NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION INFORMATION EXCHANGE FOR MARINE EDUCATORS NOVEMBER 2014

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://marineprotectedareas.noaa.gov/resources/education/.

NOTABLE REFERENCES

Climate Change Adaptation Roadmap

The Department of Defense is preparing to address the impacts of climate change as regards to the security of our country. Check out the introduction to the roadmap, with climate change being referred to as a "threat multiplier." http://www.acg.osd.mil/ie/download/CCARprint.pdf

Climate Change Indicators in the United States

The EPA has released the latest edition of their report, Climate Change Indicators in the United States. The report pulls together observed data on key environmental measures, including U.S. and global temperature and precipitation, ocean heat and acidity, sea level, length of growing season, and more. The report includes more than 80 maps and

graphs showing long-term trends. The website links to previous reports, a slide show, summaries, and more.

http://www.epa.gov/climatechange/science/indicators/index.html

Fisheries of the U.S. 2013

The National Fisheries Services has released its annual Fisheries of the U.S. report, detailing key fisheries statistics including landings totals for both domestic commercial and recreational fishing by species.

http://www.st.nmfs.noaa.gov/commercial-fisheries/fus/fus13/materials

Urban Protected Areas

The Nature of Cities, an online collective forum on cities as ecosystems, offers an online article on urban protected areas. The IUCN website offers a downloadable guide, Urban Protected Areas - Profiles and best practice guidelines.

http://www.thenatureofcities.com/2014/10/08/urban-protected-areas-important-for-urban-people-important-for-nature-conservation-globally/

https://www.iucn.org/about/union/secretariat/offices/usa/?14829/Urban-Protected-Areas--Profiles-and-best-practice-guidelines

CAMPAIGN OF THE MONTH

Earth Is Blue Campaign

NOAA's Office of National Marine Sanctuaries has launched the Earth Is Blue social media campaign to share the beauty and wonder of the sanctuaries with the world through powerful photos and video imagery. The sanctuary's Instagram account will share a new photo every day from across the National Marine Sanctuary System. In addition, staff will produce a video each week highlighting the resources, places, and people that make sanctuaries worth protecting.

http://sanctuaries.noaa.gov/earthisblue.html

http://instagram.com/noaasanctuaries

GRANTS AND OPPORTUNITIES

Connecting Math to Other Subjects Grants for High School Teachers

This grant funds the creation of high school classroom materials or lessons connecting mathematics to other fields. See the website for eligibility and details. Hurry - the deadline for application is November 7, 2014.

http://www.nctm.org/resources/content.aspx?id=1328

DROPS Grants - California

The Drought Response Outreach Program for Schools (DROPS) is focused on projects that reduce stormwater pollution and provide multiple benefits. All projects must include an education/outreach component that is designed to increase student and public understanding of the project's environmental benefits and the sustainability of California's water resources directly related to the project. The deadline for application is January 15, 2015.

http://www.waterboards.ca.gov/water_issues/programs/grants_loans/drops/index.shtml

Gulf Guardian Awards

The Gulf of Mexico Program is accepting nominations for the 2013 Gulf Guardian Awards. Awards are given for positive steps to keep the gulf healthy, beautiful, and productive; categories include Partnerships, Youth Environmental Education, and more. The deadline for nomination January 15, 2015.

http://www.epa.gov/gmpo/

Keep the Sea Free of Debris Art Contest

The focus of this year's NOAA Marine Debris Program's annual Keep the Sea Free of Debris Art Contest for grades K-8 is How marine debris impacts the oceans and the Great Lakes, and What you are doing to help prevent marine debris. The deadline for submission is November 17, 2014.

http://marinedebris.noaa.gov/outreach/artcontest.html

Hollings and EPP Student Scholarships

NOAA's Office of Education is accepting applications for the 2015 class of undergraduate scholars for participation in the Ernest F. Hollings and Educational Partnership Program (EPP) scholarship programs. The deadline for applications is January 30, 2015.

http://www.oesd.noaa.gov/scholarships/hollings.html http://www.epp.noaa.gov/ssp_undergrad_page.html

