

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
INFORMATION EXCHANGE FOR MARINE EDUCATORS

JUNE 2012

This update is funded by the National Marine Sanctuary Foundation in partnership with NOAA's Ocean Exploration and Research Program, with additional support from 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.

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

Collected archives 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.

Notable References

Farming the Waters for People and Food

The Proceedings of the Global Conference on Aquaculture 2010 reviews the present status and trends in aquaculture development, addresses emerging issues relevant to aquaculture development, assesses opportunities and challenges for future aquaculture development, and more.

<http://www.fao.org/docrep/015/i2734e/i2734e00.htm>

Monitoring Climate Effects in temperate MPAs

This publication provides a framework for monitoring the impacts of climate change on marine protected areas. Focusing on MPAs in California, the report aims to inform adaptive management of the state's temperate marine ecosystem. Among other

guidelines, it describes how certain species can indicate the impacts of climate change, and how these species can be incorporated in existing monitoring programs.

http://monitoringenterprise.org/pdf/Monitoring_climate_change_effects_in_temperate_marine_ecosystems.pdf

PROGRAM OF THE MONTH

Estuaries 101 Middle School Curriculum

The National Estuarine Research Reserves has released the Estuaries 101 Middle School Curriculum, a multi-media online science curriculum offering students virtual field trips to estuaries around the country. The curriculum provides interactive learning tools that teach fundamental concepts in science and develop scientific thinking skills, while helping students discover and virtually explore our nation's biologically rich estuaries. The curriculum offers videos, access to user friendly real-time water quality and weather data, teacher activity downloads, and interactive maps to help students better visualize the inner workings of an estuary.

Topics include Human Impact, Natural Resources, Research & Monitoring, Abundance of Life, and Dynamic Ecosystems. Many of the activities also have climate extensions. Teachers can download a Curriculum Overview to get started. Check this out, and while on the website, be sure to check out the many other resources available for estuary education.

<http://estuaries.noaa.gov/Teachers/Home.aspx>

WEBSITE OF THE MONTH

JetStream - Online School for Weather

NOAA's JetStream Online School for Weather can help middle and high school Earth science teachers enhance their knowledge of weather topics. The website is designed to help educators, emergency managers, or anyone interested in learning about weather and weather safety. The illustrated information contained in JetStream is arranged by subject; beginning with global and large scale weather patterns followed by lessons on air masses, thunderstorms, flooding, and more. There are lessons, quizzes, and much, more.

<http://www.srh.noaa.gov/jetstream/>

REQUESTS

Call for Authors

Editors invite academic editorial contributors to a new reference work about biomes and ecosystems to be published by Salem Press in 2013. With approximately 600 articles in 4 volumes, *Biomes and Ecosystems: An Encyclopedia* will review key biological and geographic classifications tied to the high-school and college curriculum. The deadline for application is June 30, 2012.

<http://coral.aoml.noaa.gov/pipermail/coral-list/2011-August/010316.html>

GRANTS AND OPPORTUNITIES

50 States for Good Grant

Tom's of Maine's 50 States for Good supports the goodness behind grassroots community projects. The deadline for entry is June 12, 2012.

<http://www.tomsomaine.com/community-involvement/living-well/project-sponsorships>

California Ocean and Coastal Amateur Photography Contest

This contest highlights photographs that reflect the importance of our coast and ocean to Californians and the role that the California Coastal Commission, Natural Resources Agency, and the Ocean Protection Council have played in preserving coastal and marine resources. The deadline for submission is July 13, 2013.

<http://mycoastalphoto.com/>

Clif Kid Backyard Game of the Year Contest

Kids ages 6-12 are encouraged to use their imaginations and reconnect with outdoor playtime by creating an original game. The deadline for submission is June 17, 2012.

