

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
INFORMATION EXCHANGE FOR MARINE EDUCATORS

AUGUST 2016

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 eeNEWS@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

Environmental Education and Community Stewardship Report

This report is a synthesis of the thinking on how environmental education can lead to conservation objectives through community stewardship. The report can guide environmental education investors, help practitioners improve their program design, and give evidence to program directors that what they are doing will lead to change at a landscape scale.

<http://www.environmentalleadershipstrategies.com/index.php/resources/>

Freshwater and Protected Areas

This supplement issue of Aquatic Conservation: Marine and Freshwater Ecosystems, focuses on freshwater protected areas. The supplement issue is available online and will be freely accessible for one year.

<http://onlinelibrary.wiley.com/doi/10.1002/aqc.v26.S1/issuetoc>

MPAs as Eco-cultural Systems

The June-July 2016 MPANews, Vol. 17, No. 5 discusses MPAs and indigenous people at the intersection of culture and conservation. The newsletter touches on management issues in the U.S., New Zealand, and elsewhere.

<http://depts.washington.edu/mpanews/issues.html#JunJul2016>

PROGRAM OF THE MONTH

Ocean Challenge Live!

Ocean Challenge Live! will follow American Rich Wilson as he sets sail on November 6, 2016, as a participant in Vendée Globe, a solo, round-the-world, non-stop sailing race. His Ocean Challenge Live! website offers a free, interactive, curriculum-based learning program that focuses on science, math, geography, and history, all in a real world context. It includes a standards-aligned Teacher's Guide with 15 current events activities and 10 team projects. Every day from sea, he will send an audio report, biometric data, and more. Each week he and his team of experts will answer student questions and write a formal essay on a topic in the Teacher's Guide for that week. During the race, you can access an interactive map with daily position updates of the boat, watch podcasts, and much more. Download the Teacher's Guide and watch a brief video about the Ocean Challenge Live! program on the website.

<http://vg2016.sitesalive.com/noaa>

WEBSITES OF THE MONTH

Conservation Training - Online

The Nature Conservancy supports ConservationTraining.org to provide free online conservation training from experts across the globe. Curriculum topics include GIS, Reef Resilience, Biodiversity Valuation, and more. Free registration is required.

<https://www.conservationtraining.org/>

Sciblogs

Funded by the Science Media Centre, a science and technology journalism organization in New Zealand, Sciblogs is a collection of multiple science blogs addressing environment and ecology, science and society, and more. Sciblogs publishes new entries from all of its affiliate blogs on its homepage, facilitating browsing and allowing visitors to quickly stay up-to-date on their favorite topics.

<http://sciblogs.co.nz>

REQUESTS

Middle School Citizen Science Survey

Gwen Noda at the University of Missouri—St. Louis is examining how teachers do (or don't) use citizen science in their classrooms, and has a short survey for current or former middle school science teachers.

https://umsl.az1.qualtrics.com/jfe/form/SV_7OQT8yZrfnEOPhX

GRANTS AND OPPORTUNITIES

Advancing Informal STEM Learning

The NSF Advancing Informal STEM Learning program seeks to advance new approaches to and evidence-based understanding of the design and development of nonformal STEM learning opportunities; provide multiple pathways for broadening access to and engagement in STEM learning experiences; and advance innovative research on and assessment of STEM learning in informal environments. The deadline for submission is November 8, 2016.

<http://www.nsf.gov/pubs/2015/nsf15593/nsf15593.htm>

Beautify the Bucket Competition

Artist Boat is hosting a Beautify the Bucket Competition where citizens can paint one of the trash barrels that goes on Galveston's beaches. The deadline for registration is September 2, 2016.

<http://www.artistboat.org/beautify-the-bucket-competition.html>

Beneath the Waves Youth Making Ripples Film Competition

The aim of the Beneath the Waves Youth Making Ripples film festival and competition for K-12 students is to engage students in marine science education, and to highlight the importance of scientific research related to ocean and coastal communities. Students should submit short films (< 5 minutes) on any marine science topic of their choice. The deadline for submission is December 5, 2016.

<http://beneaththewaves.org/youth-programs/submit-a-youth-film/>

BirdSleuth Curriculum Giveaway

The Cornell Lab of Ornithology invites all educators (teachers, youth development professionals, homeschool families, and others) who use BirdSleuth in their programs to enter to win a free curriculum; just complete a short survey. The deadline to enter is August 31, 2016.

<https://www.surveymonkey.com/r/LLZCYG6>

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, 2016.

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

Champions of Change for Sustainable Seafood

Nominate a Champion for Change for Sustainable Seafood. Nominees may include fishermen promoting sustainable fishing practices, business owners who have created new opportunities for economic and ecological prosperity, innovators in the field of mariculture, and community leaders. The deadline for nomination is September 9, 2016.

