2-10-2006

Amazon Disappearing Faster Than Prior Estimates

LADB Staff

LADB Latin America Data Base News & Educational Services

NotiSur

LADB Article Id: 51821
ISSN: 1060-4189

Amazon Disappearing Faster Than Prior Estimates

by LADB Staff
Category/Department: Brazil
Published: 2006-02-10

The end of 2005 brought a record-breaking drought to Brazil's Amazon River basin, leading to a state of emergency in several areas. The drought coincided with a new report by scientists who said previous efforts to analyze the depletion of the world's largest rain forest which did not adequately take selective logging into account may have significantly underestimated the degree to which logging was affecting the Amazon.

"Selective-logging" analysis reveals 60% underestimate

A team of scientists from Brazil and the US published an October 2005 report in the US journal Science suggesting that deforestation of the Brazilian Amazon had been underestimated by at least 60%. The team found that traditional satellite-image analyses of the rain forest were insufficient. "A detailed comparison of Landsat satellite observations against field measurements of canopy damage after selective logging proved that traditional analytical methods missed about 50% of the canopy damage caused by timber-harvest operations," said their report.

The group employed a more-advanced technique of satellite imaging that could pick up more types of logging activity, including selective logging, where loggers pick out valuable trees but leave surrounding forests intact. The study looked at five states: Para, Mato Grosso, Rondonia, Roraima, and Acre, which the team said accounted for approximately 90% of all deforestation in the Brazilian Amazon. They said selective logging was concentrated in Mato Grosso and Para, with areas logged that way exceeding or nearly matching deforested areas.

Deforestation in the Amazon has reached such a massive scale that the only way of measuring it is by using satellites. The trouble has been that, while traditional aerial images can show areas that have been completely destroyed, they do not reveal selective logging of valuable trees such as mahogany.

With input from the National Aeronautics and Space Administration (NASA), the joint US-Brazil team used an ultrahigh-resolution technique to examine just how much selective logging was going on. The researchers concluded that the area of rain forest destroyed between 1999 and 2002 was thousands of square kilometers larger than previously thought. They also found that about 25% more carbon had been released into the atmosphere than estimated possibly enough to affect climate change.

LADB Article Id: 51821
ISSN: 1060-4189

The report conclusion said, "Selective logging doubles previous estimates of the total amount of forest degraded by human activities, a result with potentially far-reaching implications for the ecology of the Amazon forest and the sustainability of the human enterprise in the region."

The businesses conducting such practices claim picking out individual trees is more environmentally friendly than the blanket clearance of huge areas. But environmental campaigners say that, to reach the prized trees, roads have to be built and heavy equipment brought in. This, they say, can be of no benefit to the Amazon.

Government says deforestation down, credits policies

Brazil's government welcomed the report but said the figures were exaggerated. Brazilian officials praised the scientists for highlighting the issue of selective logging but said the new figures were hard to believe. Two months earlier, the government had announced estimates that deforestation in the Amazonian rain forest had fallen by 50% in 2005. The government said it believed this was the result of new protection policies. Environment Minister Marina da Silva said some 9,000 sq km of forest were felled in 2004, compared with more than 18,000 sq km in 2003. The minister said she believed this drop was the result not only of greater government control but also of more emphasis on sustainable-development projects.

Environmental groups warned that it was too soon to be sure there had been a long-term reversal in the destruction of the world's largest rain forest. The figures, they said, were still estimates from satellite images, which, because of cloud cover, have a 20% margin of error. They said a fall in soy prices might also have had an impact, with farmers no longer clearing land. Soy monoculture figures prominently in deforestation schemes, along with the cattle industry (NotiSur, April 9, 1999, Oct. 3, 2003. and Feb. 27, 2004).

They also said that most of the drop in deforestation occurred during a two-month period in June and July 2005, when the Army and police mounted unusually large operations against illegal logging. Greenpeace said it was too soon to talk about a long-term slowing of the destruction of the forest, warning that illegal loggers might just be biding their time. The only firm conclusion, the group said, was that, when the government decides to mount major operations against illegal loggers, there is a positive short-term effect.