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

Crowdfunding

#SciFund, the largest Science Crowdfunding project on the Internet, has launched its second round of funding requests. The goal behind #SciFund is to give scientists an incentive to begin to couple outreach to the earliest stages of their research programs. Scientists create videos about their research and offer incentives to encourage the public to fund parts of the research, connecting participants to the excitement of doing science. Search for keyword education, and check out How to Use Education to Protect a Coral Reef, Honoring Traditional Ecological Knowledge, Sing About Science, and more.

<http://www.rockethub.com/projects/scifund>

CNN Heroes

Nominate a person who is giving back in your community. Award categories include Defending the Planet, Championing Children, and more. The deadline for nomination is August 31, 2012.

<http://www.cnn.com/SPECIALS/cnn.heroes/2012.nom/>

Entomological Society President's Education Award

These awards recognize educators of grades K-12 who use insects as educational tools. The deadline for nomination is July 1, 2012.

<http://www.entsoc.org/awards/professional/educational>

GCFI Student Awards

GCFI (Gulf and Caribbean Fisheries Institute) offers two student travel awards to attend the 65th GCFI conference, November 5-9, 2012 in Santa Marta, Columbia. All full-time students planning to give an oral or poster presentation are eligible to apply for these awards; see the website for details. The deadline for application is July 31, 2012.

<http://www.gcfi.org/StudentAwards/StudentAwards.htm>

Kenton Miller Award

The Kenton R. Miller Award for Innovation in Protected Areas Management nominees are identified and proposed by individuals related to protected areas management,

education, or science for innovation in any combination of the following categories: Communications; Planning and Management; Finance and Economics; Assessment, Monitoring, and Evaluation; Learning and Capacity Building; and, Governance. Hurry - the deadline for nomination is June 8, 2012.

http://www.iucn.org/about/union/commissions/wcpa/wcpa_what/wcpa_awards/wcpa_kentonaward/

Khaled bin Sultan Living Oceans Foundation Fellowships

The Khaled bin Sultan Living Oceans Foundation sponsors graduate fellowships for doctoral students and post-doctoral researcher applicants from around the world with a career interest in coral reef science and/or management. The deadline for application is June 30, 2012.

http://www.livingoceansfoundation.org/index.php?option=com_content&view=article&id=138&Itemid=245

Mazda Foundation Grants

The Mazda Foundation awards grants to programs promoting education and literacy, environmental conservation, cross-cultural understanding, social welfare, and scientific research. The deadline for application is July 1, 2012.

http://www.mazdafoundation.org/Grant_Guidelines.html

NEA Art/Science Funding Webinar

The National Endowment for the Arts supports art/science projects across all disciplines through Art Works grants. An upcoming webinar, June 14, 2012, will discuss funding opportunities for art/science projects; the webinar will be archived on the website. The next deadline for application for funding is August, 9, 2012.

Webinar login: <https://artsgov.adobeconnect.com/a1100909356/art-science/>, enter as guest; or 1-877-685-5350, participant code: 942738

<http://www.arts.gov/>

NSTA New Science Teacher Academy Fellowships

NSTA fellowships offer grades 6-12 teachers in their second or third years of teaching a year-long immersion in a host of science-related activities and professional development opportunities. The deadline for application is July 1, 2012.

<http://www.nsta.org/academy/>

Outstanding Young Educator Award

The Association for Supervision and Curriculum Development offers a yearly Outstanding Young Educator Award, recognizing a teacher under the age of 40 who demonstrates excellence in his or her profession. Criteria include a positive impact on students, creativity in the classroom, and leadership in his or her school or district. The deadline for nomination is August 1, 2012.

http://www.ascd.org/programs/Outstanding_Young_Educator_Award/Outstanding_Young_Educator_Award_Program.aspx

Project Blue Planet Challenge

This contest from the Smithsonian National Zoological Park and partners challenges kids nationwide to get their schools and communities involved to improve the environment for marine life. Depending on the school's environmental priorities, there are four ways to achieve a "Seal" of Approval. Project categories include waste, energy, habitat, and lifestyle. The next project deadline is August 31, 2012.