<https://www.whitehouse.gov/champions>

Charlotte Martin Foundation Grants

The Charlotte Martin Foundation focuses on two areas of interest: Increasing opportunities for minority youth; and, Conserving biodiversity in a changing climate.

They fund communities in Alaska, Idaho, Montana, Oregon, and Washington. Yearly application deadlines are March 1 and September 1.

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

Climate Leadership Awards

The EPA offers the Climate Leadership Awards. Categories include Organizational Leadership, Supply Chain Leadership, and more. The deadline for application is September 26, 2016.

<https://www.epa.gov/climateleadership/climate-leadership-awards-application-process-eligibility-and-evaluation-criteria>

Earth Science Week Contests

The goal of Earth Science Week, October 9-15, 2016 - conducted annually by the American Geological Institute in partnership with other sponsors - is to encourage students, educators, and the public to explore the natural world and learn about geosciences. With this year's theme, Our Shared Geoheritage, contests include a photography, visual arts, and essay contest. The deadline for entry is October 14, 2016.

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

EcoChallenge

The EcoChallenge is a Northwest Earth Institute event that demonstrates the collective impact of many people making sustainable changes in their everyday lives. For two weeks every October, participants are challenged to change one habit for the Earth. Choose your challenge and connect with other EcoChallengers, and collectively, prove that small actions create real change. This year's EcoChallenge runs October 14-18, 2016.

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

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 December 7, 2016.

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

Elmer's Teacher Tool Kit Grant

These grants provide teachers with the means to replicate, in their own classrooms, projects found in the Winning Projects Guide from the Kids in Need website. The projects make creative use of common teaching aids, approach curriculum from an imaginative angle, and/or tie nontraditional concepts together for the purpose of illustrating commonalities. The deadline for application is September 30, 2016.

<https://kidsinneedfoundation.submittable.com/submit/61662>

Future City Competition

The Future City Competition is a program developed for students in grades 6-8 to help them foster interest in STEM. Student teams, along with an educator and volunteer mentor, research and design a solution to a city-wide challenge. This year's challenge, Waste Not, Want Not, encourages students to design waste management systems for residential use and small businesses.

<http://futurecity.org/>

Get to Know Contest

Youth ages 19 and under are invited to get outside and create original works of art, writing, photography, video, and/or music inspired by nature or the outdoors. The contest urges youth to get outdoors, get inspired, and share their outdoor experiences. The deadline for submission is November 1, 2016.

<http://www.get-to-know.org/contest/us/>

Grants for Grades K-5

Toshiba America Foundation offers grants to K-5 grade teachers to help bring an innovative hands-on math or science project into their classrooms. The deadline for application is October 1, 2016.

<http://www.toshiba.com/taf/k5.jsp>

Gulf of Mexico B-WET Funding Opportunity

NOAA's National Marine Fisheries Service Southeast Region seeks proposals under the Gulf of Mexico Bay-Watershed Education and Training (Gulf B-WET) Program. The 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, related professional development for teachers, and help to support regional education and environmental priorities in the Gulf of Mexico. The deadline for application is October 28, 2016.

http://sero.nmfs.noaa.gov/outreach_education/gulf_b_wet/index.html

High Impact/Broad Implementation STEM Education Partnerships

NASA seeks to complement its education activities by partnering with organizations to leverage resources, reach wider and more diverse audiences, and achieve mutually beneficial objectives. The partnership should have a clear vision with measurable outcomes, leverage the core capabilities of each organization, expand the impact of NASA's education activities, and further the mission of each partnering organization. The deadline for proposals is December 31, 2016. NASA will conduct periodic teleconferences; to subscribe, go to <http://www.nasa.gov/education/express>.

<https://nspires.nasaprs.com/external/solicitations/summary.do?method=init&solId={7C51B84E-3890-A80F-6259-F8A1D67F83F9}&path=open>

Historically Black Colleges and Universities Undergraduate Program

The NSF is seeking proposals for the Historically Black Colleges and Universities -- Undergraduate Program. The program is committed to enhancing the quality of undergraduate STEM education and research at Historically Black Colleges and Universities as a means to broaden participation in the nation's STEM workforce. See the website for complete details. The deadline for pre-proposals for the first opportunity (Targeted Infusion Projects) is September 6, 2016.

http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5481

Lowe's Toolbox for Education Grants

Lowe's Toolbox for Education offers grants to schools and parent/teacher groups. School projects should encourage parent involvement and build stronger community ties. This grant cycle focuses on funding requests that have a permanent impact such as facility enhancement, both indoor and outdoor as well as landscaping/clean up. The next deadline for application is September 26, 2016.

