

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

**MAY 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.

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](mailto: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/>.

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**GRANT OF THE MONTH**

**Youth Ocean Advocates Grant Fund**

The Youth Ocean Advocates Philanthropy Team is a representative group of youth volunteers at the Seattle Aquarium who design and implement ways to give back to the ocean conservation community through funds they've raised. The team is funding the purchase of equipment to aid nonprofits and K-12 schools in the advancement of ocean conservation, research and/or education. The deadline for application is May 29, 2015. <http://www.seattleaquarium.org/youth-ocean-advocates/grant-fund>

**WEBSITE OF THE MONTH**

**Infotopia**

Infotopia is an academic search engine designed for students, teachers, and homeschoolers. Created by librarians, it uses a Google custom search to provide

access to previously vetted websites selected by librarians, teachers, and educational professionals. Topics include Sci/Tech, images, games, and more. Each topic is subdivided into many others; for example, science topics are further broken down into earth science, biomes, ask an expert resources, and more. Note that with all these links to outside resources, some will be broken, but users can even use that information for further research.

<http://www.infotopia.info/>

## **COURSE OF THE MONTH**

### **Extreme Weather 101 - Online**

The National Environmental Education Foundation offers the free online course, Extreme Weather 101, devoted to helping the American public understand and prepare for the impacts of extreme weather and climate change. Students learn the basics about extreme weather and climate change through videos, quizzes, and toolkits, with tips and links to preparedness resources.

<https://www.udemy.com/extreme-weather-101/#/>

## **REQUESTS**

### **Habitat Mapping Citizen Science**

Scientists aboard Schmidt Ocean Institute's research vessel *Falkor* are looking for volunteers to take part in ocean research. A team of roboticists and scientists in the Timor Sea is collecting copious amount of oceanographic data using a fleet of underwater robots. Tens of thousands of pictures can be collected by a single robot in one day and these images are used for habitat mapping, monitoring biodiversity, and change detection. However, the images need to be labeled in order to make sense of them, and there are simply too many for the scientist to label. Lend your eyes and with a few clicks of your mouse, you can help the science team understand and identify our undersea world.

<https://squidle.acfr.usyd.edu.au/citizenscience/citizenSOI201503/>

## **GRANTS AND OPPORTUNITIES**

### **AAUS Foundation Scholarships and Awards**

The American Academy of Underwater Sciences awards two research scholarships to graduate students engaged in, or planning to begin, a research project in which diving is or will be used as a principal research tool. In addition, the Hollis Gear Award and Kevin Flanagan Student Travel Award can help fund gear, travel, and more. The deadline for applications is June 30, 2015.

<http://www.aausfoundation.org/#!/scholarship/cee5>

### **Albert I. Pierce Foundation Scholarship**

The Albert I. Pierce Foundation offers scholarships for two people who are presenting at the NAAEE Annual Conference, October 15-18, 2015 in San Diego, California. The deadline for application is July 15, 2015.

<https://www.surveymonkey.com/r/AIPSchol2015>

### **Earthquake Engineering Scholarship**

The Liu Huixian Earthquake Engineering Scholarship encourages earthquake engineering students to pursue academic careers. U.S. recipients may accept a monetary scholarship or a fully paid trip to visit the Institute of Engineering Mechanics of the China Earthquake Administration, intended to foster future research collaboration. The deadline for application is June 30, 2015.

<https://www.eeri.org/wp-content/uploads/Liu-Huixian-Scholarship-Award-Description-and-Guidelines2015.pdf>

### **Earthquake Hazards Program Grants**

The U.S. Geological Survey is seeking grant proposals from researchers focused on improving the understanding of earthquake processes, hazards, and risks. Proposals should provide innovative ideas that reduce losses from earthquakes and improve earthquake forecasting. The deadline for application is May 19, 2015.

<http://www.grants.gov/web/grants/view-opportunity.html?opId=275330>

### **Fab School Labs**

Northrop Grumman Foundation's Fab School Lab Contest hopes to encourage students to become innovators by creating inspiring classrooms and science labs. The contest is open to teachers, principals, and school administrators at public middle schools. The deadline for entry is June 12, 2015.

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

### **Hawai'i Expedition Scholarship**

Ocean Matters offers a scholarship for an adult to join an Ocean Matters trip to Hawaii, June 23-July 1, 2015. Join Peter Yarrow, National Geographic Underwater Photographer Brian Skerry, and continue a seahorse research project.

