

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
INFORMATION EXCHANGE FOR MARINE EDUCATORS

MARCH 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 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. 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

Coral Reef Ecosystem Research Plan

The NOAA Coral Reef Ecosystem Research Plan defines the national and regional research essential to addressing the many management challenges presented by current coral reef decline. Covering all coral reef ecosystems under the jurisdiction of the U.S. and Pacific Freely Associated States, the plan provides a national perspective on the research needed to address the range of stresses affecting the health of coral reef ecosystems, summarizes the management and other issues that will drive research at the regional level, and focuses on the use of research to guide effective implementation of ecosystem-based management strategies.

http://coris.noaa.gov/activities/coral_research_plan/

INITIATIVE OF THE YEAR(S)

International Polar Year

On March 1, 2007, students and teachers around the world helped launch the International Polar Year in their classrooms. The website includes links to a few activities that can be carried out around the world in classrooms, science centers, parks, galleries, and at home. Join students worldwide in launching virtual balloons to celebrate the International Polar Year launch. Check out the rest of this wonderful website for news and background information, picture galleries, education resources, and much more.

http://www.ipy.org/index.php?/ipy/detail/ipy_2007_2008_school_launch_event/

WEBSITES OF THE MONTH

Secrets of the Gulf Expedition

Dr. Robert Ballard and a team of scientists will be exploring the Gulf of Mexico in and around the Flower Garden Banks National Marine Sanctuary as part of the Secrets of the Gulf expedition. From March 4-9, 2007, researchers on board the submarine support vessel and at various consoles around the country will be following live video feeds from the Argus ROV, and these will be available on the Oceans Live website. In addition, there will be half-hour scheduled broadcasts at 11, 12, 2, 3, and 4 EST.

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

Additional information about the expedition, along with educational materials, is available on the following websites.

<http://flowergarden.noaa.gov>

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

<http://immersionpresents.org>

Science posters of deepwater Gulf species developed for use as reference material are downloadable, as either high or low resolution pdf files, on the Flower Garden Banks National Marine Sanctuary website.

http://flowergarden.noaa.gov/document_library/sci_documents.html

MESSAGE FROM THE BRIDGE

TROLL Top Picks Collection

December's Message from the Bridge discussed the monthly TROLL (Teacher Reviewer of On-Line Learning) Top Pick. Selected by our TROLLs as exemplary, these sites are featured on the Bridge front page, complete with a quote from the TROLL, and are considered to be the top 10% of educational websites. The Bridge would now like to introduce the TROLL Top Picks Collection. Appended each month, the collection features each TROLL Top Pick dating back to April of 2005, complete with link, TROLL quote, and the month and year it was selected as Top Pick. Take a look at the collection today and if you have a great ocean science website you think could be selected as the next TROLL Top Pick, please nominate it to the Bridge.

TROLL Top Pick Collection: http://www.marine-ed.org/bridge/index_toppicks.html

Bridge TROLL Review Criteria: <http://www.marine-ed.org/bridge/indexrevinstr.html>

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

REQUESTS

Looking for Air Quality Education Programs

The EPA-funded study, *Quantifying a Relationship Between Place-based Learning and Environmental Quality*, is seeking examples of place-based learning programs that engage students to monitor local air quality.

http://www.peecworks.org/peec/peec_secret/S016C03FA?Close=-1

Call for Papers - Caribbean Journal of Education

The Caribbean Journal of Education invites the submission of articles on environmental education and sustainable development for a special issue. Approaches aimed to facilitate knowledge, skills, values, and positive experiences of learners within the environment are especially requested. Original articles, generally fewer than 7000 words, should aim at advancing theory, instruction, methods and practices in environmental education, and could be articles about research, program effectiveness or evaluation, critical essays/analyses, or commentaries. The deadline for submission is March 31, 2007; email for more details.

Contact Mrs. Marceline Collins-Figueroa at mcolfig@yahoo.com

Data Collectors Needed

NAAEE is seeking field data collectors for a national study that will assess the environmental literacy of students in 6th and 8th grades. A stipend is available for chosen data collectors to administer a survey that will assess students' ecological knowledge, ability to identify and analyze environmental issues, and ability to take actions to improve or maintain the environment, as well as how they think about and interact with the environment.

<http://www.naaee.org/programs-and-initiatives/research/nela/>

Excellence in Estuaries Education Needs Assessment

NOAA's National Estuarine Research Reserve System and NOAA's Chesapeake Bay Office are working with a non-profit educational research and development organization, TERC, to determine how often teachers educate their students about estuaries and what barriers prevent them from teaching about estuaries and coastal issues. Classroom teachers and informal science educators are invited to help by sharing thoughts and opinions about teaching these topics in an anonymous, online, needs assessment survey. The survey may be taken in English or Spanish, and prizes are offered at the end as incentives.

English: <http://www.surveymonkey.com/s.asp?u=359273229697>

Spanish: <http://www.surveymonkey.com/s.asp?u=344613252368>

Seeking IYOR Logo

The International Year of the Reef 2008 (IYOR 08) is looking for graphic designers to develop a logo, in return for recognition for their design on the global IYOR website. Put your originality to the test and send a logo design that can be used on all IYOR materials, including website, promotional material, conference banners, and elsewhere. The deadline for submission is April 9, 2007.

<http://www.iyor.org/logo.html>

GRANTS AND OPPORTUNITIES

Ambassadors in Education Award

A project of the National Civic League and sponsored by MetLife Foundation, the MetLife Foundation Ambassadors in Education Award recognizes outstanding educators in the public school system. The award honors middle school and high school educators who are building partnerships and communicating beyond their schools for the betterment of the entire community. The deadline for nominations is March 14, 2007. Check the website for eligible communities.

<http://www.ncl.org/metlife/index.html>

Butler-Cooley Excellence in Teaching Award

The Turnaround Management Association and the John William Butler Foundation honor exceptional teachers who have changed the outcome of students' lives and the communities in which they live with the Butler-Cooley Excellence in Teaching Awards. The deadline for applications is May 1, 2007.

