

**NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION**  
**INFORMATION EXCHANGE FOR MARINE EDUCATORS**

**JULY 2015**

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.

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

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## **NOTABLE REFERENCE**

### **Climate Change in the United States: Benefits of Global Action**

This report summarizes results from the Climate Change Impacts and Risks Analysis (CIRA) project. This peer-reviewed report from the EPA examines how future impacts and damages of climate change across a number of sectors in the United States can be avoided or reduced with global action. The report can be downloaded in its entirety or by sections.

<http://www2.epa.gov/cira/downloads-cira-report>

### **Marine Regime Shifts**

Royal Society Publishing has recently published *Marine regime shifts around the globe: theory, drivers and impacts*. Individual articles or abstracts are available to read online.

<http://rstb.royalsocietypublishing.org/content/370/1659>

## **FELLOWSHIPS OF THE MONTH**

### **National Coral Reef Management Fellowship Program**

NOAA's Coral Reef Conservation Program and partners offer the National Coral Reef Management Fellowship Program. This program supports fellowships that strive to address both current capacity gaps and build longer-term management capacity in the select jurisdictions. The partnership is recruiting for seven fellowship positions in: U.S. Virgin Islands, Puerto Rico, Florida, Hawaii, the Commonwealth of the Northern Mariana Islands, Guam, and American Samoa, for two-year positions beginning January 2016. The deadline for application is July 31, 2015.

<https://www.openchannels.org/jobs/2015-07-31/national-coral-management-fellowship-noaa-coral-reef-conservation-program-and>

## **GRANTS AND OPPORTUNITIES**

### **ABC Summer of Creativity Grants**

Youth Service America, in partnership with ABC and Disney Friends for Change, can help young changemakers, 5-18 years old with a sponsoring organization or school, create the future they imagine. The Summer of Creativity Grant to supports a service project that makes communities greener, safer, and more. The deadline for application is August 10, 2015.

<http://www.ysa.org/beinspired>

### **Antarctic Art Contest**

The West Antarctic Ice Sheet Art Contest seeks entries that explore and interpret Antarctic research and science related to an ice core that engineers and scientists drilled from the center of the West Antarctic Ice Sheet. Scientists are examining the ice core to make new observations and generate new ideas about the last 100,000 years of climate history. The deadline for entry is October 1, 2015.

<http://www.explore-ice.gi.alaska.edu/art-contest>

### **Captain Planet Foundation Grants**

The Captain Planet Foundation provides grants to school and community groups to support hands-on environmental projects for youth in grades K-12. The objective of the foundation is to encourage innovative programs that empower youth to work individually and collectively to solve environmental problems in their neighborhoods and communities. The next deadline for application is September 30, 2015.

<http://captainplanetfoundation.org/apply-for-grants/>

### **Children's Mangrove Art Calendar Contest**

Children ages 6-16 are invited to participate in The Mangrove Action Project's international annual contest. The contest aims to promote appreciation and awareness of mangrove forests, and to encourage and listen to creative voices of children living in mangrove areas. The deadline for submission is July 31, 2015.

<http://mangroveactionproject.org/childrens-calendar/>

### **CNN Heroes**

Nominate a CNN Hero – an everyday person changing the world. The deadline for nomination is September 1, 2015

<http://www.cnn.com/SPECIALS/cnn.heroes/2015/nominations/>

### **Excellence in EE Awards**

NAAEE recognizes individuals and organizations that excel in environmental education through a variety of annual awards. Awards include the Walter E. Jeske Award, K-12 Educator of the Year, and more. The deadline for nomination is July 31, 2015.

<http://www.naaee.net/programs/awards>

### **Florida's State Wildlife Grants Program**

Florida's Wildlife Legacy Initiative staff invites applications for Florida's State Wildlife Grants Program. See the website for complete details. The deadline for application is July 13, 2015.

<http://myfwc.com/conservation/special-initiatives/fwli/grant/apply/>

### **Global Youth Service Day Lead Agency Grants**

Lead Agencies are local, regional, or statewide organizations that increase the scale, visibility, and impact of Global Youth Service Day in their city, region, or state. Lead Agencies convene a planning coalition of partner organizations that collectively engage a minimum number of youth volunteers in service, engage local media and elected officials, and plan a high profile signature project or celebration of service. The deadline for application is July 31, 2015.

