To help enhance commerce through improved seasonal forecasts, and for other purposes.

IN THE SENATE OF THE UNITED STATES

Mr. THUNE (for himself and Mr. SCHATZ) introduced the following bill; which was read twice and referred to the Committee on 

A BILL

To help enhance commerce through improved seasonal forecasts, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the “Seasonal Forecasting Improvement Act”.

SEC. 2. IMPROVING SEASONAL FORECASTS FOR AGRICULTURE AND COMMERCE.

Section 1762 of title XVII of Public Law 99—198 (15 U.S.C. 313 note) is amended—
(1) in subsection (a), by striking "(a)" and inserting "(a) FINDINGS.—";

(2) in subsection (b), by striking "(b)" and inserting "(b) POLICY.—"; and

(3) by adding at the end the following:

"(c) FUNCTIONS.—The Under Secretary, through the National Weather Service and other appropriate programs in the National Oceanic and Atmospheric Administration, shall—

"(1) collect and utilize information in order to make usable, reliable, and timely forecasts of seasonal temperature and precipitation;

"(2) leverage existing research and models from the academic sector to improve the forecasts under paragraph (1);

"(3) determine and provide information on how the forecasted conditions under paragraph (1) may impact—

"(A) the number and severity of droughts, tornadoes, hurricanes, floods, heatwaves, or other relevant natural disasters;

"(B) snowpack; and

"(C) sea ice conditions;
“(4) provide the forecasts under paragraph (1) and the information under paragraphs (1) and (3) on both national and regional levels; and

“(5) develop an Internet clearinghouse with the forecasts of seasonal temperature and precipitation and other relevant seasonal forecasts and products produced by the National Oceanic and Atmospheric Administration, other Federal and State departments and agencies, and the academic sector.

“(d) COMMUNICATION.—The Under Secretary shall provide the forecasts and the information on their impacts under subsection (e) to the public, including public and private entities engaged in planning and preparedness, including—

“(1) decisionmakers at the Federal, regional, State, tribal, and local levels of government;

“(2) the private sector; and

“(3) the public.

“(e) COOPERATION.—The Under Secretary shall build upon existing forecasting and assessment programs and partnerships, including—

“(1) by designating research and monitoring activities related to seasonal forecasts as a priority in 1 or more Cooperative Institute solicitations;
“(2) by contributing to the interagency Earth System Prediction Capability; and

“(3) by consulting with the Secretary of Defense and the Secretary of Homeland Security to determine the highest priority seasonal forecast needs to enhance national security.

“(f) FORECAST COMMUNICATION COORDINATORS.—

“(1) IN GENERAL.—The Under Secretary shall provide grants to States, including territories, for each State to have a forecast communication coordinator to receive and disseminate the forecasts and information under subsection (c). Applications for grants under this subsection shall be submitted in such form and manner, and contain such information, as the Under Secretary prescribes.

“(2) REQUIREMENTS.—For each State that requests assistance under this subsection, the Under Secretary shall—

“(A) provide funds to support an individual in that State to—

“(i) serve as a liaison among the National Oceanic and Atmospheric Administration, other Federal departments and agencies, the academic sector, the State,

May 13, 2015 (1:21 p.m.)
and relevant interests within that State;
and

"(ii) receive the forecasts and infor-
mation under subsection (c) and dissemi-
nate the forecasts and information
throughout the State, including county and
tribal governments;

"(B) provide 1 grant for the purpose de-
scribed in paragraph (1); and

"(C) require matching funds from the
State, a university, a non-governmental organi-
zation, trade association, or the private sector.

"(3) LIMITATION.—Each grant under this sub-
section shall not exceed $100,000.

"(g) COOPERATION FROM OTHER FEDERAL AGEN-
cies.—Each Federal department and agency shall cooper-
ate as appropriate with the Under Secretary in carrying
out this section.

"(h) REPORTS.—

"(1) IN GENERAL.—Not later than 18 months
after the date of enactment of the Seasonal Fore-
casting Improvement Act, the Under Secretary shall
transmit to the Committee on Commerce, Science,
and Transportation of the Senate and the Com-
mittee on Science, Space, and Technology of the House of Representatives a report, including—

"(A) an analysis of the how information from the National Oceanic and Atmospheric Administration on seasonal forecasts, as provided under subsection (e), is utilized in public planning and preparedness;

"(B) specific plans and goals for the continued development of the seasonal forecasts and related products described in subsection (e); and

"(C) an identification of research, monitoring, observing, and forecasting requirements to meet the goals described in subparagraph (B).