<http://www.turnaround.org/about/awards.asp>

Earth Day Photo Contest for Middle School Students

Middle school students can win a prize by taking a picture of their changing local environment. During the week of Earth Day (April 22), students in grades 5-8 can be part of a unique national effort to capture our changing world. Have them take a photograph of something that is changing in the local environment at any time from Sunday April 22 through Sunday April 29, 2007. It could be a change occurring in their backyard, outside school, in a local park, or off in the distance toward the horizon. Then, they research and write a scientific explanation (400 words or less) that answers a series of posted questions. Entries will be judged based on relevance to topic (depiction of change in the environment), uniqueness and overall appearance of the photo, and thoroughness of the written explanation. Visit the website for submission instructions, entry form, and suggestions for using this activity in the classroom.

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

Earth System Science Education Alliance Funding

The Institute for Global Environmental Strategies announces an opportunity to participate in the Earth System Science Education Alliance, an innovative project supporting geoscience teacher preparation and professional development for pre-service and in-service middle-high school teachers. Participating institutions will receive seed funding, training, and access to courses and other resources for teacher education and professional development in Earth system science. They will join an active network and community dedicated to Earth system science education. Projects emphasize the importance of an Earth system science approach in geoscience education and promote the integration of content drawn from atmospheric science, Earth science, and ocean science disciplines. The deadline for proposals is April 18, 2007; a non-mandatory Notice of Intent to Propose is requested by March 19, 2007.

<http://essea.strategies.org/rfp/>

EE Partnership Grant – Washington

The Washington State Office of Superintendent of Public Instruction announces Round II of the Natural Science, Wildlife and Environmental Education (EE Partnership) Grant Program. Potential applicants must be non-profit organizations, must be partnered with at least one Washington State public school, and must show a 50:50 match of cash

revenue or in-kind contributions. Applicants must obtain log-in credentials through Customer Support at customersupport@k12.wa.us; note that it can take up to two weeks to get credentials, so get your request in as soon as possible.

<https://eds.ospi.k12.wa.us/iGrants/Default.aspx>

Contact Chuck Lennox at chuck.lennox@interpconsulting.com

Harold W. McGraw, Jr. Prize in Education

The McGraw Hill Companies are accepting nominations for the Harold W. McGraw, Jr., Prize in Education. Three prizes will be awarded to individuals with accomplishments in and contributions to education in each category: policy makers, higher education, and school-based personnel. The theme for this year's prize is global awareness in U.S. education. The deadline for nominations is March 16, 2007

http://www.mcgraw-hill.com/prize/nomination_calendar.shtml

International Digital Earth 3D Visualization Grand Challenge

The International Digital Earth 3D Visualization Challenge gives researchers, creative programmers, community leaders, activists, and students an unprecedented opportunity for international visibility of their work. Sponsored by Google, NASA, ESRI, and other technology organizations, the contest seeks to discover the best examples of visualizing the challenging issues involved in bridging science to public understanding, policy, and action. The contest is open to all. The deadline for submission is April 1, 2007.

<http://www.isde5.org/grandchallenge.htm>

Leopold Leadership Fellowships

The Aldo Leopold Leadership Program announces the call for applications for the 2007 Leopold Leadership Fellowships. Mid-career academic environmental scientists from North America are invited to apply for the fellowships that provide scientific leadership, communications, and outreach training. Up to 20 fellows annually participate in an intensive training program designed to build and enhance the skills of academic environmental scientists to communicate with policy makers, media representatives, businesses, non-profit organizations, and the general public. The program seeks candidates with terminal degrees from a broad range of disciplines. The application deadline is April 16, 2007.

<http://www.leopoldleadership.org>

NAAEE Awards

The North American Association for Environmental Education Awards Committee announces the Call for Nominations for the 2007 NAAEE Awards. NAAEE members recognize individuals and organizations that excel in environmental education by presenting annual awards in the following categories. Nominations are due by April 1, 2007.

- The Walter E. Jeske Award for service to NAAEE and leadership within the field of environmental education
- Outstanding Service to Environmental Education by an Individual
- Outstanding Service to Environmental Education by an Organization
- Outstanding Contributions to Research in Environmental Education
- K-12 Educator of the Year Award
- Outstanding NAAEE Affiliate Organization

<http://www.naaee.org/programs-and-initiatives/awards/2007-awards-call-for-nominations>

Our World Photography Contest

In partnership with the Albert I. Pierce Foundation, NAAEE has established a photography contest in conjunction with the upcoming NAAEE annual conference, November 14-17, 2007. NAAEE seeks photos that will inspire people to achieve environmental excellence. Entries may reflect anything that connects to the environment. The winning photos will show how the visual arts can create a kinesthetic and emotional connection to the Earth. The photography contest is one element of a larger effort by NAAEE to re-invigorate the use of arts and culture in the EE field.

<http://www.naaee.org/conference/2007-our-world-photography-contest>

Rivers and Trails Funding

National Park Service's Rivers, Trails, and Conservation Assistance Program offers a helpful website with funding sources to assist their project partners by helping identify and secure support from a wide range of funding sources.

http://www.nps.gov/rtca/helpfultools/ht_funding.html

Shipnaming Contest – New England

NOAA offers this opportunity to students in grades 6-12 in the states of Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont to help name a new Small Waterplane Area Twin Hull Coastal Mapping Vessel (SWATH CMV) for NOAA. When completed, the ship will map the seafloor in the coastal areas along the Atlantic and Gulf Coasts, Caribbean Sea, and Great Lakes, conducting hydrographic surveys using side scan and multibeam sonar technologies. The winning team of students will be invited to attend the keel laying ceremony in Mississippi where the ship is being built and receive a replica of the nameplate for the school. The entry deadline is March 30, 2007.