<http://www.ysa.org/gysdleads2016>

### **Hot Planet/Cool Athletes Powder Grant**

In partnership with The North Face, Clif Bar and MEC, the Hot Planet / Cool Athletes Powder Grant program leverages the power of pro athletes to inspire the next generation to lead the fight against climate change. The deadline for application is August 31, 2015.

<http://hotplanetcoolathletes.com/>

### **Melinda Gray Ardia Environmental Foundation Grants**

K-12 teachers are invited to apply for grants to develop or implement environmental curricula that integrate hands-on ecology exercises into the classroom. To facilitate learning and student empowerment, environmental curricula should be holistic and strive to synthesize multiple levels of learning (facts, concepts, and principles), often including experiential integrated learning and problem solving. The deadline for pre-proposals is September 13, 2015

<http://www.mgaef.org/application.htm>

### **Nature Investigators Contests**

In the Youth Writing & Art Contest, youth ages 5-18 are encouraged to describe what they've learned about their local habitats and what they observed through environmental exploration. The Educator Photography Contest encourages educators to share images of youth exploring their natural environment or doing hands-on projects for community habitats. See the website for details. The deadline for entry is August 14, 2015.

<http://www.birdsleuth.org/contests/>

### **North American Wetlands Conservation Act Grants**

The North American Wetlands Conservation Act provides matching grants to organizations and individuals who have developed partnerships to carry out wetlands conservation projects in the United States, Canada, and Mexico for the benefit of wetlands-associated migratory birds and other wildlife. There are both Standard and

Small grants programs. See the website for complete details. The next deadline for application is July 7, 2015.

<http://www.fws.gov/birdhabitat/Grants/NAWCA/index.shtm>

### **Northrop Grumman Grants**

The Northrop Grumman Corporation supports communities, projects and organizations, particularly where its employees live and work, with financial, in-kind and volunteer resources. Grants are awarded to accredited schools and nonprofit organizations for projects focused on education and the environment, and more. The deadline for application is August 31, 2015.

<http://www.northropgrumman.com/CorporateResponsibility/CorporateCitizenship/Philanthropy/Pages/ContributionGuidelines.aspx>

### **Rivers, Trails and Conservation Assistance Program**

The Rivers, Trails and Conservation Assistance (RTCA) program assists with community-led natural resource conservation and outdoor recreation initiatives. RTCA staff provide guidance to communities so they can conserve waterways, preserve open space, and develop trails and greenways. The deadline for application is August 1, 2015, but contact them as early as possible before application deadline to discuss your proposed project and inform them of your intent to apply. See the website for complete details.

<http://www.nps.gov/orgs/rtca/apply.htm>

### **Russell Family Foundation Environmental Sustainability Program**

The foundation focuses its grantmaking on Environmental Sustainability, Environmental Education, and Green Business focused on the Puget Sound. Hurry - the next deadline for submission of a letter of intent is July 8, 2015.

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

### **Sanctuary Classic Photo Contest**

The National Marine Sanctuary Classic is a free summer-long fishing and photo contest featuring all of the U.S. National Marine Sanctuaries. The contest promotes recreational opportunities and rewards conservation-minded recreational angling in the national marine sanctuaries. The deadline for entry is August 7, 2015.

<http://sanctuaryclassic.org/>

### **Science Project Ideas Competition**

This contest, sponsored by the Entomological Foundation, seeks grades 3-12 entomology science project ideas. The goal is to develop an interest and understanding of scientific laws and principles that underlie the natural world. Any project ideas that relate to insects, spiders, or related arthropods are welcome. The deadline for entry is August 31, 2015.

[http://www.entfdn.org/kids\\_scifair.html](http://www.entfdn.org/kids_scifair.html)

### **Walmart State Giving Program**

The Walmart State Giving Program provides grants to nonprofits that serve underserved populations and align with the Walmart Foundation's giving focus areas. Each state has two annual application cycles. See the website for complete details.

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

## **FELLOWSHIPS, INTERNSHIPS, AND TEMPORARY OPPORTUNITIES**

### **Atlas Corps Fellowships**

Atlas Corps seeks nonprofit/NGO professionals from around the world to apply for fellowships in the U.S. The 6-18 month professional fellowship participants learn best practices, build organizational capacity, and return home to create a network of global leaders. See the website for details. Apply by July 15, 2015.