"(2) CONSULTATION.—In developing the report under paragraph (1), the Under Secretary shall consult with relevant Federal, regional, State, tribal, and local government agencies, research institutions, and the private sector.

"(i) AUTHORIZATION OF APPROPRIATIONS.—There is authorized to be appropriated to carry out this section $26,500,000 for each of fiscal years 2015 through 2020.

"(j) DEFINITIONS.—In this section:
“(1) SEASONAL.—The term ‘seasonal’ means the time range between 2 weeks and 2 years.

“(2) UNDER SECRETARY.—The term ‘Under Secretary’ means the Under Secretary of Commerce for Oceans and Atmosphere.”.

SEC. 3. UNITED STATES WEATHER RESEARCH PROGRAM.


(1) in subsection (a)—

(A) in paragraph (3), by striking “; and” and inserting a semicolon;

(B) in paragraph (4), by striking the period at the end and inserting a semicolon; and

(C) by inserting after paragraph (4) the following:

“(5) provide to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science, Space, and Technology of the House of Representatives an annual report, including—

“(A) a list of on-going research projects, including project goals and a point of contact for each project; and
“(B) the 5 projects related to observations, weather, or seasonal-scale forecasts within the Office of Oceanic and Atmospheric Research that are closest to operationalization, including for each project—

“(i) the potential benefit;
“(ii) any barrier to operationalization;

and

“(iii) the plan for operationalization, including which line office will financially support the project and how much the line office intends to spend;

“(6) establish teams with staff from the Office of Oceanic and Atmospheric Research and the National Weather Service to oversee the operationalization of research products developed by the Office of Oceanic and Atmospheric Research within the National Weather Service;

“(7) develop mechanisms for the Office of Oceanic and Atmospheric Research’s research priorities to be informed by both the relevant line offices within the National Oceanic and Atmospheric Administration, the relevant user community, and the weather enterprise, including by exchanging details be-
between the Office of Oceanic and Atmospheric Research and the line offices;

"(8) develop an internal mechanism to track the progress of each research project within the Office of Oceanic and Atmospheric Research and mechanisms to terminate a project that is not adequately progressing;

"(9) for extramural research funded, the Office of Oceanic and Atmospheric Research shall develop and implement a system to track whether the grant’s goals were accomplished;

"(10) provide facilities for products developed by the Office of Oceanic and Atmospheric Research to be tested in operational simulations, such as test beds; and

"(11) encourage academic collaboration with the Office of Oceanic and Atmospheric Research and the National Weather Service by facilitating visiting scholars.”; and

(2) in subsection (b), in the matter preceding paragraph (1), by striking “Not later than 90 days after the date of enactment of this Act, the” and inserting “The”.

(b) AUTHORIZATION OF APPROPRIATIONS.—There is authorized to be appropriated to the National Oceanic and
Atmospheric Administration to carry out section 108 of the Oceanic and Atmospheric Administration Authorization Act of 1992 (15 U.S.C. 313 note), as amended by subsection (a) of this section, $10,000,000 for each of fiscal years 2015 through 2020.

**SEC. 4. NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION SATELLITE DESIGN AND MANAGEMENT.**

(a) **SHORT-TERM MANAGEMENT OF ENVIRONMENTAL OBSERVATIONS.**—

(1) **IN GENERAL.**—The Administrator of the National Oceanic and Atmospheric Administration shall take immediate action to manage the expense of environmental observations—

(A) by improving the procurement practices of the Administration with respect to polar and geostationary satellites; and

(B) by assessing the operational viability of alternate observation platforms, such as micro-satellite constellations and ocean observing systems.

(2) **PROCUREMENT AND ACQUISITION OF POLAR AND GEOSTATIONARY SATELLITES.**—

(A) **USE OF ESTABLISHED COMPETITIVE PROCESSES.**—
(i) IN GENERAL.—Except as provided in clause (ii) and notwithstanding any other provision of law, the Administrator of the National Oceanic and Atmospheric Administration and the Administrator of the National Aeronautics and Space Administration shall use the process established under section 3306 of title 41, United States Code, to acquire all the polar and geostationary weather satellites for use by the National Oceanic and Atmospheric Administration in a program phase via a single procurement action.

(ii) APPLICABILITY.—Clause (i) shall apply to procurement and acquisition occurring in program phases beginning after the date of enactment of this Act.

(iii) DEFINITION OF PROGRAM PHASE.—In this subparagraph, the term "program phase" means the planned acquisition of a series of satellites sharing a common architecture.

