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## Senate

### STATEMENTS ON INTRODUCED BILLS AND JOINT RESOLUTIONS

By Mr. MOSS (for himself and  
Mr. FORD):

S. 3759. A bill to develop, establish, and validate an Earth Resources Information System, to direct the National Aeronautics and Space Administration to continue a research and development program, to provide, if necessary, for establishment of a corporation to operate the domestic ground segment of such a system, to establish an Office of Earth Resources Policy, and for other purposes. Referred to the Committee on Aeronautical and Space Sciences.

#### EARTH RESOURCES INFORMATION SYSTEM

Mr. MOSS. Mr. President, earlier this month I made a statement here about the need for a Global Resources Information System based on NASA's Landsat satellites. Today, Senator Ford and I are introducing proposed legislation which would establish such a system.

In addition, I am releasing a report of the Committee on Aeronautical and Space Sciences which discusses in detail the need for such an operational earth resources information system. The bill, which Senator Ford, the chairman of the Subcommittee on Aerospace Technology and National Needs, and I are cosponsoring, is based in part on this report.

The major objectives of the legislation we present today are straightforward.

The remote sensing of the Earth's resources and the use of that data would be promoted from a research stage to a permanent, operational stage. Thus, the bill would seek the creation of a new regulated industry in the domestic handling

and processing of the satellite data. And the availability of an uninterrupted flow of data would be assured by the Government.

The private sector involvement in receiving processing and disseminating the data is seen as a means of expanding and marketing new uses of the data. The goal is some degree of economic self-sufficiency of the system so that Government funding will be minimized.

Simultaneously, Government involvement is retained to provide safeguards for the integrity of the system. Foreign countries, understandably might be adverse to commercialization of worldwide satellite imagery.

Overall, the objectives can be summarized as the further utilization and development of Earth resources satellite technology in order to increase our available resources such as food, water, minerals, and timber. In the final analysis what we are seeking is better management of our use of the Earth's resources.

#### SUMMARY OF THE BILL

First, the bill decrees the existence of an Earth Resources Information System that is divided into two segments. The data handling segment begins with reception of the signal from space and ends with dissemination of data to users.

The satellites and their associated command and control facilities constitute the "space segment."

The U.S. Government is responsible for continuing the space segment and for assuring a continuity of data.

The bill states that U.S. policy will be to encourage the private sector to assume responsibility for establishing and

Government agencies from analyzing the data and distributing such analyses.

Besides assuring the continuity of the space segment and availability of data, the bill has other provisions that would encourage the private sector to participate.

The Federal Government is required as a matter of policy to satisfy its need for processed Earth resources data from the private sector once that capability is established. NASA is charged to cooperate with the private sector in this regard and to provide service on a reimbursable basis.

As a matter of policy, the bill finds that qualified private entities prepared to perform the complete function of data handling should be able to have access to U.S. Earth resources information systems on an equal basis.

If the President finds that it is necessary to create a private corporation to take responsibility for the data handling segment then the bill gives him the power to appoint incorporators for that purpose.

The corporation, if it is established, is authorized to do those activities necessary to manage the data handling segment.

In order to achieve the objective of the act the bill establishes an Office of Earth Resources Policy in the Executive Office of the President. The Director of that office is given general power to aid in planning and development, to review, coordinate, and supervise Federal efforts on the Earth Resources Information System. Finally, once the validation phase of the system is underway he shall present recommendations to the President for necessary legislation to regulate or license the private sector entities engaged in the data handling segment.

Each year the President is required to transmit to Congress a report on the activities of the Federal Government with regard to the Earth Resources Information System, including recommendations for additional legislation.

The Government established corporation is also required to report to Congress on its operations. Finally, title V

regarding the Earth Resources Information System.

Title V also provides for sanctions against the corporation or anyone who violates any provision of the act. The last miscellaneous provision of title V is an authorization of funds.

#### GENERAL REMARKS

As you can see, the bill attempts to have private industry supplant some of the current Federal role. We recognize that there are potentially severe concerns among foreign nations on this matter and so we have kept the Federal Government in ownership and control of the space segment. And the Government will monitor the activities of any private corporation engaged in the data handling segment. The bill seeks to encourage private industry to establish a commercial market in an Earth Resources Information System and if that fails, the President can create a profit earning corporation for that purpose.

We also recognize that while the private sector may supply some services more efficiently than Government, there may be unprofitable but nevertheless highly beneficial remote sensing activities that the private sector would discontinue. This bill looks to NASA and to other Government agencies to continue pursuing such activities if they merit continuation. But where the market exists for that activity, then we feel it is in the national interest to transfer that activity to the private sector.

