

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

INFORMATION EXCHANGE FOR MARINE EDUCATORS

OCTOBER - NOVEMBER 2013

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 or unsubscribe to this list, send information to include in the newsletter, or discuss further enhancements, please contact the editor directly at phyllis.dermer@noaa.gov, or by phone at (865) 932-5074

Collected archives and issues of the newsletter, past and present, are available at <http://mpa.gov/resources/education/#exchange>.

Notable Reference

Mapping Cultural Dimensions of Marine Ecosystem Services

This report analyzes ways of increasing the visibility of cultural values in the marine spatial planning process, with the goal of improving the identification and mapping of culturally significant ocean areas. Topics include what is meant by cultural values and what are the issues, methods for identifying places of socio-cultural importance, risk assessment, mapping, and more.

<http://www.ices.dk/sites/pub/Publication%20Reports/Expert%20Group%20Report/SSGHIE/2013/WKCES13.pdf>

OPPORTUNITY OF THE MONTH

Teacher at Sea

NOAA's Teacher at Sea Program is accepting applications from full-time teachers. The program provides participants a hands-on research experience at sea, giving them insight into oceanographic, hydrographic, and fisheries research by facilitating partnerships between educators and NOAA scientists. The deadline for application is November 18, 2013.

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

PROGRAM OF THE MONTH

Engineering in Nature Challenge

ARKive and Iridescent/The Curiosity Machine are offering the Engineering in Nature Challenge, a three week program where students ages 11-14 can learn up to five different engineering concepts from the natural world and test their skills through invention. Teachers will be offered support through weekly Google Hangouts, while each student will be paired up with a scientist working in the field that will offer advice and feedback on the student's work.

<http://blog.arkive.org/2013/10/the-engineering-in-nature-challenge/>

WEBSITE OF THE MONTH

Texas Aquatic Science

Texas Aquatic Science is a comprehensive aquatic science curriculum, from molecules to ecosystems and headwaters to ocean, for middle school and high school students. The free curriculum consists of an online student textbook, a teacher guide, specially produced videos, and supplementary materials. Additional information offers career examples, aquatic science short stories, and much more. There are 14 online chapters for the student guide, and 78 corresponding activities in the teacher guide

<http://www.tpwd.texas.gov/publications/learning/aquaticscience/index.phtml>

MESSAGE FROM THE BRIDGE

Bridge Website Survey

The Bridge website is due for a redesign. Help make sure the new Bridge continues to meet your needs.

https://wmsurveys.qualtrics.com/SE/?SID=SV_5uKdBID2ckn2wQJ

REQUESTS

Informal Educator Professional Development Survey

NASA is looking for input from interpreters and informal educators. NASA's Informal Education Working Group has developed a survey to assess the science, technology, engineering, and mathematics resource and professional development needs of informal educators. The results of the survey will help NASA's Science Mission Directorate Education and Public Outreach community better meet those needs and plan future opportunities for the informal education community. The deadline for input is November 15, 2013.

<https://www.surveymonkey.com/s/InformalEd>

GRANTS AND OPPORTUNITIES

America's Home Energy Education Challenge

Teams of students from grades 3–8 can compete to save energy and win prizes. Students will learn about energy, create a plan to reduce their household's energy consumption, and implement those strategies. The deadline for registration is November 15, 2013.

<http://homeenergychallenge.org/Default.aspx>

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, 2013.

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

California Whale Tail Grants

The California Coastal Commission's Whale Tail Grants Program is accepting proposals for coastal and marine education projects. The program supports marine science education and projects encouraging people to value and take action to improve the health of California's marine and coastal environments. There is a new special subcategory for projects addressing climate change and/or ocean acidification. Emphasis is on reaching underserved students or members of the public. The deadline for application is November 1, 2013.

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

Celebrate Urban Birds Mini-grants

Celebrate Urban Birds Mini-grants help fund creative bird-related neighborhood events. All mini-grant applicants are offered materials and training to support their events (even if their proposals are not funded). The deadline for application is December 31, 2013.

<http://celebrateurbanbirds.org/community/minigrants/articles-tab/>

Cornell Douglas Foundation Grants

The Cornell Douglas Foundation provides grants to nonprofit organizations that advocate for environmental health and justice, encourage stewardship of the environment, and further respect for sustainability of resources. Areas of interest include resource sustainability and watershed protection. Applications are accepted year-round.

<http://www.cornelldouglas.org/apply/>

Domestic Coral Reef Conservation Grants

The NOAA Coral Reef Conservation Program announces the Domestic (U.S.) Coral Reef Conservation Grants competition for FY14. These awards are intended to support coral reef conservation projects in shallow water coral reef ecosystems, including reefs at mesophotic depths, in American Samoa, the Commonwealth of the Northern Mariana Islands, Florida, Guam, Hawaii, Puerto Rico, the U.S. Virgin Islands,

and coral-dominated banks in U.S. portions of the Gulf of Mexico. The deadline for submission is January 8, 2014. Search for CFDA number 11.482.

<http://www.grants.gov/web/grants/search-grants.html>

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 the environment, alternative sources of energy, robotics, and more. The deadline for team registration is January 15, 2014.

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

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 leadership and innovation in Earth science education. The deadline for application is January 10, 2014.

<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 December 4, 2013.

<http://science.energy.gov/wdts/einstein/>

Fulbright Distinguished Awards in Teaching Program

The Fulbright Distinguished Awards in Teaching Program provides funding for highly accomplished U.S. primary and secondary level teachers to take part in an intensive professional development program for three to four months abroad. The deadline for application is December 15, 2013.

<http://fulbrightteacherexchange.org/us-teachers>

General Environmental Education Grants – Wisconsin

The Wisconsin Environmental Education Board is seeking proposals for the 2014-2015 grant cycle. The deadline for submission is February 15, 2013.

