

**NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION**  
**INFORMATION EXCHANGE FOR MARINE EDUCATORS**

**SEPTEMBER 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.

To subscribe to this distribution list, send a blank message to [requests@willamette.nos.noaa.gov](mailto:requests@willamette.nos.noaa.gov) with "subscribe infoexchange" in the subject field. Similarly, to remove yourself from the list, send the subject "unsubscribe infoexchange".

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

\*\*\*\*\*

**Notable Reference**

**The Unnatural History of the Sea.**

Callum Roberts' book, *The Unnatural History of the Sea*, relates a history of ocean life in words and pictures. Using accounts of sea adventures from explorers, fishermen, pirates, merchants, and travelers, he explores hundreds of years of exploration and exploitation of the sea. Check out previews of the book on the website and through Internet search engines.

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

## WEBSITES OF THE MONTH

### Education And Research: Testing Hypotheses

The Education And Research: Testing Hypotheses (EARTH) teacher workshops are a collaborative effort between the Monterey Bay Aquarium and the Monterey Bay Aquarium Research Institute, providing teachers with means for integrating real-time data with existing educational standards and tested curriculum in an interactive and engaging way. EARTH uses near-real-time data from ocean observatories to design and test outreach with the Internet as an interface to scientists, teachers, students, and the public.

EARTH partners with other organizations to develop materials based on ocean observatory resources in a context and format that teachers can use in their classroom. Teachers can also compare ocean observing data collected in different regions of the United States to study how regions can vary and change on a variety of scales.

The website offers:

- **Five unit plans** (Observatories, Pelagic Predators, Classification, Iron Fertilization, and Coastal Processes), each with an associated group of activities. Activities include the lesson plan, background information, and student worksheets
- **Links to the activities** via National Standards, Science Skills, or Ocean Literacy
- **An overview of each workshop**, along with the activities generated by the teachers involved
- **An assessment rubric** for use with the activities

Those interested in participating in workshops in 2008 should review the EARTH website, as the use and evaluation of an activity is a pre-requisite for participation in the workshop. Contact information is on the website.

<http://www.mbari.org/EARTH/>

### MarineNZ

MarineNZ is a new conservation and education website from the Mountains to Sea Conservation Trust. The site features underwater photos, videos, and information. There are resources for teachers and students, along with interviews with people working in marine conservation. The aim of the website is to inform, to educate, and to inspire marine conservation projects around New Zealand.

The website includes:

- **Marine News:** news from New Zealand and around the world
- **The Undersea World:** feature stories on New Zealand's marine reserves, people in marine conservation, and more
- **The Science:** biodiversity, marine protected areas, research, and monitoring methods
- **Resources:** three archives, of images, video, and documents
- **Education:** links to resources and activities for students of all ages
- **How To:** suggestions for marine conservation projects

<http://www.marinenz.org.nz/>

## MESSAGE FROM THE BRIDGE

### What's in your Watershed?

Do you know your watershed address? Everyone has one no matter where they live and everyone affects their watershed, positively and negatively, on a daily basis. In the Bridge DATA (Data Analysis Teaching Activity), *What's in your Watershed?*, students will learn what a watershed is and how it is affected by all its residents, no matter how distant they are from the primary waterway. Students explore Chesapeake Bay Program data to evaluate land use and riparian buffer statistics, along with water quality data from the Bay's various ocean observing systems. Start the school year off right by introducing students to their surroundings and how their actions have results downstream.

[http://www.marine-ed.org/bridge/index\\_archive0203.html](http://www.marine-ed.org/bridge/index_archive0203.html)

## REQUESTS

### FACES Magazine Seeking Enviro-Active Youth

FACES Magazine is seeking environmentally active kids, ages 9-16, to appear in the April 2008 Issue, *Clean Earth*. FACES is asking for a photo and story about what these children are doing to protect the Earth and its resources. The deadline for submission is October 31, 2007.

Contact: Peg Lopata at [plopatafacesmag@yahoo.com](mailto:plopatafacesmag@yahoo.com)

### IYOR Campaign Messages Survey

SQN Communications Design is assisting with messaging development for the U.S. International Year of the Reef (IYOR) campaign. They would appreciate your input on potential messages to ensure an effective U.S. IYOR campaign. This survey should take about 20 minutes to complete. All responses will be kept confidential and analyzed in aggregate. (So that the NOAA "vote" does not overwhelm the responses to the survey, please try to coordinate responses within your office, and fill in one survey for each viewpoint). Hurry, the survey closes September 4, 2007.

<http://www.4myopinion.net/gux/sqniyor0807b/ix.cfm?RfBy=3ADBQT>

### Pilot Climate Change Unit

Facing the Future is developing interdisciplinary units on climate change for middle school and for high school. They are looking for teachers to pilot these units with their students in late September or early October. If you are a middle or high school teacher (in any subject) and would like to pilot one or several of the unit's activity-based lessons in your classroom during this time frame, please contact Laura by September 10, 2007.

