This column lists websites and books on topics related to environmental science.

Web Sites are listed in the following categories:
Educational Websites
International Websites
Nonprofit & Research Organizations
U.S. Federal Agencies’ and State Government Websites
Books

**Educational Websites**

Academic Earth: Lectures in Environmental Studies
[http://academicearth.org/subjects/environmental-studies](http://academicearth.org/subjects/environmental-studies)

Academic Earth provides videos of lectures by top scholars in subjects that range from anthropology to astronomy to chemistry to entrepreneurship to media studies to religion. The lecturers hail from universities including Berkeley, Columbia, Harvard, MIT, Princeton, Stanford, UCLA, and Yale. Visitors must register to view the lectures, but registration is free. Five lectures are categorized in environmental studies, and many of those listed under biology are relevant, covering ecology, oceanography, population growth, and the future of human health. There are more than 1500 video lectures available on the site, and the collection is growing. Visitors can even keep a playlist or download their favorite lectures. *

AgrowKnowledge: The National Center for Agriscience and Technology Education

The purpose of AgrowKnowledge is to “improve the math, science, and technical competencies of agriculture technology graduates across the nation who are preparing for careers that support the most efficient and sustainable food and fiber production in the world.” Housed at Kirkwood Community College in Cedar Rapids, Iowa and funded by a grant from the National Science Foundation, the program aims to develop partnerships among secondary schools, colleges, and universities to standardize select agriculture technology education programs with guidance from industry. Major areas of activity are curriculum development, faculty development and capacity building. A link to “career clusters” offers descriptions of jobs in seven fields within agriculture, such as plant and animal systems, food processing, agribusiness, and environmental service. Each cluster provides an overview of the subfield, listings of active job openings, required credentials, and an employment outlook.*

American Experience: Civilian Conservation Corps
[http://www.pbs.org/wgbh/amERICANexperience/ccc/](http://www.pbs.org/wgbh/amERICANexperience/ccc/)
A film about the Civilian Conservation Corps (CCC) is presented in its entirety on this website. “Heal the man, heal the land,” was the philosophy of the CCC, and they engaged in some of the first environmental conservation work in the country. Since many academics, politicians, and lay people compare the current troubled times with experiences in the 1930s, this film is particularly timely and viewers may form their own opinion if the comparison is realistic. The film tells the stories of the three million young men who benefited from the regular meals, healthcare, clothing, diversity and hard work as they participated in the CCC. *

Beaked Whale Identification Guide
http://vertebrates.si.edu/mammals/beaked_whales/pages/main_menu.htm

This informative and well-executed online Beaked Whale Identification Guide is maintained by staff at the National Museum of Natural History's Marine Mammal Program. The website contains detailed identification guides and separate pages for each beaked whale species. In the "Species Identification" guide, readers can choose the link to skull morphology or external morphology to view photos and descriptions useful in identifying species accurately. The "Species" pages contain information about each species, including their basic morphology, habits, and geographic distribution. The site provides also a cetacean stranding database and a links to other information sources on beaked whales. *

The Big Energy Gamble
http://www.pbs.org/wgbh/nova/energy/

This is a companion website to a documentary that aired on the Public Broadcasting Service (PBS) NOVA series that "explores the pros and cons of California's bold approach [to fighting global warming], which could be adopted nationwide during the Obama administration." The site features interviews, commentary from experts, an online diary of one NOVA staff member’s attempt to reduce her energy consumption, and other information about energy efficiency and climate change. The site offers a classroom guide and links to related readings and other online sources.**

BioSciEdNet
http://www.biosciednet.org/portal/

This extensive portal (called "BEN" for short), was created by the National Science Digital Library (NSDL) in order to bring high-quality educational resources to science educators. The project is managed by the American Association for the Advancement of Science (AAAS). The site presents more than 14,000 reviewed resources in 77 topics within biology. Sources are selected that can help educators engage student interest, reduce lesson preparation time, offer updates to concepts, and develop curricula that fulfill national standards and meet guidelines for animal and human studies. First time visitors to the site may benefit from reviewing the tips in "Using BEN."*

Center for Applied Research and Environmental Systems
http://www.cares.missouri.edu/

