

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
INFORMATION EXCHANGE FOR MARINE EDUCATORS

JANUARY 2014

This update is funded by the National Marine Sanctuary Foundation in partnership with NOAA's Ocean Exploration and Research Program, with additional support from the National Marine Protected Areas Center, to share information pertinent to the marine educator community. It is intended to encourage exchange of information and programs. We hope that it will also promote collaboration among the different educators addressing similar issues in their programs.

Please share this email with your colleagues and constituents. If you request materials or respond to a request for information, please mention that you learned about it from NOAA's Information Exchange.

The information included here has been compiled from many different sources, including EE-NEWS@NAAEE, EEinGEORGIA, the Scout Report, scuttlebutt, NSTA Express, and others. We have verified web addresses, but make no guarantee that they will remain active. The Department of Commerce/NOAA does not necessarily endorse or promote the views or facts presented on these sites.

To subscribe or unsubscribe to this list, send information to include in the newsletter, or discuss further enhancements, please contact the editor directly at phyllis.dermer@noaa.gov, or by phone at (865) 932-5074

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

Notable References

Abrupt Impacts of Climate Change: Anticipating Surprises

This downloadable brief by the National Academies of Sciences looks at what we know about abrupt changes in the climate system, identifies needed research, and recommends creating an abrupt-change, early-warning system to make sure we aren't caught off guard.

<http://dels.nas.edu/Materials/Report-In-Brief/4265-Abrupt-Impacts?bname=>

A Changing Climate for Endangered Species

NOAA Fisheries scientists are working to ensure that the Endangered Species Act, which turns 40 this year, remains effective in the face of a changing climate. A special section in the latest issue of *Conservation Biology* highlights eight papers authored

by NOAA scientists and their research partners, which consider strategies to incorporate climate change into our decision-making for listed species.

http://www.fisheries.noaa.gov/stories/2013/12/12_4_2013climate_and_the_ea.html

Offshore Fresh Groundwater

Ocean News & Technology has posted this article reviewing a study of newly discovered reserves of low salinity water beneath the seabed on continental shelves around the world. The study article, *Offshore fresh groundwater reserves as a global phenomenon*, was published in *Nature* 504, December 5, 2013.

http://ocean-news.com/news-archives/ocean-science-archives/2013/12/17/vast-freshwater-reserves-found-beneath-the-oceans?utm_source=Ocean+E-news+December+18%2C+2013&utm_campaign=Ocean+E-news12-18-13&utm_medium=email

Plant Invasions in Protected Areas

Plant Invasions in Protected Areas - Patterns, Problems and Challenges reviews plant invasions in protected areas around the world. Springer Link offers the opportunity to review parts of the book prior to purchase.

<http://link.springer.com/book/10.1007/978-94-007-7750-7>

PROGRAM OF THE MONTH

Papahānaumokuākea Marine National Monument Resources

The second installment of Papahānaumokuākea Marine National Monument's (PMNM) partnership with Google using digital imagery and web technology brings PMNM to a broad audience. Internet users can take a virtual tour of Midway Atoll National Wildlife Refuge, Tern and East Islands at French Frigate Shoals, Laysan Island, Lisianski Island, and Pearl and Hermes Atoll through Google Street View.

PMNM's education materials focus on increasing understanding of ecosystem management, developing an ocean stewardship ethic, and training the next generation of leaders to be both scientifically and culturally grounded. All educational activities seek to actively engage the public in protecting the marine environment. Resources include Navigating Change materials, an interactive workbook, and more.

http://www.papahanaumokuakea.gov/news/google_streetview.html

<http://www.papahanaumokuakea.gov/education/>

WEBSITE OF THE MONTH

Climate Wisconsin

Climate Wisconsin is a project of the Educational Communications Board with funding from the Corporation for Public Broadcasting. It offers stories and interactives about climate change, including phenology, ice cover, adaptation & migration, and more. Background essays, teaching tips, and additional resources support each video segment.

<http://climatewisconsin.org/>

GRANTS AND OPPORTUNITIES

5Gyres Waste Free Schools Contest - California

Check the website for opportunities for students K-12 to share their solutions for combating plastics in our oceans. K-5 students can create a 2-dimensional work of art that demonstrates a solution to plastic pollution. Grade 6-12 students should submit project ideas for reducing plastic pollution in their school community. The deadline for submission is January 15, 2014.

http://5gyres.org/how_to_get_involved/projects/waste_free_schools_contest/

AMS Climate Studies Diversity Project for Faculty

The American Meteorological Society's Education Program invites faculty members at minority-serving institutions to apply for the AMS Climate Studies Diversity Project. Accepted applicants will have the opportunity to attend two expenses-paid workshops and study climate science and education from NASA, NOAA, and university scientists. After the workshops, participants will help increase climate literacy by teaching an AMS Climate Studies course at their home institution. The deadline for application is March 14, 2014.

