

# Subcommittee on Energy and Mineral Resources

Paul Gosar, Chairman  
Hearing Memorandum

November 27, 2017

To: All Subcommittee on Energy and Mineral Resources Members

From: Majority Committee Staff — Joshua Hoffman  
Subcommittee on Energy and Mineral Resources (x5-9297)

Hearing: **Legislative hearing on a Discussion Draft of H.R. \_\_\_\_\_ (Rep. Don Young of AK), To provide for the establishment of the National Volcano Early Warning and Monitoring System.**  
**November 30, 2017, 2:30 PM, 1334 Longworth House Office Building**

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**Discussion Draft of H.R. \_\_\_\_\_ (Rep. Don Young of AK), “National Volcano Early Warning and Monitoring System Act”**

## **Summary of the Bill**

This bill directs the United States Geological Survey (USGS) to establish the National Volcano Early Warning and Monitoring System to monitor, issue warnings of, and protect U.S. citizens from undue and avoidable harm from volcanic activity.

## **Invited Witnesses**

*Dr. David Applegate*  
Deputy Director (Acting)  
Office of the Director / Natural Hazards  
United States Geological Survey  
Reston, VA

*Ms. Allyson K. Anderson Book*  
Executive Director  
American Geosciences Institute  
Alexandria, VA

*Mr. Scott Nichols*  
Permitting and Lands Manager  
U.S. Geothermal Inc.  
Boise, ID

*Mr. Steve Masterman*  
Alaska State Geologist  
(On Behalf of the Association of American State Geologists)  
Fairbanks, AK

## **Background**

The USGS's Volcano Hazards Program (VHP) mission is to "enhance public safety and minimize social and economic disruption from eruptions through delivery of effective forecasts, warnings, and information of volcano hazards based on scientific understanding of volcanic processes."<sup>1</sup> The VHP monitors volcanos to assess their hazards to provide warning of potential activity to managers and the public. Volcano monitoring networks collect data which are interpreted by scientists at the five volcano observatories in Alaska, California, Hawaii, Washington, and Wyoming.<sup>2</sup>

The United States is the third most active country for volcanic eruptions, ranking only behind Indonesia and Japan in its number of historically active volcanoes.<sup>3</sup> It is home to 169 active volcanoes, of which 55 are considered still to be threatening to life and property.<sup>4</sup> Since 1980, 44 volcanoes in the United States have produced 120 eruptions and produced 51 episodes of notable volcanic unrest.<sup>5</sup>

In Washington State, Mount St. Helens explosively erupted on May 18, 1980, causing 57 fatalities and destroying 27 bridges and 185 miles of highways at an estimated cost of \$1.1 billion.<sup>6</sup> Although Mount St. Helens is well known, Mount Rainier near Seattle could cause far greater loss of life if it should erupt again suddenly. The same is true of the Yellowstone National Park caldera, should it erupt, as it has roughly every 600,000 years.<sup>7</sup>

The Federal Aviation Administration reports that over 80,000 large aircraft a year, carrying more than 30,000 passengers a day, fly near many of Alaska's volcanoes, mostly on the heavily traveled great-circle routes between Europe, North America, and Asia.<sup>8</sup> In 1989, the Alaska Volcano Observatory could provide only a few days' notice before Mount Redoubt erupted. In 2009, after the center's capabilities had been expanded and hours of operation increased, it provided two months of notice before the volcano erupted again.<sup>9</sup>

The National Volcano Early Warning and Monitoring System Act would provide the necessary resources and direction to modernize the networks that are relied upon to monitor the many volcanoes in the United States.

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<sup>1</sup> U.S. Geological Survey's Volcano Hazards Program Website, <https://volcanoes.usgs.gov/vhp/about.html>

<sup>2</sup> U.S. Geological Survey's Volcano Observatories, <https://volcanoes.usgs.gov/vhp/observatories.html>

<sup>3</sup> U.S. Geological Survey, "Volcanos of the United States", <https://pubs.usgs.gov/gip/volc/us/text.html>

<sup>4</sup> Id.

<sup>5</sup> Smithsonian Institution National Museum of Natural History Global Volcanism Program, [http://volcano.si.edu/search\\_volcano.cfm](http://volcano.si.edu/search_volcano.cfm)

<sup>6</sup> U.S. Geological Survey, "Eruptions of Mount St. Helens : Past, present, and future", <https://pubs.er.usgs.gov/publication/7000008>

<sup>7</sup> U.S. Geological Survey, Yellowstone Volcano Observatory, [https://volcanoes.usgs.gov/volcanoes/yellowstone/yellowstone\\_sub\\_page\\_54.html](https://volcanoes.usgs.gov/volcanoes/yellowstone/yellowstone_sub_page_54.html)

<sup>8</sup> Alaska Volcano Observatory, <https://avo.alaska.edu/faq.php>

<sup>9</sup> U.S. Geological Survey, Volcano FAQ, [https://volcanoes.usgs.gov/vsc/file\\_mgr/file-153/FAQs.pdf](https://volcanoes.usgs.gov/vsc/file_mgr/file-153/FAQs.pdf)

## **Section-by-Section Analysis of H.R. XXXX**

### **Section 1 - Short Title**

### **Section 2 – Definitions**

#### **Section 3 – National Volcano Early Warning and Monitoring System**

Section 3(a) directs the Secretary of the Interior (Secretary) to establish the National Volcano Early Warning and Monitoring System (System) within the USGS to organize, modernize, standardize, and stabilize the monitoring systems of the volcano observatories in the United States and unify these systems into a single interoperative system. It also sets forth the new System’s objective to monitor the nation’s volcanoes at the level commensurate with the threat posed by upgrading existing monitoring networks, installing new networks on unmonitored volcanoes, and using geodetic and other methods when applicable.

Subsection (b) specifies the System’s components as requiring a national volcano watch office that is operational 24 hours a day, seven days a week; a national volcano data center; and an external grants program to support research into volcano monitoring science and technology.

Subsection (c) directs the Secretary to submit to Congress a five-year management plan for establishing and operating the System within 180 days of the bill’s enactment. This subsection further directs the Secretary to establish an advisory committee to help implement the System. It further authorizes the Secretary to enter into cooperative agreements with institutions of higher education and State agencies and directs the Secretary to coordinate with other federal agencies.

Subsection (d) directs the Secretary to submit an annual report to Congress on the activities carried out pursuant to the Act.

### **Section 4 – Funding**

#### **Cost**

The bill authorizes \$15 million for each of fiscal years 2018 through 2024.

#### **Administration Position**

Unknown at this time.

#### **Effect on Current Law**

None