

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
INFORMATION EXCHANGE FOR MARINE EDUCATORS

NOVEMBER 2009

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.

Notable References

Integrated Wetland Assessment Toolkit

The IUCN has published *An Integrated Wetland Assessment Toolkit: A guide to good practice*. With this new set of tools, it should be possible to measure the economic value of a wetland, assessing the species that live there and the importance of a wetland for people's livelihood. The three main sections cover the integrated assessment process, the tools themselves, and illustrated examples of the application of the tools through detailed case studies.

http://cmsdata.iucn.org/downloads/iwa_toolkit_lowres.pdf

Ocean Technology Internships Best Practices

From Harbor Branch Oceanographic Institution and the Marine Advanced Technology Education (MATE) Center, *A Best Practices Manual for Effective MATE Internships* looks at creating effective ocean technology internships by giving an overview of strategies as well as policies and procedures to help institutions design and implement effective practical training programs. The manual is divided up into eleven sections, including recruiting, experience, evaluation, resources, and references. Though the handbook is geared specifically toward MATE partners, it can be a helpful resource for any institution looking to create internship programs in ocean careers.

http://www.marinetech.org/education/Internship_manual.pdf

Sustainable Tourism Best Practices

The International Coral Reef Action Network (ICRAN) facilitated a stakeholder-led process of standards development for scuba diving, snorkeling, boat operations, and beach front activities. The partners developed comprehensive conservation and safety standards for marine recreation activities. The website hosts sustainable tourism guides and other materials, some also available in Spanish and French.

<http://www.icran.org/mar-tourism.html>

PROGRAMS OF THE MONTH

Bugscope and Virtual Microscope

The Bugscope project from the Beckman Institute's Imaging Technology Group at the University of Illinois supports K-16 classrooms worldwide, providing free interactive access to a scanning electron microscope so that students anywhere in the world can explore the microscopic world of insects. Bugscope allows teachers everywhere to provide students with the opportunity to become microscopists themselves—the kids propose experiments, explore insect specimens at high magnification, and discuss what they see with scientists—all from a regular web browser over a standard broadband internet connection. The website offers tutorials, information on classroom integration, archives, and more.

The Virtual Microscope is a NASA-funded project that provides simulated scientific instrumentation for students and researchers worldwide. The Virtual Microscope supports functionality from electron, light, and scanning probe microscopes, datasets for these instruments, training materials to learn more about microscopy, and other related tools. They have also adapted a high-resolution Digital SLR with a 5x magnifying macro lens to capture some specimens, as well as included some artistic renderings of microscopy data.

<http://bugscope.beckman.illinois.edu/>

<http://virtual.itg.uiuc.edu/>

WEBSITE OF THE MONTH

How-To Guides

The NOAA Coastal Services Center provides many publications and websites that relay information about how to best approach a variety of coastal management issues. Topics include marine boundaries, social sciences, remote sensing, hazards, and coastal issues. Check these out.

<http://www.csc.noaa.gov/howtoguides.html>

MESSAGE FROM THE BRIDGE

The Bridge Needs You

In an effort to better assist educators with teaching climate change science and its impacts, the Bridge needs your help to increase the number of climate change resources within its collection. If you have online climate change resources that you have developed or use with your students, please nominate it today. Once nominated, each resource will undergo a stringent review process completed by Teacher Reviewers of On-Line Learning, or TROLLs. The TROLLs carefully evaluate the resource's educational and content value, as well as its usability. Once refined, the Bridge will announce its new climate change collection through the Information Exchange, so stay tuned.

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

Bridge site nomination form - <http://www2.vims.edu/bridge/search/nominate.cfm>

REQUESTS

Conservation Grants

A group is starting to build a funding board for conservation grant opportunities, including ocean conservation and research. Grants can be searched by location and category. Please send in any sources you may know.

<http://www.conservationmaven.com/funding-board/>

Seeking Service Learning Opportunities

The South Carolina Maritime Foundation offers experiential education programs aboard the tall ship *Spirit of South Carolina* with a focus on coastal ecology as well as character and leadership development. They would like to develop a service learning program for high school students during the summer months along the Eastern Seaboard, appropriate for roughly 18 students with a focus on environmental sustainability.

Contact Matt McDonnell at mmcdonnell@scmaritime.org

<http://www.scmaritime.org/index.php>

GRANTS AND OPPORTUNITIES

AmeriCorps State and National Grants

AmeriCorps State and National Grants offer funds for Education, Clean Energy/Environment, and more. The AmeriCorps State, National, and Indian Tribes Planning Grants support the development of AmeriCorps programs so applicants are better prepared to compete for an AmeriCorps program grant in the following grant cycle. The deadline for application for both grants is January 26, 2010.

http://www.americorps.gov/for_organizations/funding/nofa_detail.asp?tbl_nofa_id=74

http://www.americorps.gov/for_organizations/funding/nofa_detail.asp?tbl_nofa_id=73

Big Green Grants

The Big Green Help Green Team Toolkit from Nickelodeon offers environmental resources and ideas for Earth Day, summer camp, and back-to-school activities for your school, club, troop, or community group, bundled together as an 8-part lesson plan.

