

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
INFORMATION EXCHANGE FOR MARINE EDUCATORS

AUGUST 2007

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

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

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

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

Notable References

Healthy Reefs for Healthy People

Healthy Reefs for Healthy People: A Guide to Indicators of Reef Health and Social Well-being in the Mesoamerican Reef Region is the product of a multi-institutional effort. It is intended to move beyond conventional metrics of biological and ecological health by connecting ecosystem processes with human activity for better management decisions for improved ecosystem health and human well-being in the Mesoamerican Reef Ecosystem. The guide is available for downloading; the Spanish version should be available sometime in the fall in both printed and digital versions.

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

Marine Ecoregions of the World: A Bioregionalization of Coastal and Shelf Areas

This paper in the July/August 2007 edition of the journal BioScience proposes a new global system for classifying coastal and shelf areas. Intended to help identify and address gaps in conservation coverage, the system divides the world's coastal and shelf areas into 12 "realms". Each realm is then subdivided into "provinces", which in turn consist of ecoregions - with a total of 232 ecoregions worldwide. The authors expect the classification to be useful for conservation planning.

http://www.aibs.org/bioscience-press-releases/070628_new_tool_for_marine_conservation.html

Of Sand and Sea: Teachings from the Southeastern Shoreline

The South Carolina Sea Grant Consortium now offers the marine science text, *Of Sand and Sea: Teachings from the Southeastern Shoreline*, (Paula Keener-Chavis and Leslie Sautter, 2002) online in pdf format. This 97-page book is filled with photographs, figures, and information related to marine science. Although the book was written primarily as a resource for marine educators, the text has been used successfully in high school marine science classes, and as supplemental reading in introductory college-level marine science classes. Five chapters cover a broad range of topics, including physical and chemical properties of the ocean, marine ecology, resource utilization, and much more. A glossary and references are also included.

http://www.scseagrant.org/oldsite/library/library_pubs_sos.htm

WEBSITE OF THE MONTH

Tagging of Pacific Predators

Tagging of Pacific Predators is a project of Hopkins Marine Station, Long Marine Lab, and NOAA's Southwest Fisheries Center in Pacific Grove that is putting satellite tags on thousands of the Pacific Ocean's top predators. The website features animated maps of migrating white sharks, leatherback turtles, salmon sharks and elephant seals, with 18 more species to come. Researchers blog daily, currently from a shark-tagging cruise off California, a turtle-tagging expedition in Indonesia, and a black-footed albatross fledgling tagging in Midway Atoll.

Other features on the website include videos; ask-a-researcher; stories about the research, the animals, and the scientists; and more. The website also provides background and links to resources about featured species and tagging technology. This fall, the site will offer education modules for each species, focusing on migration patterns and behavior along with the information the tagged animals have been providing about the ocean environment, linked with NOAA ocean-observation satellite data.

<http://www.topp.org>

MESSAGE FROM THE BRIDGE

Nominate Websites to the Bridge

Nominate new ocean science resources you have come across, or produced, to the Bridge, just in time for the new school year. Nominating a site is easy and the review process will provide you with valuable feedback on what teachers liked about your site and what can be improved to make it even more useful. While you are at it, subscribe to our Scuttlebutt online discussion list and keep your finger on the pulse of ocean sciences education. The Bridge website and Scuttlebutt discussion list are free and very valuable

resources for classroom and informal educators, scientists, and even those just interested in learning more about the ocean.

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

Scuttlebutt – http://www.marine-ed.org/bridge/index_scuttle.html

Site Nomination Form – http://www.marine-ed.org/bridge/index_nomination.html

REQUESTS

Call for Musicians - Florida

Are you a musician interested in playing at the Jazziz Bistro Hollywood, Florida in support of Reef Fest? This call is for groups to begin filling Wednesday and Thursday nights in support of coral reef conservation in Florida and the Caribbean. The concert series will start during fall of 2007 and will run all the way through 2008, the International Year of the Reef.

<http://blog.myspace.com/index.cfm?fuseaction=blog.ListAll&friendID=78811397>

Seeking Connections with Island Teachers

Dr. Stratford wishes to make connections between Tasmanian teachers and other primary and secondary teachers around the world and encourage them to correspond and collaborate on projects in a new and comprehensive island studies curriculum. One aim of such collaboration is to have classes share work from the curriculum online. Another is to develop conversations in a forum space on the Internet.

