Brazil keeps extent of Amazon destruction a mystery

Government appears to be stalling its report on status of the jungle, perhaps expecting bad news.

By MICHAEL ASTOR
Associated Press

MARABA, Brazil — In this southeastern corner of the Amazon, the jungle canopy has been supplanted by smoke that hangs so thickly that, at times, it can inflict nosebleeds and force airports to close for days.

The smoke rises from countless fires fed by foliage stripped and then burned to make way for cattle pasture.

In the past two years, the Amazon rain forest has seen some of its worst burning ever. And as the burning season again approaches, environmentalists see little reason why this year should be different.

They argue the fires are part of a little-noticed upswing in Amazon deforestation this decade that followed a much-publicized decline in the late 1980s. Just five years after Brazil was the host for the world's first Earth Summit — amid optimism that conservation was becoming a priority — the Amazon jungle is still going up in smoke.

"The number of fires where there formerly was forest is a good, if indirect, indicator of deforestation," said Garo Batmanian, president of the World Wildlife Fund in Brazil.

The government says the fires do not necessarily translate into deforestation — many represent farmers maintaining areas previously cut. A Brazilian government agency has satellite photos that could determine exactly how much forest has been lost. But it seems in no rush to analyze them.

"It would be irresponsible to say [illegible] deforestation is going up or

The institu[illegible] first promised fig[illegible]ures for 1995-96 would be released last November, then in March. It now says they should be ready by October.

The official reason for the delay is a lack of funds to analyze the 229 photos snapped by NASA's Landsat-5 satellite over the 2 million square miles of the Brazilian Amazon.

The photos remain rolled up, gathering dust.

A visitor to the institute's Foundation for Science and Space Technology Applications found the poster-sized photos packed in cardboard boxes on the floor.

The foundation has state-of-the-art computers and printers and employs some 30 analysts. But no one has permission to analyze the photos detailing Amazon deforestation until the government releases the $4.5 million promised for the project.

Although that sum is repeatedly given as the reason nothing is being done, Krug concedes that analyzing the photos with existing equipment would cost only about $400,000.

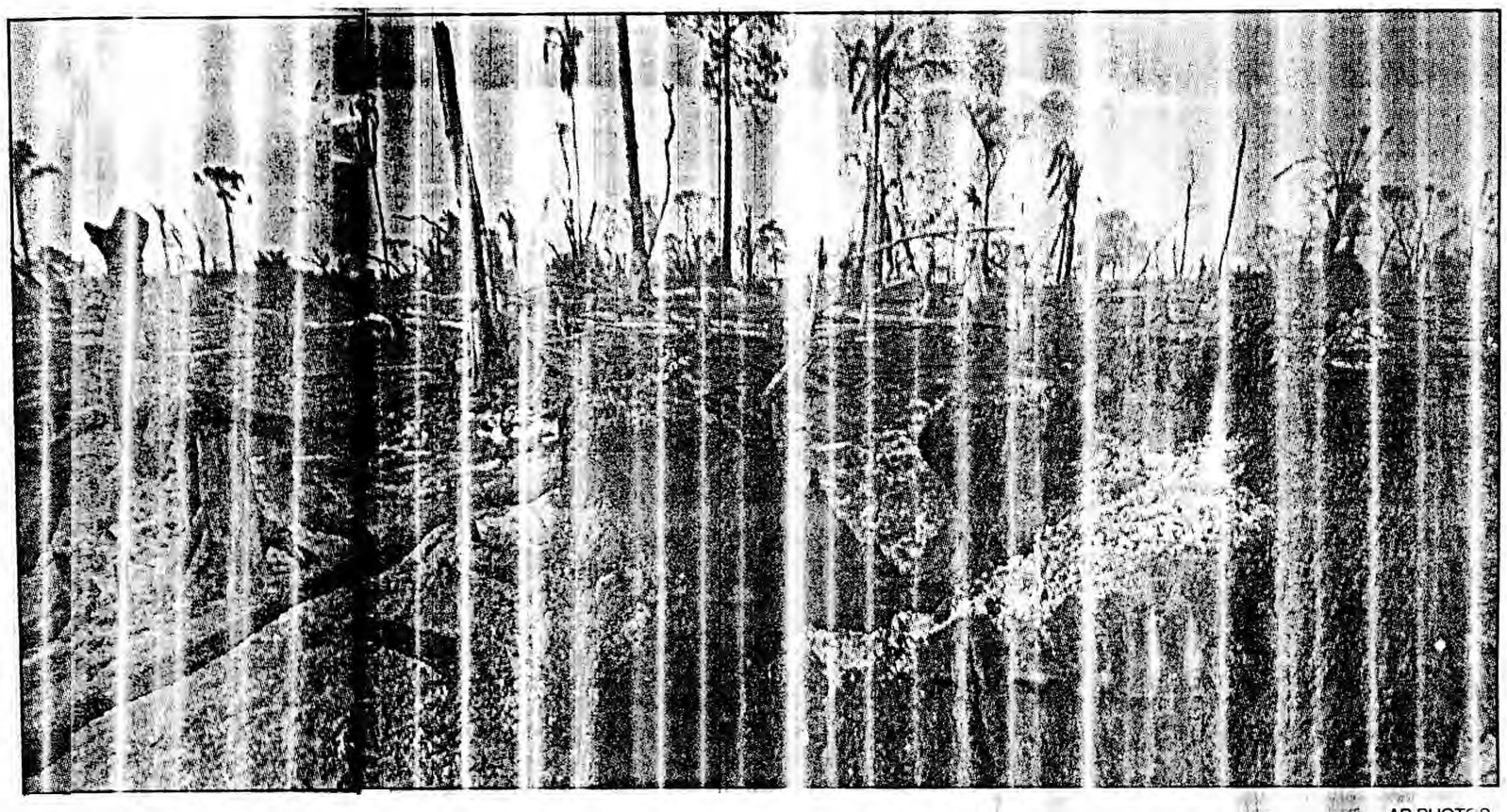
Environmentalists claim the government is stonewalling to avoid unpleasant news.