Groups can register your Big Green Help Earth Day event and become eligible to apply for a Green Grant. The deadline for registration is December 31, 2009.

<http://www.bghevent.com/grant/index.htm>

California Whale Tail Grants

The California Coastal Commission's Whale Tail Grants Program is now accepting proposals for coastal and marine education projects. Program funds projects that fall into any one of the following categories: Adopt-A-Beach programs; youth programs; or programs for the general public. The deadline for application is November 16, 2009.

<http://www.coastal.ca.gov/publiced/plate/plgrant.html>

Captain Planet Foundation Grants

The Captain Planet Foundation provides grants to school and community groups to support hands-on environmental projects for youth in grades K-12. The objective of the foundation is to encourage innovative programs that empower youth around the world to work individually and collectively to solve environmental problems in their neighborhoods and communities. Deadlines for submitting grant applications are March 31, June 30, September 30, and December 31 of each year.

<http://www.captainplanetfdn.org/grants.html>

Coastal Art and Poetry Contest - California

The Coastal Art & Poetry Contest is open to all K-12 California students, and is a chance for students to explore coastal themes and present them creatively. By encouraging youth to reflect on the beauty and spirit of California's beaches and ocean, they hope is to inspire a greater sense of stewardship for these natural places. The deadline for entry is January 30, 2010.

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

Conservation Leadership Programme Awards

The Conservation Leadership Programme is a partnership of five organizations working to promote the development of future biodiversity conservation leaders by providing a range of awards, training, and mentoring support through an active international network of practitioners. Awards are available for future conservationists, conservation follow-up, and conservation leadership. The deadline for application is November 6, 2009.

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

Disney Worldwide Conservation Fund

The Disney Worldwide Conservation Fund was established to promote wildlife conservation around the world. through partnerships with scientists, educators, and organizations committed to preserving Earth's biodiversity. Applying organizations must have U.S. nonprofit status; international NGOs can apply in partnership with a U.S. organization. Funded projects should clearly contribute to the conservation of endangered or threatened species and their habitats. Evaluators are looking for robust projects that can equally meet all of the necessary criteria including solid field science, a strong educational component, and community involvement. Letters of inquiry may be submitted via email at any time. An invitation to apply will be sent to approved inquiries and previous grantees during the first week of November. The application deadline for approved inquiries and previous grantees is January 25, 2010.

<http://www.dwcf-rfp.com/>

Earthwatch Student Challenge Awards Program

Earthwatch's Student Challenge Awards Program aims to stimulate the minds of promising students, ages 16-18, through scientific field research. For creative students,

especially those who excel in the arts and humanities, the program will award fully funded research experiences of two to three weeks in duration during the summer of 2010. The deadline for application is December 1, 2009.

<http://www.earthwatch.org/aboutus/education/studentopp/scap/>

Echoing Green Fellowship

Echoing Green invests in outstanding emerging social entrepreneurs to help them launch new organizations that deliver solutions to societal problems. Fellowships are provided to individuals (at least 18 years of age) or partnerships with innovative solutions to significant social problems; strategies to create high-impact, sustainable change in people's lives; and the ability to grow and lead a new organization. The deadline for application is December 2, 2009.

<http://www.echoinggreen.org/fellowship>

Einstein Fellowship

The Albert Einstein Distinguished Educator Fellowship is a paid fellowship for K-12 math, science, and technology teachers. Einstein Fellows spend a school year in Washington, D.C. serving in a federal agency or on Capitol Hill. The deadline for application is January 13, 2010.

<http://www.einsteinfellows.org/application.html>

Euan P. McFarlane Environmental Leadership Award

Island Resources Foundation is accepting nominations for the Euan P. McFarlane Environmental Leadership Award. The award provides recognition for persons demonstrating initiative, resourcefulness, and leadership in promoting conservation and enhancement of the environment in the insular Caribbean, with priority given to the smaller islands of the Eastern Caribbean. The deadline for nominations is November 20, 2009.

<http://irf.org/wordpress/?p=38>

GEF Small Grants Programme

The Global Environment Facility's Small Grants Programme aims to deliver global environmental benefits in the areas of biodiversity conservation, climate change mitigation, protection of international waters, prevention of land degradation, and elimination of persistent organic pollutants through community-based approaches in participating developing countries. See the website for complete details.