<http://www.ametsoc.org/amsedu/online/climateinfo/diversity.html>

Bezos Scholars Program

The Bezos Scholars Program @ the Aspen Institute is a year-long leadership development program for high school juniors and educators to put their education into action. It begins with a scholarship to the Aspen Ideas Festival and continues through the following school year when Bezos Scholar teams return home to launch sustainable, Local Ideas Festivals that transform their schools and communities. The deadline for application is February 18, 2014.

<http://www.bezosfamilyfoundation.org/scholars>

Bird-Sleuth Habitat Heroes Mini-Grants

The Cornell Lab of Ornithology's BirdSleuth program offers grants to support habitat improvements and citizen science monitoring at schools. From January-June 2014, up to 10 schools per month will be invited to apply for Habitat Heroes mini-grants so they further develop their projects. The deadline for submission is June 30, 2014, but submit early for best chance.

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

Cell Phone Recycling Awareness Contest

Students in grades K-12 are invited to participate in a national cell phone recycling awareness contest sponsored by JASON Learning and the Institute of Scrap Recycling Industries. Students can submit either a video or a poster to the contest. The deadline for submission is January 15, 2014

<http://www.jason.org/contest/2013-2014-cell-phone-recycling-awareness-contest>

Developing the Next Generation of Conservationists

America's Great Outdoors Initiative hopes to foster a conservation and recreation ethic that supports our shared natural heritage, and calls for expanding outdoor job and volunteer opportunities for youth on national lands. The initiative, Developing the Next Generation of Conservationists, brings together public and private partners to support those organizations that are developing innovative conservation job opportunities for youth on public lands which expose young people, particularly urban, tribal, and minority

youth, to the natural world and career opportunities available in conservation. Hurry – the deadline for application is January 8, 2014.

<http://www.nfwf.org/youth/Pages/2014rfp.aspx>

Disney Friends for Change Grants

Disney's Friends for Change Grants offer young change-makers, ages 5-18, an opportunity to help make a lasting, positive change in the world. Projects should highlight the creativity and commitment of young people working to meet the needs of others and show how even small actions can add up to big changes. Projects should take place on or around Global Youth Service Day, April 11-13, 2014. The deadline for application is February 6, 2014.

http://www.ysa.org/disney_friends_for_change_us_grants

EPA's Environmental Education Grants Program

EPA's EE Model Grant Program works to engage communities across the country through educational projects that have a lasting impact on local watersheds and air quality. Grants will be awarded from each of the ten EPA regional offices and EPA's headquarters in Washington, D.C. This grant program provides financial support for projects that design, demonstrate, and/or disseminate environmental education practices, methods, or techniques, and that will serve as models that can be replicated in a variety of settings. The deadline for application is February 4, 2014.

<http://www2.epa.gov/education/environmental-education-ee-grants>

Junior Duck Stamp Art Contest

The U.S. Fish and Wildlife Service oversees the Federal Junior Duck Stamp Program. Students are invited to create duck stamp drawings to show what they have learned about wetlands habitat and waterfowl conservation. Check the website for details, and below for information about new curriculum guides. The deadline for submission is March 15, 2014.

<http://www.fws.gov/juniorduck/ArtContest.htm#GeneralInformation>

Knauss Marine Policy Fellowship

The Knauss Marine Policy Fellowship provides experience to students who have an interest in ocean, coastal, and Great Lakes resources and in the national policy decisions affecting those resources. The program matches highly qualified graduate students with hosts in the legislative and executive branches of government located in the Washington, D.C. area, for a one year paid fellowship. The deadline for application is February 14, 2014. Contact your state Sea Grant program director.

<http://seagrant.noaa.gov/FundingFellowships/KnaussFellowship/ProspectiveFellows.aspx>

Marisla Environmental Program

The Marisla Foundation offers Environmental Program grants for activities that promote the conservation of biological diversity and advance sustainable ecosystem management. Primary emphasis is on marine resources conservation with a geographic focus on western North America, Chile, and the western Pacific. The program also supports the search for solutions to health threats caused by toxic chemicals. The next deadlines for application are January 15 and April 15, 2014.

