

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
INFORMATION EXCHANGE FOR MARINE EDUCATORS

MARCH 2010

This update is funded by the National Marine Sanctuaries Foundation in partnership with NOAA's Ocean Exploration and Research Program, with additional support from NOAA's Office of Education 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, 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.

WEBSITE OF THE MONTH

Bay Backpack

The Chesapeake Bay Program launched Bay Backpack, an online resource for teachers and environmental educators to engage students in hands-on learning about the Chesapeake Bay and its local waterways. Bay Backpack provides educators with the necessary resources to give their students a Meaningful Watershed Educational Experience, through projects that allow students to gain a deep understanding of environmental issues in the Chesapeake Bay and its local streams and rivers. Teaching resources can be searched by subject, standards alignment, grade level, key word, and type. The website offers funding resources, professional development, and much more. Educators can also follow on Twitter @baybackpack to receive additional education-related news and resources.

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

MESSAGE FROM THE BRIDGE

Coastal Storms

The Bridge features a series of over 65 Data Analysis Teaching Activities (DATAs) that can be used to supplement curriculum material in almost every discipline of science. The Bridge DATA, *Satellites and Storms*, can be used in not only an oceanography class, but also physics, earth science, and environmental science classrooms. The DATA utilizes satellite and ship-reported data to investigate the similarities and differences between hurricanes and northeasters; the latter of which have been plaguing the East Coast of the United States this fall and winter. Students will explore how these storms form, how to locate them on weather maps, and their effects on other seemingly unrelated systems. The activity is composed of five smaller activities which can be used together or independently; and is aligned to the National Science Education Standards.

http://www2.vims.edu/bridge/DATA.cfm?Bridge_Location=archive1007.html

GRANTS AND OPPORTUNITIES

AIAA Classroom Grants

The American Institute of Aeronautics and Astronautics awards grants to support hands-on mathematics, science, and technology projects. The purpose of these grants is to assist educators in presenting mathematics, science, and technology principles to K-12 students in an exciting, hands-on manner. Preference will be given to proposed activities including, but not limited to, biological and physical research, earth science, and more. Acceptable materials include classroom science supplies, supplies for robotic programs, and more. Grants are considered on a quarterly basis, with deadlines at the end of January, March, June, and November. See the website for complete details.

<http://www.aiaa.org/content.cfm?pageid=216>

Concern Worldwide Creative Writing Competition

The Secretary General of the United Nations is summoning world leaders to a meeting on the Millennium Development Goals. This writing contest asks students to choose just one of the eight goals and submit the speech they would give to world leaders. The competition is open to kids ages 12 and older. The deadline for entry is March 21, 2010.

<http://www.concern.net/get-involved/schools/concern-writing-competition>

Do Something Seed Grants

Do Something Seed Grants are given out every week, targeted towards project ideas and programs that are just getting started. The grants support community action projects. There is a rolling deadline, with notification within 2-3 months after submission.

<http://www.dosomething.org/grants/seedgrants>

Dr. Nancy Foster Scholarship

NOAA's Dr. Nancy Foster Scholarship Program recognizes outstanding scholarship and encourages independent graduate level research, particularly by female and minority students, in oceanography, marine biology and maritime archaeology. The deadline for application is March 31, 2010.

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

EcoStar Grants

EcoStar Grants are now being offered to local communities where Constellation Energy does business (see the website for details). Projects should fit at least one of five environmental focus areas, including Pollution Prevention, Education, and more. The deadline for application is March 16, 2010.

<http://www.constellation.com/portal/site/constellation/menuitem.999b6fed85785a2399084010016176a0>

Endangered Species Day Art Contest

The Endangered Species Day Art Contest provides students with an opportunity to learn about endangered species and express their knowledge and support through artwork. The deadline for entry is March 26, 2010.

<http://www.stopextinction.org/esd/194-esd-art.html>

Envisioning Climate Change Using a Global Climate Model

The Science Education Resource Center (SERC) at Carleton College offers the online Earth Exploration Toolbook, which is updated periodically. One of the latest additions is *Envisioning Climate Change Using a Global Climate Model*, which explores one method climatologists use to model climate change. The unit visualizes how temperature and snow coverage might change over the next 100 years. Visitors run a control simulation to establish a baseline for comparison and then change variables to compare and contrast the predicted outcomes. The website offers notes for educators, instructions, links to further information, and more.

<http://serc.carleton.edu/eet/envisioningclimatechange/index.html>

Fire and Aviation Photo Contest

The National Park Service (NPS) Public and Media Photo Contest is open, on behalf of Wildland Fire, Structural Fire, and Aviation Management. Participants can enter as many photos from 2009 as they like, but the subject matter must directly relate to wildland fire, structural fire, or aviation management activities or programs and the photo must have been taken during the previous calendar year in an NPS area, or of NPS employee(s). The deadline for entry is March 19, 2010.

http://www.nps.gov/fire/public/pub_photocontest.cfm

Hawai'i Ocean Guardian Kids Club and Contest

The Hawai'i Ocean Guardian Kids Club and Contest encourages children around the country to create original poetry, artwork, or a short story about the endangered, threatened, or protected marine life found around the Hawaiian archipelago. All K-8 students in the United States are eligible and encouraged to join. The deadline for entry is April 22, 2010.

