

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
WASHINGTON, D.C. 20546

SEP 5 1973

OFFICE OF THE ADMINISTRATOR

Honorable George P. Shultz
Assistant to the President
The White House
Washington, D.C. 20500

Dear George:

The experimental results flowing from NASA's Earth Resources Technology Satellite (ERTS-1) are so encouraging that it becomes imperative that the broad policy on remote sensing from space and the importance of securing significant economic advantages for the U.S. now receive attention from the highest levels. ERTS-1 is proving the utility of synoptic, multispectral, repetitive coverage for the monitoring and analysis of local, regional, and national resources: crops, timber, water, geology, minerals, and wetlands, as well as important environmental factors such as pollution. The capabilities of space systems are global and can make a significant and unique contribution to the understanding and resolution of some of the critical economic issues that face the Administration.

A specific case in point: we are finding that information on world food crops can be repetitively acquired everywhere in the world by ERTS-type satellites. Space systems alone cannot, of course, provide all the data necessary for global crop inventories and predictions; on the other hand, a current and seasonal global assessment is virtually impossible without space systems. The economic and political values to the United States Government of knowing in advance the world's probable grain production may be hard to quantify or to demonstrate in advance — but there can be no doubt, that they would be considerable.

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I am personally convinced that accurate global economic information is a basic requirement for sound U.S. policy decisions both in the international arena and here at home. Further, I am convinced that a satellite system, operated by the U.S. Government in the U.S. national interest, is a necessary element in meeting this requirement. And I feel that an open, civil program would be far preferable for this function than would be any other approach in that it provides the U.S. with the widest range of continuing options, nationally and internationally.

I am bringing these opportunities to your attention at this time because I feel there is a real need for early policy decisions that will secure for the U.S. the maximum political and economic benefits at home and abroad. Let me summarize some of the principal reasons and considerations:

- o Data from our experimental satellite have proven to be operationally useful to Federal agencies such as Interior, the Corps of Engineers, and AID, as well as to many of the States; significant commercial uses are also being developed.
- o In order to maintain the continuity of space data, we are taking steps to reschedule the ERTS-B satellite from 1976 to 1974, within available resources, at the expense of deferring important research objectives.
- o The international community has responded enthusiastically to the new technology and many nations have made or are preparing to make significant investments in ground facilities (purchased from the U.S.) to receive ERTS data on a regional basis.
- o At the same time, international political forces at play in the U.N. are beginning to focus on

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the remote sensing issues; there is growing pressure to define an international legal regime for remote sensing that could seek to constrain the right of free dissemination or even acquisition of such data.

- o Neither the NASA program nor that of any other agency currently contains any provision for a civil earth resources satellite -- either experimental or operational -- to follow ERTS-B; program continuity is essential to capitalize on the uniquely useful capabilities developed in the ERTS program.
- o Current experience indicates that experimental space systems provide data of direct operational utility and therefore no real or practical policy distinction need be drawn, as at present, between operational and experimental systems.
- o The leadtime required to build additional ERTS-class satellites, even duplicates of the current hardware, is on the order of 2 to 2½ years; if the nation is to have the benefits possible from a global resource monitoring system, the decision to proceed must be made soon.
- o The global character of earth resources data collection from space, and the national importance and international sensitivity of the information so acquired, together require, I am now convinced, that the operation and control of this function be a carefully managed Federal responsibility.
- o A national program of continuous global data acquisition, whether described as experimental or operational, provides a meaningful new instrument of foreign policy, in that the information has inherent value and access thereto can be controlled as desired.

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- o Management of such a national program for continuous global data acquisition appears best centralized in a "service" agency dedicated to providing the Federal and State "users", and through them the private sector, with the data they require for their line functions.

Taken together, these factors make it important to reach a national decision this fall; otherwise, we stand to lose or forego the valuable opportunities before us. Today, there is no single clear national focus or objective for the earth resources survey program, nor has the nation prepared to exploit these new capabilities which are already in being.