Drought decreases river tributaries, water supply When the Science report was published, the Amazonian ecosystem was experiencing a crippling drought. Sanitation, fishing, tourism, residents, plants, and animals suffered serious stresses and diseases, while the government attempted to deliver emergency relief services to those affected.

By December, the drought in some areas was the worst since record keeping began a century ago. It evaporated whole lagoons and kindled forest fires, killed off fish and crops, stranded boats and the villagers who travel by them, brought disease, and wreaked economic havoc.

LADB Article Id: 51821
ISSN: 1060-4189

In mid-October, Gov. Eduardo Braga of Amazonas State decreed a "state of public calamity," which remain in effect as the drought's impact on the economy, public health, and food and fuel supplies deepened. Other Brazilian states were also severely affected, as were Amazon regions in neighboring countries like Peru, Bolivia, and Colombia.

During that time, Brazil's government sent 18 tons of water-purification tablets and 100,000 basic food baskets to help the 167,000 people affected by the drought. Military transport planes and helicopters were busy distributing food and medical supplies to 28 of the state's 61 municipalities after Gov. Braga declared the state of emergency across the Alaska-sized state.

The drought resulted in the deaths of six children, who succumbed to illnesses related to the lack of potable water, according to local media reports on Oct. 23. Brazil's Fundacao Nacional de Saude said the victims including five indigenous children-had died earlier that week. Officials said Indian tribes in the western Amazon were the most severely affected by the drought, which crippled some Amazon River tributaries in those months.

Nearly 84,000 Indians reportedly live in the hard-hit jungle state of Amazonas. The water level in the main trunk of the Amazon River had begun rising the week before, but it remained nearly 1.7 meters below its average water depth of 16.5 m, according to the region's port authority.

Below-average rainfall since January 2005 had dropped the river's level by nearly two meters by early October. Most of the water course was still navigable, but some key tributaries nearly dried out, disrupting travel and damaging the vital fishing industry.

Riverbeds were filled with dead fish and rotting river grass, making the water undrinkable. Scientists said the drought was most likely the result of the same rise in water temperatures in the Atlantic Ocean that unleashed Hurricane Katrina. They also worried that, if global warming was involved, as some suspected, it could be the beginning of a new period of more severe and frequent droughts in the region that accounts for nearly one-quarter of the world's fresh water.

"The Amazon is a kind of canary-in-a-coal-mine situation," said Daniel C. Nepstad, a senior scientist at the Woods Hole Research Center in Massachusetts and the Amazon Institute of Ecological Research in Belem. "We have no idea of the game we have played into by running this worldwide experiment of pumping so much greenhouse gases into the atmosphere."

Even more than in other parts of the world, people who live in the world's largest rain forest depend on water for transportation, food, sewage removal in short, just about everything, so the drought has touched nearly every aspect of their lives.

LADB Article Id: 51821
ISSN: 1060-4189

The effects of the drought are likely to be long lasting. The recovery of the area's fish stocks will take years, and fish is a main food source for the people living in the villages along the riverbanks. The local population will need assistance for a considerable time, because life will not simply return to normal when the rains come back, said Paulo Moutinho of the Amazon Environmental Research Institute.

Two new national parks

The federal government is taking steps to increase protections for the forests. In mid-February, President Luiz Inacio Lula da Silva created two new national parks in the Amazon rain forest and expanded another to protect an environmentally sensitive region where the government plans to pave a major road. Lula signed a decree placing 1.5 million hectares of rain forest completely off-limits for development. He also created four national forests where sustainable logging would be permitted and a protected zone where development would be strictly regulated. Environmental groups had pushed for the bills regulating forest use to pass Congress, although they expressed disappointment that an amendment expanded the departments responsible for regulation and enforcement.

The decision to take exclusive charge of the Brazilian Forest Service and the National Forest Development Fund away from the Environment Ministry and share it with other ministries like the Ministry of Agriculture provoked protest among environmental advocates. Outside groups have praised the government's efforts to protect the Brazilian environment, at least in comparison to other world governments.

A 2006 report from the Environmental Performance Measurement Project at Yale University ranked Brazil 11th for environmental sustainability in a survey of 146 countries. The report ranked countries according to their abilities to maintain favorable environmental conditions into the future using five broad categories and 21 indicators (see NotiCen, 2006-02-09).

-- End --