Contact Laura Parker Roerden at [lproerden@oceanmatters.org](mailto:lproerden@oceanmatters.org)

### **Highlight Youth-Focused Nonprofits**

Born This Way Foundation and partners wish to highlight exceptional non-profit organizations at upcoming stops for Tony Bennett and Lady Gaga's Cheek To Cheek tour. Submit information about innovative, youth focused non-profits; one nonprofit will be featured at each of the selected tour stops. See the website for complete details, including deadlines for submission.

<http://www.exploringthearts.org/cheektocheek>

### **MASNA Scholarships**

The Marine Aquarium Societies of North America offers the MASNA Scholarship to one full-time undergraduate and one graduate student seeking degrees in the marine science field. The deadline for application is June 19, 2015.

<http://masna.org/masna-programs/scholarship-program/>

### **Multistate Conservation Grant Program**

The Multistate Conservation Grant Program from the U.S. Fish and Wildlife Service and partners funds projects that address the regional or national level priorities of state fish and wildlife agencies. The deadline for letters of intent is May 11, 2015.

<http://www.fishwildlife.org/index.php?section=multistate-conservation-grant-program>

### **NAI Awards**

The National Association for Interpretation offers both Professional and Interpretive Media awards. Check out the website for complete details, including deadlines for nomination in May.

[http://www.interpnet.com/NAI/nai/resources/Awards\\_Programs.aspx](http://www.interpnet.com/NAI/nai/resources/Awards_Programs.aspx)

### **STAR Graduate Fellowships**

The EPA, as part of its Science to Achieve Results (STAR) program, is offering graduate fellowships for master and doctoral level students in environmental fields of study. The agency plans to award approximately 55 new fellowships in the fall of 2015. The deadline for application is May 26, 2015.

[http://www.epa.gov/ncer/rfa/2015/2015\\_star\\_gradfellow.html](http://www.epa.gov/ncer/rfa/2015/2015_star_gradfellow.html)

### **Teens Teach Tech Grant**

The goal of this program is to help senior citizens feel comfortable with ever-evolving technology. The grants are provided to high school clubs including community service, National Honors Society, and computer clubs. The deadline for application is May 15, 2015.

<http://bit.ly/TeenTechGrant>

### **World Oceans Day Video Contest**

Students in grades 7-12 can make a one-minute video telling why the ocean is important, and how it inspires them. The deadline for submission is May 25, 2015.

[http://www.oneworldocean.com/get-involved/wod\\_vc\\_signup](http://www.oneworldocean.com/get-involved/wod_vc_signup)

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

### **Capitol Hill Ocean Week – Washington, D.C.**

Capitol Hill Ocean Week, hosted by the National Marine Sanctuary Foundation, June 9-11 in Washington, D.C., offers an opportunity to network with colleagues who share interests in marine policy, ocean science, and coastal issues.

<http://nmsfocean.org/CHOW-2015>

### **Climate Education Regional Workshops - Various**

NOAA's Climate Stewards Education Project and partners will offer free climate-science workshops for formal and informal educators. Registration is currently open for the following workshops:

- May 17-18, 2015 St. Petersburg Florida
- June 25-27, 2015 in Boulder, Colorado
- August 5, 2015 in Silver Spring, Maryland

Participation is on a first-come, first-served registration basis.

<https://docs.google.com/a/noaa.gov/forms/d/1NfDNsSSQUcDTP2-fEKrGLCxwe8421HwLA-2-zPLGwFI/viewform>

<https://docs.google.com/a/noaa.gov/forms/d/1UqtHKKgGhfILBZmmbbybPd2YaMt0sqhTlMhb1oKWe3g/viewform>

[https://docs.google.com/a/noaa.gov/forms/d/1zb\\_d0vbcMYCv8Pd6P7L9LCf68LXd87PB r0VaEgAaP4/viewform](https://docs.google.com/a/noaa.gov/forms/d/1zb_d0vbcMYCv8Pd6P7L9LCf68LXd87PB r0VaEgAaP4/viewform)

### **It's No Snow Job: Climate Services Reign! - Online**

NOAA's Climate Stewards Education Project hosts the free webinar, It's No Snow Job: Climate Services Reign!, May 4, 2015. Dr. Robinson, New Jersey State Climatologist and Professor of Geography at Rutgers University will discuss the ins, outs, and in between of what a state climatologist does, and how they do it.

