

111TH CONGRESS
1ST SESSION

S. 782

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

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”.

6 **SEC. 2. FINDINGS.**

7 Congress finds that—

8 (1) the United States and the territories of the
9 United States contain 169 hazardous volcanoes;

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

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

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

10 (5) international flights over the Commonwealth
11 of the Northern Mariana Islands and the intense do-
12 mestic air traffic of the Pacific Northwest also face
13 potential engine failure in the event of an eruption;

14 (6) mudflows from ice-clad Cascade volcanoes
15 of the States of Washington, Oregon, and California
16 pose a serious hazard to cities and transportation
17 arteries in the Pacific Northwest;

18 (7) lava flows, toxic gas emissions, and explo-
19 sions impact residents and visitors to Hawaii and
20 have the potential to cause catastrophic property
21 damage;

22 (8) frequent seismic unrest requires careful
23 monitoring in the Mammoth Lakes area of Cali-
24 fornia and Yellowstone National Park in the States
25 of Wyoming, Montana, and Idaho;

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

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

15 (11) the United States Geological Survey and
16 the university and State partners of the United
17 States Geological Survey operate—

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

20 (B) the Cascades Volcano Observatory lo-
21 cated in Vancouver, Washington;

22 (C) the Hawaiian Volcano Observatory lo-
23 cated in Hawaiian Volcanoes National Park,
24 Hawaii;

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

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

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

12 **SEC. 3. DEFINITIONS.**

13 In this Act:

14 (1) SECRETARY.—The term “Secretary” means
 15 the Secretary of the Interior, acting through the Di-
 16 rector of the United States Geological Survey.

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

20 **SEC. 4. NATIONAL VOLCANO EARLY WARNING AND MONI-** 21 **TORING SYSTEM.**

22 (a) ESTABLISHMENT.—

23 (1) IN GENERAL.—The Secretary shall establish
 24 within the United States Geological Survey a pro-
 25 gram, to be known as the “National Volcano Early

Warning and Monitoring System”, to monitor, warn, and protect citizens of the United States from undue and avoidable harm from volcanic activity.

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

(A) to organize, modernize, standardize, and stabilize the monitoring systems of the volcano observatories in the United States; and

(B) to unify the monitoring systems of volcano observatories in the United States into a single interoperative system.

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

(A) upgrading existing networks on monitored volcanoes; and

(B) installing new networks on unmonitored volcanoes.

(b) SYSTEM COMPONENTS.—

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

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

(B) a national volcano data center; and

1 (C) an external grants program to support
2 research in volcano monitoring science and
3 technology.

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

11 (c) MANAGEMENT.—

12 (1) MANAGEMENT PLAN.—

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

18 (B) INCLUSIONS.—The management plan
19 submitted under subparagraph (A) shall in-
20 clude—

21 (i) annual cost estimates for mod-
22 ernization activities and operation of the
23 System;

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

1 (iii) recommendations for, and prog-
2 ress towards, establishing new, or enhanc-
3 ing existing, partnerships to leverage re-
4 sources.

5 (2) ADVISORY COMMITTEE.—The Secretary
6 shall establish an advisory committee to assist the
7 Secretary in implementing the System, to be com-
8 prised of representatives of relevant agencies and
9 members of the scientific community appointed by
10 the Secretary.

11 (3) PARTNERSHIPS.—The Secretary may enter
12 into cooperative agreements with universities and
13 State agencies designating the universities and agen-
14 cies as volcano observatory partners for the System.

15 (4) COORDINATION.—The Secretary shall co-
16 ordinate the activities under this Act with the heads
17 of relevant Federal agencies, including—

18 (A) the Secretary of Transportation;

19 (B) the Administrator of the Federal Avia-
20 tion Administration;

21 (C) the Administrator of the National Oce-
22 anic and Atmospheric Administration; and

23 (D) the Director of the Federal Emergency
24 Management Administration.

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

4 **SEC. 5. AUTHORIZATION OF APPROPRIATIONS.**

5 There is authorized to be appropriated to the Sec-
6 retary to carry out this Act \$15,000,000 for fiscal year
7 2009 and each fiscal year thereafter.

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