Regardless of whether the FY 1975 budget is able to support a full-scale investment in a new operational space system, the Administration can and should, in my view, (1) commit to a significant operational exploitation of the capabilities we already have in being or in development, and (2) establish a policy frame work and plan to assure the most advantageous exploitation of these and future capabilities when they can be made available. I therefore submit the following two recommendations:

1. NASA should start now to reorient its ERTS-B satellite to a 12- to 15-month national pilot program in 1974 and 1975 dedicated to the global assessment of the production of one or more selected food and feed grains. This program would build upon and expand the experience being developed in the regional wheat studies now underway by the Central Intelligence Agency and the Department of Agriculture and in current experimental work by NASA. It would represent a single organized attack on the problem of providing increasingly accurate assessments and forecasts of global productivity for use by the Administration in implementing both domestic and foreign economic and other policy objectives with the specific objective of providing actual assessments and forecasts for use in 1975.

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This is the earliest practicable time at which such global assessments and forecasts could be available. Utilization of ERTS-B at the new fall 1974 launch data and a decision to initiate the program this fall are essential to meet this objective.

The pilot program would require a very considerable interagency effort; it would utilize data from other satellite systems and all other available sources, as well as from ERTS-B and bring together analytical resources on a task team basis from both inside and outside the Government. If it is as successful as I expect it to be, the program would not only provide the U.S. Government with highly useful results in 1975, but would also establish -- practically, conclusively, and better than any theoretical studies -- the benefits and cost-effectiveness of civil space systems for global economic information and national resources management.

If you agree, I will accept the responsibility for developing and setting in motion a national plan for this pilot program in concert with the other agencies concerned. Some important aspects will necessarily be classified; however, based on the worldwide acceptance of ERTS and Skylab programs to date, I believe that an overall unclassified plan acceptable from both domestic and international policy standpoints can be developed. My current expectation is that such a pilot program, while requiring a very considerable effort, would not have a major impact on the overall budget planning of NASA and the other agencies involved.

2. As another necessary move to secure for the U.S. the longer range advantages of exploiting earth resources data from space, the Administration should establish as soon as possible a new national policy along the following lines:

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- a. Recognition that US-acquired earth resources survey data, and particularly the information derived therefrom, must be treated as national assets with appropriate domestic and international controls over their dissemination and use.
- b. Recognition of the need for program continuity in earth resources surveys from space to obtain these values in the national interest.
- c. Acceptance of the principle of centralized Federal management of earth resource survey systems that operate in direct response to the requirements of the many using line Departments and agencies.
- d. Continuation of the necessary separation, but with even closer coordination, of civil and military space programs.
- e. Continuation of the overt character and image of the civil space program.
- f. Dealing practically with international political concerns about remote sensing from space through negotiations based on the rights of the US to use global data in its own interest and to provide such earth resources survey services internationally as are appropriate.

If you agree, I will accept the responsibility for developing, in concert with the other agencies concerned, a coordinated draft national policy statement along these lines, and a recommended implementation plan, for review by you, Dr. Kissinger, and others as appropriate prior to submission to the President for approval. In developing this draft national policy statement we would, of course, take into account the work of the NSSM-72 committee on international aspects of earth resources surveys. While I do not expect the new policy and plan to

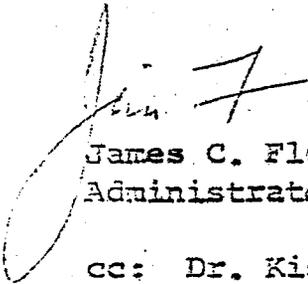
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result in a major budgetary impact, it is important that the FY 1975 budget be consistent with them. I believe that we should arrive at the necessary administration decisions this fall, and plan on announcing and implementing them in January. The establishment and public announcement of the new policy at this time would be helpful to support the initiation of the pilot program in recommendation 1 above.

You will appreciate that as Administrator of NASA I feel very keenly my responsibilities to bring to the President's attention both the opportunities for advancing the national interests which grow out of NASA's research and development work in space and aeronautics and the policy implications which flow therefrom. In the earth resources survey field, extremely important values can be and are being achieved from even the first experimental systems. These values can be used for us, ignored, or used against us, depending on what we do or fail to do. I believe that we should move quickly to assure that the United States capitalizes on its advantages. Having invested so much in space, and having succeeded in creating such valuable tools, it would be unwise indeed not to do so.

I would be pleased to discuss these matters in greater detail with you at your convenience. I am sending copies of this letter to Henry Kissinger and Roy Ash for their information and any comments they may have at this stage.

Sincerely,


James C. Fletcher
Administrator

cc: Dr. Kissinger
Mr. Ash

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