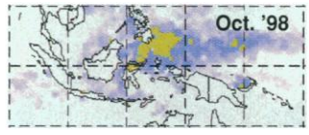
Reef Trouble

Warmer waters have taken a heavy toll this year on coral reefs around the world, and some scientists see the damage as a consequence of the most recent El Niño.

Coral reefs, whose biodiversity make them the oceans' "rainforests," this year showed the "most geographically widespread bleaching ever recorded," says the International Society for Reef Studies (ISRS). Bleaching is caused by the loss of algae living in the soft tissues of the coral animals. The coral may or may not recover.

Alan Strong, a physical oceanographer with the National Oceanic and Atmospheric Administration in Camp Springs, Maryland, says that much of the damage results from higher-than-usual sea surface temperatures, especially in the Indian Ocean and Southeast Asia. These regions have experienced fewer storms and less wind this year, factors that provide corals relief from the hot sun and tepid waters.

Strong has constructed an online map of changes in sea surface temperatures to help researchers predict where bleaching might occur (psbsgi1.nedis.noaa.gov:8080/PSB/EPS/SST/climohot.html). The more extreme warming causes "more and more types of coral to bleach," Strong says. Branching coral and corals close to the surface tend to be the most vulnerable, but deeper, more massive boulder corals also are affected when the warming becomes severe enough.



Purple spots represent a 1°C excess over seasonal averages; yellow and orange signal dangerous increases, up to 2 degrees. There's been more yellow for longer times this year than in the past 15 years in the Philippines.

Rising temperatures aren't the only culprit. The connections between warm seas and bleaching "are not clear-cut in all cases," cautions outgoing ISRS President John Ogden of the Florida Institute of Oceanography in St. Petersburg. Pollution from river runoff and disease also take their toll, he says.

Delayed Debut for Jumbo Dino Skull

The largest skull of any land vertebrate—some 3.1 meters high—is being groomed for public display at the refurbished Sam Noble Oklahoma Museum of Natural History in Norman, Oklahoma.

The skull of *Pentaceratops sternbergi*—a five-horned cousin of the three-horned *Triceratops*—owes its size to the 2-meter bone "frill" evolved to counterbalance its horns. The skull is at least 15% larger than the previous record-holder, a *Torosaurus latus* skull at Yale University's Peabody Museum, according to paleontologist Thomas M. Lehman of Texas Tech University in Lubbock, who published an article about it in this summer's *Journal of Paleontology*. "Paleontologists have discovered a half-dozen other *Pentaceratops* skulls, but none of them are nearly this big," says Richard Cifelli, curator of vertebrate paleontology at the Oklahoma museum, which is scheduled to open in a little over a year. The head is disproportionately large for its 6.8-meter-long body, he adds.

Sculptor Chris Tullis works on dino skull.

The specimen has an unusual history. The entire skeleton was dug up in the Four Corners region of New Mexico in July 1941. But the skull, still embedded in its rock matrix, was left in storage in the museum for years because of the U.S. entry into World War II and the shutdown of the scientists' funding source, the Works Progress Administration. In fact, nothing happened until 1995, when retired University of California, Berkeley, paleontologist D. E. Savage—a student on the original expedition—returned to Oklahoma to help design the new museum's dinosaur exhibits.

CREDITS: (TOP TO BOTTOM) NOAA; SAM NOBLE OKLAHOMA MUSEUM OF NATURAL HISTORY

Sorting the Rain From the Chaff

Was it raining or chaffing? Scientists studying U.S. climate trends at times can't be sure because of the widespread release of chaff, clouds of aluminum-coated glass fibers designed to confuse enemy radar, by pilots flying military training missions over the Southwest and the Gulf of Mexico.

Although weather forecasters can check things out by looking at the sky, weather radars can't distinguish a rain of chaff from the real thing. So researchers looking at archived radar images may wind up overestimating precipitation, says a new report from the U.S. General Accounting Office, which notes that chaff plumes have interfered with weather forecasts for at least two space shuttle launches.

"Twenty years from now, people might wonder why it's a desert out here because the radar images show that it rained a little bit every day," jokes Arizona-based Bob Maddox, a University of Oklahoma, Norman, meteorologist. The study (www.gao.gov/new.items/ns98219.pdf) was requested by Nevada Senator Harry Reid, who is worried about chaff's effect on wildlife and human health.

Henney Headed to FDA

Oncologist Jane Henney was confirmed as head of the Food and Drug Administration (FDA) on 21 October after Administration officials agreed to demands from a key senator unhappy with federal abortion policies.

Last month Don Nickles (R–OK) put a "hold" on the nomination of Henney, chosen to succeed David Kessler, who left 20 months ago. Nickles said the agency had to promise to refrain from promoting the commercial development of RU-486, the French anticonception pill, and FDA's parent agency, the Department of Health and Human Services (HHS), had to rule out any mental health exemption to a law banning the use of federal funds for abortion.

Nickles said last week that he has been reassured on both points by Henney and HHS Secretary Donna Shalala. "I am confident that [Henney] will be a very able administrator who will not play politics," he said.