Contact Laura at [laura@facingthefuture.org](mailto:laura@facingthefuture.org)

### Seeking Tanker Anchor Damage Information

An updated report is being worked on about the impacts of tanker anchor damage in St Eustatius, Netherlands Antilles. The report is required by the shipping directorate and St Eustatius Marine Park Management to aid decision making. They are seeking recent articles of relevance, particularly more recent than 2001. Any help will be appreciated.

Contact Duncan R. MacRae at [solutions@cozm.co.uk](mailto:solutions@cozm.co.uk)

## **GRANTS AND OPPORTUNITIES**

### **American Indian Tribal Portal**

The American Indian Environmental Office developed this tribal portal to help American Indian communities and supporters locate tribal related information within EPA and other government agencies. The website offers links to basic information, grants and funding, laws and regulations, programs, and contact. News, maps, education and training, and more are also available.

<http://www.epa.gov/tribalportal/>

### **Art Contest for Children**

The theme of the 12th annual art contest from the Institute for Global Environmental is *The Ocean: From Top to Bottom!* This contest, for grades 2-4, challenges students to explore the ocean from top to bottom and then draw a picture showing what they learned. The website includes background information along with lesson plans and activities. Lockheed Martin Corporation is funding the development and printing of a 2008 calendar featuring the top 12 entries in this art contest; students (along with their teachers) whose artwork is featured in this calendar will each receive copies of the calendar. The deadline for entry is October 26, 2007.

<http://www.strategies.org/ArtContest>

### **Best Buy Teach Awards**

Best Buy believes technology can excite and engage students, creating a more valuable educational experience. The Best Buy Teach Awards provides gift cards to schools so they can purchase technology for their students. The entry deadline is September 30, 2007.

<http://communications.bestbuy.com/communityrelations/teach.asp>

### **Cetacean Society International Small Grants**

Small grants from Cetacean Society International (CSI) are available for Latin America and Caribbean nationals, in support of cetacean-related science, conservation, or education projects, or for related travel, such as to conferences, workshops, or foreign study. The grant priority is to support entry-level professionals, such as graduate students, whose work has conservation applications, while helping as many people as possible, preferring to give the minimum amount to complete the project after other funding options are explored. A current CSI grant request form must be used, and is available upon request. Please include your complete contact information and use the following format as the subject / title: "Your last name: CSI grant application".

Contact William Rossiter at [rossiter@csiwhalesalive.org](mailto:rossiter@csiwhalesalive.org)

### **Ciba Teaching Awards**

Ciba Specialty Chemicals Exemplary Middle Level and High School Science Teaching Awards recognize teachers who have demonstrated exemplary science teaching in one or more of the following areas: creativity using science teaching materials; design and use of innovative teaching plans and ideas; and development and implementation of department, school, or school-community programs that improve science instruction and/or stimulate interest in science and the learning of science. The deadline for application is October 15, 2007.

<http://www3.nsta.org/cibateacher>

### **Do Something Brick Awards**

The Do Something BRICK Awards honors outstanding leaders in two age categories, 18 and under and 19-25, who develop projects to improve their community in the areas of community building, health, or the environment.. The deadline for application is December 1, 2007.

<http://www.dosomething.org/brick>

### **Earth Science Week Contests**

The American Geological Institute sponsors Earth Science Week, October 14-20, 2007. This year's theme, *The Pulse of Earth Science*, engages students and the public in conducting citizen science research and helps to spread science literacy. As part of Earth Science Week 2007, the institute is sponsoring three national contests, offering opportunities for both students and the general public to participate in the celebration, learn about the Earth sciences, and compete for prizes.

- Photography – People Discovering Earth's Treasures, open to all ages
- Visual arts – Changing Earth, students in grades K-5
- Essay – Earth Science in My Community, students in grades 5-9

The deadline for application is October 5, 2007.

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

### **Fund for Wild Nature**

The Fund for Wild Nature provides money for campaigns to save and restore native species and wild ecosystems, including actions to defend wilderness and biological diversity. They fund advocacy, litigation, public policy work, development of citizen science, and similar endeavors. The next deadline for application is November 2, 2007.

<http://www.fundwildnature.org/proposal.html>

### **Greenworks! Grants**

This grant opportunity from GreenWorks! for Project Learning Tree trained educators supports community action and service-learning projects. Projects should address an environmental issue and involve students from pre-school to high school in hands-on community action. The deadline for application is October 31, 2007.

[http://www.plt.org/cms/pages/21\\_22\\_18.html](http://www.plt.org/cms/pages/21_22_18.html)

### **Kids in Need Teacher Grants**

The purpose of these grants is to provide funds for classroom teachers who have innovative, meritorious ideas. A project may qualify for funding if it makes creative use of common teaching aids, approaches the curriculum from an imaginative angle, or ties nontraditional concepts together for the purpose of illustrating commonalities. The applicant must be a K-12 certified teacher working at a public, private, or parochial school in the subject of the project. The deadline for application is September 30, 2007.

