

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
INFORMATION EXCHANGE FOR MARINE EDUCATORS

NOVEMBER 2008

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

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

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

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

Notable References

Economics of Ecosystems & Biodiversity

The German Federal Ministry for the Environment and the European Commission, with support of several other partners, have initiated preparatory work for the global study, *The Economics of Ecosystems & Biodiversity*. Preliminary findings from the first phase are available in the form of an interim report, available for download from the European Commission website.

<http://ec.europa.eu/environment/nature/biodiversity/economics/>

Establishing Resilient Marine Protected Area Networks

The Nature Conservancy, NOAA, and the World Commission on Protected Areas (WCPA) of the IUCN released *Establishing Resilient Marine Protected Area Networks* -

Making It Happen, a new document that provides guidance for designing and implementing effective MPA networks. The guide contains information for MPA planners, managers, and conservation practitioners about the role of MPA networks in achieving marine conservation goals.

<http://blog.protectplanetocan.org/2008/10/new-global-best-guidance-released-on.html>

WCPA Best Practice Guidelines

The IUCN WCPA offers a variety of guidelines for protected area managers, available for download from their website. These include *Guidelines for applying Protected Area Management Categories*, *Sacred Natural Sites - Guidelines for Protected Area Managers*; *Evaluating Effectiveness - A Framework for Assessing Management Effectiveness of Protected Areas 2nd Edition*, *Sustainable Financing of Protected Areas*, and more.

http://www.iucn.org/about/union/commissions/wcpa/wcpa_resources/wcpa_bpg/index.cfm

WEBSITES OF THE MONTH

Microdocs

Produced through Stanford University and Garthwait & Griffin films, *Microdocs - Short Attention Span Science Theater* offers a new ecological sustainability education resource. The website merges web technology with environmental science to communicate the wonders and knowledge of science. The website hosts more than thirty, 2-4 minute micro-documentaries written by leading scientists. Supporting each microdoc is text expanding on the concepts introduced by each film and links to further reference material. The main topic explored is ecological sustainability, taking the viewer for a quick trip around coral reefs of the world. The microdocs download quickly and offer very clear viewing of interesting video.

<http://www.stanford.edu/group/microdocs/index.html>

Protect Planet Ocean

The Protect Planet Ocean website represents a collaboration between WCPA - Marine and several public and private institutions. It aims to bring the best information on marine protected areas to a global audience, including basic facts on each of nearly 5000 MPAs worldwide; the ability to upload information, photos, videos, and other content for each MPA; discussions of the science of no-take marine reserves; multimedia content on MPAs, including videos and podcasts; and more. In addition, Protect Planet Ocean features *Oceans Live*, in which live video from an underwater camera inside Glover's Reef Atoll World Heritage Area is streamed directly to the web. The website also hosts The Official MPA Blog, operated by WCPA – Marine, and offers a continuous scan of MPA-related headlines from online newspapers worldwide.

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

MESSAGE FROM THE BRIDGE

Shipwrecked

Throughout history, boats and ships have been vessels of culture and applied science. In the unpredictable conditions of the ocean, many of these vessels have been blown off course, collided with rocks, or simply vanished beneath the waves. Each of these represents a time capsule, every vessel a miniature version of the society that launched

it. Each vessel reflects construction techniques of the day, materials that were available to shipbuilders, and the ideas about engineering as it was practiced in that time. The Bridge can help you incorporate real scientific data on shipwrecks from the National Marine Sanctuaries, with the Data Analysis Teaching Activity (DATA), *Shipwrecked!* In this activity, students will learn about the causes and results of many different shipwrecks along the west coast of the United States and how these accidents have shaped the maritime activities of today. By plotting shipwrecks on charts, students will be better able to visual the high traffic, and often most dangerous, areas of the coastal U.S. *Shipwrecked!* is one of many Bridge DATAs that has been reformatted to more closely match a formal lesson plan, complete with summary, objectives, and list of vocabulary words. And is the case with all Bridge DATAs, *Shipwrecked!* is aligned to the National Science Education Standards.

http://www2.vims.edu/bridge/DATA.cfm?Bridge_Location=archive1200.html
<http://www.marine-ed.org/bridge>

REQUESTS

Seeking Review of Ocean Literacy Scope & Sequence

The National Centers for Ocean Sciences Education Excellence Network, NOAA, NMEA, and the College of Exploration are conducting an online public review of the Ocean Literacy Scope & Sequence for Grades K-12, on the virtual campus of the College of Exploration. The review will take place from November 5-19, 2008.

