

**S. 3817, TORNADO Act**

As ordered reported by the Senate Committee on Commerce, Science, and Transportation on March 22, 2022

By Fiscal Year, Millions of Dollars	2022	2022-2027	2022-2032
Direct Spending (Outlays)	0	0	0
Revenues	0	0	0
Increase or Decrease (-) in the Deficit	0	0	0
Spending Subject to Appropriation (Outlays)	0	45	not estimated
Statutory pay-as-you-go procedures apply?	No	<b>Mandate Effects</b>	
Increases on-budget deficits in any of the four consecutive 10-year periods beginning in 2033?	No	Contains intergovernmental mandate?	No
		Contains private-sector mandate?	No

S. 3817 would direct the National Oceanic and Atmospheric Administration (NOAA) to improve the forecasting and communication of hazardous weather events, including tornadoes. The bill also would require the Government Accountability Office (GAO) to report on the information technology infrastructure of the National Weather Service (NWS).

**VORTEX-USA**

The bill would authorize the appropriation of \$7.5 million annually over the 2023-2030 period for NOAA to continue to implement the VORTEX-USA program to develop accurate and timely tornado forecasts, predictions, and warnings. Using information on historical spending patterns for the program, CBO estimates that continuing the program would cost \$33 million over the 2022-2027 period and \$27 million after 2027, assuming appropriation of the authorized amounts. In 2022, NOAA allocated \$7.5 million to the program.

**Other Activities**

NOAA already completes many of the activities that would be required under S. 3817 through NWS's Hazard Simplification Program and the Weather Program Office's Social Science Program. However, the bill also would require NOAA to create a pilot program for communicating tornado hazards and develop methods to prevent tampering with online communication concerning hazardous weather events.



Using information from NOAA, CBO estimates that implementing those provisions would require four additional full-time employees and one cooperative agreement with a research university at a cost of about \$12 million over the 2022-2027 period, assuming appropriation of the estimated amounts.

The bill also would require GAO to report on NWS’s information technology infrastructure and its ability to notify the public of hazardous weather in a timely manner. Using information on the costs of similar GAO reports, CBO estimates that completing the report would cost less than \$500,000 over the 2022-2027 period. Any spending would be subject to the availability of appropriated funds.

The costs of the legislation, detailed in Table 1, fall within budget function 300 (natural resources and environment).

**Table 1.**  
**Estimated Increases in Spending Subject to Appropriation Under S. 3817**

	By Fiscal Year, Millions of Dollars						2022-2027
	2022	2023	2024	2025	2026	2027	
VORTEX-USA							
Authorization	0	8	8	8	8	8	38
Estimated Outlays	0	5	6	7	8	8	33
Other Activities							
Estimated Authorization	0	2	2	2	3	3	12
Estimated Outlays	0	2	2	2	3	3	12
Total Changes							
Estimated Authorization	0	10	10	10	11	11	50
Estimated Outlays	0	7	8	9	11	11	45

Components may not sum to totals because of rounding.

The CBO staff contact for this estimate is Robert Reese. The estimate was reviewed by H. Samuel Papenfuss, Deputy Director of Budget Analysis.