<http://www.education.noaa.gov/shipname>

Stewardship Council Youth Investment Program Grants

The goal of the Stewardship Council Grants is to improve the lives of underserved youth by providing greater access to outdoor experiences from urban parks to watersheds in the wilderness. Four grant funds will be offered: Catalyst, Impact, Collaboration, and Infrastructure. Check the website for details and application deadlines.

http://www.stewardshipcouncil.org/youth_investment/index.htm

Thacher Scholars Award

The Institute for Global Environmental Strategies offers the Thacher Scholars Award for high school students. Prizes will be awarded to students (grades 9-12) designing and conducting the best projects using satellite remote sensing of the Earth. The deadline for entry is April 2, 2007

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

Write On! Wetlands Challenge - Writing

The 2007 Write On! Wetlands Challenge consists of two parts, writing and illustrating. Part one is the writing competition, open to all students in grades 7-9. Once the winning manuscript is chosen, a call for artists will be made inviting elementary students to illustrate the story's words. The theme for this year's contest is *Uncover Hidden Wetland Treasures*. The deadline for entry is April 1, 2007.

http://www.wetland.org/EC%20main/edu_writeon06.htm

INTERNSHIPS AND TEMPORARY OPPORTUNITIES

Aquarium Summer Opportunities – North Carolina

The North Carolina Aquarium on Roanoke Island has employment opportunities available for the summer of 2007.

Contact Dia Hitt at 252-473-3494 ext. 236

D.C. Student Summer Shipboard Opportunity

Any Washington, D.C.-area student over 18 who is continuing their high school or college education in the next school year is eligible to apply for this opportunity to experience shipboard life, research at sea, learn about ship operations, gain valuable skills, and take home good pay. The work will take place from June through August, 2007; the deadline for application is May 1, 2007.

Contact Nadine Bloch at Nadine.Bloch@noaa.gov
<http://www.moc.noaa.gov/shipjobs/NoaaWmInfoPkg.pdf>

Costa Rica with FMSEA

Florida Marine Science Educators Association invites you to join other educators and environmental leaders on an expedition with Holbrook Global Field Expeditions to Costa Rica July 19-27, 2007. Participants will experience unique environments and communities, providing a highly motivational and content-rich opportunity to experience the world. This program includes travel by boat in Ballena National Park to observe dolphin populations and the marine environment; hiking in primary forest and learning about the rainforest ecosystem and structures, focusing on the relationship between forest conservation and marine habitat health; and more. Funding assistance may be available to classroom teachers including FMSEA teacher scholarships; graduate credit is available, and inservice credit may be available through some school districts. The deadline to register has been extended to April 1, 2007.

<http://www.holbrooktravel.com/FMSEA>

Marine Education and Watershed Research Internships - Maine

The Marine Environmental Research Institute, located in Blue Hill, Maine, is a nonprofit organization dedicated to scientific research and education on the impacts of pollution on marine life, and to protecting the health and biodiversity of the marine environment for future generations. They are currently recruiting to fill three Marine Education Internships for summer, 2007. These are full-time positions requiring a commitment from June 18-September 1, 2007. Current work includes community-based marine education programs, water quality monitoring, and field research on the effects of pollution on marine mammals. The Water Quality Internship requires a commitment from April 2-October 26, 2007.

<http://www.meriresearch.org/work/internships.html>

Rainforest and Reef Courses

Rainforest and Reef specializes in natural history based field courses featuring wildlife, unique cultures, archaeology, and more. The field courses are operated by local organizations which have shown a strong commitment to local conservation and education. Note that 99% of all the fees paid go towards assisting in local conservation and education projects. Rainforest and Reef staff consist of experienced travelers, trained biologists, and educational specialists. Offerings include field courses for educators and independent high school students, short courses, semester abroad,

Spanish immersion, and more. Upcoming summer itineraries include Belize and Costa Rica.

<http://rainforestandreef.org/>

Reef Check Australia Volunteer Internships

Reef Check Australia is looking for some motivated and independent people to assist with the coordination of the 2007 survey season for the Great Barrier Reef Project. This is a great opportunity to gain experience in coral reef monitoring and team management. The internships run between May or June through November or December.

Contact Jos Hill at jos@reefcheck.org

Undergraduate Summer Internships

The Living Marine Resources Cooperative Science Center at the Center of Marine Biotechnology (University of Maryland) is offering undergraduate summer internships to students of Delaware State University, Savannah State University, University of Maryland Eastern Shore, and University of Miami Rosenstiel School Marine and Atmospheric Science. The application deadline is April 15, 2007. Note: the website also provides links to other programs offering internships.

http://www.umes.edu/LMRCSC/summer_internship_opportunities.htm

CONFERENCES, WORKSHOPS, AND PROFESSIONAL DEVELOPMENT

Advanced Courses in Tropical Marine Sciences - Florida

Mote Marine Laboratory's Tropical Research Laboratory is pleased to announce the schedule for Advanced Courses in Tropical Marine Sciences, August 2007 on Summerland Key, Florida. These courses cover specialized topics by experts in the topic areas. The courses are designed for advanced undergraduates, graduate students, and professionals.

- Coral Tissue Slide Reading Workshop, August 8-10, 2007
- Coral Restoration Workshop, August 8-10, 2007
- Diseases of Corals and Other Reef Organisms, August 11-18, 2007
- Benthic Workshop: Marine Sponges, August 19-26, 2007

http://isurus.mote.org/Keys/adv_courses.phtml

Antarctica: Life in a Polar Sea Teacher Workshop - California

COSEE-West invites K-12 educators to a free workshop, March 24, 2007 in Santa Monica, California. The workshop offers hands-on, inquiry-based, integrative classroom activities correlated with California Content Standards and a public lecture on the Antarctic marine ecosystem. Participants may receive a stipend for the full workshop.

Contact Peggy Hamner at 310-206-8247 or cosee.west@gmail.com

California and the World Ocean Conference Online Archives

California and the World Ocean Conference in 2006 brought together more than 1000 attendees from 23 states and six countries to focus on improving ocean and coastal management. Invaluable information from fisheries to sediment management was shared with participants during the 67 sessions spanning four days. Video archives of most sessions are now available free to the public through this website.