Based at the University of Missouri, the Center for Applied Research and Environmental Systems (CARES) is committed to integrating "the social, physical, and biological sciences to better understand human, natural resource, and environmental issues and problems." Along with their scientific mission, CARES also features a strong community outreach component, and visitors to the site can use the "Map Room" to create their own customized economic, demographic, physical, or cultural maps of Missouri. This area also contains a series of interactive maps of the state. In the "Projects" area, visitors can learn about the Center’s recent work, such as an investigation of the ecological economic impacts of landscape change across Montana and the uses of an integrated resource management system. The link to "Community Issues Management" presents the ways in which this system allows local governments and organizations to take advantage of spatial data in order to deliver a wide range of services. *
Climate Change: American Museum of Natural History
http://www.amnh.org/exhibitions/climatechange/?src=h_h

This exhibit was organized by the American Museum of Natural History in New York, in collaboration with the Abu Dhabi Authority for Culture & Heritage, Chicago's Field Museum, and a number of other institutions. The content of this excellent online exhibit will add to the general public's understanding of the issues and the science surrounding this topic of major concern in international public policy. Interactive features on the website mirror the in situ exhibits, complete with charts, informative text, photographs, and graphs. Some of the sections included here are "How Did We Get Here," "Climate Change Today," and "Changing Land." An area labeled "Climate Change Resources" contains free resources that will help visitors learn more about relate topics, and there is even a cool activity allows users to build their own terrarium to learn more about the greenhouse effect. *

Environmental History Resources
http://www.eh-resources.org/index.html

Professor Jan Oosthoek at the University of Edinburgh re-launched this website in 2008 with a goal to provide information about environmental history for readers among the general public and scholars. Content includes topical bibliographies, essays, annotated guides to other web resources, pod- and video-casts, and annotated guides to other websites. The essays area offers twelve pieces on forestry, nature conservation, water pollution, environmental change, land use and two that address the question of defining environmental history. Podcasts provide interviews with people working in the field, reports from conferences, and discussions about the use and methods of environmental history. Some podcast titles are: "Historical Climatology and the Cultural Memory of Extreme Weather Events" and "Environmental History of the Middle Ages," and "Biological Invasions, Culture, and Biodiversity in South Africa." *

Extreme Mammals
http://www.amnh.org/exhibitions/extrememammals/

Companion to an exhibition at the American Museum of Natural History (open through Jan. 3, 2010) that "examines the ancestry and evolution of numerous species, ranging from huge to tiny, from speedy to sloth-like, and displays animals with oversized claws, fangs, snouts, and horns." The website features articles, stories, fun facts, photos, video clips, interactive features, classroom resources, and related material about "the biggest, smallest, and most amazing mammals of all time." **

Middle East Water Collection
http://digitalcollections.library.oregonstate.edu/cdm4/client/mewaters/

This collection maintained by the Oregon State University Libraries "provides access to roughly 9000 items on political, socio-economic, demographic, and legal issues of water in the Middle East. Materials include data, books, journal and newspaper articles, and documents published in the Middle East, Europe, and North America from a variety of publishers and national and multinational agencies and organizations. Materials in the public domain are available in full text." Searchable, or browse by region, basin (such as Tigris), and subjects such as groundwater and hydrology. From Oregon State University Libraries. **

The National Parks: America's Best Idea
http://www.pbs.org/nationalparks/

This website accompanies a film series directed by Ken Burns, which aired on PBS in September 2009, and "traces the birth of the national park idea in the mid-1800s and follows its evolution for
nearly 150 years." Features include film clips, history of the parks, stories about minorities’ role in creating and protecting parks, park profiles, and a place to post personal stories and photos from visits to national parks. A scrapbook widget makes it possible to collect images, text, and video clips from the site. A link “for educators” offers lesson plans, ideas for discussion of the hidden stories, and day trip activities. **

Reclaiming the Everglades: South Florida's Natural History, 1884-1934
http://everglades.fiu.edu/reclaim/index.htm

A grant from the Library of Congress supported the creation of this digital library project created by collaborators from libraries and special collections at the University of Miami, Florida International University, and the Historical Museum of Southern Florida. The website makes accessible nearly 10,000 page images of primary source material about south Florida environmental history from 1884 to 1932. A timeline gives an overview of the major topics addressed, which include the Everglades National Park, Native American land rights, agriculture, urban development, endangered species, invasive plants, and the role of women in the modern conservation movement.*

