

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

**OCTOBER 2011**

This update is supported by NOAA's Ocean Exploration and Research Program and 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://mpa.gov/resources/education/#exchange>. Contact the editor directly at [phyllis.dermer@noaa.gov](mailto:phyllis.dermer@noaa.gov), or by phone at (865) 932-5074, to discuss further enhancements or to contribute information for future issues.

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## **Notable Website Termination**

### **NBII Website Termination**

In the 2012 President's Budget Request, the National Biological Information Infrastructure (NBII) is terminated. As a result, all resources, databases, tools, and applications within the website will be removed on January 15, 2012.

[http://www.nbii.gov/portal/server.pt/community/termination\\_of\\_nbii\\_program/2057](http://www.nbii.gov/portal/server.pt/community/termination_of_nbii_program/2057)

## **NOTABLE ARTICLE**

### **Historical Reconstruction Article**

The research article, "Historical reconstruction reveals recovery in Hawaiian coral reefs," published online in the journal PLoS ONE, concludes that historical changes in human

societies and their relationships with coral reef ecosystems can explain whether these ecosystems exhibit patterns of sustainability and resilience or decline and degradation. The article is available for downloading free from the website.

<http://www.plosone.org/article/info:doi/10.1371/journal.pone.0025460>

## **PROGRAM OF THE MONTH**

### **Earth Exploration Toolbook**

Developed by scientists and educators, the Earth Exploration Toolbook is a collection of online Earth system science activities. Each chapter introduces one or more scientific data sets and analysis tools that enable users to explore some aspect of the Earth system. Within the context of a case study, each chapter guides users through a process in which they access data and use analysis tools to explore real issues and questions in Earth system science. The toolbook is broken down into chapters, and each chapter further broken into sections for easier computer access. Chapters include Annotating Change in Satellite Images, Are Our Cities Warming the Earth?, Evidence for Plate Tectonics, and more.

<http://serc.carleton.edu/eet/>

## **WEBSITE OF THE MONTH**

### **National Academies Press Books**

The National Academies Press, publisher for the National Academy of Sciences, National Academy of Engineering, Institute of Medicine, and National Research Council, has made all PDF versions of books downloadable to anyone free of charge. This includes a current catalog of more than 4,000 books plus future reports produced by the Press. Few exceptions apply.

<http://www.nap.edu/>

## **MESSAGE FROM THE BRIDGE**

### **Ocean Observing Systems**

The Bridge Data Analysis Teaching Activity (DATA) Series offers a number of activities that incorporate ocean observing system data. The activities cover a range of topics including conductivity, upwelling, temperature, waves, sea level, and more. If you haven't already used these activities, check them out and give your feedback via the pop-up survey. If you have already used them, please fill out the brief feedback survey to help improve the DATA activities to better meet your needs. The survey will open when you click on one of the activities.

<http://www2.vims.edu/bridge/search/oosarchives.cfm>

## **REQUESTS**

### **Call for Contributions**

Golson Media for Salem Press invites academic editorial contributors to a new reference work about biomes and ecosystems to be published in 2013. With approximately 600 articles in 4 volumes, *Biomes and Ecosystems: An Encyclopedia* will review key biological and geographic classifications tied to the high-school and college curriculum.

The reference work will cover the broad scope of biomes and ecosystems around the world. Please respond by October 31, 2011.

<http://copeh-can.typepad.com/blog/2011/06/call-for-authors-biomes-and-ecosystems-an-encyclopedia-edited-by-robert-warren-howarth.html>

### **Call for Films**

The 9th Annual San Francisco Ocean Film Festival is soliciting films for the festival, March 8-11, 2012. The deadline for submission is December 15, 2011.

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

### **Teacher Feedback Requested**

The Sealtag curriculum is newly released (see below). They strive to continually improve, and encourage teachers and educators to review the curriculum and give feedback.

Contact Lisa Mulcahy at [science.writer@mareposa.com](mailto:science.writer@mareposa.com)

## **GRANTS AND OPPORTUNITIES**

### **ACE's Biggest Loser Energy Competition**

The Alliance for Climate Education challenges you to reduce your school's energy use. Begin by November 4, 2011.

<http://acespace.org/action-teams/do-projects/biggest-loser>

### **Close Encounters of the Bird Kind**

Take a photo, create some artwork, shoot video, write a story or a poem, or create a sculpture showing birds interacting in fun, interesting, or captivating ways with others. The deadline for submission is November 15, 2011.

<http://www.birds.cornell.edu/celebration/challenge/close-encounters/close-encounters>

### **Coastal America Student Ocean Art Contest**

The Coastal America Student Ocean Art Contest is open to all K-12 students in the United States, Mexico, and Canada, as well as full-time university and college students. The art contest draws upon the student's artistic expression to convey the importance of the ocean, coasts, and Great Lakes through the seven essential principles of ocean sciences, to enhance public awareness of the importance of the ocean in the artists' and viewers' lives and to convey how personal actions affect the ocean. The deadline for submission is December 20, 2011.