<http://atlascorps.org/apply.php>

## **CONFERENCES, WORKSHOPS, AND PROFESSIONAL DEVELOPMENT**

### **Bioluminescence and Vision on the Deep-Sea Floor Webinar for Educators - Online**

In mid July, scientists will be exploring bioluminescence and vision within deep-sea benthic communities in the Gulf of Mexico. This webinar from NOAA's Office of Ocean Exploration and Research (NOAA OER), July 9, 2015, will introduce the expedition along with standards-based lessons and other resources that support teaching about bioluminescence. The webinar is free but registration is required.

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

### **CAPSTONE Webinar for Educators - Online**

This summer, NOAA OER will launch the Campaign to Address Pacific Monument Science, Technology, and Ocean NEeds (CAPSTONE) Expedition, the beginning of a three-year effort to explore unique, biologically rich deepwater regions around the U.S. Marine National Monuments and other protected places in the Pacific Ocean, with the goal of collecting baseline information to support science and management needs. This webinar, July 29, 2015, will introduce the science of the expedition along with standards-based lessons and other educational resources that can bring this expedition into the classroom. The webinar is free but registration is required. Note: the registration link will be active after the third week in July.

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

### **CERF Conference Student Travel Awards and Volunteer Opportunities**

The Coastal and Estuarine Research Federation's 2015 conference, November 8-12, 2015 in Portland, Oregon, offers options for students, early career, and recent graduates in need of financial assistance. Both Travel Awards and student volunteer opportunities can help offset the conference costs.

<http://www.erf.org/students-early-career>

### **Citizen Science Academy Courses - Online**

The NEON Citizen Science Academy, sponsored by the National Science Foundation, provides online professional development resources for educators to support effective implementation of citizen science projects and activities that focus on ecology and environmental sciences. The project is intended to be a complete professional development resource for educators and will include online courses, modules, tutorials, and a virtual community of practice. Current resources include a variety of online courses, videos, and more.

<http://citizenscienceacademy.org/home>

### **CoastWatch Shoreline Science Workshops - Oregon**

Learn about coastal natural history at these three-day CoastWatch workshops in July and August, 2015. The workshops will cover major coastal ecosystems, including tidepools, sandy beaches, estuaries, and more. Each session will include field trips, indoor presentations, and lab experiences.

<https://oregonshores.givezooks.com/events/2015-coastwatch-shoreline-science-workshops>

### **DataStreme Courses - Various**

The American Meteorological Society's DataStreme Project is an expenses-paid professional development program for in-service K-12 educators. Graduate-level courses in meteorology, oceanography, and climate science are offered by Local Implementation Teams across the country. To register, please contact your nearest LIT leader. Check out the upcoming fall/spring schedule.

<http://amsedu.ametsoc.org/amsedu/DataStremeFrames.html>

### **Impacts of Oil on Coastal Habitats – Florida and Online**

The Gulf of Mexico Sea Grant Oil Spill Outreach Team and partners will offer the free Oil Spill Science Seminar: Impacts of Oil on Coastal Habitats, July 22, 2015 in Temple Terrace, Florida and online. Researchers will discuss their work on the effects of oil on salt marshes, wetlands, mangroves, and beaches. Be sure to check out additional upcoming and archived seminars.

<https://gulfseagrant.wordpress.com/oilspilloutreach/presentations/>

### **NAI National Conference**

The theme of the 2015 NAI National Conference, November 10-14, 2015 in Virginia Beach, Virginia, is *Tidewater: Where stories ebb and flow*. Check the website to review the concurrent sessions (over 100!) to plan your conference.

[http://www.interpnet.com/NAI/interp/Events/NAI\\_National\\_Workshop/nai\\_events/NAI\\_National\\_Workshop.aspx?hkey=881321c0-ef64-4783-84bb-67a3edcc12e3](http://www.interpnet.com/NAI/interp/Events/NAI_National_Workshop/nai_events/NAI_National_Workshop.aspx?hkey=881321c0-ef64-4783-84bb-67a3edcc12e3)

### **Ocean Plastic Pollution Summit - California**

The free Ocean Plastic Pollution Summit in Monterey, California, is a three-part summit designed for teachers wanting in-depth information about plastic pollution issues and solutions.

- October 9-10, 2015 Ocean Plastic Pollution Summit Kickoff Event
- February 6, 2016 Mid-year Check-in and Concurrent Sessions
- April 30-May 1, 2016 Final Project Symposium

The deadline for application is August 31, 2015.

