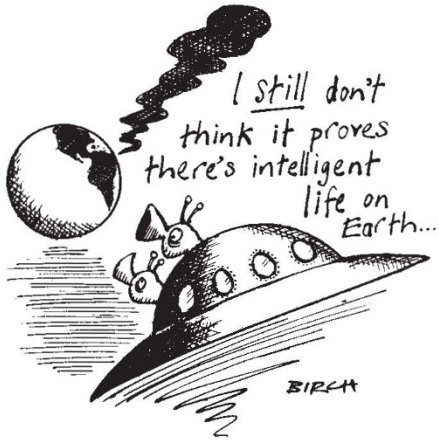
AMAZON FORESTS

Burning continues, slightly abated

Sao Paulo

THE dry season is beginning in Amazonia and farmers are getting ready for the *queimadas*, the burning of the forest and savannah-like *cerrado* to make the land fit for pasture and planting. In a new report, the Institute for Space Research estimates the extent of last year's burnings at 121,000 square kilometres in the part of Amazonia south of the Equator.

The figures are less alarming than those released last year by the same team, headed by Alberto Setzer. The total area burned in 1987 was estimated at 204,000 square kilo-



metres, a figure that fueled an international outcry over the destruction of the rainforest.

Setzer's team used images from the NOAA-9 satellite. He says the statistical reliability of this year's report is greater than last year's because more images were used, 97 this year against 46 last year.

Of the total area burnt, about 40 per cent, or 48,000 square kilometres, was rain forest. According to the report, Mato Grosso was most affected, with 21,700 square kilometres of forest and 27,600 square kilometres of *cerrado* burnt. Setzer said that a record of 8,500 *queimadas* were seen in one day. "Dense smoke. . . covered areas of millions of square kilometres, bringing health problems to the population, disturbing air, road and river traffic", says the report. Ricardo Bonalume Neto

New posts to come?

Washington

PRESIDENT George Bush's new science advisor, D. Allan Bromley, is trying to entice retiring US National Institutes of Health director James B. Wyngaarden to become deputy science advisor for biomedical affairs. Bromley, a physicist, is seeking to bolster the effectiveness of the Office of Science and Technology Policy, which he oversees (see *Nature* 338, 693; 1989). Bromley is also reported to be considering creating deputy posts for biotechnology and agriculture. A.A.

AMAZON EXPLORATION

Flying raft caught on red tape

São Paulo & Paris

RED tape could delay an unusual scientific expedition to explore the canopy of the Amazon rain forest with a giant platform suspended from a hot-air dirigible. The project, directed by Professor Francis Hallé, of the Botanical Institute at the University of Montpellier II in France, was due to start on 1 July. But the researchers, who have been waiting since May for official clearance, could face a further delay of four months while their application passes through the appropriate diplomatic channels.

According to Hallé, the 'canopy raft' (*radeau des cimes*) provides a unique opportunity to study the rich flora and fauna of the rain forest, hitherto little explored because of its inaccessibility. "Most of the selective forces operate 30 to 50 metres above the ground", he says. This makes access for teams of scientists extremely difficult. All of the previous methods of access, such as trunk-climbing, fixed towers, aerial walkways and remote aerial photography have disadvantages. Only a few tree crowns can be studied, making it impossible to obtain statistically valid samples or to carry out team observations.

The 'canopy raft' is the third in a series of attempts by Hallé and his colleagues to land structures on forest canopy.

The idea is that a light structure comprising rubber inflatable 'sausages' joined together by a net allows a small team of researchers to land on the tree tops where they can stay as long as they wish, exploring a relatively wide area before moving to another site. The first prototype, built in 1985, was a simple triangular structure lowered by helicopter in forests in central France. But the helicopter rotors damaged trees and so a second version, tested in French Guyana in 1986, used a hot-air balloon.

The latest canopy raft is a more complex hexagonal structure with a 700-square-metre platform of netting held together by a soft frame and displaced by a hot-air dirigible made by the UK company Thunder and Colt. The raft was designed by Gilles Ebersolt in consultation with its pilot, Danny Cleyet-Marrel.

After an initial flight over a section of the Brazilian Amazonian forest to select sites, the platform will be lowered onto the canopy. From here the small team, including botanists, Hallé, Patrick Blanc and Isabelle Valade, can descend using rope ladders or explore different areas of the tree crowns, sleeping overnight in a shelter on the platform.

The project will also involve large-format stereo photography and radiometric measurements.

The project has been financed by the European Economic Community and a number of private sponsors, mostly Japanese. The involvement of twenty researchers at the Brazilian National Institute for Amazon Research (INPA) and about 15 from the University of São Paolo should help the study to obtain authorization. But according to Guilherme Euclides Brandå, of the National council for scientific and technological development, the French team's visa application was received only at the end of May.

Permission still has to be obtained from the Brazilian Institute of the Environment and Renewable Resources and, possibly, from the secretary for national defence counselling. This, says Brandao, could take several months.

Peter Coles & Ricardo Bonalume Neto

Gilles Ebersolt

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Canopy raft to be used by French researchers to study the Amazon rain forest canopy.