

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
INFORMATION EXCHANGE FOR MARINE EDUCATORS

NOVEMBER 2011

This update is supported by NOAA's Ocean Exploration and Research Program and the National Marine Protected Areas Center, to share information pertinent to the marine educator community. It is intended to encourage exchange of information and programs. We hope that it will also promote collaboration among the different educators addressing similar issues in their programs.

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

The information included here has been compiled from many different sources, including EE-NEWS@NAAEE, EEinGEORGIA, the Scout Report, 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 and issues of the newsletter, past and present, are available at <http://mpa.gov/resources/education/#exchange>. 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.

PROGRAM OF THE MONTH

Picture Post

Picture Post, part of the Digital Earth Watch network, offers the means for people to study and analyze their own findings using Digital Earth Watch image analysis software. Digital photographs taken from the same location and positioned in the same direction and orientation allow individuals, schools, communities, and scientists to monitor a variety of environmental parameters. Picture Post participants study change over time in their local area, view NASA satellite imagery taken on the same day as their pictures, and contribute towards improving their own communities. The website includes software downloads and guides, monitoring suggestions, and more.

<http://picturepost.unh.edu/>

WEBSITES OF THE MONTH

Oregon's Institute of Marine Biology Curricula

The University of Oregon's Institute of Marine Biology offers online marine science lessons, developed as part of its National Science Foundation Graduates in K-12 grant. The lessons are sorted by habitat and age group. While the K-12 lessons are posted grade, the lessons are appropriate for a range of ages and can be adjusted for older or younger students. The website also offers links to additional curriculum, photo and video libraries, ocean literacy standards, and more. Check out this new resource.

<http://pages.uoregon.edu/oimb/Academics/GK12/>

Wonders of the Ocean

Feeding Minds, Fighting Hunger offers a Fisheries & Aquaculture module for students ages 8-12, helping them to understand the importance of ocean conservation and responsible fishing. The lessons address six themes through an interdisciplinary approach: the richness of the oceans; creatures inhabiting the oceans; food from the oceans; people who depend on the oceans; bad and good practices and their impacts on the oceans; and the importance of acting responsibly regarding the oceans. Each lesson includes an introduction, content, activities, and links to websites with additional resources.

<http://www.feedingminds.org/fmfh/fisheries-aquaculture/wonders-of-the-oceans/en>

MESSAGE FROM THE BRIDGE

Ocean Gazing

The Bridge, National Sea Grant's online education resource center, is in partnership with the COSEE Networked Ocean World. COSEE NOW has built an online network of scientists and educators focused on emerging Ocean Observing System (OOS) technologies and real time data for public education. The Bridge recommends COSEE NOW's Ocean Gazing, a collection of 50+ podcasts with interviews with OOS scientists, covering topics from melting sea ice to commercial clamming, from ocean poetry to songs of the Banana Slug String Band. Each podcast is 10 minutes long, and all are correlated with the National Ocean Science Standards and include links to related educational resources.

<http://www.coseenow.net>

<http://www.oceangazing.org>

REQUESTS

Climate Change Communication - Call for Papers

A special themed issue planned for *Applied Environmental Education & Communication* will focus on Climate Change Communication. The deadline for submission is January 1, 2012.

<http://environmentalcomm.org/?q=climate-change-communication>

Question Writers and Reviewers Wanted

The U.S. Department of Energy's National Science Bowl is a nationwide academic competition that tests students' knowledge in mathematics and multiple areas of science. Scientists, mathematicians, graduate students, and STEM educators who are interested in writing or reviewing questions for regional and national competitions may send their resume to: nsb-questions@orise.orau.gov

GRANTS AND OPPORTUNITIES

Action for Nature Young Eco-Hero Awards

Action for Nature seeks applications from students ages 8-16 for its International Young Eco-Hero Awards Program. The awards program recognizes the individual accomplishments of young people whose personal actions have significantly improved the environment. Projects must concern advocacy, environmental health, research, or protection of the natural world. The deadline for application is January 15, 2012.

<http://www.actionfornature.org/eco-hero-awards/2011-application-guidelines>

Apprentice Ecologist Initiative

The Apprentice Ecologist Initiative engages youth, parents, and teachers from around the world in environmental stewardship and conservation projects. The goals of the initiative are to elevate young people (especially at-risk and low-income kids and teens) into leadership roles by engaging them in environmental stewardship projects, empower volunteers to rebuild the environmental and social well-being of our communities, and improve local living conditions for both citizens and wildlife. The deadline for entry is December 31, 2011.

http://www.wildernessproject.org/volunteer_apprentice_ecologist.php

Art Under Pressure

Students are invited to use their creative sides and submit Styrofoam sculptures to travel down to the bottom of the ocean in the J/aRt contest 2012: Art Under Pressure! The deadline for entry is December 11, 2011. Check this one out.