<http://www.uwsp.edu/cnr-ap/weeb/Grant-Program/general/Pages/default.aspx>

GIS Day Poster Competition - Georgia

The GIS Day Poster Competition is designed to help support and encourage students in the Coastal Georgia region who utilize GIS as a major field of study or as a specialized software tool to further develop and enhance degree or certificate goals. Each entry should be a poster that summarizes a research project using GIS. The deadline for entry is November 8, 2013

<http://www.gisdaysavannah.org/2013/09/12/gis-poster-scholarship-competitio/>

Hesselbein Institute Ambassador Scholarship

The American Management Association and the Hesselbein Leadership Institute offer the Ambassador Scholarship. The scholarship provides one year of intellectual resources and opportunities to assist participants to be the strong leaders today who will lead the organizations of the future. The deadline for application is November 29, 2013.

<http://www.hesselbeininstitute.org/collaboration/ama/index.html>

Hollings Undergraduate Scholarship Program

NOAA's Ernest F. Hollings scholarship program provides undergraduates with awards that include academic assistance for full-time study; a 10-week, full-time internship position during the summer at a NOAA or partner facility; and, if reappointed, academic assistance during a second academic year. The internship provides hands-on, multi-disciplinary educational training experience involving students in NOAA-related scientific, research, technological, policy, management, and education activities. The deadline for application is January 31, 2014.

http://www.oesd.noaa.gov/Hollings_info.html

Honors Research Program

The Honors Research Program brings a small group of honors-level high school students to the University of Rhode Island's Graduate School of Oceanography and to E/V *Nautilus* and STS *Bodrum* for 1-2 weeks during the summer and fall. Students work with scientists and engineers to learn about oceanography, data visualization techniques, and the scientific research process. After completing a research project on shore based on data collected by *Nautilus*, students participate in sea-going expeditions. The deadline for application is February 7, 2014.

<http://www.oceanexplorationtrust.org/#!/honors-research-program/ca78>

IGES Art Contest

The theme of the 2013 Art Contest from the Institute for Environmental Strategies is Animal Collections. See the website for complete details along with helpful resources. The deadline for submission is November 18, 2013.

<http://strategies.org/education/student-contests/art-contest/2013-animal-collections/>

Innovation Math Challenge

The Innovation Math Challenge is for educators, student teams, gamers, programmers, and anyone who has a great idea to create fun and engaging math educational media. WGBH Educational Foundation is seeking up to 100 educational media digital resources (videos, games, interactives, infographics, and manipulatives) that are directed towards middle school students and loosely aligned with the Common Core State Standards for Mathematics. WGBH is looking for content that engages a wide range of students by reflecting a wide range of culturally responsive perspectives and learning styles. Digital resources should be engaging, rich in content and context, and go beyond strictly procedural teaching. The deadline for entry is November 22, 2013.

<http://www.wgbh.org/support/innovationfund.cfm?>

International Coral Reef Cooperative Agreements

The Coral Reef Conservation Program is accepting applications for two-year cooperative agreements focused on building international capacity for the effective ecosystem-based management of coral reef ecosystems, particularly in support of regional ocean governance initiatives in priority international regions. Search the website for CFDA Number 11.482 for full details. The deadline for pre-application is December 6, 2013.

<http://www.grants.gov/web/grants/search-grants.html>

Marine Career Scholarships

Beneath The Sea offers Sea of Tomorrow Society's Scholarships to young people 13-30 to provide financial assistance and encouragement to those who are interested in

pursuing a marine-related career path. The deadline for application is December 31, 2013. See the website for complete details about several different opportunities.

<http://www.beneaththesea.org/scholarships/44619>

Mission Exploration Sweepstakes

Children ages 6-14 are invited to enter National Geographic's Mission Exploration Sweepstakes for the chance to win an exploration-themed prize package. Enter daily; the contest ends December 20, 2013.

<http://kids.nationalgeographic.com/missionexploration/>

Multicultural Initiative in the Marine Sciences: Undergraduate Participation

The Shannon Point Marine Center, with funding from the National Science Foundation, invites applications for the Multicultural Initiative in the Marine Sciences: Undergraduate Participation (MIMSUP), a program designed to increase diversity within the next generation of marine scientists. Applicants should be currently enrolled in a 4-year college or university. The deadline for application is November 8, 2013.

<http://www.wvu.edu/mimsup/>

N-Vision a Brighter Future School Grant

This grant is awarded to schools that exhibit creativity in Science, Technology, Engineering, and Math (STEM) education. The deadline for application is November 15, 2013.

<http://www.westinghousenuclear.com/Community/EducationalGrants.shtml>

National Geographic Bee

The National Geographic Bee is designed to encourage the teaching and study of geography in grades 4-8. The deadline for registration is December 13, 2013.

<http://www.nationalgeographic.com/geobee/>

National Leadership Grants for Museums

National Leadership Grants for Museums support projects that address current and future needs of the museum field and that have the potential to advance practice in the profession so that museums can improve services for the American public, including promoting the use of technology to facilitate discovery of knowledge and cultural heritage. Note that the grant definition of museum includes aquariums, nature centers, and much more. The deadline for application is December 2, 2013.

http://www.ims.gov/applicants/2013_nlg_museums_guidelines.aspx

National Recreation Trails Photo Contest

This annual contest, sponsored by American Trails, seeks to highlight the diversity of the National Recreation Trails and to make more Americans familiar with these resources.

The deadline for entry is December 15, 2013.

<http://americantrails.org/nationalrecreationtrails/photocon.html>

National Wetlands Awards

The National Wetlands Awards recognize individuals who have demonstrated extraordinary effort, innovation, and excellence in the area of wetlands preservation. The education and outreach award is presented to a teacher, nonprofit staffer, state/local government employee, or reporter involved in hands-on wetland education.

Be sure to check out the other categories. The deadline for nomination is December 4, 2013.

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

Nautilus Patch Design Contest

The Ocean Exploration Trust offers the Nautilus Patch Design Contest for youth ages 6-14. Design a patch to be worn by Dr. Robert Ballard's Corps of Exploration aboard the EV *Nautilus* as they sail the Gulf of Mexico and the Caribbean Sea. The deadline for submission is February 14, 2014.