<https://online.foundationsource.com/public/home/marisla>

NEH Grants for Cultural Organizations

The National Endowment for the Humanities offers support for museums, libraries, historic places, and other organizations that produce public programs in the humanities. Grants support exhibitions at museums, libraries, and other venues; interpretations of historic places, sites, or regions; and more. Hurry – the deadline for application is January 8, 2014.

<http://www.neh.gov/grants/public/museums-libraries-and-cultural-organizations-implementation-grants>

NOAA Fisheries - Sea Grant Joint Graduate Fellowship Program

Applications are open for graduate fellowships in Population and Ecosystem Dynamics and Marine Resource Economics through the California Sea Grant College Program. The deadline for application is January 24, 2014.

<http://www.csgc.ucsd.edu/>

Presidential Innovation Award for Environmental Educators

The Presidential Innovation Award for Environmental Educators Program recognizes outstanding K-12 teachers who employ innovative approaches to environmental education and use the environment as a context for learning for their students. Teachers from each EPA region will be selected to receive the award. The deadline for application is February 28, 2014.

<http://www2.epa.gov/education/presidential-innovation-award-environmental-educators>

Protect Our Reefs Mote License Plate Grants – Florida

This Request for Proposals offers eligible organization funds to support projects related to research, education and outreach, and/or conservation of the Florida coral reef ecosystem. The deadline for proposals is March 1, 2014.

<http://www.mote.org/index.php?src=gendocs&ref=Reefplategrantapp&category=Reef%20Plate>

State-Fish Art Project

The Wildlife Forever State-Fish Art Project challenges young artists to create an illustration of their state fish and a written composition on its behavior, habitat, and efforts to conserve it. The deadline for entry is March 31, 2014.

<http://www.wildlifeforever.org/contest/details>

Youth Voices of Change Video Contest – Minnesota

The Will Steger Foundation and Minnesota Pollution Control Agency are sponsoring Youth Voices of Change: The Climate Change Youth Video Contest for youth in grades 4-12. Students are invited to submit a video (maximum 2 minutes long) that shares solution and/or helps raise awareness about climate change issues. The deadline for entry is May 16, 2014.

<http://classroom.willstegerfoundation.org/about/youth-voices>

INTERNSHIPS AND TEMPORARY OPPORTUNITIES

Georgia Sea Grant Marine Education Internships

The University of Georgia's Marine Education Center and Aquarium offers annual post-baccalaureate internships in marine education, September 2, 2014-August 15, 2015 at

the Marine Education Center and Aquarium, near Savannah, Georgia. The deadline for application is April 4, 2014.

http://marex.uga.edu/sea_grant_internship/

Global Explorers Climate Change Academy

Through a partnership with the National Park Service, Global Explorers is developing a Climate Change Academy for high school students in Summer 2014. This expedition is currently in development and will likely take place in Alaska, based out of Anchorage with exploration in Kenai Fjords and Denali National Parks. Costs for this program will be largely offset by scholarships from the National Park Service. Contact Julia to receive more information as it becomes available.

Contact Julia Breul at julia.breul@globalexplorers.org

High School Student Research Experience in Greenland

High school students are invited to apply for the Joint Science Education Project, a chance to spend three weeks this summer doing field science in and around Kangerlussuaq, Greenland and visit a research station on the Greenland ice sheet. Students will work with Arctic scientists and peers from Denmark and Greenland on research projects in a wide variety of fields including biology, geology, climatology, chemistry and engineering. The deadline for application is January 31, 2014.

<http://www.arcus.org/jsep>

CONFERENCES, WORKSHOPS, AND PROFESSIONAL DEVELOPMENT

Benthic Ecology Meeting 2014

The 43rd Annual Benthic Ecology Meeting will be held March 19-22, 2014 in Jacksonville, Florida. The Beneath the Waves Film Festival will once again be held in conjunction with the conference. The deadline for abstract submission is February 3, 2014; for submission to the film festival, February 21, 2014.

<http://www.unf.edu/coas/biology/benthic/BEM2014.aspx>

Climate Change Professional Development - Online

NOAA's climate portal offers listings of professional development opportunities for those educators interested in learning more about climate change. Opportunities include courses and workshops, hangouts, webinars, and more. Items can be view as a list or via a calendar.