I think this proposed bill and the report of the committee is a good start, but they are only a start. Senator Ford and I welcome and solicit comments from knowledgeable government, academic, and industry sources.

The subcommittee chaired by Senator Ford will conduct preliminary hearings on specific points. Our committee report will be updated and then I will call for full committee hearings and I hope that we can report a bill to create an Earth Resources Information System in the next session of Congress.

Mr. President, I ask unanimous consent that the Earth Resources Informa-

There being no objection, the bill was ordered to be printed in the RECORD, as follows:

S. 3750

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act may be cited as the "Earth Resources Information Satellite System Act of 1976".

## TITLE I—EARTH RESOURCES INFORMATION SYSTEM POLICIES AND MANAGEMENT

### DEFINITIONS

SEC. 101. (a) For the purposes of this Act—

(1) "Administration" means the National Aeronautics and Space Administration;

(2) "Corporation" means the corporation established under Title III of this Act;

(3) "data handling segment" means that portion of an earth resources information system which includes receiving data from the space segment, archiving, retrieval, processing and duplication and dissemination of the products of the system on demand to users or subscribers.

(4) "Director" means the Director of the Office of Earth Resources Policy established by section 301 of this Act;

(5) "Earth Resources Information System" means a combination of one or more earth satellites or other observation sources and associated ground equipment for satellite command, control, data reception including data aggregation, preprocessing, processing, and dissemination, all of which are designed to contribute to information relating to the quality and quantity of earth resources; except systems established primarily for purposes of national defense, or systems whose purpose is that of a commercial telecommunications nature, either domestic or international;

(6) "Operational Phase" means the phase following the validation phase and during which there are continuing commitments to organizational, financial and operational provision of earth resources data systems, and services, and during which there is a routine supply of products and services;

(7) "research and development" refers to the conception, design, first creation and use of experimental or prototype operational devices for the operation of an earth resources satellite system, including the assembly of separate components into a working whole and their operational validation;

(8) "space segment" means that portion of an Earth Resources Information System which includes satellites or other observation sources and the associated ground

which the government is committed to validate the performance of space and ground equipment, service products, data handling, archiving and packaging and the dissemination of data products to users.

### FINDINGS

SEC. 102. The Congress recognizing that the resources of the earth are limited and will be depleted unless better knowledge and management of those resources are established, and that the acquisition and interpretation of data which will help to determine both the quality and quantity of the earth's resources is a major element in the efficient and effective management of the earth's resources, hereby finds that—

(1) there now exist new technologies which can assist in better management of the earth's resources;

(2) Landsat and other earth resources satellites and systems though financed, built, launched, and operated for national purposes are also intended to make available data of the earth's resources and environment to the world community, and there has been extensive international sharing of the data from these satellites;

(3) the earth resources data provided by Landsat and other satellites has a broad community of users who consider the major deterrent to more extensive use of available data to be the lack of commitment to the development of a fully operational Earth Resources Information System;

(4) until there is some assurance of continuous data availability, major improvements in both the development and the use of earth resources observational data will be inhibited;

(5) the further development, operation, and production of satellites and other systems is essential to provide for an operational Earth Resources Information System;

(6) a period of validation of the Earth Resources Information System is needed to provide the framework for an operational system;

(7) the continued successful development of an Earth Resources Information System is dependent upon the continuation of the resource and development of earth resources technology satellites by the National Aeronautics and Space Administration;

(8) the validation of an Earth Resources Information System can be successfully completed in the shortest time if government, industry, domestic users and international users will cooperate to complete such validation;

(9) the government should be responsible for the development and establishment of the

(10) the private sector should be encouraged to assume the responsibility for the domestic data handling segment;

(11) qualified private entities prepared to perform the complete function of the data-handling segment should be able to access U.S. earth resources data systems on an equal basis; and

(12) an operational Earth Resources Information System should be organized to accomplish national objectives and to provide for the betterment of all mankind.