<http://www.waquarium.org/ocean-guardian-kids-club.asp>

JASON Professional Development Grants

JASON is now accepting proposals from school districts and local education agencies interested in receiving free on-site JASON Professional Development workshops, including Teacher Packs. The workshops are for middle school science teachers who will use JASON curriculum in their classrooms and provide information on its implementation and effectiveness. Both teacher workshops and train-the-trainer seminars are available. Proposals will be evaluated on a rolling basis until all funds are expended, but the deadline for submission is March 12, 2010.

<http://www.jason.org/public/WhatIs/PDGrants.aspx>

Lanie's Backyard Photo Contest for Girls

In honor of American Girl's most "outdoorsy" girl of the year, Lanie's backyard photo contest invites girls ages 8-13 to take photos of any five common nature sights and write a nature note. The deadline for submission is March 15, 2010.

<http://www.americangirl.com/girloftheyear/2010/photocontest.php>

National Wildlife Week

The theme for this year's National Wildlife Federation's National Wildlife Week, March 15-21, 2010 is *Be Out There At Home, School and Play*. The website offers free downloadable nature-themed activities and curricula, information and activities about greening your school, and more.

<http://www.nwf.org/Get-Outside/Be-Out-There/Events/National-Wildlife-Week.aspx>

Native Hawaiian Education Program – Competition for Novice Applicants

The purpose of the Native Hawaiian Education program is to support innovative projects that enhance the educational services provided to Native Hawaiian children and adults. The program is only open to applicants that have not received a grant or subgrant under the Native Hawaiian Education program, and have not had an active discretionary grant from the Federal Government in the five years before the deadline date for applications under the program. The deadline for application is April 27, 2010.

<http://www2.ed.gov/legislation/FedRegister/announcements/2010-1/022610d.html>

Realize Science Technology Grant

This grant for creative, innovative, and educationally valuable uses of hand-held video microscopes is open to all teachers in the United States and Canada. The deadline for applications is March 31, 2010.

http://www.schooltr.com/Teacher_Resources/realize_science_grant.html

School-Based Grants to Indian Tribes and U.S. Territories

The Corporation for National and Community Service announces the *Learn and Serve America School-Based grants to Indian Tribes and U.S. Territories* to involve school-age youth in service-learning projects that simultaneously support student development and meet community needs. Hurry – the deadline for submission is March 9, 2010.

www.learnandserve.gov/for_organizations/funding/nofa_detail.asp?tbl_nofa_id=77

Science and Math Outreach Grant - Texas

The Texas Education Agency is requesting applications from entities currently conducting outreach programs with a targeted focus on math and/or science. The purpose of this program is to develop and implement partnerships among public, nonprofit, and for-profit entities and public school students to enhance interactive science and math instruction for students by increasing student access to museums, planetariums, nature preserves, and traveling exhibits, and/or improve teacher content knowledge in math and science within context-based learning environments. The deadline for application is March 4, 2010. Select the 2009-2010 Science and Math Outreach Grant, Cycle 2 from the drop-down menu.

<http://burleson.tea.state.tx.us/GrantOpportunities/forms/GrantProgramSearch.aspx>

Siemens We Can Change the World Challenge

NSTA, the Siemens Foundation, and Discovery Education are partnering again this year to educate, empower, and engage students and teachers nationwide to become agents

of change in improving their communities through the *Siemens We Can Change the World Challenge*. The national sustainability challenge encourages students in kindergarten through eighth grade to team up with their classmates to create replicable solutions to environmental issues in their classroom (grades K–2), school (grades 3–5) and community (grades 6–8). The deadline for middle school entries is March 15, 2010. <http://wecanchange.com/>

Students Give Water a Voice Competition

In celebration of World Water Day, Nature’s Voice – Our Choice announces the third annual global contest for students to bring water pollution to light for community members and lawmakers. Through posters, stories, poems and video, students can depict the ‘Life of Troubled Water’ in their community. The deadline for submission is March 22, 2010.

<http://www.naturesvoice-ourchoice.org/component/content/article/147.html>

TogetherGreen Conservation Leadership Program

The *TogetherGreen* Conservation Leadership Program from the National Audubon Society, invests in high-potential leaders, providing them with the tools, resources, visibility, and a peer network to help them lead the conservation actions needed to shape a greener, healthier future. There is a 6-day Conservation Leadership Training program at the beginning of the grant and a 3-day follow-up workshop at the end of the 18 months. The deadline for application is May 7, 2010.

<http://www.togethergreen.org/People/Default.aspx>

U.S. Coral Reef Task Force Partnership Initiative - Request for Proposals

The National Fish and Wildlife Foundation and partners announce the availability of grant funding to build local capacity and support for projects that will help restore natural resources in the Guánica/Rio Loco watershed in Puerto Rico. Priority will be given to proposals submitted by NGOs based in Puerto Rico. See the website for details. The deadline for pre-proposals is April 7, 2010.

http://www.nfwf.org/AM/Template.cfm?Section=Charter_Programs_List&TEMPLATE=/CM/ContentDisplay.cfm&CONTENTID=14888

INTERNSHIPS AND TEMPORARY OPPORTUNITIES

Please note that these are just a very few of the internships and other opportunities that have been recently advertised.