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

GRANTS AND OPPORTUNITIES

AIAA Classroom Grants

The American Institute of Aeronautics and Astronautics awards grants to support hands-on mathematics, science, and technology projects. The purpose of these grants is to assist educators in presenting mathematics, science, and technology principles to K-12 students in an exciting, hands-on manner to develop future aeronautics and aerospace engineers, scientists, pilots, and space explorers. Preference will be given to proposed activities including, but not limited to, biological and physical research, earth science, and more. Acceptable materials include classroom science supplies, supplies for robotic programs, and more. Grants are considered on a quarterly basis, with deadlines at the end of November, January, April, and July; the next deadline for submission is November 30, 2008.

<http://www.aiaa.org/content.cfm?pageid=216>

American Honda Foundation Grants

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

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

American Trails Website Contest

American Trails offers its annual contest to seek out the best websites of trails and greenways. They are looking for websites that make trails come alive, and provide effective information delivery, support volunteers, and engage the public. See the website for the many different categories for entry, including education and trails training. The deadline for nominations is December 15, 2008. Check out the links to previous winners.

<http://www.americantrails.org/webcon.html>

ARMADA Project- Research and Mentoring Experiences for Teachers

The University of Rhode Island's Office of Marine Programs is now accepting applications for the ARMADA Project Research and Mentoring Experiences for Teachers. The ARMADA Project, funded by the National Science Foundation, provides K-12 teachers an opportunity to actively participate in ocean, polar, and environmental science research and peer mentoring. The deadline for application is February 9, 2009.

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

Captain Planet Foundation Grants

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

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

Earthwatch Fellowships for Educators and Students

Earthwatch offers a wide range of programs and resources for educators and students. With Earthwatch, you can get out of the classroom and into the world. Check the website for complete details and deadlines. The upcoming *Live from the Field* deadline for application is November 17, 2008.

<http://www.earthwatch.org/education>

Einstein Fellowship

The Albert Einstein Distinguished Educator Fellowship is a paid fellowship for K-12 math, science, and technology teachers. Einstein Fellows spend a school year in Washington, D.C. serving in a federal agency or on Capitol Hill. The deadline for application is January 13, 2009.

<http://www.trianglecoalition.org/ein.htm>

GrantStation Insider

Youth Service America has partnered with GrantStation to provide free subscriptions to the GrantStation Insider. GrantStation is an interactive website that allows grantseekers to identify potential funding sources for their programs or projects, and mentors them through the grantseeking process.

<http://www.grantstationinsider.com/?p=subscribe&id=45>

Horace Mann Scholarship Program

The Horace Mann Scholarship Program awards grants to public and private school educators to take college courses. The deadline for application is March 12, 2009.

<https://www.horacemann.com/resources/scholarships/default.aspx>

Indianapolis Prize

The Indianapolis Prize is part of the conservation efforts of the Indianapolis Zoo. The prize is awarded every other year to an individual who has made extraordinary contributions to conservation efforts involving a single animal species or multiple species. The deadline for nomination is December 1, 2008.

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

InvenTeam High School Invention Grants

Lemelson-MIT InvenTeams is a national grants initiative of the Lemelson-MIT Program to foster inventiveness among high school students. Teams composed of high school students, teachers, and mentors are asked to collaboratively identify a problem that they want to solve, research the problem, and then develop a prototype invention as an in-class or extracurricular project. The deadline for early feedback is March 20, 2009, with an initial application deadline of April 24, 2009.

<http://web.mit.edu/inventeams/>

Intel Community Grants

Intel Corporation is committed to maintaining and enhancing the quality of life in the communities where the company has a major presence. The primary giving focus is education, with grants for programs that advance science, math, and technology education, particularly for women and underserved populations. Funding for environmental programs will be considered, with priority to programs with educational and technological components. Grants are awarded on a quarterly basis, with deadlines of November 1, February 1, May 1, and August 1 each year.

