El Niño Keeps the Heat on Texas

Despite its abrupt weakening last spring, El Niño may be the culprit behind the scorching of Texas and much of the U.S. Southwest, and the heat is likely to stay for at least another month, according to the National Weather Service.

In a special report issued on 16 July (nic.fb4.noaa.gov), meteorologists explain how, back in January, El Niño set the stage for the looming drought. Last winter, El Niño's warmth cranked up high-altitude winds in the tropics that dried out as they descended over Central America and Mexico, parching those regions while redirecting storms that dropped drenching rains across the southern tier states.

All that was expected fallout from El Niño. But this spring, forecasters were caught by surprise when the dry downdrafts persisted and shifted northward. That brought Mexico's dryness to Texas and pushed the winter's wet storminess to the north, creating record June rains.

Now the weather service is puzzling over the tropical Pacific's next move. "We're expecting this warm water to peter out in the next 3 to 6 weeks," says forecaster Anthony Barnston. Then, by winter, El Niño should be replaced by La Niña. That usually means cooler than normal waters across the tropical Pacific—and more dryness for the southern U.S. "If we don't get more normal precipitation in the late summer and early fall, we're looking at a very large [drought]," says Barnston.

Deep-Sea Curios

Four "black smokers"—mineral chimneys formed by undersea hot springs—have been hauled ashore for an unprecedented inspection by scientists at the University of Washington and New York's American Museum of Natural History. Wrested from the ocean bottom with the aid of a chainsaw-equipped robot submersible and a crane, the chimneys arrived in Seattle complete with the hot water–adapted life-forms they harbor.

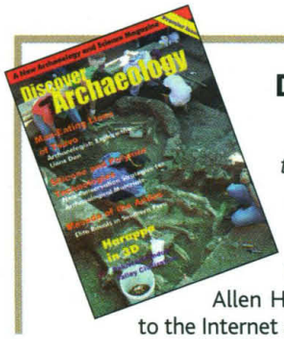
NY MUSEUM OF NATURAL HISTORY

Black smoker hoisted aboard.

The smokers were found at hydrothermal vents along the Juan de Fuca Ridge, a line of volcanoes 2250 meters under the ocean some 300 kilometers off Washington state and Vancouver Island. Smokers get started when seawater filters down through cracks in the crust and picks up minerals from rocks heated by the magma below. The hot water then percolates back up through the crust; when it hits the cold seawater, dissolved minerals precipitate out, creating chimneylike structures. Sulfide minerals make the vent appear to be belching black smoke.

Picking apart the smokers, scientists hope to learn more about heat transfer from Earth's core, seawater chemistry, ore formation, and ecosystems that do not depend directly on sunlight. Of particular interest are the unusual hydrogen sulfide–metabolizing microbes living inside the rock, says expedition co-leader Edmond Mathez, chair of the museum's Department of Earth and Planetary Sciences. "We've never sampled the interior of [black smoker] rock to understand the conditions under which these creatures live or the maximum temperature at which life can exist," he says.

The expedition, filmed for the TV documentary program *NOVA*, was chronicled online (www.ocean.washington.edu/outreach/revel). Several of the smokers—the largest is 1.5 meters tall and 60 cm across—will be in the New York museum's new Hall of Planet Earth, opening next spring.



Digging for Readers

A new popular science magazine is preparing to test the hazardous newsstand waters. Called *Discover Archaeology*, it's modeled along the lines of the *Scientific American*, says editor Jeff Leach, an archaeologist who runs a nonprofit public education center in El Paso, Texas. Plans are to launch a bimonthly in December (see www.discoverarchaeology.com). The privately financed magazine hopes to "partner up" with a publication that has a big subscriber base, Leach says. Will it float? Former magazine magnate Allen Hammond of the World Resources Institute says that widespread access to the Internet and cable TV makes new ventures an uphill battle.

Melancholia and the Heart

Here comes another downer for depressives: Depression makes you more prone to heart attacks.

Physicians have known for years that depressed heart patients have worse prognoses than folks with greater equanimity. Pursuing this relationship further, a team headed by physician Daniel E. Ford at Johns Hopkins School of Medicine analyzed data from a prospective study of 1190 male subjects who have been tracked since they were medical students at the school between 1948 and 1964.

Ford's group found that the 12% who reported clinical depression at any time in their lives were more than twice as likely as the rest to develop heart problems. The heart-depression connection was most pronounced with smokers or ex-smokers. Still, neither smoking nor the other usual suspects—high blood pressure, obesity, lack of exercise, high cholesterol, drinking, diabetes, and family history of heart disease—could fully explain the link, the scientists report in the 13 July *Archives of Internal Medicine*. Ford says it's not just that being miserable makes you sick—depression doesn't seem to help bring on cancer or strokes, for example, nor is heart disease generated by anxiety.

The Johns Hopkins study confirms "what we've all thought," says Robert Carney, a psychologist at Washington University in St. Louis. The mechanism for the link remains unclear, but he says depression has been shown to make blood platelets stickier. That in turn could encourage the formation of arterial plaques.