"The only reason that data isn't analyzed and available is that the government doesn't want it to be," said Stephen Schwartzman, a senior scientist at the Environmental Defense Fund in Washington. "The government still deals with it only as a potential international embarrassment and not as something in the interest of the nation."

By the late 1980s, about one-tenth of the Amazon's original forest had been cut down. The destruction sparked an international outcry that embarrassed the government.

But between 1988 and 1991, a slowdown in the rate of deforestation — due more to an unraveling economy than any coordinated action — allowed the government to claim the trend had been reversed. Much of the furor died down.

In July 1[illegible]96, the government announced a series of measures to pro-



In Paragominas, in the southeastern corner of the Amazon, what used to be part of the rain forest appears completely burned.

AP PHOTOS

fore — down from 50%.

Just [illegible] noticed, the government so released figures showing Amazon deforestation had jumped from [illegible]50 square miles in 1992 to an average of 5,950 square miles in 1993 and [illegible]4 — a 34% increase.

Much was made of the new measures but little was said about the renewed upswing in deforestation. Many people had thought the problem of Amazon destruction had been solved.

"[illegible] 1992 Rio de Janeiro Earth Summit was the last we heard about the Amazon," said Philip Fearnside, a scientist at the National Institute for Amazon Research in the jungle city of Manaus.

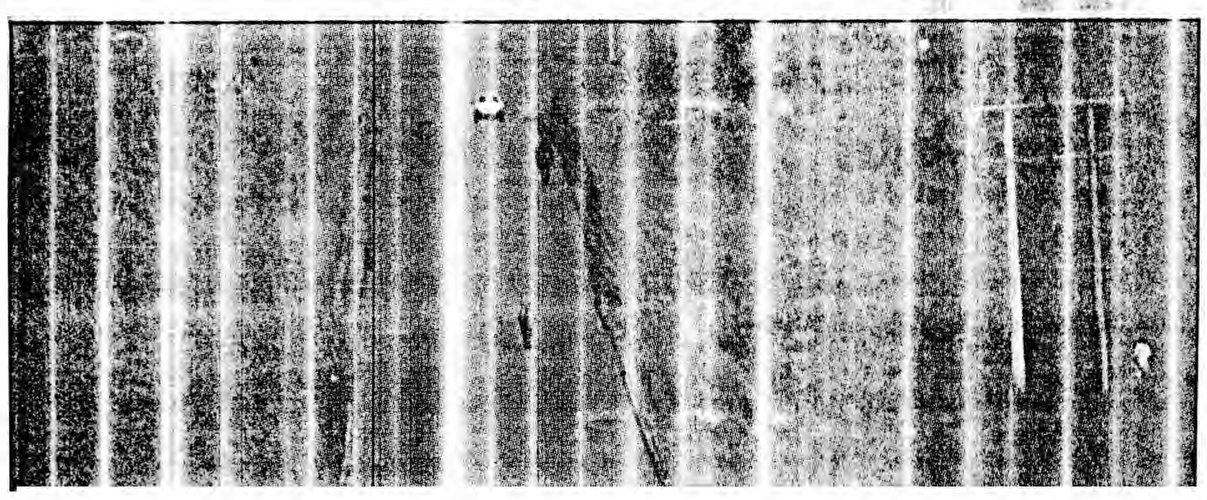
Eduardo Martins, p[illegible] Brazil's Environment Protection Agency, is one of few high-level officials willing to admit that Amazon deforestation probably is increasing.