<http://www.oceanexplorationtrust.com/#!/nautilus-patch-contest/c1m6z>

Ocean 180 Video Challenge

The Florida Center for Ocean Science Education Excellence (COSEE Florida) invites ocean scientists to share 3-minute video abstracts detailing their research and its importance. Videos must be based on a recent peer-reviewed publication in ocean science fields. The deadline for submission is December 1, 2013.

<http://www.ocean180.org/>

Ocean Acidification XPrize

Philanthropist Wendy Schmidt has teamed with the XPrize Foundation to create the Ocean Health XPrize, a competition that challenges teams from to create pH sensor technology that will affordably, accurately, and efficiently measure ocean chemistry from its shallowest water to its deepest depths.

<http://oceanhealth.xprize.org/>

Ocean Pals Poster Contest

Beneath the Sea's Ocean Pals Poster Contest for Children is an environmental education-through-art program encouraging young people to become aware of and share their concerns for the marine environment through poster art. This year's poster theme is *Pollution Hurts - Octopus at Risk!* The deadline for entry is December 22, 2013.

<http://www.beneaththesea.org/OpenRosters/ViewOrgPageLink.aspx?LinkKey=44617&orkey=2657>

President's Environmental Youth Awards

Sponsored by the EPA, the President's Environmental Youth Awards program recognizes young people for projects which demonstrate their commitment to the environment. The program is available to K-12 individuals, classes, and youth groups. Awards are presented in each of the EPA regions, and one project from each region is presented with a national award. The regional deadline for application is December 31, 2013.

<http://www2.epa.gov/education/presidents-environmental-youth-award>

Prudential Spirit of Community Awards

The Prudential Spirit of Community Awards honor young people in grades 5-12 for outstanding volunteer service to their communities. The deadline for application is November 5, 2013.

<http://spirit.prudential.com/view/page/soc>

River of Words Art and Poetry Contest

River of Words is an international environmental poetry and art project open to youth ages 5-19, designed to nurture respect and understanding of the natural world. The

deadline for entries from the U.S. is December 1, 2013; for international entries, February 1, 2014.

<http://www.stmarys-ca.edu/center-for-environmental-literacy/art-poetry-contest>

Royal Bank of Canada Blue Water Project Grants

The Royal Bank of Canada Blue Water Project Grants focus on watershed protection and/or access to safe drinking water. Grants are available to local, regional, national or trans-border organizations for projects in any of the countries in which the bank is located, including Canada, the United States, the Caribbean, and the United Kingdom. The deadline for application for Leadership Grants is December 20, 2013; the deadline for Community Action Grants is February 3, 2014.

<http://www.rbc.com/community-sustainability/apply-for-funding/guidelines-and-eligibility/blue-water-project.html>

SeaWorld & Busch Gardens Conservation Fund

The SeaWorld & Busch Gardens Conservation Fund supports projects in species research, habitat protection, animal rescue and rehabilitation, and conservation education. The deadline for application is December 1, 2013.

<http://www.swbg-conservationfund.org/grantInfoA.htm>

Shell Science Lab Challenge

NSTA and Shell support NSTA's Shell Science Lab Challenge, a competition for middle and high school teachers that awards laboratory resources and other prizes to school districts nationwide. Entries will be judged on the basis of several criteria, including uniqueness, creativity, and a replicable approach. The deadline for submission is December 20, 2013.

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

Shell Science Teaching Award

A partnership between Shell Oil Company and the National Science Teachers Association, the Shell Science Teaching Award recognizes one outstanding classroom teacher (grades K-12) who has had a positive impact on his or her students, school, and the community through exemplary science teaching. The deadline for application is November 8, 2013.

<http://www.nsta.org/about/awards.aspx#shell>

STEAM Communication Fellowship Program

The Ocean Exploration Trust's STEAM Communication Fellowship Program immerses formal and informal educators in the Nautilus Corps of Exploration and empowers them to bring ocean exploration - specifically in the fields of science, technology, engineering, art, and mathematics (STEAM) - to a global audience via the Nautilus Live website. Fellows share accounts of ocean science, expedition operations, and daily life with audiences through live audio commentary and question-and-answer sessions from aboard the ship. The deadline for application is December 13, 2013.

<http://www.oceanexplorationtrust.org/#!/educators-at-sea/cb0>

Sustainable Seas Art Contest

Students in grades K-12 are invited to participate in a Sustainable Seas art contest sponsored by JASON Learning, the North American Marine Environmental Protection Association, and the U.S. Coast Guard. Participants create a poster about one specific

thing people could do to create healthier, more sustainable seas. The deadline for entry is February 28, 2014.

<http://www.jason.org/contest/2013-2014-sustainable-seas-art-contest>

Temper of the Times Foundation Funds

Temper of the Times Foundation provides grants to nonprofit organizations for wildland ecosystem advertising campaigns. Projects should lead to measurable outcomes for wildland ecosystem conservation and restoration in the United States. Grants may be used to fund the production of print, radio, or television ads; pay for advertising space or airtime; or produce or distribute pamphlets, books, videos, or press packets. The deadline for application is December 15, 2013.

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

Undergraduate Educational Partnership Program Scholarships

The goal of the Educational Partnership Program is to increase the number of students from underrepresented communities who are educated, trained, and graduated in fields that directly support NOAA's mission. The deadline for application is January 31, 2014.

http://www.epp.noaa.gov/ssp_undergrad_page.html

Walmart Foundation Local Giving Programs

The Walmart Foundation supports charitable organizations through its Local Giving Program. Eligible organizations include K-12 public schools/districts, charter schools, community/junior colleges, and others. The deadline for application is December 1, 2013.