Education Summer Internship - Florida

As an intern at the Mote Marine Laboratory in Sarasota, Florida, you can help inspire a new generation of marine scientists and enthusiasts. The internship is a 12-14 week commitment beginning in late May. The deadline for application is March 15, 2010.

<http://www.mote.org/index.php?src=gendocs&ref=College%20Internship%20Opportunities&category=Education>

Marine Education Internship - Florida

The Smithsonian Marine Ecosystems Exhibit in Fort Pierce, Florida has an opening for a 12-week (May–August, 2010), full-time education intern. The deadline for application is March 15, 2010.

Contact Laura at diederick@si.edu

Maritime Camp – New Jersey

Bayshore Discovery Project has posted the schedules for its 2010 Maritime Camps on board the Tall Ship, *A.J. Meerwald*, a restored 1928 oyster schooner based in Bivalve, New Jersey. They offer week-long maritime camps for kids ages 13-17 and day camps for kids ages 10-16. Participants learn about sailing a traditional schooner, help to raise sail, and receive education about the environment and natural resources.

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

Science Communications Summer Intern - Virginia

Virginia Sea Grant offers a paid summer internship for a student who is interested in taking on new challenges in multimedia communications this summer, in Gloucester Point, Virginia. The internship will provide an undergraduate or graduate student with training in science communication, with possible projects in online audio, video, or social networking. The deadline for application is March 15, 2010. While on the website, check out the other available internships.

<http://www2.vims.edu/seagrant/internships.htm>

Sea Grant Marine Science Education Internships - Georgia

The University of Georgia's Marine Education Center and Aquarium in Savannah, Georgia is now accepting applications for one-year intern positions, August 30, 2010- August 15, 2011. The deadline for application is April 5, 2010.

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

SEA Summer Session

Sea Education Association, based out of Woods Hole, Massachusetts, educates students about the world's oceans through high school and undergraduate summer programs, combining the sciences, humanities, social sciences, and public policy. Academic preparation during a shore component is followed by an oceanographic voyage at sea aboard one of their 135' sailing research vessels. Financial aid, scholarships, and university credit may be available.

<http://www.sea.edu/academics/seasemestersummer.aspx>

http://www.sea.edu/academics/program_highschoolprograms.aspx

CONFERENCES, WORKSHOPS, AND PROFESSIONAL DEVELOPMENT

American Trails National Symposium Call for Presentations

The theme of the 20th American Trails National Symposium, November 14-17, 2010 in Chattanooga, Tennessee is *Trails: The Green Way for America*. The program committee is seeking presentations that introduce new ideas, convey useful strategies, identify lessons learned, and strengthen participants' existing skills and knowledge. The deadline for submission is April 9, 2010.

<http://www.americantrails.org/2010/call.html>

Artist Boat – Texas

Artist Boat has garnered grant support focused on science, math, and arts literacy from the Texas Education Agency and NOAA B-WET. They are able to serve more middle school students in the Galveston Bay region, and would like to meet with teachers and their principal to develop a partnership with Artist Boat. Professional Development, Eco-

Art Workshops, and Eco-Art Adventures are free for partner schools and there are openings for March, April, and May.

Contact info@artistboat.org

Coast to Classroom – Online

Audubon Aquarium of the America's new Coast to Classroom Distance Learning Program will offer a live webcasted class to teachers in Texas, Louisiana, Mississippi, Alabama, and Florida. Through a grant from NOAA and partnership with the Gulf of Mexico Alliance, these classes are offered free of charge to all teachers through May 2010. Advanced registration is required to participate, and classes are offered at various times during regular school hours. Programs include Identification of Gulf Habitats (grades 4-8) and Coastal Conservation Issues and Restoration (grades 9-12).

<http://www.auduboninstitute.org/media/releases/audubon-aquarium-americas-new-distance-learning-program>

Coastal Marine Ecology of the Florida Keys Teacher Workshop - Florida

MarineLab hosts the Introduction to Coastal Marine Ecology of the Florida Keys Teacher Workshop in July 25-30, 2010, in Key Largo, Florida, along with a new AP MarineLab workshop and a SCUBA workshop learning the REEF CHECK research protocols. Ten in-kind scholarships are available to Florida teachers. The deadline for application is May 1, 2010.

http://www.marinelab.org/Teacher_Workshops.html

CoastLines 2010 - California

CoastLines is a three-year comprehensive project for students and teachers funded by the Innovative Technologies for Students and Teachers program at the NSF. The project introduces fundamental concepts about information technologies to grade 7-12 schools. CoastLines involves teachers and students in using geographic information systems (GIS) and global positioning system (GPS) technology to conduct scientific studies of coastal ecosystems in the NSF's Long-Term Ecological Research network. The CoastLines project is now accepting applications from teachers to participate in the 2010 project cohort; teachers in the Santa Barbara/Ventura, California, region are particularly encouraged to apply, but other educators will be accepted on a space-available basis. The deadline for application has passed, but there may still be spots available.