(B) ASSESSMENT OF PROCUREMENT AND ACQUISITION OPPORTUNITIES.—
(i) **In General.**—The Administrator of the National Oceanic and Atmospheric Administration shall ensure that in procuring or acquiring polar and geostationary weather satellites that the Administrator only procures or acquires such satellites in a manner that secures the best value for each polar and geostationary program of the Administration.

(ii) **Best Value.**—In determining whether a procurement or acquisition secures the best value for a program, the Administrator shall consider—

(I) integration with current ground systems for receiving, processing, and disseminating data;

(II) integration of spacecraft and sensing instruments;

(III) capacity to respond to changes in requirements and credibility of risk management; and

(IV) continuity and consistency of capability.

(3) **Microsatellite Constellations.**—
(A) IN GENERAL.—The Administrator shall complete and operationalize the radio occultation program of record in effect on the day before the date of the enactment of this Act—

(i) by deploying constellations of microsatellites in both the equatorial and polar orbits;

(ii) by integrating the resulting data and research into all national operational weather forecast models; and

(iii) by ensuring that the resulting data is free and open to all communities.

(B) ANNUAL REPORTS.—Not less frequently than once each year until the Administrator has completed and operationalized the program described in subparagraph (A) pursuant to such subparagraph, the Administrator shall submit to Congress a report on the status of the efforts of the Administrator to carry out such subparagraph.

(4) INTEGRATION OF DATA AND RESEARCH FROM INTEGRATED OCEAN OBSERVING SYSTEM INTO OPERATIONAL FORECAST MODELS.—As soon as practicable, the Administrator shall integrate data and research from the Integrated Ocean Observing
System (IOOS) of the Administration into such operational forecast models as the Administrator considers appropriate.

(5) LIMITATION ON PROCUREMENT OF ADDITIONAL POLAR ORBITING SATELLITES.—

(A) IN GENERAL.—The Administrator may not procure any future program phase of the Joint Polar Satellite System program of record if the aggregate cost for such future program phase that would be incurred by the Administration exceeds the aggregate cost that was incurred by the Administration in procuring the Joint Polar Satellite System 1 and 2.

(B) ADJUSTMENT FOR INFLATION.—In determining aggregate costs under subparagraph (A), the Administrator may adjust the aggregate costs for inflation.

(6) SPECIFICATIONS FOR NEW SATELLITE SYSTEMS DETERMINED BY OPERATIONAL NEEDS.—In developing specifications for any satellite systems of the Administration to follow after the Joint Polar Satellite System, Geostationary Operational Environmental Satellites, and any other satellites of the Administration in effect on the day before the date of enactment of this Act, the Administrator shall en-
sure the specifications are determined to the extent practicable by the recommendations of the reports under subsection (b) of this section and section 6(d).

(b) INDEPENDENT STUDY ON FUTURE OF NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION SAT- ELLITE SYSTEMS.—

(1) AGREEMENT.—

(A) IN GENERAL.—The Administrator shall enter into an agreement with the National Academy of Sciences to perform the services covered by this subsection.

(B) TIMING.—The Administrator shall enter into the agreement described in subparagraph (A) before September 30, 2018.

(2) STUDY.—

(A) IN GENERAL.—Under an agreement between the Administrator and the National Academy of Sciences under this subsection, the National Academy of Sciences shall conduct a study on matters concerning the future of the satellite systems of the Administration.

(B) ELEMENTS.—In conducting the study under subparagraph (A), the National Academy of Sciences shall—
(i) review the report of the Weather Commission described in section 6(d), and the 2017 update to the 2007 report by the National Research Council entitled “Earth Science and Applications From Space”; 

(ii) develop recommendations on how to make the satellite portfolio of the Administration more robust and cost-effective; 

(iii) assess the costs and benefits of moving toward a constellation of many small satellites, standardizing satellite bus design, relying more on the purchasing of data, or acquiring data from other sources or methods; 

(iv) identify the environmental observations that are essential to the performance of weather models, based on an assessment of Federal, academic, and private sector weather research, and the cost of obtaining the environmental data; 

(v) identify environmental observations that improve the quality of weather forecasts, but are not essential for the generation of weather models in effect on the
day before the date of enactment of this
Act; and
(vi) develop recommendations on a
portfolio of environmental observations
that balances essential and quality-improving
data, private and nonprivate sources,
and space- and Earth-based instruments.

(C) DEADLINE AND REPORT.—In carrying
out the study under subparagraph (A), the Na-
tional Academy of Sciences shall complete and
transmit to the Administrator a report con-
taining the findings of the National Academy of
Sciences with respect to the study not later
than 2 years after the date on which the Ad-
ministrator enters into an agreement with the
National Academy of Sciences under paragraph
(1)(A).