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

### **LEGO Creativity Awards**

The LEGO Creativity Awards offer cash prizes to 10 children, ages 6-13, in the U.S. and Canada who demonstrate the need for support in chasing their personal expression of creativity. The essay contest encourages children to continue their involvement in local and national activities that inspire creativity. The entry deadline is September 17, 2007.

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

### **Lowe's Toolbox for Education Grants**

The Lowe's Toolbox for Education offers grants to schools (K-12) and parent/teacher groups across the United States. School projects should encourage parent involvement and build stronger community ties. Samples of funded projects are ones that engage students with their school's surrounding environment. The next deadline for application is October 12, 2007.

<http://toolboxforeducation.com/>

### **Melinda Gray Ardia Environmental Foundation Grants**

K-12 teachers worldwide are invited to apply for grants to develop or implement environmental curricula that integrate hands-on ecology exercises into the classroom. To facilitate learning and student empowerment, environmental curricula should be holistic and strive to synthesize multiple levels of learning (facts, concepts, and principles), often including experiential integrated learning and problem solving. The application deadline is September 29, 2007.

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

### **My Hometown Helper Grants**

This General Mills Hamburger Helper grant program is a nationwide initiative to help local groups make a difference in their own community. Applicants (sponsored by a municipal or civic organization or a public school) should submit an essay of 250 words or less describing how the grant would help their community project. Awards will be based on the merit of the project, including its impact and support within your community. The deadline for application is September 30, 2007.

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

### **National Recreation Trails Photo Contest**

American Trails is sponsoring the 2007 contest for photographs of National Recreation Trails across the country. This annual contest provides awards in the categories of trail use, management, and features, along with artistic merit. They are looking for photos of trail users as well as special facilities, art on the trails, management issues, construction, and volunteers. They hope entries cover the many types and uses of National Recreation Trails throughout America. The entry deadline is October 31, 2007.

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

### **Pay It Forward Mini-Grants**

Pay It Forward Mini-Grants are designed to fund one-time-only service-oriented projects identified by youth as activities they would like to perform to benefit their school, neighborhood, or community. Projects must contain a "pay it forward" focus – that is, they must be based on the concept of one person doing a favor for others, who in turn do favors for others, with the results growing exponentially – to be considered in the grant making process. Grant applications are reviewed and considered by a selection committee three times a year; the next deadline is October 15, 2007.

<http://payitforwardfoundation.org/educators/grant.html>

### **Preserve America Grants**

The Fish and Wildlife Service and the National Fish and Wildlife Foundation recognize the importance of protecting and interpreting the National Wildlife Refuge System's rich history and historic sites. As such, they are requesting proposals to help foster interpretive, education, and visitor initiatives that incorporate history and historic sites. This program seeks to protect historic sites, integrate history into refuge interpretive and

education programs, and build partnerships with communities and organizations interested in supporting refuge programs. The deadline for application is November 1, 2007.

[http://www.nfwf.org/AM/Template.cfm?Section=Browse\\_All\\_Programs&CONTENTID=6417&TEMPLATE=/CM/ContentDisplay.cfm](http://www.nfwf.org/AM/Template.cfm?Section=Browse_All_Programs&CONTENTID=6417&TEMPLATE=/CM/ContentDisplay.cfm)

### **President's Environmental Youth Awards**

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 October 31, 2007.

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

### **SEEDS Undergraduate Research Fellowship**

The Ecological Society of America offers the SEEDS program, an education program whose mission is to diversify and advance the profession of ecology through opportunities that stimulate and nurture the interest of underrepresented students. Focused at the undergraduate level, opportunities sponsored by the program include student field trips, undergraduate research fellowships, travel awards, and more. Each experience also provides opportunities to interact with a diverse group of ecologists and other motivated students to both broaden and deepen students' understanding of ecology and potential careers. Fellowship applications are due September 21, 2007.

<http://www.esa.org/seeds/fellowship/about.php>

### **Siemens Competition**

The Siemens Competition in Math, Science, and Technology promotes excellence by encouraging high school students to undertake individual or team research projects in science, mathematics, engineering and technology or in combinations of these disciplines. The deadline for registration is October 1, 2007.

<http://www.siemens-foundation.org/competition/>

### **Staples Foundation for Learning Grants**

The mission of Staples Foundation for Learning is to provide funding to nonprofit groups for programs that support or provide job skills and/or education for all people, with a special emphasis on disadvantaged youth. Grant decisions will be made three times each year, with the next deadline of December 7, 2007.

<http://www.staplesfoundation.org/foundapplication.html>

### **Stockholm Water Prize**

The Stockholm Water Prize is a global award presented annually to an individual, organization, or institution for outstanding water-related activities. The activities can be within the fields of aid, awareness building and education, technology, management, or science. Submissions must be received by September 30, 2007.