Contact Dr. Elaine Stratford at Elaine.Stratford@utas.edu.au

Draft Curriculum Units for Review

The first Education and the Environment Initiative draft curriculum units are now posted for review for 30 days for public comment. You are encouraged to check the website periodically for new postings. Content experts have reviewed each unit to ensure technical accuracy and teachers in select school districts throughout California are field testing each unit.

<http://www.calepa.ca.gov/Education/EEI/Curriculum/Default.htm#CurriculumUnits>

Looking for Good Questions

The Science Teacher, NSTA's peer-reviewed journal for secondary science teachers, invites teachers to submit questions for the journal's "Ask the Experts" department. In addition, the journal is always looking for experts from industry, research, and government to volunteer their time to answer questions.

Contact Marc Rosner at marosner@aol.com

Public Workshop on Education and Outreach

The Flower Garden Banks National Marine Sanctuary will conduct a workshop, August 15-16, 2007 in Galveston, Texas, to gather public input for the Education and Outreach Strategic Plan. While much of the discussion will focus on how education and outreach can be effectively used to address six priority issues identified during the Management Plan Review, the discussions and final plan will encompass a broader perspective. The sanctuary is particularly interested in having representatives from all constituent groups participate in the workshop, including divers, recreation and commercial fishers, educators, industry, environmental organizations, and others.

Contact Jennifer Morgan at Jennifer.Morgan@noaa.gov

Reefs at Risk Plus Ten Survey

Building on what has been learned over the past ten years, the International Coral Reef Action Network and World Resources Institute are now leading a group of institutions to undertake a global update of the Reefs at Risk analysis during the International Year of the Reef 2008. They are conducting a survey to make sure that the new report will be useful to the widest audience possible. For further information, or to get involved in this initiative, please contact reefsatrisk@icran.org.

http://www.surveymonkey.com/s.aspx?sm=D_2bOI7_2bomSIbjEFkGHWfRLw_3d_3d

GRANTS AND OPPORTUNITIES

American Honda Foundation Grants

The American Honda Foundation makes grants to K–12 schools, colleges, universities, trade schools, and others for programs that benefit youth and scientific education, and programs pertaining to academic or curriculum development that emphasize innovative educational methods and techniques. The foundation seeks programs that are scientific, creative, humanistic, innovative, and more. Grants are awarded on a quarterly basis, with deadlines of November 1, February 1, May 1, and August 1 each year.

<http://corporate.honda.com/america/philanthropy.aspx?id=ahf>

Bay Watershed Education and Training Grant Opportunities

The NOAA California Bay Watershed Education and Training (B-WET) Program supports environment-based education throughout the watersheds of San Francisco Bay, Monterey Bay, and the Santa Barbara Channel. Funded projects provide meaningful watershed educational experiences to students, teachers, and communities. The deadline for application is October 9, 2007.

<http://sanctuaries.noaa.gov/news/bwet/>

Coral Reef Management Fellowships

NOAA offers four, two-year fellowship positions under the Coral Reef Management Fellowship Program. The positions will be located in American Samoa, Guam, Puerto Rico, and the Commonwealth of the Northern Mariana Islands. Fellows spend two years working on specific projects determined by each island's coral reef management agencies. The deadline for application is August 31, 2007.

<http://www.coralreef.noaa.gov/fellowship.html>

Developing Hispanic-Serving Institutions Program

The Hispanic-Serving Institutions Program provides grants to assist undergraduate-level institutions to expand educational opportunities for, and improve the academic attainment of, Hispanic students. The grants may also enable institutions to expand and enhance their academic offerings, program quality, and institutional stability. Hurry – the application deadline is August 10, 2007.

<http://www.ed.gov/legislation/FedRegister/announcements/2007-3/071107a.html>

Disney Minnie Grants

The Walt Disney Company and Youth Service America offer grants to support youth-led (ages 5-14) service projects in their community. Teachers, older youth, youth-leaders, and youth-serving organizations are also eligible to apply, provided that they engage younger youth in planning and implementing the service. Projects can address themes

such as the environment, disaster relief, community education, or any issue that youth identify as a community need. The deadline for application is August 31, 2007.

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

Ecology and Oceanography of Harmful Algal Blooms

NOAA's Ecology and Oceanography of Harmful Algal Blooms program, is seeking applications for studies that assess the socioeconomic impacts of harmful algal blooms on coastal communities and identify opportunities to mitigate these impacts.