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

National Geographic Kid's Photo Contest

The National Geographic International Photography Contest for Kids accepts photos from youth ages of 6-14. The categories are animals, scenery, people, and humor. The deadline for entry is October 15, 2016.

<http://kids.nationalgeographic.com/explore/contests/international-photography-contest/>

National Medal for Museum and Library Service

This award honors museums and libraries that make extraordinary civic, educational, economic, environmental, and social contributions. The deadline for nomination is October 3, 2016.

<https://www.ims.gov/grants/available/national-medal-museum-and-library-service?GrantId=13>

New England B-WET Funding

NOAA's New England Bay Watershed Education and Training grant program supports place-based environmental education through locally relevant outdoor experiential learning within K-12 school programs. Projects support student and educator environmental education best-practices that are meaningful watershed educational experiences. The deadline for application is October 28, 2016. A webinar is offered August 26, 2016.

<https://noaaevents.webex.com/noaaevents/onstage/g.php?MTID=e962e7db231f3f204d31bb808039b88e6>

http://www.greateratlantic.fisheries.noaa.gov/educational_resources/bwet/applicants/index.html

Patagonia Grants

Patagonia offers grants to organizations that work on root causes of problems and approach issues with a commitment to long-term change, with a focus on organizations that build a strong base of citizen support. Applications are accepted year round at retail stores and twice yearly at the headquarters, with the next deadline for application of August 31, 2016.

<http://www.patagonia.com/grant-guidelines.html>

Polar Education Funding

The National Science Foundation requests proposals that will leverage NSF investment in polar sciences and infrastructure and STEM education research and development, to promote an informed citizenry and the next generation of polar scientists. Projects should facilitate access to polar research efforts in undergraduate education, informal science education, or formal PK-12 science or math education. See the website for deadlines.

http://www.nsf.gov/pubs/2016/nsf16119/nsf16119.jsp?WT.mc_id=USNSF_25&WT.mc_e v=click

Professional Development Curriculum RFP

The American Association for the Advancement of Science presents this Request for Proposal from Trainers, Facilitators, Leadership/Career Coaches, and Organizational Consultants for the 2016-17 Science & Technology Policy Fellowships Program Professional Development Curriculum. The RFP is to develop an interactive training course/workshop targeted at scientists working in government as part of the Science and

Technology Policy fellowship professional development curriculum. See the RFP for complete details. The deadline for submission is September 16, 2016.

<http://aaaspolicyfellowships.org/sites/default/files/pdfs/2016-17%20STPF%20PD%20RFP%20FINAL.pdf>

Project Learning Tree GreenWorks! Grants

Project Learning Tree offers grants to schools and youth organizations for environmental service-learning projects that link classroom learning to the real world. Students implement an action project they help design to green their school or to improve an aspect of their neighborhood's environment. The GreenWorks! program is open to any Project Learning Tree-trained educator in the U.S. The deadline for application is September 30, 2016.

<http://www.plt.org/apply-for-greenworks-environmental-education-grant>

STEM Portals for Federally Sponsored Opportunities

The U.S. Department of Energy's Office of Science and partners have launched portals for both students and universities to search for federally sponsored STEM education training and funding opportunities.

<http://stemundergrads.science.gov/>

<http://stemgradstudents.science.gov/>

Target Field Trip Grants

The Target Field Trip Grants Program allows teachers to offer experiential learning gained from field trips to enhance students' classroom studies. Funds may be used to cover cost of transportation, entry fees, supplies and equipment, and resource materials. The deadline for application is October 1, 2016.

<https://corporate.target.com/corporate-responsibility/grants/field-trip-grants>

Youth Ocean Advocates Grant Fund

The Youth Philanthropy Team at the Seattle Aquarium offers the Youth Ocean Advocates grant fund for ocean education and/or conservation-focused projects or programs in inland areas of the United States. Projects should target or be led by youth in grades 6-12 and should be based at least 100 miles from ocean coasts. Hurry – the deadline for application is August 23, 2016.

<http://www.seattleaquarium.org/youth-ocean-advocates/grant-fund>

FELLOWSHIPS, INTERNSHIPS, AND TEMPORARY OPPORTUNITIES

AAAS Science & Technology Policy Fellowships

These fellowships from the AAAS provide opportunities for scientists and engineers to learn first-hand about policymaking while contributing their knowledge and analytical skills in the federal policy realm. The deadline for application is November 1, 2016.

<https://www.aaas.org/program/science-technology-policy-fellowships>

Apply to Sail

The International Ocean Discovery Program (IODP) is now accepting applications for scientific participants to sail on Expedition 373 Antarctic Cenozoic Paleoclimate, Expedition 372 Creeping Gas Hydrate Slides and Hikurangi LWD, and Expedition 375 Hikurangi Subduction Margin. The deadlines for application are August 31 and October 1, 2016.

