

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
INFORMATION EXCHANGE FOR MARINE EDUCATORS

DECEMBER 2009

This update is funded by the National Marine Sanctuaries Foundation in partnership with NOAA's Ocean Exploration and Research Program, with additional support from NOAA's Office of Education 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, 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 Website and Reference

Voices from the Fisheries Handbook

NOAA's Fisheries Service offers the website, *Voices from the Fisheries*, a central repository for consolidating, archiving, and disseminating oral history interviews related to commercial, recreational, and subsistence fishing in the U.S. and its territories. Contributing participants may be commercial, recreational, or subsistence fishermen or others involved in services that support these activities. The downloadable book, *Voices from the Fisheries Handbook: Preserving Local Fisheries Knowledge, Linking Generations, and Improving Environmental Literacy*, provides a roadmap for designing and conducting oral history projects celebrating the people, history, and culture of U.S. coastal and Great Lakes fishing communities.

<http://www.voices.nmfs.noaa.gov/>

PROGRAM OF THE MONTH

Key to the Sea - California

Key to the Sea is Heal the Bay's free marine environmental education program for teachers and elementary school children (K-5) throughout Los Angeles County. The hands-on environmental education program incorporates learning about watershed stewardship for teachers and students throughout the school year. It includes teacher workshops, field trips, and comprehensive standards-aligned curricula and materials packets. The program focuses on watershed stewardship, stormwater pollution prevention, and marine conservation.

<http://www.healthebay.org/key2sea/>

WEBSITE OF THE MONTH

The Fun Theory

This initiative from Volkswagen is dedicated to the thought that something as simple as fun is the easiest way to change people's behavior for the better. Check out the videos on the website to spark your imagination, and create a new way of encouraging sustainable behavior. The contest for new ideas is open until December 15, 2009.

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

MESSAGE FROM THE BRIDGE

Have DATA?

Do you have data that tell a great story? Why not use those data to help increase ocean literacy? The Bridge staff works with scientists to translate real coastal and ocean science data into meaningful activities useful to classroom science teachers and informal educators. Bridge Data Analysis Teaching Activities (DATAs) present data in an organized, controlled format, which allows for easier analysis and comprehension. By working with real data, students better understand basic scientific concepts and learn about the issues most prevalent in today's lakes, rivers, and oceans. All DATAs are aligned with National Science Education Standards and include an introduction that sets up the purpose of the research/data followed by an online data set and directions on how to analyze them. Have an idea for a DATA? The Bridge welcomes ideas for new DATAs and encourages educators to submit their own data-based activities for inclusion in the series.

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

REQUESTS

Contribute to NOAA Kiosk at the Smithsonian

Consider contributing a brief ocean story, video, or images to the NOAA Kiosk at the Smithsonian Institution. Content should be geared toward a general family audience at a 6th grade reading level. Story proposals are accepted twice a year; the next deadline is January 30, 2010.

<http://oceantoday.noaa.gov/contribute.html>

GRANTS AND OPPORTUNITIES

Action for Nature Young Eco-Hero Awards

Action for Nature seeks applications from students 8-16 for its 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 February 28, 2010.

<http://www.actionfornature.org/eco-hero/ecoheroawards.html>

Amgen Award for Science Teaching Excellence

Amgen invites science educators of grades K-12 to apply for the Amgen Award for Science Teaching Excellence, an unrestricted cash award for educators in communities in which Amgen operates, who are elevating the level of science literacy through creativity in the classroom and motivation of students. The deadline for application is February 5, 2010. See the website for eligibility details.

<http://www.amgen.com/citizenship/aaste.html>

Canopy Fund

The Canopy Fund seeks to fund projects that provide hands-on outdoor learning opportunities in environmental education, life sciences, earth sciences, river/water studies, and conservation. The learning must be based on objective and scientifically sound information. Applications are accepted on an ongoing basis.

