June, according to its chair, Harold Shapiro, the president of Princeton University. But Varmus said he would like to know by March what NBAC thinks of plans to start funding human stem cell research. After hearing from NBAC, researchers, and the public, he hopes to draw up "clear guidelines" describing what can and cannot be done under the law. He plans to distribute the guidelines by midyear, then set up a standing review committee to monitor compliance.

"I am delighted to hear NIH made this decision," said Senator Arlen Specter (R–PA), chair of the subcommittee that approves NIH's appropriation bill, noting that it does not violate the intent of earlier legislation. Specter added that "the last 60 days have seen breakthrough developments on stem cell research," promising "enormous advances" in many areas of disease research.

–ELIOT MARSHALL

PALEOCLIMATE

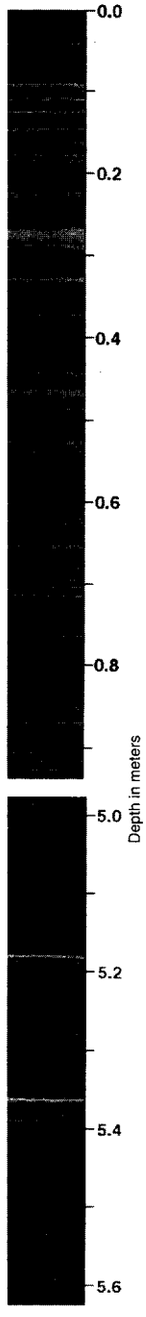
El Niño Grew Strong As Cultures Were Born

El Niño's comings and goings—and the worldwide effects of this tropical Pacific warming—are by now so familiar that they seem to be a permanent fixture of Earth's climate. But in this issue of *Science* (p. 516), a group of researchers reports that a climate record cored from the bottom of a lake high in the Ecuadorian Andes suggests a much-weakened El Niño between 5000 and 12,000 years ago—or even none at all.

Because older climate records show that in even earlier epochs, El Niño operated much the same as today, the new lake record points to an El Niño that waxes and wanes over the millennia. "It's a really interesting record, an important result if correct," says paleoclimatologist Konrad Hughen of Harvard University. Some researchers argue that the onset of the modern El Niño 5000 years ago may have helped shape the emergence of civilizations around the Pacific, and its vacillations may give clues to our climate future in the greenhouse world. But it will take more records like the one from the Ecuadorian lake to fully persuade the cautious paleoclimate community that El Niño sometimes takes a break.

Paleoclimatologist Donald Rodbell of Union College in Schenectady, New York, and his colleagues were actually searching for evidence about the end of the ice age, not El Niño, when they cored the bottom of Laguna Pallcacocha, a lake 4000 meters up in the Andes of southern Ecuador. Although the ice age record they hoped for didn't show up in the 9.2-meter-long core, hundreds of sedimentary "zebra-stripe" layers did.

After chemical and mineralogical analysis, Rodbell concluded that the alternating layers of light, organic-poor sediments and dark, organic-rich sediments record the comings and goings of torrential rains spawned by El Niños. In non–El Niño years, moderate rains apparently wash only a little sediment, heavily laden with the dark debris from vegetation, off the steep, bowl-shaped slopes surrounding the lake. In El Niño years, the unusually warm waters just offshore fuel powerful storms that wash large amounts of sediment unsullied by organic matter into the lake, leaving a lighter colored deposit.



El Niño's mark. Frequent storm deposits (light bands) in younger sediments from a lake core (*top*) suggest that El Niño has strengthened since the time of older sediments (*above*).

A quick look showed a marked shift in the pattern of zebra stripes partway through the record. After Rodbell's team set a time scale for the record with carbon-14 dating and used medical imaging software to count the stripes, they were able to date and quantify the shift. During the past 5000 years or so, the lake recorded extreme rains every 2 to 8 years, following the same rhythm that El Niño has exhibited of late. But before 5000 years ago, that pattern fades away. Extreme rains recurred only at intervals of a couple of decades to 75 years. Only weak El Niños could have persisted in this period, says Rodbell, as they did not spark torrential rains near the lake. But before 12,000 years ago—earlier than could be seen confidently in the lake record—El Niño was going strong, according to new records from western Pacific corals and even Great Lakes sediments.

"It's an interesting story," says Hughen. Still, he says, "this is one record from one lake basin." Although the lake seems to have been a faithful recorder of heavy rains during historical times, changes in the vegetation around the lake, for example, might have obscured the record of earlier strong El Niños. Rodbell and his

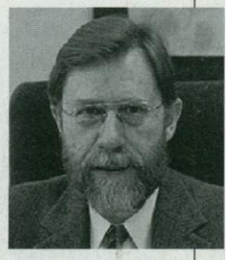
CREDITS: (LEFT) RODBELL *ET AL.*; (RIGHT) JAMA

ScienceScope

***JAMA* Editor Gets the Boot** Journal editors are dismayed by last week's sacking of George Lundberg, longtime editor of *The Journal of the American Medical Association* (*JAMA*). Association brass fired the 17-year veteran for his decision to publish a paper on what college kids think of oral sex—just as President Bill Clinton's impeachment trial moved into its second week.

The paper, which appeared in the 20 January *JAMA*, was presented by the authors—June Reinisch, former director of the Kinsey Institute for sex research in Bloomington, Indiana, and Kinsey researcher Stephanie Sanders—as a contribution to "the current public debate regarding whether oral sex constitutes having ... sexual relations." It reported that 59% of 599 students surveyed at a large midwestern university in 1991 did not regard oral-genital contact as having "had sex." The authors conclude there is a "lack of consensus" on the topic.

The timing of the paper did not sit well with AMA executive E. Ratcliffe Anderson, who said it had been rushed to publication. In announcing Lundberg's departure, Anderson said that the editor had threatened the journal's "integrity" by "inappropriately and inexcusably interjecting *JAMA* into a major political debate that has nothing to do with science or medicine." Anderson, who has been at the AMA helm for 7 months, also said other factors had contributed to a loss of "confidence and trust" in Lundberg, but he declined to be specific.



Lundberg's lawyer, William Walsh, branded the firing an "inappropriate intrusion into the historically inviolable ground of editorial independence." And other journal editors were outraged. The board of the Council of Biology Editors said "the firing marked a dark hour for scientific journals worldwide," and that the action "amounts to tacit support for suppression of scientific information that may be politically sensitive." *New England Journal of Medicine* Executive Editor Marcia Angell was surprised by the firing of a "highly successful editor," although she called the Reinisch article "trivial and irrelevant."

Lundberg, 65, has long been at odds with AMA honchos, tackling issues such as the perils of smoking before the association took public stands. Lundberg declined to comment, but according to press accounts Walsh has hinted that litigation might be in the works.

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