

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
INFORMATION EXCHANGE FOR MARINE EDUCATORS

OCTOBER 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 the 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 Reference

Ocean Policy Task Force's Interim Report

The Ocean Policy Task Force's Interim Report is now available and is undergoing a 30-day public review and comment period from September 17, 2009. This report provides proposals for a comprehensive national approach to uphold our stewardship responsibilities and ensure accountability for our actions. The website hosts the downloadable report along with a comment section which allows you to read public comments and submit your own. Principle 6 on page 16 addresses education, while page 32 addresses training and informal education and outreach.

<http://www.whitehouse.gov/administration/eop/ceq/initiatives/oceans/>

WORKSHOP OF THE MONTH

Why Do We Explore - Online

Join the College of Exploration and NOAA's Ocean Explorer for the free online teacher workshop, *Why Do We Explore*, October 5-16, 2009. This is the second workshop in a series of teacher professional development opportunities focused around NOAA's new ship, the *Okeanos Explorer*. Scientific keynote presenters and education facilitators will work with participants to delve into the benefits of ocean exploration targeting climate change, energy, human health, and ocean health. Interact with scientists, converse and share classroom applications with other educators, and find a wealth of multimedia resources. The workshop will introduce the first in a series of Leader's Guides for Classroom Explorers *Why Do We Explore?* with associated exploration lessons and hands-on activities. The workshop will be available 24 hours a day, 7 days a week.

<http://www.coexploration.org/oe/>

MESSAGE FROM THE BRIDGE

Coral Snapshots

Scientists are using cutting-edge technology to survey entire coral reef systems instead of extrapolating results from numerous smaller quadrats. Scientists at the Virginia Institute of Marine Science are taking video of reefs and analyzing it via a computer program back in the lab. This method cuts down on the inherent error associated with the quadrat system and actually requires less time and money spent in the field. In this Bridge Data Analysis Teaching Activity, students will analyze snapshots from coral reefs in and around the Bonaire National Marine Park, calculate biodiversity indices, and determine if marine life is benefiting from federal protection. The activity includes an identification key and automated Excel spreadsheets that help students understand the calculations being completed.

http://www2.vims.edu/bridge/DATA.cfm?Bridge_Location=archive1109.html

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

GRANTS AND OPPORTUNITIES

B-WET Funding Opportunities

NOAA's Bay Watershed Education and Training (B-WET) is an environmental education program that promotes locally relevant, experiential learning in the K-12 environment. The primary delivery of B-WET is through competitive funding that promotes Meaningful Watershed Educational Experiences. Funding is available for the 2010 B-WET in California, Chesapeake Bay, the Gulf of Mexico, New England, and the Pacific Northwest. Check the website for details, as many applications are due soon.

<http://www.oesd.noaa.gov/BWET/>

Christine Mirzayan Science & Technology Policy Graduate Fellowship Program

The Graduate Fellowship Program of the National Academies is designed to engage its fellows in the analytical process that informs U.S. science and technology policy. Fellows develop basic skills essential to working or participating in science policy at the federal, state, or local levels. The deadline for application for the winter/spring program is November 1, 2009.

<http://sites.nationalacademies.org/PGA/policyfellows/index.htm>

Disney Planet Challenge

Walt Disney Company, in collaboration with the National Science Teachers Association, announces the launch of Disney's Planet Challenge, a project-based environmental competition for grades 4-6. The cross-curricular program empowers classrooms to make a difference in their homes, schools, and communities and prompts students to think and act responsibly toward the environment while fostering teamwork, problem solving skills, and lifetime love for learning. The deadline for registration is December 18, 2009.

<http://disney.go.com/planetchallenge/>

Drop of Hope Water Photography Project

The Roots & Shoots New England Water Photography Project encourages young people to take photos and write brief descriptions about bodies of water they have visited, projects they have done with water, or water issues that are of concern to them. Photos will be exhibited in this online photo gallery. Check the website for links to more information.

http://rootsshoots.smugmug.com/gallery/8209334_BDyxS#547787139_Fqnmw

International Photography Contest

National Geographic's International Photography Contest allows submission of up to six photos in three categories: People, Places, and Nature. Note that there is an entry fee. The deadline for entry is October 31, 2009.

<http://ngm.nationalgeographic.com/photo-contest/photo-contest>

J/aRT Contest

Students can submit entries for the J/aRt Contest featuring artwork about the research vessel, *JOIDES Resolution* and her scientists and crew. Prizes include a visit to the winning school by members of the JR team. The deadline for submission is November 10, 2009.

