

under section 1105 of title 31 for the National Oceanic and Atmospheric Administration, the Under Secretary shall submit to Congress a description of current and planned activities under this section.

(Pub. L. 115–25, title I, §102, Apr. 18, 2017, 131 Stat. 92.)

**§ 8513. Tornado warning improvement and extension program**

**(a) In general**

The Under Secretary, in collaboration with the United States weather industry and academic partners, shall establish a tornado warning improvement and extension program.

**(b) Goal**

The goal of such program shall be to reduce the loss of life and economic losses from tornadoes through the development and extension of accurate, effective, and timely tornado forecasts, predictions, and warnings, including the prediction of tornadoes beyond 1 hour in advance.

**(c) Program plan**

Not later than 180 days after April 18, 2017, the Assistant Administrator for Oceanic and Atmospheric Research, in coordination with the Director of the National Weather Service, shall develop a program plan that details the specific research, development, and technology transfer activities, as well as corresponding resources and timelines, necessary to achieve the program goal.

**(d) Annual budget for plan submittal**

Following completion of the plan, the Under Secretary, acting through the Assistant Administrator for Oceanic and Atmospheric Research and in coordination with the Director of the National Weather Service, shall, not less frequently than once each year, submit to Congress a proposed budget corresponding with the activities identified in the plan.

(Pub. L. 115–25, title I, §103, Apr. 18, 2017, 131 Stat. 94.)

**§ 8514. Hurricane forecast improvement program**

**(a) In general**

The Under Secretary, in collaboration with the United States weather industry and such academic entities as the Administrator considers appropriate, shall maintain a project to improve hurricane forecasting.

**(b) Goal**

The goal of the project maintained under subsection (a) shall be to develop and extend accurate hurricane forecasts and warnings in order to reduce loss of life, injury, and damage to the economy, with a focus on—

- (1) improving the prediction of rapid intensification and track of hurricanes;
- (2) improving the forecast and communication of storm surges from hurricanes; and
- (3) incorporating risk communication research to create more effective watch and warning products.

**(c) Project plan**

Not later than 1 year after April 18, 2017, the Under Secretary, acting through the Assistant

Administrator for Oceanic and Atmospheric Research and in consultation with the Director of the National Weather Service, shall develop a plan for the project maintained under subsection (a) that details the specific research, development, and technology transfer activities, as well as corresponding resources and timelines, necessary to achieve the goal set forth in subsection (b).

(Pub. L. 115–25, title I, §104, Apr. 18, 2017, 131 Stat. 94.)

**§ 8515. Weather research and development planning**

Not later than 1 year after April 18, 2017, and not less frequently than once each year thereafter, the Under Secretary, acting through the Assistant Administrator for Oceanic and Atmospheric Research and in coordination with the Director of the National Weather Service and the Assistant Administrator for Satellite and Information Services, shall issue a research and development and research to operations plan to restore and maintain United States leadership in numerical weather prediction and forecasting that—

(1) describes the forecasting skill and technology goals, objectives, and progress of the National Oceanic and Atmospheric Administration in carrying out the program conducted under section 8512 of this title;

(2) identifies and prioritizes specific research and development activities, and performance metrics, weighted to meet the operational weather mission of the National Weather Service to achieve a weather-ready Nation;

(3) describes how the program will collaborate with stakeholders, including the United States weather industry and academic partners; and

(4) identifies, through consultation with the National Science Foundation, the United States weather industry, and academic partners, research necessary to enhance the integration of social science knowledge into weather forecast and warning processes, including to improve the communication of threat information necessary to enable improved severe weather planning and decision-making on the part of individuals and communities.

(Pub. L. 115–25, title I, §105, Apr. 18, 2017, 131 Stat. 95.)

**§ 8516. Observing system planning**

The Under Secretary shall—

(1) develop and maintain a prioritized list of observation data requirements necessary to ensure weather forecasting capabilities to protect life and property to the maximum extent practicable;

(2) consistent with section 8517 of this title, utilize Observing System Simulation Experiments, Observing System Experiments, Analyses of Alternatives, and other appropriate assessment tools to ensure continuous systemic evaluations of the observing systems, data, and information needed to meet the requirements of paragraph (1), including options to