<http://foundation.walmart.com/apply-for-grants/local-giving>

Westinghouse Charitable Giving

Westinghouse provides grants to nonprofit programs that support science, technology, engineering, and mathematics education, environmental sustainability, and community vitality, encouraging programs that meet the needs of the disadvantaged, the young, and those with disabilities. Programs must be located within 100 miles of a Westinghouse site. Applications are accepted year-round and reviewed four times per year; the next review will be in January, 2014.

http://www.westinghousenuclear.com/Community/Charitable_Giving/

Women Divers Hall of Fame Scholarships and Training Grants

The Women Divers Hall of Fame is a nonprofit organization dedicated to honoring and raising awareness of the contributions of outstanding women divers. The organization awards scholarships and training grants that provide financial and educational support to individual, particularly those who are preparing for professional careers that involve diving. The deadline for application is November 23, 2013.

<http://www.wdhof.org/scholarships/scholarships.shtml>

World of 7 Billion Video Contest

The World of 7 Billion video contest challenges students to create a short (60 seconds or less) video illustrating the connection between world population at seven billion and one of the following: climate change, global poverty, or water sustainability. The deadline for submission is February 21, 2014. Check the website for activities for middle and high school classrooms.

<http://www.worldof7billion.org/>

Young Reporters for the Environment Competition

The Young Reporters for the Environment Competition is hosted by the National Wildlife Federation. Students aged 13-18 investigate an environmental issue in their community and report on it in writing, photos, or video. The deadline for submission is March 15, 2014.

<http://www.nwf.org/Young-Reporters-for-the-Environment/About-Young-Reporters/Join-the-Competition.aspx>

Youth Leadership Grants

Starbucks Foundation is interested in supporting organizations that equip young people ages 15-24 in Business Savvy, Social Conscience, and Collaborative Communication; engaging others in an inclusive manner across teams, functions and cultures; and the ability to leverage new and creative ways of communication. The deadline for submission of a Letter of Inquiry is December 15, 2013.

<http://www.starbucks.com/responsibility/community/youth-action/grant>

Youth Making Ripples Competition

The Beneath the Waves - Youth Making Ripples Film Competition accepts submissions from students throughout the United States. Films should be less than 5 minutes on a marine topic of their interest. Student films will debut at the Beneath the Waves Festival on January 18, 2013. The deadline for submission is December 1, 2013, check back often as the website is still under construction.

<http://www.beneaththewavesfilmfest.org/how-to-submit/>

INTERNSHIPS AND TEMPORARY OPPORTUNITIES

Coastal Studies for Girls - Maine

Coastal Studies for Girls is a residential marine science and leadership semester school just for 10th grade girls, located on the coast of Freeport, Maine. The program offers hands-on marine and environmental science and outdoor leadership adventures in the classroom, laboratory, and along the coast.

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

Engaging Educators Program

SeaTrek BVI's Engaging Educators program aims to provide middle and high school teachers with compensated opportunities to participate in SeaTrek's scuba, sailing, and marine science adventures in the British Virgin Islands, July 30-August 12, 2014.

Classroom teachers join SeaTrek staff to provide guidance and instruction. Learn content and skills relevant to marine science, cultural studies, conservation, scuba diving, and sailing. The deadline for application is May 1, 2014; see the website for complete details.

<http://www.seatrekbvi.com/about-seatrek/engaging-educators/>

Onboard Education Officer/Teacher at Sea

Apply for Education Officer positions on board the R/V *JOIDES Resolution* for three expeditions in 2014. The JR is dedicated solely to scientific ocean drilling. While on board, participants will work in the labs, meet scientists from around the world, coordinate blogs and social media postings, and facilitate live ship-to-shore interactions with classrooms and teacher groups across the globe. The deadline for application is November 22, 2013.

<http://joidesresolution.org/node/453>

CONFERENCES, WORKSHOPS, AND PROFESSIONAL DEVELOPMENT

Apps for Marine Conservation - Online

The Ecosystem-Based Management Tools Network is will host a webinar on Apps for Marine Conservation, November 6, 2013. The app is an extension of Whale Alert built for the Stellwagen Bank National Marine Sanctuary using mobile, web, and crowdsourcing technology. Please register in advance.

<https://www1.gotomeeting.com/register/273311416>

Aquarium Lecture Series - Massachusetts

The New England Aquarium offers a free lecture series in Boston, Massachusetts; registration is requested. Upcoming lectures cover sea-level changes, ocean stewardship showcase, and more. Archived lectures are available online through WGBH.

http://www.neaq.org/education_and_activities/programs_and_classes/aquarium_lecture_series/index.php

Ask NICE Educator Professional Development Series - Online

NASA's Innovations in Climate Education (NICE) offers an educator professional development series on the third Thursday of each month this fall. Upcoming webinars include:

- Climate Change Summary: What We Know and How We Know It – November 21, 2013
- Impacts of Climate Change/The GLOBE Program: Green-Up – January 16, 2013

Others will be announced in the future. Check out the additional resources on the website.

<https://nice.larc.nasa.gov/node/52>

Climate Change - Online

The American Museum of Natural History is looking for 100 science teachers to participate in the Seminars on Science Climate Change program. Each participant will receive a stipend to offset the cost of completing this online course.

<http://www.amnh.org/learn/climate>

Climate Change Messaging Workshop for Informal Educators – North Carolina

This free introductory workshop from the National Network for Ocean and Climate Change Interpretation, December 12, 2013 in Kure Beach, North Carolina, is offered to informal science educators interested in strategic framing and climate change communication. The workshop will introduce participants to elements of strategic framing – a research-based approach to communications that helps to engage audiences in thinking productively about how they can participate in creating or supporting solutions to important issues of our time. Space will be limited to the first 25 registered.

<https://reservations.ncaquariums.com/fortfisher/Info.aspx?EventID=29>

Estuaries 101 Middle School Curriculum Teacher Workshop - Georgia

The National Estuarine Research Reserve (NERR) System has developed an on-line curriculum for Middle School and will host a workshop introducing the curriculum and highlighting three activities related to sharks, tides, and oyster restoration, November 22, 2013 in Brunswick, Georgia. E101 is a multimedia curriculum focusing on the theme, *Estuaries & You*. The curriculum is designed to facilitate teacher and student understanding of the key principles and fundamental concepts of estuarine ecology and to foster understanding of the role estuaries play in the lives of humans and other organisms.