<http://joidesresolution.org/node/446>

Lexus Eco Challenge

The 2009-2010 Lexus Eco Challenge is open to students in grades 6-12. Students submit an action plan on a specific environmental issue within a listed topic that affects their local community. The Land/Water Challenge runs September 28-November 6, 2009; Air/Climate runs November 16, 2009-January 19, 2010; and the Final Challenge runs February 3-March 12, 2010. See the website for complete details.

<http://www.scholastic.com/lexus/>

Mickelson ExxonMobil Teacher Academy

Students in grades 3-5 can nominate teachers for a free summer science camp for educators. The academy offers a five-day program designed to provide teachers with the knowledge and skills necessary to motivate students to pursue careers in science and math. The deadline for nomination is October 31, 2009.

<http://sendmyteacher.com/index.html>

National Wetlands Awards

The Environmental Law Institute offers the National Wetlands Awards Program, celebrating individuals who have demonstrated extraordinary dedication, innovation, or excellence in wetlands conservation. The awards are given in six categories: Education and Outreach; Science Research; Conservation and Restoration; Landowner

Stewardship; State, Tribal, and Local Program Development; and Wetland Community Leader. The deadline for nomination is December 15, 2009.

<http://www.nationalwetlandsawards.org/nominations.htm>

President's Environmental Youth Awards

Sponsored by the EPA, the President's Environmental Youth Awards program recognizes young people for projects which demonstrate their commitment to the environment. The program is available to individuals, classes, and youth groups. Awards are presented in each of the EPA regions, and one project from each region is presented with a national award. Regional applications are due by December 31, 2009.

<http://www.epa.gov/enviroed/peya/index.html>

Seaspace Scholarships

Seaspace, Inc offers scholarships in support of marine-related courses of study. Students must be enrolled or accepted full-time in an accredited U.S. college or university beginning with the 2009 fall term; U.S. citizenship is not a requirement. The deadline for application is February 1, 2010.

<http://www.seaspace.org/schship.htm>

Spirit of Innovation Awards Webinar

The Spirit of Innovation Awards Program challenges teams of high school students to solve real world problems by creating products using science, technology, and entrepreneurship. The Conrad Foundation offers a web seminar on October 6, 2009 for details on how to participate and succeed in the Spirit of Innovation Awards competition.

http://www.conradawards.org/index.php?option=com_content&view=article&id=175&Itemid=269

State Farm® Service-Learning Champion Award

State Farm supports service-learning as a teaching method that enhances the academic achievement of students while engaging in service to the community. State Farm created the Service-Learning Champion Award to acknowledge non-traditional advocates of service-learning, recognizing a business leader, community member, or public official who has a passion for engaging youth in service-learning. The deadline for nomination is December 1, 2009.

http://www.statefarm.com/about/part_spos/topics/nom_slchamp.asp

INTERNSHIPS AND TEMPORARY OPPORTUNITIES

Teacher at Sea Program

NOAA is accepting applications from K–12 teachers for the 2010 Teacher at Sea field season. The program provides a unique environment for learning and teaching by sending teachers to sea aboard research and survey ships to work under the tutelage of scientists and crew. Then, armed with new understanding and experience, teachers bring this knowledge back to their classrooms. Cruises take place throughout most of the year on a space-available basis. The deadline for application is December 31, 2009.

<http://teacheratsea.noaa.gov/apply/index.html>

CONFERENCES, WORKSHOPS, AND PROFESSIONAL DEVELOPMENT

Atlas of Science Literacy Workshops - Various

The Atlas of Science Literacy is co-published by AAAS and NSTA. Designed for K-12 science teachers, curriculum specialists, researchers, and other educators, the three-day Atlas of Science Literacy Workshop demonstrates how participants can use the conceptual strand maps in Atlas 1 and Atlas 2, along with other Project 2061 resources, to enhance their own understanding of science literacy and take a benchmarks-based approach to helping all students achieve literacy in science, mathematics, and technology. The website lists upcoming workshops and deadlines for application for scholarships to attend individual workshops.

<http://www.project2061.org/events/workshops/default.htm>

Farallones Marine Sanctuary Association Professional Development - California

The Farallones Marine Sanctuary Association offers a series of free lectures, workshops, and field excursions to support community teachers and connect them with the national marine sanctuaries. Workshop presentations, activities, and content are geared for middle and high school science teachers; however, all teachers and educators are welcome. Check out the offerings and register today for upcoming October and November opportunities.

http://www.farallones.org/education/teacher_workshops.php

Fellowship Program for Emerging Leaders - Southeast

The Environmental Leadership Program Southeast Regional Network Training Series for Emerging Leaders is designed to build the leadership capacity of the environmental and social change field's most promising emerging practitioners in the Southeast region. The year-long training series offers networking opportunities, intensive leadership and skills training, support, and time for personal and professional reflection. The deadline for application is December 11, 2009.