Anthropologists, risk communication specialists, economists, and others with an interest in the human dimensions of coastal resource management are encouraged to apply.

The deadline for application is October 4, 2007.

http://es.epa.gov/ncer/rfa/2008/2008_star_ecohab.html

Ernest F. Hollings Ocean Awareness Grants

The National Marine Sanctuary Foundation welcomes proposals for the Ernest F. Hollings Ocean Awareness Trust Fund. This fund promotes public involvement and understanding of the benefits of the oceans to current and future generations. The foundation seeks innovative proposals to engage the public in ocean stewardship issues and highlight areas where both humans and the marine environment can benefit from effective and focused actions. Hurry – the deadline for application is August 17, 2007.

<http://www.nmsfocean.org/grants.asp>

Fundamentals of Environmental Education Scholarship

EETAP and the University of Wisconsin-Stevens Point offer scholarships to state EE leaders who are interested in taking the online course, Fundamentals of Environmental Education, September 10-November 23, 2007. Hurry - the application deadline is August 10, 2007.

Contact Dr. Rick Wilke at rwilke@uwsp.edu

Galveston Bay Education and Outreach Grant Program

The Galveston Bay Estuary Program of the Texas Commission on Environmental Quality announces the Galveston Bay Education and Outreach Grant Program. Education and outreach goals include increasing citizen/community group involvement and volunteer opportunities; K-12 education; adult education and outreach; and improving communication with and outreach to local government and bay user groups. The deadline for application is September 6, 2007.

http://esbd.tbpc.state.tx.us/bid_show.cfm?bidid=71525

Graphic Design Contest

Youth Service America will reward a graphic designer, age 10-25, for designing the covers and booklet template for the Global Youth Service Day 2008 planning tools. This is a great opportunity for an emerging graphic designer to gain experience with a national project. The application deadline is August 10, 2007.

Contact rbisi@ysa.org

International Coral Reef Grants

The NOAA International Coral Reef Conservation Grant Program provides matching grants of financial assistance for international coral reef conservation projects. The Program solicits proposals under four funding categories. Pre-applications must be received by November 6, 2007.

<http://www.grants.gov/search/search.do?oppld=14672&mode=VIEW>

Keep America Beautiful National Awards

Keep America Beautiful, the community improvement organization, invites you to compete for national recognition by honoring your organization's efforts to deliver a more beautiful, cleaner, and improved environment through new technologies, improved waste handling, and public space stewardship. Eligible activities include litter prevention, beautification and community improvement, and waste reduction. The deadline for application is September 15, 2007. The organization offers other awards programs, so check this website out.

<http://www.kab.org/aboutus2.asp?id=124>

Make It Your Own Awards

The Case Foundation is funding people who join together to create innovative ideas and solutions that can lay the groundwork for long-term social change. They are looking for inspired individuals (age 14 or older) and passionate teams who are connecting people to discuss what matters, find smart solutions, and take action. Hurry – apply online by August 8, 2007.

<http://www.casefoundation.org/make-it-your-own/awards>

Spherical Display Systems for Earth System Science - Installations and Content Development

The NOAA Office of Education has issued a request for applications from institutions with interest in developing exhibits featuring spherical display systems showing Earth system science, or developing science modules for these display systems. The goal of this program is to build environmental literacy among the general public through increased use of NOAA and NOAA-related data and data products in informal education institutions. The deadline for applications is October 30, 2007.

http://www.oesd.noaa.gov/funding_opps.html

Teacher Awards and Recognitions

NSTA and its sponsors recognize and reward exemplary teachers, principals, and students with cash, trips, workshops, science program materials, and more. There are a variety of awards which offer opportunities to receive professional and personal recognition and to share your school's science education success stories. These include Distinguished Informal Science Education, DCAT "Making a Difference," Faraday Science Communicator, and much more. The deadline for application for most is October 15, 2007; application deadline for the SeaWorld Outstanding Environmental Educator Award is November 30, 2007. Be sure to check these out.

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

Young Explorers Grants

The National Geographic Society's Young Explorers Grants are for 18-25 year-olds to pursue research, exploration, and conservation-related projects consistent with National Geographic's existing grant programs. The Committee for Research and Exploration funds hypothesis-based scientific research; the Conservation Trust funds innovative and applied approaches to conservation with potential for global application; and the Expeditions Council funds exploration and adventure around the world. Funding is not restricted to U.S. citizens—foreign nationals are invited to apply. Grant applications are accepted throughout the year; apply at least 6-8 months prior to the start of the project.