<http://sgp.undp.org/index.cfm>

Generation Green: Youth Voices and Visions

The National Council for Science and the Environment recognizes the value of youth perspectives and is incorporating it in the 10th National Conference: The New Green Economy, January 20-22, 2010 in Washington, D.C. through a writing contest, Generation Green. Selected articles will be published in a six-page insert distributed at the conference and included in the online Encyclopedia of Earth. The winners will also be published online in *Solutions*, a magazine focused on sustainable environmental solutions.

<http://ncseonline.org/conference/greeneconomy/cms.cfm?id=3302>

Geospatial Teaching Across the Curriculum

Geospatial Teaching Across the Curriculum (GEOSTAC) is a professional development opportunity for Language Arts, Math, Social Science, and Science high school teachers.

GEOSTAC hopes to improve geospatial education and community college program recruitment by creating a pathway between the community college, high school teachers, and their students.

<http://gis.lanecc.edu/geostac>

Get to Know Contest

The Get to Know Contest is an invitation for youth (age 18 and younger) to go outside, to a zoo, aquarium, or museum, to "get to know" their wild neighbors, and then to share their experience with the world by creating an original work of art, photography, or writing. The 2009 contest theme is Forests. The deadline for entry is November 30, 2009.

<http://www.gettoknow.ca/us/contest/>

Kinder Morgan Foundation Grants

The Kinder Morgan Foundation supports nonprofit youth programs that focus on education, the arts, and the environment in communities where Kinder Morgan operates. The next deadline for application is November 10, 2009, and every 2 months thereafter.

<http://www.kindermorgan.com/community/>

LifeWeb

The goal of the LifeWeb Initiative is to strengthen financing for the creation and management of protected areas as powerful tools to address climate change, strengthen ecosystems, and sustain livelihoods. LifeWeb is a means to support implementation of the Convention and its Programme of Work on Protected Areas. LifeWeb provides a clearing-house of protected area funding needs; connecting recipient expressions of interest based with interested donors.

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

Marine Wildlife Photo Contest

The Ocean Conservancy invites entries in the annual Marine Wildlife & Seascape Photo Contest. Send your best ocean seascape and marine wildlife images. The deadline for entry is January 31, 2010.

<http://www.oceanconservancy.org/site/PageServer?pagename=photoContest>

Monsanto Fund Grants

The Monsanto Fund provides support to nonprofit organizations in communities around the world, with priority given to communities where the company has employees, facilities, or strategic business interests. Funding is focused on four areas, including the environment and science education. The deadline for application is January 1, 2010.

<http://www.monsantofund.org/asp/welcome.asp>

Multicultural Initiative in the Marine Sciences: Undergraduate Participation

The Shannon Point Marine Center invites applications for Multicultural Initiative in the Marine Sciences: Undergraduate Participation, a program designed to increase diversity within the next generation of marine scientists. Students spend two quarters at the center taking introductory and specialized courses in the marine sciences, attending seminars and workshops, exploring career opportunities, and engaging in supervised research. Applicants must be in an academic program leading to a bachelor's degree. Funding is available from the National Science Foundation. Applications are encouraged, in particular, from U.S. citizens belonging to groups currently

underrepresented in the marine sciences. The deadline for application is November 13, 2009.

<http://www.wvu.edu/mimsup/>

National Recreation Trails Photo Contest

American Trails sponsors an annual contest for photographs of National Recreation Trails across the country. The categories are 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. The entry deadline is December 15, 2009.

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

North Pacific Research Board Request for Proposals

The North Pacific Research Board is soliciting proposals to conduct research on or relating to fisheries or marine ecosystems in the North Pacific Ocean, Bering Sea, and Arctic Ocean, including lesser related bodies of water. The board's long term vision is to build a clear understanding of the marine ecosystems off Alaska that enables effective management and sustainable use of marine resources. The priorities and funding targets in this year's request for proposals include oceanography and lower trophic level productivity, fish habitat, local and traditional knowledge, community involvement, and more. The deadline for submission is December 4, 2009.

http://doc.nprb.org/web/10_rfp/2010_RFP-released_2Oct09.pdf

Petey Giroux Dragonfly Grants - Georgia

The Environmental Education Alliance of Georgia will offer mini-grant awards to members for Environmental Education / Performing and Visual Arts Projects in honor of environmental educator, Petey Giroux, who used the power of the performing and visual arts to support her teaching. The deadline for application is November 30, 2009.

<http://www.eealliance.org/core/item/page.aspx?s=85545.0.0.7182>

Public Lands Program Capacity Building Grants

The National Environmental Education Foundation's Public Lands Program Capacity Building Grants are intended to help strengthen nonprofit public lands support groups to enable them to do more to connect their communities to the land. The program will provide online training resources, networking opportunities between public lands managers and Friends Groups, and small grants to increase the capacity of Friends Groups to recruit volunteers and involve local communities. The deadline for applications is December 1, 2009.

