

(c) This order is not intended to, and does not, create any right or benefit, substantive or procedural, enforceable at law or in equity by any party against the United States, its departments, agencies, or entities, its officers, employees, or agents, or any other person.

DONALD J. TRUMP.

§ 51303. Asteroid resource and space resource rights

A United States citizen engaged in commercial recovery of an asteroid resource or a space resource under this chapter shall be entitled to any asteroid resource or space resource obtained, including to possess, own, transport, use, and sell the asteroid resource or space resource obtained in accordance with applicable law, including the international obligations of the United States.

(Added Pub. L. 114-90, title IV, § 402(a), Nov. 25, 2015, 129 Stat. 721.)

CHAPTER 515—OFFICE OF SPACEPORTS

Sec.¹

51501.¹ Establishment of Office of Spaceports.¹

Editorial Notes

AMENDMENTS

2018—Pub. L. 115-254, div. B, title V, § 580(b)(1), Oct. 5, 2018, 132 Stat. 3395, added chapter 515 and item 51501.

§ 51501. Establishment of Office of Spaceports

(a) ESTABLISHMENT OF OFFICE.—Not later than 90 days after the date of enactment of this section, the Secretary of Transportation shall identify, within the Office of Commercial Space Transportation, a centralized policy office to be known as the Office of Spaceports.

(b) FUNCTIONS.—The Office of Spaceports shall—

- (1) support licensing activities for operation of launch and reentry sites;
- (2) develop policies that promote infrastructure improvements at spaceports;
- (3) provide technical assistance and guidance to spaceports;
- (4) promote United States spaceports within the Department; and
- (5) strengthen the Nation's competitiveness in commercial space transportation infrastructure and increase resilience for the Federal Government and commercial customers.

(c) RECOGNITION.—In carrying out the functions assigned in subsection (b), the Secretary shall recognize the unique needs and distinctions of spaceports that host—¹

- (1) launches to or reentries from orbit; and
- (2) are involved in suborbital launch activities.

(d) DIRECTOR.—The head of the Office of the Associate Administrator for Commercial Space Transportation shall designate a Director of the Office of Spaceports.

(e) DEFINITION.—In this section the term “spaceport” means a launch or reentry site that

¹ Editorially supplied. Section added by Pub. L. 115-254 without corresponding amendment of chapter analysis.

¹ So in original. The dash probably should follow “that” and the word “host” probably should appear at the beginning of par. (1).

is operated by an entity licensed by the Secretary of Transportation.

(Added Pub. L. 115-254, div. B, title V, § 580(b)(1), Oct. 5, 2018, 132 Stat. 3395.)

Editorial Notes

REFERENCES IN TEXT

The date of enactment of this section, referred to in subsec. (a), is the date of enactment of Pub. L. 115-254, which was approved Oct. 5, 2018.

Subtitle VI—Earth Observations

CHAPTER 601—LAND REMOTE SENSING POLICY

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Editorial Notes

AMENDMENTS

2015—Pub. L. 114-90, title II, § 201(b), Nov. 25, 2015, 129 Stat. 719, added item 60126.

SUBCHAPTER I—GENERAL

§ 60101. Definitions

In this chapter:

(1) COST OF FULFILLING USER REQUESTS.—The term “cost of fulfilling user requests” means the incremental costs associated with providing product generation, reproduction, and distribution of unenhanced data in response to user requests and shall not include any acqui-

sition, amortization, or depreciation of capital assets originally paid for by the United States Government or other costs not specifically attributable to fulfilling user requests.

(2) **DATA CONTINUITY.**—The term “data continuity” means the continued acquisition and availability of unenhanced data which are, from the point of view of the user—

(A) sufficiently consistent (in terms of acquisition geometry, coverage characteristics, and spectral characteristics) with previous Landsat data to allow comparisons for global and regional change detection and characterization; and

(B) compatible with such data and with methods used to receive and process such data.

(3) **DATA PREPROCESSING.**—The term “data preprocessing”—

(A) may include—

(i) rectification of system and sensor distortions in land remote sensing data as it is received directly from the satellite in preparation for delivery to a user;

(ii) registration of such data with respect to features of the Earth; and

(iii) calibration of spectral response with respect to such data; but

(B) does not include conclusions, manipulations, or calculations derived from such data, or a combination of such data with other data.

(4) **LAND REMOTE SENSING.**—The term “land remote sensing” means the collection of data which can be processed into imagery of surface features of the Earth from an unclassified satellite or satellites, other than an operational United States Government weather satellite.

(5) **LANDSAT PROGRAM MANAGEMENT.**—The term “Landsat Program Management” means the integrated program management structure—

(A) established by, and responsible to, the Administrator and the Secretary of Defense pursuant to section 60111(a) of this title; and

(B) consisting of appropriate officers and employees of the Administration, the Department of Defense, and any other United States Government agencies the President designates as responsible for the Landsat program.

(6) **LANDSAT SYSTEM.**—The term “Landsat system” means Landsats 1, 2, 3, 4, 5, and 6, and any follow-on land remote sensing system operated and owned by the United States Government, along with any related ground equipment, systems, and facilities owned by the United States Government.

(7) **LANDSAT 6 CONTRACTOR.**—The term “Landsat 6 contractor” means the private sector entity which was awarded the contract for spacecraft construction, operations, and data marketing rights for the Landsat 6 spacecraft.

(8) **LANDSAT 7.**—The term “Landsat 7” means the follow-on satellite to Landsat 6.

(9) **NATIONAL SATELLITE LAND REMOTE SENSING DATA ARCHIVE.**—The term “National Satellite Land Remote Sensing Data Archive” means the archive established by the Sec-

retary of the Interior pursuant to the archival responsibilities defined in section 60142 of this title.

(10) **NONCOMMERCIAL PURPOSES.**—The term “noncommercial purposes” means activities undertaken by individuals or entities on the condition, upon receipt of unenhanced data, that—

(A) such data shall not be used in connection with any bid for a commercial contract, development of a commercial product, or any other non-United States Government activity that is expected, or has the potential, to be profitmaking;

(B) the results of such activities are disclosed in a timely and complete fashion in the open technical literature or other method of public release, except when such disclosure by the United States Government or its contractors would adversely affect the national security or foreign policy of the United States or violate a provision of law or regulation; and

(C) such data shall not be distributed in competition with unenhanced data provided by the Landsat 6 contractor.

(11) **SECRETARY.**—The term “Secretary” means the Secretary of Commerce.

(12) **UNENHANCED DATA.**—The term “unenhanced data” means land remote sensing signals or imagery products that are unprocessed or subject only to data preprocessing.

(13) **UNITED STATES GOVERNMENT AND ITS AFFILIATED USERS.**—The term “United States Government and its affiliated users” means—

(A) United States Government agencies;

(B) researchers involved with the United States Global Change Research Program and its international counterpart programs; and

(C) other researchers and international entities that have signed with the United States Government a cooperative agreement involving the use of Landsat data for non-commercial purposes.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3409.)

HISTORICAL AND REVISION NOTES

<i>Revised Section</i>	<i>Source (U.S. Code)</i>	<i>Source (Statutes at Large)</i>
60101	15 U.S.C. 5602.	Pub. L. 102–555, § 3, Oct. 28, 1992, 106 Stat. 4164.

The definition of “Administrator” in section 3 of the Land Remote Sensing Policy Act of 1992 (Public Law 102–555, 106 Stat. 4164) is omitted as unnecessary because of the definition added by section 10101 of title 51.

Statutory Notes and Related Subsidiaries

FINDINGS

Pub. L. 102–555, § 2, Oct. 28, 1992, 106 Stat. 4163, provided that: “The Congress finds and declares the following:

“(1) The continuous collection and utilization of land remote sensing data from space are of major benefit in studying and understanding human impacts on the global environment, in managing the Earth’s natural resources, in carrying out national security functions, and in planning and conducting many other activities of scientific, economic, and social importance.

“(2) The Federal Government’s Landsat system established the United States as the world leader in land remote sensing technology.

“(3) The national interest of the United States lies in maintaining international leadership in satellite land remote sensing and in broadly promoting the beneficial use of remote sensing data.

“(4) The cost of Landsat data has impeded the use of such data for scientific purposes, such as for global environmental change research, as well as for other public sector applications.

“(5) Given the importance of the Landsat program to the United States, urgent actions, including expedited procurement procedures, are required to ensure data continuity.

“(6) Full commercialization of the Landsat program cannot be achieved within the foreseeable future, and thus should not serve as the near-term goal of national policy on land remote sensing; however, commercialization of land remote sensing should remain a long-term goal of United States policy.

“(7) Despite the success and importance of the Landsat system, funding and organizational uncertainties over the past several years have placed its future in doubt and have jeopardized United States leadership in land remote sensing.

“(8) Recognizing the importance of the Landsat program in helping to meet national and commercial objectives, the President approved, on February 11, 1992, a National Space Policy Directive which was developed by the National Space Council and commits the United States to ensuring the continuity of Landsat coverage into the 21st century.

“(9) Because Landsat data are particularly important for national security purposes and global environmental change research, management responsibilities for the program should be transferred from the Department of Commerce to an integrated program management involving the Department of Defense and the National Aeronautics and Space Administration.

“(10) Regardless of management responsibilities for the Landsat program, the Nation’s broad civilian, national security, commercial, and foreign policy interests in remote sensing will best be served by ensuring that Landsat remains an unclassified program that operates according to the principles of open skies and nondiscriminatory access.

“(11) Technological advances aimed at reducing the size and weight of satellite systems hold the potential for dramatic reductions in the cost, and substantial improvements in the capabilities, of future land remote sensing systems, but such technological advances have not been demonstrated for land remote sensing and therefore cannot be relied upon as the sole means of achieving data continuity for the Landsat program.

“(12) A technology demonstration program involving advanced remote sensing technologies could serve a vital role in determining the design of a follow-on spacecraft to Landsat 7, while also helping to determine whether such a spacecraft should be funded by the United States Government, by the private sector, or by an international consortium.

“(13) To maximize the value of the Landsat program to the American public, unenhanced Landsat 4 through 6 data should be made available, at a minimum, to United States Government agencies, to global environmental change researchers, and to other researchers who are financially supported by the United States Government, at the cost of fulfilling user requests, and unenhanced Landsat 7 data should be made available to all users at the cost of fulfilling user requests.

“(14) To stimulate development of the commercial market for unenhanced data and value-added services, the United States Government should adopt a data policy for Landsat 7 which allows competition within the private sector for distribution of unenhanced data and value-added services.

“(15) Development of the remote sensing market and the provision of commercial value-added services based on remote sensing data should remain exclusively the function of the private sector.

“(16) It is in the best interest of the United States to maintain a permanent, comprehensive Government archive of global Landsat and other land remote sensing data for long-term monitoring and study of the changing global environment.”

[For definition of terms used in section 2 of Pub. L. 102-555, set out above, see section 3 of Pub. L. 102-555, Oct. 28, 1992, 106 Stat. 4164, which was classified to former section 5602 of Title 15, Commerce and Trade, and was repealed and reenacted as this section by Pub. L. 111-314, §§ 3, 6, Dec. 18, 2010, 124 Stat. 3328, 3444.]

SUBCHAPTER II—LANDSAT

§ 60111. Landsat Program Management

(a) **ESTABLISHMENT.**—The Administrator and the Secretary of Defense shall be responsible for management of the Landsat program. Such responsibility shall be carried out by establishing an integrated program management structure for the Landsat system.

(b) **MANAGEMENT PLAN.**—The Administrator, the Secretary of Defense, and any other United States Government official the President designates as responsible for part of the Landsat program shall establish, through a management plan, the roles, responsibilities, and funding expectations for the Landsat program of the appropriate United States Government agencies. The management plan shall—

(1) specify that the fundamental goal of the Landsat Program Management is the continuity of unenhanced Landsat data through the acquisition and operation of a Landsat 7 satellite as quickly as practicable which is, at a minimum, functionally equivalent to the Landsat 6 satellite, with the addition of a tracking and data relay satellite communications capability;

(2) include a baseline funding profile that—

(A) is mutually acceptable to the Administration and the Department of Defense for the period covering the development and operation of Landsat 7; and

(B) provides for total funding responsibility of the Administration and the Department of Defense, respectively, to be approximately equal to the funding responsibility of the other as spread across the development and operational life of Landsat 7;

(3) specify that any improvements over the Landsat 6 functional equivalent capability for Landsat 7 will be funded by a specific sponsoring agency or agencies, in a manner agreed to by the Landsat Program Management, if the required funding exceeds the baseline funding profile required by paragraph (2), and that additional improvements will be sought only if the improvements will not jeopardize data continuity; and

(4) provide for a technology demonstration program whose objective shall be the demonstration of advanced land remote sensing technologies that may potentially yield a system which is less expensive to build and operate, and more responsive to data users, than is the current Landsat system.

(c) **RESPONSIBILITIES.**—The Landsat Program Management shall be responsible for—

(1) Landsat 7 procurement, launch, and operations;

(2) ensuring that the operation of the Landsat system is responsive to the broad interests of the civilian, national security, commercial, and foreign users of the Landsat system;

(3) ensuring that all unenhanced Landsat data remain unclassified and that, except as provided in subsections (a) and (b) of section 60146 of this title, no restrictions are placed on the availability of unenhanced data;

(4) ensuring that land remote sensing data of high priority locations will be acquired by the Landsat 7 system as required to meet the needs of the United States Global Change Research Program, as established in the Global Change Research Act of 1990 (15 U.S.C. 2921 et seq.), and to meet the needs of national security users;

(5) Landsat data responsibilities pursuant to this chapter;

(6) oversight of Landsat contracts entered into under sections 102¹ and 103¹ of the Land Remote Sensing Policy Act of 1992 (Public Law 102-555, 106 Stat. 4168);

(7) coordination of a technology demonstration program pursuant to section 60133 of this title; and

(8) ensuring that copies of data acquired by the Landsat system are provided to the National Satellite Land Remote Sensing Data Archive.