<http://resources.ca.gov/ocean/cwo06/>

Channel Mappers Workshop - California

Channel Mappers is a two-day workshop, March 10-11, 2007 in Camarillo, California, offered by the Ventura County Office of Education and the Center for Image Processing in Education, in collaboration with Channel Islands National Marine Sanctuary and the Marine Science Institute of the University of California, Santa Barbara. Middle and high school teachers will learn how to use GIS as a tool that allows students to examine scientific information. The workshop will afford the opportunity to learn how to integrate inquiry-based learning aided by technology into science, social studies, and history instruction. The workshop is free, but registration is required.

<https://www3.scoe.net/ctap7/index.cfm?fuseaction=eventdetail&eventid=1358>

Contact Kris Rees at krisr@evisual.org

Coral Reef Ecology Field Course - Bermuda

The Bermuda Institute of Ocean Sciences, formerly the Bermuda Biological Station for Research, offers a Coral Reef Ecology field course July 8-28, 2007 in Bermuda. The course is open to undergraduates and graduate students with strong academic credentials; all students must be certified SCUBA divers. Scholarship and financial aid are available.

<http://www.bbsr.edu/Education/summercourses/cre/cre.html>

COSEE Scientist/Teacher Institute – Gulf of Mexico

This program invites 12 teachers and 5 scientists from Alabama, Florida, Louisiana, Mississippi, and Texas to participate in a three-week, three-semester-hour, graduate course focused on coastal processes, habitats and organisms, and marine technology. The grant provides room and board, ocean sciences education materials, instruction, and a stipend. The resident/field component is June 3-8, 2007 in Alabama and June 24-29 in Louisiana. The application deadline is May 31, 2007.

<http://dhp.disl.org/newsite/teachertraining.htm>

Cultural Resources Training Series – On-line

The first module of the Cultural Resources On-line Training Series has been launched. This first module focuses on aspects of cultural resources and includes basic definitions of key concepts as well as information on how cultural resource management fits in the broader conservation context.

Contact Eugene Marino at Eugene_Marino@fws.gov

Dauphin Island Sea Lab Summer Teacher Workshops - Alabama

Dauphin Island Sea Lab in Alabama is offering various teacher workshops this summer.

- Marine Application of Science and Technology, June 17-22 and June 24-29, 2007
- Coastal Connections - Linking Watersheds to the Gulf of Mexico, July 22-26, 2007
- Submerged Grassbeds of the Northern Gulf of Mexico, July 29-August 2, 2007
- Beaches, Birds, and Barrier Islands, June 10-14, 2007

Applications must be received by May 15, 2007.

<http://dhp.disl.org/newsite/teachertraining.htm>

Environmental Education Master's Series - Maryland

The College of Notre Dame of Maryland and Environmental Concern, Inc. are collaborating to support the development of highly qualified science teachers in Maryland with an environmental education master's series focusing on wetlands education. Courses include Watershed Field Ecology for Educators, Bay Animals for

Educators, Wetlands for Educators, and more. Each course requires the completion of a project. The 2007/8 series will be held in Anne Arundel County in Maryland. Contact Sr. Sharon Slear at sslear@ndm.edu or Bronwyn Mitchell at dir.educate@wetland.org

Floating Classroom Program - Texas

The Sea Grant Extension Floating Classroom Program of Texas A&M University will visit Galveston Bay from May 14-June 1, 2007. The purpose of this excursion away from its homeport of Matagorda is to provide Houston-Galveston Area students the opportunity to explore the waters and shores of this rich and dynamic estuary in a hands-on fashion. Reservations for participation in discovery cruises by youth in grades 4–12 will be accepted from schools in the Houston-Galveston Area (public or private), as well as home school associations and youth development organizations (such as scouts, 4-H, YMCA, church groups, etc.) from communities surrounding the bay.

http://www.mtshouston.org/floating_class.htm

Grants 101 Workshops

The Grant Institute's Grants 101: Professional Grant Proposal Writing Workshop is an intensive and detailed introduction to the process, structure, and skill of professional proposal writing for development professionals, researchers, faculty, and graduate students. The course is characterized by its ability to act as a thorough overview, introduction, and refresher at the same time. Participants will learn the entire proposal writing process and complete the course with a solid understanding of not only the ideal proposal structure, but a holistic understanding of the essential factors, which determine whether or not a program gets funded. Check the website for upcoming workshops in your area, or contact them for more information.

<http://www.thegrantinstitute.com>

Gulf of the Farallones National Marine Sanctuary Workshops - California

The 25th Anniversary of the Gulf of the Farallones National Marine Sanctuary offers a special opportunity for teachers and educators to learn about ocean concepts, student monitoring projects, and current research related to the Gulf of the Farallones through teacher workshops. All workshops are free and include both lecture and field excursion; K-12 teachers will receive a stipend for their attendance.

- LiMPETS Introduction to Sandy Beach Monitoring, March 10, 2007
- Intertidal Invertebrate Ecology, March 17, 2007
- Shifting Seas of Sand and Other Geologic Processes, April 21, 2007

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

Introduction to Earth's Climate - Online

This course is designed to guide participants through the basics of climate science, weaving content, classroom activities, and community-building discussions to help educators understand the answers to common questions about climate. The course, offered April 13-May 25, 2007, is the first part of Climate Discovery, a series of six-week courses for middle and high school educators from the National Center for Atmospheric Research. The online course, instructed by science education specialists, incorporates information about state-of-the-art research and modeling efforts of nationally renowned climate scientists with classroom-tested science inquiry activities. All activities are classroom-ready. The online course experience features a high level of interactivity, tools for assessment, and effective community-building interactive technologies.