<http://joidesresolution.org/node/2108>

Beneath the Sea Funding

Check out the opportunities for scholarships and other funding on the Beneath the Sea website. There is an imaging competition, Ocean Pals Poster contest, marine career scholarships, and more. Check each opportunity for details and deadlines.

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

Collaborative Research on California Fisheries

Collaborative teams of fishermen, resource managers, and scientists are invited to apply for funds to conduct applied research on California fisheries. Projects must include a match (cash and/or in-kind) from applicants. The deadline for Letters of Intent is January 2, 2012.

<http://www.csgc.ucsd.edu/FUNDING/APPLYING/CFR2012.html>

COOL Outdoor Learning Mini-Grant - Georgia

The Council of Outdoor Learning is offering grants for projects supporting outdoor learning in Georgia. The deadline for application is November 28, 2011. See the website for details.

https://eeag.memberclicks.net/index.php?option=com_content&view=article&id=38&Itemid=92

Coral Reef Conservation Fund

The Coral Reef Conservation Fund supports the restoration of damaged reef systems and prevents further negative impacts through both on-the-water and up-the-watershed

projects. U.S. jurisdictions can apply for funding to enhance watershed management planning, reduce sedimentation, or improve fisheries management; check the RFP for international priorities. The deadline for pre-proposals is December 19, 2011.

http://www.nfwf.org/AM/Template.cfm?Section=Charter_Programs_List&Template=/TaggedPage/TaggedPageDisplay.cfm&TPLID=60&ContentID=21843

Dollar General School Library Relief Fund

Dollar General and partners sponsor a school library disaster relief fund for public school libraries in the states served by Dollar General. The fund provides grants to public schools whose school library program has been affected by a disaster. Grants are to replace or supplement books, media, or library equipment in the school library setting. Applications are reviewed monthly.

<http://www.ala.org/ala/mgrps/divs/aasl/aaslawards/beyondwords/disasterrelief.cfm>

Ecybermission Competition

Ecybermission is a web-based math, science, and technology competition for students in grades 6-9. Students compete for regional and national awards while working to solve problems in their community. The challenges this year include ecosystems, the environment, and more. The deadline for registration is December 16, 2011.

<https://www.ecybermission.com/public/Login.aspx>

Edward C. Roy, Jr. Award for Excellence in K-8 Earth Science Teaching

This award from the American Geological Institute is designed to recognize one teacher of grades K-8 for his or her leadership and innovation in Earth science education. The deadline for application is January 10, 2012.

<http://www.agiweb.org/education/awards/ed-roy/>

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 5, 2012.

<http://www.trianglecoalition.org/einstein-fellows/einstein-fellow-application-process/application>

Graduate Fellowships in Population Dynamics and Marine Resource Economics

Applications are being accepted for the 2012 NMFS-Sea Grant Fellowship Programs in Population Dynamics and Marine Resource Economics. All applications must come through a sponsoring Sea Grant office. The deadline for application to the national office is February 17 or 18, 2012 but individual state deadlines will be earlier. Check the Sea Grant website for your local program; the California Sea Grant website has links to the funding notices.

<http://www-csgc.ucsd.edu/EDUCATION/SeaGrantFellows.html>

<http://www.seagrants.noaa.gov/colleges/>

Green Ribbon Schools

The Department of Education, the Environmental Protection Agency (EPA), and the White House Council on Environmental Quality (CEQ) have announced the creation of a Green Ribbon School competition to recognize public and private elementary, middle, and high schools that: demonstrate high achievement toward ensuring that graduates are environmentally literate; eliminate their environmental footprint and improve learning

conditions; and create a net positive health impact on students and staff. State departments of education should notify the Department of Education of their participation by November 22, 2011, and submit nominees by March 22, 2012. Note that award confers no federal funds.

<http://www2.ed.gov/programs/green-ribbon-schools/index.html>

National Geographic Hands-on Explorer Challenge

To enter the National Geographic Hands-on Explorer Challenge, students 9-14 should write an original personal essay explaining how they explore your world; what it is about exploration that inspires and excites them, and document it by photo. The deadline for submission is January 15, 2012.