<http://nationalzoo.si.edu/Education/BluePlanet/default.cfm>

The Shell Marine Habitat Program

The Shell Marine Habitat Program is designed to support conservation and restoration activities that result in measurable benefits to key species and their habitats along the coast of the Gulf of Mexico. Funding will be focused on oyster conservation and restoration, coastal shorebirds and water birds, and sea turtles. The deadline for pre-proposals is June 15, 2012.

http://www.nfwf.org/AM/Template.cfm?Section=Charter_Programs_List&TEMPLATE=/CM/HTMLDisplay.cfm&CONTENTID=25044

INTERNSHIPS AND TEMPORARY OPPORTUNITIES

Friends of the National Wildlife Refuges

The National Wildlife Refuge Association hosts a webpage to promote refuge volunteer opportunities. It offers listings of current opportunities and contact information, along with profiles of some locations, issues, and species.

<http://refugeassociation.org/people/volunteer>

NASA G.I.R.L.S. Mentoring Program

Women@NASA offers this mentoring project for middle school girls to explore the possibilities of a career in the fields of science, technology, engineering, and mathematics. The project features one-on-one mentoring from women working at NASA, and participants will complete online lessons with their mentors while virtually connected through Skype or Google Chat. The mentoring project will take place over a five-week period during the summer. The deadline for application is June 15, 2012.

<http://women.nasa.gov/nasa-g-i-r-l-s/>

Summer Adventure Travel for Students

Apogee offers summer adventure travel to students 12 to 18 in the United States, Canada, and elsewhere. Trips include Cape Cod & the Islands, Pacific Coast, and more. They offer a limited number of scholarship opportunities for up to half off.

Contact Chad or Kevin at info@apogeeadventures.com.

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

CONFERENCES, WORKSHOPS, AND PROFESSIONAL DEVELOPMENT

Collaborative Summer Program for High School Seniors - Maryland

This free Collaborative Summer Program, July 1-August 10, 2012 in Princess Anne, Maryland offers stipends and course credit for high school students, particularly from underrepresented groups, in various areas of geosciences. Students will receive lectures and take part in hands-on activities in marine geology, physical oceanography and atmospheric science, remote sensing/GIS, and more.

<http://www.nosb.org/2012/noaa-geosciences-summer-program-for-high-school-students/>

Creating a Schoolyard Habitat/Outdoor Classroom - Alaska

A Schoolyard Habitat/Outdoor Classroom Program is a coordinated effort between schools, Fish & Wildlife Service (FWS) offices, and other conservation and community organizations to establish ecologically sound restoration projects that are sustainable

outdoor learning areas on school sites. OUT8164: Creating a Schoolyard Habitat/Outdoor Classroom, September 10-14, 2012 in Denali Park, Alaska, develops technical consultants that can assist schools at the local level in areas such as project design, curriculum connections, student instruction, and more. The deadline for registration is July 2, 2012; call for availability after this date.

Contact Michelle Dolan at Michelle_Dolan@fws.gov
www.doi.gov/doilearn/index.cfm

ESIP Teacher Workshop – Wisconsin

The Federation of Earth Science Information Partners workshop for teachers of grades 6-12, July 17-18 in Madison, Wisconsin, will offer an overall theme of Earth Science Education with an integral strand dedicated to climate change education. Participants will be able to choose from several breakout sessions demonstrating ways that Earth science tools and data can be used in science classrooms. A stipend may be available; see the website for details.

<http://www.smdeponews.org/programs-events/esip-teacher-workshop-grades-6-12-july-17-18-2/>

Exploring the Ocean through Science and Children’s Literature - Maine

The workshop, Exploring the Ocean through Science and Children's Literature, June 25 - 27, 2012 in South Portland, Maine, is geared to elementary, middle school, and informal educators. The workshop incorporates seaside experiences, a chartered boat trip on Casco Bay, children’s books, and current scientific data to explore the marine life and environmental health of our coastal waters. Participation is limited.