(d) **AUTHORITY TO CONTRACT.**—The Landsat Program Management may, subject to appropriations and only under the existing contract authority of the United States Government agencies that compose the Landsat Program Management, enter into contracts with the private sector for services such as satellite operations and data preprocessing.

(e) **LANDSAT ADVISORY PROCESS.**—

(1) **ADVICE AND COMMENTS.**—The Landsat Program Management shall seek impartial advice and comments regarding the status, effectiveness, and operation of the Landsat system, using existing advisory committees and other appropriate mechanisms. Such advice shall be sought from individuals who represent—

(A) a broad range of perspectives on basic and applied science and operational needs with respect to land remote sensing data;

(B) the full spectrum of users of Landsat data, including representatives from United States Government agencies, State and local government agencies, academic institutions, nonprofit organizations, value-added companies, the agricultural, mineral extraction, and other user industries, and the public; and

(C) a broad diversity of age groups, sexes, and races.

(2) **REPORTS.**—The Landsat Program Management shall prepare and submit biennially a report to Congress which—

(A) reports the public comments received pursuant to paragraph (1); and

(B) includes—

(i) a response to the public comments received pursuant to paragraph (1);

(ii) information on the volume of use, by category, of data from the Landsat system; and

(iii) any recommendations for policy or programmatic changes to improve the utility and operation of the Landsat system.

(Pub. L. 111-314, § 3, Dec. 18, 2010, 124 Stat. 3411.)

HISTORICAL AND REVISION NOTES

<i>Revised Section</i>	<i>Source (U.S. Code)</i>	<i>Source (Statutes at Large)</i>
60111	15 U.S.C. 5611.	Pub. L. 102-555, title I, §101, Oct. 28, 1992, 106 Stat. 4166.

In subsection (b), in the matter before paragraph (1), after the words “funding expectations for the Landsat”, the word “program” is set out without being capitalized to correct an error in the law.

In subsection (c)(6), the words “sections 102 and 103 of the Land Remote Sensing Policy Act of 1992 (Public Law 102-555, 106 Stat. 4168)” are substituted for “sections 102 and 103” to clarify the reference. The reference to sections 102 and 103 of the Land Remote Sensing Policy Act of 1992 is retained in text, notwithstanding the fact that sections 102 and 103 of the Act are repealed as obsolete, because oversight responsibilities may continue for contracts entered into under the now obsolete provisions.

In subsection (e)(2), in the matter before subparagraph (A), the word “biennially” is substituted for “Within 1 year after the date of the enactment of this Act and biennially thereafter,” to eliminate obsolete language.

Editorial Notes

REFERENCES IN TEXT

The Global Change Research Act of 1990, referred to in subsec. (c)(4), is Pub. L. 101-606, Nov. 16, 1990, 104 Stat. 3096, which is classified generally to chapter 56A (§2921 et seq.) of Title 15, Commerce and Trade. For complete classification of this Act to the Code, see Short Title note set out under section 2921 of Title 15 and Tables.

Sections 102 and 103 of the Land Remote Sensing Policy Act of 1992, referred to in subsec. (c)(6), which were classified to sections 5612 and 5613, respectively, of Title 15, Commerce and Trade, were repealed by Pub. L. 111-314, § 6, Dec. 18, 2010, 124 Stat. 3444, which Act enacted this title.

Statutory Notes and Related Subsidiaries

DEVELOPMENT, PROCUREMENT, AND SUPPORT

Pub. L. 102-484, div. A, title II, §243, Oct. 23, 1992, 106 Stat. 2360, as amended by Pub. L. 103-35, title II, §202(a)(3), May 31, 1993, 107 Stat. 101, provided that: “The Secretary of Defense is authorized to contract for the development and procurement of, and support for operations of, the Landsat vehicle designated as Landsat 7.”

Similar provisions were contained in the following prior appropriation act:

Pub. L. 102-396, title IX, §9082A, Oct. 6, 1992, 106 Stat. 1920.

§ 60112. Transfer of Landsat 6 program responsibilities

The responsibilities of the Secretary with respect to Landsat 6 shall be transferred to the Landsat Program Management, as agreed to between the Secretary and the Landsat Program

¹ See References in Text note below.

Management, pursuant to section 60111 of this title.

(Pub. L. 111-314, §3, Dec. 18, 2010, 124 Stat. 3413.)

HISTORICAL AND REVISION NOTES

<i>Revised Section</i>	<i>Source (U.S. Code)</i>	<i>Source (Statutes at Large)</i>
60112	15 U.S.C. 5614.	Pub. L. 102-555, title I, §104, Oct. 28, 1992, 106 Stat. 4170.

§ 60113. Data policy for Landsat 7

(a) **LANDSAT 7 DATA POLICY.**—The Landsat Program Management, in consultation with other appropriate United States Government agencies, shall develop a data policy for Landsat 7 which should—

(1) ensure that unenhanced data are available to all users at the cost of fulfilling user requests;

(2) ensure timely and dependable delivery of unenhanced data to the full spectrum of civilian, national security, commercial, and foreign users and the National Satellite Land Remote Sensing Data Archive;

(3) ensure that the United States retains ownership of all unenhanced data generated by Landsat 7;

(4) support the development of the commercial market for remote sensing data;

(5) ensure that the provision of commercial value-added services based on remote sensing data remains exclusively the function of the private sector; and

(6) to the extent possible, ensure that the data distribution system for Landsat 7 is compatible with the Earth Observing System Data and Information System.

(b) **ADDITIONAL DATA POLICY CONSIDERATIONS.**—In addition, the data policy for Landsat 7 may provide for—

(1) United States private sector entities to operate ground receiving stations in the United States for Landsat 7 data;

(2) other means for direct access by private sector entities to unenhanced data from Landsat 7; and

(3) the United States Government to charge a per image fee, license fee, or other such fee to entities operating ground receiving stations or distributing Landsat 7 data.

(Pub. L. 111-314, §3, Dec. 18, 2010, 124 Stat. 3413.)

HISTORICAL AND REVISION NOTES

<i>Revised Section</i>	<i>Source (U.S. Code)</i>	<i>Source (Statutes at Large)</i>
60113	15 U.S.C. 5615(a), (b).	Pub. L. 102-555, title I, §105(a), (b), Oct. 28, 1992, 106 Stat. 4170.

SUBCHAPTER III—LICENSING OF PRIVATE REMOTE SENSING SPACE SYSTEMS

§ 60121. General licensing authority

(a) **LICENSING AUTHORITY OF SECRETARY.**—

(1) **IN GENERAL.**—In consultation with other appropriate United States Government agencies, the Secretary is authorized to license private sector parties to operate private remote sensing space systems for such period as the

Secretary may specify and in accordance with the provisions of this subchapter.

(2) **LIMITATION WITH RESPECT TO SYSTEM USED FOR OTHER PURPOSES.**—In the case of a private space system that is used for remote sensing and other purposes, the authority of the Secretary under this subchapter shall be limited only to the remote sensing operations of such space system.

(b) **COMPLIANCE WITH LAW, REGULATIONS, INTERNATIONAL OBLIGATIONS, AND NATIONAL SECURITY.**—

(1) **IN GENERAL.**—No license shall be granted by the Secretary unless the Secretary determines in writing that the applicant will comply with the requirements of this chapter, any regulations issued pursuant to this chapter, and any applicable international obligations and national security concerns of the United States.

(2) **LIST OF REQUIREMENTS FOR COMPLETE APPLICATION.**—The Secretary shall publish in the Federal Register a complete and specific list of all information required to comprise a complete application for a license under this subchapter. An application shall be considered complete when the applicant has provided all information required by the list most recently published in the Federal Register before the date the application was first submitted. Unless the Secretary has, within 30 days after receipt of an application, notified the applicant of information necessary to complete an application, the Secretary may not deny the application on the basis of the absence of any such information.

(c) **DEADLINE FOR ACTION ON APPLICATION.**—The Secretary shall review any application and make a determination thereon within 120 days of the receipt of such application. If final action has not occurred within such time, the Secretary shall inform the applicant of any pending issues and of actions required to resolve them.

(d) **IMPROPER BASIS FOR DENIAL.**—The Secretary shall not deny such license in order to protect any existing licensee from competition.

(e) **REQUIREMENT TO PROVIDE UNENHANCED DATA.**—

(1) **DESIGNATION OF DATA.**—The Secretary, in consultation with other appropriate United States Government agencies and pursuant to paragraph (2), shall designate in a license issued pursuant to this subchapter any unenhanced data required to be provided by the licensee under section 60122(b)(3) of this title.

(2) **PRELIMINARY DETERMINATION.**—The Secretary shall make a designation under paragraph (1) after determining that—

(A) such data are generated by a system for which all or a substantial part of the development, fabrication, launch, or operations costs have been or will be directly funded by the United States Government; or

(B) it is in the interest of the United States to require such data to be provided by the licensee consistent with section 60122(b)(3) of this title, after considering the impact on the licensee and the importance of promoting widespread access to remote

sensing data from United States and foreign systems.

(3) **CONSISTENCY WITH CONTRACT OR OTHER ARRANGEMENT.**—A designation made by the Secretary under paragraph (1) shall not be inconsistent with any contract or other arrangement entered into between a United States Government agency and the licensee.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3413.)

HISTORICAL AND REVISION NOTES

<i>Revised Section</i>	<i>Source (U.S. Code)</i>	<i>Source (Statutes at Large)</i>
60121	15 U.S.C. 5621.	Pub. L. 102–555, title II, § 201, Oct. 28, 1992, 106 Stat. 4171; Pub. L. 105–303, title I, § 107(f)(1), Oct. 28, 1998, 112 Stat. 2854.

In subsection (b)(2), the words “within 6 months after the date of the enactment of the Commercial Space Act of 1998” are omitted as obsolete.

Statutory Notes and Related Subsidiaries

PROHIBITION ON COLLECTION AND RELEASE OF DETAILED SATELLITE IMAGERY RELATING TO ISRAEL

Pub. L. 104–201, div. A, title X, § 1064, Sept. 23, 1996, 110 Stat. 2653, provided that:

“(a) **COLLECTION AND DISSEMINATION.**—A department or agency of the United States may issue a license for the collection or dissemination by a non-Federal entity of satellite imagery with respect to Israel only if such imagery is no more detailed or precise than satellite imagery of Israel that is available from commercial sources.

“(b) **DECLASSIFICATION AND RELEASE.**—A department or agency of the United States may declassify or otherwise release satellite imagery with respect to Israel only if such imagery is no more detailed or precise than satellite imagery of Israel that is available from commercial sources.”

§ 60122. Conditions for operation

(a) **LICENSE REQUIRED FOR OPERATION.**—No person that is subject to the jurisdiction or control of the United States may, directly or through any subsidiary or affiliate, operate any private remote sensing space system without a license pursuant to section 60121 of this title.

(b) **LICENSING REQUIREMENTS.**—Any license issued pursuant to this subchapter shall specify that the licensee shall comply with all of the requirements of this chapter and shall—

(1) operate the system in such manner as to preserve the national security of the United States and to observe the international obligations of the United States in accordance with section 60146 of this title;

(2) make available to the government of any country (including the United States) unenhanced data collected by the system concerning the territory under the jurisdiction of such government as soon as such data are available and on reasonable terms and conditions;

(3) make unenhanced data designated by the Secretary in the license pursuant to section 60121(e) of this title available in accordance with section 60141 of this title;

(4) upon termination of operations under the license, make disposition of any satellites in space in a manner satisfactory to the President;

(5) furnish the Secretary with complete orbit and data collection characteristics of the system, and inform the Secretary immediately of any deviation; and

(6) notify the Secretary of any significant or substantial agreement the licensee intends to enter with a foreign nation, entity, or consortium involving foreign nations or entities.

(c) **ADDITIONAL LICENSING REQUIREMENTS FOR LANDSAT 6 CONTRACTOR.**—In addition to the requirements of subsection (b), any license issued pursuant to this subchapter to the Landsat 6 contractor shall specify that the Landsat 6 contractor shall—

(1) notify the Secretary of any value added activities (as defined by the Secretary by regulation) that will be conducted by the Landsat 6 contractor or by a subsidiary or affiliate; and

(2) if such activities are to be conducted, provide the Secretary with a plan for compliance with section 60141 of this title.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3415.)

HISTORICAL AND REVISION NOTES

<i>Revised Section</i>	<i>Source (U.S. Code)</i>	<i>Source (Statutes at Large)</i>
60122	15 U.S.C. 5622.	Pub. L. 102–555, title II, § 202, Oct. 28, 1992, 106 Stat. 4172; Pub. L. 105–303, title I, § 107(f)(2), Oct. 28, 1998, 112 Stat. 2854.

In subsection (c), in the matter before paragraph (1), the words “subsection (b)” are substituted for “paragraph (b)” to correct an error in the law.

§ 60123. Administrative authority of Secretary

(a) **FUNCTIONS.**—In order to carry out the responsibilities specified in this subchapter, the Secretary may—

(1) grant, condition, or transfer licenses under this chapter;

(2) seek an order of injunction or similar judicial determination from a district court of the United States with personal jurisdiction over the licensee to terminate, modify, or suspend licenses under this subchapter and to terminate licensed operations on an immediate basis, if the Secretary determines that the licensee has substantially failed to comply with any provisions of this chapter, with any terms, conditions, or restrictions of such license, or with any international obligations or national security concerns of the United States;

(3) provide penalties for noncompliance with the requirements of licenses or regulations issued under this subchapter, including civil penalties not to exceed \$10,000 (each day of operation in violation of such licenses or regulations constituting a separate violation);

(4) compromise, modify, or remit any such civil penalty;

(5) issue subpoenas for any materials, documents, or records, or for the attendance and testimony of witnesses for the purpose of conducting a hearing under this section;

(6) seize any object, record, or report pursuant to a warrant from a magistrate based on a showing of probable cause to believe that such object, record, or report was used, is being used, or is likely to be used in violation of this

chapter or the requirements of a license or regulation issued thereunder; and

(7) make investigations and inquiries and administer to or take from any person an oath, affirmation, or affidavit concerning any matter relating to the enforcement of this chapter.