<http://www.nationalgeographic.com/yeg/apply-for-grant.html>

Youth Service America Lead Agency Grant

Youth Service America (YSA) and State Farm Companies offer Global Youth Service Day Lead Agency planning grants and direct assistance and support from Youth Service America to ensure a successful Global Youth Service Day. Increase participation in your programs while connecting with the larger youth service movement. The deadline for application is September 17, 2007.

<http://ysa.org/GYSD/LeadAgency/tabid/177/Default.aspx>

YSA Youth Venture Funding

The Youth Service America/Youth Venture Program is a partnership that helps youth engage in community service and develop as young social entrepreneurs. It offers funding and support to young people (ages 12-20) who want to create new, sustainable, civic-minded organizations, clubs, or businesses called Ventures. Ventures must be youth-led and designed to be a lasting asset to the community. Hurry - the deadline for application is August 13, 2007.

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

INTERNSHIPS AND TEMPORARY OPPORTUNITIES

Beautiful Oceans Instructors

Beautiful Oceans, a corporate framework for marine conservation, is looking to fill two positions for a week-long public coral reef education event in the Caribbean, October 27-November 3, 2007. The event will educate recreational scuba divers in basic marine biology with the aim of raising awareness of the coral reef ecosystem. Expenses plus are available.

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

Contact Stephan Becker at stephan@beautifuloceans.com

NOAA Volunteers

This new website encourages environmental stewardship through NOAA volunteerism. It includes nation-wide volunteer opportunities at NOAA Fisheries Service, National Ocean Service, and National Weather Service. Volunteers, for example, can be coastal life samplers, Hawaiian Green Sea Turtle guardians, divers, educators or critical eyes-on-the-ground storm spotters.

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

Reef Explorer Fiji

Reef Explorer Fiji announces the Eco-Corps program and associated expeditions and internship opportunities. Their mission is to conserve Fiji's natural and cultural resources through research, education, and by assisting with the development of sustainable livelihood opportunities in local communities. The program allows international volunteers to participate in and support community-based conservation efforts in Fiji.

<http://www.reefexplorerfiji.com>

CONFERENCES, WORKSHOPS, AND PROFESSIONAL DEVELOPMENT

Hampton Roads Naval Museum Teacher Seminar - Virginia

The Hampton Roads Naval Museum and the NOAA Monitor National Marine Sanctuary will hold a teacher seminar on the *USS Cumberland* and underwater archaeology, August 17, 2007 in Norfolk, Virginia. Learn about the archaeology of the *Cumberland* and *USS Monitor* and take home resources for use in your classroom. Lessons and activities are geared for high school science and history teachers.

http://monitor.noaa.gov/news/pdfs/hrnm_workshop.pdf

Learning Ocean Science through Ocean Exploration - Alabama

NOAA's Ocean Exploration Program and Dauphin Island Sea Lab will provide an introductory Learning Ocean Science through Ocean Exploration professional development workshop for grade 5-12 science teachers on September 15, 2007 on Dauphin Island, Alabama. This is the first of a two-part workshop series; the second workshop will be March 8, 2008. A stipend is available for educators attending both workshops. The curriculum lesson plan book with CD-ROM's, take-home materials related to activities presented during the workshop, and more will be provided for each participant. For those who are traveling to attend this workshop, overnight housing on September 14, 2007 may be provided. Registration is required and space is limited. The deadline for registration is September 1, 2007.

Contact Denise Keaton at dkeaton@disl.org

Monterey Bay Watershed Academy Workshop - California

Educators are invited to participate in the Monterey Bay National Marine Sanctuary, Multicultural Education for Resource Issues Threatening Ocean (MERITO), Watershed Academy Leader Training, August 24-25, 2007 in Watsonville, California. The Watershed Academy program includes a free train-the-trainer workshop, local field trips, in-class activities, teacher resources, guest speakers, and stipends for program transportation and materials. MERITO has developed a Watershed Activity Guide addressing state standards. Each year MERITO is pleased to offer 20 scholarships for programs interested in implementing the Watershed Academy program at their site.

