NASA TECHNICAL MEMORANDUM NASA TM-76373

THE UNITED STATES SPACE OBSERVATION POLICY

Michele Chevrel

Translation of "La politique d'observation spatiale des États-Unis"
Les Cahiers de l'OPIT, Dossier No. 2, Winter 1979/80, pp22-25

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
WASHINGTON D.C. 20546 OCTOBER 1980

STANDARD TITLE PAGE

1. Report No.	2. Government Accession No.	3. Recipient's Catalog No.
NASA TM-76373		

4. Title and Subtitle	5. Report Date
THE UNITED STATES SPACE OBSERVATION POLICY	OCTOBER 1980
	6. Performing Organization Code

7. Author(s)	8. Performing Organization Report No.
Michele Chevrel	
	10. Work Unit No.

9. Performing Organization Name and Address	11. Contract or Grant No.
SCITRAN Box 5456 Santa Barbara, CA 93108	NASW-3198
	13. Type of Report and Period Covered
	Translation

12. Sponsoring Agency Name and Address	14. Sponsoring Agency Code
National Aeronautics and Space Administration Washington, D.C. 20546	

15. Supplementary Notes

Translation of "La politique d'observation spatiale des Etats-Unis", Les Cahiers de l'OPIT, Dossier No. 2, Winter 1979/80, pp. 22-25

16. Abstract

The steps pursued since 1978 to establish an operational civil space remote-sensing system are outlined. The role of NOAA is defined, and the problems still remaining are discussed.

17. Key Words (Selected by Author(s))	18. Distribution Statement
	Unclassified - Unlimited

19. Security Classif. (of this report)	20. Security Classif. (of this page)	21. No. of Pages	22.
Unclassified	Unclassified	10	

NASA-HQ

TM-76373

THE UNITED STATES SPACE OBSERVATION POLICY

La politique d'observation spatiale des Etats-Unis

Michele Chevrel
Scientific attachee for space affairs,
French Embassy, Washington

Since 1972, when the first Landsat satellite was placed /22* in orbit, the data transmitted by these satellites have been used widely by scientists, local decision makers, and industrialists in the United States and in more than 100 other countries for a range of applications extending from crop inventories to estimation of flood damage, including mineral and petroleum exploration. Stations in seven countries receive information from these satellites directly (Canada, Brazil, Italy, Sweden, Japan, India, Australia). Argentina will be connected in 1980, and other countries such as China are negotiating purchase of a receiving station.

An experimental system

These numbers show the value given to the data acquired by remote sensing from space. But the operational utilization of these data is held back by absence of a guarantee that they will continue to be provided. The Landsat system is an experimental system developed and run by a research and development organization: NASA; in particular, this means that every new satellite must be approved by the White House and then by Congress. As a result, at the present time, or rather up until /23

*Numbers in the margin indicate pagination in the foreign text.

a few months ago, "after Landsat D and D'" (scheduled for operation from September 1981 to 1985) was completely unknown. The "final users" and the service companies are therefore refusing investment for use of data whose source could dry up from one day to the next.

Then too, another drawback of an experimental system is that since NASA has no operations orientation, the present system of distributing the Landsat data is judged to be totally unsuitable. Delays in data distribution often run to several months, which is prohibitive for many applications.

As a result, discussions on the establishment of an operational system -- that is, a system for which continuity of service is guaranteed -- have been going on for several years, particularly in Congress, strongly influenced by the industrial sector.

Up to now, the White House has shown itself to be very reluctant to take the plunge, because the number of institutional problems to be solved in establishing such a system is much greater than for developing it in areas where such services exist already:

- meteorology from space, a public service with clearly-defined users.
- space telecommunications, a commercial service whose clientele is grasped equally well.

Too many choices

The road toward an operational remote-sensing space system is paved with difficulties:

- While some uses of a system relate to public service (environmental studies, forecasting and evaluation of catastrophes), others have large potential commercial value (crop forecasts, mineral and petroleum exploration). This is why service and data-processing companies want to participate in the system, and likewise why the government doesn't want to carry the whole financial load.

- Furthermore, the sensitiveness of the international community and of the American Department of Defense to certain data acquired by remote sensing from space also complicates the task of the decision-makers.

- The potential private and governmental clients are quite diverse and scattered: Agriculture Department and agribusinesses, mining and petroleum exploration companies, environmental agencies, the Corps of Engineers, responsible for civil engineering for the Department of Defense; no group is now sufficient by itself to justify the size of the expenses needed to install such a system: the whole combined market is therefore necessary.

In spite of these difficulties, or rather to let them be ironed out gradually, President Carter has made several steps since 1978 toward establishment of an operational civil space remote-sensing system.

In June 1978, with a group of principal advisors on space policy, the President:

- promised future development of a national global space remote-sensing system.
- encouraged involvement of the private sector in civilian remote-sensing systems, although under governmental control.

- promised a decrease in the restrictions on acquisition of data by space remote-sensing (spatial resolution, radar data, etc.), but step by step and under government control. /24

- asked for better circulation of data and for more coordination between the civilian and military sectors.

- confirmed the principle of "widest possible dissemination" of data acquired by the civilian space systems.

