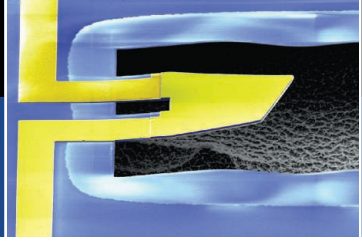

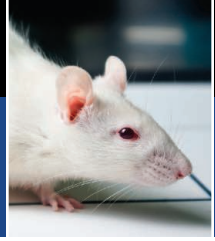

CLIMATE NEGOTIATIONS

Cancún Delegates See the Trees Through a Forest of Hot Air

A new deal inked last week at the United Nations climate talks in Mexico paves the way for rewarding nations for maintaining their forests. A central facet of the agreement, which puts the protection of trees at the vanguard of climate negotiations, is a call for developing countries to begin calculating national totals for emissions from forest loss and to adopt systems to begin monitoring deforestation.

The deal, which rests upon years of research and political maneuvering, opens the door for future trading of forest credits. Paying poor nations to preserve trees is considered a key component of any long-term strategy to reduce emissions. It also enshrines the scientific finding that carbon in forests can and should be measured at national scales. "Once you have the science demonstrating how it can work, it makes it possible politically," says Paulo Moutinho, executive director of Brazil's Instituto de Pesquisa Ambiental da Amazônia.

Deforestation, whether trees are felled or burned, contributes as much as a quarter of greenhouse gas emissions from human activity worldwide. The agreement on reducing emissions from deforestation and forest degradation, known as REDD, sets the stage for an arrangement in which countries would be compensated for slowing deforestation. Nations that keep trees standing might then sell credits to developed countries, or even individual polluters. The agreement does not, however, spell out a compensation mechanism. "How this stuff will be funded has been kicked down the road," says Steve Schwartzman of the Environmental Defense Fund (EDF) in Washington, D.C.

REDD was a high point among a series of modest achievements forged in the 2-week meeting in Cancún that ended on 11 December. Another agreement is a $100-billion-per-year green fund for developing nations to adapt to climate change and promote clean energy, although as with REDD, no one knows how that money will be raised. Negotiators also made progress on rules for sharing technology and monitoring emissions reductions. Mexican President Felipe Calderón said the meeting removed the "inertia of mistrust" that has existed, particularly between poor and rich countries.

Lumbering giant. Agreement highlights the role of forests in reducing carbon emissions.

Climate negotiations nearly broke down a decade ago over the REDD question. Negotiators initially wanted to allot credits to small-acreage conservation projects that could be carefully monitored. But protecting trees in one place might simply cause them to be cut down elsewhere.

Forest scientists and policy experts have since crafted the national-scale strategy at the heart of the REDD deal. One key step was a proposal in a 2005 paper by Brazilian and U.S. researchers, including Schwartzman, for "compensated reduction," a process in which countries could be rewarded for stemming deforestation at a national level.

In a series of meetings since then, remote-sensing experts determined that tools to calculate national totals do exist. Those workshops "showed the U.N. parties that you could actually measure this stuff," says Annie Petsonk, a forest expert with EDF.

The ability to monitor its forests has been a boon to Brazil, where, until a few years ago, deforestation was a source of shame and raw data were confidential. "Five or 6 years ago, Brazil's government didn't want to discuss deforestation, so they would say we didn't know how much carbon there was in the forest," says Moutinho. "Now it's hard to find anyone who questions the measurement technology." After building up the largest remote-sensing agency of any tropical nation, Brazil officials arrived at Cancún touting the lowest rate of national deforestation in more than 2 decades.

Researchers have also made progress in understanding the most effective ways to preserve forests. One powerful tool, they say, is demarcating territory for indigenous groups, which has occurred throughout Latin America in the past few years by the millions of hectares. "Before, that was just an argument. Now there is economic and remote-sensing data that backs up" that approach, says David Kaimowitz of the Ford Foundation in Mexico City.

Some researchers have also argued that REDD may be the cheapest way to reduce carbon emissions. That "created [the] political will," says Kaimowitz.

Scientists are already plotting their next steps, including how to merge remote-sensing data with on-the-ground monitoring. The biggest near-term challenge, scientists say, will be helping developing countries put in place the "robust and transparent" national forest-monitoring systems stipulated under the agreement. The Cancún deal requires countries to propose rules "for measuring, reporting and verifying anthropogenic forest-related emissions" before next year's meeting in Durban, South Africa.

Some solutions are already coming into view. At Cancún, the charity arm of the search company Google unveiled Google Earth Engine, which will allow users to study deforestation using its computing power. And a group at the Carnegie Institution for Science in Stanford, California, has been training hundreds of experts from several countries to analyze deforestation data.

Despite having a general framework for REDD, it will take years of negotiations to fill in the details. One especially sticky question is setting the baseline year against which to measure progress. Still, remote-sensing and forestry experts came away from Cancún revitalized. "It makes me feel that the last 5 years of not sleeping has been worth it," says Carnegie tropical ecologist Greg Asner. "We'll keep being sleepless, but we're going to be celebrating this."

–ELI KINTISCH AND ANTONIO REGALADO

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