The Waterlines Project
http://www.washington.edu/burkemuseum/waterlines/

The Burke Museum of Natural History and Culture at the University of Washington maintains this site, which chronicles Seattle’s manipulation and modification of its shoreline. An interactive map of the Puget Sound region enables visitors to the site to click on sections to view and hear audiovisual clips about changes such as adding filled land to accommodate needs in this industrialized area. *

Western Soundscape Archive
http://westernsoundscape.org/
This aural database is housed at the University of Utah's J. Willard Marriott Library and features recordings contributed by state and federal agencies, conservation groups, and dedicated volunteers. The project began in 2007 with a grant from the Institute of Museum and Library Services and continues to grow. As of summer 2009, the archive includes representative sounds from approximately 80% of the West's bird species and 90% of the region's frog and toad species. The homepage offers a "Featured Sound" on the homepage and search engine. Additional features include weekly podcasts, a number of thematic sound collections, like the "Sounds of the Arctic National Wildlife Refuge," and links to “spectrograms,” which are 24-hours picture of the sounds of a specific area. The Western Soundscape Archive maintains a collection of 5000 spectral images from more than 100,000 hours of sound level monitoring by staff members of the U.S. National Park Service.*

Xeno-Canto: Bird Sounds From the Americas
http://www.xeno-canto.org/

This website presents bird songs for nearly 4500 species recorded by ornithologists and amateur birders around the world. Sections of the site include Americas, Asia, Africa, Europe, and Australasia, and visitors can click on any region they desire. There are many ways to navigate the site, including searching for recordings to identify birds making the sounds, searching using a map, and a standard search by species name (English or Latin scientific name). A link in the “Participate” area of the site includes a link to “Mysteries,” where birders have posted recordings in hopes that the Xeno-Canto community can help them identify the bird species. *

International Websites
Asia’s Next Challenge: Securing the Region’s Water Future

This 59-page report was issued in April 2009 by the Asia Society’s Task Force Leadership Group on Water Security in Asia and “aims to provide the impetus required for a lasting and measureable policy shift to link water and security at multiple levels in Asia.” The focuses on how Asia will meet challenges to maintain and build a safe, stable water supply in the face of growing demand. Some of the consequences of the problem of insufficient access to clean water that the report mentions include: “impaired food production, the loss of livelihood security, large scale migration within and across borders, and increased economic and geopolitical tensions and instabilities.” The report is comprised of ten short chapters, a section entitled "Institutional Responses to Water Security," and appendices that describe international freshwater agreements in Asia.

Australian Antarctic Division

The website for this Australian government program in the Antarctic provides articles, news, images, and other features about environmental issues, science, law and treaties, and living and working in this region. Highlights include webcams of Antarctic krill, Antarctic diaries and stories, and fact files on topics such as climate change, icebergs, and sunlight hours. From the Australian Antarctic Division, Commonwealth of Australia.

Convention on Biological Diversity: Forest Biodiversity
http://www.cbd.int/forest/
The Convention on Biological Diversity: Forestry Biodiversity is part of the United Nations’ Environment Programmes and was established in 1993. The convention has three main objectives, which are “to conserve biological diversity; to use biological diversity in a sustainable fashion; and to share the benefits of biological diversity fairly and equitably.” Links such as “About Forest Biodiversity” provide a comprehensive explanation of the concept, and the same area of the website has links to topics such as “What's the Problem?” "Why Does it Matter?” and “What Needs to be Done?” An online newsletter is available for REDD (Reducing Emissions from Deforestation and Forest Degradation). The site provides case studies on more than fifty topics such as "Expansion of Industrial Logging in Central Africa" to "Assessing Human Well-Being in Sustainable Forest Management” to "Application of Ecosystem Approach in Finland - Landscape Ecological Forest Management Planning".

FAO: Food Safety and Quality
http://www.fao.org/ag/agn/agns/
The Food and Agricultural Organization (FAO) of the United Nations website presents the data, research, publications, and projects that the agency has compiled, published, and funded with the goal of making food production safer for consumers, workers, and the community. The website can be viewed in English, Spanish, and French, and the "Publications" are available in those three languages. Visitors to the site can browse 220 documents by title, date, or series number, or they can use the “New Search” link to conduct a keyword search by country, language, year, title, or author.