[http://www.coastalamerica.gov/index.php?option=com\\_content&view=article&id=1668&Itemid=182](http://www.coastalamerica.gov/index.php?option=com_content&view=article&id=1668&Itemid=182)

### **Darwin Medal**

The Darwin Medal, given by the International Society for Reef Studies, is presented every four years at the International Coral Reef Symposium to a senior member recognized worldwide for major contributions throughout her or his career. The deadline for nomination is December 31, 2011.

<http://www.coralreefs.org/darwin-medal.htm>

### **Disney Planet Challenge**

The Disney Planet Challenge Project-Learning Environmental Competition is an opportunity for teachers and students to join a project-based learning competition

inspiring environmental stewardship. Students in grades 3-8 identify an environmental issue in their local community and offer a solution that they manage and document from start to finish. The website offers lesson plans and other resources. The deadline for registration is December 23, 2011.

<http://dpcproject.com/>

### **EPA Fellowships for Undergraduate Environmental Study**

The EPA, as part of its Greater Research Opportunities Fellowships program, is offering undergraduate fellowships for bachelor level students in environmental fields of study. The deadline for application is December 12, 2011.

[http://www.epa.gov/ncer/rfa/2012/2012\\_gro\\_undergrad.html](http://www.epa.gov/ncer/rfa/2012/2012_gro_undergrad.html)

### **Equator Prize**

The Equator Prize recognizes outstanding local initiatives that are working to advance sustainable development solutions for people, nature, and resilient communities. See the website for eligibility. The deadline for nomination is October 31, 2011.

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

### **Ernest F. Hollings Ocean Awareness Trust Fund RFP**

The National Marine Sanctuary Foundation's Ocean Awareness Trust Fund promotes public involvement and understanding of the benefits of the oceans to current and future generations and promotes opportunities for the people of all ages to become actively interested and involved in ocean stewardship. Five subject areas of special interest are marine debris; human interaction with marine mammals; non-point source pollution and runoff; the ocean and human health; and ocean acidification. Projects that partner with national marine sanctuaries will be prioritized. Hurry – the deadline for application is October 24, 2011.

<http://www.nmsfocean.org/our-grants>

### **Georgia Pacific Foundation Grants**

The Georgia-Pacific Foundation supports a wide range of organizations that improve the quality of life in communities where Georgia-Pacific operates. The foundation has identified the following key investment areas: educational efforts, community enrichment, environmental programs, and entrepreneurship initiatives. The deadline for application is October 31, 2011. Check the website for eligibility.

<http://www.gp.com/gpfoundation/grantprocess.html>

### **GrantWrangler**

GrantWrangler is a free grants listing service that helps teachers find classroom grants for school funding.

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

### **Idea Wild**

Idea Wild's efforts help conserve biodiversity by providing biologists and educators working in developing countries with equipment and supplies to aid in their conservation efforts. See the website for details.

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

### **IGES Art Contest**

*Wonders of Weather* is the 16th annual art contest held by the Institute for Global Environmental Strategies. The contest is open to students in grades 2-4, who

investigate weather and draw a picture showing what they learned. The deadline for entry is November 7, 2011.

<http://www.strategies.org/education/index.aspx?sub=education&sub2=student&sub3=2011contest>

### **Lexus Eco Challenge**

The Lexus Eco Challenge is open to students in grades 6-12. Students submit an action plan on a specific environmental issue within a listed topic that affects their local community. The Land/Water Challenge runs September 26-October 31, 2011; Air/Climate runs November 7-December 19, 2011; and the Final Challenge runs January 9-February 20, 2012. The website offers lesson plans, research links, and complete details.

<http://www.scholastic.com/lexus/index.asp>

### **Living on the Ocean Planet Video Competition**

The National Ocean Sciences Bowl, in partnership with NMEA and the Ocean Today Kiosk, is sponsoring the 2012 Living on the Ocean Planet video contest. High school students can submit a 2-minute video on this year's contest theme, *A Sea of Change: Development and Evolution*, which includes not only biological evolution, but also our growing understanding of marine processes and the adaptations of humans to a changing ocean. The deadline for submission is January 20, 2012.

<http://www.nosb.org/competitions-2/nosb-video-contest/>

### **Multicultural Initiative in the Marine Sciences: Undergraduate Participation**

The Shannon Point Marine Center, with funding from the National Science Foundation, invites applications for the Multicultural Initiative in the Marine Sciences: Undergraduate Participation (MIMSUP), a program designed to increase diversity within the next generation of marine scientists. Students spend two quarters at the center taking introductory and specialized courses in the marine sciences, attending seminars and workshops, exploring career opportunities, and engaging in supervised research. Applicants must be in an academic program leading to a bachelor's degree. The deadline for application is November 11, 2011.