<http://www.siwi.org/swp/swpnominate.html>

### **Toyota Tapestry Grants for Science Teachers Program**

Toyota Tapestry Grants are administered by NSTA and are available to middle and high school science teachers who teach at least two science classes a day and to elementary classroom teachers who teach at least some science in the classroom. The grants recognize outstanding educators who are making a difference by demonstrating

excellence and creativity in science teaching. The deadline for entry is January 28, 2008.

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

## **INTERNSHIPS AND TEMPORARY OPPORTUNITIES**

### **African-American Heritage Voyage of Discovery Request for Proposal**

NOAA's National Marine Sanctuary Program African-American Heritage Voyage of Discovery is seeking a researcher to participate in a Voyage of Discovery for an important shipwreck relating to African-American maritime heritage. The deadline for the request for proposal, covering up to six months of research, is September 10, 2007.

<http://www.ertcorp.com/Opp-AAMHP.php>

### **Blackbeard's Cruises Floating Classrooms**

Blackbeard's Cruises offers marine science educational cruises in the Out Islands of The Bahamas to all ages and groups. They can work with you to put together your own floating classroom that's geared towards your group's main interests and studies, or offer one that's already planned.

Contact Jen Purdy at [jpurdy@blackbeard-cruises.com](mailto:jpurdy@blackbeard-cruises.com)

### **SeaWorld Veterinary Externship**

The SeaWorld veterinary externship program is a 3-4 week clerkship for veterinary students wanting to augment their knowledge and experience in non-domestic animal medicine. The program is designed for fourth-year veterinary students. They will be given a full range of opportunities in aquatic animal husbandry and medicine. The deadline for application is November 15, 2007.

<http://www.seaworld.org/career-resources/externship/index.htm>

### **Teacher at Sea**

Gain first-hand research experience on the Channel Islands National Marine Sanctuary's research vessel Shearwater, through NOAA's Teacher at Sea program in early Fall, 2007. The selected K-16 teacher will work alongside researchers with California Department of Fish and Game on the annual remotely operated vehicle (ROV) survey of the Channel Islands Marine Protected Area Network. As part of their experience, the selected teacher will develop an online journal, a mini-unit of lessons, and will present activities at regional or national conferences or submit articles for publication in professional education journals. Hurry – the deadline for application is September 6, 2007.

<http://channelislands.noaa.gov/edu/tas.html>

### **Voices of the Bay Request for Proposal**

The Monterey Bay Study Project: Voices of the Bay: A Voyage of Science, Community and Heritage Through Local Fisheries Knowledge project will expose students and teachers to Monterey Bay fishing and the rich fishing community by introducing them to fishermen, maritime historians and fisheries scientists. The consultant will be responsible for developing a place-based curriculum, lesson plans, and activities that use local fisheries as the context for learning. The deadline for submission is September 12, 2007.

<http://www.ertcorp.com/Opp-NREP.php>

## **CONFERENCES, WORKSHOPS, AND PROFESSIONAL DEVELOPMENT**

### **American Maritime History to 1870 - Online**

The History Channel and the State University of New York-Maritime College will offer a specialized online course for credit featuring the series, *Great Ships*. In the course, American Maritime History to 1870, students will explore the major developments in American maritime history from pre-Columbian times through the Civil War. The course will focus on the growth of America's maritime heritage as the foundation of our culture.

<http://www.broadcastnewsroom.com/articles/viewarticle.jsp?id=173805>

### **Channel Islands MERITO Academy Workshop - California**

The Channel Islands MERITO Academy Workshop will be held October 5-6, 2007 with a follow-up workshop on February 2, 2008, in Oxnard and Santa Barbara, California. The workshop will include an introduction to the Channel Islands MERITO Academy, instruction in the use of the activity guide (in-class and field lesson plans with hands-on activities) and activity kit (in-field activities materials). The MERITO Academy's goal is to increase students' understanding of coastal and ocean issues through hands-on, in the field and classroom activities while exposing students to careers in science and building pride and stewardship towards their sanctuary and local environment. The deadline for application is September 17, 2007.

[http://channelislands.noaa.gov/edu/edu\\_act1.html](http://channelislands.noaa.gov/edu/edu_act1.html)

### **International Coral Reef Symposium**

The 11th International Coral Reef Symposium, *Reefs for the Future*, will be held July 7-11, 2008 in Fort Lauderdale, Florida. Natural scientists, resource managers and users, conservationists, economists, and educators will meet together to better understanding of coral reef ecosystems and effective conservation and management strategies. The deadline for abstract submission is November 15, 2007.

<http://www.nova.edu/ncr/11icrs/index.html>

### **Introduction to the MANERR Habitats – Texas**

The Texas Marine Education Association and the University of Texas Marine Science Institute-Marine Education Services Mission-Aransas National Estuarine Research Reserve (MANERR) present an Introduction to the MANERR Habitats Workshop, September 22-23, 2007, in Port Aransas, Texas. The deadline for registration is September 7, 2007.