Forests and Poverty Reduction
The Food and Agriculture Organization of the United Nations maintains this website as part of its mandate to ensure that people have enough quality food to lead healthy lives. The following statements on the website help explain its purpose. “Close to 1.6 billion people – more than 25% of the world’s population – rely on forest resources for their livelihoods and most of them (1.2 billion) use trees on farms to generate food and cash. Moreover, many countries in the
developing world draw on fuel wood to meet as much as 90% of energy requirements. Despite the importance of these resources for the range of economic, environmental, social and cultural benefits they provide, data on such dimensions are either sketchy or not available." Links point to reports of FAO's efforts to investigate ways that forests contribute to reducing poverty. *

The World Bank: Climate Change
http://beta.worldbank.org/climatechange/

Featuring reports from the Climate Change Conference in Copenhagen in December 2009, this website provides an overview of the World Bank’s work on the problem including information about their current projects, data sets, research papers, and books. The “News” area presents blog posts by World Bank employees. The link to “Research & Analysis” provides access to many free publications, including briefs, working papers, and publications like “World Development Report 2010.” *

World Summit on Food Security
http://www.fao.org/wsfs/world-summit/en/?no_cache=1

The Food and Agriculture Organization (FAO) of the United Nations convened a World Summit on Food Security in November 2009, and this website presents documents from that meeting along with information about related events and news stories. As global food security concerns continue to mount, many non-governmental organizations (NGOs) and other groups seek opportunities to discuss potential policy solutions. In the "List of documents" area, visitors can make their way through agendas, timetables, and the crucial "Roundtable Concept Notes” series. This series includes thought-provoking pieces on financial crises and food security and rural development. The website also lists forthcoming forums and provides access to transcripts from past forums. *

World Water Council
http://www.worldwatercouncil.org/

This international organization's mission is "to promote awareness, build political commitment and trigger action on critical water issues to facilitate conservation, protection, development, planning, management and use of water in all its dimensions on an environmentally sustainable basis." The website features material about council programs (such as human right to water), facts about water, reports and other publications, a list of World Water Forums back to 1997, official declarations and statements, and related material. ***

Nonprofit and Research Organizations

American Bird Conservancy (ABC)
http://www.abcbirds.org/

This organization's "mission is to conserve native wild birds and their habitats throughout the Americas." The website features background about bird conservation issues (such as global warming and mortality threats), introduction to dozens of domestic and international programs (such as Andean migratory bird monitoring, herbicides, and mountaintop mining), news, and reports. A link is provided for an RSS feed from the Bird News Network (BNN). **

Design for a Living World
http://www.nature.org/design/

The Nature Conservancy commissioned high-profile designers such as Isaac Mizrahi, Kate Spade, and Maya Lin to produce textiles, furniture, jewelry, handbags, and decorative objects made from sustainably harvested materials and using methods from indigenous people in ten locales. This website serves as an online exhibit, displaying the creations that resulted along
with profiles of the artists. Tabs at the top of the page enable browsing by place, project, or designer. The list of places includes Gondwana Link, Australia; Lava Lake Ranch, Idaho; and Guarayo Indigenous Lands, Bolivia. The website is beautifully designed with links to view the projects by designer, project, or the place the materials originated.

Food First/Institute for Food and Development Policy
http://www.foodfirst.org/

This website chronicles activities of the Institute for Food and Development Policy, known as Food First. The site mentions that the New York Times called Food First one of the country’s “most established food think tanks.” The group’s mission is “to end the injustices that cause hunger, poverty and environmental degradation throughout the world.” Food First staff conduct research and develop advocacy and education efforts to promote informed citizen engagement with the institutions and policies that control production, distribution and access to food. Their programs follow a three-pronged approach with the following emphases: “Building Local Agri-Foods Systems,” “Democratizing Developments: Land, Resources and Markets,” and “Forging Food Sovereignty with Farmers.” Links on the site lead to many publications and an online bookstore.