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

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. Participants will receive the curriculum with CD-ROM's, certificates of participation, and more. Contact the noted educator for registration and more information.

- December 5, 2009 with SeaWorld Adventure Camp, San Diego, California. The deadline for registration is November 30, 2009. Contact Adrienne Marriott at Creec9a@hotmail.com
- December 12, 2009 with the Aquarium of the Pacific, Los Angeles, California. The deadline for registration is November 23, 2009. Contact Alie Lebeau at atalebau@lbaop.org
- December 12, 2009 with the South Carolina Aquarium, Charleston, South Carolina. The deadline for registration is November 23, 2009. Contact Brian Thill at BThill@scaquarium.org

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

National Climate Seminar – Phone-In

The National Climate Seminar is a bi-monthly, national phone conversation featuring climate scientists, political leaders, and policy analysts. This seminar is hosted by the Bard Center for Environmental Policy and will run through December 30, 2009. Participants can submit questions and comments. Note that the call-in number may not be free of charge.

<http://www.bard.edu/cep/ncs/>

NSTA Conferences – Call for Proposals

Submit a session proposal for a National Science Teachers Association (NSTA) conference in 2010-2011.

- Kansas City, Missouri, October 28-30, 2010
- Baltimore, Maryland, November 11-13, 2010
- Nashville, Tennessee, December 2-4, 2010
- San Francisco, California (national conference), March 10-13, 2011

The deadlines for submissions are January 15, 2010, for the 2010 area conferences and April 15, 2010, for the national conference.

<http://www.nsta.org/conferences/sessions.aspx>

Seminars on Science - Online

Registration is open for the upcoming academic year of Seminars on Science from the American Museum of Natural History. Courses are six weeks long and are co-taught by an experienced classroom teacher and a research scientist. Upcoming courses include The Ocean System, Water: Environmental Science, and more. The deadline for registration for fall session 2 closes October 5, 2009; spring session 1 registration deadline is January 11, 2010.

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

Teacher Workshops - Georgia

Sapelo Island National Estuarine Research Reserve is offering two teacher workshops this fall: Marine Mammals of Coastal Georgia, November 13, 2009 in Brunswick, Georgia; and Shorebirds Conservation, December 3-6, 2009 on Sapelo Island, Georgia. The deadline for registration for either workshop is October 15, 2009.

Contact Georgia Graves at georgiabeachwalk@bellsouth.net

Using the Internet in Real Time Ocean Research for Education and Outreach – Call for Abstracts

Organizers of Session ED03: Using the Internet in Real Time Ocean Research for Education and Outreach, at the American Geophysical Union Ocean Sciences Meeting, February 22-26, 2010 in Portland, Oregon, announce a call for abstracts. This session will explore examples and lessons learned on the use of expedition and research project web sites and internet tools to engage and involve students and teachers in real time ocean research. The deadline for submission is October 15, 2009.

Contact Sharon Cooper at scooper@oceanleadership.org

http://www.agu.org/meetings/os10/program/abstract_submissions.php

EDUCATIONAL RESOURCES

Climate Change Presentations for High Schools

The Alliance for Climate Education offers 45-60 minute interactive assembly presentations for high school students (in specific regions) to deliver science-based multimedia presentations on climate education. The organization also offers grant and scholarship opportunities to empower students to take action.

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

Climate Literacy Handbook

The Climate Literacy Handbook presents the basic scientific concepts of climate science for non-technical audiences. It is an elaboration of Climate Literacy: The Essential Principles of Climate Sciences, a set of seven principles and their underlying fundamental concepts that developed by scientists and educators. Commentary and online resources follow each principle, allowing further exploration of key climate literacy concepts.

http://www.eoearth.org/article/Climate_Literacy_Handbook

Deep Sea Research Blog

Michelle Kay is a 6th grade science and marine biology teacher in Honolulu, Hawai'i. She is currently on a deep-sea fish research cruise as the teacher-at-sea in Monterey Bay, California. Read her blogs from this and previous cruises.

<http://deepblusea2009.blogspot.com/>

Earth System Science Education Alliance

The Earth System Science Education Alliance delivers a student-centered teaching model for geoscience education to university faculty, as well as pre-service and in-service middle-high school teachers. Their website hosts a listing of participating institutions along with upcoming courses and contact information. In addition, the resources section hosts links to lessons on climate, oceans, polar regions, and more. This website is well organized and easy to navigate.