<https://attendee.gotowebinar.com/register/1216092112209068802>

### **Ocean Exploration Workshops – Various**

NOAA's Ocean Exploration Program and partners offer the Okeanos Explorer Education Materials Collection How or Why Do We Explore? Professional Development Workshops for Educators. Participants will receive classroom-ready lessons, certificates of participation, and other resources. Contact the noted educator or check out the website for registration and more information

- June 16, 2015 with the Audubon Aquarium of the Americas in New Orleans, Louisiana. Why Do We Explore? Professional Development Workshop for Educators. The deadline for registration is May 26, 2015. Contact Tricia Leblanc at [tleblanc@auduboninstitute.org](mailto:tleblanc@auduboninstitute.org)
- June 17, 2015 with the Audubon Aquarium of the Americas in New Orleans, Louisiana. How Do We Explore? Professional Development Workshop for Educators. The deadline for registration is May 26, 2015. Contact Tricia Leblanc at [tleblanc@auduboninstitute.org](mailto:tleblanc@auduboninstitute.org) or (504) 378-2675

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

### **Pre-NMEA Conference NOAA Workshop – Rhode Island**

As a precursor to the NMEA conference June 28-July 2, 2015, NOAA's Office of Ocean Exploration and Research is offering a free, half-day professional development workshop for educators of grades 5-12, June 27, 2015 in Newport, Rhode Island. Registration is required and space is limited.

Contact Susan Haynes at [susan.haynes@noaa.gov](mailto:susan.haynes@noaa.gov)

### **Teach at the Beach – New Jersey**

Teach at the Beach is a professional opportunity for educators in the New Jersey, Pennsylvania, and Delaware area. This year's workshop, May 29, 2015 in Tuckerton, New Jersey, will include Seining and the Salt Marsh, How Basic is Ocean Acidification, and more.

<http://www.njmarineed.com/T@TB2015>

### **Teachers on the Estuary - Texas**

The Mission-Aransas Reserve will host a free Teachers on the Estuary (TOTE) workshop for middle or high school Texas science teachers, July 14-16, 2015 in Port Aransas, Texas. The workshop will cover topics that affect the entire Gulf ecosystem, including freshwater resources, oil spills, and climate science. A stipend may be available. See the website for eligibility; hurry, only four spots remain.

<http://www.eventbrite.com/e/teachers-on-the-estuary-at-mission-aransas-reserve-registration-14925397265>

### **Urban Water - Innovations for Environmental Sustainability - Online**

Participants in this free edX online course will learn about innovative urban solutions to the global water crisis, with real-life examples from architects, engineers, planners, ecologists, and artists. Hurry – enroll now; the course starts May 5, 2015.

<https://www.edx.org/course/urban-water-innovations-environmental-ubcx-water201x>

## **EDUCATIONAL RESOURCES**

### **ARKive Education**

ARKive Education's free resources can be used to teach a range of curriculum subjects including science, geography, art, and more. Categorized by age, they offer links to wildlife photos, videos, and fact files. The resources includes classroom presentations, activities, and teachers' notes.

<http://www.arkive.org/education/>

### **Ask an EPA Scientist**

It All Starts with Science, an EPA blog about science matters, offers Ask an EPA Scientist. Scroll through some of the other blogs, including Around the Water Cooler features, This Week in EPA Science, and more.

<http://blog.epa.gov/science/2015/03/got-an-environmental-science-question-ask-an-epa-scientist/>

### **Building a Land Ethic**

This website by the Aldo Leopold Foundation continues to foster Leopold's land ethic with posts about everything from student education to photo contests and more. Sign up for the newsletter, check out the teaching tools, and more.

<http://www.aldoleopold.org/blog/building-a-land-ethic/>

### **Climate Change Resource Center**

The Climate Change Resource Center from the USDA Forest Service is a web-based resource that connects land managers and decisionmakers with useable science to address climate change in planning and application. It offers basic climate change educational resources along with tools, videos, a library with an annotated bibliography an extensive list of external links, and more. Check out the climate change science and modeling, effects on forests and grasslands, FAQs, and more.

[www.fs.usda.gov/ccrc/](http://www.fs.usda.gov/ccrc/)

### **Climate Denial Crock of the Week**

The Climate Denial Crock of the Week is a video series and blog debunking climate change denial claims.

<http://climatecrocks.com/>

### **Climate Reanalyzer**

This interactive visualization is a suite of weather and climate datasets, along with tools to manipulate and display them visually.