Contact Georgia Graves at georgiabeachwalk@bellsouth.net

Gulf Coast Research Laboratory Professional Development – Mississippi

The University of Southern Mississippi offers a variety of workshops this fall and next spring. Most workshops consist of one or two days with a field trip during multi-day workshops. Participants receive continuing education credit, a stipend, and classroom resources appropriate to the workshop content. Upcoming workshop topics include watershed experience, oil spill science, marsh ecology, and more.

<http://www.usm.edu/gcrl/mec/teacher.professional.development.php>

International Marine Conservation Congress

The call for proposals for symposia, workshops, and focus groups is now open for the 3rd International Marine Conservation Congress, *Making Marine Science Matter*, August 14-18, 2014 in Glasgow, Scotland. Congress themes include Climate, ocean acidification, and the changing oceans; Communicating marine conservation; and more. The deadline for submission is November 15, 2013.

<http://www.conbio.org/mini-sites/imcc-2014/registration-participation/symposia-workshops>

Master of Environmental Management Program - Online

The Nicholas School of the Environment at Duke University offers the Duke Environmental Leadership Program, a two-year online Master of Environmental Management degree, with strategically integrated intensive on-campus visits. Check the website for information sessions. The deadline for application is February 1, 2014.

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

Microbes Down Below! - Online

The Center for Dark Energy Biosphere Investigations (C-DEBI) and the College of Exploration invite you to explore life on the dark side in a free online workshop. Designed for community college instructors and high school teachers, Microbes down below! Exploring life beneath the ocean floor, will take place November 4-15, 2013.

<http://www.coexploration.org/C-DEBI/>

NSTA Conferences on Science Education - Various

National Science Teachers Association conferences offer science content, teaching strategy, and more. Each year NSTA hosts a national conference on science education, three area conferences, and a STEM Forum & Expo. Upcoming conferences (and their deadlines for presentation submission) are:

- Boston, Massachusetts April 3-6, 2014 - National (deadline has passed)
- Chicago, Illinois March 26-29, 2015 – National (April 15, 2014)
- New Orleans, Louisiana May 14-17, 2014 – STEM Forum & Expo (December 2, 2014)

- Richmond, Virginia October 16-18, 2014 (January 15, 2014)
- Orlando, Florida November 6-8, 2014 (January 15, 2014)
- Long Beach, California December 4-6, 2014 (January 15, 2014)

<http://www.nsta.org/conferences/sessions.aspx>

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. Seminars may be archived and available for viewing after the live event has occurred. Check out the upcoming seminars, including Weather and Climate: Satellite Meteorology; Meteorology: How Clouds Form; and more.

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

Ocean Exploration Workshop – Washington

NOAA's Ocean Exploration Program and partners offer the Okeanos Explorer Education Materials Collection Why Do We Explore? Professional Development Workshops for Educators, December 14, 2013 with Seattle Aquarium in Seattle, Washington. The deadline for application is November 22, 2013. Participants will receive curriculum with CD-ROM's, certificates of participation, and more.

Contact Dan Newburn at d.newburn@seattleaquarium.org.

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

Seminars on Science - Online

Registration is open for the Fall and Spring sessions of Seminars on Science from the American Museum of Natural History. Courses are co-taught by an experienced classroom teacher and a research scientist. Upcoming courses include Climate Change, Earth: Inside and Out, The Ocean System, and more. See the website for course dates, registration, and discount deadlines.

<http://www.amnh.org/learn/calendar>

Water: The Essential Resource - Online

National Geographic Education and Annenberg Learner will offer this free online teacher professional development course October 9-December 11, 2013 (note that the course has already started). Designed for 4th -8th grade teachers, the course will focus on ocean and freshwater systems and incorporating strategies for teaching environmental topics.

<http://www.eeipd.org/course>

World Parks Congress

The IUCN World Parks Congress is a global forum on protected areas held every ten years; the next meeting will be held November 12-19, 2014 in Sydney, Australia. NOAA's Office of National Marine Sanctuaries and the National Marine Protected Area Center, in partnership with WCPA-Marine and the Great Barrier Reef Marine Park Authority, have agreed to lead the effort to develop the Marine Protected Area (MPA) Cross-Cut Theme for the conference and have committed to holding at least one marine-focused session per each of the main eight streams, capacity building events, and more.

http://www.iucn.org/about/work/programmes/gpap_home/gpap_events/gpap_wpc/

EDUCATIONAL RESOURCES

Aquapedia

The Water Education Foundation offers Aquapedia.com, an interactive online water encyclopedia that provides information on topical water issues. Resource articles are vetted by the Water Education Foundation and supplemented with photos, graphics, videos, maps and other online tools.

<http://aquapedia.com/>

Biodiversity Research and Teaching Collections

The Texas A&M Biodiversity Research and Teaching Collections is one of several natural history collections within the Texas A&M system. The collections include fishes, amphibians, reptiles, birds, mammals, parasites, and marine invertebrates. Specimen data can be located through a search engine.

<http://brtc.tamu.edu/>

Bob the Drifter

The Consortium for Advanced Research on Transport of Hydrocarbon in the Environment is a research team dedicated to predicting the fate of oil released into the environment to help inform and guide response teams. They teamed up to produce this short YouTube video about Bob the Drifter. Follow along with Bob as he moves throughout the Gulf of Mexico, providing information to the scientists so they can predict where the currents may take the spilled pollutants, larvae, and more.

<http://www.youtube.com/watch?v=gysyr2lqwFs>

California Coastal Geoportal

The California Ocean Protection Council offers the California Coastal Geoportal which provides a user-friendly website for finding high priority coastal and marine datasets. The collection includes aerial photos, a map gallery, coastal habitats, and more, and includes links to the data sources.

<http://portal.gis.ca.gov/geoportal/catalog/main/home.page>

Climate Change: Connections and Solutions.

Facing the Future offers this free two-week curriculum unit for middle school and high school which encourage students to think critically about climate change and collaborate to devise solutions. Students learn about climate change within a systems framework, examining interconnections among environmental, social, and economic issues.