<http://www.climate.gov/teaching/professional-development>

Coastal Concerns Teacher Workshop – Georgia

Join the Sapelo Reserve for the Coastal Concerns Teacher Workshop, February 14, 2014 in Brunswick, Georgia. The workshop will cover a variety of topics including sea level rise and shoreline change, marine debris, and more. The deadline for registration is January 31, 2014.

Contact Georgia Graves at georgiabeachwalk@bellsouth.net

HACCP Course – Florida

Apalachicola National Estuarine Research Reserve offers this Hazard Analysis and Critical Control Point (HACCP) Planning to Prevent the Spread of Invasive Species course January 27-28, 2014 in Eastpoint, Florida. Participants will learn how to develop

and implement HACCP plans for natural resource projects and research activities through practical examples, a case study, and hands-on exercises, and will develop real-life HACCP plans tailored to their scope of work for reducing or eliminating the spread of unwanted species.

<http://www-haccp.eventbrite.com>

Holbrook Travel Professional Development - Various

Holbrook Travel facilitates professional development programs for science teachers in June and July 2014 to Costa Rica, Iceland, Galapagos, and elsewhere. Grants may be available to help with the trip expense.

<http://www.holbrooktravel.com/products/professionaldevelopment-travel>

NOSB Webinars - Online

The National Ocean Sciences Bowl (NOSB) offers professional development opportunities for middle and high school educators focusing on the 2014 NOSB competition theme, Ocean Acidification. The purpose of the series is to provide teachers with the opportunity to enhance their knowledge of topics related to ocean acidification. While the series began with a December 11, 2013 webinar, it will run through January 2014.

<http://nosb.org/professional-development/>

Ocean Exploration Workshops – Various

NOAA's Ocean Exploration Program and partners offer the Okeanos Explorer Education Materials Collection How Do We Explore? Professional Development Workshops for Educators. 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.

- March 15, 2014 with the Georgia Aquarium in Atlanta, Georgia. The deadline for application is February 21, 2014. Contact Kim Morris-Zarneke at kzarneke@georgiaaquarium.org
- March 29, 2014 with the National Aquarium in Baltimore, Maryland. The deadline for application is March 7, 2014. Contact David Christopher at dchristopher@aqua.org
- March 29, 2014 with the South Carolina Aquarium in Charleston, South Carolina. The deadline for application is March 7, 2014. Contact Jaime Thom at jthom@scaquarium.org
- April 5, 2014 with Aquarium of the Pacific in Long Beach, California. The deadline for application is March 14, 2014. Contact Staci Wong at swong@lbaop.org
- April 5, 2014 with John G. Shedd Aquarium in Chicago, Illinois. The deadline for application is March 14, 2014. Contact Jackie Formoso at jformoso@sheddaquarium.org

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

Ocean Sciences 2014 K-12 Student Poster Session

The 2014 Ocean Sciences Meeting, February 23-28, 2014 in Honolulu, Hawai'i, offers an opportunity for students to present their classroom marine science projects to other educators and researchers through a special evening session of K-12 student research posters. Students are encouraged to follow the conference theme of combining traditional knowledge and Western-based science and/or through submissions that

demonstrate research-based projects. The deadline for submission is January 15th, 2014.

<http://www.mbari.org/education/osm2014.htm>

PBS TeacherLine - Online

PBS TeacherLine works in partnership with PBS member stations across the county to provide educators and administrators with resources, support, and opportunities for flexible, online professional development for PreK-12 Educators. Science courses include Human Impacts on Environmental Systems, Earth's Changing Climate, and more.

<http://www.pbs.org/teacherline/>

Project ATMOSPHERE Summer Workshop for Teachers

This free teacher professional development program, July 13-25, 2014 in Kansas City, Missouri, is directed towards improving Earth science literacy and teacher effectiveness by generating interest in science, technology, and mathematics among students at pre-college levels. The workshop will introduce teachers to technologies and techniques for sensing, analyzing, and forecasting weather, as well as explore ways these concepts can be implemented in the classrooms. The deadline for application is March 28, 2014.

http://www.ametsoc.org/amsedu/Proj_ATM/projatm.html

Science Education for 21st Century Learners - Online

The College of Exploration Online Campus offers this course, January 15-February 9, 2014, geared for science educators of all grade levels. It will use videos, websites, articles, and more.