(D) COORDINATION OF EFFORTS.—In
order to avoid duplication, the National Acad-
emy of Sciences may coordinate its efforts to
draft the report under subparagraph (C) with
the preparation of the 2017 study entitled
“Earth Science and Applications from Space”.

(3) ALTERNATE CONTRACT ORGANIZATION.—
(A) IN GENERAL.—If the Administrator is unable before the date prescribed in paragraph (1)(B) to enter into an agreement described in paragraph (1)(A) with the National Academy of Sciences on terms acceptable to the Administrator, the Administrator shall seek to enter into such an agreement with another appropriate organization that—

(i) is not part of the Government;

(ii) operates as a not-for-profit entity;

and

(iii) has expertise and objectivity comparable to that of the National Academy of Sciences.

(B) TREATMENT.—If the Administrator enters into an agreement with another organization as described in subparagraph (A), any reference in this section to the National Academy of Sciences shall be treated as a reference to the other organization.

(4) AUTHORIZATION OF APPROPRIATIONS.—There is authorized to be appropriated to the National Oceanic and Atmospheric Administration to carry out this subsection $1,000,000 for the period of fiscal years 2017 through 2019.
SEC. 5. DESIGNATION OF FEDERAL COORDINATOR FOR METEOROLOGY.

The Director of the Office of Science and Technology Policy shall designate a Federal Coordinator for Meteorology.

SEC. 6. ESTABLISHMENT OF WEATHER COMMISSION.

(a) ESTABLISHMENT.—

(1) IN GENERAL.—The Federal Coordinator for Meteorology, designated under section 5, shall establish, and the Administrator of the National Oceanic and Atmospheric Administration acting through the United States Weather Research Program of the Administration shall support, a commission—

(A) to assess the weather forecasts and forecast products provided by the National Oceanic and Atmospheric Administration; and

(B) to provide advice to Congress on matters relating to the highest priority weather forecast needs of the community of users of the forecasts and products described in subparagraph (A).

(2) DESIGNATION.—The commission established under paragraph (1) shall be known as the "Weather Commission" (in this section referred to as the "Commission").

(b) MEMBERSHIP.—
(1) COMPOSITION.—

(A) IN GENERAL.—The Commission shall be composed of individuals selected by the Federal Coordinator from among leading experts and innovators from each relevant stakeholder group described in clauses (i) through (vii) of subparagraph (B).

(B) NUMBER.—The Commission shall be composed of no fewer than 14 members, including—

(i) 2 representatives from State emergency management agencies;

(ii) 2 representatives from State agriculture agencies;

(iii) 1 representative from the Native American, Alaskan Native, or Native Hawaiian community;

(iv) 2 representatives from the private aerospace industry;

(v) 2 representatives from the operational forecasting community;

(vi) 2 representatives from the academic community;

(vii) 1 representative from a professional society that focuses on meteorology;
(viii) the chair of the Science Advisory Board of the National Oceanic and Atmospheric Administration;

(ix) the chair of the National Science Board;

(x) the Director of the Office of Science and Technology Policy, ex officio; and

(xi) the Administrator of the National Oceanic and Atmospheric Administration, ex officio.

(2) Co-chair.—The Director of the Office of Science and Technology Policy and the Administrator of the National Oceanic and Atmospheric Administration shall serve as co-chairs of the Commission.

(c) Duties.—The duties of the Commission are as follows:

(1) To assess the weather forecasts and forecast products of the Administration as described in subsection (a).

(2) To provide advice to Congress as described in subsection (a).

(3) To obtain public comment on the weather forecasts and products of the Administration that
the Administrator determines are the highest priority for users of such forecasts and products.

(d) **REPORT.**—

(1) **IN GENERAL.**—Not later than 2 years after the date of enactment of this Act, the Commission shall submit to Congress and make available to the public on an Internet website a report on matters relating to the activities of the Commission.

(2) **CONTENTS.**—The report submitted under paragraph (1) shall include the following:

(A) The findings of the Commission with respect to the review conducted under paragraph (3) of subsection (c).

(B) The findings of the Commission with respect to the public comments obtained under paragraph (4) of such subsection.

(C) The recommendations developed under paragraph (5) of such subsection.

(e) **EXEMPTION FROM FACA.**—The Commission shall not be subject to the requirements of the Federal Advisory Committee Act (5 U.S.C. App.).

(f) **TERMINATION.**—The Commission shall terminate on the date that is 4 years after the date of enactment of this Act.
(g) Authorization of Appropriations.—There is authorized to be appropriated to the National Oceanic and Atmospheric Administration to carry out this section $1,000,000 for the period of fiscal years 2015 through 2019.