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

### **National Public Lands Day Photo Contest**

Submit your photos depicting volunteers participating at a National Public Lands Day site. The deadline for entry is November, 10 2011.

<http://www.publiclandsday.org/resources/contest/photo-contest>

### **National Science Teachers Association Awards**

The National Science Teachers Association sponsors numerous awards for which environmental educators or their students may be eligible. Most applications are due November 30, 2011. Check these out.

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

### **National Wetlands Awards**

The National Wetlands Awards recognize individuals who have demonstrated extraordinary effort, innovation, and excellence in the area of wetlands preservation. The education and outreach award is presented to a teacher, nonprofit staffer, state/local government employee, or reporter involved in hands-on wetland education. The deadline for nomination is December 15, 2011.

<http://www2.eli.org/nwa/nwaprogram.htm>

### **NOAA Preserve America Initiative Internal Funding**

The NOAA Preserve America Initiative Internal Funding Program is designed to stimulate efforts within NOAA to preserve, protect and promote the agency's heritage assets. While funds are awarded only to NOAA offices, other organizations can participate as partners, applying in conjunction with a NOAA employee. The deadline for pre-proposal submission is November 14, 2011.

<http://preserveamerica.noaa.gov/paiif.html>

### **NSF Informal Science Education Grants**

To advance the field of informal science education, the National Science Foundation's Informal Science Education Grants program encourages project proposals that incorporate activities in research and evaluation, design and development, or capacity-building. The deadline for submission is January 11, 2012.

<http://www.nsf.gov/pubs/2011/nsf11546/nsf11546.htm>

### **P3 Design Competition**

The EPA is seeking applications proposing to research, develop, and design solutions to real world challenges involving the overall sustainability of human society. The P3 Awards: A National Student Design Competition for Sustainability Focusing on People, Prosperity and the Planet competition highlights the use of scientific principles in creating innovative projects focused on sustainability. The deadline for application is December 22, 2011.

[http://www.epa.gov/ncer/rfa/2012/2012\\_p3.html](http://www.epa.gov/ncer/rfa/2012/2012_p3.html)

### **President's Environmental Youth Awards**

Sponsored by the EPA, the President's Environmental Youth Awards program recognizes young people for projects which demonstrate their commitment to the environment. The program is available to K-12 individuals, classes, and youth groups. Awards are presented in each of the EPA regions, and one project from each region is presented with a national award. The regional deadline for application is December 31, 2011.

<http://www.epa.gov/enviroed/peya/index.html>

### **QuikScience Challenge and Ocean Leadership Awards**

The QuikScience Challenge for students in California and Hawai'i, sponsored by the USC College Wrigley Institute for Environmental Studies in partnership with Quiksilver Inc., is a competition for teams of middle and high school students that create projects and portfolios on a science subject related to marine or freshwater environments. The deadline for registration is October 31, 2011. Check out the other opportunities, including the Ocean Leadership Awards, lesson plans, tour opportunities, and more.

<http://www.usc.edu/org/quikscience/>

### **Real World Design Challenge**

The Real World Design Challenge is an annual competition that provides high school students the opportunity to work on real world engineering challenges in a team environment. Students use professional engineering software to develop their solutions and generate presentations that convincingly demonstrate the value of their solutions. The deadline for registration is November 18, 2011.

<http://www.realworlddesignchallenge.org/#>

### **Sauvé Scholars Program**

The Sauvé Scholars Program is dedicated to the development of exceptional leadership talent among today's youth. Individuals ages 23-30 can apply. The deadline for application is November 1, 2011.

<http://www.sauvescholars.org/en/scholars>

### **Solution Search**

Rare and National Geographic are sponsoring a contest to find proven innovations in near-shore fisheries through Solution Search - Turning the Tide for Coastal Fisheries. The deadline for application is October 31, 2011.

<http://www.rareplanet.org/challenge>

### **Solve for Tomorrow Contest**

Samsung and its partners are asking teachers to participate in its Solve for Tomorrow contest to foster an increase in the pursuit of Science, Technology, Engineering, and Math (STEM) education and illustrate the practical impact that applying these subjects can have. Participants create a video addressing the challenge, "Show how STEM can help improve the environment in your community". The deadline for application is October 31, 2011.

<https://pages.samsung.com/us/sft/home.htm>

### **Starbucks Shared Planet Youth Action Grants**

The Starbucks Foundation's Youth Leadership Grant Program supports organizations that provide young people ages 6-24 a continuum of services in developing creative approaches to address pressing concerns in their communities. The deadline for submission of a Letter of Inquiry is December 1, 2011.

<http://www.starbucksfoundation.com/index.cfm?objectid=998EF1C4-1D09-317F-BBF7F71F7B681A12>

### **State Farm Good Neighbor Service-Learning Grant**

The State Farm Companies Foundation, through Youth Service America, offers grants for teachers, youth, and school-based service-learning coordinators to implement service-learning projects that culminate on Global Youth Service Day, April 20-22, 2012. Eligible programs engage youth in service-learning, promoting student learning, academic achievement, workplace readiness, and healthy communities. The deadline for application is November 9, 2011.

