

## Remote sensing

# US agencies blamed for muddle

Washington

AN outspoken study of the "crisis" in the 13-year-old US Earth remote sensing programme by the National Academy of Sciences has concluded that US pre-eminence in the field is now seriously threatened by "not-so-benign neglect". The academy says that substantially increased government resources will be needed if the potential of the technique is to be realized, and knocks some agency heads together for letting the area fall into disarray.

The academy's report emphasizes that the present situation is urgent. The only civilian Earth remote-sensing satellite in service, Landsat 5, is expected to fail before private industry can launch a replacement. No improvement is likely unless the government increases the \$250 million ceiling it has placed on remote sensing while the programme is being transferred to the private sector.

Although negotiations with an industrial consortium to take over the programme are at an advanced stage, there are still no definite arrangements for the future, and during the probable hiatus in the US service, the French company SPOT (Système Probatoire d'Observation de la Terre) can be expected to secure a large part of the market for remotely-sensed Earth data although customers would prefer continuity of data, SPOT's data will be available and will have some technical advantages.

The academy's report\* was produced by its research arm, the National Research Council (NRC), under the chairmanship of George Harter. The report has been more than two years in preparation and seems to have engendered some controversy: an earlier draft by a specially appointed committee was rejected by NRC's Space Applications Board, which then set about producing a better version. The work of the earlier committee is acknowledged only in passing.

NRC is enthusiastic about the ultimate potential of data sensed from space, while pointing out that data must in future (not as at present) be made available to users in processed form if they are to be saleable products. Oil companies, which now use remotely-sensed data for prospecting, have spent years and large research budgets in discovering how to use it. (Oceanographic remote sensing, according to NRC, should remain within the government as a "public good" service.)

Although NRC supports the government's basic strategy of turning Earth remote sensing over to the private sector while keeping meteorological satellites under its own wing, it is harsh in its criticism of how the strategy was carried out.

NRC stresses that technical problems are no part of the reason why the programme has done so badly. Rather, parochialism is to blame the programme fell between the twin stools of the National Aeronautics and Space Administration (NASA) and the National Oceanic and Atmospheric Administration (NOAA).

Although the two agencies worked together for many years on remote sensing, after NOAA was officially placed in charge of the programme and NASA faced a budget crisis in the early 1980s, NASA threw the ball over to NOAA, which was apparently unready to catch it. Part of the reason, according to NRC, was NOAA's disadvantageous and often-criticized bureaucratic niche within the

Department of Commerce. NRC accordingly recommends that NOAA be found a more suitable home.

Even if NOAA stays where it is, however, NRC is not so pessimistic as to believe the two agencies could never again work together constructively. NRC wants to abandon the present arrangements whereby institutional rather than technical considerations dictate what sensors are flown on a given spacecraft, and proposes a single coordinated effort, with NOAA remaining in charge of applied and market research for Earth data, and NASA providing technical support for the development of new sensors, for example. Finally, NRC tells the two agencies in future to allow each other to use space on their platforms and also to make this available to industry.

**Tim Beardsley**

\*Remote Sensing of the Earth from Space: A Program in Crisis (National Academy Press, 1985).

## French science

# CNRS faces political change

SHOULD the Centre National de la Recherche Scientifique (CNRS), the principal French research council, be split up? This seems to be the question of the month in right-wing scientific circles in France, where the general election due in March is expected to return a government of the right. It is difficult to establish exactly where the idea comes from, although *Le Monde* picks on "sources close to Jacques Chirac", the mayor of Paris, expected to become France's next prime minister.

CNRS has had to contend with some criticism of late. The council is certainly big, supporting more than 10,000 academics in disciplines from physics to history, and its multidisciplinary nature has given it considerable flexibility in meeting the challenge of new sciences such as materials, microelectronics, robotics and biotechnology. But in responding to these new goals and in its policy of "overture", opening up the hallowed halls of academic institutions to the public, to industry and to other research bodies, CNRS "has changed profoundly" over the past 3-4 years, says its director-general Pierre Papon.

In so doing CNRS may have created enemies, particularly among more traditional academics used to the old somewhat feudal continental system of professorial fiefdoms that were once prevalent in France. CNRS has attempted to cross these barriers where they still exist — Papon still feels it necessary to preach the values of the British and US departmental system — and has also used its budgetary muscle, in concert with the ministry of education, to concentrate resources on priority areas. The prospect of a right-wing government has given some of those affected a chance to complain, and there is

a growing clamour in France for a return of power to the professor, at the expense of that of the science political apparatus such as CNRS. A fragmentation of CNRS into disciplinary subsections would clearly serve this cause well.

To confuse matters, however, the present research minister in the socialist administration, Hubert Curien, speaking just before Christmas at a prize-giving at CNRS, was ambiguous in his reply to criticisms of the centre. He described the criticisms as "a typical French exercise in self-flagellation", and said that if CNRS did not exist, he would have to invent it; but he also said that "one must not be deaf to criticism" and talked of "a new mode of scientific organization" in "networks" of projects rather than isolated grants.

In the circumstances, one might expect M. Papon to feel somewhat isolated and exposed, but he finds no policy conflict with M. Curien. "Networks", for example, correspond to his own concept of interdisciplinarity. And moreover Papon was re-appointed for a second three-year term of office in October. He fully intends to continue his work under a new government, "unless it shifts policy by 90 or 180 degrees". Also, Papon's appointment was made by the President of France, and François Mitterrand does not face re-election until 1988. Papon also believes that "no responsible government could contemplate a dismemberment of CNRS", or retreat from the present government's policy of harnessing science for the economy, of which he himself has been a major architect. By the middle of the year, when a new government will be preparing its budget and policies for 1987, he should know if he is right.

**Robert Walgate**