<http://www.publiclandsday.org/grants/index.htm>

Richard C. Bartlett Environmental Education Award

The National Environmental Education Foundation offers the Richard C. Bartlett Environmental Education Award, honoring an outstanding educator who has successfully integrated environmental education into his or her daily education programs. Past deadlines for nomination have been January 31; see the website for details.

<http://www.neefusa.org/bartlettaward/>

Rolex Scholarships

The Our World – Underwater Scholarship Society awards year-long scholarships designed to expose a qualified young person (age 21-26) to a wide range of experiences

in various marine-related fields. For 2010, three Rolex scholarships will be offered: one in Australasia, one in North America, and one in Europe. Each scholarship provides a hands-on introduction to underwater and other aquatic-related endeavors for a young person considering a career in an underwater-related discipline. Each scholar works side by side with current leaders in underwater fields. The deadline for application is December 31, 2009 for North American and European applications, and January 31, 2010 for Australasian applications. While on the website, check out the internships; the deadline for application for internships is January 31, 2010.

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

School of the Future

School Building Week's School of the Future Design Competition, open to middle school students, challenges student teams to design their schools following a planning process from the concept phase to completion of the project. The competition highlights the importance of well-planned, high performance, healthy, safe, and sustainable schools that foster student achievement and enhance community vitality. The deadline submission is January 15, 2010.

<http://www.cefpj.org/i4a/pages/index.cfm?pageid=3338>

SeaWorld & Busch Gardens Conservation Fund

The SeaWorld and Busch Gardens Conservation Fund offers grants to nonprofits, government agencies, zoos, aquariums, and higher education institutions working to conserve, protect, or rehabilitate wildlife. The deadline for application is December 1, 2009.

<http://www.swbg-conservationfund.org/grantApplication.htm>

SeaWorld/Busch Gardens Environmental Excellence Awards

Anheuser-Busch Adventure Parks recognize the outstanding efforts of K-12 students and teachers across the country who are working at the grassroots level to protect and preserve the environment. The deadline for application is November 20, 2009.

<http://www.swbg-animals.org/conservation-matters/eea/index.htm>

State Farm Good Neighbor Service-Learning Grant

The State Farm Companies Foundation offers grants, available from Youth Service America, for teachers, youth, and school-based service-learning coordinators to implement service-learning projects for Global Youth Service Day April 23-25, 2010. The deadline for application is November 9, 2010.

<http://ysa.org/AwardsGrants/tabid/58/Default.aspx>

INTERNSHIPS AND TEMPORARY OPPORTUNITIES

Alaska SeaLife Center Student Internships

The Alaska SeaLife Center hosts summer interns; the deadline for application is February 1, 2010.

<http://www.alaskasealife.org/New/about-ASLC/index.php?page=internship-program.php>

Artist-In-Residence

The National Park Services offers opportunities for visual artists, photographers, sculptors, performers, writers, composers, and craft artists to live and work in the parks.

There are currently 29 parks participating in the Artist-In-Residence program. Check the website for participating parks and contact information.

<http://www.nps.gov/archive/volunteer/air.htm>

CONFERENCES, WORKSHOPS, AND PROFESSIONAL DEVELOPMENT

Alaska Marine Science Symposium – Call for Abstracts

The call for abstracts is open for the Alaska Marine Science Symposium, January 18-22, 2010 in Anchorage, Alaska; the deadline for submission is November 20, 2009. Thanks to the symposium sponsors, registration is free and available until January 5, 2009.

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

Building New England Connections - Connecticut

Project Oceanology and Connecticut Sea Grant present Building New England Connections, a professional development session for teachers November 6-7, 2009 in Groton, Connecticut.

<http://www.oceanology.org/BNECPDflier.pdf>

Clean Water Act Course - Online

The River Network offers an online Clean Water Act course. This course provides lessons on topics that are integral to understanding the Clean Water Act. Participants can select a topic or take the entire ten-lesson course.

<http://www.rivernetwork.org/introduction-cwa-course>

Climate Adaptation in Coastal Communities Webinars

The Sea Grant Climate Network is hosting Climate Adaptation in Coastal Communities: A Network Approach to Outreach, November 9-11, 2009 in Charleston, South Carolina. With support from the National Sea Grant Office and a donation of free connect time from WebEx, they are making the following workshop plenary sessions available for webcasting:

- Session A - Welcome; State of Climate Science; Sea Grant's Focus Areas
- Session B - Panel on Communicating Climate Change
- Session C - Panel on Vulnerability/Adaptation Assessment; Sea Grant Agent Experiences; Community Partnerships
- Session D - Panel Policy, Legislative Issues in Adaptation and Mitigation; Sea Grant and NOAA Efforts
- Session E - Inaugural Business Meeting of the Sea Grant Climate Network (conference call)