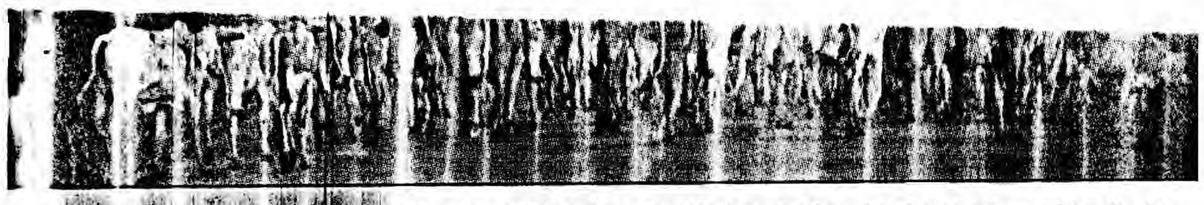
It is the agency's job to stop the destruction, and the satellite data is crucial. Even with information in hand, it's a daunting task for the fewer than 400 poorly paid inspectors, who cover a region twice the size of France and Spain combined.

"It doesn't help to have some general figure — that only adds to our anxiety and fears," Martins said. "We have to know where it is in order to focus our enforcement. And we have repeatedly insisted that (the National Institute of Space Research) reduce the time in which the information is made available."

The data is especially important in understanding how Amazon deforestation is changing, he said.

In past decades, deforestation was largely a result of large-scale projects such as dams, timber harvest [illegible]





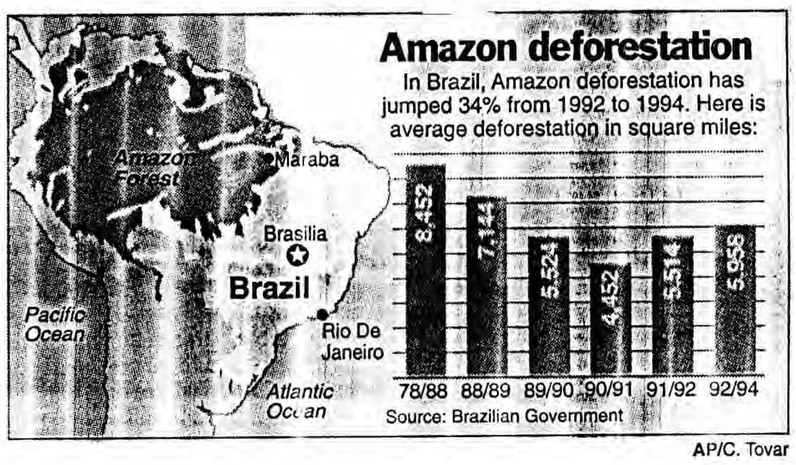
Cowboys lead cattle near Paragominas, where some of the worst Amazon burning has occurred in order to make cattle pasture.

[illegible]attle ranches, highways and peasant settlements — often spurred by government incentives.

Today, the forest is being eroded by a host of smaller interests, from furniture makers to poor farmers [illegible]arching for land.

Another recent threat is an influx of foreign loggers, mainly from Asia, who have been investing heavily in the region since 1994.

A leaked government report published in the newspaper *O Liberal* of Belem, a city at the mouth of the Amazon River, said 80% of Amazon logging is illegal, with many companies extracting 15 to 20 times the amount of lumber permitted. ■



AP/C. Tovar

Amazon savanna dying of neglect

RIO DE JANEIRO, Brazil — The Amazon is a lush rain forest with tall trees and dense vegetation. Right?

Not entirely. One-fifth of the Amazon — about 400,000 square miles, nearly twice the size of France — is open grasslands dotted with brush and small trees.

The "cerrado," as Brazilians call it, is the world's richest savanna in terms of biodiversity, including 1,400 bird species. About half of it lies in the Amazon.

But with no lions or other big animals that distinguish the African savanna, Brazil's cerrado has been overshadowed by the rain forest. And with neglect came destruction.

"Brazil's 1988 constitution singles out the Amazon rain forest, the Pantanal wetlands and the Atlantic rain forest for special protection, but says nothing about the cerrado," said Garo Batmanian president of the World Wildlife Fund in Brazil.

Deforestation figures for the Amazon don't include the cerrado. And while landowners in the rain forest are permitted to clear-cut only 20% of their property, in the cerrado the ratio is reversed — owners may raze 80% of the land.

Environmentalists say about half of all Brazilian cerrado has been cut down over the last 35 years.

"The cerrado is more endangered than the Amazon rain forest," said Eduardo Martins, president of Brazil's Environment Protection Agency.

More than 80% of the original Amazon rain forest remains intact.

