

**Amendment in the Nature of a Substitute to H.R. 2413,
The Weather Forecasting Improvement Act of 2013
Section-by-Section Analysis**

Section 1. Short Title. This section established the short title as the “Weather Forecasting Improvement Act of 2013”.

Section 2 Public Safety Priority. This section directs the Under Secretary of the National Oceanic and Atmospheric Administration (NOAA Administrator) to prioritize weather-related activities, including weather data, forecasts, and warnings for the protection of lives and property.

Section 3. Weather Research and Forecasting Innovation. This section directs the Assistant Administrator of the Office of Oceanic and Atmospheric Research (OAR) to undertake a weather research program and directs the Assistant Administrator to place priority on developing more accurate, timely, and effective warnings and forecasts of high impact weather events that endanger life and property. Section 3 further defines the specific program elements to include advanced radar, aerial systems, computing/modeling, and Observing System Stimulation Experiments (OSSE) and codifies a longstanding joint OAR-National Weather Service (NWS) tech transfer program, moving its funding from NWS. Finally, Section 3 directs NOAA to support weather research through competitive grants, contracts, and cooperative agreements.

Section 4. Tornado Warning Improvement and Extension Program. This section establishes a Tornado Warning Improvement and Extension Program focused on developing and extending accurate tornado forecasts and warnings beyond one hour in order to reduce loss of life, injury, and damage to the economy.

Section 5. Hurricane Warning Improvement Program. This section establishes a Hurricane Warning Improvement Program focused on extending accurate hurricane forecasts and warnings in order to reduce loss of life, injury, and damage to the economy.

Section 6. Weather Research and Development Planning. Section 6 requires NOAA to develop a prioritized weather research plan to guide activities authorized under the Act and restore U.S. leadership in weather modeling, prediction, and forecasting. The section requires the plan to also identify, through consultation with the National Science Foundation, the research necessary to integrate social science knowledge into weather forecast and warning processes.

Section 7. Observing System Planning. Section 7 directs NOAA to maintain a list of observation data requirements and systematically evaluate the combination of systems necessary to meet such requirements. This section further directs NOAA to identify current and potential future data gaps in observing capabilities and develop a range of options to address any identified gaps.

Section 8. Observing System Simulation Experiments. This section directs NOAA to undertake Observing System Simulation Experiments (OSSEs) to quantitatively assess the relative value and benefits of observing capabilities and systems. This section identifies specific instances

when an OSSE must be performed. Section 8 specifies that OSSEs shall be conducted prior to acquisition of government owned or leased operational observing systems.

Section 9. Computing Resources Prioritization Report. Section 9 directs NOAA to issue a plan that explains how it intends to: (1) aggressively pursue the newest, fastest, and most cost effective high performance computing technologies in support of its weather prediction mission; (2) ensure a balance between the research requirements; (3) take advantage of advanced development concepts; (4) identify opportunities to reallocate existing advanced computing resources from lower priority uses to improve operational weather prediction; and (5) harness new computing power in OAR and NWS and determine how it can best be utilized for immediate improvement in forecasting and experimentation.

Section 10. Commercial Weather Data. This section clarifies that restrictions in existing law prohibiting the sale of weather satellite systems to the private sector do not extend to the purchase of weather data through contracts with commercial providers or the placement of instruments on private payloads. This section requires the Secretary of Commerce to transmit a strategy that assesses the range of commercial opportunities for obtaining both surface-based and space-based weather observations. The strategy shall include an analysis of financial or other benefits, methods to address planning and budgeting, and identification of the changes needed to facilitate effective implementation of such strategy.

Section 11. Weather Research and Innovation Advisory Committee. Section 11 requires the Undersecretary to establish a Federal Advisory Committee to provide advice for prioritizing weather research initiatives at NOAA and identify emerging technologies. The Committee shall be composed of leading experts and innovators from all relevant fields of science and engineering. The Committee will transmit an annual report to the Undersecretary. The Undersecretary will relay such reports to the Committee.

Section 12. Interagency Weather Research and Innovation Coordination. This section requires the Director of the Office of Science and Technology Policy to establish an Interagency Committee for Advancing Weather Services. The Committee will improve coordination of relevant weather research and forecast innovation activities across the federal government.

Section 13. Visiting OAR Researchers Program. Section 13 gives the Assistant Administrator for OAR the authority to establish a program to detail OAR researchers to NWS. The program shall allow between five and fifteen OAR staff to spend up to one year on detail to the NWS to allow for productive interaction to improve forecasting capabilities. The Undersecretary shall submit an annual report to the Science Committee detailing the program participation and highlighting any innovations that come from this interaction.

Section 14. Visiting Fellows at NWS. This section allows the Assistant Administrator for NWS to establish a program to host post-doctoral fellows and academic researchers at any of the National Centers for Environmental Prediction.

Section 15. Definitions. This section provides definitions for terms in the bill.

Section 16. Authorization of Appropriations. Section 16 authorizes, out of funds made available for OAR's operations, research, and facilities appropriations account, \$83 million for Fiscal Year 2014 to carry out the weather research program established under section 3. It further specifies that out of the \$83 million provided in this section, \$65 million is authorized for weather laboratories and cooperative institutions and \$18 million is authorized for weather and air chemistry research programs. It also authorizes for FY 2014, \$14 million to carry out the joint technology transfer initiative described in section 3. If the Budget Control Act is repealed or replaced, these authorizations increase for FY 2014.

For FY2015-2017 the section authorizes \$100 million to carry out the weather research program established under section 3. It further specifies that out of the \$100 million provided in this section, \$80 million is authorized for weather laboratories and cooperative institutions and \$20 million is authorized for weather and air chemistry research programs. Finally, this section also authorizes \$20 million annually to carry out the joint technology transfer initiative described in section 3.