<http://kids.nationalgeographic.com/kids/contests/explorer-trip-2012/>

National Youth Fishing and Boating Grants

The Recreational Boating & Fishing Foundation is a non-profit organization dedicated to growing participation in fishing, boating, and aquatic stewardship. The National Youth Fishing & Boating Initiative is offering boating and fishing education grants for programs which introduce boating and fishing to minorities and underserved communities. Youth-focused boating, fishing, and conservation organizations are encouraged to apply. The deadline for application is December 30, 2011.

<http://www.rbff.org/page.cfm?pageID=376>

Presidential Innovation Award for Environmental Educators

The Presidential Innovation Award for Environmental Educators Program, a partnership between the CEQ and the EPA, recognizes outstanding K-12 teachers who employ innovative approaches to environmental education and use the environment as a context for learning for their students. Two teachers from each EPA region will be selected to receive the award. The deadline for application is December 30, 2011.

<http://www.epa.gov/education/teacheraward/>

Protect Our Reefs Mote License Plate Grants – Florida

This Request for Proposals offers eligible organization funds to support projects related to research, education and outreach, and/or conservation of the Florida coral reef ecosystem. The deadline for proposals is January 15, 2012.

<http://www.mote.org/index.php?src=gendocs&ref=Reefplategrantapp&category=Reef%20Plate>

School of the Future

School Building Week's School of the Future Design Competition, open to middle school students, challenges student teams to design their schools following a planning process from the concept phase to completion of the project. The competition highlights the importance of well-planned, high performance, healthy, safe, and sustainable schools that foster student achievement and enhance community vitality. The deadline submission is January 16, 2012

<http://www.cefpi.org/i4a/pages/index.cfm?pageID=3550>

Science and the Public Fellows Program

The Society for Science & the Public Fellows Program provides funds and training to selected U.S. science and math teachers who serve under-resourced students, to enable interested and motivated students to perform independent scientific research.

Fellows may serve up to four years. The deadline for application to the program is January 15, 2012.

<http://www.societyforscience.org/outreach>

Student Multimedia Contest

The EPA and the National Archives and Records Administration offer the Document Your Environment Student Multimedia Contest. The three categories of submissions, graphic art, videos, and poetry, will be judged in three age divisions of 13-15, 16-18, and 18+ students. Snap a photo, write a poem, design a graphic, or create a multimedia video to share how you see the state of the environment today.

<http://documerica.challenge.gov/>

Sustainable Future Challenge for Middle School Students

The I-SWEEEP 3E Sustainable Future Challenge is a national contest for middle school students that aims to create a platform for young researchers in which they present their innovative projects to take on today's challenges in energy, engineering, and environment. The deadline for registration is February 24, 2012.

<http://www.isweeep.org/3e-contest>

Temper of the Times Foundation Grants

The Temper of the Times Foundation provides funds to non-profits to underwrite advertising designed to promote wildland ecosystem conservation and restoration in the U.S. The deadline for application is December 15, 2011.

<http://www.temperfund.org/guidelines.html>

Walmart Store and Sam's Club Giving Programs

The Walmart Foundation supports charitable organizations through its Walmart Store and Sam's Club Giving Programs. Eligible organizations include K-12 public schools/districts, charter schools, community/junior colleges, state colleges, and universities. The deadline for application is December 1, 2011.

<http://walmartstores.com/CommunityGiving/10526.aspx>

Water Champion Awards

Water Champion awards recognize superior levels of relevance, educational effort, support, and innovation in the promotion of water quality via involvement in World Water Monitoring Day. The deadline for application is January 15, 2012.

<http://www.worldwatermonitoringday.org/Participate/Awards.html>

INTERNSHIPS AND TEMPORARY OPPORTUNITIES

Earth Expeditions and Global Field Master's Program

The Cincinnati Zoo and Botanical Garden, in partnership with Miami University's Project Dragonfly, offers Earth Expeditions graduate courses and the Global Field Program master's degree, some with an emphasis on marine science and education. Sites for 2012 include the Australia, Belize, and many more. The deadline for application is January 28, 2012.

<http://www.projectdragonfly.org/gfp/index.php>

High School Internships for Rising Seniors - Virginia

The Marine Science Consortium offers the Coastal Education and Leadership Program, Sea S.T.A.R. (Students Teaching And Researching), for rising high school seniors, June 17-August 12, 2012 on Wallops Island, Virginia. This internship allows students to gain experience in an environmental education program while researching a marine science project that interests them. The deadline for application is January 16, 2012.