<http://www.montereybayaquarium.org/education/teacher-programs/ocean-plastic-pollution-summit>

### **Summer Teacher Workshops – Florida**

Join MarineLab's instructors in an exploration of the marine communities in the Upper Florida Keys, July 23-27 and July 27-31, 2015. Days are spent snorkeling or diving the seagrasses, mangroves, and coral reefs protected by the Florida Keys National Marine Sanctuary, Everglades National Park, and John Pennekamp Coral Reef State Park. All workshops are content oriented and are designed for the middle and high school science teacher.

[http://www.marinelab.org/Teacher\\_Workshops.html](http://www.marinelab.org/Teacher_Workshops.html)

### **Teachers on the Estuary (TOTE) – Various**

NOAA's National Estuarine Research Reserve System educators and researchers offer a wide variety of profession development opportunities, grounded in research and fieldwork. The workshops include field activities, in-depth background information about estuaries and other coastal habitats, classroom resources, and more.

<http://estuaries.noaa.gov/Teachers/Default.aspx?ID=387>

### **Teaching With Technology and Inquiry - Online**

In this MOCC edX eight-week course starting July 1, 2015, instructors from the University of Toronto will engage students in design-oriented collaborative activities focused on STEAM+ learning. INQ101x is designed with primary and secondary school teachers in mind, though teacher candidates, higher education instructors, and other educators may also find it relevant.

<https://www.edx.org/course/teaching-technology-inquiry-open-course-university-torontox-inq101x>

### **Texas State Aquarium Curriculum Writing Workshop – Texas**

This annual workshop, July 20-24, 2015 in Corpus Christi, Texas, helps participants create and refine classroom curricula for improved STEM teaching and learning in and beyond South Texas, while providing additional training for the educators involved. This year, five K-12 classroom teachers will be selected.

[https://texasstateaquarium.org/wp-content/uploads/2014/06/Curriculum-Writing-Wrkshop-Goals\\_Responsibilities-2015.pdf](https://texasstateaquarium.org/wp-content/uploads/2014/06/Curriculum-Writing-Wrkshop-Goals_Responsibilities-2015.pdf)

## **EDUCATIONAL RESOURCES**

### **Crossing the Shoreline: The Gulf of Mexico**

This three-week curriculum unit from DIG (Diversity & Innovation in Geoscience) Texas Blueprints links teachers to a variety of online activities and information about the Gulf of Mexico. Student learn map skills, analyze ocean circulation, and much more.

[http://serc.carleton.edu/dig\\_blueprints/units/unit2.html](http://serc.carleton.edu/dig_blueprints/units/unit2.html)

### **Drought Communication Toolkit**

This toolkit from the CDC will help users keep the public informed of what drought could mean for their health, from immediate short-term health effects to chronic and debilitating impacts. The website offers resources on how to explain drought preparedness and safety to a variety of audiences, including homeowners, vulnerable populations, and industry leaders.

<http://www.cdc.gov/nceh/drought/toolkit/default.htm>

### **Earth & Space Systems Science - Online**

The Virtual High School offers Earth and Space Systems Science aligned with the Next Generation Science Standards. Students engage in a series of inquiry-based and investigative activities through the use of science datasets, visualizations, animations, interactives, and modeling activities. Students can take the course as an individual student or as part of an entire class.

<http://thevhs.org/earthscience>

### **Fishinars**

Check out the upcoming REEF webinars that help teach the finer points of identifying fish and invertebrates underwater. Upcoming fishinars highlight rockfish, New England invertebrates, and more. Free registration is required.

<http://www.reef.org/fishinars>

### **Gratitude and the Environment**

This site from PBS Learning Media outlines a lesson plan (grades 5-8) concerning gratitude for the earth's diverse ecologies. In addition to the lesson plan, the web page offers links to media resources, educational standards, and more. Be sure to check out the Transformative Teachers link.

<http://www.pbslearningmedia.org/resource/transt.pd.lpgratitude/gratitude-and-the-environment/>

### **Learning from EPA's Climate Showcase Communities**

In the course of completing their climate and energy projects, EPA's Climate Showcase Communities learn a lot that can help others interested in starting or expanding their own climate and energy programs. This website collects much of this knowledge, resources, and tips in one location. Topics include Working Across Ideological Differences, Conducting and Evaluating Pilot Projects, Incentive Techniques, and much more. These approaches can be used as they are or adapted to fit the needs of communities across the country.