Toward an operational system

After he set up these guidelines, President Carter asked the space committee*, which is presided over by Frank Press, scientific advisor to the President, to evaluate the needs of a national civilian space program. This study provided the basis for a memorandum civilian space policy for the years 1980-1990 announced by the President three months later. According to this memorandum, the President would not still decide on starting work on an operational system because he felt that additional studies were necessary to define the configuration of such a system, but he did make a step forward by promising that Landsat data would continue to be provided between 1980 and 1990. In addition, he created working groups to study:

- integration of present and potential space systems for acquisition of atmospheric, oceanic, and terrestrial data into a national global system;

- involvement of the private sector in the financing and responsibility for such a system;

- and finally, the degree of coordination possible between the civilian and military programs.

After studying the recommendations submitted by these working groups in early Summer, 1979, President Carter announced his decision to assign management of all operational civilian

*Interministerial Policy Committee, Space Section

space remote-sensing activities to the National Oceanographic and Atmospheric Agency (NOAA). This amounted in fact to adding management of operational civilian earth-resources remote-sensing systems to that agency's present responsibilities for managing oceanographic and atmospheric activities.

This assignment was part of a group of decisions made public on 20 November 1979, which in particular define the relationships between the civilian and military sectors:

NOAA's role

- In the area of Space Meteorology, the civilian and military systems remain separate, but the contract for supplying space platforms will have to be a combined one. The very open international cooperation which has existed in this area for a long time, both for establishment of the space segment and for dissemination of the data, will thus not have to be restricted.

- In the area of Space Oceanography, if the government makes the decision to develop an operational system to follow Seasat, the Department of Defense, NOAA, and NASA will manage it together. This decision is not a good omen for international access to the data which will be acquired by this system.

- In the area of Earth Resources Remote Sensing, the civilian and military programs remain separate. As we have seen, NOAA is designated to be responsible for the operational civilian system, while NASA handles the research and development aspects. This decision is a large step forward because other agencies were candidates, such as the Department of Agriculture, and especially the Geological Survey (whose EROS data Center currently distributes the remote-sensing data). And in the absence of a designated "leader" agency, the definition of an operational system was marking time.

However, there are still a large number of questions:

- While NOAA is responsible at some time in the not-too-distant future for the whole system -- space segment, ground station, relations with users -- the effective date has not been fixed: Beginning with Landsat D? After Landsat D?

- What will its interfaces be with the other government agencies -- NASA, USGS, the using agencies? As for NASA, the process presently being used for meteorological satellites will probably be applicable:

- definition of needs: NOAA:
- research, development, and demonstration satellite: NASA;
- follow-on satellites and operational management: NOAA.

- For the USGS, which presently distributes the Landsat data and has shown itself to be resolutely hostile to the President's decision, the problem is much more complex: will the service of the EROS Center be integrated into NOAA? Will NOAA take data distribution away from USGS? /25

- What will this mean for the private sector? The President is insisting anew on the importance of involving the private sector (joint venture, quasi-governmental corporation, location of system, etc.), and even gives the ultimate objective to be total take-over of these activities by the private sector (under government control); but this does not seem to be something to happen tomorrow -- except perhaps for the Stereosat satellite (Note 1), strongly supported by the Geosat committee, which represents about a hundred American mining and petroleum exploration companies and twenty foreign ones, and for which Comsat General Company has shown great interest. It does ask that the government engage to buy data

covering 50% of its investments, however.

What will the place of this national system be in the international context? The President has promised that Landsat data will continue to be supplied, but without specifying the cost -- it is known only that the price will increase substantially -- or how it will be done -- direct reception or centralized reception with retransmission by the TDRSS satellite system (Note 2) and by Telecommunication satellites. In addition, he is encouraging the coordination of national systems. This corresponds to the desires of the users, in America and elsewhere, who also want to use data from future foreign satellites. This is in fact an extension to other countries of the type of coordination now being studied for the Spot and Landsat D satellites. More definite proposals will have to come from NOAA (NASA remains in charge of international relations for the research aspect).

An open situation

It was to try to get answers to these fundamental questions that NOAA was assigned to chair an interagency group (in which representatives of potential private clients of the system will probably participate) to give a definition six months from now of a plan for the transition from the present situation to an operational system.

These directives thus leave more questions open than they answer. However, the decisions on civilian/military relations and the designation of one agency to be responsible for operational remote-sensing systems are very positive, and free up part of the situation.

In any case, this is the feeling of the Geosat committee, which is delighted to have someone to talk to now. NASA would

not consider Stereosat to be an engineering research and development satellite, and thus would not consider it to have any priority in its program.

Some members of this committee are even starting to mention the possibility of a "joint venture" of the government and Comsat, an option to which they had been hostile up to now, arguing from the fact that the charges which were imposed on them would be support enough.

Congress, however, appears more reserved. Senator Stevenson, who had introduced a bill to give NASA responsibility for the transition phase, is waiting for the conclusions of the NOAA study. Senator Schmitt, who had introduced a bill to create a private corporation under government control, said he was disappointed by the absence of a decision about involving the private sector, and announced hearings for the beginning of 1980.

NOTES

Note 1 -- Stereosat is to acquire world-wide stereoscopic panchromatic coverage with a spatial resolution of 15 m. It is also required that these data be capable of combination with the Landsat D data.

Note 2 -- Tracking Data Relay Satellites System.

ACRONYMS

EROS Earth Resources Observation Satellite
NASA National Aeronautics and Space Administration
NOAA National Oceanic and Atmospheric Administration
USGS United States Geological Survey