

## NET NEWS

## Internet Hazardous to Social Health?

The first study of how the Internet affects people's social lives has found that it's lonely out there in cyberspace. Despite the Net's use as a means of communication, spending time online appeared to make participants more depressed as their face-to-face social interactions dwindled.

Psychologist Robert Kraut's team at Carnegie Mellon University in Pittsburgh installed computers with free Internet connections for 169 people in 73 previously unwired households. The group used software to track each person's hours online. Over the next 1 to 2 years, the researchers interviewed participants about their interactions with family and friends and measured their feelings of depression and loneliness using standard psychological tests.

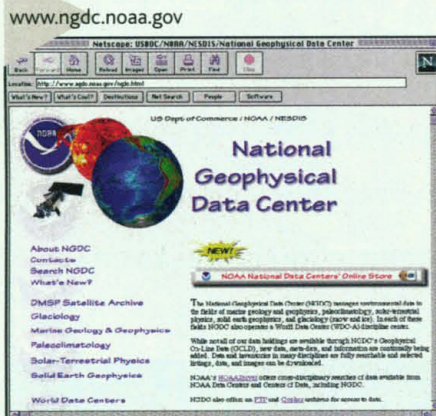
The researchers found that as subjects logged more hours on the Internet, they talked less with their families, saw fewer friends, and scored higher on depression tests—even when they were online as little as 1 to 4 hours a week. This suggests that the social interactions people have through e-mail and other forms of Internet communication don't make up for the lost time spent nurturing face-to-face relationships, the researchers report in this month's issue of *The American Psychologist*.

The results aren't too surprising, says Maressa Hecht Orzack, director of Computer Addiction Services at McLean Hospital in Belmont, Massachusetts. "This is what I often hear from patients: 'My wife is spending a lot of time on the Net, and she doesn't talk to me as much,'" she says.

## SITE VISIT

## Where to Check the Earth's Pulse

From Earth's searing core to cosmic rays bombarding our atmosphere, the latest data on geophysical phenomena can be found at the Web site of the National Oceanic and Atmospheric Administration's (NOAA's) National Geophysical Data Center (NGDC). The site is useful for professionals and laypeople alike: Paleoclimatology researchers can get oxygen isotope data from ice cores, for example, while retirees can check local magnetic fields to set the Global Positioning Systems in their Winnebagos.



NGDC's home page leads to a staggering amount of information on marine geoscience, paleoclimatology, solar-terrestrial physics, solid earth geophysics, and ice and snow. Here scientists can tap into data sets or order CD-ROMs on everything from tree rings to volcanoes, ocean bathymetry, and the ionosphere; by next year, NGDC hopes to add a system for making customized CD-ROMs, says NOAA's John Kinsfather. The site also offers teaching materials—such as

## NETWATCH

edited by JOCELYN KAISER

a natural hazards slide show and quiz—and Defense Department satellite links for meteorology buffs to vicariously track hurricanes and wildfires. Given all this, it's perhaps no surprise that NGDC's hits are nearing 1 million unique computers a year.

## COOL IMAGES

## Sluggish Beauties

This curious creature plying the warm waters off the Philippines is a nudibranch, or sea slug (the feathery appendage is its gill). The Blue Dorid, as its species (*Hypselodoris bullocki*) is known, was photographed by pilot Jeffrey Jeffords, who calls nudibranchs "probably the most beautiful creatures in the ocean." Certainly they're among the most diverse—members of the phylum Mollusca, nudibranchs number over 3000 species in all shapes and colors. You can see 135 stunning photos of these and other Philippine reef critters, like anemonefish and sea fans, at Jeff's Nudibranch Site (home. mem.net/~zipper/), which also includes a glossary and a book list. For more sea slug Web sites, go to slugsite.tierranet.com

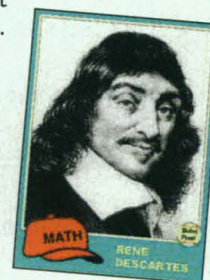


## HOT PICKS

**Chemical anatomy.** Want to know the structure of the sex drug Viagra or the deadly nerve gas VX? Try Molecules of the Month, vignettes complete with virtual reality images of everything from Ecstasy to quinine, taxol, and DDT. [www.chem.ox.ac.uk/mom/default.html](http://www.chem.ox.ac.uk/mom/default.html)

**Do-it-yourself postmodernism.** Two years ago physicist Alan Sokal jolted the world of sociology with his hoax paper on quantum mechanics and postmodernism in the journal *Social Text*. If that fracas caught your fancy, check out the Postmodern Generator, a computer program that writes essays by linking up quotes and jargon. [www.cs.monash.edu.au/cgi-bin/postmodern](http://www.cs.monash.edu.au/cgi-bin/postmodern)

**Math all-stars.** Forget batting averages and runs batted in. Now you can collect stats on heavy hitters in algebra, calculus, and other math fields with these Mathematician Trading Cards (at right, geometry great Descartes). [www.bulletproof.org/math/display.asp](http://www.bulletproof.org/math/display.asp)



## SCIENCE ONLINE

Lead pollution may seem like a 20th century problem, but civilizations have been releasing this toxic metal into the air for millennia, according to a Report this week on Swiss bogs that have yielded a record of lead emissions dating to 4000 B.C. The online version of a related Perspective by Nriagu has hyperlinks to Web sites on lead in the environment and the history of lead mining. [www.sciencemag.org/cgi/content/full/281/5383/1622](http://www.sciencemag.org/cgi/content/full/281/5383/1622)

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