#### POLICY AND PURPOSE

Sec. 103. The Congress hereby declares that it is the policy of the United States that—

(1) the products, services, tools, and knowledge offered by advanced technology shall be applied to meet public needs for data and information on the resources of the earth, which shall include but not be limited to food, water, air, minerals, and materials;

(2) there shall be established an Earth Resources Information System which will be responsive to public needs and national objectives, which will serve the earth resource data and information needs of the United States and other countries, and which will contribute to world peace and understanding;

(3) such data services will be provided to developing countries and areas as well as to those which are more highly developed;

(4) all users shall have equal access to products of the system, and there will be both quality of services and reasonableness of charges for the services offered by this new technology;

(5) competition shall be promoted in the acquisition of equipment and services that the system utilizes;

(6) an Earth Resources Information System shall be developed in two phases—validation and operation;

(7) The Earth Resources Information System shall consist of two primary management segments which shall be a "space segment" and a "data handling segment";

(8) in order to facilitate the validation and development of an Earth Resources Information System, the private sector shall be encouraged, on a commercially viable basis, to assume the responsibility for establishment and operation of the United States data handling segment and for the management of the dissemination of all earth resources data;

(9) access on an equal basis to the United States government Earth Resources Information System data shall be granted to qual-

ifying the validation and operational phases;

(10) upon the establishment by the private sector of a capability to deliver processed earth resources data, the federal government shall satisfy its requirements for such data from such sources;

(11) the National Aeronautics and Space Administration shall manage all government research and development activities relating to an Earth Resources Information System, and shall provide for the establishment and operation of the space segment of the system, including replacement of satellites and other equipment to assure continuous availability of data; and

(12) continuity of the space segment shall be a priority consideration.

#### TITLE II—ESTABLISHMENT OF THE EARTH RESOURCES INFORMATION SYSTEM

Sec. 201. (a) There is hereby established an Earth Resources Information System.

(b) To implement such system the President shall begin immediately to take such actions as are necessary to achieve the policy and purposes of section 103 of this Act with particular regard to continuity of the space segment and data availability.

#### TITLE III—FEDERAL COORDINATION, PLANNING, AND REGULATION

##### IMPLEMENTATION OF POLICY

Sec. 301. (a) In order to achieve the objectives and to carry out the purposes of this Act, there shall be established in the Executive Office of the President an Office of Earth Resources Policy.

(b) The President shall appoint a Director of the Office by and with the advice and consent of the Senate, who shall be compensated at the rate provided by Level 2 of the Executive Schedule in Section 5313 of Title 5, United States Code.

(c) The Director shall—

(1) aid in the planning and development and foster the execution of national policies for the establishment and operation, as expeditiously as possible, of an Earth Resources Information System;

(2) provide for continuous review of all phases of the development and operation of such a system, including the activities of the Earth Resources Information Corporation authorized under Title III of this Act;

(3) coordinate the activities of governmental agencies with responsibilities in the field of Earth Resources Information and earth resources use, so as to ensure that there is full and effective compliance at all times with the policies set forth in this Act;

private entities involved in the provision of earth resources information services, and government agencies with foreign governments or entities or with international bodies as may be appropriate to assure that such relationships shall be consistent with the national interest and foreign policy of the United States;

(5) take all necessary steps to ensure the availability and appropriate utilization of the Earth Resources Information System for general governmental purposes except where a separate earth resources satellite system is required to meet unique governmental needs, or is otherwise required in the national interest;

(6) exercise his authority in order to help attain coordinated and efficient use of the electromagnetic spectrum and the technical compatibility of the system with existing earth resources data collection and processing facilities both in the United States and abroad; and

(7) recommend to the President such steps as may be necessary to assure continuity of the space segment.

(d) In carrying out his functions under this Act, the Director is authorized to—

(1) appoint such officers and employees as he may deem necessary to perform the functions now or hereafter vested in him and to prescribe their duties;

(2) obtain services as authorized by Section 3109 of Title 5 of the United States Code, at rates not to exceed the rate prescribed for grade GS-18 of the General Schedule by Section 5332 of Title 5 of the United States Code; and

(3) enter into contracts and other arrangements for studies, analyses, and other services with public agencies and with private persons, organizations, or institutions, and make such payments as he deems necessary to carry out the provisions of this Act without legal consideration, without performance bonds, and without regard to Section 3709 of the Revised Statutes (41 U.S.C. 5).

(e) Based on experience during the validation phase and prior to commencement of the operational phase, the Director shall provide recommendations to the President for necessary legislation to regulate or license the Corporation or other private entities involved in the provision of earth resources information services in order to ensure that the purposes of this Act are carried out.

#### FUNCTIONS OF THE ADMINISTRATION

SEC. 302. The Administration shall—

(1) continue research and development to maintain the technological leadership of the United States;

PROVISION OF EARTH RESOURCES INFORMATION services on technical characteristics of an Earth Resources Information System;

(3) cooperate with the Corporation or other private entities involved in the provision of earth resources information services with respect to research and development;

(4) to the extent feasible, furnish other services, on a reimbursable basis, to the Corporation or other private entities involved in the provision of earth resources data services in connection with the establishment and operation of an Earth Resources Information System.