<http://www.coastlines.ws/>

Conference on the Environment

The U.S. Department of the Interior's National Park Service is hosting the 2010 DOI Conference on the Environment, April 26 - 30, 2010, in Portland, Oregon. The conference will address a variety of environmental issues, including Climate Change and Greenhouse Gases; Resource Conservation and Management; Environmental Collaboration, Partnering and Outreach; and more. The deadline for submission of approved presentations is April 16, 2010.

<http://www.regonline.com/builder/site/Default.aspx?eventid=782504>

COSEE Coastal Trends Workshops - Maryland

COSEE Coastal Trends is offering two teacher workshops, hosted at University of Maryland's Horn Point Lab in Cambridge, Maryland. Teachers will receive a stipend for their participation and expenses will be covered.

- Coastal Trends Workshop - August 9-12, 2010

- Teaching Ocean Science Workshop - June 28-July 1, 2010

Note that there is also an opening for a teacher research fellow (see Programs tab)

<http://www.cosecoastaltrends.net/programs/workshopsforeducators/>

Dauphin Island Sea Lab Summer Programs for Students and Teachers - Alabama

Dauphin Island Sea Lab, Dauphin Island, Alabama, offers a wide variety of summer programs for students and teachers. Check the website for dates.

For Students

- Oceans Alive!: Half day beach exploration for children 5-8 years with parent;
- Treasure Island: Half day history treasure hunt for children 9-11 years;
- Art-Sea Discovery Camp: children 8-13 years investigate and sketch the wonders of the maritime forest and beaches;
- Gulf Island Journey: Marine summer camp on a barrier island for middle school students;
- Summer High School Course: Four week marine science course for high school students.

For Teachers

- The Delta: Explore the Mobile-Tensaw Delta; the deadline for registration is May 21, 2010;
- Beaches, Birds and Barrier Islands; the deadline for registration is May 28, 2010;
- Regional Issues in the Gulf of Mexico; free, the deadline for registration is June 18, 2010;
- Fins, Fishes and Fisheries; free, the deadline for registration is June 25, 2010;
- Rhizomes, Reefs and Restoration; free, the deadline for registration is July 19, 2010.

For College and Graduate Students: Courses in this intense program will be offered from May to August; individualized directed research opportunities with resident faculty are also available.

http://press.disl.org/2_03_10summer.htm

Down Under, Out Yonder Educator Workshop and SCUBA Field Experience - Texas

The Down Under, Out Yonder coral reef workshop and scuba trip, sponsored annually by the Gulf of Mexico Foundation for K-12 and college entry educators nationwide, will take place July 10-14, 2010 starting in Galveston, Texas. The five-day workshop includes a two-day land-based workshop featuring instruction from Flower Garden Banks National Marine Sanctuary staff and guest speakers, as well as educational materials to bring back to the classroom. Afterwards, participants travel to Freeport, Texas, for three days of scuba diving aboard the *M/V Fling*, a 100-foot live-aboard dive boat. Educators must be previously SCUBA certified to participate in the diving field experience. Non-diving educators may participate in the land-based workshop only and forgo the dive component of the workshop. Workshop space is limited and spaces are filled via a competitive application process. The application deadline is March 12, 2010.

<http://www.gulfmex.org/duoy.htm>

EETAP Summer Courses - Online

The University of Wisconsin-Stevens Point and the Environmental Education and Training Partnership (EETAP) offer the following online summer courses:

- Fundamentals of Environmental Education, June 1-August 20, 2010
- Making EE Relevant for Culturally Diverse Audiences, June 1-August 10, 2010

Scholarships may be available. The deadline for registration is May 1, 2010.

<http://www.uwsp.edu/natres/eetap/index.aspx>

Everglades National Park eFieldTrips

The eFieldTrips have three major components – a virtual visit, a trip journal, and Ask the Experts. Ask the Experts for *Don't Let It Loose! Invasive Species of Everglades National Park*, will be open April 6-7, 2010 and for the *Reptiles and Amphibians of Everglades National Park*, it will be open April 13-14, 2010.

<http://www.efieldtrips.org/EvergladesInvasives/index.htm>

<http://www.efieldtrips.org/Everglades/index.htm>

Intracoastal Waterway Wetlands Cruise Educator Workshop - Texas

The Intracoastal Waterway Wetlands Cruise, June 14-18, 2010 from Freeport, Texas, is a free educator workshop aboard the *M/V Fling*, which will educate participants on coastal habitats and issues facing the Gulf Coast and its inhabitants. Educators of all levels from around the U.S. will learn to actively involve their students in the learning process, to expose them to coastal ecology, and to share personal experiences about living and working on the Gulf Coast. Workshop space is limited and spaces are filled via a competitive application process. The deadline for application is March 12, 2010.

<http://www.gulfmex.org/iwwc.htm>

Landbird Monitoring Tools – Online

The U.S. Fish and Wildlife Service is sponsoring a training and demonstration webinar of a new simplified data analysis tool (abundanceR), along with a new set of ArcGIS tools for data in the USGS Bird Point Count Database. The online workshop will be held March 31 and again on April 14, 2010. Registration is free.