<http://www.intel.com/community/grant.htm>

Lexus Eco Challenge

The Lexus Eco Challenge Contest is open to teams of students in grades 6-12. Students submit an Action Plan on a specific environmental issue within a listed topic that affects their local community. The deadline for the Water Challenge is December 12, 2008; the Air/Climate Challenge runs from November 17, 2008-February 6, 2009.

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

Magic Porthole Environment Achievement Contest

Horizon International offers Magic Porthole's First Environment Achievement Contest in honor of the International Year of the Reef 2008. Prize winners will be chosen for best efforts and the impact of their actions; there are three categories based on age. The extended deadline for submission is December 31, 2008.

<http://www.magicporthole.org/contests.html>

Make it Matter Initiative

Reader's Digest Foundation Make It Matter Grants will identify people whose stories of giving back inspire others. Every month for ten months, Reader's Digest will choose one individual whose story of giving back serves as an inspiration to others. The deadline for submission is January 1, 2009.

<http://www.rd.com/make-your-mark-make-a-difference/make-it-matter/article54800.html>

National Ocean Sciences Bowl

The mission of the National Ocean Sciences Bowl (NOSB) is to enrich science teaching and learning across the United States through a high-profile national competition that

increases high school students' knowledge of the oceans and enhances public understanding and stewardship of the oceans. The theme for the 2009 NOSB Finals Competition is *Biodiversity*. The finals competition will be held April 25-27, 2009 in Washington, D.C.

<http://www.oceanleadership.org/link/nosb>

Open Call for Youth Media Creators - Heat

The WGBH Lab, FRONTLINE and WGBH Teachers' Domain will be kicking off in November, an Open Call for Youth Media Creators, inspired by the FRONTLINE documentary *Heat*. *Heat* takes a look at the critical role of business in global warming: how it has reacted to the science of climate change, how it has influenced government action, and how it is now responding to public pressure to reduce carbon emissions. Open Call is an invitation to produce short works and share them with the world. Participants pitch an idea or submit a completed work that is relevant to the theme. If accepted, there is money and feedback to make it happen.

<http://lab.wgbh.org/open-call>

Presidential Award for Excellence in Mathematics and Science Teaching

NSF is now accepting nominations for the 2009 Presidential Awards for Excellence in Mathematics and Science Teaching (PAEMST). This year, the PAEMST will recognize outstanding secondary (grades 7–12) mathematics and science teachers for their contributions to improving teaching and learning; the PAEMST for elementary teachers will be held in 2010. The deadline for application is May 1, 2009.

<http://www.paemst.org/controllers/home.cfc?method=view>

QuikScience Challenges - California

The USC Wrigley Institute for Environmental Studies and Quiksilver offer several programs and awards for California students, teachers, and all educators.

- QuikScience Challenge for students in middle school and high school; deadline for registration is November 14, 2008
- QuikScience COSEE-West Ocean Leadership Awards for educators; deadline for nomination is January 30, 2009
- QuikScience Music Challenge for middle or high school students; deadline for entry is February 13, 2009.

<http://www.usc.edu/org/cosee-west/quikscience/>

Sandy Island/Oyster Bed MPA Communication RFP

A Request for Proposal for the development and implementation of a communication strategy for the Sandy Island/Oyster Bed Marine Protected Area has a deadline for application of November 12, 2008. The objective of the project is to enhance the management of the MPA to ensure conservation of biodiversity and sustainable livelihoods by developing and implementing a communication strategy, which includes a public awareness campaign strategy to educate Carriacou residents about the existence and the importance of the marine protected area; and a visitor and local interpretation program that will be used to educate people about the biological benefits of the MPA as they visit the protected area.

<http://www.oecs.org/jobs.html>

Seaspace Scholarships

Seaspace, Inc., an annual underwater film festival, symposium, and exposition, offers marine-related scholarships. The Seaspace Permanent Education Fund endows

undergraduate and graduate scholarships specifically in support of marine-related courses of study. The deadline for application is February 2, 2009.