<http://usoceandiscovery.org/expeditions/>

California Sea Grant State Fellows Program

The California Sea Grant's State Fellows Program provides an educational opportunity for graduate students who are interested both in marine resources and in the policy decisions affecting those resources. The program matches highly motivated and qualified graduate students with hosts in California state agencies for a 12-month paid fellowship; 22 fellowships are available. The deadline for application is September 1, 2016.

<https://caseagrants.ucsd.edu/fellowships/california-sea-grant-state-fellowship>

Delta Science Fellows Program

The Delta Science Fellows Program offers graduate students and postdoctoral researchers the opportunity to collaborate with Bay-Delta agency scientists and senior research mentors on data analysis and research projects applicable to the California Bay-Delta system. Six fellowships are expected. The deadline for application is September 23, 2016.

<https://caseagrants.ucsd.edu/fellowships/delta-science-fellowship>

CONFERENCES, WORKSHOPS, AND PROFESSIONAL DEVELOPMENT

AREA Conference – West Virginia

The Aquatic Resources Education Association is dedicated to promoting, through sound educational practices, stewardship, and responsible use of aquatic resources, fisheries, and habitats to enhance the quality of life for current and future generations. The theme for the national conference, October 23-27, 2016 in Shepherdstown, West Virginia, is Collaboration: Better Together. Student scholarships may be available.

<http://www.aneanet.org/page-18106>

CERF Conference

The call for session proposals for the Coastal and Estuarine Research Federation's 2017 conference, November 5-9, 2017 in Providence, Rhode Island, focuses on Coastal Science at the Inflection Point: Celebrating Successes and Learning from Challenges. Topics include fisheries, ecosystem based management, and much more. The deadline for submission is September 23, 2016.

<http://www.erf.org/cerf-2017-call-for-sessions>

Climate Change Communication for Environmental Educators - Online

This free online course from EECapacity, September 6-October 28, 2016, is not about climate change science or impacts, but rather about effective practices for *communicating* about climate change through environmental education programs. The course is for environmental education professionals interested in applying current research in climate change communication and psychology to their educational programs.

<http://www.eecapacity.net/activities/online-courses/climate-change-communication-environmental-educators>

Climate Change, Learn and Contribute - Online

Join NOAA's Climate Stewards Education Project September 6, 2016 for the webinar, Climate Change, Learn and Contribute: Become a Citizen Scientist Today!

<https://attendee.gotowebinar.com/register/1932857155813134593>

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. See the website for complete information.

<https://www.ametsoc.org/ams/index.cfm/education-careers/education-program/k-12-teachers/datastreme-program/datastreme-earth-s-climate-system/>

GLOBE El Niño Field Campaign and Webinar - Online

The GLOBE ENSO (El Niño Southern Oscillation) Campaign has been formulated to engage students in determining where and how much El Niño affects local places and to put students in contact with their local environment. To help educators prepare for the El Niño Campaign, GLOBE is hosting a series of free education webinars to discuss the mechanics of the campaign, give updates on data collection, and give participants the opportunity to learn science content from experts. Visit the website for log-in instructions for the final webinar, September 21, 2016, along with recordings of previous webinars in the series.

<http://www.globe.gov/web/el-nino/el-nino-campaign/webinars>

How to Successfully Apply for Federal Fellowships - Online

Join a panel of experts for a webinar on August 24, 2016. During the 90-minute session, panelists will share tips on successfully applying for federal fellowships and traineeships. Panelists from NASA, the Smithsonian Institution, the National Institutes of Health, and the National Science Foundation will attend. To access the webinar, use the event password: 8sHU24T@.

<https://nsfevents.webex.com/nsfevents/onstage/g.php?MTID=ecd623efac41b57aefc37c1f19a6477a3>

Hurricanes - Real NASA Data for Real Learning - Online

Learn to use NASA data to explore hurricanes while integrating STEM curriculum, online resources, and more into your grades 5-8 classroom instruction through this webinar, August 25, 2016. Note that a Hurricane Hunter pilot will all share his experiences and expertise during the webinar. Register online to participate.

<https://www.eiseverywhere.com/ehome/index.php?eventid=191057&>

IMPAC4

The 4th International Marine Protected Areas Congress, IMPAC4, will be held in La Serena-Coquimbo, Chile, September 4-8, 2017.

<http://www.impac4.cl/>

IUCN World Conservation Congress

Held every four years, the IUCN World Conservation Congress, September 1-10, 2016 in Honolulu, Hawai'i brings together leaders from government, the public sector, and others to discuss solutions to pressing environment and development challenges. This year's theme is Planet at the crossroads.

