



RESOURCE

How Clean Is That Dirt?

Environmental scientists tracing the movement of pollutants and monitoring the cleanup of toxic waste used to have to lug their samples back to the lab for analysis. These days, they can perform plenty of tests for detecting soil and water contamination in the field. To find out which one is right for your work, check out the online Field Analytic Technologies Encyclopedia, sponsored by the U.S. Environmental Protection Agency and the Army Corps of Engineers.

The site reviews the methods, uses, sensitivity, and costs of nine common technologies. They include chemical test kits, immunoassays that use antibodies, portable mass spectrometers, and infrared spectroscopy. You'll also find a set of training manuals on these and other techniques for detecting organic and inorganic contaminants.

fate.clu-in.org

RESOURCE

Battling the Aliens

Some are aquatic critters that hitchhiked in the cargo holds of ships. Others were plants intentionally introduced by people who craved prettier gardens. However they entered the country, invasive plants, animals, and microbes cost the United States an estimated \$100 billion annually. This federal Web site corrals information on invasive species monitoring, prevention, and control from governments and other sources. Visitors can read about a particular state's efforts, such as laws on animal and plant importation and "hit lists" of troublesome alien species. Resource



managers can use the site's tool kit to locate experts and find out how to stamp out and thwart invasions. The site also profiles about 50 of the nastiest interlopers, such as the brown tree snake (above), which has wiped out 10 of Guam's 13 native bird species since World War II.

www.invasivespecies.gov



EXHIBIT

Virtual Chauvet

Eight years ago, spelunker Jean-Marie Chauvet and two companions squeezed into a previously undiscovered cave in the Ardèche region of southern France. To their amazement, they found hundreds of paintings and engravings of woolly rhinoceroses, mammoths, and lions striding side by side, as well as other vivid images. Radiocarbon dating showed that some of the charcoal sketches on the walls of Chauvet-Pont-d'Arc, as the cave is now called, were about 31,000 years old—15,000 years older than the famous works at Lascaux.

Check out some of these early masterpieces—the world's oldest cave art—at this site from France's Ministry of Culture and Communication. A virtual tour through 500 meters of caverns and passages lets you zoom in on some of the spectacular artwork, like these horses, rhinos, and aurochs (above). The site also features back-grounders on the local geology and the artists' Aurignacian culture, as well as details of new discoveries. Researchers have already toppled some preconceptions about the Ice Age artists' skills and proclivities. They already knew how to use perspective and shading, for example, and they illustrated mainly fierce animals that they didn't hunt.

www.culture.fr/culture/arcnat/chauvet/en

DATABASE

Archive of Dying Stars

Instead of ending with the bang of a supernova, most stars go out with a whimper, shriveling into an ember about the size of Earth that will slowly burn out. Known as white dwarfs, these small, faint objects might help scientists gauge the age of our galaxy's disk, and some astronomers suspect that mobs of them loitering on the edge of the Milky Way account for some of the long-sought dark matter. The White Dwarf Database, created by astronomer Jay Holberg of the University of Arizona, Tucson, profiles more than 2100

of these elderly stars. Each entry supplies vital statistics such as the dwarf's coordinates, radius, temperature, gravitational strength, and spectrum. Within the next few months, the size of the database will double when Holberg adds the latest findings from the Sloan Digital Sky Survey, which is mapping one-fourth of the sky.

procyon.lpl.arizona.edu/WD