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

Siemens We Can Change the World Challenge

The Siemens Foundation, Discovery Communications, and NSTA have joined together to inspire student achievement in sustainability through a comprehensive education initiative, the *Siemens We Can Change the World Challenge*. Middle school student teams (grades 6-8) are challenged to create sustainable, reproducible environmental improvements in their local communities. Teams identify an environmental issue in their community, research it, develop a plan, collect data, analyze that data, and share the results they've found so far. The deadline for entry is March 15, 2009.

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

United Nations Association High School Essay Contest

Each year the United Nations Association of the USA publishes a topic and question of particular importance to the international community. This year's National High School Essay Contest focuses on Millennium Development Goal Seven, and asks students "What can the US do to help ensure environmental sustainability?" The deadline for submission is January 5, 2008.

<http://unausanationalhighschoolessaycontest.com/summary.php>

Wet Your Appetite: Cuisine for Critters Recipe Contest

Environmental Concern, Inc. offers its 2nd annual *Wet Your Appetite: Cuisine For Critters Recipe Contest*. This competition, for grades 8-12, gives students the opportunity to research an animal living in one of the U.S. wetlands of international importance, and write a recipe that the animal would enjoy eating. The deadline for submission is January 2, 2009. Check out the 2008 winners and print off your copy of the recipe cards!

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

Whale Tail License Plate Design Contest

The California Coastal Commission is inviting artists, designers, and photographers to design a new Whale Tail license plate. Purchases of this plate in California fund marine and coastal education and conservation programs throughout the state. The deadline for entry is January 15, 2009.

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

INTERNSHIPS AND TEMPORARY OPPORTUNITIES

Green Edventures

Green Edventures, an educational travel program for teachers, teens, and college students, offers summer environmental science adventures to Alaska. Discussion topics include Earth, marine, and environmental science; land use management; cultural studies; and more. Trips are carbon neutral, groups size is limited, and groups practice leave no trace principles. See the website for more details.

<http://greenedventures.com/promo/teacher-Alaska-Kenai-Discovery.htm>

UNFCCC Fellowships

The objective of this fellowship program is to contribute to building capacity for addressing climate change, in particular small island developing states and least developed countries, through the development of local professional expertise. The target group consists of mid-career professionals who are already in a government's employment and who are nationals of and working in a developing country.

http://unfccc.int/secretariat/fellowship_programme/items/4429.php

CONFERENCES, WORKSHOPS, AND PROFESSIONAL DEVELOPMENT

Beyond Penguins and Polar Bears - Online

NSDL continues its partnership with NSTA, presenting web seminars for teacher professional development that showcase NSDL experts and resources. The presenters share their expertise and answer questions live during a 90-minute online program; archive versions of each presentation are provided following the presentation. *Beyond Penguins and Polar Bears: Energy and the Polar Environment* will be presented November 13, 2008.

http://learningcenter.nsta.org/products/symposia_seminars/NSDL3/Webseminar3.aspx

Blue Vision Summit

The Blue Vision Summit, March 7–10 in Washington, D.C. will host regional and national groups who care about our public seas. The summit will include two days of speakers and panels on federal action on the ocean, solutions that are working, and ways to address climate change impacts. The third day is set aside for Capitol Hill Day, offering an opportunity to meet your representative.

<http://www.bluefront.org/bluevision/>

Ecosystem-Based Management Tools Webinars - Online

The Ecosystem-Based Management (EBM) Tools Network hosts presentations and demonstrations of EBM tools and strategies. Interested parties can view the demonstrations real time through the Internet, or by downloading pdfs and/or audio recordings from the website at a later date. Upcoming webinars include management strategy evaluation tools, Fishery Analyst (ArcGIS), and more.

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

EETAP Spring Courses - Online

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

- Applied Environmental Education Program Evaluation, February 2-May 1, 2009
- Fundamentals of Environmental Education, February 2-April 24, 2009
- Making EE Relevant for Culturally Diverse Audiences, February 2-April 10, 2009

The deadline for registration is January 2, 2009.