<http://epa.gov/statelocalclimate/local/showcase/csc-learn.html>

### **NOSB Ocean Sciences Quiz**

The NOSB's Ocean Sciences Quiz was created to promote ocean literacy. The online game simulates the NOSB buzzer competition, making the competition available to a broad audience regardless of age or location. Three game modes are available: a timed single-player version and timed two-player versions for players on the same or different computers.

<http://osq.nosb.org/>

### **Sands**

In this activity from Hagerstown Community College, students examine sand samples from various locations around the world. Using a hand lens and dissecting microscope, students compare the size, shape, and color of the grains that make up the different sand samples, and look for fossils, gems, and other minerals that sand often contains. Resources include activity directions as well as two variations of a student activity worksheet.

<http://www.hagerstowncc.edu/docs/math-science/btc/microscopy/sands>

### **Science on Tap Seminar Series - Maine**

The University of Maine's Darling Marine Center in Walpole, Maine is celebrating its 50th anniversary and the public is invited to join the festivities. Free evening seminars will take place each Wednesday in July. Be sure to check out the walking tours, open house, and more.

<http://dmc.umaine.edu/news/our-50th-anniversary/dmc-50th-public-events/>

### **Sea Turtle Resources**

The North Carolina Aquarium at Fort Fisher website hosts a variety of Sea Turtle resources. The lessons include background information, multi-media, Instructor Guides, and more.

<http://seaturtleexploration.com/>

### **Seafloor Mapping**

NOAA's Office of Ocean Exploration and Research offers this online overview of the importance of seafloor mapping to the health of the ocean and planet.

<http://oceanexplorer.noaa.gov/world-oceans-day-2015/index.html>

### **STEM Activities for Kids This Summer**

Teachthought offers this list of STEM activities that can keep kids busy learning through play. Activities range from keeping a discovery jar to exploring computer science.

<http://www.teachthought.com/maker-movement/20-stem-activities-for-kids-this-summer/>

### **Stream Macroinvertebrate Identification Cards**

New York students collected and identified the stream organisms from Trout Creek, while other students photographed the animals, edited the images, and designed the cards. The digital cards are available free of charge and copyright free.

<http://www.learnatboces.com/macroinvertebrates-id-cards>

### **Teaching Climate Science by Studying Misinformation**

In this activity, students critically evaluate the arguments about climate change raised in a climate contrarian newspaper op-ed. This exercise is intended to strengthen student critical thinking and content knowledge of the climate system.

<http://serc.carleton.edu/NAGTWorkshops/climatechange/activities/65697.html>

### **Tropical Exploration 2015**

NOAA's OER offers the Tropical Exploration 2015 website on its website, following an expedition which traveled from the Atlantic to the Pacific Oceans from May through June, 2015. The website includes background essays, images and video, an Ocean Explorer Expedition Education Module, lessons, and more.

<http://oceanexplorer.noaa.gov/oceanos/explorations/ex1503/welcome.html>

### **Underwater Google Street View Expansion**

In honor of World Oceans Day, Google released new Street View imagery of more than 40 underwater locations around the world, including the American Samoa and Chagos Islands and underwater dives in Bali, the Bahamas and the Great Barrier Reef.

<http://www.pcmag.com/article2/0,2817,2485375,00.asp>

## **INITIATIVES, JOURNALS, and MORE**

### **Great Annual Fish Count**

The 14th annual Great Annual Fish Count is coordinated by the Reef Environmental Education Foundation (REEF); it mobilizes and trains volunteer divers and snorkelers in established methodologies to identify and document fish diversity and population trends in marine ecosystems. Some states hold large fish count events each year. Check fishcount.com to register your event or find local events.

Join the New England Aquarium Dive Club for their 14th Annual Great Annual Fish Count celebration, July 18, 2015 in Gloucester, Massachusetts. Divers and snorkelers can count fish and invertebrates to help scientists (and win prizes). See the website for details and free registration.

<http://fishcount.org/>

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

### **STEMblog and STEMconnector**

STEMconnector is designed to link those advocating science, technology, engineering, and math (STEM) education across disciplines and distances. The STEMblog is a project of STEMconnector, which hopes to be a one-stop shop for who's doing what in STEM, focusing on the relationship between business and STEM subjects,.

<http://blog.stemconnector.org>

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

### **Wildscreen Exchange**

Wildscreen Exchange offers a global hub for conservation communications with free, downloadable images and videos. The website is new and will continue to be populated.

<http://wildscreen.infradoxs.com/home>