<http://new.eeingeorgia.org/resource/about.aspx?s=86140.0.0.4863>

Coca-Cola Foundation Resources

The Coca-Cola Foundation and its 18 local and regional foundations work with people in communities and governmental and nongovernmental organizations to create and support projects most relevant to the communities. The Coca-Cola Foundation will fund proposals for programs in the areas of the environment, fitness and active lifestyles, community recycling, and education. Check out the website for regional programs and opportunities.

http://www.thecoca-colacompany.com/citizenship/foundation_local.html

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, tuition-free graduate courses open to educators from all disciplines and settings. Different courses and field expeditions are offered and offer inquiry-driven, community-based learning for the benefit of ecological communities, student achievement, and global understanding. The Global Field Program is a master's degree from Miami University offered entirely through tuition-waived Field Expeditions experiences worldwide, with coursework in web-based learning communities. The deadline for application for the 2010 Field Expeditions graduate courses is January 28, 2010.

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

EPA Environmental Education Grants

The Grants Program sponsored by EPA's Environmental Education Division, Office of Children's Health Protection and Environmental Education, supports environmental education projects that enhance the public's awareness, knowledge, and skills to help

people make informed decisions that affect environmental quality. The deadline for application is December 15, 2009.

<http://www.epa.gov/enviroed/grants.html>

ExchangesConnect Video Contest

The theme of this year's ExchangesConnect Video Contest is *Change Your Climate, Change Our World*. The short video should explain what you or someone you know is doing to make your community a better place, and in the process, contributing to a healthier, safer, cleaner, and more peaceful world. The deadline for entry is January 12, 2010.

<http://connect.state.gov/>

Five-Star Restoration Matching Grants Program

National Fish and Wildlife Foundation's Five-Star Restoration Matching Grants Program provides financial assistance on a competitive basis to support community-based wetland, riparian, and coastal habitat restoration projects that build diverse partnerships and foster local natural resource stewardship through education, outreach, and training activities.

<http://www.eeintennessee.org/resource/about.aspx?s=86636.0.0.37935>

Fund for Teachers Professional Development Grants

The Fund for Teachers Grant awards PreK-12 teachers with funds to support professional development activities. The deadline for application is January 29, 2010.

<http://www.fundforteachers.org/about.html>

Get Ur Good On Grants

Youth Service America supports Get Ur Good On Grants for youth-led service initiatives. The grants support projects addressing critical community needs such as poverty, education, and environmental sustainability. The deadline for application is February 22, 2010.

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

Graduate Assistance in Areas of National Need

The program provides fellowships in areas of national need to assist graduate students with excellent academic records who demonstrate financial need and plan to pursue the highest degree available in their course of study at the institution. The eligible areas include: Biology; Chemistry; Educational Assessment, Evaluation, and Research; and more. The deadline for application is December 18, 2009.

<http://www.ed.gov/legislation/FedRegister/announcements/2009-4/111709b.html>

International Research and Studies Program

The International Research and Studies Program provides grants to conduct research and studies to improve and strengthen instruction in modern foreign languages, area studies, and other international fields. One competitive preference focuses on research, surveys, and studies applications for minority institutions; see the website for details.

<http://www.ed.gov/legislation/FedRegister/announcements/2009-4/111009a.html>

Kids' Science Challenge

The Pulse of the Planet Kids' Science Challenge asks kids in grades 3-6 to propose an original question, problem, or experiment that relates to three fields of scientific inquiry or engineering, including bio-inspired design. They also offer a free activity kit for the first

1000 entries. The website will include educational resources and activities related to the three scientific fields. The deadline for entry is February 28, 2010.

<http://kidsciencechallenge.com/>

Middle School Curriculum RFP

Weeks Bay National Estuarine Research Reserve is seeking a qualified vendor to assist with the development of a comprehensive curriculum focused on estuaries for grades 6-8. The deadline for submission is January 29, 2010.

http://www.outdooralabama.com/images/File/Weeks_Bay/RFP_Estuaries_101/Final_RF_P_Est_101_Curr.pdf

My Big Green Idea

PNY Technologies, Inc., a technology firm offering memory and complementary products, is challenging high school seniors to conceive an eco-friendly solution, product, or idea that will help to save the environment using PNY technology. The deadline for submission is March 15, 2010.

<http://greenidea.pny.com/About.aspx>

NASA Earth and Space Science Fellowships

This NASA Earth and Space Science Fellowship Program – 2010/2011 Academic Year call for graduate fellowship proposals, solicits applications from accredited U.S. universities on behalf of individuals pursuing graduate degrees in Earth and space sciences, or related disciplines, at respective institutions. The deadline for proposal is February 1, 2010.