<http://msconsortium.org/#/highschoolstudentinternship/4546405256>

MANTA High School Summer Course

MANTA (Marine Science And Nautical Training Academy) is a two-week summer course which provides students the opportunity to learn about the marine environment aboard a 45-foot catamaran sailing through the British Virgin Islands. MANTA's research scientists and instructors teach in a "flippers on" style, and the syllabus includes lectures and labs on aspects of marine science based on the Ocean Literacy principles and concepts, as well as active participation in publishable marine research. The deadline for enrollment for high school and college summer 2012 programs is April 1, 2012; only 10 qualified students will be accepted for each program.

<http://www.manta-online.org/>

CONFERENCES, WORKSHOPS, AND PROFESSIONAL DEVELOPMENT

Coastal Concerns Teacher Workshop - Georgia

Join scientists from Georgia Southern University, the University of Georgia, and the Sapelo Island National Estuarine Research Reserve, January 20, 2012 in Brunswick, Georgia, as they share research relevant to how the Georgia Coast is responding to impacts from estuarine pollution, invasive species, and from rising temperatures and carbon levels in the atmosphere and in the ocean. The deadline for registration is January 9, 2012.

Contact Georgia Graves at georgiabeachwalk@bellsouth.net

Connecting People with Nature through Birds

Environment for the Americas and staff from U.S. Fish and Wildlife Service will offer the workshop, OUT8163: Connecting People with Nature through Birds, March 12–16, 2012 in the St. Marks National Wildlife Refuge, Florida. Participants will learn to teach others basic bird identification; explore a variety of programs that connect people to nature including citizen science and mist netting birds; discuss current bird conservation issues; and discover the possibilities of inspiring interest in birds through Flying WILD. The deadline for registration is January 17, 2012; after this date, please call for availability.

<http://www.birdday.org/education/training>

Earth and Marine Science Seminars - Hawaii

The Edge of Kauai (TEOK) offers seminar programs designed for educators to investigate the Hawaiian Archipelago and learn about its environmental systems.

- July 8-14 and August 5-11, 2012, Geoscience on the Big Island
- July 22-28, 2012, The Geological, Ecological and Anthropological History of the Island of Molokai
- June 23-30, 2012, The Science of Ecosystems

Reservations are filled on a space available, first come basis as applications are received.

<http://www.teok.com/educationalprograms.html>

EETAP Spring Courses - Online

The University of Wisconsin-Stevens Point and the Environmental Education and Training Partnership (EETAP) offers the following online summer courses:

- Applied EE Program Evaluation, January 26-April 27, 2012
- Environmental Education Theory & Practice, January 26-April 27, 2012
- Advanced Oral Interpretation Methods, January 30-May 4, 2012
- Natural Resources Policy & the Legislative Process, February 13-May 4, 2012.

Scholarships may be available. The deadline for registration is January 13, 2012.

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

Great Lakes Climate Change Online Workshop and Focus Group - Online

The College of Exploration and the Great Lakes Climate Education Partnership team offer an online Focus Group Workshop on Great Lakes Climate Change Science, November 7-25, 2011. Check out the keynote presentations at any time, along with discussion groups, links to additional information, and more.

<http://www.coexploration.org/CCEP-GL/>

How Science Can Inform Policy - Massachusetts

Join Woods Hole Sea Grant and Woods Hole Oceanographic Institution for a Professional Development Workshop, December 2, 2011 in Woods Hole, Massachusetts.

Contact Kathy Patterson at kpatterson@whoi.edu

Marine Education Workshop – Florida

This marine education workshop at the Newfound Harbor Marine Institute, February 17-20, 2012 on Big Pine Key, Florida, offers the opportunity to study soft and hard corals, mangrove islands, sponge and seagrass beds, and more.

<http://www.nhmi.org/tchwshp.htm>

Ocean Exploration Workshops - Various

NOAA's Ocean Exploration Program and partners offer the *Okeanos Explorer Education Materials Collection, Volume 1: Why Do We Explore?* Professional Development Workshop for Educators. Participants will receive curriculum with CD-ROM's, certificates of participation, and more. Contact the noted educator or check out the website for registration and more information.