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

Lessons Learned from the Deepwater Horizon Oil Spill – MS and Online

The seminar, Building Resilient Communities: Lessons learned from the Deepwater Horizon oil spill, September 27, 2016 in Long Beach, Mississippi and online, will discuss traits that made communities more resilient after the Deepwater Horizon oil spill, discuss programs and resources that are available to communities, share lessons learned in overcoming disasters, and identify ways to strengthen resiliency.

<https://gulfseagrant.wordpress.com/oilspilloutreach/presentations/building-resilient-communities/>

NAI International Conference

The 2017 National Association for Interpretation's International Conference on Interpretation will take place March 19-23, 2017 in San Jose del Cabo, Mexico. The theme is Interpretation: Awakening Curiosity to Conserve and Protect. The deadline for submission is October 2, 2016.

http://www.interpnet.com/NAI/interp/Events/NAI_International_Conference/nai_events/NAI_International_Conference.aspx

NAI National Workshop

The theme of the 2016 NAI National Workshop, November 8-12, 2016 in Corpus Christi, Texas, is Nature Protection Cultural Connection.

http://www.interpnet.com/NAI/interp/Events/NAI_National_Workshop/nai_events/NAI_National_Workshop.aspx

NASA STEM Webinars

The NASA STEM Educator Professional Development Collaborative presents a series of free webinars open to all educators. Check out both upcoming and archived webinars.

<http://www.txstate-epdc.net/events/>

Ocean Exploration Workshops – Various

NOAA's Ocean Exploration Program and partners offer Exploring the Deep Ocean with NOAA 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.

- September 24, 2016 with Birch Aquarium at Scripps Institution of Oceanography in San Diego, California. The deadline for registration is September 2, 2016. Contact Audrey Evans at audrey@ucsd.edu
- October 1, 2016 with the North Carolina Aquarium at Fort Fisher, in Fort Fisher, North Carolina. The deadline for registration is September 9, 2016. Contact Jennifer Metzler-Fiorino at jennifer.metzler-fiorino@ncaquariums.com
- October 1, 2016 Oregon Museum of Science and Industry, in Portland, Oregon. The deadline for registration is September 23, 2016. Contact Nate Lesiuk at nlesiuk@omsi.edu
- October 8, 2016 with the University of South Florida College of Marine Science, in St. Pete Beach, Florida. The deadline for registration is September 16, 2016. Contact Teresa Greely at greely@marine.usf.edu
- October 15, 2016 with Dauphin Island Sea Lab, on Dauphin Island, Alabama. The deadline for registration is September 23, 2016. Contact Sara Johnson at sejohnson@disl.org

- October 15, 2016 with the Georgia Aquarium, in Atlanta, Georgia. The deadline for registration is September 23, 2016. Contact Kim Morris-Zarneke at kzarneke@georgiaaquarium.org
- October 15, 2016 with the John G. Shedd Aquarium, in Chicago, Illinois. The deadline for registration is September 23, 2016. Contact Jackie Formoso at jformoso@shedd Aquarium.org
- October 22, 2016 with the New England Aquarium, in Boston, Massachusetts. The deadline for registration is September 30, 2016. Contact Tania Slywynskyj at tslywynskyj@neaq.org
- October 29, 2016 with the National Aquarium, in Baltimore, Maryland. The deadline for registration is October 7, 2016. Contact David Christopher at dchristopher@aqua.org

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

Post-Graduate Mangroves Course – Online

The United Nations University and The Nature Conservancy have teamed up to offer this open-access course on mangroves, designed to build expertise in mangrove biology, ecology, assessment, management, and restoration. Free registration is required.

<http://inweh.unu.edu/postgrad-mangroves/>

Seminars on Science - Online

Registration is open for 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. The deadline for registration for Fall Session 1 is September 5, 2016; for Session 2, October 3, 2016. Science teachers in Title I schools who participate in the online Climate Change course may be eligible to receive a stipend.

Contact them at learn@amnh.org

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

Sharks of the Channel Islands

The Channel Islands National Marine Sanctuary will present the webinar, Sharks of the Channel Islands, August 23, 2016. This webinar series will provide educators with educational and scientific expertise, resources, and training to support ocean and climate literacy in the classroom.

<http://sanctuaries.noaa.gov/education/teachers/webinar-series.html>

Sustainability in Everyday Life - Online

This free, online course from Chalmers University of Technology starting August 29, 2016, offers information and skills required to make sustainable choices. The course is organized into five key themes: chemicals, globalization, climate change, food, and energy. These five themes represent challenges that people face day-to-day managing choices relating to sustainability.

<https://www.edx.org/course/sustainability-everyday-life-chalmersx-chm002x-0>

Sustainable Trails Conference

The 2017 Sustainable Trails Conference will be held March 12-18, 2017 in Bend, Oregon. The conference will feature workshops, mini-workshops, and concurrent sessions. Submit your session or workshop proposal.