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

### **Vernier Technology Awards**

The Vernier Technology Awards recognize those educators who demonstrate the best inquiry-based, hands-on, learning activities using data-collection technology interfaced with computers, graphing calculators, and other handheld devices. The deadline for application is November 30, 2011. Note: this is just one of the many awards available from NSTA – check the website for others.

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

### **We Can Change the World Challenge**

The Siemens We Can Change the World Challenge encourages student teams to identify an environmental issue that has local, national, and global implications and to provide a viable, replicable solution. The deadline for application is March 15, 2012.

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

### **YouthToday Grants Today**

*Youth Today* is a national newspaper for professionals in the youth service field. The website offers a listing of available grants for youth service projects.

<http://www.youthtoday.org/grants.cfm>

## **INTERNSHIPS AND TEMPORARY OPPORTUNITIES**

### **Coral Reef Research in French Polynesia**

The Institute for Pacific Coral Reefs based in Moorea, French Polynesia, announces the 2011 call for projects for research grants for young PhD or Postdoc students. Fields of study range from biological to human sciences, but all projects must relate to coral reefs of French Polynesia. The deadline for application is November 30, 2011.

<http://www.ircp.pf/bourses2011.html>

### **Teacher at Sea 2012 Field Season**

NOAA's Teacher at Sea program is now accepting applications for the 2012 field season. The program accepts applications from full-time educators in these categories: K-12 teachers and administrators; community college, college, and university teachers; museum and aquaria educators; and adult education teachers. Thirty spots may be available. The deadline for application is November 30, 2011.

<http://teacheratsea.noaa.gov/apply/index.html>

### **Teachers at Sea – Joides Resolution**

There are two upcoming opportunities for Education Officers aboard the *Joides Resolution*. The IODP Expedition 340: Lesser Antilles Volcanism and Landslides expedition, February 6-March 18, 2012, will focus on gaining a better understanding of processes relating to volcanism along island arcs; some knowledge of volcanology and French will be helpful. The deadline for application is November 15, 2011. Informal educators can apply to sail on IODP Expedition 342: Paleogene Newfoundland Sediment Drifts, June 18-August 17, 2012, focusing on extreme climate events and drilling near to the site of the sinking of the Titanic on the 100th anniversary of that event. A preference will be given to applicants with backgrounds in working with museum and family audiences, as well as the general public. The deadline for application for Expedition 342 is January 15, 2012.

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

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

### **Let's Talk CO2: Educator Workshop - North Carolina**

North Carolina Aquarium at Pine Knoll Shores, through funding and sponsorship from the Aquariums & the Climate Coalition, will offer the educator workshop, Let's Talk CO2: Learning, Sharing and Acting on Climate Change and Ocean Health, November 18–19, 2011 in Pine Knoll Shores, North Carolina. Experts will discuss issues and solutions related to coastal North Carolina, with a focus on native plant and animal species.

Topics will include sea level rise, ocean acidification, coral bleaching, global warming and climate change, and offshore wind power. Stipends are available for participants. Pre-registration is required.

<http://reservations.ncaquariums.com/pineknollshores/Info.aspx?EventID=2>

### **LiMPETS Workshops - California**

Teachers and educators in the San Francisco and Monterey Bay areas can learn how to involve their students in hands-on scientific investigations at their local beach or tidepool. These free workshops are for teachers, grades 6–college, and educators who are interested in participating in the national marine sanctuary's LiMPETS (Long-term Monitoring and Experiential Training for Students) programs. See the website for details.

[http://limpetsmonitoring.org./resources\\_workshops.php](http://limpetsmonitoring.org./resources_workshops.php)

### **Ocean Exploration Workshops - Various**

NOAA's Ocean Exploration Program and partners offer professional development workshops for science teachers. Participants will receive curriculum with CD-ROM's, certificates of participation, and more. Contact the noted educator or check out the website for registration and more information.

#### ***Okeanos Explorer Education Materials Collection, Volume 1: Why Do We Explore? Professional Development Workshops for Educators:***

- November 5, 2011 with South Carolina Aquarium in Charleston, South Carolina. The deadline for registration is October 21, 2011. Contact Jaime Thom at [jthom@scaquarium.org](mailto:jthom@scaquarium.org)
- November 19, 2011 with John G. Shedd Aquarium in Chicago, Illinois. The deadline for registration is November 4, 2011. Contact Jackie Formoso at [jformoso@sheddaquarium.org](mailto:jformoso@sheddaquarium.org)
- November 19, 2011 with Aquarium of the Pacific in Los Angeles, California. The deadline for registration is November 4, 2011. Contact Alie Lebeau at [alebeau@lbaop.org](mailto:alebeau@lbaop.org)
- November 19, 2011 with the National Aquarium in Baltimore, Maryland. The deadline for registration is November 4, 2011. Contact Joe Harber at [jharber@aqua.org](mailto:jharber@aqua.org)
- December 3, 2011 with Dauphin Island Sea Lab on Dauphin Island, Alabama. The deadline for registration is November 18, 2011. Contact Sara Johnson at [sejohnson@disl.org](mailto:sejohnson@disl.org)
- December 3, 2011 with Birch Aquarium at Scripps in San Diego, California. The deadline for registration is November 18, 2011. Contact Adrienne Marriott at [Creec9a@hotmail.com](mailto:Creec9a@hotmail.com)