<https://www.facingthefuture.org/Curriculum/PreviewandBuyCurriculum/tabid/550/List/1/CategoryID/16/Level/a/Default.aspx#.UmbDNBCRh8k>

Climate Change Teacher Resources

Windows to the Universe provides interlinked learning resources that support a variety of topics, including online content for browsing or to support an introductory online course on climate change, teacher professional development resources, classroom activities, and online interactives.

http://www.windows2universe.org/teacher_resources/climate.html

Climate: Seas of Change

In JASON Learning's new curriculum, *Climate: Seas of Change*, students model science and engineering practices as they investigate and analyze the forces that shape and change climate. Students work alongside JASON Host Researchers as they explore the

nature and importance of Earth's ocean; investigate how energy flow in the Earth system creates global winds and surface currents and influences climate; investigate the causes and impacts of climate change; and learn how scientists are working to predict Earth's climate future. The materials include research articles, inquiry-based activities, and more. The curriculum provides at least five weeks of material with suggested lesson plans, assessments, extensions, interdisciplinary connections, and other educator resources.

<http://www.jason.org/curriculum/climate-seas-of-change>

ClimateChange LIVE! – Resources and Online Webinars

The U.S. Forest Service and partners offer this website to bring climate learning to you through a series of webcasts, webinars, and online climate education resources. The materials include climate education resources and programs gathered from 17 federal agency and NGO partners. The National Wildlife Federation is hosting a series of six webinars in connection with the ClimateChange LIVE! materials; you may register for one or more webinars at a time.

<http://climatechangelive.org/>

Conservation in Action

ARKive has launched a new campaign, Conservation in Action: 10 species on the road to recovery, to celebrate ARKive's 10th anniversary and highlight ten very different species to be ambassadors for conservation. Each species has been put on the road to recovery thanks to targeted conservation efforts, and all are expected to improve in status over the next ten years should this work continue.

<http://www.arkive.org/conservation-in-action/#conservation-in-action>

Coral Cores: Ocean Timelines

The Flower Garden Banks National Marine Sanctuary offers Coral Cores: Ocean Timelines, exploring coral growth rings. The website offers an updated educational activity, giving students and teachers an opportunity to interpret x-rays of coral cores for growth patterns and changes.

<http://flowergarden.noaa.gov/science/coralcores.html>

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

A Day in the Deep

A Day in the Deep is a children's book for ages 4-9, is written by Kevin Kurtz and published by Sylvan Dell. It can be previewed (in English and Spanish) from the website. Additional materials include teaching activities, quizzes, links to related websites, and more.

<http://www.sylvandellpublishing.com/bookpage.php?id=DayDeep>

Digital Preservation Tools Showcase

The National Digital Information Infrastructure and Preservation Program works with the Library of Congress to craft solutions to the problems facing a wide array of digital management initiatives across different sectors. Part of their work includes compiling a list of helpful tools for persons within the digital preservation community. Sortable categories include Tool Type, Usage, and more. Visitors will find a brief description, information about the intended user audience, and the basic function of each resource.

<http://www.digitalpreservation.gov/tools/>

Educational Uses of Digital Storytelling

Digital storytelling utilizes computer-based tools to tell stories. This website offers a primer on digital storytelling, examples, and news. The Educational Materials area contains a lesson plan, information about copyright infringement, a Digital Storytelling Teaching Guide, and more.

<http://digitalstorytelling.coe.uh.edu/>

Fish Forever Videos

The Fish Forever video series includes ten 3-minute videos for students and the same 10 topics as 5-minute videos for fishermen. Titles include Tagging Jacks, From the Bottom Up, and more. Many are available on the Western Pacific Fishery Council YouTube website

http://www.youtube.com/user/wpcouncil/videos?sort=dd&shelf_index=0&view=0

FishWatch

FishWatch provides easy-to-understand science-based facts to help consumers make smart sustainable seafood choices. This short introductory video introduces the program and the topic of sustainability. Additional website resources include fish profiles, news, recipes, and more.

http://www.fishwatch.gov/features/fishwatch_video.html

Fostering Sustainable Behavior

Fostering Sustainable Behavior: An Introduction to Community-Based Social Marketing describes effective strategies for getting people to change very specific environmental behaviors. While focusing on positive details of information, incentive, commitment, and community that can entice folk to do the right thing, the book also looks at barriers to behavior change. The book can be read online. Check out the website for additional resources.

<http://www.cbsm.com/pages/guide/preface/>

Gulf of Mexico Projects Map

The Gulf of Mexico Alliance offers this map that allows users to view restoration and research projects in progress across the Gulf. Additional sources will data mined and their projects will be added.

<http://goma-projects.blueurchin.com/?news>

Halloween Fun

Check these out for your Halloween celebrations. EEinGeorgia has a listing of different scary creatures – from plants to insects to monsters. The Pinterest webpage offers pictures of the Red-lipped Batfish, Zombie Worm, Bloodybelly Comb Jelly, and many more. The Crowdsourcing page offers additional names along with some links to videos or other multimedia.