Contact Sonya Padron at sonya.padron@noaa.gov

NAAEE Annual Conference

Registration for the North American Association for Environmental Education Annual Conference and Research Symposium, November 14-17, 2007 in Virginia Beach, Virginia, is now open; the early-bird deadline is September 14, 2007. The theme of the conference is *Explore New Horizons for Environmental Education*. The conference strands are Sustainability; Conservation and Community Education; EE Leadership Skills; Schools, Education, Achievement, and Literacy; and Joining Forces: Environmental Justice, Health, and Education.

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

SCORE Workshop – Online

The SCORE (SExual COral REproduction) Project is an initiative of public aquariums and coral research institutions dedicated to nature conservation through the sustainable management of coral reefs. This website allows viewers to follow the daily update of the 3rd SCORE workshop, August 1-8, 2007 in Puerto Rico, focused on developing

appropriate breeding, aquaculture and cryopreservation techniques for the threatened Elkhorn coral, *Acropora palmata*.

http://www.secore.org/index_weblog.htm

Seminars on Science - Online

Deepen your knowledge with Seminars on Science courses from the American Museum of Natural History. Fall 1 courses include Earth: Inside and Out and runs August 27-October 7, 2007; the deadline for registration is August 20, 2007. Fall 2 courses include The Ocean System and runs October 22-December 2, 2007; the registration deadline is October 8, 2007. Designed for K-12 educators, each six-week course is led by an experienced classroom teacher and a scientist affiliated with the American Museum of Natural History. Register early for a discount.

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

WETMAAP Workshops - California

The U.S. Geological Survey's National Wetlands Research Center and partners are sponsoring free WETMAAP (Wetland Education through Maps and Aerial Photography) workshops for middle and high school teachers, August 13-15 and August 16-18, 2007 in Tiburon and Menlo Park, California, respectively. The workshops will explore the changes in wetlands and changing habitats of the San Francisco Bay; introduce educators to wetland habitats, functions, and values; introduce wetland mapping, aerial photography, satellite imagery, topographic maps, and GIS technology; and more. Participants will receive free materials. Participation is limited and pre-registration is required.

Contact Diane Gribschaw at dgribschaw@mail.arc.nasa.gov

EDUCATIONAL RESOURCES

Aquakids

The premise of this half-hour TV show is that by using young people, the "Aqua Kids", to teach other young people about the diversity and beauty of the marine environment and its potential destruction by pollution and carelessness of human populations, they can spread the message of ocean preservation to their peers. They visit a variety of water environments, from water management facilities to fresh water and brackish streams to the oceans of the world, with the intent to motivate kids to become active citizens on the issue of pollution of water environments. Each episode presents a lesson on conservation of the water environments of the world.

<http://www.aquakids.tv/index2.html>

Black Sea Shipwreck Expeditions

Dr. Ballard and his team return to the Black Sea from August 18-24, 2007, to document two Byzantine-era shipwrecks. Explore alongside the scientists with live updates from the expedition. Ask questions of the scientists before the broadcasts; they may be answered live at Thunder Bay National Marine Sanctuary's Great Lakes Maritime Heritage Center in Alpena, Michigan.

<http://www.immersionpresents.org>

Earth Science Week Toolkit

Coordinated by the American Geological Institute, Earth Science Week, October 14-20, 2007, promotes an understanding and appreciation of the earth sciences. The institute

offers *The Pulse of Earth Science* toolkit with a wide array of resources, including its calendar filled with activities and geoscientific dates, NASA's *Exploring Ice* CD-ROM, and more. The website includes links to downloadable lessons, career information, and Earth Science Week events and contests.

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

Expedition to the Remote Northwestern Hawaiian Islands

Scientists from NOAA, University of Hawai`i, and Hawai`i Institute of Marine Biology conducted an expedition to the Papahānaumokuākea Marine National Monument from July 7-31, 2007. Researchers tagged apex predators such as jacks, sharks, and grey snapper, conducting movement studies. The research will help inform management of this marine national monument, by studying the health of the coral reef and inhabitants in this remote ocean wilderness. Read mission log dispatches from the NOAA ship *Hi'ialakai* and see imagery of this near pristine aquatic realm by following along on the current research expedition. Check out the educational resources and

<http://www.hawaiianatolls.org/research/July2007/index.php>

FerryMon

The FerryMon (ferry monitoring) project was launched several years ago with the installation of oceanographic instruments on ferries traversing Pamlico Sound in North Carolina. Ship-board instruments allow ferries to take water samples every three minutes, monitoring changes in environmental conditions as they happen and providing the continuous environmental information about the surface waters of the sound.