(b) **REVIEW OF AGENCY ACTION.**—Any applicant or licensee that makes a timely request for review of an adverse action pursuant to paragraph (1), (3), (5), or (6) of subsection (a) shall be entitled to adjudication by the Secretary on the record after an opportunity for any agency hearing with respect to such adverse action. Any final action by the Secretary under this subsection shall be subject to judicial review under chapter 7 of title 5.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3415.)

HISTORICAL AND REVISION NOTES

<i>Revised Section</i>	<i>Source (U.S. Code)</i>	<i>Source (Statutes at Large)</i>
60123	15 U.S.C. 5623.	Pub. L. 102–555, title II, § 203, Oct. 28, 1992, 106 Stat. 4172.

In subsection (a), at the end of paragraph (2), a semicolon is substituted for the period to correct an error in the law.

§ 60124. Regulatory authority of Secretary

The Secretary may issue regulations to carry out this subchapter. Such regulations shall be promulgated only after public notice and comment in accordance with the provisions of section 553 of title 5.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3416.)

HISTORICAL AND REVISION NOTES

<i>Revised Section</i>	<i>Source (U.S. Code)</i>	<i>Source (Statutes at Large)</i>
60124	15 U.S.C. 5624.	Pub. L. 102–555, title II, § 204, Oct. 28, 1992, 106 Stat. 4173.

§ 60125. Agency activities

(a) **LICENSE APPLICATION AND ISSUANCE.**—A private sector party may apply for a license to operate a private remote sensing space system which utilizes, on a space-available basis, a civilian United States Government satellite or vehicle as a platform for such system. The Secretary, pursuant to this subchapter, may license such system if it meets all conditions of this subchapter and—

(1) the system operator agrees to reimburse the Government in a timely manner for all related costs incurred with respect to such utilization, including a reasonable and proportionate share of fixed, platform, data transmission, and launch costs; and

(2) such utilization would not interfere with or otherwise compromise intended civilian Government missions, as determined by the agency responsible for such civilian platform.

(b) **ASSISTANCE.**—The Secretary may offer assistance to private sector parties in finding appropriate opportunities for such utilization.

(c) **AGREEMENTS.**—To the extent provided in advance by appropriation Acts, any United States Government agency may enter into

agreements for such utilization if such agreements are consistent with such agency's mission and statutory authority, and if such remote sensing space system is licensed by the Secretary before commencing operation.

(d) **APPLICABILITY.**—This section does not apply to activities carried out under subchapter IV.

(e) **EFFECT ON FCC AUTHORITY.**—Nothing in this subchapter shall affect the authority of the Federal Communications Commission pursuant to the Communications Act of 1934 (47 U.S.C. 151 et seq.).

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3416.)

HISTORICAL AND REVISION NOTES

<i>Revised Section</i>	<i>Source (U.S. Code)</i>	<i>Source (Statutes at Large)</i>
60125	15 U.S.C. 5625.	Pub. L. 102–555, title II, § 205, Oct. 28, 1992, 106 Stat. 4173.

Editorial Notes

REFERENCES IN TEXT

The Communications Act of 1934, referred to in subsection (e), is act June 19, 1934, ch. 652, 48 Stat. 1064, which is classified principally to chapter 5 (§ 151 et seq.) of Title 47, Telecommunications. For complete classification of this Act to the Code, see section 609 of Title 47 and Tables.

§ 60126. Annual reports

(a) **IN GENERAL.**—The Secretary shall submit a report to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science, Space, and Technology of the House of Representatives not later than 180 days after the date of enactment of the U.S. Commercial Space Launch Competitiveness Act, and annually thereafter, on—

(1) the Secretary's implementation of section 60121, including—

(A) a list of all applications received in the previous calendar year;

(B) a list of all applications that resulted in a license under section 60121;

(C) a list of all applications denied and an explanation of why each application was denied, including any information relevant to the interagency adjudication process of a licensing request;

(D) a list of all applications that required additional information; and

(E) a list of all applications whose disposition exceeded the 120 day deadline established in section 60121(c), the total days overdue for each application that exceeded such deadline, and an explanation for the delay;

(2) all notifications and information provided to the Secretary under section 60122; and

(3) a description of all actions taken by the Secretary under the administrative authority granted by paragraphs (4), (5), and (6) of section 60123(a).

(b) **CLASSIFIED ANNEXES.**—Each report under subsection (a) may include classified annexes as necessary to protect the disclosure of sensitive or classified information.

(c) **SUNSET.**—The reporting requirement under this section terminates effective September 30, 2020.

(Added Pub. L. 114-90, title II, §201(a), Nov. 25, 2015, 129 Stat. 719.)

Editorial Notes

REFERENCES IN TEXT

The date of enactment of the U.S. Commercial Space Launch Competitiveness Act, referred to in subsec. (a), is the date of enactment of Pub. L. 114-90, which was approved Nov. 25, 2015.

SUBCHAPTER IV—RESEARCH, DEVELOPMENT, AND DEMONSTRATION

§ 60131. Continued Federal research and development

(a) ROLES OF ADMINISTRATION AND DEPARTMENT OF DEFENSE.—

(1) IN GENERAL.—The Administrator and the Secretary of Defense are directed to continue and to enhance programs of remote sensing research and development.

(2) ADMINISTRATION ACTIVITIES AUTHORIZED AND ENCOURAGED.—The Administrator is authorized and encouraged to—

(A) conduct experimental space remote sensing programs (including applications demonstration programs and basic research at universities);

(B) develop remote sensing technologies and techniques, including those needed for monitoring the Earth and its environment; and

(C) conduct such research and development in cooperation with other United States Government agencies and with public and private research entities (including private industry, universities, non-profit organizations, State and local governments, foreign governments, and international organizations) and to enter into arrangements (including joint ventures) which will foster such cooperation.

(b) ROLES OF DEPARTMENT OF AGRICULTURE AND DEPARTMENT OF THE INTERIOR.—

(1) IN GENERAL.—In order to enhance the ability of the United States to manage and utilize its renewable and nonrenewable resources, the Secretary of Agriculture and the Secretary of the Interior are authorized and encouraged to conduct programs of research and development in the applications of remote sensing using funds appropriated for such purposes.

(2) ACTIVITIES THAT MAY BE INCLUDED.—Such programs may include basic research at universities, demonstrations of applications, and cooperative activities involving other Government agencies, private sector parties, and foreign and international organizations.

(c) ROLE OF OTHER FEDERAL AGENCIES.—Other United States Government agencies are authorized and encouraged to conduct research and development on the use of remote sensing in the fulfillment of their authorized missions, using funds appropriated for such purposes.

(Pub. L. 111-314, §3, Dec. 18, 2010, 124 Stat. 3417.)

HISTORICAL AND REVISION NOTES

<i>Revised Section</i>	<i>Source (U.S. Code)</i>	<i>Source (Statutes at Large)</i>
60131	15 U.S.C. 5631.	Pub. L. 102-555, title III, §301, Oct. 28, 1992, 106 Stat. 4174.

§ 60132. Availability of federally gathered unenhanced data

(a) IN GENERAL.—All unenhanced land remote sensing data gathered and owned by the United States Government, including unenhanced data gathered under the technology demonstration program carried out pursuant to section 60133 of this title, shall be made available to users in a timely fashion.

(b) PROTECTION FOR COMMERCIAL DATA DISTRIBUTOR.—The President shall seek to ensure that unenhanced data gathered under the technology demonstration program carried out pursuant to section 60133 of this title shall, to the extent practicable, be made available on terms that would not adversely affect the commercial market for unenhanced data gathered by the Landsat 6 spacecraft.

(Pub. L. 111-314, §3, Dec. 18, 2010, 124 Stat. 3417.)

HISTORICAL AND REVISION NOTES

<i>Revised Section</i>	<i>Source (U.S. Code)</i>	<i>Source (Statutes at Large)</i>
60132	15 U.S.C. 5632.	Pub. L. 102-555, title III, §302, Oct. 28, 1992, 106 Stat. 4174.

In subsection (b), the word “affect” is substituted for “effect” to correct an error in the law.

§ 60133. Technology demonstration program

(a) ESTABLISHMENT.—As a fundamental component of a national land remote sensing strategy, the President shall establish, through appropriate United States Government agencies, a technology demonstration program. The goals of the program shall be to—

(1) seek to launch advanced land remote sensing system components within 5 years after October 28, 1992;

(2) demonstrate within such 5-year period advanced sensor capabilities suitable for use in the anticipated land remote sensing program; and

(3) demonstrate within such 5-year period an advanced land remote sensing system design that could be less expensive to procure and operate than the Landsat system projected to be in operation through the year 2000, and that therefore holds greater potential for private sector investment and control.

(b) EXECUTION OF PROGRAM.—In executing the technology demonstration program, the President shall seek to apply technologies associated with United States National Technical Means of intelligence gathering, to the extent that such technologies are appropriate for the technology demonstration and can be declassified for such purposes without causing adverse harm to United States national security interests.

(c) BROAD APPLICATION.—To the greatest extent practicable, the technology demonstration program established under subsection (a) shall

be designed to be responsive to the broad civilian, national security, commercial, and foreign policy needs of the United States.

(d) **PRIVATE SECTOR FUNDING.**—The technology demonstration program under this section may be carried out in part with private sector funding.

(e) **LANDSAT PROGRAM MANAGEMENT COORDINATION.**—The Landsat Program Management shall have a coordinating role in the technology demonstration program carried out under this section.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3418.)

HISTORICAL AND REVISION NOTES

<i>Revised Section</i>	<i>Source (U.S. Code)</i>	<i>Source (Statutes at Large)</i>
60133	15 U.S.C. 5633(a)–(e).	Pub. L. 102–555, title III, § 303(a)–(e), Oct. 28, 1992, 106 Stat. 4174.

In subsection (a)(1), the date “October 28, 1992” is substituted for “the date of the enactment of this Act” to reflect the date of enactment of the Land Remote Sensing Policy Act of 1992 (Public Law 102–555, 106 Stat. 4163). At the end of paragraph (1), a semicolon is substituted for the period to correct an error in the law.

§ 60134. Preference for private sector land remote sensing system

(a) **IN GENERAL.**—If a successor land remote sensing system to Landsat 7 can be funded and managed by the private sector while still achieving the goals stated in subsection (b) without jeopardizing the domestic, national security, and foreign policy interests of the United States, preference should be given to the development of such a system by the private sector without competition from the United States Government.

(b) **GOALS.**—The goals referred to in subsection (a) are—

(1) to encourage the development, launch, and operation of a land remote sensing system that adequately serves the civilian, national security, commercial, and foreign policy interests of the United States;

(2) to encourage the development, launch, and operation of a land remote sensing system that maintains data continuity with the Landsat system; and

(3) to incorporate system enhancements, including any such enhancements developed under the technology demonstration program under section 60133 of this title, which may potentially yield a system that is less expensive to build and operate, and more responsive to data users, than is the Landsat system otherwise projected to be in operation in the future.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3418.)

HISTORICAL AND REVISION NOTES

<i>Revised Section</i>	<i>Source (U.S. Code)</i>	<i>Source (Statutes at Large)</i>
60134(a)	15 U.S.C. 5641(c).	Pub. L. 102–555, title IV, § 401(b), (c), Oct. 28, 1992, 106 Stat. 4176.
60134(b)	15 U.S.C. 5641(b).	

In subsection (b), in the matter before paragraph (1), the words “In carrying out subsection (a), the Landsat Program Management shall consider the ability of each

of the options to” are omitted as obsolete. The omitted words refer to section 401(a) of the Land Remote Sensing Policy Act of 1992 (15 U.S.C. 5641(a)), which required, within 5 years after October 28, 1992, the Landsat Program Management, in consultation with representatives of appropriate United States Government agencies, to assess and report to Congress on options for a successor land remote sensing system to Landsat 7.

In subsection (b)(3), the words “otherwise projected to be in operation in the future” are substituted for “projected to be in operation through the year 2000” to eliminate obsolete language.

SUBCHAPTER V—GENERAL PROVISIONS

§ 60141. Nondiscriminatory data availability

(a) **IN GENERAL.**—Except as provided in subsection (b), any unenhanced data generated by the Landsat system or any other land remote sensing system funded and owned by the United States Government shall be made available to all users without preference, bias, or any other special arrangement (except on the basis of national security concerns pursuant to section 60146 of this title) regarding delivery, format, pricing, or technical considerations which would favor one customer or class of customers over another.

(b) **EXCEPTIONS.**—Unenhanced data generated by the Landsat system or any other land remote sensing system funded and owned by the United States Government may be made available to the United States Government and its affiliated users at reduced prices, in accordance with this chapter, on the condition that such unenhanced data are used solely for noncommercial purposes.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3419.)

HISTORICAL AND REVISION NOTES

<i>Revised Section</i>	<i>Source (U.S. Code)</i>	<i>Source (Statutes at Large)</i>
60141	15 U.S.C. 5651.	Pub. L. 102–555, title V, § 501, Oct. 28, 1992, 106 Stat. 4176.

§ 60142. Archiving of data

(a) **PUBLIC INTEREST.**—It is in the public interest for the United States Government to—

(1) maintain an archive of land remote sensing data for historical, scientific, and technical purposes, including long-term global environmental monitoring;

(2) control the content and scope of the archive; and

(3) ensure the quality, integrity, and continuity of the archive.