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

Got the HOTS for Inquiry? - Online

This free digital workshop from ED.gov shows how to increase student learning by integrating inquiry and Higher Order Thinking Skills (H.O.T.S.) into instruction; discusses how to incorporate inquiry and the revised Bloom's Taxonomy into student assessment; disaggregate the scientific method and connect it to inquiry; and discuss assessments

for inquiry and H.O.T.S. Science classroom activities are also presented within the workshop.

https://www.t2tweb.us/Digital/workshop_hots/index.html

IMSCI 2009 - Call for Papers

The call for papers and abstracts, for The 3rd International Multi-Conference on Society, Cybernetics and Informatics: IMSCI 2009, which will take place July 10-13, 2009 in Orlando, Florida, has a deadline for submission of November 6th, 2008. Topics include eLearning, eCommunities, and more. The conference includes EISTA 2009, the 7th International Conference on Education and Information Systems, Technologies and Applications.

<http://www.iis2009.org/imsci/website/default.asp?vc=17>

Learning Ocean Science through Ocean Exploration Curriculum - Oregon

NOAA's Office of Ocean Exploration and Oregon Sea Grant present this professional development workshop for science teachers of grades 6-12, on November 8, 2008 in Portland, Oregon. This is the first of a two-part workshop series; the second workshop will be on held April 4, 2009. Educators participating in both workshops will receive a stipend. The deadline for registration has been extended.

Contact Nancee Hunter at nancee.hunter@oregonstate.edu

LiMPETS Workshops – California

Check out the LiMPETS (Long-term monitoring and experiential training for students) workshops for the 2008-09 year posted on the Farallones Marine Sanctuary Association website.

- LiMPETS Introduction to Rocky Intertidal Monitoring, February 21, 2009 in San Mateo County, California
- Feeling the Heat: Thermal Biology and Responses to Climate Change, March 21, 2009 in San Francisco, California
- Life & Death, Love & Sex, Drama in the Intertidal Zone, May 2, 2009 in San Francisco, California

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

NAAEE Conference Call for Presentations

The 2009 NAAEE Conference, October 7-10 in Portland, Oregon offers the theme, the *Power of Partnerships – Creative Leadership in Environmental Education*. There will be twelve conference strands and a two-day Research Symposium. The deadline for submission is February 1, 2009.

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

Ocean Observing Workshop - Alabama

Dauphin Island Sea Lab and COSEE will host an Ocean Observing Systems and Apex Predators Workshop at the Southern Association of Marine Educators Conference, November 14-16, 2008, on Dauphin Island, Alabama. The nominal fee includes lodging, meals, field trips, and workshop materials, along with a one-year membership to the Southern Association of Marine Educators and the National Marine Educators Association.

Contact Denise Keaton at dkeaton@disl.org

Science Lectures - California

Join Point Reyes National Seashore and Cordell Bank National Marine Sanctuary staff for presentations on scientific research being performed at Point Reyes and other locations in California. On November 20, 2008, join them for *MPA Fish Assessments at the Channel Islands* in the afternoon, and *A Conversation on Sharks* in the evening.

http://www.nps.gov/pore/planyourvisit/events_sciencelectures.htm

Trail Management: Plans, Projects and People – California

The U.S. Fish and Wildlife Service offers a variety of professional development courses. OUT8194: Trail Management: Plans, Projects and People will be held March 30-April 3, 2009 in Marshall, California; the deadline for registration is January 19, 2009.

Participants will learn to achieve sustainable and accessible trails of all kinds, using the best practices of the trail management process.

Contact Matt Gay at matt_gay@fws.gov .

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

Weather, Sea Level Rise and Climate Change Workshop - Online

COSEE-West and the College for Exploration invite formal and informal educators to participate in an online workshop, Weather, Sea Level Rise and Climate Change, November 3 - 23, 2008. Educators can learn learning how scientists are studying climate change and its accompanying effects on our planet. The online website will include "rooms" to ask questions of keynote speakers; to hold discussions with other educators around the country and the world; for teacher resources; and more. Hurry – the deadline for registration is November 3, 2008.

http://www.coexploration.org/cosee_west/nov08/index.html

Wildlife Conservation Society Courses - Online

The Bronx Zoo offers traditional and hybrid online programs for environmental educators. Upcoming classes include Marine Biology for Elementary Instructors, Conservation Biology, Habitat Ecology, and more.