<http://www.pinterest.com/coast4u/spooky-ocean-pins/>

<http://linoit.com/users/BiologyBennett/canvases/Creepy%20Creatures%20Crowdsourcing>

<http://eeingeorgia.org/resource/about.aspx?s=14267.0.0.4863>

Illustrating Fishes Fishinar

This free webinar from REEF, You do WHAT for a living? Illustrating Fishes by Marine Science Illustrator, Val Kells, November 13, 2013, will not show you how to paint your favorite fish. Val will describe the process she goes through to illustrate her books and

how she got started and will include behind-the-scenes photos to help teach the finer points of identifying fish and invertebrates underwater. Free registration is required.
<http://www.reef.org/resources/fishinars>

Into the Dead Zone

EarthEcho Expedition: Into the Dead Zone explores the global issue of aquatic dead zones using the Chesapeake Bay as a model system. Follow along with Philippe Cousteau, Jr. and his Expedition Team while addressing ecosystem function, the hydrologic cycle, biodiversity, and more. The website offers lesson plans; service-learning curriculum; and more.
<http://www.earthecho.org/programs/earthecho-expeditions/>

ISTEM: Lesson Plans

The Indiana STEM Network website offers student centered, experiential, and investigatory learning based lesson plans for all STEM subject areas and grade levels. Check out It's Lonely at the Top (food web), What Orbital Dynamic Variables are Responsible for Earth's Weather? and more.
<https://www.istemnetwork.org/resource/educational/lesson.cfm>

M-EOL: a Biodiversity Game

This free mobile app is the winner of the EOL (Encyclopedia of Life) Education Innovation Challenge. Become an explorer, discovering different plant and animal species by traveling around the world. Earn points as you journey by answering questions about which species live on the continents that you visit. Each level of the game provides different collections of species, and earning points will unlock new collections. Improve your knowledge about each species through descriptions, images, distribution information, and conservation status from the Encyclopedia of Life website.
<https://itunes.apple.com/us/app/meol/id679021914?mt=8>
<https://play.google.com/store/apps/details?id=eu.NaturalSolutions.Meol>

Microbial Lessons

The 2013 EARTH workshop was held at the University of Hawai'i and teachers presented various lessons focused on microbes. The lessons are still in rough draft form but can be found at this link.
<http://www.mbari.org/earth/2013/schedule13.htm#Friday>

Modeling And Simulation Tools For Education Reform

The Shodor Education Foundation is a non-profit education and research corporation dedicated to the reform and improvement of mathematics and science education by the incorporation of appropriate computational and communication technologies. This website provides educational tools that help students and teachers learn through observation and modeling activities. Tools include Environmental Models, SimSurface, and more.
<http://www.shodor.org/master/>

National Marine Sanctuaries: Experience California Mobile App

The National Marine Sanctuaries: Experience California mobile app covers more than 8,600 square miles of federally protected ocean and coastal waters stretching from Big Sur to the Farallon Islands, including Monterey Bay, San Francisco, and Santa Barbara. Educational resources include information about the sanctuaries and features a searchable encyclopedia, glossary, and photo galleries.

<https://itunes.apple.com/us/app/national-marine-sanctuaries/id665924513>

National Water Trails System

National Water Trails can increase access to water-based outdoor recreation, encourage community stewardship of waterways, and promote tourism. This website offers an overview of the system along with links to the National Park Service National Water Trails website, related sources, and more.

<http://www.americantrails.org/resources/water/National-Water-Trails-overview.html>

Native American Heritage Month from the Scout Report

The Scout Report from the University of Wisconsin is celebrating November as Native American Heritage Month with links to a variety of pertinent resources.

<https://scout.wisc.edu/report/2013/1018>

Nautilus Live

Follow along as Educators at Sea, students, and researchers sail aboard E/V *Nautilus* and other research vessels during expeditions in the Gulf of Mexico, Caribbean Sea, and Mediterranean Sea. Watch live streaming events, check out the learning resources, play interactive games, and more. From November 1–18, 2013, the Nautilus will explore the Kick'em Jenny Volcano and Trinidad Tar Seeps.

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

Ocean Frontiers Film

Ocean Frontiers II: A New England Story for Sustaining the Sea premiered in Providence, Rhode Island. You are invited to request a free DVD to share with your community, at work, in the classroom, and elsewhere. Fill out the Host-a-Screening Form and reserve a free DVD and screening toolkit.

<http://ocean-frontiers.org/trailer/>

Oceanplus TV

Oceanplus.tv is the WebTV of the 3rd International Marine Protected Areas Congress and focuses on marine protected areas and on marine conservation issues. It allows experts and participants to keep a record of their exchanges and watch events they were not able to attend. Among the general public, this platform aims to raise awareness of the services rendered by marine protected areas and oceans at large.

<http://www.oceanplus.tv/en/>

Polar Oral History Program

This program from Ohio State University and partners documents the early years of American polar exploration by interviewing those who were in the polar regions since the 1930s. The collection provides transcripts of these oral interviews.

<http://kb.osu.edu/dspace/handle/1811/6039>

Project FeederWatch

Those interested in citizen science can join the thousands of FeederWatchers across North America who count the birds at their feeders from November through early April. All participants receive the project's annual summary publication and the Cornell Lab's quarterly. New project participants receive a bird-identification poster, bird-feeding information, and instructional materials.

https://store.birds.cornell.edu/Project_FeederWatch_s/42.htm

Resources for Teaching Meteorology

The Sourcebook for Teaching Science offers materials for science educators in the fields of biology, chemistry, physics, and the geophysical sciences. The meteorology section links to resources for teaching meteorology from many institutions, including NOAA, the National Science Foundation, and National Geographic. The materials are divided into five areas, including The Atmosphere, Climate, and Teaching Resources. Be sure to check out other resources offered here, such as worksheets on developing a scientific vocabulary and Developing Scientific Problem Solving links.

<http://www.csun.edu/science/geoscience/meteorology/index.html>

Rutgers Ocean Days – New Jersey

Rutgers Ocean Days brings science students (grades 3-12) to New Brunswick, New Jersey April 8-11, 2014, to excite and engage students in ocean science by providing a platform for them to learn from Rutgers oceanographers and to share results from their investigations with one another and Rutgers oceanographers. See the website for complete details.

<http://coseenow.net/mare/ocean-day/>

SA Fishing Regulations Mobile App

South Atlantic Fishery Management Council offers a free mobile app for both Apple and Android users. The SA Fishing Regulations app is a searchable guide to federal fishing regulations and saltwater fish identification in the South Atlantic region of the U.S., including North Carolina, South Carolina, Georgia, and the East coast of Florida. The app includes fish identification information, recreational fishing regulations, and more.