(b) **ARCHIVING PRACTICES.**—The Secretary of the Interior, in consultation with the Landsat Program Management, shall provide for long-term storage, maintenance, and upgrading of a basic, global, land remote sensing data set (hereafter in this section referred to as the “basic data set”) and shall follow reasonable archival practices to ensure proper storage and preservation of the basic data set and timely access for parties requesting data.

(c) **DETERMINATION OF CONTENT OF BASIC DATA SET.**—In determining the initial content of, or in upgrading, the basic data set, the Secretary of the Interior shall—

(1) use as a baseline the data archived on October 28, 1992;

(2) take into account future technical and scientific developments and needs, paying particular attention to the anticipated data requirements of global environmental change research;

(3) consult with and seek the advice of users and producers of remote sensing data and data products;

(4) consider the need for data which may be duplicative in terms of geographical coverage but which differ in terms of season, spectral bands, resolution, or other relevant factors;

(5) include, as the Secretary of the Interior considers appropriate, unenhanced data generated either by the Landsat system, pursuant to subchapter II, or by licensees under subchapter III;

(6) include, as the Secretary of the Interior considers appropriate, data collected by foreign ground stations or by foreign remote sensing space systems; and

(7) ensure that the content of the archive is developed in accordance with section 60146 of this title.

(d) **PUBLIC DOMAIN.**—After the expiration of any exclusive right to sell, or after relinquishment of such right, the data provided to the National Satellite Land Remote Sensing Data Archive shall be in the public domain and shall be made available to requesting parties by the Secretary of the Interior at the cost of fulfilling user requests.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3419.)

HISTORICAL AND REVISION NOTES

<i>Revised Section</i>	<i>Source (U.S. Code)</i>	<i>Source (Statutes at Large)</i>
60142	15 U.S.C. 5652.	Pub. L. 102–555, title V, § 502, Oct. 28, 1992, 106 Stat. 4176.

In subsection (b), the words “hereafter in this section” are substituted for “hereinafter” for clarity.

In subsection (c), in the matter before paragraph (1), the words “of the Interior” are substituted for “of Interior” to correct an error in the law.

In subsection (c)(1), the date “October 28, 1992” is substituted for “the date of enactment of this Act” to reflect the date of enactment of the Land Remote Sensing Policy Act of 1992 (Public Law 102–555, 106 Stat. 4163).

§ 60143. Nonreproduction

Unenhanced data distributed by any licensee under subchapter III may be sold on the condition that such data will not be reproduced or disseminated by the purchaser for commercial purposes.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3420.)

HISTORICAL AND REVISION NOTES

<i>Revised Section</i>	<i>Source (U.S. Code)</i>	<i>Source (Statutes at Large)</i>
60143	15 U.S.C. 5653.	Pub. L. 102–555, title V, § 503, Oct. 28, 1992, 106 Stat. 4177.

§ 60144. Reimbursement for assistance

The Administrator, the Secretary of Defense, and the heads of other United States Govern-

ment agencies may provide assistance to land remote sensing system operators under the provisions of this chapter. Substantial assistance shall be reimbursed by the operator, except as otherwise provided by law.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3420.)

HISTORICAL AND REVISION NOTES

<i>Revised Section</i>	<i>Source (U.S. Code)</i>	<i>Source (Statutes at Large)</i>
60144	15 U.S.C. 5654.	Pub. L. 102–555, title V, § 504, Oct. 28, 1992, 106 Stat. 4177.

§ 60145. Acquisition of equipment

The Landsat Program Management may, by means of a competitive process, allow a licensee under subchapter III or any other private party to buy, lease, or otherwise acquire the use of equipment from the Landsat system, when such equipment is no longer needed for the operation of such system or for the sale of data from such system. Officials of other United States Government civilian agencies are authorized and encouraged to cooperate with the Secretary in carrying out this section.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3420.)

HISTORICAL AND REVISION NOTES

<i>Revised Section</i>	<i>Source (U.S. Code)</i>	<i>Source (Statutes at Large)</i>
60145	15 U.S.C. 5655.	Pub. L. 102–555, title V, § 505, Oct. 28, 1992, 106 Stat. 4177.

§ 60146. Radio frequency allocation

(a) **APPLICATION TO FEDERAL COMMUNICATIONS COMMISSION.**—To the extent required by the Communications Act of 1934 (47 U.S.C. 151 et seq.), an application shall be filed with the Federal Communications Commission for any radio facilities involved with commercial remote sensing space systems licensed under subchapter III.

(b) **DEADLINE FOR FCC ACTION.**—It is the intent of Congress that the Federal Communications Commission complete the radio licensing process under the Communications Act of 1934 (47 U.S.C. 151 et seq.), upon the application of any private sector party or consortium operator of any commercial land remote sensing space system subject to this chapter, within 120 days of the receipt of an application for such licensing. If final action has not occurred within 120 days of the receipt of such an application, the Federal Communications Commission shall inform the applicant of any pending issues and of actions required to resolve them.

(c) **DEVELOPMENT AND CONSTRUCTION OF UNITED STATES SYSTEMS.**—Authority shall not be required from the Federal Communications Commission for the development and construction of any United States land remote sensing space system (or component thereof), other than radio transmitting facilities or components, while any licensing determination is being made.

(d) **CONSISTENCY WITH INTERNATIONAL OBLIGATIONS AND PUBLIC INTEREST.**—Frequency allocations made pursuant to this section by the Federal Communications Commission shall be consistent with international obligations and with the public interest.

(Pub. L. 111-314, § 3, Dec. 18, 2010, 124 Stat. 3420.)

HISTORICAL AND REVISION NOTES

<i>Revised Section</i>	<i>Source (U.S. Code)</i>	<i>Source (Statutes at Large)</i>
60146	15 U.S.C. 5656.	Pub. L. 102-555, title V, § 506, Oct. 28, 1992, 106 Stat. 4177.

Editorial Notes

REFERENCES IN TEXT

The Communications Act of 1934, referred to in subsecs. (a) and (b), is act June 19, 1934, ch. 652, 48 Stat. 1064, which is classified principally to chapter 5 (§151 et seq.) of Title 47, Telecommunications. For complete classification of this Act to the Code, see section 609 of Title 47 and Tables.

§ 60147. Consultation

(a) CONSULTATION WITH SECRETARY OF DEFENSE.—The Secretary and the Landsat Program Management shall consult with the Secretary of Defense on all matters under this chapter affecting national security. The Secretary of Defense shall be responsible for determining those conditions, consistent with this chapter, necessary to meet national security concerns of the United States and for notifying the Secretary and the Landsat Program Management promptly of such conditions.

(b) CONSULTATION WITH SECRETARY OF STATE.—

(1) IN GENERAL.—The Secretary and the Landsat Program Management shall consult with the Secretary of State on all matters under this chapter affecting international obligations. The Secretary of State shall be responsible for determining those conditions, consistent with this chapter, necessary to meet international obligations and policies of the United States and for notifying promptly the Secretary and the Landsat Program Management of such conditions.

(2) INTERNATIONAL AID.—Appropriate United States Government agencies are authorized and encouraged to provide remote sensing data, technology, and training to developing nations as a component of programs of international aid.

(3) REPORTING DISCRIMINATORY DISTRIBUTION.—The Secretary of State shall promptly report to the Secretary and Landsat Program Management any instances outside the United States of discriminatory distribution of Landsat data.

(c) STATUS REPORT.—The Landsat Program Management shall, as often as necessary, provide to Congress complete and updated information about the status of ongoing operations of the Landsat system, including timely notification of decisions made with respect to the Landsat system in order to meet national security concerns and international obligations and policies of the United States Government.

(d) REIMBURSEMENTS.—If, as a result of technical modifications imposed on a licensee under subchapter III on the basis of national security concerns, the Secretary, in consultation with the Secretary of Defense or with other Federal agencies, determines that additional costs will be incurred by the licensee, or that past development costs (including the cost of capital) will

not be recovered by the licensee, the Secretary may require the agency or agencies requesting such technical modifications to reimburse the licensee for such additional or development costs, but not for anticipated profits. Reimbursements may cover costs associated with required changes in system performance, but not costs ordinarily associated with doing business abroad.

(Pub. L. 111-314, § 3, Dec. 18, 2010, 124 Stat. 3421.)

HISTORICAL AND REVISION NOTES

<i>Revised Section</i>	<i>Source (U.S. Code)</i>	<i>Source (Statutes at Large)</i>
60147	15 U.S.C. 5657.	Pub. L. 102-555, title V, § 507, Oct. 28, 1992, 106 Stat. 4178.

§ 60148. Enforcement

(a) IN GENERAL.—In order to ensure that unenhanced data from the Landsat system received solely for noncommercial purposes are not used for any commercial purpose, the Secretary (in collaboration with private sector entities responsible for the marketing and distribution of unenhanced data generated by the Landsat system) shall develop and implement a system for enforcing this prohibition, in the event that unenhanced data from the Landsat system are made available for noncommercial purposes at a different price than such data are made available for other purposes.

(b) AUTHORITY OF SECRETARY.—Subject to subsection (d), the Secretary may impose any of the enforcement mechanisms described in subsection (c) against a person that—

(1) receives unenhanced data from the Landsat system under this chapter solely for noncommercial purposes (and at a different price than the price at which such data are made available for other purposes); and

(2) uses such data for other than noncommercial purposes.

(c) ENFORCEMENT MECHANISMS.—Enforcement mechanisms referred to in subsection (b) may include civil penalties of not more than \$10,000 (per day per violation), denial of further unenhanced data purchasing privileges, and any other penalties or restrictions the Secretary considers necessary to ensure, to the greatest extent practicable, that unenhanced data provided for noncommercial purposes are not used to unfairly compete in the commercial market against private sector entities not eligible for data at the cost of fulfilling user requests.

(d) PROCEDURES AND REGULATIONS.—The Secretary shall issue any regulations necessary to carry out this section and shall establish standards and procedures governing the imposition of enforcement mechanisms under subsection (b). The standards and procedures shall include a procedure for potentially aggrieved parties to file formal protests with the Secretary alleging instances where such unenhanced data have been, or are being, used for commercial purposes in violation of the terms of receipt of such data. The Secretary shall promptly act to investigate any such protest, and shall report annually to Congress on instances of such violations.

(Pub. L. 111-314, § 3, Dec. 18, 2010, 124 Stat. 3421.)

HISTORICAL AND REVISION NOTES

<i>Revised Section</i>	<i>Source (U.S. Code)</i>	<i>Source (Statutes at Large)</i>
60148	15 U.S.C. 5658.	Pub. L. 102-555, title V, § 508, Oct. 28, 1992, 106 Stat. 4179.

In subsection (d), in the second sentence, the words “have been, or are being” are substituted for “has been, or is being” to correct an error in the law.

SUBCHAPTER VI—PROHIBITION OF COMMERCIALIZATION OF WEATHER SATELLITES

§ 60161. Prohibition

Neither the President nor any other official of the Government shall make any effort to lease, sell, or transfer to the private sector, or commercialize, any portion of the weather satellite systems operated by the Department of Commerce or any successor agency.

(Pub. L. 111-314, § 3, Dec. 18, 2010, 124 Stat. 3422.)

HISTORICAL AND REVISION NOTES

<i>Revised Section</i>	<i>Source (U.S. Code)</i>	<i>Source (Statutes at Large)</i>
60161	15 U.S.C. 5671.	Pub. L. 102-555, title VI, § 601, Oct. 28, 1992, 106 Stat. 4179.

§ 60162. Future considerations

Regardless of any change in circumstances subsequent to October 28, 1992, even if such change makes it appear to be in the national interest to commercialize weather satellites, neither the President nor any official shall take any action prohibited by section 60161 of this title unless this subchapter has first been repealed.

(Pub. L. 111-314, § 3, Dec. 18, 2010, 124 Stat. 3422.)

HISTORICAL AND REVISION NOTES

<i>Revised Section</i>	<i>Source (U.S. Code)</i>	<i>Source (Statutes at Large)</i>
60162	15 U.S.C. 5672.	Pub. L. 102-555, title VI, § 602, Oct. 28, 1992, 106 Stat. 4180.

The date “October 28, 1992” is substituted for “the enactment of this Act” to reflect the date of enactment of the Land Remote Sensing Policy Act of 1992 (Public Law 102-555, 106 Stat. 4163).

CHAPTER 603—REMOTE SENSING

Sec.	
60301.	Definitions.
60302.	General responsibilities.
60303.	Pilot projects to encourage public sector applications.
60304.	Program evaluation.
60305.	Data availability.
60306.	Education.

§ 60301. Definitions

In this chapter:

(1) GEOSPATIAL INFORMATION.—The term “geospatial information” means knowledge of the nature and distribution of physical and cultural features on the landscape based on analysis of data from airborne or spaceborne platforms or other types and sources of data.

(2) HIGH RESOLUTION.—The term “high resolution” means resolution better than five meters.

(3) INSTITUTION OF HIGHER EDUCATION.—The term “institution of higher education” has the meaning given the term in section 101(a) of the Higher Education Act of 1965 (20 U.S.C. 1001(a)).

(Pub. L. 111-314, § 3, Dec. 18, 2010, 124 Stat. 3423.)

HISTORICAL AND REVISION NOTES

<i>Revised Section</i>	<i>Source (U.S. Code)</i>	<i>Source (Statutes at Large)</i>
60301	42 U.S.C. 16671.	Pub. L. 109-155, title III, § 311, Dec. 30, 2005, 119 Stat. 2920.