Information is sent from ferries to a laboratory via cell phone line, and then converted to graphs for a wide range of users, including educators for teaching purposes.

<http://www.unc.edu/ims/paerllab/research/ferrymon/index.html>

Fisheries Legal Instruments

The International Collective in Support of Fishworkers offers Fisheries Legal Instruments, a website providing detailed information for a wide range of instruments relevant to fisheries and fishworkers. It covers 124 documents, categorized by Human Rights, Food Security, Environment and Sustainable Development, Oceans and Fisheries Management, Environmental Pollution, and more.

<http://legal.icsf.net/icsflegal/home.jsp>

GeoBirds

Geobirds is meant to be an online birding community. The "BirdBrain" interface allows users the opportunity to navigate around the United States to begin determining which type of bird may have been spotted. Web visitors can also add bird-watching data to an interactive map of North America. The website includes an online field guide, complete with photographs and descriptions.

<http://geobirds.com/>

Global Warming Debate

The Online NewsHour Science Reports from PBS, funded by the National Science Foundation, discusses global warming, policy struggles to address it, international efforts, the cap-and-trade system, and more. The website offers interactive features, background information, a lesson plan, and more.

http://www.pbs.org/newshour/indepth_coverage/science/globalwarming/index.html

Okeanos Explorer, A New Paradigm for Exploration

Okeanos Explorer, A New Paradigm for Exploration is now available on NOAA's Ocean Explorer website. In 2008, NOAA will commission a ship of exploration, the *Okeanos Explorer*, which will operate with a new paradigm: most of the scientists will be ashore rather than on the ship. Exploration Command Centers in several locations in the United States will connect to the Okeanos Explorer and its sensors via satellite and high-speed Internet2 to transmit live images and other data from the seafloor. Via this "telepresence," scientists ashore will have the capability to control the exploration missions, even though they are far from sea. Telepresence will also have the capability of bringing ocean exploration and discovery into classrooms. Internet coverage for this mission includes content essays written by the mission explorers, a special Education essay written for educators, and links to content-related educational materials for teachers of students in grades 5-12.

<http://oceanexplorer.noaa.gov/explorations/07blacksea/welcome.html>

Problem-Based Learning

Based at the University of Delaware, this set of peer-tested and vetted educational resources asks the question: "How can I get my students to think?" Problem-based learning is a method that asks students to work cooperatively in groups in order to seek solutions to real world problems. The website offers sample problem-based learning problems, which include several group exercises that deal with different scenarios from water problems to a case study problem in molecular evolution.

<http://www.udel.edu/pbl/>

Science as Storytelling

This classroom exercise was peer-reviewed by participants at the *Preparing Teachers to Teach Earth Science* Workshop at Carleton College, and was authored by B.R. Bickmore and D.A. Grandy of Brigham Young University. The exercise can help students gain a more sophisticated conception of the nature of science. The site contains teaching notes and tips, learning goals, and the essay.

<http://serc.carleton.edu/teacherprep/resources/activities/storytelling.html>

Sharkwater

The film *Sharkwater*, to be released in U.S. theaters this September, takes the viewer into shark waters of the world, exposing not only the direct exploitation of sharks, but also the corruption that surrounds this issue. Filmmaker and biologist Rob Stewart is eager to reach out to the public and speak to groups about the plight of sharks and his filming adventures. He will be making a cross-country promotion/publicity tour and is interested in scheduling outreach opportunities. Check out the website for educational materials, and contact Mike Schram for tour information.

Contact Mike Schram at mike@sharkwater.com

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

Teacher-at-Sea Children's Books

A new Teacher-at-Sea children's book features the adventures of Linda Armwood, a Richmond, Virginia teacher, aboard NOAA's hydrographic survey ship *Fairweather*. Her experiences in ocean mapping off the Alaskan coast featured in the book include installing tide gauges, setting tidal benchmarks, and standing lookout for bears. Daily logs from the 2007 field season voyage are posted on the website, along with questions for both geospatial and environmental science students. The first book in the Teacher-at-Sea series focuses on oceanographic and atmospheric research, while the second

addresses hurricane research. The final book will address fisheries research. The hard-cover books are written at the middle school science level and include science and math activities, glossaries of terms, and full-color images.