<http://essea.strategies.org/index.aspx>

EBM Tools Network Updates

The Ecosystem-Based Management (EBM) Tools Network offers a myriad of EBM tools and other resources on their website. Sign up for network updates, including news of upcoming demonstrations, professional development, and tools. The listserve also offers timely information for EBM and geospatial analysis professionals.

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

Environmental Posters

The Loxahatchee River District offers a series of environmental poster series, Seagrasses, Eastern Oyster, Bonefish, Tarpon, and Land Crab. The posters focus on the importance of habitat preservation and fisheries management. The posters can be downloaded from the website.

<http://www.loxahatcheeriver.org/resources.php>

Florida Keys Tortugas 2009

Scientists and crew on the NOAA Ship *Nancy Foster* continued the long-term study (2001 to present) of the Florida Keys National Marine Sanctuary Tortugas North Ecological Reserve, from September 22-30, 2009. The team conducted diver and sonar

surveys of benthic habitats and fishes as part of an evaluation of the impact of this no-take reserve on marine communities. Read their daily logs as they conducted research to examine habitat utilization of fishes by sampling both on and off the reef, focusing on the deep edge of the reef where it transitions into sand.

<http://sanctuaries.noaa.gov/missions/2009tortugas/welcome.html>

GIS 2 GPS Portal

This website, GIS 2 GPS Portal Resources For Educators & Students, was developed by educators in Illinois to help educators and students understand geospatial technologies. Resources include links to courses, collaborators, software, and more.

<http://gis2gps.com/>

Growing Up WILD

Growing Up WILD is an early childhood education program that builds on children's sense of wonder about nature and invites them to explore wildlife and the world around them. Through a wide range of activities and experiences, Growing Up WILD provides an early foundation for developing positive impressions about the natural world and lifelong social and academic skills. The activity guide, *Growing Up WILD: Exploring Nature with Young Children* is written especially for early childhood educators of children ages 3-7. Guides are distributed to participants at professional development workshops, offered by Project WILD state coordinators. Workshops are free or have a minimal workshop fee. As an example, the website offers the downloadable activity, Fishing Fun!

<http://www.projectwild.org/GrowingUpWILD.htm>

Handles

The National Park Service offers an updated interpretive resource, *Handles: Helping Visitors to Grasp Resource Meanings, a Survey of Interpretive Techniques*. The downloadable booklet offers a listing and definition of techniques which provide the audience with opportunities to make their own intellectual and emotional connections to resource meanings.

<http://www.nps.gov/idp/interp/handlesupdate.pdf>

Institute for Global Environmental Strategies Climate Change Resources

The Institute for Global Environmental Strategies works with educators and scientists to develop educational resources for the classroom. Partnering with agencies such as NASA and the EPA, they offer scientifically accurate products that are geared toward students of varying grade levels. The *Potential Consequences of Climate Variability and Change* is a series of learning modules for grades 1-12. The activities focus on the impact of climate change on everything from agriculture to coastal areas to human health.

<http://www.strategies.org/education/index.aspx?sub=education&sub2=productdevelopment>

Living in the Weather

NOAA's Ocean Service Education website offers new *Living in the Weather* resources for teachers. These materials explain how meteorologists observe and predict the weather. To understand weather and climate, one needs to understand the atmospheric and oceanic conditions and the interrelatedness of weather and climate. The resources will help teacher engage their students in the exploration and prediction of atmospheric

conditions responsible for weather patterns and climatic conditions, and investigate how extreme weather impacts people and the environment.

http://oceanservice.noaa.gov/education/pd/living_weather/

Making Waves

Making Waves is a multimedia outreach project designed to help bring science and math to life in your middle school classroom by unlocking the mysteries of the oceans.

Partners for the website include the College of Marine Science at the University of South Florida, USGS, and InterActive Teacher Magazine. Resource topics include Sea Level Rise, Red Tides, Oceans from Space, Real Time Data, and much more. Check out the background information, activities, and links on this website.

<http://waves.marine.usf.edu/mwhome.htm>

Marine Geospatial Ecology Tools

Marine Geospatial Ecology Tools (MGET) is a free, open-source geoprocessing toolbox designed for coastal and marine researchers and GIS analysts who work with spatially-explicit ecological and oceanographic data in science and management. MGET includes over 180 tools useful for a variety of tasks.

<http://code.env.duke.edu/projects/mget>

Marine Life Blog

The Marine Life Blog follows the travels and marine life discoveries of Ned and Anna DeLoach and Paul Humann, the authors/photographers of the Reef Set marine life identification book series. The blog offers reports, photos, and video from dive locations around the globe on their marine life encounters. Check out these fantastic visuals.