<http://cci-reanalyzer.org/>

### **Entomology and Nematology: Featured Creatures**

The Entomology and Nematology Department at the University of Florida hosts this encyclopedia of insects, nematodes, arachnids, and other organisms. While the site concentrates on Florida-based creatures, the diversity of organisms listed can be enough for many inquiries. Each organism is accompanied by an introduction, distribution, life cycle, and more.

<http://entnemdept.ufl.edu/creatures/>

### **Environmental Education Apps**

Moms With Apps identifies seven apps for young learners that can help develop skills and knowledge in STEM subjects. (Note that most listed here are not free).

<https://momswithapps.com/blog/environment>

### **Environmental & Sustainability Lessons**

The LASER (Leadership & Assistance for Science Education Reform) and Washington State Office of Superintendent of Public Instruction have upgraded three commonly used elementary science instructional materials with environmental and sustainability concepts. In addition, the upgraded lessons incorporate Native American stories related to science and sustainability.

<http://www.wastatelaser.org/Instructional-Materials/environmental-sustainability-enhanced-lessons>

### **Expedition 355: Arabian Sea Monsoon**

Follow along with the *Joides Resolution*, March 31-May 31, 2015. The Arabian Sea Monsoon Expedition aims to study the interaction between the Himalayas and Tibetan plateau uplift and the development and evolution of the Indian summer monsoon. Sign up now for live ship-to-shore video interactions with the scientists on board. Events are free but spaces are limited.

<http://joidesresolution.org/node/3958>

### **Faultline**

Faultline provides the history and science of earthquakes. Sections include quake basics, damage control, and more. Active Zone includes multimedia, activities, and more, while Live Eye on the Earth links to real-time data.

<http://www.exploratorium.edu/faultline/>

### **GEOTRACES Webinar Series**

This four-part GEOTRACES webinar series will focus on several trace elements and what they can tell us about biogeochemical processes, the carbon cycle, and climate. Nine scientists, each studying a unique facet of the ocean's chemistry, will share their work and the importance of researching these elements in the ocean. Free registration is required. The webinars will be archived for future viewing.

<http://cosee.umaine.edu/programs/webinars/upcomingwebinars/>

### **Hurricane Webinars for 5th Grade Classes - Online**

The Hurricanes: Science and Society team at the University of Rhode Island's Graduate School of Oceanography, in partnership with the National Hurricane Center, will offer hurricane preparedness webinars for 5th grade students in U.S. regions that are impacted by hurricanes. A presentation on region-specific hurricane science and preparedness will be given with interactive questions prompting student responses. The Southeast Region will take place May 19, 2015; Northeast, May 26, 2015. Advanced registration is required; see the website for details and registration deadlines.

<http://www.hurricanescience.org/resources/nhc5grade/>

### **Invasive Lionfish Web Portal**

This website from the Gulf and Caribbean Fisheries Institute hosts a myriad of resources about lionfish. Topics include Education & Outreach, Research & Monitoring, Control, and Management.

<http://lionfish.gcfi.org/>

### **LiveScience**

LiveScience is a science news website which covers scientific breakthroughs, research ventures, and odd facts from around the world, in an online newsmagazine format.

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

### **MinuteEarth**

This YouTube channel offers quick scientific explanations about the planet. Subjects range from plate tectonics through meandering rivers, from clouds to ocean confetti. Use the search function to check out minute physics and minute science videos.

<https://www.youtube.com/user/minuteearth/videos>

### **Mountaintop to Ocean Trench Infographic**

The website, LiveScience, hosts this graphic depiction of altitude and depth, from 36,000 feet above to 36,000 feet below sea level.

<http://www.livescience.com/27551-our-amazing-planet-top-to-bottom-mountaintop-to-ocean-trench-infographic.html>

### **NASA Wavelength: Earth Science**

Part 2 of the NASA Wavelength Authentic Data, Authentic Learning! covers Earth Science. A variety of links to useful data sets, lesson plans, and more are highlighted.

<http://nasawavelength.org/blog/authentic-data-authentic-learning-part-2-earth-science>

### **National Hurricane Preparedness Week**

May 25-31, 2015 is National Hurricane Preparedness Week. Check out NOAA's website, with links to background information about hurricanes, outreach & education, YouTube videos, and more. And be sure to check out the H-O education program archives of the Information Exchange for Marine Educators newsletter for hurricane topics.