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

International Interdisciplinary Conference on the Environment

The International Interdisciplinary Conference on the Environment, June 30-July 3, 2007 in Portland, Maine, is motivated by the increasing need to combine ideas and research findings from different disciplines to enhance understanding of the interactions between the natural environment and human institutions. Abstracts are welcome, with areas of special interest including environmental issues in New England and the Maritime provinces, coastal resource management, accreditation of environmental programs, and more. The deadline for abstracts is May 18, 2007.

<http://ieaonline.org/conference.htm>

Lab and Field Explorations in Marine Science - California

Join this continuing program for middle and high school teachers, June 25-29, 2007 in Monterey Bay, California. The workshop provides techniques for incorporating meaningful watershed and marine-related experiences into core curricula, and demonstrates how research data are collected, analyzed and used in resource management and protection of the marine environment. The deadline for registration is June 1, 2007.

<http://teach.mlml.calstate.edu/>

Learning Ocean Science through Ocean Exploration - Indiana

NOAA's Ocean Exploration Program will be providing a *Learning Ocean Science through Ocean Exploration* professional development workshop for grade 5-12 educators, Saturday, April 17, 2007 in Lafayette, Indiana. Registration is required and space is limited. The deadline for registration is March 30, 2007.

http://www.abcsignup.com/req/event_page.asp?ek=0005-0003-69E22FBCEDB34FCC83E26BA5AF437168

Marine Biotechnology and Bioinformatics - California

Learn to incorporate hands-on biotechnology and bioinformatics activities into your classroom and research through this marine science summer educator workshop, July 9-27, 2007 in Monterey Bay, California, presented by Moss Landing Marine Laboratories, California State University at Monterey Bay, and San Jose State University. Explore current marine science research while learning to incorporate stimulating, hands-on biotechnology and bioinformatics activities in your middle or high school science classroom.

<http://teach.mlml.calstate.edu/>

Migratory Bird Education for Educators – West Virginia

The U.S. Fish and Wildlife Service National Conservation Training Center is offering Migratory Bird Education for Educators (OUT8163) June 18-21, 2007 in Shepherdstown, West Virginia. This course teaches the knowledge, skills, instructional tools, and strategies to educate others about birds and their conservation. Specifically, participants learn to teach others basic bird identification, explore a wide array of available educational resources with emphasis on festivals and citizen science, practice educational activities, and identify potential cross-cultural connections. Both classroom and field activities are explored. Note: This is not a bird identification course.

Register online: <http://training.fws.gov/catalog/coursecontents.html>

Contact Juanita Gustines at Juanita_Gustines@fws.gov

National Symposium for Scientists and Engineers

The National Science Resources Center is hosting the 2007 *National Symposium for Scientists and Engineers: A Strategic Program to Develop Informed Leadership for Changing the Course of K–16 Science Education*, April 10-13 in Santa Fe, New Mexico. This symposium hopes to increase the involvement and impact of scientists and engineers from a broad range of organizations in K–16 science education programs that will prepare today's students for higher education, employment, and full citizenship tomorrow. The symposium is aimed at scientists and engineers from both public and private sectors, directors of research, directors of human resources, and deans of science and education.

http://www.nsrconline.org/about_the_nsrc/events.html

NERRS Education Calendar of Events

Don't forget to check NOAA's National Estuarine Research Reserve System (NERRS) online Education Calendar of Events when searching for upcoming professional development. This searchable calendar allows users to find education activities by type, date, or reserve. Listings of events include the event title, date, location, contact, hosting reserve, and category (i.e. community ed/outreach, K-12 student, or post-secondary programs). Whenever available, visitors can also link to additional information.

<http://www8.nos.noaa.gov/publicnerrs/eduevents.aspx>

NOAA Education Showcase at NSTA in St. Louis

Education programs from many NOAA offices will showcase their unique science and educator involvement opportunities at the first NOAA Education Showcase during the national NSTA professional development conference, March 31, 2007. This NOAA-wide event will highlight materials, programs, and lessons in a share-a-thon atmosphere. This event is not in the formal NSTA program, so please feel free to invite other interested educators to this event at the Adams Mark Hotel in Ballroom H from 3-5 pm on March 31, 2007. Participants can expect to receive some different materials at this event than what they will receive at the exhibit booth, including the new NOAA/NSTA Estuaries SciGuide.

Contact Peg Steffen at Peg.Steffen@noaa.gov

Pali Institute Outdoor Weekend for Educators - California

Not marine, but near the lake and a great opportunity for those in the area. Teachers, principals, and science educators are invited for a free weekend, March 23-25, 2007, at the Pali Institute in Running Springs, California. Learn more about science, outdoor, and experiential education curriculum; challenge yourself on high and low ropes course elements; explore the night sky through telescopes; and reenergize yourself in 74 acres of majestic beauty of the San Bernardino Mountains near Lake Arrowhead. Please RSVP by March 16th, 2007.

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

Project Design and Evaluation Training - California

This course, offered through the University of Southern California Sea Grant Program on October 10-11, 2007 in Los Angeles, California, will provide coastal resource management extension and education professionals with the knowledge, skills, and tools to design and implement projects that have measurable impacts on the audience they want to reach. The interactive curriculum can help increase the effectiveness of projects by applying valid instructional design theory to their design.

Contact Lynn Whitley at lwhitley@usc.edu
http://www.csc.noaa.gov/cms/cls/project_design.html

Teaching Science by Ocean Inquiry - Maine

The School of Marine Sciences and the College of Education and Human Development at the University of Maine and the Centers for Ocean Sciences Education Excellence--Ocean Systems invite applicants for a summer workshop, July 23-27, 2007 in Walpole, Maine. The free workshop is intended for high school and middle school teachers who teach physics, chemistry, physical science, and/or earth sciences. Teachers will work with the program instructors to develop hands-on, inquiry-based activities, teaching materials, and means of assessment. The deadline for application is March 30, 2007. Contact Lee Karp-Boss at lee.karp-boss@maine.edu or Herman Weller at herman.weller@umit.maine.edu

EDUCATIONAL RESOURCES

Arctic Theme Page

NOAA's Arctic Theme Page provides access to Arctic data and information for scientists, students, teachers, academia, managers, and others. The Gallery links to images of ice, animals, ships, and more. Links to education include an arctic primer, information about arctic change, polar ecosystems, glaciers, and much more. Check this site out for FAQs, data, maps, information, and images.

