

Calendar No. 283

111TH CONGRESS
2^D SESSION**S. 782****[Report No. 111–133]**

To provide for the establishment of the National Volcano Early Warning
and Monitoring System.

IN THE SENATE OF THE UNITED STATES

APRIL 2, 2009

Ms. MURKOWSKI (for herself and Mr. BEGICH) introduced the following bill;
which was read twice and referred to the Committee on Energy and Nat-
ural Resources

MARCH 2, 2010

Reported by Mr. BINGAMAN, with an amendment

[Strike out all after the enacting clause and insert the part printed in *italic*]**A BILL**

To provide for the establishment of the National Volcano
Early Warning and Monitoring System.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1. SHORT TITLE.**

4 This Act may be cited as the “National Volcano Early
5 Warning and Monitoring System Act”.

1 **SEC. 2. FINDINGS.**

2 Congress finds that—

3 (1) the United States and the territories of the
4 United States contain 169 hazardous volcanoes;

5 (2) since 1980, eruptions have claimed many
6 lives and cost billions of dollars in property damage
7 in the United States;

8 (3) ash eruptions pose a hazard to high-flying
9 jet aircraft, including the more than 20,000 pas-
10 sengers who travel on jets over Alaska every day;

11 (4) in 1989, an eruption of Redoubt Volcano,
12 Alaska, caused in-flight failure of all 4 engines of a
13 passenger Boeing 747 aircraft;

14 (5) international flights over the Commonwealth
15 of the Northern Mariana Islands and the intense do-
16 mestic air traffic of the Pacific Northwest also face
17 potential engine failure in the event of an eruption;

18 (6) mudflows from ice-clad Cascade volcanoes
19 of the States of Washington, Oregon, and California
20 pose a serious hazard to cities and transportation
21 arteries in the Pacific Northwest;

22 (7) lava flows, toxic gas emissions, and explo-
23 sions impact residents and visitors to Hawaii and
24 have the potential to cause catastrophic property
25 damage;

1 (8) frequent seismic unrest requires careful
2 monitoring in the Mammoth Lakes area of Cali-
3 fornia and Yellowstone National Park in the States
4 of Wyoming, Montana, and Idaho;

5 (9) modern technology, in the form of geo-
6 physical monitoring networks on the ground and the
7 use of near-real time satellite data, makes possible
8 warnings before eruptions, giving emergency re-
9 sponse agencies and the public time to prepare,
10 which minimizes potential damage to property and
11 loss of life;

12 (10) the efficacy of monitoring is being dem-
13 onstrated by the forecast and subsequent tracking of
14 explosive eruptions of Redoubt Volcano by the Alas-
15 ka Volcano Observatory, a partnership of the United
16 States Geological Survey, the University of Alaska
17 Fairbanks, and the Alaska Division of Geological
18 and Geophysical Surveys;

19 (11) the United States Geological Survey and
20 the university and State partners of the United
21 States Geological Survey operate—

22 (A) the Alaska Volcano Observatory lo-
23 cated in Anchorage and Fairbanks, Alaska;

24 (B) the Cascades Volcano Observatory lo-
25 cated in Vancouver, Washington;

(C) the Hawaiian Volcano Observatory located in Hawaiian Volcanoes National Park, Hawaii;

(D) the Yellowstone Volcano Observatory located in Yellowstone National Park in the State of Wyoming, Montana, and Idaho; and

(E) the Long Valley Observatory, located in Mammoth Lakes and Menlo Park, California; and

(12) a detailed survey of the volcanoes in the United States and the monitoring status of those volcanoes has revealed a serious monitoring gap, leaving the United States exposed to preventable damage from large volcanic eruptions.

SEC. 3. DEFINITIONS.

In this Act:

(1) SECRETARY.—The term “Secretary” means the Secretary of the Interior, acting through the Director of the United States Geological Survey.

(2) SYSTEM.—The term “System” means the National Volcano Early Warning and Monitoring System established under section 4(a)(1).

SEC. 4. NATIONAL VOLCANO EARLY WARNING AND MONITORING SYSTEM.

(a) ESTABLISHMENT.—

1 (1) IN GENERAL.—The Secretary shall establish
 2 within the United States Geological Survey a pro-
 3 gram, to be known as the “National Volcano Early
 4 Warning and Monitoring System”, to monitor, warn,
 5 and protect citizens of the United States from undue
 6 and avoidable harm from volcanic activity.

7 (2) PURPOSES.—The purposes of the System
 8 are—

9 (A) to organize, modernize, standardize,
 10 and stabilize the monitoring systems of the vol-
 11 cano observatories in the United States; and

12 (B) to unify the monitoring systems of vol-
 13 cano observatories in the United States into a
 14 single interoperative system.

15 (3) OBJECTIVE.—The objective of the System is
 16 to monitor all the volcanoes in the United States at
 17 a level commensurate with the threat posed by the
 18 volcanoes by—

19 (A) upgrading existing networks on mon-
 20 itored volcanoes; and

21 (B) installing new networks on unmoni-
 22 tored volcanoes.

23 (b) SYSTEM COMPONENTS.—

24 (1) IN GENERAL.—The System shall include—

1 (A) a national volcano watch office that is
2 operational 24 hours a day and 7 days a week;

3 (B) a national volcano data center; and

4 (C) an external grants program to support
5 research in volcano monitoring science and
6 technology.

7 (2) MODERNIZATION ACTIVITIES.—Moderniza-
8 tion activities under the System shall include the
9 comprehensive application of emerging technologies,
10 including digital broadband seismometers, real-time
11 continuous global positioning systems, radar satellite
12 interferometry, and spectrometry to measure gas
13 emission.