<http://www.trailbuilders.org/training/sustainable-trails-conference-bend-or-march-12-18-2017>

Transforming Youth Outdoors Webinars - Online

Transforming Youth Outdoors is an online learning community committed to getting youth outdoors, offering fee membership and free resources curated by experts in the field. Check the Facebook page for information about upcoming webinars.

<https://www.facebook.com/TransformingYouthOutdoors/>
<http://mytyo.org/>

EDUCATIONAL RESOURCES

America's Public Lands Explained

Read these brief descriptions from the U.S. Department of Interior about the different federal lands (e.g. National Parks, Wildlife Refuges, etc.) to help you explain them to your visitors.

<https://www.doi.gov/blog/americas-public-lands-explained>

Atlas of Ocean Wealth

The Nature Conservancy and partners supports the Atlas of Ocean Wealth, a collection of information about the economic, social, and cultural values of coastal and marine habitats from all over the world. The atlas includes over 60 maps illustrating ecosystem services as well as a chapter on how ecosystem services can be incorporated into marine planning.

<http://oceanwealth.org/resources/atlas-of-ocean-wealth/>

Battle of the Atlantic WW II Battlefield Archaeology Expeditions

In 2014, explorers located the remains of the German U-boat *U-576* and the freighter *S.S. Bluefields* from the Battle of the Atlantic near one another in approximately 230 meters of water, 35 miles offshore. From a base of operation aboard the R/V *Baseline Explorer*, an expedition team will explore the final resting place of these vessels in two stages: the first from August 22-September 6, 2016, and the second from October 27-November 10, 2016. Explorers will use two human-occupied submersibles and an autonomous underwater vehicle to examine the two wrecks and surrounding battlefield area for their archaeological and biological habitat significance. *After August 19, 2016*, check out the website and Battlefield of the Atlantic Expedition Education Module.

<http://oceanexplorer.noaa.gov/explorations/16battlefields/welcome.html>

Billion-Dollar Weather and Climate Disasters

The National Centers for Environmental Information tracks severe weather and climate events that have great economic and societal impacts. This NOAA website offers a glimpse of these events, along with different visualizations of the data.

<http://www.ncdc.noaa.gov/billions/overview>

Blue Carbon

Blue carbon is the carbon stored in coastal and marine ecosystems. This article from the EBM Toolbox offers a discussion of blue carbon and tools to quantify it.

<https://meam.openchannels.org/news/meam/ebm-toolbox-tools-and-resources-measuring-blue-carbon>

Blue Solutions Interview Series

The Blue Solutions Interview Series features interviews with experts working on coastal issues and highlights what works, how, and why. By looking for existing good practices, the project taps into the extensive knowledge, inspiration, and expertise that exists within the global ocean community.

<http://bluesolutions.info/blue-solutions-interview-series/>

Coral Reef Ecology Curriculum

The Coral Reef Ecology Curriculum from the Khaled bin Sultan Living Oceans Foundation is an educational resource for teachers and students interested in learning about coral reefs. It offers a wide variety of standards-aligned educational materials including custom-built interactive exercises, lesson plans, and more.

<https://www.livingoceansfoundation.org/education/portal/>

Deepwater Wonders of Wake Expedition

Through the Deepwater Wonders of Wake: Exploring the Pacific Remote Islands Marine National Monument Expedition 2016, July 27-August 19, 2016, scientists are exploring the Pacific Remote Islands Marine National Monument in a region where virtually no previous exploration has taken place. Here scientists have been searching for large-scale, high-density deep coral and sponge communities and collecting baseline data critical to managing and protecting vulnerable deep-sea marine habitats. Watch video highlights from ROV dives, study content essays, and much more.

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

Dispatches from the Gulf

This website offers a series of 50 short videos to complement the Dispatches from the Gulf television documentary. The website also hosts a variety of other resources, including educators guides, transcripts, and more. The shorts are also available free of charge on DVD for institutions with broadband/internet streaming restrictions.

<http://dispatchesfromthegulf.com/>

Eco-generation School Kits

The Eco-generation School Kit project is a series of theme-based Environmental Education kits designed facilitate environmental education. Downloadable kits include Understanding Land, Enduring Litter, Climate Change, and much more.

<http://tunza.eco-generation.org/resourcesMain.jsp>

Education & the Environment Initiative

The California Education and the Environment Initiative (EEI) is a free K-12 curriculum that teaches critical skills in science and history/social science using environmental topics such as water and energy. The new website includes online trainings, common core correlation guides, and more.