#### ***Learning Ocean Science Through Ocean Exploration***

- December 1, 2011 with J.L. Scott MEC and Aquarium in Ocean Springs, Mississippi, an Introductory Professional Development Institute for Teachers. The deadline for registration is November 17, 2011. Contact Shelia Brown at [shelia.brown@usm.edu](mailto:shelia.brown@usm.edu)
- December 2, 2011 with J.L. Scott MEC and Aquarium in Ocean Springs, Mississippi, a Follow Up Professional Development Institute for Teachers. The deadline for registration is November 17, 2011. Contact Shelia Brown at [shelia.brown@usm.edu](mailto:shelia.brown@usm.edu)

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

### **Northwest Earth Institute Discussion Courses**

The Northwest Earth Institute offers a series of self-facilitated discussion courses in which participants examine personal values and habits, stimulate conversation, consider

ways to take action toward creating a more sustainable future, and more. The website offers detailed information about each course selection. Courses include Choices for Sustainable Living, Discovering a Sense of Place, Global Warming: Changing CO<sub>2</sub> course, and more.

[http://www.nwei.org/discussion\\_courses/course-offerings/course-offerings](http://www.nwei.org/discussion_courses/course-offerings/course-offerings)

### **NSTA Conferences – Call for Session Proposals**

Submit a session proposal for NSTA's 2012-2013 conferences. The area conferences are:

- Louisville, Kentucky, October 18–20, 2012
- Atlanta, Georgia, November 1–3, 2012
- Phoenix, Arizona, December 6–8, 2012

The national conference will be held in San Antonio, Texas, April 11–14, 2013. The deadlines for submissions are January 15, 2012, for the 2012 area conferences and April 15, 2012, for the national conference.

<http://www.nsta.org/conferences/sessions.aspx?lid=con>

## **EDUCATIONAL RESOURCES**

### **Activities and Resources for Earth Science Teachers**

The Maine Geological Survey website offers downloadable lessons from the Curriculum Resources for Earth Science Teachers Activity Book, covering a wide range of geologic subjects. Topics include hydrogeology, environmental geology, map reading, and more. Check these out.

<http://www.maine.gov/doc/nrimc/mgs/education/lessons/index.htm>

### **Air Quality Workshop for Teachers: A Toolkit for Facilitators**

The goal of the downloadable Air Quality Workshop for Teachers: A Toolkit for Facilitators is for K-12 teachers to gain a better understanding of air quality and air pollution issues, and gain insight into topics such as global warming and climate change, calculating a carbon footprint, and the health effects of air pollution. The materials are taken from the workshop provided each year by EPA's Office of Air Quality Planning and Standards.

[http://airnow.gov/index.cfm?action=learning.workshop\\_for\\_teachers](http://airnow.gov/index.cfm?action=learning.workshop_for_teachers)

### **Classroom Guides**

Edutopia offers free classroom guides and educational downloads with useful tips for teachers, school administrators, and parents. Check out tips for classroom management, teaching with new media, and more.

<http://www.edutopia.org/classroom-guides-downloads>

### **Climate Change Adaptation & Communication**

Park Science is a research and resource management bulletin of the U.S. National Park Service that reports the implications of recent and ongoing natural and social science and related cultural research for park planning, management, and policy. A special issue, downloadable from the website, covers Climate Change Adaptation & Communication.

<http://www.nature.nps.gov/ParkScience/>

### **Climate Change Starter's Guidebook**

This publication from the United Nations Environment Programme (UNEP) and the United Nations Educational, Scientific, and Cultural Organization (UNESCO) provides an introduction and overview for education planners and practitioners on the wide range of issues relating to climate change and climate change education, including causes, impacts, mitigation and adaptation strategies, as well as some broad political and economic principals.

[http://www.unesco.org/new/en/media-services/single-view/news/the\\_climate\\_change\\_starters\\_guidebook/](http://www.unesco.org/new/en/media-services/single-view/news/the_climate_change_starters_guidebook/)

### **Coastal Inundation Toolkit**

The Coastal Inundation Toolkit from the Digital Coast website has been updated with additional features. The toolkit contains tools and information communities need to address coastal inundation issues. Check out the Visualize section with Picture It, Graph It, and Build It.