Laura Bush Foundation School Library Grants

The Laura Bush Foundation provides grants for school libraries to update, extend, and diversify their book and serials collections. Eligible schools have a student body where 85% or more of the students qualify for free or reduced lunches. The deadline for application is December 15, 2014.

http://laurabushfoundation.unt.edu/

Marine Debris Prevention and Removal Grants

The Marine Debris Prevention and Removal Grants Program supports locally-driven, community-based marine debris prevention and removal projects that benefit coastal habitat, waterways, and wildlife, including migratory fish. The deadline for application is November 17, 2014.

http://www.habitat.noaa.gov/funding/marinedebris.html

Mickelson ExxonMobil Teachers Academy

Nominate a teacher for the 2015 Mickelson ExxonMobil Teachers Academy, an all-expenses-paid professional development program for teachers of grades 3-5, to be held July 21-25, 2015 in Jersey City, New Jersey. Participants will learn interactive ways to inspire their students in math and science. The deadline for nomination has been extended to November 16, 2014.

http://www.sendmyteacher.com/

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. Hurry - the deadline for application is November 7, 2014. http://www.wwu.edu/mimsup/

Museum Grants

The Institute of Museum and Library Services is accepting applications in all of its museum grant programs, including Sparks! Ignition Grants for Museums, Museums for America, and more. The deadline for application for each of these programs is December 1, 2014. Be sure to check out the additional grants on the web page. http://www.imls.gov/applicants/project.aspx

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. The three categories are Learning Experiences, Community Anchors, and Collections Stewardship. Note that the grant definition of museum includes aquariums, nature centers, and much more. The deadline for application is December 1, 2014. http://www.imls.gov/applicants/detail.aspx?GrantId=22

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 1, 2014.

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 the Corps of Exploration aboard the Exploration Vessel *Nautilus* during the 2015 expedition season. The deadline for submission is January 30, 2015.

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

Ocean Exploration Opportunities

The Ocean Exploration Trust has a variety of opportunities available for students and educators to become involved in the 2015 expeditions in the Gulf of Mexico and the eastern Pacific Ocean aboard E/V *Nautilus*. The Science & Engineering Internship Program offers undergraduate and graduate student interns the opportunity to spend 2-5 weeks at sea (application deadline, January 16, 2015); the Honors Research Program is for rising high school seniors (application deadline, January 30, 2015). http://www.oceanexplorationtrust.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 My Wetlands – Water is Life! The deadline for entry is December 22, 2014. http://www.beneaththesea.org/ocean-pals/44617

P3 Design Competition for Sustainability

The EPA is seeking applications proposing to research, develop, and design solutions to real world challenges involving the overall sustainability of human society. P3: People, Prosperity and the Planet Student Design Competition for Sustainability highlights the use of scientific principles in creating innovative projects focused on sustainability. The deadline for application is December 16, 2014. http://www.epa.gov/P3/

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, 2014.

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

Raft the Grand Canyon

Apply for an all-expenses-paid raft trip, July 2-10, 2015, down the Grand Canyon with the National Center for Science Education, with a focus on evolution, climate change, deep time, and more. The deadline for application is January 5, 2015. http://ncse.com/about/excursions/teacher-scholarship

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, 2014; for international entries, February 1, 2015.

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

Think Outside the Bag Recycling Contest

K-12 students are invited to participate in a national plastic film recycling contest sponsored by SPI: The Plastics Industry Trade Association and JASON Learning. Grocery bags, product wrapping, and dry cleaning bags are recyclable but few communities do so. Students will create a poster and local campaign to convince their community to collect and recycle flexible plastic films. The deadline for submission is March 1, 2015.

http://www.jason.org/contest/2014-2015-plastic-film-recycling-contest

Toshiba/NSTA ExploraVision Competition

The Toshiba/NSTA ExploraVision science competition encourages K-12 students to imagine what technology might be like in the future. The competition also helps teacher sponsors meet many of the National Science Education Standards while letting students experience scientific process and discovery. The project deadline is January 30, 2015. http://www.exploravision.org/

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. Core areas of giving include sustainability and career opportunity. The deadline for application is December 31, 2014.