<http://www.statweb.org/TMEA/>

### **Joint Assembly – Request for Proposals**

The 2008 Joint Assembly, a partnership among American Geophysical Union and many other organizations, will be held May 27-30, 2008 in Fort Lauderdale, Florida. Members of the Earth and space sciences community are invited to propose a session for the conference. Session proposals may be submitted to any of the existing disciplines, including education and human resources, ocean sciences, and many more. Proposals must focus on scientific results and/or their applications. The deadline for submission is October 31, 2007.

<http://www.agu.org/meetings/ja08/>

### **Learning Ocean Science through Ocean Exploration - Florida**

A NOAA Learning Ocean Science through Ocean Exploration (OE) Professional Development Follow-up Workshop will be held September 22, 2007 in St. Petersburg, Florida. Please come prepared to share your experiences with OE educational activities, samples of student work, along with suggestions for extension activities, OE-themed science fair project ideas, and other feedback from the introductory workshop. As spaces are available, teachers who have not participated in the Introductory Ocean Exploration workshop are also welcome to attend. Registration is required and space is limited; the registration deadline is September 7, 2007.

Contact Teresa Greely at [greely@marine.us](mailto:greely@marine.us)

### **Learning Ocean Science through Ocean Exploration - Virginia**

NOAA's Ocean Exploration Program will provide a professional development workshop for science teachers of grades 6-12 in conjunction with the NAAEE (North American Association for Environmental Education) annual conference, November 14, 2007 in Virginia Beach, Virginia. Registration is required and space is limited. Take-home materials and more will be provided for each participant. To register, complete the conference registration form with workshop #11. The deadline for registration is November 1, 2007.

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

### **NSTA International Polar Year Web Seminars - Online**

NSTA's Web Seminars offers two free online seminars designed for educators of grades 5–8 on *The Role of Polar Regions in Earth's Changing Climate System*, November 27 and December 13, 2007, featuring scientists and education specialists from NASA. The seminars will focus on the International Polar Year (IPY) and how polar regions interact with Earth's climate system; atmospheric gas changes over Earth's history; what ice cores tell us about past climate; and the implications of climate change in the polar regions.

[http://learningcenter.nsta.org/products/symposia\\_seminars/fall07/IPY\\_Denver/webseminar.aspx](http://learningcenter.nsta.org/products/symposia_seminars/fall07/IPY_Denver/webseminar.aspx)

### **Ocean Explorer Professional Development - Various**

The Ocean Explorer professional development offerings through November, 2007 are listed online. Opportunities will focus on how educators can use the mathematics, science, and technology associated with exploring the oceans in their classrooms to help increase awareness and understanding of the ocean world. These offerings are designed to introduce educators to ocean scientists/explorers and their research and explorations, and at the same time, provide tools and resources to engage students in ocean exploration by bringing the classroom closer to the ocean.

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

### **Ocean Sciences Meeting**

The 2008 Ocean Sciences Meeting, *From the Watershed to the Global Ocean*, March 2-7, 2008 in Orlando, Florida, investigates water as the lifeblood of our endeavors. The bi-annual meeting will recognize the vital nature of the interconnections between land and sea. The deadline for abstract submission, including abstracts about education and outreach, is October 2, 2007.

<http://aslo.org/orlando2008/>

### **Open House for Educators at The Mariners' Museum - Virginia**

The Mariners' Museum and the NOAA Monitor National Marine Sanctuary will be co-sponsoring an open house on September 26, 2007 for teachers and school administrators at The Mariners' Museum in Newport News, Virginia.

Contact Krista Trono at [Krista.Trono@noaa.gov](mailto:Krista.Trono@noaa.gov)

### **Your Ocean and Your Health – South Carolina and Online**

*Hidden Threats and Exciting Opportunities in Products from the Sea*, September 10, 2007 in Charleston, South Carolina, is the final seminar in a four-part series, *Your Ocean, Your Health*. Hosted by the Hollings Marine Lab, each free seminar has featured two speakers, a panel discussion, and a question/answer period. South Carolina Sea Grant, a co-sponsor, has posted materials available for downloading from their website.

<http://www.scseagrant.org/Content/?cid=144>

## **EDUCATIONAL RESOURCES**

### **ARC Centre**

The ARC Centre of Excellence for Coral Reef Studies undertakes integrated research for sustainable use and management of coral reefs. Funded in July 2005 under the Australian Research Council Centre's of Excellence program, this research center is headquartered at James Cook University, in Townsville, Australia. The center is a partnership of James Cook University, the Australian Institute of Marine Science, The Australian National University, the Great Barrier Reef Marine Park Authority, and The University of Queensland. The website includes links to hundreds of coral-related publications, many with full text available. Check out the educational resources links.

<http://www.coralcoe.org.au/index.html>

### **Biodiversity**

The American Museum of Natural History and NASA offer *Biodiversity, It Takes All Kinds to Make a World*, inviting elementary students to explore biodiversity in a city park, on an island, and in a desert. The *Biodiversity Counts* website offers a resource collection for middle school students, which takes students into the field and engages them in life science research - the inventory of plants and arthropods outside their own backdoors. Materials include lesson plans, profiles of scientists and museum staff, essays, and interactives that help students explore, analyze, and apply their field observations.