<http://nspires.nasaprs.com/external/solicitations/summary.do?method=init&solId={4B6B94FA-6508-FB89-FDFC-E31089D85D3F}&path=open>

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 January 4, 2010.

<http://www.rbff.org/page.cfm?pageID=380&>

Our World-Underwater Scholarship Society Internships

Our World-Underwater Scholarship Society (OWUSS) offers experience-based internships to foster development of future leaders of the marine environment. The 2010 OWUSS summer internships are offered for a 1-3 month period and are primarily directed at college undergraduates and graduating seniors. For the summer of 2010 the OWUSS expects to award one internship in Europe and six internships in North America. For North America, the application deadline is January 31, 2010.

<http://www.owuscholarship.org/internships/index.aspx>

P3 Design Competition

The EPA is seeking applications proposing to research, develop, and design solutions to real world challenges involving the overall sustainability of human society. The *P3 Awards: A National Student Design Competition for Sustainability Focusing on People, Prosperity and the Planet* competition highlights the use of scientific principles in

creating innovative projects focused on sustainability. The deadline for application is January 5, 2010.

<http://www.epa.gov/P3/>

PADI Foundation Funding

The PADI Foundation encourages and supports underwater science, environmental projects, and education. The foundation funds and assists projects that increase mankind's understanding of the aquatic environment and encourages sensitivity to and protection of the delicate ecological balance of underwater life. In addition, the foundation also funds projects to increase understanding of sport diving physics and physiology that benefit the general diving public and add to the scientific understanding of man's relationship and ability to survive in the underwater environment. The deadline for submission is January 15, 2010.

<http://www.padifoundation.org/index.htm>

Pew Fellows Program in Marine Conservation Call for Nominators

The Pew Fellows Program in Marine Conservation is presently seeking recommendations for nominators for the 2011 Pew Fellows Program in Marine Conservation. Each year the program selects a unique group of nominators from diverse disciplines and geographic backgrounds to nominate two candidates for the fellowship. Please consider expertise related to marine impacts of climate change and management implications, ecology and management of low and high trophic level fish; and environmentally responsible marine aquaculture systems, and candidates living or working in Africa, Asia, Europe, and Latin America. The deadline for nomination is December 16, 2009.

Contact Lindsay Cooper at marinefellows@pewtrusts.org

PolarTEACHERS

Apply to attend the Teacher Workshop and the 2010 International Polar Year Conference, June 6-12, 2010 in Oslo, Norway. Teachers will attend the science conference and meet regularly during the week to share their experiences and ideas. Check out the website for details. Submit an abstract by January 20, 2010.

<http://www.polarret.no/conference/esc/article/2009/1257950088.29>

Presidential Award for Excellence in Mathematics and Science Teaching

NSF is now accepting nominations for the 2010 Presidential Awards for Excellence in Mathematics and Science Teaching (PAEMST). This year, the PAEMST will recognize outstanding mathematics and science teachers (grades K-6) for their contributions to improving teaching and learning. The deadline for application is May 1, 2009.

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

Protect Our Reefs Photo Contest

Mote Marine Lab is sponsoring the Protect Our Reefs Photo Contest. Submitted images should be of natural Florida coral reefs showing vibrant marine life and colors. Photos must include a Florida reef scene, live corals, and marine life. The deadline for submission is January 1, 2010.

<http://www.mote.org/index.php?src=gendocs&ref=ReefPlatePhotoContest&category=Main>

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 high-quality independent scientific research. Fellows may serve up to four years. The deadline for application to the program is January 15, 2010.

<http://www.societyforscience.org/Page.aspx?pid=292>

Student Support Services Program

The purpose of the Student Support Services Program is to increase the number of disadvantaged low-income college students, first generation college students, and college students with disabilities in the United States who successfully complete a program of study at the postsecondary level. The support services provided should increase the retention and graduation rates for these students and facilitate their transfer from two-year to four-year colleges and universities. Eligible applicants include institutions of higher education. The deadline for application is December 7, 2009.