<http://cascobay.org/events/exploring-the-ocean-through-science-and-childrens-literature/>

LiMPETS Workshops - California

Join the staff of the Farallones Marine Sanctuary Association and partners in these upcoming professional development workshops in Santa Cruz, California.

- LiMPETS Introduction to Sandy Beach Monitoring Workshop, August 1, 2012
- LiMPETS Introduction to Rocky Intertidal Monitoring, August 2, 2012

http://limpetsmonitoring.org/resources_workshops.php

MARE Summer Teacher Programs – New Jersey

MARE is an interdisciplinary program that seeks to engage teachers, students, and others to transform schools and after-school clubs into dynamic laboratories for the study of the ocean. This summer, Rutgers University Institute of Marine and Coastal Sciences in New Brunswick and Tuckerton, New Jersey, is providing four MARE teacher trainings with hands-on and standards-based lessons, field experiences, and more.

- One Ocean, Interdisciplinary Instruction – July 17, 2012
- Biodiversity & Bioluminescence - July 18, 2012
- Community Day: Fish & Larvae - August 14, 2012
- Beaches, Adaptations, & Human Impacts - August 15, 2012

<http://coseenow.net/mare/opportunities-resources/summer-teacher-programs/>

NMEA 2012

The 2012 National Marine Educators Association Conference, *North to Alaska’s Seas: A Confluence of Science and Culture*, will be held June 24-28, in Anchorage, Alaska. Conference themes include Science and Art, Science and Culture, Science and Technology, and Large Marine Ecosystem Science and Education.

<http://www.pacname.org/conf.shtml>

Ocean Exploration Workshop – Virginia

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, July 27, 2012 with the National Maritime Center in Norfolk, Virginia. Participants will receive curriculum with CD-ROM's, certificates of participation, and more. The deadline for registration is July 27, 2012.

Contact Jennifer Tabor at jennifer.tabor@norfolk.gov

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

Resource Management Workshop - Mississippi

The Mississippi State University Coastal Research and Extension Center will host a free Natural Science Teacher Workshop, July 18, 2012 in Biloxi, Mississippi, targeted toward 5th- to 8th-grade teachers along the Gulf Coast. The workshop will cover local management methods and science used to protect coastal ecosystems including forest ecology and management, watershed science, coastal ecology, and more. Participants will receive educational resources. Registration before June 15, 2012 is free.

Contact Chris Boyd at cboyd@ext.msstate.edu

Summer Leadership Institute - Texas

The National Science Education Leadership Association and NSTA offer the 2012 Summer Leadership Institute, June 24-28, 2012 in Austin, Texas. Science educators, teams, and administrators will explore the K–12 Framework and draft Next Generation Science Standards and determine key features of each.

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

Tampa Bay: Living Legacy Educator Workshop - Florida

Study the natural and cultural history of Tampa Bay, August 2, 2012 in St. Petersburg, Florida. The free workshop features grades 9-12 curriculum designed to accompany the documentary film, *Tampa Bay: Living Legacy*. The teaching guide offers six lesson plans that complement key chapters in the bay's natural and human history, highlighting important natural resources such as birds and seagrass habitats, and drawing on the memories and perspectives of the local "Bay Champions" who fought to save the bay.

<http://events.r20.constantcontact.com/register/event?llr=e6budacab&oeidk=a07e5rljkkx49a1af22>

Voices of the Bay - California

Monterey Bay National Marine Sanctuary is hosting Voices of the Bay: Fisheries Education, a free teacher workshop, July 11, 2012 in Santa Cruz, California. The workshop introduces teachers to the Voices of the Bay Fisheries Education standards-based curriculum and explores the multiple stakeholders involved in the local fisheries. The deadline for application is June 13, 2012.