<http://www.csc.noaa.gov/digitalcoast/inundation/>

### **Curriculum Based Programs**

The National Park Service offers links to education resources of more than 110 national parks through this website. The resources include virtual field trips, lesson plans, student activities, and more.

<http://www.nps.gov/learn/curriculum.cfm>

### **Dune Habitat Restoration Adventure Program - Texas**

Artist Boat, with funding from the National Fish & Wildlife Foundation, offers this opportunity for students and teachers of grades 4-12 to engage as coastal stewards through planting a variety of native dune plants along the upper Texas coast on Follet's and Galveston Islands. There are 77 events available and priority will be given to schools who can participate as early as November and December, 2011.

<http://www.artistboat.org/habitat-restoration.html>

### **Ecopath with Ecosim**

Ecopath with Ecosim is a free ecological/ecosystem modeling software suite. There are three main components: Ecopath - a static, mass-balanced snapshot of the system; Ecosim - a time dynamic simulation module for policy exploration; and Ecospace - a spatial and temporal dynamic module primarily designed for exploring impact and placement of protected areas. The website includes a user manual, tutorials, discussion forums, and more.

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

### **Estuary Video Gallery**

NOAA's National Estuarine Research Reserve Estuary Video Gallery offers a collection of short video clips which can be the next best thing to an actual field trip to an estuary. There are over 150 video clips covering a range of topics. Content is categorized into themes of Estuaries & You, Life in an Estuary, Protect & Restore, Science & Technology, and K – Elementary.

<http://estuaries.gov/Estuarylive/VideoGallery.aspx>

### **Global Reef Expedition**

The Khaled bin Sultan's Living Oceans Foundation is on a ship-based 5-year Global Reef Expedition to map and assess fragile coral reef systems around the world. Check out the mission blog, multimedia, and more.

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

### **Google Earth Blog**

The Google Earth Blog is dedicated to sharing the news, interesting sights, technology, and happenings for Google Earth.

<http://www.earthblog.com/index.html>

### **GPS Lesson**

NOAA offers the lesson plan, I Know Where You Are! for students in grades 9-12 that introduces the basic principles of a Global Positioning System (GPS) and provides practice opportunities in locating specific features on a topographic map. The lesson plan includes extensions, background information, resources, learning procedures, student worksheets, and more.

[http://oceanservice.noaa.gov/education/lessons/where\\_you\\_are.html](http://oceanservice.noaa.gov/education/lessons/where_you_are.html)

### **Green Schools Webinar Series**

The National Environmental Education Foundation and partners offer a series of three free webinars to help educators learn how to green their schools and curriculum. See the website for times and registration information.

<http://www.classroomearth.org/gswwebinars>

### **Groundwater Story**

This online groundwater animation was produced by Leaping Media through Seattle Public Schools and in coordination with King County's Groundwater Protection Program.

<http://www.kingcounty.gov/environment/waterandland/groundwater/education/animation.aspx>

### **LiMPETS Curriculum**

The Farallones Marine Sanctuary Association has completed a five-unit pilot curriculum for the LiMPETS Sandy Beach and Rocky Intertidal Programs. Evolved from a teacher handbook, this new curriculum offers scientific background materials and an array of classroom activities for grades 6 to 12.

<http://limpetsmonitoring.org/>

### **Mediterranean Outflow**

The *JOIDES Resolution* will be exploring Mediterranean Outflow Waters during Expedition 339: Mediterranean Outflow, November 17, 2011-January 17, 2012. Follow along on this international expedition and sign up for a live video broadcast from with the crew (note that broadcast spots fill up quickly).

<http://joidesresolution.org/node/2053>

<https://docs.google.com/spreadsheet/viewform?formkey=dDY3X1AyUzA4R3ICSnA0TVcxSjZPS3c6MA#gid=0>

### **Mid-Atlantic Ridge Microbiology**

The *JOIDES Resolution* is exploring microbiology in the Mid-Atlantic, September 16-November 17, 2011. The education officer will post blog entries, background information, links to educational activities, and more.

<http://joidesresolution.org/node/1983>

### **NESDIS Education & Outreach**

The National Environmental Satellite, Data and Information Service (NESDIS) maintains this website with resources within NESDIS and NOAA that are of interest to students, educators, and others with an interest in the Earth-Sun environment. Materials include an online weather school, a primer on estuaries, and many more resources.

<http://www.nesdis.noaa.gov/EducationOutreach.html>

### **Northwestern Hawaiian Islands Research Partnership**

The Hawai'i Institute of Marine Biology offers this website showcasing the science from the Northwestern Hawaiian Islands Research Partnership. The website will highlight the research coming out of the Northwestern Hawaiian Islands, also known as the Papahānaumokuākea Marine National Monument. The objective of the website is to bring the research findings from this partnership to community members, students, and partners. The website includes news, links to education programs, an events calendar, online forums, and more.