<http://www.ed.gov/legislation/FedRegister/announcements/2009-4/102209b.html>

Thacher Environmental Research Contest

The Institute for Global Environmental Strategies offers the Thacher Environmental Research Contest for grades 9-12 for students whose projects demonstrate the best use of satellites and other geospatial technologies or data to study Earth. The deadline for entry is April 5, 2010.

<http://www.strategies.org/education/index.aspx?sub=education&sub2=scholars&sub3=scholars2010>

Virtual Foundation

The Virtual Foundation is an online philanthropy program which supports grassroots initiatives around the world. Carefully screened community improvement projects in the fields of environment, health, poverty alleviation and sustainable economic activity are posted on the web site. They can be read and funded by online donors. Check the website for complete details.

http://www.virtualfoundation.org/whatis/index_new.html

INTERNSHIPS AND TEMPORARY OPPORTUNITIES

Research Experience for Undergraduates

Bigelow Laboratory for Ocean Sciences invites undergraduates to apply for the 2010 Research Experience for Undergraduates summer research program, *Gulf of Maine and the World Ocean*. Areas of research include the marine microbial food web, ocean biogeochemistry, optical oceanography, remote sensing, sensory biology, climate change, and fisheries oceanography. Undergraduates in their sophomore year or later may apply; the deadline for application is January 15, 2010.

<http://www.bigelow.org/education/reu/>

Toyota International Teacher Program

The Toyota International Teacher Program offers fully-funded, international, professional development opportunities for U.S. educators. Funded by Toyota Motor Sales, U.S.A., Inc., the program aims to advance environmental stewardship and global connectedness in U.S. schools and communities through creative, interdisciplinary, and solution-based

teaching methods. The date of the Costa Rica program is June 18-July 3, 2010. The deadline for application is January 6, 2010.

<http://www.toyota4education.com/>

CONFERENCES, WORKSHOPS, AND PROFESSIONAL DEVELOPMENT

Ambassadors of the Environment Teacher Workshop - California

The Ocean Futures Society is offering the Ambassadors of the Environment teacher workshop, June 21-25, 2010 in Santa Barbara, California. The workshop offers cross-curricular training on marine, terrestrial, creek, and watershed ecosystems, with an emphasis on ecological roles and connections between species. Participants will receive hands-on K-12 curriculum in sustainable living, marine management, recycling, and more.

<http://www.oceanfutures.org/ofs/aote.php>

Contact Laney Heath at laneyh@mesa.k12.co.us

Benthic Ecology Meeting

The 39th Annual Benthic Ecology Meeting, BEM 2010, will be held March 10-13, 2010 in Wilmington, Delaware. The meeting will include sessions ranging from the ecology of salt marshes to coral reefs, from benthic-pelagic processes to marine population genetics. The meeting will also feature the Beneath the Waves Film Festival. The deadline for abstract submission and early registration is January 15, 2010.

<http://www.benthicecologymeeting2010.org/>

Exhibit Design for an Integrated Ocean Observing System - Online

COSEE NOW invites you to participate in a free, online seminar series that will discuss the challenges of designing exhibits using real-time data from ocean observing systems. The webinar series will focus on sharing ideas and resources on the development of interactive exhibits or kiosks for use in informal learning institutions. Three seminars are planned for December and January. Preregistration is required.

<http://coseenow.net/2009/11/exhibit-design-for-ioos/>

Field Trip Basics and Curriculum Connections - Illinois

The Shedd Aquarium is offering this free workshop December 10, 2009 in Chicago, Illinois, suggested for K-8 teachers. The workshop will help you expand your curriculum and learn strategies for planning focused and successful field trips, discuss the details of the registration process, and explore aquarium exhibits and programs for your students. Participants will practice creating a pre-trip lesson plan and an activity for use during the field trip, and create a post-trip lesson as a group. Advance registration is required.

http://www.sheddaquarium.org/teacherprogram_listings.html#ixzz0W748YNLX

FINESSE Workshops – California and Maryland

Faculty Institutes for NASA Earth and Space Science Education (FINESSE) is accepting applications for two free workshops, January 12-13, 2010 in Sacramento, California and March 25-26, 2010 in Baltimore, Maryland. The workshops will assist university and community college faculty and graduate students in preparing future teachers in science. The two upcoming workshops are in conjunction with the Association for Science Teacher Education Conference and the National Association of Community College

Teacher Education Programs, and will include a focus on NASA Earth science data and the theme of climate change.