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

West Coast B-WET Funding Opportunities

NOAA's California and Pacific Northwest B-WET Programs are now accepting applications for funding. The B-WET program is an environmental education program that promotes locally relevant, experiential learning in the K-12 environment. Funded projects provide meaningful watershed educational experiences for students and related professional development for teachers, and help to support regional education and environmental priorities in their regions. The deadline for applications is November 21, 2014. Search for CFDA Number 11.429.

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

Wild for Wilderness Contest

This year's contest from the Institute for Global Environmental Strategies invites young scientists and artists, grades 2-4, to learn about preserving wilderness by taking a walk in nature, observing it, and expressing what they see or feel through art. The deadline for entry is November 14, 2014.

http://strategies.org/education/student-contests/art-contest/2014-wild-for-wilderness/

Youth Leadership Grants

The Starbucks Foundation's Youth Leadership Grant Program supports organizations that provide young people, ages 15-24, a continuum of services in developing creative approaches to address pressing concerns in their communities. The deadline for submission of Letters of Inquiry is December 15, 2014.

http://www.starbucks.com/responsibility/community/opportunity-youth/grant

Youth Research for Action Grant Competition

Youth Research for Action from WKCD will award grants for youth-designed and -led action research projects across the U.S. The competition is open to teams of public high school students nationwide, along with youth in community-based organizations. The deadline for proposal is November 26, 2014.

http://www.whatkidscando.org/new/WKCD_vouthactionresearch.html

FELLOWSHIPS, INTERNSHIPS, AND TEMPORARY OPPORTUNITIES

Boston Sea Rovers Internship – New England

The Boston Sea Rovers are currently accepting applications for the 2015 Sea Rovers Annual Summer Internship for graduating high school seniors, college freshmen, and sophomores interested in pursuing underwater careers. The internship will provide advanced dive training courses and opportunity to train with a variety of dive professionals in a broad cross section of diving environments. The deadline for application is December 1, 2015.

http://www.bostonsearovers.com/summer-internship/

Science Communication Fellowship

This fellowship program from the Ocean Exploration Trust immerses formal and nonformal 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 19, 2014.

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

CONFERENCES, WORKSHOPS, AND PROFESSIONAL DEVELOPMENT

American Trails International Trails Symposium - Call for Presentations

The Call for Presentations is now open for the 2015 American Trails International Trails Symposium, May 17-20, 2015 in Portland, Oregon. The Symposium's theme is Solutions for Success. The deadline for submission is January 9, 2015. http://americantrails.org/ee/index.php/symposium/2015-call

AMS Teacher Workshop and Share-A-Thon - Arizona

The annual American Meteorological Society Teacher Workshop and Share-A-Thon, January 3, 2015 in Phoenix, Arizona, presents educational resources, scientific tools, and research in the atmospheric and related sciences to teachers. The deadline for the low-cost registration is December 19, 2014, but check out the additional free opportunities.

http://annual.ametsoc.org/2015/index.cfm/information-for/teachers/

Communicating Climate Science Instructors' Workshop - California

The Lawrence Hall of Science, University of California, Berkeley is offering a free workshop, February 23-24, 2015 in Berkeley, California, to learn how to teach their newest college course. The Instructors' Workshop prepares faculty and others interested in teaching the Communicating Climate Science course at their institutions. Travel funds may be available.

Contact Catherine Halversen at chalver@berkeley.edu

Working Across Agency Lines - Online

The MPA Center and partners offer the free webinar, Working Across Agency Lines to Improve Visitor Use Management on United States Public Lands and Waters, November 13, 2014. It will describe the work of the Interagency Visitor Use Management Council which is developing implementation tools for assessing, planning, and managing visitor use and visitor capacity to provide a consistent approach to visitor use management, offering seamless connections between lands and waters managed by different federal agencies

https://attendee.gotowebinar.com/register/5563172956938416129

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 along with three area conferences. Upcoming conferences with open submission deadlines are:

- Reno, Nevada October 22-24, 2015
- Philadelphia, Pennsylvania November 12-14, 2015
- Kansas City, Kansas December 3-5, 2015
- Nashville National Conference, Nashville Tennessee March 31-April 3, 2016

See the website for submission deadlines. Free registration is required.