[http://www.prestoregister.com/cgi-](http://www.prestoregister.com/cgi-bin/order_attendee.pl?ref=USFWS_BMT&fm=1&or=483037&Ttaxstate=&TShipMethod=&ct=&pd=)

[bin/order_attendee.pl?ref=USFWS_BMT&fm=1&or=483037&Ttaxstate=&TShipMethod=&ct=&pd=](http://www.prestoregister.com/cgi-bin/order_attendee.pl?ref=USFWS_BMT&fm=1&or=483037&Ttaxstate=&TShipMethod=&ct=&pd=)

Learning Ocean Science through Ocean Exploration - Various

NOAA's Ocean Exploration Program and partners will offer Learning Ocean Science through Ocean Exploration professional development workshops for 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.

- May 8, 2010 with New England Aquarium, Boston, Massachusetts, a follow-up workshop. The deadline for registration is April 23, 2010. Contact Jayshree Oberoi at joberoi@neaq.org
- May 8, 2010 with Tennessee Aquarium, Chattanooga, Tennessee, a follow-up workshop. The deadline for registration is April 23, 2010. Contact George Bartnik at gpb@tennis.org
- May 15, 2010 with South Carolina Aquarium, Charleston, South Carolina, a follow-up workshop. The deadline for registration is April 30, 2010. Contact Jaime Coomes at jcoomes@scaquarium.org
- May 15, 2010 with Aquarium of the Pacific, Los Angeles, California, an introductory workshop. The deadline for registration is April 30, 2010. Contact Alie Lebeau atalebau@lbaop.org

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

Marine Science Adventure Camp for Homeschoolers - Virginia

The Marine Science Consortium is offering the Marine Science Adventure course just for Homeschoolers, November 16-18, 2010 on Wallops Island, Virginia. The workshop provides hands-on observation of marine environments and life forms and time to socialize with other youth. Hurry – the workshops fill up quickly.

<http://msconsortium.org/#/homeschoolers-marine-adventure/4537567584>

National Conservation Training Center Courses – Utah and West Virginia

The U.S. Fish and Wildlife Service offers professional development courses in Shepherdstown, West Virginia and around the country. For more information about a specific course, contact the noted educator.

- OUT8163: Connecting People with Nature through Birds, June 21-24, 2010 in Brigham City, Utah. The deadline for registration is April 13, 2010. Contact Jim Siegel at Jim_Siegel@fws.gov
- OUT8102: Education Program Evaluation, June 28-July 2, 2010 in Shepherdstown, West Virginia. The deadline for registration is March 24, 2010. Contact Jim Siegel at Jim_Siegel@fws.gov
- OUT8116: Grant Writing for Conservation, July 7-9, 2010 in Shepherdstown, West Virginia. The deadline for registration is April 28, 2010. Contact Ora Dixon at Ora_Dixon@fws.gov

http://training.fws.gov/documents/Section1_NCTC_Sponsored_Courses.pdf

National Service-Learning Conference

The National Service-Learning Conference will take place March 24-27, 2010, in San Jose, California. The theme is *Inspire. Imagine. Innovate!* With three days of general sessions, service learning projects, and networking, the conference engages participants in local, national, and global issues that service-learning addresses.

<http://nslc.nylc.org/>

Seminars on Science - Online

Registration is open for the 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, Sharks and Rays, Diversity of Fishes and more. The deadline for registration for summer session 1 (June 7-July 18, 2010) is May 25, 2010; for summer session 2 (July 5-August 15, 2010), June 21, 2010.

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

Shipboard Spring Teacher Trainings - Washington

Salish Sea Expeditions invites educators to join them for a free teacher training on board the *Carlyn*, a 61' sailing vessel, April 1 or May 15, 2010 from Seattle or Anacortes, Washington. These educational opportunities are geared for the classroom educator to facilitate student-designed, field-based science research. Both sails will focus on building knowledge and skills in coordinating inquiry-based learning approaches, and orient teachers to a variety of field research methods that will help their students investigate both marine and terrestrial environments. There is limited space available.

Contact Nikken Palesch, at nikken@salish.org

Teach At The Beach – New Jersey

The New Jersey Marine Education Association announces the 2010 Teach at the Beach, May 14, 2010 in West Long Branch, New Jersey. The program, by Monmouth University

and the New Jersey Marine Sciences Consortium, will include programs that cut across disciplines and allow teachers to bring the marine and aquatic environments into any classroom. The deadline for registration is May 1, 2010, but register early as the program fills up fast.

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

Young Artists Project, Water and Whales - Washington

Centrum, in partnership with Fort Worden State Park, is a gathering place for artists, students, and others seeking cultural enrichment. Two programs that might be of interest to this group are Water World for grades 5-6 (May 2-7, 2010), and Whale Camp for ages 9-13 (July 11-17, 2010) in Port Townsend, Washington. Camp activities take place in the field, laboratories, performance studios, aquarium and a natural history exhibit. Scholarships may be available.