<http://www.bronxzoo.com/educators/online-professional-development.aspx>

EDUCATIONAL RESOURCES

American Museum of Natural History Science Bulletins

The American Museum of Natural History's Science Bulletins are online videos which feature the latest developments in the fields of astrophysics, human biology, biodiversity, and evolution. The website offers additional resource links, educator resources, and an educators' guide to help incorporate the materials into classroom work. The bulletins are categorized in sections that include Astro, Earth, Bio, and Human, with further subcategories of features, visualizations, and snapshots.

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

Animal Welfare Information Center

The USDA's Animal Welfare Information Center website contains everything from current animal issues to workshops for those in industries that utilize animals to licensing forms. Specifically, the center is designed to regulate and improve care of animals in research, testing, teaching, and exhibition.

http://awic.nal.usda.gov/nal_display/index.php?info_center=3&tax_level=1

Archaeology Channel Video Guide

Based in Oregon, The Archaeological Legacy Institute was founded to bring the benefits of archaeology to a wider constituency. Check out their collection of video programs, which include Queen Anne's Revenge Overview, The River has Many Stories, The Shipwreck at Playa Damas, and many more. In addition to the videos, each offers web links for further information. While on the website, check out the extensive links to teacher resources and lesson plans from the main Archaeology Channel webpage.

<http://www.archaeologychannel.org/content/videoguide.asp>

Coral Reef Educational Resources CD

The 2008 Coral Reef Educational Resources CD is a collection of coral reef education and outreach materials created by state and federal agencies as well as non-profit organizations that are part of the Education and Outreach Working Group of the U.S. Coral Reef Task Force. The materials cover a wide range of topics related to coral reefs, including basic coral biology, coral reef ecosystems, human use, threats, and conservation efforts. The downloadable CD offers background information, lesson plans and activities, posters, videos, and much more.

<http://coralreef.noaa.gov/outreach/resourcecd08/welcome.html>

Curious George Educational Materials

Leverage Curious George's appeal to bring earth science learning to young kids. PBS offers downloadable resources for educators. The resources outline how to set up and run hands-on "Curiosity Centers" where children can make their own discoveries about sand, water, soil, wind, and recycling. The resources include simple materials lists, learning goals, leader notes, and tips for success.

<http://pbskids.org/curiousgeorge/parentsteachers/activities/>

Earth Gauge Kids

The Earth Gauge Kids website is designed for students in grades 5-8 and focuses on a different weather/environment theme each month. Students can find an interactive quiz, activity ideas, fun facts, and more.

<http://www.earthgauge.net/kids/index>

EarthCaching for Teachers

EarthCaching is a variation of geocaching with an educational dimension to the activity. When you visit an EarthCache, you learn something special about Earth science, the geology of the location, or how the Earth's resources and environment are managed there. EarthCaching has been developed by the Geological Society of America and partners in the geocaching community. The website includes a teachers guide, links to lesson plans, and more.

http://www.geosociety.org/Earthcache_Lessons/

EcoRigs

EcoRigs supports the redeployment of retired oil and gas platforms for use in sustainable fisheries and eco-technology applications such as the production of energy from wind, waves and currents and more. The website hosts videos of marine life on the platforms, pictures, and information.

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

Enduring Resources for Earth Sciences Education

Enduring Resources for Earth Sciences Education is a database of materials for teaching earth science concepts. Created by teachers and earth scientists, the database includes maps, documents, and other resources for teaching about earthquakes, oceans, plate tectonics, hydrothermal systems, geological time, and more.
<http://earthref.org/ERESE/>

Investigating the Ocean

NOAA's National Environmental Satellite, Data, and Information Service, together with the Science House of North Carolina State University and Sea Grant, offer students six inquiry activities to investigate the ocean and the issues we face. The activities use satellite data and other online resources to explore the underwater world.
<http://www.science-house.org/nedis/index.html>

