

## New Imaging Techniques Reveal Greater Amazon Logging

Last August, the Brazilian government announced that rates of Amazon deforestation had declined by as much as 50 percent in 2005, largely because of stricter protection policies. But a new study by researchers from Stanford University suggests that such proclamations of progress may be based on incomplete measurements. The study, published in the October 21 issue of *Science*, relies on higher-resolution satellite analysis to conclude that the Brazilian Amazon is in fact being logged at more than twice the rate previously thought.

While traditional satellite analysis of deforestation typically measures only areas of highly visible clear-cutting, the Stanford analysis incorporates an additional critical variable: forest loss in areas that have been selectively logged for high-value timber species, like mahogany. Forest cover in these areas may appear to be intact, says Greg Asner, lead researcher for the study, but the “swiss-cheesing” of the

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Swiss-cheese effect? A satellite view of deforestation in Rondônia, Brazil, in 2001.

canopy can in fact significantly disturb the ecosystem beneath, allowing more sunlight to reach the forest floor and causing widespread collateral damage to remaining trees, vegetation, and soils.

The study, which uses Landsat satellite data for 1999–2002, concludes that selective logging added 60 to 123 percent more damage to forest areas over this period than had been reported previously.

The analysis focused on the five states—Pará, Mato Grosso, Rondônia, Roraima, and Acre—that account for roughly 90 percent of all deforestation in Brazil's Amazon.

Asner suspects that similar situations may be developing in other forests where selective logging plays a large part in local economic activity, including in Indonesia, Peru, and Bolivia.

—Lisa Mastny

## Government Studies Show Health Benefits of Workplace Smoking Bans in Ireland and Norway

In March 2004, Ireland became the first nation to enact a ban on smoking inside enclosed workplaces, including bars, restaurants, and nightclubs. Three months later, Norway joined Ireland in enacting a total workplace ban. One year after these bans took effect, reports from both governments lauded the health effects of the measures.

In March 2005, the Irish Office of Tobacco Control released a study of worker health, which was assessed before the ban and again one year after. Researchers found that air quality in bars had improved dramatically, with larger airborne particulate matter falling 53 percent and smaller particulate matter falling 88 percent, settling at a level similar to that found in non-smoking homes. Moreover, levels of carbon monoxide in non-smoking workers' blood decreased 43 percent.

The Norwegian study found similar positive results: airborne particulate mat-

ter declined 70 percent in bars and restaurants, and nicotine levels in the urine of non-smoking workers decreased nearly 90 percent. Additionally, lung function in non-smoking workers improved, while respiratory symptoms such as coughs and shortness of breath declined by about one-third.

While some critics of workplace bans argue that the public opposes these measures as infringements on freedom, polls often show overwhelming support for the bans. Recent polls reveal that 80 percent of French people surveyed, and 73 percent of English and Welsh, favor bans. And support appears to continue after implementation. According to a survey linked with the Irish report, one year after the ban's adoption, 93 percent of people continue to believe it is a good idea, 96 percent feel that the law is a success, and 98 percent think that workplaces are now healthier.

—Erik Assadourian



Kim Schmidt