<http://www.lpi.usra.edu/education/facultyInstitutes/>

International Polar Year Oslo Science Conference – Call for Abstracts

The Call for Abstracts for the International Polar Year Oslo Science Conference, June 8-12, 2010 in Oslo, Norway is open. The IPY Oslo Science Conference theme, *Polar Science – Global Impact*, will demonstrate, strengthen, and extend the International Polar Year's accomplishments in science and outreach. Note that Theme 6 of the conference is Polar Science Education, Outreach, and Communication. The deadline for submission is January 20, 2010.

<http://www.ipy-osc.no/>

Learning Ocean Science through Ocean Exploration - Various

NOAA's Ocean Exploration Program and partners will offer Learning Ocean Science through Ocean Exploration follow-up professional development workshops for science teachers. Participants will receive the curriculum with CD-ROM's, certificates of participation, and more. Contact the noted educator for registration and more information.

- March 6, 2010 with Georgia Aquarium, Atlanta, Georgia. The deadline for registration is February 19, 2010. Contact Kim Morris-Zarneke at kzarneke@georgiaaquarium.org
- March 6, 2010 with Dauphin Island Sea Lab, Dauphin Island, Alabama. The deadline for registration is February 19, 2010. Contact Denise Keaton at dkeaton@disl.org
- March 13, 2010 with Audubon Aquarium of the Americas, New Orleans, Louisiana. The deadline for registration is February 26, 2010. Contact Tricia LeBlanc at tbleblanc@AudubonInstitute.org
- March 20, 2010 with University of South Florida College of Marine Science, St. Petersburg, Florida. The deadline for registration is March 5, 2010. Contact Teresa Greely at greely@marine.usf.edu

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

National Forum on Socioeconomic Research in Coastal Systems - Call for Abstracts

The Center for Natural Resource Economics and Policy (CNREP) announces a Call for Abstracts for *CNREP 2010: Challenges of Natural Resource Economics & Policy, the 3rd National Forum on Socioeconomic Research in Coastal Systems*. The triennial conference is scheduled for May 26-28, 2010, in New Orleans, Louisiana. The conference focuses on the opportunities and challenges of socioeconomic research in developing coastal zone management policy. Potential session topics include market and nonmarket valuation of coastal resources, environmental benefit-cost analyses, and more. The deadline for abstract submission is February 19, 2009.

<http://www.cnrep.lsu.edu/>

NSTA Web Seminars - Online

NSTA Web Seminars are free, 90-minute, live professional development experiences that use online learning technologies to allow participants to interact with experts, education specialists, and others. Educators can use online tools that allow them to mark-up and annotate presenter's slides or share desktop applications, in addition to

engaging in chat with others online and answering quizzes and poll questions. Seminars may be archived and available for viewing after the live event has occurred. Check out the upcoming seminars in December and archives, including seasonal cycles, remote sensing of coral reefs, *Energy: Stop Faking It!* and more.

<http://learningcenter.nsta.org/products/webseminars.aspx>

Our Places Tell Stories Conference

Our Places Tell Stories, February 24-27, 2010 in Las Vegas, Nevada, is a conference for educators and others working at public lands, nature centers, museums, zoos, aquariums, and other nature- and heritage-rich places. The theme for 2010 is *Lead the Way: Engage, Empower, and Embrace through Environmental Literacy*. The deadline for submission of presentations is December 15, 2009.

<http://www.enviroedexchange.org/conference.htm>

State of the Arctic Conference

The State of the Arctic Conference will be held March 16–19, 2010 in Miami, Florida, to review our understanding of the arctic system in a time of rapid environmental change. Major science themes include Advances in arctic system understanding; Arctic change; Linkages to the Earth system; and Translating research into solutions. The deadline for abstract submission is December 14, 2009.

<http://soa.arcus.org/>

EDUCATIONAL RESOURCES

Bermuda: Search for Deep Water Caves 2009 Expedition

NOAA's Office of Ocean Exploration and Research has launched the *Bermuda: Search for Deep Water Caves 2009 Expedition* website, following the cruise that took place September 5-30, 2009. The expedition posting includes daily logs, videos and images, an Ocean Explorer Expedition Education Module, lesson plans, and more.