- January 7, 2012 with Hatfield Marine Science Center in Newport, Oregon. The deadline for registration is December 16, 2011. Contact Tracy Crews at tracy.crews@oregonstate.edu
- January 14, 2012 with Audubon Aquarium of the Americas in New Orleans, Louisiana. The deadline for registration is December 21, 2011. Contact Tricia LeBlanc at tleblanc@AudubonInstitute.org
- January 28, 2012 with Nauticus, The National Maritime Center in Norfolk, Virginia. The deadline for registration is January 13, 2012. Contact Jennifer Tabor at jennifer.tabor@norfolk.gov

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

Ocean Science Webinar Series - Online

The National Ocean Sciences Bowl, in conjunction with IODP-Deep Earth Academy, offers A Sea of Change: Development and Evolution, a professional development opportunity for middle and high school educators, November 10-early December, 2011. The series will provide teachers with the opportunity to enhance their knowledge of topics related to evolution and how society is adapting to changes in the global ocean.
<http://www.nosb.org/professional-development/>

Outdoor Teaching Mistakes - Online

Green Teacher offers free, one-hour webinars lead by experienced educators. Each session features a 20-30 minute presentation and a 30-40 minute question and answer session. Check out the upcoming webinar, Outdoor Teaching Mistakes, December 7, 2011.
<http://greenteacher.com/webinars>

Sky Rangers Online Workshop for Outdoor Astronomy Interpretation - Online

Sky Rangers workshops, part of the Astronomy from the Ground Up program, are designed for educators and interpreters from parks, nature centers, and other informal outdoor and environmental educational facilities. The free 8-week workshop, January 23-March 16, 2012, will get participants out under the night sky, build confidence in locating constellations and planets, and provide the tools to interpret the sky for their audiences. Each participant will receive a free toolkit of materials for a variety of outdoor astronomy activities.
<http://www.afguonline.org/mod/resource/view.php?id=1857>

EDUCATIONAL RESOURCES

Agulhas Current Time-Series Experiment

Join scientists from University of Miami's Rosenstiel School of Marine & Atmospheric Science on this research expedition from Port Elizabeth, South Africa for a month-long study of the Agulhas Current aboard *R/V Melville*. The website will offer information about the expedition, journal entries, an opportunity for participation, and more.
<http://act.rsmas.miami.edu/>

Atlas of the Cryosphere

The Atlas of the Cryosphere allows visitors to explore and dynamically map the Earth's frozen regions. Viewed from a polar perspective, the available scenes include snow cover, sea ice extent and concentration, and more. The atlas also allows users to save custom maps for use as images in other documents and to view monthly climatologies to see how and where the cryosphere shrinks and grows over the course of a year.
<http://nsidc.org/data/atlas/>

Biologist in Training

This program from the U.S. Fish & Wildlife Service is designed to guide students through a hands-on exploration of aquatic habitats. The BiT Activity Booklet has been designed with the needs of upper elementary science teachers in mind. Activities offer different means of collecting, organizing, and analyzing biological information, and focus on the students' use of observation skills to make their own discoveries. Additional resources include the BiT Activity Card geared towards younger students, extension activities, and

more. The activities correlate to National Science Education Standards, and were developed by a team of teachers and environmental education experts.

<http://www.fws.gov/southeast/fisheries/Bit/>

Climate Interpreter

The Aquariums Climate Coalition has established this website to build capacity among informal science educators and interpreters for communicating about climate change to public audiences. The website features past webinars as well as links to resources related to communicating about climate change with audiences in informal settings. Be sure to check out the resources and events pages.

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

Decision Making in a Changing Climate

This World Resources Report, Decision Making in a Changing Climate, includes 12 case studies of real world responses to climate change, such as wildfire management in Brazil, information sharing on agriculture in Mali, and glacial flood management in Nepal.

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

Designing Conference Posters

Colin Purrington offers these funny but true tips on designing conference posters. Be sure to check out this website.

<http://colinpurrington.com/tips/academic/posterdesign>

Global Climate Change

The EPA has updated its website, A Student's Guide to Global Climate Change, devoted to educating 6-8th graders with the science, impacts to society and ecosystems, and solutions to climate change. The information is presented in videos, animations, interactive graphics, and expeditions where students can explore how climate change affects places around the world.

<http://www.epa.gov/climatechange/kids/>

Global Experiment of the International Year of Chemistry

Celebrate the 2011 International Year of Chemistry by participating in a global chemistry experiment open to K-12 students and teachers. Participants explore water quality issues through four activities (pH of the Planet, Salty Waters, Solar Still Challenge, and Water: No Dirt, No Germs), then share their experiment results with the global science community. Each activity includes a teachers' guide, a materials list, and more.