Lionfish Invasion

This USGS website offers a good visualization of the progressive invasion of lionfish into eastern North American waters. These map layers are a compilation of lionfish sighting reports in North America from 1992 through 2008, offering geographical and historical information to show distribution over space and time.
http://fl.biology.usgs.gov/lionfish_progression/lionfish_progression.html

Maritime Archaeology Expedition to Papahānaumokuākea 2008

If you missed the maritime archaeology expedition in July 2008 to the Papahānaumokuākea Marine National Monument in the Northwestern Hawaiian Islands, you can still follow the adventure online through daily blogs and highlight videos. Make sure to follow the links to the shipwrecks, with details of each infamous wreck and survivors' ordeals.
<http://sanctuaries.noaa.gov/missions/2008pnm/>

Narragansett Bay Estuary Program

The Narragansett Bay Estuary Program website features a downloadable journal, an interactive feature on projected sea level rise in Rhode Island, links to publications, and more. Check out the journal articles, including *A Tale of Two Rivers* - articles on efforts to secure federal Wild & Scenic designation for the Taunton River in Massachusetts and Buckeye Brook in Rhode Island, *Bay in Brief* featuring river restoration projects, *StormSmart Coasts Prepares Mass. Communities*, and more.
<http://www.nbep.org/index.html>

NASA e-Clips

NASA eClips are short video segments available for downloading. The video clips are designed to inspire students to learn more about science, technology, engineering and mathematics, and to understand the application of these subjects in the real world. More videos will be added in the future, but those currently available include *Why are Oceans Salty*, *What is Weather*, and more.
<http://www.nasa.gov/audience/foreducators/nasaclips/index.html>

Natural Calendar

The Natural Calendar is an on-line webpage published at the beginning of each month on the LEAPS website. It details upcoming natural events in the sky and in the natural world. Sections typically include astronomy, amphibians (complete on-line guide including calls), birds, and insects. Suggestions for additional information (e.g. marine

and wetland-oriented events) are welcome. While on the website, check out the frog and toad identification pages.

<http://www.leaps.ms/>

Nature Journaling Weblog

In celebration of EE Week 2009's *Be Water Wise!* theme, the National EE Week website offers a series of water-themed Nature Journaling Blogs, developed in partnership with the Roger Tory Peterson Institute. The blogs provides educators ideas for incorporating nature journaling into the curriculum.

http://www.eeweek.org/nature_journal

Offshore New Harbor Project

The Offshore New Harbor Project will study sediments deposited in Antarctica during the transition from the Greenhouse World to Icehouse World, as part of the Antarctic Geological Drilling Program (ANDRILL). The expedition team will include scientists, students, and a schoolteacher. The website will include background information, videoconferencing opportunities, and more.

http://qcpages.qc.cuny.edu/offshore_new_harbor/offshore.htm

Operation: Resilient Planet Game

The Jason Project and National Geographic offer *Operation: Resilient Planet*, a game which brings students along on real-life science expeditions with practicing researchers and explorers. Students will need to use the right tools, find the right data, and be prepared to argue their case. The game offers 3D graphics, stereo sound, and fun-to-use controls. It is correlated to National Science Education standards for grades 5-8.

<http://www.jason.org/Public/Curriculum/ORPGame.aspx?pos=1>

Race Around the World

The 2008-2009 Volvo Ocean Race education website, sponsored by Sail Newport and St. Michael's Country Day School, offers middle school students and teachers the opportunity to virtually race around the world with seven Volvo Ocean Race teams as they circumnavigate the globe. For 37,000 miles, track these teams while learning geography, marine science, math, history, physical science, and more. The website will be updated regularly throughout the 08-09 school year, and currently offers activities for students, lesson plans for teachers, and more.

<http://www.globallearning-sailnewport.org/>

Science of Marine Reserves

PISCO has partnered with Google Earth and IUCN WCPA to make the *Science of Marine Reserves* information available online in a new interactive format. The new educational layer in Google Earth, the MPA Layer, shows the locations of over 4000 MPAs around the globe. The case studies are highlighted in the layer through interactive graphics. In addition, the expanded information from the case studies booklet is hosted on Protect Planet Ocean. Also available is an interactive version of the meta-analysis depicting responses inside marine reserves around the world. Users can explore the graph from this analysis to further investigate these data and navigate to individual reserves.