<http://www.arctic.noaa.gov/index.shtml>

Birds Without Borders

Birds Without Borders - Aves Sin Fronteras® Landowner Recommendations manual, is the result of a research, education, and conservation project that has been studying birds in both Wisconsin and Belize since 1997. The downloadable manual is the result of more than seven years of field research in Belize. It provides information on habitats and plants found to be important to birds, along with many pictures of birds and plants so that the reader can easily identify them. The manual aims to conserve Belize's birds, both resident and Neotropical migratory birds that link Belize and Wisconsin.

<http://www.zoosociety.org/Conservation/BWB-ASF/BelizeLandowner.php>

Catchment to Reef

The Catchment to Reef poster and booklet offer an understanding of connections between land, sea, and reef, highlighting ecological and physical connections and impacts affecting the coastal waters of the Great Barrier Reef. It outlines the key freshwater connections and processes and describes the impacts of human activities on the freshwater environments of catchments and the consequences for the marine environment. Materials can be downloaded from the website.

<http://www.catchmenttoreef.com.au/Start.html>

Climate-Change Town Hall

Communicating and Learning About Global Climate Change, an event for teachers, students, and others, was organized by AAAS in collaboration with the California Science Teachers Association, the National Science Teachers Association, and the United Educators of San Francisco (representing the National Education Association and the American Federation of Teachers). Videos of the program, an Abbreviated Guide for Teaching Climate Change, and additional information, are available online.

http://www.aaas.org/news/press_room/climate_change/mtg_200702/

Coastal Fisheries Management and Development Project

The National Fisheries Authority of Papua New Guinea offers downloadable files from the Coastal Fisheries Management and Development Project, an initiative to promote sustainable, community-based management of coastal waters and education of communities that are often relatively isolated and home to people with varying degrees of literacy. Materials include posters, comics, and radio plays free of scientific and technical jargon.

http://www.fisheries.gov.pg/publications_coastal_fisheries_management_dev_project.htm

Community Collaborative Rain, Hail, and Snow Network

CoCoRaHS is a grassroots volunteer network of backyard weather observers of all ages and backgrounds working together to measure and map precipitation (rain, hail, and snow) in their local communities. By using low-cost measurement tools, stressing training and education, and utilizing an interactive website, the aim is to provide the highest quality data for natural resource, education, and research applications. The website offers observations mapped out in "real time". The site also includes links to lesson plans and additional educational websites.

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

Coral Portal

The Coral Portal website has been launched to serve as a portal for information, discussion and references on all coral-related subjects including scientific techniques, monitoring methods, and scuba diving locations. It offers links to useful websites, research, and a discussion forum.

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

Cruising Classroom

The Cruising Classroom, owned by the UCLA Institute of the Environment, introduces 4-12th grade and college students to the Santa Monica Bay. Participants are engaged through hands-on scientific explorations and dialogs with instructors. Students learn about physical oceanography, ocean chemistry, and marine organisms by collecting and analyzing a variety of physical, biological and chemical data, using the sampling equipment aboard the *R/V Sea World UCLA*. These trips reinforce scientific terms and concepts introduced in class and provide students with a first hand experience of their local marine ecosystem.

<http://www.ioe.ucla.edu/seaworld/>

Design in the Classroom

Are you looking for new ideas and methods to engage your students? Off the beaten path of subjects normally covered in your programs, design can make any subject immediately relevant to students by directly relating to their real-life experience. The Cooper-Hewitt National Design Museum offers this resource for educators that go beyond a number of the traditional disciplinary boundaries. With interactive modules and learning activities that place a premium on inquiry and project-based learning and critical thinking skills, these resources make it easy to see how architecture, graphic, and media design can enhance the teaching of subjects that include mathematics, language arts, and environmental studies. These resources are designed for use by grades K-12,

and visitors can search all of the lesson plans by subject or grade. Check out the lessons on contouring and designing an aquarium ecosystem.

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

Educating Stakeholders about MPAs

MPA News, Vol. 8, No. 7 from February 2007 (MPA82.pdf) published *Educating Stakeholders about MPAs: Practitioners Use an Array of Methods*, offering a discussion of various methods to increase public awareness and community understanding of the benefits that can come from resource protection. The article examines how practitioners have employed a variety of approaches to inform and educate stakeholders, including tailoring materials to local audiences, educating communities in low literacy areas, using radio as an educational tool, and educating children about MPAs.

<http://depts.washington.edu/mpanews/issues.html>

Educators' Bridge

The National Center for Atmospheric Research offers the Educators' Bridge website with links to lessons and guides for teaching about earth's climate, atmospheric science, and other earth science topics. The website refers to (and includes links to) The Kids Crossing Guide for Educators with activities for hands-on science exploration.

<http://eo.ucar.edu/educators/>

Estuarine Geospatial Data

NOAA offers downloadable data sets to help your students study estuaries around the U.S. Check out Estuarine Bathymetry and the Coastal Geospatial Data Project, offering bathymetric data sets, shorelines, salinity, shellfish growing areas, and more.

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

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

Explorations@Scripps

The Scripps Institution of Oceanography offers a monthly e-newsletter with multimedia, archives of ocean and earth science information, feature articles, and more.

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

Learning for Sustainability

This website offers an online resource for improving participation and engagement in environment, health, and development for groups working to support multi-stakeholder learning processes. This website offers a guide to on-line resources and highlights a number of activity areas, including topics such as networking, dialogue, adaptive management, and evaluation. The growing role of the Internet is treated as a separate section. Feed back is welcomed.