<http://water.chemistry2011.org/web/iyc>

GLOBE Scientists' Blog

Read the Scientists' Blog to keep informed of timely topics in Earth Systems Science. Updated weekly, the blog is an online journal where GLOBE scientists post their thoughts, comments, and philosophies about a variety of science topics. The blog also provides students the opportunity to share comments and discuss topics with each other. The current topic is reporting on the recently released 2010 NOAA State of the Climate report.

<http://blog.globe.gov/sciblog/>

Gulf of Mexico Data Atlas

NOAA offers this new Gulf of Mexico Data Atlas, which is based on the idea of a traditional atlas but offered online. The atlas includes information about the physical

environment, marine resources, and economic activity in the Gulf of Mexico. This initial release of the offers 95 map plates in 31 different subject areas; more will be released in 2012.

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

Kentucky Critter Files

The University of Kentucky Entomology Department offers the Kentucky Critter Files meant for hobbyists, enthusiasts, and students wanting to know more about locally found insects. While not meant as a scientific identification key, the website offers identification tips which could be useful for those starting to study arthropods.

<http://www.uky.edu/Ag/CritterFiles/casefile/casefile.htm>

Invasive Species Compendium

The Invasive Species Compendium (Beta) contains datasheets on over 1500 invasive species and animal diseases. The website offers a developing encyclopedic resource containing datasheets on invasive species and animal diseases; basic datasheets on further species, countries, habitats and pathways; bibliographic database of over 65,000 records (updated weekly); and full text documents (updated weekly). Additional resources include identification keys, an image library, and more.

<http://www.cabi.org/isc/default.aspx?site=144&page=4066>

Maps Tutorials

The Knight Digital Media Center produces a range of media tools designed to assist journalists and others with their work and projects. This maps tutorials website is designed to help people get started with using maps in various publications and presentations. The presentations include Google Map Basics, Embedding Map Mashups, and more. The website also offers links to additional resources.

<http://multimedia.journalism.berkeley.edu/tutorials/cat/maps>

Marine Ecosystem Services Partnership

The Marine Ecosystem Services Partnership is a virtual center for information and communication on the human uses of marine ecosystem services around the world. Visitors can explore ecosystem services on an interactive map, which offers basic information about marine ecosystem service valuations conducted across the globe from a variety of extant and extinct databases. The website also offers a news feed, information about training and conferences, links to resources, and more.

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

Marine Protected Areas

Thank You Ocean has launched this web page on marine protected areas, in both English and Spanish. The page provides basic information about MPAs, an overview of both state and federally-designated MPAs, and links to more in-depth information.

<http://www.thankyouocean.org/threats/marine-life-decline/mpas/>

National Map

The National Map is an interactive map service published by the United States Geological Survey (USGS). Users can create and print high-resolution shaded relief maps of a local area, a state, or the entire U.S. A variety of data layers are available, including geology, land use/land cover, and more.

<http://nationalmap.gov/>

NOVA scienceNOW: Explore Teacher's Guides

This website from PBS NOVA offers downloadable teacher's guides designed to be used in conjunction with the scienceNOW programs. The guides are divided into thirteen topical areas, including Earth Science, Oceanography, and more. The website also includes program segments, program overviews, and more

<http://www.pbs.org/wgbh/nova/sciencenow/educators/subject-ocea.html>

Ocean Data Viewer

The Ocean Data Viewer was developed to help inform decisions for the conservation of marine and coastal biodiversity. The website offers sixteen datasets combined in a mashup style format with a political map of the world. Visitors can toggle different datasets, including global distribution of coral reefs, mangroves, mean sea surface temperature, and more. The website also links to additional databases including coral diseases, the Global Reporting and Assessment of the Marine Environment including Socio-Economic Aspects, and more.

<http://data.unep-wcmc.org/>

Ocean Observing Systems Workshop - Online

COSEE-West presents this free online workshop, Ocean Observing Systems: From your Eyes to Satellites, on the College of Exploration Online Campus, with all materials archived on the website for those unable to take advantage during the interactive hours. The course is designed especially for educators, with resources for classroom teachers and informal educators. Keynotes cover Ocean Observing Systems, Harmful Algal Blooms, and Satellites.

http://www.coexploration.org/cosee_west/fall2011/

OpenOcean Global

OpenOceans Global is a non-profit organization dedicated to linking people to the world's oceans through sharing information that will result in more informed decisions. Its ultimate goal is to aggregate the world's ocean data and creatively present those data online using advanced visualization technologies. The new website includes a Marine Education Pick of the Month, news and events, an e-newsletter, and more. The website build-out will include ocean jobs, educational resources, and much more. Be sure to contribute your favorite resources to this website.

