To improve soil moisture and precipitation monitoring, and for other purposes.

IN THE SENATE OF THE UNITED STATES

Mr. Thune introduced the following bill; which was read twice and referred to the Committee on ____________

A BILL

To improve soil moisture and precipitation monitoring, 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 “Improved Soil Moisture and Precipitation Monitoring Act of 2018”.

SEC. 2. IMPROVED SOIL MOISTURE MONITORING.

(a) IN GENERAL.—Not later than 1 year after the date of the enactment of this Act, the Secretary of Agriculture shall develop and implement a strategy to improve the accuracy of the United States Drought Monitor through increased geographic resolution of rural in-situ
soil moisture profile observation or other soil moisture profile measuring devices, as the Secretary considers appropriate.

(b) IMPLEMENTATION.—

(1) IN GENERAL.—In implementing the strategy required by subsection (a), the Secretary shall prioritize adding soil moisture profile stations in States described in paragraph (2) so that the number of drought monitoring stations is increased to an average of 1 such station per 1,250 square miles in each such State or by 50 stations in each such State, whichever is less.

(2) STATES DESCRIBED.—A State described in this paragraph is a State that has experienced D3 (extreme drought) or D4 (exceptional drought) (as defined by the United States Drought Monitor) within any 6 months during the period beginning on January 1, 2016, and ending on the date of the enactment of this Act.

(c) COORDINATION.—In carrying out this section, the Secretary may coordinate with other Federal agencies, State and local governments, and non-Federal entities that collaborate with the United States Drought Monitor.

(d) COST-EFFECTIVENESS.—In carrying out this section, the Secretary shall consider cost-effective solutions
to maximize the efficiency and accuracy of the United States Drought Monitor.

(c) Authorization of Appropriations.—There are authorized to be appropriated to the Secretary $5,000,000 for each of fiscal years 2019 through 2024 to carry out this section.

SEC. 3. STANDARDS FOR INTEGRATING CITIZEN SCIENCE INTO DROUGHT MODELS.

(a) In General.—Not later than 1 year after the date of the enactment of this Act, the Secretary of Agriculture shall—

(1) develop a set of standards for integration of data derived from citizen science (as defined in the Crowdsourcing and Citizen Science Act (15 U.S.C. 3724)) into the United States Drought Monitor models, including data relating to—

(A) location and spacing of monitoring stations;

(B) data quality standards;

(C) incorporation of data from commercially available weather stations;

(D) standardized procedures for autonomous integration of data;

(E) streamlining of data entry methods;

and
(F) reasonable metadata fields; and

(2) develop a set of consistent standards for soil moisture data collection based on equipment that is readily available, including standards relating to—

(A) acceptable error ranges;

(B) sensor installation procedures;

(C) manufacturers of soil moisture probes;

(D) calibration methodology;

(E) metadata fields; and

(F) soil descriptions.

(b) Inclusion of Data From Cooperative Observer Program.—For purposes of subsection (a)(1), data derived from citizen science includes data from the Cooperative Observer Program of the National Weather Service.

SEC. 4. REQUIREMENT FOR ELEMENTS OF DEPARTMENT OF AGRICULTURE TO USE THE SAME MONITORING DATA.

(a) In General.—To be consistent with assistance provided under the Livestock Forage Program administered by the Farm Service Agency of the Department of Agriculture and the Pasture, Rangeland, Forage Program administered by the Risk Management Agency of the Department, and the annual establishment of grazing rates, as applicable, on Forest Service grasslands and other ap-
plicable land, the Secretary of Agriculture shall direct
those agencies to use the United States Drought Monitor,
in-situ soil moisture profile monitoring stations described
in section 2, data from the Cooperative Observer Program
described in section 3(b), and any other applicable data
to determine and establish grazing loss assistance and
grazing rates, as applicable.

(b) COORDINATION.—In carrying out this section, the
Secretary may coordinate with—

(1) other Federal agencies, State and local gov-
ernments, and non-Federal entities that collaborate
with the United States Drought Monitor; and

(2) other Federal and non-Federal entities in-
volved in collecting data on precipitation and soil
monitoring.

(e) COST-EFFECTIVENESS.—In carrying out this sec-
tion, the Secretary shall consider cost-effective solutions
to maximize the efficiency and accuracy of the data uti-
lized to determine eligibility for assistance under the pro-
grams specified in subsection (a).