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

Tox Town

Tox Town helps students and teachers learn about environmental health concerns and toxic chemicals, by way of an interactive imaginary town, and includes a port scene with algal blooms, beach impacts, and more. The website links include text versions and some Spanish-language resources.

<http://toxtown.nlm.nih.gov/>

Webbing the Islands

The aim of this website from the University of Tasmania is to provide to people with a passion for islands, especially teachers, students, and community workers, a range of exciting and interesting island studies, activities, and resources, and to offer this space online to share work on islands with others around the world. Each year, the website will focus on one theme related to islands; this year that theme is Sense of Place. The website includes downloadable learning units.

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

World Ecosystems Beyond Borders

University of Wisconsin-Madison's Global Studies offers World Ecosystems Beyond Borders to engage students in a dynamic study of local and global environmental issues. The units compare issues faced by Wisconsin communities and communities abroad. Each unit contains background information, activities, and a list of additional resources. The curriculum encourages critical thinking and uses a variety of instructional methods to meet the needs of diverse learners. The materials were prepared with a middle school audience in mind and can be easily adapted and used in the high school classroom. Topics include aquifer depletion, dams, and more.

<http://global.wisc.edu/outreach/k-12/webb/>

Writing Center

The University of Kansas offers this website to provide writing support for students who might be having trouble getting started with their own assignments or term papers, through writing tutorials and guide sheets. The website offers sections specifically designed for undergraduate or graduate students, including guides to crafting an effective thesis statement and working on pre-writing strategies. The Writing Guides section includes a sample writing gallery and an assignment planner.

<http://www.writing.ku.edu/>

INITIATIVES, JOURNALS, and MORE

GLOBIO - Mapping Human Impacts on the Biosphere

This UNEP program, Global Methodology for Mapping Human Impacts on the Biosphere (GLOBIO), uses models and analysis to assess human impact on the biosphere. The website features maps, videos, and documents, as well as a description of the model and scenarios. Analyses of coastal regions using the GLOBIO methodology are featured in the downloadable report, *Our Precious Coasts: Marine Pollution, Climate Change and Resilience of Coastal Ecosystems*.

<http://www.globio.info/>

Gray's Reef National Marine Sanctuary Ocean Film Festival

The mission of the Gray's Reef Ocean Film Festival is to educate, inspire, and enlighten coastal Georgia residents about the world's oceans and the issues facing them, with the goal of fostering a spirit of ocean stewardship among community members. The sanctuary will host the 2007 Ocean Film Festival September 21-23, 2007 in Savannah, Georgia. The films explore the beauty of the sea, the complexity of the marine ecosystem, the creatures that inhabit it, our maritime heritage, and humankind's relationship with the oceans in a family-oriented format. The festival is free.

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

International Journal of Environmental Research

The *International Journal of Environmental Research*, from the University of Tehran, is a multidisciplinary journal concerned with all aspects of environment. The journal publishes original research papers, research notes, and reviews across the broad field of environment. Papers may be theoretical, interpretative, or experimental. Currently, there are three published issues available online.

<http://ijer.ut.ac.ir/>

Public Lands Day

On September 29, 2007, lend a hand for the 14th annual coast-to-coast effort to clean up public lands to help preserve America's lands. The focus this year will be on countering the tide of invasive species taking over habitats and native species.

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

Sandwatch

Sandwatch seeks to modify the lifestyle and habits of children, youth, and adults on a community-wide basis and to develop awareness of the fragile nature of the marine and coastal environment and the need to use it wisely. It is an educational process through which school students and community members learn and work together to critically evaluate the problems and conflicts facing their beach environments and to develop sustainable approaches to address these issues. With a strong field monitoring component, Sandwatch tries to make science 'live' yet remains inter-disciplinary with applications ranging from biology to woodwork and from poetry to mathematics.

<http://www.sandwatch.ca/index.htm>

Seafood Watch Update

Seafood Watch recommendations are updated twice each year. Check out the latest information and download your pocket guide.

<http://www.montereybayaquarium.org/cr/seafoodwatch.asp>

Sea Stories

The new issue of Sea Stories is now online. Sea Stories, an online journal of creative writing and art about the world's oceans sponsored by Blue Ocean Institute, features contributions by ocean-lovers from all backgrounds and walks of life.

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