

Deforestation: taking off again?

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Brazil may not have an enviable record on caring for its forests. But when it comes to documenting their destruction, it has no rival.

For some years now, the Brazilian National Space Research Institute (known as INPE from its initials in Portuguese) has been analysing and publishing the results of satellite imagery that reveals in painful detail the steady depletion of the Amazon rainforest. Brazil's planned space programme may never have got off the ground, but the agency has become a global reference point for rigorous and transparent reporting of deforestation.

Until last August, the picture presented by INPE on the trends in the Amazon revealed by these assessments had been – in relative terms – a positive one. As the chart shows, the annual deforestation rate had fallen for three successive years from a spike of more than 27,000 square kilometres in 2004, to “only” 11,000 sq km in the year ending August 2007 – still, it is worth remembering, that is an area larger than the country of Lebanon in which the huge variety of trees, vines, orchids, mammals, birds, insects, fungi etc have been converted to bare pasture, very probably causing the extinction of species that we will never discover.

Amazon deforestation figures 1988-2007.**Source:** [INPE](#)

It was these declining rates of deforestation that prompted President Luiz Inácio Lula da Silva and other ministers in his administration to claim success for the Amazon Deforestation Action Plan, brought in after he came into office in 2003. Yet in January of this year, INPE set off a major alert by announcing a sharp upturn in deforestation in the final months of 2007 – a trend apparently confirmed by subsequent observations for January and February. At the same time, the government voices hopes that the annual trend can still be held to its downward course. So what is really happening?

To answer that, it helps to understand how INPE gets its figures. Two separate systems are used. The first, the Amazon Deforestation Estimate Project (PRODES), produces the annual figures shown in the chart. It analyses around 200 high-resolution images of the Amazon taken by the NASA Landsat satellite in the dry season close to the reference date of August 1st, and compares them with images from the previous year to establish which areas have been deforested during those 12 months. In recent refinements, data from other satellites are used to supplement this information where for example there are problems of cloud cover.

The second system, known as Detection of Deforestation in Real Time (DETER), was introduced in 2005 as part of the Lula government's action plan. It is designed to give the authorities speedy information on where the latest areas of deforestation are appearing, so they can target enforcement efforts on the ground without having to wait for the annual analysis. This system uses lower-resolution images so it does not spot all deforestation, but it does give an indication of where the trend is moving month by month.

Alarm bells ringing

It was the DETER system which set the alarm bells ringing in Brasilia and beyond from early 2008. Reports on the ground from the Amazon itself had indicated for some months that deforestation had started to pick up again. Then on January 23rd INPE and the environment ministry (MMA) called a special press conference to announce shocking statistics from the last five months of 2007: between August and December, the satellite analysis had revealed the loss of 3, 235 sq km. Because of the crude resolution of the images in this quick-response system, it misses the smaller areas of deforestation, so INPE reckoned the real loss was closer to 7,000 sq km.

Add to that the fact that the bulk of the deforestation was in the months of November and December when heavy Amazon rains normally silence the chainsaws, and claims of a continuing decline in the annual rate were starting to look highly questionable. Even the MMA news release spoke of an increase in deforestation, although the environment minister Marina Silva claimed it was still possible to keep the 2007-8 total figure below the 11,000 registered for the previous year.

The government response to this upsurge in destruction was to announce a series of measures aimed at intensifying the enforcement of laws to combat deforestation. At their heart was the identification of 36 municipalities in the so-called “arc of deforestation” – mainly in the states of Mato Grosso, Pará and Rondônia – which together accounted for more than half of the forest clearances of the past three years.

It is in these 36 municipalities that a major operation known as “Arc of Fire” is being concentrated, in which federal police and other enforcement agencies are descending on known hotspots of lawlessness to seize thousands of cubic metres of illegally-felled wood, shut down unlicensed charcoal ovens and fine the owners of sawmills found to be infringing the law.

Other measures introduced in January include a requirement for landholders in the 36 municipalities to re-register their property, aimed at addressing the widespread phenomenon of fraudulent land claims to facilitate deforestation; an agreement with banks to cut off credit to rural businesses found to be breaking environmental laws; and the publication of a “dirty list” of deforesters whose land will be subject to embargo with a ban on the commercialization of products originating from those areas. That list is now online – and includes a roll-call of some of the most powerful figures in politics and business in the region – although it is still subject to constant revision as individual disputes arise.

No one was expecting very quick results from these measures. Even so, the latest DETER data for January and February this year were extremely disappointing: 1,364 sq km of deforestation detected for the two months combined, and likely to be even more of an under-estimate than the previous figures because large parts of the Amazon were under cloud for the entire period.

The government argues, reasonably, that steps like the re-registering of land claims and choking the credit lines of deforesters need time to have an impact. And measures such as the publication of the embargoed landholders have taken transparency to a new level.

But as O Eco has been documenting in recent weeks, critics find contradictions in policy that seem to feed incentives for deforestation, potentially undermining all these efforts. A new executive measure presented to Congress, for example, would exempt holders of land up to 1500 hectares from the new restrictions even if it had been illegally-deforested – according to the government a pragmatic way of bringing these areas under legal control, but according to its critics sending a message that if you grab land in the Amazon then eventually it will be recognized as yours.

Infrastructure projects

Another challenge to the policy is the string of infrastructure projects – especially the paving of highways in the Amazon – that risk bringing new forest clearances in their wake. There is a firmly-established correlation between roads and deforestation, and it is going to be extremely difficult to reconcile the two policies of “integration” and reduced deforestation.

Finally there is the great elephant in the room – agriculture and the global pressure for increased food production. There had always been fears that the downturn in deforestation between 2004-7 owed more to low commodity prices and an overvalued Brazilian Real than to the government's Action Plan. Now the coinciding of the surge in food prices and the upsurge in deforestation looks suspiciously like confirmation of this link – in fact it was explicitly recognised by Marina Silva at the time of the January announcement, though promptly denied by the agriculture ministry and by President Lula himself.

According to the government, Brazil can help ease the pressure on world food supplies without compromising its commitment to protect the Amazon, by exploiting the millions of hectares of land already cleared for cattle pasture and now degraded – also, incidentally, the argument used for cost-free expansion of ethanol production from sugar cane. In theory, this is a powerful argument. In practice, holding back deforestation at a time when food is top of everyone's agenda is going to involve a monumental reversal of past historic trends.