§ 60302. General responsibilities

The Administrator shall—

(1) develop a sustained relationship with the United States commercial remote sensing industry and, consistent with applicable policies and law, to the maximum practicable, rely on their services; and

(2) in conjunction with United States industry and universities, research, develop, and demonstrate prototype Earth science applications to enhance Federal, State, local, and tribal governments’ use of government and commercial remote sensing data, technologies, and other sources of geospatial information for improved decision support to address their needs.

(Pub. L. 111-314, § 3, Dec. 18, 2010, 124 Stat. 3423.)

HISTORICAL AND REVISION NOTES

<i>Revised Section</i>	<i>Source (U.S. Code)</i>	<i>Source (Statutes at Large)</i>
60302	42 U.S.C. 16672.	Pub. L. 109-155, title III, § 312, Dec. 30, 2005, 119 Stat. 2920.

§ 60303. Pilot projects to encourage public sector applications

(a) IN GENERAL.—The Administrator shall establish a program of grants for competitively awarded pilot projects to explore the integrated use of sources of remote sensing and other geospatial information to address State, local, regional, and tribal agency needs.

(b) PREFERRED PROJECTS.—In awarding grants under this section, the Administrator shall give preference to projects that—

(1) make use of commercial data sets, including high resolution commercial satellite imagery and derived satellite data products, existing public data sets where commercial data sets are not available or applicable, or the fusion of such data sets;

(2) integrate multiple sources of geospatial information, such as geographic information system data, satellite-provided positioning data, and remotely sensed data, in innovative ways;

(3) include funds or in-kind contributions from non-Federal sources;

(4) involve the participation of commercial entities that process raw or lightly processed data, often merging that data with other geospatial information, to create data prod-

ucts that have significant value added to the original data; and

(5) taken together demonstrate as diverse a set of public sector applications as possible.

(c) OPPORTUNITIES.—In carrying out this section, the Administrator shall seek opportunities to assist—

(1) in the development of commercial applications potentially available from the remote sensing industry; and

(2) State, local, regional, and tribal agencies in applying remote sensing and other geospatial information technologies for growth management.

(d) DURATION.—Assistance for a pilot project under subsection (a) shall be provided for a period not to exceed 3 years.

(e) REPORT.—Each recipient of a grant under subsection (a) shall transmit a report to the Administrator on the results of the pilot project within 180 days of the completion of that project.

(f) WORKSHOP.—Each recipient of a grant under subsection (a) shall, not later than 180 days after the completion of the pilot project, conduct at least one workshop for potential users to disseminate the lessons learned from the pilot project as widely as feasible.

(g) REGULATIONS.—The Administrator shall issue regulations establishing application, selection, and implementation procedures for pilot projects, and guidelines for reports and workshops required by this section.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3423.)

HISTORICAL AND REVISION NOTES

<i>Revised Section</i>	<i>Source (U.S. Code)</i>	<i>Source (Statutes at Large)</i>
60303	42 U.S.C. 16673.	Pub. L. 109–155, title III, § 313, Dec. 30, 2005, 119 Stat. 2921.

§ 60304. Program evaluation

(a) ADVISORY COMMITTEE.—The Administrator shall establish an advisory committee, consisting of individuals with appropriate expertise in State, local, regional, and tribal agencies, the university research community, and the remote sensing and other geospatial information industries, to monitor the program established under section 60303 of this title. The advisory committee shall consult with the Federal Geographic Data Committee and other appropriate industry representatives and organizations. Notwithstanding section 1013 of title 5, the advisory committee established under this subsection shall remain in effect until the termination of the program under section 60303 of this title.

(b) EFFECTIVENESS EVALUATION.—Not later than December 31, 2009, the Administrator shall transmit to Congress an evaluation of the effectiveness of the program established under section 60303 of this title in exploring and promoting the integrated use of sources of remote sensing and other geospatial information to address State, local, regional, and tribal agency needs. Such evaluation shall have been conducted by an independent entity.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3424; Pub. L. 117–286, § 4(a)(326), Dec. 27, 2022, 136 Stat. 4341.)

HISTORICAL AND REVISION NOTES

<i>Revised Section</i>	<i>Source (U.S. Code)</i>	<i>Source (Statutes at Large)</i>
60304	42 U.S.C. 16674.	Pub. L. 109–155, title III, § 314, Dec. 30, 2005, 119 Stat. 2921.

Editorial Notes

AMENDMENTS

2022—Subsec. (a). Pub. L. 117–286 substituted “section 1013 of title 5,” for “section 14 of the Federal Advisory Committee Act (5 App. U.S.C.),”.

§ 60305. Data availability

The Administrator shall ensure that the results of each of the pilot projects completed under section 60303 of this title shall be retrievable through an electronic, internet-accessible database.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3424.)

HISTORICAL AND REVISION NOTES

<i>Revised Section</i>	<i>Source (U.S. Code)</i>	<i>Source (Statutes at Large)</i>
60305	42 U.S.C. 16675.	Pub. L. 109–155, title III, § 315, Dec. 30, 2005, 119 Stat. 2922.

§ 60306. Education

The Administrator shall establish an educational outreach program to increase awareness at institutions of higher education and State, local, regional, and tribal agencies of the potential applications of remote sensing and other geospatial information and awareness of the need for geospatial workforce development.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3424.)

HISTORICAL AND REVISION NOTES

<i>Revised Section</i>	<i>Source (U.S. Code)</i>	<i>Source (Statutes at Large)</i>
60306	42 U.S.C. 16676.	Pub. L. 109–155, title III, § 316, Dec. 30, 2005, 119 Stat. 2922.

CHAPTER 605—EARTH SCIENCE

Sec.

- 60501. Goal.
- 60502. Transitioning experimental research into operational services.
- 60503. Reauthorization of Glory Mission.
- 60504. Tornadoes and other severe storms.
- 60505. Coordination with the National Oceanic and Atmospheric Administration.
- 60506. Sharing of climate related data.

§ 60501. Goal

The goal for the Administration’s Earth Science program shall be to pursue a program of Earth observations, research, and applications activities to better understand the Earth, how it supports life, and how human activities affect its ability to do so in the future. In pursuit of this goal, the Administration’s Earth Science program shall ensure that securing practical

benefits for society will be an important measure of its success in addition to securing new knowledge about the Earth system and climate change. In further pursuit of this goal, the Administration shall, together with the National Oceanic and Atmospheric Administration and other relevant agencies, provide United States leadership in developing and carrying out a cooperative international Earth observations-based research program.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3425.)

HISTORICAL AND REVISION NOTES

Revised Section	Source (U.S. Code)	Source (Statutes at Large)
60501	42 U.S.C. 17711.	Pub. L. 110–422, title II, § 201, Oct. 15, 2008, 122 Stat. 4784.

Statutory Notes and Related Subsidiaries

EARTH SCIENCE MISSIONS AND PROGRAMS

Pub. L. 117–167, div. B, title VII, § 10824, Aug. 9, 2022, 136 Stat. 1742, provided that:

“(a) SENSE OF CONGRESS.—It is the sense of Congress that—

“(1) the Earth science and applications program of the [National Aeronautics and Space] Administration provides increasingly valuable data for natural resource management, agriculture, forestry, food security, air quality monitoring, and many other application areas; and

“(2) a robust and balanced Earth science and applications program contributes significantly to—

“(A) the scientific discovery and economic growth of the United States; and

“(B) supporting the health and safety of the people of the United States and the citizens of the world.

“(b) REAFFIRMATION.—Congress reaffirms the goal for the Administration’s Earth science and applications program set forth in section 60501 of title 51, United States Code, which states: ‘The goal for the Administration’s Earth Science program shall be to pursue a program of Earth observations, research, and applications activities to better understand the Earth, how it supports life, and how human activities affect its ability to do so in the future. In pursuit of this goal, the Administration’s Earth Science program shall ensure that securing practical benefits for society will be an important measure of its success in addition to securing new knowledge about the Earth system and climate change. In further pursuit of this goal, the Administration shall, together with the National Oceanic and Atmospheric Administration and other relevant agencies, provide United States leadership in developing and carrying out a cooperative international Earth observations-based research program.’[sic]

“(c) EARTH SCIENCE MISSIONS AND PROGRAMS.—With respect to the missions and programs of the Earth Science Division, the Administrator [of the National Aeronautics and Space Administration] shall, to the maximum extent practicable, follow the recommendations and guidance provided by the scientific community through the decadal survey for Earth science and applications from space of the National Academies of Sciences, Engineering, and Medicine, including—

“(1) the science priorities described in such survey;

“(2) the execution of the series of existing or previously planned observations (commonly known as the ‘program of record’); and

“(3) the development of a range of missions of all classes, including opportunities for principal investigator-led, competitively selected missions.

“(d) EARTH SYSTEM OBSERVATORY.—The Administrator shall pursue an Earth System Observatory, which shall consist of an array of new and complemen-

tary Earth-observing scientific satellites, instruments, and missions—

“(1) to address the recommendations of the 2018 Earth science and applications decadal survey of the National Academies of Sciences, Engineering, and Medicine entitled ‘Thriving on our Changing Planet’, including by conducting priority observations in—

“(A) aerosols;

“(B) cloud convection and precipitation;

“(C) mass change;

“(D) surface biology and geology;

“(E) surface deformation and change; and

“(F) other observation areas designated as high-priority by such decadal survey; and

“(2) to achieve the goal of the Earth Science Program set forth in section 60501 of title 51, United States Code.

“(e) SURVEY OF USE OF EARTH OBSERVATION DATA BY STATES, TRIBES, AND TERRITORIES.—

“(1) SURVEY.—The Administrator shall arrange for the conduct of a survey of the use of NASA [National Aeronautics and Space Administration] Earth observation data by States, Tribal organizations, and territories.

“(2) SUBMISSION.—Not later than 18 months after the date of the enactment of this Act [Aug. 9, 2022], the Administrator shall submit to the appropriate committees of Congress [Committee on Commerce, Science, and Transportation of the Senate and Committee on Science, Space, and Technology of the House of Representatives] the results of the survey conducted under paragraph (1).

“(f) CLIMATE ARCHITECTURE PLAN.—The Administrator shall—

“(1) maintain a comprehensive, strategic Climate Architecture Plan for Earth Observations and Applications from Space that describes an integrated and balanced program of Earth science and applications observations to advance science, policy, and applications and societal benefits; and

“(2) update such plan every 5 years so as to align with the release of the decadal surveys in Earth science and applications from space and the mid-decade assessments of the National Academies of Sciences, Engineering, and Medicine [probably should be “National Academies of Sciences, Engineering, and Medicine”].”

CARBON CYCLE REMOTE SENSING APPLICATIONS RESEARCH

Pub. L. 106–391, title III, § 315, Oct. 30, 2000, 114 Stat. 1595, provided that:

“(a) CARBON CYCLE REMOTE SENSING APPLICATIONS RESEARCH PROGRAM.—

“(1) IN GENERAL.—The Administrator [of the National Aeronautics and Space Administration] shall develop a carbon cycle remote sensing applications research program—

“(A) to provide a comprehensive view of vegetation conditions;

“(B) to assess and model agricultural carbon sequestration; and

“(C) to encourage the development of commercial products, as appropriate.

“(2) USE OF CENTERS.—The Administrator of the National Aeronautics and Space Administration shall use regional earth science application centers to conduct applications research under this section.

“(3) RESEARCHED AREAS.—The areas that shall be the subjects of research conducted under this section include—

“(A) the mapping of carbon-sequestering land use and land cover;

“(B) the monitoring of changes in land cover and management;

“(C) new approaches for the remote sensing of soil carbon; and

“(D) region-scale carbon sequestration estimation.

“(b) AUTHORIZATION OF APPROPRIATIONS.—There is authorized to be appropriated to carry out this section

\$5,000,000 of funds authorized by section 102 [114 Stat. 1581] for fiscal years 2001 through 2002.”

EARTH OBSERVING SYSTEM

Pub. L. 102-588, title I, §102(g), Nov. 4, 1992, 106 Stat. 5111, directed the Administrator of the National Aeronautics and Space Administration to carry out an Earth Observing System program addressing highest priority international climate change research goals; within 180 days after Nov. 4, 1992, submit to Congress a plan to ensure that the highest priority measurements were maintained on schedule to the greatest extent practicable while lower priority measurements were deferred or deleted; and within 90 days after Nov. 4, 1992, submit to Congress a Development Plan.

§ 60502. Transitioning experimental research into operational services

(a) INTERAGENCY PROCESS.—The Director of the Office of Science and Technology Policy, in consultation with the Administrator, the Administrator of the National Oceanic and Atmospheric Administration, and other relevant stakeholders, shall develop a process to transition, when appropriate, Administration Earth science and space weather missions or sensors into operational status. The process shall include coordination of annual agency budget requests as required to execute the transitions.

(b) RESPONSIBLE AGENCY OFFICIAL.—The Administrator and the Administrator of the National Oceanic and Atmospheric Administration shall each designate an agency official who shall have the responsibility for and authority to lead the Administration's and the National Oceanic and Atmospheric Administration's transition activities and interagency coordination.

(c) PLAN.—For each mission or sensor that is determined to be appropriate for transition under subsection (a), the Administration and the National Oceanic and Atmospheric Administration shall transmit to Congress a joint plan for conducting the transition. The plan shall include the strategy, milestones, and budget required to execute the transition. The transition plan shall be transmitted to Congress no later than 60 days after the successful completion of the mission or sensor critical design review.

(Pub. L. 111-314, §3, Dec. 18, 2010, 124 Stat. 3425.)

HISTORICAL AND REVISION NOTES

<i>Revised Section</i>	<i>Source (U.S. Code)</i>	<i>Source (Statutes at Large)</i>
60502(a)	42 U.S.C. 17712(b).	Pub. L. 110-422, title II, §204(b), (c), (d), Oct. 15, 2008, 122 Stat. 4785.
60502(b)	42 U.S.C. 17712(c).	
60502(c)	42 U.S.C. 17712(d).	