Participants must pre-register to attend the webcasts. Hurry - the registration deadline is November 2, 2009. They will be posting videos of the sessions on the web shortly after the workshop for those unable to attend.

http://uwmadison.qualtrics.com/SE/?SID=SV_9vtPWwoImWkUeI4&SVID=Prod

Climate Change Impacts Webinars

NSTA is offering two webinars about the regional impacts of global climate change: Global Climate Change Impacts in the Western United States, November 5, 2009 and Global Climate Change Impacts in the Eastern United States, November 17, 2009. The webinars are free; registration is required.

http://learningcenter.nsta.org/products/symposia_seminars/fall09/NOAA/webseminar2.aspx

http://learningcenter.nsta.org/products/symposia_seminars/fall09/NOAA/webseminar1.aspx

Climate Discovery Courses for Educators - Online

The National Center for Atmospheric Research offers a series of online courses for middle and high school science teachers, combining geoscience content, current climate research, easy to implement hands-on activities, and group discussion. The next courses run concurrently from January 22-March 14, 2010; early-bird registration ends January 1, 2010.

<http://ecourses.ncar.ucar.edu/>

DOI Conference on the Environment – Call for Abstracts

The 2010 Department of the Interior (DOI) Conference on the Environment, April 26-30, 2010 in Portland, Oregon, call for abstracts opens November 2, 2009. Non-DOI employees may submit abstracts but the presentation must have a connection to DOI programs and be endorsed by a DOI employee. Proposed topics include Climate Change and Greenhouse Gases, Resource Conservation and Management, Environmental Collaboration, Partnering and Outreach, and more. The deadline for submission is November 30, 2009.

<http://www.doi.gov/greening/conference/index.html>

Educating for Sustainability in K-12 Schools Webinar

This webinar, November 5, 2009, offers a presentation and discussion on education for sustainability in K-12 schools. Educators will present case studies and share resources on how they are successfully using sustainability as an integrative theme in diverse elementary, middle, and high schools across the country. Together the presenters will provide an overview of the national trends, related research, and more.

http://www.uspartnership.org/.../EDUCATING_FOR_SUSTAINABILITY_announcement.pdf

EETAP Fall Courses - Online

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

- Fundamentals of Environmental Education, February 1-April 23, 2010
- Making EE Relevant for Culturally Diverse Audiences, February 1-April 9, 2010
- Applied Environmental Education Program Evaluation, February 1-April 30, 2010.

Check the website for availability and registration deadlines.

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

Endeavor Science Teaching Certificate

The NASA Endeavor Science Teaching Certificate Project awards one-year fellowships to current and prospective teachers. The project is administered by U.S. Satellite Laboratory, Inc. in partnership with State Departments of Education. Fellows take five online graduate courses, learning to apply research-based pedagogical strategies and STEM (Science, Technology, Engineering and Mathematics) content to their classroom contexts. The deadline for application is November 10, 2009.

<http://www.us-satellite.net/endeavor/index.cfm>

Invasive Species of Everglades National Park eFieldTrip

The eFieldTrip, Don't Let It Loose! Invasive Species of Everglades National Park, has three major components – a virtual visit, a trip journal, and Ask the Experts, open November 3-5, 2009.

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

Learning Ocean Science through Ocean Exploration - Various

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

- January 23, 2010 with Tennessee Aquarium, Chattanooga, Tennessee. The deadline for registration is January 8, 2010. Contact George Bartnik at gpb@tennis.org
- January 30, 2010 with Nauticus, The National Maritime Center. The deadline for registration is January 15, 2010. Contact Jennifer Tabor at jennifer.tabor@norfolk.gov
- February 6, 2010 with SeaWorld Adventure Camp, San Diego, California (a follow up workshop). The deadline for registration is January 22, 2010. Contact Adrienne Marriott at Creec9a@hotmail.com

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

NAAEE Conference - Call for Proposals

The North American Association for Environmental Education (NAAEE) has issued a call for presentations and workshops for its Annual Conference and Research Symposium, Environmental Education: Building Connections - Bridging Gaps, September 29-October 2, 2010 in Buffalo-Niagara, New York. Conference strands include place-based education, conservation education, and more. The submission deadline for both conference and symposium is February 1, 2010.

<http://www.naaee.org/conference/call-for-presentations>

National Conservation Training Center Courses – California

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

- OUT8194: Trail Management: Plans, Projects and People, March 29-April 2, 2010, San Rafael, California. The deadline for registration is January 18, 2010. Contact Matt Gay at Matt_Gay@fws.gov

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

Nature Mapping for Beaches Training

Tacoma Nature Center will offer a Nature Mapping for Beaches Training, November 10, 2009 in Port Townsend, Washington. The workshop is for educators interested in education based marine programs on local beaches who want to enrich their current programs to include the collection of marine fish and invertebrate data for the statewide managed biodiversity database, and use inquiry based approaches to promote a field investigation design in their marine education programs in order to explore beaches.