<http://www.amnh.org/education/resources/biocounts/>

[http://www.amnh.org/nationalcenter/it\\_takes\\_all\\_kinds/](http://www.amnh.org/nationalcenter/it_takes_all_kinds/)

### **BioEd Online**

The Baylor University College of Medicine offers the BioEd Online website for educators, students, and parents. The materials include a brief description of the lesson's objective, intended audience, the materials required to complete the lesson, and more. In addition, the website includes streaming video presentations, a slide library, science news updates from the journal *Nature*, and virtual workshops. Check out the Ready-to-Go Lesson, The Water Cycle and Global Warming; presentations on the diversity of life; the K-5 Resource, Create a Lasting Water Cycle; and more.

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

### **DEM Discovery Portal**

For those teaching or using GIS in the classroom, this website can save time and effort. The National Geophysical Data Center has created an ArcIMS map interface for locating digital elevation models (DEMs) that are published on the web. This makes it easier for GIS users to locate, preview, and download DEMs. The DEMs may be bathymetric, topographic, or a merged combination of both, ranging from high-resolution coastal DEMs for local studies, to coarser ones with global coverage.

<http://www.ngdc.noaa.gov/mgg/dem/>

### **Exploratorium: Iron Science Teacher**

Not marine science, but this website shows how any object can be used to convey different science messages. The San Francisco Exploratorium offers a myriad of on-line Iron Science Teacher presentations, parodying the Japanese TV program, *Iron Chef*. The downloadable webcasts showcase science teachers as they devise demonstrations around a particular ingredient—an everyday item such as a plastic bag, a milk carton, or red tape. Other areas of the website offer hands-on activities, science news, a magazine, and more. Check this out when you've got lots of time to spend!

[http://www.exploratorium.edu/iron\\_science/index.php](http://www.exploratorium.edu/iron_science/index.php)

### **Hot Science - Cool Talks**

The Hot Science - Cool Talks outreach lecture series is presented by the Environmental Science Institute and the Jackson School of Geosciences in Austin, Texas. The program provides a means for leading researchers from the University of Texas and other prominent universities to communicate their research to the public in general and the K-12 educational community in particular. The program includes pre-lecture activities, discussions following the lectures, and an Internet broadcast for those who cannot attend. For every lecture there is a CD-ROM that includes the PowerPoint presentation used during the lecture, detailed notes for each slide, links to web and other additional resources on the subject material, and more. Upcoming lecture topics include The Changing Debate on Global Warming, November 16, 2007, along with many topical archived lectures.

<http://www.esi.utexas.edu/outreach/lectures.html>

### **If Reefs Could Talk**

Mark your calendars to watch live broadcasts from Aquarius, the world's only underwater habitat, September 10-26, 2007. The September mission on Aquarius, located in the Florida Keys National Marine Sanctuary, is entitled *If Reefs Could Talk*. In addition to the Internet broadcasts, the mission will include several educational components.

<http://oceanslive.org>

<http://www.uncw.edu/aquarius/>

### **International Action on Global Warming**

International Action on Global Warming (IGLO) is a project of the Association of Science-Technology Centers, an international organization of science centers and museums dedicated to furthering the public understanding of science. IGLO is designed to raise worldwide public awareness about global warming and the particular ways that the polar regions profoundly influence the earth's climate, environments, ecosystems, and human society. The website includes a toolkit, a collection of educational tools and resources and includes downloadable hands-on activities, on-line interactives, and more; news and information; information about professional development opportunities; and more.

<http://www.astc.org/iglo/index.htm>

### **Joint Oceanographic Institutions**

Joint Oceanographic Institutions is a consortium of oceanographic research institutions that serves the U.S. scientific community through management of large-scale, global research programs in the fields of marine geology, geophysics, and oceanography. The website offers ocean drilling science information, professional development opportunities, and on-line educational activities and lesson plans based on scientific ocean drilling data.

<http://www.joiscience.org/joi>

### **The Life Cycle of a Mineral Deposit**

The USGS offers the online teacher's guide, The Life Cycle of a Mineral Deposit - A Teacher's Guide for Hands-On Mineral Education Activities. The guide covers a range of topics including the use of mineral resources in everyday life and how minerals are mined. There are ten different activity-based learning exercises that can be used to educate students on basic geologic concepts and the processes of finding and identifying resources from any given mineral deposit. This can be used as an introductory guide to this broad topic.

<http://pubs.usgs.gov/gip/2005/17/>

### **Life of a Vertebrate Fossil**

Through the Smithsonian's Natural History Museum Department of Paleobiology website, visitors learn what paleontologists do in each stage in the life of a vertebrate fossil. Short video clips, interactive diagrams, and photographs show how fossils are prepared for examination, how scientists unravel the stories of these paleontological finds, and how fossils are stored and preserved.