<http://fishid.com/marinelifeblog/>

Mississippi Aquatic Plants Website

This website, developed from research supported by the Mississippi-Alabama Sea Grant Consortium, offers photographs, habitat information, and other details about more than 100 species of Mississippi aquatic and wetlands plants.

<http://jcho.masgc.org/>

National Water Management Center

The National Resources Conservation Service offers the National Water Management Center website to provide leadership, assistance, information, and technology on water-related issues for natural resources conservation. Learn about water resource planning, watershed assessments, water policy implementations, and more.

<http://wmc.ar.nrcs.usda.gov/>

Neighborhood Explorers

The U.S. Fish and Wildlife Service offers an online video game aimed to encourage kids to go outside and learn about the environment. Designed for children ages 8-11, the website is geared to reach those children not currently participating in outdoor programs and activities. Read about it on the *Let's Go Outside* website.

<http://www.fws.gov/letsgooutside/>

PhotoZone

The National Wildlife Federation offers Ranger Rick's PhotoZone to help young photographers learn to take and share photos of wildlife and wild places. There are photo tips, tricks, contests, and more.

<http://www.nwf.org/kidzone/kzPage.cfm?siteId=3&departmentId=80>

RAMP Cruise 2009

The Reef Assessment and Monitoring Program cruise to the Papahānaumokuākea Marine National Monument has begun aboard the NOAA ship *Hi'ialakai*. Scientists will revisit numerous sites around the remote islands and atolls to gather data on reef ecosystem health. Follow the mission through cruise logs, check out the crew biographies, and more.

<http://sanctuaries.noaa.gov/missions/2009ramp/>

Sheltered Sea

The Baum Foundation and Coyote Films offer the public service film, *A Sheltered Sea - The Southern Passage*, about the Marine Life Protection Act Initiative along the California coast. The film highlights the activities taking place in the south coast region from Point Conception to Mexico. The Southern Passage features the collective benefits and challenges of creating a network of MPAs. The website offers a 3-minute trailer along with the downloadable 25-minute film.

Contact Jen Melcon at jen@thebaumfoundation.org

<http://www.thebaumfoundation.org/ashelteredsea.html>

Ship-2-Shore Education

Join Oceanographic Research Vessel *Algalita* in the Great Pacific Garbage Patch in its 10th year of studying human impacts on marine ecosystems. The website includes daily updates and images from the research vessel; the opportunity to interact with the ship's research team; lessons and activities; and more.

<http://ship2shore.blogspot.com/>

South Florida Sponge Guide

Researchers at the National Coral Reef Institute along with an international team of experts, offer the South Florida Sponge Guide website. The website offers an interactive identification guide to the shallow-water marine sponges of South Florida, including illustrated keys and descriptions of organisms, their diagnostic components, habitat, and biological data.

http://www.nova.edu/ncri/sofla_sponge_guide/index.html

Ten Top Tips for Teaching with New Media

Eductopia offers *Ten Top Tips for Teaching with New Media*. It offers succinct and practical advice, covering everything from iChat and Twitter to lesser-known tools like VoiceThread and Wordle. The downloadable document is available for free.

<http://www.edutopia.org/ten-top-tips>

Virtual Barrier Island

The Bureau of Economic Geology along with the Harte Research Institute for Gulf of Mexico Studies at Texas A&M University Corpus Christi, has developed a 3-D virtual model of the Gulf of Mexico and Texas coastal environments. The model can be used in the classroom and by the general public to explore how relative sea level change rise, caused by climate change and other causes, may impact the coastal zone. The website offers the downloadable 3-D model, a lesson plan, teacher's introduction, and a virtual reality video which explains how to navigate and manipulate the data within the model.

<http://coastal.beg.utexas.edu/thscmp/vbi.htm>

INITIATIVES, JOURNALS, and MORE

Earth Newswire Social Networking Site

Earth Newswire is a new social networking website for people interested in environmental science, ecology, and conservation issues to connect with one another and share news and information. The site features generalized forums and also allows members to create specialized discussion groups.

<http://earthnewswire.ning.com/>

Ocean for Life

The Ocean for Life: One World, One Ocean program is an initiative of the National Marine Sanctuaries Program, GLOBE, and other to increase cultural understanding through ocean science. The pilot year provided immersive ocean field studies and follow-on education programs to facilitate cross-cultural learning, appreciation, and lasting experiences between Middle Eastern and Western students. Read more about the program and view youth media projects put together by the students in collaboration with National Geographic Society and American University's Center for Environmental Film Making.

<http://www.oceanforlife.org>

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