<http://learningforsustainability.net>

LearningSpace

The LearningSpace website is offered through Open University in Britain. It contains dozens of different online courses, categorized into disciplines such as education, science and nature, and history. Registration, though not required, allows visitors to discuss the materials in a forum, write journal entries, and complete different quizzes. Units include Global warming, Finding information in science and nature, and Inclusive education: knowing what we mean.

<http://openlearn.open.ac.uk/>

Magic Porthole

Horizon International has created a way for young people to experience coral reefs through the Magic Porthole™ experience. The Magic Porthole takes visitors into the world of coral reefs with videos, photographs, reef creatures who will be guides, games to enjoy while making discoveries about the lives of boxing crabs, and more. Check back periodically for additional resources, as the website has just come on-line. These include a memory game, a Special Environment Achievement contest, news, and more.
<http://www.magicporthole.org/>

Marine Education Resource Kits

The Woods Hole Oceanographic Institution is offering, free to educators (other than shipping charges), eight different students' books on ocean science, along with teacher's classroom resources. Topics include dolphins, deep ocean exploration, the Arctic, hydrothermal vents, and more. The books are suitable for intermediate readers, are filled with remarkable images, and conform to national science teaching standards. They are available (while supplies last) as Classroom Kits with 30 copies of one title plus teacher's resource material or Book Packages of 5 of each title (40 books).
<http://www.whoi.edu/seagrant/whatsnew/turnstone.html>

Meteorology Education and Training

Designed as part of the Cooperative Program for Operational Meteorology, Education and Training, the Meteorology Education and Training website provides a wide range of resources. Within the Topics section, visitors will find information on fields such as fire weather, coastal weather, basic climate, and space weather. The Resources area offers learning modules, covering convective storm matrices, an introduction to anticipating hazardous weather and community risk, and more.
<http://www.meted.ucar.edu>

Migration Science and Mystery – A Distance Learning Adventure

Students in grades 5-8 are invited to join millions of shorebirds as they migrate, through webcasts, web chats with experts, videos, and more. The Migration Science and Mystery distance learning adventure takes participants on a journey totaling more than 6,500 miles from Panama to Alaska with stopovers in between. The programs will be broadcast live, and wildlife biologists will be on site to talk about migration and answer questions. Migration is underway, so register now to participate in the journey. Stopovers include

- Bay of Santa Maria, March 22, 2007
- San Francisco Bay, April 19, 2007
- Fraser River Delta, April 24, 2007
- Stikine River Delta, May 3, 2007
- Copper River Delta, May 10, 2007
- Arctic Slope on May 17, 2007

The website offers downloadable lesson plans.

<http://migration.pwnet.org>

Milstein Hall of Ocean Life Resources

The American Museum of Natural History's Milstein Hall of Ocean Life offers a variety of online resources and activities explaining key concepts related to the ocean's diverse and complex web of life. Resources include a downloadable educator's guide and associated activities, along with additional resources on ocean life, the properties of

water, ecosystems, conservation, and more. The website also offers reference lists of books and websites.

<http://www.amnh.org/education/resources/halls/oceanlife/>

New Zealand Seeps

The NEW ZEEPS (New Zealand Seeps) mission discovered seep sites during three weeks at sea in the cold, deep waters off New Zealand. This discovery is the first in situ observation of cold seep fauna in the southwest Pacific. One of the sites, the Builder's Pencil, may be the largest seep site in the world. To observe these cold seeps, which are over 3000 feet down, a video and still camera system was lowered over each site to identify seep organisms and determine the size of each seep. This innovative imaging system fed video live to scientists back on the ship, allowing them to observe the seeps and the ecosystem that exists there in real time. Learn more with the mission summary and see photos of some of the creatures from the deep.

<http://oceanexplorer.noaa.gov/explorations/06newzealand/welcome.html>

Nicholas Talks

Nicholas Talks is an online collection of lectures available from Duke's Nicholas School and the Nicholas Institute for Environmental Policy Solutions. Throughout the year they will tape lectures at Duke that are either sponsored by the School or Institute or feature one of their researchers. MP3 files of the lectures will be available on the website. Please note that these are full lectures, so the file sizes may be large.

<http://www.nicholas.duke.edu/nicholastalks>

Plates on the Move

Plates on the Move is an interactive website from the American Museum of Natural History. It explains how plate tectonics cause earthquakes, volcanoes, and tsunamis.

<http://ology.amnh.org/earth/plates/index.html>

Posters of Deepwater Gulf Species

The Flower Garden Banks National Marine Sanctuary research team is pleased to announce the development of a poster series depicting the conspicuous biota of the deepwater habitats of the Northwestern Gulf of Mexico, from depths between 50m to 150m. The poster series was developed to support the Secrets of the Gulf Expedition, scheduled to take place March 2-10, 2007. The series includes separate posters for antipatharians, octocorals, sponges, fishes, and algae/invertebrates. Educators and researchers can use the posters as reference material during the mission both on shore, and on board the Navy nuclear research submersible NR-1 and the support vessel, the SSV *Carolyn Choest*. High and low resolution versions of these posters are available.

http://flowergarden.noaa.gov/document_library/sci_documents.html

ReefRanger

Reef Ranger is an educational game that immerses the player in the complex world of coral reef management. The effects on coral reefs of human activities in the mountains all the way to the open ocean are simulated. The game illustrates how one entity in the ecosystem can have a large effect on the health of another, and how not only inaction but also inadequate management actions can lead to ineffectiveness and ultimately degradation of resources. The game is meant to instill to players an understanding of the complexities of human-environment interactions, the ecological processes in the management of coral reefs and adjacent watersheds, and complexities involved in deriving management strategies. The game will likely be in official final form by May

2007. However, please feel free to download the near-final program and offer feedback for improvement.

<http://www.ncoremiami.org/reefranger/index.htm>

Reports from a Warming Planet

American RadioWorks has released this special report on the early signs of climate change. A team of eleven reporters were led by environmental journalist Sandy Tolan. Their assignment was to identify different places around the world where global warming was making changes to both life and landscape. Visitors to the website can listen to the entire radio documentary and read about some of the individual locations profiled in this presentation.