<http://www.centrum.org/youth/>

EDUCATIONAL RESOURCES

American Mathematical Society Books Online

The American Mathematical Society (AMS) is developing the AMS Books Online website, with works originally published by the AMS. The books can be browsed by author or subject, and users can download individual chapters from each book. There are plans to add more books to the site periodically.

http://www.ams.org/online_bks/onbk_list.html

Backyard Bird Checklists

The Great Backyard Bird Count checklist has interactive links to pictures and facts about the birds most likely to be found in your zip code or other identified location. The checklist is specially prepared for February sightings but can be very useful to help identify common birds you might see in your neighborhood.

<http://gbbc.birdsource.org/gbbcApps/checklist>.

Benthic Habitat Atlas of Coastal Texas

The Benthic Habitat Atlas, from the NOAA Coastal Services Center, contains shallow-water habitat information for over 190 miles of Texas coastal bays. Users can access individual maps from the website and download and print them as PDF documents. Users can also access supplemental information on data development techniques.

<http://www.csc.noaa.gov/digitalcoast/tools/texasatlas/index.html>

Cephalopod Lesson Plans

This collection of lesson plans, created by the Bermuda Biological Station for Research, highlights color change in cephalopods. Additional links include articles, FAQs, species information, and photos.

<http://www.thecephalopodpage.org/cephschool/>

Climate Change Action Projects

Facing the Future has released the Climate Change Action Project Database, a resource with ready-to-use service-learning projects that prepare students to understand and take action on climate change.

<http://www.facingthefuture.org/ServiceLearning/ClimateChangeActionProjects/tabid/350/Default.aspx>

Climate Change Lesson Plans

The International Environmental Change Workshop Series is a multi-year series of teacher workshops on global environmental change, co-sponsored and co-directed by the Wright Center for Innovative Science Education at Tufts University. The website offers lesson plans and activities, including A Haiku Journey, a Climate Reconstruction Lesson Plan, Glaciers, Climate, and the Landscape, and more.

http://www.tufts.edu/as/wright_center/iecws/

Climate Change Short Course

Adapting to Climate Change: A Short Course for Land Managers is now available from the USDA Forest Service, online or as a DVD. The self-paced course provides a synthesis of scientific and technical information and can help resource managers and decision-makers plan for future climate-driven uncertainties. There is also a flash version, which may be appropriate for those with fast computer connections.

http://www.fs.fed.us/ccrc/hjar/index_st.html

Common Freshwater Invertebrates of North America

McDonald & Woodward Publishing launched a new environmental education initiative with the release of four new interactive educational resources for use in identifying and studying common, widespread freshwater invertebrates of North America, based upon the book, *A Guide to Common Freshwater Invertebrates of North America*. The resources include Flash Cards of Common Freshwater Invertebrates of North America (three different sets) and QuickGuide to Major Groups of Freshwater Invertebrates, an easy-to-use guide to identifying common, widespread macroinvertebrates to the levels of class and order.

<http://www.mwpubco.com/environmentaleducation.htm>

Cool Science

The Howard Hughes Medical Institute is a nonprofit medical research organization supporting scientists and educators who seek to transform the way science is taught in schools, colleges, and universities. The Cool Science database contains a wide range of resources for educators at all levels, from lesson plans and detailed curricula to tutorials, animations, and laboratory exercises. Visitors can browse the collection or search the resources by topic, type, or target audience. Topics include ecology, life sciences, biodiversity, and much more.

<http://www.hhmi.org/coolscience/resources/SPT--Home.php>

The Dead Zone

This website from the Science Museum of Minnesota is designed to teach elementary school kids about the Gulf of Mexico dead zone. The interactive website features videos, animations, and activities. It is available in English and Spanish.

<http://www.smm.org/deadzone/>

Declining Expectations - The Phenomenon of Shifting Baselines

This instructional guide, part of the marine fisheries curriculum from the Northwest Center for Sustainable Resources, is designed to provide instructors with lecture support on the concept of shifting baselines and its application to marine fisheries. Shifting baselines are defined and their contribution to fishery declines discussed. Various methods that are used to establish historical baselines are described and illustrated with case studies. There are both pdf and annotated PowerPoint downloads on the subject.

<http://www.ncsr.org/materials/index.html>

Digital Coast

NOAA Coastal Services Center leads the Digital Coast effort, an information delivery system that offers data, training, tools, and examples needed to turn data into useful information. It is designed to help ensure the wise use and management of coastal resources. Check out the In Action section to see how and where data and tools can be used to address coastal management issues.

<http://www.csc.noaa.gov/digitalcoast/index.html>

Disneynature's Oceans

Disneynature's big-screen movie, Oceans, will be released on Earth Day, April 22, 2010. Disney is teaming up with The Nature Conservancy for the initiative, See OCEANS, Save Oceans, with a portion of each ticket sold for the film's opening week (April 22-28, 2010) going to help establish new marine protected areas in the Bahamas. An Educational Activity Guide and Educator's Guide are available for downloading from the website.

<http://disney.go.com/disneynature/oceans/>

Educators Guide to Marine Debris

The Educators Guide to Marine Debris: Southeast and Gulf of Mexico is a 44-page online booklet of marine debris information and lessons. The guide highlights regional issues concerning abandoned vessels, fishing gear, and litter, and contains lessons and resources.

