

SITE VISIT

Today's Forecast— For Space

"The apparent void between sun and Earth is actually a maelstrom of wind and storm, with interludes of calm," reads a blurb on the Space Environment Center's site.* Run by the National Oceanic and Atmospheric Administration, this colorful site provides a lively overview of how the sun's fickle outbursts can affect Earth—from lacy auroras to satellite blackouts and radiation risks for astronauts.

The site, which bills itself as "the nation's official source of space weather alerts," attracts some 500,000 hits per week, says Web master Barbara Poppe. Images of the sun and graphs of x-ray fluxes near Earth are updated minute by minute, giving quick warnings to those who need to safeguard delicate electronic systems. Not surprisingly, satellite operators, navigators, and power companies are among the heaviest users, says Poppe. But teachers also tap into the site's rich tutorials: One can learn, for example, how solar flares and vast blobs of hot gas called coronal mass ejections contort Earth's magnetic field and make space a hazardous place to work.

A similar site run by NASA† offers daily probabilities of flares, audio clips of eerie radio "sounds" made by charged particles racing through the upper atmosphere, and movies of the latest sunspot activity. Both sites can expect heavy traffic as the sun nears the peak of its 11-year cycle of activity, expected in early 2001.

* www.sec.noaa.gov/sec_home.html

† www.spaceweather.com

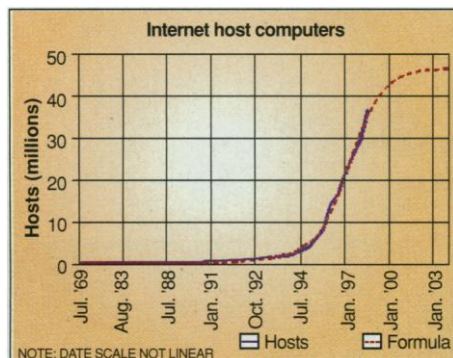


NET NEWS

An End in Sight for Internet Growth?

Nearly every country in the world now has an Internet domain name, according to the latest version of a history of the Net. The dizzying rise in computers linked to the Net continued last year, but at least one observer predicts that the spurt has peaked, and growth may level off by 2003.

Hobbes' Internet Timeline v4.0, written by Robert Zakon of the MITRE Corp. in McLean, Virginia, in his spare time and posted on the Internet Society Web site,* charts everything from the genesis of ARPAnet (the Internet's predecessor, started in 1969) to an e-mail sent by Queen Elizabeth II in 1976 and the launch of the Java programming language in 1995. Among 1998 highlights are a hack that replaced *The New York Times* home page, the trial in China of a man who gave e-mail addresses to a U.S. magazine, and the debut of domain names for two small island nations, Nauru and Comoros. That leaves just three countries still



unregistered: Western Sahara, North Korea, and Bangladesh. Zakon also charts the Net's growth, up to more than 35 million hosts, or computers connected to the Internet (see chart).

Mario Hilgemeier, a physicist and programmer in Bremen, Germany, has tried to estimate where the Net is headed by fitting an S-shaped curve to the host data, by now linear rather than exponential. He finds the Net grew fastest in 1997, and after 1999 may taper off, reaching around 42 million hosts in 2002 (dotted line in chart). Hilgemeier, however, cautions against putting too much faith in any predictions. For one thing, adds Zakon, electronic devices like Palm Pilots and cell phones may soon have their own host names, adding a new growth spurt.

* www.isoc.org/zakon/Internet/History/HIT.html

COOL IMAGES

Digital Blossoms

This pretty photo of Indian paint brush is among over 6000 in the Vascular Plant Image Gallery, a Web site curated by botanists at Texas A&M University in College Station.* From Japanese lotuses to the grasses of Kansas, the Net has blossomed with plant images, says Texas A&M's Hugh Wilson. The collections, he says, are used by everyone from botany teachers to taxonomists trying to identify a plant. This page† links to dozens of sites, including a gallery of floral radiographs and a database of 17,000 California wildflower and other plant photos based on the life's work of a nature-loving monk.

* www.csd.tamu.edu/FLORA/gallery.htm

† www.helsinki.fi/kmus/botpics.html



HOT PICKS

Supplemental data. Hoping to cut through the hype about melatonin, echinacea, and other health remedies, two federal agencies have set up a scientific citations database on dietary supplements. The site debuts this month with 250,000 records. www.nal.usda.gov/fnic/IBIDS

Laser vision. Bell Labs celebrates the 40th birthday of the laser, invented there in 1958, with this site describing the device's history and how it works. www.bell-labs.com/history/laser

Psych online. Get a feel for theories of cognition and perception at the Internet Psychology Lab. The site's interactive demos, accompanied by explanations, range from optical illusions to the tritone paradox (an auditory illusion) and the Stroop effect. kahuna.psych.uiuc.edu/ip/

Science ONLINE

Doing good science is something like detective work: investigating hypotheses and following up leads. The two fields are one and the same for forensic scientists, who analyze everything from DNA to maggots on a corpse to help solve crimes. This week, *Science's* Next Wave takes you into the world of forensics, covering what the jobs are like and how to get one. www.nextwave.org

Send Internet news and great Web site suggestions to netwatch@aaas.org