<http://americanradioworks.publicradio.org/features/earllysigns/index.html>

Targeting Outcomes of Programs

Targeting Outcomes of Programs focuses on outcomes in planning, implementing, and evaluating programs. It is based on Bennett's hierarchy, which integrates program evaluation within the program development process. The model uses this framework to target specific outcomes in program development and then to assess the degree to which the outcome targets are reached. This website offers extensive information to help your program planning. It is available in English, Spanish, Russian, and Chinese.

<http://citnews.unl.edu/TOP/english/contentsf.html>

USS Monitor Center

On March 9, 2007, exactly 145 years after the historic clash between the Civil War ironclads *USS Monitor* and *CSS Virginia*, The Mariners' Museum and its partner, NOAA, will open the doors to a premier Civil War attraction - the USS Monitor Center. This 63,500-square-foot addition to the museum highlights the history and recovery of the famous shipwreck. The website offers information about the history, life aboard the ship, and museum preservation efforts. Bibliography, links, and educational resource pages provide jumping off points for learning more about the USS Monitor, the CSS Virginia, the Civil War and the men and women who lived through it.

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

Valoración Socioeconómica de los Humedales en América Latina y el Caribe

Wetlands International wishes to join the celebration of World's Wetlands Day by launching its recently published booklet, *The Socio-economics of Wetlands Valuation in Latin America and the Caribbean*, in Spanish. This publication explains in a simple way the fundamentals of the socioeconomic valuation of wetlands and its role in the decision making processes, highlighted by five case studies from Peru, Venezuela, Cuba, Brazil, Argentina, and Guatemala. This publication can be downloaded for free.

<http://www.wetlands.org/publications.aspx>

Virtual Courseware

As part of a collaborative project between faculty members at the California State University-Los Angeles and the National Science Foundation, the Virtual Courseware website brings together a number of thematic instructional resources for science educators. Activities teach about earthquakes (in English and Spanish), rivers, global warming, and more. Within each module, educators and students will find a number of self-guided tutorials and explanatory materials to use in their classrooms. The website offers a mix of activities, assessment exercises, and instructor materials.

<http://www.sciencecourseware.org/eecindex.php>

Wetlands on Wheels – Eastern Shore

Environmental Concern Inc. offers its new Mobile Classroom, available to cruise to a schoolyard, library, or event near you. The classroom includes 25 learning stations, offering hands on activities which teach students the importance of wetlands in a unique learning environment. The classroom travels to Eastern Shore schools in Maryland, Delaware, and Virginia.

http://www.wetland.org/edu_wheels.htm

Wetpixel.com – Digital Imaging for Divers

Wetpixel is dedicated to providing the latest information on digital underwater photography and imaging, allowing photographers to stay current with the technology and techniques that are changing the way we view the underwater world. The website offers equipment reviews, photography news, a beginner forum, and more.

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

INITIATIVES, JOURNALS, and MORE

Dive In To Earth Day

Dive In To Earth Day is an international Earth Day celebration that mobilizes environmentally conscious communities, park managers, dive shops, and others around the world to take a stand in protecting our endangered water world. Dive In has involved thousands of participants in active marine conservation; in the past seven years, Dive In organizers have held 2,000 marine conservation events in 117 countries worldwide, removing trash, educating children and their communities, supporting marine protected areas, and much more. Organize a marine conservation activity around the week of Earth Day, April 22, 2007, or any time between late March and early May and register your activity. The first 200 registrants will receive a free organizer support packet full of outreach and educational materials.

<http://www.coralreefalliance.org/divein>

Endangered Species Day

May 18, 2007 is the second annual national Endangered Species Day, a celebration of America's commitment to protecting and recovering our nation's endangered species. Use this opportunity for classroom discussion, research, and related activities on endangered and threatened species. The website includes links to list of events and activities across the country along with educational resources on endangered species.

<http://www.stopextinction.org/angeredspeciesday>

Estuaries and Coasts, Hurricane Edition

Estuaries and Coasts, the Journal of the Estuarine Research Federation, volume 29(6A) is dedicated to papers about the individual and cumulative effects of hurricanes on coastal ecosystems. The special issue is open access. In addition, many other full text articles from other issues are available on the website for free.

<http://estuariesandcoasts.org>

New Tread Lightly! Slogan

In an effort to make their message stronger and clearer, Tread Lightly! has revamped their old slogan from *Leaving a Good Impression* to *Tread Lightly! On Land and Water*. The new tagline not only communicates our message effectively, but also helps reach

out better to the water recreation community. In addition, the mission statement has been updated to: To proactively protect recreation access and opportunities in the outdoors through ethics education and stewardship initiatives.

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

One Well: The Story of Water on Earth

One Well: The Story of Water on Earth asks readers to think of all the water on earth as belonging to one well: a well which is shared by all the people and animals of the earth; a well which is influenced by all of the activities on our planet. The text presents information about where water is found on our planet, how the water cycle functions, the importance of water for plants, for animals and their habitats, and for people, about access to water, about the impact of pollution, and about efforts to protect our water supply.

<http://www.umanitoba.ca/outreach/cm/vol13/no12/onewell.html>

Search for the *Bonhomme Richard*

The Ocean Technology Foundation and Naval Historical Center are searching for one of the most famous ships of the Revolutionary War, the *Bonhomme Richard*, which was commanded by John Paul Jones. A survey expedition in the North Sea last summer revealed several shipwreck sites of interest, and another expedition is planned for this summer. This presentation, April 19, 2007 in Newport News, Virginia, will highlight the unique combination of history and modern technology that is being used to find this artifact of American maritime history.

<http://www.oceantechnology.org/BHR.htm>

Virtual Tour of NOAA's Ark

Treasures of NOAA's Ark: Journey Through Time can be visited via a virtual tour to learn more about NOAA's 200 years of science, service and stewardship.

http://www.preserveamerica.noaa.gov/hw07_photo1.html