<http://www.hawaii.edu/himb/nwhi/>

### **National Science Foundation Education News**

The National Science Foundation education overview website links to news about NSF-funded educational materials, including classroom resources, reports on recent studies, and more.

<http://www.nsf.gov/news/overviews/education/>

### **A Once and Future Gulf of Mexico Ecosystem**

The Pew Charitable Trusts released a new report, *A Once and Future Gulf of Mexico Ecosystem*. The Pew Environment Group assembled a team of experts to identify strategies and specific actions for a successful recovery of the Gulf of Mexico. The report presents this working group's recommendations for recovering Gulf resources and restoring this natural system.

[http://www.pewtrusts.org/our\\_work\\_report\\_detail.aspx?id=85899364520](http://www.pewtrusts.org/our_work_report_detail.aspx?id=85899364520)

### **Online Hurricane Tools**

The National Ocean Service offers online tools to monitor hurricanes and deliver relevant data before, during, and after a storm. Tools address water levels, observing systems, imagery, and long-term planning.

<http://oceanservice.noaa.gov/news/features/sep11/hurricanetools.html>

### **PBS LearningMedia**

Teachers' Domain is expanding into PBS LearningMedia. This educators' website offers more than 14,000 learning objects to supplement classroom curricula. Standards-aligned resources include videos, documents, images, and activities in math, science, social studies, and other core subjects.

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

### **PBS Teachers: STEM Education Resource Center**

PBS offers this resource center with STEM-related resources drawn from a range of PBS programs, including NOVA, Nature, and Cyberchase. Sections include Science Resources, Free Webinars, and more.

<http://www.pbs.org/teachers/stem/>

### **Penguin Science**

Take your students on a virtual field trip to the Adélie Penguin breeding colony at Cape Royds, Ross Island, Antarctica. Penguin Science is an NSF funded project engaging and educating classrooms and the public with Antarctic penguins as they raise their chicks and cope with global climate change. Follow along with live pictures starting November 10, 2011, check out the classroom activities, and more.

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

### **Sanctuary Watch**

The latest issue of *Sanctuary Watch*, a publication from NOAA's Office of National Marine Sanctuaries. features America's Great Outdoors: The Ocean, Connecting Children to the Great Outdoors; an animated story about the *R/V Manta*; and more. You can download a copy of this issue and read archived issues from the website.

<http://sanctuaries.noaa.gov/news/sw/>

### **Sea Level Rise and Coastal Flooding Impacts Viewer**

NOAA's Coastal Services Center's Sea Level Rise and Coastal Flooding Impacts Viewer now includes all coastal counties in Texas, Mississippi, Alabama, and the Gulf Coast of Florida; new regions will be added in the future. This Digital Coast tool features coastal flooding scenarios coupled with photos of well-known locations that illustrate potential inundation; uncertainty maps; flood frequency information; and social and economic vulnerability information.

<http://www.csc.noaa.gov/digitalcoast/tools/slviewer/>

### **Sealtag**

Sealtag.org is an educational website about telemetry for sea lion research aimed at helping to discover how endangered Steller sea lions are dying. Students can learn about marine mammals and use their detective skills under Alaska Crime Scene Investigations. The website offers a Learning Resources section with free companion science and engineering curriculums for grades 6-12.

<http://sealtag.org/>

### **SeaPerch**

SeaPerch is an underwater robotics program that trains teachers to teach their students how to build an underwater Remotely Operated Vehicle (ROV). Students build the ROV following a curriculum that teaches basic engineering and science concepts with a marine engineering theme. Check out the Teacher Tools for lesson plans and much more.

<http://www.seaperch.org/index>

### **Sing About Science**

Sing a song of chordates, learn a ditty about 200 meters down. The Sing About Science website offers this musical portal through funds provided by the National Science Foundation. The links include lyrics, MP3 files, and more when available. Some linked websites include teacher guides and other materials.

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

### **Storm QuickLook**

NOAA's Storm QuickLook provides a synopsis of near real-time oceanographic and meteorological observations at locations affected by a tropical cyclone.

<http://co-ops.nos.noaa.gov/quicklook.shtml>

### **Tracking Bluefin Tuna**

Check out this website to track Bluefin Tuna in the Atlantic Ocean using Google Earth. An online tour shows what they're tracking, why they're tracking it, and the results of what they've discovered so far.

[http://www.gearthblog.com/blog/archives/2011/10/tracking\\_bluefin\\_tuna\\_across\\_the\\_at.html](http://www.gearthblog.com/blog/archives/2011/10/tracking_bluefin_tuna_across_the_at.html)

### **Turtle Poster**

Ecology Project International is offering a free Sea Turtles of the World poster to educators, for use as a classroom learning tool.

[http://www.ecologyproject.org/promo/free\\_conservation\\_poster](http://www.ecologyproject.org/promo/free_conservation_poster)

### **Underwater Video Feeds**

Save the Blue hosts live video feeds from an offshore production platform in the U.S. coastal waters of the Gulf of Mexico, at 32 and 88 feet below the water line.