<http://www.cosee-se.org/marinedebris.php>

Endangered Species Bulletin

The U.S. Fish and Wildlife Service offers the quarterly Endangered Species Bulletin, with information on rulemakings, recovery plans and activities, conservation partnerships, research developments, and a variety of other issues. The Summer 2009 issue was focused entirely oceans and includes articles on corals, sea turtles, the Hawaiian Monk Seal, and more.

<http://www.fws.gov/Endangered/bulletin.html>

Endangered Species Day

Endangered Species Day, May 21, 2010, celebrates America's wildlife legacy with a celebration of our nation's wildlife and wild places, and is an opportunity to learn about the everyday actions that people can take to help protect our nation's disappearing wildlife and last remaining wild places. Visit the website to download educational materials, register an event, and check out the toolkit.

<http://www.stopextinction.org/esd.html>

Environmental Economics

NOAA's Office of Response and Restoration offers this website with background information about Environmental Economics, along with how the Damage Assessment, Remediation, and Restoration Program uses a variety of economic and non-economic science-based methodologies to assess natural resource injuries and assesses compensation for the public loss.

<http://www.darrp.noaa.gov/economics/index.html>

GCFI/CaMPAM Reference List

This reference list from CaMPAM (Caribbean Marine Protected Areas Managers) and GCFI (Gulf and Caribbean Fisheries Institute) offers hyperlinks to downloadable publications on MPA science and practice in the Caribbean. The e-library includes information materials published on the Internet ranging from research papers to technical reports, pamphlets, brochures, and web sites, grouped by subjects related to marine conservation science and practice. Topics include best marine management practices, coral reefs, ecological services, MPA financing, and much more.

<http://campam.gcfi.org/CaMPAMLibrary.php>

Global Fever

Global Fever™ is a standards-based curriculum that addresses climate change in an age-appropriate manner for students ages 9 and above. The nine units are teacher-designed, and offer interdisciplinary activities which can be integrated into established curriculum.

http://www.globalfever.net/Global_Fever/Climate_Change_Curriculum.html

Global Warming Art

The goal of Global Warming Art is to make some of the data from the study of climate change accessible to the public, through a collection of figures and images that highlight and describe key issues necessary to understanding our world's changing climate. Some of the categories currently available include Past Temperatures, Carbon Dioxide, Sea Level, Glaciers, and more. Individual images have descriptions and source information.

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

Harmful Algae

This website from NOAA and the Woods Hole Oceanographic Institution is meant to serve as a comprehensive resource for information about harmful algal blooms (HABs). Links include basic information about HABs, how they affect humans and ecosystems, the latest HAB news, and information about meetings and conferences.

<http://www.whoi.edu/redtide/>

INSPIRE: Chile Margin Expedition

NOAA's Ocean Exploration and Research Program offers students the ability to follow along with the INSPIRE: Chile Margin 2010 Expedition with daily logs, videos and images, an Ocean Explorer Expedition Education Module, lesson plans, an "Ask an Explorer" feature, and much more. The expedition, February 24-March 17, 2010, is exploring the geologically unique Chile Triple Junction, the only known location on Earth that can co-host every known form of deep-sea chemosynthetic ecosystem: hydrothermal vents, cold seeps, oxygen minimum zones, whale-, wood- and kelp-falls.

<http://oceanexplorer.noaa.gov/explorations/10chile/welcome.html>

Journey North

Journey North has begun again, with many newer options. Track the arrival of spring and the migrations of numerous wildlife species, study photoperiods, explore weather and climate, and more. Journey North is a free online program engaging students in a study of wildlife migration and seasonal change. Students share their own field observations with classrooms across the hemisphere. In addition, students are linked with scientists who provide their expertise directly to the classroom. The Annenberg

Channel also offers free Journey North video programs, downloadable teaching tools and classroom lessons, and more.

<http://www.learner.org/jnorth/>

Life in Extreme Environments

The Astrobiology Web offers this list of links about life in extreme environments. Subjects include general information, thermophilic life, deep ocean thermal vents, recommended books, and more.

<http://www.astrobiology.com/extreme.html>

National Marine Sanctuaries Media Library

The Media Library is an online resource with a collection of select video clips and high-resolution still images from the National Marine Sanctuaries, available for download. Users can search by keyword, media type, and category, or browse the galleries, including human impacts, education and outreach, fish portraits, and more.

<http://sanctuaries.noaa.gov/photos>

Net Sortings

The New York State Marine Education Association's website offers pages of useful links for marine educators. Net Sortings offers a list of links to interesting and useful websites, including news, careers, and more.

<http://www.nysmea.org/Net%20Sortings.htm>

NOAA Paleoclimatology Education and Outreach

This website offers a collection of links to paleoclimate information and data. Links are organized by topic, which include: highlights from the paleoclimatology program; ocean sciences; coral cores; tree rings; pollen; and additional resources.

<http://www.ncdc.noaa.gov/paleo/education.html>

Ocean-Climate Forum

Ocean-Climate, produced by the World Ocean Observatory, is a forum designed to explore the relationship between climate change and oceanic conditions, and inform marine resource management on mitigation and adaptation strategies. Some of the issues addressed include extreme weather, ocean acidification, biodiversity, and more.