<http://www.coseeolc.net/event-detail.cfm?EventID=72>

Ocean Observing Systems - Online

COSEE-West invites formal and informal educators to participate in a free online workshop, Ocean Observing Systems (OOS), October 23-November 13, 2009. The workshop explores how scientists and researchers use remote sensing technologies to study oceans. The online workshop environment will include "rooms" to ask questions of the scientists and educators who work with OOS technologies. Participants will be able to interact with other educators, and COSEE-West will post supporting teacher resources in the online environment. Optional graduate credit is available. The sessions will be archived for viewing on your own schedule.

http://www.coexploration.org/cosee_west/

Reptiles and Amphibians of Everglades National Park eFieldTrip

The eFieldTrip, Don't Let It Loose! Invasive Species of Everglades National Park, has three major components – a virtual visit, a trip journal, and Ask the Experts, open November 17-19, 2009.

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

Strategic Conservation Planning Using the Green Infrastructure Approach – West Virginia

This introductory course from the Conservation Fund, the U.S. Fish and Wildlife Service, and the Forest Service, March 8-12, 2010 in Shepherdstown, West Virginia, provides participants with a strategic approach for prioritizing conservation opportunities and a planning framework for conservation and development. This course is designed to be a collaborative learning experience; as such it is applicable to individuals from a variety of disciplines, sectors, and scales (i.e., national, regional, statewide, local) who are engaged in land use planning and management. The deadline for registration is February 12, 2010.

<http://www.conservationfund.org/node/239>

Wetlands Education Project – Texas

The Waterborne Education Center in Anahuac, Texas, fosters appreciation and stewardship of coastal resources, heritage, and culture by providing hands-on, waterborne education services. This is accomplished through scientific training in the natural environment on the water and in the marsh. The public is invited to attend the Fall Public Wetlands Education Project, November 7, 2009, to participate in on-the-water, hands-on environmental education on the Trinity River.

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

EDUCATIONAL RESOURCES

Acid Test

Acid Test: the Global Challenge of Ocean Acidification, a film produced by the National Resources Defense Council, was made to raise awareness about the problem of ocean acidification, which poses a fundamental challenge to life in the seas and the health of the entire planet. The video and additional outtakes can be viewed online or downloaded from the website, or ordered on DVD.

<http://www.nrdc.org/oceans/acidification/aboutthefilm.asp>

AMSER Science Reader Monthly

The AMSER (Applied Math and Science Education Repository) Science Reader Monthly aims to provide educators with information about a particular topic related to applied math and science by combining freely available articles from popular journals with curriculum, learning objects, and web sites from the AMSER portal. The AMSER Science Reader Monthly is free to use in the classroom and educators are encouraged to contact AMSER with suggestions for upcoming issues.

<http://www.amser.org/AMSER--ScienceReader.php>

Biodiversity Indicators Partnership

The 2010 Biodiversity Indicators Partnership is a global initiative funded by the Global Environmental Facility, which brings together international organizations to develop biodiversity indicators and assess biodiversity loss. The website offers a portal to provide comprehensive information on global biodiversity indicators and trends.

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

Climate Change

Will Steger Foundation's K-12 interdisciplinary climate change education program includes lesson plans that are experiential in nature, tied to national standards, and available free for download. The website offers global warming lessons, a Citizen Climate Curriculum emphasizing civic engagement, and additional resources.

<http://www.willstegerfoundation.org/index.php/programs/k-12-education-program>

Coastal Inundation Toolkit

The Coastal Inundation Toolkit is available from the Digital Coast website. The toolkit contains tools and information communities need to address coastal inundation issues. An inundation mapping guidebook is the main component of the toolkit, with instructions that show communities how to discover and map the areas likely to flood and the features, such as facilities and populations, which are most at risk. The site also provides information about coastal inundation, how to best communicate risk information, and more.

<http://www.csc.noaa.gov/digitalcoast/inundation/>

COSEE-Coastal Trends

COSEE-Coastal Trends is a thematic center that aims to increase literacy in ocean science, with a focus on understanding dynamic coastal trends through partnerships among scientists, educators, students, and the general public. COSEE-Coastal Trends offers education modules based on scientific research. The Learn, Explore the Trends, and Investigate Current Research sections provide general information on each topic. The classroom resources page is designed for teachers and educators and contains a lesson plan developed by a teacher with the help of his/her scientist-educator team. The education modules feature movies, video interviews, photographs, diagrams, and 5-E lesson plans for use in the science classroom.