<http://oceanexplorer.noaa.gov/explorations/09bermuda/welcome.html>

BIOMapper

NOAA's National Centers for Coastal and Ocean Science offers the St. John Biogeography Integrated Online Mapper. BIOMapper lets users interactively view data, aerial imagery, dive photography, underwater video, and related publications for the benthic habitat mapping off St. John, U.S. Virgin Islands National Park and Virgin Islands Reef National Monument. The tool is an easy way to view the benthic habitat data, examine the attributes of the data, and show different thematic representations of the data. In addition, users can see photography and videos taken during dive missions linked to dive locations. PDF maps can be produced of user-selected areas in a pre-formatted template.

http://ccma.nos.noaa.gov/gv_stjohn/StJohn.html

Changing Your Latitude

Join an expedition to Palmer Station, Antarctica and travel aboard the 230-foot icebreaker Laurence M. Gould during the 18th Field Research Season through the Palmer LTER Education & Outreach Program interactive blog, *Changing Your Latitude*. Visitors can track the ship, explore the environment with Google Earth, view videos, and more. Educators can download instructional materials that parallel the scientific research, and encourage students to post questions directly to the scientists.

<http://pal.lternet.edu/outreach/blogs/cruise201001/>

Climate Change Animations

Commissioned by the Great Barrier Reef Marine Park Authority, Archipelago offers three online climate change animations: Impacts of Climate Change, What is Coral Bleaching?, and What is Climate Change?

<http://www.archipelago.co.uk/articles/climate-change-animations-launched>

Conservation Maven

Conservation Maven offers an online hub for conservation that keeps people connected to new research, news, and more. Topics include marine science, freshwater, wetlands, birds, and more.

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

Coral Look-Alike ID Photo Guides

The Caribbean Marine Biological Institute has compiled a series of pictures that show combinations of corals that are often mistaken for one another. The corals highlighted are found around Curacao. Place your cursor on Publications for the drop-down menu, and select from Montastraea, Agaricidae, Brain corals, and the rest.

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

Coral Reef Website

The NOAA Coral Reef Conservation Program offers its newly redesigned web site focused on coral ecosystems. New resources and products include expanded information on coral biology, values, threats, and conservation techniques; a deep-sea coral section; expanded current news about coral conservation; and new resources for students and teachers. Check out the video on coral spawning, dive the virtual reef, and more.

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

CurriculumHub

The Veggie Van Organization facilitates CurriculumHub to promote sustainable education. Lesson plans focus on sustainable energy.

<http://www.curriculumhub.com/twiki/bin/view/Main/WebHome>

Dartmouth Flood Observatory

The Dartmouth Flood Observatory performs research and collects data on the space-based measurement of surface water for research, educational, and humanitarian applications. The Active Archive of Large Floods section hosts additional materials, including animations and other visualizations.

<http://www.dartmouth.edu/~floods/index.html>

EarthWire Marine

Provided by UNEP/GRID-Arendal, *EarthWire Marine* collects news from a wide range of media sources on the Internet; press releases and news from research organizations, environmental organizations and the public sector; and across a series of topics, all related to the marine environment.

<http://www.earthwire.org/marine/>

EPA Data Finder

EPA recently launched DataFinder, a single place to find EPA's data sources so people can better access and understand environmental information. All of the data sources are available on the Internet and have been organized by topics such as water, air, and more. Visit the site, suggest new content, and comment on its functionality. EPA also will use Data Finder to discover raw data that can be accessed via Data.gov, a federal site that helps people find, download, and use datasets that are generated and held by the federal government.

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

Future Earth

Future Earth is a four-part series on the environment from MSNBC. The website offers preview clips of upcoming shows, video quizzes, and many informative video clips. Check these videos out.

http://www.msnbc.msn.com/id/29840099/ns/msnbc_tv-future_earth

Gulf of Mexico Educator Resources

The Gulf of Mexico Alliance Environmental Education Network features lessons, data, maps, and media resources related to the science of the Gulf of Mexico. The resources are organized by topic or grade level and include data, maps, media and more.

http://www.gulfallianceeducation.org/educator_resources.php

High School Marine Biology Course

COSEE-West has developed a comprehensive Marine Biology course for Grades 9-12, linked to California Biology Standards. The course focuses on marine life and includes lesson plans, labs, activities, games, and web interactives/web quests. The downloadable materials can be adapted by teachers outside California. The course materials have recently been released and your input would be appreciated.