<http://www.nhc.noaa.gov/prepare/>

<http://marineprotectedareas.noaa.gov/resources/education/#exchange>

### **Nautilus Live**

Follow along with the Corps of Exploration during the research season for E/V *Nautilus*. The crew will be exploring sites from the Gulf of Mexico to British Columbia through late September. More than six weeks will be dedicated to exploration and mapping of the Galapagos Rift and the site of the first hydrothermal vent discovery in 1977.

<http://nautiluslive.org/>

### **Oceanbites**

Oceanbites is a website run mostly by graduate students who summarize current marine science articles in an accessible manner. The goal is to make cutting edge research in the ocean sciences accessible to all. Check out the glossary, archives by category, and even blog posts by authors for an interesting way to get a feel for graduate interests.

<http://oceanbites.org/>

### **Online Colleges**

This website offers overviews of schools that offer online programs; guides on what it's like to be an online student, from researching schools, to the application process, to life after graduation; and more.

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



### **Panorama**

The Panorama is an effort to collate case studies that showcase how protected areas provide solutions to some of the world's challenges. The case studies are called Inspiring Protected Areas Solutions (IPAS). Criteria for solutions include relevance, impactful, and replicable and/or scalable. The project has evolved from related efforts, including the Blue Solutions initiative and IUCN's engagement with the Resilience Exchange, an initiative to accelerate the pace of social change by identifying, sharing, and replicating development solutions.

<http://panorama.solutions/>

### **Reef Reminiscences**

The United Nations University Institute for Water, Environment & Health has released a 35-page brochure, Reef Reminiscences: Ratcheting back the shifted baselines, with a series of reminiscences by the older generation of coral reef scientists about particular times and places, reminding readers what reefs used to be. Note that the website for the download has changed.

[http://www.petersalebooks.com/wp-content/uploads/ReefReminiscencesBooklet\\_WEB.pdf](http://www.petersalebooks.com/wp-content/uploads/ReefReminiscencesBooklet_WEB.pdf)

### **Time and the River**

Written by Louisiana State University law professor Edward Richards, this website covers a wide array of issues that pertain to the Louisiana coast, including climate change, building standards, coastal restoration, and much more. Materials not often covered in climate change resources can be found under the Climate Change Law Teaching tab.

<http://sites.law.lsu.edu/coast/>

### **Trash Talk**

NOAA's Marine Debris Program has launched a new video series called Trash Talk. The first episode offers a video and written transcript with basic background about the Great Pacific Garbage Patch.

[http://oceantoday.noaa.gov/trashtalk\\_garbagepatch/welcome.html](http://oceantoday.noaa.gov/trashtalk_garbagepatch/welcome.html)

### **Underwater Sound Tutorials**

The Discovery of Sound in the Sea (DOSITS) team is developing a series of structured tutorials on underwater sound topics. Currently, tutorials posted are Science of Sound, Effects of Sound, and Technology. Check back for further postings.

<http://www.dosits.org/tutorials/>

### **World Oceans Day**

Celebrate World Oceans Day, June 8, 2015, with these resources for kids and teachers. Register your event or find one close to home.

<http://www.worldoceansday.org/youth/>

<http://www.worldoceansday.org/planning/educational/>

### **Youth-Led Intergenerational Project Resources**

Generations United encourages youth to start, expand, and lead intergenerational programs in their communities. The Youth-Led Intergenerational Toolkit and online companion guide outline steps for creating programs – prepare, plan, engage,

implement, share and evaluate – designed to promote intergenerational solutions to societal challenges and build stronger communities.

<http://gu.org/OURWORK/Programs/20132014GenerationsUnitedMentorUp.aspx>

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

### **BEETLES**

Stay tuned! The BEETLES (Better Environmental Education Teaching, Learning & Expertise Sharing) project is developing a suite of resources specifically for outdoor science field instructors, including outdoor environmental educators, naturalists, and others. By the end of the summer, they expect to have 11 research-based professional learning sessions for field instructors and 25 outdoor student activities that demonstrate how the research can be put into practice in the field. All materials will be available free of cost on the website, along with a series of leaders videos. Sign up to stay in the loop.

<http://beetlesproject.org/>

### **Parks Journal Online**

From the World Commission on Protected Areas, PARKS, the International Journal of Protected Areas and Conservation, is published twice a year. A newly launched website is dedicated to making the journal contents more easily accessible to the public.

<http://parksjournal.com/>