§ 60503. Reauthorization of Glory Mission

Congress reauthorizes the Administration to continue with development of the Glory Mission, which will examine how aerosols and solar energy affect the Earth's climate.

(Pub. L. 111-314, §3, Dec. 18, 2010, 124 Stat. 3425.)

HISTORICAL AND REVISION NOTES

<i>Revised Section</i>	<i>Source (U.S. Code)</i>	<i>Source (Statutes at Large)</i>
60503	42 U.S.C. 17713(a).	Pub. L. 110-422, title II, §206(a), Oct. 15, 2008, 122 Stat. 4785.

§ 60504. Tornadoes and other severe storms

The Administrator shall ensure that the Administration gives high priority to those parts of its existing cooperative activities with the National Oceanic and Atmospheric Administration that are related to the study of tornadoes and other severe storms, tornado-force winds, and other factors determined to influence the development of tornadoes and other severe storms, with the goal of improving the Nation's ability to predict tornados and other severe storms. Further, the Administrator shall examine whether there are additional cooperative activities with the National Oceanic and Atmospheric Administration that should be undertaken in the area of tornado and severe storm research.

(Pub. L. 111-314, §3, Dec. 18, 2010, 124 Stat. 3425.)

HISTORICAL AND REVISION NOTES

<i>Revised Section</i>	<i>Source (U.S. Code)</i>	<i>Source (Statutes at Large)</i>
60504	42 U.S.C. 17714.	Pub. L. 110-422, title II, §208, Oct. 15, 2008, 122 Stat. 4786.

§ 60505. Coordination with the National Oceanic and Atmospheric Administration

(a) JOINT WORKING GROUP.—The Administrator and the Administrator of the National Oceanic and Atmospheric Administration shall appoint a Joint Working Group, which shall review and monitor missions of the two agencies to ensure maximum coordination in the design, operation, and transition of missions where appropriate. The Joint Working Group shall also prepare the plans required by subsection (c).

(b) COORDINATION REPORT.—Not later than February 15 of each year, the Administrator and the Administrator of the National Oceanic and Atmospheric Administration shall jointly transmit a report to the Committee on Science and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate on how the Earth science programs of the Administration and the National Oceanic and Atmospheric Administration will be coordinated during the fiscal year following the fiscal year in which the report is transmitted.

(c) COORDINATION OF TRANSITION PLANNING AND REPORTING.—The Administrator, in conjunction with the Administrator of the National Oceanic and Atmospheric Administration and in consultation with other relevant agencies, shall evaluate relevant Administration science missions for their potential operational capabilities and shall prepare transition plans for the existing and future Earth observing systems found to have potential operational capabilities.

(d) LIMITATION.—The Administrator shall not transfer any Administration Earth science mission or Earth observing system to the National Oceanic and Atmospheric Administration until the plan required under subsection (c) has been approved by the Administrator and the Administrator of the National Oceanic and Atmospheric Administration and until financial resources have been identified to support the transition or transfer in the President's budget request for

the National Oceanic and Atmospheric Administration.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3426.)

HISTORICAL AND REVISION NOTES

Revised Section	Source (U.S. Code)	Source (Statutes at Large)
60505	42 U.S.C. 16656.	Pub. L. 109–155, title III, § 306, Dec. 30, 2005, 119 Stat. 2919.

In subsection (b), the words “beginning with the first fiscal year after the date of enactment of this Act [December 30, 2005]” are omitted as obsolete.

In subsection (b), the words “Committee on Science and Technology” are substituted for “Committee on Science” on authority of Rule X(1)(o) of the Rules of the House of Representatives, adopted by House Resolution No. 6 (110th Congress, January 5, 2007).

Statutory Notes and Related Subsidiaries

CHANGE OF NAME

Committee on Science and Technology of House of Representatives changed to Committee on Science, Space, and Technology of House of Representatives by House Resolution No. 5, One Hundred Twelfth Congress, Jan. 5, 2011.

§ 60506. Sharing of climate related data

The Administrator shall work to ensure that the Administration’s policies on the sharing of climate related data respond to the recommendations of the Government Accountability Office’s report on climate change research and data-sharing policies and to the recommendations on the processing, distribution, and archiving of data by the National Academies Earth Science Decadal Survey, “Earth Science and Applications from Space”, and other relevant National Academies reports, to enhance and facilitate their availability and widest possible use to ensure public access to accurate and current data on global warming.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3426.)

HISTORICAL AND REVISION NOTES

Revised Section	Source (U.S. Code)	Source (Statutes at Large)
60506	42 U.S.C. 17825(c).	Pub. L. 110–422, title XI, § 1109(c), Oct. 15, 2008, 122 Stat. 4811.

CHAPTER 606—SPACE WEATHER

Sec.	
60601.	Space weather.
60602.	Integrated strategy.
60603.	Sustaining and advancing critical space weather observations.
60604.	Research activities.
60605.	Space weather data.
60606.	Space weather knowledge transfer and information exchange.
60607.	Pilot program for obtaining commercial sector space weather data.
60608.	Space weather benchmarks.

§ 60601. Space weather

(a) FINDINGS.—

(1) SPACE WEATHER.—Congress makes the following findings with respect to space weather:

(A) Space weather phenomena pose a significant threat to ground-based and space-

based critical infrastructure, modern technological systems, and humans working in space.

(B) The effects of severe space weather on the electric power grid, satellites and satellite communications and information, aviation operations, astronauts living and working in space, and space-based position, navigation, and timing systems could have significant societal, economic, national security, and health impacts.

(C) Space-based and ground-based observations provide crucial data necessary to understand, forecast, and prepare for space weather phenomena.

(D) Clear roles and accountability of Federal departments and agencies are critical for efficient and effective response to threats posed by space weather.

(E) Space weather observation and forecasting are essential for the success of human and robotic space exploration.

(F) In October 2015, the National Science and Technology Council published a National Space Weather Strategy and a National Space Weather Action Plan seeking to integrate national space weather efforts and add new capabilities to meet increasing demand for space weather information.

(G) In March 2019, the National Science and Technology Council published an updated National Space Weather Strategy and Action Plan to enhance the preparedness and resilience of the United States to space weather.

(2) ROLE OF FEDERAL AGENCIES.—Congress makes the following findings with respect to the role of Federal agencies on space weather:

(A) The National Oceanic and Atmospheric Administration provides operational space weather monitoring, forecasting, and long-term data archiving and access for civil applications, maintains ground-based and space-based assets to provide observations needed for space weather forecasting, prediction, and warnings, provides research to support operational responsibilities, and develops requirements for space weather forecasting technologies and science.

(B) The Department of Defense provides operational space weather research, monitoring, and forecasting for the Department’s unique missions and applications.

(C) The National Aeronautics and Space Administration provides increased understanding of the fundamental physics of the Sun-Earth system through basic research, space-based observations and modeling, developing new space-based technologies and missions, and monitoring of space weather for the National Aeronautics and Space Administration’s space missions.

(D) The National Science Foundation provides increased understanding of the Sun-Earth system through ground-based measurements, technologies, and modeling.

(E) The Department of the Interior collects, distributes, and archives operational ground-based magnetometer data in the United States and its territories, works with the international community to improve

global geophysical monitoring, and develops crustal conductivity models to assess and mitigate risks from space weather-induced electric ground currents.

(F) The Federal Aviation Administration provides operational requirements for space weather services in support of aviation and for coordination of these requirements with the International Civil Aviation Organization, and integrates space weather data and products into the Next Generation Air Transportation System.

(b) COORDINATION BY OFFICE OF SCIENCE AND TECHNOLOGY POLICY.—The Director of the Office of Science and Technology Policy shall—

(1) coordinate the development and implementation of Federal Government activities conducted with respect to space weather to improve the ability of the United States to prepare for, avoid, mitigate, respond to, and recover from potentially devastating impacts of space weather; and

(2) coordinate the activities of the interagency working group on space weather established under subsection (c).

(c) SPACE WEATHER INTERAGENCY WORKING GROUP.—Not later than 90 days after the date of enactment of the PROSWIFT Act, the National Science and Technology Council shall establish an interagency working group on space weather (in this chapter referred to as the “interagency working group”) to coordinate executive branch actions that improve the understanding and prediction of and preparation for space weather phenomena, and coordinate Federal space weather activities.

(1) MEMBERSHIP.—The following entities shall be members of the interagency working group:

(A) The National Oceanic and Atmospheric Administration.

(B) The National Aeronautics and Space Administration.

(C) The National Science Foundation.

(D) The Department of Defense.

(E) The Department of the Interior.

(F) Such other Federal agencies as the Director of the Office of Science and Technology Policy deems appropriate.

(2) INTERAGENCY AGREEMENTS.—

(A) The members of the interagency working group may enter into one or more interagency agreements providing for cooperation and collaboration in the development of space weather spacecraft, instruments, technologies, and research to operations and operations to research in accordance with this chapter.

(B) The Administrator of the National Aeronautics and Space Administration and the Administrator of the National Oceanic and Atmospheric Administration shall enter into one or more interagency agreements providing for cooperation and collaboration in the development of space weather spacecraft, instruments, and technologies in accordance with this chapter.

(3) INTERNATIONAL, ACADEMIC COMMUNITY, AND COMMERCIAL SECTOR COLLABORATION.—

Each Federal agency participating in the space weather interagency working group established under this subsection shall, to the extent practicable, increase engagement and cooperation with the international community, academic community, and commercial space weather sector on the observational infrastructure, data, and scientific research necessary to advance the monitoring, forecasting, and prediction of, preparation for, and protection from, space weather phenomena.

(d) SPACE WEATHER ADVISORY GROUP.—

(1) IN GENERAL.—

(A) ESTABLISHMENT.—Not later than 180 days after the date of the enactment of the PROSWIFT Act, the Administrator of the National Oceanic and Atmospheric Administration, in consultation with other relevant Federal agencies, shall establish a space weather advisory group (in this chapter referred to as the “advisory group”) for the purposes of receiving advice from the academic community, the commercial space weather sector, and space weather end users that informs the interests and work of the interagency working group.

(B) COMPOSITION.—The advisory group shall be composed of not more than 15 members appointed by the interagency working group, of whom—

(i) 5 members shall be representatives of the academic community;

(ii) 5 members shall be representatives of the commercial space weather sector; and

(iii) 5 members shall be nongovernmental representatives of the space weather end user community.

(C) CHAIR.—Not later than 30 days after the date on which the last member of the advisory group is appointed under subparagraph (B), the Administrator of the National Oceanic and Atmospheric Administration shall appoint 1 member as the Chair of the advisory group.

(D) TERMS.—The length of the term of each member of the advisory group shall be 3 years beginning on the date on which the member is appointed.

(E) TERM LIMITS.—

(i) IN GENERAL.—A member of the advisory group may not serve on the advisory group for more than 2 consecutive terms.

(ii) CHAIR.—A member of the advisory group may not serve as the Chair of the advisory group for more than 2 terms, regardless of whether the terms are consecutive.

(2) DUTIES.—The advisory group shall advise the interagency working group on the following:

(A) Facilitating advances in the space weather enterprise of the United States.

(B) Improving the ability of the United States to prepare for, mitigate, respond to, and recover from space weather phenomena.

(C) Enabling the coordination and facilitation of research to operations and operations to research, as described in section 60604(d).

(D) Developing and implementing the integrated strategy under section 60602 including subsequent updates and reevaluations.

(3) USER SURVEY.—

(A) IN GENERAL.—Not later than 180 days after the establishment of the advisory group, the advisory group shall conduct a comprehensive survey of the needs of users of space weather products to identify the space weather research, observations, forecasting, prediction, and modeling advances required to improve space weather products.

(B) SURVEY CONSIDERATIONS.—The survey conducted under subparagraph (A) shall—

(i) assess the adequacy of current Federal Government goals for lead time, accuracy, coverage, timeliness, data rate, and data quality for space weather observations and forecasting;

(ii) identify options and methods to, in consultation with the academic community and the commercial space weather sector, improve upon the advancement of the goals described in clause (i);

(iii) identify opportunities for collection of new data to address the needs of the space weather user community;

(iv) identify methods to increase coordination of space weather research to operations and operations to research;

(v) identify opportunities for new technologies, research, and instrumentation to aid in research, understanding, monitoring, modeling, prediction, forecasting, and warning of space weather; and

(vi) identify methods and technologies to improve preparedness for potential space weather phenomena.

(C) COORDINATION WITH AGENCIES.—In carrying out the requirements of this subsection, the advisory group shall communicate and coordinate with the interagency working group to ensure the needs of the governmental space weather user community are adequately and appropriately identified by the survey under subparagraph (A).

(D) BRIEFING TO CONGRESS.—Not later than 30 days after the completion of the survey under subparagraph (A), the advisory group shall provide to the Committee on Science, Space, and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate a briefing on the results of the survey under subparagraph (A).

(E) PUBLICATION.—Within 30 days of the briefing to Congress, the advisory group shall make the results of the survey under subparagraph (A) publicly available.

(F) REEVALUATION.—The advisory group shall review and assess the survey under subparagraph (A) not less than every 3 years and update, resubmit, and republish the survey in accordance with the requirements of subparagraphs (D) and (E).

(4) FEDERAL ADVISORY COMMITTEE ACT.—Section 14 of the Federal Advisory Committee Act (5 U.S.C. App.)¹ shall not apply to the advisory group.

(Pub. L. 116–181, §2(b), Oct. 21, 2020, 134 Stat. 882.)

¹ See References in Text note below.

Editorial Notes

REFERENCES IN TEXT

The date of enactment of the PROSWIFT Act, referred to in subsecs. (c) and (d)(1)(A), is the date of enactment of Pub. L. 116–181, which was approved Oct. 21, 2020.