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

Educational Resources

These teacher resources were created by faculty of the University of Georgia Marine Extension Service and Georgia Sea Grant Marine Education Interns. Resources include field guides, curriculum, and more, highlighting coastal Georgia flora, fauna, educational activities, and research. Curriculum highlights crabs, marine debris, and more. Check this out.

http://marex.uga.edu/education_resources/

Exploring Carolina Canyons Expedition 2016

Underwater canyons host a high diversity of biological habitats, including deep-sea coral communities and commercially-important fish habitats, but the full extent of their distribution and community structure is still unknown. From August 24-September 7, 2016, explorers aboard the NOAA Ship *Pisces* will investigate underwater canyons approximately 50 miles off the coast of North Carolina, and expand knowledge gained from previous east coast canyons-focused expeditions conducted in more northern regions of the U.S. Atlantic coast. The purpose of this expedition is to investigate the biological and geological features in this area, in particular deep-sea corals and cold seeps. *After August 19, 2016*, check out the website and explore the Exploring Carolina Canyons Expedition Education Module.

<http://oceanexplorer.noaa.gov/explorations/16carolina/welcome.html>

F1000Research

F1000Research is an online journal that publishes articles, opinion pieces, posters, and slides relating to life science and medicine. While almost all of the topics focus on health, readers of this newsletter may be interested in articles addressed under Publishing, Education, & Communication. Articles are published within seven days of submission and visitors can read through the open peer review process themselves. This format allows science students and researchers to explore conversation and critiques of recent studies. Be sure to check out the Gateways and Channels links.

<http://f1000research.com/>

Federal Crowdsourcing and Citizen Science Toolkit

This toolkit shows five basic process steps for planning, designing, and carrying out a crowdsourcing or citizen science project. At each step, you'll find a list of tips you can use to keep your project on track. The website also offers case studies, a resource library, and more. Be sure to check out the links to additional websites.

<https://crowdsourcing-toolkit.sites.usa.gov/>

Future of Earth's climate

This series of five guided-inquiry activities from the Concord Consortium examine data and models that climate scientists use to attempt to answer the question of Earth's future climate. Be sure to look through additional linked resources by subject, grade level, and more.

<https://concord.org/stem-resources/what-future-earths-climate>

Global Open Data Index

The Global Open Data Index is an index of government open data and an assessment of these indexes. Visitors to the website can view open datasets, when available, by following links on the graphs or by conducting a text search. While much of the data reviewed focuses on governing, topics also include pollutant emissions, water quality, and more.

<http://index.okfn.org/>

Holding Onto the Green Zone

Holding Onto the Green Zone: A Youth Program for the Study and Stewardship is from Save Our Streams. The toolbox offers downloadable action guides, a leader guide, and more.

<http://www.creekfreaks.net/toolbox>

KQED Digital Tools

KQED offers short video tutorials discussing the basics of some free online tools for teaching and learning. The tools can be incorporated into the classroom to convey information visually, make persuasive arguments, and allow for a variety of collaborative opportunities.

<http://www.pbslearningmedia.org/collection/digital-tools/>

MARE K-1 Curriculum

MARE and the California Coastal Commission offer the free standards-aligned K-1 units. The Kindergarten unit is about Ponds, and the 1st grade unit is about Life at the Seashore. Read the overviews and complete a short survey before going to the curriculum download site.

<http://mare.lawrencehallofscience.org/curriculum/teacher-guides>

National Wildlife Federation Lessons

The National Wildlife Federation is a nationwide federation of state and territorial affiliate organizations and supporters. Their educator pages offer lesson plans about habitat, ecosystems, and more. Check these out, and browse other links from the page.

<http://www.nwf.org/What-We-Do/Kids-and-Nature/Educators/Lesson-Plans.aspx>

Nautilus Live

The Ocean Exploration Trust, NOAA's Office of National Marine Sanctuaries, and Office of Ocean Exploration and Research are partnering to explore the deep waters of the west coast National Marine Sanctuaries aboard the Exploration Vessel *Nautilus*. The ship is equipped with ROVs and a satellite telepresence system streaming live video from the ship and seafloor 24 hours/day, so visitors can watch and interact with explorers at sea.

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

New Marine Protected Areas Websites

The MPA Center and the National Park Services Oceans have launched new websites. Check out the 88 ocean parks, the MPA blog, and much more.

<https://www.nps.gov/subjects/oceans/index.htm>

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

Open Notebook

The Open Notebook is designed to help science journalists and students hone their reporting and writing skills. The website offers discussion and advice about pitching stories, reporting, and writing, along with interviews with science writers about their craft, an advice column, and more. The Pitch Database allows visitors to search for article pitches by publication.