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

Cultural Diversity

NAAEE and EETAP offer this website with information about perspectives and approaches for environmental education to remain effective and relevant to diverse populations, both locally and globally. The website includes information and tools focusing on a specific topic such as cultural competency in your organization, programs, membership, partnerships, and plans. Each topic discussion includes an assessment

tool, relevant articles, vignettes, a mini-lesson, success stories, glossary, and annotated bibliography.

<http://www.naaee.org/programs-and-initiatives/diversity/cultural-diversity-eetap>

Expert Voices Gateway

Expert Voices: Speaking of Something Interesting is a science teaching information exchange sponsored by the National Science Digital Library (NSDL) geared towards teachers of all levels, as well as students.. The topics covered are science, technology, engineering, and mathematics.

<http://expertvoices.nsd.org/>

Explorations

University of California San Diego's Scripps Institution of Oceanography offers an online magazine, *Explorations*, to inform and educate about ongoing research and events. It features research highlights, multimedia, and more. *Voyager* is a separate section for kids, with science experiments, activities, and Ask Voyager, welcoming questions from readers about a wide range of topics.

<http://explorations.ucsd.edu/>

Exploring the Submerged New World Expedition

NOAA's Ocean Exploration and Research Program has launched the Exploring the Submerged New World Expedition on its Ocean Explorer website. The expedition posting includes daily logs, videos and images, an Ocean Explorer Expedition Education Module, lesson plans, Ask an Explorer, and more.

<http://oceanexplorer.noaa.gov/explorations/09newworld/welcome.html>

Extended Continental Shelf Project

ContinentalShelf.gov is a new web portal designed by NOAA in support of the 2009 Extended Continental Shelf Project, a multi-year, multi-agency effort. The website offers background on the mapping project, frequently asked questions, a glossary of terms, and more.

<http://continentalshelf.gov/>

First Bloom

First Bloom is a National Park Foundation program that connects kids in grades 4-6 to nature and national parks. First Bloomers meet with park rangers monthly over one program year. They engage in outdoor, hands-on activities and build their relationship with the outdoors and their national parks. First Bloom activities can also be used in a classroom setting. The website provides games and activities on biology, ecosystems, and stewardship.

<http://s291372515.onlinehome.us/index.php>

Freebies for Science Teachers

This open NSTA website offers an array of free resources for science classrooms. The website lists a short paragraph about accessible resources, programs, and more. The search options include keyword and filter by type.

<http://www.nsta.org/publications/freebies.aspx?lid=exp>

Global Climate Change

Global Climate Change is produced by the Earth Science Communications Team at

NASA's Jet Propulsion Laboratory/California Institute of Technology. The website offers well organized web pages covering key indicators and evidence, uncertainties, and much more. Check out the Cool Stuff, including 3D animations, surprising factoids, videos, and more.

<http://climate.nasa.gov/>

Hands-On Oceanography

The Oceanography Society offers Hands-On Oceanography, peer-reviewed activities appropriate for undergraduate and graduate classes in oceanography. The society has also published a supplement to the journal *Oceanography* that provides hands-on activities to teach physical concepts in oceanography. The activities are presented as they were presented to college undergraduates, but may be adapted for middle and high school.

<http://www.tos.org/hands-on/index.html>

Harmful Algal Species Identification – There's an app for that

A volunteer from the NOAA Phytoplankton Monitoring Network's Texas Master Naturalist group, in collaboration with National Centers for Coastal Ocean Science (NCCOS) scientists, developed an iPhone application to assist marine phytoplankton and harmful algae identification. This "app" includes images from an NCCOS gallery of common phytoplankton and recordings of a staff scientist's pronunciation of each species' name. The application also contains a flash card game to improve volunteers' identification skills. The app works on both the iPod Touch and iPhone. Check the website for a description of this application, with links to a video demo and iTunes download.

<http://www.gano.name/shawn/phyto/>

Jonathan Bird's Blue World Season 2

Jonathan Bird's Blue World, an educational public television series, lets you bring the undersea world to the classroom via the internet. Topics covered in Season 2 include whale sharks, mangroves, venomous fish, and more. Each segment is approximately 10 minutes, and has an accompanying study guide.

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

Lake Champlain Maritime Museum

The Lake Champlain Maritime Museum offers interpretation of the maritime past and present in and around Lake Champlain. Materials on the website are divided into sections that include Education, Shipwrecks & History, and more. The education section contains links to archived shipwreck webcasts and information for educators. The Maritime Research Institute section hosts information about ongoing work at the conservation lab.

<http://www.lcmm.org/index.htm>

Mapping Demonstrations

Check out three more EBM Tool Demonstrations on mapping: California Ocean Uses Atlas, Google Earth and Google Maps, and Participatory GIS through the Ecosystem-Based Management Tools Network. All demonstrations are archived a few days following the event.

http://www.ebmtools.org/tools_training/presentations.html

Marine Mammal Habitat Modeling

This website from Woods Hole Oceanographic Institution is dedicated to marine mammal habitat modeling. The website is a repository for presentations, resources, and references.