<http://www.save-the-blue.org/live-video/>

### **USGS Image Galleries**

The USGS offers links to maps, imagery, and publications available on United States Geological Survey websites. Highlights include the USGS Video and Image Gallery with links to videos, photography, and audio collections; the EROS Image Gallery - Earth as Art with images from aerial photos and satellites; Global Change featuring satellite images showing global change; TerraLook with data sets which can be combined to create a time series of images; and much more.

<http://www.usgs.gov/pubprod/aerial.html>

### **Watersheds: Connecting Weather to the Environment**

This short course on the Meteorology Education and Training website offers knowledge and instructional materials to help participants understand watersheds as our environmental home and the relationship between the weather and the health and protection of the environment. The materials are aimed at meteorologists, but can be useful for all educators. Free registration is required.

[https://www.meted.ucar.edu/training\\_module.php?id=218](https://www.meted.ucar.edu/training_module.php?id=218)

### **Wetlands Ecology and Management Series**

The Northwest Center for Sustainable Resources has released the new curriculum series, Wetlands Ecology and Management. The series includes 7 modules, which are available by downloading from the website, as a CD, and as hard copy.

<http://www.ncsr.org/materials/WetlandsEcologyandManagementSeries.html>

### **Wetlands and Hurricanes**

This instructional guide from the Northwest Center for Sustainable Resources is designed to provide instructors with lecture materials and resources that examine the complex relationship between wetlands and hurricanes, using Hurricane Katrina as a case study. The module describes the vulnerability of the Gulf Coast to damage from hurricanes and the role that wetlands and barrier islands play in coastal protection. Check out the full Wetlands Ecology and Management series (see the note, above).

<http://www.ncsr.org/materials/WetlandsandHurricanes.html>

### **Youth Wetlands Program - Louisiana**

The Youth Wetlands Education and Outreach Program is a Louisiana 4-H program sponsored by the Office of Coastal Protection and Restoration, designed to heighten students' awareness of Louisiana's wetlands, wetland loss, and wetland conservation. The curriculum is tailored to students in grades 4-12 and all lesson plans are designed to follow Louisiana's Grade Level Expectations. In addition to receiving materials, opportunities to participate in wetland restoration projects are available to teacher and students throughout the year in various locations across the state.

[http://www.lsuagcenter.com/en/4H/about\\_4H/programs/science\\_engineering\\_technology/Youth+Wetlands+Week/](http://www.lsuagcenter.com/en/4H/about_4H/programs/science_engineering_technology/Youth+Wetlands+Week/)

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

### **Callaloo**

Callaloo is a new soap opera that has begun airing in nine countries. For the next two years, a cast of colorful characters will deliver messages about climate change, human health, and sustainable development through a radio drama designed to entertain listeners through love triangles, personal struggles, and happy endings. Listen to the first episode on this website.

<http://www.justmeans.com/videos/Callaloo-Episode-1/1324.html>

### **Kibin**

Kibin is a proofreading and editing service; users can submit papers for review and receive assistance from someone in the Kibin community.

<https://kibin.com/>

### **Ocean Film Festival - Georgia**

Gray's Reef National Marine Sanctuary and partners will host the Ocean Film Festival in Savannah, Georgia, September 22-25, 2011. If you're in the area, don't miss this opportunity.

[http://graysreef.noaa.gov/news/features/2011/film\\_festival\\_2011/welcome.html](http://graysreef.noaa.gov/news/features/2011/film_festival_2011/welcome.html)

### **One World One Ocean Campaign**

The One World One Ocean Campaign is a multi-year, multi-platform nonprofit campaign that aims to harness the power of film, television, and new media to generate greater global awareness of the ocean's importance to society and spark a global movement to restore a healthy ocean. Expected releases include 3D IMAX Theatre films, a television series, a 3D theatrical documentary, and hundreds of online videos in a sustained campaign to raise public awareness of the ocean. Educational materials are expected to include classroom presentations, traveling exhibits, companion books, and grassroots outreach. Check out the sweepstakes to go on location with an IMAX film crew; hurry – the deadline for entry is October 17, 2011.

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

### **Right Whale Listening Network**

The Cornell Lab of Ornithology hosts this website showing buoy information from the Stellwagen Bank area that has been set up to listen for right whales and notify area ships of their proximity. Buoys line the shipping channel and pick up right whales' songs and transmit these to Cornell Lab, who determines if it really is a right whale. If so, the lab sends a signal back that turns the buoys on the map from green to red; the buoy

closest to whale gets a whale icon. Local ships receive the red-light whale-alert signals on their navigation gear. By law, ships must then slow down to ten knots and post a whale lookout in the bow. The website also offers links to background information about right whales, bioacoustics, and more.

<http://www.listenforwhales.org/Page.aspx?pid=430>