

(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.