— ASSOCIATED PRESS

Scientists still searching for signs of life in deep space

They lost their home; their budget was cut.

By RON HARRIS
Associated Press

MOUNTAIN VIEW, Calif. — Is the truth really out there? A handful of scientists listening intently for faint radio signals from distant solar systems are keeping their ears, and minds, open to that possibility.

Like their Hollywood counterparts in the movie *Contact*, scientists at the SETI Institute hunt for life in space using powerful radio telescopes.

SETI, short for Search for Extraterrestrial Intelligence, is surveying 1,000 stars similar to our sun but light years distant. They hope that the survey, called Project Phoenix, will help answer a question as old as humankind: Are we alone?

"This is a question 100,000 civilizations have asked. We are the first civilization which could hope to answer that," said Seth Shostak, a scientist and spokesman for SETI. "It would be a shame not to try."

At their offices 35 miles south of San Francisco, SETI scientists listen for signals between 1,000 and 3,000 megahertz on the radio dial, where natural background static is at a minimum. After weeding out earthly and satellite signals, they have been left so far with no messages from space. But they persevere.

SETI had its efforts cut short four years ago, when Congress trimmed its funding and booted them out of their offices at NASA's Ames Research Center nearby.

At the time, Sen. Richard Bryan, D-Nev., called SETI "The Great Martian Chase" and added, "I think this money could better be left unspent."

Donors such as Microsoft co-founder Paul Allen and Intel co-founder Gordon Moore stepped in and rescued SETI, which now receives its estimated $4 million annual budget through private contributions.

Similar projects have been active since 1960, when radio astronomer Frank Drake conducted Project Ozma, the first radio scan for extraterrestrial life.

Ozma didn't find anything, but Drake found his calling.

Now a professor of astronomy and astrophysics at the University of California at Santa Cruz and SETI's president, Drake continues to pursue his lifelong passion.

"It's the last great adventure for humans," Drake said. "It's an adventure which can guide us philosophically as to what we might become. It drives us all."

In the movie *Contact*, Jodie Foster portrays Ellie Arroway, a scientist not unlike those working on the real-life SETI program in Mountain View, Calif.

If SETI does succeed in detecting a signal, standard protocol is that they verify it with another observatory, then notify the International Astronomical Union, Shostak said.

But there remains the hazard that whoever we find may, in turn, find us. And Shostak is not discounting the notion that the aliens may be as surly as recent popular culture portrays.

"I don't think that all the advanced critters of the galaxy are going to be benign. I just can't believe that because there's a big premium that nature is willing to pay for aggression. Aggression pays," Shostak said.

The project still represents an unproven endeavor, and fellow scientists comprise some of SETI's harshest critics. At least one peer says Project Phoenix is a waste of time because aliens already are here.

"I think they are and have been here since 1947, implementing their strategy of gradually letting us know," says James Deardorff, who worked for 10 years as a senior scientist with the National Center for Atmospheric Research and for eight years as a professor at Oregon State University.

In 1986, Deardorff published a paper about his alien contact theory in the *Quarterly Journal of the Royal Astronomical Society*.

His work, titled "Possible Extraterrestrial Strategy for Earth," claims that inconsistencies with SETI-like searches and the public panic that might ensue if a signal was detected are something aliens would anticipate and avoid.

Deardorff doesn't think aliens want to be found — yet.

"They would never be able to trust that their message would get to the public as a whole," Deardorff said. He surmises aliens are likely to have a long-term plan to circumvent the scientific and political communities, and to make their presence known through sporadic human abductions and UFO sightings over time.

"A UFO witness would have a better idea of what's going on than Frank Drake would," Deardorff said. "ET wouldn't bother to use 20th-century science."

Another critic of SETI's reasoning is Ben Zuckerman, a professor of physics and astronomy at UCLA.

If aliens exist, they wouldn't sit back and send radio waves, they'd be here, Zuckerman maintains.

"We've had life here for billions of years. If they were studying the Earth, anybody with a modicum of curiosity is going to come," Zuckerman said.

"They put all their eggs in one basket," Zuckerman said of SETI's limited search. "For 3 billion years there was life on Earth, it was just not sending out radio waves. They've closed the door to all this kind of life."

SETI scientists are undaunted by such peer criticism. And their diligent work has spawned similar programs at Ohio State University, the University of California at Berkeley and Harvard.

BETA, or Billion-Channel Extra-Terrestrial Assay, is another radio telescope sky-survey directed by Harvard physics Professor Paul Horowitz, who shares Drake's enthusiasm and dreams of success.

"SETI is bound to succeed sooner or later," Horowitz said. How certain is he that life exists out there?

"Absolutely 100%. But you know what they say about astrophysicists," he said. "Often in error, but never in doubt." ■