<http://www.coexploration.org/online-campus/index.html>

SciREN – North Carolina

Scientific Research and Education Network (SciREN), February 20th, 2014 in Pine Knoll Shores, North Carolina, is an annual evening workshop that aims to connect local marine and environmental scientists with K-12 teachers. This networking event allows teachers to obtain classroom-ready exercises from scientists that help bring local research to the classroom.

<http://sciren.web.unc.edu/>

Sustainable Trails Conference

The 2014 Sustainable Trails Conference will be held March 30-April 5, 2014 in Stonewall, West Virginia. The conference will feature workshops, min-workshops, and concurrent sessions.

<http://trailbuilders.org/sustainable-trails-conference/>

EDUCATIONAL RESOURCES

Arctic Report Card

NOAA and its partners have released their annual assessment of physical and biological systems in the Arctic. The report details the status of snow cover, sea ice, air temperature, ocean temperature, black carbon, the Greenland ice sheet, vegetation, fish, and wildlife in the Arctic.

<http://www.arctic.noaa.gov/reportcard/>

Climate Science Research for Educators and Students: Earth's Radiative Balance

The Institute for Earth Science Research and Education offers this downloadable document with details about monitoring solar radiation, surface reflectance, and surface and sky thermal radiation. Chapters on sky photography and accessing online resources and climate data are also included.

<http://www.instesre.org/ClimateResearchProjectsForStudents.pdf>

Environmental Ethics Case Studies

The American Physiological Society has created a wide range of teaching resources, and this webpage links to environmental ethics case studies covering everything from GMOs to the fluoridation of drinking water. Check out Reviving Extinct Species, Levees: Love 'Em or Lose 'Em, and more.

<http://www.apsarchive.org/collection.cfm?collectionID=2385>

Fishinars

Check out the upcoming REEF webinars to help teach the finer points of identifying fish and invertebrates underwater. Upcoming fishinars include a coralinar, a crabinar, spineless critters, and more. Free registration is required.

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

Global Carbon Atlas

The Global Carbon Atlas is a platform to explore and visualize data on carbon fluxes resulting from human activities and natural processes.

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

Great Lakes White Hurricane of November 1913

Check out these resources about the Great Lakes hurricane of November 1913. The weather forecast article is a good introduction, while the Centennial website links to an overview presentation, models, and more.

http://www.crh.noaa.gov/dtx/stm_1913.php

http://www.regions.noaa.gov/great-lakes/centennial_anniversary_storm_of_1913/

Junior Duck Stamp Curriculum Guides

Targeted at middle level students, these curriculum guides from the U.S. Fish and Wildlife Service Junior Duck Stamp program stress wildlife observation, nature journaling, and photography, while teaching students about conservation and developing art skills. The Educator's Guide contains background information for each study and drawing unit, while the Youth Guide provides instructions for students to complete the various activities.

<http://www.fws.gov/juniorduck/EducationProgram.htm>

Northern Fur Seal Curriculum

This K-6 curriculum from Alaska Fisheries Science Center addresses northern fur seal natural history: the fur seal's importance to Unangam (Aleut) culture; the history of the fur seal commercial harvest; and research, conservation, and sustainability of the northern fur seal population. All lessons include an overview presentation and hands-on activities over a range of subjects. While on the website, check out the other activities and curriculum.

<http://www.afsc.noaa.gov/education/Activities/northernfursealcurriculum.htm>

NWS Climate Services Seminar Series

The NWS Climate Services Division Seminar Series was created to build capacity in National Weather Service field offices on climate-related topics. Seminars are archived on the website. Titles include Strategies for Communicating Climate Science to People in Denial, Climate Communication: Tools and Tips, and many more.

<http://www.nws.noaa.gov/om/csd/index.php?section=seminar>

Official MPA Map

This map produced by the UNEP World Conservation Monitoring Centre and the World Commission on Protected Areas is based on the World Database on Protected Areas. The map offers a visual tally of global MPA coverage, now estimated to be at 2.8% of the world ocean.

http://www.protectplanetoocean.org/official_mpa_map

Precipitation Education – Rain EnGAUGE

NASA's Global Precipitation Measurement Mission, Rain EnGAUGE, launches in February 2014. Host a Rain EnGAUGE outreach event with help from these NASA resources, including an electronic toolkit which includes an activities menu, planning schedules, sample advertising flier, and more. The activities menu has a variety of activities to teach about precipitation and its importance to our lives, from hands-on labs to computer interactives, for all age levels.