<http://paleobiology.si.edu/LVF/#start>

### **My NASA Data Lesson Plans**

Each lesson on MY NASA DATA provides students an in-depth opportunity for learning to access and use authentic satellite data. Each unit plan provides an implementation guide including at least three lessons, related activities, and resources. The datasets provide information on the atmosphere, ocean, and land surface and are available online along with lesson plans, teacher-friendly documentation, computer tools, and an Earth science glossary. Science project starter ideas are also available.

[http://mynasadata.larc.nasa.gov/unit\\_lessons.html](http://mynasadata.larc.nasa.gov/unit_lessons.html)

### **Myrtle's Coastal Adventure**

Myrtle's Coastal Adventure 5th Grade Activity Booklet explores Georgia's coastal world. The booklet provides information on Georgia's islands, an offshore word find puzzle, fish identification, word banks, flora and fauna comparisons, and more.

<http://www.knowtheconnection.com/pdf/Myrtles%20Coastal%20Adventure.pdf>

### **New Zealand American Submarine Ring of Fire Expedition**

The New Zealand American Submarine Ring of Fire 2007 expedition site is available on NOAA's Ocean Explorer website. The expedition took 26 scientists and engineers from New Zealand, Germany, and U.S. aboard the R/V *Sonne* to Brothers submarine volcano, a site of vigorous geothermal activity north of New Zealand along the Kermadec Arc. Website coverage for this mission includes content essays, logs, images, interactive computer animations, and more.

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

### **NOAA in the Carolinas EstuaryLive**

Celebrate National Estuaries Day and embark on an estuarine odyssey with the *NOAA in the Carolinas EstuaryLive*, to be broadcast through the Internet September 26-27, 2007 from the ACE Basin Reserve at Forth Johnson near Charleston, South Carolina, hosted by the ACE Basin, North Inlet-Winyah Bay, and North Carolina Reserves. This live, interactive field trip will feature segments on local fish, birds, reptiles, salt marshes, and habitat restoration, along with other topics. As you and your class watch the live program, you can submit questions, with many of these questions answered by naturalists during the program. Registration is now open.

<http://www.estuaries.gov/elive.html>

### **Ocean Explorer on YouTube**

The NOAA Ocean Explorer YouTube website offers videos for all who wish to learn about, discover, and virtually explore the ocean realm. The site provides a platform to follow explorations in near real-time, learn about exploration technologies, observe remote marine flora and fauna in the colorful multimedia gallery, read about NOAA's 200-year history of ocean exploration, and discover additional NOAA resources in a virtual library.

<http://www.youtube.com/oceanexplorergov>

### **Polar-palooza**

Polar-palooza is an International Polar Year education and outreach project of NASA and the National Science Foundation through a multimedia effort to explain the importance of the polar regions and clear up misconceptions some people may have about them. Scientists and Arctic residents tell personal stories of life and research in polar regions. The website includes video footage and Internet resources. *Stories from a Changing Planet* is a multimedia exhibit and national tour that will visit California, New Mexico, Florida, Georgia, and Louisiana in the fall of 2007.

[http://www.nasa.gov/mission\\_pages/IPY/snow/PolarPalooza.html](http://www.nasa.gov/mission_pages/IPY/snow/PolarPalooza.html)

### **Protected Area Tools**

This section of the ConserveOnline website contains information, tools, and resources to help practitioners perform a variety of ecological, management, policy, and financial assessments that can contribute to an overall protected area system master plan. Materials include Marine Gap Assessment Quick Guide, Protected area systems monitoring, and more. While you're on the website, browse the library by subject category, including natural heritage programs, public education, and more.

<http://conserveonline.org/workspaces/patools>

### **Seahorse Poster**

Project Seahorse has created a free educational poster on seahorses and marine conservation. *Take Action for Seahorses and the Seas* is based on a map of the world and highlights four critical marine conservation issues: over-fishing, nonselective fishing, habitat damage, and poor land-use. Each conservation topic is linked with two seahorse species that exemplify the issue. The poster is targeted to 10-14 year olds, but should appeal to a broad audience interested in marine conservation.

Contact Heather Koldewey at [heather.koldewey@zsl.org](mailto:heather.koldewey@zsl.org)

### **To Fight or Not to Fight?**

In this conflict resolution activity from Facing the Future, students examine a variety of international and intra-national conflicts through a role-playing activity. They learn to identify the roots of conflict, how to separate positions from interests in a conflict, and experience mediating a conflict. Free registration is required.

<http://www.facingthefuture.org/Members/documents/35.To.Fight.Or.Not.pdf>

### **Tracking Cranes Classroom Program**

As a global family of birds, cranes offer an opportunity for teachers to combine the study of cranes with learning about diverse cultures and countries. Tracking Cranes and the International Crane Foundation offer this education project to link classrooms in the United States with students in eastern China and Russia in learning about cranes, their habitats, and their conservation. The website includes information about the birds along with links to educational activities and additional materials.