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

Other Invertebrates

The Natural History Museum in London's Nature Online website is designed for those visitors who can't visit personally. Other Invertebrates offers visitors information about the world of the backbone-deficient, which comprise the majority of animals on earth. Make sure to check out many of the links to other information, including the deep ocean, natural disasters, reptiles, amphibians and fishes, and much more.

<http://www.nhm.ac.uk/nature-online/life/other-invertebrates/index.html>

Pathways to Science

The Pathways to Science website was created by the Institute for Broadening Participation, a non-profit organization created to design and implement strategies to increase access to STEM (Science, Technology, Engineering, and Mathematics) education and careers for diverse underrepresented groups. The website offers resources for educators and students who are looking for undergraduate summer research opportunities, graduate fellowships, and postdoctoral positions.

<http://www.pathwaystoscience.org/index.asp>

Plastic Debris in the Marine Environment

Ocean Science Trust, in partnership with University of Southern California Sea Grant, offers this synthesis of existing information on the sources, abundance, and distribution of plastic debris in the California marine ecosystem, including the emerging field of research on the toxicology of plastics in seawater. Both the summary and complete report may be downloaded from the website.

<http://calost.org/science-initiatives/?page=marine-debris>

Primer on Climate Change Science

The National Association of Clean Air Agencies has released this brochure that provides an overview of key issues related to climate change science. The primer explains the greenhouse effect, major greenhouse gases and their sources, and more.

<http://www.4cleanair.org/Documents/NACAAClimateSciencePrimerpost.pdf>

QuikScience Challenge Lessons

The QuikScience Challenge for students in California and Hawai'i is a competition for teams of middle and high school students who create projects and portfolios on a science subject related to marine or freshwater environments. Recent website updates include additional lesson plans from 2010 winners, including *Runoff*.

<http://www.usc.edu/org/quikscience/>

Science Mentoring

The American Association for the Advancement of Science offers this website with access to their research on science mentoring. The goal of the site is to provide guidelines and resources for developing high quality research and evaluation studies for STEM career and workforce mentoring. The website offers resources for STEM mentoring along with announcements about upcoming awards and funding opportunities.

<http://ehrweb.aaas.org/sciMentoring/index.php>

Science Sunday - California

The Seymour Center at Long Marine Lab in Santa Cruz, California offers Science Sunday lectures on the third Sunday of the month.

<http://seymourcenter.ucsc.edu/calendar.html#MonkSeal>

Sea Turtle Husbandry Manuals

WIDECAST (Wider Caribbean Sea Turtle Conservation Network) offers various manuals for sea turtle husbandry, including an injury response field guide (in English and Spanish), a handbook for veterinarians, and more.

<http://www.widecast.org/What/Regional/Medicine.html>

Seagrass Syllabus for Resource Managers

The World Seagrass Association, Seagrass-Watch, and Conservation International have developed the Seagrass Syllabus for resource managers, a new manual aimed at building knowledge and raising awareness of seagrass habitats.

<http://wsa.seagrassonline.org/blog/archives/94>

Smithsonian Shout Webinars

The Smithsonian Shout Online Conference Series provides exchanges with experts in science, the arts, and more, offering visuals such as artworks, maps and graphics, and video clips. Archived programs can be accessed at any time and include Study with the Land, Sustain the Land, and more.

<http://www.smithsonianconference.org/shout/schedule/>

Social Vulnerability Census Block Group Data

The Social Vulnerability Index is a new socioeconomic data set; it has been applied to Census 2000 block groups, and offers a look at a community's social vulnerability. The index can highlight differences in capacity for preparedness and response, as well as areas where resources might be used most effectively to reduce vulnerability. It can also be useful as an indicator in determining the level of recovery from disasters.

<http://www.csc.noaa.gov/digitalcoast/data/sovi/>

South Florida Aquatic Environments

The South Florida Aquatic Environments website provides an interactive, internet-based program to increase public awareness and understanding of three imperiled south Florida ecosystems - the Everglades, Florida Bay, and Florida Keys – including human impacts, conservation issues, and more. In addition, the website shares and interprets collection-based data from the Florida Museum of Natural History's Ichthyology Collection, an assemblage of more than 2 million specimens representing more than 7,000 species. Check out the education pages, identification keys, image gallery, and much more.