Contact Chelsea Prindle at Chelsea.Prindle@noaa.gov

WCS Online Teacher Academy Discounts - Online

The Wildlife Conservation Society is offering discounts off two Summer 2012 programs, Nature's Thread: Weaving Environmental Education into Your Classroom and Marine Biology for Elementary Educators, July 6-August 26, 2012.

<http://www.wcs.org/teachers/teacherpd/online-teacher-academy.aspx>

Wetland Boot Camp – Kentucky

Wolf Creek National Fish Hatchery will hold a Wetland Boot Camp, July 9-13, 2012 in Jamestown, Kentucky. The workshop will teach about wetland ecosystems and their functions. This comprehensive training will include Project WET, WOW: The Wonder of Wetlands, and the Biologist-in-Training programs along with wetland plant id, POW! The Planning of Wetlands, rain gardens, and a wetland field day. Check out this and the other workshops on Environmental Concern's education schedule web page.

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

EDUCATIONAL RESOURCES

Adopt a Beach Activities

The Alliance for the Great Lakes encourages service learning through the Great Lakes Adopt-a-Beach™ program. The curriculum helps students learn about the environment and help their community while they check water quality, investigate beach health, remove litter and debris, and more. The website offers downloadable lesson plans and activities.

<http://www.greatlakes.org/teachadoptabeach>

ArcLessons

ArcLessons is a resource hosted by ESRI to share lessons for using GIS in the classroom. Visitors can browse a list of lessons by category or use the search tools to find lessons in a specific area of interest, including Life/Environmental Sciences. Teachers can also contribute lessons for other educators to use.

<http://edcommunity.esri.com/arclessons/arclessons.cfm>

Aquarium Field Trips - Online

The Aquarium of the Pacific offers interactive, educational videoconferencing programs for those unable to travel to the aquarium.

<http://www.aquariumofpacific.org/education/yourfieldtrip/outreach/videoconf>

Before the Storm App

This free game app from Australian Emergency Management, aimed at fifth- through ninth-graders, lets kids take over a gothic mansion during four stages of a storm—preparedness, immediately before, during, and the cleanup afterwards.

<http://itunes.apple.com/au/app/before-the-storm/id496753593?mt=8>

Carbon Cycle Collection

NOAA's Education Resources website offers an updated section on climate with a Carbon Cycle Collection. The website offers multimedia, lessons and activities, real world data, background information, and more.

http://www.education.noaa.gov/Climate/Carbon_Cycle.html

Changing Oceans Cruise

The Changing Oceans Cruise is a 35-day scientific expedition, begun May 17, 2012. The mission is to examine the potential impact of changes in the temperature and chemistry of the oceans on cold-water coral reefs and the associated reef creatures. Scientists will survey and sample the deep water coral communities; study the biology, chemistry and physics of cold-water coral sites; and conduct onboard experiments.

Follow along on the cruise through the blogs, view photos, read background information, and more.

<http://changingoceans2012.blogspot.com/>

Climate Change at the National Academies

Climate Change at the National Academies serves as a clearinghouse for National Academies climate change news, videos, webinars, and books. The website offers sustainability and energy information, as well as activities such as the Climate Education Roundtable.

<http://nas-sites.org/americasclimatechoices/>

Conservation Education Toolkit

The Conservation Education Toolkit from the Association of Fish and Wildlife Agencies offers links to publications that help K-12 teachers connect conservation education programs to science and social studies standards. Resources include Benchmarks for Conservation Literacy, Outdoor Skills Education Handbook, and much more.

http://jicdev.com/~fishwild/?section=conservation_education_toolkit

Curriculum Catalogue

The World Ocean Observatory recently updated the Curriculum Catalog within the Ocean Classroom section of the website. The catalogue offers links to educational content, from lesson plans and informal educational activities to descriptions of internships and professional programs. Check this list out to see what you may have missed.