<http://www.whoi.edu/sbl/liteSite.do?litesiteid=7272>

A New Home For An Old Friend

A New Home For An Old Friend is a children's book that promotes responsible aquarium stewardship. The book tells a story, in rhyme and illustrations, about a family's search for a new home for their pet lionfish when a move requires them to empty their aquarium. The book explains why aquarium fish shouldn't be released into the wild and presents eco-friendly alternatives. It is designed for pre-Kindergarten through 2nd grade learners. Funding is through US Fish and Wildlife and the books are for free distribution to educators and home aquarium owners. There are also lesson plans that meet state standards.

<http://www.usc.edu/org/seagrant/Publications/publications.html>

http://www.usc.edu/org/seagrant/caulerpa/publications/teacher_curricu_for_invasives.pdf

NOAA World

The NOAA World website offers easy-to-find information about NOAA's work, people, and resources. The website features news stories, regional links, multi-media, and more. Check out the Best of the Web, Image of the Day, Education News, and more.

<http://www.noaaworld.noaa.gov/index.html>

Seagrass-Watch News

Seagrass-Watch News is the official magazine of the global seagrass and assessment program. All issues are available online. The current issue includes a discussion of ten years of monitoring.

<http://www.seagrasswatch.org/magazine.html>

Seascape Modeling

The Ecosystem Modeling Lab is a joint project of the University of Maine's School of Marine Sciences and the Gulf of Maine Research Institute. The Seascape Modeling website presents the news, results, and opinions from the lab on efforts to understand the link between physical and biological conditions in the ocean. Current project pages focus on ecosystem forecasting and sea surface photogrammetry.

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

Shark Alliance

The Shark Alliance is a global, not-for-profit coalition of non-governmental organizations dedicated to restoring and conserving shark populations by improving shark conservation policies. The website hosts the animated film *Predator Turned Prey*, along with other campaign materials for European Shark Week.

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

Shipwreck Webcast

Lake Champlain Maritime Museum and partners will host a live webcast of the shipwrecked schooner *Sarah Ellen*, November 5, 2009. This free hour-long broadcast will take participants deep under the cold dark waters of Lake Champlain to the wreck. The program will be archived on the website shortly after the initial broadcast.

<http://www.lcmm.org/webcast.html>

Swimming Fishes Game

COSEE-Networked Ocean World (COSEE-NOW) presents Swimming Fishes, a human-sized board game appropriate for ages 10 to adult that demonstrates how changes in water temperature may affect fisheries distribution. Check this one out.

<http://coseenow.net/2009/09/ocean-home-swimming-fishes/>

Tides of Change

NASA offers Tides of Change, a series of videos focusing on the ocean-climate connection. Each video features a specific component of the connection, such as marine life or the water cycle. Each can be watched online or downloaded from the website. The videos are captioned for the hearing impaired.

http://www.nasa.gov/topics/earth/features/esw09_videos.html

<http://climate.nasa.gov/esw/videoseries/>

Venomous & Poisonous Creatures

Sea World Busch Gardens offers a variety of educational activities on its website. In honor of Halloween, it is highlighting activities and information about venomous and poisonous creatures.

<http://www.swbg-animals.org/just-for-teachers/lsa/2009/oct/index.htm?src=animalssilverpopsaooct09-animalactivities>

Weddell Seal Expedition

This website offers insights into a current 2009 Antarctica expedition studying the Weddell seal. The website offers general information, multimedia, and more.

<http://antarctica.ucsc.edu/home.html>

INITIATIVES, JOURNALS, and MORE

EcoWeek Florida Keys 2010

EcoWeek 2010 aims to educate and celebrate environmental preservation, promote sustainable ecotourism, enhance the local economy in an environmentally responsible way, and attract ecologically and socially conscious individuals to the Keys. It will start in the Upper Keys on October 31 with a Hallow-Green party, and continue with Middle Keys festivities November 4-11 and the Lower Keys/Key West partying from November 7-14, 2010. Check out the website and consider joining in.

<http://ecoweekfloridakeys.com/>

Journey to Planet Earth Free Preview

Screenscope has extended an invitation to receive a 30-day online preview of the PBS series, Journey to Planet Earth, along with an offer through December for a 25% discount towards the purchase of any episodes. You can also request to receive the DVD set for preview.

<http://video.webcasts.com/events/pmny001/viewer/index.jsp?eventid=32143>

National STEM Directory

The Lawrence Hall of Science is working with Time Warner Cable to promote after school and summer programs focused on Ocean Literacy. Time Warner Cable is launching a national directory to identify STEM learning beyond the classroom. Note

that this is not an organization directory; programs and events must be in your profile to come up in search results.

<http://directory.scienceafterschool.org/signup/>