<http://www.theopennotebook.com>

Plum Landing Collection

Teach STEM concepts and practices in the outdoors with PBS LearningMedia's Plum Landing, for grades 1-4. This environmental education project from WGBH invites elementary students to virtually visit ecosystems around the world and then to head outdoors to explore their own ecosystems. The resources, aligned with the Next Generation Science Standards, immerse students in content topics and science process skills.

http://www.pbslearningmedia.org/collection/plumlanding/?topic_id=1554

Scholarpedia

Scholarpedia is a cross between Wikipedia and a scholarly journal; it is peer reviewed and any of its articles can be cited like journal articles. Each topic page is overseen by a recognized expert in the field who must approve all revisions, and new pages must be sponsored by a curator and reviewed by at least two other scholars. Current focal areas include physics and math; consider expanding it to the oceans and coasts!

<http://www.scholarpedia.org>

Science WOW

The Science WOW! weekly email newsletter presents NASA's latest science education offerings delivered Weekly on Wednesdays. Each week's message kicks off with a science question and a link to where you can find the answer. The newsletter also highlights a science education tool. These featured resources include NASA apps, interactive games, 3-D printing templates, and more.

https://www.nasa.gov/audience/foreducators/Express_Landing.html

Signal to Noise

Signal to Noise is an online science magazine designed to foster dialogue between scientists and non-scientists. Its goal is to engage the general public with scientific news and issues without glossing over the experimental process. Categories include Straight Up Science, Interviews, and Science in Art and Entertainment.

<http://www.signaltonoisemag.com>

State of the Climate 2015

The American Meteorological Society has released the report, State of the Climate in 2015. The report provides a detailed update on global climate indicators, notable weather events, and other data collected by environmental monitoring stations and instruments located on land, water, ice, and in space. Read the highlights or download the full report.

<https://www.ametsoc.org/ams/index.cfm/publications/bulletin-of-the-american-meteorological-society-bams/state-of-the-climate/>

Sumatra Seismogenic Zone Expedition

The IODP Expedition 362: Sumatra Seismogenic Zone is slated from August 6-October 6, 2016. Follow the ship reports, sign up for live ship-to-shore video events, and more. Events are free but first-come, first-served, and they fill up fast.

https://docs.google.com/a/noaa.gov/forms/d/e/1FAIpQLSfKgBl6-xA1tsmiA_lhBCYzAsgn8DhjnUhylyT4Bz7_3oXIsQ/viewform

https://iodp.tamu.edu/scienceops/expeditions/sumatra_seismogenesis.html

Sustainable Financing

Blue Solutions is developing a series of short summary papers explaining market-based conservation financing approaches. Each paper will introduce options for conservation finance mechanisms and showcase case examples documented by the Blue Solutions Initiative.

<http://bluesolutions.info/sustainable-financing/>

Teach4Climate Toolkit

The #Teach4Climate Back to School 2016 Media Kit offers links to a myriad of different resources for both teaching about climate change and promoting climate change education.

<http://www.climategen.org/blog/teach4climate-back-school-2016-campaign/>

Texas Children in Nature Back-To-School Resources

Texas Children in Nature has compiled a website with links to resources for teachers who want their students to learn from and about the natural resources of Texas. In addition to resource links, there are loaner trunks, a community action guide, and more.

<http://texaschildreninnature.org/blog-notes/back-to-school-resources-for-teachers-and-parents>

Venngage

Venngage is an online tool that facilitates visual story-telling through charts, maps, icons, and visuals that can be used on infographics, reports, or posters. The website offers different templates, sorted into categories such as statistics, timelines, geography, and comparison. While some of the templates require a monthly subscription, others are free.

<https://venngage.com>

Watershed Sleuth

The EPA and the National Environmental Education Foundation offer online Watershed Sleuth activities to help K-12 students learn how to help solve water quality problems. Students can build a model aquifer, learn where their water comes from, and more.

<https://www.neefusa.org/watershed-sleuth>

YSA Learning Center

Youth Service America offers youth, educators, and others free resources and trainings to help young people take action and make an impact in their community. In addition to downloadable guides, video trainings include Kids in Action Guide (project planning for children ages 4-11), Youth Changing the World Toolkit (project planning for teens and young adults ages 12-25), and the Semester of Service Teacher Toolkit (project facilitation for educators and mentors). Each video course walks viewers step-by-step through how to use the corresponding resource.

<https://ysa.csod.com/catalog/CustomPage.aspx>

INITIATIVES, JOURNALS, and MORE

International Coastal Cleanup

The annual International Coastal Cleanup is September 17, 2016, but events are scheduled at different times in many locations. It is the largest volunteer effort for the ocean and waterways. Sign up, search for a cleanup near you, download debris reports, and more.

<http://www.oceanconservancy.org/our-work/international-coastal-cleanup/>

Online Volunteering Website

The United Nations Volunteers offers an Online Volunteering service website. Online volunteering allows organizations and volunteers to team up to address sustainable

development challenges anywhere in the world, from any device. Needed skills include writing, training, and much more.

<https://www.onlinevolunteering.org/en>