<http://thew2o.net/content/curriculum-catalogue>

EarthCache Educator's Guide

EarthCache combines global positioning system technology with outdoor field experiences. Teachers can learn how to create an EarthCache, direct students to create one, or use existing EarthCaches in the classroom. The website offers lesson plans and links to additional EarthCache sites for teachers.

http://rock.geosociety.org/Earthcache_Lessons/

Eastern Caribbean Sustainable Finance

This site houses documents relating to the Sustainable Financing and Management of Eastern Caribbean Marine Ecosystems project, and serves as a forum for discussion among partners. Downloadable files include reports, PowerPoint presentations, and more.

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

EE Organization Mapping Tool

Finding EE organizations just got easier. Now, in addition to being able to see your search results in a list, you can also see them as points on a map. After searching for organizations or schools that fit specific criteria, click the orange "Map Results" button to the top right of your list for a Google map.

<http://eeintennessee.org/net/content/search.aspx?s=0.0.0&btid=3&load=0&tid=38021&basic=1>

Emergency Management for Schools

This website from the Australian Government offers resources, lesson plans, and more. Check out the webquest and adopt it to your school.

<http://www.em.gov.au/sites/schools/Pages/default.aspx>

Expedition 342 Paleogene Newfoundland Sediment Drifts

Follow along with scientists on the JOIDES Resolution Expedition 342: Paleogene Newfoundland Sediment Drifts, June 2-August 1, 2012. The website will host mission blogs, videos, links to educational resources, and more. Schedule a live video broadcast with your students or other groups; sign up today.

<http://joidesresolution.org/node/2492>

FWS Science Excellence

The goal of the FWS's Science Excellence is to strengthen the service's tradition of scientific excellence in the conservation of fish, wildlife, plants, and their habitat. The website offers links to resources and Science in Action topics, including climate change, habitat conservation, and more.

www.fws.gov/science/index.html

Gray's Reef Expedition 2012

Scientists, staff, and volunteers will conduct a research mission within Gray's Reef National Marine Sanctuary aboard the NOAA Ship *Nancy Foster*, May 28-June 8, 2012. Scientists will concentrate on three research projects: fish censuses, invertebrate density and abundance, and multibeam mapping. Follow along with blogs, interviews, and more.

http://graysreef.noaa.gov/science/expeditions/2012_nancy_foster2/welcome.html

Green Planet Stream

Green Planet Stream from Green Planet Films offers a portal to streaming nature and environmental films. Film topics include ocean conservation, sustainable fishing, endangered wildlife, and more. Trailers can be viewed for free.

<http://greenplanetstream.org/>

Kids to Conservation

The National Park Service, together with partners at University of Nevada, Las Vegas' Public Lands Institute, supports this website as a toolkit that uses recreation as the basis for engaging kids, and gets youth involved in the planning process so that they can make a meaningful difference in their communities. Kids to Conservation identifies six learning objectives -- education, leadership development, service, exposure to conservation careers, recreation, and recognition -- as the foundations for engagement. The website also provides information for adults about finding youth to involve in a project, finding the right age youth to work with, funding opportunities, appropriate activities for each age, and case studies.

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

Leafsnap App

Leafsnap is an electronic field guide developed by researchers from Columbia University, the University of Maryland, and the Smithsonian Institution. This free mobile app uses visual recognition software to help identify tree species from photographs of their leaves.

<http://itunes.apple.com/us/app/leafsnap/id430649829?mt=8>

National Oceans Month at NPS

This website from the National Park Service helps visitors learn about the oceans and Great Lakes, how the National Park Service is working to conserve and restore our ocean heritage, and how you can get involved. From Alaska to the Atlantic, the Gulf Coast to the West Coast, and the Virgin Islands to the Pacific Islands, 85 national parks conserve beautiful landscapes above and below the waves. Explore the Ocean Park Finder, the educational resources, volunteer opportunities, and more. Check back to find updated features as National Oceans Month (June) progresses.