<http://gpm.nasa.gov/education/rain-engauge>

Reef Resilience Toolkit

The Reef Resilience Toolkit provides information, guidance, and resources to help managers address the impacts of climate change and local threats to coral reefs. The website provides a suite of training and knowledge-sharing resources and include coral reef science and management methods, making relevant science accessible to managers, and highlighting challenges and solutions for coral reef managers. The website also offers access to a webinar series on topics in coral reef management, relevant summaries of recent publications, case studies, and a bi-monthly newsletter.

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

Tidal Wetlands Primer

The new book, *Tidal Wetlands Primer: An Introduction to their Ecology, Natural History, Status and Conservation*, is designed for high school and college teachers as well as for park naturalists and others interested in learning more about tidal wetlands. Chapters include their classification, formation, plant response, and more. The Amazon website offers the opportunity to "Look Inside!" to preview the book prior to purchase.

http://www.amazon.com/Tidal-Wetlands-Primer-Introduction-Conservation/dp/1625340222/ref=sr_1_1?ie=UTF8&qid=1388616883&sr=8-1&keywords=tidal+wetlands+primer

Upwell Curation Criteria

For those looking to increase public attention to issues of interest, check out this article from Upwell on the criteria they use to select content for their blogs and more.

<http://www.upwell.us/why-we-choose-what-we-choose-upwell-curation-criteria>

Waterways

The Smithsonian Institution has assembled this portal of resources that feature water related content from all of its museums. Links include artwork, exhibits, and other

collection items from around the Smithsonian. Themes include Plants and Animals, Weather, and more. Additional links on the website include links to federal jobs related to water, links to NOAA, EPA, and NPS resources, and much more.

<http://my.si.edu/initiatives/waterways/waterways>

Wisconsin's Maritime Trails

The Wisconsin Historical Society established the Maritime Trails program to foster wider public appreciation of the state's rich maritime past and encourage preservation of unique historic sites such as shipwrecks, lighthouses, and historic waterfronts. The website offers introductory information, a searchable shipwreck database, a Diver Depth Game, and more.

<http://www.maritimetrails.org/index.php>

World Ocean Radio

The latest episode of World Ocean Radio offers a year-end review of various achievements of the World Ocean Observatory in 2013 and hints at some new initiatives for the year ahead. Subscribe to World Ocean Radio's RSS feed, the weekly podcast on iTunes or find it on PRX.org, Audioport.org and at Stitcher.com.

<http://www.worldoceanobservatory.com/index.php?q=radio-item/253-year-end-review>

INITIATIVES, JOURNALS, and MORE

ARC Center of Excellence for Coral Reef Studies

The ARC Centre of Excellence for Coral Reef Studies in Cairns, Australia, has been awarded a further seven years of funding by the Australian Research Council, for 2014-2020. The center will be reorganized into three Research Programs - People and Ecosystems, Ecosystem Dynamics: Past, Present and Future, and Responding to a Changing World. Early in 2014 they will be recruiting approximately 12-15 postdoctoral Research Fellows (including new Professorial Fellows) in the social and biological sciences and offering new scholarships for postgraduate students in all three of the new research programs. Watch for updates on the website. And while on the website, check out the education and outreach resources, as new material is added often.

<http://www.coralcoe.org.au/>

Earth's Future

The American Geophysical Union offers this new open access journal, *Earth's Future*, which will explore and foster interactions among the Earth and environmental sciences, ecology, economics, the health and social sciences, and more. Its mission is to focus on the Earth as an interactive, evolving system to help researchers, policy makers, and the public navigate the science.

<http://onlinelibrary.wiley.com/journal/10.1002/%28ISSN%292328-4277>

Golden Gate National Parks BioBlitz, March 28 and 29, 2014!

The BioBlitz at California's Golden Gate National Parks will take place March 28-29, 2014. Experts can register to take part by January 31, 2014. School groups and the general public can receive updates and be notified about registration at a later date.

<http://www.nationalgeographic.com/explorers/projects/bioblitz/golden-gate-california-2014/>

http://ggnpc.convio.net/site/Survey?ACTION_REQUIRED=URI_ACTION_USER_REQUIREMENTS&SURVEY_ID=13722

The Entire IPCC Report in 19 Illustrated Haiku

Greg Johnson, a Northwest oceanographer, has distilled the Physical Science Assessment from the International Panel on Climate Change, into 19 illustrated haiku.

<http://daily.sightline.org/2013/12/16/the-entire-ipcc-report-in-19-illustrated-haiku/>