Section 14 of the Federal Advisory Committee Act, referred to in subsec. (d)(4), is section 14 of Pub. L. 92–463, which was set out in the Appendix to Title 5, Government Organization and Employees, and was repealed and restated as section 1013 of Title 5 by Pub. L. 117–286, §§3(a), 7, Dec. 27, 2022, 136 Stat. 4204, 4361.

Statutory Notes and Related Subsidiaries

SPACE WEATHER POLICY

Pub. L. 116–181, §2(a), Oct. 21, 2020, 134 Stat. 882, provided that: “It shall be the policy of the United States to prepare and protect against the social and economic impacts of space weather phenomena by supporting actions to improve space weather forecasts and predictions including: sustaining and enhancing critical observations, identifying research needs and promoting opportunities for research-to-operations and operations-to-research collaborations both within and outside of the Federal Government, advancing space weather models, engaging with all sectors of the space weather community, including academia, the commercial sector, and international partners, and understanding the needs of space weather end users.”

Executive Documents

EX. ORD. NO. 13744. COORDINATING EFFORTS TO PREPARE THE NATION FOR SPACE WEATHER EVENTS

Ex. Ord. No. 13744, Oct. 13, 2016, 81 F.R. 71573, provided:

By the authority vested in me as President by the Constitution and the laws of the United States of America, and to prepare the Nation for space weather events, it is hereby ordered as follows:

SECTION 1. *Policy.* Space weather events, in the form of solar flares, solar energetic particles, and geomagnetic disturbances, occur regularly, some with measurable effects on critical infrastructure systems and technologies, such as the Global Positioning System (GPS), satellite operations and communication, aviation, and the electrical power grid. Extreme space weather events—those that could significantly degrade critical infrastructure—could disable large portions of the electrical power grid, resulting in cascading failures that would affect key services such as water supply, healthcare, and transportation. Space weather has the potential to simultaneously affect and disrupt health and safety across entire continents. Successfully preparing for space weather events is an all-of-nation endeavor that requires partnerships across governments, emergency managers, academia, the media, the insurance industry, non-profits, and the private sector.

It is the policy of the United States to prepare for space weather events to minimize the extent of economic loss and human hardship. The Federal Government must have (1) the capability to predict and detect a space weather event, (2) the plans and programs necessary to alert the public and private sectors to enable mitigating actions for an impending space weather event, (3) the protection and mitigation plans, protocols, and standards required to reduce risks to critical infrastructure prior to and during a credible threat, and (4) the ability to respond to and recover from the effects of space weather. Executive departments and agencies (agencies) must coordinate their efforts to prepare for the effects of space weather events.

SEC. 2. *Objectives.* This order defines agency roles and responsibilities and directs agencies to take specific actions to prepare the Nation for the hazardous effects of space weather. These activities are to be implemented in conjunction with those identified in the 2015 Na-

tional Space Weather Action Plan (Action Plan) and any subsequent updates. Implementing this order and the Action Plan will require the Federal Government to work across agencies and to develop, as appropriate, enhanced and innovative partnerships with State, tribal, and local governments; academia; non-profits; the private sector; and international partners. These efforts will enhance national preparedness and speed the creation of a space-weather-ready Nation.

SEC. 3. Coordination. (a) The Director of the Office of Science and Technology Policy (OSTP), in consultation with the Assistant to the President for Homeland Security and Counterterrorism and the Director of the Office of Management and Budget (OMB), shall coordinate the development and implementation of Federal Government activities to prepare the Nation for space weather events, including the activities established in section 5 of this order and the recommendations of the National Science and Technology Council (NSTC), established by Executive Order 12881 of November 23, 1993 (Establishment of the National Science and Technology Council).

(b) To ensure accountability for and coordination of research, development, and implementation of activities identified in this order and in the Action Plan, the NSTC shall establish a Space Weather Operations, Research, and Mitigation Subcommittee (Subcommittee). The Subcommittee member agencies shall conduct activities to advance the implementation of this order, to achieve the goals identified in the 2015 National Space Weather Strategy and any subsequent updates, and to coordinate and monitor the implementation of the activities specified in the Action Plan and provide subsequent updates.

SEC. 4. Roles and Responsibilities. To the extent permitted by law, the agencies below shall adopt the following roles and responsibilities, which are key to ensuring enhanced space weather forecasting, situational awareness, space weather preparedness, and continuous Federal Government operations during and after space weather events.

(a) The Secretary of Defense shall ensure the timely provision of operational space weather observations, analyses, forecasts, and other products to support the mission of the Department of Defense and coalition partners, including the provision of alerts and warnings for space weather phenomena that may affect weapons systems, military operations, or the defense of the United States.

(b) The Secretary of the Interior shall support the research, development, deployment, and operation of capabilities that enhance the understanding of variations of the Earth's magnetic field associated with solar-terrestrial interactions.

(c) The Secretary of Commerce shall:

(i) provide timely and accurate operational space weather forecasts, watches, warnings, alerts, and real-time space weather monitoring for the government, civilian, and commercial sectors, exclusive of the responsibilities of the Secretary of Defense; and

(ii) ensure the continuous improvement of operational space weather services, utilizing partnerships, as appropriate, with the research community, including academia and the private sector, and relevant agencies to develop, validate, test, and transition space weather observation platforms and models from research to operations and from operations to research.

(d) The Secretary of Energy shall facilitate the protection and restoration of the reliability of the electrical power grid during a presidentially declared grid security emergency associated with a geomagnetic disturbance pursuant to 16 U.S.C. 824o-1.

(e) The Secretary of Homeland Security shall:

(i) ensure the timely redistribution of space weather alerts and warnings that support national preparedness, continuity of government, and continuity of operations; and

(ii) coordinate response and recovery from the effects of space weather events on critical infrastructure and the broader community.

(f) The Administrator of the National Aeronautics and Space Administration (NASA) shall:

(i) implement and support a national research program to understand the Sun and its interactions with Earth and the solar system to advance space weather modeling and prediction capabilities applicable to space weather forecasting;

(ii) develop and operate space-weather-related research missions, instrument capabilities, and models; and

(iii) support the transition of space weather models and technology from research to operations and from operations to research.

(g) The Director of the National Science Foundation (NSF) shall support fundamental research linked to societal needs for space weather information through investments and partnerships, as appropriate.

(h) The Secretary of State, in consultation with the heads of relevant agencies, shall carry out diplomatic and public diplomacy efforts to strengthen global capacity to respond to space weather events.

(i) The Secretaries of Defense, the Interior, Commerce, Transportation, Energy, and Homeland Security, along with the Administrator of NASA and the Director of NSF, shall work together, consistent with their ongoing activities, to develop models, observation systems, technologies, and approaches that inform and enhance national preparedness for the effects of space weather events, including how space weather events may affect critical infrastructure and change the threat landscape with respect to other hazards.

(j) The heads of all agencies that support National Essential Functions, defined by Presidential Policy Directive 40 (PPD-40) of July 15, 2016 (National Continuity Policy), shall ensure that space weather events are adequately addressed in their all-hazards preparedness planning, including mitigation, response, and recovery, as directed by PPD-8 of March 30, 2011 (National Preparedness).

(k) NSTC member agencies shall coordinate through the NSTC to establish roles and responsibilities beyond those identified in section 4 of this order to enhance space weather preparedness, consistent with each agency's legal authority.

SEC. 5. Implementation. (a) Within 120 days of the date of this order, the Secretary of Energy, in consultation with the Secretary of Homeland Security, shall develop a plan to test and evaluate available devices that mitigate the effects of geomagnetic disturbances on the electrical power grid through the development of a pilot program that deploys such devices, *in situ*, in the electrical power grid. After the development of the plan, the Secretary shall implement the plan in collaboration with industry. In taking action pursuant to this subsection, the Secretaries of Energy and Homeland Security shall consult with the Chairman of the Federal Energy Regulatory Commission.

(b) Within 120 days of the date of this order, the heads of the sector-specific agencies that oversee the lifeline critical infrastructure functions as defined by the National Infrastructure Protection Plan of 2013—including communications, energy, transportation, and water and wastewater systems—as well as the Nuclear Reactors, Materials, and Waste Sector, shall assess their executive and statutory authority, and limits of that authority, to direct, suspend, or control critical infrastructure operations, functions, and services before, during, and after a space weather event. The heads of each sector-specific agency shall provide a summary of these assessments to the Subcommittee.

(c) Within 90 days of receipt of the assessments ordered in section 5(b) of this order, the Subcommittee shall provide a report on the findings of these assessments with recommendations to the Director of OSTP, the Assistant to the President for Homeland Security and Counterterrorism, and the Director of OMB. The assessments may be used to inform the development and implementation of policy establishing authorities and responsibilities for agencies in response to a space weather event.

(d) Within 60 days of the date of this order, the Secretaries of Defense and Commerce, the Administrator of NASA, and the Director of NSF, in collaboration with other agencies as appropriate, shall identify mechanisms for advancing space weather observations, models, and predictions, and for sustaining and transitioning appropriate capabilities from research to operations and operations to research, collaborating with industry and academia to the extent possible.

(e) Within 120 days of the date of this order, the Secretaries of Defense and Commerce shall make historical data from the GPS constellation and other U.S. Government satellites publicly available, in accordance with Executive Order 13642 of May 9, 2013 (Making Open and Machine Readable the New Default for Government Information), to enhance model validation and improvements in space weather forecasting and situational awareness.

(f) Within 120 days of the date of this order, the Secretary of Homeland Security, through the Administrator of the Federal Emergency Management Agency and in coordination with relevant agencies, shall lead the development of a coordinated Federal operating concept and associated checklist to coordinate Federal assets and activities to respond to notification of, and protect against, impending space weather events. Within 180 days of the publication of the operating concept and checklist, agencies shall develop operational plans documenting their procedures and responsibilities to prepare for, protect against, and mitigate the effects of impending space weather events, in support of the Federal operating concept and compatible with the National Preparedness System described in PPD-8.

SEC. 6. *Stakeholder Engagement.* The agencies identified in this order shall seek public-private and international collaborations to enhance observation networks, conduct research, develop prediction models and mitigation approaches, enhance community resilience and preparedness, and supply the services necessary to protect life and property and promote economic prosperity, as consistent with law.

SEC. 7. *Definitions.* As used in this order:

(a) “Prepare” and “preparedness” have the same meaning they have in PPD-8. They refer to the actions taken to plan, organize, equip, train, and exercise to build and sustain the capabilities necessary to prevent, protect against, mitigate the effects of, respond to, and recover from those threats that pose the greatest risk to the security of the Nation. This includes the prediction and notification of space weather events.

(b) “Space weather” means variations in the space environment between the Sun and Earth (and throughout the solar system) that can affect technologies in space and on Earth. The primary types of space weather events are solar flares, solar energetic particles, and geomagnetic disturbances.

(c) “Solar flare” means a brief eruption of intense energy on or near the Sun’s surface that is typically associated with sunspots.

(d) “Solar energetic particles” means ions and electrons ejected from the Sun that are typically associated with solar eruptions.

(e) “Geomagnetic disturbance” means a temporary disturbance of Earth’s magnetic field resulting from solar activity.

(f) “Critical infrastructure” has the meaning provided in section 1016(e) of the USA Patriot Act of 2001 (42 U.S.C. 5195c(e)), namely systems and assets, whether physical or virtual, so vital to the United States that the incapacity or destruction of such systems and assets would have a debilitating impact on security, national economic security, national public health or safety, or any combination of those matters.

(g) “Sector-Specific Agency” means the agencies designated under PPD-21 of February 12, 2013 (Critical Infrastructure Security and Resilience), or any successor directive, to be responsible for providing institutional knowledge and specialized expertise as well as leading, facilitating, or supporting the security and resilience programs and associated activities of its designated

critical infrastructure sector in the all-hazards environment.

SEC. 8. *General Provisions.* (a) Nothing in this order shall be construed to impair or otherwise affect:

(i) the authority granted by law to an agency, or the head thereof; or

(ii) the functions of the Director of OMB relating to budgetary, administrative, or legislative proposals.

(b) This order shall be implemented consistent with applicable law and subject to the availability of appropriations.

(c) This order is not intended to, and does not, create any right or benefit, substantive or procedural, enforceable at law or in equity by any party against the United States, its departments, agencies, or entities, its officers, employees, or agents, or any other person.

BARACK OBAMA.

[Reference to a Sector Specific Agency (including any permutations or conjugations thereof) deemed to be a reference to the Sector Risk Management Agency of the relevant critical infrastructure sector and have the meaning given such term in section 650 of Title 6, Domestic Security, see section 652a(c)(3) of Title 6, enacted Jan. 1, 2021.]

§ 60602. Integrated strategy

(a) IN GENERAL.—The Director of the Office of Science and Technology Policy, in collaboration with the interagency working group and upon the advice of the advisory group, shall develop a strategy for coordinated observation of space weather among members of the interagency working group (in this chapter, referred to as the “integrated strategy”). The integrated strategy shall identify—

(1) observations and measurements that must be sustained beyond the lifetime of current ground-based and space-based assets, as described under section 60603, that are essential for space weather research, models, forecasting, and prediction;

(2) new observations and measurements that may significantly improve space weather forecasting and prediction; and

(3) plans for follow-on space-based observations under section 60603.

(b) CONSIDERATIONS.—In developing the integrated strategy in subsection (a), the Director of the Office of Science and Technology Policy shall consider, as appropriate, the following:

(1) Potential contributions of commercial solutions, prize authority, academic and international partnerships, microsatellites, small satellite options, ground-based instruments, and hosted payloads for observations identified in section 60602(a)(2).

(2) Work conducted before the date of enactment of the PROSWIFT Act by the National Science and Technology Council with respect to space weather.

(3) The survey under section 60601(d).

(4) Any relevant recommendations from the most recent National Academies of Sciences, Engineering, and Medicine Decadal Survey for Solar and Space Physics (Heliophysics).