<http://www.usc.edu/org/cosee-west/curricula.html#teachmarinebio>

Inspiring Learning Through Video Production

Teachers' Domain offers this easy-to-follow online teacher activity, Inspiring Learning Through Video Production. In this activity, participants experience what it's like to go through the video production process, creating a portfolio to track their experience, and keeping classroom-planning notes to develop a successful video-production activity for their students.

<http://www.teachersdomain.org/resource/avd09.pd.tavidprod/>

Interactive Species Poster

The National Marine Fisheries Service offers an interactive poster entitled *Sustainability – It's in our Hands*. The poster graphics show inter-relationships in marine ecosystems. Selecting any object on the poster depicts its identification and offers further information.

<http://www.nmfs.noaa.gov/speciesid/Sustainability.html>

International Year of Biodiversity Website

2010 has been declared the International Year of Biodiversity (IYB) by the United Nations. This website is supported by IYB-UK, the United Kingdom partnership supporting IYB. Check out the news, success stories, education links, and more.

<http://www.biodiversityislife.net/>

The Ocean and Climate Change

The IUCN has released *The Ocean and Climate Change – Tools and Guidelines for Action*, to help decision-makers understand the importance of the ocean in the global climate debate, and the cost of not taking action. The report offers mitigation and adaptation strategies, as well as action recommendations.

http://cmsdata.iucn.org/downloads/the_ocean_and_climate_change.pdf

Ocean and Climate Sciences for Teachers

This collaborative program was originally developed for a teacher professional development workshop on science related to how oceans and climate are connected. The resources focus on how the coupled ocean/atmosphere and the Earth's energy balance impact the climate system and offers ten modules that focus on the connection between the world's oceans and their effects on the weather and climate of inland regions of the U.S. Lecture, videos of NOAA and CIRES scientists, classroom activities, and analysis questions or assessments are included in each module

<http://cires.colorado.edu/education/k12/ocean-climate/>

Ocean's Effect on Weather and Climate SciPack

NSTA is offering free access to the SciPack on the Ocean's Effect on Weather and Climate, for elementary and middle school teachers. Take advantage of this 10-hour online learning experience to polish your content knowledge to help your students understand this topic. The focus is on standards and benchmarks related to weather and climate, the water cycle, climate change, and the role of solar energy and its affect on the atmosphere and oceans. The unique role oceans play in defining Earth's weather and climate patterns is also specifically addressed. Non-NSTA members can open a free account.

<http://learningcenter.nsta.org/products/scipacks.aspx?lid=exp>

Schoolyard Habitats

The National Wildlife Federation assists schools in developing outdoor classrooms called Schoolyard Habitats[®], where educators and students learn how to attract and support local wildlife. The downloadable How-To Guide for Schoolyard Habitats walks through the steps to creating a successful and sustainable wildlife garden, provides information on teaching in an outdoor classroom, and offers resources to help create and maintain the habitat.

<http://www.nwf.org/schoolyard/>

Sea Turtle Curriculum

NOAA's Southwest Fisheries Science Center offers a downloadable Sea Turtle Curriculum for 6th Graders, compiled by a veteran teacher who has taken part in Teacher at Sea, in the Air, and in the Lab programs. The materials include lessons, resource lists, links to additional websites, videos, and much more.

<http://swfsc.noaa.gov/uploadedFiles/Education/Sea%20Turtle%20Curriculum%20Complete-10-26-09.pdf>

SeaNET

COSEE-Alaska recently launched SeaNET, a network of ocean scientists, educators, and communicators involved in communicating about research in Alaska's seas. The goal is promoting ocean and climate change literacy, sharing best practices, and integrating ocean science with local and traditional knowledge. The website includes a

calendar of upcoming events, science news briefs about recently published research, featured resources, and more.

<http://oceanseanet.ning.com/>

Solutions

A new journal, *Solutions*, focuses on solutions to environmental, ecological, and socio-economic problems. It includes peer reviewed papers and will be available online and in printed version. Solutions Online is the primary venue of the journal and offers a forum for discussion about how to solve the mounting environmental, social, and economic problems.