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

EDUCATIONAL RESOURCES

Aquatic Insects

This educational video on aquatic insects and stream ecology is produced with the elementary/middle school age group in mind and breaks down simple concepts about what aquatic insects are and their vitality in stream ecosystems. There are some cool facts that will keep kids' attention. For more videos, search "naturalist outreach" in the YouTube search field.

https://www.youtube.com/watch?v=-qSNXRxJWTc&feature=youtu.be

Climate Change

This website from the EPA offers a myriad of resources about climate change, including background information; laws and regulations; science and technology, and more. There are links to news, regional climate impacts, information for students, and much more

http://www.epa.gov/climatechange/

Climate Change Education Resources for the Coasts

The National Climate Assessment Coast Report highlights five key messages for climate change impact on the coast. Climate.gov offers links to educational resources addressing these issues.

http://www.climate.gov/teaching/coasts-region

Climate Explorations

Ohio Sea Grant and partners share climate information through the webinar series, Climate Explorations, a new informal education curriculum for 4-H. The curricula includes Great Lakes climate information and will be teacher-tested and rolled out to classrooms next year. Check out upcoming webinars in November and January. http://bprc.osu.edu/education/blog/topics/climateexplorations/

Climate Prediction Center GIS Portal

The NOAA Climate Prediction Center's Temperature, Precipitation, and GFS (Global Forecast System) Forecast products include operational predictions of climate variability, real-time global climate monitoring products, and assessments of the origins of climate anomalies.

http://www.cpc.noaa.gov/products/GIS/map_viewer/cpcgis.swf

Communicating with Policy Makers

The Union of Concerned Scientists has archived trainings available on YouTube, including one on Tips and Tricks for Communicating with Policy Makers. This webinar offers advice to scientists and other technical experts on best practices and pitfalls to avoid when engaging with policy makers on important issues. Additional advice is available from Academy Health, the FAO, and others.

http://openchannels.org/videos/tips-and-tricks-communicating-policy-makers http://www.academyhealth.org/files/phsr/CommunicatingWithPolicymakers.pdf http://www.fao.org/docrep/014/i2195e/i2195e00.htm

Customizing TED-Ed

TED-Ed encourages use of their videos to create customized lessons. Check out this quick video for ideas.

http://ed.ted.com/tour

Education Resources from Encyclopedia of Life

The educational resources from the Encyclopedia of Life have been organized by subject and themes. The information includes relevant articles, species collections, podcasts, and lesson plans/activities that can be used either to supplement existing curriculum or on their own.

http://eol.org/info/ed resources

Education Resources for Oceans and Marine Resources

The National Climate Assessment education resources for oceans and marine resources highlight six key messages, including rising ocean temperatures, acidification, habitat loss, and more. The resources include links to lesson plans, videos, and more. http://www.climate.gov/teaching/ocean-region

Huntington Beach School Trips - California

Follow and Learn about the Ocean and Wetlands, FLOW, is an educational program located in Huntington Beach, California. School groups can schedule a tour where students can shadow and assist with monitoring activities and learn about methods, techniques, and equipment used to collect and analyze plankton. Teachers receive lesson plans, activities, and more. Free bus transportation for Title I schools may be available.

http://www.amigosdebolsachica.org/flow.html

I am Dolphin App

A team of neuroscientists and programmers studied the movements of dolphins at the National Aquarium in Baltimore in order to make the dolphin simulation video game, I am Dolphin.

https://itunes.apple.com/us/app/i-am-dolphin/id903959279?mt=8

LTER Education Library

The Long Term Ecological Research Network (LTER) is committed to providing scientific expertise, research platforms, and long-term datasets necessary to document and analyze environmental change. The mission of LTER Education is to use the uniqueness of the network to promote learning about long-term ecological processes and the earth's ecosystems.

