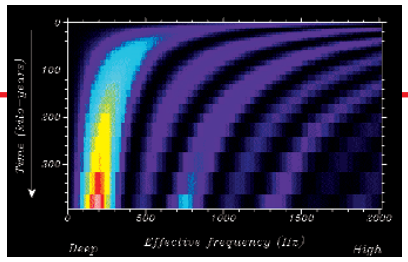
NetWatch

edited by Mitch Leslie



FUN

The Sounds of Cosmic Birth

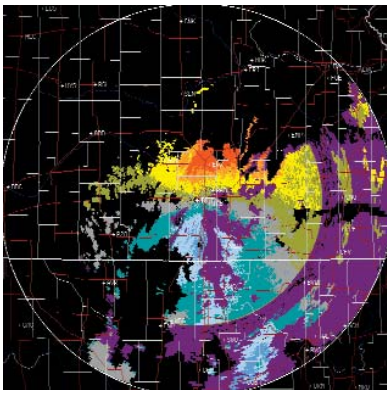
What did the big bang sound like? Astronomer Mark Whittle of the University of Virginia, Charlottesville, wanted to know, so he devised a way to convert the chaos of the early universe into sounds. The exercise draws from the physics of the cosmic microwave background: the afterglow from the big bang that pervades the sky. Subtle ripples in this glow are pressure waves—akin to sound waves—that reverberate through space. Whittle calculated the mixture of frequencies as the universe grew (above) and raised the pitch about 50 octaves into our range of hearing. The result, presented earlier this month at the American Astronomical Society meeting in Denver, Colorado, is "a descending scream, building into a deep rasping roar, and ending in a deafening hiss," he explains. Listen to a dozen audio clips at Whittle's home page.

www.astro.virginia.edu/~dmw8f

RESOURCES

Weather Reports for the Cognoscenti

Plenty of Web sites provide maps of current temperatures and precipitation and gaudy Doppler radar images of storms. But what if you're seeking wind velocity measurements that can help predict tornadoes, or high-resolution satellite images of cloud patterns? The newly upgraded Real-Time Weather Data site from meteorologist Greg Thompson of the National Center for Atmospheric Research in Boulder, Colorado, brims with in-depth information on weather across North America. For tornado researchers and chasers, the site's Doppler radar section includes values for wind speed toward or away from a station—data that most other weather sites charge for, Thompson says. Satellite images updated every 15 to 30 minutes capture variables such as atmospheric water vapor for individual states and the nation. Above, a Doppler image of wind speeds shows thunderstorms brewing near Wichita, Kansas, earlier this month.



www.rap.ucar.edu/weather

Send site suggestions to netwatch@aaas.org. Archive: www.sciencemag.org/netwatch

DATABASE

Profiling Cancer Cells

Faulty genes can spur cancer, but tumor cells also show changes in the activity of other, undamaged genes. Researchers seeking patterns in the genes expressed in cancer cells have a new tool called Oncomine, a clearinghouse of data from assays known as microarrays. Oncomine's creators at the University of Michigan and in Bangalore, India, hope to amass all cancer microarray data from the literature. So far, the site unites results from 65 studies on 18 cancer types, from adrenal to uterine. Users can find out which genes speed up or slow down their activity in each type of tumor or compare activity profiles for different cancers. The site requires registration, which is free for academic users.

oncomine.org

EXHIBIT

An Audubon Classic Online

A modern artist who depicts a cougar stalking a deer or a robin feeding its greedy young follows in the footsteps of John James Audubon (1785–1851). The naturalist and painter broke with artistic convention by showing his subjects in realistic poses based on meticulous field observations. Browse all 435 plates from Audubon's pioneering *Birds of America* (1827–38) at Harmony, an exhibit* from the Musée de la Civilisation in Quebec City, Canada. A corny multimedia feature weaves in New Age music and poetry, but you can skip straight to the paintings by clicking on "Catalog." Audubon's insistence on rendering specimens at actual size meant that each of the four original volumes was a meter tall. The site doesn't include the book's text, but you'll find the author's observations on the birds' looks and habits at this site from the Audubon Society.† Above, a pair of Atlantic puffins (*Fratercula arctica*).

* www.mcq.org/audubon/menu.html

† www.audubon.org/bird/BoA/BOA_index.html

DATABASE

Written in the Blood

Blood teems with telltale proteins that can reveal incipient prostate cancer, for example, and help show whether a patient is cruising for a heart attack. Researchers hoping to discover more of these biomarkers might start with this new collection from the National Cancer Institute in Frederick, Maryland. The database catalogs more than 1400 blood proteins isolated during a recent exhaustive analysis, the largest haul yet.

bpp.nci.nih.gov

CREDITS: (TOP TO BOTTOM) M. WHITTLE/UNIVERSITY OF VIRGINIA; MUSÉE DE LA CIVILISATION, QUÉBEC; G. THOMPSON/NCAR