

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.

**“§ 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.

**“§ 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.

**“§ 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 Administration, 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.

**“§ 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 Tech-

nology 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.

**“§ 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.”

(c) TECHNICAL AND CONFORMING AMENDMENTS.—

(1) The table of chapters of title 51, United States Code, is amended by adding after the item relating to chapter 605 the following:

“606. Space Weather ..... 60601”.

(2) Section 809 of the National Aeronautics and Space Administration Authorization Act of 2010 (42 U.S.C. 13388) and the item relating to that section in the table of contents under section 1(b) of that Act (Public Law 111-267; 124 Stat. 2806) are repealed.

**DISCHARGE AND REFERRAL—S.**

4187

Mr. McCONNELL. Mr. President, I ask unanimous consent that S. 4187 be discharged from the Committee on Environment and Public Works and be referred to the Committee on Commerce, Science, and Transportation.

The PRESIDING OFFICER. Without objection, it is so ordered.

**SPACE WEATHER RESEARCH AND FORECASTING ACT**

Mr. McCONNELL. Mr. President, I ask unanimous consent that the Senate proceed to the immediate consideration of Calendar No. 322, S. 881.

The PRESIDING OFFICER. The clerk will report the bill by title.

The senior assistant legislative clerk read as follows:

A bill (S. 881) to improve understanding and forecasting of space weather events, and for other purposes.

There being no objection, the Senate proceeded to consider the bill, which had been reported from the Committee on Commerce, Science, and Transportation.

Mr. McCONNELL. Mr. President, I ask unanimous consent that the Peters