<http://www.piscoweb.org/outreach/pubs/reserves>

http://earth.google.com/outreach/kml_entry.html#tMarine%20Protected%20Areas

<http://www.protectplanetocean.org/somr/effectsInside.html>

Shamu TV

Shamu TV is an environmental education series from the SeaWorld and Busch Gardens Worlds of Discovery. Each 30-minute episode features stories about animals and the efforts of people working together to save them. Information includes biology, ecology, and more. The website includes downloadable teacher's guides, classroom activities, podcasts, and more.

<http://www.shamutv.com/education-resources/shamu-tv/index.htm>

SUNY-ESF Educational Resources

The State University of New York's College of Environmental Science and Forestry offers educational units for middle and high school teachers and students free to educators. Materials include Onondaga Lake Educational Unit, Environmental Analysis of Watersheds, and more.

<http://www.esf.edu/outreach/k12/res.htm>

Teacher Under the Sea

The Aquarius Reef Base Undersea Laboratory will be conducting a special science mission from November 11-20, 2009. The *Teacher Under the Sea Mission* will feature a classroom science teacher embedded in the mission's undersea crew. In addition to the usual resources available for teachers, this mission will feature three planned live broadcasts which can be observed on the website, along with additional resources specific to this mission. The broadcasts events, lesson plans, blogs, and archived media will be available on the website so that teachers may access them at times convenient for their classes. Students and teachers may also contribute to an "Ask an Aquanaut" forum. Live webcams are available during all missions to see aquanauts when they are inside, entering, or leaving the undersea station.

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

Teaching Boxes

Teaching boxes are classroom-ready instructional units created by collaboration between teachers, scientists, and designers. Each box helps to bridge the gap between educational resources and how to implement them in the classroom. The Teaching Boxes contain materials that model scientific inquiry, allowing teachers to build classroom experiences around data collection and analysis from multiple lines of evidence, while engaging students in the process of science. - focusing on gathering and analyzing scientific evidence. Current boxes include *Essentials of Weather*, *Feeding Frenzy: Seasonal Upwelling*, and more.

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

Whale Trackers

Whale Trackers is a series of documentary programs that explore the lives of whales, dolphins, and porpoises. The videographers join international scientists and conservationists on expedition to investigate species and the diverse habitats they depend on. They examine the threats the animals face with a focus on how we can make a difference through a better understanding of our oceans. The website offers educational materials, videos, a photo gallery, and more.

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

Whales of the Mediterranean Sea

The Mediterranean hosts resident populations of deep-diving sperm whales, fin whales, and five species of dolphins. *Whales of the Mediterranean Sea*, a five-part documentary

film series, is now available for download and use by teachers, with subtitles in six languages. The documentaries were produced to raise awareness, address challenges, create opportunities, and offer potential solutions to the problems facing this semi-enclosed sea in one of the most populous regions in the world. All documentaries are accompanied by complimentary education materials.

<http://www.whaletrackers.com/whales-mediterranean-sea/>

Yellowstone Fires Interview Montage

Voices from the Past – Lessons for the Future is a video montage of lessons learned from the Yellowstone fires of 1988. The clip is about 12 minutes and is a sampling from 23 interviews and over 60 hours of video.

<http://www.wildfirelessons.net/Home.aspx>

INITIATIVES, JOURNALS, and MORE

Sustainable Sushi Guide

Monterey Bay Aquarium's Seafood Watch program has launched a new guide to sustainable sushi. Check it out online or order a copy.

http://www.montereybayaquarium.org/cr/cr_seafoodwatch/sfw_sushi.aspx

World Database on Protected Areas

The newly redeveloped World Database on Protected Areas includes features to increase access to maps, spatial files, metadata, and other information on the world's terrestrial and marine protected areas, including viewing in Google Earth or downloading data in various formats. Additional features aid the updating of data and quality control. It incorporates The MPA Global Database, created as part of the *Sea Around Us Project* at the University of British Columbia. UNEP-WCMC is working with Protect Planet Ocean on developing an automated transfer of information between the database and the Protect Planet Ocean website, so that any updates to information will appear on both systems.

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