<https://play.google.com/store/devices>

<https://itunes.apple.com/us/app/sa-fishing-regulations/id608710852?mt=8>

Science Activities and Curriculum

The Center for Coastal Margin Observation & Prediction, an NSF Science and Technology Center partnership of Oregon Health & Science University, Oregon State University, University of Washington and others, focuses on coastal margins. The website offers a collection of activities and curricula that can help you use their data resources. Check out the materials on coastal hypoxia, vertical density gradients, drifters and currents, and more. Some of the materials are available in both English and Spanish.

http://www.stccmop.org/education/k12/teacher_resources/activityarchive

Science Behind Sustainable Seafood

The NOAA Fisheries Alaska Fisheries Science Center has developed this high school curriculum, the Science Behind Sustainable Seafood. The curriculum has six lessons that illustrate the importance of responsibly managing a natural resource and how scientific information is necessary to manage it responsibly.

http://www.afsc.noaa.gov/education/Activities/sbss_module.htm

Science News for Kids

Science News for Kids is an online publication dedicated to students, their parents, and their teachers from Society for Science & the Public as a youth edition and companion to their *Science News* magazine. The website offers news stories and features accompanied by suggestions for hands-on activities, books, articles, and web resources. Major topics include Earth & Sky, Life, Tech & Math, and more. Check out the STEM

Careers, use the quick search engine for articles on marine debris and sea level rise, and more.

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

Sponge Poop Recycling

A paper published in *Science* describes how sponges are at the base of a highly efficient recycling pathway, the sponge loop. This Dutch TV YouTube video is subtitled in English and explains the transfer of energy and nutrients produced on coral reefs by sponges.

<http://www.youtube.com/watch?v=1LZX0z56zp8>

SPURS Webinars

Salinity Processes in the Upper Ocean Regional Study (SPURS) is researching the essential role of the ocean in the global water cycle through a series of cruises to explore the salinity maximum region in the Atlantic Ocean using oceanographic equipment and technology. The webinar series is archived and includes Changes in Latitude, From Sailing Ships to Satellites: Studying Salinity Through A Sensor Web, and more. Be sure to check out the Education and Outreach Resources.

<http://cosee.umaine.edu/coseeos/spurs/webinars.htm>

STEM Research and Resources

The mission of the Center for Excellence in Science, Mathematics and Engineering Education at Iowa State University is to conduct research that will create change in STEM education in K-12 schools, community colleges, and universities. Check the website for professional development workshops, latest research, and more.

<http://www.cesmee.hs.iastate.edu/>

Sustainable Seafood Curriculum

Find out how NOAA Fisheries scientists produce the information to inform responsible management of our U.S. fisheries with this new six-lesson module, Science Behind Sustainable U.S. Seafood. The lessons use real data and critically discuss real world issues surrounding how our renewable natural resources are managed. While the module is geared towards high school level, it can be simplified for middle school.

http://www.afsc.noaa.gov/education/activities/sbss_module.htm

Teaching Climate

Teaching Climate offers a searchable database of reviewed K-12 climate education resources. The resources have been reviewed by subject experts for scientific accuracy, pedagogical soundness, and usability. Topics include Climate Systems, Measuring & Modeling Climate, Human Responses to Climate, and more.

<http://www.climate.gov/teaching>

Urban EE Resources for High School Teachers

The LEAF Anthology of Urban Environmental Education is available online. The anthology is a collection of lessons and activities designed to help high school educators infuse urban environmental themes into their curriculum. Sections include Natural Cities, Human Cities, and Evolving Cities.

<http://www.nature.org/about-us/careers/leaf/resources-for-teachers/leaf-anthology-of-urban-environmental-education.xml>

Weddell Seal Population Count Activity

Have your students help field scientists monitor the Weddell seal population in McMurdo Sound, Antarctica. Using satellite images, students count the seal population over time in several traditional haul-out locations. The website has an Overview, Background Information for Teachers, Seal Count Tutorial, and the source satellite images.

<http://www.pgc.umn.edu/about/research/weddell>

WhaleNet Satellite Tagging Data

Follow along with a Gray Seal or Sea Lion through WhaleNet's Satellite Tagging, Data, Maps and Information web pages. The website offers data from over 170 data tags, along with activities, background information, and more.

http://whale.wheelock.edu/whalenet-stuff/stop_cover.html

What's the Catch? Fishing Game

This online game allows players to captain their own vessel and experience the ups and downs of commercial fishing. Players participate through several rounds of the game, with each round representing a fishing season. They try out different management approaches such as no-take areas, catch limits, trip limits, Territorial Use Rights for Fishing (TURFs) and catch shares.

<http://catchshares.edf.org/catch-share-basics/whats-catch-interactive-game>

Wings of Life Educator's Guide

DisneyNature's Wings of Life looks at butterflies, hummingbirds, bees, bats, and flowers. The educator's guide is meant to be used with the Wings of Life film and includes four lessons targeting grades 2-4, focusing on pollinators and how technology can be used to study nature. The website also offers several short video clips.

<http://nature.disney.com/wings-of-life/educators-guide>

INITIATIVES, JOURNALS, and MORE

Climate and Reefs

This website will provide a one-stop source of information about the work of the partnership project, the Australia Caribbean Coral Reef Collaboration: Managing coral reefs in a changing climate, which is tackling key issues relating to climate change and coral reefs in the Caribbean. The website will include a collection of resources showcasing the information, people, and activities that are helping to improve the outlook for the reefs of the Caribbean in a changing climate.

<http://climateandreefs.org/>

SeaSketch and TURFs

SeaSketch is an online collaborative mapping tool that enables planners, managers, and community members to contribute information about marine projects. SeaSketch allows all people, regardless of GIS experience, to contribute their ideas and comments into an interactive map platform. A current project is Discover TURFs - an interactive map that will help users visualize the locations of Territorial Use Rights in Fisheries (TURFs).

<http://www.discoverturfs.com/home.html>

Sound Waves

Sound Waves: Coastal and Marine Research News from Across the USGS explores coastal and marine research from the USGS. The newsletter contains sections such as Fieldwork, Research, Outreach, and more.

<http://soundwaves.usgs.gov/index.php>