<http://nature.nps.gov/features/oceans/index.cfm>

Nature Works Everywhere

Hosted by the Nature Conservancy, Nature Works Everywhere offers videos, interactive games, and lesson plans that align to standards. Topics range from coral reefs to bee gardens, from Maine's snowy forests to Africa's grasslands.

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

Next Generation Science Standards

Through a collaborative, state-led process managed by Achieve, new K–12 science standards are being developed that will be rich in content and practice, arranged in a coherent manner across disciplines and grades to provide all students an internationally benchmarked science education. The standards will be based on the Framework for K–12 Science Education developed by the National Research Council. Check out the draft report.

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

NGDC Educational Resources Page

NOAA's National Geophysical Data Center (NGDC) educational resources website has been redesigned and offers both internally generated material and vetted resources from other institutions and partners. The website offers dive animations, images, and links to many additional resources.

<http://www.ngdc.noaa.gov/mgg/education.html>

NGDC Map Viewers

The NGDC has made sea floor maps and other data on the world's coasts, continental shelves, deep ocean, and more available for easy viewing online. Anyone with Internet access can now explore undersea features and obtain detailed depictions of the sea floor and coasts, including deep canyons, ripples, landslides, and more. Check out the Bathymetry Data Viewer, Marine Geology, and more. Note: these are large data sets and a fast connection may be required.

<http://maps.ngdc.noaa.gov/viewers/>

NOAA Ocean Data Education Project

The NOAA Ocean Data Education (NODE) Project offers free curriculum modules for grades 6-8 that demonstrate techniques for using data in the classroom to learn about El Niño, sea level, water quality, and ocean acidification. The NODE curriculum is designed to help teachers and students use real scientific data to explore dynamic Earth processes and understand the impact of environmental events on a regional or global scale.

<http://dataintheclassroom.org/>

Ocean Guardian Kids Club

The purpose of the NOAA National Marine Sanctuaries Ocean Guardian Kids Club is to encourage children to explore their natural surroundings to form a sense of personal connection to the ocean and/or watersheds in which they live. The Kids Club offers children an opportunity to express their insights, observations, and understanding of their natural environment through the creation of original stories, poetry, and visual art. The club is open to all students K-8.

http://sanctuaries.noaa.gov/education/kids_club/

Outdoor Biology Instructional Strategies

Outdoor Biology Instructional Strategies (OBIS) from the Lawrence Hall of Science is an outdoor program that offers young people opportunities to investigate ecological relationships in their local environment. The activities, which can be used together or individually, take youngsters outdoors to investigate biology in order to increase their environmental awareness. Examples of the activities are categorized by Experiments, Biodiversity, and Schoolyard, and can be accessed from the website.

<http://www.outdoorbiology.com/#>

Parks in Peril Documents

The Parks in Peril website from The Nature Conservancy and partners offers a myriad of downloadable reports and other documents, including resource management, monitoring and evaluation, rapid ecological assessment, and more.

<http://www.parksinperil.org/resources/publications.html>

Rainbow Series

The Joint Fire Science Program funds scientific research on wildland fires and distributes results to help policymakers, fire managers, and practitioners make sound decisions. The Rainbow Series offers five documents about Wildland Fire in Ecosystems, detailing the effects of fire on flora, soil and water, fauna, air, and cultural resources and archaeology.

http://www.firescience.gov/JFSP_rainbow_series.cfm

Rhythm of Conservation

Kids can learn about a different animal every day through the Rhythm of Conservation Sweepstakes website from AZA and K12. Visitors can browse interactive educational activities and lessons about conservation, enter a sweepstakes daily, and more.

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

Science Minded Blog

This new blog, initially written for the San Diego Union Tribune, aims to expose students, parents, and teachers to the world of science as a career. In addition to demystifying what scientists do through scientist profiles, there are tips for young scientists, kids in science, and more.