http://www.lternet.edu/Education

Nepris

The core mission of Nepris is making industry engagement part of the everyday classroom by empowering teachers to engage students in STEAM (Science, Technology, Engineering, Arts, and Math). Nepris connects teachers and students with industry experts, virtually. Free registration is required. For more information, check out the upcoming webinars.

http://www.nepris.com/

New England Climate Adaptation Simulations

The New England Climate Adaptation Project collaborated with four at-risk coastal New England communities to assess local climate change risks, identify key challenges and opportunities for adaptation, and test the use of role-play simulations as a means to educate the public about climate change threats and to help communities explore ways of decreasing their vulnerability and enhancing their resilience to climate change impacts.

http://necap.scripts.mit.edu/necap/simulations/

NSF Discoveries

This website from the National Science Foundation features discoveries and advances from NSF-funded researchers. Visitors can browse by research area, including Earth & Environment, Education, Arctic & Antarctic, and more; a search option is also available. You can also sign up for email updates to follow along with the latest discoveries. http://www.nsf.gov/discoveries/

Ocean Today Videos

The short Ocean Today videos are available for free download in two different sizes, depending on your needs. Topics include Danger Zone, Exploration, Fix the Ocean, Go Fish, Marine Life, and Research. Check out Students at Sea, Deep Ocean Volcanoes, and much more.

http://oceantoday.noaa.gov/

Sea Grass Activity

High School teacher Ryan Cilsick has posted a Google Docs Sea Grass Argumentation Lab using sea grass data collected from the Indian River Lagoon along the east coast of Florida. Links are included to the data, a teacher presentation, and more. https://docs.google.com/a/noaa.gov/document/d/1W7ZoRtj2w9vDVD0KsOMrp0iNojGwvxXUGkzqnF3NYxg/edit

Shape of Life

Shape of Life, based upon the PBS Series Shape of Life, is a series of free short classroom videos that illustrate the evolution of the animal kingdom. It is designed for students and teachers and is NGSS aligned with a focus on biodiversity, adaptability, body structure, and more. In addition to the videos, the website links to lesson plans and additional resources.

http://www.shapeoflife.org/

Tree of Life Web Project

The Tree of Life Web Project is a collaborative effort of biologists and others, with links to more than 10,000 web pages. The project provides information about biodiversity, the characteristics of different groups of organisms, and their evolutionary history. http://tolweb.org/tree/

WorldWide Telescope

WorldWide Telescope allows visitors to explore the universe from a computer screen. Visitors can pan the sky and zoom in on stars, nebulae, and planets. Objects link to multiple information sources. The website offers a users guide, educator resources, and more.

http://www.worldwidetelescope.org

INITIATIVES, JOURNALS, and MORE

bioRxiv (Bio-Archive)

This website from Cold Spring Harbor Laboratory serves as a preprint server for biology papers. Note that the papers posted here are not peer-reviewed. The website is searchable by subject area, date, author, keyword, and title. Topics include animal behavior, ecology, and much more.

http://biorxiv.org

eLife

eLife publishes research in the life sciences and biomedicine, from fundamental and theoretical work, through to translational, applied, and clinical research. The open access journal aims to review and publish work quickly. Topics include ecology, biology, and more. Visitors can read articles online, download them, view them in journal form, and view metrics about readership. Check out Point of view: Telling it like it is. http://elifesciences.org/

Nature is Speaking

Conservation International's Nature Is Speaking project aims to raise awareness that people need nature in order to survive. The campaign features a series of short films voiced by recognizable Hollywood stars. In the series, Nature reveals serious misgivings about the way humans are treating the Earth from the viewpoint of a cast of characters — from Mother Nature to The Ocean and The Rainforest. Of course, the photography is phenomenal. http://natureisspeaking.org/

Project FeederWatch

Count feeder birds for science during the 2014-15 Project FeederWatch season, November 8, 2014 through April 3, 2015. http://feederwatch.org/join-or-renew/

World Fisheries Day

November 21, 2014 is World Fisheries Day. https://www.facebook.com/pages/World-Fisheries-Day-November-21/141778879204555