<http://www.oceanclimate.org/content/home>

Ocean Today Kiosk Online

This website provides access to current and archived videos of the Ocean Today kiosk at the Sant Ocean Hall in the Smithsonian Institution's National Museum of Natural History. The Ocean Today Kiosk is a dynamic, visitor-friendly multi-media experience that illustrates both the ocean's influence on humans and their influence upon the ocean. The website offers a transcript of the video along with links for more information.

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

Plankton*net

Plankton*net is a communal source of information about marine phytoplankton. Users can browse through an extensive collection of descriptions and images organized alphabetically or by taxon. Links are provided with each species description to numerous websites containing information about the organism.

<http://www.planktonnet.eu/>

Siemens STEM Academy

The Siemens STEM (Science, Technology, Engineering and Math) Academy is designed to foster STEM achievement through collaboration and sharing of best practices. Educators can share their favorite lesson plans, ideas, presentations, and other STEM related resources that may prove useful for those looking to expand their classroom materials. Educators looking for ideas can browse the Teacher Resources by subject or grade level. Upcoming free webinars on STEM related topics include Getting Started with Project Based Learning, Layers of Learning with Google Earth, and more. Resources can be browsed by grade and subject, and include the Science of Hurricanes, Ecosystems Lesson Plan, and more.

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

Soil Moisture and Ocean Salinity Mission

The Soil Moisture and Ocean Salinity (SMOS) mission from the European Space Agency (ESA) is part of a series of Earth observation missions that focus on the science and research elements of ESA's Living Planet Programme, which aim to improve our understanding of how the Earth system works and how human activity is affecting natural Earth processes. Known as ESA's water mission, SMOS will make global observations of soil moisture over land and sea-surface salinity over the oceans to improve our understanding of the water cycle. Data from the satellite will be used for weather and climate modeling, water resource management, agriculture, and also contribute to the forecasting of hazardous events such as floods. The website hosts images, videos, animations, and more.

<http://www.esa.int/SPECIALS/smos/index.html>

Tennessee's Watchable Wildlife

Tennessee's Watchable Wildlife website has information on the birds found in Tennessee, and can be easily searched by a bird's habitat, color, use of backyards and feeders, or taxonomic group. Each species has a profile where you can find out about the occurrence of the bird in the state, see pictures, hear songs and calls, and find places to see it. Future watchable wildlife categories will include mammals, amphibians, reptiles, fish, and insects.

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

Tom Volk's Fungi

This website offers several years of "fungus of the month" entries, along with background information about fungi and related organisms. Check out the Holiday Fungi, special topics, and more.

<http://tomvolkfungi.net/>

Underground Rivers

Professor Emeritus Richard J. Heggen of the University of New Mexico has written the book, *Underground Rivers from the River Styx to the Rio San Buenaventura with occasional diversions*, and offers it free for downloading online. Chapters include The Concept of Circulation, Lava Tubes, The Biology of Underground Rivers, and much more. The book includes chapters on underground rivers from the point of view of mythology, literature, and science.

<http://www.unm.edu/~rheggen/UndergroundRivers.html>

U.S. Geological Survey Photographic Library

Employees with the U.S. Geological Survey have taken many, many, photographs in the course of their various geological studies and explorations, documenting volcanic explosions, national parks, and more. This website contains 30,000 photographs from 1868 to the present, and offers free downloading of the images. The thumbnails load quickly and each is accompanied by a brief description.

<http://libraryphoto.cr.usgs.gov/>

The Video Project

The Video Project offers educational media and documentary programming on global and social issues, science and health. Subjects include Aquatic Life, Arctic Studies, Coral Reefs, and much more. The new release, *Climate Change: Coral Reefs on the Edge*, can be viewed in its entirety online; the purchased DVD classroom version includes four learning modules, a teacher's guide, student activities, and more.

<http://www.videoproject.com/index.html>

Water-Energy Connection

EE Week offers numerous educational materials, including curricula, quizzes, and more. The Water-Energy Connection explores the interrelated use of water and energy in the U.S. and provides an opportunity to get students thinking about the interrelatedness of other ecological and environmental concerns. The website offers links to background information, videos, and more.

http://www.eeweek.org/water_and_energy_wise/connection

INITIATIVES, JOURNALS, and MORE

National Environmental Education Week

National Environmental Education Week, April 11-17, 2010, promotes the understanding and protection of the natural world by actively engaging K-12 students and educators of all subjects in a week of environmental learning and service before Earth Day. This year's theme is *Be Water and Energy Wise!* Registered partners have access to a wide variety of free environmental education resources and discounts.

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

Recycling Revved Up

ScrapHouse was a temporary demonstration home built entirely of salvaged material on Civic Center Plaza, adjacent to San Francisco City Hall. You can watch the streaming video about the project from this website.

http://greenplanetfilms.org/product_info.php?products_id=677

World Maths Day

March 3, 2010 is World Maths Day, an opportunity for your students to compete with students around the world in solving fun math challenges. All ages and ability levels are encouraged to participate in this free program, which also awards prizes to the winners.

<http://www.worldmathsday.com/2010/Default.aspx?>