(c) REVIEW OF INTEGRATED STRATEGY.—

(1) REVIEW.—The Administrator of the National Aeronautics and Space Administration and the Administrator of the National Oceanic and Atmospheric Administration, in consultation with Federal agencies participating in the interagency working group, shall enter into an

agreement with the National Academies of Sciences, Engineering, and Medicine to review the integrated strategy developed in this section.

(2) **CONSIDERATIONS.**—The review from paragraph (1) shall also consider the current state, capability, and feasibility of the commercial space weather sector to provide new and supplemental observations and measurements that may significantly improve space weather forecasting and prediction.

(3) **TRANSMITTAL.**—The Director of the Office of Science and Technology Policy, the Administrator of the National Aeronautics and Space Administration, and the Administrator of the National Oceanic and Atmospheric Administration shall transmit the integrated strategy and the results of the review required under paragraph (1) to the Committee on Science, Space, and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate not later than 1 year after the date of the completion of the survey under section 60601(d)(3). The integrated strategy and its review shall be made publicly available within 30 days of submittal to Congress.

(d) **IMPLEMENTATION PLAN.**—Not later than 180 days after delivery of the review of the integrated strategy in subsection (c)(3), the interagency working group shall develop a plan to implement the integrated strategy, including an estimate of the cost and schedule required for implementation. Upon completion, the interagency working group shall submit the implementation plan to the Committees on Science, Space, and Technology and Armed Services of the House of Representatives and the Committees on Commerce, Science, and Transportation and Armed Services of the Senate. The implementation plan shall be made publicly available within 30 days of submittal to Congress.

(e) **REEVALUATION.**—The Director, in collaboration with the interagency working group, shall update the integrated strategy not later than 1 year after the reevaluation of the user survey from section 60601(d)(3)(F) in accordance with the requirements of subsections (a) through (d).

(Pub. L. 116–181, §2(b), Oct. 21, 2020, 134 Stat. 886.)

Editorial Notes

REFERENCES IN TEXT

The date of enactment of the PROSWIFT Act, referred to in subsec. (b)(2), is the date of enactment of Pub. L. 116–181, which was approved Oct. 21, 2020.

§ 60603. Sustaining and advancing critical space weather observations

(a) **POLICY.**—It is the policy of the United States to—

(1) establish and sustain a baseline capability for space weather observations and to make such observations and data publicly available; and

(2) obtain enhanced space weather observations, as practicable, to advance forecasting and prediction capability, as informed by the integrated strategy in section 60602.

(b) **SUSTAINING BASELINE SPACE-BASED OBSERVATIONAL CAPABILITIES.**—

(1) The Administrator of the National Aeronautics and Space Administration shall, in cooperation with the European Space Agency and other international and interagency partners, maintain operations of the Solar and Heliospheric Observatory/Large Angle and Spectrometric Coronagraph (referred to in this section as “SOHO/LASCO”) for as long as the satellite continues to deliver quality observations.

(2) The Administrator of the National Aeronautics and Space Administration shall prioritize the reception of SOHO/LASCO data.

(3) The Administrator of the National Oceanic and Atmospheric Administration shall maintain, for as long as is practicable, operations of current space-based observational assets, including but not limited to the Geostationary Operational Environmental Satellites system, and the Deep Space Climate Observatory.

(c) **BACKUP SPACE-BASED OBSERVATIONAL CAPABILITY.**—The Administrator of the National Oceanic and Atmospheric Administration, in coordination with the Secretary of Defense and the Administrator of the National Aeronautics and Space Administration, shall work with Federal and international partners in order to secure reliable backup baseline capability for near real-time coronal mass ejection imagery, solar wind, solar imaging, coronal imagery, and other relevant observations required to provide space weather forecasts.

(d) **SOHO/LASCO OPERATIONAL CONTINGENCY PLAN.**—The Administrator of the National Oceanic and Atmospheric Administration shall develop an operational contingency plan to provide continuous space weather forecasting in the event of an unexpected SOHO/LASCO failure, and prior to the implementation of the backup space-based baseline observational capability in section 60603(c).

(e) **BRIEFING.**—Not later than 120 days after the date of enactment of the PROSWIFT Act, the Administrator of the National Oceanic and Atmospheric Administration shall provide a briefing to the Committee on Science, Space, and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate on the plan to secure reliable backup baseline capability described in subsection (c) and the SOHO/LASCO operational contingency plan developed under subsection (d).

(f) **SUSTAINING GROUND-BASED OBSERVATIONAL CAPABILITY.**—The Director of the National Science Foundation, the Director of the United States Geological Survey, the Secretary of the Air Force, and, as practicable in support of the Air Force, the Secretary of the Navy, shall each—

(1) maintain and improve ground-based observations of the Sun, as necessary and advisable, to help meet the needs identified in the survey under section 60601(d)(3); and

(2) continue to provide space weather data through ground-based facilities, including radars, lidars, magnetometers, neutron monitors, radio receivers, aurora and airglow imagers, spectrometers, interferometers, and solar observatories.

(g) **CONSIDERATIONS.**—In implementing subsections (b), (c), and (d), the Administrators of the National Aeronautics and Space Administration and the National Oceanic and Atmospheric Administration, the Directors of the National Science Foundation and United States Geological Survey, and the Secretaries of the Air Force and the Navy shall prioritize cost-effective and reliable solutions.

(h) **GROUND-BASED OBSERVATIONAL DATA.**—The Director of the National Science Foundation shall—

(1) make available to the public key data streams from the platforms and facilities described in subsection (d) for research and to support space weather model development;

(2) develop experimental models for scientific purposes; and

(3) support the transition of the experimental models to operations where appropriate.

(i) **ENHANCED SPACE-BASED OBSERVATIONS.**—The Administrator of the National Oceanic and Atmospheric Administration, in coordination with the Secretary of Defense, should develop options to build and deploy space-based observational capabilities, beyond the baseline capabilities referenced in subsection (b), that may improve space weather measurements and observations. These supplemental observational capabilities could include commercial solutions, prize authority, academic partnerships, microsatellites, ground-based instruments, and opportunities to deploy the instrument or instruments as a secondary payload on an upcoming planned launch.

(Pub. L. 116–181, §2(b), Oct. 21, 2020, 134 Stat. 888.)

Editorial Notes

REFERENCES IN TEXT

The date of enactment of the PROSWIFT Act, referred to in subsec. (e), is the date of enactment of Pub. L. 116–181, which was approved Oct. 21, 2020.

§ 60604. Research activities

(a) **BASIC RESEARCH.**—The Director of the National Science Foundation, the Administrator of the National Aeronautics and Space Administration, and the Secretary of Defense, shall—

(1) continue to carry out basic research on heliophysics, geospace science, and space weather; and

(2) support competitive, peer-reviewed proposals for conducting research, advancing modeling, and monitoring of space weather and its impacts, including the science goals outlined in decadal surveys in solar and space physics conducted by the National Academies of Sciences, Engineering, and Medicine.

(b) **MULTIDISCIPLINARY RESEARCH.**—

(1) **FINDINGS.**—Congress finds that the multidisciplinary nature of solar and space physics creates funding challenges that require coordination across scientific disciplines and Federal agencies.

(2) **SENSE OF CONGRESS.**—It is the sense of Congress that science centers could coordinate multidisciplinary solar and space physics research. The Administrator of the National

Aeronautics and Space Administration and Director of the National Science Foundation should support competitively awarded grants for multidisciplinary science centers that advance solar and space physics research, including research-to-operations and operations-to-research processes.

(3) **MULTIDISCIPLINARY RESEARCH.**—The Director of the National Science Foundation, the Administrator of the National Oceanic and Atmospheric Administration, and the Administrator of the National Aeronautics and Space Administration, shall each pursue multidisciplinary research in subjects that further the understanding of solar physics, space physics, and space weather.

(c) **SCIENCE MISSIONS.**—The Administrator of the National Aeronautics and Space Administration should implement missions that meet the science objectives identified in solar and space physics decadal surveys conducted by the National Academies of Sciences, Engineering, and Medicine.

(d) **RESEARCH TO OPERATIONS; OPERATIONS TO RESEARCH.**—The interagency working group shall, upon consideration of the advice of the advisory group, develop formal mechanisms to—

(1) transition the space weather research findings, models, and capabilities of the National Aeronautics and Space Administration, the National Science Foundation, the United States Geological Survey, and other relevant Federal agencies, as appropriate, to the National Oceanic and Atmospheric Administration and the Department of Defense;

(2) enhance coordination between research modeling centers and forecasting centers; and

(3) communicate the operational needs of space weather forecasters of the National Oceanic and Atmospheric Administration and Department of Defense, as appropriate, to the National Aeronautics and Space Administration, the National Science Foundation, and the United States Geological Survey.

(Pub. L. 116–181, §2(b), Oct. 21, 2020, 134 Stat. 889.)

§ 60605. Space weather data

(a) **IN GENERAL.**—The Administrator of the National Aeronautics and Space Administration and the Director of the National Science Foundation shall continue to—

(1) make space weather-related data obtained for scientific research purposes available to space weather forecasters and operations centers; and

(2) support model development and model applications to space weather forecasting.

(b) **RESEARCH.**—The Administrator of the National Oceanic and Atmospheric Administration shall make space weather-related data obtained from operational forecasting available for research.

(Pub. L. 116–181, §2(b), Oct. 21, 2020, 134 Stat. 890.)

§ 60606. Space weather knowledge transfer and information exchange

Not later than 180 days after the date of enactment of the PROSWIFT Act, the Administrator of the National Oceanic and Atmospheric Ad-

ministration, in collaboration with the Administrator of the National Aeronautics and Space Administration and the Director of the National Science Foundation, shall enter into an arrangement with the National Academies of Sciences, Engineering, and Medicine to establish a Space Weather Government-Academic-Commercial Roundtable to facilitate communication and knowledge transfer among Government participants in the space weather interagency working group established under section 60601(c), the academic community, and the commercial space weather sector to—

- (1) facilitate advances in space weather prediction and forecasting;
- (2) increase coordination of space weather research to operations and operations to research; and
- (3) improve preparedness for potential space weather phenomena.

(Pub. L. 116–181, §2(b), Oct. 21, 2020, 134 Stat. 891.)

Editorial Notes

REFERENCES IN TEXT

The date of enactment of the PROSWIFT Act, referred to in text, is the date of enactment of Pub. L. 116–181, which was approved Oct. 21, 2020.

§ 60607. Pilot program for obtaining commercial sector space weather data

(a) ESTABLISHMENT.—Not later than 12 months after the date of enactment of the PROSWIFT Act, the Administrator of the National Oceanic and Atmospheric Administration may establish a pilot program under which the Administrator will offer to enter into contracts with one or more entities in the commercial space weather sector for the provision to the Administrator of space weather data generated by such an entity that meets the standards and specifications published under subsection (b).

(b) DATA STANDARD AND SPECIFICATIONS.—Not later than 18 months after the date of enactment of the PROSWIFT Act, the Administrator of the National Oceanic and Atmospheric Administration, in consultation with the Secretary of Defense, may publish standards and specifications for ground-based, ocean-based, air-based, and space-based commercial space weather data and metadata.

(c) CONTRACTS.—

(1) IN GENERAL.—Within 12 months after the date of transmission of the review of the integrated strategy to Congress under section 60602(c)(3) and taking into account the results of the review, the Administrator of the National Oceanic and Atmospheric Administration may offer to enter, through an open competition, into at least one contract with one or more commercial space weather sector entities capable of providing space weather data that—

(A) meets the standards and specifications established for providing such data under subsection (b); and

(B) is provided in a manner that allows the Administrator of the National Oceanic and Atmospheric Administration to calibrate and evaluate the data for use in space weather research and forecasting models of the

National Oceanic and Atmospheric Administration, the Department of Defense, or both.

(2) ASSESSMENT.—If one or more contract is entered into under paragraph (1), not later than 4 years after the date of enactment of the PROSWIFT Act, the Administrator of the National Oceanic and Atmospheric Administration shall assess, and submit to the Committees on Science, Space, and Technology and Armed Services of the House of Representatives and the Committees on Commerce, Science, and Transportation and Armed Services of the Senate, a report on the extent to which the pilot program has demonstrated data provided under contracts described in paragraph (1) meet the standards and specifications established under subsection (b) and the extent to which the pilot program has demonstrated—

(A) the viability of assimilating the commercially provided data into National Oceanic and Atmospheric Administration space weather research and forecasting models;

(B) whether, and by how much, the data so provided add value to space weather forecasts of the National Oceanic and Atmospheric Administration and the Department of Defense; and

(C) the accuracy, quality, timeliness, validity, reliability, usability, information technology security, and cost-effectiveness of obtaining commercial space weather data from commercial sector providers.

(Pub. L. 116–181, §2(b), Oct. 21, 2020, 134 Stat. 891.)

Editorial Notes

REFERENCES IN TEXT

The date of enactment of the PROSWIFT Act, referred to in subsecs. (a), (b), and (c)(2), is the date of enactment of Pub. L. 116–181, which was approved Oct. 21, 2020.

§ 60608. Space weather benchmarks

The interagency working group established under section 60601(c) shall periodically review and update the benchmarks described in the report of the National Science and Technology Council entitled “Space Weather Phase 1 Benchmarks” and dated June 2018, as necessary, based on—

(1) any significant new data or advances in scientific understanding that become available; or

(2) the evolving needs of entities impacted by space weather phenomena.

(Pub. L. 116–181, §2(b), Oct. 21, 2020, 134 Stat. 892.)

Subtitle VII—Access to Space

CHAPTER 701—USE OF SPACE LAUNCH SYSTEM OR ALTERNATIVES

Sec.	
70101.	Recovery of fair value of placing Department of Defense payloads in orbit with space launch system.
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