's resource, and The Wild Classroom, an outreach portal, to provide teachers with quality videos for use in their classrooms. The websites include video podcasts on a wide range of subjects.

<http://www.explorebiodiversity.com/main/videopodcast.html>

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

INITIATIVES, JOURNALS, and MORE

Children and Nature

This special edition of Fish & Wildlife News provides a glimpse of what U.S. Fish & Wildlife Service (FWS) employees are doing to connect children with nature. From the Don Edwards San Francisco Bay National Wildlife Refuge, where youngsters sample brine shrimp in the salt ponds or investigate bird and plant life with their parents, to the

Chesapeake Bay Field Office, where students create schoolyard habitats outside their classroom door, the FWS is helping people of every age to get outdoors.

http://www.fws.gov/news/pdf/News_SuFall07.pdf

Climate of the Past

Climate of the Past is an interactive open access journal published under the auspices of the European Geosciences Union, dedicated to the publication and discussion of research articles, short communications, and review papers on the climate history of the Earth. In addition to general issues, they offer the possibility of publication of special issues.

http://www.clim-past.net/volumes_and_issues.html

Coral Reef Ecosystems: Educating the Masses Blog

This blog has originated as a means to help organize large efforts to educate the public on the plight of coral reef ecosystems. It is intended for use by experts in coral reef biology and education, and is not meant to be used as a resource on general coral reef biology. It is hoped that contributors would be those who would serve as educators or those managing larger efforts, rather than the public, and that this forum be used to help design and organize one or more major efforts through local, national and global media outlets.

<http://coral-educate.blogspot.com/>

MPA Blog

The IUCN's World Commission on Protected Areas has launched The Official MPA Blog to offer news and views from IUCN/WCPA. The system allows users to link the site as a news feed; search through news for particular subjects or through a structured archiving of old posting; and email stories of interest to friends and colleagues directly from the website.

<http://officialmpa.blogspot.com/>

Sanctuary Watch

Sanctuary Watch is a publication produced by NOAA's Office of National Marine Sanctuaries. It includes news about happenings in the sanctuary program, "Critter Files" that highlight specific species of animals, spotlights on sanctuary partners and staff, and beautiful photos. Subscribe to the online publication and look through past editions on the website.

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

Santa Barbara Ocean Film Festival

Santa Barbara's Ocean Film Festival will be held October 22-23, 2008 in Santa Barbara, California.

<http://www.ocean.com/index.asp?LocationID=311&CatId=311>

Special Days

Check out these events to get your students involved in the world around us. The websites have resources, calendars of events, and more.

- **Earth Science Week**, October 12-18, 2008, whose theme *No Child Left Inside* encourages young people to learn about the geosciences by getting them away from the television, off the computer, and out of doors. Check out the contests.

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

- **International Coastal Cleanup**, September 20, 2008, offers aquatic and community cleanups of all types organized at your nearby stream, river, lake, beach, reef, or other freshwater or coastal habitat. http://www.oceanconservancy.org/site/PageServer?pagename=press_icc
- **National Estuaries Day**, September 27, 2008, is an annual celebration of the vibrant coastal areas where rivers meet the sea. <http://www.estuaries.gov/estuaries101/GetInvolved/Default.aspx?ID=153>
- **Take a Child Outside Week**, September 24-30, 2008, is an international internet-facilitated program that encourages all citizens, particularly children, to participate in outdoor activities. <http://www.takeachildoutside.org/>
- **World Water Monitoring Day**, September 18, 2008, is an international education and outreach program that builds public awareness and involvement in protecting water resources around the world by engaging citizens to conduct basic monitoring of their local water bodies. <http://www.worldwatermonitoringday.org/>

Volunteer and Service Programs Resource Center

The Corporation for National and Community Service Resource Center offers the Resource Center website as an online “one-stop shop” for tools to strengthen volunteer and service programs. Quickly and easily find more than 2,500 free downloadable tools, e-courses, and other useful resources and materials on hundreds of topics of interest to nonprofit and volunteer leaders.

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