The Great Nature of Chiura Obata
http://obata.wilderness.net/

This online exhibit is hosted by the Sierra Nevada Education Project. It features works by California artist Chiura Obata (1885-1975), who is known for his paintings of the Sierra Nevada region. The visually stimulating site features background about Obata, who was began to learn to paint in Japan at age 7, details about the sumi painting technique, and a gallery of selected works such as "El Capitan," "Evening Glow at Yosemite Falls," and the Tanforan, California, relocation center, where Obata was interned in 1942.

Lead-Free Wheels
http://www.leadfreewheels.org/

This website describes a program which is a project of the Ecology Center, a membership-based, nonprofit environmental organization based in Ann Arbor, Michigan. The program that promotes alternatives to lead wheel weights, which “are used worldwide to balance vehicle tires.” Many of the wheel weights fall off and abrade into lead dust, “and increase the risk that lead will contaminate surface, groundwater, and drinking water supplies.” The site provides information about alternatives (such as zinc), listing of U.S. distributors of lead-free wheel weights, and a wheel-balancing fact sheet.

The Mannahatta Project
http://themannahattaproject.org/

The Wildlife Conservation Society devised this project to explore the natural history of Manhattan. The website presents a stunning digital version of Manhattan’s original ecological landscape, created in layers to depict the geology, soils, topography, streams, springs, ponds, wetlands, and other features and eventually incorporating species of plants and animals (including people). Visitors to the site may explore Manhattan’s physical and biological landscape back to 1609 by zooming into a map or entering an address or the name of a landmark. Lesson plans and a discussion forum are provided. A link to “news” offers announcements about events such as exhibits and walking tours associated with the project.

Waste Online
http://www.wasteonline.org.uk/
WasteOnline is an online library maintained by Waste Watch, an environmental charity in the United Kingdom that is dedicated to the reduction, reuse, and recycling of household waste. The site aims to provide information about sustainability and waste issues for readers of all knowledge levels. Links on the site include “wacky waste facts,” “the problem with waste,” “waste in the workplace,” and “waste at home.” The site offers an A-Z subject list for browsing and is searchable. A collection of fact sheets addresses topics such as recycling computers, batteries, glass, vehicles, and tires along with the history of waste.*

The Census of Agriculture, USDA
http://www.agcensus.usda.gov/

The results of the 2007 Census of Agriculture, which is conducted every five years, were first made available on the United States Department of Agriculture website in February of 2009 and were updated in December. Examples of links on the site include fact sheets for farm and ranch irrigation, small farms, farm land value, ag atlas, data comparison for major crops, state and county profiles, and profiles by race, gender, and ethnicity. Data are available for ethnic groups such as "Asian Farmers," "Black Farmers," "Hispanic Farmers," and "American Indian Farmers." A few special surveys explore horticulture specialties, organic farming production, and irrigation. Links to historical agricultural census data are provided in ten-year increments spanning 1840 to 1950.*

Environmental Protection Agency: Wetlands
http://www.epa.gov/wetlands/

The Environmental Protection Agency (EPA) has created this site to inform the general public about their role in wetland preservation and restoration. Links in an area labeled "What are Wetlands?" lead to basic definitions, fact sheets, and reports on the status and recent history of wetlands in the United States. Other sections of the site are entitled "Why Protect Wetlands," "How are Wetlands Protected," and "What You Can Do To Protect our Vital Resource." A link to "In the News" points to announcements about recent regulatory changes, interagency agreements, and public hearings and comment periods. Other links on the page include "Monitoring and Assessment," "Restoration," and "Education."**

National Lead Free Wheel Weight Initiative (NLFWWI)
http://www.epa.gov/waste/hazard/wastemin/nlfwwi.htm

This initiative of the U.S. Environmental Protection Agency "encourages the transition from the use of lead for wheel weights to lead-free alternatives. Wheel weights are clipped to the rims of every automobile wheel in the United States in order to balance the tires. These weights often come loose and fall off," ending up in waterways or landfills. Provides quick facts and reasons for transitioning to lead-free wheel weights (such as reducing toxic lead exposure). ***

