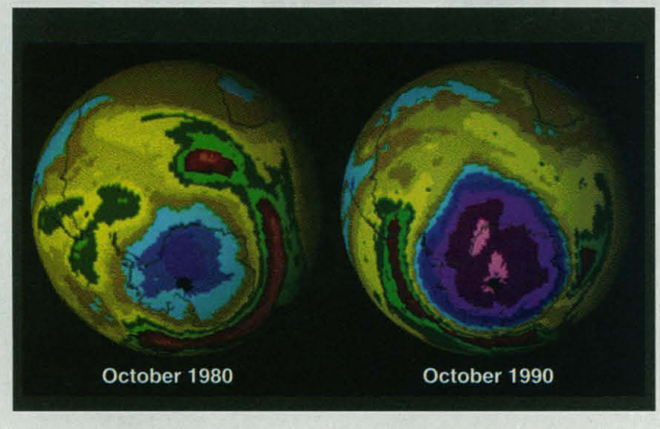
COOL IMAGES

Earth, Wind, and Fire

The blue and purple splotches below reveal the dramatic growth of the southern ozone hole in the 1980s. The view comes from Earth Observatory, a new NASA Web site* that aims to explain earth science satellites to the public. At the site's Observation Deck, you can choose from 12 kinds of data gathered over the past decade—stats on everything from sea temperature to clouds, fires, and vegetation—and with a few clicks make animations like these. Meant to "operate much like a popular weekly news magazine," according to the site, the Earth Observatory also offers news, articles, and lessons on topics such as how much carbon dioxide gets sucked up by boreal forests and why scientists study polar ice. Loads more data will be added come July, if NASA successfully launches Terra—"one of the biggest earth science satellites ever," says Web team member Robert Simmon.



* earthobservatory.nasa.gov

SITE VISIT

Swapping Lab Rats for Test Tubes

altweb.jhsph.edu

Looking for a way to test possibly irritating chemicals without dripping them into a rabbit's eyes? Need to teach undergraduates all about frog anatomy—without them ever touching a scalpel? Try Altweb, a site that bills itself as a "one-stop shop" for information on alternatives to animal testing.

Run by a team based at the Center for Alternatives to Animal Testing at Johns Hopkins University, the smartly designed site is a collaboration of several scientific, corporate, and charitable organizations. It offers a searchable, though somewhat slow, database containing thousands of reports and abstracts that may help researchers further the goals of "refinement, reduction, and replacement"—the motto of the alternatives movement. Other sections keep tabs on animal welfare regulations and meeting proceedings. Altweb's content has a slight U.S. slant, yet "there's a pretty decent [number] of foreign scientists coming through," says site manager Benjamin Choi. The bulk of the visitors, he says, appear to be high school and college students interested in writing papers or organizing debates about vivisection.

Altweb serves as a springboard to other Web resources, such as the well-stocked Animal Welfare Information Center at the U.S. Department of Agriculture, and NORINA, a Norwegian database of audiovisual alternatives to using animals in teaching. There are no links to animal rights' groups that support the abolition—rather than the gradual reduction—of animal testing. "If we don't believe a group or a Web site promotes the three R's, we won't link to them," says Choi.

HOT PICKS

Genes, cancer, and you. What role does the *p53* tumor-suppressor gene play in cancer? This site, supported by the NIH's National Cancer Institute, answers such questions for medical professionals and for the public using case studies and modules on topics like molecular genetics, gene-environment interactions, and genetic counseling. www.cancergenetics.org

Electronic life forum. You can broadcast your latest theoretical ecology paper long before it appears in a journal at this abstracts preprint server. The project has made a modest start—14 papers since last July—but may eventually expand to encompass all ecology. www.nceas.ucsb.edu/theor_ecol

Hypatia's daughters. 4000 Years of Women in Science lists over 125 achievers, including 5th century mathematician Hypatia (right) and Ada Byron Lovelace, considered the world's first computer programmer for her work in the mid-1800s. There's also a good collection of "learning links" to other Web resources on women scientists. www.astr.ua.edu/4000WS/4000WS.html

By the dice. Need some random numbers to help you select a sample for your survey or clinical experiment? This site will send you a set of random numbers (actually not quite random, as they're generated by a computer). It also has a brief tutorial about research methods. www.randomizer.org

Science ONLINE

The ideal superconductor would lose resistance to the flow of electrons at room temperature, but one promising superconductor—copper oxide materials—drops its defenses only at frustratingly chilly temperatures. The Enhanced Perspective on p. 1137 looks at new data on several superconductor types that may help explain why. Online links include a high-temperature superconductor newsletter, course materials, company information, and images. www.sciencemag.org/cgi/content/full/284/5417/1137

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