<http://scienceminded.net/>

SeaPhoto App

This free app for iPhones provides access to over 1,300 images of over 550 species of marine life of the Monterey Bay National Marine Sanctuary, including more than 130 species with detailed ecological information. The information is drawn from SIMoN, the Sanctuary Integrated Monitoring Network Photo Library, which offers over 4000 digital images.

<http://itunes.apple.com/us/app/seaphoto/id515571588?mt=8>

Social Coast

The Social Coast, a new component of NOAA's Coastal Services Center's Digital Coast website, offers highlights of economic and demographic data, tools, and methods that can be applied to solve diverse issues. The Social Coast selects the relevant demographic and economic data sets available through the Digital Coast, provides examples of how and why to use them, and introduces techniques for engaging stakeholders. Resources include Econ 120, a series of two-minute videos that explain the significance of key economic concepts; the ENOW Explorer, enabling users to interact with Economics: National Ocean Watch (ENOW) data using maps, charts, and graphs to see changes across time, place, and sector; and more.

<http://www.csc.noaa.gov/digitalcoast/socialcoast/>

State of Flux Gallery

NASA's Global Climate Change website offers the State of Flux – Images of Change. This gallery presents images, mostly from space, chronicling changes taking place over time periods ranging from days to centuries. Categories include extreme events, human impact, ice, and more.

<http://climate.nasa.gov/sof/>

Teachers' Place: Monterey Bay Aquarium

The Monterey Bay Aquarium's Teachers' Place website offers Teacher Programs, Field Trips, and Classroom Resources. Classroom Resources include lesson plans and interactive media featuring Rocky Shores, Kelp Forest, and much more. Games & Interactives includes downloadable posters, a virtual dive into Monterey Canyon, and more.

http://www.montereybayaquarium.org/lc/teachers_place/

World Ocean Radio

World Ocean Radio provides coverage of a broad spectrum of ocean issues from science and education to advocacy and exemplary projects. The program is a project of the World Ocean Observatory, offering a weekly series of five-minute audio essays. Recent topics include Conciliation of Interest, Mega-Cities by the Sea, Failed Governance, and more.

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

Writing Across the Curriculum

George Mason University offers Writing Across the Curriculum with resources for people who teach college English courses and related subjects, in addition to many resources of general interest. The Teaching with Writing handouts include Creating Clear Assignments, Evaluating and Grading, and more. Resources for students include links to genre-specific writing resources, collaborative writing, and more.

<http://wac.gmu.edu/>

INITIATIVES, JOURNALS, and MORE

Great Annual Fish Count

The Great Annual Fish Count is held each July to introduce divers and snorkelers to the hobby of fishwatching; to help researchers by surveying fish populations and recording

which fish are seen; and to educate the public about our marine resources. Events are held around the country. Check the fishcount website for locations, learning resources, and more.

Join scientists in New England on July 28, 2012 for a count sponsored by REEF and the New England Aquarium Dive Club. There are numerous sites to choose from, but you must sign up for a free REEF membership and a dive site in advance so they can record your fish sightings. To learn more about identifying local fish species and the surveys, volunteers can attend the New England Aquarium Dive Club meeting June 20, 2012 on New England Fish ID and REEF surveys.

<http://www.neadc.org/gafc/>

<http://fishcount.org/>

World Environment Day

World Environment Day, June 5, was started in 1972 by the United Nations General Assembly, to stimulate worldwide awareness about environmental issues and their impact on humans. Learn more about this year's theme, *Green Economy: Does it include you?*, download posters, and more.

<http://www.unep.org/wed/>

World Ocean Day Celebration – Washington, D.C. and Online

Join Coastal America and Partners, June 8, 2012 in Washington, D.C. for a day of events celebrating our oceans. Explore the Sant Hall, watch Otter 501 and various short MPA films, help draw ocean murals with cartoonist Jim Toomey, and much more. The Living Oceans Foundation will also present two live presentations from the Galapagos; see the website to link to the webinars.

<http://www.coastalamerica.gov/>

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