National Science Foundation: Discoveries

This website serves as a clearinghouse of information about the research projects that the National Science Foundation sponsors. The Discoveries site can be searched in its entirety, or visitors can just peruse the chronological list that is front and center on the homepage. NSF’s public investment in science, engineering, education, and technology is prolific but most are unaware of the results. Here, visitors can learn about NSF projects that concern the "Internet, microbursts, Web browsers, extrasolar planets, and more... a panoply of discoveries and innovations that began with NSF support." The Scout staff enjoys this site so much that most of us have subscribed to its RSS feed as well.
Risk-Screening Environmental Indicators: U.S. Environmental Protection Agency
http://www.epa.gov/oppt/rsei/

The site provides information about how to assess potential health risks from industrial releases. The Risk-Screening Environmental Indicators (RSEI) is a computer-based screening tool developed by the Environmental Protection Agency (EPA) that "analyzes risk factors to put Toxics Release Inventory release data into a chronic health context." The tool and this site are used by journalists, industry officials, and government regulators to examine trends, support community-based projects, and also screen potential impacts of emissions. A link to "Basic Information" describes how RSEI works and how it can be used. Visitors can also learn about the technical details of RSEI, and they can download the current version of this powerful application. Additionally, the site includes a glossary and documents such as a user's manual and documentation of RSEI's methodology.

Seeding California
http://commonground.cr.nps.gov/Feature.cfm?past_issue=Spring%202008&feature=2

The U.S. National Park Service (NPS) Historic American Engineering Record is a "group [who] documents historic industrial and engineering sites with measured and interpretive drawings, large-format photographs, and comprehensive research." The detailed profiles they produce are stored at the Library of Congress. This article published in the spring 2008 issue of Common Ground, a publication from the NPS, provides an overview of the engineering behind the Los Angeles Aqueduct and the Colorado River Aqueduct. It notes that "at the turn of the 21st century, the Colorado Aqueduct was supplying water to approximately 18 million people, and the Los Angeles Aqueduct was still the main source of water for its namesake city." The site also provides a slide show.

U.S. Fish & Wildlife Service: National Wetlands Inventory
http://www.fws.gov/wetlands/

The U.S. Fish and Wildlife Service is the primary federal agency that provides information on the state of the country's wetlands. This website provides extensive geospatial data on the current extent and location of wetlands, which suffered during the 19th and 20th centuries from being drained and used for real estate development. Today, scientists, planners, and recreationists are well aware of the value they provide in terms of their role as lively animal habitats and as a way to recharge groundwater. Contents of the site include recent annual reports, research highlights, a "Wetlands Mapper" tool, and views of wetlands using Google Earth. Users of the site may download data about wetlands by state or quadrant, and learn about layers, metadata, wetlands codes, and printed maps.

U.S. National Park Service Photos & Multimedia
http://www.nps.gov/photosmultimedia

From the Cape Cod National Seashore to the Muir Woods in California, this excellent site covers the full range of the National Park Service (NPS) holdings. This recently redesigned section of the NPS site includes webcams, photo galleries, multimedia presentations, and virtual tours. In the "Multimedia Presentations" area, visitors can take in interactive activities from the Brown v. Board of Education National Historic Site in Kansas and watch videos from the Arches National Park site in southeastern Utah. An area labeled "Webcams" lets users take a long wistful look at the Cape Cod National Seashore and nearly two dozen other sites ranging from Big Bend National Park in Texas to the Hawaii Volcanoes National Park. More than 70 photo galleries on the website document the historical importance and natural beauty of places ranging from Crater Lake in Oregon to Weir Farm in Connecticut.
The Washington State Department of Natural Resources provides this website for practical information in the areas of geology and earth sciences. Several “how to” guides instruct readers how to report an earthquake or landslide, how to find reports of landslides, how to perform research on state trust lands, and other topics. Sections of the site include: Geologic Hazards and Mapping, Earth Resources, Geosciences Data, and Geology Publications and Library. The publications area provides maps, data sets, reports, agendas, and forms.

Acknowledgements
Items followed by a single asterisk (*) are adapted from The Scout Report, Copyright Internet Scout Project 1994-2009 (http://scout.wisc.edu/). Those with ** are adapted from the Librarians’ Internet Index, LII, Copyright 2009, and those with *** are copyright 2009 by Librarians’ Internet Index, LII.

Books


Flora Shrode <flora.shrode@usu.edu>, Utah State University Library, Logan, UT 84322-3000, USA. TEL: 1-435-797-8033.