<http://www.trackingcranes.org/en/indexen.htm>

### **Universcale**

Created by Nikon, this website provides insight into the subject of scale and comparing and understanding things which cannot be physically compared.

<http://www.nikon.co.jp/main/eng/feelnikon/discovery/universcale/index.htm>

### **WhaleNet**

Wheelock College's WhaleNet Interactive Education website focuses on whales and marine research. Visitors can track marine mammals in real-time or used archived data to research the movements of various species or genders of satellite tagged marine mammals and sea turtles. There is also a program following the track of Erden Eruc as he rows across the Pacific Ocean and circumnavigates the world using only human-powered transportation. A variety of educational units and resources are available for downloading.

<http://whale.wheelock.edu/Welcome.html>

## **INITIATIVES, JOURNALS, and MORE**

### **CRM: The Journal of Heritage Stewardship**

The National Park Service offers the online journal, *CRM: The Journal of Heritage Stewardship*, in an effort to share new insights across cultural resource disciplines. The Journal includes peer-reviewed articles, viewpoint essays, interviews with experts in a range of relevant disciplines, and reviews of exhibits and websites. The journal is part of a family of publications published by the National Park Service for the heritage community; sister publications include the quarterly *Common Ground: Preserving Our Nation's Heritage* and a monthly e-newsletter *Heritage News*. Articles explore the Channel Islands, Truk Lagoon shipwrecks, ironclads, and more.

[http://crmjournal.cr.nps.gov/Journal\\_Index.cfm](http://crmjournal.cr.nps.gov/Journal_Index.cfm)

### **Darwin Initiative**

The Darwin Initiative is a small grants program, funded and administered by the UK Department for Environment, Food and Rural Affairs, that aims to promote biodiversity conservation and sustainable use of resources around the world. Project areas include institutional capacity building, training, research, work to implement the Biodiversity Convention, and environmental education or awareness. Some of the projects include

work towards official protection for what might be the largest wetland in the world, the Great Vasyugan Mire, located in the southern part of the West Siberian Plain; conservation designation for the Pacific archipelago, Las Perlas Archipelago, by the Panamanian government; and many other efforts and successes. The website includes links to newsletters, funding initiatives, project information, and much more.

<http://www.darwin.gov.uk/>

### **Education and Conservation Calendars**

Be sure to check these out and order enough for your 2008 needs.

#### ***Alaska Coastal Calendar***

Explore Alaska's climate—past, present, and future—with Alaska Sea Grant's 2008 Alaska Coastal Calendar. The calendar celebrates the International Polar Year, and features photos and detailed narratives describing the changing climate and scientific research being done to better understand the effects of change on Alaska's coast, people, and wildlife. Each month is devoted to a different theme around which lessons can be centered.

<http://seagrant.uaf.edu/bookstore/pubs/SG-ED-58.html>

#### ***Seas the Day Conservation Calendar***

The 2008 Seas the Day conservation education and action calendar is available from The Ocean Project. It helps one strengthen their connection with our ocean through inspiring underwater imagery and monthly tips on simple ways to take action. The calendar is available at wholesale rates for Ocean Project Partners and their staff. The calendar includes information on the major issues, from water conservation, to energy efficiency, to eating for the Earth, along with simple ways the reader can take action and help the ocean.

<http://seastheday.theoceanproject.org/seastheday/order/index.htm>

#### **FishWatch**

NOAA's FishWatch is an online consumer seafood guide designed to facilitate informed seafood- buying decisions for consumers who are increasingly more sophisticated in their requirements for sound, accurate, and reliable information about the health and sustainability of seafood. The site has information on popular seafood species, with more species to be added shortly. The information includes population strength and status, nutritional content, and more. The website is new, and they are soliciting comments to help improve its usefulness.

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

#### **OceanFest - California**

Celebrate OceanFest on October 6, 2007, with the Gulf of the Farallones National Marine Sanctuary, its sister sanctuaries, and San Francisco Bay Area residents. The free beachfront festival takes place during Fleet Week and is the ideal place to watch the Blue Angels air show, participate in interactive children's activities, and much more.

[http://www.farallones.org/news/event\\_calendar.php](http://www.farallones.org/news/event_calendar.php)

#### **STRAW Project**

A Project of The Bay Institute and partners, The Students and Teachers Restoring A Watershed (STRAW) Project coordinates and sustains a network of teachers, students, restoration specialists, and other community members as they plan and implement watershed studies and restoration projects in Marin and Sonoma counties. STRAW has

the following goals: to empower students, to support teachers, to restore the environment, and to reconnect communities. STRAW provides teachers and students with the scientific, educational, and technical resources to prepare them for hands-on watershed studies, including ecological restoration of riparian corridors. Since 1993, more than 12,000 students have participated in 200 STRAW restorations on rural and urban creeks.

[http://www.bay.org/watershed\\_education.htm](http://www.bay.org/watershed_education.htm)