#### TITLE IV—CREATION OF AN EARTH RESOURCES SATELLITE CORPORATION

##### CREATION OF A CORPORATION

SEC. 401. (a) If the President determines that a corporation is required to be established to operate the domestic ground segment in order to accomplish the purposes and objectives of this Act, such corporation shall be established in accordance with Title III of this Act.

(b) The Corporation shall be a corporation for profit which will not be an agency or establishment of the United States Government. The Corporation shall be subject to the provisions of this Act and, to the extent consistent with this Act, to the laws of the jurisdiction in which it was incorporated.

(c) If with regard to section 401(a) of this Title the President determines that a Corporation is required he shall appoint incorporators, by and with the advice and consent of the Senate, who shall serve as the initial board of directors until the first annual meeting of stockholders or until their successors are elected and qualified. Such incorporators shall arrange for an initial stock offering and take whatever other actions are necessary to establish the Corporation, including the filing of the articles of incorporation.

(d) (1) The Corporation shall—

(i) establish and operate a commercial domestic data handling segment of the Earth Resources Information System as defined by section 101(a) (3) of this Act;

(ii) receive by transfer such property, including but not limited to, data, records and equipment owned by any private entity which participates in the validation phase, upon consent of such entity and under fair and reasonable terms and conditions.

(iii) provide a full line of services to all users with due regard to bi-lateral agreements with the Administration.

(2) The Corporation is further authorized to—

(i) plan, initiate, construct, own, manage, and operate itself or in conjunction with for-

merical Earth Resources Information System;

(ii) receive by transfer such property including but not limited to data, records and equipment held by government agencies at such times and under such terms and conditions for reimbursement as approved by the President; and

(iii) own and operate domestic data receiving terminals.

(3) In addition to the activities authorized to the Corporation for the accomplishment of the purposes stated in subsection (2) of this section, the Corporation is authorized—

(i) to conduct or contract, for research and development related to its mission;

(ii) to acquire the physical facilities, equipment and devices necessary to its operations, including earth resources associated equipment and facilities, whether by construction, purchase, or gift;

(iii) to contract with users, including the United States Government, for the services of the Earth Resources Information System; and

(iv) in cooperation with the administration, to develop plans for the technical specifications of all elements of an Earth Resources Information System.

(4) To carry out the foregoing purposes, the Corporation shall have the usual powers conferred upon a corporation by the laws of the jurisdiction in which it is incorporated.

## TITLE V—MISCELLANEOUS PROVISIONS

### NOTICE OF FOREIGN BUSINESS NEGOTIATIONS

Sec. 501. Whenever a private entity shall enter into business negotiations with respect to facilities, operations, or services authorized by this Act with any international or foreign entity, that private entity shall notify the Department of State of the negotiations, and the Department of State shall advise it of relevant foreign policy considerations. Throughout such negotiations the private entity shall keep the Department of State informed with respect to such considerations. The private entity may request the Department of State to assist in the negotiations, and that Department shall render such assistance as may be appropriate.

### SANCTIONS

Sec. 502. (a) If the Corporation shall en-

or policies inconsistent with the policy and purposes declared in section 103 of this Act, or if the Corporation or any other person shall violate any provision of this Act, or shall refuse, fail, or neglect to discharge his duties and responsibilities under this Act, or shall threaten any such violation, obstruction, interference, refusal, failure, or neglect, the district court of the United States for any district in which such Corporation or other person resides or may be found shall have jurisdiction, except as otherwise prohibited by law, upon petition of the Attorney General of the United States, to grant such equitable relief as may be necessary or appropriate to prevent or terminate such conduct or threat.

(b) Nothing contained in this section shall be construed as relieving any person of any punishment, liability, or sanction which may be imposed otherwise than under this Act.

(c) It shall be the duty of the Corporation to comply, insofar as applicable, with all provisions of this Act and all rules and regulations promulgated thereunder.

### REPORTS TO THE CONGRESS

Sec. 503. (a) The President shall transmit to the Congress in January of each year a report which shall include a comprehensive description of the activities and accomplishments during the preceding calendar year under the national program referred to in Title III of this Act, together with an evaluation of such activities and accomplishments in terms of the attainment of the objectives of this Act and any recommendations for additional legislation or other action which the President may consider necessary or desirable for the attainment of such objectives.

(b) The Corporation shall transmit to the President and the Congress, annually and at such other times as it deems desirable, a comprehensive and detailed report of its operations, activities, and accomplishments under this Act.

### AUTHORIZATION OF APPROPRIATIONS

Sec. 504. There are authorized to be appropriated for the purpose of carrying out section 301(a) of this Act, \$1,000,000 for the period ending September 30, 1976.