14 (c) MANAGEMENT.—

15 (1) MANAGEMENT PLAN.—

16 (A) IN GENERAL.—Not later than 90 days
17 after the date of enactment of this Act, the Sec-
18 retary shall submit to Congress a 5-year man-
19 agement plan for establishing and operating the
20 System.

21 (B) INCLUSIONS.—The management plan
22 submitted under subparagraph (A) shall in-
23 clude—

(i) annual cost estimates for modernization activities and operation of the System;

(ii) annual milestones, standards, and performance goals; and

(iii) recommendations for, and progress towards, establishing new, or enhancing existing, partnerships to leverage resources.

(2) ~~ADVISORY COMMITTEE.~~—The Secretary shall establish an advisory committee to assist the Secretary in implementing the System, to be comprised of representatives of relevant agencies and members of the scientific community appointed by the Secretary.

(3) ~~PARTNERSHIPS.~~—The Secretary may enter into cooperative agreements with universities and State agencies designating the universities and agencies as volcano observatory partners for the System.

(4) ~~COORDINATION.~~—The Secretary shall coordinate the activities under this Act with the heads of relevant Federal agencies, including—

(A) the Secretary of Transportation;

(B) the Administrator of the Federal Aviation Administration;

1 (C) the Administrator of the National Oee-
 2 anie and Atmospheric Administration; and

3 (D) the Director of the Federal Emergency
 4 Management Administration.

5 (d) ANNUAL REPORT.—Annually, the Secretary shall
 6 submit to Congress a report that describes the activities
 7 carried out under this Act.

8 **SEC. 5. AUTHORIZATION OF APPROPRIATIONS.**

9 There is authorized to be appropriated to the See-
 10 retary to carry out this Act \$15,000,000 for fiscal year
 11 2009 and each fiscal year thereafter.

12 **SECTION 1. SHORT TITLE.**

13 *This Act may be cited as the “National Volcano Early*
 14 *Warning and Monitoring Program Act”.*

15 **SEC. 2. DEFINITIONS.**

16 *In this Act:*

17 (1) PROGRAM.—*The term “program” means the*
 18 *National Volcano Early Warning and Monitoring*
 19 *Program established under section 3(a).*

20 (2) SECRETARY.—*The term “Secretary” means*
 21 *the Secretary of the Interior.*

22 **SEC. 3. NATIONAL VOLCANO EARLY WARNING AND MONI-**
 23 **TORING PROGRAM.**

24 (a) ESTABLISHMENT.—*The Secretary shall establish*
 25 *within the United States Geological Survey a program to*

1 *be known as the “National Volcano Early Warning and*
 2 *Monitoring Program”.*

3 (b) *COMPONENTS.*—*The program shall consist of a na-*
 4 *tional volcano watch office and data center, which shall*
 5 *oversee and coordinate the activities of United States Geo-*
 6 *logical Survey regional volcano watch and data centers.*

7 (c) *PURPOSES.*—*The purposes of the program are—*

8 (1) *to monitor and study volcanoes and volcanic*
 9 *activity throughout the United States at a level com-*
 10 *mensurate with the threat posed by each volcano; and*

11 (2) *to warn and protect people and property*
 12 *from undue and avoidable harm from volcanic activ-*
 13 *ity.*

14 **SEC. 4. MANAGEMENT.**

15 (a) *MANAGEMENT PLAN.*—

16 (1) *IN GENERAL.*—*Not later than 1 year after*
 17 *the date of enactment of this Act, the Secretary shall*
 18 *prepare a management plan for establishing and op-*
 19 *erating the program.*

20 (2) *INCLUSIONS.*—*The management plan shall*
 21 *include—*

22 (A) *annual cost estimates of—*

23 (i) *operating the program; and*

24 (ii) *updating the data collection, moni-*
 25 *toring, and analysis systems;*

1 (B) *annual standards and performance*
 2 *goals; and*

3 (C) *recommendations for establishing new,*
 4 *or enhancing existing, partnerships with State*
 5 *agencies or universities.*

6 (b) *PARTNERSHIPS.*—*The Secretary may enter into co-*
 7 *operative agreements or partnerships with State agencies*
 8 *and universities, under which the Secretary may designate*
 9 *the agency or university as volcano observatory partners*
 10 *for the program.*

11 (c) *COORDINATION WITH OTHER FEDERAL AGEN-*
 12 *CIES.*—*The Secretary shall coordinate activities authorized*
 13 *under this Act with the heads of relevant Federal agencies*
 14 *including—*

15 (1) *the Secretary of Transportation;*

16 (2) *the Secretary of Commerce;*

17 (3) *the Administrator of the Federal Aviation*
 18 *Administration; and*

19 (4) *the Director of the Federal Emergency Man-*
 20 *agement Administration.*

21 (d) *GRANT PROGRAM.*—

22 (1) *IN GENERAL.*—*The Secretary may establish a*
 23 *competitive grant program to support research and*
 24 *monitoring of volcanic activities in furtherance of this*
 25 *Act.*

1 (2) *COST-SHARING REQUIREMENT.*—*The non-*
2 *Federal share of the total cost of an activity provided*
3 *assistance under this subsection shall be 25 percent.*

4 (e) *ANNUAL REPORT.*—*The Secretary shall annually*
5 *submit to Congress a report that describes the activities un-*
6 *dertaken during the previous year to carry out this Act.*

7 **SEC. 5. AUTHORIZATION OF APPROPRIATIONS.**

8 *There are authorized to be appropriated to carry out*
9 *this Act \$15,000,000 for each of fiscal years 2009 through*
10 *2019.*

Calendar No. 283

11TH CONGRESS
2^D Session

S. 782

[Report No. 111-133]

A BILL

To provide for the establishment of the National
Volcano Early Warning and Monitoring System.

MARCH 2, 2010

Reported with an amendment