§ 8517. Observing System Simulation Experiments

(a) In general

In support of the requirements of section 8516 of this title, the Assistant Administrator for Oceanic and Atmospheric Research shall undertake Observing System Simulation Experiments, or such other quantitative assessments as the Assistant Administrator considers appropriate, to quantitatively assess the relative value and benefits of observing capabilities and systems. Technical and scientific Observing System Simulation Experiment evaluations—

(1) may include assessments of the impact of observing capabilities on—

(A) global weather prediction;

(B) hurricane track and intensity forecasting;

(C) tornado warning lead times and accuracy;

(D) prediction of mid-latitude severe local storm outbreaks; and

(E) prediction of storms that have the potential to cause extreme precipitation and flooding lasting from 6 hours to 1 week; and

(2) shall be conducted in cooperation with other appropriate entities within the National Oceanic and Atmospheric Administration, other Federal agencies, the United States weather industry, and academic partners to ensure the technical and scientific merit of results from Observing System Simulation Experiments or other appropriate quantitative assessment methodologies.

(b) Requirements

Observing System Simulation Experiments shall quantitatively—

(1) determine the potential impact of proposed space-based, suborbital, and in situ observing systems on analyses and forecasts, including potential impacts on extreme weather events across all parts of the Nation;

(2) evaluate and compare observing system design options; and

(3) assess the relative capabilities and costs of various observing systems and combinations of observing systems in providing data necessary to protect life and property.

(c) Implementation

Observing System Simulation Experiments—

(1) shall be conducted prior to the acquisition of major Government-owned or Government-leased operational observing systems, including polar-orbiting and geostationary satellite systems, with a lifecycle cost of more than $500,000,000; and

(2) shall be conducted prior to the purchase of any major new commercially provided data with a lifecycle cost of more than $500,000,000.

(d) Priority Observing System Simulation Experiments

(1) Global Navigation Satellite System Radio Occultation

Not later than 30 days after April 18, 2017, the Assistant Administrator for Oceanic and Atmospheric Research shall complete an Observing System Simulation Experiment to assess the value of data from Global Navigation Satellite System Radio Occultation.

(2) Geostationary hyperspectral sounder global constellation

Not later than 120 days after April 18, 2017, the Assistant Administrator for Oceanic and Atmospheric Research shall complete an Observing System Simulation Experiment to assess the value of data from a geostationary hyperspectral sounder global constellation.

(e) Results

Upon completion of all Observing System Simulation Experiments, the Assistant Administrator shall make available to the public the results an assessment[1] of related private and public sector weather data sourcing options, including their availability, affordability, and cost-effectiveness. Such assessments shall be developed in accordance with section 50503 of title 51.

(Pub. L. 115–25, title I, §107, Apr. 18, 2017, 131 Stat. 96.)

§ 8518. Computing resource efficiency improvement and annual report

(a) Computing resources

(1) In general

In acquiring computing capabilities, including high performance computing technologies and supercomputing technologies, that enable the National Oceanic and Atmospheric Administration to meet its mission requirements, the Under Secretary shall, when appropriate and cost-effective, assess and prioritize options for entering into multi-year lease agreements for computing capabilities over options for purchasing computing hardware outright.

(2) Acquisition

In carrying out the requirements of paragraph (1), the Under Secretary shall structure multi-year lease agreements in such a manner that the expiration of the lease is set for a date on or around—

(A) the expected degradation point of the computing resources; or

(B) the point at which significantly increased computing capabilities are expected to be available for lease.

(3) Pilot programs

(A) In general

In order to more efficiently and effectively meet the mission requirements of the National Oceanic and Atmospheric Administration, the Under Secretary may create 1 or more pilot programs for assessing new or innovative information and technology capabilities and services.

(B) Program requirements

Any program created under paragraph (3) shall assess only those capabilities and services that—

(i) meet or exceed the standards and requirements of the National Oceanic and Atmospheric Administration, including for processing speed, cybersecurity, and overall reliability; or

[1] So in original.