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

Tackling Marine Debris in the 21st Century

From the National Research Council comes the book, *Tackling Marine Debris in the 21st Century*. The book identifies ways to reduce waste, improve waste disposal at ports, and strengthen the regulatory framework toward a goal of zero waste discharge into the marine environment. It is available for purchase or download from the website.

http://www.nap.edu/catalog.php?record_id=12486

Virtual Urchin

Sea urchin gametes offer teachers and students the ability to observe fertilization, cell division, and embryonic development. The gametes are easy to use, the developmental stages are readily seen with the microscope, and the rapidity of fertilization and early cell divisions allows the student to ask questions and obtain answers within the bounds of a normal classroom schedule. The goal of this website is to make these remarkable embryos readily accessible through development of inquiry based lessons, available on an open access website. Students can now explore how scientists study sea urchins to understand larval development and metamorphosis, community ecology, pollution in the marine environment, and much more. Check out the microscope tutorial and the latest virtual lab, on ocean acidification.

<http://virtualurchin.stanford.edu/>

Wetland Plants of the Northeast

This downloadable list compiled by the Swamp School lists plants by their common and scientific names and identifies their wetland indicator status, useful for delineation.

<http://swampschool.org/whitepapers/SwampSchoolRegion1PlantList.pdf>

World Atlas of Panoramic Aerial Images

Created by Dr. William A. Bowen, these panoramas look like photographs, but are mathematical simulations created from satellite data that have been interpreted by computer calculations.

http://geogdata.csun.edu/world_atlas/

World Ocean Census

World Ocean Census: A Global Survey of Marine Life is the only officially sanctioned book to bring the Census of Marine Life (CoML) and its discoveries to the general reader. Written by this team of CoML scientists, the book offers a view into the ocean depths, enabling readers to go behind-the-scenes of the landmark study's findings and adventures. The website offers sample pages, the Table of Contents, and more.

<http://www.fireflybooks.com/bookdetail&ean=9781554074341>

INITIATIVES and MORE

Artists for Reefs

Reef Check has partnered with artists for the online art gallery, Artists for Reefs. The main goals are to promote appreciation for the beauty and importance of marine environments among the general public, and to raise funds for reef conservation projects. The gallery includes one-of-a-kind and limited-edition art pieces featuring a variety of marine themes. Each artist has agreed to donate a portion of sales to Reef Check.

<http://www.reefcheck.org/involved/iyorgallery/default.php>

Children & Nature Network

The Children & Nature Network supports those working to reconnect children with nature. The Natural Teacher Network is a new initiative to provide tools and resources and a peer-to-peer network for teachers who make outdoor learning a priority. Sign up for the monthly newsletter for news, reports, and updates on the children and nature movement.

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

Christmas Bird Count

The 110th Christmas Bird Count: Citizen Science in Action will take place December 14, 2009-January 5, 2010. Participants who take part in the Christmas Bird Count contribute to conservation. Audubon and other organizations use data collected in this longest-running wildlife census to assess the health of bird populations, and to help guide conservation action.

<http://www.audubon.org/Bird/cbc/>

Economics of Ecosystems and Biodiversity

The Economics of Ecosystems and Biodiversity study is an international initiative to draw attention to the global economic benefits of biodiversity, to highlight the growing costs of biodiversity loss and ecosystem degradation, and to draw together expertise from the fields of science, economics, and policy to enable practical actions moving forward.

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

OceansWatch

OceansWatch North America uses sailboats to deliver marine conservation and humanitarian aid to islands and coastal communities in developing countries. Working with sailors, divers, students, volunteers, doctors, nurses, ecologists and scientists, they undertake projects that help islands and coastal communities protect their marine environment, develop sustainable, healthy living standards, and ensure that all children can attend primary school.

<http://oceanswatch.org/north-america/>

Preserve America's Waterways

In partnership with several community-based youth organizations, Preserve America's Waterways seeks to generate one million community service hours to protect and preserve the nation's waterways. Visitors to the website can find ideas and guidelines, register their service projects, or find a local project.

<http://www.pawaterways.org/index.php>