<http://www.flmnh.ufl.edu/fish/southflorida/pisces.html>

Stakeholder Involvement in Ecosystem Based Management

The October edition of the electronic Marine Ecosystems and Management (MEAM) newsletter offers insight into making the most of stakeholder involvement in ecosystem-based management. Check out this issue and previous ones, all downloadable from the website.

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

STEM Career

This website offers resources for students, counselors, educators, and parents of those interested in a career path based on STEM education. Key links include Environmental Science, Geosciences, and more.

<http://stemcareer.com/>

Survival

Global wildlife charity Wildscreen, whose flagship initiative is ARKive, offers Survival, a free mobile game to raise awareness among young people about endangered animals. Participants race against the clock to tap, pinch, drag, scroll and swipe their way through a series of mini-games while learning about endangered species.

<http://www.arkive.org/apps/survival>

Sustainable Seafood – A Journey from Sea to Market

Join NOAA Fisheries Service and The Seattle Times Newspapers In Education on a *Journey from Sea to Market*. This series is an introduction into the process of how seafood gets to market and the commitment that the federal government has made to ensure that U.S. seafood is sustainably managed. The series introduces key parts of

this process from why is seafood important to how science is used to make management decisions. The Alaska Fisheries Science Center website hosts the teacher's guide for the series and will post the series on the website. Note: The series uses examples from the Pacific Northwest and Alaska. If you are from outside this region and would like analogous examples from your region please contact Rebecca Reuter.

http://www.afsc.noaa.gov/education/Activities/seafood_intro.html

Register to receive the series by emailing nie@seattletimes.com.

Contact Rebecca at rebecca.reuter@noaa.gov

Tsunami Debris

The NOAA Marine Debris Program is working with partners, including other NOAA offices, the shipping and fishing industry, and recreational sailors, to gather information on significant sightings of marine debris in the Pacific and on the shoreline. Check out this website for information, how to report sightings, answers to frequently asked questions, and more.

<http://marinedebris.noaa.gov/info/japanfaqs.html>

Weather Education

The National Weather Service's Office of Climate, Water, and Weather Services offers this Education page with a range of materials for educators and young people. The website includes links to lesson plans, satellite image collections, career information, and more. There are also links to other student websites, a glossary of weather terms, and more. Be sure to check out the classroom materials.

<http://www.weather.gov/om/edures.shtml>

The Weekly Dive

One World One Ocean Foundation is a nonprofit organization using the power of film, television, and new media to help inspire people worldwide to protect and restore the health of the ocean. The Weekly Dive offers a review of weekly ocean news. In addition, the website will post one user-generated video each week.

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

Urban Forest Hurricane Recovery

The Urban Forest Hurricane Recovery website from University of Florida Extension offers disaster preparedness and recovery topics. Chapters include Restoring Trees after a Hurricane, Selecting Coastal Plain Species for Wind Resistance, and much more. The website links to many other resources available through EDIS (Electronic Data Information Source), including a variety of handbooks and guides. Be sure to check out Environment under the Topics tab.

<http://edis.ifas.ufl.edu/features/series/hurricanerecovery.html>

World Ocean Radio

World Ocean Radio, a project of the W2O, is a weekly series of five-minute audio essays available for syndicated use at no cost by community radio stations worldwide. It provides coverage of a broad spectrum of ocean issues, from science and education to advocacy and exemplary projects. Archived topics include maritime museums and the future, environmental justice, the Gulf Restoration Network, and many more.

<http://thew2o.net/world-ocean-radio>

INITIATIVES, JOURNALS, and MORE

Framework for Assessing Environmental Literacy – Washington, D.C. and Online

Join the North American Association for Environmental Education and partners on December 1, 2011 for the release of *A Framework for Assessing Environmental Literacy* in Washington, D.C., and live via the Internet. This new framework for assessing environmental literacy was developed with experts from the fields of environmental education, social studies education, science education, and related policy and social science fields.

<http://www.naaee.net/framework>

livebetter Magazine

The Center for a Better Life is focused on bettering the human condition, within a real-world scenario, using a sustainable business model. They offer the e-magazine *livebetter*, available free through email or online. The November issue includes STEM Education & America's Future; September's issue features articles about climate change.

<http://livebettermagazine.com/eng/magazine/>